

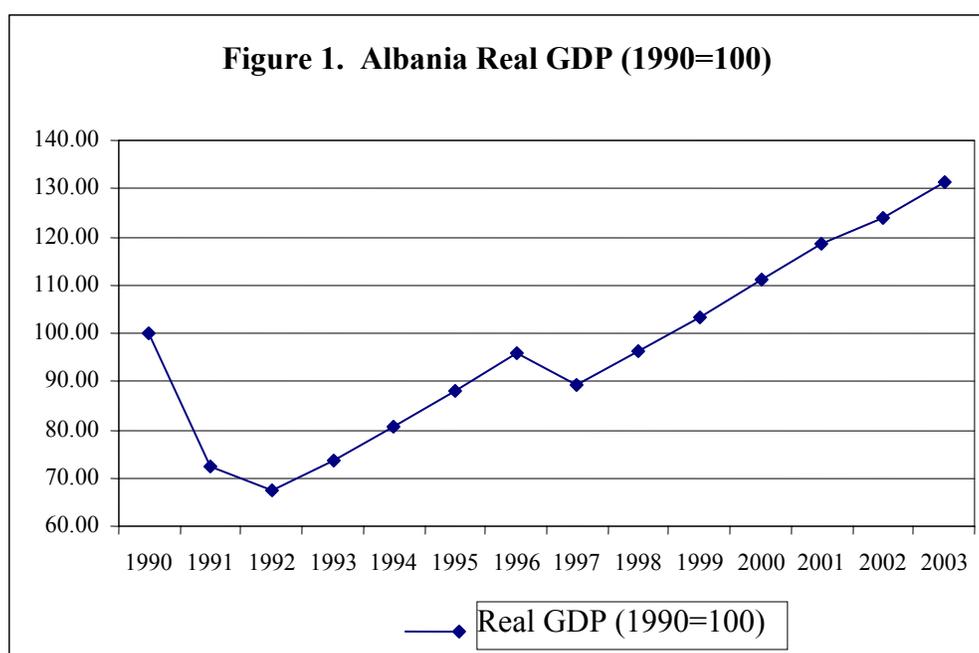


**ALBANIA: TRENDS IN POVERTY AND INEQUALITY,  
2002-2005**

**December 2006**

## A. GROWTH EXPERIENCE

1.1 **Albania's growth story since the transition has been impressive.** Cumulative growth since 1990 is among the highest of all transition economies. It is the reason why Albania's real income has recovered to pre-transition levels, even though the country remains one of the poorest in Europe, with an estimated GNI per capita of about US\$2,510 in 2005 (Figure 1). Except for the 1997 output shock following the collapse of the pyramid scheme, real GDP growth has averaged more than 7% per year between 1994 and 2001 and about 5% per year since 2002 (see Figure A1 for annual growth rates).



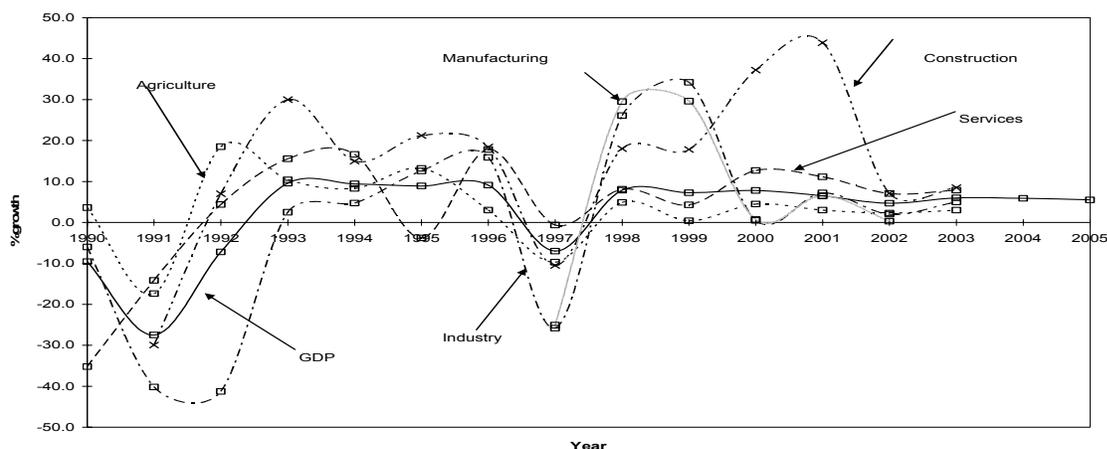
Source: WDI and Albania Live Database.

1.2 These high and sustained rates of growth have been achieved through a successful macro-economic stabilization, total factor productivity growth and significant structural reforms including trade liberalization, privatization of enterprises and price deregulation. Additional growth has come from remittances and informal activities, as earnings from these sources continue to stimulate demand for services and construction (World Bank, 2004; World Bank, 2005).

1.3 **Double digit growth in the agricultural sector provided the boost to early period recovery, but construction and services have compensated for recent agricultural slowdown.** After an initial slump in early 1990s, Albanian agriculture witnessed a prolonged expansion, which was sustained by changes in incentives (from collective farms to private

holdings), diversification, especially into livestock and vegetables, and growth in agro-processing. However, as structural transformation of the economy took hold and remaining constraints in agriculture-- small land sizes, limited use of modern inputs, poor infrastructure and low market access, weak processing capacity, and absence of proper land market – undermined sustainability of initial growth rates, the contribution of agriculture has diminished (Figure 2). The slowdown in agricultural growth, to about 3% per annum between 2002 and 2005, and the surge in the output of other sectors had reduced the share of agriculture in GDP from its high of 35% in 1995 to 22% by 2005 (Figure A2). The post-1997 growth rates have been driven mostly by strong growth in services and construction, which have compensated for the decline in manufacturing and slow down in agriculture.

Figure 2: Sectoral growth rates



Source: WDI and Albania Live Database.

1.4 **Sustained growth rates have led to modest job creation.** The rate of unemployment using the standard ILO definition fell from 10% to about 7% in 2005. An alternative definition of unemployment, which includes discouraged workers, also shows a similar pattern of reduction, even though the initial rate of unemployment is estimated to be higher with this method (Table1, row 3). Some of the reduction in unemployment is due to a reduction in active job search, as evident in a large number of working age inactive people especially housekeepers and from the relatively low working age employment rate. In addition, a rising enrollment rate, especially at the secondary level possibly in rural areas, may account partially for a declining labor force participation rate. But these trends notwithstanding, the data clearly shows that there is a slight increase in employment between 2002 and 2005 for urban areas (Table 1) and for adult populations over 25 years (see Figure A8).

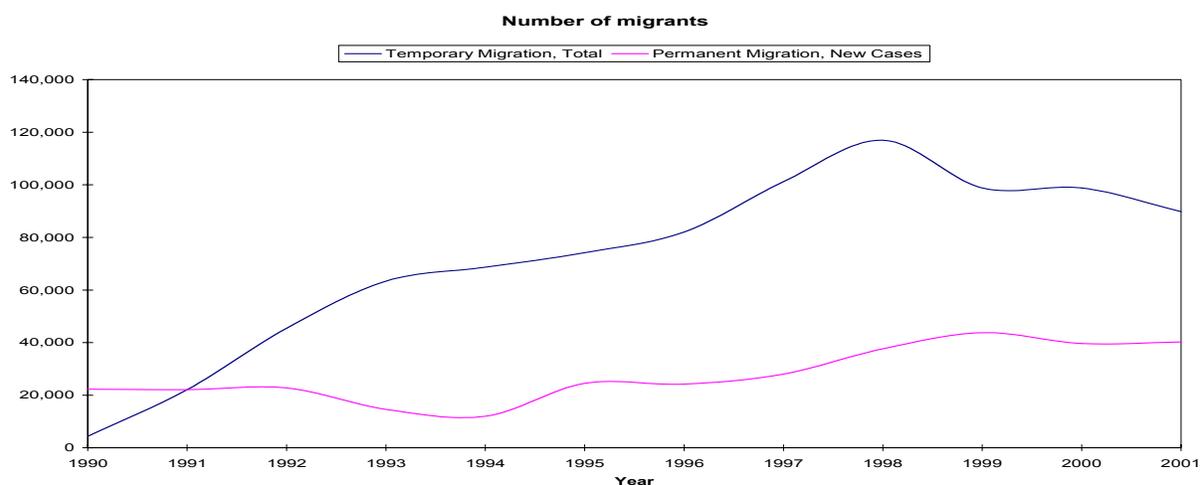
**Table 1: Main labor market indicators, 2002-2004**

	2002			2005		
	Urban	Rural	Total	Urban	Rural	Total
Labour force participation rate (relaxed)	62.0	77.2	70.6	60.0	69.6	65.3
Labour force participation rate (standard)	55.1	74.2	65.9	54.1	67.1	61.2
Unemployment rate (relaxed)	31.1	7.3	16.4	21.8	6.0	12.6
Unemployment rate (standard)	22.5	3.4	10.3	13.3	2.4	6.8
Employment rate	42.7	71.6	59.1	46.9	65.4	57.0

**Note:** Calculations for population of 15-64 year olds. Also see World Bank, 2005.

1.5 **But, not enough jobs are being created, especially in the formal sector.** Only 15% of the unemployed in 2002 made the transition to formal sector employment by 2004. Only 10% of those who were out of the labor force in 2002 made a similar transition. By contrast, 38% of the unemployed found jobs in the informal wage employment (World Bank, 2005). Rising levels of external migration provide the strongest evidence of inadequate job creation. The flow of permanent and temporary migrants rose sharply throughout the 1990s (Figure 3; Carletto et al., 2004 and 2005), to neighboring Greece and Italy. About 90% of the migrants left in search of employment. Nonetheless, as Figure 3 shows, there is a slow-down in migration flows after 1998 as the economy recovered from the disruptions brought by the pyramid scheme.

