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**“Rural Poverty in Transition Countries”**

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# RURAL-URBAN POVERTY DIFFERENCES IN TRANSITION COUNTRIES

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## Abstract

This paper uses new poverty data based on household level surveys to analyze changes in rural poverty and rural-urban poverty differences in 23 transition countries of Central and Eastern Europe and the Former Soviet Union. The paper presents a series of hypotheses to explain differences across countries and changes over time.

The authors gratefully acknowledge the World Bank for access to the data. An earlier version of this paper was prepared as background for the *Growth, Poverty, and Inequality in Eastern Europe and the Former Soviet Union* World Bank publication, and benefited from comments by Asad Alam, Benoit Blarel, Mamta Murthi, and Ruslan Yemtsov. The authors are responsible for all opinions expressed, and any remaining errors.

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# **RURAL-URBAN POVERTY DIFFERENCES IN TRANSITION COUNTRIES**

## **1. Introduction**

Much has been written about the transition process that occurred in the former centrally planned economies of Central and Eastern Europe and the former Soviet Union. The economic collapse, privatization and the transformation processes in industry and services, the effects of EU accession, and the post-1998 recovery, all have received considerable attention (e.g. Blanchard, 1997; Roland, 2000; Svejnar 2002). A relatively large literature has also emerged on the changes and transformation of the agricultural sector and their consequences for output and productivity (see Rozelle and Swinnen (2004) for a survey of this literature).

Interestingly however, little is known about how all these changes have affected welfare, and in particular poverty, in rural areas. While development scholars and policy makers have long had a strong interest in poverty differences between rural and urban areas, information on transition countries is mostly limited to anecdotal evidence and a few country-specific analyses (e.g. Seeth et al., 1998; Cord et al., 2003). There is – to our knowledge – no comparative analysis that allows broadening our understanding of the effects of transition on rural poverty. Moreover, while the adverse effects of transition on health and social indicators have received considerable attention (see e.g. Jensen and Richter, 2004; Brainerd and Cutler, 2005), little is known about the differences between rural and urban areas, and the relationship of these factors with income poverty.

This gap in attention is striking for two reasons. First, a large share of the population in transition countries lives and works in rural areas and the share is largest in the poorest countries. For example, in Central Asia and part of the Balkan countries, more than 50% of the people live in rural areas (WDI, 2005). In all transition countries more than 25% of the population is rural. An even larger share of the poor lives in rural areas. Rural areas in the region, as in most of the rest of the world, have a disproportionate share of poor households. Only in a few countries is poverty risk less in rural than in urban areas.

Second, and remarkably, the lack of attention to rural poverty is most striking in those countries where transition caused an increase in rural poverty, and often dramatically so. Studies of rural poverty during transition have focused mostly on China and Vietnam where rural

poverty declined strongly (Ravallion and Chen, 2004; Ravallion and van de Walle, 2004). Rural poverty in the transition countries in Europe and Central Asia has not received much attention.

The first objective of this paper is to address this gap by taking advantage of a new dataset that allows comparing urban and rural poverty in 23 transition countries of Central and Eastern Europe and the former Soviet Union, henceforth referred to in short as the “transition countries”.<sup>1</sup> The paper analyzes how poverty in rural areas in these transition countries compares to urban poverty and how the rural-urban poverty differences have changed over time.<sup>2</sup>

Key findings on rural poverty and its relationship with urban poverty are, first, that there are major differences in rural poverty across the transition countries. Second, rural poverty is generally higher than urban poverty. Third, the difference between rural and urban poverty differs strongly across countries. Fourth, rural and urban poverty largely moved in the same direction since 1998. Fifth, while both rural and urban poverty declined significantly after 1998, rural poverty is not catching up and therefore grows in relative importance.

