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## A note on poverty in Kosovo

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# A Note on Poverty in Kosovo

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## ABSTRACT

Kosovo is a war-torn corner of the former Yugoslavia, where a civil war between ethnic Albanians and ethnic Serbs raged during most of the 1990s. We examine the incidence and depth of poverty and some of its correlates in post-conflict Kosovo using the Living Standards Measurement Survey.

Keywords: poverty, ethnicity, transition

JEL Classifications: I32; O12; J15

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## **A Note on Poverty in Kosovo**

### **1. Introduction**

Kosovo is a small landlocked territory, a part of the Balkan Peninsula. Even prior to the changes in Central and Eastern Europe, it was poor by the standards of the region. In 1988, per capita output in Kosovo was only 28 percent of average per capita output in Yugoslavia, and the economic crisis was aggravated by civil war during the 1990s between ethnic Albanians who make up approximately 88 percent of the population and ethnic Serbs who constitute about 7 percent. By the end of the war, almost half of the population was living below the poverty line. The civil war reduced the number of able-bodied people of working age, damaged the housing stock and utilities such as power and telecommunication, and the disrupted the flow of commerce. Ethnic conflict, civil war, the breakup of Yugoslavia, and the sweeping economic events of the last 15 years make Kosovo a compelling subject for an examination of the incidence and depth of poverty, and their correlates.

We examine the extent of poverty in Kosovo using the measures of poverty for Serbian and Albanian households with household survey data on Serbian households and Albanian households from the 2001 Living Standards measurement Survey (LSMS) data for Kosovo. In studying the factors contributing to poverty incidence, we use probit analysis where the dependent variable is a binary indicator that has a value of one when a household is in poverty and zero otherwise. We supplement the probit analysis by studying the determinants of the depth of poverty using the Tobit model.<sup>1</sup> The explanatory variables used

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<sup>1</sup> The distribution of the depth of poverty, defined as shortfall, i.e., the poverty line minus income, is left censored with only households living below the poverty line having a positive value for this variable.

for this part of the analysis are the same as those used for the probit analysis of the correlates of poverty incidence.

Background information about Kosovo is described in Section 2, including a discussion of the data and the overall situation concerning the distribution of income. In Section 3, we report the results of the probit and Tobit estimates that highlight the correlates of poverty and the shortfall, respectively, between ethnic Serbs and Albanians. Section 4 concludes.

## **2. Poverty in Kosovo after the Civil War: Overview and Descriptive Analysis**

Kosovo drew international attention during its civil war in the 1990s. The civil war also brought attention to its widespread poverty. Since 1999, Kosovo has been an UN protectorate under the guidelines of UN Security Council Resolution number 1244, and the recovery of the economy was evident soon after the end to the civil war, significantly aided by a reconstruction boom financed by international donors. By the second half of 2000, agricultural output was estimated to have reached about 75 percent of its pre-conflict level, the investment-GDP ratio climbed to almost 40 percent, and per capita GDP stood at USD 759.

The UN Mission in Kosovo (UNMIK), which is responsible for Kosovo's administration, put into place institutions including the Central Fiscal Authority (CSA), the Department of Reconstruction, and the Banking and Payments Authority of Kosovo (BPAK) that have helped in the process of economic reinvigoration. The CSA was created to implement tax policy and formulate a budget for Kosovo that is non-overlapping with the budgets of Serbia and Montenegro. A Department of Reconstruction was created to coordinate donor assistance with public investments. Finally, the jobs of overseeing the

payments system and domestic banks were entrusted to the newly created Banking and Payments Authority of Kosovo (BPAK).

Partly on account of the efforts by UNMIK, the economic recovery continued through 2001, and Kosovo's 2001 per capita GDP was estimated to have risen sharply to USD 899, an annual growth rate of 18.4 percent. However, the economy's prospects are not necessarily rosy since consumption is more than GDP (146 percent of GDP in 2000 and 121 percent of GDP in 2001). Obviously this is not sustainable in the long run. More important, despite the high consumption-GDP ratio, anecdotal evidence suggests that a significant proportion of both the ethnic Serbs and the ethnic Albanians live in poverty.

