2007

# Voices of the Poor: Poverty and Growth in Albania

Magda Tsaneva
*Colby College*

# Voices of the Poor: Poverty and Growth in Albania

Magda Tsaneva

Abstract:
This paper uses three waves of panel surveys at the household level to study growth and poverty in Albania over the period 2002-2004. It attempts to answer two main questions. The first question is directed at finding the micro determinants of growth and aims to expose the obstacles households face to improve their economic situation. The main focus of the analysis is to investigate the importance of health, education, and infrastructure indicators for income growth. The second question asks whether growth in Albania during the period 2002-2004 has been pro-poor. I find that there is some evidence for a convergence of incomes and a pro-poor growth, which has led to a substantial decrease in the number of people living under the poverty line. I also find that infrastructure has not been an important determinant for income mobility, and neither has health. Only the higher education of poor urban households seems to have affected prospects for growing out of poverty, and unexpectedly, the relationship is negative.

**Contents:**

**List of Tables:**

# Chapter 1: Why Study Growth and Poverty in Albania?

## 1.1 Introduction

Transition into a market economy has been a long and painful process, especially for South-East European countries, which have had to face the challenge of overcoming the legacies of their communist past and bring about successful economic and political transformation in times of great social and ethnic conflicts.

While its neighbors have at least recently enjoyed praise and rewards from a successful transition to a market economy, however, Albania continues to be called one of Europe's poorest countries. In macroeconomic terms Albania has shown above-average economic performance, boasting with a growth rate of about 9% in the first years of transition, and a rate of 7% in the later 90s, while structural reforms, including privatization and land reforms, took place. At the same time Albania's GDP per capita has been disappointingly low at only $1538 in 2002 (World Bank, 2004). A closer look at poverty figures shows that the economic problems in reality are even more severe than the macro statistic suggests. In 2002 a quarter of the population, about 780,000 people, still lived below the national poverty line of about 4,891 leks per person per month, which amounted to $33 (World Bank, 2003). The non-income dimensions of deprivation such as the lack of access to quality health and education services, as well as the poor level of infrastructure development compound even more the story of income poverty.

Thus, it seems that the overall macroeconomic picture fails to describe the transformations, if any, which have occurred in people's lives. In this context, the present study looks at how economic growth has translated at the household level. Using three waves of household panel surveys, the so-called Living Standards Measurement Surveys (LSMS),

executed and provided online by the World Bank, this empirical study examines the relationship between growth and poverty in Albania by following the changes in well being of households over the three years 2002, 2003, and 2004.

The contribution of this study to the existing literature on the subject of linkages between growth and poverty has to do firstly with the fact that rather than being a cross-country study, this is a country-specific work, which uses insights on the economic and political situation in Albania to better explain the results. This research is particularly important since the LSMS data are very recent and a similar study has not yet been done for the country.

I ask two main questions. The first question is directed at finding the micro determinants of growth and aims to expose the obstacles households face to improve their economic situation. At the macro level shortcomings in human capital and infrastructure indicators are often considered to be main obstacles for development. Indeed, Albania has been underperforming compared to its neighbours with a secondary school enrollment rate of only 74%, health insurance coverage of only 39%, and failing communication, energy and road systems. Thus, it is interesting to investigate the importance of these indicators for income growth at the household level. The main focus of the analysis will then be on examining whether households, who are less endowed with human capital and infrastructure, experience smaller changes in their incomes.

The second question attempts to understand the distribution of growth in Albania during the period 2002-2004. Thus, it studies whether growth has benefited the poor proportionately more than the non-poor. I test for this by including variables of initial household income and asset endowments and noting the direction in which they affect the

change in income. In addition, I construct a poverty transition matrix, which examines the extent of income mobility in that period, and then I examine the specific characteristics that make households grow out of poverty, or fall into poverty.

I find that there is some evidence for a convergence of incomes and a pro-poor growth, which has led to a substantial decrease in the number of people living under the poverty line. The value of the headcount measure I calculate decreases by 30% and 15% over the three years for urban and rural households respectively. I also find that infrastructure as measured by the source of water and the distance to the nearest school/bus/doctor has not been an important determinant for income mobility. Neither has the health condition of the household head and spouse affected significantly growth prospects. Only the higher education of poor urban households seems to have influenced prospects for growing out of poverty, and unexpectedly, the relationship is negative.

This paper is organized as follows: chapter 1 provides a background on the growth and poverty trends in Albania during its transition period and aims to motivate the research questions; chapter 2 then specifies the methodology of the study; chapter 3 presents and analyses the results of the econometric model; and, chapter 4 concludes.

### 1.2 Brief Literature Review

There has been a long and controversial debate on whether poor people actually benefit from growth. One side argues that while poverty reduction is sensitive to economic growth, poverty is also sensitive to changes in inequality. They claim that poverty reduction has a growth component (changes in poverty due to changes in income, holding income distribution constant) and a distributional component (changes in poverty due to changes in

the income distribution, holding income constant). Thus, in the cases when growth leads to increased inequality, which is in about 50% of all cases according to Ravallion (2001) and Fields (1989), the two components might undermine and even offset each other.

Bigsten, et al (2003), for example, find a negative relationship between the growth and redistribution components and use this counteracting effect to explain the less than potential reduction in poverty observed in Ethiopia. Kakwani (1993) goes even further in supporting that claim when, using data for Cote d'Ivoire, he finds that "the ultra poor are considerably more affected by the changes in income inequality than by changes in mean income" and thus he describes the paradox of an increase in poverty as growth increases. The proponents of this model then find it easy to explain the low level of reduction in poverty over the years.

On the other hand, there are those who argue that the slow progress in reducing poverty is due not to the effects of worsening income distribution, but to too little growth (Chen, Ravallion, 2001). The supporters of this theory argue that growth benefits the poor as much as it benefits the rich and there is no bias toward a particular income group (Dollar, Kraay, 2002). In fact, Dollar and Kraay (2002) find an almost 1:1 relationship between average incomes of the poorest people and the total average income. This result, however, is an elasticity value averaged across 137 countries, and when taking specific countries as an example there is a great variation of elasticities, implying that indeed in some countries growth is more pro-poor than in others.

The next section presents an overview of the specific trends in growth and poverty in Albania during the transition period, establishing the relationship between the two in a qualitative manner, setting the stage for the empirical work.

### 1.3 Growth Trends in Albania

When in the early 1990s with rising hopes Albanians began attempts to shake off decades of xenophobic, isolated, and particularly cruel communist dictatorship, they were in for a long and hard struggle for progress[1]. Albania started on its path to democracy with a serious legacy: it was Europe's poorest country, riddled by great social divisions. Until that time the strongly centralized state controlled all social and economic activities, did not allow any foreign investment or aid in the country, did not allow travelling abroad, and largely ignored demand for consumer goods. Serious structural changes were long due. Table 2 below provides data on the main macroeconomic indicators during the years of transition.

**Table 1: Main economic indicators, 1990-2003**

| Indicators/Years | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP grow th, current P | -28.00 | -7.20 | 9.60 | 8.30 | 13.30 | 9.10 | -7.00 | 12.70 | 10.10 | 7.30 | 7.60 | 4.70 | 6.00 |
| GDP per cap in USD | | 211.0 | 381.5 | 610.8 | 737.8 | 808.0 | 684.0 | 906.5 | 1080.9 | 1184.0 | 1357.0 | 1538.0 | 1938 |
| Inflation, average | 35.5 | 226.0 | 85.0 | 22.6 | 7.8 | 12.7 | 42.0 | 20.9 | 0.4 | 0.0 | 3.1 | 5.2 | 2.4 |
| Fiscal deficit, % of GDP | -20.7 | -58.6 | -13.7 | -9.0 | -10.2 | -12.8 | -13.1 | -12.0 | -12.2 | -9.2 | -8.2 | -6.7 | -4.5 |
| Trade balance (goods only) in mill.USD | -308.0 | -470.5 | -489.9 | -459.7 | -475.0 | -678.3 | -519.0 | -621.0 | -846.0 | -821.0 | -1027.0 | -1155.0 | -1336.0 |
| Current Account Balance in mill.USD | -213.0 | -50.8 | -14.7 | -31.2 | -36.6 | -63.4 | -253.7 | -195.0 | -272.0 | -274.0 | -263.0 | -435.0 | -469.0 |

Source: World Bank, 2004

As was the case with other Eastern European countries, the first years of the transition towards a free market in Albania caused a significant decline in industrial output. In the time of economic and political turmoil many factories closed down as a result of bad financing, or changes in ownership that were taking place. As the inefficient government was trying to respond to the needs of the people for social and economic security, it suffered an enormous increase in its budget deficit, reaching 58.6% in 1992. In addition, large current account deficits appeared as the economy opened up and imports surged while both private and

[1] See Appendix 1 for a map of Albania; see Appendix 2 for a timeline of key events in recent Albanian history.

public savings were declining. The monetary needs of the government were then financed by an expansive monetary policy, which made inflation reach a three-digit level in1992.

