

Bosnia and Herzegovina 2001-2004:

Enterprise Restructuring, Labor Market Transitions and Poverty

Erwin R. Tiongson

Ruslan Yemtsov

The World Bank
Europe and Central Asia Region
Poverty Reduction and Economic Management Sector Unit
January 2008



Abstract

This paper takes stock of labor market developments in Bosnia and Herzegovina over the period 2001-2004, using the panel *Living Standards Measurement Study/Living in Bosnia and Herzegovina survey*. The analysis estimates a multinomial logit model of labor market transitions by state of origin (employment, unemployment, and inactivity) following the specification of widely used models of transition probabilities, and analyzes the impact of standard covariates. The results provide strong evidence that there are indeed significant differences in labor market transitions by gender, age, education, and geographic

location. Using the panel structure of the multi-topic survey data, the authors find that these transitions are related to welfare dynamics, with welfare levels evolving differently for various groups depending on their labor market trajectories. The findings show that current labor market trends reflecting women's movement out of labor markets and laid-off male workers accepting informal sector jobs characterized by low productivity will lead to adverse social outcomes. These outcomes could be averted if the planned enterprise reform program creates a more favorable business environment and leads to faster restructuring and growth of firms.

This paper—a product of the Poverty Reduction and Economic Management Sector Unit, Europe and Central Asia Region—is part of a larger effort in the department to understand the economic transition in former centrally planned economies. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at etionson@worldbank.org.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Bosnia and Herzegovina 2001-2004:
Enterprise Restructuring, Labor Market Transitions and Poverty

Erwin R. Tiongson and Ruslan Yemtsov¹
The World Bank, 1818 H Street, NW, Washington, DC 20433

JEL classification number: J21, J64, I30

Keywords: labor market transition, unemployment, poverty

¹ E-mail: ryemtsov@worldbank.org, etiongson@worldbank.org.

Bosnia and Herzegovina 2001-2004: Enterprise Restructuring, Labor Market Transitions and Poverty²

I. Introduction

A large empirical literature has emerged in recent years on the economic benefits and consequences of the transition from centrally planned to market economies. Some of these empirical studies were an effort to understand the impact of structural and policy reforms on economic output at a fairly broad level (e.g., Selowsky and Martin 1997), with some focusing on reform reversals and their impact on economic activity (e.g., Merlevede 2003) or some recent studies revisiting and claiming to overturn some of the findings of the “first generation” of studies regarding the benefits of certain reform programs (Godoy and Stiglitz 2006). Others have examined the consequences of reform much more narrowly and at the microeconomic level, focusing, for example, on the employment and productivity consequences of privatization and enterprise restructuring. Much of what we know in this area is drawn from the experience of displaced workers in countries undergoing rapid reform. Relatively less is known of stalled or incomplete reform and the impact on local labor markets. Bosnia and Herzegovina represent one such case.

Bosnia and Herzegovina has achieved significant progress in economic reconstruction and recovery since the 1995 Dayton Peace Agreement, supported by substantial volumes of international financial assistance. The GDP and merchandise exports have steadily been increasing, fiscal accounts have improved, domestic demand has been strengthening, and inflation rates have been modest. The country has experienced relative social and political stability while gradually working toward state building. On structural reforms underpinning the transition to a market economy, however, Bosnia and Herzegovina’s progress has been relatively uneven. On some fronts, such as financial sector reform, some progress has been made. With respect to privatization and enterprise restructuring, as well as private sector contributions to GDP, however, the country lags many of its neighbors in the region. This has clear implications for local job creation, labor market outcomes, and poverty. However, little is known in the empirical literature on labor market developments in Bosnia and Herzegovina.

This paper takes stock of labor market developments in Bosnia and Herzegovina (BH) over 2001 to 2004, using the panel Living Standards Measurement Study

² This paper was prepared under the World Bank’s 2005 Bosnia and Herzegovina Programmatic Poverty Assessment with support from central PSIA funds. We are grateful to the EPPU/DEP and DFID for supporting the LSMS/Living in BH panel survey, Fahrudin Memić (EPPU) for providing data on welfare/poverty based on the LSMS, and Tarik Sahović (ECSPF) for providing summary information on the financial conditions of a sample of firms in the RS. Valuable comments and suggestions were received from Asad Alam, Christian Bodewig, Jean Fares, Csaba Feher, Ardo Hansson, Zlatko Hurić, Ivailo Izvorski, Toby Linden, Maniza B. Naqvi, Stefano Paternostro, Zafiris Tzannatos, Milan Vodopivec, and Penny Williams at various stages of the analysis. The usual disclaimer applies.

(LSMS)/Living in BH survey, a consistent data source that allows the accurate measurement of wage and employment dynamics, informal sector employment, unemployment and other key labor market and living standards characteristics at the individual level. It also provides a formal analysis of labor market transitions into and out of employment, unemployment, and inactivity to better understand their covariates and how labor market disadvantages are distributed across demographic groups. Second, it relates these labor market developments to broad changes, if any, in the poverty risk faced by selected groups. It speculates on the links between labor market transitions and welfare over the 2001 to 2004 period. Unlike the previous section which relies on a widely-used, formal multinomial logit model of labor market transitions, this section of the paper relies on a less formal, and more intuitive, discussion of the linkages between labor market developments and the impact on workers at various points of the welfare distribution. Such an approach reflects the technical difficulties of a comprehensive assessment of transitions in and out of poverty. A more formal modeling exercise is left for future research. Finally, this paper relates these documented labor market developments to the stalled enterprise restructuring program and explores a number of policy options available to the government.

The rest of the paper is organized as follows: Section II presents an overview of recent labor market developments. Section III assesses labor market transition more systematically using a multinomial logit model. Section IV relates these labor market development and transition to broad welfare outcomes. Section V concludes with a summary of key findings and a discussion of some of policy issues and constraints faced by BH.

II. Labor Market Developments, 2001 to 2004

In recent years, BH labor force participation rate has increased sharply but still remains relatively low compared to other transition economies.³ Between 2001 and 2004, the labor force participation rate increased by about 10 percentage points to 59 percent (Table 1). This is a substantial increase and it is not clear what is driving it. As explained below, this increase may be driven in part by the increase in unemployment between 2001 and 2002 and informal sector dynamism over the last our years.

Despite this rapid increase in labor force participation, BH is still at the lower end of average participation rates in the Europe and Central Asia (ECA) region. Based on a sample of transition economies in 2001-2002, the labor force participation rate in BH is lower than Croatia, Bulgaria, Poland, Ukraine, Romania, Latvia, Slovenia, Georgia, Slovakia, Estonia, Czech Republic, and Lithuania and comparable to Hungary and Armenia. The unweighted average participation rate in the sample is 66 percent with Lithuania having the highest rate (71 percent). Meanwhile, the average female participation rate for the same group of countries is 60 percent with Lithuania again

³ The labor market indicators reported in this paper follow the standard ILO definitions, unless otherwise indicated (e.g., registered unemployment). One exception is the 2003 wave, where ILO-consistent unemployment indicators could not be computed due to “routing error.”

having the highest female participation rate at 67 percent. In contrast, the BH female participation rate is 43 percent.⁴

Table 1. Key Labor Market Indicators
(In units as indicated)

	2001	2002	2004
Unemployment rate (in percent of labor force)			
All	16.0	21.6	22.2
Federation	16.9	21.6	20.8
Republika Srpska	15.3	21.5	23.8
Men	15.3	19.6	21.2
Women	17.5	25.1	24.1
Employment rate (in percent of working age population)			
All	40.4	41.8	45.9
Federation	34.6	36.4	43.4
Republika Srpska	46.4	47.5	47.3
Men	53.9	55.4	59.1
Women	27.2	28.5	32.8
Labor force participation rate (in percent of working age population)			
All	48.1	53.3	59.0
Federation	42.2	47.1	55.8
Republika Srpska	55.4	60.9	63.0
Men	63.6	68.9	75.0
Women	32.9	38.0	43.1
Employment by sector			
Formal sector (in percent of total employment)			
Federation	63.0	61.0	57.7
Republika Srpska	67.2	68.1	63.7
Republika Srpska	59.1	54.6	51.3
Informal sector (in percent of total employment) ¹			
Federation	37.0	39.0	42.3
Federation	32.8	31.9	36.3
Republika Srpska	40.9	45.4	48.7

Source: LSMS and staff estimates. Includes panel observations only.

Note: Due to routing errors, a number of labor market indicator cannot be calculated using the 2003 wave. For simplicity, this table does not report any summary data from this wave at all.