**Figure 3: Flows of temporary and permanent external migration, 1990-2001**



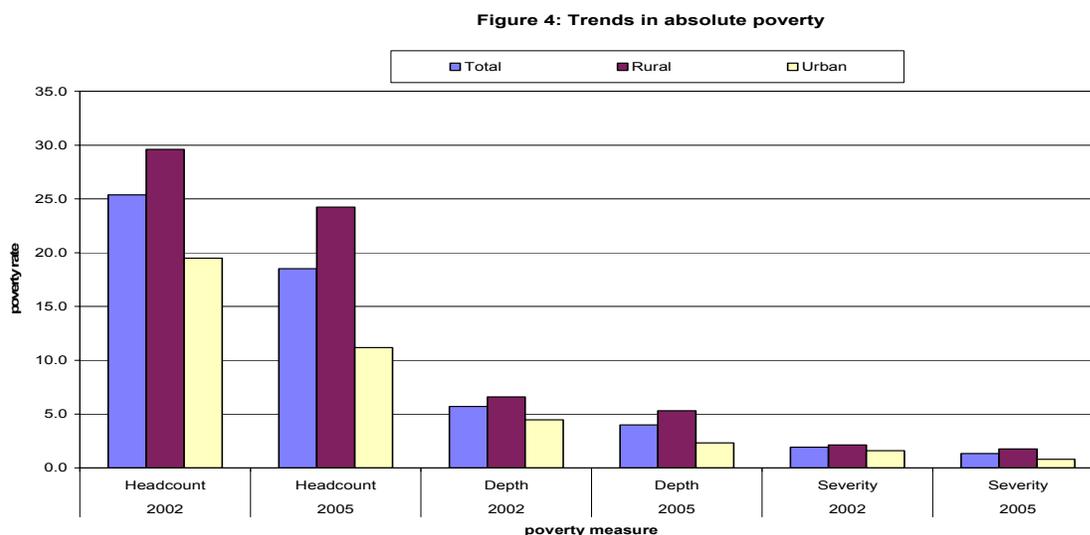
Source: Carletto et al (2005).

1.6 High growth rates that are sustained for a long time tend to reduce poverty. Albania's real GDP growth rates have averaged about 2% per year since 1990 and about 6% per year since

1998. Since these levels of income growth have been achieved in a demographic context of low population growth and declining dependency ratios, we should expect to see sizable improvements in welfare. Although we do not have data on household welfare for the entire transition period, we have data for the period between 2002 and 2005. The rest of the discussion focuses on the changes in welfare between these two periods.

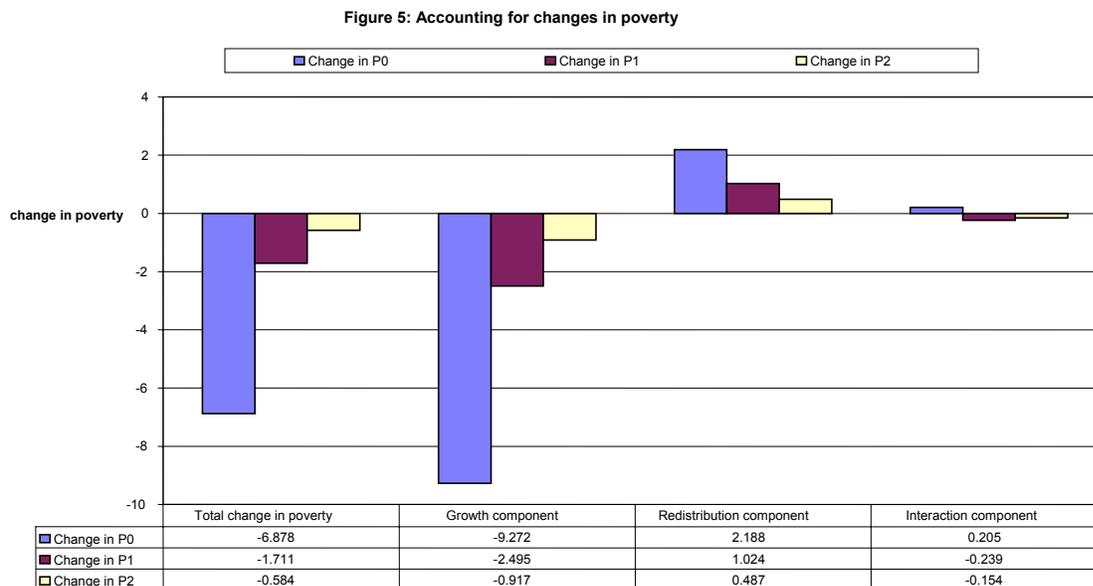
## B. GROWTH, POVERTY AND INEQUALITY

1.7 **High GDP growth rates have been accompanied by a massive reduction in poverty.** The fraction of the population whose real per capita monthly consumption is below Lek 4891 (in 2002 prices), fell from 25.4% in 2002 to 18.5% in 2005 (Figure 4 and Table A8). This means that roughly 235,000 out of about 800,000 poor people in 2002 were lifted out of poverty. Extremely poor population, defined as those with difficulty meeting basic nutritional needs, decreased from about 5% to 3.5%. In urban areas, only 2.7% of the population can be considered extremely poor (see Table A6 and A7).



1.8 Other measures of poverty also fell sharply. Two alternative measures to headcount ratio are the poverty gap and severity of poverty. The poverty gap (sometimes referred to as depth of poverty), is obtained by dividing the sum of the consumption gaps of the poor (that is, poverty line less consumption) for all the poor by the overall population, and expressing it a percent of the poverty line. So a poverty gap of 5 percent means that the total amount the poor are below the poverty line is equal to the population multiplied by 5 percent of the poverty line. The main advantage of the poverty gap is that the contribution of a poor individual to overall poverty is larger the poorer that individual is. The second alternative measure to headcount is the severity of poverty, whose main advantage is that it is sensitive to inequality among the poor. Figure 4 and Table A8 show that the poverty gap fell from 5.7% in 2002 to 4.0% in 2005, while severity of poverty fell from 2% to 1.3% in the same period.

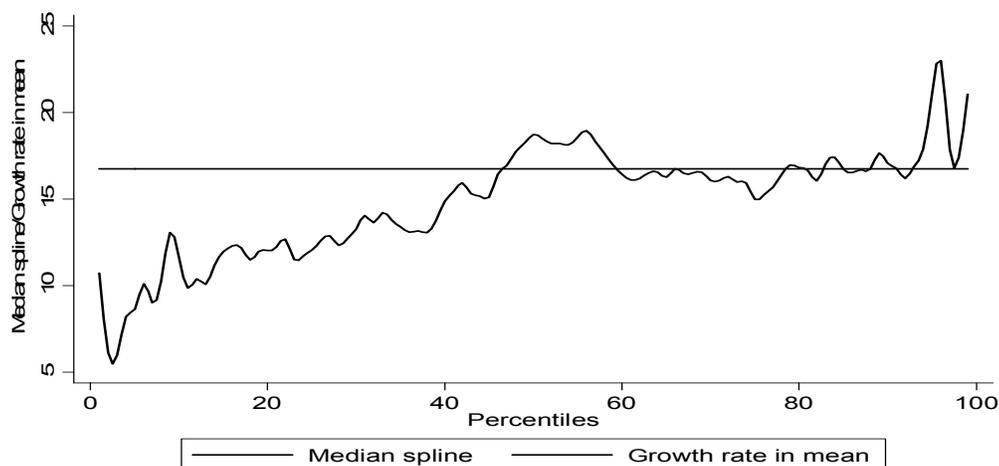
1.9 **The evidence suggests that growth accounts for all the reduction in poverty.** Changes in poverty can be decomposed into components due to growth, redistribution and residual. For instance, if inequality worsens holding mean incomes the same, the size of the poor may increase. By contrast, if inequality remains the same but mean incomes for each percentile rises – that is, the growth in incomes is shared broadly – the number of the poor would decline. Figure 5 shows how much of the poverty reduction is accounted for by growth, redistribution (that is inequality) and residual components. The decomposition predicts that growth component would have reduced headcount poverty (P0) by 9 percentage points (that is the headcount of the poor would have declined from 25.4% in 2002 to 16% in 2005) if the shape of income distribution remained the same as in 2002. By contrast, if the mean income remained the same in 2002 and 2005, but the shape of the distribution changed, headcount poverty would have increased by 2 percentage points. The net effect is a 7 percentage point reduction in the fraction of the poor, since the residual component played only a negligible role. Overall, changes in the depth and severity of poverty also suggest that the growth component dominates. As in the headcount measure, the reduction in the depth and severity of poverty measures would have been higher if there was no change in inequality that offset some of the gains.



1.10 The important role of growth is evidenced by the growth of real consumption per capita between 2002 and 2005. Overall, real consumption per capita in 2005 was significantly higher than in 2002 for nearly every percentile of the population, as shown by the positive growth rates across the entire distribution (Figure 6, see also Figures A3-A7). The figure plots the growth rate of real consumption per capita at each percentile of the distribution. It indicates that the mean in 2005 was 17% higher than the mean in 2002, while the median in 2005 was 19% higher than the median in 2002. As the figure shows, the growth of real consumption per capita was higher for some percentiles than for others, so that the average percentile growth (growth of each percentile

averaged over all percentiles) was a robust 15% during the period (Table 2, row 3). The pro-poor nature of the growth experience is underscored further by the fact that real consumption per capita of the 25<sup>th</sup> percentile - that is all those who would have been considered poor in 2002 – grew by almost 11% (Table 2, last row).