The first steps in reforming in 1993, however, quickly put inflation under control and the government deficit was curbed. While macroeconomic stabilization, conducive to investment, was being established, liberalization of the markets was carried through, and privatization of land and enterprises was initiated. Thus, Albania's path to transition brought the country an impressive growth rate, averaging 9.3% in the first years of transition. In 1997 Albania was shaken by a collapse of widespread financial scams- financial pyramid schemes, which cheated many people out of their savings. The economic crisis was exacerbated by popular discontent, which provoked a period of political instability and social crises, bringing the country to the brink of a civil war. By 1998, however, stability was restored and the contraction in the economy was reversed.

In that transition period the major engine of the Albanian growth has been the private sector, which grew quickly after the liberalization and from virtually non-existent in the early 1990s, by 1998 it had reached 75% of GDP. The private sector was largely composed of self-employed microentrepreneurs and became and important source of employment. In rural areas it included workers who became engaged in small-scale subsistence-based agriculture after sweeping land reforms brought fragmentation of virtually all the land, and divided agricultural production into private enterprises. In urban areas it was composed of the many workers who lost their jobs in the public sector as a result of the restructuring and their micro enterprises mainly focused on trade and services.

A main source of growth during the Albanian transition has been trade. Although Albania is still lagging behing its neighbours in terms of openness, measured as trade as a

percentage of GDP, it has witnessed a spectacular growth in trade as markets were opened and tariffs lowered. Albania actively pursued a liberalized trade policy and as a result it experienced a large trade deficit, but this was associated with having a positive impact since it provided the country with long-needed industrial and capital imports. At the same time, in the period 1993-1996 its average rate of growth of exports was 65% (World Bank, 2004). Albania's good export performance was especially due to the light manufacturing sector, such as textiles, shoes, and clothing.

Considering the political instability and the periods of social disturbances in 1997, when the financial pyramid schemes were exposed, and in 1999, when the war in Kosovo took place, Albania has had a modest success in attracting FDI. Some of the main foreign investors in Albania have been Italian and their investments have usually focused on small enterprises in construction, as well as on the light manufacturing export sector. The other main investors are Greek, who have mostly been involved in the trade sector. The investments have been concentrated in the capital Tirana and the main port city Durres, which suggests of the possible regional disparities exacerbated during the transition.

Another major source of growth for Albania has been its remittances. It is believed that about a quarter of the total population have left the country since 1990s in search for better working and living opportunities. During the transition workers' remittances have consistently comprised a big percentage of GDP and have ranked Albania as one of the top 20 countries by the amount of remittances received in terms of GDP. As shown in Table 2, the incremental increase in remittances has fuelled GDP growth. At the micro level, averaged across all households private transfers (in the form of remittances) accounted for 14.4% of household income (World Bank, 2003). This source of foreign currency has also been

important to keep macroeconomic stability as it led to a current account deficit much lower than it would otherwise have been.

**Table 2: Remittances and GDP in USD**

| Time | Remittances, (millions of current US$) | GDP (millions of current US$) | Ratio |
|---|---|---|---|
| 1992 | 150.00 | 709.45 | 21.14 |
| 1993 | 274.80 | 1,228.07 | 22.38 |
| 1994 | 264.70 | 1,984.59 | 13.34 |
| 1995 | 384.60 | 2,422.08 | 15.88 |
| 1996 | 499.60 | 3,013.19 | 16.58 |
| 1997 | 266.90 | 2,163.29 | 12.34 |
| 1998 | 452.27 | 2,737.24 | 16.52 |
| 1999 | 356.60 | 3,448.89 | 10.34 |
| 2000 | 530.80 | 3,694.33 | 14.37 |
| 2001 | 614.90 | 4,096.06 | 15.01 |
| 2002 | 643.43 | 4,464.48 | 14.41 |
| 2003 | 778.11 | 5,603.03 | 13.89 |

Source: World Development Indicators at the World Bank

Illegal activities, developed after the tight control of the communist rule was released, have been another source of income growth. The World Bank estimates that the volume of illegal US currency circulating in the country is almost as large as the US dollar equivalent of the Albanian currency (World Bank, 2004). This is largely a result of the money laundering from illegal traffic of narcotics, arms, contraband, and humans, successful and possible due to Albania's strategic position in the region.

Overall, as far as GDP growth is concerned, Albania has done spectacularly both in absolute and relative terms. Table 3 provides data on growth rates for an international comparison. It is surprising to find that Albania has consistently outperformed Central and Eastern European States (CEE) in GDP growth. In addition, it has done better than CEE countries in terms of output per capita and output per worker (IMF, 2006).

**Table 3: GDP Growth, International Comparison at Market Prices**

| | | | | | | GDP Growth (%) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| **Albania** | **-27.48** | **-7.20** | **9.60** | **9.40** | **8.90** | **9.10** | **-10.20** | **12.70** | **10.10** | **7.30** | **7.00** | **2.90** | **5.70** | **5.90** |
| Bulgaria | -8.45 | -7.27 | -1.48 | 1.82 | 2.86 | -9.40 | -5.60 | 4.00 | 2.30 | 5.40 | 4.10 | 4.90 | 4.50 | 5.70 |
| Czech Rep. | -11.61 | -0.52 | 0.06 | 2.22 | 5.95 | 4.16 | -0.73 | -1.15 | 1.21 | 3.89 | 2.64 | 1.49 | 3.21 | 4.69 |
| Croatia | -21.09 | -11.71 | -8.03 | 5.87 | 6.83 | 5.90 | 6.80 | 2.52 | -0.86 | 2.86 | 4.44 | 5.21 | 4.27 | 3.80 |
| Macedonia | -6.17 | -6.56 | -7.47 | -1.76 | -1.11 | 1.18 | 1.44 | 3.38 | 4.34 | 4.55 | -4.53 | 0.85 | 2.82 | 4.08 |
| Romania | -12.90 | -8.84 | 1.51 | 3.97 | 7.16 | 4.01 | -6.10 | -4.79 | -1.20 | 2.10 | 5.70 | 5.10 | 5.20 | 8.40 |
| Serbia/MtNg | .. | .. | .. | 2.50 | 6.11 | 5.87 | 7.37 | 2.49 | -18.01 | 5.00 | 5.50 | 4.29 | 2.44 | 8.84 |
| Slovakia | -14.57 | -6.72 | -3.70 | 6.21 | 5.84 | 6.15 | 4.61 | 4.21 | 1.47 | 2.04 | 3.79 | 4.62 | 4.46 | 5.50 |

Source: World Development Indicators at the World Bank

A study by the World Bank, however, shows that one of the main characteristics of Albanian growth is that it has resulted completely from a growth in TFP and not in investment, as could be seen from Table 4 below. Usually TFP growth is desirable because it shows that the existing factors of production are used efficiently. In the case of Albania the result on TFP is explained with the reallocation of resources, a result of restructuring, starting in the very beginning of the transition.

**Table 4: Growth decomposition**

| | | Contribution from: | | |
|---|---|---|---|---|
| **Year** | **Average Annual GDP Growth (%)** | **Capital Growth** | **Labor Force Growth** | **TFP Growth** |
| 1990-1992 | -15.26 | -4.85 | 0.78 | -11.19 |
| 1993-1996 | 9.25 | 0.1 | -0.51 | 9.66 |
| 1998-2001 | 7.35 | 0.78 | 0.56 | 6.01 |
| 2002-2003 | 5.35 | 1.62 | 1.07 | 2.66 |

Source: World Bank, 2004

During the transition period, however, as already mentioned, a great amount of capital became depleted and obsolete as shown in the table above by the initial negative change in capital growth. As many workers lost their public jobs, they shifted to unproductive and low-paying self-employment. Thus, growth was driven almost entirely by restructuring and not by investment increasing the factors of production. This fact speaks of

the little potential Albanian growth had for a transformation of the economy for the advancement of the general living conditions.

This growth decomposition exercise helps explain the fact that despite the outstanding growth performance described above, the Albanian population has lived in persistent poverty. The present poverty situation in Albania both in monetary and social terms is described in detail in the following section.

## 1.4. Poverty trends

### *1.4.1 Income Poverty and Unemployment*

According to a World Bank Poverty Assessment for Albania in 2002, 25.4% of the population of Albania lived under the country's national poverty line of 33USD per capita per month, constructed with the cost-of-basic-needs methodology (World Bank, 2003). Increasing the poverty line by only 10%, however, raises the headcount to 50%, suggesting that many households live clustered around the poverty line and are not much better off than those defined as poor by the poverty line cut-off point.

A key determinant of poverty has been found to be the high unemployment rate in the country. Indeed, as explained in the previous section the economic restructuring in the transition period led to the massive closing of factories and many workers lost their jobs. Private activities spurred to cope with the excess supply of labor and in 2004 61% of the population declared they were self-employed. Out of all employed people, including both formal and informal workers, only 38% received wages.

The small number of wage-receiving workers can be explained by the fact that 63.2% of total employment is in the rural areas on private small-scale family farms (World Bank,

2006). The majority of the rural population lives at subsistence level, entirely dependent on their agricultural produce that they use mainly for private consumption. Indeed, income deprivation has serious spatial dimension with poverty incidence in rural areas being 50% higher than in urban areas (World Bank, 2003). Poverty and lack of salary-paying jobs in the rural areas has led to substantial rural-urban migration in the past years directed to the capital and the main port cities, where investment has been concentrated.