The second objective of this paper is to provide a set of hypotheses to explain the factors and processes underlying rural-urban poverty differences in the transition countries. For this, we use a conceptual framework in which poverty levels depend on households’ asset endowment, the returns to those assets, as well as transfers, and discuss how different developments before and after 1998 have affected these three factors. First, we argue that to understand the current differences in rural poverty, it is crucial to understand the differences in the levels of rural and urban poverty - and their possible causes - in the 1990s. The impact of the most important reform policies affecting the rural areas - in particular land privatization, agricultural price and trade liberalization, and farm restructuring - largely occurred before 1998. Second, we explain how both differences in reform policies and in initial structural conditions can help explain the heterogeneity in rural poverty outcomes across countries.<sup>3</sup> Differences in land reform and farm restructuring, and the migration patterns triggered by those, can help explain why the rural-urban poverty gap is higher in some countries than in others. Differences in human capital and rural infrastructure and services also play a role. Third, concerning the developments after 1998, we emphasize the diverging price developments after the financial crisis, and robust economic growth, that translated into wage increases, infrastructure investment, and public transfers.

In this paper we do not test these hypotheses econometrically because of data constraints. Indeed, comparable poverty data to analyze the pre-1998 changes, which we argue to be key in

this paper, are not available. While the available post-1998 data allow for a rich description of rural and urban poverty in the region, the relatively short time period covered, and the lack of (exogenous) variation because of largely parallel developments, do not allow for an insightful or rigorous econometric analysis. Instead, this paper aims to provide a comparative analysis to shed light on a set of hypotheses. Future micro-level studies that take advantage of some of the natural experiments that the transition context offers, might allow testing these or related hypotheses, and uncover the possible causal relationships of the observed patterns.<sup>4</sup> The contribution of this paper is hence to provide a comparative and dynamic analysis that can help to place and interpret such micro-level findings within a broader framework.

For the same reason, the policy discussion focuses on the structural differences between rural and urban areas that have arisen during the process of transition, and what this implies for policy. The paper also draws attention to the differences among different groups of countries that would need to be accounted for in policy design.

The paper is organized as follows. Section 2 discusses the data and our general approach. Section 3 describes differences between rural and urban poverty and the changes that occurred since 1998. In section 4, we present a conceptual framework and section 5 discusses how the pre-1998 reforms affected key household assets (land and human capital), the returns to these asset endowments, and the importance of public and private transfers. Section 6 discusses how these factors were affected by post-1998 developments. In section 7, we then put the different pieces together and identify several patterns in rural and urban poverty dynamics. Section 8 concludes with policy implications.

## **2. Data, Methodology, and Approach**

This paper relies on new comparable data of poverty in transition countries that were calculated by the World Bank based on household level surveys (Alam et al., 2005). Income poverty is measured as the number of rural households with incomes (or more specifically consumption) levels below the international poverty line, i.e. the poverty headcount. The calculation of the head count indices (P0) are based on a common absolute poverty line of 2.15\$ a day in 2000PPP for all countries and years. Adjustments for within-country price differences allow comparing rural and urban areas.<sup>5</sup> Since head count ratios are calculated based on separate household surveys for each country, there might be some remaining comparability issues related to

differences in questionnaires and survey method. Moreover, quantitative analysis necessarily is constrained to years and countries with data availability. Similar availability and comparability issues are relevant for variables capturing non-income dimensions of poverty.

Nevertheless, this new dataset constitutes the most carefully constructed and comprehensive source on rural poverty in transition countries to date. Because we focus our analysis on rural-urban differences, rather than levels of rural poverty per se, the concerns related to comparability across countries are further reduced (as differences resulting from country specific fixed factors cancel out).<sup>6</sup> We also present alternative rural-urban indicators based on national poverty lines, and discuss the robustness of the observed trends.

As poverty defined on household consumption only provides a partial measurement of welfare, we also consider infant mortality. Health-related indicators are important given the declines of social services in the region. Infant mortality is used, as it is one of the only comparable indicators available across countries, and is a benchmark indicator for the Millennium Development Goals. Some evidence suggests however that infant mortality might be underestimated in the region, particularly in the CIS (Aleshina and Redmond, 2003). Given that the rural-urban differences by country control for differences in classification and registration practices, the relative measure should be more reliable. Yet, Buckley (1998) suggests for Central Asia that infant mortality might be less likely to be registered in rural areas than in urban. For these reasons, we only discuss general patterns in rural-urban infant mortality differences and focus most of the dynamic analysis on income poverty.

