Croatia: Living Standards Assessment
Volume 1: Promoting Social Inclusion and Regional Equity

November 2006

Poverty Reduction and Economic Management Unit
Europe and Central Asia Region

Document of the World Bank
CURRENCY AND EQUIVALENT UNITS
(as of May 30, 2006)
Currency Unit = HRK
1 US$ = 5.67 HRK

ABBREVIATIONS

ALMM  Active Labor Market Measures
ALMP  Active Labor Market Program
ASSC  Areas of Special State Concern
BEEPS Business Environment and Enterprise Performance Survey
CBS  Central Bureau of Statistics
CSW  Centers of Social Welfare
CARDs Community Assistance for Reconstruction, Development, and Stabilization
CBN  Cost of Basic Needs
CES  Croatian Employment Services
HRK  Croatian kuna
DDP  Development Data Platform
ECA  Europe and Central Asia
EBRD European Bank for Reconstruction and Development
EC  European Commission
FINA  Financial Agency
GDP  Gross Domestic Product
GNP  Gross National Product
GVA  Gross Value Added
NBS  Household Budget Survey
IT  Information Technology
IBRD International Bank for Reconstruction and Development
IMF  International Monetary Fund
LFS  Labor Force Survey
NMS  New Member States
NUTS Nomenclature des Unites Territoriales Statistiques
NGO  Non-governmental Organization
OECD Organization for Economic Co-operation and Development
PEP  Pre-Accession Economic Program
PPP  Purchasing Power Parity
PPS  Purchasing Power Standards
ROP  Regional Operations Program
SME  Small and Medium Enterprise
UNESCO United Nations Educational, Scientific, and Cultural Organization
USD  US dollar

Vice President: Shigeo Katsu
Country Director: Anand K. Seth
Sector Director: Cheryl W. Gray
Sector Manager: Asad Alam
Task Leader: Salman Zaidi
PREFACE AND ACKNOWLEDGEMENTS

This report is the product of a collaborative process involving staff from the Croatian Government (Central Bureau of Statistics, Ministry of Economy, Labor, and Entrepreneurship, Ministry of Health and Social Welfare, Ministry of Sea, Transport, Tourism, and Regional Development and Ministry of Finance), Croatian and other consultants, and staff from the World Bank. The scope of the work was developed in consultation with the Government, Croatian academics and researchers, and staff from the European Commission in Zagreb.

Background papers for this report were prepared by Danijel Nestic, Giovanni Vecchi, Zeljko Lovrincevic, Davor Mikulic, Vedran Sosic, and Xubei Luo, and are included as volume 2 of this report. Early findings of the background work were presented at several workshops held in Zagreb attended by government and non-government officials, including key donor community representatives (UNDP, EC, etc) and the team is grateful for all the suggestions and feedback received from the various participants of these workshops. The team would like to thank Ms. Vera Babic (State Secretary, Ministry of Economy, Labor, and Entrepreneurship), Ms. Dorica Nikolic (State Secretary, Ministry of Health and Social Welfare), Ms. Vesna Mastela Buzan (Senior Advisor, Ministry of Health and Social Welfare), Ms. Franka Vojnovic (Head of Unit, Ministry of Sea, Tourism, Transport and Development) and Mr. Darko Jukic (Acting Director, Central Bureau of Statistics) and his staff at the Central Bureau of Statistics for their comments, advice, and help at various stages in the preparation of this report. Appreciation is also due to Mr. Zeljko Bacic and the State Geodetic Institute, who provided the county-level maps used in this report.

The World Bank task team included Salman Zaidi (task team leader), Xubei Luo, Sanja-Madzarevic-Sujster, Necmeddin Bilal Erdogan, Tomislava Ujevic, Anton Marcincin, Ljiljana Tarade, Dubravka Jerman, and Helena Makarenko. In addition the team also benefited from useful discussions and contributions from Paula Lytle, Vera Dugandzic, Gloria La Cava, Inguna Dobraja, and Ivan Drabek. Rachel Weaving helped edit the report. The report was undertaken under the guidance of Anand Seth, Country Director, Cheryl Gray Sector Director, and Asad Alam, Sector Manager. Vera Babic, Enrique Aguado Asenjo and Pierella Paci were the peer reviewers of the report. In addition, the team would like to thank Satu Kahkonen, Bernard Funck, Hermann von Gersdorff, Myla Taylor Williams, Albert Martinez, and all the staff of the Zagreb office for their comments, advice, and help throughout the course of this work.
CONTENTS

1. Poverty Levels and Trends ................................................................. 1
   1.1 Recent Economic Developments and Challenges .......................... 2
   1.2 Sectoral and Regional Trends in Output, Income, and Employment ... 6
   1.3 Changes in Poverty and Inequality: 2002-04 ................................. 9
   1.4 Poverty in Croatia: An International Perspective ........................ 12
   1.5 The Convergence Challenge: Reducing the Income Gap with Europe .... 14

2. Profile of Poverty and Inequality in Earnings .................................. 17
   2.1 Profile of the Poor ................................................................. 17
   2.2 Poverty and Region of Residence .............................................. 21
   2.3 Economic Activities and Income Sources of the Poor .................. 23
   2.4 Employment, Earnings, and Regional Disparities ........................ 25

3. The Twin Challenges of External and Internal Income Convergence ... 31
   3.1 Poor People or Poor Regions? .................................................. 33
   3.2 How Significant are Regional Disparities in Living Conditions? .... 36
   3.3 Sustaining High Growth through Faster Job Creation ................. 41
   3.4 Building on Local Comparative Advantages ............................... 44
   3.5 Labor Mobility and Greater Labor Market Flexibility ................. 47
   3.6 Improving the Adequacy and Targeting of Social Safety Nets .......... 48

APPENDIX .......................................................................................... 53

FIGURES AND TABLES

Figure 1-1: Good economic performance over the past decade .................. 2
Figure 1-2: Total employment rate in Croatia falls well short of the Lisbon target ... 4
Figure 1-3: High Long-term Unemployment .......................................... 4
Figure 1-4: Growth in total employment in Croatia has lagged behind GDP growth and wages 5
Figure 1-5: Total employment by sector, 2003 ...................................... 6
Figure 1-6: Rising regional inequality in GDP per capita ........................ 7
Figure 1-7: Small firms in Croatia have been quite dynamic in job creation ... 8
Figure 1-8: High county-level market SME shares were associated with higher growth in 2001-03 ... 8
Figure 1-9: Survey-based estimates show that income grew much faster than consumption 11
Figure 1-10: Cross-country poverty comparisons ................................... 13
Figure 1-11: Growth in per capita GDP .............................................. 14
Figure 1-12: GDP per capita: Croatia and selected EU countries ........... 15
Figure 1-13: Convergence and demographics ....................................... 15
Figure 1-14: Convergence, labor market participation, and productivity ... 16
Figure 2-1: Poverty incidence and breakdown by size of household ......... 17
Figure 2-2: High poverty incidence among the elderly ......................... 18
Figure 2-3: Pension receipts and poverty incidence among the elderly ....... 19
Figure 2-4: Poverty incidence and breakdown by educational attainment of household head 19
Figure 2-5: Regional variation in poverty incidence across Croatia ...... 21
Figure 2-6: Regional variation in selected welfare indicators .................... 22
Figure 2-7: Sources of income for poor and non-poor households ......... 23
Figure 2-8: Poverty incidence by employment status of the head of household .. 24
Figure 2-9: Poverty shares by employment status of the head of household .. 24
Figure 2-10: Low monthly earnings for women and youth ....................... 26
Figure 2-11: Distribution of monthly earnings, by region ....................... 27
Figure 2-12: People in the eastern and central regions have lower education attainment .... 28
Figure 3-1: Poverty incidence at the county level .................................... 32
Figure 3-2: Average per capita incomes at the county level generally seem to be correlated with the educational attainment of the population ... 33
Figure 3-3: Simple vs. partial correlations ................................................................. 34
Figure 3-4: The “gateway effect:” rising regional inequalities................................. 38
Figure 3-5: Redistributive role of taxes and transfers............................................. 39
Figure 3-6: Social transfers reduce regional inequality ........................................... 40
Figure 3-7: Social assistance and unemployment benefits are generally well targeted geographically ...... 41
Figure 3-8: Robust regional rankings based on various development indicators ......... 45
Figure 3-9: Social assistance is the best targeted program in Croatia .................... 49
Figure 3-10: All programs have relatively low coverage rates, even among the poor .......................................................... 49
Figure 3-11: Importance of transfers for beneficiaries of the social assistance program .......................................................... 50
Figure 3-12: Who benefits from social transfer programs? .................................... 50

Table 1-1: Croatia: Key economic indicators ......................................................................... 3
Table 1-2: Key labor force indicators for Croatia: 2000 - 04 .............................................. 5
Table 1-3: Regional classification of counties in Croatia ................................................. 6
Table 1-4: Poverty in Croatia is quite limited and shallow ........................................... 10
Table 1-5: About 1 in 20 Croatians consume well below the national poverty line .......... 10
Table 1-6: Poverty incidence in Croatia ....................................................................... 11
Table 1-7: Subjective welfare measures indicate improved living conditions .................. 12
Table 1-8: Income inequality remained fairly stable between 2002 and 2004 ................. 12
Table 1-9: International comparisons of poverty and inequality .................................. 13
Table 1-10: Key social indicators: cross-country comparison ..................................... 14
Table 2-1: Employment, unemployment, and monthly earnings by educational attainment .......................................................... 25
Table 2-2: Labor market disadvantages of women..................................................... 26
Table 2-3: Selected labor market indicators, by region ................................................. 26
Table 2-4: Employment, unemployment, and monthly earnings, by educational attainment .......................................................... 27
Table 2-5: Oaxaca-Blinder Decomposition: Effect of individual vs. other characteristics on earnings .......................................................... 29
Table 3-1: Relative poverty risk by educational attainment of the household head ........ 35
Table 3-2: Relative poverty risk by region of residence ............................................. 36
Table 3-3: Regional Variation in GRP per capita, selected countries ....................... 37
Table 3-4: Alternative lists of five poorest counties in Croatia .................................... 44

BOXES

Box 1.1: Main Topics Covered in the Background Papers .......................................... 1
Box 1.2: Tourism in Croatia ..................................................................................... 3
Box 1.3: Deriving an Absolute Poverty Line for Croatia .......................................... 9
Box 2.1: Poverty and the elderly in Croatia: Some key insights from the 2002-04 HBS data .......................................................... 20
Box 2.2: Understanding Differences across Groups through the Oaxaca-Blinder Decomposition .......................................................... 29
Box 3.1: Regional Inequalities in Croatia: Legacy of the Past ..................................... 36
Box 3.2: Policies, Institutions, and Job Creation: Some Lessons from Cross-country Experience .......................................................... 42
Box 3.3: Doing Business: Objective Measures of Business Regulations and Their Enforcement .......................................................... 43
Box 3.4: Regional Operational Programs in Croatia ................................................. 46
Box 3.5: Reforming the Social Welfare System in Croatia ......................................... 51
EXECUTIVE SUMMARY

The Croatian economy has performed moderately well in the past decade, enabling a gradual narrowing of the income gap with the European Union. Using a cost-of-basic-needs poverty line, poverty in Croatia is found to be low, with only a small proportion of the poor facing hard-core deprivation. Looking ahead, the task of faster external income convergence with the EU will be challenging, and will require both faster job creation as well as flexibility in the allocation of jobs and workers in the economy. These will also help with more rapid improvement in living conditions in lagging regions. To these ends, the report highlights three sets of interrelated policy challenges and priorities: (1) sustaining high rates of growth to permit continued income convergence with Europe; (2) promoting greater labor mobility, including measures aimed at building human capital to improve workers’ opportunities; and (3) improving the adequacy and effectiveness of social safety nets within a responsible fiscal framework. In examining regional disparities, several development indicators show that regional disparities in living conditions are significant (though on average no higher than in other EU countries), and only partially explained by human capital and other such individual attributes. Building on local comparative advantages offers the best way forward to improve living conditions in lagging regions.

1. As Croatia prepares to join the European Union, the government is working on (1) a joint inclusion memorandum, and (2) a regional development strategy outlining plans for reducing internal disparities. This report offers data and analysis relevant for both these tasks, shedding light on the strategic priorities facing the government and some of the main trade-offs involved.

POVERTY IN CROATIA IS RELATIVELY LOW …

2. The Croatian economy has performed quite well over the past decade (Figure 1). Real GDP per capita increased by more than 40 percent between 1996 and 2005. Inequality in both consumption and income on the other hand has been quite stable and low between 2002 and 2004. During this period, the poverty headcount rate\(^1\) appears to have either stagnated (based on consumption per adult-equivalent), or fallen at about 1 percentage point a year (based on income per adult-equivalent) between 2002 and 2004. The latter trend is more plausible, given the economy’s good growth performance over this period. In addition, subjective measures of well being, recorded by successive household surveys, point to some improvement in living standards over time.

3. Poverty in Croatia is found to be quite limited. Some 11 percent of the population is poor, and another 10 percent is at risk of poverty in the sense that their average consumption level is less

\(^1\) Using the latest available data (2004 Household Budget Survey) and a poverty line of 22,145 kunas (PPPs$4,343) per equivalent adult per year derived using the cost of basic needs methodology.
than 25 percent above the poverty line. Some groups, numbering about 1 percent of the population, face severe deprivation.

4. Using an internationally comparable poverty line for the region, Croatia’s poverty rates are the lowest among the World Bank’s client countries in Europe and Central Asia.\(^2\) This is in part because the Gini coefficient for Croatia is low compared to those for other countries in the region. Croatia’s low poverty rate (around 4 percent, if an international poverty line of SPPP 4.30 per day per person in 2004 prices is applied) matches what one might expect from Croatia’s consumption-per-capita level (Figure 2). Social indicators for the country are broadly in line with those in the upper middle-income countries of the region. For instance, infant and child mortality rates are lower than in Latvia or Hungary, but higher than in the Czech Republic or Slovenia (not shown).

5. Job creation, however, has lagged behind GDP growth and wages (Figure 3). At only 54.7 percent, Croatia’s employment rate is one of the lowest in Europe, and the proportion of long-term unemployed (i.e. workers without jobs for 12 months or longer) is higher than in all EU countries except Poland and Slovakia.

A PROFILE OF POVERTY AND INEQUALITY IN EARNINGS

6. Household size, education, age, and employment status of the household head are important correlates of poverty. Households that are small (1-2 people) and large (more than 6 people) face greater poverty risks than others. More than three-quarters of the poor live in households headed by individuals with only primary or less education. And poverty is tightly associated with the activity status of the head of household (Figure 4); those

\(^2\) At least among those countries for which household survey data are available.
household heads who are retired, unemployed, or economically inactive feature prominently among the poor.

7. The risk of poverty increases with age. The incidence of poverty is highest among households headed by the elderly, who face a poverty risk twice the average. Within households headed by elderly people, those who do not receive pensions are particularly vulnerable, facing a poverty risk more than five times the national average (Figure 5). Even those receiving pensions have almost twice the national average poverty risk. Retired people are more vulnerable to poverty in rural areas than in urban.

8. A high percentage of individuals, not only among the poor, have limited or no access to basic services. One fourth of the poor live in dwellings without water supply, and 8 percent live in dwellings without toilets, and 8 percent without a telephone line. In general, as one might have expected, access to services in Croatia is considerably worse in rural areas compared to urban, and for the poor compared to the non-poor.

9. Poverty and labor market status: The poor in Croatia get more than half their income from transfers and relatively little from productive activities (Figure 6). This is consistent with their low rates of labor force participation and their relatively advanced age. Households headed by the unemployed are a small but very vulnerable group.

10. Women and youth face clear disadvantages in the labor market. Women have higher unemployment rates and lower wages (Table 1) than other labor market participants. Employment rates among youth and average earnings are particularly low (Figure 7)—fewer than one in four people aged 15-25 years have jobs, and the unemployment rate for this age group is three times that of the age group 25-50.

Table 1: Labor market disadvantages of women

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation rate (%)</td>
<td>71.9</td>
<td>58.6</td>
</tr>
<tr>
<td>Employment rate (%)</td>
<td>61.4</td>
<td>47.8</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>13.0</td>
<td>16.4</td>
</tr>
<tr>
<td>Monthly earnings (kunas)</td>
<td>3,514</td>
<td>2,978</td>
</tr>
</tbody>
</table>
THE CHALLENGE OF EXTERNAL INCOME CONVERGENCE

11. Though Croatia has been narrowing the income gap with the EU25 average, sustaining this trend is likely to be challenging. Projected declines in the country’s population and labor force suggest that per capita income is likely to decline as the century advances (Figure 8, scenario A). To prevent this from happening, both the employment rate and labor productivity will need to rise substantially. If Croatia’s total employment rate were to rise to 70 percent by 2025, this would help overcome the adverse impact of the decline in working age population (Figure 8, scenario B), but even under this scenario, Croatia’s per capita GDP would barely reach two-thirds of the EU25 level by 2025. If the goal is to attaining higher living standards output per worker would have to increase substantially too (i.e. in addition to the projected increase in employment rate).

12. To these ends, the report highlights three sets of interrelated policy challenges and priorities: (1) sustaining high rates of growth to permit faster external income convergence; (2) promoting greater labor mobility, including measures aimed at building human capital to allow workers access to better opportunities, both within and outside the country; and (3) improving allocation of spending on social safety net programs within a responsible overall fiscal framework.

