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# FYR Macedonia Public Expenditure Review

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**CURRENCY AND EQUIVALENT UNITS**  
(as of February 4, 2007)

Currency Unit	=	Denar
US\$1.00	=	41.4141 Denars
€1.00	=	61.4129 Denars

**ABBREVIATIONS**

CIS	Commonwealth of Independent States	MZ	Macedonian Railways
CIT	Corporate Income Tax	NMS	New Member States
CPI	Consumer Price Index	NOE	Non-Observed Economy
EBRD	European Bank for Reconstruction and Development	OECD	Organization for Economic Cooperation and Development
EC	European Commission	PAU	Policy Analysis Unit
ECA	Europe and Central Asia	PAYG	Pay As You Go
EU	European Union	PDF	Pension Disability Fund
FDI	Foreign Direct Investment	PHC	Primary Health Care
FYR	Former Yugoslav Republic	PISA	Program for International Student Assessment
FNRR	Fund for National and Regional Roads	PIT	Personal Income Tax
GDP	Gross Domestic Product	PPI	Producer Price Index
HCI	Healthcare Institution	PPP	Public Private Partnership
HIF	Health Insurance Fund	REER	Real Effective Exchange Rate
HIT	Health in Transition	SAA	Stabilization and Association Agreement
IMF	International Monetary Fund	SEE	South Eastern Europe
IPD	Implicit Pension Debt	SDR	Standard Death Rate
MAPAS	Agency for Supervision of Fully Funded Pension Fund	STR	Student-Teacher Ratio
MES	Ministry of Education and Science	VAT	Value Added Tax
MIC	Middle Income Countries	VET	Vocational Education
MOTC	Ministry of Transport and Communication	WHO	World Health Organization
MOH	Ministry of Health		

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# CONTENTS

EXECUTIVE SUMMARY .....	v
A. PUBLIC EXPENDITURE DEVELOPMENTS AND CHALLENGES .....	vi
B. EDUCATION .....	vi
C. HEALTH .....	vii
D. PENSIONS .....	viii
E. TRANSPORT .....	ix
F. CONCLUSIONS .....	x
1. THE STRATEGIC SETTING .....	1
A. INTRODUCTION .....	1
B. MACROECONOMIC SETTING .....	2
Output, Inflation, Living Standards .....	2
Balance of Payments and External Debt .....	4
Monetary Developments .....	4
Structural Reforms .....	4
C. RECENT FISCAL DEVELOPMENTS .....	5
D. GOVERNMENT REVENUES .....	7
E. THE LEVEL OF GOVERNMENT SPENDING .....	9
Economic Classification .....	11
Functional Classification .....	12
F. FISCAL SUSTAINABILITY .....	13
G. EFFICIENCY OF FISCAL POLICY .....	14
H. CONCLUSIONS .....	16
2. EDUCATION .....	19
A. INTRODUCTION .....	19
B. INSTITUTIONAL FRAMEWORK AND EDUCATION EXPENDITURES .....	20
C. EDUCATION OUTCOMES AND EXPENDITURE EFFICIENCY .....	24
Education Outcomes .....	24
Efficiency of Resource Use .....	30
D. RECOMMENDATIONS .....	31
Improving Equity and Efficiency of Spending .....	31
Improving Education Performance .....	33
E. CONCLUSIONS .....	35
3. HEALTH .....	37
A. INTRODUCTION .....	37
B. INSTITUTIONAL ENVIRONMENT .....	37
C. HEALTH OUTCOMES .....	38
D. HEALTHCARE REVENUES AND HEALTHCARE FINANCING .....	39
E. HEALTHCARE EXPENDITURES .....	42
F. THE DELIVERY AND UTILIZATION OF HEALTHCARE .....	44
Preventive and Primary Healthcare .....	45
In-Patient Care .....	46
Benefit Package .....	47

Pharmaceutical Expenditures.....	47
G. RECOMMENDATIONS .....	48
Health Financing.....	48
Health Expenditures.....	48
H. CONCLUSIONS .....	50
4. PENSIONS .....	51
A. INTRODUCTION .....	51
B. STRUCTURE OF THE PENSION SYSTEM AND PENSION EXPENDITURES .....	52
Coverage .....	52
The PAYG Pillar.....	53
The Funded Pillar.....	56
C. ASSESSING THE ADEQUACY OF FUTURE PENSION BENEFITS .....	59
The Likely Pension Outcome Under the New Multi-Pillar Scheme .....	60
Minimum Pension Guarantee .....	65
Guarantees in the Funded Pillar.....	66
D. FINANCIAL SUSTAINABILITY OF THE PAYG PILLAR .....	66
E. CONCLUSIONS AND RECOMMENDATIONS.....	70
5. TRANSPORT.....	73
A. INTRODUCTION .....	73
B. CHARACTERISTICS OF THE ROAD SECTOR .....	74
C. PUBLIC EXPENDITURE ON ROADS.....	75
D. THE MAIN INSTITUTIONS IN THE ROAD SECTOR .....	76
E. FUTURE FINANCING REQUIREMENTS .....	78
F. THE RAILWAY SECTOR.....	81
G. RECOMMENDATIONS .....	86
Main recommendations for the Road Sector .....	86
Main recommendations for the Railway Sector .....	87
H. CONCLUSIONS .....	87

## Tables

Table 1.1: FYR Macedonia - Key Economic Indicators .....	3
Table 1.2: Fiscal Developments, 2001-2006 .....	6
Table 1.3: Government Revenues Structure – Comparison of Selected ECA Countries....	8
Table 1.4: Macedonia and Selected Comparators: Government Spending, Fiscal Balance and Other Indicators (2006 or latest available year).....	10
Table 1.5: Economic Classification of Government Expenditures in Selected ECA Countries.....	11
Table 1.6: Functional Classification of Government Expenditures in Selected ECA Countries.....	13
Table 1.7: Public Debt Dynamics and Fiscal Sustainability Projections .....	14
Table 1.8: Measures of Efficiency in Government Outcomes .....	16
Table 2.1: Macedonia: Education Expenditures, 2002-2005 .....	21
Table 2.2: Comparisons of Teacher Salaries, Macedonia, the EU15, and the NMS.....	21

Table 2.3: Economic Classification of Education Spending, Macedonia and Selected Comparators.....	22
Table 2.4: Distribution of Goods and Services (non-staff recurrent) Expenditures by Level of.....	22
Table 2.5: Expenditure Shares by Level of Education for Macedonia, the EU15, and the NMS.....	23
Table 2.6: Total Education Expenditure per Capita Relative to per Capita Outlays for Primary Education, Macedonia, the EU15, and the NMS.....	23
Table 2.7: Average Expenditure per Primary Student, 2005.....	24
Table 2.8: Percent Scoring at Different Competency Levels on PISA Reading Scale: Macedonia, EU 15, and Neighboring Countries.....	25
Table 2.9: Annual Compulsory Instructional Hours by Age, Macedonia, EU15, and the NMS.....	26
Table 2.10: Enrollment Rates for Macedonia, the EU15, and the NMS .....	27
Table 2.11: Educational Attainment of 25-64 Year Old Population for Macedonia, the EU15 and the NMS.....	27
Table 2.12: Enrollment Rates by Age and Household Consumption Quintile.....	28
Table 2.13: Enrollment Rates by Age, Urban/Rural Residence, and Household Consumption Quintile.....	28
Table 2.14: Enrollment Rates by Age, Gender, and Household Consumption Quintile...28	
Table 2.15: Percent of Total Enrollments in Private Schools at Different Levels of Education for Macedonia, the EU15, and the NMS .....	29
Table 2.16: Student-Teacher Ratios, Macedonia, the EU15 and the NMS .....	30
Table 3.1: Morbidity and Mortality Indicators, 1991, 1995, 2000, 2004.....	39
Table 3.2: Health Outcomes in Macedonia and Other Countries with Similar Income Levels.....	39
Table 3.3: Social Insurance Financing Mechanisms, EU8 and SEE Countries .....	40
Table 3.4: Macedonia: Revenues and Spending of the Extrabudgetary Health Fund .....	41
Table 3.5: Health Expenditures in EU8, SEE OECD and other MIC Countries.....	43
Table 3.6: HIF Expenditures by Level of Care (2000-2004) .....	44
Table 3.7: Outpatient Contacts in Selected Countries.....	45
Table 3.8: Health Seeking Behavior by Income Quintile.....	45
Table 3.9: Inpatient Utilization and Performance in Acute Hospitals in the WHO European Region, 2004 or Latest Available Year.....	46
Table 4.1: Revenues and Expenditures of the Pension and Disability Fund, 2006 .....	53
Table 4.2: Public and Implicit Debt for Selected Countries in Central and Eastern Europe .....	56
Table 4.3: Approaches to Pension Industry Structure of Charges.....	59
Table 4.4: Annuity Provisions in ECA Countries .....	59
Table 4.5: Annuity Projections: Sensitivity to Fee Size, Number of Years of Saving and Gender (In percent of average wage) .....	61
Table 4.6: Minimum Pensions Size and Financing .....	64
Table 4.7: Demographic Assumptions .....	67
Table 4.8: Economic Assumptions.....	67
Table 5.1: Macedonia, Density of Road Infrastructure (latest observation available, 1997-2003).....	74

Table 5.2: Estimated Annual Maintenance Expenditure Needs .....	79
Table 5.3: Annual Railway Expenditure (In millions of euro), 2002-2005 .....	83
Table 5.4: Evolution of MZ Financial Indicators .....	86

## Figures

Figure 1.1: Government Spending, Macedonia and Selected Comparators.....	11
Figure 2.1: Student Performance and GDP per Capita, Selected Economies, PISA 2000, Reading.....	25
Figure 2.2: Enrollment Share Relative to Population Share by Ethnic Group and Level of Education (In percent, 2002) .....	29
Figure 2.3: Student-Teacher Ratios at Different Levels of Education (1992-2005) .....	31
Figure 4.1: FYR Macedonia, Population over 65 years with Pension Coverage .....	52
Figure 4.2: Pension Expenditure in Macedonia and EU Countries .....	54
Figure 4.3: Contribution Levels and Replacement Rates in Selected ECA Countries.....	54
Figure 4.4: System and Demographic Dependency Rates in Selected Countries in 2002 <sup>1/</sup> .....	55
Figure 4.5: Foreign Investment Limits .....	57
Figure 4.6: Investment Structure of Pension Funds (June 2006) .....	58
Figure 4.7: Multi-Pillar vs. Mono-Pillar Pensions .....	63
Figure 4.8: Gross Replacement Rates for New Entrants, Mandatory Pension Programs, Men Average Wage Earners .....	64
Figure 4.9: Impact of Fees on Asset Level for Average Wage Earner.....	65
Figure 4.10: PDF Revenues Minus Expenditures (Excluding Budgetary Transfers).....	68
Figure 4.11: Baseline Scenario: PDF Revenues and Expenditures .....	69
Figure 4.12: Decomposition of the Required Budgetary Transfer .....	69
Figure 5.1: Regional Comparison of Road Network Quality .....	75
Figure 5.2: Percent of Firms Stating that Transport is a Problem for Doing Business .....	75
Figure 5.3: Trends in Recurrent and Capital Expenditure in percentage of GDP from 1998 to 2005 .....	76
Figure 5.4: Car Ownership and per Capita Income (PPP) in Selected European Countries .....	78
Figure 5.5: Fuel Prices and Taxes .....	80
Figure 5.6: MZ Passenger and Freight Traffic, 1990-2005 .....	81
Figure 5.7: MZ Freight Traffic, 1996-2005.....	82
Figure 5.8: Evolution of Staff Number and Productivity .....	83



## EXECUTIVE SUMMARY

1. **Progress in advancing political and economic reforms has been substantial this decade.** The authorities have moved with determination in implementing the Framework Agreement for Peace (the Ohrid Agreement) that ended the 2001 hostilities, including in enhancing the representation of minorities in governmental structures. This, together with economic reforms and the implementation of the Stabilization and Association Agreement (SAA) with the EU, led the European Council to grant FYR Macedonia the status of a candidate country in December 2005. While no date to begin negotiations has been set yet, the goal of EU integration is shared by all key political parties, providing incentives for further reforms and cohesion in what is still a tense political dialogue within the country.

2. **Macroeconomic stability was quickly restored and economic growth has gradually recovered in the years following the 2001 conflict.** In 2003, the Government introduced a stabilization program focused on tighter fiscal policy and supported by the continuation of the *de facto* peg of the exchange rate against the euro. The budget deficit was virtually eliminated in the first year of the program and in the subsequent years spending has been sharply reduced as a share of GDP. The fiscal adjustment helped improve financial stability and placed public debt ratios on a steadily declining path, with government debt amounting to about 30 percent of GDP at the end of 2006. The balance of payments has improved since 2003, and especially since 2005, thanks to a surge in recorded private transfers. In fact, FYR Macedonia has the smallest current account deficit in the region equivalent to 0.4 percent of GDP.

3. **However, robust growth has remained elusive.** Real GDP growth averaged about 3.5 percent a year during 2003-2006, well below most countries in the region. Output remains driven by a few key sectors of the economy, and investment levels have remained relatively low at about 20 percent of GDP. In contrast to the new member states of the EU (NMS), FYR Macedonia has attracted only modest inflows of greenfield foreign direct investment (FDI), with only a small impact on the expansion of output and exports.

4. **Prospects for faster growth have improved following the implementation of key structural reforms in 2005 and 2006 and the new Government's commitment to further accelerate structural reforms focused on improving the investment climate and strengthening public sector governance.** Real GDP growth picked to about 5.5 percent from a year earlier in the first half of 2007, and formal job creation, while still modest, has strengthened.

5. **Still, a key challenge for the new Government is to adopt policies that would facilitate formalization of economic activity, including employment.** In this context, the authorities are urged to explore options to reduce social security contribution rates, starting with the elimination of the minimum contribution threshold which represents an enormous disincentive for formal sector employment for low-wage and part-time workers. A cut in social security contribution rates should be carried out in a framework of adjusting the method of financing of health expenditures and perhaps the pay-as-you-go (PAYG) portion of pensions to general revenues. Reductions in social security contribution rates would need to be accompanied by expenditure cuts (see below) and/or increases in value added tax (VAT) rates or the personal income tax (PIT) rate. An increase in the latter could be accompanied by an increase in the tax-

exempt minimum to make the tax system more progressive. Concerted efforts could also be made to expand the tax base and further improve tax administration. As a comparison, Slovakia has successfully registered fast rates of real GDP growth and substantially reduced unemployment with a flat PIT, CIT and VAT rates harmonized at 19 percent. The flat PIT rate in Estonia, another country that has experienced rapid real GDP growth, is set at 22 percent.

## **A. PUBLIC EXPENDITURE DEVELOPMENTS AND CHALLENGES**

6. **FYR Macedonia's fiscal adjustment since the 2001 conflict has underpinned macroeconomic stability.** Following a reduction in the fiscal deficit to nil in 2003, fiscal prudence has been maintained, resulting in small surpluses in 2004 and 2005 and a modest deficit in 2006. With the adjustment program focused on sharp expenditure reductions, government spending fell from 44 percent of officially-estimated GDP in 2001 to 34 percent of GDP in 2006, enabling a reduction in the tax burden. Relative to GDP adjusted more fully for the size of the non-observed economy (NOE), spending is likely to amount to less than 30 percent of GDP, one of the lowest in Europe and Central Asia (ECA), but still higher than in some other emerging markets, such as Chile and Thailand. **Reducing spending relative to GDP further is possible and should help ease further the fiscal burden on the economy, but the priorities for the Government should be in improving the efficiency of public spending, thereby raising the outcomes achieved.**

7. **Looking forward, the Government faces a number of challenges in improving the quality and effectiveness of public spending.** These challenges need to be addressed together in the context of Government plans to reduce expenditures by an additional 2 percent of GDP over the next few years. Meeting this goal, would present an opportunity to reduce social security contribution rates as discussed above. Stronger growth in real GDP, together with efforts to keep spending increases limited in many sectors should help achieve the goal. **However, further reductions in spending will be difficult in the face of new spending pressures. Years of under-spending on road maintenance have left a large maintenance backlog that the authorities will be well advised to tackle within the available budget envelope. Moreover, new spending may be required to support the country's EU accession process.** Reducing the overall level of spending while meeting these spending pressures would require reductions in outlays elsewhere. One potential area for savings is defense, public order and security, where FYR Macedonia spends about 2 percent of GDP more than most countries in the region. Tackling this issue will be challenging, given the country's aspirations to join NATO, but exploring the options will be well worth the government effort. As discussed in the report, spending on both education and health sectors in FYR Macedonia is modestly higher than many countries in the region relative to officially-estimated GDP (and broadly similar relative to GDP more fully adjusted for the size of the non-observed economy, NOE), but health and education outcomes are poor. All told, scope for spending reductions in these areas appears rather limited. In fact, the Government's key challenge in these sectors is to improve the quality and effectiveness of public spending to ensure better outcomes.

## **B. EDUCATION**

8. **Government spending on education as a share of officially-estimated GDP is modestly higher than among most countries in the immediate region.** Student achievements are poorer relative to the same countries, however, and substantially more so compared with the countries of the EU. Enrollment rates in secondary education are lower than in the EU and skills acquired in schools are not in line with market needs. Access to education seems equitable at the

primary level, but gaps open up at the secondary and tertiary levels, with the level of wealth, place of residence and ethnicity all affecting enrollment rates. Moreover, substantial differences appear in the amount of spending on schools with different ethnic compositions.

9. **Poor learning outcomes are one of the factors that have contributed to sluggish economic growth and high unemployment in FYR Macedonia.** Boosting the productive capacity of the economy should be accompanied by raising the quality and relevance of education, key components to helping improve living standards and accelerate EU integration, both of which are the top government priorities. The authorities are well advised to redouble their efforts to address these issues urgently.

10. **The report concludes that the education sector at this time has adequate overall resources, but they are used unproductively, resulting in poor learning outcomes.** It is not recommended that the authorities commit additional resources to the sector: the focus needs to be on improving the efficiency and equity of spending. A move to capitation financing, as part of the overall decentralization process, is recommended to help move toward a more equitable distribution of resources across municipalities and create stronger incentives for improving the efficiency and outcomes of spending. Increasing the amount of instructional time that students receive in schools should also be a priority, including by increasing the amount of time teachers spend on teaching rather than on non-teaching activities, increasing the number of classes primary school students take, and revising the length of these classes back to 45 minutes from 40 minutes at present. It is also recommended that savings from capitation financing be used to help stimulate poorer households' demand for education by reducing the cost burden of education. Declining school-age cohorts over the next decades offers a fortuitous opportunity to reallocate expenditures to more efficient uses while raising enrollment rates. The authorities should make the best use of this opportunity.

11. **The government intends to spend substantial resources to equip every student with a computer in the next several years.** The costs of procuring computers will be just a fraction of the outlays on subsequent maintenance and operation, as well as training and preparing classrooms for installing computers. Curricula would also need to change to effectively use this new technology. If all of these things are not done, then the potential benefits of these computers may not be realized. Also, while the government should seriously consider taking steps to improve the use of information technology in schools, the priority should be improving education outcomes as identified in the report. The total resources needed for the "computer for every student" program could crowd out much needed resources for the reforms noted in this report.

#### **Education: Summary of Recommendations <sup>1/</sup>**

- Move to allocate resources on a per-pupil basis to generate savings.
- Slow the pace of increase in teacher salaries.
- Increase instructional time in schools.
- Increase access to learning materials, especially textbooks.
- Increase teacher training.

<sup>1/</sup> See Chapter 2, pp.31-35 for the full list of recommendations.

### **C. HEALTH**

12. **Health outcomes in FYR Macedonia are better than in countries with similar income levels, but these outcomes are achieved at high cost.** Overall health spending levels is

among one of the highest in the ECA region and close to OECD levels. Despite high government spending, out-of-pocket payments, including informal payments are not small, thereby threatening financial protection among vulnerable groups. Moreover, the bulk of health spending is allocated for relatively expensive inpatient and specialized interventions as compared with cost-effective preventive and primary health care services. Productivity in health centers is low as compared with other countries in the ECA region and there is mal-distribution of key health sector inputs, including health personnel and number of beds for acute care.

13. **The report recommends that the authorities consider several priority avenues for reform.** The priority areas for reform in this report include a revision of the benefits package for social health insurance, adoption of modern provider payment systems and tighter procurement rules for pharmaceuticals. Other recommended measures include the need to strengthen the regulatory regime for healthcare institutions and to improve the targeting of eligible persons for publicly-financed health insurance premiums, while enforcing contribution collection from nonexempt groups. Reorganizing the hospital sector in line with the Medical Map the authorities are preparing should help streamline with the size of the sector and make it more attuned to the needs of the citizens.

#### **Health: Summary of Recommendations <sup>1/</sup>**

- Review and begin reforming the generous health benefit package.
- Consider shifting a part of the financing of healthcare from payroll taxes to general revenues, starting with analyzing the fiscal impact of such a change.
- Introduce generic referencing for outpatient drugs and external referencing for outpatient drugs. Revise co-payments for pharmaceuticals.
- Develop and begin implementing a plan for rightsizing the health sector, especially with regards to hospital and specialist outpatient health services.

<sup>1/</sup> See Chapter 3, pp.48-50 for the full list of recommendations.

### **D. PENSIONS**

14. **The financial situation of the pension system worsened dramatically during the 1990s primarily due to the significant decline in the contribution base on the back of reduced formal employment.** This, together with the build-up of substantial implicit pension obligations, led the authorities to begin implementing pension reforms, starting with parametric changes of the PAYG pension pillar. A mandatory fully-funded second pillar was introduced in 2006. Pension reforms have been successful thus far, guided by the objectives of reducing the impact of demographic changes on the sustainability of the pension system and helping assure adequate pension incomes for both current and future generations of pensioners. More work will be needed to ensure that future implementation proceeds smoothly and the pension system copes with all challenges.

15. **Under the report's realistic baseline scenario, the fiscal sustainability of the pension system looks likely to be attained (as measured by the deficit of the pension fund stabilizing at less than 1 percent of GDP a year), with pensions are likely to average 50 percent of wages (replacement rate), compared with 55 percent at present and 68 percent on average in the NMS.** This result depends on the assumptions that the government will continue to implement parametric reforms already agreed, including the gradual increase in the retirement age. A recent reversal of a decision to give much larger weight to inflation than wage growth in the pension indexation formula will be counterproductive, however.

16. **The likely outcome is reasonable and the decline in the replacement rate from current levels reflects the impact of the reforms the authorities are implementing.** The difference with the EU should be interpreted with care, as many EU countries have yet to begin tackling the acute demographic problems they face. Moreover, stronger real GDP growth than recently observed should enable the decline in the replacement rate to be smaller than projected under the baseline scenario. Nonetheless, the authorities are well advised to begin work on managing public expectations that pension reforms in progress will likely result in a reduction in the replacement rate. These efforts should be coupled with efforts to strengthen growth in output and formal employment, and reduce substantially the fees charged on second pillar accounts to improve the return on fully-funded pensions. The authorities are also invited to consider ways to reduce further payroll contribution rates in a fiscally responsible way to help reduce informality.

**Pensions: Summary of Recommendations <sup>1/</sup>**

- Unify the retirement age for men and women at the 64 years currently envisaged for men and consider increasing the retirement age for both to 65 years.
- Reduce the fees on fully-funded accounts, including to MAPAS.
- Consider consolidating the supervision of the PAYG and the fully-funded pillars.

<sup>1/</sup> See Chapter 4, pp.70-71 for the full list of recommendations.

## E. TRANSPORT

17. **Years of under-spending on maintenance in the transport sector has led to a significant deterioration of the quality of public assets.** The deterioration of the quality of roads, especially at the local level, has created road conditions worse than in any other country in Southeast Europe except Albania. Besides limiting scope for growth and exports, increasing vehicle amortization and resulting in a waste of time and fuel, the deterioration of the country's roads represents a serious fiscal risk which will grow further if not addressed quickly. The financial condition of the FYR Macedonian Railways (MZ) has been poor and the company has been unable to maintain its existing network. The MZ has been implementing reforms to increase labor productivity through a program of staff retrenchment and the company will be broken up in the middle of 2007 into a company in charge of the infrastructure and another in charge of the transport.

18. **The report recommends that the Government address the maintenance backlog and increase spending on regular maintenance.** Fully addressing the backlog could increase road expenditure by as much as 2 percent of GDP a year for five years, but the Government will be hard pressed to afford such an increase within the available fiscal envelope and given ambitions to further reduce the overall level of spending. This cost of maintenance appears overstated by the outdated classification of roads; prioritizing maintenance according to the level of traffic should enable the government to focus on the most needed maintenance. The report also proposes a number of institutional changes to improve the efficiency of spending. Capacities to identify, appraise, prioritize, and effectively monitor the execution of maintenance and investment spending should be strengthened.

#### **Transport: Summary of Recommendations <sup>1/</sup>**

- Increase maintenance outlays within the available fiscal envelope to reduce the maintenance backlog.
- Introduce open competitive bidding for maintenance activities.
- Strengthen the technical capacity of MoTC and FNRR staff to improve the identification and prioritization of roads maintenance and investment expenditures.
- Strengthen MZ-I National Program and MZ-T business plans.

<sup>1/</sup> See Chapter 5, pp.86-87 for the full list of recommendations.

## **F. CONCLUSIONS**

19. **Reducing spending by 2 percent of GDP over the next several years while tacking fiscal pressures will require a combination of cuts in some categories of existing spending, spending restraint in others and stronger real GDP growth.** Spending pressures include costs related to advancing EU integration and on reducing the substantial backlog of road maintenance. This report suggests that measurable spending cuts are not likely to be found in health and education where the challenge will be to improve the efficiency of spending and reallocate outlays to significantly improve outcomes and support growth. The demand on the budget from furthering pension reform will increase in the following years, but should ease subsequently. **Together with sustained progress in advancing structural reforms and revamping government spending, increasing the formalization of economic activity is the key to stronger growth in output.** The authorities are urged to move to reduce social security contribution rates, starting with unifying and then abolishing minimum contribution thresholds. Reductions in contribution rates should be carried out in the context of reforming the financing of social transfers, mainly health and further on pensions, toward general revenues. To ensure that the resulting reduction in revenues does not endanger the authorities' targets for the fiscal deficit, a cut in contribution rates should be offset by more ambitious spending reductions or increases in the VAT and PIT rates.

# 1. THE STRATEGIC SETTING

## A. INTRODUCTION

**1.1 FYR Macedonia has made measurable progress since the Framework Agreement for Peace (the Ohrid Agreement) ended the 2001 hostilities.** Progress in implementing the Agreement has been considerable, including in enhancing the representation of minorities in governmental structures. Two consecutive regular parliamentary elections in 2002 and 2006 were held peacefully and largely democratically. On December 16, 2005 the European Council granted candidate country status to FYR Macedonia, in recognition of the country's substantial progress in completing the legislative framework related to the Ohrid Agreement and in implementing the Stabilization and Association Agreement (SAA). While no starting date for the negotiations has been set, the shared goal of EU accession provides integrative incentives for all political parties in what is still a tense political and ethnic dialogue within the country. As pointed out in the latest EC Progress Report (November 2006), the limited political dialogue seriously impedes the country's ambition to accede to the EU.

**1.2 Macroeconomic stability was quickly restored and economic growth gradually recovered following the 2001 conflict.** In 2003, the Government instituted a successful stabilization program focused on tightened fiscal policies and supported by the continuation of the *de facto* peg of the exchange rate to the euro. The budget deficit was virtually eliminated in the first year of the program and expenditures were sharply reduced as a share of GDP. The fiscal adjustment quickly placed public debt ratios on a declining path. The current account deficit and the overall balance of payments have improved since 2003, especially following a surge in recorded private transfers in 2005 and 2006. Progress on structural reforms has also resumed, building on the strong stabilization efforts.

**1.3 However, robust growth has remained elusive and living standards have not improved.** Growth averaged about 3.5 percent a year during 2003-2006, well below most countries in the region. Output expansion remains narrowly based on few key sectors and investment levels have remained relatively low, at about 20 percent of GDP. Until 2006, few new jobs were created, keeping unemployment oversized. Unemployment, in turn, is strongly correlated with poverty, with the country's poverty rate and profile remaining little changed.

**1.4 There are signs that economic performance is improving.** While preliminary official data indicate that real GDP growth slowed to 3.1 percent in 2006, a number of indicators suggest that growth exceeded 4 percent.<sup>1</sup> Building on strong implementation of structural reforms, it appears that the economy is well placed to grow faster in 2007 and beyond. Credit to the private sector has been growing rapidly, the employment rate has now begun to improve, and the investment climate is improving with the continued implementation of critical structural reforms.

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<sup>1</sup> The State Statistical Office is receiving technical assistance from the IMF to improve their national accounts statistics. IMF staff estimate in a forthcoming review of the Stand-By Arrangement (April 27, 2007) that real GDP growth was more than 4 percent in 2006. A number of key indicators were stronger in 2006 than in 2005. These include a shift to a 17 percent increase in the imports of investment and intermediate goods in 2006 compared with a decline of about 3.6 percent in 2005. Sales of passenger cars surged 24.9 percent in 2006 after remaining little changed in 2005. Real wages and employment also grew in 2006 at faster rates than in 2005.

FYR Macedonia's aspirations to join the EU have further strengthened investor sentiment. The experience of the New Member States of the EU (NMS) illustrates how European integration can foster the overall political, economic and administrative reforms in prospective new member countries. While an acceleration of growth and improved living standards ultimately will depend on the private sector response to ongoing structural reforms, there is a role for fiscal policy and public expenditure to support both growth and EU integration.

**1.5 This Public Expenditure Review analyzes a number of issues that bear on the effectiveness, level, and composition of public spending.** The overriding objective of the report is to better understand the nature and composition of public expenditure to support growth and EU integration. The report reviews the challenges and options in the areas of education, health, pensions, and transport.

## **B. MACROECONOMIC SETTING**

### **Output, Inflation, Living Standards**

**1.6 Economic activity picked up in 2007, with real GDP rising about 5.5 percent from a year earlier in the first half of the year, following a period of only modest expansion after the conflict of 2001.** While direct conflict damage was limited, output contracted by 4.5 percent in 2001, investment markedly dropped and defense-related expenditures pushed both the fiscal and current account deficits to 7 percent of GDP. The effects of the conflict were still clearly felt in 2002, as investment and export growth remained sluggish while the fiscal and current account deficits remained high. The current account deficit reached 9.4 percent of GDP in 2002 and international reserves fell to 3.5 months of imports (Table 1.1).

**1.7 Growth began to recover after 2002, but the performance of the economy has lagged most countries in the region.** Recorded growth averaged only 3.5 percent during 2003-2006. Such growth rates place FYR Macedonia among the slowest growing economies in ECA in this period. Also, the recovery remains narrowly based on a few key sectors and unemployment remains high. While official data have consistently overstated unemployment, at about 36 percent FYR Macedonia's official unemployment rate is among the highest in the region. High and persistent unemployment statistics reflect low new job creation in the formal sector. In part this has been due to an overly restrictive labor market (until mid-2005) and a high tax wedge. It has also been due to the poor corporate governance which emerged following the mainly insider-oriented privatization process in the mid-1990s, which brought the newly-privatized companies neither adequate knowledge nor access to markets and finance. On the contrary, post-privatization enterprise restructuring has been limited and unfair competition practices have discouraged potential new firms from entering the market. An overly burdensome business regulatory environment until recently further hampered new business startups and job creation. Collectively, these forces have contributed to the high unemployment rate and have encouraged informality.

**1.8 While recent structural reforms aimed at improving the investment climate should begin to bear fruit, domestic and foreign investment levels have been low and are likely to remain a constraint on growth.** At about 20 percent of GDP, investment in FYR Macedonia has lagged significantly the faster growing economies in the region. Inflows of foreign direct investment (FDI) have also been disappointing over the past decade. Apart from the spike in FDI in 2000 and 2001 when the largest bank and the telecom company were privatized and in 2006 when the electricity distribution company was sold, inflows of FDI has averaged 1.5 percent of



GDP, one of the lowest rates among transition countries. Inflows of greenfield FDI have been negligible.