¹The informal sector consists of two groups, following the BH Labor Market study (World Bank 2002): (i) unpaid, contributing family members, farmers on own farm, and workers engaged in other activity (such as sale of agricultural products); (ii) workers not employed in the public sector or in international organization and whose pension contributions were not paid.

The unemployment rate increased between 2001 and 2002 and has been more or less stable since then. The unemployment rate was about 16 percent in 2001, rose to 21.6

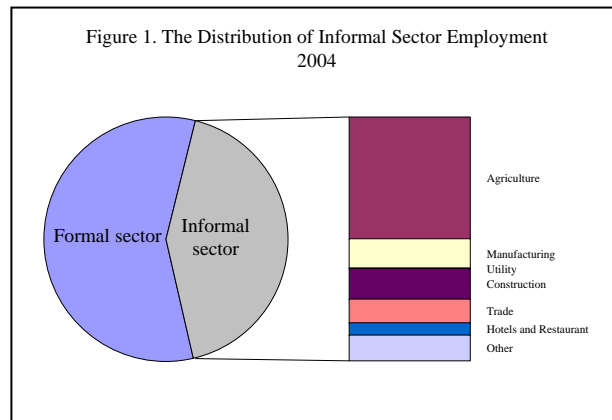
⁴ This is based on a sample of transition economies using the latest available ILO (Key Indicators of the Labor Market) data. Data are available from the authors on request. See also Paci (2002) for a comparison of gender differentials in labor market outcomes, among other indicators, in the ECA region.

percent in 2002 and is 22.2 percent in 2004.⁵ At 22 percent, unemployment in BH is among the highest in the ECA region, second only to FYR Macedonia based on 2002 data drawn from Labor Force Surveys (World Bank 2005b).⁶ On average, most unemployment rates in other transition economies are within 10-15 percent range.

The aggregate unemployment figure in BH masks considerable variations between entities (i.e., the second tier of government: the Federation of BH and the Republika Srpska), regions, and selected demographic groups. For example, unemployment rate by entity evolved differently in recent years. While the unemployment rate fell in Federation of BH (FBH) between 2002 and 2004, it increased in the Republika Srpska (RS) over the same period. Men and women also have different unemployment rates, with the women consistently experiencing higher (by 2-5 percentage points) unemployment rates over the last four years. Youth unemployment rates are very high, 2-3 times higher than the national average. Unemployment rate in 2004 is 62 percent and 37 percent for those between 15-19 years of age and 20-24 years of age, respectively. The disparity between youth unemployment and average unemployment has been relatively constant over time.

Employment rates remain low although they have increased in recent years. The employment rate for people of working age increased from about 40 to 46 percent between 2001 and 2004. Among male workers, the employment rates increased from 54 to 59 percent, among female workers, from 27 to 32 percent. The employment rate in FBH steadily increased from 34.6 to 43.4 percent in 2004 while in the RS, the employment rate was steady at about 46-47 percent. Like the unemployment rate and labor force participation rate, the employment rate for BH is at the lower end of the ECA spectrum, where employment rates are typically within the 50 to 70 percent range.

The informal sector is growing. Informal employment may be defined as employment in productive, income-generating activities, but without the typical obligations and benefits associated with a formal labor contract, such as pension fund contributions, health and disability insurance. The LSMS survey allows us to estimate the magnitude of informal sector activity using two pieces of information at the individual level: their employment



⁵ It is not clear what has driven the surge in unemployment between 2001 and 2002. The LSMS was the first household survey in years and subject to sampling issues. The 2001 estimate should not be treated as an exact data point.

⁶ An alternative measure is registered unemployment. But is this a useful concept? In 2001, only 24 percent of registered unemployed qualified as unemployed using the ILO definition. In 2002 and 2004, it was 37 and 39 percent, respectively. While there is increasing consistency over time, the numbers still suggest that registration appears to be driven by other consideration, such as health services entitlement (see World Bank 2002).

activity and whether their pension contributions were paid. This allows us to define an informal sector comprising of two groups: (i) unpaid, contributing family members, farmers on own farm, and workers engaged in other activity (such as sale of agricultural products); (2) workers not employed in the public sector or in international organization and whose pension contributions were not paid. This definition is consistent with the 2002 BH labor market study (World Bank 2002).

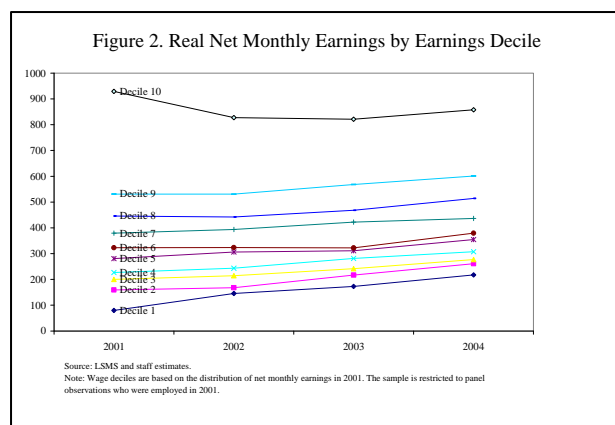
Using this working definition, the BH labor market may then be characterized by a duality of a rigid formal labor market dominated by large and state-owned enterprises and a flexible informal labor market dominated by micro-enterprises (those with fewer than 10 employees), typically in the low-productivity agricultural sector. Between 2001 and 2004, the share of informal sector employment in total employment grew, from 37 percent to 42 percent.⁷ While the share of informal sector employment grew in both entities, the informal sector now accounts for close to half of all employment in the Republika Srpska (RS).

Informal sector employment is predominantly in agriculture, followed by construction and manufacturing (Figure 1). Over the last four years, the share of construction sector employment in total informal sector employment has fallen slightly while the manufacturing sector share has increased. Self-employment accounts for a steadily increasing share of total informal employment. In 2001, it accounted for 29 percent of total informal sector employment. Currently it represents over 34 percent.

What are the covariates of informality? Education is negatively related to the probability of informal sector employment, and has become more so over time. Age is nonlinearly related to informality: The incidence of informal sector employment is initially high among younger workers; it then falls steadily until about age 44, at which point it starts rising again.

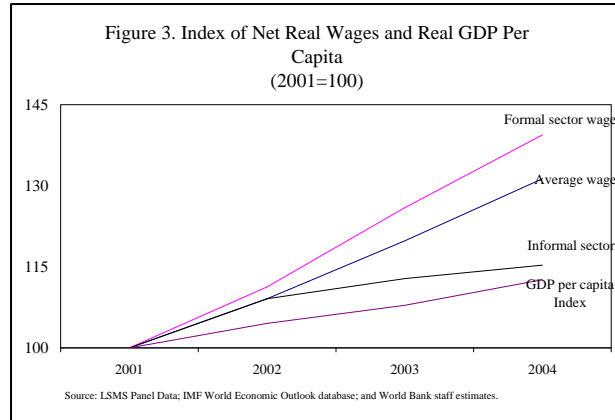
Wage Outcomes

Over the last four years, wages increased in real terms across the wage distribution, except for the highest paid workers. Figure 2 depicts average real net monthly earnings by earnings deciles for a sample of employed workers drawn from panel observations, based on their observed earnings in 2001. The empirical evidence suggests that in general,



⁷ The BH labor market study found that informal sector employment accounted for 36 percent of total employment in 2001 (World Bank 2002). The growth of the informal sector between 2001 and 2002 is also documented in the CEM (World Bank 2005a). The relative size of the informal sector is consistent with existing estimates of the so-called “grey economy” in percent of GDP (about 40-57 percent) (see for example IMF 2004b; Kadic 2005).

workers who were relatively lower paid in 2001 experienced faster increases in wages while those who were better paid experienced slower increases. The highest decile in fact experienced, first, a decline in real earnings between 2001 and 2002 and then a steady increase thereafter; the lowest decile experienced a particularly sharp increase in 2002, then increased more moderately after. Simple averages by decile, however, may be subject to measurement errors.