**(1) Sustaining high growth through faster job creation**

13. To improve labor utilization, Croatia needs to adopt a fairly wide menu of policy measures to help foster job creation: addressing the remaining discouraging features of the investment
climate,\(^3\) including by facilitating the registration of property and by improving the efficiency of the legal system; helping real wages to adjust to productivity and local market conditions (particularly wages in public enterprises, where the restructuring agenda remains incomplete); and allowing lower wages to be paid to young workers or those in economically depressed regions—in preference to their having no jobs at all. To meet the challenge of job creation would also require the government to address its fiscal problem, which in turn has been due to problems with an unreformed health sector, rising social spending, and continued state support to loss-making state-owned enterprises. Government spending in Croatia accounts for about half of GDP—a large share even by European standards. Total subsidies to the enterprise sector constituted 3.4 percent of GDP in 2003, well over half the overall government deficit of 6.2 percent during this fiscal year. Between 2000 and 2004, Croatia’s external debt rose from 60 to 89 percent of GDP.\(^4\)

(2) Labor mobility and greater labor market flexibility

14. Multivariate analysis of labor force survey data shows that as much as one-third of the wage differentials between leading and lagging regions in Croatia can be attributed to differences in worker characteristics, including education (Figure 9). This finding points to the importance of raising the human capital of workers in lagging regions, as well as of facilitating greater labor mobility as a means to reduce interregional earning disparities. Public policy can play an important role in reducing barriers to workers’ interregional migration, through improving information about job opportunities in other regions, reducing housing market imperfections and distortions, and improving transport links. Conversely, social assistance programs that pay inadequate attention to work-disincentive issues may reduce the mobility of labor across regions.

15. Similar analysis of the earnings differentials between public and private sector workers shows that the average monthly earnings of workers in state firms are about 30 percent higher than those of workers in the private sector. Furthermore, differences in employee characteristics—such as age, years of education, and gender—at best explain only about one-third of the earning differential between these two sectors, while the remainder is unexplained. This in turn points to the problem of incomplete restructuring of public sector enterprises in Croatia. The wage differential between these enterprises and other firms may hinder the reallocation of workers across sectors and regions. Policies aimed at correcting these market imperfections can have an

---

\(^3\) Croatia’s overall investment climate and business environment are perceived as relatively favorable and improving. In 2003, the government introduced a responsible wage policy, which reversed the trend of rising unit labor costs, and reduced non-wage labor costs. In addition, a new Labor Code was introduced, which is better aligned with EC guidelines and practices in EU member countries.

\(^4\) In response to the country’s rising external debt and vulnerability, the government has begun to reduce the public sector deficit from 6.2 percent of GDP in 2003 to 4.1 percent in 2005 through slower wage bill growth, lower transfers and public investment, and structural reforms.
important role to play in facilitating a freer flow of workers. When implementing such policies, it would be important to ensure the presence of effective social safety nets to protect the incomes of workers displaced in the wake of enterprise restructuring.

(3) Improving allocation of spending on social safety net programs

16. A key feature of the government’s program to reduce poverty and social inclusion is to improve the effectiveness of the social protection system, by (1) rationalizing spending and improving targeting, and (2) strengthening system administration. Social spending in Croatia is high by international standards, at 31 percent of GDP, but not well targeted to needy people. Only a small share of social spending—0.7 percent of GDP—goes to means-targeted programs. Data for 2003 show that pensions and health insurance compensation were the two largest categories of transfers, accounting for 51 percent and 5 percent respectively of total incomes from transfers, while child allowances (about 4 percent), social assistance (about 3 percent), and unemployment benefits (about 2 percent) were the next most important.

17. Social assistance is the best-targeted program in Croatia (Figure 10). However, total transfers under this program are small in relation to other programs. As a result, the social assistance program does not reach the great majority of poor people: it covers only about 13 percent of the poorest fifth of the population. While cash social benefits total about 4 percent of GDP (i.e. far higher than the average level of 2.5 percent in Austria, Italy, Germany, Slovakia, Poland and Hungary), only about 0.26 percent of GDP is allocated to the means-tested social assistance program (EU countries spend 1.4 percent of GDP on average on similar programs). Yet for its poor beneficiaries, the social assistance program is an important income source, supplying 15 percent of their average consumption per adult-equivalent.

Figure 10: Social assistance is the best-targeted program in Croatia…

… but has very low coverage rates, even among the poorest one-fifth of the population (right panel)

Source: World Bank estimates based on 2002 and 2004 HBS.

18. The report recommends a four-pronged strategy to improve the system of social safety nets:

- Spend relatively less on child allowances and benefits, by improving their targeting to needy families, and spend relatively more on social assistance, which given that the overall depth of poverty is not that high, can go a long way towards eliminating poverty in the country;
• Increase program coverage rates in poorer regions by directing a larger share of total expenditures towards these regions;
• Improve system administration (e.g. through better integration of centers for social welfare and employment services, greater clarity of their respective roles, better use of information technology); and
• Use more active measures—such as better counseling and job-placement services—to help reduce long-term joblessness and promote labor market participation.

HOW SIGNIFICANT ARE REGIONAL DISPARITIES IN LIVING STANDARDS?

19. Output, employment patterns, and living conditions obviously differ across Croatia’s regions, though not significantly more than in the EU on average (Table 2).

<table>
<thead>
<tr>
<th>Table 2: Regional Variation in GRP per capita, selected countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Bulgaria</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>Spain</td>
</tr>
<tr>
<td>Poland</td>
</tr>
<tr>
<td>Croatia</td>
</tr>
<tr>
<td>Italy</td>
</tr>
<tr>
<td>Romania</td>
</tr>
<tr>
<td>UK*</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Turkey</td>
</tr>
<tr>
<td>Russia</td>
</tr>
</tbody>
</table>

*NUTS2 regions of inner and outer London are merged. Except in Russia and Croatia, regions are defined at the NUTS2 level. Croatian regions are the analytic regions described in the report.

20. Differences across regions (Table 3)\(^5\) reflect diverse factors such as the impact of the recent war and varied geographic terrain, and as noted earlier, differences in the educational attainment and human capital of their residents. The economies of the most developed counties—Zagreb city, Istria, and Primorje-Gorski—have large services sectors, active small and medium size enterprises, and large-scale entrepreneurs, and appear well positioned to continue growing rapidly. Counties in Adriatic Croatia appear to be similarly well positioned, and are likely to benefit from continued rapid growth in tourism. By contrast, counties in Eastern and Central Croatia have a less favorable economic structure, with a relatively large share of agriculture, and appear to face a significant risk of lagging further behind.

\(^5\) Following the same analytic regional classification as used in the World Bank’s earlier *Economic Vulnerability and Welfare Study*, this report uses a breakdown of five main geographic regions to examine regional variation in living conditions. While representing only one of several possible regional classification schemes, this grouping provides a useful summary of regional variation, but at the same time also ensuring that the sample size in each group is large enough to permit reasonable statistical accuracy.
### Table 3: Selected indicators, by region

<table>
<thead>
<tr>
<th>Analytical Region</th>
<th>GDP per capita (2003, Croatia=100)</th>
<th>HBS 2004 Consumption per capita per year</th>
<th>Employment rate (%)</th>
<th>Unemployment rate (%)</th>
<th>Ave. earnings (kunas / month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>82</td>
<td>42,602</td>
<td>60.8</td>
<td>11.5</td>
<td>2,806</td>
</tr>
<tr>
<td>Eastern</td>
<td>67</td>
<td>37,593</td>
<td>47.9</td>
<td>19.9</td>
<td>2,826</td>
</tr>
<tr>
<td>Zagreb</td>
<td>149</td>
<td>58,584</td>
<td>55.9</td>
<td>11.8</td>
<td>3,735</td>
</tr>
<tr>
<td>Adriatic North</td>
<td>124</td>
<td>52,703</td>
<td>58.5</td>
<td>9.9</td>
<td>3,498</td>
</tr>
<tr>
<td>Adriatic South</td>
<td>77</td>
<td>45,281</td>
<td>48.9</td>
<td>20.2</td>
<td>3,524</td>
</tr>
<tr>
<td>Croatia</td>
<td>100</td>
<td>47,326</td>
<td>54.5</td>
<td>14.5</td>
<td>3,276</td>
</tr>
</tbody>
</table>

21. County and region-level data paint a much finer picture of these disparities. Figure 11 shows, for example, that while the Eastern and Central regions are both poor in monetary terms and human capital endowments, unemployment rates are quite high in the former but much lower in the latter. Similarly, while the two Adriatic analytic regions have similar levels of earnings per worker and human capital, unemployment rates are considerably higher in the south.

**Figure 11: Variation in selected indicators by county and region**

- **Poverty Headcount Rate (2002-04 HBS)**
- **Ave. income per-capita (Croatia=100, 2002-04 HBS)**
- **GDP per capita (2003)**
- **Post-Secondary Completion Rate (2002-04 LFS)**
- **Unemployment Rate (2002-04 LFS)**
- **Average Monthly Earnings (2002-04 LFS)**

*Source: World Bank estimates based on pooled 2002–04 HBS and LFS.*
22. Headcount poverty rates vary across regions, from less than 3 percent of the population in urban Zagreb to more than 20 percent in the rural Central and Eastern regions. Ranking regions by level of poverty incidence, the following broad typology emerges:

- **Low poverty**: Zagreb Region, Adriatic North, and urban Adriatic South (taken together, comprising about half Croatia’s population, but only one-sixth of the poor);
- **Moderate poverty**: Rural Adriatic South, urban Central, urban East (roughly one-fourth of Croatia’s population and about 30 percent of the poor);
- **High poverty**: Rural Central and Rural Eastern region (roughly one-fourth of the population, but more than half of the poor).

23. Trends in per capita GDP show a small rise in interregional inequality in Croatia between 2001 and 2003 (Figure 12). The ratio between GDP per capita in the highest and lowest ranked region rose marginally from 2.1 to 2.2 during these two years. This should not be surprising. Most of the new member states of the EU experienced the so-called “gateway effect” during the period surrounding their accession to the European Union, whereby their capital cities attracted much interest from foreign investors, and grew much more rapidly than their other regions. Indeed, Croatia’s regional disparities may not have widened by as much as those of the new member states. Seen in this light, the fact that some parts of Croatia have been growing faster than others is not a cause for concern, particularly because some of the benefits of high growth in these regions have been and can be shared by other regions through transfers.

24. While regional disparities in GDP per capita may appear stark at first sight, further analysis reveals that primary incomes and gross disposable incomes in Croatia are in fact much more equally distributed, because taxes, social security contributions, and social and other transfers help to equalize incomes across regions (Figure 13). This in turn translates into smaller regional variations in consumption per capita.

25. Worse-than-average living standards in the Central and Eastern regions are linked to the poorer labor market
outcomes in these regions, with lower participation rates, lower employment rates, and lower wages. Multivariate analysis based on data from labor force surveys shows that only about one-third of the total variation in earning across Croatia’s regions can be explained by differences in human capital and other such individual characteristics of workers. The remainder of the earnings differential must be explained by other factors, including geographical ones (in most EU countries, the remainder is typically much lower than what was observed in Croatia). County-level estimates of poverty incidence and its correlates, derived from household budget survey data, allow a more detailed exploration of the causes of poverty—whether specific to individuals or specific to regions. The results are consistent with those of the earlier exploration based on earnings data from labor force surveys: key correlates of poverty—employment status, age of household head, and household size—explain some but not all of the observed differences in poverty levels across regions. Thus other region-specific factors, such as variations in the quality of local infrastructure, likely play an important role in differences in regional living standards.

Building on local comparative advantage

26. Unexplained regional differences in earnings and living standards suggest that a focus on regional development makes good sense for Croatia. In the context of regional development analysis and planning, an important question is how best to define regional disparities and at what level of territorial aggregation. It appears from our analysis that counties in Croatia are probably too small a unit for this purpose, if only because their relative rankings vary with the indicator of living standards that is chosen (Table 4). For example, not one of the five counties with the highest poverty rates as calculated using the household survey data features in the list of five poorest counties as ranked by per capita GDP.

Table 4: Alternative lists of five poorest counties in Croatia

<table>
<thead>
<tr>
<th>Ranking (1=poorest)</th>
<th>GDP per capita (2003)</th>
<th>Per capita income</th>
<th>Per capita consumption</th>
<th>Ave. monthly earnings</th>
<th>Headcount Poverty Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vukovar-Sirmium</td>
<td>Virovica-Podravina</td>
<td>Karlovac</td>
<td>Virovica-Podravina</td>
<td>Karlovac</td>
</tr>
<tr>
<td>2</td>
<td>Sl. Brod-Pozavina</td>
<td>Osijek-Baranja</td>
<td>Virovica-Podravina</td>
<td>Varaždin</td>
<td>Sisak-Moslavina</td>
</tr>
<tr>
<td>3</td>
<td>Sibenik-Knin</td>
<td>Karlovac</td>
<td>Sisak-Moslavina</td>
<td>Bjelovar-Bilogora</td>
<td>Bjelovar-Bilogora</td>
</tr>
<tr>
<td>4</td>
<td>Pozega-Slavonia</td>
<td>Sl. Brod-Pozavina</td>
<td>Krapina-Zagorje</td>
<td>Koprivnica-Križevci</td>
<td>Koprivnica-Križevci</td>
</tr>
<tr>
<td>5</td>
<td>Krapina-Zagorje</td>
<td>Pozega-Slavonia</td>
<td>Osijek-Baranja</td>
<td>Sl. Brod-Pozavina</td>
<td>Osijek-Baranja</td>
</tr>
</tbody>
</table>

27. By contrast, conclusions are more consistent and robust at the regional level: the Eastern and Central parts of the country consistently appear disadvantaged. These regions’ poverty rates are above the national average, those in the Adriatic South are at par with, and those in the Adriatic North and Zagreb regions are lower than, the national average (Figure 14).

28. Initiatives to boost growth in lagging regions are most likely to succeed if they work with the forces of economic geography, through building on local comparative advantages and drawing on local knowledge and initiative. In Croatia, regional operational programs (ROP) are being

---

6 Though not in the Central region—see Table 3.
developed at the county level over the period 2004-10; local projects are planned through a highly consultative and collaborative process, and steps are taken throughout the process to help ensure that the projects are well aligned with the county’s comparative and competitive advantages. In this respect, the ROP exercise is fully consistent with these strategic principles. However, the comparative advantage of a region may lie across several different counties. Looking ahead, as the Croatian government begins to prepare higher-level regional development projects, it will be important to give high priority to initiatives that build upon commonalities across contiguous counties (that is, in terms of areas of comparative advantage identified), so as to avoid bogging down the overall regional development effort in an undue proliferation of mini-projects.
1. Poverty Levels and Trends

Croatia’s economy has performed moderately well in recent years, enabling a gradual narrowing of the income gap with the European Union. But significant structural challenges remain, in particular that of raising employment. Performance has varied among regions, reflecting variations in the growth of different sectors of the economy and, possibly, employment creation patterns. Using a cost-of-basic needs poverty line specially derived for Croatia, we find poverty in Croatia to be quite limited and shallow. Estimates of poverty based on consumption per adult-equivalent have remained virtually unchanged in recent years, but estimates based on income per adult-equivalent suggest that poverty has declined, and the latter trend is more plausible. Using an international poverty line to compare countries in the Europe and Central Asia region, we find poverty in Croatia to be lower than in most of the other middle-income countries of the region. But demographic trends suggest that sustaining the convergence with average income in the 25 member states of the enlarged European Union will be challenging, requiring substantial improvements in both employment rates and labor productivity.

1.1 As Croatia prepares to join the European Union, the Government is working on (1) a joint inclusion memorandum, and (2) a regional development strategy outlining plans for reducing internal disparities, for which substantial structural funds will be available from the EU. This report offers data and analysis relevant for both these tasks, shedding light on the strategic priorities facing the government and some of the main trade-offs involved. Six background papers, issued as Volume 2 of the report, analyze selected issues related to these topics (Box 1-1).

Box 1-1: Main Topics Covered in the Background Papers


3. A Poverty Profile for Croatia: Develops a profile of the poor and the micro-determinants of poverty using data from the 2004 HBS.

4. Regional Development and Social Indicators in Croatia: Provides a comprehensive profile of social and economic characteristics of Croatia's regions at the NUTS III level (and also the five main analytic regions used in other background papers). The paper includes two appendices: (1) presents regional GDP by counties for 2001-03, and (2) provides preliminary data on gross disposable income of the household sector in Croatia.


6. Assessing the Flexibility of the Croatian Labor Market: The paper review key labor market institutions in Croatia, and uses data from the Financial Agency to prepare a profile of labor market dynamics in the country in recent years.

---

As required by the EC, the joint inclusion memorandum outlines the principle challenges facing a prospective EU member state in terms of poverty and social exclusion, presents the major policy measures taken by the prospective member to start translating the EU’s common objectives on poverty and social exclusion into national policies, and identifies the key policy issues for future monitoring and policy review.
As a contribution to the improvement of data in Croatia, the report presents disaggregated statistics collated from a variety of sources. In particular, data from several rounds of the Household Budget Survey (HBS) and Labor Force Survey (LFS), including the latest, are pooled together to obtain new relatively precise estimates of key indicators of living standards at the regional and county levels. A comprehensive list of the indicators prepared, tables presenting these indicators at the county and regional level, and maps illustrating the spatial variation in these indicators are presented in the Appendix.

1.2 Using the latest available data we derive a poverty line for Croatia based on the cost of basic needs. We hope that both the poverty line and the methodology for deriving regional and county-level estimates of key indicators of living standards will prove of continuing usefulness to the Croatian authorities.

