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FYR of Macedonia Poverty Assessment for 2002–2003

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CURRENCY AND EQUIVALENT UNITS

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Fiscal Year

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Acronyms and Abbreviations

ECA	Europe and Central Asia
EU	European Union
FYR	Former Yugoslav Republic
GDP	Gross Domestic Product
GNI	Gross National Income
GOM	Government of FYR of Macedonia
HBS	Household Budget Survey
MDG	Millennium Development Goals
MIC	Middle Income Countries
MKD	Macedonian Denar
PA	Poverty Assessment
PPP	Purchasing Power Parity
OECD	Organisation of Economic Co-Operation and Development
SSO	State Statistical Office of Macedonia
USDA	United States Department of Agriculture
WB	World Bank
WDI	World Development Indicators

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This report is a joint product of the State Statistical Office of FYR Macedonia and the World Bank. It is the culmination of a process which began in 2002 when the two institutions agreed to work collaboratively in order to understand the poverty situation based upon the availability of better data that would allow drawing robust conclusions on living standards. However, this work represents only the first phase of cooperation between the World Bank and Government of FYR Macedonia on this important topic and will be followed by additional in depth work on labor markets in the coming year and access to social services with the availability of a richer dataset in 2006.

The leader of the team from the State Statistical Office is Ajrija Causovska (Head), with key members including Snezana Sipovic and Stase Nolev. The work was carried out under the auspices of the statistical agency's Director, Katerina Daskalova. Not only were the advice and guidance provided by this team on the drafting of the report critical to its production, but the statistical team has laid the groundwork for improvement in the household data through improvement in the survey questionnaire and broadening the indicators for assessing poverty in the country.

The task on the World Bank side was carried out under the leadership of Sarosh Sattar and Ruslan Yemtsov. The team members were Sara Johansson de Silva, Sasun Tsirunyan, Borko Handziski, Evgenij Najdov, and Janet Owens. Mr. Tsirunyan worked closely with the State Statistical Office on the preparation and statistical analysis of the survey data and an exposition on methodological issues. Ms. Johansson made major analytical and written contributions to the report.

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KEY FINDINGS

Poverty Situation in 2003

- Consumption poverty (measured by cost-of-basic-needs methodology) is estimated at 21.7 percent.
- Non-monetary dimensions of poverty (in particular, poor housing conditions and low education) affect another 30 percent of the population.
- Poverty rates in Skopje, secondary urban centers, and rural areas are similar ranging between 20 percent and 22 percent.

Determinants of Poverty

- The strongest determinants of poverty are household size and number of employed persons in household. Thus, persons with similar characteristics are more likely to be poor if the household dependency ratio is high.
- Low educational achievement of head of household and living in secondary urban centers are other important determinants of poverty once we control for other household characteristics.

Economic Growth and Poverty Reduction in 2002-2003

- Poverty and inequality remained stagnant in spite of a GDP per capita increase of 3 percent.
- Poverty rates increased significantly in secondary urban centers and to a lesser extent in Skopje but fell in rural areas.
- Reasons for the deterioration of living standards could be the contraction in employment and/or of low sectoral growth in high productivity sectors.

Multi-dimensional Aspects of Poverty

- Health indicators and school enrollment rates appear to be in line with national income per capita. However, compared to the new Central and East European members of the European Union (EU-8), they are low.
- The population's access to infrastructure services—water, sewerage, and electricity—is good with the exception of rural access to sewerage services.
- Reliability and accessibility of infrastructure services is below the average rates for EU-8 but are good when compared globally.

Effectiveness of the Social Protection System: Welfare Programs and Pensions

- Pensions are important not only because they mitigate old age poverty, but also support other family members.
- Though social welfare programs disproportionately cover the poor in comparison to the nonpoor, substantial leakage of benefits (75 percent) occurs to the nonpoor indicating a waste of resources.
- Total current transfers—the majority of which are social transfers—are an estimated 19 percent of GDP. This is high by international transfers and limits resources available for other investments as well as the opportunity for rolling back taxes.

EXECUTIVE SUMMARY

1. This report is the product of cooperation between the State Statistical Office of Macedonia and the World Bank. The document itself is the result of the first stage of dialogue between the two institutions on how best to understand the poverty situation in the country, develop appropriate indicators for measuring poverty, and to monitor changes in poverty over time. The process of crafting this report provided a valuable opportunity and vehicle for estimating absolute poverty and more generally assessing living conditions of the population of FYR Macedonia. But as importantly, we hope that the process continues through informing the Government as well as the public of the usefulness of analyzing individual and household level data in order to understand the impact of economic developments on the daily lives of citizens.

2. The report provides a broad assessment of the status of living standards in FYR Macedonia during the period 2002 – 2003. This work complements the body of analysis undertaken by the Government, independent researchers, and donors on economic developments in FYR Macedonia. Instead of analyzing the successes or failures of policies in engendering growth, the report focuses its attention on examining living conditions as they stand today. Since economic growth is not an end in itself but rather a means to achieving sustained improvements in living conditions of all citizens, how good or bad outcomes ultimately reflect the success or failure of government policies. In order to reach its ultimate objective, the report specifically sets out to do the following:

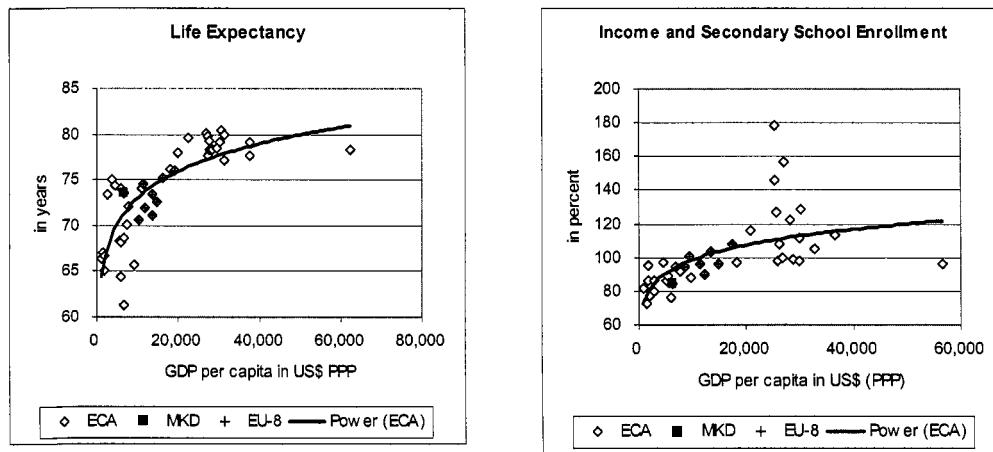
- (i) provide a broad perspective on how living conditions in FYR Macedonia compares to other countries in the region;
- (ii) determine the extent of poverty among FYR Macedonia's population and outline the profile of the poor; and
- (iii) analyze the linkage between growth and changes in poverty overtime.

3. Over the last decade, FYR Macedonia has made impressive progress in some key human development areas. Life expectancy increased and secondary school enrollment rates rose sharply. Furthermore, FYR Macedonia has relatively good infrastructure which is an important national asset—it improves household welfare and facilitates investment. This progress occurred against a backdrop of economic—and sometimes social—upheaval as the country moved towards a market economy. How FYR Macedonia was able to achieve this in a relatively short period of time remains an unanswered question. It may reflect some combination of good sectoral policies, targeted public interventions, and a shift in the population's expectations and preferences on what are acceptable levels of health care and education. However, greater research into how these successes were achieved remains to be carried out.

4. The analysis of the available data from multiple sources yields a somewhat unexpected picture of living conditions in FYR Macedonia. On the one hand, many of the FYR Macedonia's social indicators are in line with comparable income-level countries—this is true whether we look at health, school enrollments, or poverty across the Europe and Central Asia (ECA) region. On the other hand, in 2003 consumption poverty was estimated at 22 percent and a broader multi-dimensional definition of poverty, which includes in addition housing conditions and low educational achievement indicate total poverty at 51 percent of the population. Inequality also is

high for the region, second only to Georgia. Furthermore, at particular risk of poverty are children and youth who live in households with few working adults.

Figure ES 1: Income and Social Indicators



Note: a/ ECA is "Europe and Central Asia region countries", MKD is FYR Macedonia, and EU-8 countries are the new EU member countries of Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.

b/ Data for gross secondary enrollment rates.

Source: World Bank staff estimates based WDI data. Life expectancy data for 2003 and enrollment rate data for 2001.

5. In dynamic terms, during 2002-2003 poverty and inequality remained stagnant despite moderate GDP growth of 3 percent. FYR Macedonia's economy suffers from a history of low economic growth combined with labor market outcomes unfavorable to improving poverty outcomes—that is, job loss, high unemployment, and wage stagnation. Moreover, the Government's attempts at redistributing income to reduce poverty through its social assistance programs are weakened due to significant leakages to the nonpoor and low transfer amounts compared to the needs of the poor. But using the safety net to eliminate poverty would be costly—estimated at an additional expenditure of 2–3 percent of GDP annually.

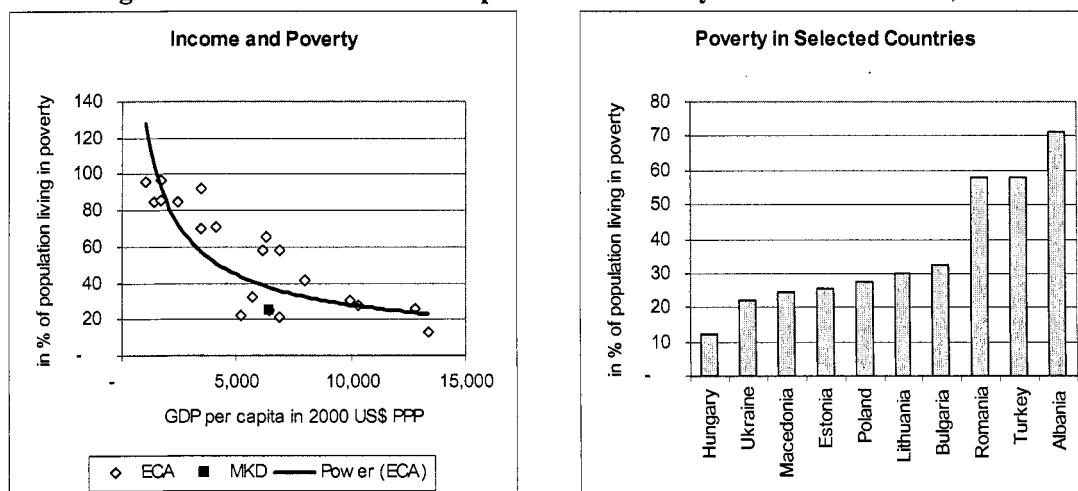
6. The implications of this complex situation for public policy are such that those involved in deciding or influencing government actions need to take pause—in order to determine the fundamental issue of whether the current mix of policies is sustainable into the medium-term or will they result in an erosion of progress on many fronts potentially jeopardizing the prize of joining the European Union in the not-too-distant future. Though this report does not analyze either economic or social policies for efficiency or effectiveness, what it does show is that continued progress on social indicators and a grappling with the poverty situation are critical for the future of FYR Macedonia. It also finds that a significant portion of public expenditures destined to "protect" those in need leak to those who are not among the most in need—leaving even less fiscal space for undertaking necessary investments that will raise labor productivity and hence real wages in the future.

Social and poverty indicators are broadly in line with comparator countries...

7. There are different yardsticks against which to measure living conditions in FYR Macedonia. The internationally recognized set of targets that are most comprehensive in capturing changes in living

conditions are the Millennium Development Goals (MDGs) since they can be used to compare progress both over time as well as against a comparator group of countries. Another measure of how well FYR Macedonia is performing is to assess whether social and physical indicators are in line with its level of income as compared to other countries in the ECA region, especially the new Central and East European members of the European Union (EU-8).

Figure ES 2: International Comparisons of Poverty in FYR Macedonia, 2003



Note: a/ ECA is "Europe and Central Asia region countries" and MKD is FYR Macedonia.

b/ Poverty is defined as percent of population living below PPP-adjusted \$4.30 per day per capita.

Source: World Bank staff estimates based WDI data. Life expectancy data for 2003 and enrollment rate data for 2001.

8. **Since the early 1990s, FYR Macedonia has made important progress on several of the MDGs.** The share of population below the minimum level of dietary energy consumption has been reduced, primary completion rates are now near universal, infant and child mortality rates have fallen significantly, as has the incidence of tuberculosis. Relative to middle income countries and the ECA region as a whole, FYR Macedonia is also doing relatively well in many aspects of health and education. The MDGs were designed primarily with low income countries in mind and may not provide a good benchmark for a country at Macedonia's level of development for monitor welfare progress.

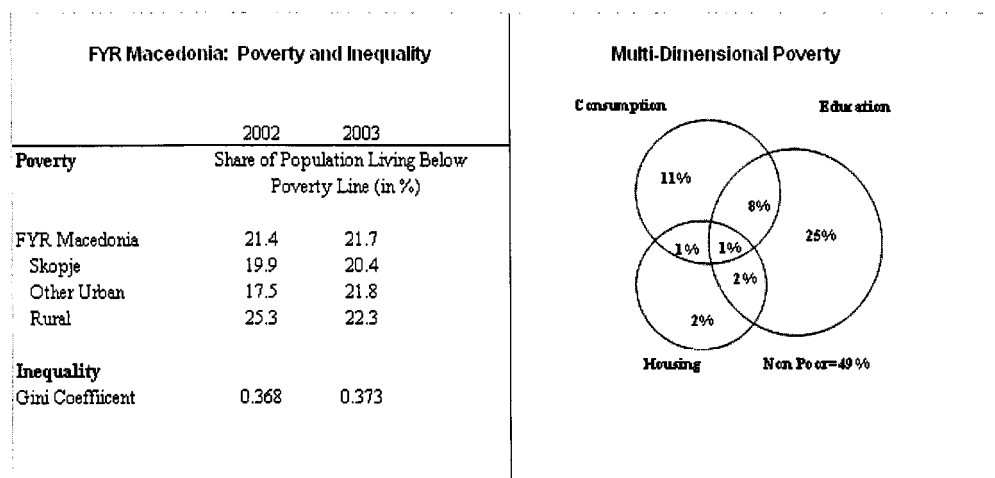
9. **FYR Macedonia's social indicators are in line with its level of income.** Health indicators such as life expectancy and mortality rates are relatively good and are comparable to those of the EU-8 as seen in Figure 1. School enrollment rates are low compared to the relatively better off EU-8. Though currently broadly in line with its level of income, analysis of past enrollment rates show a marked increase over the past decade. Though this is certainly encouraging, it also points to the fact that the existing human capital stock—especially among the group of prime age workers—is not high on average which may be one factor in explaining the relatively low level of worker productivity.

10. **The vast majority of the population in FYR Macedonia has adequate access to essential physical infrastructure.** This is true of access to water, sanitation, and electricity. As expected, a significant share of the population in rural areas lacks access to sewerage facilities within their dwelling but this is a common phenomenon in developed and developing countries due to the high cost of providing this service in a cost effective manner to a dispersed population.

Analysis of infrastructure services as reported by businesses gives some insight into quality issues. It appears that there are problems—though relatively modest—with reliability of services such as water and electricity. Though we cannot extract much information on the quality of the housing stock from the survey, it does appear that a small though significant share lacks some basic amenities such as bathrooms and kitchens—7 percent of urban households and 24 percent of rural households lack a kitchen and/or bathroom.

11. **Poverty as measured using the international poverty line of PPP-corrected \$4.30 per day is relatively low compared to its level of income and to some of the EU-8 countries.** In FYR Macedonia, poverty is estimated at 22 percent with this method for 2003. This compares well against some of the EU-8 countries and certainly against the average of 55 percent of the low and middle income countries of the ECA region as seen in Figure 2. Poverty rates using PPP-corrected \$1.08 and \$2.15 per capita per day are negligible in FYR Macedonia. Though the poverty gap which measures the depth of poverty is not high by ECA standards, the average consumption of the poor is about two thirds of the poverty line indicating that a large—rather than marginal—increase in incomes would be necessary to reduce poverty significantly.

Figure ES 3: Consumption and Multi-Dimensional Poverty



Source: World Bank staff estimates based on HBS 2003.

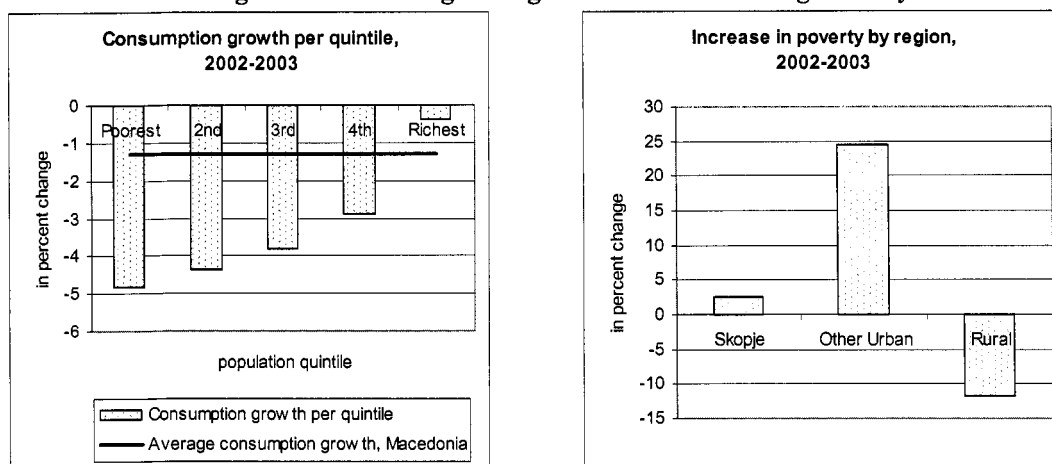
Absolute poverty afflicts one in five of FYR Macedonia's citizens...

12. **In order to measure poverty, this report uses an absolute or “cost of basic needs” poverty line.** The poverty line estimates the minimum food and non-food basket of goods and services needed to meet essential needs. It does not guarantee by any means a comfortable existence or perhaps even one that has all the necessities of life such as sufficient consumption of utilities or social services. But it does guarantee that enough consumption is occurring so that families are able to fulfill their food requirements without needing to divert expenditures away to meet what society considers non-food essentials. It should be noted that this poverty line complements the relative and the subjective poverty lines used by the Government in measuring the share of households living in poverty.

13. **In 2003, an estimated 22 percent of the population of FYR Macedonia or about 445 thousand persons lived in poverty.** Of these persons, 113 thousand (6 percent of the population) had consumption expenditures below the amount needed to purchase the minimum food basket indicating that they suffered from extreme deprivation and most likely were malnourished. The concentration of poverty in Skopje, secondary urban centers, and rural areas were remarkably similar ranging between 20 – 22 percent of their population. Furthermore, poverty was not particularly shallow as the poverty gap in 2003 was 7 percent indicating that the average consumption of the poor would need to rise significantly to reach the poverty line.

14. **A multi-dimensional analysis of poverty which includes education and housing poverty in conjunction with consumption poverty results in increasing the poverty rate to 51 percent.** Education poverty is defined as that share of the population with less than a secondary degree while housing poverty refers to either crowded living conditions or urban households without sewerage facilities within their dwelling. Education poverty affects 36 percent of the population indicating that Macedonia's human capital stock is not large (see Figure 2). On the other hand, housing poverty is relatively modest and affects only about 7 percent of the population. The analysis shows that simultaneous deprivation in three dimensions of poverty is uncommon indicating that extreme deprivation is not widespread.

Figure ES 4: Falling Living Standards and Rising Poverty



Source: World Bank staff computations based on HBS 2003.

15. **The key drivers of (consumption) poverty in FYR Macedonia are high dependency ratios—large household size combined with low employment among adult members of the household.** Persons at the bottom of the distribution are most likely to come from households that have many members—especially children—and adults who are either economically inactive (quite possibly due to withdrawal from the labor market) or unemployed. Other characteristics which increase the probability of being poor are low educational achievement, and living in a secondary urban center. Though these characteristics are not unexpected, they appear to indicate that poverty is largely a result of economic and social policies—inadequate opportunities to find employment (possibly job losses from enterprise shutdowns) and an inadequate emphasis on ensuring completion of secondary education.

16. **The largest demographic group of poor is children, especially very young children.** An estimated 30 percent of the children in the age group of 0-6 years live in poverty and a slightly less portion of 6 – 14 year olds. This compares to 22 percent for younger adults (aged 15-

39 years) and 17 percent for older working age adults (40-64 years). On the positive side, the prevalence of poverty among the elderly (above 65 years) is comparatively low. The probability of poverty appears to fall steadily over the life cycle.

Poverty and inequality remained stagnant in spite of moderate economic growth...

17. Poverty remained stagnant at around 22 percent during 2002 – 2003 though economic growth during this period was 3 percent. Not only did poverty not fall but average consumption of the population appears to have fallen as well by about 1.3 percent. Thus, economic growth did not translate into higher consumption for the majority of the population—whether looking at those at the bottom or top of the income distribution.

18. The national poverty rate hides large changes at the sector level—rural poverty fell significantly while urban poverty—especially in secondary urban centers—increased substantially. These changes can perhaps be explained by disaggregating economic growth into its sectoral components. Rural poverty's fall is consistent with the 2 percent growth in the agriculture sector. On the other hand, though services and manufacturing value-added increased (6 and 3 percent respectively), non-manufacturing industry saw a negative growth rate of about 1 percent during 2002-2003.

19. Employment contracted by 3 percent during 2002-2003 indicating jobless growth which is consistent with an increase in poverty. Between 2002 and 2003, employment fell in spite of economic growth. Although the pattern is not very clear, workers do not appear to have moved towards higher productivity—and, hence, high wage—sectors. Sectors with relatively high productivity levels, such as trade, transport and communications, and manufacturing, were shedding labor in this period. Employment contracted by 10 percent in agriculture but it appears that total employment in the rural areas increased implying growth in off-farm activities.

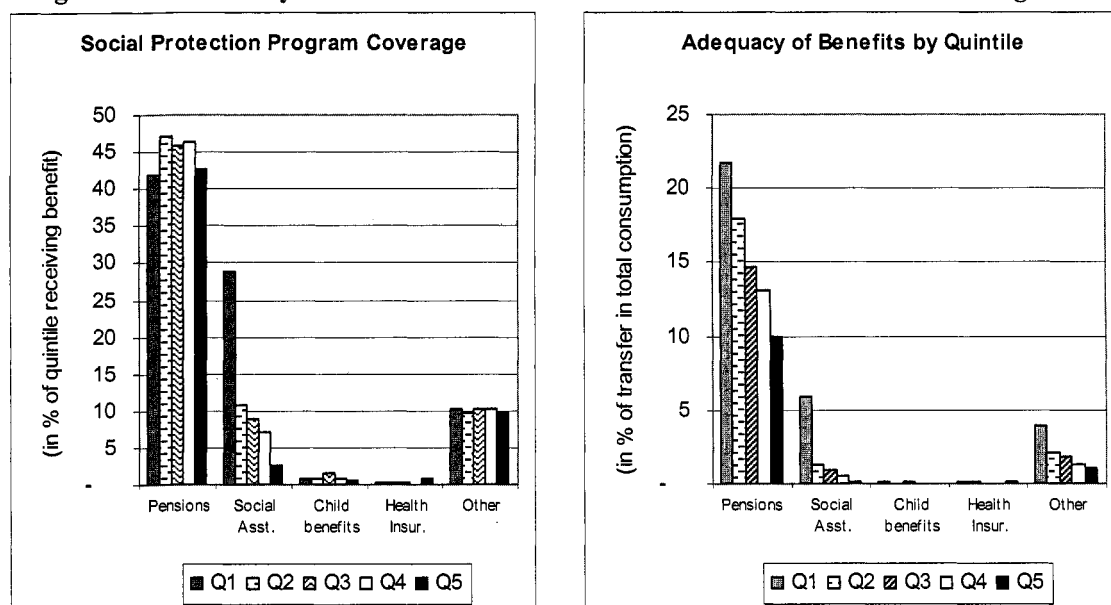
20. Inequality also remained stagnant, which also stymied any improvement in the poverty situation between 2002 and 2003. Overall negative consumption growth appears to be one important factor explaining poverty developments, but in addition, the growth pattern did not favor the poor. Between 2002 and 2003, the Gini coefficient remained constant at 0.37, indicating no improvement in the income distribution in FYR Macedonia. As seen in Figure 3, the growth pattern was decidedly unfriendly to the poor. The poorer consumption expenditure quintiles saw the more drastic falls in expenditures.