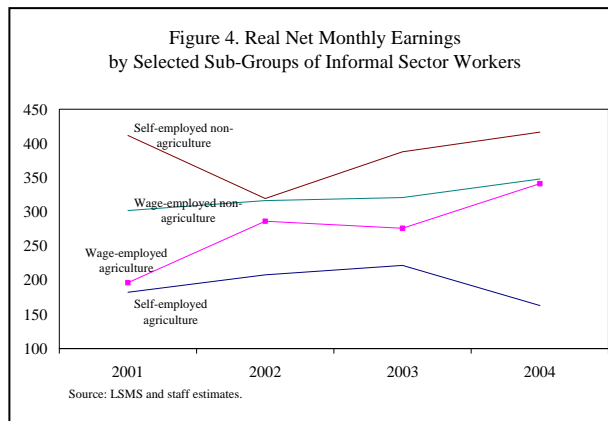


Wages have increased rapidly in the formal sector but not in the informal sector (Figure 3). The labor market as a whole experienced rapid real wage growth since 2001, outpacing productivity growth (GDP per capita growth). Estimates of the evolution of output prices and unit labor costs among enterprises in BH over the period 1998-2003 signify that the evidence is consistent with a profit squeeze in FBH (IMF 2004a), potentially affecting international competitiveness adversely, and depressing employment growth in the process. The data also suggest that corporate profits have been falling steadily over the last five years. The CEM (World Bank 2005b) reports that wages are high by regional standards and are not underpinned by proportionately higher labor productivity.

Across sectors, there are wide disparities in wage increases. The increase in formal sector wages, for example, outpaced the average wage increase while informal sector wages have been relatively flat. The increases in formal sector wages seem to have been led by relatively high paying firms and the government sector. In addition, indexation mechanisms, such as wage floors in collective arrangements being indexed monthly to average wages or the experience premium, have facilitated the spillovers of the wage increases to the rest of the economy. These wage settings systems are comparable to those of other countries in the region.⁸ In South Eastern Europe and in the Commonwealth of Independent States (CIS), wage determination is still heavily influenced by the government, underpinned by a high share of the public sector in employment and privatized enterprises that reflect the behavior of state enterprises (World Bank 2005b). In BH as in some other economies, centralized wage setting systems have led to rapid formal sector wage increases, which in turn, have contributed to depressed employment generation in the formal sector, as evidenced by the growing informality of the labor market.

⁸ The system is centralized on paper but appears much less so for the economy at large.

Within the informal sector, there is a marked heterogeneity in net earnings outcomes. The outcomes depend in part on whether a worker is self-employed or wage-employed, in agriculture or in other sectors. There are clear differences, for example, in the earnings levels by distinct subgroups within the informal sector (Figure 4). There are also disparities in the changes in earnings levels over time. The self-employed agricultural workers within the informal sector, for example, have the lowest reported net earnings in absolute terms. They have also experienced a decline in earnings over the 2003 to 2004 period, with net earnings levels currently below the 2001 period.



Not surprisingly, earnings inequality is much higher in the informal sector, at least in the FBH. For the BH labor market as a whole, the Gini coefficient of the formal sector earnings distribution is 0.31 while the informal sector distribution is 0.35, based on nominal earnings. However, most of the aggregate difference in distribution appears to be driven by FBH (Gini coefficient is 0.30 in the formal sector and 0.37 in the informal sector, using nominal earnings). Overall consumption inequality is virtually the same in the two sectors, and essentially unchanged over the last four years at 0.26, suggesting the mitigating role of transfers, among other things.⁹

For the panel sample of workers, wage inequality fell over the last four years, by 2-3 points, while preserving the gap between formal sector and informal sector wage inequality. Even more striking is the disparity in wage inequality between formal sector and informal sector workers within selected industries. For example, within the agriculture sector, the Gini coefficient of formal sector distribution is 0.28 while the informal sector is 0.39.

III. Labor Market Transition in Bosnia and Herzegovina

Is there a core of long-term unemployed in BH? The incidence of long-term unemployment (long term unemployment as a proportion of total unemployment), depending on its magnitude, may indicate substantial social costs. Long-term unemployment may lead

	2001	2002	2003
<i>Duration of unemployment</i>			
Less than 1 month	1.9	1.4	2.32
1-3 months	13.0	5.0	5.77
4-6 months	8.5	6.9	6.5
7-11 months	6.7	4.1	5.63
1 year or more	69.8	82.5	79.8

Source: LSMS and staff estimates.

⁹ This is consistent with the consumption inequality reported in the *Poverty Assessment* (World Bank 2003). The disparity in wage inequality between the formal and informal sectors is also broadly consistent with the disparity reported in the BH labor market study (World Bank 2002).

to the erosion of useful skills, discouragement, and eventual exits out of the labor force (World Bank 2005b; Cazes and Nesporova 2003). There are two options for measuring long-term unemployment or the share of those unemployed for a year or longer, as a proportion of total unemployed. First, the LSMS survey directly elicits information on the job search period. In particular, survey respondents are asked how long they have been looking for a job or trying to start their own business. The responses may be anywhere from less than a month to over 10 years. Because these are own-assessments of the duration of job search, this may be prone to measurement errors. The alternative is to infer long-term unemployment status data from actual employment status in each of the survey years. Thus, the long-term unemployed in 2004 would be those who were also documented to be unemployed in preceding years.

There is evidence that a substantial core of long-term unemployed workers exists. This is confirmed by our two measures, although both—the second measure in particular—are complicated by the absence of suitable proxies of ILO-consistent unemployment in 2003. Not surprisingly, there is a wide discrepancy between the two estimates. Based on the first measure (Table 2), the data suggests that about 70-80 percent of the unemployed have been unemployed for a year or longer. Based on the second measure, the data suggest that about 37 percent are long-term unemployed. We favor the second measure because it is based on observed, rather than self-reported, long-term unemployment.¹⁰ As a rough benchmark, the average incidence of long term unemployment in the ECA region is about 50 percent.¹¹ Both measures suggest that there is a larger core of long-term unemployed in RS. The second measure, for example, suggests that the incidence of long term unemployment is about 30 percent in FBH compared to 44 percent in RS.

¹⁰ We also find it informative that this second measure is lower than self-reported long-term unemployment, possibly for reasons similar to the discrepancy between ILO unemployment and registered unemployment. However, this second measure may still be upwardly biased because the status of survey respondents is not observed continuously between rounds.

¹¹ This is based on a sample of 13 transition economies over the 1999 to 2002 period drawn from the ILO-KILM database. Data are available from the authors on request.

Table 3. Transition Probabilities in Bosnia and Herzegovina: All, 2001-2004
(In percent)

	Employment Status in 2004					
	Inactive (1)	Unemployed (2)	Employed			All (4) = (1) + (2) + (3)
			All Employed (3) = (3A) + (3B)	Employed in the Formal Sector (3A)	Employed in the Informal Sector (3B)	
Employment Status in 2001						
<i>All</i>						
Inactive	63.3	15.3	21.3	8.1	13.2	100.0
Unemployed	29.9	27.4	42.7	20.0	22.7	100.0
All employed	13.0	8.3	78.7	54.4	24.3	100.0
Employed in the formal sector	9.5	5.7	84.9	73.2	11.7	100.0
Employed in the informal sector	19.6	13.3	67.2	19.1	48.1	100.0
<i>Women</i>						
Inactive	72.1	11.6	16.3	5.3	11.0	100.0
Unemployed	46.7	18.7	34.6	18.5	16.1	100.0
All employed	19.7	6.3	74.0	54.3	19.7	100.0
Employed in the formal sector	12.2	5.6	82.3	74.2	8.1	100.0
Employed in the informal sector	33.9	7.7	58.4	16.8	41.7	100.0
<i>Men</i>						
Inactive	46.5	22.5	31.0	13.6	17.4	100.0
Unemployed	19.6	32.7	47.7	21.0	26.7	100.0
All employed	9.6	9.3	81.1	54.4	26.7	100.0
Employed in the formal sector	8.1	5.7	86.2	72.7	13.5	100.0
Employed in the informal sector	12.3	16.1	71.6	20.2	51.4	100.0

Source: LSMS and staff estimates.

Note: Includes working age population only.

Table 3 summarizes the flows among employment (further disaggregated into formal and informal sector employment), unemployment and leaving the labor force. The first column on the left hand side indicates the labor force status of workers in 2001 while all the other columns indicate the distribution of these workers across various labor market states in 2004. For example, of those who were out of the labor force in 2001, 63 percent remained inactive, 15 percent were unemployed in 2004, while the rest found employment either in the formal sector or more likely in the informal sector. These proportions can be interpreted as the probability of moving from one labor market state to another over the four year period; the annual transition probabilities (not shown but available on request) are broadly consistent with these flows.

Transition probabilities in the BH labor market are broadly comparable with those of Central and Eastern European countries, Western European countries, and a sample of middle-income countries in Latin America (see Appendix Tables 1 and 2). In particular, the flows from employment to unemployment or from unemployment to jobs in BH are similar to other transition economies. Flows from inactivity to either unemployment or employment have been somewhat larger than most countries, underpinning the rapid increase in labor force participation in recent years.