**Figure 6: Growth incidence curve**



**Table 2: Summary of the growth rate in consumption**

Point in the distribution	Growth rates
Mean	16.8
Median	18.7
Mean percentile	14.9
Poverty line (Lek), in 2002 prices	4891
Corresponding percentile rate of pro-poor 25% of the poor in 2002	10.7

1.11 **The important role of growth in the measured poverty reduction is general, but there are subtle differences across the geographic landscape** (see Table 3). Both in the Coast and Central parts of the country, overall headcount poverty declined by about 4 percentage points. However, headcount poverty would have declined by 7 to 8 percentage points,

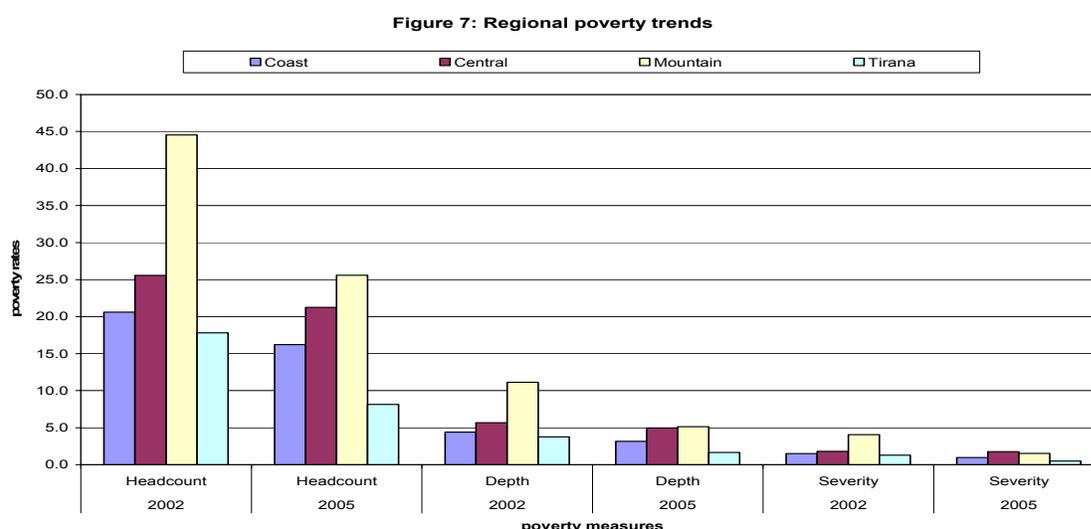
respectively, if more than average increase in inequality did not increase poverty by 3 to 4 percentage points, respectively. By contrast, the Mountain area had a double dividend. First income growth led to a huge reduction in headcount poverty, but inequality also declined so that the poverty reduction was even higher than would have been predicted by growth alone. In Tirana, the increase in inequality was about the same as the national average, so the net headcount poverty declined by 9.7 percentage points rather than 11.2. A similar tale can be told about other urban areas, excluding Tirana. A look at rural areas shows that there was hardly any change in the shape of the rural income distribution, so that the net decrease in rural poverty is close to the component accounted for by growth alone. The important role of growth in accounting for nearly all of headcount poverty reduction is repeated for other measures of poverty such as the depth or severity of poverty.

**Table 3: Decomposition of changes in poverty, LSMS 2002-2005**

<b>Decomposition of poverty changes, National</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-6.878	-9.272	2.188	0.205
Change in P1	-1.711	-2.495	1.024	-0.239
Change in P2	-0.584	-0.917	0.487	-0.154
<b>Decomposition of poverty changes, Coast</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-4.382	-7.291	3.121	-0.212
Change in P1	-1.241	-1.711	0.766	-0.296
Change in P2	-0.518	-0.599	0.205	-0.124
<b>Decomposition of poverty changes, Central</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-4.324	-7.695	3.63	-0.259
Change in P1	-0.718	-2.163	1.707	-0.262
Change in P2	-0.04	-0.802	0.945	-0.183
<b>Decomposition of poverty changes, Mountain</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-18.965	-14.084	-7.434	2.553
Change in P1	-6.01	-4.2	-2.495	0.685
Change in P2	-2.509	-1.69	-1.158	0.34
<b>Decomposition of poverty changes, Tirana</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-9.673	-11.148	2.216	-0.741
Change in P1	-2.118	-2.423	0.616	-0.311
Change in P2	-0.808	-0.829	0.215	-0.194
<b>Decomposition of poverty changes, urban areas (excluding Tirana)</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-7.699	-8.584	2.106	-1.22
Change in P1	-2.134	-2.254	0.423	-0.303
Change in P2	-0.792	-0.86	0.126	-0.058
<b>Decomposition of poverty changes, Rural areas</b>				
	<b>Total change in poverty</b>	<b>Growth component</b>	<b>Redistribution component</b>	<b>Interaction component</b>
Change in P0	-5.355	-6.407	0.219	0.833
Change in P1	-1.285	-1.808	0.531	-0.008
Change in P2	-0.39	-0.674	0.323	-0.039

Note: P0= Headcount poverty, P1=Poverty gap (depth of poverty), P2=Poverty gap squared (severity of poverty)

**1.12 Massive poverty reduction has been accompanied by significant regional convergence.** Differences in poverty rates across broadly defined regions<sup>1</sup> have narrowed substantially compared to what they were in 2002. For instance, the Mountain areas, where poverty rates were significantly higher in 2002, have narrowed their distance with Coast, Central and Tirana regions. Similarly, rural poverty rates across regions are closer in 2005 than they were in 2002. More specifically, while Mountain region's rural poverty rate was 67% higher than the national rural rate, it is now only 14% higher (see Table A8). In fact, rural poverty rates for each region in 2005 are only within 4 percentage points higher or lower than the national rural poverty rate compared to 2002 when there was a wider spread (e.g. they ranged from 20 percentage point higher to 8 percentage point lower). A sharp reduction in poverty in the Mountain areas, combined with a relatively sluggish reduction in poverty in the rural parts of the Coast and Central areas is one of the key drivers of this convergence story. On-going analysis looks at the factors behind the measured differences in the rates of poverty reduction across regions, focusing on such factors as migration and remittances, returns to productive activities in different regions, and social assistance programs.



**1.13 Although there was a substantial reduction in poverty across the board, urban poverty rates declined faster than rural poverty rates.** Table 4 shows that while rural poverty declined by about 24%, urban poverty went down by 41%, so that the headcount measure of urban poverty decreased from 19.5% in 2002 to 11.2% in 2005, while rural headcount fell from 29.6% to 24.2%. Moreover, even within urban areas, the rate of poverty reduction is significantly higher in Tirana compared to other urban areas (Figure 8). One consequence of this differential reduction in poverty is more concentration of the poor in rural areas. In particular, whereas rural

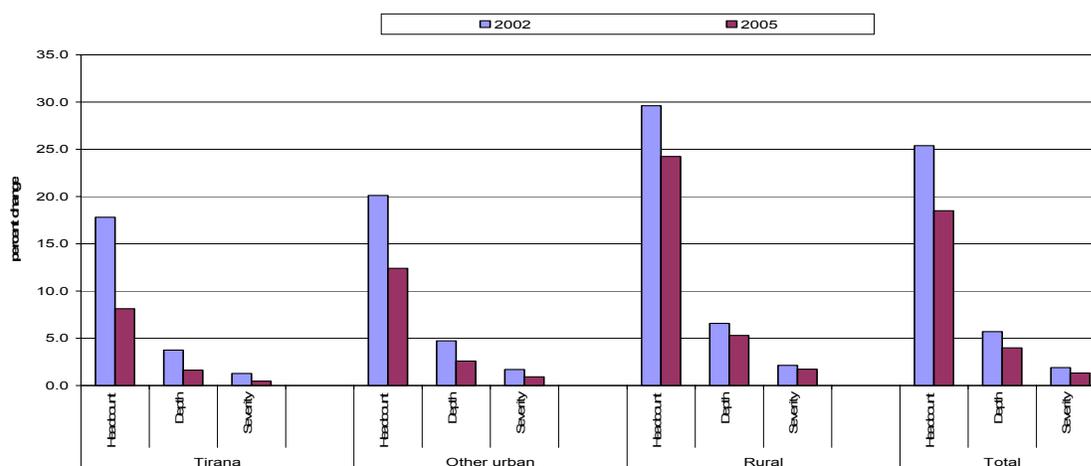
<sup>1</sup> It is important to bear in mind that these broadly defined regions are not the same as administrative regions – commonly referred to as prefectures. Rather, these are areas that have been grouped together because they share similar geographic contiguity and endowments. There are four such areas defined for survey purposes, while there are 12 prefectures.

poor were 66% of total poor in 2002, they constitute 75% of total poor in 2005. Not only are urban poverty rates lower and falling faster, but the evidence also suggests that urban poverty is much shallower than rural poverty. The poverty gap (depth of poverty) measure for urban areas was only 2.3% in 2005, compared to 5.3% in rural areas. For urban areas, this is a reduction of 49% from the 2002 level, while for rural areas it was a reduction of only 20%.

**Table 4: Rates of poverty reduction in rural and urban areas**

Poverty by Rural/ urban	2002		2005	
	No. of persons	% change	No. of persons	% change
Total population in poverty	813,196	575,659	-237,537	-29.2103
Urban	257,690	151,811	-105,879	-41.08774
Rural	555,506	423,848	-131,658	-23.70055

**Figure 8: Changes in poverty: urban and rural**



1.14 **Throughout the period, changes in inequality remained modest.** Several measures of inequality indicate that there was only a modest increase in inequality (Table 5). The Gini coefficient, which is the most commonly used, increased from 28% to about 30% overall during the period. Theil's entropy measures show also negligible increases. The gap between those at the top of the distribution to those at the bottom, measured as the 90<sup>th</sup>/10<sup>th</sup> percentile ratio increased by less than 1% (Table 5, last row). Stable patterns of inequality are observed also in rural and urban areas, as well as in regions, except in the Mountain region where there was a decline in inequality (see also Table A14).