Growth in Albania, however, has been a jobless growth with a low demand for labor. Even in the more industrialized areas, labor demand has failed to respond to the rising employment participation rates. The great influx of migrants and the lack of jobs have put a strain on the cities' infrastructure and public services and have resulted in the establishment of pockets of extreme poverty in urban areas, too.

*1.4.2 Social dimension of poverty*

Poverty has many faces. It is most easily described in terms of income or consumption level. Poverty, however, is not only the inability to cover basic needs at the present moment. Broadly speaking it can be described to be a measure of living standards. As postulated by the Millennium Development Goals the concept of poverty encompasses indicators of income deprivation, as well as indicators of vulnerability, measured by health and education level. Thus, when discussing poverty in Albania it is important to consider this social dimension of poverty in order to get a complete picture of living conditions of the general population.

During the difficult transition period when governments were struggling with current account deficits and government debts, the public spending on education drastically decreased from 5% of GDP in 1991 to 2.8% of GDP in 2002, which is lower than any of the

region's countries' spending. The reduced financing affected quality and quantity of schooling as it led to the closing of many schools. The increased need for family contribution to education served as a disincentive for poorer households to educate their children, and enrollment rates further decreased. The sector which suffered the most from the decreased public spending was secondary education sector. Table 5 shows that in terms of educational attainment, Albania is lagging behind the region's countries.

**Table 5: Educational Attainment**

| **Net Secondary School Enrollment Rates(%) *** | | **School Expectancy (years)**** | |
|---|---|---|---|
| Albania | 74 | Albania | 9.5 |
| Bulgaria | 88 | OECD | 16.9 |
| Croatia | 85 | Czech Republic | 16.0 |
| Estonia | 90 | Hungary | 16.4 |
| Hungary | 91 | Poland | 16.7 |
| Poland | 90 | Slovakia | 14.9 |
| Romania | 81 | Russian Federatior | 14.6 |
| *data for 2004 | | ** data for 2000 | |
| source: Human Development Report 2006 | | source: World Bank, 2004 | |

Decreased public spending on social programs during the transition has also affected the health sector, government support falling from 4.3% in 1990 to 2.7% in 2002, which is only about half of the CEE average (World Bank, 2003). Table 6 below provides data on some indicators of human development as provided in the Human Development Report on Albania for 2006. Overall, it is to be noted that while characterized with average and even high life expectancy, Albania has one of the highest infant and under-5 mortality rates in the region.

The number of hospitals and hospital beds significantly decreased in the past decade, and the heavier reliance on private expenditure to cover health costs has reduced access to

health care especially for the poor. The health insurance system has been very limited in scope both in terms of people covered and services provided. Based on data from LSMS 2002, the World Bank estimated that only about 39% have health insurance coverage, and that the use of health insurance is positively related to income level (World Bank, 2003).

**Table 6: Health and Infrastructure Indicators**

| Survival: progress and setbacks | | Technology Diffusion | |
|---|---|---|---|
| Life expectancy | 73.7 | Telephone Mainlines per 1,000 | 89 |
| Infant mortality rate (per 1,000) | 25 | Cell phones per 1,000 | 64 |
| Under-5 mortality rate (per 1,000) | 34 | Internet users per 1,000 | 24 |
| Underweight children under 5 | 14% | | |
| Underheight childern under 5 | 35% | | |

Source: Human Development Report, 2006

Another aspect of Albanian life which has served as an impediment to growth and poverty reduction is the issue of the access to and reliability of basic infrastructure. Table 6 shows that less than 10% of the population has access to the basic means of communication: the telephones. This statistic might not look so startling when considering that in 2002 a total of 17.5% of the population reported water and sanitation as inadequate, and 13.5% reported electricity as inadequate, meaning that for those households running water and piped WC were both unavailable, while electricity was interrupted for more than 6 hours every day (World Bank, 2003). The problem is even more severe in rural areas, and once again shows that despite macro growth basic needs have failed to be met.

The poor quality infrastructure at the household level is even further impaired by the condition of the infrastructure at the national level. A total of 78% of roads in Albania are classified as being in poor condition. This infrastructure deficiency becomes a major obstacle for any kind of economic activity, be it for the farmer who cannot transport his produce to the

markets, the industrialist, whose productivity keeps declining as multiple power outages stop the work, or the merchant, who has to pay high transport costs.

Overall, two main issues arise from the above observations. Firstly, considering that Albania has shown weak performance in social and infrastructure indicators (measures of living standards), and at the same time it has had impressive macroeconomic growth performance, I have been puzzled and thus motivated to study in depth the linkages between growth and poverty at the microeconomic level.

Secondly, the discussion on poverty has emphasized the fact that people poor in terms of income also turn out to have reduced access to health and education services, as well as to reliable infrastructure. It is possible that these factors might contribute to the creation of poverty traps. On the other hand, since these indicators are so-called vulnerability indicators, even people who are not income poor, but lack access to such social services, might have reduced prospects for growth. Thus, it is interesting to investigate the importance of these indicators for income growth at the household level.

The following section provides the methodology for studying the above issues.

## Chapter 2: How to Study Changes in Growth and Poverty: the Methodology

### 2.1 The Household Data

In order to examine the relation between growth and poverty reduction the present study uses household level surveys from 2002, 2003, and 2004. The surveys are very extensive and include information on many different modules, such as dwelling, education, health, labour, social assistance, agriculture, as well as a module on subjective poverty, which asks households to rank their financial situation, food consumption level, future prospects. The survey format and questions changed for the different waves. For example, the first survey contained additional questions on fertility, which were unique to it, while the second survey contained questions on communication technologies. For the purpose of this study, however, only information pertinent to the research question and common to all three waves is selected. For statistical precision and to minimize errors due to attrition between survey waves and variation in survey selection probabilities, the data used are weighted to make the sample nationally representative.

The Wave 1 survey of 2002 included 7,475 individual members in 1,741 households. The second and third waves were then designed to follow the individuals from the previous wave(s). In order to be able to track changes in household poverty and growth across the three years, I use only households that participated in all three waves of the survey. Their total number amounted to 1,333, of which 702are rural households, and 631urban.

My unit of analysis is the household, which allows me to determine household characteristics that empower some and put others at a disadvantage. This methodology also eliminates the potential estimation error in assigning income weights to the different household members depending on their age, status, etc.,

One limitation of this study is the short length of the panel, since data is available for three years only. There have, however, been other studies on panel data with similarly short periods of 3 or 4 years. For example, Bigsten et al (2006) use three waves of panel data to examine the impact of growth on poverty in Ethiopia during the period 1994-1997. Also, Stampini et al (2006) study poverty mobility in Nicaragua, using two LSMS surveys from 1998 and 2001. Thus, I believe the methodology and data can indeed provide some reliable information. It is possible that the changes in growth and poverty could be due to cyclical variations, but the results are still valid as long as the conclusions are limited to the present observations on the linkage between growth and poverty, rather than on a deduction of a possible future trend.

## 2.2 Specifying the model

### *2.2.1 Defining the poverty measures*

In order to examine the relationship between growth and poverty reduction, poverty and growth measurements should first be defined. In this context it is important to choose a poverty line and estimate a poverty indicator. There are two types of poverty lines: absolute and relative poverty lines. The absolute poverty line determines the cost of basic necessities and is useful particularly when used in the cases of developing countries, where inequality might be low but often a large part of the population struggles to meet its basic needs. Many studies on cross-sectional panel data of different countries use an international poverty line of $1 or $2, deflated by domestic PPP (Moser, Ichida, 2001; Chen, Ravallion, 2001; Adams, 2004). International poverty lines, however, albeit useful in bringing in a common standard for comparison across countries, are arbitrary and would tend to misrepresent the extent of

poverty in specific countries because of their general character and because they only cover the cost of bare minimums.

Other studies prefer to use country-specific absolute poverty lines, constructed on the basis of data on consumption, which could include consumption of non-durables and is thus a more complete presentation of poverty (Bigsten, et al, 2003; Kakwani, 2000). One of the problems with such poverty lines is that poverty lines need to be reliable and consistent during the years. Data, however, on the current poverty lines is not always available annually. Instead of choosing an arbitrary absolute poverty line, the present study takes the approach of Jarvis and Jenkins (1997) and calculates a relative poverty line for each of the three survey years, which is equal to half the median income of the particular wave. This poverty line, then, takes into consideration the particular living standards of Albania, and also allows tracing changes in income poverty levels.

Once the poverty line has been determined, poverty for each year is measured by the three most commonly used poverty indicators: headcount, poverty gap, and poverty gap squared. All of the measures used together provide a complete picture of poverty: the headcount ratio gives information on the extent of poverty by calculating the number of people living below the poverty line as a fraction of the total population; the poverty gap ratio represents the depth of poverty, as measured by the mean distance, separating the population from the poverty line (the non-poor have a distance of zero); and the squared poverty gap ratio shows the severity of poverty, or the inequality among the poor, by giving more weight to the poor people (World Bank, Poverty Net).

Ideally, in order to quantify the relationship between growth and poverty reduction in Albania, this study would have estimated the growth elasticity of poverty. Due to the limited

data spread over three years only, calculating a reliable elasticity figure is impossible. Instead, I simply calculate the poverty indices for the three years and the median household incomes and observe changes that might have occurred.