21. The Government allocates more than half of its total expenditures to social protection transfers. The Government spends a significant share of its resources—54 of total expenditures or 19 percent of GDP—on current transfers (excluding payment on debt). The majority of these transfers are for pensions with the remainder for various types of social welfare transfers. The resources allocated towards social transfers is a heavy burden on public finances and takes resources away from other important—and higher return—expenditures including investments in infrastructure. It also limits the amount of additional resources the government can allocate towards redistribution.

22. In the absence of social insurance and welfare benefits, poverty would increase substantially both at the national level as well as among program beneficiaries. Moreover, 60 percent of the population benefits from at least one social protection program either directly or indirectly (by residing in the household of a benefit recipient). Social protection transfers were responsible for reducing the poverty headcount from 35 percent to 22 percent of the population in

2003 though this is largely due to pension income (see in Figure 4). Pensions have the largest impact on poverty: without pensions, the national poverty rate would rise to 32 percent. For all other social welfare programs, the increase in poverty resulting from discontinuing them would have been about 2 percentage points, bringing the national poverty headcount to 24 percent. However, the *depth* of poverty would increase significantly since though welfare transfers are not adequate for raising the poor out of poverty they do significantly supplement the poor's income.

Figure ES 5: Poverty Rates With and Without Social Insurance and Welfare Programs



Note: "Health insurance refers to "revenues from health insurance"; "social asst." is "social assistance"; "other" is "invalid and other subventions".

Source: World Bank staff estimates based on HBS 2003.

Growth will be key to lower poverty, but a better targeted social protection system is needed to maximize effectiveness...

23. **In conclusion, FYR Macedonia faces the challenge of raising a large proportion of the population out of destitution—by pursuing an employment generating growth policy.** The current economic structure does not favor an equitable distribution of growth among the population. The lack of good jobs available to the poor is the main explanation for the stagnation in poverty over time. This calls for bold actions to raise output and productivity growth to enhance job creation and sustainable real wage growth over time. For the Macedonian population—and the poor in particular—in order to access well paid jobs in the formal sector, the Government of FYR Macedonia will need to identify the key binding constraints to growth—possibly from the menu of investment climate and reform of labor and product markets—that inhibit employment generating economic growth. In particular, international experience suggests that reliance on massive social transfers and the concomitant high payroll taxes undermine job creation and growth.

To better understand the situation of the poor, more work is needed...

24. This report has identified some key remaining knowledge gaps. A better understanding of the following areas will be needed to provide further guidance on identifying policy actions to combat poverty in FYR Macedonia.

- **More details of the structure and functioning of labor markets**, especially the informal labor markets, and the role of labor markets in explaining the regional convergence in poverty across rural and urban areas. In particular, we know little of the coping strategies of families in secondary urban centers—where poverty increased sharply between 2002 and 2003.
- **Determinants of rural income and the role of agriculture and non-farm activities in raising living standards.** Rural poverty decreased significantly but whether this is due to increased agriculture income or better off-farm income generating opportunities is not clear. A greater understanding of both income and non-income dimensions of poverty in rural areas will help in informing any policy dialogue on how to help the rural population.
- **The impact of health care reforms on living standards, most specifically for the poor.** While improvements in the health care system are critical to ensuring the sustainability of the system, there is more work needed to assess the extent these reforms have trickled down to the poor, and what effects there have been from hardening budget constraints on access for certain groups.
- **The role of ethnicity as a determinant of income.** As in many other developed and developing countries, different ethnic groups have different average incomes when holding all other observable characteristics constant. Whether this is due to discrimination or the types of jobs preferred, requires greater analysis.
- **Vulnerability.** Poverty goes hand in hand with vulnerability and exposure to risks which, for households living close to subsistence minimum, may critically threaten survival. What are the major risks facing households in rural and urban centers, what coping strategies are they presently using, and how could policy help households mitigate the negative impact on shocks both *ex ante* and *ex post*?
- **The existence of poverty traps.** More analysis is needed to understand whether there is a vicious circle of poverty reproducing over time in FYR Macedonia. There is reason to believe, for example, that children belonging to poorer households have less access to education and health care services, and as such will have lower chances of escaping poverty in the future.

25. Perhaps more important than filling knowledge gaps, is the need for the Government to establish what information on households would better inform political debate and shape policies. Household surveys which are done annually provide an opportunity to track changes in welfare for otherwise the Government will only hear the protests or support for reforms from the most vocal groups in society rather than obtaining a broader and more representative view. To confine household surveys to simply the measurement of income or consumption poverty in the country misses an important opportunity for the Government to translate its reform program into specific goals to be achieved, develop indicators for tracking progress, and monitor changes over time. In order to carry this much more useful and pertinent agenda, a more responsive development data monitoring system would need to be established to meet the information needs of the most current and important political debates in the country.

CHAPTER 1

OVERVIEW OF LIVING CONDITIONS IN FYR MACEDONIA

INTRODUCTION

1.1. This report provides a broad assessment of the status of living standards in FYR Macedonia during the period 2002 – 2003. It complements the body of analysis undertaken by the Government, independent researchers, and donors on economic developments in FYR Macedonia. Instead of analyzing the successes or failures of policies in engendering growth, the report focuses its attention on examining living conditions as they stand today. Since economic growth is not an end in itself but rather a means to achieving sustained improvements in living conditions of all citizens, how good or bad outcomes ultimately reflect the success or failure of government policies.

1.2. In 1999, the World Bank in cooperation with the Government of FYR Macedonia carried out a similar report which was entitled *Former Yugoslav Republic of Macedonia: Focusing on the Poor*. That report also assessed living conditions and provided a snapshot of poverty in the country during the years 1990 and 1996. However, since then, much has changed. Not only have macroeconomic conditions improved but the country has pulled back from the brink of a civil conflict and developed a plan for decentralization of power. Also, FYR Macedonia has embarked on a path of greater global integration by submitted in 2004 its application for membership to the European Union. In addition to social and political developments, significant improvements were made to the poverty monitoring system which allow for a more accurate picture of existing conditions.

1.3. In order to fulfill the broad objective of providing a multi-dimensional assessment of living conditions, the report aims to carry out the following:

- provide a broader perspective on how living conditions in FYR Macedonia compares to other countries in the region;
- determine the extent of poverty among FYR Macedonia's population and outline the profile of the poor; and
- analyze the linkage between growth and changes in poverty over time.

1.4. The outline of report is as follows. We begin in this chapter with an international comparison of key social and infrastructure indicators which provide an overview of how FYR Macedonia is performing relative to its comparator countries in the Europe and Central Asian region. The second chapter discusses the methodological issues pertaining to the estimation of absolute poverty in FYR Macedonia and provides an estimate of the proportion of the population unable to meet a minimum standard of living. The third chapter discusses the main features of the characteristics of the poor. We close with an analysis of the relationship between economic growth and poverty with a focus on developments in 2002 and 2003.

Table 1.1: Macedonia: Progress on Millennium Development Goals

Goals related to	Macedonia		ECA /1	MIC /2
	Earliest available 1990-1994	Latest available 2000-2003	Latest available 2000-2003	Latest available 2000-2003
Hunger				
Population below minimum level of dietary energy consumption (%)	15	11	8	10
Schooling and gender				
Primary completion rate (% of relevant age group)	97	99	90	95
Ratio of girls to boys in primary and secondary education (%)	98.5	98.1	97.3	97.7
Health				
Infant mortality rate (per 1,000 live births)	32	10	29	30
Under 5 mortality rate (per 1,000)	33	11	36	37
Births attended by skilled health staff (% of total)	--	98	--	87
Incidence of tuberculosis (per 100,000 people)	54	31	82	114
Environment				
CO2 emissions (metric tons per capita)	5.3	5.5	6.7	3.2
Connectedness				
Fixed line and mobile phone subscribers (per 1,000 people)	148	448	438	403
Internet users (per 1,000 people)	0.4	24.7	161	115.9
Other				
GNI per capita, Atlas method (current US\$)	1,350	1,980	2,580	1,930
Life expectancy at birth, total (years)	71.6	73.6	68.5	69.7
Trade (% of GDP)	62	89	70	63

Source: World Development Indicators database, April 2005. 1. ECA is Europe and Central Asia. MIC is the group of middle income countries.

DEVELOPMENT INDICATORS

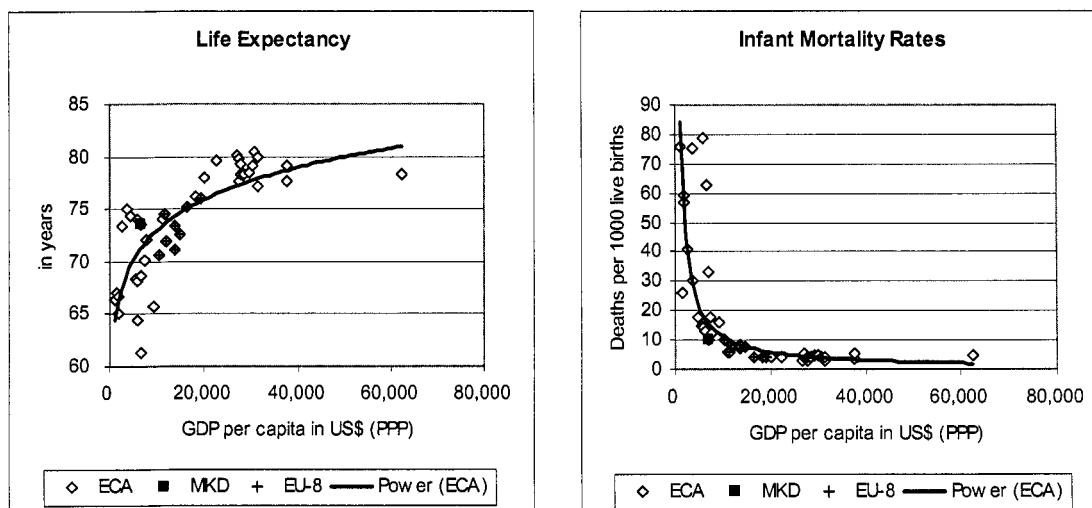
1.5. How does FYR Macedonia fare in terms of non-consumption welfare indicators?

Material deprivation is but one of the many facets of poverty. Poor health, inadequate education, and lack of access to basic amenities and lack of political and social rights are often strongly correlated with income poverty, but are also indicators of welfare deprivation in their own right. The Household Budget Survey (HBS) does not constitute a solid basis for an analysis of non-income dimensions of poverty in a regional perspective. This chapter draws largely on official World Bank data which is derived from a number of sources including specific social and infrastructure surveys.

1.6. **FYR Macedonia has made important progress on several of the millennium development goals.** The share of population below a minimum level of dietary energy consumption has been reduced, primary completion rates are now near universal, infant and child mortality rates have fallen significantly, as has the incidence of tuberculosis (see Table 1.1). The MDGs were designed primarily with low income countries in mind and may not provide a good benchmark for a country at Macedonia's level of development for monitor welfare progress.¹

¹ The millennium development goals (MDGs) include eradicating extreme poverty and hunger, achieving universal primary education, promoting gender equality and empowering women, reducing child mortality

Figure 1.1: How do Health Indicators Compare with other ECA Countries?



Note: a/ ECA is "Europe and Central Asia region countries", MKD is "FYR Macedonia", and EU-8 countries are the new EU member countries of Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.

b/ Data for gross secondary enrollment rates.

Source: World Bank staff estimates based on WDI data, 2003.

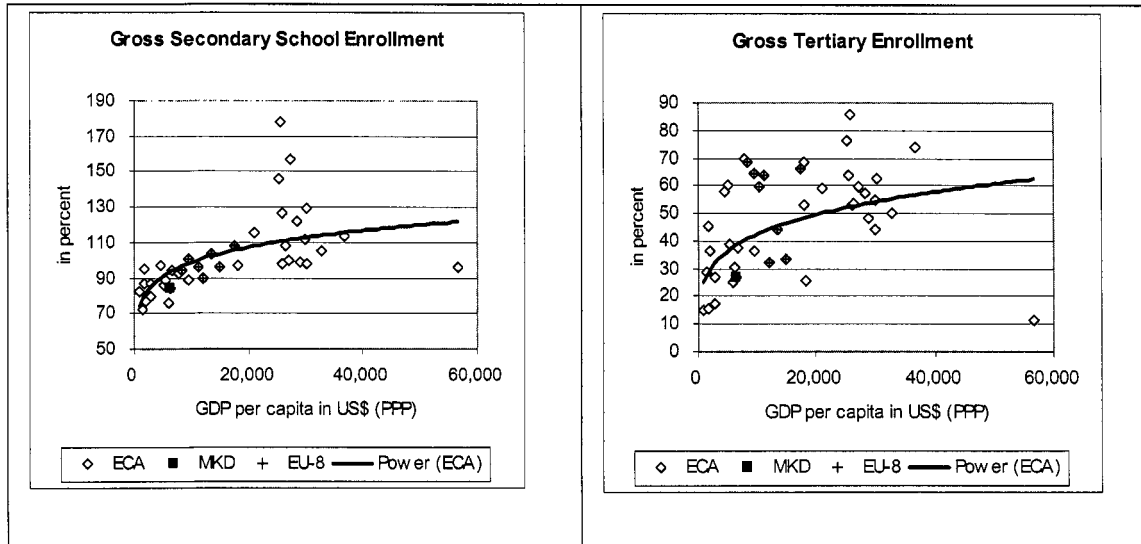
1.7. The 1990s witnessed large and significant improvements in FYR Macedonia's health and education indicators. The human condition improved across the board in those aspects of greatest immediate relevance to the population—life expectancy rose and school enrollment rates increased. Improvements began in the early 1990s but continued throughout the 1990s even during difficult economic times. Average life expectancy rose by two years during 1990 – 2003 driven in part by the large decline in infant and child mortality rates. Secondary enrollment rates increased rapidly rising from 56 percent to 85 percent.

SOCIAL INDICATORS AND ACCESS TO INFRASTRUCTURE

1.8. Health indicators for FYR Macedonia are relatively good in comparison to its level of income. Key indicators of the population's health status are life expectancy and infant, child, and maternal mortality rates. More disaggregated data on health conditions in middle and upper income countries focus on adult morbidity such as coronary disease incidence. In order to provide a broad comparison of health conditions in ECA, we see that life expectancy rates are above and infant mortality rates below comparator countries. Health conditions are a function of many factors including prevalence of potable water, education levels (especially of women), road and work place safety, and an effective health care system. Macedonia's infrastructure is well developed enough so that it is not a source of spreading infection and disease that lead to prevalent morbidity and mortality, especially among young children and the elderly.

and improving maternal health, combating HIV/AIDS, malaria, and other diseases, ensuring environmental sustainability, and developing global partnerships for development. Each goal has a set of target indicators. For the full set of indicators, see <http://www.developmentgoals.org/>.

Figure 1.2: International Comparison of Secondary and Tertiary Education



Note: ECA is "Europe and Central Asia region countries", MKD is "FYR Macedonia", and EU-8 countries are the new EU member countries of Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.

Source: World Bank staff estimates based on WDI data, 2003.

1.9. Reforms in the health care system have been a major contributor to decreasing mortality rates over the past several years. As seen from Table 1.1, infant and child mortality rates have fallen significantly by almost two-thirds over the past decade. Progress has been achieved by the Government through training of health care professionals in the use of evidence-based protocols and provision of equipment which was implemented in the late 1990s.² Reduction in mortality indicators has also led to increasing life expectancy indicators. Further improvement of the health care system is underway and the reform agenda is focused on increasing the financial sustainability of the system over the long-term through better use and allocation of funds within the sector.

1.10. Macedonia's health indicators are comparable to those of the new Central and East European member states of the European Union (EU-8).³ A quick glance at the Figure 1.1 shows that Macedonia's indicators though usually not as good as most of the EU-8 countries are in line with its lower GDP per capita—as in most cases are those of the EU-8. The exceptions are male life expectancy and maternal mortality rates to a certain degree. Male life expectancy may be lower in EU-8 countries due to the higher prevalence of alcoholism and tuberculosis. FYR Macedonia has lower maternal mortality rates in comparison to Latvia and Estonia.

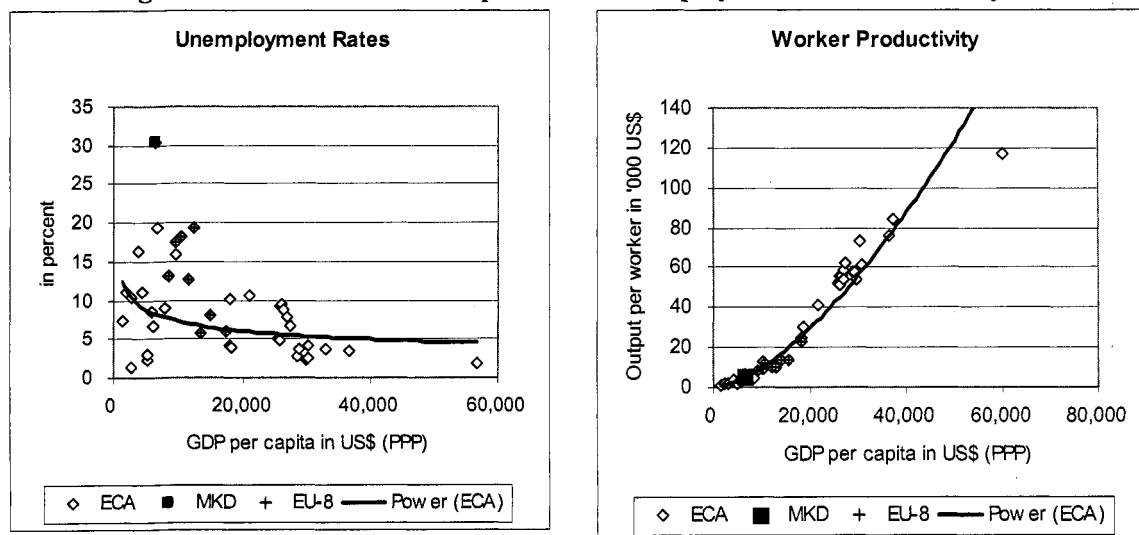
1.11. Macedonia's secondary school and tertiary education gross enrollment rates are on the low side though still broadly in line with its income level. Secondary and tertiary enrollment rates are 84 and 27 percent respectively as seen in Figure 1.2. Though these enrollment rates are somewhat below average, they are not particularly poor for the country's level of development. However, given Macedonia's desire to become a member of the EU, enrollment rates are well below the secondary and tertiary averages of the EU-8 (98 and 54 percent respectively). Furthermore, low secondary school enrollment rates are particularly worrisome because for a modern economy, especially one with the

² Macedonia: Health Sector Management Project, Project Appraisal Document. Report 27760-MK.

³ EU-8 countries are Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.

intention of integrating into Europe, the key to prosperity will lie in the productivity of the labor force which is in part determined by adequate training and education levels.

Figure 1.3: International Comparison of Unemployment and Productivity



Note: ECA is "Europe and Central Asia region countries", MKD is "FYR Macedonia", and EU-8 countries are the new EU member countries of Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.

Source: World Bank staff estimates based on WDI data, 2001.

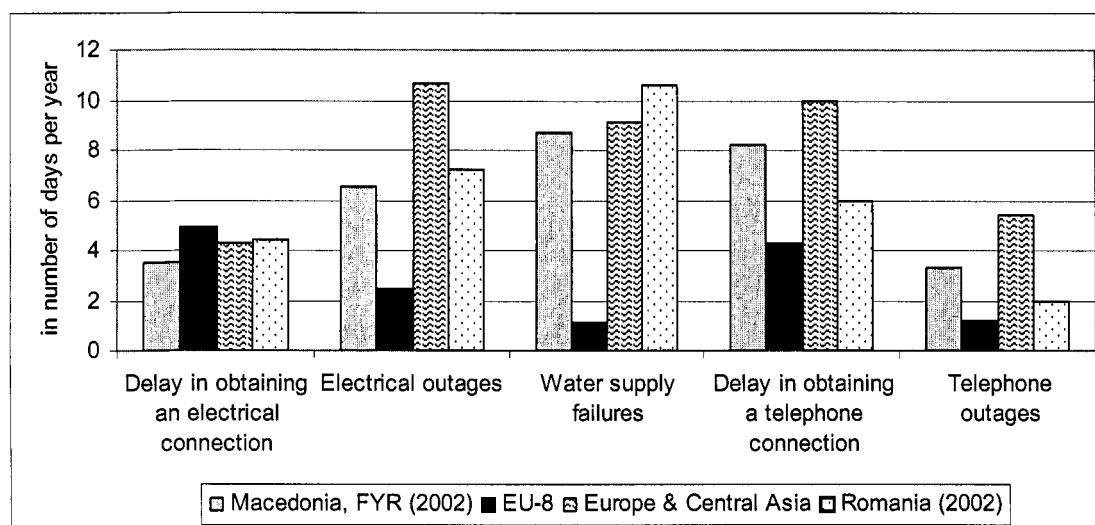
1.12. In comparison to the EU-8, FYR Macedonia has exceptionally high unemployment indicating an economic system which under-utilizes human capital. Unemployment rates in 2003 are an estimated 31 percent in FYR Macedonia. Even when household survey data are used, unemployment rates continue to be high and well above the average for ECA or the EU-8. FYR Macedonia has historically had high unemployment rates indicating that structural rigidities continue to remain despite significant reforms. Moreover, a better measure to use may be employment rates simply because long-term employment may have resulted to significant numbers of people withdrawing from the labor force altogether. The current set of policies does not appear to be leading to an increase in the level of investment that would allow for greater utilization of unemployed labor.

1.13. Access of essential infrastructure services appears adequate. Very limited information is available on the population's access to infrastructure services such as electricity, sewerage, and water—much of that information comes from the analysis of the household budget survey. This information indicates that in general the vast majority of the population has access to these three services. However, there is one group which has low access to sewerage disposal within their dwellings and that is the rural population (48 percent). However, this is a common phenomenon in both developed and developing countries due to the prohibitively high cost of providing network sewerage services to a dispersed population.

1.14. Reliability of services appears to be relatively good but problems still remain. In addition to availability of services a related issue is their reliability and here the only information available is from the Investment Climate Survey. As can be seen in Figure 1.3, businesses in FYR Macedonia do report power, water, and telephone outages. Even though the reported averages for FYR Macedonia

are significantly higher compared to the EU-8, the number of days is well below the averages seen in the ECA region—which performs relatively well compared to the rest of the world.

Figure 1.4: Accessibility and Reliability of Infrastructure Services



Source: World Bank's Investment Climate Survey.