**Table 1.1: FYR Macedonia - Key Economic Indicators**

	2002	2003	2004	2005	2006	2007
	Actual					Est.
National Accounts						
Real GDP growth (In percent)	0.9	2.8	4.1	4.1	3.7	5.1
Gross Investment (In percent of GDP)	20.6	20.0	21.4	20.7	21.8	23.1
Gross National Saving (In percent of GDP)	10.6	17.1	12.9	18.0	20.9	20.8
External Accounts (In percent of GDP)						
Exports of Goods and Services	36.0	37.6	39.6	44.0	47.4	53.5
Imports of Goods and Services	57.8	55.1	61.9	62.8	67.2	72.1
Current Account Balance, Including Transfers	-10.0	-2.9	-8.4	-2.7	-0.9	-2.3
External Debt	44.1	39.5	37.9	38.8	37.7	35.1
Foreign Exchange Reserves (In months of next year's imports)	3.4	3.2	3.2	3.7	4.1	4.6
Fiscal Accounts (In percent of GDP)						
Revenues	35.2	38.4	36.5	35.2	33.6	35.4
Expenditures	40.5	38.5	36.1	35.0	34.1	34.6
Overall Balance	-5.3	-0.1	0.4	0.2	-0.6	0.8
Public Debt	43.0	39.0	36.7	39.5	33.2	28.8
Inflation (In percent, period average)	1.8	1.2	-0.4	0.5	3.2	2.3

*Sources:* State Statistical Office, Ministry of Finance, National Bank of the Republic of Macedonia.

**1.9 FYR Macedonia's failure in attracting FDI has hindered a stronger growth in output and exports.** FDI has played a critical role in the NMS in transferring technology, market access, know-how, and crucial intra-industry trade linkages. FYR Macedonian exports have grown on average at a modest rate of 4 percent a year during the last decade. The country's share in world exports recovered slightly in 2005 and 2006, but remains below the levels of the mid-1990s. FYR Macedonian exporters have been able to regain market share in some traditional trading partners, in particular Serbia, Greece, and Germany, but have lost shares in eastern markets such as Ukraine and Russia, and have been unsuccessful in penetrating new markets. FYR Macedonia still specializes in low-value added goods (iron and steel, textiles, tobacco, agriculture produce).

**1.10 The country's modest economic growth has not been sufficient to improve living standards, especially given the modest job creation.** The employment rate remains among the lowest in the region. The employment rate fell from about 40 percent in the years preceding the 2001 conflict to about 37 percent in 2004. Since then the employment rate has begun to recover and stood at 39.6 percent in 2006. This largely "jobless" growth has not led to a reduction in poverty. An estimated 21 percent of the population lives below the absolute poverty line.

**1.11 The de facto exchange rate peg of the Denar to the euro has helped ensure price stability for more than a decade.** Consumer price inflation has remained in single digits with the exception of a brief period of deflation in 2004 when a sharp decline in international reserve cover to 3 months of imports forced a tightening of monetary policy in defense of the exchange

rate peg. Lack of administered price adjustments (including of prices of electricity) has also contributed to keeping inflation low.

## **Balance of Payments and External Debt**

**1.12 Stronger export growth and, more importantly, a surge in private transfers, largely eliminated the current account deficit in 2005 and 2006.** The current account deficit fell to 1.4 percent of GDP in 2005 following a 4 percent of GDP increase in recorded private transfers to 17.5 percent of GDP, the highest in Southeast Europe. Recorded transfers rose by an additional one percent of GDP in 2006 and, together with an unanticipated delay in making a large dividend payment by the telecom company to foreign shareholders, led to a further reduction in the current account deficit to 0.4 percent of GDP in 2006. The overall balance of payments has strengthened considerably, with foreign exchange reserves increasing to about 4.5 months of imports. External debt has gradually declined to less than 40 percent of GDP, helping improve the country's access to international capital markets.

## **Monetary Developments**

**1.13 With the Denar fixed to the euro, the strong balance of payment position has led to an easing of monetary conditions since 2004.** Robust international reserves, the prepayment of external debt, and continued fiscal prudence have helped improve market confidence, resulting in lower market interest rates. Credit to the private sector has grown rapidly, increasing by 20 percent in 2005 and 30 percent in 2006, albeit from a relatively low base of 22 percent of GDP in 2004. Deposits have also grown rapidly from a low base, led by a rapid build up in Denar-denominated deposits.

**1.14 Price competitiveness appears broadly appropriate.** The CPI- and the PPI-based real effective exchange rates (REER) have steadily and modestly depreciated since the 2001 conflict by a cumulative 7 percent and 13 percent, respectively. The REER deflated by unit labor costs has fallen more, depreciating by about 30 percent over the same period. Growth in average real wages has averaged 3.5 percent a year in recent years and has been driven mainly by the nontradable sectors. Real wages in manufacturing and agriculture have grown at a much slower pace of less than 1 percent, slower than productivity growth.

## **Structural Reforms**

**1.15 Structural impediments have been the largest constraints to a stronger improvement of competitiveness.** The concentration of the economy and exports in a few key sectors with low value added and declining world trade shares suggests that structural reforms are needed to encourage a reallocation of resources towards more dynamic and productive sectors. With the implementation of key structural reforms in 2005 and 2006 and with the new Government's commitment to further accelerate such reforms, prospects for faster growth have improved.

**1.16 A number of reforms to improve the investment climate are under implementation.** A comprehensive judicial reform was launched in 2005 which, if vigorously implemented further, will firmly establish the rule of law including creditor, contract and property rights. A new Labor Law was enacted in July 2005 to introduce more flexibility into the country's labor markets. In the banking sector, supervision, regulation, and governance are being strengthened. Foreign banks have recently showed increasing interest in entering the market. A number of reforms have

eased the entry, exit and regulation on ongoing businesses. The launch of a new “one-stop shop” business registration system in January 2006 significantly eased the time, cost and burden of registering new business. The new system provides a transparent registration for new businesses and has reduced registration time from 48 days to 5 days. A revision to the bankruptcy framework strengthens creditor rights and focuses on the institutional development of the bankruptcy trustee profession. Reforms are underway to reduce the burden of unnecessary regulation on businesses. Around 2,000 regulatory acts which constrain business activities have been identified and will be rationalized. In addition, a compulsory regulatory impact assessment of all new legislation will become mandatory. The latest Progress Report of the European Commission notes that FYR Macedonia is well advanced in establishing a functioning market economy, having maintained a broad consensus on the essentials of economic policies, though sustained efforts will remain critical to enable the country to cope with competitive pressure and market forces within the Union in the medium-term.<sup>2</sup> Further, the authorities have made progress in reforming the tax administration and social security.

**1.17 Reforms to improve the effectiveness of public sector governance and public service delivery have also been underway.** The treasury reforms have resulted in sound and effective controls over spending. The budget preparation process has been revamped with the incorporation of the extra-budgetary funds in the process and the introduction of ceilings for budget user expenditures. In addition, the budget is prepared based on a medium-term fiscal and macroeconomic outlook and also has greater alignment with the strategic priorities of the authorities. Internal audit is rapidly improving and reforms are ongoing in public procurement. The introduction of the second pension pillar in 2006 was an important step in improving the sustainability of the pension system. The government is advanced in introducing a third pillar of the pension system. Most recently, reforms in health financing are being introduced to reduce fiscal risks to the government and improve the quality of services.

## **C. RECENT FISCAL DEVELOPMENTS**

**1.18 FYR Macedonia’s fiscal adjustment since the 2001 conflict has underpinned macroeconomic stability.** In 2003, the Government introduced a fiscal adjustment program supported by a new IMF Stand-by Arrangement. The Government did manage to reduce the budget deficit in 2002 but expenditures remained high and revenues were boosted by a tax on financial transactions which had been introduced in mid-2001. In 2003, the Government’s new fiscal adjustment program quickly cut the budget deficit to 0.1 percent of GDP (Table 1.2). Fiscal policy was tightened further in subsequent years and the budget moved to small surpluses in 2004 and 2005. The fiscal balance returned to a small deficit in 2006, largely due to the shift of part of pension contributions to new private pension funds in the wake of the launch of the funded pillar of the pension system and also as a result of emergency fiscal transfers to the energy sector.

**1.19 The adjustment program focused on sharp expenditure cuts.** The public expenditure to GDP ratio declined in each year during the adjustment program, falling from 44 percent of GDP in 2001 to 34 percent in 2006. Demobilization of army and police reservists and declining purchases of military equipment generated large savings in 2002 and 2003 (see goods and non-labor services line in Table 1.2). Thereafter, expenditure cuts were more broadly spread, with public consumption, capital investment and transfer payments falling by 1.5 percent of GDP, 1.2 percent, and 0.7 percent, respectively, between 2003 and 2006. The decline in public

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<sup>2</sup> European Commission, 2006, Progress Report.

consumption between 2003 and 2006 reflected reductions both of the wage bill<sup>3</sup> and outlays on goods and non-labor services. Capital expenditure, already modest by regional standards at about 4 percent of GDP, was cut to about 3 percent of GDP by 2006.

**Table 1.2: Fiscal Developments, 2001-2006**  
(In percent of GDP)

	2001	2002	2003	2004	2005	2006
<b>Total Revenue and Grants</b>	37.0	38.2	38.4	36.5	35.5	33.7
Tax Revenue	31.5	33.1	30.7	30.8	29.8	29.9
Taxes on Income and Profit	4.4	4.2	4.3	3.8	3.8	4.3
Social Insurance Contributions	10.8	10.4	10.8	10.6	10.1	9.7
Domestic Taxes	12.2	13.1	12.9	13.9	13.7	13.0
Import Duties	2.6	2.6	2.4	2.2	1.9	1.8
Other Taxes	1.4	2.7	0.3	0.3	0.3	0.6
Non-tax and Capital Revenue	5.3	5.2	6.3	5.1	5.2	3.8
Non-tax Revenue	4.2	4.4	5.4	4.3	3.7	3.3
Capital Revenue	1.1	0.8	1.0	0.8	1.5	0.6
Grants	0.2	0.0	1.3	0.6	0.5	0.5
<b>Total expenditures</b>	43.6	42.2	38.5	36.1	35.3	34.3
Current Expenditure	39.7	37.4	34.0	32.7	31.7	31.7
Goods and services	18.0	15.9	13.5	12.9	12.6	12.0
Wages and Salaries	7.5	8.1	8.5	8.3	8.0	7.7
Goods and non-labor services	10.5	7.9	5.0	4.6	4.6	4.2
Transfers	19.8	20.0	19.4	18.9	18.2	18.3
Interest	1.9	1.5	1.1	0.9	0.9	1.0
Capital expenditure	3.8	4.6	4.1	3.1	3.6	2.9
Other	0.1	0.2	0.3	0.3	0.0	0.1
<b>Fiscal Balance</b>	-6.6	-3.9	-0.1	0.4	0.2	-0.6

*Note:* 2001 and 2002 data differ from previously published IMF data. Two adjustments were made. Discretionary spending of budget users financed from the "special revenue account" was incorporated into official data from 2003. Estimates in this table include such revenue and expenditure in 2001 and 2002. Also, convertible notes issued in 2002 to compensate depositors of the failed "TAT pyramid" scheme in 1997 are excluded from this table.

*Sources:* Ministry of Finance, IMF, and World Bank staff estimates.

**1.20 Revenues remained high in 2003 as an influx of donor grants and non-tax revenue from the sale of commodities in the "strategic reserve" offset the elimination of the tax on financial transactions.** Revenue subsequently declined by about 5 percent of GDP by 2006. Non-tax revenue led the decline as the scope of activity of Commodity Reserve Bureau was curtailed. Also, trade liberalization led to a decline in customs duties and the sluggish labor market led to an erosion of the contribution base and a decline in payroll taxes.

**1.21 The fiscal adjustment of the past few years has improved the sustainability of public debt, the latter falling from 49 percent of GDP in 2001 to 34 percent at the end of 2006.** While such levels of indebtedness are moderate by international and regional standards, debt is subject to exchange rate risks as nearly all public debt is denominated in, or indexed to, foreign currency. Efforts have been made to develop the government securities markets ahead of the

<sup>3</sup> The wage bill rose in 2003, following a 16 percent increase in public sector salaries in mid-2002.

launching of the funded pension system in 2006, but the share of Denar-denominated debt will remain small for a number of years. The Government issued an inaugural €150 million Eurobond in December 2005 which was 4 times over-subscribed, using the proceeds to pre-pay the London Club in January 2006. FYR Macedonia subsequently reached agreement to prepay Paris Club in early 2007 and plans to prepay some debt to international financial institutions later in 2007.

**1.22 While the size of the fiscal adjustment is reflected in the reduction of the fiscal deficit and the ratio of public expenditure to GDP, the overall quality of the fiscal adjustment is more difficult to measure.** On balance the fiscal adjustment was accomplished through expenditure cuts rather than increases in revenue. In fact, the sound fiscal position has provided some scope for the Government to cut corporate and personal income tax rates in 2007, with further cuts planned for 2008.

**1.23 The reduction in the wage bill was accomplished in challenging circumstances.** The Government was able to improve the representation of ethnic minorities in the public sector, fulfilling its obligations under the Ohrid Agreement; while implementing a decompression of civil servant wages and simultaneously ensuring a gradual reduction in the wage bill in percent of GDP. Also, a major pension reform was introduced including parametric changes and the introduction of a funded second pillar.

**1.24 The need to transfer the equivalent to about 0.3 percent of GDP to the energy sector late in 2006 indicates that some contingent liabilities had built up in the broader public sector.** Reforms of the energy sector are needed, including improved payment discipline, to ensure cost recovery and reduce government subsidies.

**1.25 The Government has increased budgeted capital expenditures, but outcomes have consistently fallen short of plan.** Under-funding of operations and maintenance (O&M) has led to deterioration in important public assets such as the road network, health care facilities, and educational facilities.

**1.26 While the level of fiscal deficit and public expenditures favorably positions fiscal policy in FYR Macedonia to support growth, a deeper look at the outcomes of public spending in key sectors indicates that further reforms are needed for public expenditure to better support economic growth and EU accession.**

#### **D. GOVERNMENT REVENUES**

**1.27 As government revenues have fallen to 34 percent of GDP over the last several years, the fiscal burden on the economy is lower than many countries in South Eastern Europe and the lowest among the countries of the former Yugoslavia.** Only Latvia, Lithuania and Slovakia from the NMS and Romania and Albania from the sub-region have lower public revenues to GDP ratios. Excluding capital revenues and grants, the fiscal burden was 33.5 percent of GDP in 2005, in the middle of all ECA countries (Table 1.3).

**1.28 Revenues from income taxes are very low,** averaging about 4 percent of GDP over the last several years, 8 percent lower than in the EU on average and 1.5 percent below the average for the region. This reflects both low rates (ahead of the introduction of the flat tax in 2007, 98 percent of personal income tax was paid at the lowest personal income tax rate) and narrow bases. This is particularly so for the corporate income tax (CIT) where the allowances for fixed assets in FYR Macedonia are probably the most generous in Europe.

**Table 1.3: Government Revenues Structure – Comparison of Selected ECA Countries**

	CRO	SLO	SaM	H	BG	EST	PL	CZ	MKD	LT	SVK	LV	ROM	ALB
	In Percent of GDP													
Total Revenues and Grants	47.2	46.4	45.3	43.0	41.7	39.6	38.7	38.6	36.5	34.8	32.4	31.9	29.5	24.4
Total Revenues excl. Grants	47.2	45.7	45.2	42.3	40.5	37.3	38.7	37.6	35.9	34.7	32.0	31.0	29.5	24.1
Tax Revenues	40.9	40.4	41.1	37.0	33.6	32.6	29.6	35.0	30.8	28.0	28.3	29.0	27.9	22.0
Corporate Income Tax	2.5	2.0	0.6	2.2	2.6	1.8	2.0	4.4	0.9	1.8	2.4	1.9	2.7	2.1
Personal Income Tax	4.4	6.2	5.8	6.6	3.3	6.9	4.0	4.8	2.9	6.0	2.5	6.8	3.0	0.9
Social Contributions	12.1	15.9	11.9	12.0	10.7	11.2	10.7	14.1	10.6	8.9	11.4	9.2	9.4	4.7
Other Direct Taxes	0.0	1.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taxes on Property	0.6	0.6	0.0	0.9	0.0	0.4	1.5	0.6	0.0	0.8	0.5	0.4	0.9	0.0
Domestic Taxes	20.3	13.8	17.7	14.6	15.2	12.0	10.9	11.0	13.9	10.0	11.3	10.5	11.3	10.2
VAT	14.9	8.7	12.2	8.4	10.2	8.2	6.7	6.6	9.7	6.7	7.5	6.4	6.9	7.6
Excises	5.1	3.5	5.6	3.5	5.0	3.8	4.1	3.5	4.1	3.3	3.3	3.0	3.3	2.1
Other Domestic Taxes	0.3	1.6	0.0	2.7	0.0	0.0	0.1	0.9	0.0	0.0	0.5	1.1	1.0	0.5
International Taxes	0.8	0.3	2.6	0.2	0.8	0.2	0.2	0.1	2.2	0.2	0.1	0.2	0.7	1.8
Other Taxes	0.2	0.1	2.5	0.5	1.1	0.1	0.3	0.0	0.3	0.3	0.0	0.0	0.0	2.3
Non-tax Revenues	5.8	5.3	3.6	4.2	6.9	4.7	7.8	2.3	4.3	6.6	3.4	1.3	1.5	2.1
Capital Revenues	0.5	0.0	0.5	0.8	0.0	0.0	0.4	0.4	0.8	0.0	0.3	0.7	0.0	0.0
Other Revenues	0.0	0.0	0.0	0.4	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Grants	0.0	0.7	0.1	0.6	1.2	2.3	0.0	0.9	0.6	0.1	0.4	0.9	0.0	0.3

Legend: CRO- Croatia; H – Hungary; SLO – Slovenia; SaM – Serbia and Montenegro; PL – Poland; CZ – Czech Republic; BG – Bulgaria; EST – Estonia; SVK – Slovak Republic; MKD – Macedonia; LT – Latvia; LV – Lithuania; ROM – Romania; ALB – Albania.

Note: Data refers to 2004.

Source: ECA Regional Fiscal Dataset.

**1.29 Despite low personal income (PIT) rates, relatively large social security contribution rates raise concerns that the labor tax wedge is contributing to the high unemployment in the country.** The labor tax wedge for the average worker in FYR Macedonia amounted to 67.2 percent of net wages in 2006 compared to an OECD average of 57.1 percent, but the wedge was much higher on the margin for lower-paid workers. (The introduction of the 12 percent flat PIT in 2007 and the further cut to 10 percent in 2008 should reduce the wedge to 59.8 percent). Social security contributions accounted for 82.3 percent of the labor tax wedge, with contribution rates totaling 32 percent of gross salaries (21.2 percent for pension and disability insurance, 9.2 percent for health insurance, and 1.6 percent for unemployment insurance). These contribution rates are somewhat higher than OECD averages and, in a broader international comparison, excessive relative to countries with similar levels of income per capita. A unique feature of FYR Macedonia's social security contributions is the minimum base for contributions which was set as a percent of the average salary. This feature is complicated by the imposition of multiple minimum bases for different social contributions and for workers in different industries. Contributions on many low wages are calculated on the basis of the minimum base rather than on the actual wage. This practice significantly increased the labor tax wedge for lower paid and part time workers. In 2007, as part of the base harmonization reform, the Government is unifying the minimum base for pensions and unemployment contributions at a high 65 percent of the average wage. The minimum base for health contributions will be increased from 50 percent of the average wage to 65 percent in 2008.

**1.30 However, given the exceptionally low rate of employment in FYR Macedonia,<sup>4</sup> the Government should investigate options for reducing the labor tax wedge further.**

<sup>4</sup> The employment rate (40 percent) is lower than all other countries in the region, and well behind the 68 percent average among the EU15 countries.

Eliminating the minimum base for all social contributions would simplify the system and reduce the labor tax wedge especially for low wage and part-time workers. The Government could also consider reducing the contribution rates themselves. Reductions in contribution rates should be carried out in the context of reforming the financing of social transfers, mainly health and further on pensions, toward general revenues. So that the resulting reduction in revenues does not result in an increase in the fiscal deficit, the drop in contribution revenues should be offset by more ambitious spending reductions or increases in the VAT and PIT rates. An increase in the PIT could be accompanied by an increase in the tax-exempt minimum to make the tax system more progressive. Some EU countries such as Sweden and the United Kingdom have strong tax financed systems and some countries such as France and Spain, with a long tradition of social insurance, have also been shifting to greater reliance on general revenues. The Government's plan to reduce overall expenditures by an additional 2 percent of GDP in the next few years presents an opportunity to cut contribution rates.

**1.31 Aside from distortionary social security taxes, the bulk of revenues are generated from less distortionary indirect taxes.** A VAT was introduced in 2000 with a standard rate of 18 percent and a lower 5 percent rate applying to food, water supply, publications, books and newspapers, and certain agricultural inputs. Over the past few years, the range of goods and services subject to the lower rate has been narrowed. There is a small group of zero-rated goods and services such as exported goods, international air transport, and sale of goods to the free economic zones. Improved collection efforts and strengthened compliance should be the key steps to take for the Government to offset cuts in contribution rates.

## **E. THE LEVEL OF GOVERNMENT SPENDING**

**1.32 Government efforts in reducing spending and the fiscal deficit have been commendable.** Government spending fell to 34 percent of GDP by 2006, placing FYR Macedonia among the countries with the lowest government spending relative to GDP in Southeast Europe. Spending is roughly in line with the Europe and Central Asia (ECA) average (33 percent of GDP) but lower than the average for the NMS (39 percent of GDP).

**1.33 In fact, since official data likely understate nominal GDP in FYR Macedonia, expenditures are probably even lower as a share of GDP.** The State Statistical Office uses only 2 of the 8 categories of Eurostat's methodology for incorporating estimates of the non-observed economy (NOE) into official GDP statistics. The adjustments for NOE amount to 20 percent of the observed economy in FYR Macedonia (or 16.3 percent of overall GDP), compared with unofficial estimates that are twice as large. Still, using official GDP data, spending is only marginally above a trend line relating government expenditures and income per capita in PPP terms for 25 ECA countries and other countries with a similar level of income (Table 1.4 and Figure 1.1).

**Table 1.4: Macedonia and Selected Comparators: Government Spending, Fiscal Balance and Other Indicators (2006 or latest available year)**

	Fiscal Balance	Expenditures	Revenues	2005 GNI per capita, at PPP
	(In percent of GDP)			(In US\$)
Europe and Central Asia	-0.9	33.1	32.1	9,152
NMS /1	-1.7	39.3	37.7	14,918
SEE /2	-0.8	38.7	37.8	8,435
High-growth countries /3	-0.6	31.4	30.8	9,670
LAC 4/	-1.7	29.5	27.7	8,116
East Asia and Pacific	-0.4	27.7	27.3	5,914
Ireland	1.1	33.3	34.3	34,720
Austria	-1.6	49.9	48.3	33,140
Slovenia	-1.1	42.9	41.8	22,160
Czech Republic	-1.9	41.1	39.2	20,140
Portugal	-5.7	47.3	41.6	19,730
Hungary	-7.6	50.7	43.1	16,940
Slovak Republic	-3.1	39.2	36.1	15,760
Estonia	1.6	35.6	37.2	15,420
Lithuania	-1.3	34.6	33.3	14,220
Poland	-3.9	43.1	39.2	13,490
Latvia	-1.2	37.0	35.8	13,480
Croatia	-4.1	49.0	44.9	12,750
Chile	4.7	21.1	25.8	11,470
Russian Federation	8.1	31.6	39.7	10,640
Malaysia	-2.9	27.9	25.0	10,320
Mexico	-1.5	24.5	23.0	10,030
Romania	-0.8	31.1	30.3	8,940
Bulgaria	2.3	38.3	40.6	8,630
Thailand	0.4	21.3	21.7	8,440
Turkey	-3.7	38.7	35.0	8,420
Brazil	-3.0	45.2	42.2	8,230
Tunisia	-2.9	32.6	29.7	7,900
BH	0.8	49.4	50.1	7,790
<b>FYRM Macedonia (2006)</b>	<b>-0.6</b>	<b>34.3</b>	<b>33.7</b>	<b>7,080</b>
Ukraine	-2.3	42.0	39.7	6,720
Albania	-3.6	28.0	24.4	5,420
Armenia	-2.6	16.0	13.4	5,060
Georgia	-2.4	25.4	23.0	3,270

1/ NMS, including Romania and Bulgaria.

2/ SEE includes Croatia, Romania, Bulgaria, Albania, BH and Macedonia.

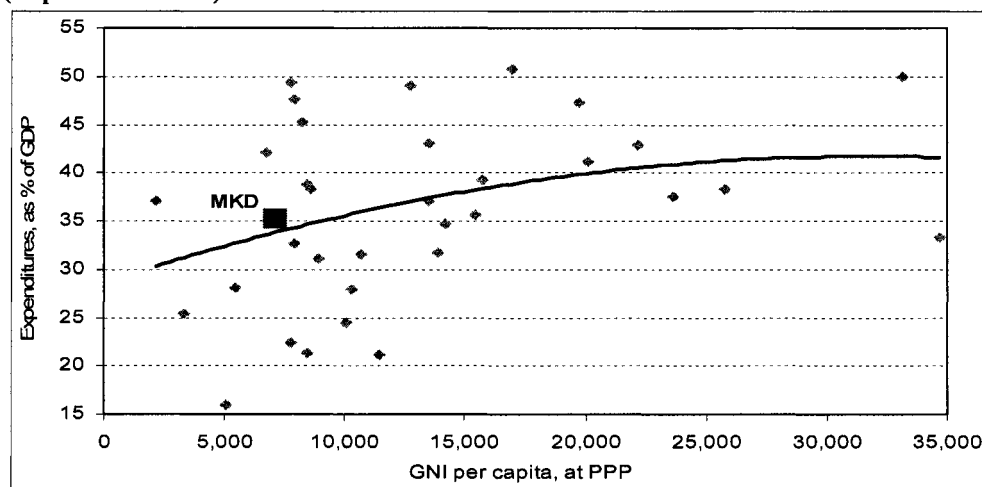
3/ High-growth countries are those growing by above 6 percent on average during 2003-2005.

4/ Latin American and the Caribbean.

Source: World Development Indicators and World bank staff estimates.



**Figure 1.1: Government Spending, Macedonia and Selected Comparators**  
(In percent of GDP)



Source: World Bank staff estimates.

## Economic Classification

**1.34 The composition of expenditure, however, is not as supportive of growth as in other countries in the region.** While total spending in percent of GDP is around 90 percent of the average of other NMS and SEE countries, FYR Macedonia's spending on capital expenditures and maintenance is among the lowest in the region. Outlays on wages and transfers are somewhat higher than regional comparators, while interest payments are much lower due to modest levels of public debt (Table 1.5).

**1.35 The discussion below refers to ratios to officially-estimated GDP.** An adjustment of officially-estimated GDP to reflect more fully the NOE will result in smaller ratios of spending to GDP, *inter alia*.

**Table 1.5: Economic Classification of Government Expenditures in Selected ECA Countries**

	CRO	H	SLO	SaM	PL	CZ	BG	EST	SVK	MKD	LT	LV	ROM	ALB
	In percent of GDP													
Total Expenditures	51.6	49.3	47.9	45.5	43.7	41.9	40.0	37.9	36.2	36.1	35.9	31.9	30.7	29.4
Current expenditures	42.7	43.6	43.4	41.6	41.0	32.1	35.8	34.4	32.8	32.7	32.5	28.8	27.6	24.0
Goods and Services	19.5	18.3	21.4	18.1	19.2	3.0	17.0	14.8	15.1	12.9	15.0	14.7	12.1	9.5
Wages and Salaries	10.8	12.0	11.9	10.3	6.7	3.0	6.1	7.8	5.9	8.3	7.3	8.9	4.9	6.4
Goods and Non-labor Services	8.7	6.3	9.5	7.8	12.5	0.0	10.9	7.0	9.2	4.6	7.7	5.8	7.2	3.1
Transfers	21.0	21.0	20.5	22.1	19.2	27.9	17.0	19.6	15.6	18.9	16.7	13.1	14.1	10.8
Subsidies	2.9	0.0	1.3	3.1	1.1	8.6	2.3	0.0	1.8	0.0	0.0	0.7	2.1	0.7
Interest Payments	2.2	4.3	1.5	1.4	2.6	1.1	1.8	0.0	2.1	0.9	0.8	1.0	1.3	3.7
Capital Expenditures	8.3	5.5	4.6	2.7	3.4	5.8	4.2	3.0	3.9	3.1	3.4	4.5	3.3	5.0
Net Lending	0.6	0.2	0.2	0.2	-0.8	-0.3	0.0	0.0	1.4	0.0	0.0	-1.4	0.0	0.0
Other Expenditures	0.0	0.0	-0.3	0.9	0.0	4.2	0.0	0.5	-1.9	0.3	0.0	0.0	-0.2	0.4

Legend: CRO- Croatia; H – Hungary; SLO – Slovenia; SaM – Serbia and Montenegro; PL – Poland; CZ – Czech Republic; BG – Bulgaria; EST – Estonia; SVK – Slovak Republic; MKD – Macedonia; LT – Latvia; LV – Lithuania; ROM – Romania; ALB – Albania.

Note: Data refers to 2004.

Source: ECA Regional Fiscal Dataset.

1.36 **Current transfers account for more than half of all expenditures.** The largest share of transfers (11.3 percent of GDP) is to households for pension and disability insurance, social assistance, and unemployment benefits. Transfers include healthcare spending.

1.37 **Expenditures on goods and non-labor services are lower compared to most countries.** This has led to a deteriorating quality of public assets such as roads, schools, and hospitals. It also led to a deteriorating quality of public services provision.

1.38 **Capital expenditures in FYR Macedonia are among the lowest in the region relative to GDP.** In fact, actual capital expenditures are likely to be even lower than officially reported, as it is hard to determine if capital transfers (which account for more than 40 percent of capital expenditures) are expended for the intended purpose or used to supplement current spending.

1.39 **It is also unclear how productive public investments are in FYR Macedonia.** The Public Investment Program lacks proper prioritization of projects, monitoring is weak and linkages among sector strategies are almost non-existent. As a result, execution of projects is frequently delayed with completion ranging from 70-80 percent of the budgeted amounts.

### **Functional Classification**

1.40 **A functional review of Government expenditures also reveals concerns about the structure of spending.** Several features distinguish FYR Macedonia's expenditure pattern (Table 1.6).

- **FYR Macedonia has the highest security-related expenditures in percent of GDP.** The allocation to public order and safety is the largest in the regional comparators, while defense expenditures are higher than all countries except Bulgaria and Croatia. The high security-related expenditures in FYR Macedonia reflect large employment in these sectors. Nearly two-thirds of all expenditures on defense and public order and security are wages and salaries and, compared to the sample of countries presented below, only Bulgaria has a greater percentage of its labor force engaged in these two sectors.<sup>5</sup> While this situation is a legacy of regional and domestic conflicts of the last 15 years, regional peace may provide the opportunity now to reallocate public resources to more productive areas.
- Compared to FYR Macedonia, only Poland and Lithuania spend less on economic affairs and only Latvia and Lithuania spend less on housing and community amenities.
- **FYR Macedonia's spending on health as a share of GDP is higher than most countries in the region** (see Chapter 3) and much higher than the average for lower middle income countries. The high spending on health is a legacy of the past, as almost all former SFRY countries are outliers in this respect, and may explain the fact the health outcomes are good for the level of development. However, as elaborated in Chapter 3, dissatisfaction in FYR Macedonia with the health system is high and health outcomes lag most EU countries.
- **FYR Macedonia's public spending on education as a share of GDP is modestly higher than most countries in the region.** (see Chapter 2) Despite this level of spending, student achievements are poorer, hindering prospects for productivity

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<sup>5</sup> World Bank, 2006 World Development Indicators.

improvements and representing a drag on potential growth. Declining school-age cohorts over the next few decades offers an opportunity to reallocate education expenditures to more efficient uses while raising enrollment rates.

- With outlays on social security and welfare amounting to about 11.4 percent of GDP, FYR Macedonia ranks in the lower part of the distribution among the countries of the region. Pensions dominate this category, accounting for 8.8 percent of GDP, broadly in line with regional comparators. Pension reform was advanced with the introduction of a fully-funded second pillar in January 2006 and ongoing implementation of structural changes to the first pillar (Chapter 4). Other forms of social assistance are not excessive, which may explain the high Gini coefficient exhibited by FYR Macedonia.