*2.2.2 Defining the welfare measures*

Welfare has both monetary and non-monetary dimensions. The non-monetary dimension of poverty is a measurement of vulnerability and is a more complete measure of a long lasting trend in poverty. It includes indicators such as education, health, and longetivity. Those indicators, for example, are cleverly used by Moser and Ichida (2001) to determine the growth elasticity of poverty in Africa, where monetary data for different years are not available, or are inconsistent and unreliable. Their model is based on a regression of life expectancy, infant mortality rate, and school enrollment rate each on per capita GDP, and is useful in finding the extent to which economic growth translates into real sustainable improvements of well being for 46 countries over a 25-year period. This approach, however, is suitable for tracking changes over longer time periods only and will therefore not be used in the present study as life expectancy, for example, will most probably not vary much in a 3 year time frame.

For the purpose of the present short panel study the monetary dimension of poverty will be examined. To track changes both in growth and in poverty I have used data on household income: a composite measure, calculated based on different monetary sources. The monetary method of measuring poverty can also use consumption data; however, such data are not available for the present panel study. The complete methodology of calculating household income which has been used for the present study is explained below.

Since income is the welfare measure, then growth is defined as the change in monthly household income. Total household income is computed by summing all the sources of revenue. It is thus a function of the salaries by all members of the household, the bonuses, the other payments, the social assistance, and the other income (including remittances). This value is adequately calculated on a monthly basis.

There are, however, households, as is the case of rural households, who also receive a significant part of their income from agriculture; often their total income relied solely on agricultural revenues. The estimation of their income then becomes more difficult. Ideally, the income from agriculture would be estimated considering the net income from land, harvests, livestock, and from livestock outputs such as milk, eggs, etc. This complete data, however, is only available for the year 2002 and the subsequent waves do not provide enough information to be able to calculate a measure of agricultural income.

In their study on poverty monitoring, using the first two waves of the LSMS on Albania, Azarri et al (2006) face similar problems of lack of data on consumption for the subsequent years. They point out, however, that after the first survey wave results were received, a preliminary test was done to identify which of all the variables were significant. Then, the questions on those variables were once again included in the next survey waves. Thus, the authors manage to estimate consumption levels for the year 2003 without consumption data, using the following methodology. First, they build a model where consumption level is the dependent variable and the consumption-related variables included in all the data sets are the explanatory variables. This model is then tested for year 2002 on the total population sample. Once the regression coefficients are determined, those are used to impute consumption levels for the panel members only for all the years.

Following the example of Azarri et al (2006), I will apply the same methodology for estimating agricultural income. To calculate the agricultural income for 2002, first I use the cost of renting land and revenue from leasing land to estimate land income. Then, I calculate the total cost of inputs such as hired labor, seeds, fertilizer, and I subtract the amount from the value of the total harvest. Finally, livestock income is estimated as the difference between the value of animals and the costs of their feeding and veterinary care. The revenues from home production such as the sale of eggs, milk, etc are also added to the net income. Once the agricultural income for 2002 is estimated the above-explained methodology is used to impute the agricultural income for the following two years.

In the case of agricultural income, the variables pertinent to all three waves of the survey are area of agricultural land, and kind and number of animals. When determining the size of the livestock effect, it is important to account for the difference in productive use of the different animals. To this end, all the animals are weighted according to the Tropical Livestock Unit (TLU) measurements and the bulk of household livestock property is presented in unified TLUs.[2]

Recognizing the degree of measurement error that rural income estimation might involve, the study will be performed on two different levels: one at the urban level, including sources of urban income only, and one at the rural level, including both sources of "urban" income and agricultural income. By allowing for independent estimation of the different kinds of income, this methodology will not only eliminate some of the error that would have been apparent in relative terms, but will also provide a good basis for a comparative study of poverty in urban versus rural areas.

[2] Thus, 1cattle= 1milk cow= 0.7; 1pig= 0.2; 1sheep= 1goat= 0.1; 1chicken= 0.01; source: FAO

*2.2.3 Growth determinants*

The first stage in the analysis aims to examine what the determining factors of the change in income are. Generally, the factors could be broadly divided into two types: microeconomic and macroeconomic.

Dollar and Kraay (2002) studied the possible differential effects using macroeconomic variables. The authors performed regressions of incomes of the poor and overall incomes on the same explanatory variables, and then compared the size, sign, and significance of the coefficients. Their methodology was particularly useful and relevant when testing for macro-policy growth variables such as inflation, government consumption, exports and imports relative to GDP, a measure of financial development, and a measure of the strength of property rights or rule of law. They found that the macroeconomic policy variables do not have any significant direct impact on the incomes of the poor. Instead, it seems that the macro variables affect incomes of the poor only through their overall effect on growth. This result is consistent with the similar finding of Moser and Ichida (2001). As a consequence, the present study does not find it necessary to consider macroeconomic variables in its analysis of growth determinants, and instead it focuses on the microeconomic variables only.

The findings of the numerous studies on the microeconomic determinants of growth could be summarized by grouping possible explanatory variables in three main categories: individual, household, and community level variables. The complete list of all the variables used in the model and the category to which they belong is presented in Appendix 3.

At the individual level the age, gender, education level, and health condition of the individual have been found to be significant in explaining growth, while at the household

level the determining variables are the household size, number of children, initial household asset endowment (area of dwelling).

Considering the poor performance of Albania in its social indicators, the model that I have built to study the determinants of growth at the household level puts a particular emphasis on the variables indicative of the level of social development such as health and education and it aims to examine whether and how the education level and health condition of the household head- the main income earner- affect the growth potential of the household.

Initially, the education variable was constructed as a categorical variable, which took the value of 1 if the individual has primary education, the value of 2 if the individual has secondary education, and finally, the value of 3 and above for the various degrees of higher education. As education increases, individuals tend to have higher returns to their labor and thus the expected relationship between education and income growth was positive. However, after running some initial tests and observing that the education variable had an unexpected sign, I decomposed education into three different dummy variables, accounting for primary, secondary and higher education separately, which allows me to get a better idea of the importance of one level of education versus another.

The health variable is a subjective variable, determined by individuals, asked to rate their health condition on a scale from 1 to 5. For the purpose of the present study the health variable is recoded as a dummy variable, which takes the value of 0 is health condition is average or better, and the value of 1 if health condition is poor or worse. Thus, the health dummy tests specifically for the influence of bad health on the prospects for growth and since bad health undermines ability to work and also incurs expenses the expected relationship between the health dummy and the dependent variable is negative.

Since the emphasis of the study is on examining the importance of social indicators, I also decided to include the education level and health status of the spouse in the household and tested for its significance because the education and health of the head might not be provide a sufficient indicator of household social development.

The household characteristics include household size, mean age of the household, the squared mean age of the household, area of the house, food consumption level, and the gender of the household head. Rather than having direct policy implications, these variables serve as controls that allow for poverty mapping and a better understanding of the characteristics that differentiate "income growing" from non-growing households, or poor from non-poor households.

Household size is generally thought to affect growth in a negative way because of the many unproductive dependents such as children or elderly people. On the other hand, however, a bigger household might mean more income-earners or workers, as could be the case especially in rural households. Thus, the expected sign for household size is ambiguous. In order to get a better understanding of the household composition, however, without having data on income earners, in addition to using household size I use mean age of the household. It is expected that as the mean age of the household increases, there are more people of working age and this should positively affect growth. At the same time, households composed of older people only may experience the opposite effect, and that is why I also include the square of the mean age.

Another household characteristic which I use is the area of the house, which serves as a way to test for initial household asset endowment and how it affects future prospects for growth. If it is the case that growth is pro-poor and thus poorer households have greater

opportunities for growth, then the area of the house should be negatively related to growth. If on the other hand, richer households with bigger houses mainly are the ones that manage to grow, then inequality must be increasing. Since the importance of the area of the house is relative to the household size, an interaction variable between the area of the house and the household size is constructed and used.

The food consumption level is constructed from how the households rate their consumption. I recode it as a dummy variable, which takes the value of 0 if food consumption level is adequate or above and the value of 1 if food consumption level is less than adequate. As is the case with the variable 'area of the house', this variable is used to differentiate between the prospects of growth for poor versus non-poor households. This is a subjective variable but I have chosen to include it because it describes well the extent to which the basic needs of the household are met and is a function of the present economic situation, while the area of the house may be more persistent and harder to change and thus does not necessarily show the present socio-economic conditions of the household. Generally, however, the two variables are expected to give the same information and thus, considering the way they are specified, they should have opposite signs.

In the category of variables at the household level the final variable I consider is the gender of the household head. It has been found by other studies that female-headed households might experience lower rates of growth, possibly because of heading single-parent households, which then have fewer income-earners.

In their study of determinants of growth in Africa Deininger and Okidi, (2003) include electricity and distance to municipality as proxies for access to infrastructure for lack of other variables. Both of these variables prove to be highly significant in their study. For

the case of Albania, variables proxying for infrastructure are expected to also be very important as the difference in infrastructure development between regions in Albania is very large and bad infrastructure is bound to slow down growth especially in rural and Mountain regions, where access to farm inputs and capacity for processing of farm outputs is reduced (World Bank, 2003). Thus, for the purpose of the present study, the community-level variables, selected from the panel survey, are all proxies for access to infrastructure and level of infrastructure development. The variables tested at the community level include the availability of running water inside the house, the distance to the nearest school, the distance to the nearest bus stop, and the distance to the nearest doctor. The variable source of water is recoded as a dummy with a value of 0 if there is running water inside the house, and a value of 1 if otherwise. The rest of the variables are numerical.