CONCLUSIONS

1.15. FYR Macedonia has made major improvements across the board in MDGs as well as in more advanced social indicators in the 1990s. This progress was made during a period that saw economic turbulence as the country embarked on the process of market reforms and a contraction in the Government's role in the economy. How FYR Macedonia was able to achieve this in a relatively short period of time remains an unanswered question. It may reflect some combination of good sectoral policies, targeted public interventions, and a shift in the population's preferences towards more education and better health care (resulting from a shift in people's preferences with the opening up of the country to the world). Greater research into how these successes were achieved could provide valuable information to the Government for designing effective policies for the future.

1.16. Though progress was indeed significant and development indicators are broadly in line with its level of income, FYR Macedonia still lags behind many European countries. Consequently, significant improvement still is needed for it to catch up to the EU and even the EU-8. Of the three areas reviewed in this section—health, education, and infrastructure—the areas in which FYR Macedonia appears to need further concerted effort in order to bring it in line with other countries in the region are education—especially tertiary and secondary. However, whether education is the binding constraint to economic growth or to welfare improvement is not clear given the high levels of unemployment and would need further analysis.

CHAPTER 2

POVERTY TRENDS IN MACEDONIA: METHODOLOGICAL ISSUES AND KEY RESULTS

INTRODUCTION

2.1. **The purpose of the *Poverty Assessment* is to provide a greater understanding of the poverty situation in FYR Macedonia and to identify measures to strengthen the poverty monitoring system.** Widespread poverty is one of the key development challenges facing the country. Macedonia's main medium term objectives include establishing stable higher growth rates, sharing the benefits of growth more equitably between groups and regions, and moving towards greater integration with Europe. Increasing the impact of economic growth on living standards of the population, especially those at the lower end of the distribution, requires a clearer understanding of the poverty situation.

2.2. **Living in poverty can be defined as living in a state of “unacceptable deprivation in well-being”.** Though few would perhaps disagree with this description from the World Development Report 2000, in practice, making poverty comparisons is a more complex issue. What is deemed an acceptable standard of living will often differ depending on the socio-economic context. But there also exist some notions of basic poverty that prevail in most societies: a person who is undernourished, who has nowhere to live and who cannot get basic medical help if needed, would most likely be considered poor anywhere. There is wide spread agreement that such basic levels of poverty still exist in FYR Macedonia today.

2.3. **This chapter will summarize methodological issues in monitoring poverty in FYR Macedonia and summarize the key poverty trends and patterns in 2002 and 2003.** The chapter addresses the following questions: How can we best define and measure “well-being”? At what threshold does “deprivation” become “unacceptable” and how do we ensure proper poverty comparisons between different people and over time?⁴ And using best practice methods, how has poverty developed across regions and over time in Macedonia?

MEASURING WELL-BEING

Conceptual approaches to measuring well-being

2.4. **Poverty is a multidimensional concept and closely linked to the socio-economic environment of the individual.** The main conceptual approaches to measuring welfare can be separated into welfarist and non-welfarist approaches, which differ quite substantially both in theory and practice (see Box 2.1). In practice, welfarist poverty measures usually focus on

⁴ This chapter draws largely on the methodological overview in Ravallion (1992) and on the framework presented in the World Development Report 2000/2001.

consumption expenditures or income levels. An advantage of these indicators is that when appropriately estimated, they can be used to compare poverty across time and space—which is a key purpose of poverty monitoring. On the other hand, they risk missing out many important dimensions of poverty beyond consumption and income. Non-welfarist poverty measures include a variety of non-income indicators, including education levels and health status. In spite of the differences in approach, consumption/income and non-income poverty indicators tend to reflect similar levels of attainment—people at the subsistence minimum generally have low levels of education, higher mortality rates, and have little power over their own lives.

Box 2.1: What Do We Mean by Poverty?

The main conceptual approaches to measuring poverty can be separated into welfarist and non-welfarist arguments (Ravallion, 1992). In the welfarist approach, individuals are considered rational and make choices that maximize their utility and sense of wellbeing or “welfare”, given the constraints they face, for example limited income. From a pure welfarist perspective, a person who is happier is considered better off irrespective of whether he is adequately nourished, has shelter, or adequate education. However, since measuring (and comparing) people’s own sense of wellbeing is difficult, a standardized indicator of welfare is used. Consequently, in practice, welfarist poverty comparisons are usually based on money-metric indicators of income or consumption as proxies for utility. Poverty then becomes equivalent to “lack of command over commodities”.

The non-welfarist paradigms focus on “basic needs” and “capabilities” needed to reach a certain level of functioning. The first approach—basic needs—focuses on means which are linked to reaching a particular quality of life: minimum quantities of basic amenities such as water, food, and shelter that are essential to avoid states of ill health and starvation. The second approach addresses the capabilities a person has to lead the life he or she chooses. Sufficient income, for example, means that a person has the capability to consume at least adequate levels of food and other essential goods and services; or adequate levels of education to find productive employment.

Both of these approaches have some drawbacks. A criticism against the welfarist approach is that in its extreme form it is entirely subjective. The multidimensional nature of basic needs and capabilities approaches to poverty also pose some problems in terms of poverty comparisons. One such issue is how to aggregate, weight, and compare qualitative indicators of poverty—is a person lacking access to sanitation poorer than an illiterate person, for example?

Source: World Bank (2000), Ravallion (1992), Duclos, 2002.

2.5. This report primarily uses data on household consumption expenditures to estimate poverty levels in FYR Macedonia. Along the lines of the World Development Report 2000/2001, it also recognizes that the concept of poverty extends in many other dimensions of well-being besides the amount of commodities consumed at a point in time. The poor are often more exposed to economic downturns, natural disasters, and epidemics, and lack means of protecting their families from such shocks. Generally, the poor also have fewer human capital assets: they have lower levels of education attainment and are more prone illness. Public services, be it for infrastructure, education or health, are less accessible for low income households. Being poor is associated with social stigma and lack of voice and decision-making in society. And these poverty characteristics often combine to deprive the poor of opportunities to improve their current and future living standards, or that of their children. The difficulty in

capturing non-consumption aspects of poverty lies in the unavailability of data, especially for a nationally representative sample.

2.6. Consumption expenditures are a better indicator of welfare than income. There is an important choice to be made between using income or consumption as the welfare indicator. In principle, income could be a good indicator of a person's capability to reach a certain level of welfare. However, its major drawback is that survey respondents tend to under-report their income for reasons pertaining to confidentiality. Furthermore, income may not be an appropriate measure for agricultural households, especially since consumption of own-produced food would not be captured. Moreover, income often fluctuates from year to year, resulting in greater volatility of income-based poverty rates. People's consumption of food and non-food goods and services is an alternative measurement of welfare. It is based upon household expenditures though is not identical to it. Consumption is considered a better measure of both current and long-term living standards than income. Consumption can better reflect an individual's ability to safeguard against temporary income losses. For example, members of a household with savings can sustain consumption levels for some time even if income temporarily drops.

2.7. Consumption poverty measures are complemented by non-income poverty indicators. Consumption patterns can provide a comprehensive though not complete understanding of the level of deprivation a household is faced with. Lack of financial resources is a key explanation for why some people cannot access reasonable health care or adequate shelter. But more money cannot necessarily buy better public services or better job opportunities—it may not even buy higher social status if it results only from public social welfare transfers. In the Poverty Assessment report, the analysis of consumption data is therefore complemented by an overview of other non-monetary welfare indicators which trace social development, such as education, health, and labor market indicators. Yet there are many aspects of poverty which will not be covered in this report, including notions of vulnerability to shocks, self-empowerment, and social capital.

Constructing the consumption aggregate

2.8. What expenditures represent true consumption? Once consumption is chosen to be the most appropriate measurement of welfare, household expenditures must be translated into a consumption aggregate that is a meaningful representation of current welfare levels based upon available data. In order to be as robust a measurement of present welfare as possible, it should reflect consumption in the period under consideration rather than future consumption—consequently, total expenditures should not be used as a welfare aggregate. The consumption aggregate should ideally include the following categories: food expenditures, non-food non-durable commodity expenditures, service expenditures, and use value of durable goods. Food expenditures include both actual expenditures as well as the valuation of self-produced food that is consumed. Non-food consumption includes clothing, utilities, services, personal care and hygiene items, communication and transportation, and other non-food expenditures. Durables are items such as cars, washing machines, and housing and usually represent large expenditures. Though the purchase cost of these items would not be included in the consumption aggregate since these items provide welfare well into the future, their annual “use value” should be included.

2.9. In this report, the consumption aggregate includes food and non-food non-durable goods and services but excludes the use value of all durables. Construction of a consumption aggregate is limited by the availability of data collected. Detailed information is collected on expenditures of food and non-food goods and services including on assets such as cars and other

household durable goods. However, in order to compute the (annual) use value of durable household goods, information is needed on the age of the durable goods—which is not collected in FYR Macedonia. Another important item not included is the imputed value of housing. The reason for this is that most families in FYR Macedonia own their housing and consequently too few observations are available on rent to estimate the use value of housing.

2.10. **The consumption aggregate also takes into account spatial price differences.** Another important, though often overlooked, issue is that prices may differ among geographical areas of the country, perhaps significantly in poorer and larger countries where markets are less integrated across regions. In this report, different food price indices are therefore used for urban and rural regions. Price data collected from the household survey indicates that food prices are marginally higher in urban areas than in rural areas. Non-food prices are not corrected for spatial price differences due to the lack of adequate comparable price information on goods and services.

WHO IS POOR AND WHO IS NOT – CHOOSING A POVERTY THRESHOLD

2.11. The second important issue in analyzing poverty patterns is where to establish the poverty line, i.e., the level of consumption below which a person is considered poor. As noted, the notion of where deprivation becomes unacceptable will tend to differ across societies, although some fundamental concepts of poverty—inadequate nourishment and shelter—are common to most. It should be noted that a minimally acceptable level of consumption does not mean the ability to achieve a comfortable standard of living or to have adequate resources to have a buffer against exogenous shocks (such as job loss or major illnesses). However, it does mean that the person is living in conditions where he is consuming sufficient food (as determined by caloric value) and consumes some bundle of non-food goods and services.

2.12. **Reliable and consistent poverty data are essential to monitor poverty over time and understand who is poor and who is not.** The choice of method for calculating poverty lines will ultimately depend on the characteristics of the country as well as how this information will be used. From the perspective of poverty monitoring, a poverty line should be consistent—two persons at the same standard of living should be considered poor or not poor, irrespective of the time or place being considered. Against this background, three alternative approaches to constructing poverty lines are discussed below: *relative poverty lines* and *subjective poverty lines*, both of which are currently used by the Government of Macedonia, and *cost-of-basic-needs poverty lines*, which are used in the remainder of this report.

Relative poverty lines

2.13. **Relative poverty lines imply that poverty is a question of inequality only.** Under this approach, whether a person is judged poor depends not on whether he has a certain level of consumption or income but entirely on how little he has compared to others. Relative poverty lines are frequently applied in high income countries; they are standard in measuring social welfare in the European Union (EU). A common approach is to use some proportion of the median of the distribution of income as the poverty line. In EU countries the population with income levels below 60 percent of the median income is used as a poverty benchmark (Eurostat, 2004).⁵

⁵ The EU uses income and not expenditures as the basis for calculating the relative poverty lines.

2.14. **The official poverty line in FYR Macedonia is a relative poverty line set at 70 percent of median household expenditures.** In line with Macedonia's desire to align closer with EU practices and recommendations, beginning in 1996, FYR Macedonia adopted a relative poverty line. It was established at 70 percent of median household expenditures (rather than 60 percent of income—as in the EU) of the current year per equivalent adult, using the OECD scale to adjust for household size and composition (discussed in more detailed below).⁶ In both nominal and real terms, the denar value of relative poverty lines has increased over time as seen in Figure 2.1. However, it should be noted that the dramatic increase between 2001 and 2002 is most likely due to changes in the survey instrument and sampling methods.

Figure 2.1: Problems with Relative Poverty Lines

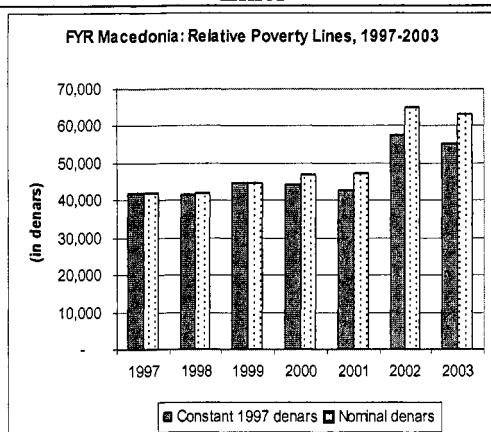


Table 2.1: Problems with Relative Poverty Lines

FYR Macedonia: GDP and Headcount Indices Changes (1998 - 2003)		
	GDP growth (in percent)	Change in headcount index /a (in percent)
1998	3.4	8.9
1999	4.3	1.4
2000	4.6	6.2
2001	-4.5	1.8
2002	0.8	33.0
2003	3.1	0.0

a/ Based upon official relative poverty lines.

Note: Poverty lines are for household and not individual level.

Source: Macedonia SSO, 2004.

Source: World Bank staff calculations based on SSO and WDI data.

2.15. Relative poverty lines are a good indicator of how high disparities are at a particular point in time by the standards of any particular country. **But relative poverty lines also have several disadvantages, especially in the context of a developing country such as FYR Macedonia.**

2.16. **Relative poverty lines disregard unfulfilled basic needs.** First, the choice of relative poverty lines is necessarily arbitrary—what determines the choice of 70 percent of the median, rather than 60 or 50 percent? Second, in countries where absolute deprivation exist (which includes middle income countries such as Macedonia), relative poverty lines do not allow for identifying a level of consumption which would be considered unacceptable at any time, and irrespective of the income distribution.⁷ As will be discussed below, the new estimates produced by the State Statistical Office together with the World Bank suggest that a considerable share of

⁶ The relative poverty line using OECD scale and this report's welfare aggregate is MKD 58,655 which is comparable to the SSO's poverty line of MKD 63,197 for 2003.

⁷ At the extreme, in a country where virtually nobody can satisfy their basic needs, relative poverty-lines may indicate little or no poverty if income is evenly distributed, but people are, by any standards, poor.

the Macedonian population is in fact living below such a subsistence minimum level. As noted, the EU uses relative poverty lines for analyzing poverty in its member countries. Generally, however, the level of absolute deprivation within high income EU countries is very low, which makes comparisons of unfulfilled basic needs less useful for policy purposes. And even within the EU it is recognized that relative poverty lines do not imply that people below them are in fact poor, but only that they are *at risk of poverty*.⁸

2.17. They also result in inconsistent poverty comparisons over time. A related problem is that relative poverty lines cannot be used for monitoring changes in poverty as they do not allow for consistent poverty comparisons over time. Furthermore it is not clear whether economic growth and relative poverty rates would move in the same or opposite direction systematically since recessions could potentially be accompanied by a compression of the income distribution. In 2002-2003 for Macedonia, the median consumption per capita fell by 2.1 percent whereas the share of the population living in relative poverty declined by over 5 percent.

2.18. The role of relative poverty rates in informing policy is unclear. Anti-poverty interventions tend to be targeted to households living in deprivation and relative poverty lines do not—and are not supposed—to inform policy makers whether more or less people are in need of assistance to fulfill fundamental needs. As noted earlier, since economic recession could lead to a reduction in relative poverty rates due to income compression, relative poverty could decline suggesting that safety nets are less needed in bad times than in good, although poorer people's consumption levels have fallen. A look at the official Macedonian poverty lines relative to economic cycles is revealing as seen in Table 2.1. If anything, there is a positive correlation between GDP growth and the annual change in the official poverty headcount index (at least in 2000, 2001 and 2002) suggesting that higher growth rates coincide with higher poverty.

2.19. Despite the drawbacks of relative poverty lines, consistency with EU norms remains a valid reason to continue to use them in conjunction with other measurements of poverty. Relative poverty lines are an important welfare indicator for the EU. Given Macedonia's strong interest in joining the EU, computation and official publication of relative poverty should continue. However, for the reasons just discussed, it is imperative to track absolute poverty in order to be able to develop policies for reducing poverty as well as to determine whether economic growth is pro-poor.

Subjective poverty lines

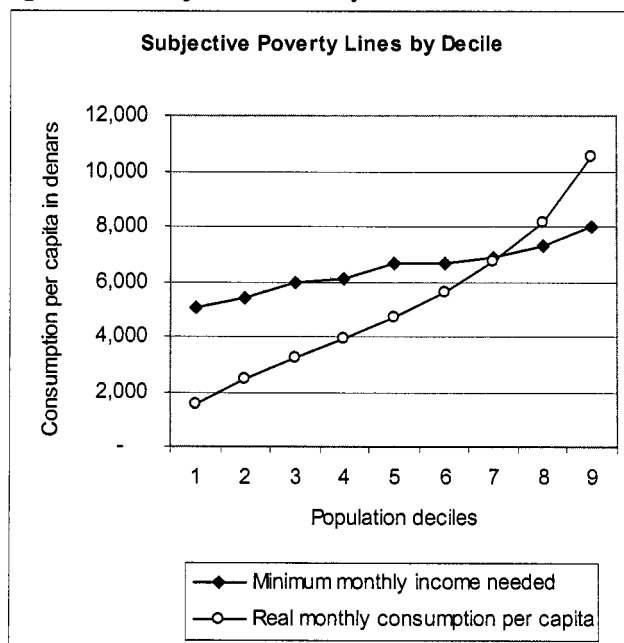
2.20. Subjective poverty lines are based on people's notions of what is a reasonable income level to escape poverty in their particular context. They are estimated entirely on the basis of people's subjective perceptions of what is a minimum income to reach an acceptable level of well-being in their particular context. Subjective poverty lines tend to be based on survey responses to questions of the type: "what income level do you consider to be absolutely minimal to make ends meet?" They tend to be more popular in developed countries, rather than developing countries. In developing countries, the concept of income may be much vaguer, especially where subsistence agricultural production and informal employment could make total income more difficult to gauge.

⁸ "Having an income below this threshold [60 percent of the median income] is neither a necessary nor a sufficient condition for being in a state of poverty: indicators are consequently referred to as measures of poverty risk." (Eurostat, 2004.)

2.21. **The subjective poverty line for FYR Macedonia is about 70 percent of GDP per capita.** The State Statistical Office of FYR Macedonia collects information on subjective perceptions of minimum income levels which for 2003 are presented in Figure 2.2. When asked what the monthly minimum income required for a household to make ends meet is, the average was MKD 7,557 per capita. This translates into a subjective poverty line of MKD 85,579 (US\$ 1,575) per person per year compared to a GDP per capita of US\$ 2,277 and private consumption per capita of \$1,688. Even when we look only at the bottom half of households, the monthly minimum income required is stated as MKD 5,843 per capita.

2.22. **Subjective poverty lines can be an interesting complement to more objective poverty lines, but cannot be used for poverty monitoring or for informing policy choice.** While telling an interesting story in terms of each environment's notion of poverty, and how that changes, subjective poverty lines are not suited for targeting purposes, not least because the perceptions of what is a minimum income needed tend to increase with a household's income level. Alternative methods have been proposed for developing countries focusing on perceived consumption adequacy as a means of estimating the subjective poverty line. In Nepal and Jamaica, this method rendered subjective poverty lines which were closer to other poverty lines based on more objective deprivation criteria (Pradhan and Ravallion, 1998).

Figure 2.2: Subjective Poverty Increases with Welfare



Source: World Bank staff computations based on HBS 2003.

Cost-of-basic-needs

2.23. Most of this report focuses on a narrow definition of poverty: a household lacking the ability to consume a bundle of food and nonfood goods and services that are deemed sufficient to satisfy the basic needs of its members. **The methodology used for estimating poverty in the FYR Macedonia Poverty Assessment 2005 is referred to as the cost-of-basic-needs approach.** This poverty line is based on the minimum expenditures needed for basic food and non-food needs, on the assumption that individuals try to maximize their welfare given current prices and their budget constraints. Unlike relative or subjective poverty lines, it is fixed in terms of living

standards, meaning that two persons at the same standard of living in different regions or in different years (adjusting for price differences) will always be considered poor or non-poor and treated the same. Once the consumption aggregate has been defined, the steps in calculating the minimum cost of basic needs—the poverty line—are as follows:

- Based on the United States Department of Agriculture (USDA) caloric values, the food poverty line is calculated, i.e., the yearly expenditure level required, given prices and consumption patterns, to be able to buy a minimum level of calories (2100 calories per day per person) needed for an adult person to function adequately. In order to represent relevant basic needs consumption, the cost of the food component of the poverty line reflects food habits consistent with the consumption patterns in the low-income population. The basket is adjusted for food prices by differentiating across urban and rural regions.
- The share of non-food items is estimated following Engel's law. Basic non-food items are estimated based on the share of expenditures on non-food items made by households whose food expenditures are equal to the food poverty line, i.e., those who are spending just enough on food to meet the caloric requirement per capita. In the case of Macedonia, the non-food share is around 44 percent for these households.
- The cost-of-basic-needs poverty line is the sum of the food poverty line and the cost of basic non-food items. This poverty line is estimated on a per capita basis. The complete poverty line is MKD 35,580 per year per capita (in 2002 nominal denars).
- In order to ensure intertemporal consistency, the poverty line for 2003 is calculated by pricing the 2002 food basket with 2003 prices by applying the consumer price index.⁹ As seen, the cost-of-basic-needs method results in poverty lines that appears significantly lower than the relative poverty lines calculated by the statistical office. However, this can be misleading as the cost of basic needs poverty line is based on an expenditure bundle which includes durables.

Table 2.2: Cost-of-basic-needs Poverty Lines for Macedonia, 2002 and 2003

(in MKD)	2002	2003
Food poverty line ^{/1}	20,009	20,249
Complete poverty line ^{/1}	35,580	36,029
<i>Memo: Relative poverty lines ^{/2}</i>	64,946	63,197

Note: ¹ Annual per capita expenditures in denars. ² Based on official poverty lines from Statistical Office. These adult equivalent poverty lines are based on unweighted data, all consumption expenditures and do not include different price indices for rural and urban areas. If the consumption aggregate is calculated as in this report and relative poverty lines at 70 percent of the median, they amount to MKD 42,997.

Source: FYR Macedonia State Statistical Office 2004 and World Bank staff calculations.

⁹ Note that if instead a new poverty line was calculated for 2003 using a new basket based on 2003 values, the poverty comparison between 2002 and 2003 would not be valid. Since the consumption baskets are not identical we would—perhaps literally—be comparing apples in one basket with pears in another. There would be then no saying whether expenditures have increased or not. The same argument holds for comparisons across locations: although food and non-food consumption patterns may differ for example between rural and urban areas or between regions, the baskets must be the same for poverty comparisons between these areas to be valid.

2.24. Cost-of-basic-needs poverty lines, like others, are based on the judgments of those who construct them, for example, picking the reference group for the consumption pattern is often a subjective choice. But their interpretation is more transparent than that of relative poverty lines. Absolute deprivation appears to exist in Macedonia, and these poverty lines reflect our best assessment of what that level is. A person whose food consumption does not reach the food poverty line is not fulfilling his basic food needs, and most would agree that this is indeed a key aspect of poverty. Moreover, this method ensures consistency in poverty comparisons over time.

POVERTY MEASURES: HOW MANY POOR AND HOW POOR ARE THEY?

4.1 Poverty patterns and trends in 2002 and 2003

2.25. This section looks at the situation of poverty in FYR Macedonia in the years 2002 and 2003. Using the cost-of-basic-needs poverty line, three indicators are presented: the headcount ratio, the poverty gap index, and the poverty severity index (see Box 2.2). For comparative purposes, some of these indicators are also presented for relative poverty lines calculated for this report (i.e., based on the same consumption aggregate as the cost-of-basic-needs poverty lines).