In 2001 in order to better assess the width, depth and correlates of poverty, the World Bank organized a Living Standard Measurement Survey (LSMS) in Kosovo. The survey, which was carried out between September and December of 2000, collected data from 2,880 households. After accounting for missing values, the survey provides information on 2101 Kosovar Albanian households and 416 Serb households, and this constitutes an over-sampling of the Serb households.<sup>2</sup> The data were used to construct per adult equivalence monthly expenditures for each household (below, per capita expenditure), and this estimate was compared with the poverty line of 104.965 DM per adult equivalent per month or DM 3.499 per adult per day (World Bank, 2001).

In Table 1 we report a statistical outline of the distribution of poverty in Kosovo. Per capita expenditure in 2000 is low at 128.29 DM for Albanians and 111.23 DM for Serbs, 22

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<sup>2</sup> As of mid-2000, the total population of Kosovo was estimated at 2 million. Of these, approximately 88 percent were Kosovar Albanians, while Serbs, who constitute the largest minority group in Kosovo, accounted for approximately 7 percent of the population (Statistical Office of Kosovo, 2003).

percent and 6 percent above the poverty line, respectively. To measure and examine aggregate poverty we use the  $P_\alpha$  index of poverty,

$$P_\alpha = (1/n) \sum_{y_p > y_i} [(y_p - y_i) / y_p]^\alpha,$$

where the summation here is over the poor, those observations whose per capita expenditure,  $y_i$ , is below the poverty line,  $y_p$ ;  $n$  is the number of households;  $\alpha$  is a poverty aversion parameter:  $\alpha = 0$  gives us the headcount ratio measure (the percentage of the population living below the poverty line);  $\alpha = 1$  yields a poverty gap index which represents a ratio of the minimum to maximum costs of poverty elimination; and  $\alpha = 2$  is related to the mean of the squared proportional poverty gap which captures an aspect of the severity of poverty; the higher the value of  $\alpha$ , the more sensitive the index is to the income of the poorest person.

$P_0$  (head count ratio) shows widespread poverty with 45.5% of the Kosovo Albanians and 57.4% of Serbs in poverty.  $P_1$  (poverty gap index) is 0.135 for Albanians and 0.179 for Serbs, while  $P_2$  is 0.056 for Albanians and 0.077 for Serbs. As the  $P_\alpha$  measures show, Serbs suffer more severely from poverty than do Albanians.

We first investigate mean household characteristics by ethnicity and poverty status. Some important characteristics of poor and non-poor households for both the Albanian and Serb communities are reported in Table 2. Some salient aspects of the data follow.

Youth dependency for an average Albanian household is nearly twice that of an average Serb household, and the reverse is true in the context of old age dependency. Overall, 28 percent of an average Serb household and 36 percent of an average Albanian household are either in the 0-15 age group or older than 65. Among Albanian households, there is a noticeable difference in the youth dependency of poor (36%) and non-poor (29%) households, while amongst Serb households the significant difference between poor (14%)

and non-poor (6%) households is in the context of old age dependency. In other words, we may expect youth dependency to be an important determinant of poverty among Albanian households, and old age dependency to be an important determinant of poverty among Serb households.

A larger proportion of an average Albanian household (9%) has no formal education than an average Serb household (3%). The incidence of absence of formal education is also noticeably higher among poor households (Albanians, 12%; Serbs, 4%) than among non-poor households (Albanians, 7%; Serbs, 1%). In keeping with this, a member of an average Albanian household is more likely to have primary education, as opposed to secondary education, than a member of an average Serb household. The proportions of household members with primary and secondary education, respectively, are 45 percent and 29 percent for an average Albanian household, and 31 percent and 51 percent for an average Serb household. Further, a greater proportion of household members of poor households in both ethnic communities have primary education, as opposed to secondary education, as compared with non-poor households. There is no significant difference in the exposure of poor and non-poor households to vocational and tertiary education. We can, therefore, expect education to be an important covariate of poverty within each ethnic group. However, the relationship between educational level and likelihood of being in poverty might be discontinuous, i.e., this likelihood may be affected only by secondary and post-secondary education.

The average number of weeks worked per year by a working age household member is noticeably higher for non-poor households (Albanians, 19.02; Serbs, 23.69) than among poor households (Albanians, 12.82; Serbs, 18.38). An average Serb household owns much more land than an average Albanian household, the size of average landholding of the two households being 120 acres and 70 acres, respectively. Interestingly, while there is no

difference in the size of landholding of a poor and non-poor Albanian household, a non-poor Serb household owns double the amount of land – 160 acres as opposed to 80 acres – owned by a poor Serb household. Hence, landownership may significantly explain the incidence of poverty among Serb households, but landownership may not be a significant determinant of poverty among Albanian households.