**Table 1.6: Functional Classification of Government Expenditures in Selected ECA Countries**

	H	POL	CZ	SLK	LT	LV	BG	ROM	CRO	MKD
Total Outlays	49.3	45.2	42.2	39.2	35.9	33.3	40.0	32.1	49.6	35.3
General Public Services	4.2	2.5	2.8	5.2	3.0	3.9	2.9	1.7	2.6	2.3
Defense	1.3	1.2	1.8	1.8	1.2	1.4	2.3	1.4	2.3	2.0
Public Order and Safety	2.1	2.0	1.4	2.0	2.3	1.9	2.8	1.8	2.6	3.2
Economic Affairs	5.3	3.7	6.8	5.1	4.8	3.8	5.0	5.1	6.2	4.4
Environmental Protection	0.7	0.0	0.0	0.7	1.9	0.4	0.0	0.2	0.0	0.1
Housing and Community Amenities	1.3	2.2	3.1	1.1	0.0	0.4	1.5	2.3	2.7	0.7
Health	4.9	4.4	6.4	2.3	3.4	4.6	4.7	3.8	6.8	5.6
Recreation, Culture and Religion	1.6	0.8	1.1	1.0	1.3	1.0	0.8	0.6	1.3	0.6
Education	6.3	6.2	4.2	4.3	5.9	5.9	4.3	3.0	4.4	4.8
Social Security and Welfare	16.5	19.5	12.9	15.7	10.1	9.9	13.8	9.5	18.3	11.4
Other Expenditure	5.3	2.6	2.1	0.0	2.0	n/a	1.8	2.7	2.4	0.0

Legend: H – Hungary; POL – Poland; CZ - Czech Republic; SLK – Slovak Republic; LT – Latvia; LV – Lithuania; BG Bulgaria; ROM – Romania; CRO – Croatia; MKD – Macedonia.

Note: Data for CRO refers to 2002; ROM and SLK 2003, MKD 2005. All others 2004.

Source: World Bank ECA Regional Fiscal Dataset for all countries except MKD; MKD from Staff calculations from Ministry of Finance data.

## F. FISCAL SUSTAINABILITY

**1.41 Risks to public debt sustainability are moderate, reflecting sound fiscal policy in recent years and the prospects of continued fiscal prudence.** Public debt amounted to about 34 percent of GDP at the end of 2006 following continuous decreases every year since 2000, when government debt jumped to 48 percent of GDP as a result of settlement of frozen foreign currency deposits and restitution claims.<sup>6</sup> The large fiscal deficits in 2001 and 2002 were financed by draw-downs of government deposits with the banking system and privatization receipts.

**1.42 Gross debt issuance has been limited since 2001.** Special government bonds with a face value equivalent to 6.5 percent of GDP have been issued since 2001, part of which were used to finance the 2001 clean-up of Stopanska Banka's non-performing loan portfolio during its privatization and the rest to help settle restitution claims.

<sup>6</sup> Data for the end of 2005 show an increase in public debt levels due to the issuance of the country's first Eurobond in December of 2005. The increase was reversed as the proceeds were used in early 2006 to retire older more expensive debt towards the London Club of Creditors.

1.43 **Interest rates on public debt are low**, reflecting both the concessional nature of some credits and the favorable conditions on the special domestic bonds issued to cover frozen foreign currency deposits, non-performing loans of the banking sector and other “legacies of the past”.

1.44 **The debt sustainability analysis presented in this report projects that with a primary deficit amounting to about 0.6 percent of GDP a year and real GDP growing by 5 percent a year, public debt will remain on a declining path relative to GDP, decreasing to about 29 percent by 2012** (Table 1.7). Public debt could stabilize under a lower growth scenario with real GDP growth of 4.5 percent a year and primary deficit of 0.6 percent of GDP a year. However, the inflexibility of the budget makes the public debt sustainability vulnerable to output shocks. A strong economic contraction in 2007-2008, in absence of adjustments on the government expenditure side could push public debt to higher levels.

**Table 1.7: Public Debt Dynamics and Fiscal Sustainability Projections**  
(In percent of GDP)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
	Actuals					Est.	Projected					
	As percentage of GDP											
Public Sector Debt	48.8	43.0	39.0	36.7	39.8	33.8	31.7	31.0	30.5	30.0	29.6	29.2
o/w:												
External debt	31.1	27.3	24.5	23.0	26.8	20.7	20.1	19.8	19.4	19.0	18.4	17.6
Domestic debt	0.0	15.7	14.5	13.7	13.0	13.1	11.6	11.2	11.1	11.0	11.2	11.6
Change in public sector debt:	-1.9	-5.9	-4.0	-2.3	3.1	-6.0	-2.0	-0.8	-0.5	-0.5	-0.4	-0.4
Primary deficit	4.5	4.1	-1.0	-1.3	-1.2	-0.5	0.1	0.3	0.6	0.6	0.6	0.6
Revenue and grants	34.0	34.9	38.4	36.5	35.5	34.2	32.7	31.1	30.7	30.5	30.5	30.5
Primary (noninterest) expenditure	38.5	39.0	37.4	35.2	34.3	33.7	32.7	31.4	31.3	31.1	31.1	31.1
Automatic debt dynamics	0.0	-4.6	-5.0	-2.4	2.8	-4.1	-0.4	-1.2	-1.1	-1.0	-0.9	-0.9
Other debt-creating flows	-10.6	-0.6	0.6	0.9	4.0	-0.6	-1.7	0.2	0.0	-0.1	-0.1	-0.1
Residual, including asset changes	4.1	-4.8	1.4	0.5	-2.5	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
Alternative scenarios:												
Key variables at historical averages							32.3	32.1	31.6	31.0	30.4	29.7
No policy-change scenario (2006)							31.7	29.6	28.1	26.6	25.1	23.6
Stress tests:												
GDP shock in 2007-08 - 2 st.dev.							34.4	37.9	40.1*	42.2	44.5	46.9
Fiscal shock in 2007-08 - 2 st. dev.							36.3	39.7	38.9	38.1	37.5	36.8
GDP + fiscal shocks in 2007-08 - 1 st. dev.							35.3	38.1	37.4	36.7	36.1	35.5
30 percent depreciation in 2007							40.6	39.5	38.8	38.1	37.4	36.8

Source: Ministry of Finance and World Bank staff calculations.

1.45 **In addition, the structure of the public debt indicates vulnerabilities requiring close monitoring.** Around 88 percent of public debt is denominated in foreign currencies, although the recent sharp reduction in the current account deficit and continued government efforts to increase the share of local-currency denominated debt should help ease somewhat exchange rate risks. An unanticipated depreciation of the exchange rate by 30 percent would increase public debt by 9 percent of GDP. The refinancing risk is moderate, with the average maturity of government external and domestic debt above 15 and 3 years, respectively. This, together with the strong recovery in government deposits with the banking system has considerably reduced the liquidity risk.

## G. EFFICIENCY OF FISCAL POLICY

1.46 **FYR Macedonia has a relatively lean public sector by regional standards, with mixed measures of the efficiency of government spending.** Access to education and health

services is nearly universal, as is access to the electricity grid and water supply.<sup>7</sup> A ranking of the quality of public services, however, based on a composite index taking into account developments in education, health, judiciary and economic outcomes, ranks FYR Macedonia in the bottom half among 25 ECA countries (Table 1.8).

**1.47 Education outcomes are low and overall perception of the education sector is poor.** Primary education is compulsory and the network of schools enables easy access even in distant rural communities. (The government agreed in April 2007 that secondary education will be compulsory from 2009.) But expenditures per student vary substantially across municipalities and the level of skills and knowledge of FYR Macedonian students lag those of students in nearly all countries in the region. Moreover, FYR Macedonian students at the primary level receive significantly fewer hours of instruction per year than the average student in the EU15 and NMS, an outcome reflecting the prevalence of double-shift schools and curricula that needs to be revised. While primary enrollment is in line with levels in the EU, secondary enrollment is well below the EU and NMS averages.

**1.48 Health service coverage is also satisfactory but popular dissatisfaction with the quality of healthcare is high.** Coverage with health insurance is almost universal and 90 percent of the population is able to contact a health provider in less than 30 minutes. However, the recently produced Medical Map indicates wide regional discrepancies and inefficiencies in service provision. Health outcomes are better than countries with similar levels of income but lag almost all NMS and the EU15.

**1.49 Social policy outcomes are mixed.** Pensions provide substantial support to the elderly and are an effective buffer against poverty. A recent Poverty Assessment for FYR Macedonia suggests that absolute poverty levels would double in the absence of pensions. Recent parametric changes to the pay-as-you-go pension pillar and the launching of a funded second pillar have improved the financial situation of the pension system. However, fiscal sustainability of the pension system will require full implementation of parametric reforms currently in train, including the gradual increase in the retirement age and determined implementation of the revised pension indexation formula. The projected average pension is likely to fall to 45-55 percent of average wages, well below the Government's target of 70-80 percent. Also, the fees levied on second pillar accounts are high by international standards. The Government should consider decreasing these fees to boost net returns and the available stream of income for future pensioners.

**1.50 The Government has been less successful in performing its redistribution function.** A Gini coefficient of about 0.37 places the country among the more unequal countries in the region. Significant discrepancies also exist in access to public services; for example, children in families in the lower consumption quintiles have significantly lower enrollment rates in secondary and tertiary education and poor individuals are much more likely to suffer from chronic illness.

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<sup>7</sup> According to the 2005 Household Budget Survey (HBS), 99 percent of the households have access to the electricity grid (up 13 percent since 1995) and 96.3 percent have access to the water system (up 24 percentage points since 1995). Sewage disposal systems are installed in 86.3 percent of households, while 88.8 percent have phone connection.

**Table 1.8: Measures of Efficiency in Government Outcomes**  
(Relative ranks, lower is better)

	Education efficiency ranking 1/	Health efficiency ranking 2/	Enforcing Contracts ranking 3/	Economic outcomes ranking 4/	Public sector efficiency (weighted)
Lithuania	7	7	1	9	1
Hungary	3	8	3	1	2
Slovenia	4	1	23	2	3
Czech	5	2	19	3	4
Estonia	2	3	5	7	5
Latvia	6	11	2	11	6
Poland	1	6	25	6	7
Croatia	10	4	8	5	8
Slovakia	15	5	20	4	9
Belarus	9	10	12	13	10
Armenia	13	15	4	18	11
Bulgaria	11	12	17	12	12
Georgia	8	9	10	24	13
Kazakhstan	12	16	7	16	14
Ukraine	21	18	6	10	15
Serbia	14	13	22	15	16
Azerbaijan	23	22	11	8	17
Romania	19	17	16	14	18
<b>FYR</b>					
<b>Macedonia</b>	<b>20</b>	<b>14</b>	<b>21</b>	<b>17</b>	<b>19</b>
Mongolia	16	20	15	21	20
Albania	18	19	24	19	21
Uzbekistan	17	23	9	25	22
Kyrgyz	24	24	13	20	23
Tajikistan	22	25	14	23	24
Moldova	25	21	18	22	25

1/ Measures public perceptions of education services (satisfaction with quality and perceptions of corruption) and education outcomes (enrollment rate in primary and secondary schools and primary completion rate).

2/ Measures public perceptions of health services (satisfaction with quality and perceptions of corruption) and achievements on health outcomes (infant mortality rates and life-expectancy).

3/ The indicator "enforcing contracts" from the Doing Business survey.

4/ A summary indicator of GNI per capita at PPP, the Gini index and poverty levels at USD 2 a day.

Sources: World Bank staff calculations based on EBRD-World Bank Living in Transition Survey (LITS); World Bank World Development Indicators; World Bank Doing Business 2007 and World Bank "Growth, Poverty and Inequality in Eastern Europe and Former Soviet Union."

## H. CONCLUSIONS

**1.51 Reducing spending by 2 percent of GDP over the next several years while tacking fiscal pressures will require a combination of cuts in some categories of existing spending, spending restraint in others and stronger real GDP growth.** Spending pressures include costs related to advancing EU integration and on reducing the substantial backlog of road maintenance. This report suggests that measurable spending cuts are not likely to be found in health and education where the challenge will be to improve the efficiency of spending and reallocate

outlays to significantly improve outcomes and support growth. The demand on the budget from furthering pension reform will increase in the following years, but should ease subsequently. **Together with sustained progress in advancing structural reforms and revamping government spending, increasing the formalization of economic activity is the key to stronger growth in output.** The authorities are urged to move to reduce social security contribution rates, starting with unifying and then abolishing minimum contribution thresholds. Reductions in contribution rates should be carried out in the context of reforming the financing of social transfers, mainly health and further on pensions, toward general revenues. To ensure that the resulting reduction in revenues does not endanger the authorities' targets for the fiscal deficit, a cut in contribution rates should be offset by more ambitious spending reductions, improved efficiency of spending or, in cases of larger reductions in contribution rates, by increases in the VAT and PIT rates.





## 2. EDUCATION

### A. INTRODUCTION

2.1 **Government spending on education as a share of officially-estimated GDP has been on a declining trend, but is still modestly higher than most countries in the immediate region.** Relative to GDP adjusted for the size of the NOE, public spending on education is not out of line with comparator countries. **Student achievements are poorer relative to the countries in the immediate region and substantially more so relative to both the EU15 and the new member states of the EU (NMS).** In addition, enrollment rates in secondary education are lower than in the EU15 and the NMS, and skills acquired in schools have tended to be at odds with market needs. Access to education seems equitable at the primary level, but gaps open up at the secondary and tertiary levels, with the families' level of wealth, place of residence and ethnicity all affecting enrollment rates. Moreover, substantial differences appear in the amount of spending on schools with different ethnic compositions.

2.2 **Poor learning outcomes are one of the factors that have contributed to sluggish economic growth and high unemployment in FYR Macedonia.** The authorities understand well that boosting the productive capacity of the economy should be accompanied by raising the quality of education outcomes and making education more relevant for market needs. The authorities are well advised to redouble their already strong efforts to address these issues urgently.

2.3 **The report concludes that the education sector at this time has adequate overall resources, but they are used unproductively, resulting in poor learning outcomes. Higher public spending on education is not the answer to the current situation, however.** The focus needs to be on resolving the outstanding equity and efficiency issues.<sup>8</sup> This chapter discusses these issues and makes recommendations to the authorities on how to tackle them. **Institutional reforms already in progress, including decentralization and changes in the way schools are financed, should help move toward a more equitable distribution of resources and create stronger incentives to improve the efficiency and outcomes of spending.** Increasing the amount of instructional time that students receive in schools should be considered, and public resources should be used to increase poorer households' demand for education by reducing the cost burden of education. Declining school-age cohorts over the next decades offers a fortuitous opportunity to reallocate expenditures to more efficient uses while raising enrollment rates.

2.4 **The rest of the chapter is organized as follows.** Section B reviews the level and structure of spending on education. Section C analyzes the efficiency of using available resources and the education outcomes. Section D presents the chapter's recommendations and section E the conclusion. This chapter does not discuss the issues of research, science or tertiary education. These domains absorb a relatively small proportion of public spending at present and are being addressed in a separate study prepared by the World Bank.

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<sup>8</sup> Extra transitional resources may be needed in line with a plan to move to a more effective system, but these should also be allocated within the available overall fiscal envelope.

## B. INSTITUTIONAL FRAMEWORK AND EDUCATION EXPENDITURES

**2.5 The institutional setup of education is evolving after the start of reforms that have decentralized functions and financing for primary and secondary education.** In Phase I of decentralization reforms that began in mid-2005, maintenance functions (such as the provision of heating, energy, materials and services) and the transport of students to school were decentralized to municipalities. Teacher salaries, however, are still paid by the central government.<sup>9</sup> Municipalities became responsible for all primary and secondary schools except the schools for children with special needs and public tertiary institutions. Where clear cadastre documents exist, school facilities and their assets have been transferred to municipal governments, although the central government retains the titles to the lands on which these facilities were built. In 2005, the transfers to municipalities to cover the costs of their responsibilities were based on historical costs. As of 2006, the allocations are based on a formula that includes a fixed basic amount for each municipality and a variable amount based on enrollment. Such a formula should help reduce historical inequities, but data are still not available to evaluate the outcomes. The effect of the allocations is likely to be relatively modest, however, since municipalities currently receive three separate grants – two for primary and secondary school operations and maintenance and one for primary school transportation – and these funds cannot be co-mingled. Phase I of the decentralization is to be followed by a second phase, and the options facing the government are discussed below; by law, July 2007 is the earliest date Phase II can start.

**2.6 Government spending on education declined from 4.5 percent of GDP in 2002 to 4 percent in 2005, while private outlays remained little changed** (Table 2.1). Government education spending relative to GDP adjusted for the NOE is broadly similar to the level in most countries in southeast Europe, but is lower than the average in the NMS (Relative to officially-estimated GDP, government spending is modestly higher than in the countries of southeast Europe.) From a historical perspective, outlays on the order of 4 percent of GDP are similar to the amounts spent by Japan in the 1970s, as well as the Philippines, South Korea and Thailand in the 1990s, indicating that overall government expenditures in FYR Macedonia are not low. Private outlays on education in FYR Macedonia as a percent of GDP are higher by about 50 percent than the average for the EU15 and by about 15 percent than the average for the NMS (reference year 2002). Given the experience of countries outside Europe, private spending, especially at the tertiary level, has been helpful in improving education outcomes and should be encouraged.

**2.7 Salaries for primary and secondary teachers seem high relative to officially estimated per capita GDP compared with the average teacher salary in the EU15** (Table 2.2). Relative to GDP adjusted for the NOE, however, the differences are smaller. After 15 years of experience, the salary per hour of net teaching time at the primary level (in PPP) is slightly higher, while at the secondary level slightly lower than the average for the new EU members.

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<sup>9</sup> The Ministry of Labor and Social Policy used a similar decentralization for the financing of preschools. Although most expenditure is still financed by the central government, maintenance costs are financed through an earmarked grant from the central government to the municipalities. The latter, in turn, transfer funds to the preschools. The above earmarked grants, together with the transfers for wages and remaining current outlays, will be converted into block grants starting during Phase II of the decentralization.

**Table 2.1: Macedonia: Education Expenditures, 2002-2005**  
(In millions of denars unless indicated otherwise)

	2002	2003	2004	2005	EU15	NMS
Public Expenditures on Education	11,029	10,941	11,186	11,477		
In percent of GDP	4.5	4.4	4.2	4.0	5.2/5.6	4.7/5.0
In percent of total public expenditures	11.2	11.3	11.7	11.5	11.7	9.4
Private Expenditures on Education 2/	3,111	3,126	3,431	3,962		
In percent of GDP 2/	1.3	1.2	1.3	1.4	0.8	1.1
Total Education Expenditures (Public and private) 2/	14,140	14,066	14,617	15,440		
In percent of GDP 2/	5.8	5.6	5.5	5.4	6.0/6.4	5.8/6.1

<sup>1/</sup> For each pair of estimates separated by a slash, the first number refers to expenditures on educational institutions and the second on all education expenditures both within and outside educational institutions.

<sup>2/</sup> Estimates of private expenditures include: a) the government's cost recovery from households for all levels of public education; b) estimated private costs of preschool; c) private expenditures on textbooks; d) tuition fees; and e) private lessons and school supplies. Costs of student transport are not included.

Sources: Ministry of Finance; State Statistical Office and authors' estimates. Estimates for the EU15 and the NMS are from OECD's Education at a Glance, 2005, tables B2.1a, B4.1, and B6.1.

**Table 2.2: Comparisons of Teacher Salaries, Macedonia, the EU15, and the NMS**

	Macedonia (2005) *	EU15 (2003)	NMS (2003)
<b>Lower and Upper Primary Education</b>			
Ratio of salary after 15 years of experience to GDP per capita	2.00	1.29	0.86
Salary per hour of net teaching time after 15 years of experience in US dollars In US dollars, at PPP	\$20.7	\$54.3	\$19.0
<b>Upper Secondary Education</b>			
Ratio of salary after 15 years of experience to GDP per capita	2.37	1.46	0.95
Salary per hour of net teaching time after 15 years of experience in US dollars In US dollars, at PPP	\$19.8	\$69.8	\$23.8

\* For Macedonia, the wage data are for 2005; the purchasing power parity (PPP), for 2004.

Source: Macedonia: Ministry of Finance, Ministry of Education and Science, and World Bank World Development Indicators 2006. Comparators: table D.3.1, OECD, 2005.

2.8 **The wage bill is higher as a proportion of spending than in other countries.** The further increases in the share of the wage bill at the primary level at a time when student numbers are decreasing is problematic (Table 2.3, Table 2.4 and Table 2.5). After wages, the largest share of outlays is dedicated to utilities, transport and contractual services rather than on inputs which improve the quality of education like books and materials.

2.9 **Given these constraints, it is a cause for concern that the government has decided to spend €25m on the purchase of computers without any strategic plans for how these would actually be used in the classroom by students and teachers.** This amount of money exceeds what the country currently spends on all non-salary recurrent spending in primary and secondary education (about €18m). Moreover, the cost of purchasing the computers would represent only about 30 percent of the ultimate cost that will need to include outlays for maintenance, upgrades, training and security. Much of these latter burdens will fall on the municipalities, but the government has not prepared a financing plan to meet these costs.

**Table 2.3: Economic Classification of Education Spending, Macedonia and Selected Comparators (In percent of total government spending on education)**

Countries	Basic and Secondary Education			
	% recurrent	% capital	Wages as % of recurrent	Non-wage recurrent as % of total recurrent
Macedonia (2005)	95.7	4.1	86.6	13.5
EU15 (2002)	92.7	7.3	81.5	18.5
NMS (2002)	92.5	7.6	72.9	27.1
Countries	Tertiary Education			
	% recurrent	% capital	Wages as % of recurrent	Non-wage recurrent as % of total recurrent
Macedonia (2005)	93.0	5.9	51.6	48.4
EU15 (2002)	88.6	11.4	68.2	31.8
NMS (2002)	89.0	11.0	56.9	43.1

Sources: Ministry of Finance; Table B6.3, OECD 2005.

**Table 2.4: Distribution of Goods and Services (non-staff recurrent) Expenditures by Level of Education (2005)**

Level of Education	Utilities/Transport	Contractual Services	Maintenance and Supplies	Travel/Per Diems	Other	Total
Total	8.9	8.8	1.1	0.7	2.7	22.3
Preschool	26.7	2.8	2.1	0.2	0.9	32.8
Primary	6.2	2.6	0.5	0.0	0.4	9.8
Secondary	6.7	3.1	1.8	0.3	7.4	19.3
Tertiary	9.4	28.0	1.3	2.7	3.6	45.0

Source: Ministry of Finance.

**Table 2.5: Expenditure Shares by Level of Education for Macedonia, the EU15, and the NMS**

Countries	Preschool	Primary	Secondary (General + VET)	Tertiary
Macedonia (average 2002-05)	9.3	47.9	21.6	21.3
EU15 (2002)	7.8	42.0	25.2	22.7
NMS (2002)	11.4	40.5	23.2	22.0

Source: Ministry of Finance; Table B.2.1.c, OECD 2005

2.10 **The share of spending dedicated to the secondary level is in line with comparator countries, and unit costs in secondary education have fallen relative to unit costs in primary education** (Table 2.6). Moreover, average expenditure per student in the gymnasium schools and the 'mixed' schools (the schools offering both general and vocational, or VET, education) is similar, while expenditures per student at the VET schools average 90 percent of the outlays in the gymnasium schools.<sup>10</sup> The variation in funding across schools is the largest among the 'mixed' schools, varying with the degree of integration of a vocational program into the general education, and the lowest for the gymnasium schools.

**Table 2.6: Total Education Expenditure per Capita Relative to per Capita Outlays for Primary Education, Macedonia, the EU15, and the NMS**

Countries	Preschool	Secondary (general + VET)	Tertiary
Macedonia (average 2002-05) *	1.79	1.14	2.47
EU15 (2002)	0.65	1.17	1.73
NMS (2002)	1.10	1.25	2.41

\*The average for preschool is 2002-04.

Sources: Ministry of Finance and MES; table B1.1, OECD 2005.

2.11 **Expenditures per student vary substantially across municipalities, with a large part of the variation reflecting low spending per student in Albanian and dominant-Albanian schools.** The average expenditure per student in Albanian schools is about 75 percent of the average expenditure in FYR Macedonian schools (Table 2.7); average expenditures are lower in Albanian schools regardless of whether the schools are rural or urban. Less than a third of this difference is explained by different student-teacher ratios (STRs). For example, primary schools in FYR Macedonian (Macedonian-dominant) municipalities have average STRs of 17.6 (16.5), with the figure for Albanian (Albanian-dominated) municipalities about 18.8 (17.5). The bulk of the difference appears to reflect the continued practice to allocate resources to schools on the basis of number of classes rather than the number of students. Class sizes, moreover, can vary substantially across the municipalities, resulting in unequal outcomes. More generally, the highest-expenditure municipality spends 4.3 times more per primary student than the lowest-expenditure municipality. Outcomes are similar at the secondary level.

<sup>10</sup> There are 82 schools offering secondary education in the country. Of these, 14 are gymnasium schools, 40 VET and 28 are mixed.

**Table 2.7: Average Expenditure per Primary Student, 2005**  
(In denars per year)

School Ethnicity Type	Municipality Type				Total
	Large city	Rural	Skopje	Small city	
Albanian	18,442	20,408	18,021	18,593	19,381
dominant Albanian	21,044	24,116	16,825	25,945	21,294
dominant Macedonian	20,867	32,998	25,401	27,293	26,287
Macedonian	25,727	32,279	20,464	24,486	25,346
Other	26,467	32,095	20,903		27,886
Total	23,456	27,606	20,133	24,840	24,150

Source: Own calculations based on the MES database.

**2.12 The disparities in spending across the municipalities are a corollary of budgetary allocations that have not kept pace with the reduction in student population and shifts in the location of students.** Additional important factors include an inequitable distribution across ethnic groups and social status. As proposed in the recommendations, the authorities are well advised to begin urgently to tackle these disparities, including through the introduction of capitation financing.

### C. EDUCATION OUTCOMES AND EXPENDITURE EFFICIENCY

**2.13 Learning outcomes are poor and need to be urgently improved.** Except for almost no investments in school maintenance, physical capital is efficiently used, measured in terms of school occupancy and student-class ratios. However, the system produces exceptionally low learning outcomes, with students performing substantially worse than in other countries at similar income levels or countries that spend a similar share on education relative to GDP.

#### Education Outcomes

**2.14 The levels of skills and knowledge of FYR Macedonian students lag those of students in other countries.** Results from international assessments and a FYR Macedonian national assessment of fourth grade achievements in language and mathematics tell a consistent story of poor learning outcomes. For example, in the Programme for International Student Assessment (PISA), an assessment administered to 15 year olds, 87 percent of FYR Macedonian students score below level 3 (1 being the lowest and 5 the highest); only individuals who attain a score equal or higher than 3 are considered able to function adequately in a modern workplace (Table 2.8). Of the countries in the region, only Albania performed worse, with 91 percent of the students below level 3. In the EU15, by comparison, only 40 percent of the students score as poorly.<sup>11</sup>

**2.15 Although learning outcomes are broadly correlated with the level of economic development, FYR Macedonia's learning outcomes are worse than among countries with similar levels of income per capita** (Figure 2.1). Improving the efficiency of education spending, as discussed in this report, should help lift education outcomes to or above levels in

<sup>11</sup> Macedonia's performance is similar in other international assessments. For example, on PIRLS, which assesses children in the fourth year of formal schooling on a range of reading comprehension strategies, fewer children reached the lowest acceptable benchmark in Macedonia (55 percent) than all neighboring and EU countries that participated (Slovenia with 83 percent is the next lowest).

countries with similar incomes in the short term, and contribute to boosting real GDP growth over the longer term.

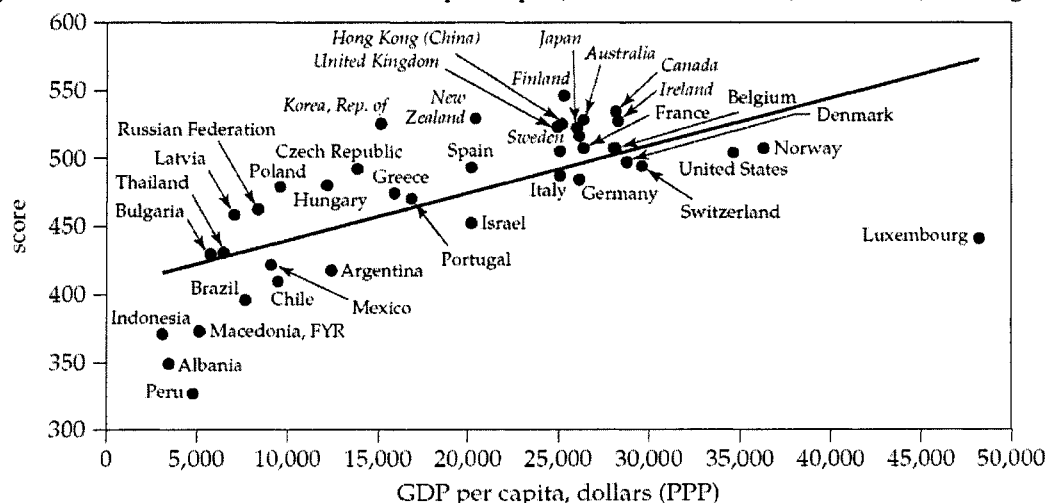
**2.16 The poor outcomes seem to result from insufficient instructional time, low level of spending on key quality inputs, and the ‘tracking’ system under which students at the end of primary education need to decide whether to attend general or vocational secondary schools.** (There are limited opportunities to move from four-year vocational schools to gymnasium schools. The move and the opportunity to attend university is impossible for three-year vocational schools.) These problems have existed for some time and will take concerted effort. In secondary education, the different vocational and general education tracks reinforce rather than ameliorate differences in performance between students after leaving primary education.

**Table 2.8: Percent Scoring at Different Competency Levels on PISA Reading Scale: Macedonia, EU 15, and Neighboring Countries**

Country	Percent scoring < level 3	Percent scoring at levels 3-5		
		Total % levels 3-5	% level 3	% levels 4-5
Albania	90.9	9.1	7.7	1.4
<b>FYR Macedonia</b>	<b>87.0</b>	<b>13.0</b>	<b>11.1</b>	<b>1.9</b>
Bulgaria	67.3	32.7	21.5	11.2
Latvia	56.9	43.1	25.2	17.9
Russian Federation	56.7	43.3	26.9	16.4
Poland	47.4	52.6	28.2	24.4
Hungary	47.7	52.3	28.8	23.5
Czech Republic	42.3	57.7	30.9	26.8
EU15	40.1	59.9	28.8	31.2

Sources: OECD, 2001 and own calculations.

**Figure 2.1: Student Performance and GDP per Capita, Selected Economies, PISA 2000, Reading**



Source: Figure 3.9, p.56. Expanding Opportunities and Building Competencies for Young People: A New Agenda for Secondary Education, World Bank, 2005.

**2.17 FYR Macedonian students at the primary level receive significantly fewer compulsory instructional hours per year than the average student in the EU15 and the NMS (Table 2.9).** These differences are so large that it is highly likely that FYR Macedonia’s low instructional time partly explains its students’ poor performances in the international learning

assessments, all of which measure learning outcomes during or at the conclusion of primary education.<sup>12</sup> At the primary level, the average EU15 (NMS) student is entitled to 69 percent (37 percent) more instructional time than the average FYR Macedonian student. At the secondary level, by contrast, instructional time is broadly similar in FYR Macedonia and comparator countries.

**2.18 The low instructional time reflects a combination of double-shift schools, mandated few classes and short lesson lengths, and the thinking of local psychologists that helps limit instructional hours.** About 40 percent of primary schools are double-shifts, with the length of each shift equal to five hours, substantially less than the length of a shift in single-shift schools in more advanced countries. Further, several years ago the government reduced the length of lesson times to 40 minutes from 45 minutes, resulting in a further decrease in instructional time. There is, moreover, a body of opinion among local psychologists that children in the 1-4 grades should have few instruction hours. All of these factors, combined with a rigid system of regimenting teachers' time into teaching and non-teaching hours, has resulted in low instructional times for primary students in FYR Macedonia. There is clearly room to extend the amount of lesson time for primary students without the need to build new schools. Moves in this direction would require changes to the number of hours per day full-time teachers spend teaching without increasing the wage bill.

**Table 2.9: Annual Compulsory Instructional Hours by Age, Macedonia, EU15, and the NMS**

Comparator	7-8 Years	9-11 Years	12-14 Years	Total Instructional Hours Grades 1- 8***	Age 15
Macedonia A	432	488	563	4016	783/853****
Macedonia B	444	520	640		837/907****
EU15	781	836	902	6776	830
NMS	583	680	770	5516	831

\*Annual compulsory instructional time is defined as the number of minutes per class hour times the number of compulsory class hours per week times the number of weeks of instruction per year, divided by 60.

\*\*Macedonia A (B) assumes that those 7-8 years of age are in grades 1-2 (2-3).

\*\*\*For the EU15 and the NMS, the ages of 7-14 are used for estimating total instructional time for the first 8 grades of formal education.

\*\*\*\*High school students are expected to spend 70 hours per year (60 hours for grade 12) in project activities under the guidance of a teacher. Although compulsory, these are not instructional hours. The first figure in the pair excludes the project activities; the second figure includes them.

Source: MES for Macedonia, Table D1.1 (OECD, 2005) for the EU15 and the NMS.