2.26. **More than one in five persons lived in poverty in FYR Macedonia in 2003.**¹⁰ An estimated 21.7 percent of the population lived below the cost-of-basic-needs poverty line in 2003. This means that about 445 thousand persons in FYR Macedonia were unable to meet their basic food and non-food needs. Of these persons, 113 thousand had consumption expenditures below the amount needed to purchase the minimum food basket indicating that they suffered from extreme deprivation and most likely were malnourished.

2.27. **Poverty remained stagnant between 2002 and 2003 in FYR Macedonia.** The share of the population living in poverty increased slightly from 21.4 percent to 21.7 percent. Though the increase is not statistically significant, it is consistent with the decrease in average living standards seen in FYR Macedonia during that period.

Box 2.2: Monitoring Poverty: The Foster, Greer and Thorbecke Measures of Poverty

The headcount ratio (P0) measures the prevalence of poverty. It gives the percentage share of poor people in the population, i.e., the proportion of the population whose consumption falls below the poverty line. This most basic of poverty measures cannot tell us how poor the poor are. If between two years the poor become less poor, but still have consumption expenditures below the poverty line, the headcount ratio will not change.

The poverty gap index (P1) measures the depth of poverty. It measures the distance of the actual expenditures of the poor to the poverty line. Unlike the headcount ratio, the poverty gap index can tell us whether the poor are on average very poor, i.e., very far from reaching the consumption expenditures at the poverty line, or whether there are a lot of people clustered around the poverty line. If poverty is very shallow, a small increase in consumption would lift a large portion of the population out of poverty (and thus lower the poverty headcount index significantly).

The poverty severity index (P2) measures the level of inequality among the group of poor by giving more weight to the depth of deprivation of the poorest people. Unlike the headcount ratio and the poverty gap index, the poverty severity index will pick up changes in the distribution of income within the group of poor.

¹⁰ In what follows, we refer to the complete poverty line only.

2.28. **Between 2002 and 2003 there was a convergence in poverty headcount indices across Macedonia's urban and rural areas.**¹¹ The small changes in poverty headcount ratio at a national level mask important regional trends as seen in Table 2.3. In Skopje, the share of its population living in poverty increased marginally, from 19.9 to 20.4 percent. Poverty rates increased quite significantly in other urban areas, from 17.5 percent to 21.8 percent, while falling in rural areas, from 25.3 to 22.3 percent. As a result, poverty rates were, by 2003, almost uniform across the country.¹²

2.29. **Poverty also became deeper in other urban areas, and shallower in rural areas, but the relative situation of the very poorest households worsened in both Skopje and secondary urban centers.** Other poverty measures confirm the worsening poverty situation in urban centers excluding Skopje, and the improvements seen in rural areas. In Skopje and rural areas, poverty became shallower, meaning that poor people saw their consumption expenditures rise closer to the poverty line. This led to a reduction in the poverty gap at a national level. In urban areas excluding Skopje, the poverty gap index increased by more than one fourth. The poverty severity index, measuring the level of inequality among the poor, also improved in rural areas, and worsened in other urban areas. In Skopje, the poverty severity index actually worsened. This suggests that although many people saw their consumption expenditures increase to approach or cross the poverty line, those at the very bottom of the income distribution were actually worse off.

Table 2.3: Poverty Headcount Ratio, Poverty Gap Index and Poverty Severity Index (in percent)

	Poverty Headcount Ratio		Poverty Gap Index		Poverty Severity Index	
	2002	2003	2002	2003	2002	2003
<i>Cost of basic needs</i> ^{1/} :						
FYR Macedonia	21.4	21.7	6.3	6.7	2.7	2.8
Skopje	19.9	20.4	6.3	6.7	2.7	3.0
Other urban	17.5	21.8	5.0	6.9	2.1	2.9
Rural	25.3	22.3	7.4	6.5	3.2	2.6
<i>Memo: Relative poverty lines</i> ^{2/}						
FYR Macedonia	31.5	29.7	10.4	9.8	4.7	4.4

^{1/} Per capita. ^{2/} Per capita. These relative poverty lines are based on the same consumption aggregate as the cost-of-basic-needs poverty lines. (see footnote 5).

Source: World Bank staff calculations.

Accounting for household size and demographics

2.30. **Households of different size and demographic composition may reach different welfare levels with the same level of expenditures.** In the poverty measures above, total household consumption expenditures have been transformed into per capita consumption (by simply dividing by total number of household members). We assume, in other words, that a

¹¹ In 2002 21.7 percent of the population lived in Skopje, 35.2 percent in other urban areas, and 43.1 percent in rural areas.

¹² It is worth noting that although poverty as calculated by the complete poverty line is lowest in Skopje in all of Macedonia, poverty according to the food poverty line is actually higher in Skopje than in other urban areas.

household with eight people that is consuming the same as a household with two people must be worse off. Though using per capita is more transparent and requires fewer subjective decisions, the approach ignores several important factors. One issue is the demographic composition of the household: for example, children may need less food than a working adult. Economies of scale pose a similar problem. Some goods can be shared across members—for example, housing or consumer durables, up to a certain point—which will lower the expenditure per person compared to a smaller household; yet, the level of utility derived will be the same. Hence, with the per capita approach, households with many members and/or many children could come across as poorer than they actually are.

2.31. The issue can be addressed by adjusting the consumption aggregate by adult equivalent scales which rescale household consumption into the equivalence of adults, depending on size and composition. There is potentially an indefinite number of scales to use for such purposes. One clear disadvantage of equivalence scales is that the choice of allocation rule necessarily will be arbitrary and there is no agreement on which one to apply. The preferred practice is therefore to use the per capita measures as a base-case and check the robustness of poverty measures and poverty profiles vis-à-vis the application of equivalence scales. Two options are evaluated here: the OECD scale and a version used regularly in World Bank poverty assessments (see Box 2.3).

Box 2.3: Equivalence Scales Used in the FYR Macedonia Poverty Assessment 2005

The scales referred to in this report can be expressed in a general form as:

$$AE = (1 + \delta(A - 1) + \alpha C)^\theta$$

where AE is the number of adult equivalents in the household, A is the actual number of adults, C is the number of children, α measures the difference in consumption between adults and children, and either δ or θ adjusts for the level of economies of scale. These parameters are set between 0 and 1 (and either δ or θ will be 1). The weights attached to economies of scale and demographics can thus be varied. Two versions are evaluated here:

The OECD scale sets δ to 0.7, α to 0.5, and θ to 1, resulting in:

$$AE = 1 + 0.7(A - 1) + 0.5C$$

The general form of the World Bank adjusted scale sets δ to 1, and α and θ can be adjusted according to whatever is considered reasonable for the particular context:

$$AE = (A + \alpha C)^\theta$$

The closer to 0 the parameters, the stronger are the respective economies of scale and demographics effects. Children are arguably less expensive in developing countries, even in relative terms, suggesting that α should be small, reflecting such items as lower school fees and no entertainment costs. But with a high food share, children's consumption should not come with a large discount, as the caloric requirements of all but very small children are almost as high as those of adults. Moreover, when there are few shared goods in the consumption aggregate (perhaps because food is an important share or fewer durables), there is less justification for making large adjustments for economies of scale.

Source: Adapted from Deaton and Zaidi, 2002.

2.32. The OECD scale currently used by the Macedonian State Statistical Office to adjust the welfare aggregate does not provide a good representation of the impact of size and

demographics on household consumption. This scale is significantly different from the per capita approach as it implies substantial economies of scale *and* much smaller consumption needs of children. But it is not clear that this scale adapts well to the Macedonian case. First, following the cost-of-basic-needs poverty lines, food accounts for the majority of consumption expenditures (54 percent). Food cannot be shared, so economies of scale do not apply, and children moreover need almost the same amount of calories as adults. Further, in the consumption aggregate used here, durables—which typically are shared goods—have been excluded. In view of these shortcomings, an alternative scale, drawing on Deaton and Zaidi, 2002, is also applied where parameters have been chosen to reflect smaller adjustments than in the case of OECD.

2.33. **Overall, the poverty profile is robust to different equivalence scales.** Table 2.4 compares the poverty headcount indices for 2003 across per capita scales, the OECD scale, and the adjusted World Bank scale. As expected, the OECD scale increases poverty rates for people living in small households relative to larger ones, and for older people relative to younger ones. But the ranking remains robust to the scale. Large households are in general poorer than smaller households, and it is still the case that a higher share of children than elderly live in poverty.

Table 2.4: Poverty Headcount Index for Per Capita Consumption and Equivalence Scales^{1/}

	Per capita	OECD adjusted ^{1/}	Adjusted general formula ^{2/} $\alpha=0.8, \theta=0.9$
Food poverty	5.5	6.3	5.1
Complete poverty	21.7	24.8	21.7
By Region			
Skopje	20.4	23.0	19.9
Other urban	21.8	25.3	22.6
Rural	22.3	25.3	22.0
By Household size			
1	5.1	13.5	8.9
2	5.7	11.9	8.3
3	10.5	15.3	12.3
4	15.3	19.0	15.8
5	22.3	24.4	22.3
6+	34.6	36.2	32.9
By Age			
Less than five years	29.5	29.6	28.9
6-14	28.2	29.4	26.1
15-24	24.1	28.1	24.6
25-39	23.1	25.3	22.6
40-64	18.1	21.7	18.7
65 and over	13.9	19.8	15.4

Note: 1. Adjusting for household size and composition increases the overall poverty, but not the ranking within the poverty profile. 2. Normalized equivalence scales.

Source: World Bank staff computations based on HBS 2003.

How does FYR Macedonia compare with other countries?

2.34. **Poverty indices based on national poverty lines are not internationally comparable,** due to differences in survey designs, in consumption preferences, and the assumptions underlying the estimates of welfare indicators and poverty lines, as the notions of what is minimum subsistence and basic needs increases as a country becomes richer (Ravallion et al., 1991). To facilitate international comparisons, the World Bank calculates poverty lines in international (PPP adjusted) dollars fixed at about 1, 2 and 4 US dollars per day which should buy the same standard

of living in each country.¹³ These are presented for FYR Macedonia in Table 2.5, using 2000 PPP conversion factors. As can be seen, a negligible proportion of the population is living on less than one or two dollars a day, and the poverty gap and poverty severity indices are also very low using these international poverty lines. Instead, Macedonia's actual poverty lines appear to be fairly close to PPP-adjusted 4.30 US dollars per day, yielding very similar poverty numbers.

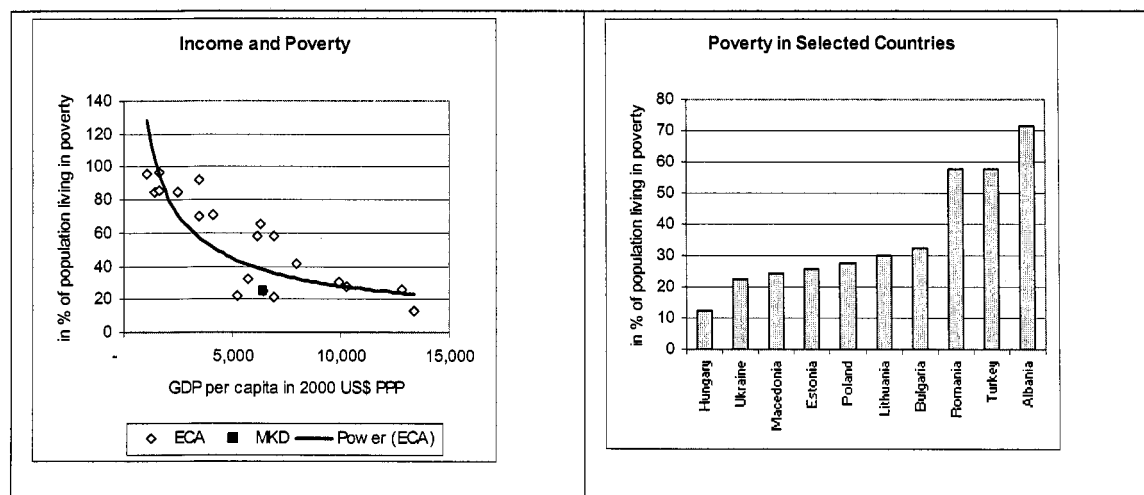
Table 2.5: One and Two Dollar a Day Poverty is Low in Macedonia
Poverty headcount, poverty gap, and poverty severity indices for FYR Macedonia using international poverty lines, 2003 ¹

	Headcount Ratio	Poverty Gap	Poverty Severity
International poverty lines			
\$1.08 per day	0.13	0.04	0.03
\$2.15 per day	3.8	0.8	0.3
\$4.30 per day	21.7	6.7	2.8
Cost-of-basic-needs	20.5	6.1	2.5

¹ Using 2000 PPP numbers.

Source: World Bank staff calculations

Figure 2.3: Compared to ECA Countries, FYR Macedonia has Low Levels of Poverty



Note: ^a ECA is "Europe and Central Asia region countries" and MKD is FYR Macedonia.

^b Poverty is defined as percent of population living below PPP-adjusted \$4.30 per day per capita.

Source: World Bank staff estimates based WDI data. Life expectancy data for 2003 and enrollment rate data for 2001.

¹³ The \$1.0 per day poverty line—which actually represents *purchasing power parity adjusted* \$1.08 dollar—was chosen because at the initiation of the work on international poverty comparisons, it was representative of poverty lines found in the poorest countries. For middle income countries, it is clearly too low to be meaningful for policy analysis. Instead, two alternative poverty lines, twice and four times as high (2.15 and 4.30 international dollars a day) are typically used. PPP conversions are not straightforward, however, and caution is still warranted for international poverty comparisons.

2.35. **FYR Macedonia has fairly low levels of poverty compared to other low and middle income countries in Eastern Europe and Central Asia.** Using these internationally comparable numbers, Macedonia's poverty numbers are modest relative to its income at least within ECA. Two important comparators for FYR Macedonia are Romania and Bulgaria. Romania has higher GDP per capita (PPP) than FYR Macedonia but much higher poverty rates as well as can be seen in Figure 2.3. On the other hand, Bulgaria has a lower income per capita but also higher poverty than Macedonia, at almost the same income levels, have substantially higher proportions of the population living on less than \$4.3 per day.

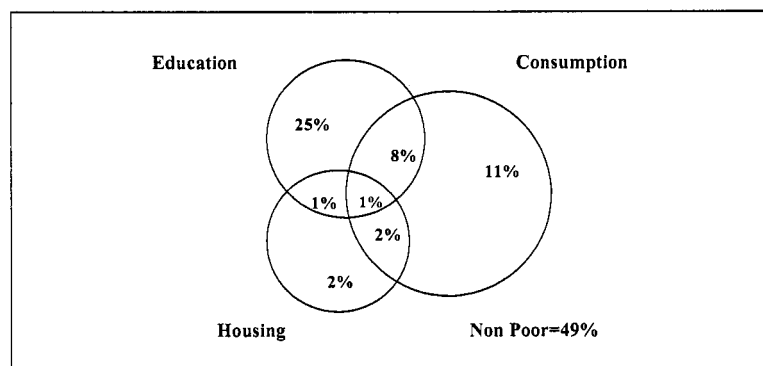
MULTI-DIMENSIONAL POVERTY

2.36. **Deprivation is not limited to consumption and can include important aspects such as limited education and poor housing.** Though consumption is indeed the most immediate and possibly devastating loss households suffer when income is too low, deprivation along other aspects can have equally negative affects for peoples' welfare. This section will provide some flavor of multi-dimensional aspects poverty and how different aspects affect or do not affect the same group of persons. We examine two types of poverty, housing and education, because of their importance for people's ability to adequately meet their immediate and future needs. The results are presented in Figure 2.4.

2.37. **Education poverty affects 36 percent of the population indicating that Macedonia's human capital stock is not large.** The definition used for education poverty is persons above the age of 19 years with less than secondary school. This category also includes persons who may not have completed primary school or have no education at all, though these are uncommon phenomena in FYR Macedonia. The relatively low educational attainment of a significant share of the adult population is a result of the low secondary school enrollment rates that continued until the early 1990s. For example, in 1990, gross secondary school enrollment rates were 56 percent and increased to 85 percent in 2000.

2.38. **Housing poverty affects 7 percent of the population.** The definition used for housing poverty is crowded conditions (less than 6 square meters per person) or no sewerage disposal in dwelling (in urban areas). The share of the population experiencing this type of poverty is limited and in part this may be a reflection of the limited indicators used for assessing housing conditions or the alternative that the country has indeed put adequate resources in this area.

Figure 2.4: Multiple Dimensions of Poverty in FYR Macedonia 2003



Source: World Bank staff computations based on HBS 2003.

2.39. **Simultaneous deprivation in three dimensions of poverty is uncommon indicating that extreme poverty is not widespread.** As can be seen from Figure 2.4, the subset of persons who are consumption poor as well as housing and education poor is 1 percent. The largest overlap between different dimensions of poverty lies between consumption and education poverty. An estimated 9 percent of the population suffers from both forms of poverty. The second largest overlap between the consumption and housing poor is at 3 percent of the total population.

2.40. **According to a broader definition of poverty, the share of the population living in poverty is 51 percent.** This multi-dimensional poverty is driven primarily by education and consumption poverty. The greatest concerns that arise when viewing poverty through this lens is that poverty becomes a larger problem than first envisioned. In addition, education poverty is probably the most difficult to address because of the limited opportunities as well as demand for education among adults. As we will see in Chapter 3, poverty rates are highest among persons living in households headed by someone with less than secondary education.

SUMMARY

2.41. This chapter has presented methodological issues and key results on poverty measurements in FYR Macedonia. Its main conclusions are:

- **The methodology currently used by the Government of FYR Macedonia does not permit consistent and accurate poverty monitoring.** First, the consumption aggregate must be adjusted to better measure household welfare. Second, cost of basic needs poverty lines are better suited than relative poverty lines to a country where absolute deprivation exists. The main differences between the methodology used for the FYR Macedonia PA 2005 and that of the Government are outlined in Table 2.6.
- **More than one in five persons cannot satisfy their basic food and non-food consumption needs in FYR Macedonia.** Although rural poverty remains higher than in urban areas, there was an important regional convergence between 2002 and 2003. Poverty headcount indices and the poverty gap fell in rural areas compared to Skopje and other urban areas.
- **Poverty numbers tend to increase with household size and younger demographic profile,** but poverty trends and patterns remain robust to equivalence scales.

Table 2.6: Government of FYR Macedonia vs. FYR Macedonia Poverty Assessment 2005:

The Main Differences in Methodology for Poverty Monitoring

	FYR Macedonia PA	Government of Macedonia
Welfare aggregate	Includes imputed expenditures for rent and excludes consumer durables and business expenditures	Includes all actual household expenditures but does not include imputed value of rent for homeowners.
Adjustment for household size & composition	Expenditures are per capita with robustness checks for equivalence scales	Expenditures are adult equivalent using the OECD scale
Weights	Statistics are weighted and based on population	Statistics unweighted, based on households and not population
Poverty line method	Poverty line is calculated as cost of basic needs	Poverty line is relative, based on 70 percent of median expenditures levels
Spatial price adjustments	Different price indices for urban and rural areas	None

CHAPTER 3

A PROFILE OF THE POOR IN 2003

INTRODUCTION

3.1. **This chapter presents the key characteristics of the poor in FYR Macedonia in 2003.** The household survey data collected by the State Statistical Office of FYR Macedonia is used to identify some important correlates of poverty. We focus only on those characteristics for which data are available such as on age, gender, education, and employment. However, many important aspects of poverty—especially those pertaining to health conditions—are not discussed due to the lack of information.

3.2. **The daily lives of the poor differ significantly from those of the non-poor.** Consumption patterns differ and household composition are not the same. The poor live in worse conditions and less access to basic infrastructure services. They have less labor market access, and income opportunities of the main breadwinner, given by age, gender, and education levels are a key predictor of poverty.

3.3. **Poverty is a household characteristic, and individuals are considered poor because he belongs to a poor household.** Measuring individual poverty dimensions using household poverty status and characteristics has some consequences for the poverty profile, which should be kept in mind when interpreting the results (see Box 3.1). Moreover, a profile based solely on simple correlates of poverty can be misleading. An analysis of the conditional correlates of per capita consumption—the relationship between characteristics of households and consumption, controlling for other variables—is provided in Annex 2.

HOUSEHOLD EXPENDITURES

3.4. **Food consumption absorbs a very large share of poor households' expenditures leaving few resources for other expenses.** Expenditure patterns differ between poor and non-poor, and, since poverty incidences differ, also between different regions as seen in Table 3.1. Food expenditures make up three quarters of poor households' total expenditures, compared to just over half for the national average household. Together with alcohol—which accounts for a larger share of poor people's expenditures than of those of non-poor—food expenditures amount to 80 percent of all expenditures. These high food shares leave little room for other essential expenses.

3.5. **Expenditures on other essential non-food items are very low compared to national averages.** In particular, clothing, housing, and utilities account for a smaller share (and much lower expenditures in absolute terms) among the poor compared to more affluent households. Means of transportation and communication are also underrepresented in the poor's expenditure patterns relative to others. Not only does the lower amount of resources available for non-food consumption items indicate less money can be spent on improving living conditions, but also the difficulty of poor households accessing markets and jobs for earning a living (e.g., transportation).

Box 3.1: Individual Poverty and Household Characteristics

In this report, income/consumption poverty is a household characteristic, and individuals are poor because they belong to a poor household. However, applying a household measure to each individual has some consequences for the poverty profile.

First, studies have shown intra-household distribution to be far from equal and so some members may therefore be poorer than others within any single household. In fact, overall poverty rates may be substantially higher if intra-household inequality in distribution is taken into account (Haddad and Kanbur, 1990).

Second, given the construction of household surveys, poverty profile analysis tends to be based on the characteristics of the head of the poor household rather than the whole population of the household. Yet, the household head may not be the person who *de facto* determines the income opportunities of the household. For example, an older and inactive person can be considered the household head in the survey on account of seniority, but is perhaps not the main breadwinner, and his education and labor market characteristics have little impact on consumption levels. In households with multiple income earners, it is also difficult to designate one person in the household to establish the profile of the poor.

Related to this issue is the problem of household size and demographics discussed in the chapter on methodology. The per capita approach (dividing total household consumption by number of members) can overestimate poverty in larger families, who could benefit from economies of scale, relative to smaller ones. It could also overestimate poverty rates among children relative to older age groups. These caveats should be kept in mind when interpreting the results.

HOUSEHOLD LOCATION, SIZE, AND DEMOGRAPHICS

3.6. Poverty is higher in rural areas than in urban areas, but poverty is increasing in urban areas outside Skopje. Unfortunately, the Household Budget Survey (HBS) does not allow for detailed geographic analysis. As shown in Chapter 2, poverty is highest in rural areas, and lowest in the capital city. However, the differences are not large and poverty levels appear to have converged between 2002 and 2003. As a result, the concentration of poverty in other urban areas is very similar to that in rural areas at 22 percent. Moreover, regressions on per capita consumption suggest that it is not location *per se*, but other typical characteristics of poverty (e.g., lower education or size of household) that keep poverty levels higher in rural areas. When these characteristics are accounted for, living in other urban areas has in fact a stronger negative relationship with consumption than living in rural areas.

3.7. Poverty rates are generally higher among households that are large and have many dependent children. Households consisting of one or two people have considerably lower poverty rates than larger households. Beyond four person families (the “modal” household in Macedonia), poverty rates increase dramatically; indeed, one third (34 percent) of all people living in households with six or more people are poor. Having a large number of young children—who are too young to contribute to household income—has an even stronger impact on poverty. Almost half (47 percent) of the population living in households with three or more children under age 14 are poor, compared to 13 percent for those without young children. There is a very high penalty, in poverty terms, from having more than three children (as seen in Figure 3.1).