**Table 5: Inequality measures, National, Urban and Rural, LSMS 2002-2005**

	National		Rural		Urban	
	2002	2005	2002	2005	2002	2005
relative mean deviation	20.2	21.1	19.5	19.5	20.4	21.1
coefficient of variation	55.9	62.3	53.0	53.8	56.9	63.4
standard deviation of logs	50.0	52.7	47.7	48.8	51.6	53.3
Gini coefficient	28.2	29.6	27.1	27.3	28.5	29.7
Mehran measure	38.4	40.2	37.0	37.5	39.0	40.3
Piesch measure	23.1	24.3	22.2	22.2	23.3	24.4
Kakwani measure	7.1	7.9	6.6	6.7	7.4	8.0
Theil entropy measure	13.2	15.1	12.1	12.4	13.7	15.4
Theil mean log deviation measure	12.9	14.4	11.8	12.1	13.4	14.7
Ratio of 90 <sup>th</sup> /10 <sup>th</sup> percentile (in logs)	1.155	1.159				

### C. CHARACTERISTICS OF THE POOR AND TRENDS IN VULNERABILITY

1.15 Knowledge of the characteristics of the poor is important because it can inform policy. We can look at the characteristics of the poor by looking at the incidence of poverty – that is, by looking at geographic concentration or demographic and education profile of the poor. Alternatively, or in addition, we can compute the probability of being poor given certain characteristics, such as geographic location, household demographic and education profile. Yet another option is to look at the consumption shortfall of households who share certain observable characteristics. A look at consumption shortfall tells us that if consumption is used to rank household welfare, and some types of households are observed to have significantly lower consumption (they have large negative shortfall), then it implies that, on average, they would rank lower and are more likely to be poor. In principle all these methods should lead to similar conclusions. We focus on the consumption model because variation in consumption across households is more informative than a binary model (correlates of poverty using a probability model). The models look at differences in consumption after controlling for household demographics (number of children and gender of household head), human capital (education level of the household head), labor market status, isolation, health shocks and in rural areas, size of land available for cultivation. The list of controls and the models estimated are contained in Tables A15-A18.

1.16 **The average person had about 11% higher real per capita consumption in 2005 than in 2002**, after controlling for demographics and human capital characteristics, health shocks and labor market status of households (Table A15, column 2). The coefficient remains the same even after adding region specific effects<sup>2</sup>.

1.17 **Large and young families have lower consumption, especially in urban areas.** A household with three children below ages 15 has 21% less consumption per capita, on average.

<sup>2</sup> When the dependent variable is in logarithm and the independent variable is a dummy (takes the value 1 or 0), we obtain the percentage shortfall using the following formula: percent shortfall=(exp(d)+V(d)/2)-1), where d is the coefficient of the dummy variable and V is the variance of the estimate.

This deficit has remained about the same whether one looks at the pooled sample or separate samples for each year. The per capita consumption gap has declined slightly in 2005 (Table A15, last column), but remains high. When we examine differences in consumption per capita for urban and rural populations separately, we find that the gap remains negative and large. The shortfall is especially high for urban households, although it has come down substantially, from a 28% shortfall in 2002 to 20% in 2005. By contrast, households with more adults than dependents (captured by the variable “low dependency ratio”) have significantly high per capita consumption. Surprisingly, female headed households have higher per capita consumption than male headed households.

**1.18 Households with an unemployed head also have significantly lower per capita consumption.** The shortfall is higher in urban areas than in rural areas, perhaps because the unemployed in rural areas have stronger ties to mutual insurance networks than urban residents. The gap, which ranges from 20% less in urban areas to 12% less in rural areas, has remained fairly the same across years. In comparison, such a large per capita consumption differential is not observed for households whose head is inactive (that is, those out of the labor force). While unemployment shock is associated with such high shortfalls in consumption, we find no associated gap with health shocks, measured as the number of days not worked due to illness.

**1.19 The average rural resident had about 14% less per capita consumption compared to the average urban resident.** This is true after controlling for region specific effects (Table A15). It is about 16% when regional effects are not accounted for. However, it is important to note that over time this gap has remained the same, suggesting that the average rural resident gained as much from the recent economic growth as the average urban resident. The fact that rural poverty rates declined less than urban poverty rates must then imply that rural residents in the lower tail of the rural distribution must have gained less from growth compared to urban residents in the lower end of the urban distribution. Surprisingly, rural residents devoting more land (square meters) to annual or tree crops appear to have lower per capita consumption than the average rural resident, even though the gap is really small. And equally surprising, having more irrigated plots does not appear to confer any advantages in consumption among rural residents. Part of the explanation has to do with spatial distribution of irrigation networks. Most are found in the Mountain areas, because water availability is higher. However, farmers in the area lack complementary inputs and access to markets due to poor infrastructure. Moreover, the number of plots available for irrigation may say something about availability but nothing about their functionality and quality, especially since after 1990, maintenance of most irrigation systems declined. In addition, irrigation systems require electricity, which is not available several hours a day (Gero Carletto, personal conversation).

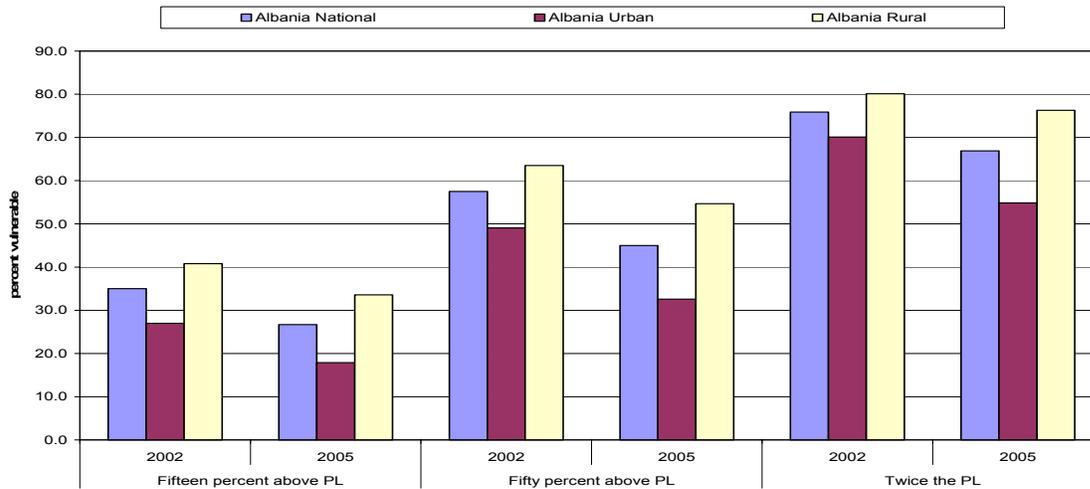
**1.20 Isolated households also have lower per capita consumption, although that disadvantage may be disappearing.** The definition of isolation here means households that are far away from social services. In particular, we measure it by the distance (in kms) from the nearest school. By this measure, a 1% increase in the distance to the nearest school implies a shortfall of 4% in per capita consumption. This gap was 7% less in 2002, but has disappeared completely in 2005.

**1.21 There are large differences in per capita consumption across regions.** Looking at the pooled sample, the average resident in the Mountain area has 12% less per capita real

consumption than the average resident in Tirana. By contrast, residents in Central area have 5% lower while Coast residents have 4% higher per capita consumption than Tirana. But the pooled sample masks some major developments over time. In 2002, only the Mountain area had lower per capita consumption, by 9%, than Tirana (Table A16). By comparison the average Coast resident had 11% higher and the average Central area resident had about the same per capita consumption as the average resident in Tirana. By 2005, the average resident in Tirana had the same or higher per capita consumption than the average resident in all the other areas (Table A16, last column). Viewed within the broader picture of rising welfare, this is a story of just how remarkably well Tirana has done, and NOT how badly other regions have done. Table A17 shows that the average rural Coast resident has 17% and 34% higher per capita consumption than the average Central and Mountain rural resident, respectively.

**1.22 Finally, vulnerability to poverty, much like poverty is declining.** Vulnerability is the net effect of shocks, household endowments and their coping networks. Rigorous measures of vulnerability require observing changes in these variables over time. Although we do not observe shocks we can consider how many will be poor in a situation where a shock reduces income by some specified percentage. Figure 9 below estimates the proportion of population that would be made poor if a shock reduced income by 50%. Alternatively, the numbers show what fraction of the population will fall below the poverty line if the latter was increased by 50% (from Lek 4891 to Lek 7337). Such a situation would mean an increase in absolute poverty from 18.5% to 45% in 2005. With the relative poverty line, the vulnerability would be even higher. An alternative is to consider what would be a reasonable magnitude of income shortfall from a non-catastrophic shock? For instance, if most people in an economy are workers, they face the risk of unemployment, which if realized would decrease wages and therefore incomes by some proportion. So one can set a vulnerability-to-poverty-threshold for unemployment shock. In Albania, consumption shortfall of the unemployed head as discussed above (Tables A15-A18) ranges from a high of 22% in urban areas to a low of 12% in rural areas. Assuming an average shortfall of 15%, we find that 8% of the population are vulnerable (poverty rises from 18.5% to 26.7%). More importantly, Figure 9 shows that vulnerability has fallen between 2002 and 2005, whatever the poverty line used, suggesting an additional benefit of growth.