The tests that were run on the initial model specified above showed the model did not explain a big part of the variation in growth. Since the size of the change in income is directly related to the initial income of the household, I added to my explanatory variables the income level in 2002. This variable, however, seemed to explain almost all of the variation. To correct for this problem, I redefined the dependent variable as the difference of the logs of the income levels in 2002 and 2004.

Having established the relevant variables, I next estimate the general growth regression, which examines the impact of initial conditions on household income growth and is of the following form:

$$(\log Y_{2004} - \log Y_{2002}) = \alpha + \beta X + \gamma Z + \lambda W + \varepsilon$$

The dependent variable is the log of growth in household income, and the explanatory variables X, Z, and W are the vectors of the initial individual, household and community characteristics from 2002. I estimate two separate regressions- one for rural and one for urban households.

When studying the effect of household characteristics on poverty and living standards, Maitra (2002) finds that "the OLSQ regressions impose the constraint that the effect of a particular explanatory variable is the same for the different income groups thereby estimating at the mean." But, he argues, it is possible that the impact of the explanatory variables varies according to the income stratum, and thus it would be more appropriate to use quantile regressions to differentiate between income groups. Quantile regressions allow for a direct comparison between poor and rich households, as well as correct for heteroskedasticity. Thus, in addition to estimating the general model equation for all households, I use quantile regressions for the difference of log of income levels in 2002 and 2004 for the households at the $25^{th}$ and $75^{th}$ quantile.

*2.2.4 Income mobility and pro-poor growth?*

After establishing the determinants of growth at the household level, the study attempts to answer the question of whether the macroeconomic growth that has been witnessed in Albania has been pro-poor. As already mentioned, I test for this in the general model by examining the impact of the initial asset endowment on growth, using area of house, food consumption level, and initial income. In addition, however, I study the question of convergence of incomes by looking at income transition matrices, following the example of Stampini and Davis (2006), who performed a similar analysis, based on household survey data on Nicaragua. These matrices allow me to see whether richer households have

experienced a downward trend in income, or poorer households have moved upwards in the income distribution, results that would be suggestive of convergence. Interested specifically in the changes that occur with poor households, I divide the poor into two groups: extremely poor and moderately poor.

There are many ways of defining extreme poverty and one of the more popular ones is the method stipulated by the World Bank in its Millennium Development Goals, where extreme poor are those people who live at less than a dollar per day. This international poverty line, however, is arbitrary and may not be the best indicator of specific living condition in Albania. That is why I choose to use a country-specific poverty line for extreme poverty, which is relative to the median household income. Following the example of the UNDP office in Malaysia, I define the extreme poor to be the households who live at less than half the poverty line income or that is, at less than half the half of the median income. The moderately poor, then, are those who live below the poverty line, but above the extreme poverty line.

Finally, I examine the determinants of income mobility into and out of poverty. Deininger and Okidi (2003) show that factors that help households escape poverty or push households into poverty may not always be symmetrical. To better understand the poverty dynamics, they suggest using a logit regression. Bigsten et, al. (2003) use a similar probit model to study changes in poverty and also find that while the signs of a factor for moving out of and falling into poverty might be the same, the coefficients differ and this brings an important dimension to the analysis of growth and poverty determinants.

As the virtue of the logit/probit model has been well documented, the present study will also use this methodology to establish the factors determining poverty reduction. I will

test in a multinomial logit model the same individual, household, and community characteristics as specified earlier in the paper against a categorical dependent variable, taking three values (1, 0, -1) for an individual who escaped poverty, remained at the same level, or fell into poverty.

The next section presents the results of the study, offers possible interpretations, and discusses the implications.

## 3. Growth and Poverty: the Results

### 3.1 Poverty Indices

Table 7 and 8 below show that, in terms of income, both rural and urban poverty decreased during the period between 2002 and 2003. While urban poverty was decreasing in all three years, however, rural poverty decreased firstly in 2003, but in the next year it increased again. For rural households the decrease in the number of poor households seems to be accompanied by a substantial decrease in the poverty gap and poverty gap squared ratios. Thus, the decrease in poverty in rural households could mainly be attributed to a clustering closer to the poverty line, possibly suggesting a pro-poor growth. This is not necessarily true with the urban households, since their poverty gap ratios continue to be high during the three years. This is probably an indication of the relatively larger inequality among the urban households.

**Table 7: Rural Households***

| Year/ Poverty Index | 2002 | 2003 | 2004 | % change in poverty index from 2002 to 2004 |
|---|---|---|---|---|
| Headcount | 23.52% | 12.19% | 19.95% | 15.18% |
| Poverty Gap | 11.74% | 0.71% | 2.01% | 82.88% |
| Poverty Gap Sq. | 8.04% | 0.05% | 0.25% | 96.89% |

**Table 8: Urban Households***

| Year/ Poverty Index | 2002 | 2003 | 2004 | % change in poverty index from 2002 to 2004 |
|---|---|---|---|---|
| Headcount | 28.46% | 22.66% | 19.65% | 30.96% |
| Poverty Gap | 16.98% | 10.83% | 8.33% | 50.94% |
| Poverty Gap Sq. | 13.38% | 7.53% | 5.09% | 61.96% |

*Data based on income at the household level. Poverty line set at 50% of median household income.

Considering that I only have three years of data, I recognize it is difficult to make conclusions about the trend of growth and poverty in the two groups, but a possible argument could be made that growth has led to a sustained decrease in urban poverty, while the rural poverty has had a more volatile nature. This observation is worth noting for future research when more data is available.

### 3.2 Determinants of Growth: OLS

Having established that there was substantial poverty, and also substantial changes in this poverty both at the urban and rural levels in the period from 2002 to 2004, I perform the initial tests of determining the effects of different household characteristics on growth at robust errors.

As table 9 below shows, the regression results for urban households present the significant variables to be the initial income level of the household, the source of water, the level of food consumption, the distance to the nearest school, and the distance to the nearest bus stop. Interestingly, initial income level and growth seem to be negatively related, which may be indicative of convergence. At the same time, however, initial lower levels of food consumption impact growth negatively. Thus, the results with respect to initial household economic situation are ambiguous in the urban setting. In the case of rural households the signs of both initial income and food consumption are suggestive of convergence, but food consumption is not significant.

**Table 9: Urban Households, robust OLS**

| Urban Households, OLS | | |
|---|---|---|
| **Dependent Variable- Variation in log(household income)** | **Coefficient** | **t-statistic** |
| | | |
| income02 | -7.03E-06 | -3.73 |
| headfemale | -0.1103 | -0.22 |
| educHPR | 0.0913 | 0.4 |
| educHSC | -0.1077 | -0.87 |
| educHMR | -0.0291 | -0.54 |
| educSPR | 0.1036 | 0.46 |
| educSSC | 0.0432 | 0.34 |
| educSMR | 0.0336 | 0.55 |
| healthhead | -0.1107 | -0.69 |
| healthspouse | -0.0164 | -0.24 |
| sourcewater | -0.2957 | -1.99 |
| foodconsumption | -0.2432 | -2.71 |
| areahhsize | 0.0158 | 1.32 |
| hhsize02 | 0.0408 | 0.79 |
| distschool | 0.0178 | 1.81 |
| distdoctor | -0.0085 | -1.07 |
| distbus | -0.012 | -2.19 |
| meanage | 0.0042 | 0.55 |
| sqmeanage | -0.0000148 | -0.24 |
| Constant | 0.47 | 1.19 |
| | | |
| Number of Observations | 631 | |
| $R^2$ | 0.3211 | |
| F(19, 611) | 2.65 | |
| | | |

**Table 10: Rural Households, robust OLS**

| Rural households, OLS | | |
|---|---|---|
| **Dependent Variable- Variation in log(household income)** | **Coefficient** | **t-statistic** |
| | | |
| income02 | -9.78E-07 | -3.39 |
| headfemale | 0.9384 | 7.57 |
| educHPR | 0.1175 | 1.02 |
| educHSC | 0.0709 | 0.84 |
| educHMR | 0.0389 | 1.11 |
| educSPR | -0.1474 | -1.17 |
| educSSC | -0.0752 | -0.76 |
| educSMR | -0.0617 | -1.29 |
| healthhead | 0.0611 | 0.56 |
| healthspouse | -0.0573 | -1.37 |
| sourcewater | -0.2115 | -2.51 |
| foodconsumption | 0.0994 | 1.57 |
| areahhsize | -0.0042 | -0.71 |
| hhsize02 | -0.0260 | -0.85 |
| distschool | -0.0028 | -1.11 |
| distdoctor | 0.0014 | 0.72 |
| distbus | 0.0039 | 2.35 |
| meanage | -0.0293 | -2.33 |
| sqmeanage | 0.0003 | 1.84 |
| Constant | 1.2846 | 4.09 |
| | | |
| Number of Observations | 702 | |
| $R^2$ | 0.3098 | |
| F(19, 682) | 18.35 | |
| | | |

In table 10 it is seen that for the rural households, other variables that appear to be significant are the mean age of the household and the square of the mean age. They, however, have unexpected signs. It turns out that the higher the mean age of the rural household, the less the income growth. This result is then suggestive of the importance of younger members

of the family as workers, whose role as such might diminish with age as they go away to study or leave the household. For urban households those variables are not significant, which can be attributed to the smaller variation in household size at the urban level.