1.1 RECENT ECONOMIC DEVELOPMENTS AND CHALLENGES

1.3 The Croatian economy has performed quite well over the past decade (Figure 1-1), driven by generally strong domestic demand. Real GDP per capita increased by more than 40 percent between 1996 and 2005. Exports of goods and services recorded healthy growth over this period, and rose from 46 to 49 percent of GDP between 2000 and 2005 (Table 1-1).

Figure 1-1: Good economic performance over the past decade

Source: Central Bureau of Statistics, Croatia.

---

For a more detailed description and rationale of the pooling procedure, see Background Paper No. 5.
Croatia’s economic recovery since the 1999 recession has been accompanied by a high external account deficit. While exports of services (in particular tourism and transport – see Box 1-2) recorded strong growth, this was not enough to outweigh the rise in merchandise imports that was spurred by high public investments. The high external account deficit in turn has pushed up the external debt. Despite significant inflows of foreign direct investment, Croatia’s external debt, presented in Euro terms, rose from 60.6 percent of GDP in 2000 to 80.2 percent in 2004 (or in USD terms, rose from 61.2 percent to 87.9 percent of GDP during the same period).

**Box 1-2: Tourism in Croatia**

Given Croatia’s favorable natural endowment, of an extensive coastline with warm Mediterranean climate and numerous scenic islands, tourism is one of the most important sectors of the economy, providing an estimated 317,000 jobs in 2004, or around 14 percent of total employment, and contributing indirectly to about one-quarter of GDP. In 2003, four-fifths of Croatia’s deficit in goods exchange in the current account was covered by tourism receipts. Investments in this sector have intensified over the past three years, primarily towards the hotel industry (e.g. refurbishing and modernizing existing hotels and tourist settlements).

Over the next ten years, tourism is expected to grow at about 6.6 percent annually in real terms. Key challenges in this regard will be to continue to increase the total number of arrivals while attracting a more up-market clientele. The Central Bureau of Statistics estimates that the number of foreign overnight stays in Croatia increased from around 16.5 in 1996 to 41.3 million in 2003; however this is still well short of the 1989 level of 54.5 million.

*Sources: Government Pre-Accession Economic Program 2005-2007, IMF Selected Issues*

---

**Table 1-1: Croatia: Key economic indicators**

<table>
<thead>
<tr>
<th>Real Sector</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>percentage change</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real GDP</td>
<td>2.9</td>
<td>4.4</td>
<td>5.6</td>
<td>5.3</td>
<td>3.8</td>
<td>4.3</td>
</tr>
<tr>
<td>Exports of goods and services</td>
<td>12.0</td>
<td>8.1</td>
<td>1.2</td>
<td>11.4</td>
<td>5.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Imports of goods and services</td>
<td>13.4</td>
<td>15.9</td>
<td>14.0</td>
<td>10.0</td>
<td>6.7</td>
<td>7.9</td>
</tr>
<tr>
<td>Fixed investment</td>
<td>3.7</td>
<td>9.8</td>
<td>13.4</td>
<td>12.1</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Private consumption</td>
<td>4.2</td>
<td>4.5</td>
<td>7.7</td>
<td>4.6</td>
<td>3.9</td>
<td>3.4</td>
</tr>
<tr>
<td>Average CPI inflation</td>
<td>4.6</td>
<td>3.8</td>
<td>1.7</td>
<td>1.8</td>
<td>2.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Gross wages</td>
<td>7.0</td>
<td>3.9</td>
<td>6.0</td>
<td>4.8</td>
<td>6.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Unemployment rate (ILO)</td>
<td>16.1</td>
<td>15.8</td>
<td>14.8</td>
<td>14.3</td>
<td>13.8</td>
<td>12.7</td>
</tr>
</tbody>
</table>

as % of GDP

<table>
<thead>
<tr>
<th>Trade of goods and services</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports of goods and services (in US$)</td>
<td>46.9</td>
<td>48.5</td>
<td>45.9</td>
<td>50.2</td>
<td>49.9</td>
<td>49.0</td>
</tr>
<tr>
<td>Imports of goods and services (in US$)</td>
<td>52.1</td>
<td>54.4</td>
<td>56.7</td>
<td>58.1</td>
<td>57.1</td>
<td>56.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Government</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal deficit*</td>
<td>-6.5</td>
<td>-6.8</td>
<td>-4.9</td>
<td>-6.2</td>
<td>-4.9</td>
<td>-4.1</td>
</tr>
<tr>
<td>Quasi fiscal deficit (HBOR)</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>-0.6</td>
<td>-0.4</td>
<td>-0.1</td>
</tr>
<tr>
<td>Overall deficit</td>
<td>-6.5</td>
<td>-6.8</td>
<td>-4.9</td>
<td>-6.8</td>
<td>-5.3</td>
<td>-4.2</td>
</tr>
<tr>
<td>Overall public sector debt, including contingent liabilities</td>
<td>49.5</td>
<td>51.1</td>
<td>50.7</td>
<td>51.1</td>
<td>52.1</td>
<td>52.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External accounts (in US$)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current account balance</td>
<td>-2.5</td>
<td>-3.7</td>
<td>-8.3</td>
<td>-7.2</td>
<td>-5.2</td>
<td>-6.7</td>
</tr>
<tr>
<td>FDI</td>
<td>5.9</td>
<td>6.0</td>
<td>2.5</td>
<td>6.5</td>
<td>2.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Reserves (months of imports)</td>
<td>4.4</td>
<td>5.2</td>
<td>5.4</td>
<td>5.7</td>
<td>5.2</td>
<td>4.9</td>
</tr>
</tbody>
</table>

*General Government deficit including only 53 local government units.
Sources: CBS, Croatian National Bank and Ministry of Finance, WB staff calculations.
1.5 The Central Bank has pursued a relatively tight monetary policy to partly compensate for the government’s loose fiscal stance, and inflation has therefore remained generally low. In addition, the government has responded to the rising external debt and vulnerability by reducing the deficit from 5.6 percent in 2003 to 3.6 percent in 2005 through slower wage bill growth, lower transfers and public investment, and structural reforms (Table 1-1).  

1.6 One of Croatia’s biggest challenges is to boost employment. Croatia has one of the lowest employment rates in Europe, at only 54.7 percent, well below the so-called Lisbon employment rate target of 70 percent set by the European Commission (EC) for the year 2010 (Figure 1-2). Croatia’s unemployment rate is higher than the EU25 average (around 14 percent versus 9 percent respectively in 2004) and its labor force participation rate is lower.  

**Figure 1-2: Total employment rate in Croatia falls well short of the Lisbon target**

- Iceland
- Denmark
- Netherlands
- Sweden
- United Kingdom
- Austria
- Slovenia
- Germany
- Czech
- France
- Estonia
- Latvia
- Lithuania
- Spain
- Romania
- Italy
- Slovakia
- Hungary
- Croatia
- Poland

Source: Eurostat. Data for all countries are for 2004, and rates shown are for ages 15-64 yrs.

1.7 The proportion of long-term unemployed—workers without jobs for 12 months or longer—is higher than in all EU countries except Poland and Slovakia (Figure 1-3). Long-term unemployment is generally much more difficult to address than frictional unemployment. It is often concentrated in specific groups such as those with fewer skills and little education, and among young people, and often can lead to profound economic and social problems.

**Figure 1-3: High Long-term Unemployment**

Source: Eurostat. Data are for 2004.

---

10 The employment rate in this instance is defined as the share of the country’s total population aged 15 – 64 that was working when the survey was fielded.
1.8 As in other countries in Central and Eastern Europe, employment in Croatia fell quite rapidly during the early years of transition in the early 1990s, when the total output of the economy fell substantially in real terms (Figure 1-4). The decline in employment slowed down somewhat after an economic upturn in 1994, but job creation in the expanding economy has generally remained slow; CBS data show an expansion only from 1.35 million in 1999 to 1.4 million in 2003.

**Figure 1-4: Growth in total employment in Croatia has lagged behind GDP growth and wages**

![Graph showing GDP, real net wages, and civilian employment growth from 1990 to 2004.](image)

*Source: Central Bureau of Statistics. Index, 1990=100.*

Data from various labor force surveys show virtually no change in the participation rate in recent years (Table 1-2).

**Table 1-2: Key labor force indicators for Croatia: 2000 - 04**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation Rate</td>
<td>50.8</td>
<td>49.7</td>
<td>50.9</td>
<td>50.3</td>
<td>50.5</td>
</tr>
<tr>
<td>Employment Rate</td>
<td>42.6</td>
<td>41.8</td>
<td>43.3</td>
<td>43.1</td>
<td>43.5</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>16.1</td>
<td>15.8</td>
<td>14.8</td>
<td>14.3</td>
<td>13.8</td>
</tr>
</tbody>
</table>

*Source: Published LFS data; data are for population aged 15 yrs and older.*

1.9 Higher economic output in recent years has benefited workers less through job growth than through higher wages. Labor productivity per person employed in Croatia has risen considerably in the past decade relative to the EU average and has been reflected in rising wages over the period 2001-03.
1.2 SECTORAL AND REGIONAL TRENDS IN OUTPUT, INCOME, AND EMPLOYMENT

Overall, the services sector is the biggest and most dynamic sector of Croatia’s economy. Regional inequality has risen somewhat in recent years, reflecting differences in the growth of output and, possibly in rates of job creation and destruction.

1.10 Output, income, and employment patterns differ significantly across the regions of Croatia. The differences reflect diverse factors such as the impact of the recent war, varied geographic terrain, and special problems faced by those regions with a higher concentration of traditional industries currently facing problems. Following the same analytical regional classification used in the World Bank’s earlier poverty assessment to maintain comparability, this report uses a breakdown of five main geographic regions (Table 1-3) to examine the variations.\(^{11}\)

<table>
<thead>
<tr>
<th>Analytical Region</th>
<th>Counties included in the Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zagreb</td>
<td>Zagreb County and Zagreb City.</td>
</tr>
<tr>
<td>Adriatic North</td>
<td>Primorje-Gorski Kotar, Lika-Senj, and Istria.</td>
</tr>
<tr>
<td>Adriatic South</td>
<td>Zadar, Sibenik-Knin, Split-Dalmatia and Dubrovnik-Neretva.</td>
</tr>
</tbody>
</table>

1.11 As in other developed economies, the services sector makes the largest contribution to output and employment in Croatia, though there are important differences across regions. The smallest share of employment is in agriculture (Figure 1-5).

1.12 *Agriculture:* The agriculture sector in Croatia is small compared to that in other countries with similar income levels in the region, and three-quarters of the workers it employs are self-employed farmers. The sector is quite varied, reflecting the country’s geographic diversity, with cultivated lowland regions, mountainous regions where pastures predominate, and coastal areas where viticulture, fruit, and olive production are prominent. Agriculture provides the largest share of total employment in the Central and Eastern regions (19 – 20 percent), while in other regions it constitutes only 4 – 5 percent.

\(^{11}\) While representing only one of several possible regional classification schemes, this grouping provides a useful summary of regional variation in Croatia, but at the same time also ensuring that the survey sample size in each group is large enough to permit reasonable statistical accuracy.
1.13 **Industry**: Industry supplies a relatively large share of jobs in Central Croatia (30 percent), particularly in the counties of Varaždin and Sisak-Moslavina, while in other regions it contributes only about 19 – 23 percent. Croatia’s main industries are foods and beverages, petroleum, chemicals, electrical manufacturing, paper, printing and publishing, and shipbuilding. The sector is diverse, including rapidly growing industries such as publishing and some capital goods manufacturing, alongside activities such as textiles or metal industries that face increased international competition. A sizeable share of output is still produced in state-owned companies that have not yet been fully restructured.

1.14 **Services jobs in the private sector** predominate in the Zagreb and Adriatic regions (particularly in the counties of Zagreb and Dubrovnik) and provide more than half of the total employment in these regions, compared to considerably smaller shares in the Central and Eastern regions (31 percent and 37 percent respectively). **Public sector jobs**, by contrast, are fairly evenly distributed across all regions, comprising about 18 – 23 percent of total employment, depending on the region.

1.15 The tertiary sector has achieved the fastest growth in output, while the output of farming and fisheries has declined. Thus, in Zagreb as well as the Adriatic regions, where the tertiary sub-sector accounts for a larger share of the overall economy, per capita GDP grew faster than in the Central and Eastern regions.

1.16 Trends in per capita GDP show a small rise in inequality at the regional level in Croatia between 2001 and 2003 (Figure 1-6). The ratio between GDP per capita in the highest and lowest ranked region rose from 2.1 to 2.2 during these two years. This is a short period over which to measure a trend, but such a rise would be consistent with what has taken place in many of the EU new member states, as discussed further in Chapter 4.

1.17 It is possible that rising interregional inequality may be linked to differential patterns of job creation and destruction at the regional level. Those of Croatia’s regions that have achieved the best economic performance have a dynamic small and medium enterprise sector and a relatively large share of newly created private firms. Since the mid-1990s these firms have had considerably higher rates of job creation and destruction than other types of firms (Figure 1-7).  

---

12 This pattern of differential growth across sectors is in line with the experience of new member states (NMS) just before their EU accession; regions with a higher share of the tertiary sector (excluding the public sector) grew faster than others. In the case of the industrial sector, internal structure (e.g. export orientation, technology transfer, etc.) seemed to matter more than total share in the economy. By contrast, regions with a large share of agriculture and public sector activity tended to experience slower than average growth. For more details, see Background Paper No. 4.

13 The firm-level data on job flows are from FINA (Croatia’s financial agency). For more details of this analysis, see Background Paper No. 6.
Figure 1-7: Small firms in Croatia have been quite dynamic in job creation

... and over time have increased their share in total employment

Source: World Bank estimates based on FINA data.

1.18 Analysis of the regional pattern of economic growth in Croatia shows a positive relationship between the proportion of market SMEs in total gross value added and economic growth rates at the county level (Figure 1-8).

1.19 Looking ahead, the economies of Croatia’s most developed counties—Zagreb, Istria, and Primorje-Gorski—have large tertiary sectors, active small and medium size enterprises, and large-scale entrepreneurs, and appear well positioned to continue growing rapidly. Counties in

---

14 For details, see Background Paper No. 4.
Adriatic Croatia are similarly well positioned, with a dynamic SME sector, relatively large shares of people of working age and good educational qualifications within their populations, and they appear likely to benefit from continued rapid growth in tourism. By contrast, counties in Eastern and Central Croatia have relatively less favorable economic structure, and face a significant risk of lagging further behind.

1.3 Changes in Poverty and Inequality: 2002-04

Poverty in Croatia is quite limited and shallow; some 11 percent of the population are poor and another 10 percent are vulnerable to falling into poverty. But some groups, numbering about 1 percent of the population, clearly face severe deprivation. Recent trends in absolute poverty are ambiguous but subjective measures of well being indicate some improvements.

To estimate poverty, this report uses a cost-of-basic needs method, whereby any household whose total welfare falls below the derived poverty line is considered poor (Box 1-3). Our preferred measure of welfare is consumption per adult-equivalent, as derived from data from Croatia’s HBS series. To cross-check the robustness of the results obtained, income per adult-equivalent from the same data source is used as an alternative measure.

Box 1-3: Deriving an Absolute Poverty Line for Croatia

Following Ravallion (1994), a cost-of-basic needs poverty line is defined as the level of total consumption at which households spend just enough to achieve a minimum required energy intake and to meet basic non-food needs. The estimation of this line involves three main steps:

1. Choice of the minimum food basket: Food energy requirements for individuals of different age and sex were defined following the World Health Organization (1985) and FAO (2004) recommendations adapted to the Croatian context. A norm of 2,700 kcal per day per adult-equivalent was adopted. A minimum food basket was derived by averaging food consumption per adult-equivalent for households in the lowest quintile of the total equivalent consumption distribution in the HBS sample. The resulting quantities were transformed to calorie values by using conversion tables of the Croatian Institute for Public Health. Since the average calorie intake per adult-equivalent for this food basket was 2,859 kcal (i.e. higher than the norm), all food quantities were scaled-down (by 2,700/2,859) to get a food basket yielding 2,700 kcal per day.

2. Cost of the minimum food basket (the food poverty line): The prices of each food item needed to calculate the cost of the minimum food basket were obtained from the HBS data. Using the median unit values reported by households in the lowest quintile of equivalent consumption as reference prices, the cost of the minimum food basket turned out to be 529 kunas per month, or 6,348 kunas per adult-equivalent per year.

3. Estimating the overall poverty line: Finally, following the “cost-of-basic-need” approach, the (total) poverty line was then estimated by identifying those households for whom food expenditures were approximately equal to the cost of the minimum food bundle, and the total poverty line was calculated by averaging total household expenditures over this subset of households. The resulting poverty line is given in the table below, along with some illustrative values for different demographic groups of households.

<table>
<thead>
<tr>
<th>Total Poverty line (Kunas per year in 2004 prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single adult</td>
</tr>
<tr>
<td>22,145</td>
</tr>
</tbody>
</table>

Note: For more details on the estimation procedure, see Background Paper No. 1.
1.22 Both welfare measures show that poverty in Croatia is quite limited—depending on the measure used, only 10 – 11 percent (or fewer than half a million) of Croatia’s people consumed less than the 2004 poverty line of 22,145 kunas per adult-equivalent (Table 1-4).