Figure 9: Vulnerability to poverty



#### D. CONCLUSION

1.23 This note looks at the links between growth, poverty and inequality in Albania. It reaches four main conclusions. First, it finds that Albania impressive 6% annual real GDP growth between 1998 and 2005 has led to massive poverty reduction. The evidence indicates that growth, and not redistribution, accounts for the observed drop in poverty. Second, massive poverty reduction has been accompanied by regional convergence in poverty trends. This has come as a result of sharp reductions in poverty in the poorest regions, the Mountains, and comparatively slower, but still significant, reductions in poverty in the Coast and Central areas. A possible hypothesis for this convergence is internal mobility, where poor migrants leave the Mountain areas and settle in the Coast and Central areas. Third, even as regional convergence is taking place, urban and rural poverty trends are diverging. While both have declined, urban rates have declined faster than rural so that by 2005, three-quarters of all the poor live in rural areas, compared to two-thirds in 2002. Finally, inequality changes have been modest. In particular, the overall Gini changed from about 28% to 30% between 2002 and 2005, while the gap in real per capita consumption of the 90<sup>th</sup> and 10<sup>th</sup> percentile group increased by less than 1%.

1.24 The findings of this study confirm the important role of growth in poverty reduction. To maintain the momentum in poverty reduction, there is a need to remain on the reform path that has led to sustained economic growth, including maintaining a stable macroeconomic environment, improving governance, the investment climate for private sector development, public provision of social services (education, health and social protection) and expanding infrastructure. In addition, addressing the specific obstacles that rural populations face, will accelerate future gains in poverty reduction.

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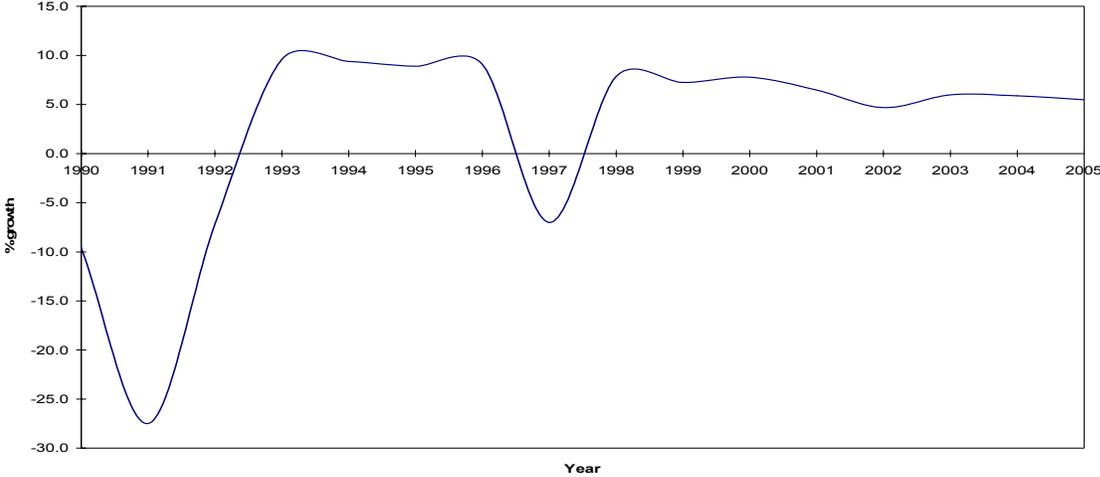
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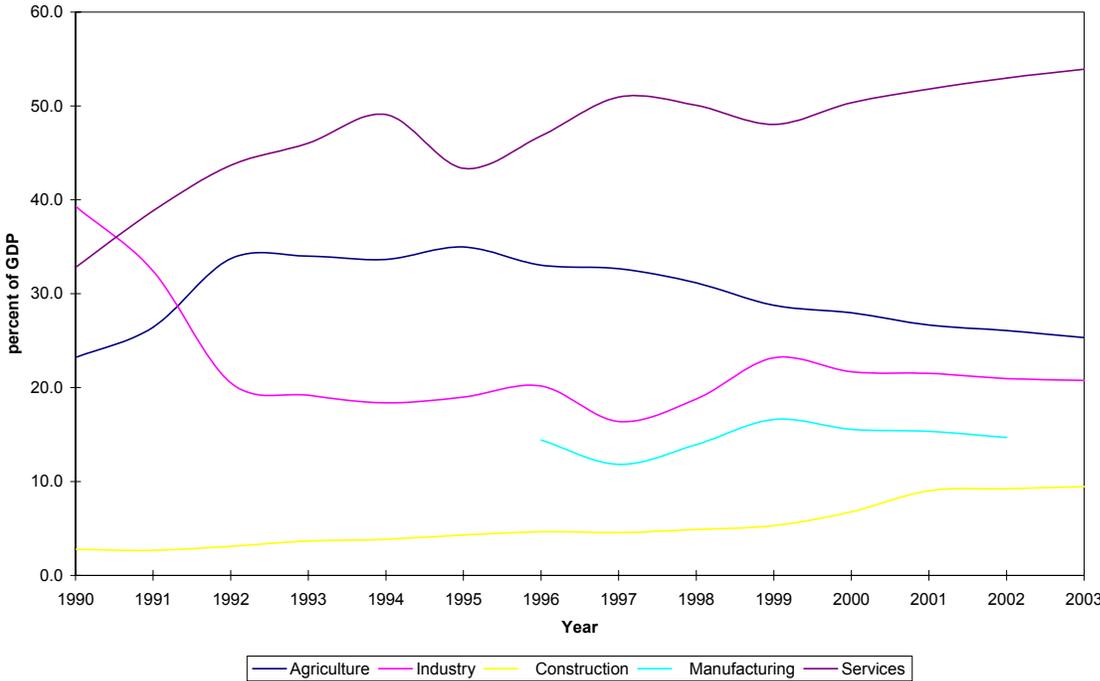
**E. ANNEX: FIGURES AND TABLES**

**Figure A1: GDP growth rates**



Source: WDI and Albania Live Database

**Figure A2: Sectoral composition of GDP**



Source: WDI and Albania Live Database.