Interestingly, for rural households the dummy for female head becomes significant with both a large t-statistic and a large positive value of its coefficient. This result would suggest that female-headed households in rural areas experience a great positive change in their income over the period 2002-2004. One possible explanation for this could be based on the high migration rates in Albania, mainly attributed to males migrating from rural to urban areas, or migrating abroad for better economic opportunities.

It should be noted here that both at the rural and urban level the impact of the lack of running water on growth is negative and significant. Some of the other infrastructure proxies also turn out to be highly significant. For urban households, the greater distance to the nearest bus stop has a negative impact on growth. This negative relationship could be due to the fact that households with limited access to economic opportunities have fewer prospects for growth. Surprisingly, this result is just the opposite for rural households, although in their case the coefficient is much smaller. This result, however, could be attributed to the agricultural nature of the rural source of income, since a greater distance from transport infrastructure might imply a more rural setting and more availability of land.

Further, the greater distance to the nearest school has been shown to have a positive impact on growth rate of urban households. These results can be interpreted better when looking at the mean and standard deviation of the two distances. It turns out the distance to the nearest school has a much smaller mean and standard deviation than the distance to the nearest bus stop, and thus it is possible that the positive effect of school distance has to do

with the relatively small scale used. A speculation on the possible causes of this positive relationship could be that the further away the school is, the less likely parents are to send children to school and the more income-earners the household has.

It should be noted that the education level and health condition of the head or the spouse of the household are insignificant for both the rural and the urban households.

### 3.3 Quantile regressions

Overall, the results of the quantile regressions indeed confirm that the income levels of different income quantile groups are affected by different factors. Not only are different income groups faced by different challenges, but the challenges of each group also depend on the particular type of household, rural or urban.

*Rural Households*

The results of the quantile regression presented in table 11 below show for the lowest income group some of the significant variables to be the initial income level with a negative effect on growth, then the positive dummy of the female-headed household, and the distance to the nearest bus stop, which also has a positive impact. The relationships these variables exhibit with respect to growth are consistent with the OLS estimation. In addition, they are also consistent with the results on the higher income group, although they have slightly lower significance levels. There are, however, some major differences between OLS and the quantile regressions, which are accounted for by the differences between the lower and higher income groups.

For the lower income group some additional significant variables turn out to be the education of the household head and spouse, and in particular the level of education higher

than secondary. While in the case of the household head a degree of vocational or tertiary education has a significant premium over other educational degrees and affects positively income growth, for the spouse of the household the same variable of higher education has a negative impact on income growth. For the higher income group, on the other hand, education of the household head is not significant, while the education of the spouse is still significant and negatively related to growth, although this time the education premium of primary education if higher.

It is also important to note that a big deterrent to growth for higher but not lower income groups is the lack of running water inside the house.

**Table 11: Rural Quantile Regression Results**

| | Quant (0.25) | | Quant (0.75) | |
|---|---|---|---|---|
| **Dependent variable: Variation in log (household income)** | **Coefficient** | **t-statistic** | **Coefficient** | **t-statistic** |
| income02 | -1.74E-06 | -45.40 | -1.52E-06 | -11.26 |
| headfemale | 0.9466 | 4.29 | 0.4549 | 1.30 |
| educHPR | 0.1589 | 1.33 | 0.0122 | 0.07 |
| educHSC | 0.0489 | 0.62 | 0.0378 | 0.33 |
| educHMR | 0.0598 | 1.70 | 0.0274 | 0.54 |
| educSPR | -0.0763 | -0.61 | -0.3141 | -1.71 |
| educSSC | -0.0766 | -0.91 | -0.1935 | -1.52 |
| educSMR | -0.0727 | -1.73 | -0.0784 | -1.31 |
| healthhead | -0.0060 | -0.07 | 0.0250 | 0.17 |
| healthspouse | -0.0461 | -1.14 | -0.0565 | -0.92 |
| sourcewater | -0.0372 | -0.54 | -0.2082 | -2.05 |
| foodconsumption | 0.0413 | 0.73 | -0.0042 | -0.05 |
| areahhsize | -0.0036 | -0.66 | -0.0017 | -0.19 |
| hhsize02 | 0.0438 | 1.55 | -0.0060 | -0.15 |
| distschool | -0.0026 | -1.06 | -0.0022 | -0.63 |
| distdoctor | 0.0021 | 1.15 | 0.0015 | 0.55 |
| distbus | 0.0041 | 2.89 | 0.0032 | 1.43 |
| meanage | 0.0025 | 0.27 | -0.0374 | -2.43 |
| sqmeanage | -0.00002 | -0.17 | 0.0004 | 2.02 |
| Constant | -0.1733 | -0.67 | 2.1413 | 5.29 |
| | | | | |
| Number of Observations | | 702 | | 702 |
| Pseudo $R^2$ | | 0.0797 | | 0.1873 |

*Urban Households*

The quantile regressions for urban households are presented in Table 12 below. For the poorest of urban households the significant determining factors turn out to be the initial income level, the food consumption level, and the distance to the nearest bus stop, as also shown by the OLS regressions.

One important difference between the OLS and the quantile regressions is that for the higher-income group the quantile regression shows the education of the household head to have a significant impact, and as was the case with the poor households in the rural areas, this impact is negative and the premium is especially placed on higher than secondary education.

**Table 12: Urban Quantile Regression results**

| | Quant(0.25) | | Quant (0.75) | |
|---|---|---|---|---|
| **Dependent variable: Variation in log (household income)** | **Coefficient** | **t-statistic** | **Coefficient** | **t-statistic** |
| income02 | -0.000011 | -28.51 | -8.49E-06 | -8 |
| headfemale | -0.1693 | -0.33 | -0.9487 | -1.42 |
| educHPR | 0.2394 | 0.93 | -0.2012 | -0.64 |
| educHSC | 0.0217 | 0.16 | -0.2186 | -1.26 |
| educHMR | 0.0224 | 0.36 | -0.132 | -1.77 |
| educSPR | 0.2373 | 1.00 | 0.3326 | 1.04 |
| educSSC | 0.1011 | 0.75 | 0.1573 | 0.85 |
| educSMR | 0.0399 | 0.63 | 0.118 | 1.35 |
| healthhead | -0.1076 | -0.60 | 0.2326 | 1.01 |
| healthspouse | -0.0415 | -0.51 | 0.1028 | 0.94 |
| sourcewater | -0.2328 | -1.44 | -0.2932 | -1.39 |
| foodconsumption | -0.2678 | -2.53 | -0.196 | -1.43 |
| areahhsize | 0.0110 | 0.85 | 0.0201 | 1.36 |
| hhsize02 | 0.0278 | 0.51 | 0.0172 | 0.22 |
| distschool | 0.0001 | 0.01 | 0.0218 | 1.54 |
| distdoctor | 0.0048 | 0.60 | -0.0004 | -0.04 |
| distbus | -0.0116 | -1.99 | -0.0087 | -1.05 |
| meanage | 0.0043 | 0.53 | 0.0107 | 0.91 |
| sqmeanage | -6.99E-06 | -0.11 | -0.00005 | -0.49 |
| Constant | -0.1619 | -0.36 | 0.7302 | 1.24 |
| | | | | |
| Number of observations | | 631 | | 631 |
| Pseudo $R^2$ | | 0.2622 | | 0.1610 |

An important point to be emphasized for the analysis at the urban level is that the lower food consumption level is significant and negatively related to growth especially for poor households, while initial income appears to have a consistent negative impact, and thus the issue of the ambiguous evidence for convergence seems unresolved. However, this ambiguity could result from the fact that both variables- initial income and food consumption- represent the difference between consumption and expenditure, and there is not necessarily a direct mapping between income levels and consumption levels and households with high income, for example, might still have low food consumption levels because of other expenses they incur.

### 3.4 Transition Matrices

In order to examine the issue of possible convergence with a greater certainty, I construct transition matrices that show the percentages of poor and non-poor people in both years 2002 and 2004. The results are presented below in Table 13 and Table 14. The transition matrices for the period 2002-2004 provide some interesting insights. Firstly, it is important to note that in the case of both urban and rural households a big percentage of the households in both years were non-poor. Secondly, there were overall significant decreases in poverty for both urban and rural households, although the change seems to be more dramatic for urban households.