While Serb households have significantly greater access to subsidized food by way of ration cards than Albanian households, the latter are much more likely to receive private transfers. Indeed, 46 percent of Serb households have ration cards, compared with 27 percent of Albanian households, and the corresponding numbers for private transfers are 5 percent and 44 percent, respectively. However, while access to a ration card is noticeably different for poor (Albanian, 41%; Serb, 51%) and non-poor (Albanians, 15%; Serbs, 39%) households, there is no appreciable difference in the access of poor (Albanians, 43%; Serbs, 4%) and non-poor households (Albanians, 44%; Serbs, 6%) of either community to private transfers. Hence, while access to subsidized food may explain well the variations in the likelihood of being in poverty, access to private transfers may not be as successful in explaining these variations.

Finally, a vastly greater proportion of Albanian households (76%) had migrated during the 1990s than did Serb households (9%). This is clearly consistent with the anecdotal evidence that suggested Albanian migration in the face of military operations from Serbia until the intervention by NATO in the late 1990s. However, there is no significant difference between the incidence of migration across poor and non-poor households of both ethnic groups. Therefore, migration is unlikely to be a major determinant of poverty within either of these two ethnic communities.



### 3. Determinants of Poverty Incidence and Shortfall for Serbs and Albanians

We are studying determinants of poverty incidence and depth by ethnicity. The poverty rate (head count ratio) is asymptotically equal to the sample average of the probability of being in poverty, and we choose a functional form (distribution) to estimate the probability of being in poverty. Here we use a standard normal distribution and estimate the determinants of poverty incidence using probit with the binary dependent variable taking the value of one if a household lives below the poverty line, and zero otherwise.<sup>3</sup> We also examine the depth of poverty by treating the distance of a household from the poverty line (the household's shortfall) as a (left) censored variable that is observed only if a household is below the poverty line, such that the shortfall is positive for poor households and zero for non-poor households. The analysis of this shortfall, therefore, uses the Tobit framework. Arguably, the same factors that determine the likelihood of a household being in poverty also determine the size of its shortfall. Hence we use the same specification to explain variations in the likelihood of being in poverty (probit) and those in the shortfall (Tobit).

The probit is estimated by maximizing the following likelihood function,

$$L = \prod \Phi(X_i\gamma)^P \Phi(-X_i\gamma)^{1-P} ,$$

where the index function is specified as  $P_i^* = X_i\gamma + u_i$ , and  $P = 1$  (in poverty) if  $P^* > 0$  and  $P = 0$  (not in poverty), otherwise.

For the Tobit analysis, define  $z_i^*$  to be the latent shortfall of household  $i$ , i.e.,  $z_i^* = y_p - y_i$ , where  $y_p$  and  $y_i$  are the poverty line and expenditure of household  $i$ . The

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<sup>3</sup> An alternative to probit analysis is to estimate per capita expenditure as a function of characteristics, and to then use the poverty line and distributional assumptions to determine the contribution of each characteristic to the probability someone is poor. However, it should be noted that for the study of poverty incidence, more often than not both the probit analysis

observed shortfall ( $z_i$ ) is positive only when  $y_p > y_i$ , and censored to zero, otherwise.

When the shortfall is specified as  $z_i^* = X_i\beta + e_i$ , the likelihood function of the Tobit model used for estimation is

$$L = \prod_{y_p > y_i} \phi((z_i - X_i\beta)/\sigma)/\sigma \prod_{y_p \leq y_i} \Phi(-X_i\beta/\sigma),$$

where  $\phi$ ,  $\Phi$  and  $\sigma$  are, respectively, the standard normal density function, the standard normal distribution function and the standard deviation of the error term ( $e$ ).