For both conceptual and practical reasons, we split up the analysis of income poverty in a pre-1998 and a post-1998 period. Practically, the comparative time-series data on rural poverty only start in 1998. Hence, we consider rural and urban poverty levels, and changes in rural and urban poverty in the five-year period after 1998. Conceptually, there are also good reasons to separate the analysis in a pre-1998 and post-1998 period. The year 1998 is broadly considered a turning year for transition. The pre-1998 period was characterized by the fundamental economic changes related to the move from plan to market, and the massive – unanticipated - economic collapse in which it resulted. Trends were reversed after 1998, as the Ruble crisis and the economic recovery after deflation in Russia, as well as the maturation of the market system and the incentives related to EU accession, provided a strong impetus for economic growth (Alam et al., 2005).

### 3. Observations on Rural and Urban Poverty

#### 3.1. Rural poverty and rural-urban differences

There is enormous variation in rural poverty across the transition countries. Rural headcount ratios, based on 2000 PPP, range from less than 1 % in Hungary to almost 80 % in Kyrgyzstan in 2002 (table 1). Absolute poverty levels largely correspond to income levels. Poverty is high in Central Asia and the Trans-Caucasus and lowest in Central Europe.<sup>7</sup>

(Table 1 here)

Income poverty in rural areas is significantly higher than in urban areas in the vast majority of transition countries (table 1). Rural versus urban poverty indicators from other sources, be it poverty headcount ratios using national poverty lines, or poverty incidence ratios based on relative shares in the poorest quintile, also show that for the vast majority of transition countries rural poverty is much higher than urban poverty.

Intriguingly, several of the countries with the largest rural-urban differences are Eastern European EU accession countries. Romania, Latvia, Lithuania, and Bulgaria have the highest differences between rural and urban poverty risks. The differences are also very high for Russia and Kazakhstan. In those countries the ratio of rural on urban headcount is higher than 1.5, meaning that poverty risk is more than 50% higher in rural than in urban areas.<sup>8</sup> In contrast, rural poverty is lower than urban in Belarus and in two Trans-Caucasian countries (Armenia and Azerbaijan), and this finding is consistent across years and indicators.<sup>9</sup> Rural and urban poverty are about the same in Bosnia&Herzegovina, Macedonia, Tajikistan, Hungary and Estonia.

Non-income poverty indicators shed further light on rural welfare and rural-urban differences (last 2 columns of table 1). In terms of levels, infant mortality in rural areas is highest in Bulgaria, Romania, Russia, and in Central Asia (Kazakhstan, Kyrgyzstan and Uzbekistan). In all these countries the infant mortality rate was more than 15 deaths per 1000 live births in 2002. Infant mortality is lower in the Trans-Caucasus and in richer Central and Eastern European countries.

In terms of rural-urban differences a more mixed picture emerges than for income poverty. Infant mortality in rural areas is higher than in urban areas in 40% of the countries (e.g. Russia, Belarus, Bulgaria, Romania, Latvia, Lithuania); about the same in 30% (e.g. Central Europe, Moldova and Ukraine), and lower in the remaining 30% (e.g. Armenia, Georgia,

Estonia, Kazakhstan, Kyrgyzstan and Uzbekistan). Yet, as for income poverty, there exists a broad contrast in rural-urban differences between high disparities in the poorer EU accession countries (Bulgaria, Romania, Latvia, Lithuania), versus smaller (and even positive) rural-urban differences in the Trans-Caucasus and Central Asia. This further motivates our focus on income poverty.