Figure A3: Cumulative Density Functions-National, Rural and urban: 2002-2005

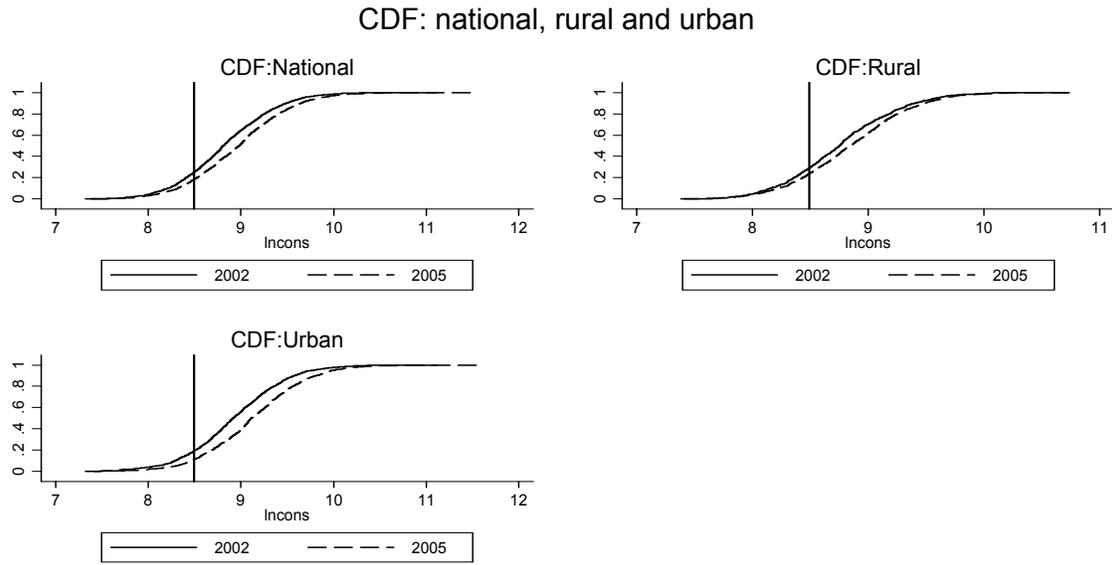


Figure A4: Cumulative Density Functions-Tirana and other urban: 2002-2005

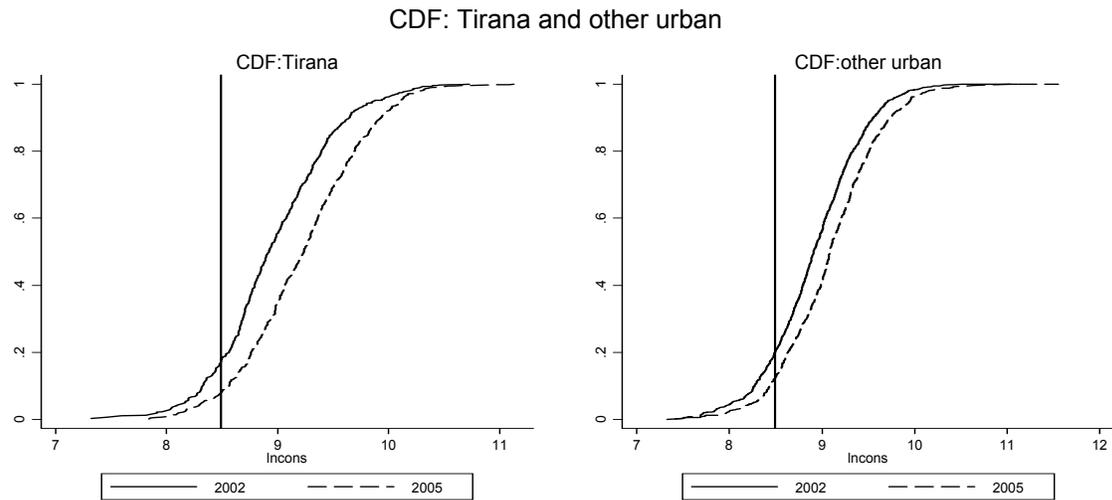


Figure A5: Cumulative Density Functions-Coast area: 2002-2005

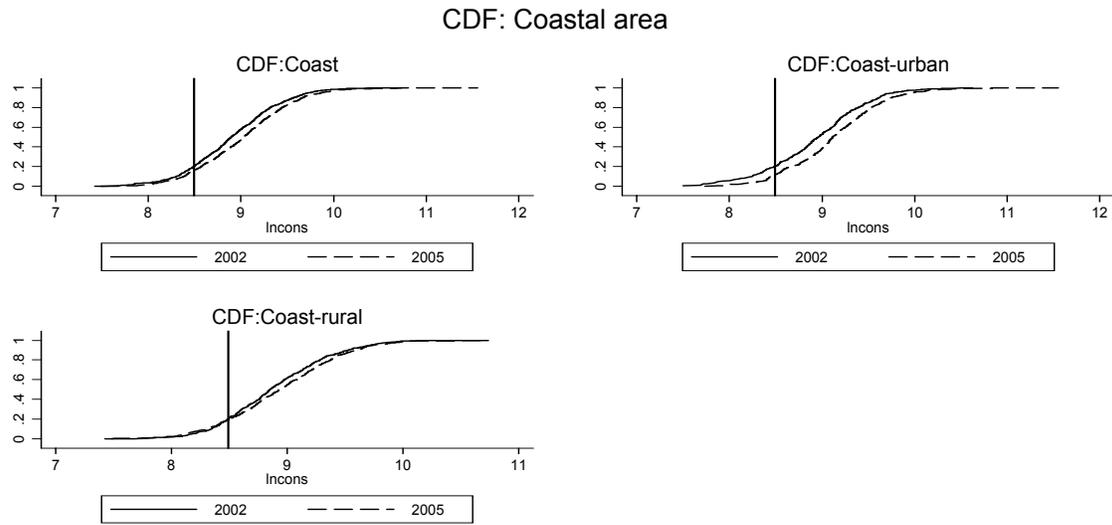


Figure A6: Cumulative Density Functions-Central area: 2002-2005

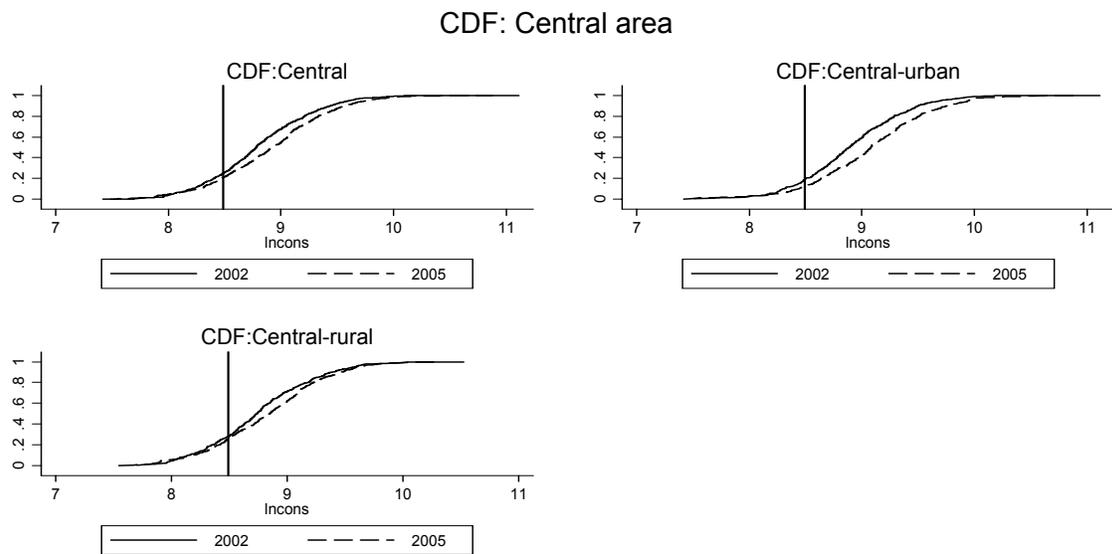
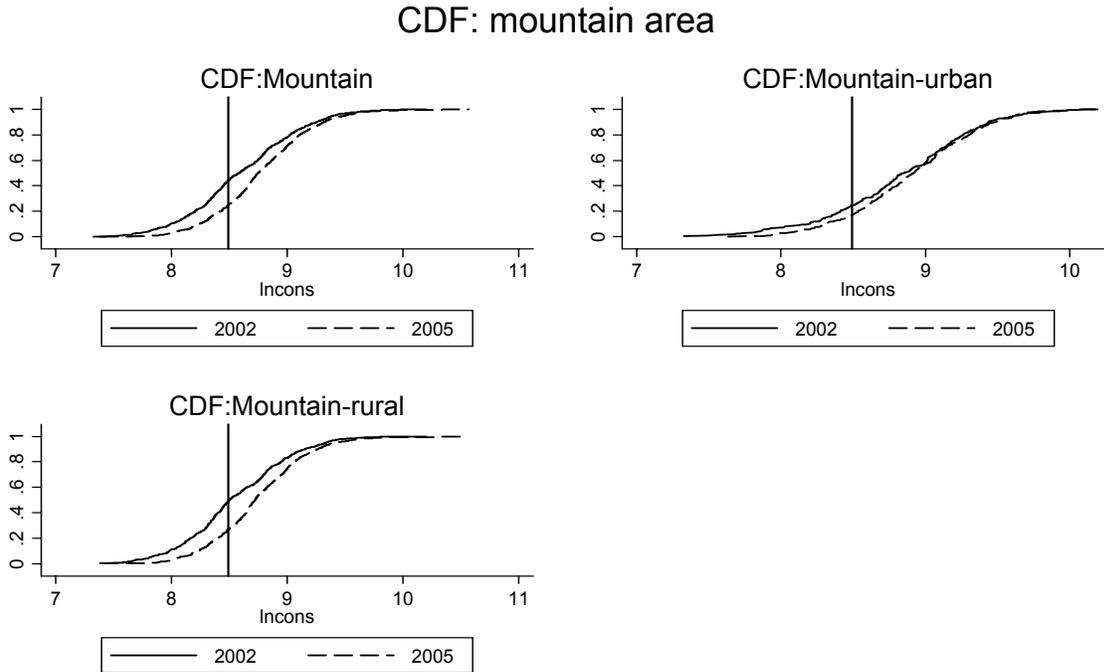
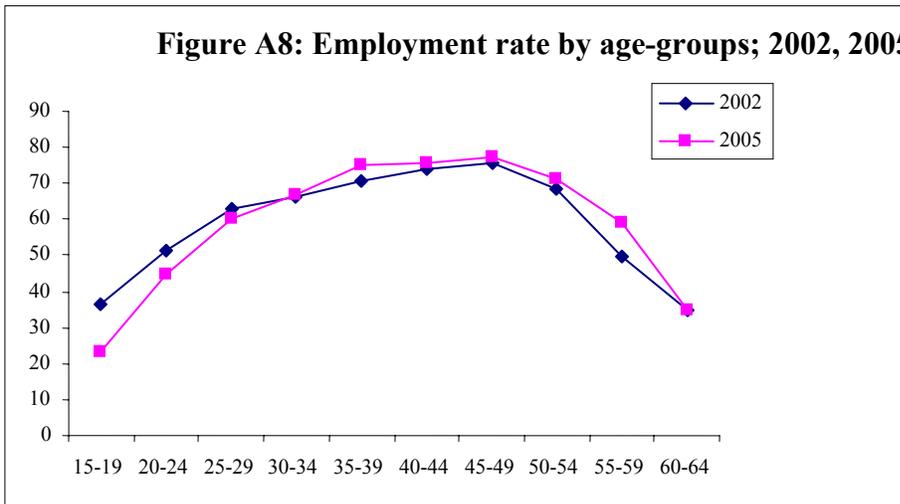


Figure A7: Cumulative Density Functions-Mountain area: 2002-2005



**Figure A8: Employment rate by age-groups; 2002, 2005**



**Table A1: Albania: Trends in real GDP and sectoral growth**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>Sector share</b>																
Agriculture	23.2	26.4	33.7	34.0	33.7	35.0	33.0	32.7	31.1	28.8	28.0	26.7	26.1	25.3		
Industry	39.3	32.4	20.5	19.2	18.4	19.0	20.2	16.4	18.8	23.2	21.7	21.5	21.0	20.8		
Construction	2.8	2.7	3.1	3.7	3.8	4.3	4.7	4.6	4.9	5.3	6.8	9.0	9.2	9.4		
Manufacturing							14.4	11.8	13.9	16.6	15.5	15.3	14.7			
Services	32.8	38.8	43.7	46.0	49.1	43.4	46.8	50.9	50.1	48.0	50.3	51.8	53.0	53.9		
<b>Percent growth</b>																
GDP	-9.6	-27.5	-7.2	9.6	9.4	8.9	9.1	-7.0	7.9	7.3	7.8	6.5	4.7	6.0	5.9	5.5
Agriculture	3.6	-17.4	18.5	10.4	8.3	13.2	3.0	-9.7	4.9	0.4	4.5	3.0	2.3	3.0		
Industry	-6.0	-40.2	-41.3	2.5	4.7	12.6	15.9	-25.8	26.1	34.2	0.5	7.2	2.0	5.0		
Construction		-29.9	7.0	30.0	15.0	21.2	18.4	-10.5	18.0	17.8	37.2	43.9	7.1	8.5		
Manufacturing								-25.1	29.5	29.6	0.7	6.5	0.3			
Services	-35.2	-14.1	4.4	15.5	16.6	-3.8	17.8	-0.6	8.1	4.3	12.7	11.1	7.1	7.9		

Source: WDI 2003 for GDP growth rates. Albania Live Database for sectoral composition and sectoral growth rates.