As mentioned earlier, the specifications for the probit and Tobit models are fairly stylized (Columbe and McKay, 1996; Israel and Seeborg, 1998; The World Bank, 2001; Maitra and Ray, 2003; Mukherjee and Benson, 2003). Our specification includes measures of both youth (0-15 years) and old age (greater than 65 years) dependency, age and gender of the household head, a measure of the gender balance of the working-age members of the households (proportion of working-age household members who are male), and distribution of educational attainment of the working-age household members. It also takes into account the size of their landholding and the value of their livestock, as well as the extent of public (i.e., disability card, ration card and social security benefits) and private support received by the households by way of transfers. Finally, we control for the experience of households with respect to migration (a dummy variable with value unity if the household has had to migrate during the 1990s). Further, controls were added to account for the sector of employment of working age adults

The coefficients obtained from the probit regression are reported in Table 3. The highly significant chi-square statistics, as well as the McFadden's adjusted R-square statistics

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and per capita expenditure based analysis show qualitatively similar results, and the probit has a better fit (see, World Bank, 2004).

for the Albanian (0.136) and Serb (0.193) samples suggest that our specification provide a reasonably good fit for the cross-section data.

An Albanian household is more likely to be poor if it has higher youth dependency ratios. It is less likely to be in poverty if a sizeable fraction of the working-age household members has at least secondary education, if the household head is employed, and if the working-age household members also work (as measured by the labor supply per working-age household member). Private transfers play an important role in determining the likelihood of an Albanian household being in poverty; an Albanian household's likelihood of being in poverty is reduced if it receives private transfers.

For a Serb household, fewer factors are significant in determining the likelihood of being in poverty. A Serb household is less likely to be poor if large proportion of its working age members have secondary, vocational or tertiary education, and if the household has ownership of a large landholding. Once again, private transfers play an important role in determining the likelihood of being in poverty, and a Serb household is less likely to be poor if it receives private transfers. The results are consistent with our priors, and with the results of the World Bank's (2001) analysis of poverty in Kosovo.<sup>4</sup>

The Tobit results, reported in Table 4, are consistent with the probit estimates. The shortfall of Albanian households increases with youth dependency, and decreases with education and the extent of labor market participation of the household head and other working age members. Private transfers also reduce the shortfall of Albanians. On the other hand, the shortfall of Serb households is affected by education and private transfers; the household expenditure shortfall declines with both these characteristics. Interestingly, while

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<sup>4</sup> The Bank's study concluded that poverty in Kosovo is more likely to afflict households with high dependency ratios, low education, low rates of labor market participation, and with low quantity and quality of assets such as land and livestock.

primary education does not have any impact on the likelihood of being in poverty, it is a significant covariate of the shortfall.

## **5. Summary and Conclusions**

Kosovo is a particularly unfortunate economy; it has had to grapple with a violent civil war along with the more usual challenges of transition. It is hardly surprising, therefore, that at the turn of the century about half of the households had daily consumption levels of less than 3.499 DM per adult equivalent. One would not expect otherwise.

For both the Albanian and Serb communities, a household's likelihood of being in poverty and the depth of poverty are significantly related to education, and private social transfers. However, for Albanian households the employment status of the household head and the labor supply per working-age household members also matter significantly. A Serb household's likelihood of being in poverty, and its depth, does not depend on the extent of labor market participation by its working age members, though incidence does depend on landholding. A possible implication is that, until the turn of the century, Albanian households in Kosovo possibly faced a higher probability of failure in the labor market, and consequently a greater degree of heterogeneity with respect to households' labor market experiences, than Serb households.

The most important aspect of our results is that education, more than anything else, reduces both the probability of being poor, as well as the distance of a poor household from the poverty line. Indeed, while the probability of a household being poor is reduced by the presence of household members who have secondary, vocational or tertiary education, the shortfall is reduced even by presence of household members with primary education. Tertiary education has a much greater impact on both the probability of being poor and the

distance from the poverty line, relative to secondary and primary education. This is consistent with evidence from other Central and East European countries about returns on different levels of education (e.g., Dimova and Gang, 2004).

The problem of this *status quo* is that the differential impact of education on living standards will, in the longer term, widen income differentials both within and between the ethnic groups, thereby adding a class dimension to the already volatile mix of ethnic rivalry and nationalism. The problem will be particularly acute if the increase in income differential is noticeably greater between ethnic groups than within these groups. The descriptive statistics reported earlier in the paper suggest that the education gap between the Serbs and the Albanians in Kosovo is significant, i.e., this scenario is eminently feasible. The challenge facing the international community, therefore, is to be able to focus on the creation of opportunities that help mitigate intra- and, most importantly, inter-ethnic group inequality, while managing the prevailing political obstacles to lasting peace.

## REFERENCES

Columbe H, McKay A. 1996. Modeling determinants of poverty in Mauritania. *World Development* **24**(6): 1015-1031.