<table>
<thead>
<tr>
<th>Poverty Measure (percent)</th>
<th>Expenditures</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty line used</td>
<td>22,145 kunas per adult equivalent per year</td>
<td></td>
</tr>
<tr>
<td>Poverty headcount rate – P0</td>
<td>11.1%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Poverty gap – P1</td>
<td>2.6%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Squared poverty gap – P2</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>


1.23 The poverty gap (P1) estimates how far below the poverty line the poor are on average as a proportion of that line. The squared poverty gap (P2) takes into account not only the distance separating the poor from the poverty line, but also inequality among the poor.

1.24 Both these distribution-sensitive poverty measures show that poverty in Croatia is quite shallow; on average the “depth of poverty” as measured by the poverty gap was only 2.6 percent.

1.25 Since the above broad categories of “poor” and “non-poor” may well conceal considerable inequalities within these groups, Table 1-5 provides a finer breakdown of these categories by level of welfare. Thus, within the overall 11.1 percent of the population classified as poor, some people are clearly considerably worse off than others—overall, about 40,000 people (one percent of the population) seem to be severely deprived, while another 140,000 consume at a level significantly below the national poverty line. An additional 10 percent of the country’s population are not poor but are vulnerable, with an average consumption level less than 25 percent above the poverty line.

<table>
<thead>
<tr>
<th>Welfare Level (Multiples of the Poverty Line)</th>
<th>Population</th>
<th>Share (%)</th>
<th>Cum. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Severe deprivation” (&lt; 0.5 poverty line)</td>
<td>41,800</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>“Also quite poor” (0.5 – 0.75 poverty line)</td>
<td>143,225</td>
<td>3.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Poor (0.75 – 1 poverty line)</td>
<td>283,146</td>
<td>6.7</td>
<td>11.1</td>
</tr>
<tr>
<td>“Vulnerable” to poverty (1 – 1.25 poverty line)</td>
<td>447,178</td>
<td>10.6</td>
<td>21.7</td>
</tr>
<tr>
<td>Moderately well-off (1.25 – 2 poverty line)</td>
<td>1,629,140</td>
<td>38.6</td>
<td>60.2</td>
</tr>
<tr>
<td>Well-off (&gt; 2 poverty line)</td>
<td>1,682,511</td>
<td>39.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Overall</td>
<td>4,227,000</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>


1.26 Trends in poverty over time were derived by first converting the 2004 poverty line (i.e. 22,145 kunas) into 2002 prices using the consumer price index to account for changes in the price level between 2002 and 2004. This yielded a poverty line of 21,390 kunas per adult-equivalent per year in 2002 prices. Data from the 2002 Household Budget Survey were then used to derive various poverty estimates based on the distribution of consumption and incomes per-adult equivalent.

1.27 Recent trends in poverty are ambiguous. Depending on the welfare measure used, the poverty headcount rate in Croatia appears to have either stagnated (based on consumption per adult-equivalent), or else fallen at about 1 percent a year (based on income per adult-equivalent) between 2002 and 2004 (Table 1-6). Other distribution-sensitive measures of poverty (P1, P2) also point to a stagnation or decline in poverty, depending on the welfare measure used.
Table 1-6: Poverty incidence in Croatia

<table>
<thead>
<tr>
<th>Poverty Measure</th>
<th>Consumption 2002</th>
<th>Consumption 2004</th>
<th>Incomes 2002</th>
<th>Incomes 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty line used (per adult-equivalent per year)</td>
<td>21,390</td>
<td>22,145</td>
<td>21,390</td>
<td>22,145</td>
</tr>
<tr>
<td>Poverty headcount rate</td>
<td>11.2%</td>
<td>11.1%</td>
<td>13.0%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Poverty gap – P1</td>
<td>2.6%</td>
<td>2.6%</td>
<td>3.2%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Poverty severity – P2</td>
<td>1.0%</td>
<td>1.0%</td>
<td>1.2%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Source: World Bank estimates based on 2002 and 2004 HBS.

1.28 Income grew much faster than consumption in 2002-04, as can be seen by examining the growth incidence curves—that is, the variation in growth rates over the distribution—for changes in consumption and incomes per adult-equivalent (Figure 1-9). The distribution of consumption per adult-equivalent was stagnant on average, as well as across most of the distribution except the left and right tails, which showed positive and negative growth respectively over this period. As a result, it is not surprising to see virtually no change in poverty rates over this period based on this welfare measure. By contrast, incomes per adult-equivalent grew by about 6 percent over this period, on average. While all income groups recorded positive real income growth, both the poor and the rich did quite well over this period relative to the middle class.

Figure 1-9: Survey-based estimates show that income grew much faster than consumption

Subjective measures of well being suggest some improvements have taken place. The Household Budget Survey asked sample households their opinions regarding their own living standards. While measures based on these responses are not necessarily comparable with the absolute poverty measures presented above, the responses provide some useful indications of perceptions of changes in living conditions. The proportion of the population reporting itself as living “with great difficulty” declined from 13 percent in 2002 to 10 percent two years later, while the proportion reporting itself as living “well” or “very well” rose from around 10 percent to more than 20 percent over the same period (Table 1-7).

1.29 Subjective measures of well being suggest some improvements have taken place. The Household Budget Survey asked sample households their opinions regarding their own living standards. While measures based on these responses are not necessarily comparable with the absolute poverty measures presented above, the responses provide some useful indications of perceptions of changes in living conditions. The proportion of the population reporting itself as living “with great difficulty” declined from 13 percent in 2002 to 10 percent two years later, while the proportion reporting itself as living “well” or “very well” rose from around 10 percent to more than 20 percent over the same period (Table 1-7).
Table 1-7: Subjective welfare measures indicate improved living conditions

<table>
<thead>
<tr>
<th>With its disposable monthly income, the household lives:</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002</td>
</tr>
<tr>
<td>With great difficulty</td>
<td>13.4</td>
</tr>
<tr>
<td>With difficulty</td>
<td>25.6</td>
</tr>
<tr>
<td>With some difficulty</td>
<td>29.5</td>
</tr>
<tr>
<td>Fairly well</td>
<td>21.8</td>
</tr>
<tr>
<td>Well</td>
<td>8.0</td>
</tr>
<tr>
<td>Very well</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: World Bank estimates based on 2002 and 2004 HBS.

1.30 Inequality in both consumption and income has been quite stable in recent years. While income per adult-equivalent in both years was more unequally distributed than consumption, comparisons over time of both distributions show that inequality, as measured by the Gini coefficient and inter-decile ratios, remained fairly stable during 2002-04 (Table 1-8).

Table 1-8: Income inequality remained fairly stable between 2002 and 2004

<table>
<thead>
<tr>
<th>Inequality Measure</th>
<th>Consumption</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cons. share of the bottom decile</td>
<td>0.038</td>
<td>0.034</td>
</tr>
<tr>
<td>Consumption share of the top decile</td>
<td>0.210</td>
<td>0.211</td>
</tr>
<tr>
<td>Decile ratio: (decile 9/decile 1)</td>
<td>3.181</td>
<td>3.592</td>
</tr>
<tr>
<td>Gini coefficient</td>
<td>0.258</td>
<td>0.270</td>
</tr>
<tr>
<td>Theil entropy measure</td>
<td>0.123</td>
<td>0.122</td>
</tr>
<tr>
<td>Mean log deviation</td>
<td>0.116</td>
<td>0.126</td>
</tr>
</tbody>
</table>

Source: World Bank estimates based on 2002 and 2004 HBS.

1.4 Poverty in Croatia: An International Perspective

Croatia’s poverty rates are the lowest among the World Bank’s client countries in the Europe and Central Asia region. But its social indicators are broadly in line with those in the upper middle-income countries of the region.

1.31 This section compares poverty levels in Croatia with those in other middle-income countries in Europe and Central Asia, using the same PPP$4.30 per capita per day international poverty lines used in a recent World Bank study on living conditions in the region.\(^{15}\) We derive a welfare measure and poverty line in local currency for Croatia using as similar a method as possible to that used for the other countries in the regional study, so as to maximize the cross-country comparability of the estimates derived.

1.32 Croatia has the highest average per capita consumption among the countries of the region: some 20 percent higher than Latvia, and some 30 and 40 percent higher than Macedonia and Hungary, respectively (Table 1-9). The share of food in the consumption basket (around 40 percent) is somewhat large for a country at Croatia’s income level. This is probably because food

prices in Croatia are relatively high compared to those of non-food items and also compared to food prices in other transition countries.

Table 1-9: International comparisons of poverty and inequality

<table>
<thead>
<tr>
<th>Country</th>
<th>Year of Survey</th>
<th>Consumption Per Capita (PPP $)</th>
<th>Food Share (%)</th>
<th>Poverty Rate (PPP 4.30/day Poverty Line)</th>
<th>Gini Coefficient (Per Capita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>2004</td>
<td>4,156</td>
<td>41.6</td>
<td>4</td>
<td>0.264</td>
</tr>
<tr>
<td>Hungary</td>
<td>2002</td>
<td>2,890</td>
<td>38.7</td>
<td>12</td>
<td>0.250</td>
</tr>
<tr>
<td>Latvia</td>
<td>2003</td>
<td>3,401</td>
<td>41.0</td>
<td>17</td>
<td>0.350</td>
</tr>
<tr>
<td>Belarus</td>
<td>2002</td>
<td>2,704</td>
<td>68.1</td>
<td>21</td>
<td>0.292</td>
</tr>
<tr>
<td>Ukraine</td>
<td>2003</td>
<td>2,496</td>
<td>72.2</td>
<td>22</td>
<td>0.268</td>
</tr>
<tr>
<td>Macedonia</td>
<td>2003</td>
<td>3,171</td>
<td>54.2</td>
<td>24</td>
<td>0.373</td>
</tr>
<tr>
<td>Lithuania</td>
<td>2003</td>
<td>2,762</td>
<td>44.5</td>
<td>24</td>
<td>0.325</td>
</tr>
<tr>
<td>Estonia</td>
<td>2003</td>
<td>2,753</td>
<td>42.2</td>
<td>26</td>
<td>0.330</td>
</tr>
<tr>
<td>Poland</td>
<td>2002</td>
<td>2,611</td>
<td>39.8</td>
<td>27</td>
<td>0.320</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>2003</td>
<td>2,248</td>
<td>58.7</td>
<td>33</td>
<td>0.277</td>
</tr>
<tr>
<td>Russia</td>
<td>2002</td>
<td>2,179</td>
<td>55.8</td>
<td>41</td>
<td>0.338</td>
</tr>
<tr>
<td>Serbia</td>
<td>2002</td>
<td>1,993</td>
<td>60.8</td>
<td>42</td>
<td>0.292</td>
</tr>
<tr>
<td>Turkey</td>
<td>2002</td>
<td>1,816</td>
<td>38.8</td>
<td>58</td>
<td>0.393</td>
</tr>
<tr>
<td>Romania</td>
<td>2003</td>
<td>1,624</td>
<td>57.8</td>
<td>58</td>
<td>0.288</td>
</tr>
<tr>
<td>Albania</td>
<td>2002</td>
<td>1,388</td>
<td>61.7</td>
<td>71</td>
<td>0.319</td>
</tr>
<tr>
<td>Moldova</td>
<td>2003</td>
<td>1,046</td>
<td>66.4</td>
<td>85</td>
<td>0.328</td>
</tr>
</tbody>
</table>

Source: World Bank (2005); World Bank estimates based on 2004 HBS for Croatia.

1.33 Croatia’s poverty rates are the lowest in the region. If the international poverty line of $PPP 4.30 per day per person is applied, the poverty rate for Croatia is around 4 percent, much lower than in the other countries in the region for which data are available. Similarly, the Gini coefficient for Croatia is low compared to those for other countries in the region.

1.34 The low rate of poverty in Croatia compared to other countries in the region is in line with what one might expect from Croatia’s income level (Figure 1-10). The dotted line in the figure shows the estimated relationship between headcount poverty rate and income levels from a cross-country regression using a quadratic fit.

1.35 While poverty rates in Croatia are lower than elsewhere, other social indicators are more or less in line with those in other countries in the region. For instance, infant and child mortality rates in Croatia are lower than in Latvia or Hungary, but higher than in the Czech Republic or Slovenia (Table 1-10).
Table 1-10: Key social indicators: cross-country comparison

<table>
<thead>
<tr>
<th>Adult Illiteracy (%)</th>
<th>Secondary school enrollment (Net, %)</th>
<th>Mortality rate, infant (per 1,000)</th>
<th>Mortality rate, under-5 (per 1,000)</th>
<th>Life expectancy at birth, total (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croatia</td>
<td>3</td>
<td>1.9</td>
<td>63</td>
<td>85.0</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>2.8</td>
<td>1.4</td>
<td>63</td>
<td>88.3</td>
</tr>
<tr>
<td>Czech Rep.</td>
<td>..</td>
<td>..</td>
<td>86</td>
<td>90.4</td>
</tr>
<tr>
<td>Estonia</td>
<td>0.2</td>
<td>0.2</td>
<td>82</td>
<td>87.9</td>
</tr>
<tr>
<td>Hungary</td>
<td>0.9</td>
<td>0.7</td>
<td>75</td>
<td>91.6</td>
</tr>
<tr>
<td>Latvia</td>
<td>0.2</td>
<td>0.3</td>
<td>77</td>
<td>87.4</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.7</td>
<td>0.4</td>
<td>81</td>
<td>94.1</td>
</tr>
<tr>
<td>Poland</td>
<td>..</td>
<td>0.3</td>
<td>76</td>
<td>91.5</td>
</tr>
<tr>
<td>Romania</td>
<td>2.9</td>
<td>2.7</td>
<td>73</td>
<td>81.1</td>
</tr>
<tr>
<td>Slovak Rep.</td>
<td>..</td>
<td>0.3</td>
<td>..</td>
<td>88.0</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0.4</td>
<td>0.3</td>
<td>89</td>
<td>95.3</td>
</tr>
</tbody>
</table>

Sources: UNESCO, World Bank database (DDP).

1.5 THE CONVERGENCE CHALLENGE: REDUCING THE INCOME GAP WITH EUROPE

Croatia has been narrowing the income gap with the European Union, but sustaining this trend will be challenging. Both the employment rate and labor productivity will need to rise substantially.

1.36 Croatia’s economic growth rate has exceeded the European Union average in eight of the past ten years (Figure 1-11). Between 1996 and 2005, Croatia’s per capita GDP rose by 55 percent, or about 2.5 times faster than that of the European Union overall. In relation to the EU25 average, Croatia’s per capita GDP rose from 37 percent in 1995 to 46 percent in 2004 (Figure 1-12).

1.37 The revised GDP series recently released by CBS shows that per capita GDP in Croatia in purchasing power parity terms is higher than the above numbers suggest. Methodological corrections taking into account possible under-estimation of GDP indicate that the gap between per capita GDP in Croatia and other EU countries may be 15 percent less than that indicated by these statistics. 16

Source: Ministry of Finance correspondence.
1.38 Taking this cue, let us assume that per capita GDP in Croatia is now as high as 55 percent of the EU25 level. Does the past trend rate of convergence, of roughly one percentage point a year, imply that Croatia is well on track to attaining an average living standard of 75 percent of the EU25 average living standards by 2025? A likely decline in population and labor force suggests that closing the remaining income gap with the EU25 will be quite challenging. Demographic projections show that Croatia’s population will start to fall by 2005, and that the size of the economically active age group will start to shrink by 2010. Figure 1-13 shows how GDP per capita in constant PPP US dollars of 2000 will evolve if it is driven solely by the decline in the labor force that will result from these demographic trends.
1.39 Far from continuing to rise, as it has during the past decade, GDP per capita will start to decline after 2010. As noted, these projections assume that GDP per capita growth is driven only by changes in labor force population dynamics. In what follows, we relax this assumption and extend the analysis in two respects.

1.40 We first analyze how GDP per capita would change if the employment rate were to rise to 70 percent by 2025\textsuperscript{17}, rather than staying at its current level of around 55 percent of the working age population (Figure 1-14, left panel). Such an increase in employment, due to increased labor force participation, would be large enough to compensate for the adverse impact of the decline in the working-age population. But by itself, the higher employment rate would not raise Croatia’s per capita GDP to three-quarters of the average EU25 per capita GDP by 2025 (Figure 1-14, right panel, scenario A). To meet this income target, not only would employment need to rise to 70 percent, but output per worker would also need to rise—by about 0.67 percent per year (Figure 1-14, right panel, scenario B).

**Figure 1-14: Convergence, labor market participation, and productivity**

\textbf{Employment rates rises from 55 to 70 percent (i.e. Lisbon Target) by 2025}
\textit{Source: World Bank estimates based on databases of the World Bank and World Bank population projections.}

1.41 To sum up, even though average standards of living in Croatia have been converging with those of the EU25, our analysis suggests that a substantial gap still remains, and that continuing to close this gap will not be easy. Rather, it will require implementing a comprehensive reform agenda aimed at sustaining high per capita GDP growth through increased employment and rising worker productivity.

\textsuperscript{17} This percentage is the so-called Lisbon target, which was originally set for the year 2010.
2. **Profile of Poverty and Inequality in Earnings**

Household size, age, education, and employment status of the household head are important correlates of poverty. Poverty is tightly associated with the activity status of the head of household; those household heads who are retired, unemployed, or economically inactive feature prominently among the poor. The poor derive more than half their income from transfers and relatively little from productive activities. In the labor market, women and youth face significant disadvantages, while workers with secondary and more education enjoy substantial wage premiums. Headcount poverty rates vary among regions, though they tend to overstate the regional differences in living conditions. Worse-than-average living standards in the Central and Eastern regions are linked to the poorer labor market outcomes of workers in these regions, who have lower participation rates, lower employment rates, and lower wages. Part, but only part, of the regional variation in living standards across regions can be explained by underlying differences in the human capital of workers.