### **3.2. Recent changes in rural and urban poverty**

Figure 1 summarizes the available time-series data on the evolution of income poverty over the 1998-2002 period. The first panel depicts the unweighted average for the countries for which data is available for the same years, i.e. Moldova, Georgia, Romania, Russia, Belarus, Lithuania, Hungary and Poland. The next panel shows averages weighted by population in 2000. These figures indicate that immediately following the 1998 crisis, rural poverty increased strongly in the region. After 1999, when growth started in many countries, average rural poverty in the region declined substantially for the subset of countries with time-series data. The largest poverty reductions occurred in middle and low-income CIS countries, with the important exceptions of Armenia and Georgia. Poverty levels in EU accession countries, where they started from relatively low levels, stayed relatively stable.<sup>10</sup>

(Figure 1 here)

Rural and urban poverty changes followed similar trends over the 1998-2002 period (figure 1). This is true also for the trends in the individual countries with time series data (see figure A1 in the appendix). As a result, the gap between rural and urban poverty, which on average was around 5 percentage points, has remained remarkably stable.<sup>11</sup> Rural poverty declined approximately at the same rate as urban poverty, but not faster (figure 2).<sup>12</sup> Exceptions are Moldova and Azerbaijan, where rural poverty reduction was stronger than urban.

(Figure 2 here)

Notice that, as a result of these broadly parallel developments, the ratio of rural to urban poverty, while remaining more or less constant in low-income countries, has increased strongly in the middle-income countries (figure A2 in the appendix).<sup>13</sup> There continues to be more poverty in rural areas, and if trends witnessed since 1998 continue, the share of rural poverty in total poverty will further increase in the future.

In the rest of this paper we try to explain both the general trends and the heterogeneity in the rural-urban poverty differences. To start we present a conceptual framework for the analysis.



#### 4. Conceptual Framework

As documented above, the ratio of rural versus urban poverty *levels* differs dramatically across countries. However *changes* in rural poverty since 1998 look remarkable similar to changes in urban poverty in most countries. This indicates that the current differences in the gaps between rural and urban poverty across countries are not due to changes over recent years, but to developments in the pre-1998 period and to long-run structural conditions. Hence, in order to understand the current poverty situation in rural areas, and the reasons for the divergence with urban poverty, it is essential to understand what happened with poverty before 1998.

We start with a simple conceptual framework to explain how various factors have affected rural households' consumption levels and, hence, rural poverty. Given market imperfections, rural households income and consumption decisions are jointly determined, and rural households' consumption is a function of (1) their asset endowments (“*assets*”), (2) the returns to their assets, which are partly determined by the constraints and market failures the household face (“*returns*”), and (3) public and private transfers they receive (“*transfers*”).<sup>14</sup>

Many changes in transition countries over the past fifteen years had major impacts on these three sets of factors. For example, rural households' assets such as land and human capital were affected by land privatization and migration patterns. Returns to assets were affected by price and wage liberalization and by changes in efficiency through farm restructuring and property rights reforms, as well as (lack of) access to markets, services and infrastructure. Finally, the role of public and private transfers differed widely across countries. While the post-1998 period was characterized by substantial changes in returns to assets and transfers, most major changes occurred before 1998. This argument is consistent with the empirical observations that the main cross-country differences go back to the pre-1998 period. Section 5 therefore first provides a set of hypotheses that could explain the heterogeneity in rural-urban poverty differences in 1998. Section 6 returns to the changes that have taken place after 1998.