Dimova R, Gang IN. 2004. Self-selection and earnings during volatile transition. Working paper no. 1158, IZA, Bonn.

Israel M, Seeborg M. 1998. The impact of youth characteristics and experiences on transitions out of poverty. *Journal of Socio-Economics* **27**(6): 753-776.

Maitra P, Ray R. 2003. The effect of transfers on household expenditure patterns and poverty in South Africa. *Journal of Development Economics* **71**(1), 23-49.

Mukherjee S, Benson T. 2003. The determinants of poverty in Malawai. *World Development* **31**(2): 339-358.

Statistical Office of Kosovo. 2003. *Kosovo and its population*, [http://www.ks.gov.net/esk/pdf/population/Kosovo\\_population.pdf](http://www.ks.gov.net/esk/pdf/population/Kosovo_population.pdf), last accessed 25 December 2005.

World Bank. 2001. *Kosovo: Poverty Assessment*, 2 volumes. Report No. 23390-KOS, Washington, DC, <http://www.worldbank.org/poverty/> choose: poverty assessments, last accessed 25 December 2005.

World Bank. 2004. *Poverty Reduction Strategy Source Book*. Annex A: Poverty Measurement and analysis: Technical note A.8, Using linear regressions for analyzing the determinants of poverty, Washington, DC, [http://povlibrary.worldbank.org/files/5808\\_annex\\_a.pdf](http://povlibrary.worldbank.org/files/5808_annex_a.pdf), last accessed 25 December 2005.

**Table 1**  
**Poverty Measures**

|           | Monthly Mean<br>Per Capita<br>Expenditure<br>(DM) | $P_\alpha$ Measures |              |              |
|-----------|---|---------------------|--------------|--------------|
|           |   | $\alpha = 0$        | $\alpha = 1$ | $\alpha = 2$ |
| Albanians | 128.29  | 0.455               | 0.135        | 0.056        |
| Serbs     | 111.23  | 0.574               | 0.179        | 0.077        |

Source: LSMS, author's own calculation.

Notes: The monthly mean per capita expenditure is given in adult equivalent units here and throughout the paper. The poverty line is 104.965, per capita monthly expenditure.