**2.19 In addition to the low compulsory instructional hours at the primary level, FYR Macedonian students complete fewer years on average than their counterparts in the EU.** A hypothetical five-year old is expected to complete a total of 13.4 years in school in FYR Macedonia, 16.6 years in the NMS and 17.6 years in the EU15.

<sup>12</sup> The amount of compulsory instructional time in school has been established as a key driver of student performance, even though the relationship between instructional time and student learning outcomes is not straightforward. Factors such as the effectiveness with which the learning time is invested or instruction is delivered, the organization of instruction, and the extent and type of learning opportunities prior to schooling affect how instructional time translates into learning outcomes.



2.20 **Primary enrollment is in line with the levels in the EU, but secondary enrollment is well below the average in the EU average, including in the NMS** (Table 2.10).<sup>13</sup> Lower secondary enrollments result in a lower educational attainment in the working population compared with countries in the region. FYR Macedonia has significantly fewer people with upper secondary and tertiary qualifications and far more with only basic education (Table 2.11). Based on trends over the last ten years, it would take 33 years (24 years) for the share of workers with secondary (tertiary) education in FYR Macedonia's labor force to match the shares in the EU.

**Table 2.10: Enrollment Rates for Macedonia, the EU15, and the NMS**

Country	Enrollment rates for 5-14 year olds	Enrollment rates for 15-19 year olds	Enrollment rates for 20-29 year olds	Expected years of education for hypothetical 5 year old
Macedonia	96.8	70.9	21.6	13.4
EU15 (2003)	99.6	82.4	24.5	17.6
NMS (2003)	97.9	91.3	20.3	16.6

\* In this table only, this refers to the Czech Republic, Slovakia, Poland and Hungary.

Source: Macedonia: State Statistics Office; OECD, *Education at a Glance*, 2005, tables C1.1 and C1.2.

**Table 2.11: Educational Attainment of 25-64 Year Old Population for Macedonia, the EU15 and the NMS**

(In percent)

Education level	Macedonia (2005)	EU15 (2003)	NMS (2003)
> Basic	10.2	20.0	1.5
Basic	30.9	17.5	16.3
Upper secondary	45.5	38.7	68.0
Post-secondary, non-tertiary	4.1	6.3	2.0
Tertiary	9.4	23.2	13.0
Total upper secondary + tertiary	59.0	68.1	83.0
Average years of education	10.3*	11.8	12.0

\*The Labor Force Survey reports the number of individuals by five-year age groups, i.e.: with no education, incomplete primary education, VET secondary, gymnasium secondary, post-secondary studies, and university. Incomplete primary education was assumed to last 5 years. Post-secondary tertiary education is assumed to last two years, but this may be an over-estimate. University education is assumed to last four years, but some tertiary programs require more time.

Source: Macedonia: State Statistics Office, Labor Force Survey, 2005; EU15 and recent EU entrants: OECD, *Education at a Glance*, 2005, tables A1.1a and A1.4.

2.21 **Access to education appears to be equitable at the primary level (ages 6-14) for all segments of the population (except certain ethnic minorities), but sizable disparities appear at the secondary and tertiary level** (Table 2.12).<sup>14</sup> The gap in enrollment rates between the poorest and wealthiest quintiles amounts to about 18-20 percentage points both at the secondary and tertiary levels. **There is a similarly large gap with respect to whether students live in urban or rural areas** (Table 2.13).

<sup>13</sup> Primary (secondary) enrollment rates in 2004 are 97(74) percent in Albania and 93 (73) percent in BH (World Development Indicators).

<sup>14</sup> The enrollment rates for the 6-10 year olds are lower than for the 11-14 year olds. This anomalous difference may reflect methodological problems or the fact that some children do not start first grade until the age of seven.

**Table 2.12: Enrollment Rates by Age and Household Consumption Quintile**

Age	Consumption Quintile					All	Gap between Q.1 and Q5 Q.
	Poorest	2	3	4	5		
A. 3-5 years	0.7	0.0	1.0	1.3	2.0	1.1	-1.3
B. 6-10 years	86.1	88.8	81.4	90.6	87.3	86.9	-1.2
C. 11-14 years	97.0	99.0	98.7	98.5	99.6	98.7	-2.6
D. 15-18 years	71.8	77.8	78.3	79.7	90.1	80.3	-18.3
E. 19-26 years	19.0	22.7	26.5	36.6	39.3	29.9	-20.3

\*Data for the 3-5 year old age group are not representative because the coefficient of variation is higher than 50 percent. The group denoted with B corresponds to lower primary; with C to upper primary; with D to secondary; and with E to tertiary education.

Source: Macedonia State Statistics Office, 2005 Labor Force Survey.

**Table 2.13: Enrollment Rates by Age, Urban/Rural Residence, and Household Consumption Quintile**

Age group	Consumption Quintile										All	
	Poorest		2		3		4		5			
	urban	Rural	urban	Rural	urban	Rural	urban	rural	Urban	rural	urban	rural
6-10 years	87.0	84.9	88.3	89.2	85.5	77.6	93.0	87.7	88.5	85.8	88.6	84.9
11-14 years	94.9	100.0	99.2	98.8	98.6	98.8	99.4	97.1	100.0	99.2	98.6	98.8
15-18 years	72.4	71.1	77.2	78.6	88.1	69.5	89.9	66.1	94.6	84.4	85.6	74.2
19-26 years	24.4	10.6	31.1	12.5	32.9	18.8	48.9	19.8	47.6	25.3	38.5	18.0

\*Data for the 3-5 year olds is not representative and not included in this Table.

Source: Macedonia State Statistics Office, 2005 Labor Force Survey.

**2.22 Enrollment rates for girls exceed those for boys in the early years, only to reverse by the latter years of secondary education (Table 2.14).<sup>15</sup>** This is reversed yet again at the tertiary level, however, where girls do substantially better in all but one quintile.

**Table 2.14: Enrollment Rates by Age, Gender, and Household Consumption Quintile**

Age group	Consumption quintile										All	
	Poorest		2		3		4		5			
	M	F	M	F	M	F	M	F	M	F	M	F
6-10 years	88.5	83.0	84.5	93.2	82.4	80.4	88.2	92.9	81.4	93.7	84.7	89.2
11-14 years	97.4	96.6	100.0	98.2	98.3	99.2	99.3	97.6	99.3	100.0	98.9	98.4
15-18 years	75.3	67.9	82.8	72.9	83.1	72.5	84.3	75.8	93.5	86.1	84.6	75.8
19-26 years	14.9	23.6	21.0	24.4	28.2	24.8	35.7	37.5	33.6	45.4	27.8	32.1

\*Data for the 3-5 year olds is not representative and not included in this table. Key: M = male; F = female.

Source: Macedonia State Statistics Office, 2005 Labor Force Survey.

**2.23 The level of enrollments in private institutions is still quite low relative to other countries, although private spending as a share of overall education outlays is high relative to comparators (Table 2.15).** Anecdotal evidence suggests that private spending is largely used by the richer segments of the population at the secondary and tertiary levels. Based on the experience of other countries, enrollment rates at the tertiary level can increase substantially

<sup>15</sup> The results from the 2005 LFS are similar.

supported by private spending. Given the limited fiscal envelope, this will be a welcome development.

**Table 2.15: Percent of Total Enrollments in Private Schools at Different Levels of Education for Macedonia, the EU15, and the NMS**

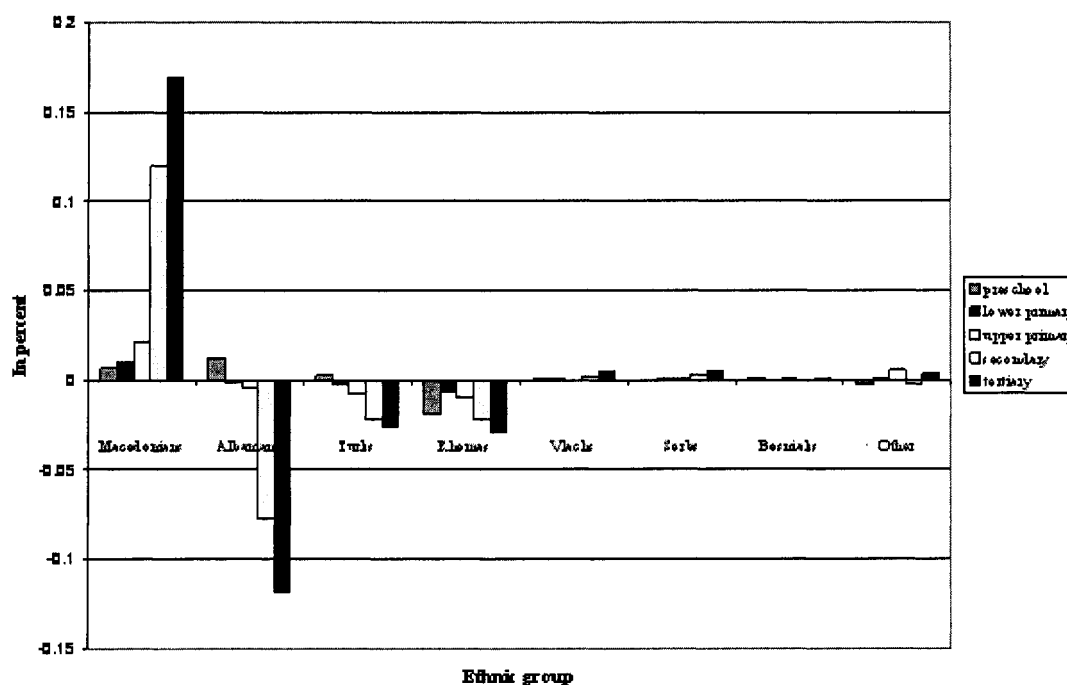
Comparator	Primary	Lower secondary	Upper secondary	Tertiary type B*	Tertiary type A*
Macedonia (2005)	0.0	0.0	1.1	8.1	8.1
EU15 (2003)	15.6	18.8	23.4	23.3	11.4
NMS (2003)	3.0	3.8	10.8	23.6	11.8

\*Tertiary type A programs are university programs; tertiary type B, other types of post-secondary programs, such as vocational-technical programs.

Sources: Macedonia: State Statistics Office; EU15 and recent EU entrants: OECD, *Education at a Glance, 2005*, Tables D5.1 and D5.2.

**2.24 In terms of access to education by ethnicity, the results are clearer.** The enrollment share of children of Macedonian ethnicity exceeds their population share at all education levels, especially after the primary level (Figure 2.2). Roma children are underrepresented at all levels of education. Although the Albanian and Turkish groups are slightly over-represented at the preschool level, both groups are under-represented starting at the upper primary level.

**Figure 2.2: Enrollment Share Relative to Population Share by Ethnic Group and Level of Education (In percent, 2002)**



Source: Macedonian State Statistics Office, 2002 Census.

## Efficiency of Resource Use

**2.25 Scarcity of capital resources has resulted in an intensive use of school facilities.** At the primary level, 42 percent of the schools use double shifts and one percent of the schools use triple shifts.<sup>16</sup> At the secondary level, 87 percent of the schools are double shift, with little variation between the types of schools. For secondary education, all but 9 of the schools in the country have 500 or more students, a reasonable use of school buildings.

**2.26 It is not recommended that the country use scarce resources to eliminate quickly double-shift schools, as other investments would have a higher impact on improving the quality of education, as discussed below.** While doing so is desirable in the longer run – especially in helping increase low instructional time – the costs of moving to a single shift system are very high. It is recommended that the small number of triple-shift schools be converted at least into double-shift schools: triple-shift schools cannot provide sufficient instructional time for each shift.

**2.27 Student-teacher ratios at both the primary and secondary levels are higher in FYR Macedonia than among comparators, and are similar at the tertiary level** (Table 2.16). It is unlikely that the higher burden on teachers is a substantial part of the explanation for poor student performance, however. South Korea, for example, is one of the top performers in PISA and has an average primary-school class size of 37.

**Table 2.16: Student-Teacher Ratios, Macedonia, the EU15 and the NMS**

Comparators	Preschool	Primary	Secondary	Tertiary
Macedonia (2005) *	9.0	16.0	16.0	16.9**
EU15 (2003)	14.5	13.5	11.8	16.1
NMS (2003)	12.2	14	13.3	15.3

\*Preschool ratios are for 2004.

\*\*This ratio assumes that each part-time student is a 0.5 fulltime equivalent student.

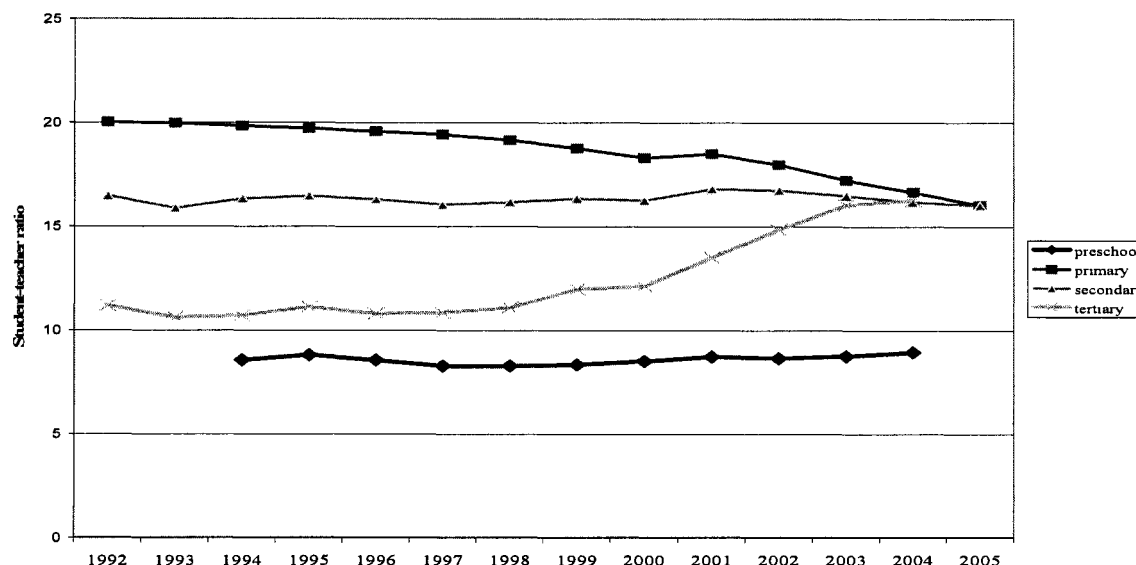
Source: Macedonia: State Statistics Office; the EU15 and the NMS: Table D2.2, OECD, 2005.

**2.28 The student-teacher ratios at the preschool and secondary levels have remained stable over a number of years, but the system has been adding teachers at the primary level even as the number of students has been declining** (Figure 2.3). If the primary level had the same STR in 2005 as in 1992, the number of teachers would have been lower by about one-fifth, or almost 2,800 teachers. With the size of the cohort in secondary education expected to fall by 15 percent (20,000 students) over the next 25 years, and a similar decline expected at the primary level, an important opportunity will be presented to make efficiency gains by reducing the number of teachers and schools, and redirecting resources to improve the quality of education and increasing enrollments in secondary education. This is likely to be somewhat offset by the increase in enrollments that should follow the introduction of compulsory secondary education from 2009.

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<sup>16</sup> Source: MoES.

**Figure 2.3: Student-Teacher Ratios at Different Levels of Education (1992-2005)**



Source: Ministry of Education and Science.

**2.29 Student-teacher ratios vary substantially across municipalities, ranging from a low of an average of 8 students per full-time equivalent teacher to a high of 26 students.** Secondary schools show a similar variation, with a range of 3-23 students per teacher. STRs vary little across municipality types or types of schools, being only slightly higher in gymnasium schools (18.5) than in VET schools (16.0). The wide variations across municipalities, but not across types of municipalities or schools, probably reflects the existence of inefficient schools, where the number of teachers has not been adjusted even as the number of students has fallen more sharply than for the country on average. The ratio of teachers to non-teaching staff is reasonable: about 3 teachers to one non-teaching staff at the primary level and 4 teachers to one non-teaching staff at the secondary level.

## D. RECOMMENDATIONS

**2.30 The analysis demonstrates that the education system needs urgent improvement, a conclusion with which the authorities fully concur.** It is recommended that the authorities seize the opportunity of declining number of students to free resources, including for more productive use within the sector. All in all, improving the quality of education outcomes will require determined efforts over a longer period of time; the time for action needs to start now. It may be that some transitional funding is needed to enable resources to be freed up and moved to a more effective system. Such transitional funding needs to be allocated strictly in line with a plan to accomplish such a move, however, within available fiscal resources.

### Improving Equity and Efficiency of Spending

**2.31 The most substantial progress toward a more equitable distribution of resources is likely to result from the introduction of a formula-based allocation of staff wages (school directors, teachers and pedagogical staff).** This is planned for Phase II of the decentralization,

though no decision has yet been made on the timing of introducing such a formula. According to the Law, allocations must be based on a formula linked primarily to the number of students in each municipality, though it would be possible (and expected) to include some modifications to reflect the higher cost of education in rural jurisdictions. In this way, municipalities with similar characteristics would receive the same level of funding, helping address a key inequity in the current system. Given the current inequalities in funding, any formula will result in some shifts in funding across municipalities—the existing allocations cannot simply be replicated. Financing of wages would be done through block grants earmarked for education.

**2.32 However, the benefits of the allocation formula will only accrue if there are commensurate changes in the degree of control that municipalities have over how to spend the resources allocated to them and over the factors that affect the level of spending.** The key issues to consider during Phase II of the decentralization include:

- **The ability to switch funds between wage and non-wage recurrent budget categories.**<sup>17</sup> The opportunity to switch resources between uses is a key tenet of decentralization, as it provides local governments discretion over how to meet their responsibilities in the education sector. In the short term, it should provide an incentive to close small schools and reallocate the funds saved. However, there is risk that savings may be used to increase the number of teachers and other staff rather than increase spending on other inputs vital for improving quality. The authorities are invited to consider setting up national standards to regulate these issues (see below).
- **Employment of staff, especially teachers.** The decision about how many staff to hire is essential in determining the education budgets for municipalities.<sup>18</sup> If funding for teachers' salaries is allocated to municipalities on a capitation basis, municipalities must have sufficient control over their wage bills to respond accordingly. The transfer of this responsibility to the municipalities, in collaboration with their schools, is a key feature of Phase II.
- **The setting and verification of minimum service standards for municipalities.** The central government will need to promulgate a wide range of regulations setting the framework for municipalities in areas including health and safety, organization of schools and finance. In many areas, there are existing regulations but these are out of date. Decisions will need to be made about what new standards are appropriate, who is responsible for upgrading facilities that currently do not meet these standards, and the sanctions for failure to observe standards.
- **The distribution of responsibilities between municipalities and schools.** The authorities need to clarify the distribution of responsibilities, with schools, their boards and the municipalities in charge of staffing decisions, decisions over spending, curriculum and textbook choices and setting class schedules.

**2.33 One of the most complex choices the authorities will need to make concerns the management of the school network.** Declining school-age cohorts will provide an opportunity,

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<sup>17</sup> Similarly, even if salaries are not decentralized to municipalities, the current system of three separate earmarked grants for transport and for maintenance and operations should be merged into one grant.

<sup>18</sup> A more radical step would be to give municipalities control over the terms and conditions of employment. Such a step is not recommended, however, given the significant disruption this will cause, coupled with other significant changes that would be taking place.

especially at the primary level, to reduce the number of teachers and downsize or eliminate schools (although internal migration will require additional classrooms in some locations):

- The authorities need to decide whether the central or the municipal government will close inefficient schools when needed. A solution to consider is a partnership between the central and local governments, with the central government providing guidance on closure decisions and some transitional funding and the municipal governments responsible for implementing plans.
- There is a further issue with respect to the secondary education network, as each municipality is not able, nor should it try, to offer all types of secondary programs. As a result, collaboration among the municipalities is essential for providing access to secondary schools.

**2.34 Each of the issues discussed in this section has been resolved differently in other countries. FYR Macedonia will need to learn from the experience and find the set of solutions that will work most effectively toward increasing efficiency and improving quality.** This observation argues for an approach which includes the use of pilot schemes to evaluate different options.

**2.35 As of early May 2007, the authorities intend to begin a conservative and cautious transition to Phase II,** commencing with a ‘detour’ in the flow of funds from the Treasury to the bank accounts of individual school staff via the municipal Treasury subaccounts of selected municipalities, rather than directly as at present. These funds will be earmarked for salaries. While municipalities will authorize the Treasury to transfer the funds to the accounts of individual staff, they will not have the authority to add staffing positions (without the concurrence of the Ministry of Education and Science and the Ministry of Finance) or to change the salary structure of its teachers. At present, there are no additional changes planned for the start of Phase II that involve the existing degree of local control over the determinants of the education wage bill or the allocation of funds destined for this purpose. Nor will there be any change in the distribution of salary funding among jurisdictions. The amount assigned to each municipality will be identical to the amount spent on teacher salaries in the preceding year—except for any adjustments due to nationwide changes in the salary structure or any centrally approved changes in the number of authorized teaching positions.

**2.36 The proposed approach would have some advantages in that it would enable the new system of financial flows to be tested or adjustments made as needed.** If the Government intends to transfer significant management responsibilities to local governments and/or allocate block grants on a meaningful formula basis, additional and more substantive steps in decentralization will need to be taken in the future, however. This will require, as was done before the start of Phase I, significant preparatory work by both ministries and municipalities.

## **Improving Education Performance**

**2.37 Additional funding for non-salary inputs is needed and reducing the share of spending on salaries is the key option to consider, especially given the decline in school-age cohorts in the coming years.** Together with rationalizing the school network, efforts to keep increases in teacher salaries moderate would result in significant savings over time.

**2.38 Increased resources for education could come from private sources, especially at the tertiary level.** Based on evidence from other countries, FYR Macedonia can expect to increase enrollments in tertiary education significantly only with additional private resources. Given the very low levels of enrollments in private secondary schools and the government's desire to increase overall enrollment, expanding private schools should be encouraged. This will, however, require attention to the regulatory framework, especially the way in which private and public institutions are accredited and quality assurance is conducted.

**2.39 There are several areas within the education sector that could benefit from a reallocation of spending away from current outlays, especially wages.** The following recommendations take the analysis and these factors into consideration:

- **Increase instructional time.** Without devoting additional resources, this could start by reversing a decision of several years ago to cut lesson duration for primary students (grade 1-4) to 40 minutes from 45 minutes and limited to 4 the instruction hours for the same students. An increase in the share of time teachers devote to teaching should also help.
- **Increase access to learning materials.** The priority investments should be in ensuring all students in primary and secondary education from poor families have access to learning materials (especially textbooks). The most effective way of doing this (and increasing school attendance) would be to link the provision of materials to the provision of social assistance benefits, though care would be needed to ensure that families do not sell the new books they receive and buy used ones at a lower price. In addition, there is a case for improving school libraries, perhaps through a set allocation of books provided by the central government (or a block grant to schools).
- **Improve teacher training.** This should be focused in the first instance on key competences in mathematics, science, and literacy by providing every teacher with 10 days training over a two-year period.
- **Move towards full enrollment in primary and secondary education.** The additional recurrent costs of reaching full enrollment in both primary and secondary education are estimated to be 0.4 percent of GDP. The authorities should consider moving to full enrollment over time in order to deal with capacity constraints and to take advantage of declining cohorts. A period of 3 years is to be considered.
- **Restructure secondary education.** The authorities should examine carefully the future of vocational education in the country. In line with European experience, there are two key recommendations. First, the authorities are advised to eliminate gradually three-year VET programs as the labor market outcomes from these programs are very poor and once enrolled in them, students do not have access to tertiary education. Second, the authorities should consider moving away from the sharp distinction between the curricula offered in gymnasias and four-year VET schools. In particular, in all programs there should be a focus on the application of literacy and mathematics skills and knowledge, analytic skills, team work, and creativity. The opportunity to shift from gymnasias to four-year VET schools should be reinforced. In particular, given the evidence from PISA that placing students permanently in either a general education or a VET track ("tracking of students") produces high variance in learning outcomes, it is suggested that the authorities reconsider the advisability of the German dual system.
- **Increase the use of information technology in the learning process,** ensuring that the purchase and use of computers is seen as a part of the fundamental reform of teaching in



the classroom and incorporated into the curriculum.<sup>19</sup> Related to the current plan to procure computers for each student, the authorities should be mindful that the costs of maintenance and operation will ultimately far exceed the initial investment in hardware, an outcome with substantial budgetary implications. All told, the authorities should reconsider the advisability of such a move.

**2.40 Significantly improve the quality of data collection and databases in the education system with a view to improving the management of the sector (including monitoring and evaluation).** It is recommended that the authorities focus on creating or improving the following databases: (i) an internationally interpretable set of statistics on FYR Macedonia's education system; (ii) a school mapping database, building on the database now managed by the Policy Analysis Unit (PAU);<sup>20</sup> (iii) an expanded education module within the household survey managed by the statistics office; and (iv) a database that supports analyses of learning outcomes and the ancillary information that is routinely collected at the time of the assessment.

**2.41 A separate study by the World Bank will discuss the issue of research, science or tertiary education.** Preliminary conclusions from the study indicate that in tertiary education, one of the highest priorities has to be given to the restructuring of university programs and degrees in line with the requirements of the Bologna process. It is important that this is more than just a paper exercise to divide existing curricula into credit units. Rather, it should be seen as an opportunity to revise the curricula and the approach to teaching and learning. In fact, adhering to the Bologna process will have significant implications for the way universities are structured and managed and it is with this aspect that reform of higher education should start. These changes would require significant resources over an extended period of time. Increasing enrollments in tertiary education should come primarily through increases in private institutions. However, a robust accreditation system for both public and private institutions is needed to ensure public resources are directed towards good quality institutions. Research, meanwhile, is an area where FYR Macedonia faces major challenges and will require significant resources to address.

## **E. CONCLUSIONS**

**2.42 Better education outcomes are central to the future of the country, as they clearly lead to faster growth in output and higher living standards.** Increasing public spending on education relative to GDP is not the answer to the current poor education outcomes, however. Rather, the authorities should focus on improving the efficiency and equity of government education spending and encouraging the productive use of private spending, especially at the tertiary level. Fast growing emerging market countries, such as Chile and South Korea, offer valuable examples on how to achieve better education outcomes.

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<sup>19</sup> See "Computers in Schools: Policy Note," The World Bank, November 2006 for more on this issue.

<sup>20</sup> The PAU does not receive all necessary (and available) data because of inadequate lines of communication with other institutions (the Ministry of Finance) and other departments within the MES, such as the departments for primary and secondary education. The data that PAU receives from various sources within the same institution or department often have inconsistencies, the data collection method (paper entry) being the main reason for the discrepancies and errors in the data. PAU's data management software is not user friendly and does not allow for in-depth analysis.



## 3. HEALTH

### A. INTRODUCTION

3.1 **The health system has sustained better health outcomes than in countries with similar levels of income per capita, and has retained almost universal health insurance, but popular dissatisfaction with the quality of healthcare is high.** Such outcomes, however, have been achieved at a high cost, both direct and indirect. Public health outlays are one of the highest in the region relative to officially estimated GDP (or similar relative to GDP adjusted for the size of the NOE), and higher than among the NMS on both measures. Moreover, private co-payments, both formal and informal, are large, resulting in overall healthcare spending that is quite high even measured relative to GDP adjusted for the size of the NOE. Further, the bulk of public health financing is through distortionary social security contributions that, although rather low in the region, are contributing to the informalization of the economy.

3.2 **Improving the performance of the health sector will require ambitious government actions to improve both the efficiency and equity of spending.** Measures will be needed to strengthen both the allocative efficiency of public funds (that is, using public resources for achieving the government goals in healthcare) and the technical efficiency (maximizing the value for money allocated). **The chapter recommends that the authorities consider several priority avenues for reform.** These include the need to revise and substantially tighten the benefits package for social health insurance, tighten procurement practices, especially for pharmaceuticals, and adopt modern provider payment and performance management systems. Other priorities include the need to strengthen the regulatory regime for healthcare institutions and to improve the targeting of eligible persons for publicly-financed health insurance premiums, while enforcing contribution collection from nonexempt groups.

3.3 **The rest of the chapter is organized as follows.** Section B reviews the institutional environment. Section C discussed healthcare revenues and financing. Section D analyzes healthcare expenditures and section E focuses on the delivery and utilization of healthcare. Section F presents the chapters recommendations and section G offers concluding thoughts.

### B. INSTITUTIONAL ENVIRONMENT

3.4 **The health services delivery system in FYRM of Macedonia consists of an extensive network of public health facilities,** ranging from small primary health care facilities (*ambulanta*), to larger primary health care centers with diagnostic facilities and specialists (*zdravstven dom*) and to hospitals. Health reforms in recent years have focused on encouraging greater private sector participation in the provision of health services, and in comparison with other SEE countries this process is well advanced. Four private hospitals exist (all in Skopje), pharmacy privatization is complete and privatization of dental practice and primary health care is advanced.

3.5 **Similarly to the NMS and SEE countries, FYR Macedonia has a publicly financed and administered health insurance system.** At present, a single Health Insurance Fund (HIF) pools health insurance contributions levied on wages, transfers from the budget and co-payments, ultimately managing about 95 percent of health sector resources. The remainder is channeled

through the Ministry of Health (MOH) for administrative costs and for health services provided by specialized hospitals (for example, the military hospital). Regulatory functions are carried out by the MOH and bodies under its jurisdiction, with a recently established Food Directorate responsible for all food safety issues.

**3.6 There is a purchaser-provider split in the health system, with the single payer, the HIF, contracting with public and private providers to deliver health services.** Given the small population size, the risk pooling through a single HIF is a substantial strength of the health care system. Reflecting the comprehensive nature of the benefits package financed through social insurance, however, voluntary health insurance remains underdeveloped despite provisions in the Health Insurance Law making it possible. Similarly, the high share of the population covered (more than 90 percent) has been touted as strength, but it has also come at a cost, ultimately to the budget, given pervasive evasion from payments of contributions.

**3.7 Much has been achieved in addressing the internal controls and governance of the Health Insurance Fund.** Experience from the broader region of Eastern Europe and central Asia and elsewhere demonstrates that implementation of complex health financing reforms is not possible in an environment of weak controls and governance. The government's interventions so far have resulted in a reduction of HIF arrears, improving the governance of the HIF board and strengthening HIF capacity in financial management and performance monitoring of health care institutions.

**3.8 The Government has recently adopted a comprehensive health sector strategy that outlines reforms towards improving the efficiency and equity of health spending.** The following reforms are envisaged: (i) a revision of the health benefits package to help improve access, quality and fiscal sustainability (for example, expanding the negative list of services, restructuring co-payments and improving targeting), and (ii) strengthening contracting of health care providers (for example, launching competitive procurement for health services, using the medical map to identify service needs in each region). Accelerated implementation of the health strategy combined with the ongoing interventions on governance and internal controls will reap important sustainability and quality gains in public spending on health.

## **C. HEALTH OUTCOMES**

**3.9 Health outcomes are better than in other countries with similar levels of income per capita and are on an upward trend, but – not surprisingly - lag the EU countries, including most of the new member states on most indicators** (Table 3.1) and (Table 3.2). The adult mortality rates in FYR Macedonia are roughly half the rates in Thailand and El Salvador, for example. By contrast, FYR Macedonia's standard death rate (SDR) for circulatory diseases is more than double the EU average and 25 percent higher than the NMS average. The incidence of tuberculosis, moreover, is three times higher than the EU15 average.

**Table 3.1: Morbidity and Mortality Indicators, 1991, 1995, 2000, 2004**

	1991	1995	2000	2003/2004	EU Average	EU15 Average
SDR, Diseases of the Circulatory System per 100 000	527.5	603.8	582.2	599.1	262.4	233.2 (2003)
SDR, Malignant Neoplasms per 100 000	139.5	149.2	163.6	165.1	184.2	177.9 (2003)
Tuberculosis Incidence per 100 000	35.2	40.0	31.6	31.7	11.9	9.7
SDR External Causes of Injury and Poisoning per 100 000	40.9	30.8	37.9	32.9	42.8	37.8 (2003)
Clinically Diagnosed AIDS Incidence per 100 000	0.0	0.3	0.2	0	1.6	1.8
Cancer Incidence per 100 000	142.5	276.4				468.2 (2000)
New HIV Infections Reported per 100 000	0.1	0.3	0.4	0.3	5.3	6.8

Source: Health in Transition (HiT), Macedonia, 2006.

**Table 3.2: Health Outcomes in Macedonia and Other Countries with Similar Income Levels**

Country	GNI Per Capita (US\$)	Health Expenditures per Capita (US\$)	Life Expectancy	USMR	Adult Mortality per 1000	Survival to Age 65 (% of Cohort)
Macedonia	2,420	161	74	14	115	80
Thailand	2,490	76	71	21	193	73
Albania	2,120	118	74	19	78	81
Belarus	2,140	116	68	11	249	68
BH	2,040	168	74	15	121	81
Kazakhstan	2,250	73	65	73	255	60
Ecuador	2,100	109	75	26	149	76
Salvador	2,320	183	71	28	185	75
Peru	2,360	98	70	29	160	74
Algeria	2,270	89	71	40	130	77
Jordan	2,190	177	72	27	155	78

Source: World Development Indicators, 2006.