**Table A2: Summary of Key variables**

Variable	2002		2005		Test of difference in means
	Mean	Standard error	Mean	Standard error	P-values
Total consumption	7801	82.5	9105	105.1	0.001
Food	4906	51.4	5159	53.1	0.001
Nonfood	1655	30.9	2457	48.9	0.001
Education	177	7.5	275	12.6	0.001
Utilities	958	12.4	1087	13.4	0.001
Durables	105	3.1	128	34.2	0.67
Household size	4.3	1.8	4.2	1.7	
Extreme poverty line	3047.0		3047.0		
Absolute poverty line	4891.0		4891.0		
One dollar a day	1888.0		1888.0		
Two dollars a day	3775.0		3775.0		
Four dollars a day	7549.0		7549.0		
Relative poverty line	7671.4		8683.0		

Note: Total consumption, food, nonfood, education, utilities and durables are all in per capita and in 2002 prices. The standard errors presented account for stratification and are computed using the svymean command of STATA. Note that the hypothesis of equal means in expenditures in both years is rejected in all cases, except for durables.

**Table A3: Expenditure shares of food components**

Variable	2002	2005
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Bread and pastries	7.1	6.0
Cereals, flour and pasta	9.6	10.6
Meat	20	19.4
Fish	1.2	1.2
Milk and dairy products	21.3	22.1
Oil	7.1	6.1
Fruits	4.3	4.7
Vegetables and legumes	14.7	18.2
Conserved and frozen vegetables	1.9	0.0
Sugar and confectionaries	3.7	3.4
Condiment and spices	0.5	0.7
Non-alcoholic beverages, tea and coffee	3.6	2.8
Miscellaneous	0.3	0.1
Food eaten out	4.5	4.7

**Table A4: Shares of real per capita consumption**

Consumption component	2002	2005
Food	64.5	59.2
Non-food	19.4	24.8
Utilities	12.6	12.6
Education	2.3	2.4
Durables	1.2	0.9

**Table A5: Growth in real per capita consumption, by Stratum, 2002-2005.**

stratum	2002			2005			Consumption Growth rate		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Coast	8809.9	8122.5	8419.3	10750.5	8693.9	9580.5	1.22	1.07	1.14
Central	8264.6	7136.6	7496.1	10088.5	7670.8	8510.6	1.22	1.07	1.14
Mountain	7795.9	5759.5	6168.3	8159.2	6888.1	7140.6	1.05	1.20	1.16
Tirana	9042.6		9042.6	11812.5		11812.5	1.31		1.31
Total	8624.2	7211.6	7800.8	10690.1	7867.7	9108.0	1.24	1.09	1.17

**Table A6: Trends in Extreme poverty, by Stratum: 2002-2005**

Stratum	Poverty measure	2002			2005		
		Urban	Rural	Total	Urban	Rural	Total
Coast	Headcount	5.9	1.8	3.6	1.8	2.5	2.2
	Depth	1.2	0.3	0.7	0.2	0.4	0.3
	Severity	0.3	0.1	0.2	0.0	0.1	0.1
Central	Headcount	3.4	5.1	4.6	3.5	6.0	5.2
	Depth	0.5	0.5	0.5	0.8	0.9	0.9
	Severity	0.2	0.1	0.1	0.3	0.2	0.2

Mountain	Headcount	7.8	11.6	10.8	2.6	3.4	3.2
	Depth	1.6	2.1	2.0	0.3	0.4	0.4
	Severity	0.5	0.5	0.5	0.0	0.1	0.1
Tirana	Headcount	2.3		2.3	1.0		1.0
	Depth	0.6		0.6	0.1		0.1
	Severity	0.2		0.2	0.0		0.0
Total	Headcount	4.1	5.2	4.7	2.2	4.5	3.5
	Depth	0.8	0.7	0.8	0.4	0.7	0.5
	Severity	0.2	0.2	0.2	0.1	0.1	0.1

**Table A7: Trends in Extreme poverty by Urban and Rural: 2002-2005**

Area	Poverty measure	2002	2005
Tirana	Headcount	2.3	1.0
	Depth	0.6	0.1
	Severity	0.2	0.0
Other urban	Headcount	4.8	2.7
	Depth	0.9	0.5
	Severity	0.2	0.1
Rural	Headcount	5.2	4.5
	Depth	0.7	0.7
	Severity	0.2	0.1
Total	Headcount	4.7	3.5
	Depth	0.8	0.5
	Severity	0.2	0.1

**Table A8: Trends in Absolute poverty by Stratum: 2002-2005**

Stratum	Poverty measure	2002			2005		
		Urban	Rural	Total	Urban	Rural	Total
Coast	Headcount	20.2	20.9	20.6	11.6	19.7	16.2
	Depth	5.4	3.6	4.4	2.0	4.1	3.2
	Severity	2.1	1.0	1.5	0.6	1.3	1.0
Central	Headcount	19.3	28.5	25.6	12.5	25.9	21.2
	Depth	3.8	6.5	5.7	3.0	6.0	5.0
	Severity	1.2	2.1	1.8	1.2	2.1	1.8
Mountain	Headcount	24.7	49.5	44.5	17.1	27.7	25.6
	Depth	6.5	12.3	11.1	3.6	5.5	5.1

	Severity	2.6	4.4	4.1	1.1	1.7	1.5
Tirana	Headcount	17.8		17.8	8.1		8.1
	Depth	3.8		3.8	1.6		1.6
	Severity	1.3		1.3	0.5		0.5
Total	Headcount	19.5	29.6	25.4	11.2	24.2	18.5
	Depth	4.5	6.6	5.7	2.3	5.3	4.0
	Severity	1.6	2.1	1.9	0.8	1.8	1.3

**Table A9: Trends in Absolute poverty by urban and rural: 2002-2005**

Area	Poverty measure	2002	2005
Tirana	Headcount	17.8	8.1
	Depth	3.8	1.6
	Severity	1.3	0.5
Other urban	Headcount	20.1	12.4
	Depth	4.7	2.6
	Severity	1.7	0.9
Rural	Headcount	29.6	24.2
	Depth	6.6	5.3
	Severity	2.1	1.8
Total	Headcount	25.4	18.5
	Depth	5.7	4.0
	Severity	1.9	1.3

**Table A10: Two dollars-a-day poverty rates by Stratum: 2002-2005**

stratum		2002			2005		
		Urban	Rural	Total	Urban	Rural	Total
Coast	Headcount	9.7	6.8	8.1	3.6	8.1	6.2
	Depth	2.5	1.0	1.7	0.6	1.3	1.0
	Severity	0.8	0.3	0.5	0.1	0.4	0.3
Central	Headcount	5.9	13.2	10.9	5.2	11.7	9.5
	Depth	1.3	2.3	1.9	1.4	2.4	2.1
	Severity	0.4	0.5	0.5	0.6	0.7	0.6
Mountain	Headcount	12.0	24.4	21.9	7.3	10.2	9.6
	Depth	3.1	5.1	4.7	1.1	1.7	1.6
	Severity	1.2	1.6	1.5	0.3	0.4	0.4

Tirana	Headcount	6.7	6.7	3.5	3.5		
	Depth	1.4	1.4	0.5	0.5		
	Severity	0.5	0.5	0.1	0.1		
Total	Headcount	7.7	13.1	10.8	4.4	10.3	7.7
	Depth	1.8	2.3	2.1	0.9	1.9	1.5
	Severity	0.6	0.6	0.6	0.3	0.5	0.4

**Table A11: Four dollars-a-day poverty rates: 2002-2005**

stratum		2002			2005		
		Urban	Rural	Total	Urban	Rural	Total
Coast	Headcount	47.9	55.7	52.3	33.3	49.5	42.6
	Depth	15.4	16.1	15.8	9.2	14.9	12.4
	Severity	7.0	6.2	6.5	3.5	6.1	5.0
Central	Headcount	53.6	66.6	62.5	36.8	56.5	49.7
	Depth	15.2	21.6	19.6	10.8	18.7	15.9
	Severity	6.0	9.1	8.1	4.5	8.2	6.9
Mountain	Headcount	54.5	78.9	74.0	50.9	68.9	65.3
	Depth	18.4	30.9	28.4	14.6	21.1	19.8
	Severity	8.4	14.9	13.6	5.7	8.5	7.9
Tirana	Headcount	50.5		50.5	29.5		29.5
	Depth	14.5		14.5	7.5		7.5
	Severity	5.8		5.8	2.8		2.8
Total	Headcount	51.0	65.3	59.3	34.4	56.3	46.7
	Depth	15.3	21.4	18.9	9.5	17.9	14.2
	Severity	6.4	9.2	8.0	3.7	7.6	5.9

**Table A12: Relative poverty rates: 60% of median real per capita consumption, OECD scale**

Stratum		2002			2005		
		Urban	Rural	Total	Urban	Rural	Total
Coast	Headcount	13.2	10.0	11.3	9.8	17.3	14.1
	Depth	3.1	1.5	2.2	1.6	3.0	2.4
	Severity	1.0	0.4	0.7	0.4	0.8	0.7
Central	Headcount	9.0	16.8	14.3	12.0	24.3	20.0
	Depth	1.7	3.1	2.6	2.8	5.0	4.3
	Severity	0.5	0.8	0.7	1.1	1.6	1.4
Mountain	Headcount	12.9	26.6	23.9	15.5	21.6	20.4

	Depth	3.3	5.4	5.0	2.5	3.7	3.5
	Severity	1.2	1.7	1.6	0.7	1.0	0.9
Tirana	Headcount	9.1		9.1	7.5		7.5
	Depth	1.9		1.9	1.4		1.4
	Severity	0.7		0.7	0.4		0.4
Total	Headcount	10.6	16.3	13.9	10.2	21.6	16.6
	Depth	2.3	3.0	2.7	2.0	4.2	3.2
	Severity	0.8	0.8	0.8	0.7	1.2	1.0