While comparable with other countries, however, outflow rates from unemployment to jobs remain low, accounting for high and persistent unemployment in BH. The flows in BH also reflect the same challenges faced by other economies in transition. For example, the flows from employment to inactivity exceed the flows from employment to unemployment.

The flows from unemployment to inactivity are also non-negligible. In addition, there are important distributive dimensions not captured by aggregate flows. Compared to men, a disproportionately large share of unemployed women subsequently leave the labor force, more than twice the average flow from unemployment to inactivity among men. In fact, across all labor market flows, women are consistently worse off. The flows from inactivity to employment or from unemployment to employment are smaller; the flows into inactivity or unemployment are larger. Compared to other countries in the region for which disaggregated data are available, the labor market transitions experienced by women in BH have been disappointing.

More systematic analyses of labor market flows confirm the relative disadvantage of women, as well as, to some extent, the younger, less-educated workers. We estimate a multinomial logit model of labor market transitions by state of origin: employment, unemployment, and inactivity. We follow the specification of previous models of transition probabilities (see for example Lauerova and Terrell 2002; Bukowskiy and Lewandowski, 2005) and analyze the impact of standard covariates. In particular, following Lauerova and Terrell (2002) we estimate as follows the probability of an individual moving from one labor market state (employment, unemployment, or inactivity) into another, conditional on being in a particular previous state:

$$\Pr(Y_{it} = j | Y_{it-1} = k) = \frac{\exp(Z_k' \beta_k)}{\sum_k \exp(Z_k' \beta_k)} \quad (1)$$

where $j, k = 1, 2, 3$ represent the labor market states (employment, unemployment, or inactivity); j represents the destination and k the origin state; i represents the individual and Z_i the characteristics of the individual. The variables included in the Z -matrix are: gender, age, marital status, and educational attainment. We also included geographic dummies. We measure the transitions from one labor market state into another between 2001 and 2002 and between 2002 and 2004. We are unable to use data from 2003 because a “routing error” prevents the calculation of ILO-consistent unemployment measures. The base groups are as follows: female, 15-24 years of age, elementary or unfinished elementary school education, and living in Banja Luka municipality. The standard errors are corrected for stratification and intra-cluster-correlation.

The summary results are reported in Table 4 for the period 2001 and 2002 and in Table 5 for period 2002 and 2004. They provide strong evidence that there are indeed significant differences in labor market transitions by gender, age, education, and geographic (municipal dummies). For example, more educated workers are less likely to leave employment for unemployment. They are also less likely to transition from employment to inactivity.

Table 4. Multinomial Logit Model: Labor Market Transitions: 2001-2002
(Standard errors in parentheses)

	Employment Transitions		Unemployment Transitions		Inactivity Transitions	
	to Inactivity	to Unemployment	to Inactivity	to Employment	to Unemployment	to Employment
Men	-0.815*** (0.165)	0.278 (0.229)	-0.926** (0.432)	0.823** (0.350)	0.779*** (0.157)	0.892*** (0.174)
Age (years)						
25-44	-0.951*** (0.315)	-0.472 (0.329)	-0.200 (0.325)	0.328 (0.409)	0.542** (0.263)	1.100*** (0.288)
44-54	-0.630* (0.335)	-1.333*** (0.432)	0.246 (0.535)	0.784 (0.533)	-0.118 (0.288)	0.953*** (0.352)
55+	0.290 (0.340)	-1.442** (0.610)	2.410** (1.201)	1.783 (1.310)	-2.616*** (0.421)	-0.269 (0.399)
Single	0.146 (0.262)	0.708*** (0.244)	0.121 (0.341)	-0.821** (0.346)	0.269 (0.247)	0.374 (0.308)
Education						
Vocational	-0.657*** (0.213)	-0.333 (0.257)	-0.070 (0.347)	-0.080 (0.352)	1.205*** (0.203)	0.771*** (0.172)
High School	-0.547* (0.324)	-0.703** (0.282)	0.057 (0.453)	0.172 (0.425)	0.646*** (0.198)	0.336 (0.226)
College	-1.269*** (0.411)	-1.070** (0.539)	-0.574 (1.120)	0.274 (0.895)	1.713** (0.705)	0.133 (0.614)
University	-3.675*** (1.038)	-1.108** (0.453)	-33.627*** (1.010)	0.818 (1.133)	0.257 (1.042)	1.180** (0.550)
Constant	-0.224 (0.422)	-1.873*** (0.505)	0.108 (0.629)	-0.191 (0.669)	-2.573*** (0.392)	-2.037*** (0.380)
Number of Obs		2126		422		2439

Note : The following are base groups: Female, 15-24 years of age, elementary or unfinished elementary school education, Banja Luka municipality. Standard errors are corrected for stratification and intra-cluster correlation.

Table 5. Multinomial Logit Model: Labor Market Transitions: 2002-2004
(Standard errors in parentheses)

	Employment Transitions		Unemployment Transitions		Inactivity Transitions	
	to Inactivity	to Unemployment	to Inactivity	to Employment	to Unemployment	to Employment
Men	-0.925*** (0.159)	0.285 (0.207)	-1.926*** (0.440)	-0.252 (0.476)	1.012*** (0.163)	1.166*** (0.167)
Age (years)						
25-44	-0.484 (0.300)	-0.814*** (0.283)	0.341 (0.398)	0.065 (0.371)	0.645*** (0.239)	0.458 (0.280)
44-54	0.476 (0.331)	-1.130*** (0.397)	0.934 (0.568)	0.535 (0.634)	-0.538* (0.294)	-0.267 (0.289)
55+	1.475*** (0.386)	-3.524*** (1.090)	24.235*** (0.887)	22.287 (0.887)	-3.163*** (0.531)	-1.459*** (0.352)
Single	0.130 (0.245)	-0.118 (0.231)	-0.046 (0.335)	-0.553 (0.379)	0.748*** (0.209)	0.362 (0.283)
Education						
Vocational	-0.602*** (0.189)	-0.380 (0.237)	-0.030 (0.373)	1.190** (0.457)	0.428** (0.168)	0.818*** (0.143)
High School	-1.141*** (0.250)	-0.782** (0.317)	0.428 (0.464)	0.761 (0.516)	0.113 (0.208)	0.478** (0.184)
College	-0.944*** (0.349)	-0.328 (0.395)	-1.455 (1.485)	1.715* (0.996)	2.277*** (0.783)	0.943 (0.614)
University	-2.339*** (0.484)	-1.833*** (0.532)	-33.714*** (1.308)	0.766 (1.134)	0.487 (0.939)	0.780* (0.418)
Constant	-0.869** (0.432)	-0.783** (0.388)	1.162 (0.905)	0.821 (0.781)	-1.926*** (0.341)	-1.746*** (0.342)
Number of Obs		2107		421		2306

Note: The following are base groups: Female, 15-24 years of age, elementary or unfinished elementary school education, Banja Luka municipality. Standard errors are corrected for stratification and intra-cluster correlation.

The results also indicate measurable labor market disadvantages among women. For example, men are less likely to leave employment for inactivity. Men are also more likely to transition out of inactivity into employment. And, at least between 2001 and 2002, men were more likely to move out of unemployment back into employment, holding other things constant.

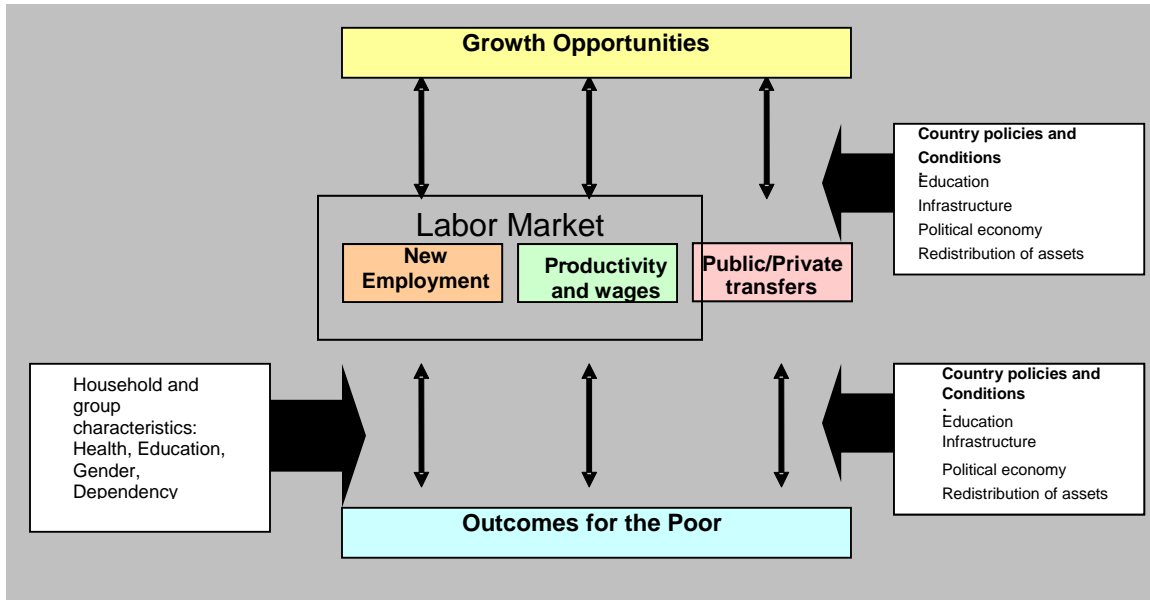
The results with respect to age are more mixed. Young workers (less than 25 years of age) are more likely to go into inactivity and unemployment. Between 2001 and 2002, they were also less likely to move out of inactivity. However, between 2002 and 2004, they seemed more likely to move out of inactivity.