## **D. HEALTHCARE REVENUES AND HEALTHCARE FINANCING**

**3.10 Payroll taxes (social security contributions) are the main source of HIF revenues.** High unemployment and evasion, however, together with relatively low contribution rates (one of the lowest in ECA, see Table 3.3), have made it necessary to utilize additional sources of revenues. These include general budget transfers and out-of-pocket payments. Formal out-of-pocket payments have also been supplemented by informal payments. Table 3.4 presents the key sources of revenue and spending of the HIF.

**Table 3.3: Social Insurance Financing Mechanisms, EU8 and SEE Countries**

Country	Sources of Funds	Contributions (in percent of earnings)	Share of Contributions Paid by Employee
Bulgaria	SHI premiums 1/	6.0	50
Czech Republic	SHI premiums	13.5	35
Estonia	SHI premiums	13.0	0
Hungary	SHI premiums	23.5	25
Latvia	Income tax and other general revenues	N/A	N/A
Lithuania	SHI premiums and income tax	6	N/A - 30% of employee income tax (up to 33% of salary goes to SHI)
Poland	SHI premiums	7.75	100
Slovakia	SHI premiums and income tax	14	28
Slovenia	SHI premiums	13.25	47.3
Croatia	SHI premiums and income tax	16	56
Macedonia	SHI premiums	9	0
Serbia	SHI premiums	11	0

<sup>1/</sup> SHI = social health insurance.

Source: CIS 2005, World Bank 2005.

**3.11 Health insurance coverage is almost universal, but only a fraction of those covered actually pay contributions.** There are 14 categories of insured, with the employed and the self-employed (including in agriculture) contributing at the statutory rate of 9.2 percent of gross wages and allowances, and others at different rates.<sup>21</sup> Although the statutory contribution rate is relatively low (with Albania, Bulgaria, Lithuania and Poland having still lower rates in ECA), a statutory minimum threshold in place renders the effective rate much higher on the margin in FYR Macedonia, especially for those with low wages, poor skills and the young.<sup>22</sup> Such a threshold encourages informality, together with the relatively generous benefits offered the unemployed (including full health benefits, leading many informally employed to register as unemployed).

**3.12 The authorities have embarked on reforms to harmonize collection of social security contributions to help reduce administrative complexity and burden of multiple agencies.** The intention is for the Pension and Disability Fund (PDF) to begin collecting all contributions, with the Public Revenue Office (PRO) ultimately taking responsibility for collecting both contributions and taxes. As an added advantage of these reforms, the HIF will be free to focus on strategic management of health resources, a function that is crucial for improving the efficiency and cost-effectiveness of health expenditures. Similar collection reforms were undertaken in Slovenia and Croatia, resulting in substantial improvement of contribution collection.

<sup>21</sup> Unlike most countries in the region, all contributions are fully paid by the employers.

<sup>22</sup> Payroll payments for most categories must be no lower than those due on a minimum threshold equivalent to 65 percent of the average net wage.

**Table 3.4: Macedonia: Revenues and Spending of the Extrabudgetary Health Fund**  
(In millions of denars unless indicated otherwise)

	2005 Budget	2005 Outturn	2005 Budget	2006 Outturn
Revenues	15,724	15,083	15,820	15,697
(In percent of GDP)	5.5	5.3	5.2	5.2
Contributions from employers	9,257	8,982	9,276	9,506
Contributions from the Pension Fund	3,547	3,417	3,637	3,583
Contributions from the Employment Fund	2,080	2,062	2,143	2,145
Contribution from the Ministry of Labor	64	64	46	56
Transfers from the central budget	68	46	66	42
For programs	64	44	41	40
For health insurance for disabled persons	4	2	25	2
Revenues from co-payment	600	434	573	241
Other revenues	108	79	79	124
Expenditures	15,724	15,206	16,615	16,308
(In percent of GDP)	5.5	5.4	5.5	5.4
Healthcare at home	13,764	13,440	14,732	14,387
Medical treatment abroad	130	151	155	164
Other treatment (compensation)	1,050	1,062	1,200	1,145
Administration	317	276	418	373
Wages and allowances	193	163	194	149
Goods and services	124	113	224	224
Capital expenditures	220	106	110	57
Other expenditures, including interest	63	0	0	0
Balance	0.0	-123	-795	-611
(In percent of GDP)	0.0	0.0	-0.3	-0.2

Sources: Ministry of Finance and Health Insurance Fund; and staff calculations.

**3.13 Very low levels of formal employment in FYRM of Macedonia and near universal health insurance coverage have brought substantial inefficiencies, raising serious questions about the appropriateness of financing healthcare with payroll taxes.** Contributions are often made on the basis of the minimum threshold rather than actual wages, resulting in regressive effective tax rates. Thus, given high unemployment, even the moderate level of the payroll contribution rate adds to the cost of labor on the margin and creates an additional disincentive for job creation. Demographic changes under way are a second key factor to consider, even if those older than 65 years account for a smaller share of the population in FYR Macedonia (10.6 percent in 2003) compared to the EU on average (16 percent). It is likely that going forward, population ageing will result in a smaller workforce, putting downward pressure on contributions. Moreover, the older the population, the more intense the use of higher-cost health services.

**3.14 Given these considerations, one option available to health policy makers is to move to financing through general revenues.** Such a reform may require an increase in VAT rates or the flat income tax rates. A hike in the latter could be accompanied by an increase in the tax-exempt minimum. Such financing would, *inter alia*, help eliminate or sharply reduce payroll

contribution rates (with all positive consequences listed above) and strengthen the link between policy priorities and budget formulation. The negatives, however, are equally powerful, with the most important concern reflecting the risk that the public may now perceive resources to be readily available, resulting in a tendency to boost further spending on health. The authorities should consider the trend toward financing through general revenues even in countries with a long tradition of social insurance (for example, France and Spain; also note recent proposals in Germany). Countries that already had strong tax-financed systems (Sweden, United Kingdom and New Zealand) have further strengthened this model.

**3.15 The low effective level of official co-payments (averaging about one-half of statutory requirements) has limited their effectiveness in curbing demand for health services and is bringing little revenues to the HIF.** By law, all insured except the exempt are required to make co-payments for the use of health services and pharmaceuticals. Co-payments are set in fixed amounts, with co-payments for more expensive services fixed at a proportionally lower percentage. There are various exemptions from making co-payments, usually set by population group and incidence of disease. For example, insured low-income individuals pay smaller amounts, as do children under 5 years of age, youth under 18, and people older than 65 years. In addition, there are co-payment exemptions for mothers, for immunizations, and the treatment of some diseases. In addition to low effective co-payments, there is little incentive for the health care institutions to collect them since, by law, co-payments collected have to be returned to the HIF. All these factors combine to limit revenues from co-payments to 3-4 percent of total HIF revenues, compared with 7-10 percent in most west European countries.

## **E. HEALTHCARE EXPENDITURES**

**3.16 Given the growing reliance in healthcare on advanced appliances and pharmaceuticals produced abroad, the absolute amount of spending on healthcare matters more than in other sectors.** FYR Macedonia spends about \$200 per capita on healthcare, less than one-half than the NMS on average, but more or about the same than in countries with similar levels of income per capita. Relative to GDP, government healthcare expenditures amount to about 5.7 percent, compared with 5 percent in the NMS and 6.5-7.5 percent in Croatia and Bosnia and Herzegovina (Table 3.5). Out-of-pocket payments, both formalized and informal, are estimated to amount to 3 percent of GDP (higher than the 2 percent average in the NMS), bringing total healthcare spending to about 8.7 percent of GDP.<sup>23</sup> OECD countries spend as much on healthcare on average, but these are far wealthier economies whose health outcomes are substantially better.

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<sup>23</sup> Official estimates of private outlays amount to 1.1 percent of GDP, but these underestimate the true magnitude. The figure in the text is estimated from the Household Budget Survey (HBS).



**Table 3.5: Health Expenditures in EU8, SEE OECD and other MIC Countries**

	% of GDP	Public, % of GDP	Private, % of GDP	Per Capita US\$
<b>SEE Countries</b>				
Bosnia and Herzegovina	10.0	7.4	2.6	168
Croatia	7.6	6.3	1.3	494
<b>FYRM of Macedonia <sup>1/</sup></b>	<b>8.7</b>	<b>5.7</b>	<b>3.0</b>	<b>208</b>
Serbia and Montenegro	8.6	5.7	2.9	181
<b>EU8</b>				
Czech Republic	7.5	6.8	0.7	667
Estonia	5.3	4.1	1.2	366
Hungary	8.4	6.1	2.3	684
Latvia	6.4	3.3	2.1	301
Lithuania	6.6	5.0	1.6	351
Poland	6.5	4.5	2.0	354
Slovak Republic	5.9	5.2	0.7	360
Slovenia	8.4	6.3	2.1	821
<b>EU8 Average</b>	<b>6.9</b>	<b>5.1</b>	<b>1.8</b>	<b>488</b>
<b>Other countries with similar level of income per capita</b>				
Thailand	3.3	2.0	1.3	76
Peru	4.4	2.1	2.3	98
Algeria	4.1	3.3	0.8	89
Jordan	9.4	4.2	5.2	177
El Salvador	8.1	3.7	4.4	183
<b>OECD Average</b>	<b>8.9</b>	<b>6.1</b>	<b>2.8</b>	<b>NA</b>

<sup>1/</sup> The data for Macedonia include the estimates of private expenditures in 2004 based on the HBS.

Source: World Development Indicators, 2002-04.

**3.17 The poor still spend more on healthcare as a share of total household expenditures than those better-off, raising concerns about access to care.** The authorities have moved to address this issue, with the amount paid by the poorest quintiles falling by 27 percent during 2002-04 and the amount paid by the richest quintile rising by 18 percent.

**3.18 High healthcare outcomes reflect in part high costs, the latter reflecting a number of factors.** Key among them is the overemphasis on specialist and hospital-care and the excess number of medical personnel, with both of these factors resulting in an oversized wage bill. For example, the proportion of the HIF budget spent on hospital care is about 40 percent (although that share has been decreasing over time) (Table 3.6). The comprehensive benefit package, the sizable outlays on pharmaceuticals and cost-pressures resulting from medical technology (typically acquired at world prices) are also important. These factors are considered in the following sections.

**Table 3.6: HIF Expenditures by Level of Care (2000-2004)**  
(In percent of total HIF expenditures)

	2000	2001	2002	2003	2004
Primary health care	20	19	21	37	37
Dental care	6	4	4	4	4
Inpatient care	46	50	42	34	34
Outpatient drugs	14	13	14	13	13
Medical devices	1	1	1	2	2
Special programs	1	3	0	0	0
Treatment abroad	1	1	1	2	1
Other health care expenditures	1	0	0	0	0
Capital investment and O&M	1	0	6	0	1
Pecuniary compensation	6	6	7	7	7
Expenditures for fund operations	3	2	3	2	2
Credits repayment and coverage of Fund's losses	2	1	1	0	0

Source: The Health Insurance Fund.

**3.19 Wages account for a full one-half of the HIF expenditures, but this is a familiar pattern across many countries at similar income levels.** (For example, medical wages in Bosnia and Herzegovina account for roughly one-half of healthcare outlays.) As in other areas, the large share of wages crowds out much needed outlays on investment and maintenance. This outcome is especially problematic given the absolute amount spent on healthcare of about \$200 per capita in current dollars.

**3.20 The size of arrears of the HIF and the healthcare institutions (HCI) has been reduced substantially of late.** Arrears fell to about 1.2 percent of GDP by the end of 2006 (3.7 billion denars) from 1.8 percent in mid-2005. HIF arrears have been reduced to nil within the total amount. The gradual reduction in arrears has reflected the implementation of hard budget ceilings for the HCIs, and was aided by the implementation of monthly financial reporting by HIF and HCIs (that allowed better tracking of liabilities) and the introduction of competitive bidding for pharmaceuticals (which contributed to a decline in pharmaceutical expenditures by one-third). Nonetheless, HCI arrears remain an issue that needs to be tackled.

## **F. THE DELIVERY AND UTILIZATION OF HEALTHCARE**

**3.21 Despite high spending levels, utilization of health services is below the levels in other EU countries.** The latest available data on outpatient visits per capita in FYR Macedonia is from 2001 (and excludes the private sector), indicating a much lower number of visits per capita (3 on average, 1 in rural areas) compared with 6.8 among the EU15 countries and 8.5 among the NMS (excluding Bulgaria and Romania) (Table 3.7). The number of outpatient visits, especially visits to primary care doctors is a good indicator of the efficiency of the system. Low outpatient visits may indicate a bypassing phenomenon, where instead of going to a primary care doctor, patients self-refer to secondary or tertiary care institutions. The bed occupancy rate in FYR Macedonia is only about 54 percent, compared with 77 percent on average for the EU15 and OECD countries. There is little information on the factors for low utilization of health services in FYR Macedonia, but experience from other countries in the region indicates that the cost of health care is typically

a barrier. This is also likely the case in FYR Macedonia, given the large size of out-of-pocket payments that supplement mandatory co-payments.

**Table 3.7: Outpatient Contacts in Selected Countries**  
(per capita, per year)

	1990	1995	2000	2001	2002	2003	2004
Albania	3.3	1.8	1.6	1.6	1.8	1.9	1.9
Bulgaria	6.6	5.5					
Croatia	8.2	4.8	7.0	7.5	7.5	7.6	7.6
Serbia and Montenegro	7.0	5.0			7.1		
Slovenia	6.5	7.2	6.8	6.7	6.4	6.9	7.0
Macedonia	5.2	3.1	3.2	3.0	NA	NA	NA
EU15 average	6.5	6.3	6.6	6.6	6.7	6.8	

Source: WHO Regional Office for Europe, Health for All Database, January 2006.

## Preventive and Primary Healthcare

**3.22 Health-seeking behavior among the population indicates limited use of primary care.** More than one-half of the population select ambulance/emergency care as the first contact with the healthcare system, followed by a hospital visit (Table 3.8). This indicates a preference for treatment in a hospital setting, and bypassing of primary health care. The poorest quintile tends to use ambulance services and hospitals more than the richest quintile, although the margin is relatively modest.

**Table 3.8: Health Seeking Behavior by Income Quintile**  
(In percent of the total)

	Total	Q1	Q2	Q3	Q4	Q5
Self-Treatment	7.8	8.1	7.6	8.4	8.6	6.3
Private Medical Doctor	11.8	6.8	11.9	9.4	11.3	18.7
Ambulance/Emergency Care	55.4	55.1	54	59.6	57.5	49.7
Clinic	5.6	4.7	5.2	5.5	5	7.4
Hospital	19.3	25.1	20.7	16.4	17.3	17.7
Alternative Medicine	0.4	0.3	0.7	0.5	0.3	0.1
Other	0.1	0	0	0.3	0.1	0.2

Source: HBS, 2005.

**3.23 The health care delivery system in FYR Macedonia is still largely dominated by specialist and hospital-based care with insufficient emphasis on preventive and primary care.** Data on primary healthcare expenditures (PHC) in FYR Macedonia do not differentiate between outlays on *bona fide* primary expenditures and those going to specialist outpatient services, thus making it difficult to judge recent trends (data for other countries do not group these two together). The authorities would do well to establish a more comprehensive database that separates the two to enable better policy analysis and planning. All told, overall allocations for primary health care and specialist outpatient services have increased in recent years, reflecting HIF contracts with private PHC doctors.

## In-Patient Care

3.24 Expenditures on in-patient care in FYR Macedonia amount to about 40 percent of the total, broadly similar to the average in the NMS and the OECD.<sup>24</sup> Hospital productivity, however, is very low, with the inpatient admission rate in FYR Macedonia equivalent to half the average for the EU15 and lower than in all countries in the region but Bosnia and Herzegovina (Table 3.9). Similarly, the hospital occupancy rate is only 54 percent, compared with averages of 78 percent in the EU15, 74 percent in the NMS and 87 percent for the Commonwealth of Independent States.

**Table 3.9: Inpatient Utilization and Performance in Acute Hospitals in the WHO European Region, 2004 or Latest Available Year**

	Hospital Beds per 1000 Population	Admissions per 100 Population	Average Length of Stay in Days	Occupancy Rate (%)
Albania	2.7	-	-	-
BH	3.3	7.2	9.8	62.6
Bulgaria	7.6	14.8	10.7	64.1
Croatia	3.6	14.6	8.2	89.9
Czech Republic	6.2	20.8	8.2	74.8
Estonia	4.3	17.2	6.2	68.4
Hungary	5.9	23.5	6.5	76.6
Latvia	5.4	18.8	-	-
Lithuania	6.1	21.9	7.9	77.4
Poland	4.7	-	-	-
Romania	4.4	-	-	-
SAM	-	-	9.7b	69.0
Slovakia	6.1	17.8	8.4	68.6
Slovenia	3.9	16.6	6.2	73.2
<b>Macedonia</b>	4.9	9.0	11.8	53.7
EU15 average	4.0	18.0	6.9	77.0
NMS average	5.2	20.6	7.4	73.8
CIS average	7.4	19.5	11.6	87.1

Source: WHO Regional Office for Europe, Health for All Database, January 2006.

3.25 Although at the aggregate level bed capacity is not excessive, the inefficient use of hospital beds combines with their unequal and irrational distribution. Hospital beds amount to 4.9 beds per 1,000 persons, compared with 6.2 beds per 1,000 persons in the EU on average. More than one-half of the beds are in specialized and tertiary care. Outside Skopje there are 15 general hospitals and the bed capacity varies from 5.2 per 1,000 in Shtip to 1.3 in Kochani. The variation in bed capacity is largely attributable to the fact that the 15 hospitals have different specialties. Given the size of the country and the fact that population in some regions have access to multiple general hospitals, there is scope for rationalizing service delivery through a combination of planning and use of output-based payment mechanisms (case-based payments). Under case-based payments, hospitals without sufficient numbers of cases are forced to either rationalize or merge with other hospitals. In the region, successful implementation of case-based payments for hospitals has contributed to 30-40 percent reduction in hospital fixed costs.

3.26 There is a surplus of health personnel and non-medical staff, contributing to high fixed costs, especially in the hospital sector. Overstaffing reflects in large part the generous

<sup>24</sup> Outlays in in-patient healthcare amounted to 37 percent of the total in Macedonia, 38 percent or lower in the OECD countries, and about 40 percent in Hungary, Poland and Slovakia.

staffing norms under the previous system that targeted 1 physician per 1,000 inhabitants. In addition, the percentage of full-time non-medical staff (cleaning personnel, cooks, accountants) in health facilities accounts for about one-third of total staff. Health facilities do not have flexibility over hiring and firing and labor unions in FYR Macedonia are strong, contributing to high fixed costs and limited opportunity for hospital managers over the hospital input mix. Labor rigidities are one of the key obstacles to introducing incentive-based payment systems at the hospital level.

**3.27 The recent introduction of “global budgets” for hospitals (which provide hospitals with a certain overall amount without specifying in detail what the amount should be used for) has helped bring greater fiscal discipline in the Health Insurance Fund and to the healthcare providers.** Prior to 2006, the HIF faced serious fiscal risks generated by the lack of clear and enforceable criteria for paying hospitals. While hospitals were billing the HIF for health services on a fee-for-services basis, the HIF ignored these claims and was making payments on the basis of historical, line-item budgets. This led to confusion in the health sector and the gap between hospital claims and the HIF payments resulted in arrears. To bring this problem under control, in 2006 the HIF adopted global budgets for all HCIs, with the objectives of strengthening fiscal discipline. The global budgets for 2006 were defined according to the historical budgets for the previous three years.

### **Benefit Package**

**3.28 The comprehensive benefits package needs to be evaluated using cost-effectiveness and allocative efficiency criteria.** The other countries of the former Yugoslavia have similar benefits packages. Currently, the benefits package in FYR Macedonia provides the 90 percent of the population enrolled in the HIF with comprehensive coverage for outpatient and inpatient health services. In contrast to the EU countries, non-medical benefits including sick leave and maternity benefits are also included in the healthcare package.

**3.29 There is an overlap and duplication of benefits.** In addition to the coverage under the compulsory health insurance, certain categories of citizens (children, students, pregnant women, persons suffering from renal failure, diabetes) are eligible for free care under “special programs” financed through general budget revenues. It is difficult to evaluate expenditures on such programs since some of the costs are hidden under “expenditures on primary health care” and “expenditures under special programs.” Special programs seem to be routinely under-funded relative to statutory needs, leading in the past to healthcare arrears. For example, the 2000-2004 annual approved budget allocations for special programs amounted to less than 40 percent of statutorily-defined needs. The “special programs” also cover some of the most expensive drugs and medical devices such as renal dialysis, cytostatic medicines (for the treatment of cancer).

### **Pharmaceutical Expenditures**

**3.30 Public pharmaceutical expenditures are a key cost driver of healthcare, although at 15 percent of HIF expenditures they are only half as large as the average for the NMS.** In Macedonia, as in other EU countries, outpatient pharmaceuticals consume the bulk of resources, while inpatient drugs only consume 10-15 percent of expenditures. FYR Macedonia is also likely to face continued growth in pharmaceutical expenditures in the short to medium-term. While this is inevitable, by strengthening system efficiency and tackling abuse, FYR Macedonia can at least guarantee that some of the cost increases can be neutralized and absorbed.

## G. RECOMMENDATIONS

3.31 While healthcare reforms have been advanced, more remains to be done to ensure that the government's health policy goals are met, including the emphasis on improving health outcomes and setting the system on a financially sustainable footing. The following recommendations are based on the analysis in this chapter and are split into suggestions for immediate action (over the next one or two years) and a more medium-term policy agenda.

3.32 The authorities are invited to consider the following immediate policy actions:

### Health Financing

- **Complete the implementation of reforms to harmonize benefits and bases for collection of benefits and improve administrative efficiency in benefits collection.** A key factor for success is promoting transparent and accountable transfer of funds from PRO to HIF and data sharing between the agencies (e.g. beneficiary database). This will enable HIF to track contributions and disallow the use of health benefits for non-contributors.
- **Specify explicitly the groups whose health financing is provided from the budget, include the full cost of their premiums in the budget as special line items and monitor budget execution.**
- **Consider moving healthcare financing, in part or in whole, from payroll taxes to general revenues, starting with analyzing the fiscal impact of such a potential change.**

### Health Expenditures

- **Strengthen the implementation of global budgets for hospitals and implement more relevant key performance indicators differentiated by the type of care** (primary, secondary and tertiary). For hospitals that have adhered to hard budget ceilings, have developed business plans and begun implementation of efficiency measures, some flexibility over line item re-allocations could be allowed.
- **Begin the (technically and politically challenging) reforms of the health benefit package.** Key areas for reform include: (i) expanding the negative list of services based on specific criteria (for example, cost effectiveness, public and merit goods); (ii) reducing or eliminating entirely non-health benefits (as Serbia did in 2006); and (iii) integrating special programs in the benefits package.
- **Advance reforms of the pharmaceutical sector** by: (i) introducing generic referencing for outpatient drugs and external referencing for patented drugs; (ii) improving information systems linking HIF with pharmacies and allowing HIF to monitor and address prescription fraud, (iii) strengthening mechanisms for determining the inclusion of new (expensive) drugs on the HIF positive list, (iv) evaluating the effectiveness of physician drug budgets on prescription behavior of physicians.
- **Evaluate the role of publicly provided, fully paid and co-paid services in encouraging more appropriate patient behavior.** The differentiation of health services

into these categories should be based on an understating of the set of incentives and patient reaction to these incentives.

- **Strengthen the capacity of the HIF, MOH and the HCIs to help limit cost pressures and eliminate wasteful spending.** For the HIF, begin with (i) improving processing of claims, and detecting and resolving fraudulent billing; (ii) strengthening contracts with providers and ensuring compliance; and (iii) collecting and analyzing provider data on a regular basis, and using this information to determine the price and volume of health services.
- **Implement the National Health Accounts** to ensure provision of standardized and timely data for policy development and monitoring.

**3.33 The immediate policy actions are recommended to be supplemented with the following efforts over the medium term:**

- **Develop and begin implementing a plan for reducing overcapacity in the health sector, especially in the hospital and specialist outpatient health services.** One approach is to develop a regional rationalization plan that can be used to plan the delivery of services at the regional level and link the implementation of these plans with appropriate prospective payment methods.
- **Strengthen institutional and organization reforms to allow providers to respond to new incentive regime.** For example, the implementation of prospective provider payment systems (e.g. case-based payments) needs to be combined with granting hospitals autonomy over budget allocation, allowing hospitals to retain profits, and determine staffing according to needs.
- **Strengthen mechanisms for paying providers at other levels of the system.** For example, FYR Macedonia needs to strengthen payment mechanisms for primary care aimed at enhancing the gate keeping function of primary care and encouraging group practice.
- **Rationalize further the health benefit package taking into account international experience and the fiscal constraints, and identify scope for rationalizing health benefits.** This should include a re-evaluation and reforms of the system of co-payments with the objective of improving targeting (for example based on a revised means-testing system) and introduction of co-payments for specific categories of non-essential medical services and products. Concurrently, support the development of voluntary health insurance (VHI) including through an appropriate regulatory framework.
- **Continue pharmaceutical reforms** by implementing provider prescribing guidelines and strengthening monitoring of out-of-pocket payments and drug use by population groups to help calibrate co-payments.
- **Strengthen the public health and health promotion system, given the burden of smoking, alcohol consumption and other preventable diseases.**

## H. CONCLUSIONS

3.34 **Further ambitious health reform is needed to improve both the efficiency of spending on healthcare and the health outcomes.** These top priorities include the need to revise the benefits package for social health insurance, tighten procurement rules for pharmaceuticals and adopt modern provider payment systems. Reorganizing the hospital sector in line with the Medical Map the authorities are preparing should help streamline with the size of the sector and make it more attuned to the needs of the citizens.



## 4. PENSIONS

### A. INTRODUCTION

4.1 **The financial situation of the FYR Macedonian pension system worsened dramatically during the 1990s due primarily to the significant decline in the contribution base on the back of reduced formal employment.** These developments, and the build-up of substantial implicit pension obligations, led the authorities to begin implementing pension reforms, starting with parametric changes of the pay-as-you-go (PAYG) pension pillar and introducing a mandatory fully-funded second pillar in 2006.

4.2 **The implementation of the pension reforms has been successful thus far, guided by the objectives of reducing the impact of demographic changes on the pension system and helping assure adequate pension incomes for both current and future generations of pensioners.** More work will be needed to ensure that future implementation proceeds smoothly and the pension system copes with all challenges. **Using a realistic scenario, with real GDP growth and other key parameters below historical averages, this chapter concludes that the fiscal sustainability of the pension system is likely to be attained, as measured by a declining and ultimately stabilizing deficit of the pension fund (financed from general government revenues).** This result depends on the realistic assumption that the authorities will continue to implement parametric reforms currently in progress, including the gradual planned increase in the retirement age and maintaining the recently agreed pension indexation formula that gives a much larger weight to inflation than wage growth. The conclusion assumes only moderate growth in formal employment, increasing its share in the labor force from one of the lowest in the region, thus increasing the numbers of contributors.

4.3 **The sustainability of the pension system is likely to be assured. The outcome projected by this chapter is for the replacement rate (the ratio of average pensions to average wages) to average 50 percent, compared with 55 percent in 2006, 68 percent among the NMS and 78 percent in the EU on average.**<sup>25</sup> The projected outcome is reasonable and the modest decline from current levels reflects the impact of the reforms the authorities are implementing. The difference with the EU should be interpreted with care, as many EU countries have yet to face the acute demographic problems they face. Faster growth in output and formal employment should result in a much smaller reduction in the replacement rate, enabling an easier transition to a more sustainable pension system. Further, reducing the fees charged on second pillar accounts should also help, and the government is invited to consider the chapter's recommendations in this direction. The authorities are also invited to consider ways to reduce further payroll contribution rates in a fiscally responsible way to help reduce informality.

4.4 **The rest of the chapter is organized as follows.** Section B outlines the overall structure of the FYR Macedonian pension system and discusses its current performance. Section C analyzes the adequacy of future pension benefits, while Section D discusses the long-term

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<sup>25</sup> The replacement rate is defined as the ratio of the average net pension to the average net wages, unless noted otherwise.

financial sustainability of the system. Section E provides the chapter's recommendations and section F offers a conclusion.

## B. STRUCTURE OF THE PENSION SYSTEM AND PENSION EXPENDITURES

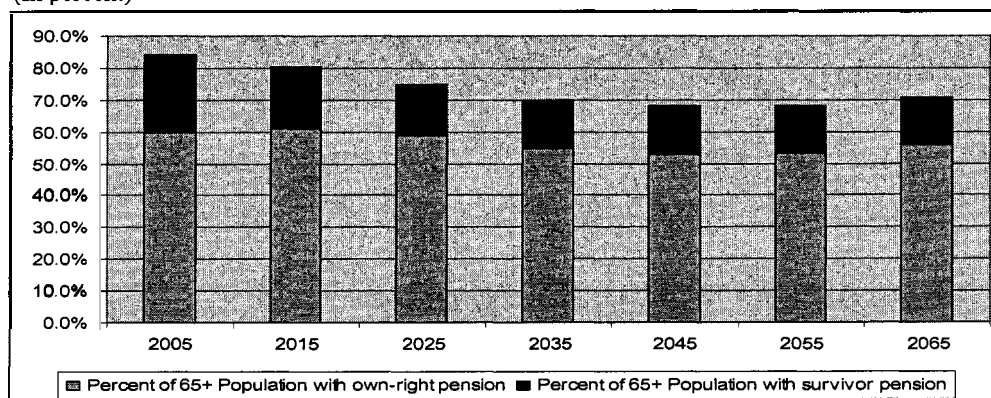
4.5 The authorities initiated pension reforms earlier this decade in response to the deterioration of the financial situation of the FYR Macedonian pension system during the 1990s. The deterioration reflected a significant decline in the contribution base, as formal employment fell markedly. A bias toward early retirement became entrenched, combining with a large number of beneficiaries relative to contributors and generous benefits. The authorities have begun addressing some of these issues, but further determined progress is needed to help ensure the long-term sustainability of the pension system. Pervasive evasion and a large informalization of the economy have limited the inflow of payroll contributions, making it necessary for the authorities to rely increasingly on budgetary transfers to fund promised pension payments.

4.6 The FYR Macedonian pension system consists of two mandatory components. The first, a PAYG pillar, offers defined-benefit pensions based on lifetime earnings history with pre-defined accrual ratios. The second, a fully-funded pillar based on the principle of defined contributions, was introduced from the start of 2006. The funded pillar is mandatory for new entrants into the labor market after January 1, 2003 and optional for the rest of the working population.

### Coverage

4.7 Low formal employment and high unemployment in FYR Macedonia has resulted in very low pension coverage. The number of contributors in 2006 amounted to 425,263, or about one-half of the officially estimated formal labor force, and a much smaller share of the economically active population. This creates the risk that a significant part of the population will reach retirement age with a short pension insurance record and will, thus, be entitled to very low pension benefits. Improving incentives for voluntary compliance has been one of the main drivers of reforms. Low coverage is projected to continue (see below), underpinning the urgency of further reforms (Figure 4.1).

Figure 4.1: FYR Macedonia, Population over 65 years with Pension Coverage (In percent)



Source: MAPAS.

## The PAYG Pillar

4.8 **Pension expenditures amounted to about 8.5 percent of GDP in 2006, down from about 8.8 percent in 2005.** The level of expenditures in 2006 was lower than among the NMS and the EU15, with the outlays in the EU averaging 12.6 percent of GDP (Table 4.1 and Figure 4.2). Within the Western Balkans, however, FYR Macedonia's pension expenditures are similar to the levels in Bosnia and Herzegovina and Montenegro, but higher than in Albania (4.8 percent) which is a much younger country demographically. PAYG pensions are administered by the Pension and Disability Fund (PDF) and are funded through a combination of social security contributions and budgetary transfers. The contribution rate is set at 21.2 percent of gross wages, lower than in all NMS (average about 28 percent), with an annual contribution ceiling of 300 percent of average wages.<sup>26</sup> The PDF retains the full contribution for individuals who have not joined the second pillar. For those who have joined a second-pillar fund, the PDF retains the equivalent of 13.78 percent of gross wages and transfers the equivalent of 7.4 percent to the funded pillar.