2.1 This chapter provides a profile of poverty across different population sub-groups and regions. The key questions addressed are (1) who are the poor? (2) where do they live, (3) what are their economic activities? and (4) why do earnings vary so much across different groups?

2.1 **Profile of the Poor**

2.2 Poverty is related to household size. The relationship between poverty risk and household size follows a U-shaped pattern, so that households that are small (1-2 people) and large (more than 4 people) face greater poverty risks than households of 3-4 people (Figure 2-1, left panel). About two-thirds of all Croatians live in households with 2-4 members. While fewer than 10 percent of Croatians live in one-person households, this group comprises almost one-fifth of the country’s poor (Figure 2-1, right panel).

![Figure 2-1: Poverty incidence and breakdown by size of household](image)

Source: World Bank estimates based on 2004 HBS.
2.3 In rural areas in particular, one-person households face the highest risk of poverty—about 3.5 times the national average risk—followed by two-person rural households—with twice the national average risk.

2.4 The risk of poverty increases with age. The incidence of poverty is highest among households headed by the elderly, who face a poverty risk twice the average (Figure 2-2, left panel). Even though only one-fourth of the population belongs to households headed by an elderly person (65 years or older), this group accounts for almost half of the poor.

2.5 Female-headed households have a higher risk of poverty than households headed by males. One-third of Croatia’s population lives in households headed by a female, and within this group, individuals in households headed by a female aged 65 or more have the highest incidence of poverty, equal to 26 percent (12 percent and 30 percent in urban and rural areas respectively).

2.6 Poverty among individuals appears to be quite stable over the life cycle until the age of 55, when it begins to rise sharply. This pattern (Figure 2-2, right panel, left axis) is by and large unaltered by consideration of the poverty gap index (right axis). With regard to the depth of poverty, however, a peak is observed among the youngest children (aged 0-4), who have the second highest value for the poverty gap index. This suggests that households with babies stand out as a group deserving special attention: their risk of poverty is similar to that of households with older children but their hardship is significantly greater.

**Figure 2-2: High poverty incidence among the elderly**

![Poverty incidence chart](image)

Source: World Bank estimates based on 2004 HBS.

2.7 Within households headed by elderly people, those who do not receive pensions are particularly vulnerable, facing a poverty risk more than five times the national average. Even those receiving pensions have almost twice the national average poverty risk (Figure 2-3).
2.8 Like most countries, Croatia shows a strong negative correlation between poverty risk and the level of education of the head of household (Figure 2-4). This pattern does not vary much between urban and rural areas, though irrespective of their educational level, rural households face a systematically higher poverty risk than urban households. Secondary education stands out as the key threshold: households whose heads have only primary or even less education have a poverty risk twice the average, but secondary education reduces the risk of poverty to one-third of the average. More than three-quarters of the poor live in households headed by individuals with primary or less education.

2.9 The poor do not save much and barely borrow in formal credit markets. The evidence suggests that the income of the poor does not allow them to save (only 4 percent of the poor report positive savings during the recall period). And only 13 percent of the poor report access to borrowing (from either the banking system or intermediaries other than relatives) during the last 12 months. The combination of low capacity to save with limited access to borrowing suggests that the poor are also vulnerable to shocks and hence to income fluctuations.
2.10  *A surprisingly high percentage of individuals, not only among the poor, have limited or no access to basic services.* About 8 percent of the population lives in dwellings without toilets, and 8 percent have no telephone lines. One fourth of the poor live in dwellings without water supply—which clearly indicates considerable deprivation, given Croatia’s status as a middle-income country.

2.11  *Malnutrition is not a problem.* While the average diet of the poor tends to be less varied than that of the non-poor, on average nutritional standards are met. There is no sign of protein deficiency, and the average daily intake is safely above the minimum daily requirement of 62 grams/day, both for the poor (88 grams/day) and the non-poor (108 grams/day).

**Box 2-1: Poverty and the elderly in Croatia: Some key insights from the 2002-04 HBS data**

As noted earlier, the incidence of poverty is highest among Croatian households headed by the elderly, who face a poverty risk twice the national average. Overall, while only about one-fifth of the country’s total population is 65 year or older, this group comprises a disproportionately high share (about two-fifths) of Croatia’s poor (see figures below).

The modal household size in Croatia is 4, with about 27 percent of the population living in such households (figure below, panel A). By contrast, the elderly (i.e. those aged 65+ years) are much more likely to live in smaller households—typically those with only one or two members. This is especially true of the elderly poor, more than four-fifths of whom live in such households.
2.2 Poverty and Region of Residence

Headcount poverty rates vary widely across regions, but tend to overstate regional inequality in living conditions.

2.12 Despite the relatively low overall poverty rate in Croatia, the variation in poverty incidence across regions suggests, at least at first sight, considerable regional variation in living conditions. As noted above, we use a breakdown of five main geographic regions for Croatia, and urban and rural areas separately within each. To improve the precision of the derived poverty estimates, data for the 2002, 2003, and 2004 HBS are pooled together. Using this classification and procedure, we find that poverty incidence varies quite considerably across the various regions, from less than 3 percent of the population in urban Zagreb to more than 20 percent in the rural Central and Eastern regions (Figure 2-5).

![Figure 2-5: Regional variation in poverty incidence across Croatia](image)

Source: World Bank estimates based on pooled 2002-2004 HBS.

2.13 Ranking regions by level of poverty incidence, the following broad typology emerges:

- **Low poverty**: Zagreb Region, Adriatic North, and urban Adriatic South (taken together, comprising about half Croatia’s population, but only one-sixth of the poor);
- **Moderate poverty**: Rural Adriatic South, urban Central, urban East (roughly one-fourth of Croatia’s population and about 30 percent of the poor);
- **High poverty**: Rural Central and Rural Eastern region (roughly one-fourth of the population, but more than half of the poor).

2.14 Actual differences in living conditions across various regions in Croatia are probably less stark than suggested by the poverty rates above. As discussed in Chapter 1, poverty in Croatia is
quite shallow, and the incomes of a fairly large share of the poor are not far below the poverty line. Thus, for example, while the poverty rate in rural Eastern and Central Croatia is more than five times higher than that in urban Zagreb, average per capita expenditures in those regions are only about 40 percent lower than in urban Zagreb.

2.15 Estimates of income and consumption based on household survey data show both as somewhat more equally distributed than estimates of GDP per capita based on regional income accounts (Figure 2-6). Thus, the survey-based estimates of income and consumption vary only by around 1.5:1 between the Zagreb and Eastern region, while estimates of GDP per capita vary by a factor of 2.2:1 across those regions.

Figure 2-6: Regional variation in selected welfare indicators

![Figure 2-6: Regional variation in selected welfare indicators](image)


2.16 Several factors help to explain these differences. First, both public and private transfers redistribute resources from high- to low-income regions within the country. Second, while areas of high economic activity tend to be quite concentrated spatially, notably in large cities such as Zagreb, workers in these activities often live in bordering counties and regions. Third, part of the value-addition attributed to enterprises and firms in the regional accounts is in fact passed on as profits and earnings to owners residing elsewhere (including foreign corporations, governments, and shareholders). For these reasons as well as a variety of others, household survey-based estimates of income and consumption in general tend to be better indicators of variations in living standards across regions.
2.3 Economic Activities and Income Sources of the Poor

The poor depend heavily on transfers for their income, consistent with their low rates of labor force participation and their relatively advanced age. Households headed by the unemployed are a small but very vulnerable group.

2.17 Unlike the non-poor, the poor obtain a large share of their income from transfers; self-employment and productive activities supply relatively little (Figure 2-7). First, for the poor, pensions plus state transfers account for 57 percent of total income; for the non-poor, in contrast, transfers represent only 31 percent of total income. Second, the share of income from self-employment is 5 percent among the poor and 10 percent among the non-poor. Third, overall, the poor get only a small fraction of their resources from productive activities: their wages plus self-employment income plus in-kind income together supply less than one-fourth of their total income. This is consistent with both the low labor force participation rates among the poor and their relatively advanced age (Figure 2-7).

![Figure 2-7: Sources of income for poor and non-poor households](image)

Source: World Bank estimates based on 2004 HBS.

2.18 Poverty is tightly associated with the activity status of the main breadwinner. Households headed by a “retired,” “unemployed,” or “other inactive” person show the highest rates of poverty incidence, and represent 62 percent of the total poor. Retirement doubles the risk of poverty in rural though not in urban areas. The incidence of poverty among households headed by a retired person is below the average in urban areas (9 percent) but close to twice the average in rural households (Figure 2-8). There are three reasons why. First, the proportion of the population living in households headed by 65+ individuals without pensions is higher in rural areas, at 2 percent compared to only 0.3 percent in urban areas. Second, urban individuals receive better protection from other household members than do their rural counterparts. Of the households headed by individuals aged 65+ and without pensions, about 87 percent live in rural areas. Third, given the contributory pension system in Croatia, pensions in rural areas are significantly lower than in urban, especially those of self-employed farmers.
2.19 Households headed by the unemployed are a relatively small group (only 3 percent of Croatia’s households), but they face a risk of poverty considerably higher than the national average, both in rural and urban areas (28 and 26 percent, respectively). The self-employed face a considerably lower poverty risk in urban areas (2 percent), than in rural (18 percent). The group of “other inactive” accounts for 3.5 percent of the total population and 9 percent of the poor (Figure 2-9); among this group, there are large disparities in the incidence of poverty between urban and rural areas.
Women and young people have higher unemployment rates and lower wages than other labor market participants. More educated workers are paid higher wages. Worse-than-average living standards in Eastern and Central Croatia are linked to the poorer labor market outcomes of workers in these regions. Some, but by no means all, of the earnings differences across regions are explained by differences in workers’ own underlying characteristics.

2.20 A person’s labor market status clearly has an important bearing on poverty risk, so this section outlines the main determinants of employment and earnings at the national and regional levels. Before doing so, we describe some key features of the labor market in Croatia overall, as well as by region, using data from the 2002-04 Labor Force Surveys.

2.21 Indicators such as employment and unemployment rates and earnings level vary considerably across age groups, education groups, gender, and regions. Compared to others, women and youth face significant disadvantages in the labor market.

2.22 Employment rates among youth are particularly low—fewer than one in four people aged 15-25 years have jobs, and the unemployment rate for this age group is about three times that of the age group 25-50 (Table 2-1). Young Croats who manage to find jobs earn, on average, less than 2,500 kunas per month—about 30 percent less than those who are 25 years or older. With a high unemployment rate and low earnings, Croatia’s young people face a particularly difficult situation.

<table>
<thead>
<tr>
<th>Age Group / Education Level</th>
<th>Employment rate (%)</th>
<th>Unemployment rate (%)</th>
<th>Monthly earning (kunas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 – 25 years</td>
<td>24.9</td>
<td>35.9</td>
<td>2,449</td>
</tr>
<tr>
<td>25 – 50 years</td>
<td>72.4</td>
<td>12.9</td>
<td>3,316</td>
</tr>
<tr>
<td>50 – 65 years</td>
<td>42.0</td>
<td>8.5</td>
<td>3,463</td>
</tr>
<tr>
<td>No school or uncompleted basic education</td>
<td>30.8</td>
<td>12.5</td>
<td>1,675</td>
</tr>
<tr>
<td>Basic education</td>
<td>37.0</td>
<td>16.1</td>
<td>2,256</td>
</tr>
<tr>
<td>Lower secondary vocational education</td>
<td>61.6</td>
<td>16.0</td>
<td>3,115</td>
</tr>
<tr>
<td>Higher secondary education</td>
<td>31.7</td>
<td>17.5</td>
<td>3,247</td>
</tr>
<tr>
<td>Two-year post secondary education</td>
<td>73.5</td>
<td>8.7</td>
<td>4,313</td>
</tr>
<tr>
<td>University education and above</td>
<td>82.8</td>
<td>7.5</td>
<td>5,252</td>
</tr>
</tbody>
</table>

Source: World Bank estimates based on pooled 2002–04 LFS.

2.23 As in many other countries, educated people are more likely to get work, and their earnings increase with their levels of schooling (Table 2-1). Not only do people with tertiary education have lower unemployment rates than those with less education, but those who find employment also earn much more. For example, the unemployment rate of individuals with university education and above is only about 7.5 percent, less than half that of individuals with only a basic education (16 percent). Similarly, the earning level of individuals with university education and above is on average three times that of individuals with no school or uncompleted
basic education, and about 70 percent higher than that of individuals with only lower secondary vocational education.

2.24 Gender is also an important dimension of inequality in Croatia. Women and youth earn less, on average, than other workers in Croatia (Figure 2-10).

![Figure 2-10: Low monthly earnings for women and youth](image)

Source: World Bank estimates based on pooled 2002-04 LFS.

2.25 In addition, women have a lower participation rate, a lower employment rate, a higher unemployment rate, and lower monthly earnings than men (Table 2-2). The worse than average living standards of the Eastern and Central regions are linked to the poorer labor market outcomes of workers in these regions. The earnings of workers are quite similarly distributed in the two regions. LFS data for 2002-04 show that both regions have relatively large shares of workers with average earnings clustered around 1,800 – 2,000 kunas per month, and in general earn considerably less per month than workers living in other regions (Table 2-3 and Figure 2-11).

![Table 2-3: Selected labor market indicators, by region](image)

Source: World Bank estimates based on pooled 2002-04 LFS.
To ascertain the underlying causes of regional differences in living conditions requires a better understanding of why average earnings vary so significantly across workers and regions. Results from a regression model based on data from the labor force surveys show that both the likelihood of getting employed and a worker’s average earnings increase with age (which in turn probably acts as a proxy for the worker’s level of experience), though at a steadily declining rate until this effect peaks at around 40 years of age (the impact of age on earnings continues to rise for some more years).\footnote{For more details on the regression results, see Background Paper No. 5. Note that since not everyone in the labor force works for wages, the estimates control for selection bias in the wage regression.} Other things equal, women are less likely to find employment than are men in all regions of the country, and those women who do manage to find a job earn less on average than their male counterparts. Finally, our analysis suggests that married individuals and heads of households in Croatia are more likely than others to search for and obtain employment.

In Croatia, as in many other countries, labor markets offer significant returns to education. The multivariate analysis confirms the pattern noted above, that individuals with better educational attainment are much more likely to be employed and to have significantly higher earnings than those with little or no education (Table 2-4).

\begin{table}[h]
\centering
\begin{tabular}{lccc}
\hline
\textbf{Education Level} & \textbf{Employment Rate} (%) & \textbf{Unemployment Rate} (%) & \textbf{Monthly Earning (kunas)} \\
\hline
No school or uncompleted basic education & 30.8 & 12.5 & 1,675 \\
Basic education & 37.0 & 16.1 & 2,256 \\
Lower secondary vocational education & 61.6 & 16.0 & 3,115 \\
Higher secondary education & 31.7 & 17.5 & 3,247 \\
Two-year post secondary education & 73.5 & 8.7 & 4,313 \\
University education and above & 82.8 & 7.5 & 5,252 \\
\hline
\end{tabular}
\caption{Employment, unemployment, and monthly earnings, by educational attainment}
\footnote{Source: World Bank estimates based on pooled 2002 - 04 LFS.}
\end{table}
2.28 Workers’ earnings are strongly correlated (0.8) with levels of schooling. Given differences across regions in labor market structure and performance (for example, proportions working or unemployed, earnings levels), the analysis allowed for the possibility that the impact of education on employment and earnings varies across regions. In this regard, our findings suggest that the impact of education on an individual’s likelihood of finding a job is highest in the Eastern region, followed by the Adriatic South. As noted above, both these regions have among the lowest employment and highest unemployment rates in Croatia (Table 2-3). It is not surprising that in regions with limited job availability, workers with more education are more likely to find jobs. But in Zagreb and the Central region, labor markets appear to offer relatively higher wage premiums to educated workers, reflecting higher employment and hence relatively more competitive demand for labor than in other regions.

2.29 Closer examination of workers’ human capital endowments, proxied by their years of schooling or their highest educational attainment—reveals considerable variation in average attainment levels across regions. For example, workers in Zagreb have at least one year more of education, on average, than workers in the Eastern and Central regions (Figure 2-12). Similarly, about two-fifths of workers in the Eastern and Central region have either “no schooling”, “uncompleted basic education”, or “basic education”, and only 5 percent of them have completed “university education or higher”, compared to 12 percent of the workers in Zagreb.

Figure 2-12: People in the eastern and central regions have lower education attainment

![Figure 2-12](chart.png)

Source: World Bank estimates based on pooled 2002-04 LFS.

2.30 When examining regional inequality, an important issue meriting attention is the extent to which variations in living conditions are due to differences in the characteristics of workers living in these regions vs. other regional characteristics. For instance, if most people in a given region have less education than those living elsewhere, this in turn might largely explain why the region is poorer than the rest of the country. To ascertain how important this consideration may be in Croatia, we used the Oaxaca-Blinder Decomposition (Box 2-2) to study the relative importance of regional and individual characteristics in helping to explain regional wage differentials.¹⁹

¹⁹ For more details on the analysis, see Background Paper No. 5.
2.31 We find that 28 – 35 percent of the overall average wage differential between the Zagreb and Adriatic regions on the one hand, compared to the Central region on the other hand (the Eastern region is very similar to the latter), can be attributed to individual characteristics of workers, such as higher educational attainment (Table 2-5).