IV. Labor Market Outcomes and Welfare

How do labor market dynamics documented in the previous section relate to the welfare of workers, its evolution and its distribution? A first step would be a conceptual understanding of how economic growth translates into welfare outcomes and specific gains for the poor. In principle, there are a number of channels linking growth opportunities to welfare outcomes for the poor or workers at various points of the welfare distribution. This is illustrated using a simple framework depicted in Figure 5. The labor market is a principal channel through which economic growth translates into poverty reduction. The working poor gain from higher wages while the unemployed poor gain

from new employment opportunities. Meanwhile, the non-working or economically inactive poor gain from increased public and private transfers.

Figure 5. Welfare and the Labor Market: A Simple Framework



Source: Adapted from “Pro-Poor Growth” (World Bank 2005).

Both access to these opportunities and their scale are mitigated by government policies, geographic location, gender and other demographic characteristics. Welfare outcomes at the individual level are also driven by the labor market activities of other members of individuals’ respective household. To understand changes in the welfare of the poor, it is critical to consider improvements or deteriorations in their wage levels, their employment opportunities, and the transfers they receive, along with changes in other mitigating factors. In BH case, we can also speculate on the role of recent changes in the first two channels (wage and employment opportunities), if any, in explaining recent poverty outcomes.

What do we know of the recent evolution of poverty? In BH, the poverty headcount is essentially unchanged between 2001 and 2004. The poverty headcount has fallen from 19.5 percent to 17.8 percent, although the reduction in poverty appears to be statistically insignificant. When we restrict the analysis to just the panel observations, the poverty headcount is essentially unchanged at 17.7 percent.

The unemployed generally face the highest incidence of poverty, compared to the employed and those out of the labor force, although it has decreased slightly over time (Figure 6). In particular, the incidence of poverty among the unemployed is 31 percent

and 29 percent for 2001 and 2004, respectively. The relative poverty risk for the employed and those not in the labor force is broadly unchanged. Those out of the labor force still constitute the largest share of the poor, followed by the unemployed, the informally employed, and the formally employed.

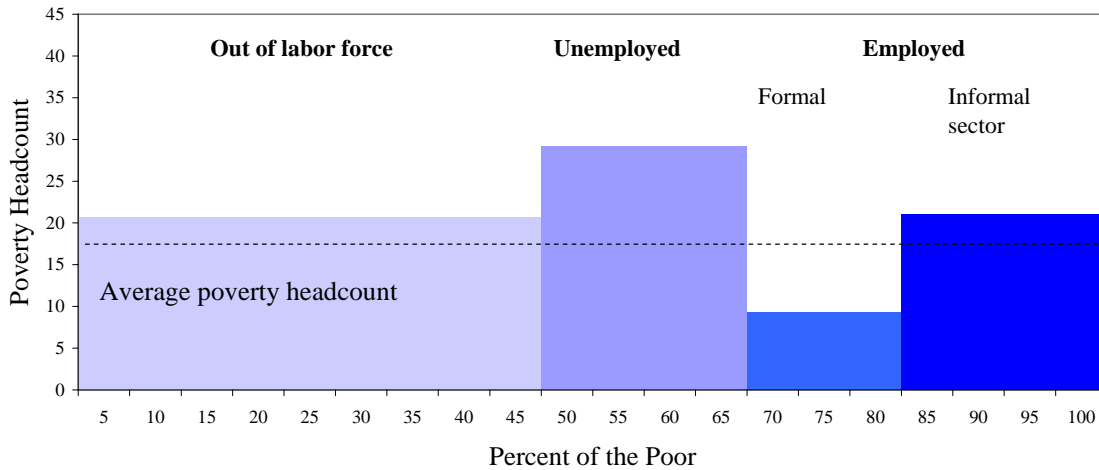
There are substantial differences between men and women in the way the labor market mediates their welfare outcomes. For example, the predominance among the poor of individuals who are out of the labor force is driven in large part by women. Among women, about two-thirds of the poor are out of the labor force (Figure 7). Together with the unemployed, those out of the labor force account for over 80 percent of poor women. In contrast, only about 28 percent of the men are out of the labor force. Together with the unemployed, those out of the labor force account for a little over 50 percent of poor men.

Informal sector workers face high and increasing relative poverty risk. Relative to formal sector workers, informal sector workers have a higher incidence of poverty and the disparity in relative poverty risk has widened over the last four years. In particular, the disparity in poverty headcount grew between 2001 and 2004, with formal sector workers experiencing decreasing poverty risk over time (the poverty headcount dropped from 12 to 9 percent) while informal sector workers experienced increasing poverty risk (the poverty headcount rose from 16 to 19 percent).

In general, there is no necessary relationship between informal employment and poverty, especially in transition economies where formal sector employment itself may be characterized by a degree of uncertainty of earnings (in the form of wage delays, for example) and where informal employment may, in contrast, be associated with high-reward entrepreneurial activities. In the case of BH, however, there are strong reasons to think that informal sector activities are associated with lower productivity and greater inequality of outcomes, as data on the inequality of wages, for example, would suggest. The *Country Economic Memorandum* (CEM) (World Bank 2005a) also argues that firms in this sector face limits on their ability to grow and obstacles to exporting and integration into European production chains. In addition, transition probabilities (Table 3) suggest that the flows from employment to either inactivity or unemployment are much higher in the informal sector than in the formal sector, especially among women.

Low education is associated with higher poverty risk, but the risk-education relationship is broadly unchanged between 2001 and 2004. There is some increase in risk for those with vocation and high school education and some decrease among those with college or higher education.

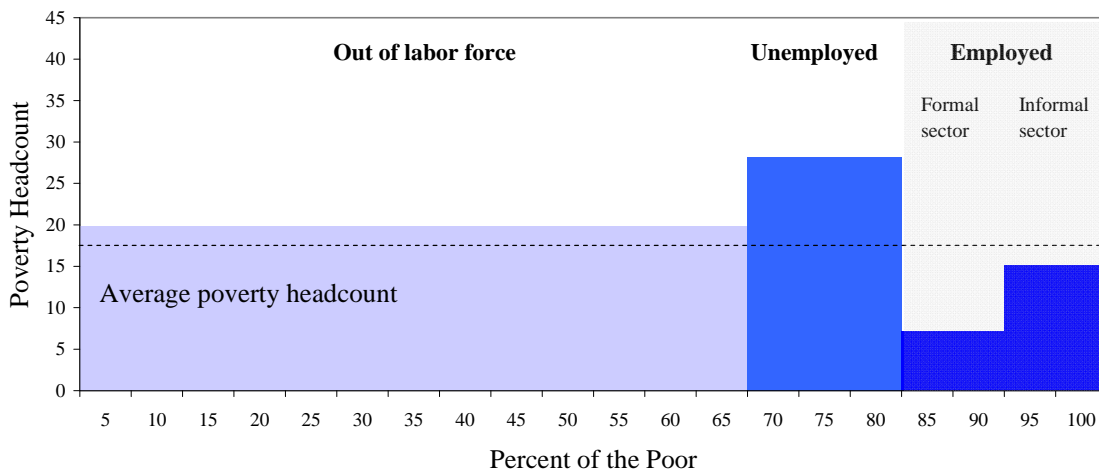
Figure 6. Poverty and Labor Force Status in 2004:
Working-Age Individuals



Source: LSMS and staff estimates.

Note: Includes the working-age population (15-64) only. The X axis represents the distribution of the poor by labor force status while the Y axis represents the poverty headcount by labor force status. For example, those who are unemployed have the highest poverty headcount but they account for a smaller fraction of the poor, compared to those out of the labor force.