**Table 4.1: Revenues and Expenditures of the Pension and Disability Fund, 2006**

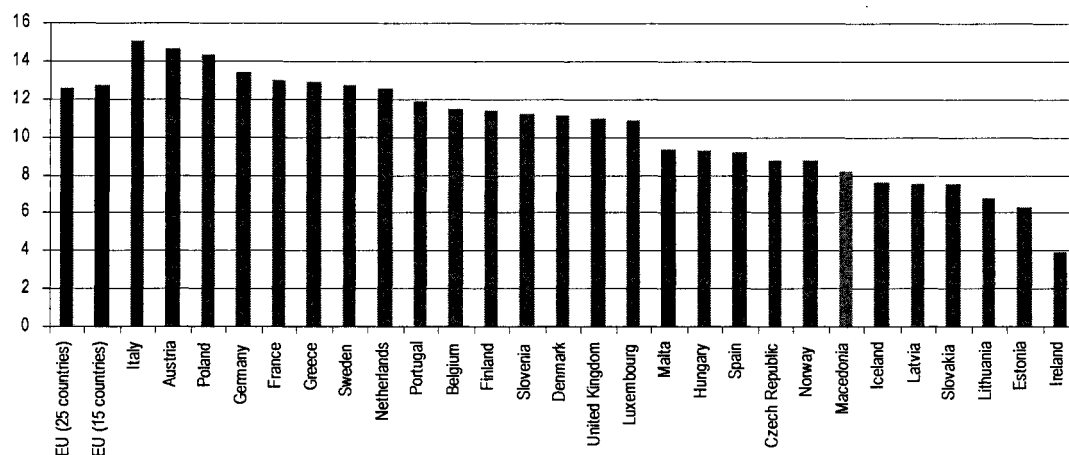
	In Millions of MKD	In Percent of GDP
<b>REVENUES</b>		
Contribution revenues	19,948	6.7
Budgetary transfers		
Regular budgetary obligations	4,670	1.6
Pension debt repayments	851	0.3
Deficit financing	2,585	0.9
Transitional deficit	1,264	0.4
Employment agency transfers	1,220	0.4
Other revenues	1,870	0.6
Transferred revenue from 2005	233	0.1
<b>Total Revenues</b>	<b>32,642</b>	<b>11.0</b>
<b>EXPENDITURES</b>		
Pension benefit payments	25,411	8.5
Disability benefits	1,550	0.5
Health contributions	3,582	1.2
Administrative costs	664	0.2
<b>Total Expenditures</b>	<b>31,207</b>	<b>10.5</b>

*Source:* Macedonian authorities and staff calculations.

4.9 **Contributions account for about 60 percent of pension fund revenues, with transfers from the budgetary and the extrabudgetary employment fund accounting for almost all of the remainder.** In 2006, the transfer from the budget amounted to 3.6 percent of GDP, of which 1.9 percent of GDP was to cover expenditure mandates for pensions to exempt individuals, 0.4 percent for the transitional cost of the introduction of the mandatory pillar (this is the first year in which such a cost has been incurred) and the remainder for the Fund's structural deficit.

<sup>26</sup> This (annual) contribution ceiling compares with 250 percent set in Hungary and Poland and 800 percent in Latvia.

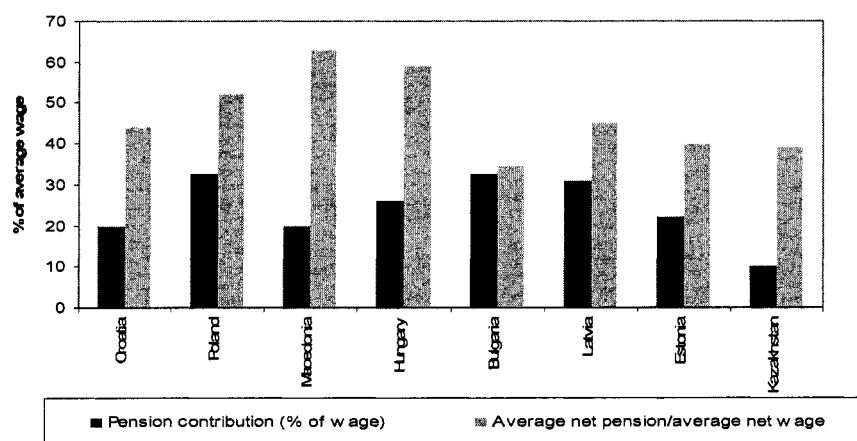
**Figure 4.2: Pension Expenditure in Macedonia and EU Countries**  
(In percent of GDP), 2005



<sup>1/</sup> Estimated data for the EU averages, Greece and Belgium; provisional data for the other countries.  
Source: World Bank pension database.

**4.10 The structural deficit of the pension system reflects generous pensions relative to wages and the large number of beneficiaries relative to contributors.** At 55 percent in 2006, FYR Macedonia has one of the highest replacement rates in the region, as measured by the ratio of average pensions to average wages (Figure 4.3). Nonetheless, the replacement rate has fallen from 62 percent in 2002, thanks to reform efforts. The system dependency rate with 77 beneficiaries per 100 contributors is also one of the highest in the region (Figure 4.4).<sup>27</sup>

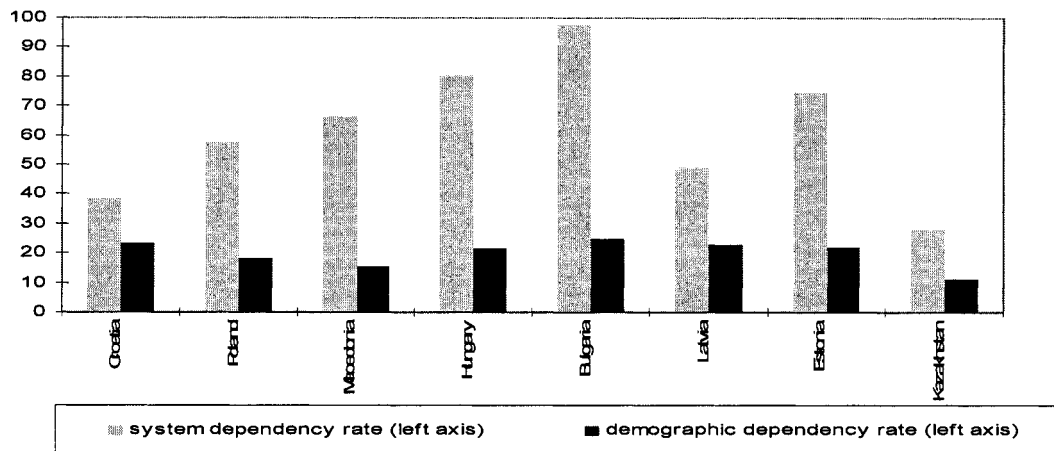
**Figure 4.3: Contribution Levels and Replacement Rates in Selected ECA Countries**  
(In percent of average wage)



Source: Chlon-Dominczak (2003).

<sup>27</sup> The ratio ranges from 43 pensioners per 100 workers in Malta to 76 in Italy.

**Figure 4.4: System and Demographic Dependency Rates in Selected Countries in 2002 <sup>1/</sup>**



<sup>1/</sup> System dependency is the number of pensioners per 100 workers and demographic dependency is the number of people older than the statutory retirement age to 100 people in working age.

Source: Chlon-Dominczak (2003).

**4.11 The large number of beneficiaries reflects the relatively young age of exit from the labor market** despite increases under the parametric reforms introduced earlier in the decade. At 61.7 years for men and 57 years for women (rising to 64 years and 62 years, respectively), the retirement age at present is lower than in most countries in the broader region. Furthermore, the ratio of the employed (in the formal sector) to those in working age is lower than all other countries in the region, almost one-half the 70 percent target under the EU Lisbon strategy and the 68 percent average among the EU15 countries. Formal employment slumped from about 38 percent of the labor force in 2001 to about 33 percent in 2004 before modestly picking up in 2005 to about 35 percent. Unemployment has remained broadly unchanged in recent years at about 37 percent, however, as rising employment was accompanied by modest increases in labor force participation.<sup>28</sup>

**4.12 Falling fertility rates and population ageing, the relatively young current structure of the population notwithstanding, are signals to the authorities to implement further pension reforms to assure the viability of the pension system.** Indeed, the ratio of those aged 60 years or older per 100 individuals aged 18-59 is projected to double from 24.5 in 2005 to about 50 in 2050. This upcoming wave of retirees will further burden the pension system in FYR Macedonia.

**4.13 The need for change is underpinned by the need to tackle the large implicit pension debt (IPD) in FYR Macedonia, a legacy of existing labor market conditions and policies.** The IPD in FYR Macedonia is one of the largest in the region as a share of GDP, representing a substantial burden on future generations (Table 4.2). Facing high IPDs, most countries in the region have introduced parametric changes such as gradual increase of retirement ages or reduction of pension indexation level. In some cases, however, these changes were not sufficient to regain the stability of pension systems and further reforms were needed. The implementation of multi-pillar reforms was aimed to further diversify the demographic risk related to ageing

<sup>28</sup> Rutkowski, Jan and Stefano Scarpetta, 2005, *Enhancing Job Opportunities*, The World Bank, Washington, D.C.

imposed on the pension systems. So far, nine countries in the region of Central and Eastern Europe and Central Asia have followed such path.

**Table 4.2: Public and Implicit Debt for Selected Countries in Central and Eastern Europe**

Country	Public Debt 1999/2000	IPD by Discount Rate		
		2 percent	4 percent	5 percent
		As share of GDP		
Macedonia	41	441	291	244
Poland	43	379	261	220
Hungary	59	300	203	171
Croatia	33	274	201	175
Estonia	7	268	189	163

<sup>1/</sup> Implicit Pension Debt (IPD) is the present discounted value of all pensions owed by the government.

Source: Holzmann et al. (2004).

**4.14 Although FYR Macedonia also started with the implementation of parametric changes within the existing system, the projections available in the following sections indicated the need for a more systemic approach.** The Law on Pension and Disability Insurance enacted in 2000 introduced a set of parametric changes including a gradual increase in retirement age and termination of early retirement provisions, a decrease in the replacement rate through change in the pension formula and a change in pension indexation method, and provided a framework for the introduction of the multi-pillar pension system.

## The Funded Pillar

**4.15 The funded pillar was launched from the start of 2006.** Before the launch, the Agency for Supervision of Fully Funded Pension Funds (MAPAS) selected pension fund managers. On the basis of an international tender carried out in July 2004, the MAPAS granted licenses to two pension companies.<sup>29</sup> (FYR Macedonia is the only ECA country to limit the number of pension fund managers, motivating this restriction by the small population size.) The licenses were issued in April 2005 for 10 years. Contributions began to be transferred to the funds from the start of 2006.

**4.16 The majority of those enrolled in the second-pillar funds joined by the end of 2005, with the pace of inflow slowing in 2006<sup>30</sup>** By the end of 2005, about 87,000 people had joined (compared with an expected number of about 82,400), rising to about 128,000 by the end of 2006. The rapid pace in 2005 could have reflected an aggressive marketing campaign by the fund managers (not accompanied by a government campaign), and a broad lack of trust in the existing pension system. Slightly more than one-half of those enrolled joined voluntarily. In terms of age, the majority of those enrolled (108,626) are younger than 36 years, most likely having working careers on average shorter than 15 years.

<sup>29</sup> There are two authorized administrators: The Nov Penziski Fond-Otvoren Penziski Fond (with founders NLB from Slovenia with 51 percent of the capital and Tutunska Banka from Macedonia with 49 percent) and the KB Prvo drustvo za upravuvanje so penziski fondovi AD Skopje (founders Prva Pokojninska Druzba from Slovenia with 51 percent and Komercijalna Banka from Macedonia with 49 percent.) The founding capital of both administrators was €1.5 million.

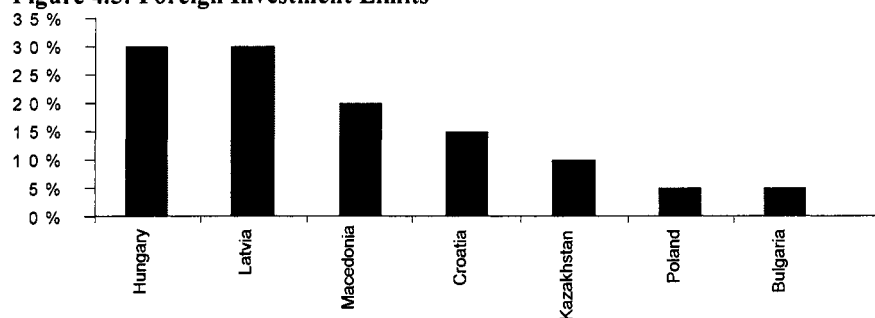
<sup>30</sup> Those that should be mandatory members of the second pillar are temporarily allocated to a random pension fund by MAPAS immediately after their employment is registered. These persons have the right to switch to another pension fund within 3 months.

4.17 **The second pillar is funded with contributions equivalent to 7.4 percent of gross wages.** Although there is no age limit for the individuals who join the second pillar, there are disincentives for participation to limit fiscal costs, similarly to Hungary. In the case of FYR Macedonia, the penalty is quite large, reflecting the specification that for those who decide to join the multi-pillar scheme, only 5 years of contribution history prior to 2006 will count for the future pension. As a result, under this chapter's baseline scenario (see below), only people with less than 15 years of work experience will benefit from switching.

4.18 **The law establishes limits on the types of investment and ceilings on investments in particular asset classes** to ensure the security of pension fund assets, the diversification of investment risk and the maintenance of adequate liquidity. Under the limits, no more than 30 percent of pension fund assets can be invested in shares issued by FYR Macedonian companies, and no more than 40 percent can be invested in bonds and fixed-return instruments issued by FYR Macedonian companies. There is a limit of 80 percent set on public debt instruments and 60 percent on bank deposits and similar instruments. Pension funds can invest up to 20 percent in the investment funds units.<sup>31</sup>

4.19 **The authorities have limited investments abroad to 20 percent of total assets.** This compares with no restrictions in Estonia (on investments in foreign securities issued in foreign investment by EU and IOSCO member countries), and 30 percent in Hungary and Latvia. The limit is higher than in Bulgaria, Croatia and Poland, however (Figure 4.5). The limit is not binding at present (see below). Nonetheless, given the small size of the FYR Macedonian equity market, it will be advisable to monitor the limit in the future and consider increasing it.

**Figure 4.5: Foreign Investment Limits**

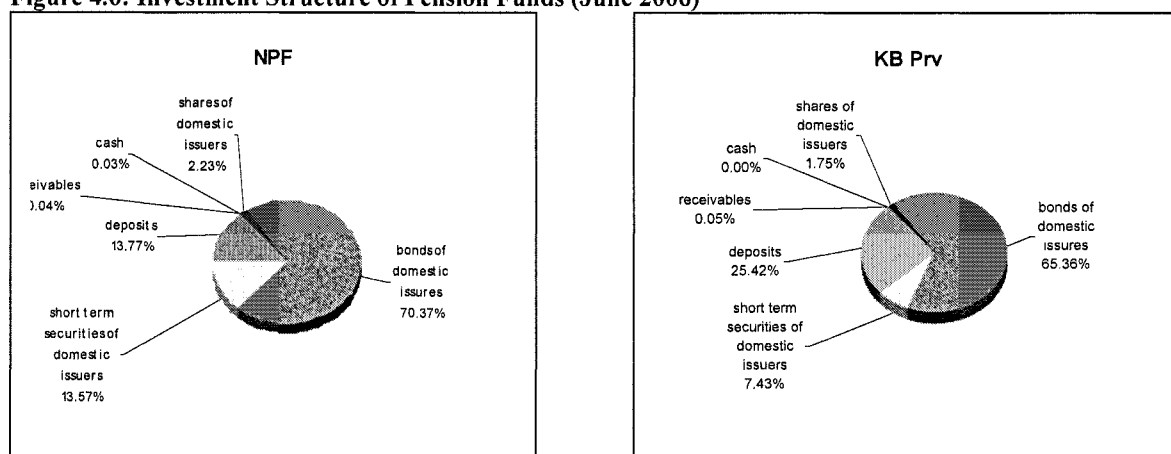


Source: Chlon-Dominczak (2003).

4.20 **Reflecting an underdeveloped capital market and the usual home bias for pension funds, especially at the start of reforms, the investment structure currently is rather conservative.** About three-fourths of pension fund assets are held in FYR Macedonian government securities, reflecting a shift from implicit to explicit government obligations to contributors, and almost all of the remainder in domestic bank deposits. Only about 7 percent of pension assets are invested in domestic equities, and there are no foreign investments (Figure 4.6).

<sup>31</sup> See the Law on Mandatory Fully-Funded Pension Insurance for details.

**Figure 4.6: Investment Structure of Pension Funds (June 2006)**



Source: MAPAS, Statistical report no.-2.

4.21 **Recognizing that fees were very high relative to other countries and would erode return on investment, the authorities have moved to cut fees in 2007.** There is scope for further prudent reduction in fees over time. Regulations are similar to those in Poland, and only certain fees can be levied on fund participants. The law sets the structure of fees that funds can charge. The pension funds charge a contribution fee (the fee levied on inflows into individual accounts) of 7.4 percent starting in July 2007, down from 8.5 percent previously, compared with a limit of 7 percent in Poland to be reached by 2010.<sup>32</sup> The annual asset fee (the fee levied on the total pension assets held in each account) is capped at 0.5 percent of assets, similar to that in Poland (0.54 percent, plus a 0.06 percent success fee).

4.22 **The pension law in FYR Macedonia allows for pensions to be paid as either annuities or through programmed withdrawals** (Table 4.4). Most countries in the region with a mandatory funded pillar allow only annuity payments, however, as these provide better security for the system participants. Further, the FYR Macedonian law does not specify whether annuities will be based on unisex or gender-specific life tables. The authorities are advised to address this issue with view to help ultimately improve the predictability of instruments to the financial system.

<sup>32</sup> The maximum fee on contributions in Poland is set to decline from 7 percent (in force through the end of 2010), to 6.125 percent in 2011, 5.25 percent in 2012, 4.37 percent in 2013, and 3.5 percent in 2014.



**Table 4.3: Approaches to Pension Industry Structure of Charges**

Country	Limits on Charge Structure	Types of charges			
		Admission Fee	Contribution-Based Fee	Asset Management Fee	Performance Fee from Investment Return
Hungary	✓	☑	☒	✓	☒
Kazakhstan	✓	☒	☑	☒	☑
Poland	✓	☒	☑	☑	☒
Latvia	✓	☒	☑	☑ <sup>1</sup>	☑
Croatia	✓	☒	☑	✓	☒
Bulgaria	✓	☒	☑	☑	☒
Estonia	✓	☒	☑	☑	☒
Macedonia	✓	☒	✓	☑	☒

Note: types of charges: ✓ allowed without limits; ☑ allowed with limits; ☒ not allowed.

<sup>1/</sup> Until 2003, the fee was paid from the state budget.

Source: Chlon-Dominczak (2003).

**Table 4.4: Annuity Provisions in ECA Countries**

Country	Products		Providers		Limitations on Life Tables
	Annuities	Other Products	Pension Funds	Specialised Insurance Companies	
Hungary	✓		✓	✓	✓
Kazakhstan	✓	✓		✓	
Poland <sup>1</sup>	✓			✓	✓
Latvia	✓			✓ <sup>2</sup>	
Croatia	✓			✓	✓
Bulgaria	✓		✓		✓
Estonia	✓	✓		✓ <sup>3</sup>	✓
Macedonia <sup>4</sup>	✓	✓			

<sup>1/</sup> No regulation exists as yet, based on the current government concept.

<sup>2/</sup> Social security administration.

<sup>3/</sup> Additional capital requirements.

<sup>4/</sup> No regulation yet for providers and life tables.

Source: Chlon-Dominczak (2003).

## C. ASSESSING THE ADEQUACY OF FUTURE PENSION BENEFITS

**4.23 Providing retirees with adequate income in old age is one of the most important goals of the pension systems.** Most countries design their pension systems to assure that both the elderly (particularly those with long working careers) and the disabled receive a minimum level of income. This section evaluates the extent to which the FYR Macedonian pension system is set to provide such adequate pension benefits under the parameters currently in place and taking into account ongoing parametric changes. As customary when evaluating multi-pillar systems, the analysis focuses on the minimum income provision, the current and future level of pensions related to earnings from the mandatory scheme, the security of funded-pillar savings and the system coverage. The discussion in this section is inseparable from the analysis of the sustainability of the PAYG pension system, as presented in the following section.

## **The Likely Pension Outcome Under the New Multi-Pillar Scheme**

**4.24 The analysis in this chapter projects that for participants in the multi-pillar system the replacement rate is likely to amount to about 50 percent, as measured by the ratio of the average net pension to the average net salary.** The is compares with a replacement rate of 62 percent at present and maximum of 71 percent under the Law on Pension and Disability Insurance for a man with 35 years of work history. The net replacement rate for the EU on average was 78 percent in 2005 and for the NMS amounted to 68 percent but the high rates reflect to a large extent lack of efforts by many EU governments to face the acute pressure adverse demographics will have on government budgets. Reforms under way in Poland, one of the leading pensions reformers in the region, are projected to reduce the net replacement rate to 44 percent by 2050 from 78 percent at present.<sup>33</sup>

**4.25 The projected outcome for the replacement rate is reasonable,** given the ongoing parametric reforms of the PAYG pillar, the efforts to slow the pace of pension increase by giving more weight to inflation rather than wage increases, and the ongoing rise in the retirement age. **The outcome, moreover, reflects the rather cautious assumptions under the chapter's baseline scenario, with real GDP growth projected at 3 percent. A stronger real GDP growth of 4 percent a year will boost the replacement rate to 63 percent.**

**4.26 The value of an annuity provided under the new system will depend on several factors other than the fee structure.** Firstly, the authorities have not yet decided whether life tables used for annuity calculation will be gender-neutral on gender-specific. The latter would mean relatively lower annuities for men and higher for women. Secondly, the ratio of fully-funded pensions to the average wage will depend on the difference between the rate of return and wage growth. The higher the difference, the higher will be the expected level of annuity. To help understand the interaction of factors, Table 4.5 presents annuity projections by gender and years of savings under three different fee regimes and under three scenarios: one based on unisex life expectancies, another under different calculations of benefits for men and women, and the third with higher rates of return on investment.

### ***Analyzing the Switch to Multi-Pillar Pension System***

**4.27 For those switching to the multi-pillar system, the following assumptions are used:**

- The accrual rate for years of work prior to 2003 is 2.33 percent for each year for men (up to 11.65 percent cumulative) and 2.6 percent for women (up to 13 percent cumulative). This assumption is an extrapolation of the one in the PDF law.
- The accrual rate after and including 2003 is 0.75 percent for men and 0.86 percent for women. The assumption is extrapolated from the PDF law.

**4.28 Pension levels for those who did not enroll in the fully-funded pillar** and had more than 15 years of history are set according to the PDF law. **Accrual rates for those only in the PAYG pillar** with fewer than 15 years of contribution history is set at 2.33 percent for men and

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<sup>33</sup> European Commission, 2006, "Current and Prospective Theoretical Pension Replacement Rates," Report by the Indicators Sub-Group of the Social Protection Committee, Brussels.

2.6 percent for women for every year before 2003 and 1.8 percent for men and 2.05 percent for women for 2003 and thereafter. It should be noted that these transition rules not only limit pension rights accrued before 2003 for those who switch, but also reduce pension rights accrued for 2003-2005, as these are credited with lower accrual levels even if no contributions were paid in that period to the funded pillar.

**Table 4.5: Annuity Projections: Sensitivity to Fee Size, Number of Years of Saving and Gender (In percent of average wage)**

Standard Assumptions 1/ Unisex Life Expectancies Gender Specific Life Expectancies							Return on Investment = 8% Unisex Life Expectancies		
No of Years of Savings	Men, Retirement Age 64 years								
	Fees			Fees			Fees		
	Current	None	Reduced	Current	None	Reduced	Current	None	Reduced
	10	5.0	5.6	5.3	5.37	6.0	5.7	5.5	6.1
15	7.8	8.9	8.3	8.34	9.5	8.9	9.0	10.2	9.5
20	10.7	12.4	11.5	11.52	13.4	12.3	13.1	15.2	14.0
25	13.9	16.4	14.9	14.93	17.6	16.1	17.9	21.1	19.3
30	17.3	20.7	18.7	18.57	22.2	20.1	23.6	28.4	25.6
35	20.9	25.5	22.7	22.48	27.4	24.4	30.3	37.2	33.0
40	24.8	30.7	27.1	26.66	33.0	29.2	38.2	47.9	41.9
Women, Retirement Age 62 years									
	Fees			Fees			Fees		
	Current	None	Reduced	Current	None	Reduced	Current	None	Reduced
10	4.5	5.1	4.8	4.3	4.8	4.5	5.0	5.6	5.3
15	7.1	8.0	7.5	6.6	7.5	7.0	8.1	9.3	8.7
20	9.7	11.3	10.4	9.11	10.6	9.8	11.9	13.8	12.7
25	12.6	14.9	13.6	11.8	13.9	12.7	16.3	19.2	17.5
30	15.7	18.8	17.0	14.7	17.6	15.9	21.4	25.8	23.2
35	19.0	23.1	20.7	17.8	21.6	19.3	27.5	33.8	30.0
40	22.5	27.9	24.6	21.1	26.1	23.1	34.7	43.5	38.1

<sup>1/</sup> The standard assumptions used in the first six columns are: a gross rate of return on assets of 4 percent, annual wage growth of 2 percent and current mortality tables. The last three columns assume a return on assets of 8 percent. Annuity values are calculated by dividing pension funds savings and life expectancies, excluding fees. The current fees are as described in the text. The reduced fees are: 0.4 percent on assets and 4 percent on contributions.

Source: Authors' calculations.

**4.29 In addition to these assumptions, the simulations assume:** (i) that the retirement age for men (women) is increased as planned under the law to 64 (62) years and unisex life tables are used for annuity calculations; (ii) pension fund fees remain unchanged and (iii) the annual gross return on investment is either 4 percent or 6 percent (alternative calculations) and average wages grow at 2 percent a year. The results of projections are presented in Figure 4.7.

**4.30 These simulations suggest the following policy implications:**

- Efforts should be made to reduce the costs of the funded pillar to help increase pension levels.
- Limits imposed on the credit for the work history before 2003 have very strong impact on the expected pension level. For those with 10-15 years of contributions before 2003, the total replacement rate falls to below 40 percent of wage. This can lead to higher poverty among this part of the population and increase pressure on the government to boost the minimum pension promise.

**4.31 The simulations in this chapter suggest that under a realistic scenario, average pensions will average about 50 percent of wages.** Such a likely outcome is reasonable and a testament to the effect of the reforms the authorities are implementing. The difference in replacement rates with the EU should be interpreted with care, as many EU countries have yet to begin tackling the acute demographic problems they face. Moreover, stronger real GDP growth than recently observed should enable the decline in the replacement rate to be smaller than projected under the baseline scenario.

**4.32 The projected pension levels for FYR Macedonia are broadly similar to those likely to prevail in most EU and OECD member states.**<sup>34</sup> As demonstrated in Figure 4.8, differences in the design of the pension systems and promises offered to individuals differ quite significantly. Further, the evolution and level of replacement rates depend on the design of the pension system and the entire social protection system in each of countries. Additionally, depending on the design of the pension system, replacement rates reflect assumptions about future economic, social and demographic development. These considerations apply to FYR Macedonia as well.

**4.33 There are also significant variations between countries in terms of the redistribution effect of pensions.** While some countries have relatively flat pension schemes, others offer benefits that are closely related to individuals wage histories or contribution payments. The Macedonian pension system is less redistributive, although some redistribution between men and women is included through differentiation of accrual rates and retirement ages.

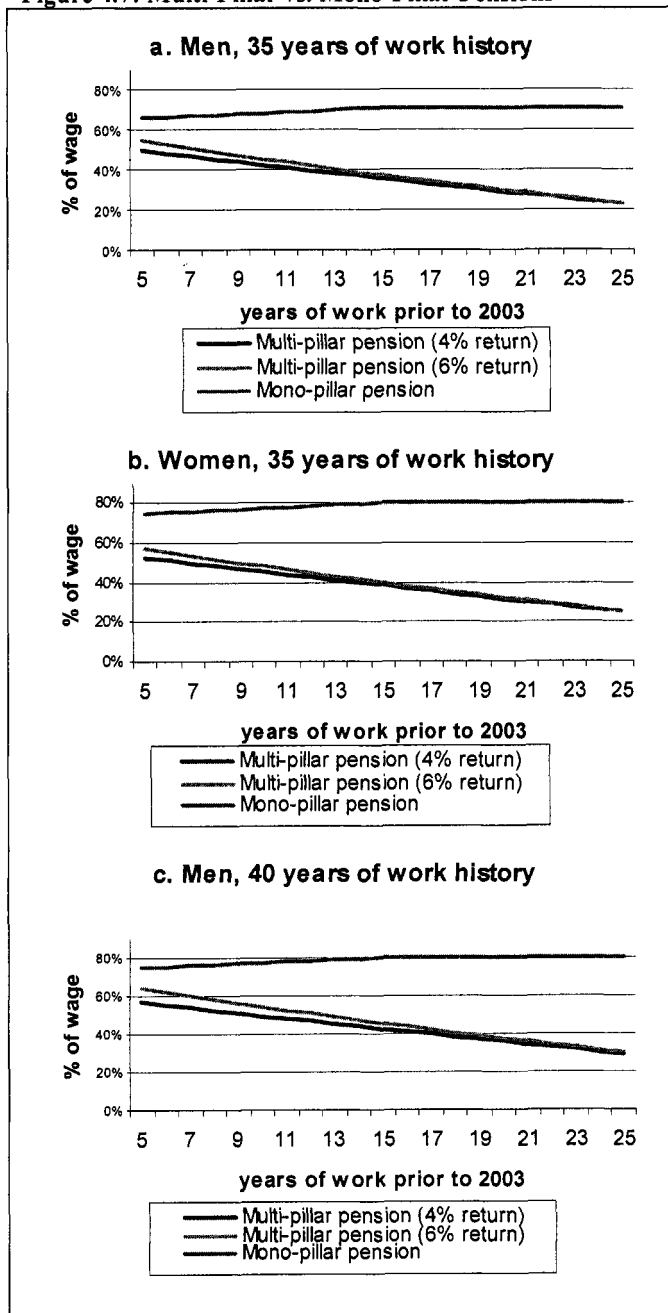
***Impact of Fees on Pension Savings and Projected Annuity Values***

**4.34 As discussed earlier, the level of fees in FYR Macedonia is higher than in most countries in the region and above levels expected before the start of the pension reform.** High fees will tend to discourage participation for people to join, and will erode the return on assets for those who participate. The latter effect for those who earn the average wage is presented in Figure 4.9. As an illustrative calculation, the fees charged in FYR Macedonia would reduce the size of the pension assets of the average earner by 24 percent relative to a scenario with no fees charged. This compares with 14.4 percent in Poland, 16.5 percent in Kazakhstan and to 26.4 percent in Croatia. The FYR Macedonian pension scheme, as a result, is relatively expensive, even more so given the investment restrictions and the current practice by the pension funds to keep most assets in government bonds and bank deposits.

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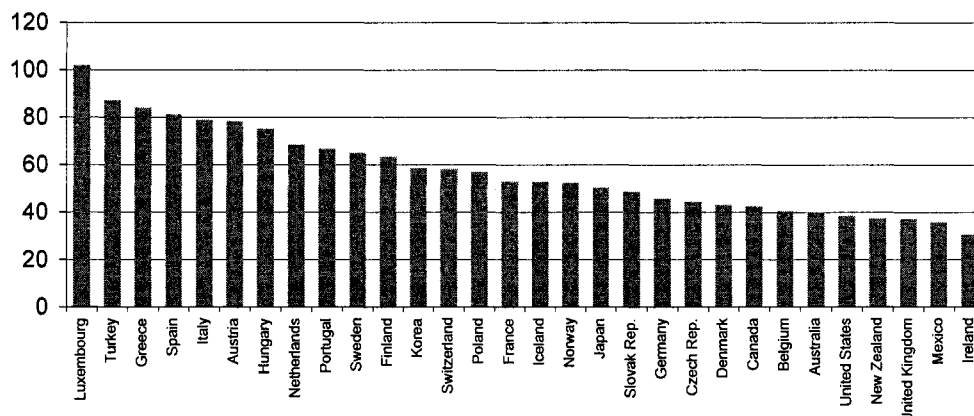
<sup>34</sup> See OECD (2005) for the OECD countries and SPC (2006) for EU member states.

**Figure 4.7: Multi-Pillar vs. Mono-Pillar Pensions**



Source: Authors' calculations.

**Figure 4.8: Gross Replacement Rates for New Entrants, Mandatory Pension Programs, Men  
Average Wage Earners**  
(In percent)



Source: OECD (2005).