| <b>Table 2</b>                                   |                   |                   |                   |                   |                   |                   |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Characteristics of the Households</b>         |                   |                   |                   |                   |                   |                   |
|  | <b>Albanians</b>  |                   |                   | <b>Serbs</b>      |                   |                   |
| Poverty Rate                                     | 0.46 (0.50)       |                   |                   | 0.57 (0.49)       |                   |                   |
|  | <b>All</b>        | <b>Non-poor</b>   | <b>Poor</b>       | <b>All</b>        | <b>Non-poor</b>   | <b>Poor</b>       |
| Number of households                             | 2101              | 1136              | 965               | 416               | 180               | 236               |
| <b>Consumption and Poverty</b>                   |                   |                   |                   |                   |                   |                   |
| Per adult equivalent expenditure (DM)            | 128.29<br>(73.35) | 173.71<br>(70.82) | 73.92<br>(19.78)  | 111.23<br>(66.99) | 163.55<br>(72.04) | 72.37<br>(20.55)  |
| Shortfall  | ---               | ---               | 31.05<br>(207.72) | ---               | ---               | 32.59<br>(177.40) |
| <b>Demographic characteristics</b>               |                   |                   |                   |                   |                   |                   |
| Proportion of household members aged 15 or below | 0.32<br>(0.21)    | 0.29<br>(0.21)    | 0.36<br>(0.21)    | 0.18<br>(0.20)    | 0.18<br>(0.19)    | 0.18<br>(0.21)    |
| Proportion of household members aged 16-25       | 0.21<br>(0.20)    | 0.22<br>(0.21)    | 0.20<br>(0.20)    | 0.16<br>(0.21)    | 0.18<br>(0.23)    | 0.14<br>(0.19)    |
| Proportion of household members aged 26-35       | 0.14<br>(0.17)    | 0.15<br>(0.18)    | 0.14<br>(0.16)    | 0.13<br>(0.20)    | 0.14<br>(0.22)    | 0.12<br>(0.17)    |
| Proportion of household members aged 36-45       | 0.11<br>(0.14)    | 0.11<br>(0.15)    | 0.11<br>(0.13)    | 0.13<br>(0.20)    | 0.17<br>(0.23)    | 0.10<br>(0.16)    |
| Proportion of household members aged 46-55       | 0.10<br>(0.15)    | 0.11<br>(0.16)    | 0.08<br>(0.13)    | 0.15<br>(0.22)    | 0.16<br>(0.23)    | 0.14<br>(0.21)    |
| Proportion of household members aged 56-65       | 0.07<br>(0.15)    | 0.08<br>(0.16)    | 0.06<br>(0.13)    | 0.16<br>(0.28)    | 0.12<br>(0.23)    | 0.18<br>(0.31)    |
| Proportion of household members aged above 65    | 0.04<br>(0.12)    | 0.04<br>(0.10)    | 0.05<br>(0.13)    | 0.10<br>(0.23)    | 0.06<br>(0.16)    | 0.14<br>(0.27)    |
| Average age of adults in the household           | 37.42<br>(7.88)   | 37.36<br>(7.78)   | 37.48<br>(8.00)   | 43.65<br>(11.53)  | 41.20<br>(10.05)  | 45.47<br>(12.20)  |
| Proportion of adult male household members       | 0.48<br>(0.15)    | 0.49<br>(0.15)    | 0.46<br>(0.15)    | 0.48<br>(0.20)    | 0.51<br>(0.20)    | 0.46<br>(0.21)    |
| Households with male head                        | 0.93<br>(0.25)    | 0.94<br>(0.24)    | 0.93<br>(0.26)    | 0.87<br>(0.34)    | 0.93<br>(0.25)    | 0.83<br>(0.38)    |
| <b>Education</b>                                 |                   |                   |                   |                   |                   |                   |
| Proportion of adults with no formal education    | 0.09<br>(0.16)    | 0.07<br>(0.14)    | 0.12<br>(0.18)    | 0.03<br>(0.12)    | 0.01<br>(0.04)    | 0.04<br>(0.16)    |
| Proportion of adults with primary education      | 0.45<br>(0.30)    | 0.39<br>(0.29)    | 0.52<br>(0.30)    | 0.31<br>(0.34)    | 0.19<br>(0.27)    | 0.40<br>(0.36)    |
| Proportion of adults with secondary education    | 0.29<br>(0.26)    | 0.33<br>(0.26)    | 0.25<br>(0.25)    | 0.51<br>(0.35)    | 0.58<br>(0.35)    | 0.46<br>(0.35)    |
| Proportion of adults with vocational training    | 0.08<br>(0.17)    | 0.09<br>(0.18)    | 0.07<br>(0.16)    | 0.07<br>(0.18)    | 0.09<br>(0.20)    | 0.06<br>(0.16)    |
| Proportion of adults with tertiary education     | 0.09<br>(0.19)    | 0.12<br>(0.23)    | 0.05<br>(0.14)    | 0.08<br>(0.20)    | 0.13<br>(0.26)    | 0.04<br>(0.11)    |
| <b>Labor market characteristics</b>              |                   |                   |                   |                   |                   |                   |
| Average weeks of labor per                       | 16.20             | 19.02             | 12.82             | 20.64             | 23.69             | 18.38             |