Figure 7. Poverty and Labor Force Status in 2004:
Working-Age Women



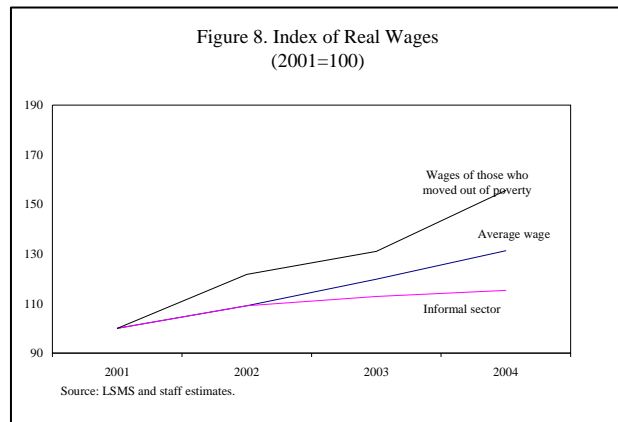
Source: LSMS and staff estimates.

Note: Includes the working-age population (15-64) only. The X axis represents the distribution of the poor by labor force status while the Y axis represents the poverty headcount by labor force status. For example, those who are unemployed have the highest poverty headcount but they account for a smaller fraction of the poor, compared to those out of the labor force.

Transitions out of Poverty

While the aggregate poverty headcount is unchanged, few may be considered “chronic poor.” More than half the poor in 2001 moved out of poverty in 2004. The key drivers of such outflows are described below.

Workers who moved out of poverty experienced very large increases in wages. While aggregate wages rose sharply over the last four years, outstripping the growth of GDP per capita, the wages of those who moved out of poverty grew even faster (Figure 8). The increase in wages among those who moved out of poverty is close to double the increase in average wages and close to four times the rate of increase in the informal sector. This is consistent with the previous analysis of wage increases by wage deciles, where low-paid workers experienced relatively sharper increases in wages.



Movement out of poverty is related to the labor market performance, especially among male workers. Many workers who moved out of poverty between 2001 and 2004 also moved from out of the labor force or from unemployment into employment. A significant fraction also moved from informal employment into formal employment, underscoring the role of wages and productivity in lifting people out of poverty. These labor market developments are especially pronounced among males. For example, of men who were unemployed and in poverty in 2001, over half transitioned into employment and out of poverty in 2004. Among those who were out of the labor force in 2001, over 42 percent moved into employment in 2004. And of those who were employed informally in 2001, over 57 percent subsequently found jobs in the formal sector. Finally, many of those already employed in the formal sector held on to their formal sector jobs.

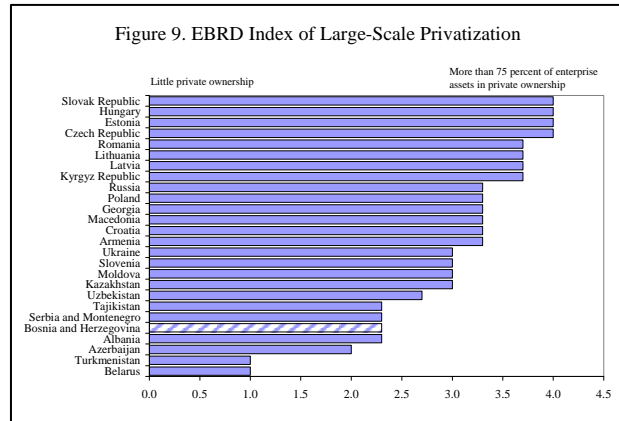
In contrast, only 36 percent of men who were in poverty throughout the period (the “chronic poor”) moved from unemployment into employment. Of the 36 percent, over two-thirds found employment in the informal sector, where wages have been stagnant. Of those who were employed in the formal sector in 2001, a significant share (36 percent) moved into informal sector employment.

Among female workers, the relationship between exits out of poverty and labor market performance is less clear. In general, labor market performance matters more for males than for females, who have much lower rates of labor force participation. Of those who were unemployed in 2001, many remained unemployed or left the labor force completely by 2004.

Education is also positively related to movement out of poverty. Workers with higher education have higher probabilities of transition out of poverty.

The State-Owned Enterprises Sector

The privatization of large-scale enterprises is a key challenge and priority for the Government of Bosnia and Herzegovina as laid out in the 2004 Medium-Term Development Strategy (MTDS). Since the 1995 Dayton Agreement, the privatization of small and medium-sized enterprises has made significant progress. However, the privatization of large state-owned enterprises (those employing over 50 employees with KM 5 million in capital, around \$2.5 million using exchange rates in 2004) has proceeded very slowly due to lukewarm political commitment. To date, several hundred large enterprises are yet to be privatized, in contrast to the rest of the ECA region where privatization has largely been completed (Figure 9).



Nonetheless, in an economic environment characterized by a lagging privatization and restructuring program, labor market adjustment—or the reallocation of labor away from loss-making enterprises into enterprises in other sectors—has apparently taken place anyway. The next section provides evidence that while large privatization has largely stalled, many workers surveyed in the LSMS have apparently left the State Owned Enterprise (SOE) sector over the last four years or are reporting that their main employment activity currently lies outside the SOE sector.

SOE Employment Dynamics

SOE employment is dominated by men, older workers, and relatively more educated workers. Employment in relatively larger enterprises (over 100 employees) account for the majority of SOE employment. Workers in manufacturing, utility, and transport, storage and communication sectors represent the majority of SOE workers in both entities. There is a large share of SOE workers employed in mining, too, but this is largely underpinned by state-owned mining enterprises in FBH. Compared to non-SOE workers, SOE workers are relatively older and more educated. Men also account for a greater share of employment in the SOE sector than in the non-SOE sector.

SOE employment has fallen over time, coinciding with rapid increases in wages. As a share of total employment, employment in state-owned enterprises has fallen from 35.6 percent in 2001 to 20.5 percent in 2004.¹² As a share of formal sector employment,

¹² Falling public sector employment, observed between 2001 and 2002, is documented in the CEM.

SOE employment has fallen from 56 percent in 2001 to 35.5 percent in 2004. In absolute terms, SOE workers are estimated to currently number about 221,900 using estimates of the SOE share of workers drawn from the LSMS and the corresponding figure for total official (formal) employment in BH (about 634,000).

Along with aggregate decreases in SOE employment are proportional decreases in the RS and FBH. In the RS, SOE employment now accounts for a mere 16 percent of total employment, compared to 24 percent in FBH. Across all industries, SOE share of total employment fell, with especially large fall in the manufacturing sector (from 71 percent to 38 percent). The smallest decrease in SOE employment is in the utilities sector. Some of the most SOE-dependent municipalities have seen their share of SOE-employment fall between 2001 and 2004 from, for example, a high of 88 percent of formal sector employment to 31 percent.

It may be argued that decreases in SOE employment are driven in large part by employment in voucher-privatized companies, where privatization has taken place but effective restructuring has not effectively been carried out. In which case, the fall in SOE employment is a “nominal” adjustment and not real labor adjustment, i.e., SOE employment has fallen nominally but workers are still employed by privatized state enterprises that are otherwise essentially unchanged.

Unfortunately, LSMS data do not allow us to establish whether an individual worker is employed by the same company over time. However, the data provide information on workers’ industry of employment and the size (number of employees) of their company. Using these two pieces of information, we can make inferences regarding the magnitude of “nominal” adjustment. In particular, if a given worker leaves the SOE sector between 2001 and 2004 but (a) he declares himself to be employed by the same industry and (b) the number of workers in his company remains essentially unchanged, then we use this as proxy for continued employment in a privatized company. Adding back into SOE employment these nominal adjustments, the results indicate that SOE employment still fell from about 35.6 in 2001 to about 24.1 percent of total employment in 2004.¹³

How do these findings compare with other data sources that provide either direct or indirect estimates of the relative magnitude of SOE employment? First, estimates from BEEPS data provide complementary evidence that SOE employment has fallen over the 1999-2002 while growing in de novo private enterprises (see also World Bank 2005a). While employment in privatized enterprises also fell during this period, employment in state-owned enterprises fell proportionally more, indicating that as a share of total employment, SOE employment must have fallen.

¹³ The results indicate that about 10 percentage points of workers employed *outside* the SOE sector in 2004 were previously employed by the SOE sector in 2001. Of the 10 percentage points, only 3.6 percentage points appear to be employed by the same industry by companies of the same size. This suggests that a substantial share of the fall in SOE (from 35.6 to 20.5) is accounted for by “real” adjustments and, classifying as SOE workers those who appear to be employed by the same (but now privatized) company indicates that SOE employment still fell from 35.6 in 2001 to about 24.1 in 2001 (or 20.5 + 3.6).