Table 2-5: Oaxaca-Blinder Decomposition: Effect of individual vs. other characteristics on earnings

<table>
<thead>
<tr>
<th>Analytical Region</th>
<th>Mean Monthly Earning (kunas)</th>
<th>Individual Characteristics</th>
<th>Other Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>2,806</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Eastern</td>
<td>2,826</td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>Zagreb</td>
<td>3,735</td>
<td>35%</td>
<td>65%</td>
</tr>
<tr>
<td>Adriatic North</td>
<td>3,498</td>
<td>28%</td>
<td>72%</td>
</tr>
<tr>
<td>Adriatic South</td>
<td>3,524</td>
<td>31%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Note: The table shows the relative importance of individual characteristics such as age, gender, or education vs. “other characteristics”—that is, all other factors influencing wages including (but not limited to) region-specific factors not controlled for in the analysis. All regional comparisons reported are in relation to the Central region.


But 65 to 72 percent of the observed wage differentials across regions are explained only by “other regional factors.” This is another way of saying we have no explanation for these differences across regions. Lastly, we examine the hypothesis that the sector of employment—public versus private firms—affects workers’ earnings and hence the income differential across regions. Data from the 2002-04 rounds of the LFS show that the average monthly earnings of workers employed in “state firms, organizations, and institutions” are about 30 percent higher than those of workers employed elsewhere. Using a Oaxaca-Blinder decomposition to analyze these differences, we find that adjusting for differences in worker characteristics across the public and private sectors helps explain about 36–59 percent of the observed wage differential among regions. Since the share of employment in public sector firms tends to also be higher in the Zagreb and Adriatic regions, this may be partly responsible for the observed inequalities in earnings across regions.

Box 2-2: Understanding Differences across Groups through the Oaxaca-Blinder Decomposition

In seminal papers on regression-based decomposition into subgroups, Oaxaca (1973) and Blinder (1973) analyzed gender-based wage differentials. They estimated wages for men and women, decomposing the mean wage difference into a component ascribed to differences in the characteristics determining earnings and a component ascribed to differences in the returns to such characteristics. The first component is typically called the “explained” difference, because it arises from differences in human capital. The second component is called the “unexplained” difference, because it could arise from unequal treatment of the two groups in the market place or other factors, such as differences in the quality of human or physical capital, differences in the effort level, or other socio-cultural factors.
3. THE TWIN CHALLENGES OF EXTERNAL AND INTERNAL INCOME CONVERGENCE

Regional differences in living conditions, suggested by differences in GDP per capita, income, consumption, poverty, earnings, and education levels, confirm that a regionally focused development strategy makes sense for Croatia despite the country’s relatively small size. In planning such a strategy, the level of aggregation is an important choice. Counties are probably too small a unit for this purpose, partly because their relative rankings vary with the indicator of living standards that is chosen, and partly because the comparative advantage of regions often spans different counties. Looking ahead, the task of faster external income convergence with the EU will be challenging, and will require both faster job creation as well as flexibility in the allocation of jobs and workers in the economy. These will also help with more rapid improvement in living conditions in lagging regions. To these ends, the chapter highlights four sets of inter-related policy challenges and priorities: (1) sustaining high rates of growth to permit faster external income convergence, (2) building upon local comparative advantage in the regional development strategy to help reduce internal disparities, (3) promoting greater labor mobility, including measures aimed at building human capital to allow workers access to better opportunities, and (4) improving the adequacy and effectiveness of social safety nets within a responsible fiscal framework.

3.1 Lagging regions have received much attention and concern from public policymakers across the world, but especially in Europe, where substantial European Commission (EC) funds have been used to try to reduce regional inequalities. Lagging regions often have many similar features. For instance, they tend to be characterized by slow economic growth, high unemployment and poverty, low efficiency and productivity, little external trade, and generally low fiscal capacity for local redistribution. In addition, they often share several physical characteristics, including being landlocked, having outdated industries, and often lacking (or having exhausted) natural resources. But while policymakers agree on the need for public intervention to tackle regional inequalities in living conditions, much less agreement prevails on how best to do this, even within relatively similar countries.

3.2 For Croatia, regional development is an important element of the EU accession agenda, and extensive EC grants may eventually be available to help the country’s lagging regions catch up, to support economic and social conversion in areas facing structural difficulties, and to modernize systems of training to promote employment. EC funds aim at promoting income convergence not just across regions within a country but also across countries within the European Union. The National Strategy for Regional Development, whose principal goal is to enable all parts of the country “to contribute to sustainable national development and competitiveness, and to reduce social and economic disparities across the country”, envisages three main programs to achieve these objectives: (1) a county and wider region development program; (2) a disadvantaged areas development program; and (3) a cross-border and interregional cooperation program.
3.3 A key requirement for better social and economic development planning and monitoring will be to develop a statistical database and a system for gathering the necessary reliable statistics. While the Central Bureau of Statistics is setting in place a framework for collecting more disaggregated statistics (for example at the NUTS II and III levels), reliable information is not currently collected on socioeconomic characteristics at either the county or the regional level. Estimating poverty incidence at the regional level in Croatia is challenging, because the total sample size of the Household Budget Survey within each county is too small to yield estimates with the desired level of precision. To overcome the problem of small sample size, data from the 2002, 2003, and 2004 HBS rounds was pooled to derive poverty estimates at the county level. The resulting tables and maps provide useful insights into the variations in development indicators across different parts of the country. They show, for example, that while the Eastern and Central regions are both poor in monetary terms and human capital endowments, unemployment rates are quite high in the former but much lower in the latter. Similarly, while the two Adriatic analytic regions have similar levels of earnings per worker and human capital, unemployment rates are considerably higher in the south than the north.

3.4 The map of poverty incidence (Figure 3-1) clearly illustrates the relatively high concentration of the poor in the Central and Eastern parts of Croatia. Maps based on county-level estimates of the poverty gap and squared poverty gap also show a similar geographic distribution, and illustrate clearly that poverty in Zagreb as well as in the coastal counties is generally quite limited and shallow (Appendix). One of the benefits of the county-level data is that they can be aggregated up into whichever larger groupings are of interest to policymakers.

![Figure 3-1: Poverty incidence at the county level](image)

Source: World Bank estimates based on pooled 2002–04 HBS.

20 Regional statistics in Europe follow the Nomenclature des Unites Territoriales Statistiques (NUTS) classification which is based mainly on the total population of geographic units. Croatia corresponds to the NUTS I level, counties to the NUTS III level, and municipalities and cities fulfill the criteria for the establishment of NUTS IV regions. The issue of definition of NUTS II regions has not been resolved as yet.
3.1 POOR PEOPLE OR POOR REGIONS?

Key correlates of poverty—employment status, age of household head, and household size—help explain some but not all of the observed differences in poverty levels across regions. Given the relatively large unexplained regional differences in living standards, a regionally differentiated strategy probably makes good sense for Croatia.

3.5 Chapter 2 above emphasized that not only the region where a person lives, but also individual-level attributes—notably age, education, and employment status—are important predictors of whether a particular person is poor. In that chapter we used multivariate analysis and data on earnings from pooled Labor Force Surveys to begin to explore the question: are the poor people who live in a particular region poor because they have unfavorable endowments of education and other such individual-level attributes linked to higher incidence of poverty, or is their poverty status primarily due to region-specific attributes of their place of residence—for example, inadequate infrastructure, poor access to basic services, and too few jobs?

3.6 The county-level estimates of poverty incidence and its correlates allow us to take this exploration further. On the face of it, the data at the county level seem to support both individual- and region-specific causes for poverty. For instance, counties whose residents have a high level of educational attainment also tend to be the counties with high average incomes. This is illustrated in Figure 3-2 (bottom panel), which shows the variations in educational indicators and average incomes at the county level. The correlation between GDP per capita and proportion of population with primary education is found to be -0.5921, and the correlation between GDP per capita and proportion of working population is 0.49, which would suggest that the variation in living conditions across regions is due more to individual than to regional characteristics. At the same time, however, county-level infrastructure variables also appear to be strongly correlated with county-level estimates of per capita GDP—for example, the correlation between road density and GDP per capita is 0.63.

Figure 3-2: Average per capita incomes at the county level generally seem to be correlated with the educational attainment of the population

![Figure 3-2: Average per capita incomes at the county level generally seem to be correlated with the educational attainment of the population](image)

Average per-capita income (Croatia=100, 2002-04 HBS)    Post-Secondary Completion Rate (Percent, 2002-04 LFS)
Source: World Bank estimates based on pooled 2002–04 HBS and LFS.

21 See Background Paper No. 4.
3.7 Using HBS data for 2004, we explore further the relative impact of individual- and region-specific factors on the variation in living conditions across regions. Figure 3-3 outlines the analytical framework used. For example, suppose we wish to study whether people in rural areas are poorer because of the rural area, or because people with less education (which is associated with poverty) live predominantly in rural areas. The simple correlation between living in rural areas and poverty can be decomposed into two effects: (1) a direct effect, as shown by the partial correlation between rural residence and poverty; and (2) an indirect effect, which runs from rural residence via education to poverty. If the partial correlation between rural residence and poverty is much smaller than the corresponding simple correlation, this would imply that much of the relationship between living in rural areas and poverty is explained by the lower educational attainment of rural residents. At the limit, if the partial correlation between region and poverty is zero, this would imply that the region of residence has no direct impact on poverty, and that the entire observed correlation between the two is due to the indirect impact of education and its correlation with region of residence.

3.8 Using a three-step process, the simple concept illustrated above can be extended to a more complex multivariate framework to investigate the interrelationships between different sets of variables. In the first step, we use regression analysis to estimate the relationship between consumption per adult-equivalent and five key correlates of poverty: (1) education; (2) employment status; (3) region of residence; (4) age of household head; and (5) household size. In the second step, this estimated regression model is then used to predict consumption, holding constant across the population, in turn, each of these five correlates of poverty. In the third and final step, these predicted consumption estimates are used to estimate the relative poverty risk under several different scenarios.

3.9 In the discussion below we take the relationship between the education of the household head and consumption as an example to illustrate the approach used. The main findings are shown in Table 3-1. Column 0 presents the actual relative poverty risk for individuals grouped according to the level of education of their household heads. It shows, for example, that individuals in households whose head has completed only primary education face an 87 percent higher risk of poverty than an average Croatian. To examine the pathways by which educational attainment is associated with poverty, we calculate the relative poverty risks by level of education, after controlling for the partial effects of each of the five key correlates of poverty noted above. The resulting simulated poverty risks are presented in columns 1 – 5. As shown in column 1, the differences in relative poverty risk by education become substantially smaller after

---

See Background Paper No. 3 for more details on the methodology followed.
taking into account the partial effects of education—thus, for example, the relative poverty risk for the “Unfinished Primary” category drops from 2.85 to 1.80, while that for “General Secondary” rises from 0.24 to 0.49. Clearly, the educational level of the household head is a very important correlate of poverty.

Table 3-1: Relative poverty risk by educational attainment of the household head

<table>
<thead>
<tr>
<th>Educational Attainment of Household Head</th>
<th>ACTUAL Relative Poverty Risk (0)</th>
<th>Relative Poverty Risk after controlling for the partial effect of:</th>
<th>SIMULATED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Education</td>
<td>Employment status</td>
<td>Region</td>
</tr>
<tr>
<td>Unfinished Primary</td>
<td>2.85</td>
<td>2.83</td>
<td>2.77</td>
</tr>
<tr>
<td></td>
<td>(0.24)</td>
<td>(0.23)</td>
<td>(0.26)</td>
</tr>
<tr>
<td>Primary</td>
<td>1.87</td>
<td>1.96</td>
<td>1.76</td>
</tr>
<tr>
<td></td>
<td>(0.20)</td>
<td>(0.19)</td>
<td>(0.20)</td>
</tr>
<tr>
<td>Vocational secondary</td>
<td>0.62</td>
<td>0.56</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>(0.10)</td>
<td>(0.09)</td>
<td>(0.10)</td>
</tr>
<tr>
<td>General Secondary</td>
<td>0.24</td>
<td>0.23</td>
<td>0.27</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.06)</td>
<td>(0.08)</td>
</tr>
<tr>
<td>Post Secondary</td>
<td>0.02</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Overall Poverty Rate (%)</td>
<td>11.1</td>
<td>9.1</td>
<td>11.6</td>
</tr>
<tr>
<td></td>
<td>(0.86)</td>
<td>(0.8)</td>
<td>(0.80)</td>
</tr>
</tbody>
</table>

Source: Background Paper No. 3. Standard errors are in parentheses.

3.10 The main reason why the poverty risk differs across the various educational groups shown in Table 3-1 is because part of the association between education and poverty takes effect via other variables such as employment status, region, age, and household size. For example, since poorer regions tend, on average, to have residents with relatively little education, the simulated poverty risks taking into account the correlation between region of residence and education (column 3) are lower than those simulated on the basis of the simple correlations alone (column 0). Similarly, the younger population in Croatia has, on average, higher educational attainment than the elderly, so taking this correlation into account (column 4) narrows the differences in poverty risks across educational groups.

3.11 Similar analysis was carried out to help isolate the direct impacts of the other key correlates of poverty—employment status, region of residence, age of household head, and household size—on the risk of poverty. The findings confirm that people in households with elderly (aged 65 years and older), unemployed, or inactive heads have a significantly higher risk of poverty than the overall population.23 The risk of poverty is also strongly affected by a person’s region of residence. As shown in Table 3-2, while the regional variations in simulated poverty risks partly depend on the education, employment status, age, and household composition of the regional populations, these correlates of poverty explain only part of the observed regional variation in poverty. The differences in relative poverty risk attributable to region-specific factors (column 3) are considerably greater than those attributable to the correlation between region of residence and other variables considered in our analysis.

23 See Background Paper No. 3 for more details.
In other words, the other factors identified as key correlates of poverty—employment status, age of household head, and household size—help explain some but not all of the observed differences in poverty levels across regions. The results suggest that other region-specific factors, such as variations in the quality of regional infrastructure, play an important role in differences in regional living standards.

Table 3-2: Relative poverty risk by region of residence

<table>
<thead>
<tr>
<th>Region</th>
<th>ACTUAL Relative Poverty Risk</th>
<th>SIMULATED Relative Poverty Risk after controlling for the partial effect of:</th>
<th>(0)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual Education</td>
<td>Employment Status</td>
<td>Region</td>
<td>Age</td>
<td>Household size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>1.65</td>
<td>1.71</td>
<td>1.65</td>
<td>1.29</td>
<td>1.68</td>
<td>1.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.20)</td>
<td>(0.22)</td>
<td>(0.20)</td>
<td>(0.20)</td>
<td>(0.20)</td>
<td>(0.20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>1.69</td>
<td>1.61</td>
<td>1.67</td>
<td>1.29</td>
<td>1.71</td>
<td>1.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.23)</td>
<td>(0.24)</td>
<td>(0.23)</td>
<td>(0.18)</td>
<td>(0.23)</td>
<td>(0.23)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zagreb</td>
<td>0.30</td>
<td>0.22</td>
<td>0.35</td>
<td>0.61</td>
<td>0.25</td>
<td>0.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.06)</td>
<td>(0.07)</td>
<td>(0.10)</td>
<td>(0.06)</td>
<td>(0.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adriatic North</td>
<td>0.41</td>
<td>0.46</td>
<td>0.34</td>
<td>0.65</td>
<td>0.32</td>
<td>0.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.15)</td>
<td>(0.11)</td>
<td>(0.19)</td>
<td>(0.12)</td>
<td>(0.12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adriatic South</td>
<td>0.79</td>
<td>0.85</td>
<td>0.79</td>
<td>1.07</td>
<td>0.85</td>
<td>0.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.16)</td>
<td>(0.17)</td>
<td>(0.15)</td>
<td>(0.19)</td>
<td>(0.16)</td>
<td>(0.15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Poverty</td>
<td>11.1</td>
<td>9.1</td>
<td>11.6</td>
<td>10.0</td>
<td>11.0</td>
<td>10.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.86)</td>
<td>(0.8)</td>
<td>(0.9)</td>
<td>(0.80)</td>
<td>(0.9)</td>
<td>(0.83)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Background Paper No. 3. Standard errors are in parentheses.

Box 3-1: Regional Inequalities in Croatia: Legacy of the Past

Factors such as the impact of the war and the specificity of past development legacies have had implications for regional inequality in Croatia. Many of the counties comprising the Central and Eastern Croatia regions were war-affected, with severe impacts on certain municipalities reflected through county-level indicators. Although displacement, destruction of infrastructure and housing, and loss of livelihoods have been addressed through various programs and initiatives, the impact persists in terms of lagging development and is reflected in higher unemployment and lower incomes and household expenditures. This legacy is reinforced by the presence in these regions of declining industries in metal processing, chemical engineering, food processing and textiles. Many of the state-owned enterprises in these sectors have ceased to function or operate only with reduced workforces. Lacking concomitant job opportunities and linkages to opportunities, responses to job loss by workers have included: return to small-scale agriculture, family-based coping strategies, job search “discouragement” and participation in the informal economy. The impact of industry decline has had knock-on effects in certain areas as well.