|   |                |                |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| household member per year   | (13.03)        | (13.10)        | (12.12)        | (18.32)        | (18.11)        | (18.16)        |
| Proportion of working adults  | 0.41<br>(0.29) | 0.47<br>(0.28) | 0.34<br>(0.28) | 0.47<br>(0.38) | 0.51<br>(0.37) | 0.43<br>(0.39) |
| Household with working head   | 0.65<br>(0.48) | 0.72<br>(0.45) | 0.57<br>(0.50) | 0.61<br>(0.49) | 0.66<br>(0.47) | 0.57<br>(0.49) |
| Proportion of households with members working in family farms & businesses                                  | 0.27<br>(0.28) | 0.29<br>(0.29) | 0.24<br>(0.28) | 0.34<br>(0.40) | 0.33<br>(0.39) | 0.34<br>(0.40) |
| <b><i>Wealth/Assets</i></b>   |                |                |                |                |                |                |
| Acreage of land owned by household (000)  | 0.07<br>(0.10) | 0.07<br>(0.10) | 0.07<br>(0.09) | 0.12<br>(0.62) | 0.16<br>(0.93) | 0.08<br>(0.13) |
| Value of animals owned by household (000 DM)  | 0.56<br>(0.78) | 0.57<br>(0.81) | 0.55<br>(0.73) | 0.46<br>(0.75) | 0.39<br>(0.73) | 0.51<br>(0.76) |
| <b><i>Transfers</i></b>   |                |                |                |                |                |                |
| Households at least one of whose members has a disability card  | 0.10<br>(0.30) | 0.09<br>(0.28) | 0.12<br>(0.32) | 0.10<br>(0.30) | 0.08<br>(0.28) | 0.11<br>(0.32) |
| Household at least one of whose members receive private transfers   | 0.44<br>(0.50) | 0.44<br>(0.50) | 0.43<br>(0.50) | 0.05<br>(0.21) | 0.06<br>(0.23) | 0.04<br>(0.19) |
| <b><i>Geographic Characteristics</i></b>  |                |                |                |                |                |                |
| Households that migrated from another region  | 0.76<br>(0.43) | 0.75<br>(0.43) | 0.77<br>(0.42) | 0.09<br>(0.29) | 0.09<br>(0.28) | 0.09<br>(0.29) |
| Urban households  | 0.28<br>(0.40) | 0.31<br>(0.41) | 0.24<br>(0.38) | 0.42<br>(0.49) | 0.44<br>(0.49) | 0.40<br>(0.49) |
| Source: LSMS, author's own calculation.   |                |                |                |                |                |                |
| Notes: The figures within the parentheses are standard deviations. Sector of employment is also controlled. |                |                |                |                |                |                |

**Table 3**  
**Determinants of Poverty among Albanians and Serbs (Probit estimation)**

|  | <b>Albanians</b> |        | <b>Serbs</b> |        |
|--|------------------|--------|--------------|--------|
|  | Estimate         | S.E.   | Estimate     | S.E.   |
| Constant   | 0.56*            | (0.33) | 2.89**       | (1.28) |
| <b><i>Demographic characteristics</i></b>                                  |                  |        |              |        |
| Proportion of household members aged 15 or below                           | 1.64***          | (0.29) | 0.87         | (0.62) |
| Proportion of household members aged 16-25                                 | 0.51**           | (0.25) | 0.45         | (0.49) |
| Proportion of household members aged 36-45                                 | 0.05             | (0.28) | - 0.62       | (0.49) |
| Proportion of household members aged 46-55                                 | 0.13             | (0.31) | 0.03         | (0.54) |
| Proportion of household members aged 56-65                                 | - 0.25           | (0.33) | - 0.03       | (0.50) |
| Proportion of household members aged above 65                              | 0.57             | (0.37) | 0.32         | (0.53) |
| Proportion of adult males in the household                                 | - 0.22           | (0.24) | 0.11         | (0.48) |
| Households with male head  | 0.10             | (0.14) | - 0.39       | (0.28) |
| <b><i>Education</i></b>  |                  |        |              |        |
| Proportion of adults with primary education                                | - 0.36           | (0.23) | - 1.59       | (1.20) |
| Proportion of adults with secondary education                              | - 1.13***        | (0.25) | - 2.86**     | (1.22) |
| Proportion of adults with vocational training                              | - 0.95***        | (0.30) | - 2.79**     | (1.29) |
| Proportion of adults with tertiary education                               | - 1.63***        | (0.30) | - 4.03***    | (1.27) |
| <b><i>Labor market characteristics</i></b>                                 |                  |        |              |        |
| Average weeks of labor per household member per year                       | - 0.02***        | (0.01) | - 0.01       | (0.01) |
| Proportion of working adults   | - 0.10           | (0.33) | 0.13         | (0.83) |
| Household with working head  | - 0.19**         | (0.09) | - 0.01       | (0.26) |
| Proportion of households with members working in family farms & businesses | 0.03             | (0.22) | - 0.77       | (0.54) |
| <b><i>Wealth/Assets</i></b>  |                  |        |              |        |
| Acreage of land owned by household (000)                                   | - 0.27           | (0.41) | - 0.94*      | (0.53) |
| Value of animals owned by household (000 DM)                               | - 0.08           | (0.05) | 0.08         | (0.12) |
| <b><i>Transfers</i></b>  |                  |        |              |        |
| Households at least one of whose members has a disability card             | 0.02             | (0.11) | 0.15         | (0.24) |
| Household at least one of whose members receive private transfers          | - 0.21***        | (0.07) | - 0.65*      | (0.36) |
| <b><i>Geographic Characteristics</i></b>                                   |                  |        |              |        |
| Households that migrated from another region                               | 0.00             | (0.08) | 0.15         | (0.27) |
| Urban households   | 0.02             | (0.10) | 0.28         | (0.20) |
| Log likelihood   | - 138956.19      |        | - 16813.31   |        |
| Pearson Chi-square   | 282833.14***     |        | 30906.21***  |        |
| McFadden's R-square  | 0.136            |        | 0.193        |        |
| Number of households   | 2101             |        | 416          |        |

Source: LSMS, author's own calculation.