Table 3.1: Food Consumption Dominates Expenditures of the Poor
Household expenditures by main spending category, 2003

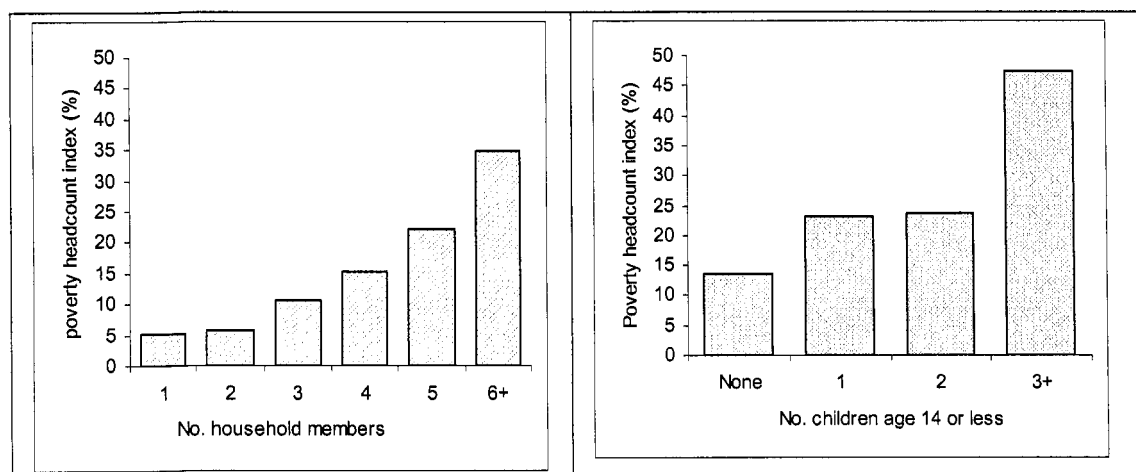
	Poorest 20 percent ^{1/}	National Average	Rural	Skopje	Other Urban
Food & Beverages	73.7	53.7	57.0	49.2	53.2
Alcohol	6.4	5.3	5.6	5.3	5.2
Clothing	1.9	6.0	6.1	5.7	6.0
Housing & Utilities ^{2/}	3.1	10.2	7.9	12.8	10.8
Household Furnishings	4.6	4.7	5.0	5.0	4.3
Health	3.6	4.1	4.0	4.0	4.2
Transport/communication	2.4	9.1	8.5	10.9	8.5
Other ^{3/}	5.4	9.5	8.6	9.8	10.3

Source: World Bank staff estimates based on HBS 2003.

Note: ^{1/} First expenditure quintile. ^{2/} Excludes imputed and actual rent. ^{3/} Includes recreation, education, restaurants and hotels, and miscellaneous expenditures.

Figure 3.1: Larger Households, Especially with Many Young Children, are Significantly Poorer than Others

Poverty headcount indices by household size (left) and number of children aged less than 14(right)

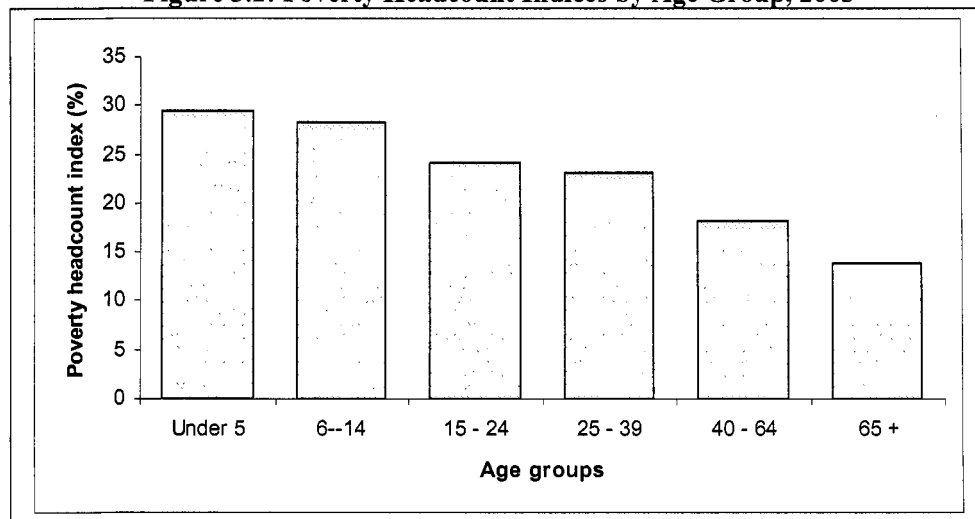


Source: World Bank staff estimates based on HBS 2003.

3.8. It follows that relatively more children experience poverty firsthand than older age groups. This is especially the case for very young children, of whom 30 percent live in poverty. This compares to 22-23 percent for younger adults (aged 15-39 years) and 17 percent for older working age adults (40-64 years). On the positive side, the prevalence of poverty among the elderly, above 65 years), is comparatively low. The probability of poverty appears to be falling monotonically over the life cycle (as seen in Figure 3.2).

3.9. As discussed in Chapter 2 and Box 3.1, the per capita approach does not take into account the age and gender composition or size of households which can affect total household consumption levels. Adjusting for economies of scale and different consumption needs of children tends to compress the difference between poverty rates along the age and size scale, but poverty rates still fall with age and increase with household size. The ranking and conclusions above do not substantially change.

Figure 3.2: Poverty Headcount Indices by Age Group, 2003



Source: World Bank staff estimates based on HBS 2003.

HOUSING CONDITIONS AND INFRASTRUCTURE

3.10. **Poor and non-poor families own their houses but housing conditions differ.** Home ownership is high in Macedonia, around 90 percent, for the poor as well as the non-poor. This is consistent with patterns observed in other transition countries. Indeed, housing often provides the only means of asset accumulation available to the poor. Unsurprisingly, housing conditions differ between the poor and the non-poor. The poor live in more crowded dwellings (14 m² vs. 21 m² per capita) and also have smaller holdings of cultivated land on average (12 m² vs. 5 m² per capita). Though a majority of the poor do have access to water, sewerage and electricity, they lag behind the non-poor, and there are relatively more poor households that do not even have a kitchen or a bathroom (Table 3.2). Few households in FYR Macedonia have access to central heating, and 78 percent of the non-poor and 89 percent of the poor heat their dwellings with stoves, using solid fuels. At the time of the household survey, less than half of the non-poor, and less than one quarter of the poor households, believed that they had enough resources to heat their houses adequately.

3.11. **The poor consume lower—and probably inadequate—levels of infrastructure services.** As seen in Table 3.1, the poor spend 3 percent of their total consumption expenditures on utilities compared to the national average of 10 percent. This large difference may be a reflection of the poor's inability to pay for utilities, the poor's lack of access to these services, or that the poor consume these services but do not pay for them. In order to determine what the real reason is, a targeted housing survey would need to be administered. However, irrespective of why utility expenditures are low, what is clear is that the poverty line used does not assure more than a minimum access to utilities—and consequently, the conditions of the people who are just at the poverty line may not actually meet socially acceptable—let alone comfortable—living standards.

Table 3.2: Housing Conditions of the Poor and Non-poor

	Proportion of non-poor persons living in households with no access	Proportion of poor persons living in households with no access
	<i>(in percent)</i>	
Water	5	11
Sewerage disposal	22	36
Electricity	0.5	1
Central Heating	88	96
Kitchen	5	12
Bathroom	7	15

Source: World Bank staff estimates based on HBS 2003.

HOUSEHOLD HEAD CHARACTERISTICS: GENDER, AGE, AND EDUCATION

3.12. **There are no major gender differences in poverty levels, and poverty also decreases with age of household head.** In 2003, 21 percent of the population living in male-headed households was poor, compared to 17 percent for female headed households (Table 3.3). This should not be taken to imply that poverty is lower among the female population.¹⁴ And indeed, controlling for other household characteristics, women-headed households appear to have slightly lower per capita consumption than men, leaving the conclusion uncertain. People living in households with older household heads also tend to be less poor. Poverty rates are 25 percent for the population living in households where the head is less than 40 years old, compared to 20 and 18 percent if the head is 40-64 or older than 65.

Table 3.3: Poverty Rates by Female and Male-headed Households

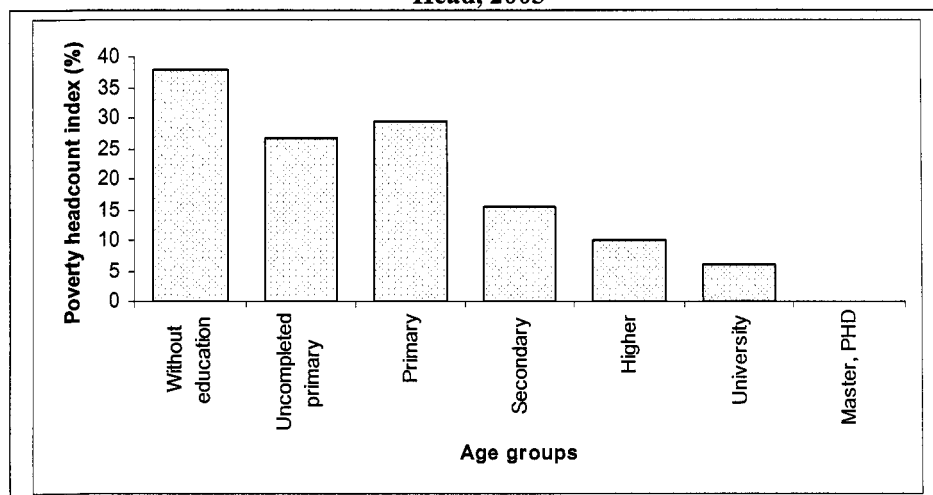
	Share of all households (in percent)	Share of poor households (in percent)	Poverty headcount index (in percent)
Male headed	88	90	22
Female headed	12	10	18

Source: World Bank staff estimates based on HBS 2003

3.13. **There is a strong relationship between education and poverty.** As is generally the case, the education level of the household head is negatively correlated with poverty incidence. As seen in Figure 3.3, there is a very high premium to the head having at least secondary education relative to lower levels of education. Living in a household where the head has primary education is also considerably better than if he/she has no education whatsoever, but the most significant difference appears to kick in at higher levels of education—areas where FYR Macedonia has a deficit given its past under-investment in education. Multivariate regressions corroborate this result.

¹⁴ Gender-poverty analysis based on gender of household head is very incomplete, as it is impossible to separate out individual consumption levels of men and women (and boys and girls) in households headed by either men or women. Indeed, only 12 percent of all households are headed by females. Yet, women, and perhaps especially girls tend to be disadvantaged in intra-household distribution of goods or investment in human capital. (see e.g., Quisumbing and Maluccio, 1999 and Case and Deaton, 2003.) Non-income aspects of poverty therefore tend to be a better way of understanding the links between gender and poverty.

Figure 3.3: Poverty Headcount Indices by Education Level of Household Head, 2003



Source: World Bank staff estimates based on HBS 2003

INCOME AND LABOR MARKETS

3.14. **Poor households depend more on informal employment and public transfers than wealthier households.** Sources of income change with household average wealth. Thus, poorer households have relatively less income from non-agricultural employment or self-employment, and relatively more from social transfers. Dependence on income from informal employment is also higher than for richer households. Importantly, the share of public transfers is higher for poorer groups, with a big difference between the poorest 20 percent and other households, while pension income account for more or less the same share along the expenditure continuum. In absolute terms, the poorest households receive about twice as many denars worth of public transfers as the average Macedonian household, including mostly various social assistance schemes, but also child benefits, health insurance and support for the disabled, scholarships, and alimentary support and subsidies. The poor are less likely to benefit from the public pensions system than the non-poor, however. In denars, pensions income for the 20 percent poorest households amounts to only three-quarters of that of the average Macedonian households.

Table 3.4: The Role of Informal Employment and Social Security for Poorer Households
Share of Household Income by Source

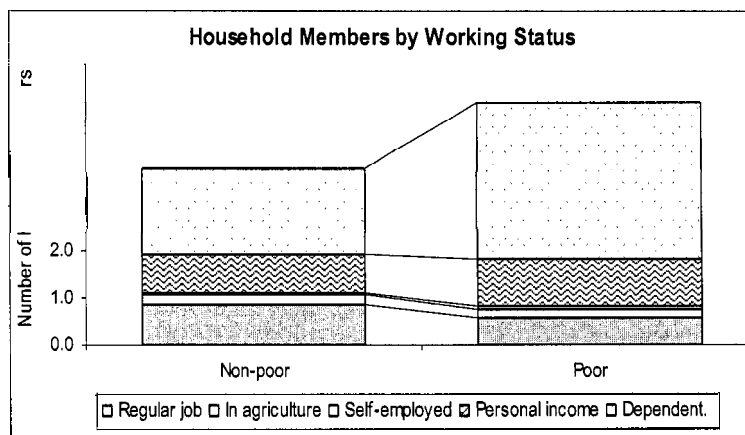
Source of Income	Poorest	By expenditure quintile			Richest
		2	3	4	
Agricultural Income ^{1/}	8	9	9	8	7
Nonagricultural Income ^{1/}	52	58	58	59	61
Formal Income	41	50	50	54	57
Informal	11	9	7	5	4
Public social security	28	24	23	22	22
Pensions	22	22	21	20	21
Public Transfers	6	3	2	2	1
Private Transfers	9	7	8	9	7
Other ^{2/}	3	2	3	2	3

^{1/} From employment or self-employment. ^{2/} Scholarships, patents, insurance, and income from property.

Source: World Bank staff estimates based on HBS 2003.

3.15. **Low-income families are burdened by many non-working members.** As seen in Figure 3.4, poor households have fewer members working on a regular job, even though they have much larger families. On average, poor households have more than twice as many dependent, non-working members as non-poor households and fewer working members to support them. In fact, poor households have, on average, only 0.6 members with a regular job, compared to 0.9 for non-poor families. Importantly, *in both poor and non-poor families, there is on average one person who derives income in the form of unemployment benefits, pensions and social security income, or rental income (summed up as personal income in the figure below), i.e., more than the number of people with a regular job.*¹⁵

Figure 3.4: Income Opportunities of the Poor are Hampered by Limited Access to Good Jobs



Source: World Bank staff estimates based on HBS 2003.

3.16. **The poor have limited access to jobs.**¹⁶ Clearly, an important determinant of a household's poverty status is the amount of income members is able to secure in order to support the entire household. This is in turn a function of many different factors: the number of children and elderly to support, the share of household members of working age who are actually active in the labor market, how many of these are able to secure a job, and how high the wage rate is (see Box 3.2). In Macedonia, as discussed earlier, the poor have somewhat higher dependency rates than the none-poor, but the difference is not remarkable. Employment options appear to play a more important role than demographics in this sense. Employment rates—the share of working age population that is employed—are substantially lower for poor than for non-poor people, whether in rural or urban areas as seen in

¹⁵ Given that most people own their own dwelling, the rental market is likely to be relatively thin. Hence, rental income is likely to be a relatively small and unimportant source of income.

¹⁶ Analyzing the labor market with household budget survey instead of labor force/employment surveys has some implications in terms of interpretation and comparisons. Unlike HBS data, Labor Force Survey data is collected specifically for the purpose of measuring labor market activity and contains much more detailed information on wages, hours worked, and other important aspects. This also means that labor market indicators cannot be derived in the same way from the two sources and so will also differ. HBS data, however, permits analysis along poverty dimensions. Although labor force data cannot be used for measuring poverty directly, it does contain information on what has been shown to be important poverty correlates in Macedonia, such as ethnicity and education levels.

Table 3.6. This is a consequence both of the fact that much fewer poor are active in the market and that when they do look for a job, they are much less successful in securing one. While roughly half of the non-poor working age population is active, labor force participation rates for the poor are only 27 percent in Skopje and 32 and 35 percent in rural areas and other urban areas respectively. Conversely, unemployment rates are much higher for the poor.

3.17. **Unemployment rates among the poor in Skopje are very high at 43 percent even when compared to the national average of unemployment among the poor (28 percent).** In Skopje, only about three in twenty poor of working age are actually employed, compared to eight out of twenty non-poor. Why unemployment rates are so much higher in Skopje requires further investigation but could be related to such factors such as higher relative wages or better access to social assistance programs.

3.18. **Though the vast majority of the nonpoor classified as “unemployed” by the survey receive benefits, most of the poor unemployed either receive no benefits or are engaged in occasional labor.** The definition of unemployment used here includes those with access to official unemployment benefits, and those who have seasonal or occasional work only. It excludes those classified as unemployed without benefits who instead are classified as inactive. Alternative definitions of unemployment only shift people between inactive and unemployed, however, and it remains the case that the poor are seriously disadvantaged in the labor market.¹⁷ Figure 3.5 shows unemployment rates if unemployed without benefits are included among the unemployed (and thus in the active population). As seen, the poor have a disproportionate amount of people with access to occasional jobs only. The differences are most pronounced in Skopje, although the non-poor there have more people that are unemployed without benefits than the non-poor.

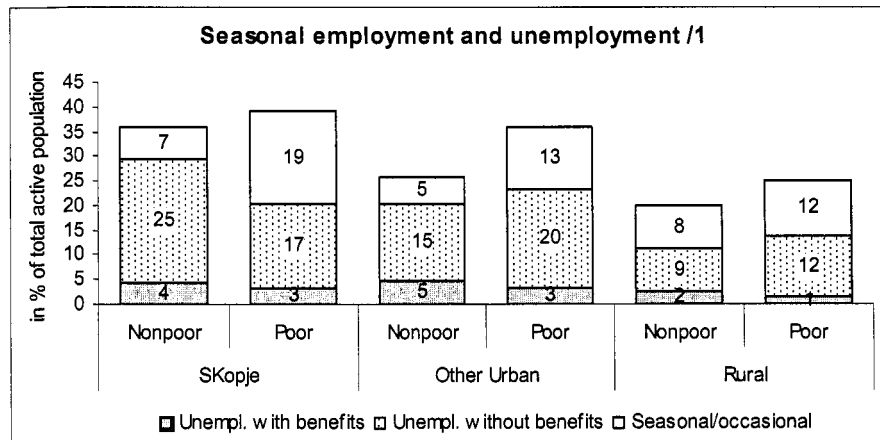
Table 3.5: Participation Rates of the Poor are Low and Unemployment is High
Dependency Employment, Labor Force Participation, and Unemployment Rates for Households in Rural and Urban Areas by Poor and Non-Poor Status (in percent)

	Dependency Rates (<15 & 64+ pop/tot pop)	Employment (as % of total 15-64 yr population in category)	Labor Force Participation (as % of total 15-64 yr population in category)	Unemployment (as % of labor force in category)
MACEDONIA	31	42	62	33
POOR	33	30	56	47
Skopje	35	24	51	54
Other Urban	29	32	64	50
Rural	35	30	52	41
NON POOR	30	45	64	29
Skopje	30	45	64	31
Other Urban	29	44	67	33
Rural	32	46	61	25

1. Denominator is population between the ages of 15 – 64 years. 2. Denominator is total labor force. 3. Rates differ from the Labor Force Survey and should be used primarily for understanding the relationship between poverty and labor market status not for the estimation of total unemployment. Source: World Bank staff estimates based on HBS 2003.

¹⁷ See annex for an overview of employment data by detailed categories.

Figure 3.5: The Poor have a High Proportion of Occasional Workers



Note: ^{1/} Active population in this picture includes all employment, unemployed with or without benefits, and seasonal/occasional workers.

Source: World Bank staff estimates based on HBS 2003.

Box 3.2: Labor Market Indicators in the FYR Macedonia Poverty Assessment

Household per capita income is determined by many interrelated factors: dependency rates, activity rates, and unemployment rates. Together with wage rates, these indicators can give us an idea of what causes low household income per capita. Some indicators are discussed below:

- **TP is the total population.**
- **WP is the working age population**, those that could potentially be at work. It is defined as the population aged between 15 and 64.
- **DP/TP is the dependency rate**, i.e. the share of dependent population in total population. The dependents are those who are too young or too old to reasonably be expected to be working.
- **A is the active working population.** It gives the number of people that are active/participating in the labor market, i.e. either employed or actively looking for a job (unemployed).
- **E/WP is the employment rate.** It gives the share of employed people as percentage of total working age population, i.e., how many are actually working of those who could potentially be working.
- **A/WP is the labor force participation rate.** LFPR tells us the share of working age population that is active in the labor market.
- **U/A is the unemployment rate.** It gives the share of unemployed people as percentage of all those that are active.

In poor households, the income of a few (the employed) has to support many household members (total household population). They are typically characterized by high dependency rates because of many children, and low employment rates, because of limited access to the labor market. As seen below, low employment rates can be the result of both low participation rates and high unemployment rates:

$$\frac{E}{TP} = \frac{E}{WP} \times \frac{WP}{TP} = \frac{E}{A} \times \frac{A}{WP} \times \frac{WP}{TP} = \left[1 - \frac{U}{A} \right] \times \frac{A}{WP} \times \left[1 - \frac{DP}{TP} \right]$$

In practice, the difference between the unemployed and inactive is not always clear. In many cases, the long term unemployed workers become discouraged from looking for a job, and drop out of the labor market altogether. In Macedonia, where long term unemployment is high, this is certainly likely to be the case.

ARE THERE POCKETS OF POVERTY IN MACEDONIA?

3.19. **The NRSP identified three main groups of poor in Macedonia:** (1) The traditional poor, who are made up of rural, farming households; (2) the new poor, who are non-agricultural households with low-paid workers and the unemployed; and (3) the chronic poor, who are pensioners, elderly without pensions, the disabled, or others without permanent income. Table 3.7 presents poverty rates for the population by region and socio-economic position of the population (thus not only the household head but all members of the household). It includes only those categories where poverty rates in at least one region are higher than the average for that region. Although the NRSP categories cannot be quite replicate with the existing HBS questionnaire, the table indicates that some groups are at specifically high risk of poverty in Macedonia:

- Social and other benefits earners are by far poorer than other groups in all of Macedonia, also when working on own land plot. As mentioned before, this could suggest some success in targeting transfers.
- In other urban areas, the self-employed are a particularly vulnerable group, though it is not clear why there are such differences relative to Skopje. Less than one percent of the population belongs to this group, however.
- The unemployed without benefits constitute a relatively large share of the population (11 and 12 percent in Skopje and other urban areas, and 7 percent in rural areas). In other urban areas and in rural areas these groups are also more exposed to poverty.
- People without own income sources (including children, disabled, elderly without pensions, and housewives) are also more at risk for poverty.
- In urban areas, both Skopje and others, occasional or seasonal workers are at higher risk for poverty than the average person. This is not the case in rural areas. It is possible that in rural areas, seasonal and occasional work can be combined with subsistence or other farming. In urban areas, occasional workers, perhaps in the construction sector, have no access to such safety nets.

CHAPTER 4

POVERTY, GROWTH, AND INEQUALITY

LINKS BETWEEN GROWTH AND POVERTY

4.1. **How can growth affect poverty developments?** The patterns and trends in income poverty are largely shaped by economic developments. But even in the case of nationwide economic growth, poverty will only be affected if the poor are part of the growth process. In other words, income distribution must not worsen. The interaction between inequality, growth and poverty is a reflection of the structure of growth and who benefits from it. It is also a reflection of the social protection mechanisms and other public policies that are in place to mitigate or strengthen the effects of growth on the poor.