3.2 HOW SIGNIFICANT ARE REGIONAL DISPARITIES IN LIVING CONDITIONS?

Most of the EU new member states experienced the so-called “gateway effect” during accession, whereby their capital regions grew much more rapidly than other regions. Seen in this light, the fact that parts of Croatia have been growing faster than others is not necessarily cause for concern, particularly since these gains can be shared by other regions through transfers.
3.13 Output, employment patterns, and living conditions differ across Croatia’s regions, though not significantly more than in the EU on average. For example, the ratio of the highest to lowest gross regional product is more or less in the middle compared to other European countries (Table 3-3). In fact, the extent of regional differences in average incomes is probably even smaller than indicated by the table below, since the average size of regions in Croatia as per the regional classification employed in this report is actually smaller than in other countries.24

<table>
<thead>
<tr>
<th>Country</th>
<th># of units</th>
<th>Year</th>
<th>Poorest (Euro)</th>
<th>Richest (Euro)</th>
<th>Ratio</th>
<th>Coefficient of variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>6</td>
<td>2002</td>
<td>1,701</td>
<td>3,054</td>
<td>1.79</td>
<td>0.26</td>
</tr>
<tr>
<td>France</td>
<td>22</td>
<td>2002</td>
<td>19,111</td>
<td>38,854</td>
<td>2.03</td>
<td>0.18</td>
</tr>
<tr>
<td>Spain</td>
<td>19</td>
<td>2002</td>
<td>11,214</td>
<td>23,077</td>
<td>2.05</td>
<td>0.20</td>
</tr>
<tr>
<td>Poland</td>
<td>16</td>
<td>2002</td>
<td>3,708</td>
<td>8,067</td>
<td>2.17</td>
<td>0.22</td>
</tr>
<tr>
<td>Croatia</td>
<td>5</td>
<td>2003</td>
<td>3,983</td>
<td>8,799</td>
<td>2.21</td>
<td>0.35</td>
</tr>
<tr>
<td>Italy</td>
<td>21</td>
<td>2002</td>
<td>13,697</td>
<td>32,279</td>
<td>2.35</td>
<td>0.26</td>
</tr>
<tr>
<td>Romania</td>
<td>8</td>
<td>2002</td>
<td>1,751</td>
<td>4,603</td>
<td>2.59</td>
<td>0.42</td>
</tr>
<tr>
<td>UK*</td>
<td>37</td>
<td>2002</td>
<td>17,268</td>
<td>45,028</td>
<td>2.60</td>
<td>0.23</td>
</tr>
<tr>
<td>Germany</td>
<td>41</td>
<td>2002</td>
<td>15,638</td>
<td>44,151</td>
<td>2.82</td>
<td>0.26</td>
</tr>
<tr>
<td>Turkey</td>
<td>26</td>
<td>2001</td>
<td>730</td>
<td>3,063</td>
<td>4.19</td>
<td>0.42</td>
</tr>
<tr>
<td>Russia</td>
<td>7</td>
<td>2003</td>
<td>1,129</td>
<td>5,743</td>
<td>5.11</td>
<td>0.58</td>
</tr>
</tbody>
</table>

*NUTS2 regions of inner and outer London are merged. Except in Russia and Croatia, regions are defined at the NUTS2 level. Russian regions are defined on the basis of the seven official administrative regions. Croatian regions are the analytic regions described in the report.

Source: forthcoming World Bank study on regional development.

3.14 Countries in the European Union have pursued regional development strategies with diverse perspectives and approaches. Arguments in favor of public intervention in lagging regions have been made on both equity and efficiency grounds. The equity case for intervention is relatively straightforward: to improve the welfare of poor people living in lagging regions. However, even when greater equity is cited as the primary motivation, the implicit public policy goal for intervention extends beyond making pro-poor transfers, and includes removing perceived constraints on economic growth in the lagging regions. For instance, efficiency-based arguments for regional development call for public interventions to help correct market imperfections and remove critical growth bottlenecks. Most of the new member states of the EU experienced the so-called “gateway effect” during the period surrounding their accession to the European Union, whereby their capital cities attracted much interest from foreign investors, and grew much more rapidly than their other regions (Figure 3-4).

24 The choice of particular level of disaggregation has great relevance for the extent of observed regional inequality. In general, the smaller the size of the regions considered, the greater the extent of inequality that one is likely to find across regions.
3.15 Between 1995 and 2002, the economies of the ten new member states grew at an average annual rate of 5.6 percent, compared to the 4 percent growth in the older 15 EU members. The gradual convergence in average living standards (as measured by GDP per capita in PPS) between most new member states and the EU15 average has received considerable attention. What is less well known is that the gap in living standards with the EU15 average narrowed in 31 of the 41 NUTS II regions in the new member states over this period, while the gap widened between these regions and the least developed regions of these states. In general, the highest average growth rates in the new member states were recorded in the services sector, and the lowest in the agricultural sector. In addition, economic sub-sectors such as public administration, education, health, and other personal and community services also tended to grow more slowly than overall national economies.

3.16 Such trends in new member states suggest that those of Croatia’s regions with a more favorable economic structure—with a relatively high proportion of propulsive services sectors and a correspondingly small proportion of agriculture and government services—are likely to have relatively good medium-term economic prospects. Those with a relatively large share of service activities (Zagreb, the Adriatic regions) have experienced faster growth in per capita GDP than the Eastern and Central regions. As discussed in Chapter 1, while Croatia has been gradually bridging the income gap with Europe, sustaining this trend in the coming years will be challenging. Seen in this light, the fact that some parts of the country have been growing faster than others is not a cause for concern, particularly because some of the benefits of high growth in these regions have been and can be shared by other parts of the country through higher public transfers and remittances.

25 The only new member states where the gap diverged over this period are the Czech Republic and Cyprus, whose economies recorded slower than average growth over this period than the E15 average.

26 Seven of the ten NUTS-II regions where this gap widened over this period were in the Czech Republic and Cyprus, which as noted above, grew slower than the EU15 average over this period. See Background Paper No. 4 for more details.
Redistribution through taxes, social, and other transfers significantly reduces inequalities in income across counties and regions. Social transfers are quite well targeted geographically, but have scope for improvement.

3.17 Secondary income supplied about 32 percent of total disposable income in Croatia in 2003. Pensions and health insurance compensation were the two largest categories of transfers, accounting for 51 percent and 5 percent respectively of total secondary incomes, while child allowances (about 4 percent), social assistance (about 3 percent) and unemployment benefits (about 2 percent) were the next most important. To begin assessing how important a role transfers play in equalizing incomes, we examine the distribution of primary incomes and gross disposable incomes across counties and regions. Taxes, social security contributions, and social and other transfers play a redistributive role in equalizing incomes across regions (Figure 3-5).

![Figure 3-5: Redistributive role of taxes and transfers](image)

Source: World Bank staff estimates. All estimates are for 2003, and are expressed in per capita terms.

3.18 The differential between highest and lowest regions in terms of per-capita GDP is 2.2 in Croatia. If we were to look at this differential using primary income as an indicator instead, the inter-regional differential between Zagreb and the Eastern region falls to 1.43. Finally, if instead one were to use per capita disposable income instead, the corresponding differential falls to 1.16 only. Taken together, these three estimates of inter-regional differentials clearly illustrate the considerable extent to which inter-regional income transfers help reduce regional inequalities in living conditions. The largest difference between these three sets of estimates is for the Zagreb

---

27 See Appendix 2 of Background Paper No. 4 for more details.

28 Primary income covers gross wages and salaries, gross operating surplus (consumption of fixed capital included), mixed income, and property income. Gross disposable income is derived from primary income after taking into account all secondary transactions—for example adding social and other transfers, and deducting taxes and social security contributions. For details of the analysis, see Background Paper No. 4.
region. There are several reasons why. First, since this is Croatia’s most wealthy region, Zagreb is impacted the most by redistributive taxes and transfers. Second, GDP is recorded on the basis of the location of producers, while primary incomes are recorded based on the residence of the recipient, and many recipients who work in Zagreb live in neighboring regions. Finally, the Zagreb region is the site of a number of domestic and foreign-owned firms, and, as noted earlier, a significant portion of the profits of such firms accrues to non-household owners residing elsewhere in Croatia and abroad.

3.19 We next examine the regional distribution of the social transfers component of disposable income: pensions, social assistance, child allowances, health insurance compensation, and unemployment benefits. In addition, since pensions comprise such a large share of social transfers, we present the regional distribution of pensions separately. We plot the respective amounts spent at the county level, expressed as a share of disposable income, against county-level GDP per capita estimates.

3.20 Social transfers to counties are inversely correlated with county-level GDP per capita (Figure 3-6, top panel), and hence clearly help to reduce inter-county and interregional inequalities. Most of this inequality-reducing impact comes from social transfers other than pensions—which are positively correlated with GDP per capita at the county level (Figure 3-6, bottom panel). Since social assistance benefits are intended to be targeted towards the most needy beneficiaries, while unemployment benefits are intended to benefit people out of work, we explore the extent to which the regional distribution of these benefits in Croatia matches the regional profile of poverty and unemployment incidence. We derive the estimates of poverty and unemployment from the HBS and LFS respectively.

Figure 3-6: Social transfers reduce regional inequality

... but not all sub-components of transfers do so


3.21 To aid comparison, poverty and unemployment rates across regions are expressed as a ratio of the national poverty or unemployment rate—the so-called “odds ratio.” Thus, a person in Zagreb region has 0.3 times the odds of being poor, and a person in the Eastern region is 1.5 times as likely to be poor, as an average Croatian. Similarly, each resident of Zagreb, on average, is only 0.5 times as likely, and a person in the Eastern region is 1.6 times as likely, as an average Croatian to be a social assistance beneficiary. We find that the geographic targeting of social assistance benefits in Croatia is quite good, with the above-average poverty regions in general having an above-average share of the social welfare beneficiaries (Figure 3-7, left panel).
Social assistance and unemployment benefits are generally well targeted geographically

Note: A comparison of the relative heights of the two bars for each region thus illustrates graphically the extent to which benefits are geographically well-targeted in that region—for instance, if the two sets of bars are equal in each region, this would indicate perfect geographic targeting of benefits.

Source: Beneficiaries: Background Paper No. 4.

A similar picture emerges on comparing survey-based estimates of unemployment with the regional distribution of unemployment beneficiaries (Figure 3-7, right panel). At the same time, however, the graphs show that the Central region is relatively under-served in terms of social welfare benefits, and the Eastern and Adriatic South regions are relatively underserved in terms of unemployment benefits.

3.3 SUSTAINING HIGH GROWTH THROUGH FASTER JOB CREATION

To sustain high rates of growth to permit faster external and internal income convergence, Croatia needs to improve its labor utilization, which in turn will require adoption of a fairly wide menu of policy measures: addressing the remaining discouraging features of the investment climate, including by facilitating the registration of property and by improving the efficiency of the legal system, helping real wages to adjust to productivity and local market conditions (particularly wages in public enterprises, where the restructuring agenda remains incomplete); and allowing lower wages to be paid to young workers or those in economically depressed regions—in preference to their having no jobs at all. The challenge of job-creation would also require the government to address its fiscal problem, which in turn has been due to problems with an unreformed health sector, rising social spending, and continued state support to loss-making state-owned enterprises.

3.22 Stimulating the creation of more jobs—and reducing the proportion of jobless households—is a key policy challenge for the government. And only when the jobs created are “good jobs,” paying high wages to reward high worker productivity, do higher employment rates necessarily help reduce the risk of poverty. Various factors are known to influence the pace and quality of job creation (Box 3-2). While the specific mix of policies needed to create more and better jobs clearly depends on a country’s particular economic and labor market situation, a recent World Bank regional cross-country study on employment opportunities concludes that, in general, improving labor utilization requires a two-track strategy: (1) increasing the pace of job
creation and (2) flexibility in the reallocation of jobs and workers. Croatia’s overall investment climate and business environment are perceived as relatively favorable and improving. In 2003, the government introduced a responsible wage policy, which reversed the trend of rising unit labor costs, and reduced non-wage labor costs. In addition, a new Labor Code was introduced, which is better aligned with EU guidelines and practices in EU member countries.

### Box 3-2: Policies, Institutions, and Job Creation: Some Lessons from Cross-country Experience

The factors below play an important role in influencing the decision of firms to create more, and more productive, jobs, and the decision of workers to stay in the labor market and seek more rewarding jobs:

1. **Macroeconomic policy setting:** Macroeconomic instability and financial crises can discourage firms from undertaking new investment and creating new jobs, as can excessively high interest rates.

2. **The cost of doing business:** Private investment is often discouraged in the region’s countries by a set of factors that increase the cost of new investment, the risks associated with it, and barriers to competition faced by firms.

3. **Wage flexibility:** While wages have generally become more flexible during the transition in the region, there are still many instances in which wage floors and government intervention prevent wages from adjusting.

4. **Employment protection legislation:** Labor reallocation is influenced by regulations on hiring and firing. Although several countries have reformed these regulations to better conform to market requirements, the reforms have often focused only on creating flexibility at the margin (for example, through temporary contracts).

5. **Social benefits:** While benefits have in general played an important role in smoothing the cost of the transition, overly generous benefits, especially during the early phases of transition, have weakened job search incentives.


3.23 In many other respects, however, Croatia still faces important challenges. Government spending accounts for about half of GDP—a large share even by European standards. Fiscal problems with an unreformed health sector, rising social spending, and continued state support to loss-making state-owned enterprises have led to persistently high government deficits. Most public enterprises depend on extensive support from the state, for example through subsidies, transfers, or guarantees, as well as periodic bailouts. Subsidies to the enterprise sector constituted 3.4 percent of GDP in 2003 and accounted for well over half the government deficit of 6.2 percent during that fiscal year. Not only is the development impact of this high level of spending an open question, but this continued support may well be responsible for impeding the internal reallocation of workers in the Croatian economy from old, less productive firms towards newer more productive firms.

3.24 A fairly wide menu of policy measures could help foster job creation in Croatia: addressing the remaining discouraging features of the investment climate (including by facilitating the registration of property and by improving the efficiency of the legal system);


helping real wages to adjust to productivity and local market conditions (particularly wages in public enterprises, where the restructuring agenda remains incomplete); and allowing sub-minimum wages to be paid for young workers, or workers in economically depressed regions—in preference to their having no jobs at all. Strengthening social assistance benefits could potentially be an effective means to protect the incomes of workers displaced from restructured enterprises; one way to afford this is through cutting unproductive social spending and channeling a larger share into targeted benefits.

<table>
<thead>
<tr>
<th>Box 3-3: Doing Business: Objective Measures of Business Regulations and Their Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since 2004, the World Bank has been preparing an annual ease of doing business index that summarizes in an index the relative performance of different countries calculated on the basis of the country percentile rankings in various areas of business activity. For example, the 2007 Doing Business covers 10 topics, including starting and closing a business, licenses, taxes, trade, property registration, contract enforcement, access to credit, protection of investors, and flexibility of labor regulations. Croatia ranked as one of the top ten reformers in 2005/06 based on this index, significantly improving its overall ranking in three of the ten categories covered (see table below). For instance, the costs and procedures involved in importing and exporting goods declined appreciably between 2005/06, with time taken for export and imports from final contractual agreement to delivery of goods are now over 10 and 50 percent less than the regional averages.</td>
</tr>
<tr>
<td>Ease of...</td>
</tr>
<tr>
<td>Doing Business</td>
</tr>
<tr>
<td>Starting a Business</td>
</tr>
<tr>
<td>Dealing with Licenses</td>
</tr>
<tr>
<td>Employing Workers</td>
</tr>
<tr>
<td>Registering Property</td>
</tr>
<tr>
<td>Getting Credit</td>
</tr>
<tr>
<td>Protecting Investors</td>
</tr>
<tr>
<td>Paying Taxes</td>
</tr>
<tr>
<td>Trading Across Borders</td>
</tr>
<tr>
<td>Enforcing Contracts</td>
</tr>
<tr>
<td>Closing a Business</td>
</tr>
</tbody>
</table>

Notwithstanding these recent improvements, Croatia still has much ground still to cover to further improve its overall ranking with regard to ease of doing business. For instance, the costs of dealing with licenses, as proxied by the procedures and time taken to build a warehouse, are considerably higher than the regional average, and almost twice the average for OECD countries. Similarly, rigidity of employment index in Croatia is still considerably higher than the regional and OECD averages.

Source: See [www.doingbusiness.org](http://www.doingbusiness.org) for more details.

3.25 Finally, while Croatia has made good progress in 2005/06 with improving regulations governing various aspects of everyday business activities (see box), there remains considerable room for further improvement to narrow the gap in ease of doing business in the country compared to other more business-friendly economies in the region (e.g. Denmark, Norway, Ireland, Baltic states).
3.4 BUILDING ON LOCAL COMPARATIVE ADVANTAGES

3.26 In the context of regional development analysis and planning, an important question is how best to define regional disparities and at what level of territorial aggregation. An important finding from our analysis is that the ranking of different territories in Croatia can vary considerably depending on the development indicator used for this purpose. This is particularly true at the county level, where it points to the need for caution in relying on any one indicator for ranking purposes. For instance, the lists of highest ranked counties based on many development indicators all include the counties of Zagreb city, Primorje-Gorski, and Istria. But the lists of the five poorest counties contain different counties depending on whether the ranking criterion is per capita 2003 GDP or the survey-based estimates of per capita incomes, expenditures, or monthly earnings (only 3 of 15 possible matches, see Table 3-4). Not one of the five counties with the highest poverty rates as calculated using the HBS data features in the list of five poorest counties as ranked by per capita 2003 GDP.