Note: \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively. Weights are used in estimation. Standard errors which are robust to mis-specification are reported. Sector of employment is also controlled.

| <b>Table 4</b>   |                  |         |              |         |
|--|------------------|---------|--------------|---------|
| <b>Determinants of Poverty Gap (Shortfall) among Albanians and Serbs (Tobit estimation)</b>  |                  |         |              |         |
|  | <b>Albanians</b> |         | <b>Serbs</b> |         |
|  | Estimate         | S.E.    | Estimate     | S.E.    |
| Constant   | 23.42***         | (8.83)  | 67.98***     | (14.44) |
| <b><i>Demographic characteristics</i></b>  |                  |         |              |         |
| Proportion of household members aged 15 or below   | 49.56***         | (8.09)  | 9.20         | (14.56) |
| Proportion of household members aged 16-25   | 20.68***         | (6.96)  | 5.39         | (11.95) |
| Proportion of household members aged 36-45   | -3.89            | (7.46)  | -13.44       | (11.41) |
| Proportion of household members aged 46-55   | -6.77            | (8.35)  | -3.23        | (11.97) |
| Proportion of household members aged 56-65   | -11.09           | (9.38)  | -2.92        | (11.51) |
| Proportion of household members aged above 65  | 10.26            | (10.26) | 6.17         | (11.34) |
| Proportion of male adults in the household   | -2.75            | (6.71)  | -4.95        | (10.64) |
| Households with male head  | 4.88             | (3.78)  | -2.84        | (5.98)  |
| <b><i>Education</i></b>  |                  |         |              |         |
| Proportion of adults with primary education  | -13.03**         | (5.80)  | -23.10**     | (10.19) |
| Proportion of adults with secondary education  | -41.40***        | (6.43)  | -57.81***    | (11.31) |
| Proportion of adults with vocational training  | -31.20***        | (8.38)  | -53.71***    | (14.34) |
| Proportion of adults with tertiary education   | -54.07***        | (8.19)  | -94.19***    | (14.93) |
| <b><i>Labor market characteristics</i></b>   |                  |         |              |         |
| Average number of weeks of labor per household member per year   | -0.38**          | (0.16)  | -0.07        | (0.27)  |
| Proportion of working adults   | -7.61            | (9.18)  | 26.32        | (17.51) |
| Household with working head  | -6.14**          | (2.47)  | -4.50        | (5.75)  |
| Proportion of households with members working in family farms & businesses   | 1.25             | (6.42)  | -19.42       | (12.69) |
| <b><i>Wealth/Assets</i></b>  |                  |         |              |         |
| Acreage of land owned by household (thousands)   | -17.59           | (11.62) | -22.43       | (14.63) |
| Value of animals owned by household (thousands of DM)  | -3.45**          | (1.57)  | -1.12        | (2.58)  |
| <b><i>Transfers</i></b>  |                  |         |              |         |
| Households at least one of whose members has a disability card   | -0.87            | (2.75)  | 6.59         | (5.17)  |
| Household at least one of whose members receive private transfers  | -9.55***         | (1.87)  | -21.62**     | (8.99)  |
| <b><i>Geographic Characteristics</i></b>   |                  |         |              |         |
| Households that migrated from another region   | 0.33             | (2.15)  | 5.76         | (5.31)  |
| Urban households   | -0.93            | (2.69)  | -0.07        | (4.41)  |
| Standard Deviation of Error Term   | 32.43***         | (0.75)  | 28.01***     | (1.32)  |
| Log likelihood   | - 593433.95      |         | - 91698.95   |         |
| Number of households   | 2101             |         | 416          |         |
| Source: LSMS, author's own calculation.  |                  |         |              |         |
| Note: *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively. Weights are used in estimation. Standard errors which are robust to mis-specification are reported. Sector of employment is also controlled. |                  |         |              |         |