(Figure 3 here)

In the analysis, “agricultural reforms” play an important role. This is because agricultural reforms - in the broad sense, including changes in price, subsidy and trade policies; land reforms, farm restructuring, and privatization of food companies; liberalization of rural factor markets; etc. - have had a strong impact on the three sets of factors (assets, returns, and transfers) for

several reasons. First, agriculture is a major income source and employs a large share of the rural population in most transition countries, and especially so in the poorest countries. For example, in several countries in South Eastern Europe, the Caucasus and Central Asia agriculture accounts for more than 40% of rural income and employs 40% or more of the *total* work force – and a much higher share of the rural workforce (figure 3). Second, in the countries where the share of agriculture in employment is (much) lower, the poorest are usually either directly or indirectly linked to agriculture, either because they are involved in subsistence farming and/or because they have been laid off by corporate farm organizations and have not been able to find alternative employment.<sup>15</sup> In some countries, agriculture has also absorbed many workers laid off in other sectors (Swinnen, Dries and Macours, 2005). Third, collective and state farms were historically the suppliers of social services in rural areas, and continue to be so in some countries. Access to rural services is therefore importantly related to the restructuring of the farms.

## **5. Differences between Rural and Urban Poverty pre-1998**

### **5.1. Household asset endowments**

As is well understood from studies in developing countries, access to land is particularly important for poor rural households (Binswanger et al, 1995; Deininger, 2003). In addition to land assets, we focus also on human capital assets, as household labor is arguably the one asset that all households have in common.

*Access to land:* Land reforms shifted land property rights to rural households. The effects of land reforms on productivity gains and poverty reduction depend on changes in the overall returns to land, affected by prices, and imperfections in other input and output markets. The nature of the property rights reforms, and the importance of agriculture income in rural households income portfolios, also crucially condition their effects. These two factors differed drastically across transition countries (Leman et al, 2004; Swinnen, 1999).

In most of Central and Eastern Europe, governments restituted land rights to former owners, many who had long moved out of the rural areas. In the larger CIS countries, land rights were distributed as shares to farm workers, which complicated access to land. In many of the poorer transition countries, where labor-intensive agriculture is the key rural income source (including Albania, Armenia, Azerbaijan, Kyrgyz Republic, and Tajikistan), governments distributed land to rural households in physical plots. It is striking that the latter countries have

relatively small (and sometimes positive) differences between urban and rural headcounts. This suggests that physical land access might have helped mitigate rural poverty in these poorer and more agricultural based countries. This is consistent with the empirical evidence of productivity gains and poverty reduction of similar reforms in China (Lin, 1992; Ravallion and Chen, 2004) and Vietnam (Pingali and Xuan (1992); Ravallion and van de Walle, 2004). In Georgia, Armenia, Azerbaijan and Kyrgyzstan, distribution of land coincided with a strong and sudden increase of labor in the agricultural sector. Part of the labor inflow resulted from urban to rural migration. With industrial decline, deteriorating urban economic conditions and food insecurity, the best option available for many unemployed urban households might have been to move to the rural areas, where family members had obtained access to land (Macours and Swinnen, 2005).

*Human Capital:* Human capital endowments and household structures differ substantially between urban and rural areas. Table 2 shows that rural households tend to have lower levels of education in all countries. Education of the household head is likely to be an important determinant of poverty in the region.<sup>16</sup> Inadequate human capital not only constrains employment and agricultural restructuring, but more generally business development in rural areas. Indeed, figure 3 shows that income from non-agricultural self-employment is relatively limited. Djankov et al. (2005) show that education is positively correlated with entrepreneurship in transition countries. Rizov and Swinnen (2004) confirm the importance of education for business-start up and enterprise efficiency, but also show that beyond a certain level of education individuals tend to leave agriculture and choose for non-agricultural employment.

(Table 2 here)

Absolute levels of education are higher on average in the CIS countries, which could help the rural population both in agricultural and non-agricultural income generation. However, one should be careful with such conclusions since there may be a mismatch between earlier education and what is required for finding employment in the restructured economies.<sup>17</sup>

The human capital disadvantage of rural areas is exacerbated in the European CIS (Belarus, Moldova, Russia, and Ukraine) and in Bulgaria, Lithuania, and Romania by the considerably higher share of elderly in rural than in urban areas (table 2). In most of these countries there is evidence of rural-to-urban migration by younger cohorts. Young and dynamic people left the rural areas in search for better opportunities in the urban areas, and often abroad, reinforcing the share of older, low skilled and less educated people in rural areas. In addition, in

some countries such as Bulgaria and Romania, the rural-urban bias in age distribution was reinforced by urban-to-rural migration of elderly after land restitution. Land restitution concentrated land ownership in older households who used their land for subsistence farming with low pensions.