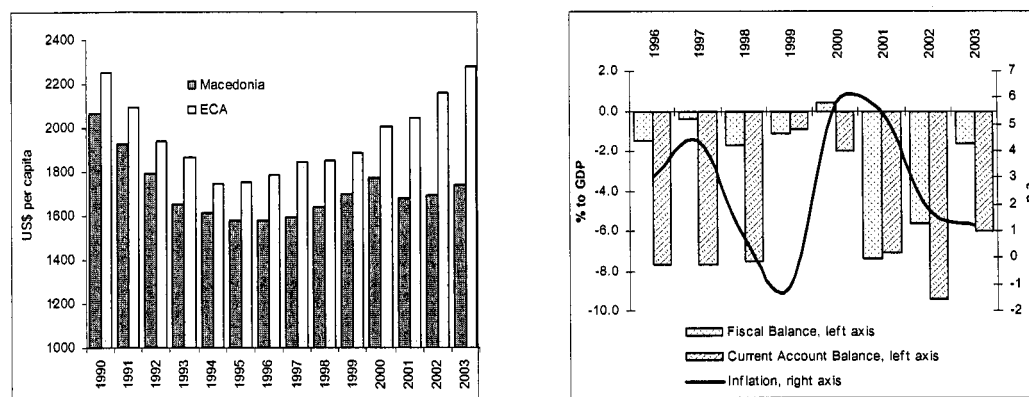
4.2. **This chapter looks at economic developments and how they might have influenced poverty developments in FYR Macedonia.** In contrast to previous chapters, it also looks at the longer term, starting in the mid 1990s, although the main focus remains on changes between 2002 and 2003. The chapter begins with a short overview of key economic trends, looks at the impact of growth on poverty, and the two main transmission mechanisms—employment and social protection—that influence poverty-growth links.

KEY ECONOMIC TRENDS IN MACEDONIA: 1996-2003

4.3. **Like other former socialist countries in Europe and Central Asia, FYR Macedonia saw a tremendous fall in output following independence—but has seen a slower recovery.** By 1995, GDP per capita had fallen by 25 percent compared to 1990. This is consistent with the pattern in the ECA region as a whole (see Figure 4.1). What is noteworthy is that FYR Macedonia has seen a much slower recovery since the mid-1990s. By 2003, the ECA region had, on average, just recuperated the loss in output since 1990. However, Macedonia's recuperation in growth rates was arrested in early 2001 by the eruption of a civil conflict. In 2001, GDP per capita fell by nearly five percent. Recovery was slow in 2002 (0.7 percent), and only in 2003 did growth rates reach 3 percent. Although the fiscal and current account balances widened in conjunction with the conflict, they fell back in 2002 and 2003. Inflation has also remained below 6 percent, reflecting the stance of responsible macroeconomic management.

Figure 4.1: Growth has not Recuperated, but the Economy has Remained Stable

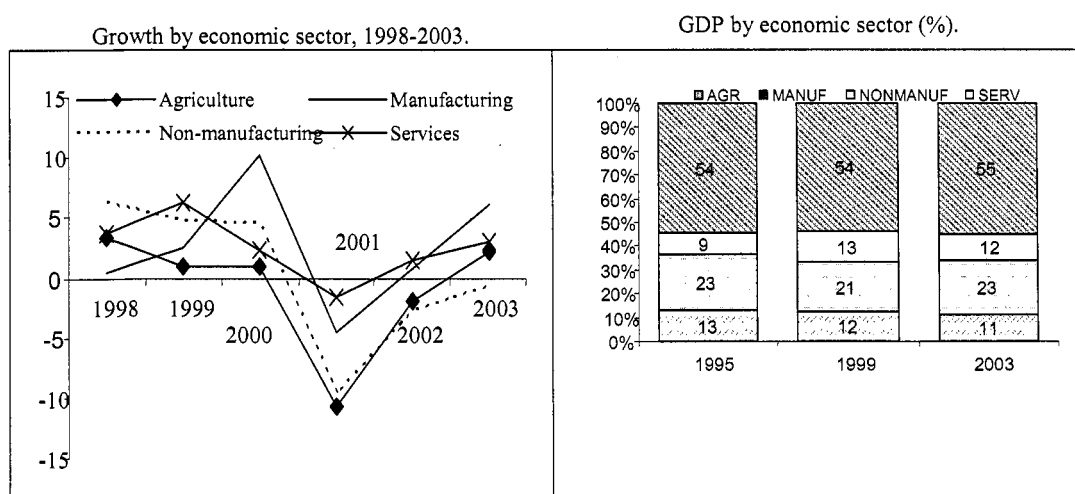
Trends in real GDP per capita, FYR Macedonia and ECA average Fiscal and current account balances (% GDP), left, and inflation (% p.a., right)



Source: Staff estimates based on World Development Indicators, World Bank data.

4.4. Restructuring has been slow. Although internal strife accounts for some of the slow economic recovery, the restructuring of the economy has also been slow. The process of economic restructuring would involve, among other things, a shift from industry to trade and other services. This pattern was observed in several transition countries, especially the Baltic States, but also in such countries as Bulgaria, Poland, and Romania. No such pattern is discernable in the case of Macedonia, however, especially not after 1999, when growth rates in the different sectors were clearly positively correlated. As result, the structure of the Macedonian economy has remained static over time (as seen in Figure 4.2). This lack of dynamism is likely to reflect slow productivity gains, which in turn would have been important to sustain economic growth and wage gains. The synchronized growth rates across sectors implies that workers dismissed in the job-destruction in shrinking sectors have few prospects of getting jobs in other sectors.

Figure 4.2: The Economy Shows No Signs of Restructuring

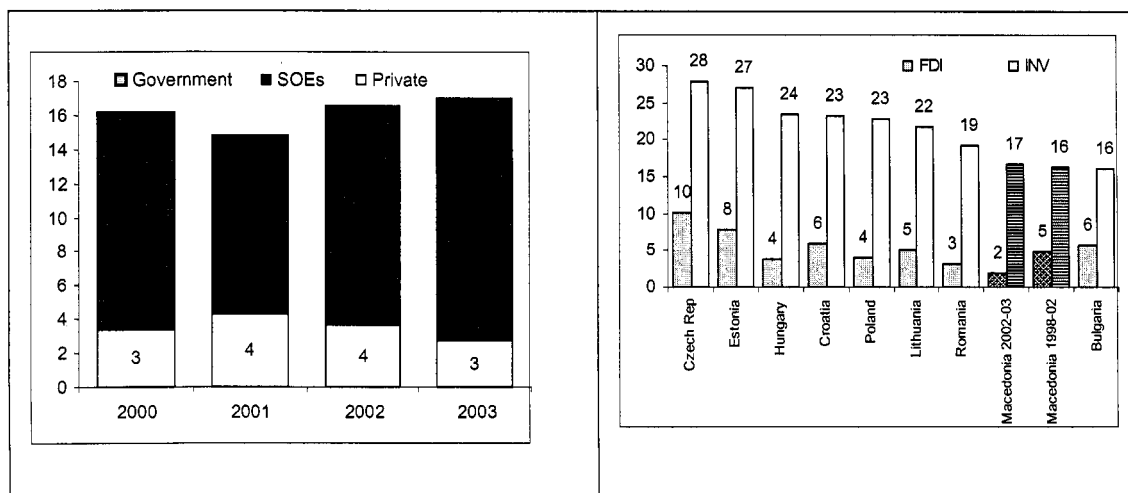


Note: Non-manufacturing refers to mining, utilities, and construction.

Source: Staff estimates based on World Development Indicators.

4.5. Investment levels remain relatively low and FDI is slow in forthcoming. The lack of restructuring is also reflected in relatively low investment levels. Public investment (in government and state-owned enterprises) hovered around 4-5 percent of GDP in 2000-2003, while private investment reached between 10 and 15 percent of GDP (Figure 4.3). These levels of investment leave FYR Macedonia well behind other middle-income countries in the ECA region. In addition, FYR Macedonia has been slow, by regional comparison, in attracting foreign direct investment. Large telecom privatization receipts accounted for extraordinary inflows in 2001 when FDI amounted to 12.8 percent of GDP. However, in 2002 and 2003, FDI fell back to around 2 percent, again among the very lowest in the ECA region (Figure 4.3).

Figure 4.3: Investment and FDI Levels are Low by International Comparison
 Left, Macedonia: Gross fixed capital formation (% of GDP), and right, ECA: Gross fixed capital formation and FDI (% of GDP), selected ECA countries.



Source: World Bank data and World Development Indicators.

GROWTH-POVERTY ELASTICITY AND INEQUALITY

4.6. The impact of growth on poverty varied significantly between 1996 and 2003. We do not have access to household budget data to calculate consistent cost-of-basic needs poverty numbers other than for 2002 and 2003. However, for the World Bank's (draft) regional report on poverty entitled *Growth, Poverty and Inequality in Europe and Central Asia: Past, Present and Future*, an effort was made to produce internationally consistent poverty figures that would also trace the evolution of poverty over time in a consistent manner. In the Macedonian context, the most appropriate poverty line for such comparisons is \$4.30 a day with its value fixed at 2000 PPP exchange rate—as explained in Chapter 2, these are also very close to national poverty lines using the cost-of-basic needs method in 2002 and 2003.

4.7. Poverty increased since 1996, unlike in most other ECA countries. Using this line, the headcount index behaved over 1996-2000 in a predictable manner, with a major shift in 2002 (as seen in Figure 4.4). This shift is probably due to statistical factors, which complicates comparisons over time (see Box 4.1). We therefore use a simulated poverty rate, based on mapping techniques. According to this simulated poverty rate, poverty increased in 2002 and 2003 compared to 1999 and 2000. As discussed in Chapter 2, by regional comparison, the 2003 (simulated) poverty rates are not surprisingly high in relation to Macedonia's income level. But the dynamics of poverty sets FYR Macedonia apart: while poverty fell in many other ECA countries after the mid-1990s, it has increased in FYR Macedonia.

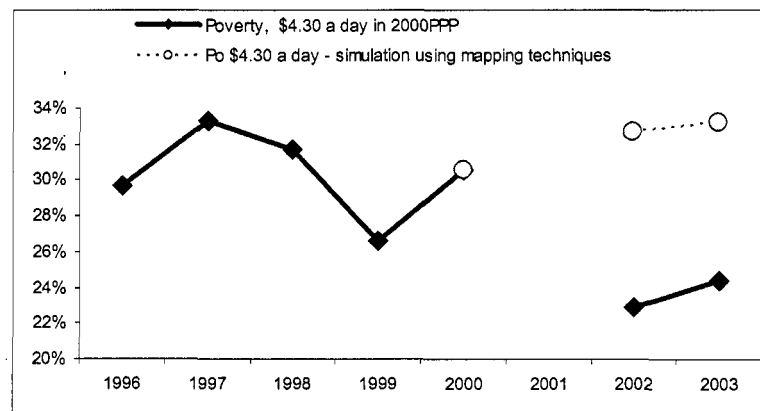
Box 4.1: Comparability of Survey Data

Comparisons across time are affected by survey design. FYR Macedonia maintained unchanged designed of data collection in its survey over the period 1997-2000. In 2002 it introduced significant changes in the sample (expanding it four times, but discontinuing collection of data through four repeated quarterly interviews), and questionnaire design (replacing three months recall questionnaire with 15-days diary). The resulting change was profound: average consumption jumped 35 percent while inequality increased by 21 percent. This makes simple comparison of poverty and inequality data between 1997-2000 and 2002-2003 impossible

Luckily, some parts of the questionnaire remained unchanged. Most importantly all income questions remained the same with similar recall period and definitions. Questions on employment, education attainment and ownership for durables also remained unchanged. This gives a relatively limited set of variable which could be used to predict consumption in 2002-2003 had it been no change in the survey by applying to the new data a model of consumption fitted on 2000 data. To avoid issues of panel structure of 1997-2000 data, four quarterly interviews for each household in 2000 were treated as independent data points. Poverty mapping software was used to produce correct standard errors of predictions. The result of the simulation is as plausible as any simulation depending on the assumption of the stability of relationship between income, employment and durable ownership observed in 2000 over time. Figure 4.2 lists this result, showing a slight increase in poverty in 2002 compared to 2000 (statistically significant, though only at 95 percent level). This result is more plausible than taking data at their face value, but due to its simulated nature is not amenable to further disaggregation.

4.8. **Seen over the period 1996-2003, poverty would seem to react very strongly to growth** – a one percent increase/fall in GDP per capita results in a 3 percent reduction/increase in the poverty headcount index *for the period as whole*. This positive development disintegrates when considering poverty elasticities by sub-periods.

Figure 4.4: Poverty, Actual and Simulated, 1996-2003



Sources: World Bank staff computations based on HBS 1996 – 2003.

4.9. **In fact, in 2002-2003, relatively strong growth in GDP per capita coincides with a small increase in poverty.** This is due to the fact that GDP growth did not spill over into real consumption growth. As measured in the household survey, average real per capita consumption fell by 1.3 percent, which is consistent with the fact that poverty increased. There are several potential explanations for why output growth does not trickle down to households (as discussed in Box 4.2.). The elasticity of poverty to real per capita consumption in the period 2002-2003 was around -1: a one percent fall in consumption expenditures was reflected in an increase in the poverty headcount index by one percent.

Box 4.2: Why Does GDP Growth Not Trickle Down to Household Expenditures?

What economic mechanisms can explain why the moderate GDP per capita growth in 2002-2003 has not resulted in higher household consumption expenditures?

Household income may in fact have grown faster than consumption expenditures, leading to higher household savings. Consumption is a good proxy for income over the long-term, but not over the short term, where income shocks (positive or negative) may be balanced out by savings or dissavings. Indeed, according to national accounts, gross national savings increased from 12.8 percent of GDP to 17.5 percent of GDP between 2002 and 2003.

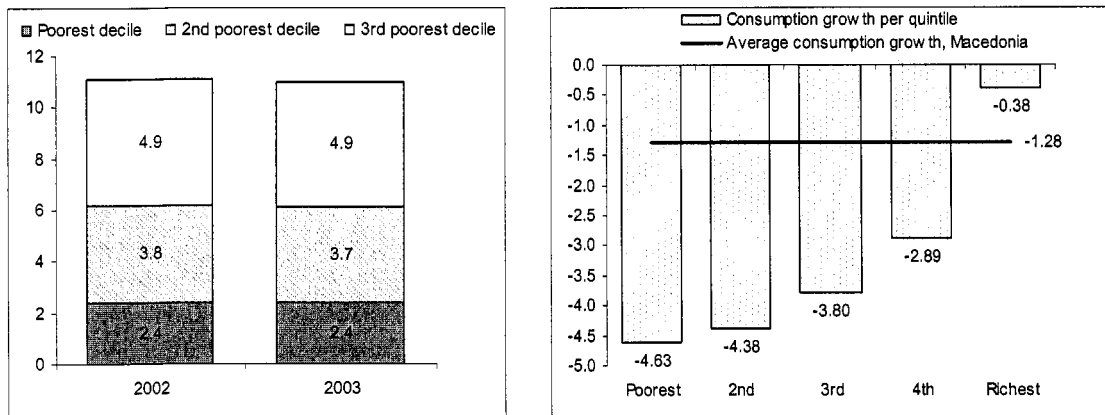
The definition of private consumption is broader in national accounts than in the HBS. Private consumption as defined by the national accounts grew by almost the same rate as GDP. But this aggregate is defined from the supply-side (goods purchased from a range of entities) and is likely to include consumption of non-citizens, of enterprises and of other organizations, apart from households. Clearly, there are links between the two, however: enterprise growth should affect employment and wages and so benefit the average family, too. On the other hand, the national accounts indicate a fall in private consumption, too.

GDP growth remains “captured” in organizations like private enterprises or the government, and does not trickle down to households. Output increases but not employment. The type of growth experienced in FYR Macedonia in 2002 and 2003 supports this pattern. For example, the manufacturing sector accounted for nearly half of all economic growth in 2003, but saw a fall in employment.

4.10. **Increasing inequality also worsened the poverty situation between 2002 and 2003.** Overall negative consumption growth appears to be one important factor explaining poverty developments, but in addition, the growth pattern did not favor the poor. Between 2002 and 2003, the Gini coefficient increased from 0.368 to 0.373, indicating a slight deterioration in the income distribution in FYR Macedonia. Looking at the situation of low income households in particular, there was also a marginal shift against them, as the share of expenditures held by the poorest two deciles fell from 6.1 to 6.0 percent. As seen in Figure 4.5, the growth pattern was decidedly unfriendly to the poor. The poorest consumption expenditure quintiles saw on average the greatest fall in expenditures—though this average hides the improvement in expenditures seen by the poorest decile in the rural sector.

Figure 4.5: The Poor saw a Reduction in Their Share of Total Expenditures, Due to an Anti-poor Growth Pattern

Share of total expenditures, poorest, second, and third poorest decile, 2002 and 2003 Growth in expenditures by expenditure quintile, 2002-2003



Source: World Bank staff calculations based on HBS.

4.11. **What explains these unfavorable developments in poverty and inequality?** Two transmission mechanisms are briefly discussed below: labor markets, and transfers.

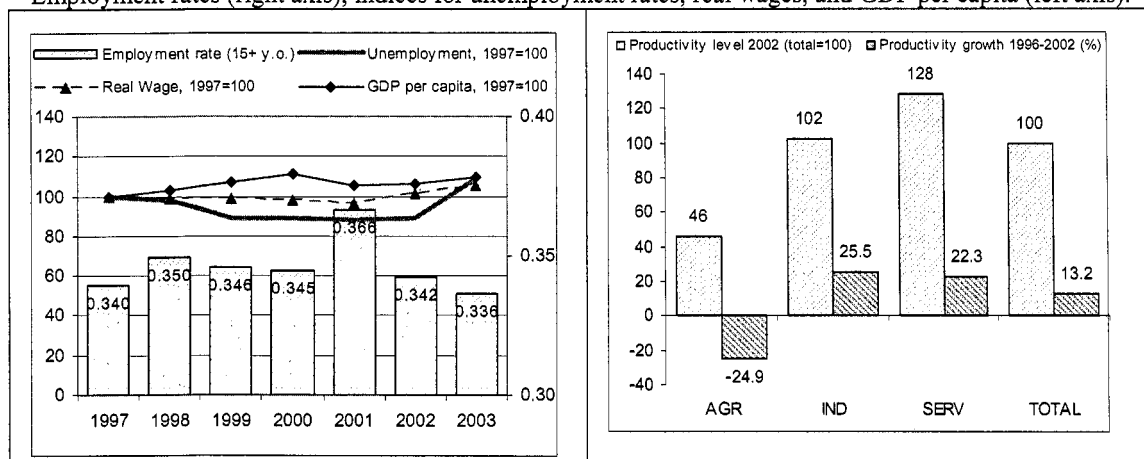
LABOR MARKET TRANSMISSION

4.12. Labor market developments play a key role in determining poverty outcomes. As seen in Chapter 3, household poverty is intimately linked to its members' access to well paid jobs in the labor market. Over time, only a combination of employment and productivity growth can assure income growth. In Macedonia, unfavorable labor market conditions have prevented poverty levels from falling over time.

4.13. **Since the mid-1990s, FYR Macedonia has seen job-less growth.** Employment rates have fallen, except for a temporary conflict-induced expansion of security forces in 2001. Labor force survey data show evidence of a worsening situation in the Macedonian labor market between 1996 and 2003. Although unemployment rates fell slightly between 1997 and 2000, the concomitant fall in employment rates suggest that discouraged, long-term unemployed workers simply dropped out of the labor force. By 2003, employment rates had fallen to a mere 34 percent, unemployment reached 37 percent of the active population, and labor force participation rates had stagnated at just over 50 percent. As seen in Figure 4.6., Macedonia's growth was job-less: while GDP per capita expanded between 1997 and 2000, employment stagnated.

Figure 4.6: The Labor Market Situation has Worsened Over Time

Employment rates (right axis), indices for unemployment rates, real wages, and GDP per capita (left axis).



The official definition refers to working age population aged 15 and above.

Source: FYR Macedonia's State Statistical Office.

4.14. In the 1990s, there is no clear evidence of a problem of "insiders" capturing the benefits of economic growth: real wages also stagnated in this period. There appears to be a shift in 2002 and 2003, when real wages increase, at the same time as labor market conditions worsen. Without a more detailed analysis of wages it is not possible to say to what extent wage formation influences labor markets.

4.15. **In 1996-2002, labor moved to low-productivity activities, especially agriculture.** The static economic structure in production is mirrored in labor market patterns where there is little evidence of economic restructuring in employment over time. Most importantly, while agricultural output contracted between 1996 and 2002, agricultural employment increased. Such an employment shift is indicative of a shift from higher paying to lower paying jobs, and of a

concentration away from higher productivity and towards lower productivity activities in the economy, further increasing the productivity gap between the agricultural sectors and others.

4.16. Given this massive movement of labor, by 2002 almost one quarter of the employed workforce was still locked in agricultural activities, the productivity level of which reached less than half of that of the industrial sector and one third of that of the services sector. Although this movement towards agricultural employment may, in part, reflect changes in statistical definitions, the high share of agricultural employment is clearly suggesting that the agricultural sector in FYR Macedonia is lagging behind in terms of restructuring. With 24 percent of the employed workforce in agriculture in 2002, FYR Macedonia does not compare favorably with other ECA countries like the Czech Republic, Estonia or Croatia, where agricultural employment reaches only 5, 7, and 16 percent of the total workforce respectively.

4.17. **Informality is high and the private sector is slow in creating jobs.** The private sector still accounts for only 45 percent of non-agricultural employment. Sectors like transport and communications finance and—of course—public administration, health and education are dominated by other forms of ownership, including state and mixed ownership (Table 4.1.). In addition, the gap between officially measured employment and survey-based figures is persistently very large in FYR Macedonia—around 200,000 people or about 40 percent of total employment in 2002 and 2003. This statistical discrepancy suggests a high share of informal jobs in total employment.

Table 4.1: The Private Sector Still Accounts for Less than Half of Non-agricultural Employment

Employment by type and ownership and sector, 2003.

	By type of ownership (%)		Total	By type of sector (%)	
	Private	Other ^{1/}		Private	Other
TOTAL	54	46	100	100	100
AGRICULTURE	89	11	22	36	5
NONAGRICULTURE	45	55	78	64	95
Industry	51	49	34	32	37
Mining	36	64	0	0	1
Manufacturing	57	43	24	25	23
Utilities	0	100	3	0	6
Construction	51	49	7	6	7
Services	40	60	44	32	58
Trade and repair	86	14	11	18	4
Tourism	72	28	2	3	1
Transport, storage and communications	45	54	6	5	7
Finance and real estate	53	47	3	3	3
Public sector ^{2/}	4	96	18	1	37
Other	29	71	4	2	6

^{1/}Includes: social, mixed, collective, state and undefined. ^{2/} Public administration, health and education. *Source:* Staff estimates based on LFS.

4.18. **The persistently high unemployment rates in FYR Macedonia are all the more serious in light of the lack of sufficient restructuring of the Macedonian economy.** Surging unemployment rates have been part of the economic restructuring process in many transition countries: as public enterprises have seen massive lay-offs, the private sector has taken time to absorb labor into more productive activities. In the case of Macedonia high unemployment is a structural feature of the economy that predates independence. This leaves little room for adjustments in the labor market during a transition process that still lies in the future.

4.19. **Between 2002 and 2003, employment fell quite significantly, in spite of a boost in GDP growth.** Developments in this period are of particular interest since these can be matched to our poverty data. Between 2002 and 2003, employment fell by nearly 3 percent, in spite of economic growth.¹⁸ Although the pattern is not very clear, workers do not appear to have moved towards higher productivity sectors. As seen in Table 4.2, sectors with relatively high productivity levels, like trade, transport and communications, and manufacturing, were shedding employment in this period. In contrast to the period 1996-2002, employment contracted by ten percent in agriculture. Nonetheless, employment in agriculture still accounted for 22 percent of total employment in 2003.