**Table A13: Trends in inequality by national, urban and rural: 2002-2005**

	National		Rural		Urban	
	2002	2005	2002	2005	2002	2005
relative mean deviation	20.2	21.1	19.5	19.5	20.4	21.1
coefficient of variation	55.9	62.3	53.0	53.8	56.9	63.4
standard deviation of logs	50.0	52.7	47.7	48.8	51.6	53.3
Gini coefficient	28.2	29.6	27.1	27.3	28.5	29.7
Mehran measure	38.4	40.2	37.0	37.5	39.0	40.3
Piesch measure	23.1	24.3	22.2	22.2	23.3	24.4
Kakwani measure	7.1	7.9	6.6	6.7	7.4	7.9
Theil entropy measure	13.2	15.1	12.1	12.4	13.7	15.3
Theil mean log deviation measure	12.9	14.4	11.8	12.1	13.4	14.7

**Table A14: Trends in inequality by Stratum: 2002-2005**

	Coast		Central		Mountain		Tirana	
	2002	2005	2002	2005	2002	2005	2002	2005
relative mean deviation	20.0	20.8	19.3	20.3	19.6	17.3	21.5	21.4
coefficient of variation	54.5	65.9	53.1	56.5	52.3	51.0	60.4	59.8
standard deviation of logs	50.2	52.0	47.3	52.0	48.2	42.9	52.8	53.6
Gini coefficient	27.9	29.4	26.9	28.6	27.1	24.4	29.8	29.8
Mehran measure	38.3	39.8	36.6	39.3	37.2	33.4	40.0	40.7
Piesch measure	22.7	24.2	22.0	23.3	22.1	19.9	24.7	24.4
Kakwani measure	7.0	7.8	6.5	7.4	6.6	5.5	8.0	8.0
Theil entropy measure	12.9	15.5	12.0	13.6	12.0	10.5	15.0	14.9
Theil mean log deviation measure	12.7	14.3	11.6	13.6	11.8	9.8	14.5	14.6

**Table A15: Correlates of consumption, pooled 2002-2005 sample**

Dependent variable: log of real consumption	Without regional controls		With regional controls	
	Estimated shortfall	t-statistics	Estimated shortfall	t-statistics
One child	-0.088	-6.42	-0.088	-6.53
Three children	-0.235	-12.98	-0.219	-12.08
Low dependency ratio	0.173	13.61	0.167	13.22
Female headed	0.158	8.82	0.152	8.48
Household head, primary	-0.014	-0.67	-0.014	-0.71
Household head, secondary	0.141	5.89	0.146	6.15
Household head, vocational	0.172	7.78	0.167	7.64
Household head, higher education	0.400	15.71	0.395	15.64
Numbers of days lost to illness (in logs)	0.016	1.62	0.022	2.33
Head of household is unemployed	-0.196	-23.19	-0.186	-21.84
Head of household in inactive	-0.017	-2.98	-0.013	-2.44
Rural resident	-0.167	-13.85	-0.145	-11.43
Distance to school in kms (in logs)	-0.040	-5.45	-0.035	-4.88
Year dummy (2005==1)	0.108	9.88	0.109	10.07
Coast			0.041	2.31
Central			-0.045	-2.54
Mountain			-0.131	-7.37
Constant	8.960	384.89	8.981	346.22
N	7237		7237	
R-squared	0.255		0.27	

Note: All the variables with t-value greater than 2 are statistically significant, and all the ones with t-values less than 2 are not statistically significant. That is, in the first case, the variation in consumption associated with the variable is not due to chance, while in the latter it may be due to chance.

**Table A16: Correlates of consumption, by year.**

Dependent variable: log of real consumption	2002		2005		2002		2005	
	Estimated shortfall	t-statistics						
One child	-0.052	-2.73	-0.119	-6.09	-0.058	-3.03	-0.114	-5.92
Three children	-0.246	-10.23	-0.212	-7.78	-0.230	-9.59	-0.197	-7.18
Low dependency ratio	0.151	8.34	0.194	10.8	0.144	8.08	0.189	10.61
Female headed	0.137	5.75	0.183	6.81	0.130	5.46	0.179	6.7
Household head, primary	0.019	0.74	-0.054	-1.58	0.020	0.8	-0.064	-1.89
Household head, secondary	0.141	4.61	0.134	3.46	0.153	5.04	0.125	3.22
Household head, vocational	0.171	6.22	0.168	4.54	0.172	6.34	0.149	4.04
Household head, higher education	0.385	12.27	0.419	9.95	0.394	12.56	0.395	9.44
Numbers of days lost to illness (in logs)	0.019	1.66	0.006	0.34	0.029	2.45	0.004	0.24
Head of household is unemployed	-0.192	-17.69	-0.198	-14.33	-0.184	-16.79	-0.184	-13.46
Head of household in inactive	-0.005	-0.59	-0.030	-3.75	-0.001	-0.1	-0.027	-3.43
Rural resident	-0.151	-8.55	-0.179	-10.74	-0.144	-7.92	-0.143	-8.02
Distance to school in kms (in logs)	-0.075	-6.2	-0.015	-1.59	-0.068	-5.66	-0.012	-1.29
Coast					0.105	4.13	-0.017	-0.71
Central					0.022	0.88	-0.110	-4.4
Mountain					-0.085	-3.29	-0.170	-7.02
Constant	8.948	308.68	9.085	253.92	8.922	267.39	9.155	233.75
N	3599		3638		3599		3638	
R-squared	0.235		0.263		0.253		0.278	

Note: All the variables with t-value greater than 2 are statistically significant, and all the ones with t-values less than 2 are not statistically significant. That is, in the first case, the variation in consumption associated with the variable is not due to chance, while in the latter it may be due to chance.

**Table A17: Correlates of consumption by year, Urban Areas.**

Dependent variable: log of real consumption	2002		2005		2002		2005	
	Estimated shortfall	t-statistics						
One child	-0.081	-3.3	-0.142	-5.33	-0.081	-3.31	-0.136	-5.17
Three children	-0.330	-9.54	-0.261	-5.7	-0.326	-9.35	-0.241	-5.24
Low dependency ratio	0.179	7.83	0.241	10.24	0.179	7.82	0.234	10.01
Female headed	0.149	4.96	0.125	3.98	0.151	5	0.128	4.06
Household head, primary	0.026	0.58	-0.083	-1.36	0.026	0.6	-0.090	-1.48
Household head, secondary	0.121	2.48	0.093	1.45	0.127	2.57	0.092	1.43
Household head, vocational	0.159	3.57	0.108	1.73	0.162	3.63	0.097	1.55
Household head, higher education	0.368	8.15	0.380	5.84	0.377	8.32	0.364	5.59
Numbers of days lost to illness (in logs)	0.025	1.48	0.011	0.56	0.026	1.5	0.008	0.39
Head of household is unemployed	-0.222	-18.3	-0.225	-13.68	-0.220	-18.13	-0.210	-13
Head of household in inactive	-0.048	-4.8	-0.062	-5.7	-0.046	-4.6	-0.058	-5.27
Distance to school in kms (in logs)	-0.043	-2.76	-0.009	-0.74	-0.043	-2.75	-0.005	-0.39
Coast					0.053	1.89	-0.024	-0.86
Central					0.018	0.68	-0.072	-2.55
Mountain					0.005	0.18	-0.182	-6.79
Constant	8.998	195.8	9.152	151.12	8.972	182.8	9.209	145.37
N	1959		1999		1959		1999	
R-squared	0.287		0.28		0.288		0.295	

Note: All the variables with t-value greater than 2 are statistically significant, and all the ones with t-values less than 2 are not statistically significant. That is, in the first case, the variation in consumption associated with the variable is not due to chance, while in the latter it may be due to chance.

**Table A18: Correlates of consumption by year, Rural Areas.**

Dependent variable: log of real consumption	2002		2005		2002		2005	
	Estimated shortfall	t-statistics	Estimated shortfall	t-statistics	Estimated shortfall	t-statistics	Estimated shortfall	t-statistics
One child	-0.022	-0.72	-0.075	-2.61	-0.039	-1.28	-0.072	-2.58
Three children	-0.149	-4.27	-0.168	-4.92	-0.131	-3.89	-0.155	-4.53
Low dependency ratio	0.150	4.96	0.133	4.84	0.139	4.84	0.132	4.85
Female headed	0.122	3.09	0.235	4.51	0.090	2.33	0.215	4.12
Household head, primary	0.026	0.8	-0.040	-0.95	0.023	0.75	-0.048	-1.15
Household head, secondary	0.156	3.47	0.146	2.73	0.172	3.93	0.129	2.42
Household head, vocational	0.188	4.99	0.208	4.22	0.177	4.91	0.185	3.8
Household head, higher education	0.329	4.87	0.266	3.22	0.306	4.72	0.245	2.9
Numbers of days lost to illness (in logs)	0.010	0.61	-0.011	-0.39	0.026	1.58	-0.010	-0.34
Head of household is unemployed	-0.134	-5.38	-0.134	-5.75	-0.121	-4.61	-0.126	-5.25
Head of household in inactive	0.046	3.56	0.010	0.89	0.048	3.92	0.010	0.94
Land cultivated in square meters (in logs)	-0.028	-4.01	-0.024	-3.72	-0.038	-5.21	-0.024	-3.56
Number of irrigated plots	-0.006	-1.3	0.030	3.95	-0.009	-2.09	0.024	3.09
Distance to school in kms (in logs)	-0.099	-5.15	-0.027	-1.78	-0.076	-4.2	-0.025	-1.7
Central					-0.165	-5.36	-0.134	-4.51
Mountain					-0.340	-11.08	-0.173	-6.18
Constant	9.022	125.47	9.006	133.87	9.309	118.15	9.133	127.61
N	1472		1547		1472		1547	
R-squared	0.144		0.144		0.215		0.166	

Note: All the variables with t-value greater than 2 are statistically significant, and all the ones with t-values less than 2 are not statistically significant. That is, in the first case, the variation in consumption associated with the variable is not due to chance, while in the latter it may be due to chance.