**Table 4.6: Minimum Pensions Size and Financing**

Country	Minimum Pension Level (In percent of average wage in 2002)	Qualifying Period(Women/men)	Structure of the Guarantee
Hungary	17	20/20	Financed from the state budget
Kazakhstan	20	20/25	Financed from the state budget, topping-up pensions received from the funded pillar
Poland	30 <sup>1</sup>	20/25	Financed from the state budget, topping-up pensions received from the first and second pillars.
Latvia	17	10/10	In the first tier, financed from social security contributions.
Croatia	10.5 <sup>2</sup>	15/15	In the first tier, financed from social security contributions.
Bulgaria <sup>3</sup>	19	15/15	In the first tier, financed from social security contributions.
Estonia	13	5/5	In the first tier, financed from the state budget
Macedonia	41 38 35	Over 30/35 years Over 20/25 years Over 15 years	Financed from social security contributions, on top of pensions received from the first and second pillars.

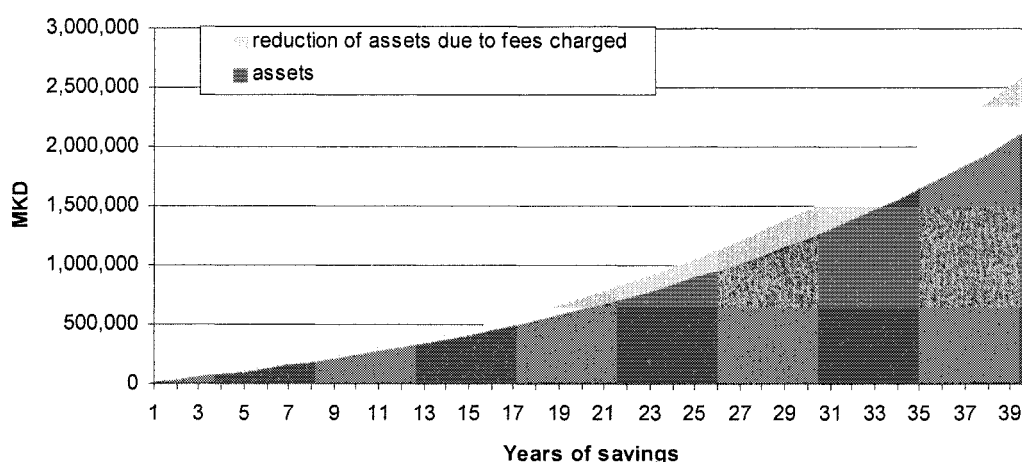
<sup>1/</sup> Relative to the average wage net of social security taxes.

<sup>2/</sup> For the minimum qualifying period, with increases in case of longer service.

<sup>3/</sup> People who do not fill the eligibility conditions receive social pensions from the state budget (paid for those older than 70 years of age, based on means test).

Source: Chlon-Dominczak (2003).

**Figure 4.9: Impact of Fees on Asset Level for Average Wage Earner**



<sup>1/</sup> Under the assumptions of 8.5 percent fee on contributions, 0.6 percent fee on assets, average annual wage growth of 2 percent and gross annual return on investments of 4 percent.

Source: Authors' calculations.

**4.35 The key conclusion from the simulations is that the authorities' targeted replacement rate of 40-50 percent from the second pillar is unlikely under the current fee structure and reasonable assumptions on rates of return and wage growth.** The replacement rate is reached only under the assumption of rate of return on investment substantially higher than wage growth and a substantial reduction in fees for persons with long participation periods. Such higher returns are unlikely under the current investment practice of the fund managers, however, with the bulk of the assets placed in (safer and lower-yielding) government bonds and deposits. The analysis demonstrates that a reduction in the fees can increase the replacement rate by 2-3 percentage points. Secondly, the annuity values for women are likely to be lower than those for men due to the lower retirement ages if gender-specific tables are used, with the gap doubling compared to results based on using the unisex life tables.

### **Minimum Pension Guarantee**

**4.36 Countries with multi-pillar systems structure the first pillar to provide a minimum income to pensioners,** typically by establishing an explicit minimum pension guarantee (a role that is separate from the system's role of income replacement) or through a state guarantee for both mandatory pension pillars. The latter is also the path chosen by FYR Macedonia, Hungary and Kazakhstan.

**4.37 The level of the minimum pension provision relative to the average wage is not only higher in FYR Macedonia than in Hungary and Kazakhstan (to compare similar systems), but also exceeds levels observed in all other countries in the region that have enacted a guarantee (Table 4.6).** The guarantee in FYR Macedonia, unlike the other countries, is differentiated by length of contribution period, which can be seen as an incentive for longer working lives. On average, the qualifying period is similar to other countries.

## **Guarantees in the Funded Pillar**

4.38 **The guarantee in the funded pillar in FYR Macedonia is relatively simple.** Chapter 15 of the Law on Mandatory Fully Funded Pension Insurance specifies that the state budget is responsible for covering 80 percent of the depletion of a pension fund caused by act that appears to be criminal, involves fraud or theft. Depletion due to breaches of the investment principles is not covered.

4.39 **The law does not provide a guarantee of a minimum rate of return, similarly to the practice in Hungary, Poland or Croatia.** Similarly to Croatia, the law in FYR Macedonia does not require the pension funds to keep any reserves on a company or industry level. In other countries such reserve funds are kept to finance the guarantees related to minimum rate of return or covering fraud or misuse of funds. Clearly, lack of reserves puts the budget at a greater risk, even if this risk is relatively small at present due to the conservative investment mix of the pension funds and the small size of the assets. Nonetheless, the risk is likely to increase as the funds move into riskier instruments and their size increases.

## **D. FINANCIAL SUSTAINABILITY OF THE PAYG PILLAR**

4.40 **This section analyzes the PAYG pillar and concludes that under realistic assumptions its fiscal sustainability is likely to be assured, provided the authorities continue implementing the reforms already in progress and continue advancing the structural reforms to generate moderate growth in employment and output.** The key underlying assumptions include the continued gradual increase in the retirement age and the implementation of the indexation formula that increases substantially the share of inflation and reduces the share of wage growth. While sustainability is likely, the authorities are advised to consider it in the context of the results of the previous section, with the most likely pension benefit set to average 45-55 percent of the average wage.

4.41 **Population ageing, a common concern in most European countries, has put the financial sustainability of pension systems at the heart of the debate about pension policies.** As discussed above, the PAYG pension scheme in FYR Macedonia already requires substantial budgetary transfers, with the transfer from the budget to the PDF amounting to about 3.6 percent of GDP in 2006 (with 2.2 percent covering pensions for exempt individuals, 0.8 percent covering the structural deficit of the PAYG fund, and 0.6 percent to offset PDF's transfer to the second-pillar funds).

4.42 **Going forward, during 2006-2015, the PAYG deficit that needs to be covered from general revenues will decline despite the likely pickup in transfers to cover the transitional costs for the introduction of the second pillar.** The decline is projected to reflect the absence starting in 2006 of payments of pension arrears; the increase in the retirement age as mandated under the law; and the decline in average pensions relative to wages because of the change in the pension indexation formula.

4.43 **The projections developed in this section are based on the following demographic assumptions.** The total fertility rate is quite low at present and is assumed that it will rise only modestly to 2.1, at which level the population should be stabilize (Table 4.7). In addition, the expected lifetimes at birth are projected to rise at a rate of about 1 year per decade.



**Table 4.7: Demographic Assumptions**

	2005	2010	2020	2030	2040	2050
Lifetime at birth: men	69.8	70.8	71.9	72.4	74.0	75.0
Lifetime at birth: women	74.1	75.3	76.5	77.1	78.8	80.0
Total fertility rate	1.50	1.60	1.75	1.90	2.10	2.10

Source: Wiese (2006).

4.44 Simulations are carried under three economic scenarios (baseline, optimistic and pessimistic) but the assumptions for all scenarios, including the optimistic, are rather cautious. The key difference among the scenarios is the pace of real GDP growth, with the assumed real GDP growth under the optimistic scenario set at 4 percent, compared with an outcome of about 3.7 percent during 2003-2006 (Table 4.8). For each of the scenarios, real GDP growth is assumed equal to the growth in the real wage bill (employment growth plus growth in average real wages). Further, the rate of contributor growth is assumed equal to the rate of (formal) employment growth (1 percent a year). A realistic, albeit restrictive assumption, is the proposition that unemployment cannot fall below 10 percent. These assumptions together imply that when the unemployment rate falls to 10 percent, real GDP growth slows along with employment growth. Although a more ambitious structural reform agenda than the one underpinning the results of this chapter cannot be excluded (and, along with it, a lower deficit of the pension fund over the longer term and higher average pensions), the conservative assumptions in this chapter result in useful scenarios for understanding the financial sustainability of the PDF.

4.45 The parametric assumptions used in the chapter are also conservative. They are: (i) the transfer from the PDF to the Health Fund is held constant at its current level relative to GDP; (ii) the transfer from the Employment Fund to the PDF is held constant at its current level relative to GDP; (iii) disability prevalence rates are held constant at their current levels; (iv) **through 2008, pensions are assumed to be indexed to inflation (40 percent) and average nominal wages (20 percent), while the indexation afterwards would be 80 percent to inflation and 20 percent to wages;** and (v) the average retirement age is assumed to increase from its current level of 62 years to 64 years for men by 2015, and from 57 years to 62 years for women over the same period.<sup>35</sup>

**Table 4.8: Economic Assumptions**  
(In percent)

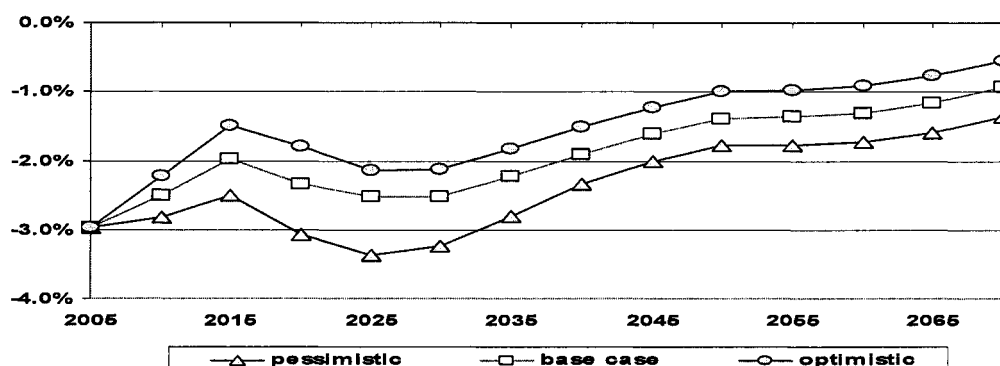
	Pessimistic	Base Case	Optimistic
Employment Growth	0.7	1.0	1.4
Real Wage Growth	1.3	2.0	2.6
Real GDP Growth	2.0	3.0	4.0

Source: Wiese (2006).

4.46 Under all scenarios, the deficit of the PDF is expected to decline by 2015, reflecting the increased retirement age, revised pension indexation and other changes to the PAYG scheme (Figure 4.10). After 2015, the deficit is projected to increase before beginning to decline again after 2025. The scenarios are similar in the direction of change of revenues, expenditures and required budgetary transfers, but differ in the magnitudes of these variables.

<sup>35</sup> It is possible that the effective average retirement ages will rise faster, provided no new exemptions are introduced.

**Figure 4.10: PDF Revenues Minus Expenditures (Excluding Budgetary Transfers)**  
(In percent of GDP, under the three different sets of economic assumptions)

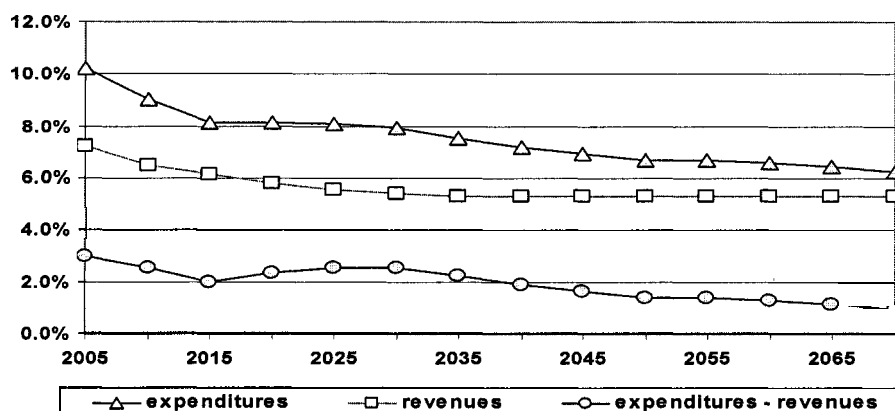


Source: Wiese (2006).

**4.47 The impact of changes in the labor market and pension system changes on the balance of PDF is presented in Figure 4.11.** PDF revenues are projected to decline by about 2 percent of GDP during 2005-2055, largely because of the enrollment of new labor force entrants in the fully-funded pillar. Under the baseline scenario, PDF expenditures are projected to decline by 4 percent of GDP during 2005-2050, falling to levels well-below current and future projected levels in the EU. Expenditures by the FYR Macedonian PAYG are projected to undergo three distinct periods. These are: (i) a decline through 2015 because of PAYG parametric reforms and the end of pension arrear payments in 2005; (ii) little change during 2015-2025; and (iii) a further drop after 2025, as the second pillar reaches maturity and thus reduces the financing burden placed upon the PDF. These projections assume a determined implementation of all parametric changes.

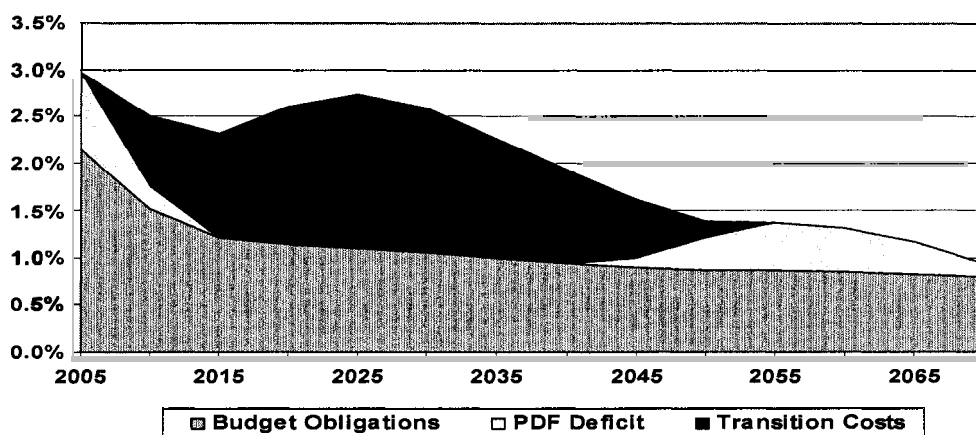
**4.48 The deficit of the PDF is assumed to be covered fully by transfers from the budget.** Transfers from the budget are projected to ease by 2015 before rising steadily again to 3 percent of GDP by 2025. Transfers thereafter are projected to decline to about 1 percent of GDP a year by 2055 (Figure 4.12). These results are encouraging given the demographic projections. The dynamics reflects three components. Firstly, the transitional costs related to the introduction of the fully-funded pillar are set to rise through 2025, but fall to nil by 2055, as the second pillar matures. Secondly, as the number of exempt individuals declines, as new entry to some exempt groups is terminated, the budgetary obligation is projected to fall steadily to about 1 percent of GDP by 2055. Thirdly, the underlying structural deficit of the PDF is projected to disappear by 2015, thanks to the assumed implementation of PAYG parametric reforms, including the increase in the retirement age, but is projected to reappear during 2040-2055, as population ageing worsens the dependency ratio.

**Figure 4.11: Baseline Scenario: PDF Revenues and Expenditures**  
(In percent of GDP)



Source: Wiese (2006).

**Figure 4.12: Decomposition of the Required Budgetary Transfer**  
(In percent of GDP)



Source: Wiese (2006).

4.49 To summarize, the pension reform implemented by FYR Macedonia is projected to lead to a gradual improvement of the financial outlook for the pension system. Nonetheless, budget transfers will be necessary throughout the entire projection period. Under the baseline scenario, budgetary transfers are set to fall by 2 percent of GDP from 2005 to 2055, an encouraging result given the demographic projections.

4.50 These results can be compared with projections for the EU countries prepared in 2006 by the Working Group on Ageing Populations (within the Economic Policy Committee of the European Council). According to the projections about the EU, population ageing would boost pension outlays by 2.2 percent of GDP on average during 2004-2050, with Cyprus experiencing the largest increase (more than 10 percent of GDP) and Poland the largest decline (about 6 percent of GDP). Such a diversity of outcomes reflects several factors. Firstly, the design of the pension system matters. Some of the countries project that PAYG expenditure will decrease due to the introduction of mandatory funded components (Hungary, Poland, Latvia and

Estonia). Additionally, several countries have systems that link future pension benefits to changes in life expectancy (this applies most notably to the countries that have notional defined contribution systems, such as Italy, Sweden, Latvia and Poland). As a result, the pension projections automatically cover the pension benefit adjustment, which in other countries could take a form of legal change that is difficult to predict. Secondly, the underlying assumptions also matter. The projections for the EU assume a relatively high wage growth. As a result, countries with pensions indexed to inflation (such as Poland, Estonia or Latvia) show a relatively large drop in pension expenditure through 2015. Such an outcome is also likely in FYR Macedonia.

**4.51 Long-term projections are a useful tool for monitoring trends in pension spending and the possible magnitude of changes.** Because parametric changes to the system take hold only with a long lag, while macroeconomic developments are more dynamic, such projections need to be prepared regularly and used to improve public policy.

## **E. CONCLUSIONS AND RECOMMENDATIONS**

**4.52 The FYR Macedonian pension system is broadly well suited to handle demographic and structural changes, but additional steps in reforming the PAYG pillar and strengthening the funded pillar should be considered to ensure the long-term sustainability of the system and the adequacy of pension benefits.** The analysis in this chapter assumes that pension contribution rates will not be increased, in line with government intentions. This is particularly important given the current labor market situation in FYR Macedonia – any increase of the tax wedge is likely to have a negative impact on already very low (formal) labor market participation. Reducing social security contributions should be considered to help ease the burden, building on recent progress.<sup>36</sup>

**4.53 To help create room for a reduction in the contribution rate and help ensure the long term soundness of the pension system, the authorities are invited to consider the following measures:**

- **Gradually unify the retirement age for men and women at 64 years, the targeted retirement age for men, and consider an increase to 65 years for both men and women.**
- **Improve the disability assessment system, revise the eligibility criteria for disability pensions and tighten, overall, disability pension policies. Additional measures to be considered include the implementation of stricter assessment procedures for those who apply for disability pensions and the payment of disability pensions only until retirement age, substitute thereafter with an old-age pension.**
- **Implement efforts to scale back popular expectations that pension benefits will average 75-85 percent of wages.** The likely outcome for the average pension as a share of the average wage projected in this chapter is similar to the outcome in most EU and OECD countries and should form a reasonable benchmark for the authorities.

**4.54 The pension system, especially the funded component, needs to be transparent and the participants well informed.** Although a short time has elapsed since the funded pillar was introduced, several issues that require the authorities' attention were flagged in the text. The

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<sup>36</sup> IMF, 2006, *FYR of Macedonia: Selected Issues*, Washington DC.

legislative base for the fully funded pillar needs to be completed to set clear rules for the payment of benefits. Additional recommendations related to the discussion in this chapter are listed below:

- **Consider ways to reduce the charges on fully-funded accounts and fees paid by the second pillar funds.** One method to consider would be to introduce a cap on contribution fees in line with regional best practices.
- **Consider consolidating the supervision of the non-banking financial sector.**
- **Engage in a continuous government information campaign to help people understand their choices and consequences in the form of lost pension rights.**
- **Consider allowing those who have enrolled in the fully funded pillar, but have 10 years or more of work experience prior to 2003, to exit back in the mono-pillar scheme.**

**4.55 The low coverage at present will also have important implications for the future.** Because today's contributors have, in general, higher incomes than non-contributors, the transfers from the budget to fund the pension deficit in the future will be more regressive, i.e., benefit disproportionately the better-off. Moreover, as the number of people receiving pensions decreases in response to today's low coverage, the government may come under pressure to provide additional social assistance to those that do not receive pensions to ensure that they do not fall below the poverty line. These implications are important for the government to ponder as they advance reform implementation.



## **5. TRANSPORT**

### **A. INTRODUCTION**

**5.1 FYR Macedonia has under-spent on maintenance of assets in the transport sector for many years.** In the road sector the deterioration in the quality of assets, especially local roads, has created road conditions worse than all other countries in Southeast Europe except Albania. The deterioration of the country's roads is an obstacle for growth and exports, and increases vehicle amortization while causing wasting time and fuel. In addition these deteriorating road conditions represent a serious fiscal risk which will grow further if not addressed quickly. However, significant increases in expenditure in the next few years would be required to address the maintenance backlog. A number of institutional reforms could ensure that resources are spent more efficiently. In the road sector, these reforms will need to be defined through a new Road Law presently under discussion. .

**5.2 The financial condition of FYR Macedonian Railways (MZ) has been abysmal.** While direct state aid has been very low, the Government has subsidized investments in the unfinished Corridor VIII, and whilst the completion of this corridor is recognized as a strategic priority, current and projected demand suggests that it should be a medium to longer term objective. The Government has also absorbed large accumulated losses and financed MZ debt service to external creditors. MZ has been implementing reforms to increase labor productivity through a program of staff retrenchment and the company was broken up in mid-2007 into two state-owned companies; one focused on infrastructure and the other focused on transport. Nevertheless, continued reforms are urgently needed to improve operating efficiency and avoid future losses.

**5.3 The chapter recommends that the Government address the maintenance backlog and increase spending on normal maintenance to the extent possible within the fiscal envelop.** Addressing the full backlog while boosting standard maintenance outlays is estimated to require an increase in road expenditure by as much as 2 percent of GDP a year for five years. The estimated cost of addressing the backlog could be reduced if the classification of roads were updated to reflect low traffic volumes on some roads, as lower maintenance expenditures are required on lower volume roads. The chapter also recommends a number of institutional changes to improve the efficiency of spending. Capacities to identify, appraise, prioritize, and effectively monitor the execution of maintenance and investment spending should be strengthened. In railways, the chapter calls for continued reform of the MZ to improve operating efficiency and avoid future losses.

**5.4 The rest of the chapter is organized as follows.** Section B outlines the characteristics of the road sector. Section C reviews public expenditure on roads. Section D examines the main institutions in the road sector. Section E reviews the future financing requirement for roads. Section F examines the railway sector and section G presents the chapters recommendations.

## B. CHARACTERISTICS OF THE ROAD SECTOR

**5.5 FYR Macedonia has a fairly well developed road network but it suffers from heterogeneous quality.** In general, the road network in FYR Macedonia appears adequate in terms of scope, as it compares favorably with respect to selected regional peers both in terms of kilometers per 1000 square km and road kilometers per 1000 people. Nonetheless, FYR Macedonia falls well short of the levels of coverage in NMS and other upper middle income and OECD countries. (Table 5.1)

**5.6** The length of the road network totals 13,124 km. Roads are classified as arterial, regional and local. The national road network comprises 4,707 km, 906 km of which are arterial road and 3,801 km are regional roads. The local roads network totals 8,417 km, about 48 percent of which are paved. The arterial network, together with one third of the regional road network, carries about 80 percent of the traffic. Other regional roads often carry less than 2,000 vehicles per day, and a review of the functional categorization of some roads would appear warranted.

**5.7 FYR Macedonia has good north-south connections with Serbia and Greece, but poor east-west connections with Albania and Bulgaria.** The 176 km Pan European corridor X (E-75) is the spine of the system. Its development to four lanes is two-third complete. The Pan European corridor VIII goes East-West linking the Bulgarian border to the Albanian border via Skopje with a total distance of 304 km including 91 km at motorway standards and a 25 km bypass around Skopje under construction.

**5.8 While the proportion of arterial and regional roads in good condition compares favorably with countries in the region, the condition of the local road network is very poor.** About 70 percent of FYR Macedonia's local roads are estimated to be in poor condition. Arterial and regional roads have been better maintained than local roads but still, 33 percent of arterial and regional roads are in poor condition. As a result, the quality of FYR Macedonia's entire network lags well behind regional comparators, with the exception of Albania (Figure 5.1). Only 16 percent of the entire network is in good condition, a further 27 percent is in fair condition, whilst the remaining 57 percent of the network is in poor or very poor condition. This assessment is corroborated by firms' deteriorating perceptions about the quality of transport infrastructure (Figure 5.2).

**5.9 Both road and rail traffic growth has been considerable recently.** Between 2002 and 2005, international railway freight traffic increased by an average of 17 percent per year, or 6 times the average real GDP growth over the same period.<sup>37</sup> Total road traffic has grown even

**Table 5.1: Macedonia, Density of Road Infrastructure (latest observation available, 1997-2003)**

	(km/1000 sq km)	(km/1,000 People)
Hungary	1,733	15.7
Czech Republic	1,646	12.5
FYR Macedonia	518	6.4
Croatia	506	6.4
Bosnia and Herzegovina	427	5.6
Serbia & Montenegro	494	4.8
Kosovo	783	4.2
Albania	657	3.5
High income: OECD	1,340	17.3
Upper middle income	1,076	9.2
Europe & Central Asia	580	8.6

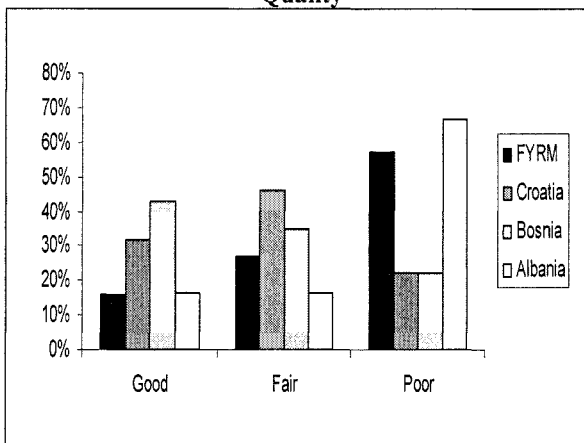
Source: WDI and IEF databases.

<sup>37</sup> International traffic represents 99 percent of the total traffic carried by the railways.



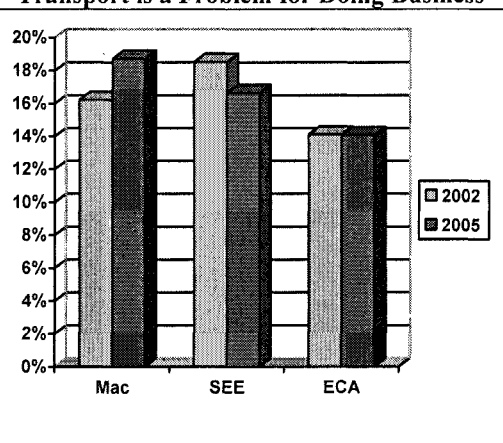
faster at an average of 27 percent per year, nearly 10 times the average of GDP growth. A similar trend can be observed for passenger transport. As a result, roads handle now about 91.3 percent of freight traffic and 92 percent of passenger traffic, compared to 9.6 percent and 8 percent for the railways, respectively. Road transport demand tends to concentrate on several main links, notably around Skopje and Ohrid, while low traffic flows were found on most of the network.<sup>38</sup> Despite the recent increase in traffic, only a few sections around major cities presented ADT reaching 10,000 vehicles per day. In 2002, traffic on the main corridors remained below 8,000 ADT.<sup>39</sup> Unfortunately, traffic trends by road category are difficult to assess since such traffic counts were discontinued after 2002.

**Figure 5.1: Regional Comparison of Road Network Quality**



Source: BCEOM, 2005; FNRR, 2005, World Bank PEIRS for Kosovo and Bosnia and Herzegovina.

**Figure 5.2: Percent of Firms Stating that Transport is a Problem for Doing Business**



Source: BEEPS, 2005.

### C. PUBLIC EXPENDITURE ON ROADS

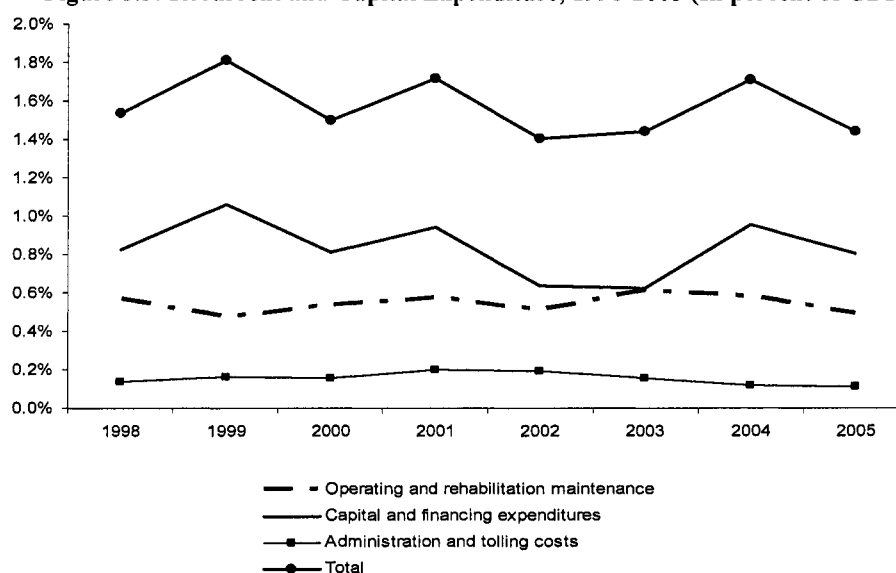
**5.10 Since 1998, the primary focus of public expenditures has been on capacity expansion and upgrading of regional and arterial roads while maintenance needs have been neglected.** Since 1998, the authorities have concentrated more than 40 percent of road expenditures on new investments and reconstruction, whereas operating and rehabilitation maintenance averaged around 35 percent of total expenditures (Figure 5.3). Over the same period, FYR Macedonia allocated 85 percent of road expenditures, or 1.3 percent of GDP, on regional and arterial roads, half of which was used for new investments and reconstruction. This concentration on regional and arterial roads is high compared to other countries in the region. Such expenditures have averaged about 1 percent of GDP in each of Albania, Romania and Bulgaria in recent years. In terms of expenditures on maintenance, the amount spent on arterial and regional roads (routine, scheduled periodic and winter maintenance) in 2005 was €14.3 million, compared to an estimated need of €20.6 million (**Error! Reference source not found.**), a shortfall of about 30 percent. On local roads, actual expenditures on maintenance in 2005 were €8.3 million, compared to an estimated need of €15 million, a massive shortfall of nearly 45 percent.

<sup>38</sup>Source: BCEOM 2006 FYRM road report.

<sup>39</sup> JBIC study, 2005.

**5.11 This large under-funding of maintenance has contributed to a deterioration of the local road network at a high cost for road users.** The deterioration of these assets represents a significant contingent liability. Paved local roads currently in a poor and fair state represent about half of the total network maintenance backlog. Low-trafficked regional roads and main regional roads account for one-sixth of the backlog each. Without adequate maintenance, roads deteriorate at an increasing rate until reconstruction is necessary. The cost of reconstruction is considerably greater than any short term saving in maintenance expenditure which led to such imbalances. Heggie and Vickers (1998) report that rehabilitating a paved road is 3 times more expensive than maintaining it, in current terms, and around 35 percent more in net present value terms. In addition, failing to maintain a paved road is estimated to increase user costs by a factor of three, in terms of additional time, fuel, and vehicular wear and tear.

**Figure 5.3: Recurrent and Capital Expenditure, 1998-2005 (In percent of GDP)**



*Notes:* Feasibility study costs are counted in "Administration" in 2002 and 2003. Maintenance includes operating, rehabilitation works and local road maintenance.

*Source:* FNRR (2002, 2006), Country Report FYRO Macedonia (NEI Transport, 1999), WB assumptions.

## **D. THE MAIN INSTITUTIONS IN THE ROAD SECTOR**

**5.12 There are four main institutions in the road sector.** The Public Road Act defines the institutional responsibilities for road management in FYR Macedonia. The four main institutions involved are the Ministry of Transport and Communication (MOTC), the Fund for National and Regional Roads (FNRR), Makedonija Pat (the public enterprise) and the municipalities. The Ministry of Transport and Communication (MOTC) is responsible for: (i) developing and executing FYR Macedonia's transport policy; (ii) setting technical regulations and standards for roads, road traffic and vehicles; (iii) authorizing reconstruction and construction projects of arterial and regional roads; (iv) inspecting roads; (v) approving the annual road budget; and (vi) supervising FNRR. FNRR, a semi-autonomous road fund, is in charge of planning, financing, constructing and maintaining arterial and regional roads, while local and urban roads are the

responsibility of municipalities. Finally, Makedonija Pat is a public sector enterprise which holds a legal monopoly on routine and winter maintenance for arterial and regional roads as well as toll operation. It receives 20 percent of the total budget of FNRR via direct contracting through annual plans.