<table>
<thead>
<tr>
<th>Ranking (1-poorest)</th>
<th>GDP per capita (2003)</th>
<th>Per capita income</th>
<th>Per capita consumption</th>
<th>Ave. monthly earnings</th>
<th>Headcount Poverty Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vukovar-Sirmium</td>
<td>Karlovac</td>
<td>Karlovac</td>
<td>Virovitica-Podravina</td>
<td>Karlovac</td>
</tr>
<tr>
<td>2</td>
<td>Sl. Brod-Posavina</td>
<td>Osijek-Baranja</td>
<td>Virovitica-Podravina</td>
<td>Varazdin</td>
<td>Sisak-Moslavina</td>
</tr>
<tr>
<td>3</td>
<td>Sibenik-Knin</td>
<td>Karlovac</td>
<td>Sisak-Moslavina</td>
<td>Bjelovar-Bilogora</td>
<td>Bjelovar-Bilogora</td>
</tr>
<tr>
<td>4</td>
<td>Pozega-Slavonia</td>
<td>Krapina-Zagorje</td>
<td>Koprivnica-Križevci</td>
<td>Koprivnica-Križevi</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Krapina-Zagorje</td>
<td>Pozega-Slavonia</td>
<td>Osijek-Baranja</td>
<td>Sl. Brod-Posavina</td>
<td>Osijek-Baranja</td>
</tr>
</tbody>
</table>

Source: World Bank estimates based on 2002-04 HBS and LFS. GDP per capita from background paper No. 4.

3.27 While counties in Croatia correspond to the EC NUTS III level of disaggregation, other European countries typically assess regional inequalities at a higher level of aggregation (the NUTS II level). Indeed, many observers have argued that in the case of smaller EU members such as the Baltic states, Czech Republic, Hungary, Ireland, Slovakia, or Slovenia, the pertinent unit should be the entire country. A similar argument might be made in the case of Croatia, given the country’s relatively small overall size and population. This report argues in favor of the middle ground. Given the relatively large unexplained regional differences in Croatia’s living standards, a regionally differentiated strategy probably makes good sense. Diverse factors such as the impact of the recent war, varied geographic terrain, and special problems faced by those regions with a higher concentration of traditional industries currently facing problems have resulted in considerable variation in living standards across different parts of the country. However, while a focus on regional development is indeed justified, there is some need for caution to avoid focusing on too small a geographic unit of analysis for this purpose.

31 Michele and Boldrin in B. Funck and L. Pizzati *European Integration, Regional Policy, and Growth.*
3.28 In contrast to the considerable variability in county-level rankings, we find that the ranking by level of prevailing living standards differs much less across the analytic regions used in this report, no matter which development indicator or data source is used. In general, average incomes and expenditures in Central and Eastern Croatia are below the national average, those in
the Adriatic South are at par with, and those in the Adriatic North and Zagreb regions are higher than the overall national average (Figure 3-8).

3.29 Initiatives with the greatest chance of success tend to work with the forces of economic geography, through building on local comparative advantages and drawing on local knowledge and initiative. They are typically based on a diagnosis of a region’s comparative advantages and the constraints on its development. The regional development strategy focuses on identifying key growth sectors and actions to be taken by various stakeholders, including local and regional governments, private firms, and nongovernmental organizations. For instance, the OECD’s analysis of the Teruel region in Spain cites the region’s unspoiled countryside and agricultural traditions to advocate an economic strategy based on the niche marketing of local products—ham, olives, peaches—and farm-based tourism.

Box 3-4: Regional Operational Programs in Croatia

The EU ROP methodology and approach are being used in Croatia to access EU CARDS (Community Assistance for Reconstruction, Development, and Stabilization) program funding for the development of counties. The main aim of this exercise is to assess and address the development needs of each county, and to help allocate resources, both local and international, for this purpose.

The main ROP principles agreed between the EC and counties in Croatia include: (1) ownership, i.e. that each county has the responsibility for preparing and implementing the ROP, (2) commitment, i.e. that each county is committed to the ROP process and principles, including making available the needed counterpart funding, (3) transparency and openness in the preparation and implementation of these programs, and (4) partnership and stakeholder consultation, i.e. that all relevant stakeholders at the national and county level should be consulted at each key stage of program preparation and implementation.

Note: More details pertaining to the allocation of EU funds based on the ROP principles can be found in various EU regional policy documents and publications.

3.30 In Croatia, regional operational programs (ROPs) are being developed at the county level over the period 2004-10. As part of this exercise, various local projects are planned through a highly consultative and collaborative process (Box 3-4), and compete for funding. In addition, steps are taken throughout the ROP process to help ensure that the strategic framework developed is well aligned with the county’s comparative and competitive advantages. Hence in this respect, the ROP exercise is fully consistent with the strategic principles outlined above. Looking ahead, however, as the Croatian government moves towards preparing higher-level regional development projects under the county and wider region development program, it will be important to accord high priority to initiatives that build upon commonalities across contiguous counties (that is, in terms of areas of comparative advantage identified), so as to avoid bogging down the overall regional development effort in an undue proliferation of mini-projects.

---

32 Dillinger, W. Concept paper on “Regional Development: What Works and What Doesn’t?”

33 On the whole, agriculture tends not to be the focus of regional development initiatives, given the sector’s generally low employment-generation potential, though as illustrated above, there clearly are exceptions to this rule.

34 In fact, Boldrin and Canova (2003) have argued that in the case of the small new member states of the European Union, the NUTS-1 level may well be the most pertinent for regional policy. However, as argued
3.5 Labor Mobility and Greater Labor Market Flexibility

3.31 As seen in Chapter 2, as much as one-third of the wage differentials between leading and lagging regions in Croatia can be attributed to differences in worker characteristics, including education. These findings clearly point both to the importance of raising human capital in lagging regions as well as of facilitating greater labor mobility as a means of reducing inter-regional earning disparities. Classical migration theory suggests that wage differentials across regions will spur workers to move from low- to high-wage regions, thus reducing regional inequalities in living conditions. However, there are several reasons why in practice this may not happen. Since workers in lagging regions tend to have less education than those in more prosperous regions, and since most of the labor demand in the latter regions is likely for higher-skilled positions, unemployed or low-wage workers in poorer regions may not gain anything by migrating to the richer regions; staying at home may well be a rational decision on their part.

3.32 Public policy can also help to reduce barriers to the interregional migration of workers by reducing market imperfections. Poor information about job opportunities in other regions or a low perceived likelihood of finding employment may result in low interregional mobility, even among the relatively highly skilled. Difficulties associated with finding housing in other regions as well as other housing market imperfections and distortions may also lead to similar problems. Poor transport links, particularly with nearby regional growth centers such as medium-sized cities, may result less-than-optimal commuting within regions. Finally, overly generous social assistance programs with inadequate attention to work-disincentive issues may likewise reduce the mobility of labor across regions. Policies aimed at correcting these market imperfections can have an important role to play in facilitating freer flows of workers across regions, which in turn can be an extremely powerful channel for equalizing interregional differences in living standards.

3.33 Similar analysis of the earnings differentials between public and private sector workers shows that the average monthly earnings of workers in state firms are about 30 percent higher than earnings of those employed by the private sector. Furthermore, differences in employee characteristics—such as age, years of education, and gender—at best explain only about one-third of the earning differential between these two sectors, while the remainder is unexplained. This in turn points to the problem of incomplete restructuring of public sector enterprises in Croatia, which continue to pay their workers salaries higher than those received by workers with similar qualifications and characteristics employed in other sectors, which may hinder faster internal reallocation of workers between various sectors. Policies aimed at correcting these market imperfections can have an important role to play in facilitating freer flow of workers across regions and sectors of the economy. When implementing such policies, it would be important to ensure the presence of effective social safety nets to protect incomes of workers displaced in the wake of enterprise restructuring.

---

in this report, a more disaggregated approach may well make sense for Croatia, which appears to have significant regional heterogeneity and bottlenecks to growth.
3.6 IMPROVING THE ADEQUACY AND TARGETING OF SOCIAL SAFETY NETS

3.34 A key feature of the government’s program to reduce poverty and social inclusion is to improve the effectiveness of the social protection system, by (1) rationalizing spending and improving targeting, and (2) strengthening system administration. As pointed out in Chapter 2, poverty in Croatia is quite shallow and the incomes of the poor are not far below the poverty line. This means that the resources involved in eliminating poverty are reasonably affordable: a perfectly targeted transfer of approximately 1.5 billion kunas (about 0.7 percent of GDP) would have been sufficient to eliminate poverty in the country in 2004. Further, even relatively modest increases in average incomes in poorer regions would lead to a considerable narrowing in regional poverty differentials. For example, if average per capita expenditures in rural Central Croatia were to increase by the equivalent of only 10 percent of the national average, the prevailing poverty rate would be halved (i.e. drop from 22 to 11 percent). If the increase were 20 percent, this would eliminate entirely the differential in poverty rates with the urban Zagreb region.

3.35 Social spending in Croatia is high by international standards, but only a small share of it goes towards means-targeted programs. For instance, recent data show that while total social spending has increased to 31 percent of GDP (17 percent on social transfers, 5 percent on education, and 9 percent on health care), only a very small fraction (0.7 percent of GDP) is used for the poverty related social assistance program.

The social assistance program is the best targeted to people in need, but continues to have low coverage rates, even among the poor. For its beneficiaries it is an important source of income.

3.36 Another important dimension of targeting is the extent to which, within each region, benefits are channeled to the people who most need assistance. To assess this, we use data from the Household Budget Survey series. As well as comparing the targeting performance of programs, comparing data for 2002 with those for 2004 allows us to assess how targeting has changed over time. The surveys include data on the recipients of various types of social transfers, which have been grouped into the following broad analytic categories: (1) child allowances, (2) other family allowances, (3) social assistance, and (4) unemployment benefits.

3.37 We compare the performance of these various types of transfers in reaching the poorest one-fifth of the population (henceforth referred to as the “target group”) using three related criteria: (1) targeting (that is, the share of total program spending accruing to the target group); (2) coverage (that is, the share of this group receiving benefits), and (3) adequacy (that is, the share of their total consumption provided by this transfer). Population quintiles are derived on the basis of per capita consumption (minus transfer receipts).

3.38 Our analysis indicates that social assistance is the best-targeted program in Croatia. More than two-thirds of the total spending under this program accrues to the poorest one-fifth of the Croatian population (Figure 3-9). Unemployment benefits are found to be the next-best targeted program, with about 40 percent of total benefits reaching the target group of interest; moreover, the targeting of unemployment benefits appears to have improved significantly between 2002 and 2004. By contrast, neither child nor other family allowances appear to be particularly well targeted: the poorest fifth of the population receive only 34 and 29 percent of the spending on
these allowances, respectively—only slightly more than the 20 percent this group would receive if the program were completely untargeted.

**Figure 3-9: Social assistance is the best targeted program in Croatia**

![Graph showing social assistance is the best targeted program in Croatia]

Share of Spending Accruing to Poorest One-Fifth of the Population

*Source: World Bank estimates based on 2002 and 2004 HBS.*

3.39 Overall, about 35 percent of the population in Croatia is covered by transfer programs (Figure 3-10). Child allowances are much the largest of the various programs considered here, and reach about 26 percent of the country’s population. The population coverage rates of other family allowances (10 percent), the social assistance program (5 percent), and unemployment benefits (6 percent) are considerably lower. The social assistance program does not reach the great majority of poor people: it covers only about 13 percent of the poorest one-fifth.

**Figure 3-10: All programs have relatively low coverage rates, even among the poor**

![Graph showing all programs have relatively low coverage rates]

*Source: World Bank estimates based on 2004 HBS.*
3.40 Total transfers under social assistance are small in relation to other programs, at less than 2 percent of total social spending by the government, but are an important income source for the poor, supplying 16 percent of its beneficiaries’ consumption per-adult equivalent (Figure 3-11).

**Figure 3-11: Importance of transfers for beneficiaries of the social assistance program**

![Graph showing consumption per equivalent adult and social assistance transfers](image)

Note: Left axis show the consumption per equivalent adult in thousands of kuna, while the right axis shows social assistance transfers received as a percentage of consumption per equivalent adult of the group.

*Source:* World Bank estimates based on 2004 HBS.

3.41 A high proportion of social assistance beneficiaries report the main labor market status of their household head as “retired,” “other,” or “unemployed” (Figure 3-12) Does Croatia’s social assistance program discourage people from working? Before possibly recommending an expansion of the social assistance program because of its relatively good targeting performance and low coverage rate, one must first consider the adverse impact that an expansion might have on Croatia’s already low labor market activity rates.

**Figure 3-12: Who benefits from social transfer programs?**

![Bar chart showing labor market status](image)

*Source:* World Bank estimates based on 2004 HBS.
3.42 The Croatian government has introduced a number of measures during the past few years to improve the performance and effectiveness of the overall social welfare system. Following the modification of the applicable law and rationalization of expenditures, total expenditures on child allowances decreased from HRK 2.415 billion in 2001 to HRK 1.509 billion in 2004. Moreover, HBS data suggest that the government succeeded in protecting the poorest segments of the population from bearing a disproportionate share of these cuts in spending, and the share of total spending on child allowances accruing to the poorest one-fifth of the population increased during this period, from 28 percent of total expenditures in 2002 to 34 percent in 2004 (Figure 3.9).

3.43 Three years after they were issued, several of the recommendations of studies that were commissioned as part of this overall reform effort remain valid today (Box 3-5).

**Box 3-5: Reforming the Social Welfare System in Croatia**

In the course of preparing the Social Protection Project, the Ministry of Labor and Social Welfare commissioned a series of studies in 2003. Among these, a study by the Labor and Employment team proposed ways to restructure programs and policies so as to help welfare recipients move into productive employment. The recommendations covered four areas:

**1) Policies to help social welfare beneficiaries back to work:** To help reduce both the flows into unemployment as well as the stock of long-term unemployed:
- Target active labor market measures (ALMM) (employment subsidies, labor market training, and measures to promote jobs for disabled workers and youth to those still on the unemployed register after six months);
- Intensify “activation” for people without work for more than six months, including the introduction of compulsory job-search workshops after 12 months of unemployment;
- Develop new measures to combat employers’ negative perceptions of the long-term unemployed;
- Focus ALMM more on improving the basic skills of the long-term unemployed; and
- Introduce a major new workfare program for long-term unemployed recipients of welfare, so that they can gain work experience and be reconnected with the world of work.

**2) Integration of social welfare and employment programs:** To achieve more client-centered service provision and better integration of the centers for social welfare (CSW) and employment (CES):
- Allow CES direct access to the welfare payment system to be able to allow/stop welfare payments for registered unemployed people;
- Achieve greater clarity and emphasis on the role of CES in relation to long-term unemployed people and welfare recipients in particular; and
- Strengthen joint work between CES and CSW, particularly with regard to helping ensure better work opportunities for the long-term unemployed.

**3) Cost-effective active labor market programs (ALMP):** To remedy current weaknesses in these programs:
- Administer unemployment compensation in an integrated manner with other services such as counseling, mediation;
- Target ALMP on the long-term unemployed as well as those at high risk; and
- Make the source of funding for ALMP more secure.

**4) Tackle social exclusion through jobs:**
Introduce a national program of workfare.

3.44 Measures that are likely to yield a high payoff include efforts to further improve system administration (for example through integration of the centers for social welfare and the centers for employment), and improving information technology and record-keeping and to improve the orientation of the various programs (for example by using fewer passive and more active measures, better counseling, and job-placement services). Similarly, Croatia has considerable scope for strengthening the poverty impact of social spending by improving geographic targeting through increasing the program coverage rates in poorer regions.

3.45 The social assistance program in Croatia clearly does much better than other programs in reaching the poor—69 percent of total spending on this program accrues to the poorest one-fifth of the population (Figure 3.9) compared to only 34 percent for child allowances, and 29 percent for family allowances respectively. Can the government improve the overall mix of total social spending by spending relatively less on child allowances and family benefits, and more on well-targeted programs like social assistance? A direct comparison of these programs is complicated by the fact that providing assistance to poor families is only part of the main objectives of child and family allowances—an important additional policy goal of these programs is to provide incentives to boost the overall population growth rate. Further study of the impact of reduced spending on child allowances between 2001 and 2004 on the overall fertility rate in Croatia thus merits serious consideration, so as to ascertain the extent to which this program provides a cost-effective means of increasing the country’s birth rate.
# APPENDIX

## List of Derived Indicators and Data Sources

<table>
<thead>
<tr>
<th>Output and Incomes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GDP per capita (Croatia=100, using 2003 Regional Accounts data)</td>
</tr>
<tr>
<td>2. Average per capita income (Croatia=100, using 2002-2004 HBS data)</td>
</tr>
<tr>
<td>3. Average per capita expenditures (Croatia=100, using 2002-2004 HBS data)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labor Market Indicators:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Unemployment Rates (2002-2004 LFS)</td>
</tr>
<tr>
<td>6. Average Earnings from Primary Job (2002-2004 LFS)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Living Conditions:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Share of Population 16 years and older with Highest Educational Attainment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Unfinished Primary (2002-2004 HBS)</td>
</tr>
<tr>
<td>11. Primary (2002-2004 HBS)</td>
</tr>
</tbody>
</table>
A1: Poverty Gap at the County-Level (2002-04 HBS)

A2: Poverty Incidence at the County-Level (2002-04 HBS)
A3: GDP per capita at the country level (2003 regional accounts data, Croatia=100).

A4: Average per capita consumption at the country level (2002-04 HBS)
A5: Average monthly earnings from primary job at the country level (2002-04 LFS)

A6: Employment Rates at the country level (2002-04 LFS)

A7: Unemployment Rates at the country level (2002-04 LFS)
Unemployment rate
0 - 8
9 - 13
14 - 18
19 - 23
24 - 28

A8: Share of population with incomplete primary education (2002-04 LFS)

Share of >16 population
0 - 6
6.1 - 12
12.1 - 18
18.1 - 24
24.1 - 26.8