**Table 13: Transition matrix: urban households**

| | | 2004 | | | |
|---|---|---|---|---|---|
| | | **Extreme Poor** | **Moderately Poor** | **Non Poor** | **Total** |
| 2002 | **Extreme Poor** | 0.03 | 0.02 | 0.13 | 0.18 |
| | **Moderately Poor** | 0.01 | 0.02 | 0.07 | 0.10 |
| | **Non Poor** | 0.04 | 0.07 | 0.61 | 0.72 |
| | **Total** | 0.07 | 0.11 | 0.82 | 1.00 |

*own calculations, based on household survey data

**Table 14: Transition matrix: rural households**

| | | 2004 | | | |
|---|---|---|---|---|---|
| | | **Extreme poor** | **Moderately Poor** | **Non poor** | **Total** |
| 2002 | **Extreme Poor** | 0.00 | 0.07 | 0.05 | 0.12 |
| | **Moderately Poor** | 0.00 | 0.03 | 0.09 | 0.12 |
| | **Non poor** | 0.00 | 0.10 | 0.66 | 0.76 |
| | **Total** | 0.00 | 0.20 | 0.80 | 1.00 |

*own calculations, based on household survey data

For urban households most of the poverty in 2002 appears to be extreme, while in 2004 the greater part is attributed to moderate poverty. Indeed, the extreme poor decreased from 18% to 7% of all households. The bigger part of this change was due to households moving from extreme poverty to non-poverty. At the same time, the same trend is shown by moderately poor households, too, since only 2% out of the 10% of moderately poor, remained at the same income level, and 7% moved upwards to become non-poor. For rural households in the year 2004 extreme poverty was virtually non-existent, falling from 12% of all households in 2002 to 0% in 2004. This dramatic change accounted for the increase in moderate poverty, even though the bigger part of the moderately poor in 2002 became non-poor in 2004.

Yet, for urban households a small positive change in the percentage of moderately poor households is observed over the two years, and this is attributed to some of the non-poor households falling into poverty. As is evident from the table below, showing 7% out of the 72% of non-poor to have become moderately poor, and 4% to have plunged all the way down to extremely poor. These results do suggest a convergence of incomes and an overall better economic situation with more non-poor and less poor in 2004 than in 2002. It is still to be noted, however, that those results might be very sensitive to the choice of the particular poverty line. As in the case of urban households, for rural households some downward income mobility for non-poor was witnessed. However, the percentage of rural non-poor

households increased by just about 4% from 76% to 80%, while for urban households the percentage was more than double.

### 3.5 Logits

In light of the results from the transition matrices, it might be useful to examine more specifically the factors that make poor households grow out of poverty, and non-poor households plunge into poverty. To examine in more detail the factors underlying income mobility, I run multinomial logit regressions with the dependent variable taking a value of 1 if the household is poor in 2002 but overcomes poverty by 2004, and the value of -1 if the household is not poor in 2002, but falls into poverty two years later. Thus, the base group, or the comparison group, is the group that experiences no significant income mobility. After performing a test of significance, both the urban and rural regression turn out to be significant and are thus proven to have a strong predictive power. The coefficients can be interpreted as the difference between the probabilities of the impact the particular explanatory variable has on the dependent variable in the outcome and the impact in the comparison group. The results are presented in Table 15 and Table 16 below.

At the urban level I find that the only significant factor that increases the chance of falling into poverty is the initial lack of adequate food consumption. In other words, non-poor in terms of income households in 2002, who are, however, poor in terms of consumption tend to experience downward income mobility. This is indicative of the fact that households who despite their relatively high income level cannot meet basic needs, such as food, must have other overwhelming expenses. One such expense could be the covering of health costs. Indeed the regression results suggest that although barely significant, the bad health of the

head in 2002 is an important factor that increased the probability that the household will be pushed into poverty.

While urban households actually become impoverished as a result of the lower food consumption, the opposite is true for rural households since those with an initially lower food consumption level have a higher probability of overcoming poverty. This difference could be explained by the fact that rural households produce their own food, which is also a source of income, and a lower consumption level might be indicative of a consumption foregone for income generation.

**Table 15: Urban Households Logit Regression Results**

| -1 | | Dependent variable: poorornot | 1 | |
|---|---|---|---|---|
| **Coefficient** | **z-statistics** | | **Coefficient** | **z-statistics** |
| 0.6791 | 0.56 | headfemale | 0.1526 | 0.13 |
| -0.6572 | -1.04 | educHPR | -0.6853 | -1.28 |
| -0.3939 | -1.15 | educHSC | -0.6800 | -2.34 |
| -0.1943 | -1.28 | educHMR | -0.3112 | -2.39 |
| 0.1297 | 0.21 | educSPR | 0.9088 | 1.51 |
| 0.1971 | 0.57 | educSSC | 0.4707 | 1.44 |
| -0.0323 | -0.19 | educSMR | 0.2021 | 1.31 |
| 0.6391 | 1.59 | healthhead | 0.4843 | 1.34 |
| -0.1475 | -0.7 | healthspouse | -0.3016 | -1.53 |
| 0.2577 | 0.65 | sourcewater | -0.2622 | -0.85 |
| 0.6824 | 2.42 | foodconsumption | -0.0176 | -0.08 |
| -0.0476 | -1.26 | areahhsize | -0.0277 | -1.13 |
| -0.1448 | -0.88 | hhsize02 | -0.0562 | -0.49 |
| -0.0016 | -0.06 | distschool | 0.0182 | 1.00 |
| 0.0041 | 0.21 | distdoctor | 0.0099 | 0.74 |
| 0.0147 | 1.05 | distbus | 0.0029 | 0.27 |
| 0.0181 | 0.73 | meanage | -0.0519 | -2.93 |
| -0.0002 | -0.88 | sqmeanage | 0.0003 | 1.87 |
| -1.32 | -1.06 | Constant | 0.5958 | 0.63 |
| | | | | |
| Number observ. | 744 | | | |
| Chi-squared (36) | 71.44 | | | |
| Pseudo $R^2$ | 0.06 | | | |
| Note: | | | | |
| poorornot=1 if household is poor in 2002 but overcomes poverty in 2004 | | | | |
| poorornot=-1 if household is not poor in 2002 but falls into poverty by 2004 | | | | |

**Table 16: Rural Households Logit Regression Results**

| -1 | | Dependent variable: poorornot | 1 | |
|---|---|---|---|---|
| **Coefficient** | **z-statistics** | | **Coefficient** | **z-statistics** |
| -30.75 | 0.00 | headfemale | -30.29 | 0 |
| -0.4006 | -0.74 | educHPR | 0.1466 | 0.28 |
| 0.1677 | 0.49 | educHSC | 0.0277 | 0.08 |
| -0.1382 | -0.85 | educHMR | 0.0098 | 0.07 |
| -0.3667 | -0.65 | educSPR | -0.5181 | -1.03 |
| -0.1989 | 0.51 | educSSC | -0.3516 | -0.99 |
| 0.1403 | 0.78 | educSMR | -0.0622 | -0.38 |
| 0.1263 | 0.31 | healthhead | -0.2122 | -0.52 |
| 0.1073 | 0.56 | healthspouse | 0.1213 | 0.75 |
| -0.1317 | -0.42 | sourcewater | 0.2976 | 0.99 |
| -0.3799 | -1.33 | foodconsumption | 0.45700 | 1.85 |
| 0.0327 | 1.10 | areahhsize | 0.0121 | 0.48 |
| -0.3764 | -2.31 | hhsize02 | -0.3314 | -2.58 |
| 0.0170 | 1.24 | distschool | -0.0043 | -0.4 |
| -0.0144 | -1.29 | distdoctor | -0.0058 | -0.78 |
| -0.0100 | -1.21 | distbus | 0.0051 | 0.95 |
| -0.0317 | -0.68 | meanage | -0.0842 | -2.22 |
| 0.0004 | 0.69 | sqmeanage | 0.0008 | 1.64 |
| 0.7551 | 0.57 | Constant | 1.36 | 1.26 |
| | | | | |
| Number observ. | 712.00 | | | |
| Chi-squared (36) | 64.89 | | | |
| Pseudo $R^2$ | 0.0668 | | | |
| Note: | | | | |
| poorornot=1 if household is poor in 2002, but overcomes poverty by 2004 | | | | |
| poorornot=-1 if household is not poor in 2002, but falls into poverty by 2004 | | | | |

It should also be noted that for both urban and rural households the mean age of the household appears to be an important factor for growing out of poverty which once again is a possible evidence of the importance of young members of the family as income-earners.

The only significant variable that distinguished those that fall into poverty from those that do not change economic status is the household size. Households with larger household sizes are characterized with a lower probability of falling into poverty. At the same time, however, household size also appears to have a significant negative effect on the households

that grow out of poverty. Thus, household size while important at the household level has an ambiguous effect.

One important issue that the results raise is the importance of education. It is evident that for urban households the level of education is more important than for rural households. However, unexpectedly, for urban households the education variable for the household head affects chances of upward income mobility negatively, with a particular importance put on the secondary and higher educational level of the head. This might be indicative of the type of low-qualified jobs that the urban labor market in Albania has recently been drawing in, such as work in construction, transport, etc. Here it is important to note also that the variables on access to infrastructure do not seem to be an important determinant of income mobility for either the rural or the urban households.

A second observation that needs to be taken into consideration is that the factors pushing households into and out of poverty are not the same. Thus, while urban households with heads with a lower education level may have a greater chance of growing out of poverty, it is not the case that households with heads of higher education are more likely to fall into poverty.

## Chapter 4: Conclusions

This paper uses three waves of panel surveys at the household level to study growth and poverty in Albania over the period 2002-2004. The panel data allow tracking changes in household living standards at the rural and urban level separately and have been useful for determining the effect of household characteristics on their prospects for growth and income mobility. I have relied on quantile regressions to account for the differences between lower income and higher income groups. I have also performed a logit analysis to distinguish between factors that push households into poverty, and factors that pull them out of it. The paper addresses the question of whether the growth witnessed has been pro-poor and whether it has led to decreases in income poverty. The study has also examined the importance of subjective measures of poverty such as the social indicators of well-being, as well as the infrastructure indicators. It is worth summarizing some of the main conclusions I have reached with respect to the main questions raised.