**5.13 The planning and budgetary process in the road sector remains weak, with a number of deficiencies that undermine the efficiency of expenditures within the sector.** These deficiencies include: (i) the absence of a formal sector policy and strategy, consistent with the needs and the fiscal envelope available to the Government; (ii) the absence of a process that contributes to the formulation and revision of a sound medium-term sector strategy by the MOTC; (iii) weaknesses in project identification and assessment both within MOTC and FNRR; (iv) poor budgetary control; and (v) limitations in the management of the assets in the sector by FNRR and Makedonija Pat.

**5.14 The delineation of responsibilities in the road sector leads to suboptimal road maintenance planning and sector monitoring.** Firstly, the monopoly position of Makedonija Pat in maintenance provision is likely to have a significant negative impact on allocative efficiency in the sector and should be ended. Secondly, although Makedonija Pat is the maintenance provider, it also holds (although it is not fully operational) a Road Financial Management Program, which would be more appropriately located at the network manager, in this case FNRR. Thirdly, the collection, recording and analysis of data on the condition of roads are marred by a lack of coordination and duplication of efforts in MOTC, FNRR and Makedonija Pat. Fourthly, Makedonija Pat is responsible for enforcing axle load legislation on behalf of the Ministry of the Interior. This responsibility should rest with the network manager, FNRR, rather than the maintenance contractor. Finally, FNRR is responsible for revenue allocation to the municipalities to maintain local roads, but the allocation has not met the legal funding ratio from excise taxes and vehicle registration taxes (23 percent in 2005 versus a legal requirement of 35 percent).

**5.15 The limited use of formal techniques of economic appraisal in project identification and prioritization is a key weakness in the budgetary process.** Emphasis has been placed on the development of the Helsinki corridors VIII and X without a clear action plan for phasing of investments. Similarly, programming of periodic maintenance works lack systematic and objective criteria in the absence of updated data on road traffic. Not only should the PMS be managed by FNRR but Makedonija Pat does not keep it updated, nor use it to prepare a formal schedule of maintenance works. The actual maintenance program is prepared by regional branches, and consecutively reviewed by Makedonija Pat, and then submitted for approval to FNRR. FNRR is itself understaffed and lacks training in maintenance management activities.

**5.16 Makedonija Pat should be more effectively regulated.** There are concerns that Makedonija Pat overcharges tolling services and that more than 20 percent of toll revenue is unaccounted for. Tolls are not related to the costs of the infrastructure as required by the *acquis*. The government has enacted a decision according to which the collected toll shall reflect the utilization of the road infrastructure rather than the price of fuel.<sup>40</sup> Makedonija Pat appears to be overstaffed. Over the last few years, more than a third of Makedonija Pat's revenue (40 percent of operating costs) was allocated to staff expenses. The high labor-intensity of Makedonija Pat is also explained by a low level of mechanization of its maintenance practices and the poor condition of its equipment. About one forth is life-expired and presents low level of productivity.

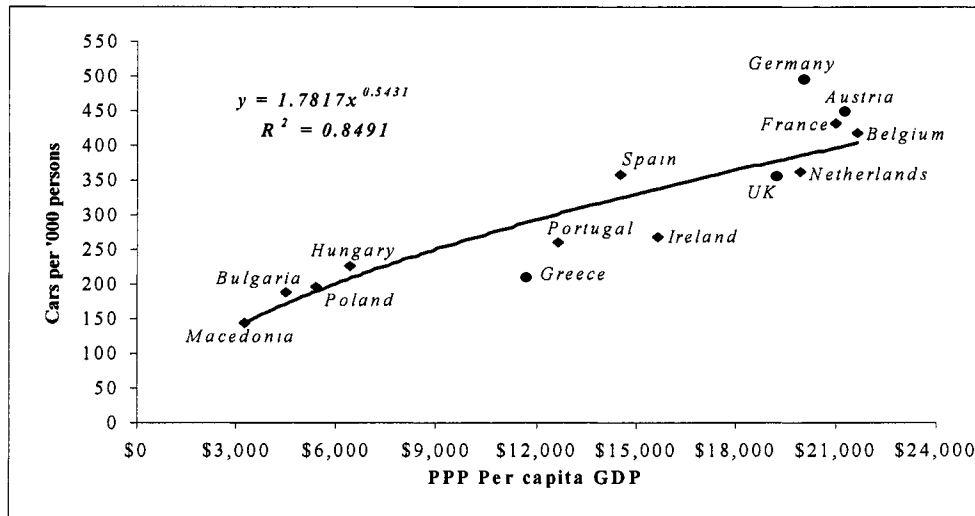
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<sup>40</sup> Official Gazette of the Republic of Macedonia No. 05/2007.

## E. FUTURE FINANCING REQUIREMENTS

5.17 Over time, demand for road transport will continue to grow at a fairly rapid pace. Total road traffic has grown by an average of 27 percent per year in recent years, about 10 times the average of GDP growth. The projected increase in GDP per capita over the medium-term is likely to continue to translate in increased mobility, while integration into the European Union is likely to foster international traffic. Figure 5.4 illustrates the positive relationship witnessed internationally between per capita income and car ownership.

Figure 5.4: Car Ownership and Per Capita Income (PPP) in Selected European Countries



Source: Scetauroute International. E75 Road Section Demir Kapija - Gevgelija Detailed Design of the Upgrading. Feasibility Study / Preliminary Design Final Report, July 1999.

5.18 The key challenge for public expenditure now is to provide sufficient funding to address the maintenance backlog and sufficient funding on routine and winter maintenance sufficient to ensure assets are kept in operational condition. New investments would need to be weighed against these critical maintenance needs and the constraints of the overall fiscal envelop.

5.19 The level of expenditure required to address backlog maintenance is significant and will increase if remedial action is not taken quickly. The annual expenditures necessary to address the backlog of maintenance expenditures over the next few years is estimated at €84 million, or about 1.6 percent of GDP. For arterial and regional roads, expenditure to clear the maintenance backlog is estimated at €46.4 million per year. For local roads, expenditure to clear the maintenance backlog is estimated at €37.8 million per year (**Error! Reference source not found.**). The estimates for the maintenance and rehabilitation needs are based on the current road classification. Were this classification to be updated to reflect the actual low traffic volumes on some road sections, the actual maintenance needs would be reduced somewhat as lower maintenance standards can be applied to lower volume roads.

5.20 The level of expenditure needed for recurrent maintenance of the road network is higher than the amount historically allocated for this purpose. The level of estimated recurrent expenditure required to ensure that the entire road network assets remain in a “steady

state” condition amounts to €35.4 million per year, or about 0.7 percent of GDP. This estimate includes €21 million for routine and winter maintenance and €14.4 million for periodic maintenance. These sums include €15 million for the local road network, assuming the authorities take a number of measures to improve the efficiency of maintenance practices. Efficiencies can be gained through the use of better prioritization of periodic maintenance and rehabilitation rather than following a predetermined schedule. Prioritization should be based on systematic economic evaluation using an appropriate Road Financial Management Program. This would require the establishment of a database providing up-to-date road condition data and traffic counts. A review of road classifications as noted above could reduce expenditures as roads in lower categories require lower maintenance standards. There is also scope to increase private sector involvement in the maintenance of roads by contracting out routine and winter maintenance to private contractors.

**Table 5.2: Estimated Annual Maintenance Expenditure Needs on the Road Network 2008-2012**  
(In euro million)

	2008	2009	2010	2011	2012
<b>Addressing backlog Maintenance</b>					
National Roads	46.4	46.4	46.4	46.4	46.4
Local Roads	37.8	37.8	37.8	37.8	37.8
<b>Normal Maintenance</b>					
<b>National Roads</b>					
Routine/Winter Maintenance	10.6	10.6	10.6	10.6	10.6
Periodic Maintenance	8	8	8	8	8
Bridges and tunnels	1.8	1.8	1.8	1.8	1.8
<b>Local Roads</b>					
Routine/Winter Maintenance	8.5	8.5	8.5	8.5	8.5
Periodic Maintenance	6.5	6.5	6.5	6.5	6.5
<b>Total</b>	<b>119.6</b>	<b>119.6</b>	<b>119.6</b>	<b>119.6</b>	<b>119.6</b>

Source: World Bank staff estimates.

The following assumptions were made for backlog maintenance estimation: Arterial and high traffic regional roads are reconstructed when the condition is poor, and rehabilitated (overlay or mill and replace) when the condition is fair. For regional roads with low volume, as well as for unpaved regional roads, only roads in poor condition are rehabilitated. For local roads, only roads in poor condition are rehabilitated. All unit cost are based on actual empirical data from Serbia, Bosnia, Albania, and Bulgaria.

**5.21 Restructuring Makedonija Pat to ensure modern managerial practices and ensuring cost-effective performance is recommended and privatization could be considered.** Non-core activities should be spun-off. The toll collection unit could be converted in a service company contracting its service with FNRR. The Road Management services unit could become an engineering/consulting company assisting FNRR in managing the network, preparing an annual maintenance program based on economic merits. The restructuring strategy should include a reduction of excess labor through voluntary and involuntary retrenchment and revision the legislative framework including the Road Act. Makedonija Pat should compete with other private companies for medium-term performance-based maintenance contracts granted by FNRR.

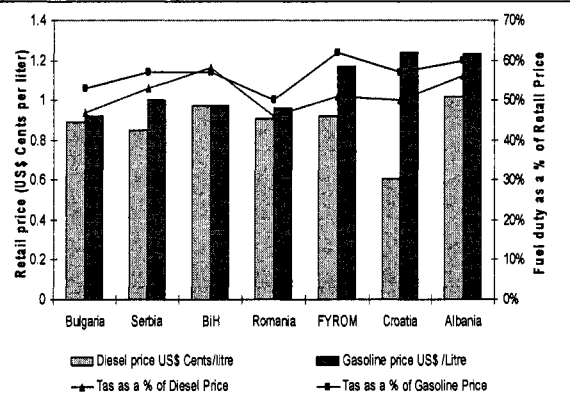
**5.22 While the level of capital expenditure has been broadly appropriate a national strategic plan is needed to guide such investment.** Such a plan should be founded on clear economic justifications, consistent with the financing envelope available to the Government, and

should reflect, where considered appropriate, the Southeast Europe Core Regional Transport Network Development Plan for the period 2006-2010. The planning and budgetary process in the sector should be strengthened, with particular emphasis on the economic appraisal of projects and the monitoring of their execution. FYR Macedonia's capital spending on arterial and regional roads has been concentrated on the construction of the Skopje and Tetovo bypasses as well as the upgrading to motorway standards of a number of sections of Corridor X focused on bringing the entire FYR Macedonian section of Corridor X to Pan-European motorway standards.

**5.23 Addressing these challenges would require an increase in resources for the road sector.** FYR has spent about 1.4 percent of GDP per year on roads allocated to roughly 0.8 percent of GDP for capital expenditure, 0.5 percent of GDP for maintenance, and 0.1 percent of GDP for administration. Addressing the backlog would add 1.6 percent of GDP per year, for five years. Increasing annual maintenance efforts to adequate levels to avoid the creation of a future backlog would add 0.2 percent of GDP per year. Assuming capital expenditures remain at historic levels, overall spending on the road sector would rise to about 3.6 percent per year, for five years. Again, estimates of the maintenance backlog were made on the basis of the current road classification. Were this classification to be updated to reflect the actual low traffic volumes on some road sections, the actual maintenance needs would be slightly reduced as lower maintenance standards can be applied to lower volume roads. Also, the Government could consider addressing the backlog over a longer time period to reduce the annual cost. Such a strategy would lead to worsening conditions on some roads and so prioritization of projects would be very important.

**5.24 However, the scope for funding additional road expenditures is constrained.** The structure of road user charges follows international practice through a combination of fuel taxes, vehicle ownership charges and tolls. The retail price of diesel and petrol, and the levels of fuel duty and tax on each, are towards the upper end of the levels in neighboring and comparator countries (Figure 5.5). The length of tolled roads is unlikely to rise beyond 160 km<sup>41</sup> over the next 4 years.

**Figure 5.5: Fuel Prices and Taxes  
(November 2004)**



Source: GTZ (2005) International Fuel Prices.

**5.25 There are a number of steps the Government could undertake to more efficiently raise revenue.** Toll collection could be significantly improved. The current open system is

<sup>41</sup> It stands at 130 km today.

costly, time consuming, and presents a high proportion of 'leakage'. A Louis Berger study (2002) estimated the leakage to reach some 25 to 30 percent, while the BCEOM report (2006) estimated the leakage during a single week of observation at 15.5 percent. FNRR is aware of the deficiencies and has proposed a new advanced system of payment by paper-based debit ('smart') cards bought in advance. This solution would be an improvement, and could ease the transition to the creation of a closed system of toll collection. Higher revenue should more than offset the higher costs and time savings for the road users would be significant. Such a system could be completed once the gaps in the network are closed (that is, the Tetovo and Skopje by-passes are completed).

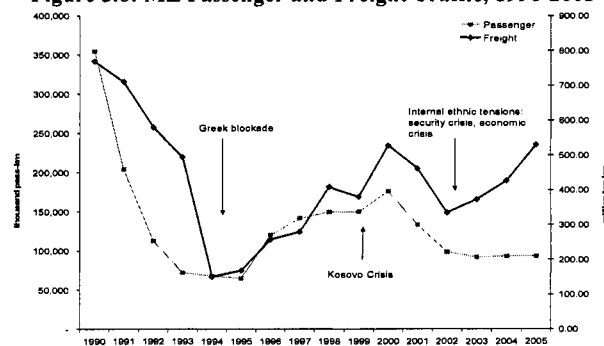
**5.26 The use of Public Private Partnerships (PPP) arrangements appears limited to road maintenance and tolling medium-term contracts.** Before entering the long and difficult path of a large scale PPP transaction, the Ministry of Transport should develop a PPP strategy, and ensure that the institutional framework is revised for this type of transaction. It would set out the issues and sector priorities that could be addressed through PPPs as well as identify the institutional requirements related to the planning and implementation of such projects. Given the foreseen sector spending priorities and the current limited institutional capacity, priority should be given to 3 to 5-year performance-based contracts for road maintenance and tolling facilities operation or longer concession-type agreement pooling tolling, maintenance and eventually upgrading activities on the motorway network.

**5.27 However, there is a need to ensure that the prerequisites for PPPs are in place first.** An enabling environment for PPPs requires political stability, good macroeconomic policies, the rule of law, and a high degree of transparency under a clearly defined institutional framework. A recent survey by the European Investment Bank found that the majority of PPPs undertaken in the absence of such circumstances in the region have been unsuccessful. Elsewhere in the region, the World Bank, with the support of the Public Private Infrastructure Advisory Facility, has provided technical assistance to review the institutional framework, and identify the feasibility of PPPs. Such work would appear to be timely here.

## F. THE RAILWAY SECTOR

**5.28 FYR Macedonian Railways (MZ) has played a decreasing role in FYR Macedonia's economy.** Railways provide an important link for international freight and passenger traffic on the Trans European Network Corridor X which links Greece to Serbia and the rest of Europe. However, over the last fifteen years, MZ experienced a steep decline of passenger and freight traffic (see Figure 5.6). Strong investment in and competition from the road sector makes it unlikely that MZ could recover the lost traffic. Modal shares of rail passenger and freight services have therefore declined from 19 percent to 8 percent and from 40 percent to 9.6 percent respectively over the period 2000-2005.<sup>42</sup>

Figure 5.6: MZ Passenger and Freight Traffic, 1990-2005



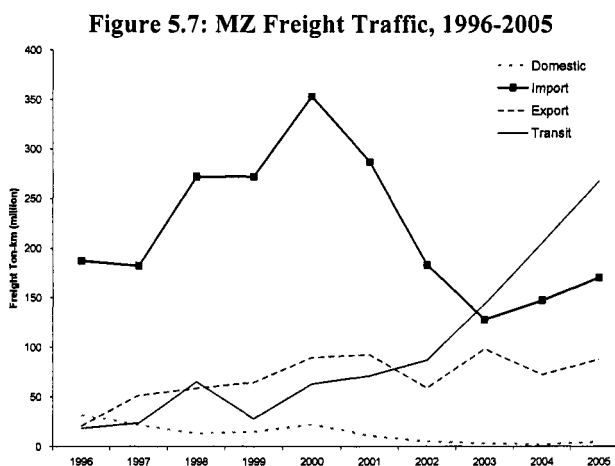
Source: MZ data.

<sup>42</sup> This trend brings Macedonia closer to the EU average of 6.6 percent for passenger services and 8 percent for freight services.

**5.29 MZ has been undergoing a restructuring program.** MZ will be divided into two separate state-owned companies in mid-2007. One company will focus on infrastructure (MZ-I) and the other on transport (MZ-T). The latter will be created as a shareholder company and is slated for privatization in future. The accounting of the two companies was separated in 2006.

**5.30 Freight services makes up 85 percent of total MZ traffic and 93 percent of MZ revenue.** The main challenge faced by MZ is to overcome its uncompetitive short haul and broaden its revenue base from bulk movements for local heavy industries by increasing container

and transit traffic. Given the country's size, MZ freight services competitiveness with road transport suffers from short average haul of about 128 km. Most local traffic is moved by truck and this is not likely to change. As a result, 99 percent of the traffic carried by MZ is international and 95 percent of freight revenue is generated on Corridor X. In recent years, MZ has tried to carve out a growing market share in container and transit traffic. In 2005, with an aggressive marketing and fare strategy, MZ succeeded in taking over a portion of



Source: MZ data.

road transit traffic on Corridor X as well as redirecting on Corridor X container transit traffic going previously through Bulgaria. This strategy has resulted in a 37 percent average growth of transit traffic between 2002 and 2005. In 2005, transit traffic accounted for more than 50 percent of MZ total freight volume (see Figure 5.7).

**5.31 Passenger services are loss making and suffer from low service quality.** Tariffs are low and focused on providing a social service focused a limited number of routes with the budget support of the Government. Rail passenger services represent only 15 percent of the traffic volume and 7 percent of MZ total revenue. Until 2005, only two lines, Tabanovce-Gevgelija and Veles-Bitola, along Corridor X and Xd were operated. In spite of the absence of passenger market study and profitability data by passenger routes, the FYR Macedonian Government new line between Skopje and the border with Kosovo in February 2006 and another line from Skopje to Kicevo, on the western part of Corridor VIII in June 2006. Both lines are expected to bring 2 percent and 20 percent additional passenger-km compared to 2005 and generate additional losses of about €200,000 and €500,000 respectively per year to the already loss-making passenger services. Current railway tariff, about €0.18 cents is estimated to be half of that of bus services. In terms of the quality of service, the main bottlenecks are the limited service frequency, low commercial speed, around 60 km/h, as well as numerous stops and long waiting time at border crossings which hinder the development of international traffic. Passenger services should be rationalized based on survey and analysis of market demand with a view towards ending uneconomical routes.

**5.32 MZ needs to further improve its operational performance by lowering costs.** MZ infrastructure, locomotives, wagons, coaches and staff were originally designed to handle many times the level of traffic they currently carry. At 0.8 million traffic units per track-km (2006), the level of utilization of MZ infrastructure is low compared to Serbia, 1.1 million traffic units per

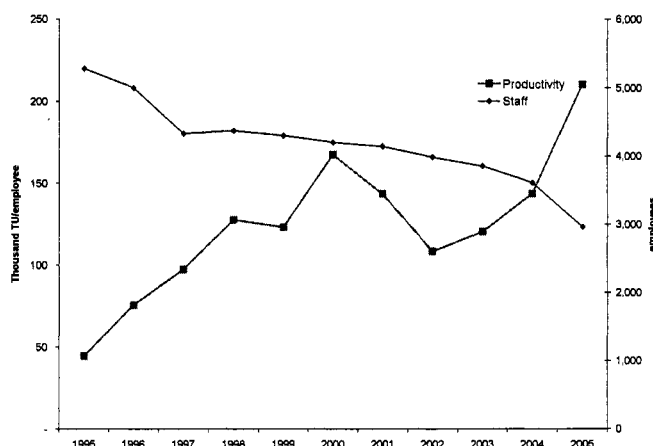


track-km, and the EU15 average of about 3.7 million traffic units per track-km. MZ must adjust its commercial practices, increasing productivity and shedding unproductive assets. Growth prospects for MZ seem to lay in freight transit traffic but operating efficiency would need to improve to effectively compete with other regional routes and with roads.

**5.33 Labor productivity has increased steadily over the last five years, but remains very low.**

The improvements are a result of the implementation of the Government's restructuring action plan including natural attrition and retrenchment concurrent with an increase in traffic (see Figure 5.8). MZ staff levels have been cut from 9,200 in 1990 to 2,879 in 2006. At 250,000 traffic units per employee (2006), MZ labor productivity compares favorably with neighboring countries but remains lower than Hungary (300,000 traffic units per employee) and (Romania 328,000 traffic units per employee), and far below Western European levels (600,000 traffic units per employee).

**Figure 5.8: Evolution of Staff Number and Productivity**



Source: MZ data.

**5.34 Annual railway expenditures have been modest.** This is particularly true for capital expenditures. Although cross-countries comparisons on infrastructure spending should be taken with caution, MZ capital spending appears significantly lower than other countries in the region and in the EU. As showed in Table 5.3, from 2002 to 2005, MZ capital expenditures averaged about of 0.06 percent of GDP. This compares to the EU15 average of 0.37 percent of GDP and regional peers Romania of 0.5 percent of GDP and Bulgaria of 0.6 percent of GDP.

**Table 5.3: Annual Railway Expenditure, 2002-2005**  
(In millions of euro)

	2002	2003	2004	2005
<b>Current Expenditures, including</b>	<b>29.4</b>	<b>27.1</b>	<b>25.8*</b>	<b>29.1**</b>
(In percent of GDP)	0.7%	0.7%	0.6%	0.7%
Staff	18.5	17.4	16.9	13.8
Energy	3.0	2.9	3.0	3.7
Maintenance	4.5	3.0	3.8	4.0
<b>Capital Expenditures</b>	<b>12.4</b>	<b>5.5</b>	<b>0.1</b>	<b>2.5</b>
<b>Debt Service</b>	<b>2.8</b>	<b>0.1</b>	<b>0.1</b>	<b>0.8</b>
Repayment of Principal	2.2	0	0.1	0.7
Interests and Fees	0.6	0.07	0	0.03
<b>Total Expenditures on Railways</b>	<b>44.5</b>	<b>32.7</b>	<b>27.0</b>	<b>31.0</b>

\* Significant decrease related to drop in other operating costs.

\*\* Including severance payments.

Source: MZ.

**5.35 High staff costs and pressing fiscal constraints have led to low levels of expenditure on maintenance programs.** The implementation of MZ's staff reduction plan has led to a lower wage bill, decreasing from 63 percent of operating expenditures in 2003 to 40 percent in 2006.<sup>43</sup> Overall, staff expenses as a share of operating costs remain higher than the EU15 average, which is about 40 percent. Under-funding of maintenance risks the build up of a contingent liability as temporary speed restrictions on the network and Corridor X are developed. Unless adequate maintenance programs are implemented, this may lead to serious lack of competitiveness, commercial damage and loss of revenue to MZ.

**5.36 In addition to low level of spending, past maintenance and capital expenditure programs have suffered from excess capacity, poor prioritization and planning.** MZ maintenance practices have been labor-intensive and machines, equipment and tools used to undertake maintenance and renewal works are to a large extent life-expired and technologically obsolete. As long as funds were available, MZ has used time-based overhaul cycles for complete replacement of materials regardless of their condition. Over-maintenance of tracks carrying very low gross tonnage was therefore not uncommon. In case of funding shortage, punctual works based on urgency were carried out, leading to the use of spare-parts of poor quality. In addition, failure to plan for and implement certain maintenance programs, such as periodic rail-grinding, has accelerated maintenance needs in terms of sleeper and track replacement as well as ballast tamping.

**5.37 Capital expenditure has focused on the new line Beljakovce – Deve Bair at the Bulgarian border which forms part of Corridor VIII.** While this project may have been justified politically in 1994 at the time of the Greek blockade, it was then and remains now an unviable investment from an economic and financial perspective. In the face of the closure of Corridor X Greek border, the oil transit point from Thessaloniki port to Skopje, opening a new railway link to Bulgaria would have helped restore an oil supply to FYR Macedonia. However, this railway line has not been completed and represents a sunk cost for the railway company and the government. Based on assumptions from the Ministry of Transport, total benefits of the construction of this line would only start covering total costs after 90 years of operation. Capital expenditure would be better placed on modernizing Corridor X, increasing the inter-operability and the quality of operation of international traffic

**5.38 The financial position of MZ has been dismal.** The lack of a policy and legal framework for public contributions to the railway sector led to an inadequate subsidy transfer process and to the extensive use of indirect public support in the form of arrears and losses (Table 5.4). Widespread indirect forms of public support lack transparency as *ex post* contributions cannot be linked to specific projects and costs. Indirect support also does not contribute to economic efficiency, since public contributions were not allocated based on minimum economic returns. Also, such support undermines incentives for MZ to adopt a more market-based business model.

**5.39 Direct government transfers<sup>44</sup> to the sector have shrunk from 0.26 percent of GDP in 2002 to 0.03 percent of GDP in 2005 and have not been allocated according to sound**

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<sup>43</sup> In 2005, the €3.1 million of staff cost reduction was accompanied by severance payments amounting to €3.2 million.

<sup>44</sup> This does not account for severance payments paid by the State which represented 0.02 and 0.08 percent of GDP in 2004 and 2005 respectively.

**economic principles.** The average state contribution to railways in the EU is 0.3 to 0.4 percent of GDP. Over the period 1991-2005, State Aid to railway operating amounted to €12.7 million. The Government's contribution to capital expenditures was concentrated on a single new investment, two third of which still remains to be completed. Since the beginning of the project's construction in 1995, the new line Beljakovce – Deve Bair at the Bulgarian border has been funded by a subsidy of €120 million. Also, in the face of competing demands on the Government's budget, the Government's contribution to maintenance expenditures has declined by 13 percent in 2004 and 50 percent in 2005. In 2005, the Government provided a subsidy of €1.5 million covering only 21 percent of maintenance expenditures and 6 percent of total revenues.

**5.40 MZ has funded its expenditures mostly out of own revenues.** The growth in MZ freight services remains constrained by a lack of resources for investment in new systems and marketing capabilities. Also, MZ revenues have been burdened by large cross subsidies to loss-making passenger services. In 2005, passenger services revenues covered less than 15 percent of passenger services current costs. The remainder was funded by freight revenues. International experience clearly shows that cross subsidies from freight to passenger services produce the worst of both worlds. They weaken the competitiveness of freight services and do not adequately finance the passenger side.

**5.41 MZ's losses amounted to €10.8 million in 2006, following cumulative losses of €127 million until 2005, in spite of the recent implementation of revenue-increasing and cost-cutting measures by MZ** (Table 5.4). The latter have resulted in an improvement in MZ working ratios without subsidy from 145 percent to 101 percent. It should be noted that MZ working ratio progression is significant when compared to other EU railways.<sup>45</sup> MZ built up arrears with suppliers, social and pension funds, and to the public revenue office. The Ministry of Finance took over debt service payments for loans from international financial institutions and commercial banks. Given its inability to fulfill this obligation so far, the Ministry of Finance has been charging penalties to MZ on overdue interest payments which further increased MZ short term financing payables. Arrears to one domestic construction company generated penalty interest payments which were also not paid. A successful law suit against MZ resulted, in the beginning of 2006. MZ's bank accounts were blocked until an agreement was reached in which MZ must pay off €5 million in 31 installments. This monthly payment represents about 8 percent of MZ monthly operational revenue.

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<sup>45</sup> From 1990 to 2001, the average EU railway working ratio without subsidies only decreased from 160 percent to about 140 percent NERA, 2005.

**Table 5.4: Evolution of MZ Financial Indicators**

	2001	2002	2003	2004	2005
EBITDA <sup>46</sup> (In millions of euros, excluding subsidies)	(1.1)	(10.4)	(7.4)	1.9	2.7
Subsidy – including severance payments	2.0	4.6	3.7	3.9	4.4
EBITDA (million €)	0.9	(5.8)	(3.7)	5.8	7.4
Net Income (million €) including subsidy?	(6.0)	(15.5)	(14.7)	(7.1)	(2.3)
Accumulated losses (million €)	(75.5)	(89.9)	(116.7)	(123.8)	(127.2)
Operating cash-flow (million €)		1.7	0.5	(2.2)	3.0
Net change in cash (million €)		(2.2)	(0.4)	0.8	1.15
Working ratio (%)	97%	121%	114%	82%	78%
Working ratio (% ,excluding subsidies)	103%	145%	134%	93%	91%
Current ratio: current assets/current liabilities	0.40	0.27	0.26	0.32	0.37
Indebtedness: Total Liabilities/ (Total liabilities +Equity)	39%	41%	43%	38%	38%
Debt structure: Short term liabilities/Total liabilities	82%	87%	93%	88%	93%

Source: MZ financial statements.

## G. RECOMMENDATIONS

### Main recommendations for the Road Sector

5.42 The composition of future road transport expenditures will need to be carefully planned and reviewed in order to address fiscal risks stemming from years of under-spending on maintenance. The planning and budgetary processes in the road sector need to be improved with particular emphasis on the appraisal of investment projects and maintenance programs, and effective monitoring of their execution. Improving the efficiency of current spending on the road network should also be a top priority. Towards that end, the authorities are advised to consider the following measures:

- Increase spending on maintenance expenditures on roads to reduce the maintenance backlog;
- Review the existing categorization of roads in order to rationalize public spending by linking resource allocation to road classification and demand;
- Introduce open competitive tendering for maintenance activities to improve the efficiency of spending activities in the sector;
- Strengthen the technical capacity of MOTC and FNRR staff to improve the identification and prioritization of roads maintenance and investment expenditure;
- Establishment of an Asset Management System linked to an internationally recognized economic appraisal tool;

<sup>46</sup> Earnings Before Interest Taxation Depreciation and Amortization.

- **Develop a sector policy and strategy, consistent with the fiscal envelope available to the authorities, and establish a process to regularly revise and update the plan to inform the PIP and the annual budget cycle;**
- **Strengthen budgetary controls and use of competitive bidding in procurement of transport projects.**

## **Main recommendations for the Railway Sector**

**5.43 The railway sector medium-term expenditure and financing plan needs to be revised to make it more financially sustainable.** The railway expenditure planning framework could also be strengthened to improve the sector's governance and economic efficiency of Government's budget support. The full implementation of the ongoing sector restructuring program geared toward adopting the EU *acquis* offers significant opportunities to improve the level, quality and monitoring process of public expenditures in the railway sector. Towards that end, the following measures are needed:

- **Whilst, there may be a strategic, and future economic, case for the development of corridor VIII as part of the TEN and SEETO Core Network, current and projected traffic volumes suggest that it should be a medium to long term objective;**
- **Strengthen MZ-I National Program and MZ-T business plans so that they (i) carefully target maintenance and investment expenditures based on their economic returns and on real business needs, (ii) provide a sound basis for national investment decision-making and performance monitoring, and (iii) feed in the annual budget and Public Investment Program preparation process;**
- **Provide well-defined and economically justified infrastructure maintenance and social passenger services subsidies based on the above plans thereby improving the predictability and transparency of public support to the sector and increasing the revenues and competitiveness of freight services;**
- **Harmonize the MZ-I National Program and MZ-T business plans with similar programs in neighboring countries to improve interoperability and to increase international traffic through the development of a regional railway transport market.**

## **H. CONCLUSIONS**

**5.44 Years of under-spending on maintenance in the transport sector has led to a significant deterioration of the quality of public assets.** The deterioration of the quality of roads, especially at the local level, has created road conditions worse than in any other country in Southeast Europe except Albania. Fully addressing the backlog could increase road expenditure by as much as 2 percent of GDP a year for five years, but the Government will be hard pressed to afford such an increase within the available fiscal envelope and given ambitions to further reduce the overall level of spending. This cost of maintenance appears overstated by the outdated classification of roads; prioritizing maintenance according to the level of traffic should enable the government to focus on the most needed maintenance. Regarding railways, scarce resources have been devoted to the still unfinished Corridor VIII, and whilst the completion of this corridor is

recognized as a strategic priority, current and projected demand suggests that it should be a medium- to longer-term objective. The MZ has been implementing reforms to increase labor productivity through a program of staff retrenchment and the company will be broken up in the middle of 2007 into a company in charge of the infrastructure and another in charge of the transport.