Table 4.2: Workers did not Move to Higher Productivity Sectors between 2002 and 2003

	Employment			Productivity	
	Thousands	Thousands	Growth	Level ^{1/}	Growth
	2002	2003	2002-03	2002	2002-03
Total	560	544		100	
Agriculture	134	120	-10	53	31
Mining	7	3		40	
Manufacturing	132	131	-1	84	5
Utilities	15	15	3	181	25
Construction	33	36	9	106	4
Trade and repair	64	63	-3	125	6
Hotels and restaurants	11	13	14	106	0
Transport, storage and communications	33	31	-6	184	9
Finance and real estate	20	18	-12	223	6
Public Administration, Health and Education	93	97	4	107	2
Other	18	18	2	92	-2

Note: ^{1/} Index: total productivity (all sectors) equals 100.

Source: Staff estimates based on LFS and National Accounts

4.20. **How can these employment patterns have affected the poor?** Unfortunately, the household survey does not permit us to assign the workforce to a specific economic sector. Instead, it has a definition of socio-economic position of the population which can be matched to the poverty status, using the cost-of-basic needs method. There are no dramatic moves between different socio-economic categories between 2002 and 2003. Yet, the small shifts that occurred do support the general poverty trends, with some convergence between rural and other areas in terms of poverty between 2002 and 2003. Table 4.3 below summarizes the changes that occurred for the poor in this period:

- **In Skopje and other urban areas, there was a fall in the share of employed poor,** while there was an increase in the relative shares of supported persons (housewives, children, etc.). In other urban areas, there was a small increase in the share of agricultural workers and self-employed among the poor; in Skopje, an increase in pensioners. There was also a relatively marked increase in the share of people who were classified as irregular workers (temporary, informal, etc.).

¹⁸ Source of information on employment is State Statistical Office of Macedonia.

- **In rural areas, there was a small increase in the share of employed**, however, while there was a fall in the share of agricultural workers. Likewise, there was no increase in the share of irregular workers.
- **Overall, there was a fall in the share of poor who depended on public transfers: but the fall was much less important in rural areas.**

Table 4.3: The Rural Poor Moved to Better Employment Situations, the Urban Poor to Worse

Poor population by socio-economic category, by region, 2002 and 2003.

	Skopje		Other urban		Rural	
	2002	2003	2002	2003	2002	2003
Employed ^{1/}	9.8	9.5	15.7	15.0	8.4	8.6
Agriculturist and self-employed	0.0	0.3	0.8	2.5	4.9	4.3
Unemployed ^{2/}	13.1	13.2	18.7	16.4	9.1	8.8
Pensioners ^{1/}	8.4	10.4	9.0	8.7	7.0	7.5
Benefit earners ^{1/}	10.1	4.8	8.0	5.9	4.6	4.3
Supported person	54.1	56.2	44.0	46.1	59.4	58.5
Irregular ^{3/}	4.5	5.4	2.4	4.9	3.4	3.3
Unpaid family worker on own land	0.1	0.2	1.4	0.5	3.0	4.5

Note: ^{1/} Including those working on own land. ^{2/} With and without benefits. ^{3/} Seasonal and/or occasional, not official worker.

Source: Staff estimates based on HBS 2002 and 2003.

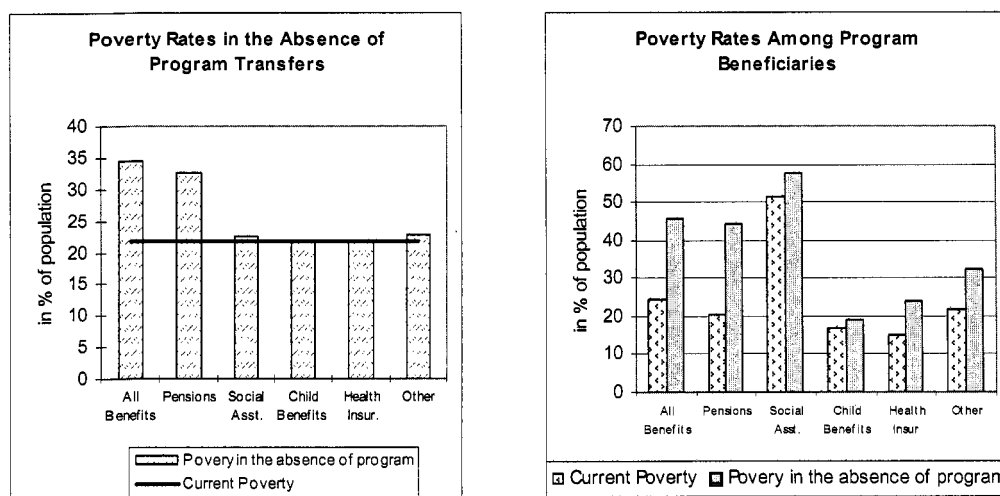
FISCAL REDISTRIBUTION

4.21. The government can influence poverty through fiscal policy, including, directly, social insurance and welfare transfers, but also more indirectly through wages and employment. In the period 1996-2002, the public sector was the only nonagricultural sector where employment expanded. In the absence of a dynamic private sector, the public sector may in fact have acted like an employment safety net in FYR Macedonia, absorbing surplus labor from the private sector.

4.22. **Public spending in FYR Macedonia amounts to just over one third of GDP, with transfers accounting for half of all spending.** Public spending has hovered around 35 percent of GDP since the mid-1990s with the exception of a conflict driven spending increase in 2001-2002. Wages account for 8 percent of GDP, equivalent to a quarter of general government expenditures in 2003, and appear to be on the increase. Current transfers (exclusive of interest payments on debt) are the single largest component of government spending and include pensions, social welfare program expenditures, and (almost negligible) subsidies. In 2003, this category of spending accounts for about 19 percent of GDP or 59 percent of total current expenditures. Compared to the EU-8, this level is below that of the Czech Republic, Latvia and Poland, but significantly higher than the remaining five countries.

4.23. **The poverty gap as measured by the difference between the poverty line and the average consumption of the poor multiplied by the number of the poor is MKD 5.0 billion – or about 2.0 percent of GDP.** The poor's average consumption per capita is about 69 percent of the poverty line and translates into a gap of about MKD 11,000 per capita. This gap is so large and social transfers are already great that narrowing this gap will require pursuing income generating growth.

Figure 4.7: Poverty Rates With and Without Social Insurance and Welfare Programs



Note: "Health insurance refers to "revenues from health insurance"; "social asst." is "social assistance"; "other" is "invalid and other subventions".

Source: World Bank staff estimates based on HBS 2003.

4.24. In the absence of social insurance and welfare benefits poverty would increase substantially both at the national level as well as among program beneficiaries. Social protection transfers were responsible for reducing the poverty headcount¹⁹ from 35 percent to 22 percent of the population in 2003 as seen in Figure 4.7. Among the households who receive at least one such transfer, poverty would have increased to 46 percent in 2003. Pensions, given the large volume of resources they redistribute, have a larger impact. Without pensions, the national poverty rate would rise to 32 percent. For all other social welfare programs (excluding pensions), the increase in poverty resulting from discontinuing them would have been about 2 percentage points, bringing the national poverty headcount to 24 percent. However, the depth of poverty would increase substantially.

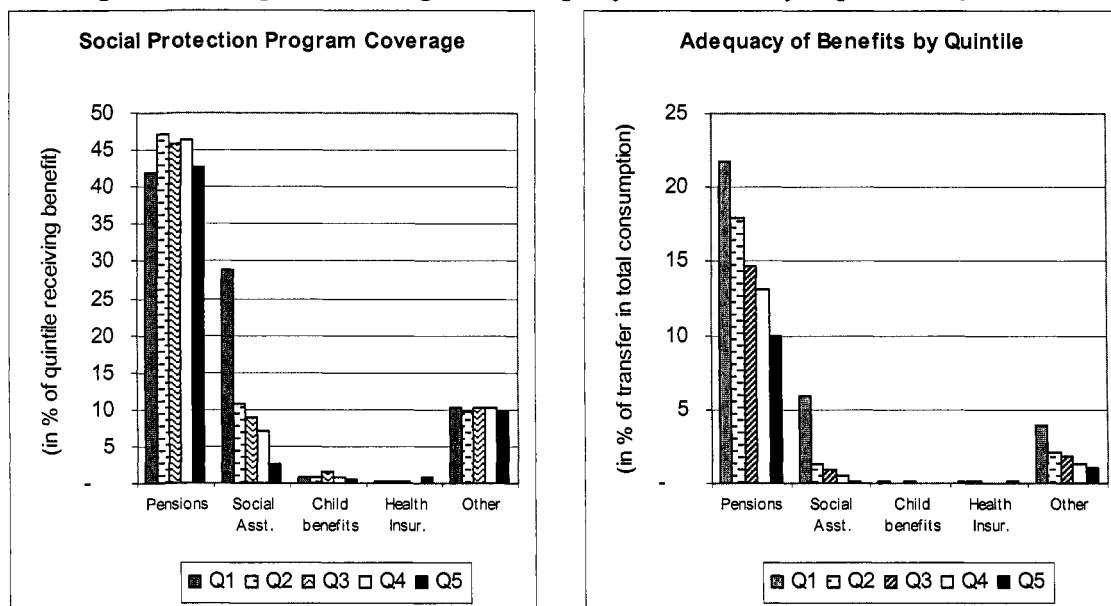
4.25. Over half of the population benefits from at least one social protection transfer. By program coverage we mean the share of population who receives, directly or indirectly, benefits from the program, or the share of program beneficiaries (including household members) in the total population. Nationwide, 60 percent of the population has benefited from at least one cash-transfer, including pensions, during 2003. If we exclude pensions, 22 percent of the population has benefited from at least one social welfare program. Among the poor and non-poor, the coverage of the social protection programs is 68 percent and 58 percent respectively. The programs with the largest coverage are: pensions (45 percent); social assistance (12 percent); and invalid and other subventions (10 percent); coverage of child benefits and health insurance programs in 2003 were negligible according to the HBS.

4.26. Pensions are important not only because they mitigate old age poverty, but also support other family members especially among the poor. As can be seen in Figure 4.8, pensioners are more or less equally represented in all quintiles. Also, the average pension does

¹⁹ In the absence of the social protection transfers, household consumption is assumed to fall by an amount equal to the full value of the transfers.

not vary greatly between the bottom and top quintile. However, pensioners in the bottom quintile live in households with an average of 5.4 members in contrast to a household size of 2.8 persons for pensioners from the top quintile.

Figure 4.8: Program Coverage and Adequacy of Benefits by Population Quintile



Note: "Health insurance refers to "revenues from health insurance"; "social asst." is "social assistance"; "other" is "invalid and other subventions".

Source: World Bank staff estimates based on HBS 2003.

4.27. Public transfers are important to the poor, but targeting could be improved. As seen in Chapter 3, public transfers are a key source of income for the poor: in 2003, they accounted for over 28 percent of the income of the poorest 20 percent of the population, compared to 22 percent for the richest. However, it appears that it is mostly pensions rather than welfare payments that are the main source of public transfer income for the poor and nonpoor alike. However, as the above figures show, social assistance programs do indeed disproportionately provide greater coverage to the poor—with 29 percent of the bottom population quintile receiving benefits compared to an average of 8 percent of the top 80 percent of the population quintile. But leakage is high with a significant share of the total program benefits going to the nonpoor and 41 percent of total program beneficiaries who are among the nonpoor.

CONCLUSIONS

4.28. Poverty is not remarkably high, but persistent in Macedonia: as many other countries in the ECA region have seen a reduction in poverty since the mid 1990s, FYR Macedonia has seen a small *increase* in poverty levels. Also during this period, **income distribution worsened, as growth was not pro-poor.** The year 2003 saw economic growth, but of a job-less kind, in FYR Macedonia. Output growth did not trickle down to households, especially not the poorer ones, who saw a reduction in their real expenditure levels.

4.29. **The failure to reduce poverty can largely be ascribed to the lack of access to sustainable and well-paying jobs.** The formal private sector has not been able to create new jobs—the public sector, instead, has absorbed the surplus labor force to some extent, while informality remains very high. Labor has not moved to sectors with high productivity levels or which display productivity growth, meaning that there are no resources available for income growth.

4.30. **Social transfers, while reaching the poor, are too untargeted to make a real impact.** The bulk of the social protection transfers are absorbed by pensions, which are income neutral. Transfers are relatively more important to the poor than the non-poor, suggesting some success in targeting. In spite of the reforms since 1999, there is still considerable subsidy leakage to the middle-class, however.

4.31. **As discussed in a recent Country Economic Memorandum²⁰, factors contributing to the decline in employment and the rise in unemployment are:** (i) a weak investment climate, (ii) High payroll taxes increasing the cost of labor and contributing to the increased informality of employment, (iii) Job protection legislation creating a bias against new employment growth, (iv) mismatch between the demand for and the supply of labor with different types of skill. Consequently, **a two-pronged approach is needed to address poverty.** On the one hand, growth needs to be accelerated further by addressing the investment climate, and on the other hand, reform of the social protection system is needed to provide a better safety net for the poor.

²⁰ FYR Macedonia Country Economic Memorandum: Tackling Unemployment, September 2003. (Report Number 26681-MK).

NON-INCOME INDICATORS OF POVERTY.

1. Modern views of poverty focus not only on material deprivation but also on deprivation on many other dimensions. From this perspective, poverty goes well beyond a narrow lack of material consumption to encompass the psychological pain of being poor, low achievements in education and health, a sense of vulnerability to external events, and a sense of powerlessness vis-à-vis the institutions of the state and society. Various dimensions of poverty can be summarized by the concept of social exclusion, which, according to the definition of the 1998 Eurostat Task Force on Social Exclusion, is: "... a dynamic process... which ends up with... individuals, households and spatial units ... excluded from access to resources like employment, health, education, social or political life."²¹
2. The internationally endorsed Millennium Development Goals (MDGs) also draw on the concept of multidimensionality of poverty.²² According to the new CAS, FYR Macedonia is generally on track to meet the main human development MDG targets by 2015. But what is true at the national level is not always true on the sub-national level. In addition, non-income dimensions of poverty have to be defined in a country specific manner. International MDGs were defined with very low-income countries in mind and are not very well suited to capture the dimensions of poverty in Macedonia.
3. Moreover, the very definition of social exclusion requires combining data on income and non-income dimensions of poverty at the household level. No such data are available since 1996. Macedonia is risking to be locked in a tradition of monitoring outcomes in non-income sphere solely on the basis of administrative data²³ or ad-hoc surveys. As a rule, there is no recent disaggregated regional, gender or income classes data on non-income dimensions of poverty based on household-level data. Main sectors are reviewed in what follows.
4. *Education.* Country may be able to meet the MDG on school enrollment and completion, but is unlikely to achieve sufficient progress on equality in schools, due to low completion rate by girls from minorities such as Albanians, Turks and Roma.²⁴ Overall gross secondary school enrollment rates (around 65 percent) in Macedonia are low by both regional (Southern and

²¹ The Laeken European Council in December 2001 endorsed a set of 18 indicators for social inclusion, which will allow monitoring in a comparable way Member States' progress towards the agreed EU objectives. They cover four important dimensions of social inclusion (financial poverty, employment, health and education) which highlight the "multidimensionality" of the phenomenon of poverty.

²² MDGs – www.undp.org

²³ Which may bear little relationship to what is actually happening on the ground, or underutilized. There is, for example, substantial information on enrollment rates, but collected information on school completion rates and drop outs is not adequately processed or analyzed, despite increasing evidence that for some groups in the population school attendance is sporadic, and dropouts have increased sharply.

²⁴ Participation in preprimary education varies greatly by ethnic group (90 percent among Macedonians, 54 percent among Albanians, 37 percent among Turkish), by region, by urban versus rural area, by income level, and especially by gender. Girls accounted for only 33 percent of the Roma enrollment, 39 percent of the Albanian enrollment, and 33 percent of the Turk enrollment. ECSSD. Survival rates of Roma, Albanians and Turks students are low beyond grade 8. By the time students reach the end of grade 12, the vast majority of those continuing into higher education are Macedonian.

Eastern Europe) and international standards. Macedonia is the only country in the region where tertiary education gross enrollment rates have fallen between 1989 and 2000.²⁵

5. Differences in access emerged across ethnic groups, gender, location, and income groups. Two in-depth studies conducted of the Roma communities in Skopje confirmed that school enrollment among all school-age Roma children is alarmingly low.²⁶ Across these urban communities, between 31 percent and 37 percent of school-age children did not attend school. Low educational attainment is more pronounced in rural areas, particularly for women. About 33 percent of rural women and 20 percent of rural men have not completed primary education.

6. Other forms of deprivation in educational achievement exists: in the form of sporadic school attendance, highly unequal quality of education, dilapidated, poorly heated school facilities in some areas, or financial barriers to the secondary (and tertiary) education. There are increasing problems with quality and persistent challenges in terms of relevance of education. International tests rate Macedonian education rates among the worst in Europe in sciences, mathematics and literacy.²⁷ Producing a set of up-to-date disaggregated indicators on various dimensions of access to education will be important for monitoring the progress in this field.

7. The latest data on links between income poverty and access to education were produced for Poverty Assessment (1999) based on 1996 data. Several findings stand out and need to be revisited with the new data. First, the study found extremely large differences in net secondary school enrollment between the poor and the rich (28 and 65 percent correspondingly). At the tertiary level, the enrollments were found negligible for all but the top quintile. Second, the incidence of public spending on education was not pro-poor. All quintiles benefited equally from the public spending on education, and for the poor this subsidy represented nearly 20 percent of their consumption. However, this positive result was driven by the primary education; both secondary, and especially tertiary education were strongly not pro-poor. Third, private spending on education is regressive. The financial burden results in reduced participation and lower student attainment. As a percentage of per capita consumption, poor households spend a third more than non-poor households—relative to their income—for basic education and twice the percentage for upper secondary and tertiary education.

8. *Health.* Some key MDG-related indicators for health show impressive achievements, given the level of income, such as indicators of child mortality, maternal mortality, and tuberculosis control. Infant and maternal mortality rates have fallen from 1995 and 2001. However, there are some serious problems in the sector. Macedonia is beginning to see a pattern of morbidity that is characteristic for wealthier economies of Europe (with predominance of cardiac and cerebrovascular diseases), but it is exacerbated by risk factors such as high-fat diet, lack of exercise, smoking and alcohol consumption, and also stress and economic dislocation associated with transition. A recent World Bank health survey showed that obesity is on the rise.²⁸

²⁵ TRANS MONEE Data reported in Kolev and Sagnet (2003).

²⁶ Two separate studies were prepared for the World Bank and UNICEF in 2000: “Vulnerability of Roma Children in the Municipality of Shuto Orizar’ and “The Vulnerability of Roma Children in the Dispersed Roma Communities in Skopje”.

²⁷ ECSHD, Toward an Education Strategy for the Twenty First Century.

²⁸ 19 percent of women and 15 percent of men are clinically obese.

At the same time, a quarter of children are found to have iron deficiency disorders.²⁹ There is also considerable drug use in the country.³⁰

9. Macedonia is going through a long and painful process reforming the provision and financing of health services.³¹ The health insurance coverage is reportedly close to 100 percent, the indicators of physical access are impressive,³² and the basic benefit package is quite broad covering practically all health services. This generosity of publicly financed system is not affordable³³ and creates significant inefficiencies, is ridden by corruption and balanced by expenditure cuts that are affecting the primary health care system, and the maintenance of facilities which are important for the poor.³⁴ The quality of health care has also deteriorated due to lack of materials with wages and salaries absorbing most of the health budget. There is an evidence from various beneficiary assessments that the availability and the quality of health care are inadequate for those who cannot afford to pay for drugs, pay out of pocket informally to public or unable to afford private doctors' fees.³⁵

10. Though monitoring of this dimension in and of itself is informative, combining health data with income poverty data would add much more to the understanding of poverty and design of policies. In this respect the situation for health sector is worse than for education. The Poverty Assessment (1999) had chosen not to address any health issues (p.viii), while NSPR corresponding part did not look beyond sector-specific issues.

11. *Housing, access to water and sanitation.* NSPR stated that many *poor* households live in unsafe, unhealthy conditions, especially in substandard settlements, without access to basic physical and social infrastructure.

12. Over 90 percent of Macedonian households, poor and non-poor alike, own their housing (95 percent of housing has been privatized). However, renting housing is costly for most people, which poses special problems, especially for young families and migrants; housing is deteriorating and under-maintained; and housing related subsidies are poorly targeted. It is estimated that there are about 100 substandard settlements (slums) in Macedonia, in which about 20 percent of the total urban population lives; i.e. 274,000 inhabitants.³⁶ According to estimates, every fourth house in these areas was built without land ownership title. HBS data are believed to

²⁹ Ministry of Health (2002): Action plan for food and nutrition.

³⁰ Ministry of Health (2001): Strategy for improvement of health protection estimates the number of heroin addicts at 15-18 thousand.

³¹ The reform was supported at the earlier stage by the World Bank Health project (1996).

³² More than 90 percent of the population is estimated to be able to contact a health service provider in less than 30 minutes, NSPR.

³³ At about 6.5-7 percent of GDP in public spending plus 2-3 percent of GDP in private spending.

³⁴ CAS

³⁵ Public Opinion on the reforms of the health care, Institute for social political and judiciary research, 2001. Rural and Urban Poverty focus groups analysis. Forum.2002.

³⁶ The largest substandard settlements are in Skopje. These areas are mainly inhabited by the ethnic Roma and Albanian groups. Examples of other cities with substandard settlements are Radovis (5 areas with 5,800 inhabitants), Prilep (2 settlements with 14,000 inhabitants) and Strumica (3 settlements with 6,800 inhabitants) – Urban Strategy Concept Note.

under sample considerably the slum dwellers.³⁷ No official data available on the exact size of land tenure problem, and there is insufficient data to judge whether the country will meet the MDG targets for improving the lives of slum dwellers.

13. Access to clean water is deemed satisfactory for more than 90 percent of the population. However, CAS, based on well grounded doubts about quality of data, concluded that there is insufficient data to assess whether FYR Macedonia will meet the MDG targets for access to safe drinking water. The work on urban strategy highlighted that inadequate water and wastewater utility operations is a major issue in Macedonia.

14. The availability of electricity is almost universal amongst Macedonian households, whether formally or informally. However, poorer Macedonians have considerable difficulty in meeting electricity payments. Poor urban families find keeping up with electricity bills one of their biggest problems (World Bank, *Focusing on the Poor*, 1999, see also below on energy policy linkages).

15. *Environment.* Poverty in Macedonia is also believed to be one of the reasons for environmental degradation (NSPR). Various polls show that the poor are lacking in any interest in environmental problems and protection. Environmental protection agencies have reported that gatherers from poorest communities collect herbs from the mountains in order to sell them to the pharmaceutical industry, causing biodiversity degradation, illegally cutting down trees from the forests as a source for heating during winter, which stimulates erosion of the soil.³⁸ Solid-waste management is a major environmental problem in Macedonian cities. With an exception of a single sanitary landfill (Skopje), the majority of the municipalities use illegal locations for waste disposal, with technologies that do not comply with the modern approaches. No quantitative evidence in Macedonia is available linking environmental problems with poverty.

16. *Security*, first of all physical security, is an extremely acute problem in a post-conflict society, where the social disorganization and erosion of the authority of the State and traditional institutions of social control, coupled with abject poverty, contributed to an increase in the incidence of crime and delinquency. UNDP Early warning report for Macedonia (2003) based on an opinion poll of around 1000 individuals produced a set of internationally comparable victimization indices,³⁹ showing that between 5 and 10 percent of population reports being a victim of crime in the past three month. Over the five years period every fourth respondent reported to be a victim of one or more crimes. Incidence was even higher – 40 percent – in urban areas. Most of crimes go unreported, often motivated by suspicions regarding police forces. As in-depth analysis of poverty and violence shows,⁴⁰ integrating data on victimization with regular household surveys at regionally disaggregated level is the only way to shed some light on the economic cost of crime to the poor and most efficient ways of crime prevention.