Second, data from the EBRD also suggests that while the large-scale privatization program has effectively stalled, the private sector share of output has nonetheless grown steadily. While this observation is consistent with, say, the growing efficiency of existing private sector firms in producing output, it is also fully consistent with growing factor inputs (labor) among private firms, including the informal sector, and falling employment in state enterprises.

Third, there are some data on sector-by-sector employment in the RS, disaggregated by enterprise ownership. Unfortunately, the forms of ownership reported include those of mixed private and public ownership. Depending on whether or not mixed forms of ownership are included, SOE employment in RS accounted for about 15 to 40 percent of total (formal sector) employment in late-2003. According to the LSMS, SOE employment currently accounts for 30 percent of formal sector employment. Regardless of how SOE employment is calculated, averages drawn from semi-annual data available suggest that SOE employment in the RS has steadily fallen in recent years as private sector employment has grown.¹⁴

Fourth, summary data from the South-Eastern Europe Barometer (SEB) suggest that employment in state enterprises ranges from 16 to 24 percent, based on survey data collected in 2004. Available summary data do not allow us to calculate the weighted average of SOE employment for BH as a whole but the average drawn from the LSMS falls within the SEB estimates.

These three data sources do not—separately, on their own—provide conclusive evidence that SOE employment has indeed fallen as a share of total employment but they do provide strong evidence that is broadly consistent with the LSMS findings.

SOE Evolution and Poverty Outcomes

What are the poverty and welfare outcomes for those who left the SOE sector and those who stayed?¹⁵ On the one hand, those who left were likely to experience more severe wage arrears in 2001 and are now substantially less likely to experience wage delays. On the other hand, those who left seem more likely to be poor. The poverty headcount of those who left is about 20 percent, compared to 15 percent poverty rate for those who stayed.

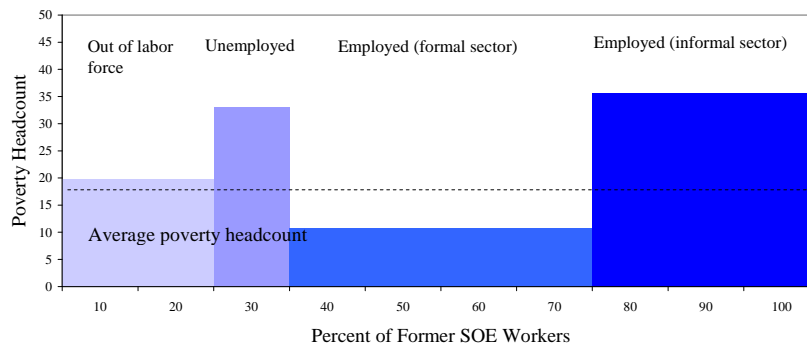
This puzzling result—the poverty outcomes of those who left the SOE sector being higher than those who stayed behind—seems driven largely by the poverty risk associated with the subsequent labor force status and sector of employment of those who left. Of the workers who were employed in the SOE sector in 2001 but subsequently left about 40 percent found employment in the formal sector (mostly in manufacturing) in 2004 (Figure 10). The rest either became unemployed or left the labor force, or found

¹⁴ See RS Institute of Statistics (various issues).

¹⁵ Due to the relatively few responses to the relevant survey question, the LSMS survey cannot effectively distinguish the reasons for leaving, whether it is due to dismissal, for example, or voluntary exit.

employment in the informal sector. As expected, the poverty risks associated with these labor market states vary widely. In particular, there is a striking disparity between the formally employed and the informally employed among former SOE workers. The poverty headcount of the formally employed is a very low 10 percent. In contrast, the poverty headcount of those informally employed is 35 percent. Thus, while in principle, the informal sector serves as a safety net for labor market adjustment in transition economies, in the case of BH the informal sector is associated with substantial poverty risks.

Figure 10. Poverty and Labor Force Status in 2004:
Former SOE Workers



Source: LSMS and staff estimates.
 Note: Includes workers employed in SOE sector in 2001 and located elsewhere in 2004. The X axis represents the distribution of former SOE workers by labor force status in 2004 while the Y axis represents the poverty headcount by labor force status. For example, of former SOE workers, those who are unemployed or employed informally have high poverty headcounts but the unemployed account for a smaller fraction of the SOE workers, compared to those employed formally or informally.

V. Policy Options and Constraints

This paper takes stock of labor market developments in Bosnia and Herzegovina (BH) over the period 2001-2004. The evidence suggests that there are encouraging signs of labor market dynamism underpinned by rising participation rate and employment rate and relatively stable unemployment rate. But the labor market in BH remains a difficult economic environment. The participation rate employment rate remains relatively low, and the unemployment rate relatively high compared to other countries in the region. A number of selected groups bear a disproportionate burden of this environment: women have extremely low participation rates, perhaps the lowest in the ECA region. Of those who were unemployed four years ago, many women remain unemployed or have since left the labor force. The youth have very high unemployment rates, much higher than the BH average. And though formal sector wages have increased sharply, a striking feature of the labor market in BH is the growing share of employment in the informal sector, where, compared to the formal sector, wages are lower, more unequal (mainly in the Federation of Bosnia and Herzegovina), and have grown more slowly over time. However, despite relatively dismal outcomes for the informal sector, on average, the evidence also reveals marked heterogeneity among workers in this sector, depending on the type of informality.

This paper also relates labor market developments to the welfare of workers, the recent evolution of welfare, and its distribution. Over the period examined in this paper, the aggregate poverty headcount is unchanged but the poverty risk has evolved differently for selected sub-groups. Where averages wages have sharply increased—mostly in the formal sector—the poverty risk has fallen. Where wages have remained broadly unchanged and where the relative share of total employment has expanded—mostly in the informal sector—the poverty risk has increased. Those who are not in the labor force or unemployed constitute the biggest share of the poor. Of women in poverty, those who are not in the labor force account for two-thirds of the total. In contrast, only a little over a quarter of men in poverty are out of the labor force. There are also clearer links between men’s employment outcomes and their transitions out of poverty. Of the men initially out of the labor force or unemployed, a large share subsequently moved into employment and also moved out of poverty as a result.

In this difficult labor market, there are good reasons for reviving the privatization and enterprise restructuring program. The long drawn-out processes of privatizing and restructuring public enterprises have merely postponed the necessary reforms and unnecessarily prolonged the lives of non-viable, loss-making enterprises and, in the process, it has constrained private-sector led development and the more productive use of resources for employment-generation. Enforcing financial discipline, quickly implementing privatization, and facilitating bankruptcy and closure can instead effectively compress the labor adjustment period and can possibly move forward strategic restructuring processes that subsequently lead to job creation in the medium-term. In the short-term, however, this strategy faces a number of critical challenges. We know, for example, that only about a third of those who left the SOE sector have since found employment in the formal sector. Instead, many of them fell into inactivity or unemployment, or joined the informal sector, facing elevated poverty risks as a result.

Thus, renewed enterprise privatization and restructuring will also require complementary policies that create an enabling environment for job creation. The likely poverty and social impact of labor retrenchment following privatization and restructuring will depend in large part on how quickly affected enterprises rebound, or their ability to invest, adopt new technologies and hire new staff. Policies that promote competition, facilitate the entry of new firms, create the conditions for a level playing field, attract strategic foreign investors¹⁶ (who enjoy some advantage in access to finance, new technologies, and new production processes) can ease the transition from defensive restructuring that leads to job destruction to strategic restructuring that leads to job creation (World Bank 2005b, World Bank 2005c). To remove barriers to entry and stimulate further enterprise creation, the CEM (World Bank 2005a) emphasizes the need to fully implement the new business registration system, streamline business inspection, and enforce competition policy.

¹⁶ There is evidence that foreign privatization is associated with increased employment and wages in a sample of countries (Hungary, Romania, Russia, and Ukraine), though these effects are not always statistically significant (World Bank 2005b).