First, evidence for convergence of household income levels has been consistent at both the rural and the urban level, shown by the income transition matrices as well as the regression results. Convergence seems to be due mostly to poor households getting better off, and some richer ones, experiencing troubles.

Second, access to and quality of infrastructure seems to be insignificant for income mobility at both levels. Yet, lack of running water negatively affects growth prospects, particularly for upper-income rural households. The distance to the nearest bus stop significantly affects poorer households at both urban and rural levels, albeit in a different direction. The results suggest that urban households, living further away from economic opportunities are seriously disadvantaged, and an improvement in their access to such

opportunities by building more roads, or providing better public transport might have a positive impact. At the same time, it seems that for rural households, those further away from major transport networks fare better. These results, however, might be due to other factors not taken into consideration in the present study, such as area or quality of available land.

Third, education of the household head affects both rural and urban households when using quantile regressions, with a higher premium put on education beyond secondary education in both cases. In the rural areas, a more educated household head from the lower income group seems to have better growth prospects. The opposite, however, is true for urban households, where a more educated head from an upper income household reduces chances of income growth. These results are possibly suggestive of the type of low-quality jobs available at the urban level, while at the rural level, a more educated head could possibly make supplemental employment income in addition to agricultural earnings.

Overall, while there is still much to be done to improve living standards in Albania so that the population can surpass poverty, and all its aspects of deprivation, in a more sustainable way, the trends of decreasing income poverty in Albania should be applauded. It seems growth has indeed translated to the household level in a positive manner. There are, however, some worrying signals that suggest Albanian growth might be unsustainable. Albania's high level ofcurrent account balance, which is greatly dependent on the level of remittances, is one challenge. Another is the fiscal deficits, largely occurring due to the low levels of tax collection, considering the big size of the informal sector. And inally, as the restructuring period is coming to end, growth as evidenced by increases in TFP might also come to end. Thus, while the beginning of the 2000's might have shown encouraging results for growth and poverty reduction, the future, unfortunately, hides greater uncertainty.

**Bibliography**:


Adams, R.H., "Economic Growth, Inequality, and Poverty: Estimating the Growth Elasticity of Poverty," *World Development* Vol.32, No.12, pp.1989-2014, 2004

Azarri, C., Carletto, G., et al, "Monitoring Poverty without Consumption Data, and Application Using the Albania Panel Survey," *Eastern European Economics*, vol.44, no.1, pp.59-82, 2006

Bigsten, A., Kebede, B., et al, "Growth and Poverty Reduction in Ethiopia: Evidence from Household Panel Surveys," *World Development*, vol.31, no.1, pp.87-106, 2003

Chen, S., Ravallion, M., "How did the World' Poorest Fare in the 1990s?" *Review of Income and Wealth*, Series 47, Number 3, Sept. 2001

Deaton, A. "The Analysis of Household Surveys, A Microeconomic Approach to Development Policy," *The World Bank*, 1997

Deininger, K., Okidi, J., "Growth and Poverty Reduction in Uganda, 1999-2000: Panel Data Evidence," *Development Policy Review*, v.21, iss.4, pp.481-509, 2003

Dollar, D., Kraay, A., "Growth is Good for the Poor," *Journal of Economic Growth*, iss.7, pgp.195-225, 2002

FAO, "Rapid Appraisal: Benefiting from the Experiences and Perspectives of Livestock Breeders", @ http://www.fao.org/docrep/v1650t/v1650T0d.htm Date last accessed: 2007-04-26

Fields, G., "Changes in Poverty and Inequality in Developing Countries," *World Bank Research Observer* 4, 1989

Heltberg, R., "The Growth Elasticity of Poverty," in *Growth, Inequality and Poverty, Prospects for Pro-poor Economic Development*, eds. Shorrocks, A, Van Der Hoeven, R., Oxford Press, 2004

IMF, "Albania: Selected Issues," IMF country report No.06/285, 2006

INSTAT, "Albania Panel Survey 2004, Basic Information Document", 2005, @ http://www.worldbank.org/lsms/guide/select.html

Jarvis, S., Jenkins, S., "Low Income Dynamics in 1990s Britain," *Fiscal Studies*, vol.18, no.2, pp.123-142, 1997

Kakwani, N., "Poverty and Economic Growth with Application to Cote D'Ivoire," *Review of Income and Wealth*, Series 39, Number 2, pp.121-139, June 1993

Kakwani, N., "Economic Growth, Poverty and Income Support Programs in Austarlia," *Journal of the Asia Pacific Economy*, 5 (1/2), pp.14-37, 2000

Lokshin, M., Ravallion, M., "Household Income Dynamics in Two Transition Economies," *Studies in Nonlinear dynamics and Econometrics*, vol.8, no.3, 2004

Maitra, P., "The Effect of Hosuheold Characteristics on Poverty and Living Standards in South Africa," *Journal of Economic Development*, vol.27, No.1, 2002

Moser, G., Ichida, T., "Economic Growth and Poverty Reduction in Sub-Saharan Africa," *IMF* Working Paper Number /01/112, 2001

Ravallion, M., Chen, S., "What can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?" *World Bank Economic Review*, vol.11, no.2, 1997

Ravallion, M., "Growth, Inequality and Poverty: Looking beyond the Averages," *World Development*, vol.29, no.11, pp.1803-1815, 2001

Stampini, M., Davis, B., "Discerning Transient from Chronic Poverty in Nicaragua: Measurement with a Two-Period Panel Data Set, " *European Journal of Development Research*, Vol.18, No.1, pp.105-130, 2006
UNDP, "How to Define and Measure Extreme Poverty," @ http://www.undp.org.my/uploads/files/How%20to%20define%20and%20measure%20extreme%20poverty.pdf. Date last accessed: 2007-04-26
World Bank, "Albania: Poverty Assessment," Report No.26213, 2003
World Bank, "Albania: Sustaining Growth Beyond the Transition," Report No.29257-AL, 2004
World Bank, "Albania: Poverty and Education in Albania: Who benefits from Public Spending?" Report 31983-Al, 2005
World Bank, "Albania: Labor Market Assessment," Report No.34597-AL, 2006
World Bank, "Defining Welfare Measures," *World Bank Poverty Net* @ http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPA/0,,contentMDK:20242876~menuPK:435055~pagePK:148956~piPK:216618~theSitePK:430367,00.html Date last accessed: 2007-04-26
World Bank, "Choosing and Estimating Poverty Indicators," *World Bank Poverty Net* @ http://siteresources.worldbank.org/INTPA/Resources/tn_measuring_poverty_over_time.pdf Date last accessed: 2007-04-26

Appendix 1: Map of Albania


Source: World Atlas at MSN Encarta

Appendix 2: Timeline of key dates in recent Albanian history

| Year | Key Events |
|---|---|
| **1944-1990** | Communist rule: complete nationalization of industries and commercial properties; collectivization of land; severe oppression under Enver Hoxha |
| **1992-1997** | After new elections Democratic party comes to power |
| **1961** | Diplomatic ties between USSR and Albania broken; start of Albanian political and economic isolation |
| **1990** | Reforms liberalizing economic and political life undertaken: creation of political parties, authorization of private property, foreign travel; thousands emigrate to Greece and Italy. |
| **1991** | First multi-party elections; communist win but under popular pressure, government resigns a few months later to make a wide coalition government; the coalition government collapses soon after |
| **1997** | Financial pyramid schemes collapse; economic and political instability, leading to months of anarchy; international forces arrive to keep peace |
| **1997** | Socialist party wins elections |
| **1998** | Start of Kosovo war; thousands of refugees flee to Albania |
| **2000** | Albania joins the WTO |
| **2003** | Albania and EU start Stabilization and Association Agreement Talks |

Appendix 3: Variables used in regression models

| VariableName | Variable Description | Type of Variable |
|---|---|---|
| loggrowth | change in log income, (logincome04-logincome02) | dependent variable |
| income02 | household income in year 2002 | household level |
| headfemale | dummy: 0- head is male; 1-head is female | household level |
| educHPR | dummy: education of head, 1 if primary | individual level |
| educHSC | dummy: education of head, 1 if secondary | individual level |
| educHMR | dummy: education of head, 1 if more than secondary | individual level |
| educSPR | dummy: education of spouse, 1 if primary | individual level |
| educSSC | dummy: education of spouse, 1 if secondary | individual level |
| educSMR | dummy: education of spouse, 1 if more than secondary | individual level |
| healthhead | dummy: health of the head, 1 if poor health | individual level |
| healthspouse | dummy: health of the spouse, 1 if poor health | individual level |
| foodconsump | dummy: level of food consumption, 1 if inadequate | household level |
| areahhsize | interaction term: area of the house of the household size | household level |
| hhsize | household size | household level |
| meanage | mean age of household | household level |
| sqmeanage | the square of the mean age of the household | household level |
| sourcewater | dummy: source of water, 1 if source outside house | community level |
| distschool | distance to nearest school | community level |
| distdoctor | distance to nearest doctor | community level |
| distbus | distance to nearest bus stop | community level |