³⁷ HBS questionnaire does not collect any information on the ownership title and security of title for housing.

³⁸ Environment and policy division at SIDA.

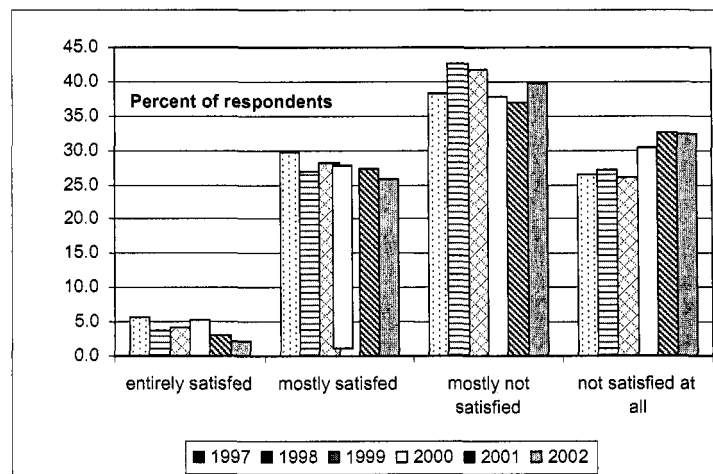
³⁹ Using methodology in compliance with UNICRI International Crime Victims Surveys, www.unicri.it.

⁴⁰ Poverty and Social Developments in Peru, 1994-97. The World Bank 1999; Gabriel Demombynes, and Berk Özler Crime and Local Inequality in South Africa. World Bank Policy Research Working Paper 2925, November 2002

17. *Powerlessness* is exacerbated by corruption⁴¹ and *vulnerability* to shocks, such as disabilities. A coherent reform of social safety nets and effective insurance arrangements that would shield against worst consequences of such shocks is difficult to implement in a divided society due to precarious state of public finances, limited capacity, and ethnic tensions. Cross-country analysis shows that as a result of slow and inadequate reform of safety nets, people continue to rely on many conflict-time coping mechanisms, which tends to perpetuate conflict itself.⁴²

18. *Subjective poverty.* Poverty can also be measured based on perceptions of the population. Subjective poverty is an important complementary source of poverty data that is extensively used to analyze various determinants of well-being and social mobility. Many non-income factors influence the subjective poverty. Health and education are important aspects of well-being independent of their impact on income levels. Being unemployed or being afraid of losing one's job also lowers self-rated welfare, even controlling for household income. Finally, they are strongly influenced by psychological and cultural factors, i.e. the attitudes toward the surveys in general and the readiness with which respondents are prepared to share their personal opinions with interviewers. As a result figures on subjective assessments of living standards are difficult to interpret in isolation.⁴³

Figure 4. Subjective Assessment of Living Standards: Satisfaction with Current Household Income



Source: State Statistics office, Household Consumption in the Republic of Macedonia, Reports 1996-2002.
 Note: It is important to remember while interpreting the graph that the statistical margin of error is $\pm 2-4$ percentage points.

19. HBS in Macedonia contains an unusually rich public perceptions module that allows to trace the extent and evolution of subjective welfare and perceptions regarding the future. Results

⁴¹ Poor are disproportionately affected by bribe extortion practiced by some public officials and civil servants in exchange for granting access to a public service – Focus groups for NSPR, National HDR (UNDP).

⁴² As documented in Qualitative Assessment (1996) and by C. Bodewig “Emerging from ethnic conflict: challenges for social protection design in transition countries” Memo, World Bank, 2001.

⁴³ Throughout the entire ECA region, about a third of the population invariably expresses deep dissatisfaction with respect to their living standards, and statistically negligible percentages seem to be happy, regardless of the level of development.

are reported on Figure 4. Except the fact that population in Macedonia expressed to interviewers very bleak perception of reality bearing little relationship to the economic or political trends, it is not clear what one can make out of such information, and why such information is being collected in HBS instead of data on critically important dimensions of welfare, such as access to health and education, discussed above.

20. In all cases where in-depth analysis of subjective valuations was completed, the findings were that these data in isolation provide very little guidance on poverty and its changes over time. But once combined with objective data, they help greatly to understand the links between various factors and the changes in welfare at the individual level. Such an analysis requires access for researchers to the primary HBS data to fully utilize their potential which remains untapped.

21. These examples show that there are very significant gaps in data about the non-income dimensions of poverty. Some of the data limitations can be addressed if there is a wider use of data that are already being collected and access to micro data by academic community and research analysts. The review also highlights the importance of coherent analysis of these issues, where each dimension is regarded in the context of others. Such data can be provided only by the integrated household surveys.

MULTIVARIATE ANALYSIS OF PER CAPITA CONSUMPTION.

An analysis of poverty characteristics based on simple correlations can be seriously misleading especially in terms of policy implications. Are, for example, the rural poor because they live in rural areas *per se* or because they have less work opportunities? The poverty profile therefore needs to be complemented by multivariate analysis. Below, we present the results from a linear regression of household per capita consumption on household characteristics.

As seen in table A.X., the multivariate analysis generally but not always confirms the findings in Chapter 3 using simple correlations. Thus, household size is strongly and negatively correlated with consumption, together with the number of children. Macedonian headed households have generally higher per capita consumption than other ethnic groups. There is an important premium to the household head having at least secondary education levels. The number of employed in the household, as expected, is a key correlate of per capita consumption. Housing conditions and the area of cultivated land available to the household have the expected signs.

One difference occurs in the regional pattern. While poverty rates are higher in rural areas than elsewhere, this appears to be the result of characteristics of the household rather than the location *per se*. In fact, holding other things constant, there is an important and negative effect of living in urban areas other than Skopje on per capita consumption, compared to rural areas. Location effects may thus capture factors not included in this regression, for example, access to non-farm employment opportunities.

Table A. Linear Regression, Per Capita Consumption /¹

	Standardized Coefficients Beta	Significance
Location		
Rural	<i>Reference</i>	
Scopje (dummy)	0.01	0.00
Other urban (dummy)	-0.06	0.00
Household size	-0.15	0.00
No. of children under age 14	-0.01	0.00
Gender of Household Head		
Male	<i>Reference</i>	
Female (dummy)	-0.01	0.00
Ethnicity of Household Head		
Macedonian	<i>Reference</i>	
Albanian (dummy)	-0.03	0.00
Other (dummy)	-0.03	0.00
Education of Household Head		
Less than primary (dummy)	-0.04	0.00
Primary (dummy)	-0.07	0.00
Secondary	<i>Reference</i>	
Higher /University /Master (dummy)	0.09	0.00
Socio-economic position of Household Head		
Employed (dummy)	0.01	0.00
Unemployed	<i>Reference</i>	
Number of employed	0.09	0.00
Ownership of dwelling		
Owner	<i>Reference</i>	
Lease holder (dummy)	-0.03	0.00
Other (dummy)	0.02	0.00
Dwelling area per capita (m2)	0.22	0.00
Installations in dwelling		
Water supply (dummy)	0.01	0.00
Sewage disposal (dummy)	0.05	0.00
Electricity (dummy)	0.01	0.00
Central heating (dummy)	0.08	0.00
Telephone line (dummy)	0.06	0.00
Area of cultivated land owned by household	0.02	0.00

1. Includes a constant.

Source: Household Budget Survey, 2003

STATISTICAL ANNEX

POVERTY LINES AND FOSTER, GREEN AND THORBECKE POVERTY INDICES

Table S1. Poverty Lines, Annual, in MKD.

	2002	2003
Cost of basic needs		
Food poverty line, per capita	20009	20249
Complete poverty line, per capita	35580	36007
Relative poverty line (70% of median per capita consumption)		
Per capita	44410	43001
Adult equivalent.	40460	39624

Source: Household Budget Survey, 2003

Table S2. FGT Poverty Indices, 2002

		Percentage share of total population	Poverty Headcount	Poverty Gap	Poverty Severity
Total Macedonia		100.0	21.4	6.3	2.7
Household Characteristics					
Region	Skopje	21.7	19.9	6.3	2.7
	Other urban	35.2	17.5	5.0	2.1
	Rural	43.1	25.3	7.4	3.2
Size	1 person	1.7	4.3	1.3	0.5
	2 persons	8.0	6.1	1.5	0.5
	3 persons	10.5	8.7	2.1	0.7
	4 persons	25.8	15.4	3.8	1.5
	5 persons	19.3	20.5	6.4	2.7
	6 and more persons	34.7	34.5	10.8	4.8
No. of children under age 14	None	44.7	11.9	2.9	1.1
	1 child	20.9	23.3	7.2	3.1
	2 children	23.2	24.4	6.8	2.8
	3 or more children	11.2	49.4	17.4	8.1
Age groups	Under 5	6.0	31.7	10.1	4.4
	14-Jun	13.9	28.5	8.7	3.8
	15 – 24	17.6	22.0	6.7	3.0
	25 – 39	20.1	24.1	7.5	3.2
	40 – 64	30.6	16.8	4.6	1.9
	65 and over	11.8	14.1	3.7	1.5
Household head characteristics					
Gender	Male	87.3	22.4	6.7	2.9
	Female	12.7	14.3	4.0	1.6
Age groups	Under 39	14.2	30.2	10.6	4.8
	40 – 64	61.5	20.5	5.9	2.4
	65 and over	24.4	18.5	5.1	2.1
Education	Without education	5.3	32.6	13.5	7.3
	Uncompleted primary	18.4	24.0	7.4	3.2
	Primary	31.0	30.8	8.8	3.5
	Secondary	34.6	14.4	3.7	1.5
	Higher	4.6	8.0	2.3	0.8
	University	5.9	7.2	2.7	1.4
	Master, PHD	0.3	0.0	0.0	0.0

Source: Household Budget Survey, 2003

Table S3. FGT Poverty Indices, 2003.

		Percentage share of total population	Poverty Headcount	Poverty Gap	Poverty Severity
Total Macedonia		100.0	21.7	6.7	2.8
Household Characteristics					
Region	Skopje	22.0	20.4	6.7	3.0
	Other urban	37.6	21.8	6.9	2.9
	Rural	40.3	22.3	6.5	2.6
Size	1 person	1.8	5.1	1.2	0.5
	2 persons	8.3	5.7	1.2	0.4
	3 persons	11.4	10.5	2.6	0.9
	4 persons	24.8	15.3	4.3	1.7
	5 persons	19.7	22.3	6.4	2.6
	6 and more persons	33.9	34.6	11.6	5.2
No. of children under age 14	None	44.9	13.6	3.7	1.5
	1 child	21.6	23.2	7.2	3.0
	2 children	22.4	23.7	7.6	3.3
	3 or more children	11.1	47.3	16.0	7.0
Age groups	Under 5	5.1	29.5	9.7	4.1
	14-Jun	14.3	28.2	9.1	4.0
	15 – 24	17.3	24.1	7.7	3.4
	25 – 39	19.7	23.1	6.9	2.8
	40 – 64	32.1	18.1	5.4	2.3
	65 and over	11.4	13.9	4.0	1.6
Household head characteristics					
Gender	Male	87.8	22.2	6.9	2.9
	Female	12.2	17.9	5.5	2.3
Age groups	Under 39	12.3	26.5	8.4	3.5
	40 - 64	65.2	21.5	6.6	2.8
	65 and over	22.4	19.5	5.9	2.5
Education	Without education	3.0	37.8	10.6	4.6
	Uncompleted primary	17.0	26.7	9.1	4.1
	Primary	32.7	29.3	9.1	3.7
	Secondary	36.3	15.5	4.6	1.9
	Higher	5.0	9.9	2.5	1.0
	University	5.5	6.2	1.7	0.8
	Master, PHD	0.5	0.0	0.0	0.0

Source: Household Budget Survey, 2003

Table S4. FGT Poverty Indices 2003.

		Percentage share of total population	Poverty Headcount	Poverty Gap	Poverty Severity
Occupation	Armed forces	0.1	0.0	0.0	0.0
	Legislators, senior officials and managers	2.2	5.1	1.7	0.6
	Professionals	4.0	6.8	2.2	1.0
	Technicians and associate professionals	4.3	11.4	2.7	1.1
	Clerks	4.1	8.3	1.6	0.5
	Service workers and shop and market sales workers	5.5	22.8	5.6	2.2
	Skilled agricultural and fishery workers	6.6	20.4	5.6	2.2
	Craft and related trades workers	15.1	19.9	5.9	2.3
	Plant and machine operators and assemblers	8.4	17.1	5.0	2.3
	Elementary occupation	8.6	32.3	9.9	3.8
	Group of occupation of persons -income recipients	39.6	25.9	8.6	3.8
	Group of dependent persons	1.5	28.6	9.7	4.7
Socio-economic position	Not employed	52.0	25.1	8.2	3.6
	Employed	48.0	18.0	5.0	2.0
Dependency Ratio (HH size /No.of employed)	Ratio =1(all employed)	1.5	4.2	0.6	0.1
	Ratio >1 and <=2	19.1	7.6	2.1	0.8
	Ratio >2 and <=4	31.9	17.5	4.6	1.8
	Ratio >4	25.4	33.4	10.5	4.4
Access to land	No employed	22.1	27.7	9.7	4.5
	No	63.9	24.5	7.8	3.3
	Yes	36.1	16.8	4.8	1.9

**Group of occupation of persons -income recipients:* pensioners, war and civil disable persons, social benefits recipients, scholarship recipients, property income recipients, other income recipients

***Group of dependent persons:* housewives, children below 7, children in primary and secondary school, students, Elderly people, Other dependents

Source: Household Budget Survey, 2003

HOUSEHOLD LIVING CONDITIONS BY POVERTY STATUS

Table S5. Household characteristics

	Macedonia	Poverty status	
		Non poor	Poor
Total number of household members	4.0	3.8	5.2
Number of members with regular job	0.8	0.8	0.6
Number of agriculturists	0.2	0.2	0.2
Number of self-employed	0.03	0.03	0.04
Number of members with personal income	0.9	0.8	1.0
Number of sustentative members	2.1	1.8	3.3

Source: Household Budget Survey, 2003

Table S6. Type of flat (Percent of population)

	Macedonia	Poverty status	
		Non poor	Poor
Room	0.8	0.7	1
Apartment	0.3	0.3	0.5
One-room dwelling	5.2	4.7	7
Two-room dwelling	26.3	25.4	29.8
Three-room dwelling	29.9	29.4	31.8
Four-room dwelling and more	37.3	39.4	29.7
Not living area	0.1	0.1	0.1
Total	100	100	100

Source: Household Budget Survey, 2003

Table S7. Ownership of flat (Percent of population)

	Macedonia	Poverty status	
		Non poor	Poor
Owner	91.4	91.9	89.5
Lease holder of the state dwelling	0.7	0.5	1.1
Lease holder (of the whole dwelling) in private property	0.4	0.3	0.9
Lease holder (of the part of dwelling) in private property	0.1	0.1	0.1
Relationship (living at relative's house)	7.2	7	8.1
Other	0.2	0.2	0.3
Total	100	100	100

Source: Household Budget Survey, 2003

Table S8. Dwelling area

	Macedonia	Poverty status	
		Non poor	Poor
Average m2 per household.	79	80	73
Dwelling area per capita (m2)	19.7	21.3	14.0

Source: Household Budget Survey, 2003

Table S9. III.3. Installations in dwelling (Percent of population)

	Macedonia	Poverty status	
		Non poor	Poor
Water supply	93.7	94.9	89.4
Sewage disposal	74.8	77.8	64.0
Electricity	99.4	99.5	98.9
Central heating	10.1	11.9	3.6
Telephone line	90	93.3	78.1

Source: Household Budget Survey, 2003

Table S10. Amenities in dwelling (Percent of population)

	Macedonia	Poverty status	
		Non poor	Poor
Kitchen	93.3	94.9	87.7
Bathroom	91.2	92.9	85
Terrace	71.3	76.6	52.2
Garage	26.7	30.1	14.5
Other	53.9	56.8	43.3

Source: Household Budget Survey, 2003

Table S11. Way of heating (Percent of population)

	Macedonia	Poverty status	
		Non poor	Poor
Central heating	4.9	5.9	1.1
with private installation - on electricity	1.3	1.4	0.9
with private installation - on solid fuels	1.6	1.8	0.7
with private installation - on liquid fuels	0.8	1	0.1
with private installation - combined	0.3	0.4	0.1
Heating by stove - on electricity	10.3	11.2	7.2
Heating by stove - on solid fuels	80.3	77.8	89.4
Heating by stove - on liquid fuels	0.5	0.5	0.4
Total	100	100	100

Source: Household Budget Survey, 2003

Table S 12. Household supplies with durable goods (Percent of households)

	Macedonia	Poverty status	
		Non poor	Poor
Solid fuel cooker	76.2	74.3	85.4
Electric cooker	93.4	94.2	89.4
Gas and combined cooker	3.1	3.4	1.7
Solid fuel stove	15.9	15.8	16.3
Electric stoves (all kinds)	34.2	36.5	23.1
Oil stove	1.4	1.6	0.6
Gas stove	0.8	0.8	0.9
Boiler	88.6	90	81.2
Refrigerator	96.4	97.1	93.3
Freezer	82	84.7	68.6
Washing machine	80.2	83.4	64.3
Iron	93.7	94.4	90.5
Dish-washer	4.5	5.1	1.9
Sewing machine	33.1	35.9	19.7
Vacuum cleaner	82.9	85	72.8
Air conditioner	5.8	6.7	1.2
Radio	35.3	36.2	30.6
Record player	10.2	10.5	8.7
Cassette recorder	49.6	50.2	46.3
Hi-fi sound equipment	23.2	25.1	14.1
Black and white television set	4.8	4.4	6.9
Color television set	94.8	95.4	92.2
Video recorder	42.6	45.2	29.6
Video camera	3.1	3.6	1.1
Camera	31	33.8	17.1
Personal computer	10.6	11.8	4.9
Telephone	88	90.6	75.3
Mobile phone	32.9	34.7	23.9
Bicycle	34.6	36.4	25.4
Motorcycle	5	5.2	3.8
Motorcar	45.8	49.7	26.7
Auto trailer	1.3	1.5	0.3
Boat	0.5	0.6	0.1
Motorboat	0.4	0.5	0.1
Guitar	2	2.3	0.6
Piano	0.4	0.5	0

Source: Household Budget Survey, 2003

EMPLOYMENT INFORMATION

Table S 13. Household Employment Information.

	Macedonia	Poverty status	
		Non poor	Poor
Number of employed members in household			
0	22.1	20.4	28.3
1	41.4	40.1	46.1
2	28.1	30.7	18.9
3	6.3	6.4	5.7
4	1.8	2.0	0.8
5	0.3	0.3	0.2
Total	100.0	100.0	100.0
Average number of employed members in household	1.25	1.31	1.05

Source: Household Budget Survey, 2003

Table S14. Distribution of Population Aged f 5-64 by Labor Market Status.

	Skopje		Other Urban		Rural	
	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor
TOTAL MACEDONIA	246260	59349	424952	116894	430964	117648
<i>EMPLOYED</i>	99751	9060	174256	29276	177830	29807
Employed	95280	8508	142033	22286	60565	12058
Agriculturist	352	97	3773	1492	37562	6809
Self-employed	2477	174	3716	2596	2828	806
Employed and work on own land	1642	115	19594	2546	35793	3548
Self-employed and work on own land			353		1537	
Unpaid family worker on own land		166	4787	356	39545	6586
<i>UNEMPLOYED</i>	17040	6809	35306	11812	31232	7611
Unemployed with official unemployment benefit	6888	1907	20733	3657	10445	1636
Seasonal, not officially worker or occasional worker	10152	4902	14573	8155	20787	5975
<i>INACTIVE</i>	129469	43480	215390	75806	221899	80229
Unemployed without benefit	38540	10112	65568	23335	38747	14466
Pensioner	26922	4223	33888	6446	14104	3926
Social and other benefits earner	3472	4360	9516	9733	14400	7603
Supported person (disable, housewife, kids)	60446	24785	101017	35829	142759	52313
Agricultural pensioners					40	62
Elderly people with own land and benefit from land						
Pensioner working on own land	89		4864		9053	503
Social and other benefits earner and work on own land			537	463	2796	1356

Source: Household Budget Survey, 2003

CONSUMPTION AND INCOME

Table S15. Average Per Capita Consumption (nominal).

	2002	2003
Poverty status	Non poor	93302
	Poor	24874
Quintile of consumption per capita	1	26274
	2	47735
	3	68924
	4	97969
	5	187533
Macedonia	186020	78457

Source: Household Budget Survey, 2003

Table S16. Average Household Income By Source.

	Quintile of consumption per capita					Region		
	1	2	3	4	5	Macedonia	Skopje	Other urban Rural
Agricultural Income	3031	3927	4976	4462	4865	4160	163	2251 8122
Nonagricultural Income	22341	30560	32872	37507	49115	33277	44457	35109 25464
Formal	17962	25437	29588	33915	45688	29244	39759	32250 20700
Informal	4379	5123	3283	3592	3427	4033	4698	2859 4764
Public social security	9968	10632	10370	12410	14245	11330	15846	10979 9191
Pensions	7390	9612	9513	11338	13228	9951	14309	9931 7590
Public Transfers	2578	1020	858	1072	1017	1379	1536	1048 1601
Private Transfers	1867	1936	2458	3915	2277	2433	511	803 5002
Other	3186	3590	4674	5522	5835	4416	3582	4251 5025

Source: Household Budget Survey, 2003

SUBJECTIVE POVERTY

Table S17. The satisfaction level by the monthly income of the household (HH level)
Question: Having on mind all your monthly incomes, does the household make ends meet?

	Macedonia	Poverty status	
		Non poor	Poor
Completely satisfied	3.1	3.7	0.2
More or less satisfied	28.9	32.2	12.3
More or less not satisfied	43.1	43.7	40.5
Not satisfied at all	24.9	20.4	47.0
Total	100	100	100

Source: Household Budget Survey, 2003

Table S18. The minimum monthly income of the household needed to make ends meet (HH level)

	Macedonia	Poverty status	
		Non poor	Poor
The minimum household monthly income level needed to make ends meet (MKD)	25024	24985	25215
The minimum monthly income level per capita needed to make ends meet (MKD)	7047	7403	5284

Source: Household Budget Survey, 2003

Table S19. The rate of the current financial situation of the household (HH level)
Question: Compared to one year ago, how would you rate your current financial situation?

	Macedonia	Poverty status	
		Non poor	Poor
Much better	0.2	0.2	0.0
Somewhat better	3.5	3.8	1.9
About the same	46.3	49.3	31.4
Somewhat worse	29	28.9	29.2
Much worse	21.1	17.8	37.5
Total	100	100	100

Source: Household Budget Survey, 2003

Table S20. Can the household satisfy any of following needs (Percent of Households)

	Macedonia	Poverty status	
		Non poor	Poor
Keeping home adequately warm	41.4	45.2	23.0
One week holiday	19.7	22.7	4.6
Replacing furniture	4.4	5.2	0.5
Eating meat or fish every second day	35.2	39.1	16.1
Having friends/family for drink or meal at least once a month	30.8	34.2	13.8

Source: Household Budget Survey, 2003

Table S21. During the past 3 months has the household been able to (Percent of Households)

	Macedonia	Poverty status	
		Non poor	Poor
Pay rent for accommodation	14.5	16.1	6.9
Pay utility bills (elec., water, tel., central heating)	71.6	76.5	47.5
Repay credit or loans	14	15.8	4.7

Source: Household Budget Survey, 2003