REFERENCES

- Boeri, Tito and Katherine Terrell, 2002, "Institutional Determinants of Labor Reallocation in Transition," *Journal of Economic Perspectives* Vol. 16, No. 1 (Winter): pp. 51-76.
- Bukowski, Maciej and Piotr Lewandowski, 2005, "Transitions from unemployment in Poland: a multinomial logit analysis," mimeo, Warsaw School of Economics, Institute for Structural Research.
- Cazes, Sandrine and Alena Nesporova, 2003, *Labour Markets in Transition: Balancing Flexibility & Security in Central and Eastern Europe* (Geneva: International Labour Office).
- Eamets, Raul, 2004, "Labour Market Flows and Adjustment to Macroeconomic Shocks in the Baltic States," *Post-Communist Economies* Vol. 16, No. 1 (March): 47-71.
- Godoy, Sergio and Joseph E. Stiglitz, 2006, "Growth, Initial Conditions, Law and Speed of Privatization in Transition Countries: 11 Years Later," NBER Working Paper No. 11992 (Cambridge: National Bureau of Economic Research).
- Ingham, Mike and Hilary Ingham, 2005, "Labour flows into and out of Polish agriculture: A micro-level analysis," Lancaster University Management School Working Paper 2005/009 (Lancaster: Lancaster University).
- Inter-American Development Bank, 2004, *Economic and social progress in Latin America 2004: Good jobs wanted: Labor markets in Latin America* (Washington: Johns Hopkins University Press)
- International Labour Organization (ILO), 2003, *Report III (Part 1B) Third item on the agenda: Information and reports on the application of Conventions and Recommendations General Survey of the reports concerning the Protection of Wages Convention (No. 95) and the Protection of Wages Recommendation (No. 85), 1949* (Geneva: ILO International Labour Office).
- International Monetary Fund (IMF), 2004a, "Bosnia and Herzegovina: 2004 Article IV Consultation--Staff Report," Country Report No. 04/67 (Washington: IMF).
- _____, 2004b, "Bosnia and Herzegovina: Selected Economic Issues," (Washington: IMF).
- Jones, Derek C. and Takao Kato, 1997, "The Nature and the Determinants of Labor Market Transitions in Former Communist Economies: Evidence from Bulgaria," *Industrial Relations*, Vol. 36, No. 2 (April): 229-54.

- Kadić, Rasim, 2005, "Labour Market in Bosnia and Herzegovina: Brief analysis," Background Paper Prepared for the Conference on Labor Markets, Growth and Poverty Reduction Strategies, May 27-28, Thessaloniki, Greece.
- Lauerová, Jana Stefanová and Katherine Terrell, 2002, "Explaining Gender Differences in Unemployment with Micro Data on Flows in Post-Communist Economies," IZA Discussion Paper No. 600 (Bonn: Institute for the Study of Labor).
- Merlevede, Bruno, 2003, "Reform Reversals and Output Growth in Transition Countries," *Economics of Transition*, Vol. 11, No. 4: 649-669.
- Paci, Pierella, 2002, *Gender in Transition* (Washington: The World Bank).
- Paul Lazarsfeld Society, 2004, "Bosnia-Herzegovina Public Opinion: A South-East Barometer Study," Studies in Public Policy Number 396 (Glasgow: Centre for the Study of Public Policy).
- Republika Srpska (RS) Institute of Statistics, various issues, *Labor Statistics Report* (Banja Luka: Republika Srpska Institute of Statistics).
- Selowsky, Marcelo and Ricardo Martin, 1997, "Policy Performance and Output Growth in the Transition Economies," *American Economic Review*, Vol. 87, No. 2 (May): 349-353.
- Stoev, Georgi, 2002, "Macroeconomic Development in Bulgaria After the 1996-1997 Crisis: A Labor Market Perspective," Background Paper for the Bulgaria Poverty Assessment Update (Washington: The World Bank).
- World Bank, 2002, "Labor Market in Postwar Bosnia and Herzegovina: How to Encourage Businesses to Create Jobs and Increase Worker Mobility," Report No. 24889-BIH (Washington: The World Bank).
- _____, 2003, "Bosnia and Herzegovina Poverty Assessment," Report No. 25923-UZ (Washington: The World Bank).
- _____, 2005a, "Bosnia and Herzegovina Country Economic Memorandum," Report No. 29500-BA (Washington: The World Bank).
- _____, 2005b, *Enhancing Job Opportunities: Eastern Europe and the Former Soviet Union* (Washington: The World Bank).
- _____, 2005c, *Growth, Poverty, and Inequality in Europe and Central Asia* (Washington: The World Bank).

Appendix Table 1. Transition Probabilities

Country	Year	Employment to Unemployment	Employment to Out of the Labor Force	Unemployment to Employment	Unemployment to Out of the Labor Force	Out of the Labor Force to Employment	Out of the Labor Force to Unemployment
Bosnia and Herzegovina	2001-2002	6.6	12.9	33.9	31.7	14.4	12.4
<i>Central and Eastern European Countries</i>							
Bulgaria	1994-1995	5.9	9.2	32.3	24.4	9.2	4.4
Czech Republic	1998-1999	1.8	2.5	33.5	9.0	3.6	1.7
East Germany	1990-1991	9.3	7.1	35.0	27.7	16.0	4.1
Poland	1998-1999	3.3	3.9	26.0	17.0	3.3	2.3
Slovakia	1994-1995	2.3	4.5	23.7	7.8	1.8	1.7
<i>Former Soviet Union</i>							
Estonia	1999-2000	5.4	4.1	27.9	6.9	6.1	3.2
Latvia	1999-2000	3.9	6.1	30.4	21.3	6.1	1.7
Lithuania	1999-2000	5.9	5.8	34.0	20.1	7.7	4.2
Russia	1995-1996	5.6	6.2	39.5	14.5	7.6	3.4
United States	1992-1993	2.8	5.3	65.9	28.8	4.3	16.1
<i>Latin America</i>							
Argentina	1993-2001	6.4	7.0	36.9	26.9	11.8	8.0
Mexico	1990-2001	2.0	9.6	54.9	29.8	14.3	1.8
Peru	1997-2000	5.7	11.7	45.1	34.4	25.7	63.5
<i>Western Europe</i>							
Austria	1995-1997			33.6	23.1		
Belgium	1990-1997			23.6	25.6		
Denmark	1990-1997			35.3	27.9		
Finland	1995-1997			26.9	27.2		
France	1990-1997			32.2	16.2		
Germany	1992-1997			25.4	25.0		
Greece	1990-1997			27.1	11.5		
Ireland	1990-1997			19.1	22.7		
Italy	1992-1997			22.4	30.2		
Portugal	1990-1997			35.8	22.4		
Spain	1990-1997			29.2	7.2		
Sweden	1996-1997			29.4	18.6		
United Kingdom	1990-1997			33.3	17.4		

Sources: Unless otherwise indicated, data are from Boeri and Terrell (2002), OECD (2000) and IADB (2003). For Poland (1998-1999), Ingham and Ingahm (2005); for Bulgaria (1991-1992), Jones and Kato (1997); for Estonia, Latvia, Lithuania (1997-2000), Eamets (2004); for Bosnia and Herzegovina, LSMS and staff estimates.

Appendix Table 2. Transition Probabilities By Gender

Country	Year	Employment to Unemployment	Employment to Out of the Labor Force	Unemployment to Employment	Unemployment to Out of the Labor Force	Out of the Labor Force to Employment	Out of the Labor Force to Unemployment
Bosnia and Herzegovina	2001-2002						
Men		7.5	8.9	41.2	23.7	20.9	16.8
Women		5.0	20.7	22.4	44.3	10.9	10.0
<i>Central and Eastern European Countries</i>							
Bulgaria	1991-1992						
Men				38.7	1.8		
Women				36.2	3.6		
Czech Republic	1993-1996 ¹						
Men		0.6	1.1	26.7	6.7	2.5	0.5
Women		0.7	1.5	23.2	7.5	1.7	0.5
East Germany	1990-1991						
Men		5.7	7.9	39.9	33.1	13.5	1.6
Women		13.2	6.2	31.5	23.7	17.2	5.4
Poland	1993-1994						
Men		4.6	5.2	41.8	10.6	8.0	4.0
Women		3.2	7.6	29.6	20.7	7.0	4.4
<i>Former Soviet Union</i>							
Russia	1995-1996						
Men		6.9	4.7	41.0	10.0	6.4	4.0
Women		4.4	7.8	37.8	19.9	8.0	3.0
<i>Latin America</i>							
Argentina ²	1993-2001						
Men (prime age)		5.9	2.2	53.7	8.4	37.9	17.8
Women (prime age)		4.5	10.5	28.2	40.8	12.1	7.6
Mexico ²	1990-2001						
Men (prime age)		1.8	1.3	75.9	7.9	40.7	6.1
Women (prime age)		1.1	15.6	38.6	47.3	13.4	1.2

Sources: For Czech Republic, East Germany, Poland, Russia Lauerova and Terrell (2002); for Argentina and Mexico, IADB (2003); for Bulgaria, Jones and Kato (1997); for Bosnia and Herzegovina, LSMS and staff estimates.

¹Average quarterly transition probabilities.

²Average six-month transition probabilities.