The unfavorable age distribution is likely to have a negative effect on aggregate rural growth and poverty reduction, even if at the level of the household, the presence of a pensioner in the family (because of pension income) might actually decrease poverty risk. This depends, however, strongly on the level of pensions, which is typically low in the poorer countries. In contrast to the unfavorable age distribution of rural areas in most transition countries, the share of the young and active population is relatively high in the Trans-Caucasus where rural poverty is less than urban poverty.

## **5.2. Returns to household assets**

*Prices:* Almost all transition countries introduced price and trade liberalization, often coinciding with macro-economic reforms, in the early years of transition.<sup>18</sup> The result was major reductions in support to agriculture and in food consumption subsidies. Reduced domestic demand with falling incomes and subsidy cuts was reinforced by falling foreign demand and increased import competition with trade liberalization. Agricultural terms of trade declined dramatically, i.e., between 40 and 77% (see figure 4). In marked contrast with the developments in China where land reforms coincided with increases in agricultural prices in the early years of transition, these price developments offset benefits from the land reforms, and explain a large part of the initial output declines.<sup>19</sup> They likely contributed to the decline of rural incomes and an increase of rural poverty. Similar subsidy cuts and price declines affected other industries, but liberalizations also resulted in increased returns for (some) services.

(Figure 4 here)

*Farm productivity and efficiency:* Privatization and farm restructuring had two opposing effects on farm productivity. They initially caused production disruptions and in some cases reinforced output declines and income falls (Macours and Swinnen, 2000), but the reforms were also instrumental for long-term efficiency increases and afterwards became sources of growth (Rozelle and Swinnen, 2004). The importance of these two offsetting effects is hence related to the timing of the reforms and the stage of transition. They further depend on the labor-intensity

of the agricultural production, which differed drastically across countries. Where agricultural production was labor-intensive, efficiency gains were strongest for small-scale family farms, as labor monitoring costs make large-scale operations less competitive. We expect this to have translated directly into rural poverty reduction. Vice versa, in countries that had already more capital-intensive technologies, larger-scale farms often maintained a competitive advantage because of better access to credit, input and output markets. In those more capital-intensive countries the impacts of household farming on rural poverty were therefore likely to be more muted. Moreover, where large-scale farm organizations continued to operate, they needed to lay off surplus labor in response to hardened budget constraints.<sup>20</sup> Where large-scale organizations were effectively restructured, such as in Central Europe, efficiency gains contributed simultaneously to higher rural unemployment as well as higher incomes of those workers that remained employed on the farms. These differential effects of farm restructuring and privatization are consistent with rural poverty reduction in the poorer, labor-intensive economies, such as in parts of Central Asia and the Trans-Caucasus, but opposite developments in countries with a more mechanized agricultural production system.

*Access to services and infrastructure:* With transition, accessing services became more difficult as supplies decreased and prices rose. In a very real sense, rural villages became more “remote”. Access often became more difficult and travel more costly in terms of price, quality, and availability of transport. An important related problem in rural areas is poor access to information. Interviews with rural households indicate that lack of information often constrained their business decisions and weakened their negotiation power versus traders and local authorities. Poor information has also negatively affected households in the farm restructuring and land reform process (World Bank, 2004b).

Access to services and infrastructure in rural areas is worse than in urban areas in all countries, and in many countries much worse (table A2). Rural services are relatively better in Central Europe, and are particularly poor in South East European countries such as Romania, Albania, and Moldova, and Central Asia.<sup>21</sup> While rural areas might have had less access to services even before 1990, service quality and availability often decreased during transition as high quality service providers migrated from the rural areas to the cities or abroad. Overall the lack of good services infrastructure, and access to markets, might strongly condition returns to household assets in both agricultural and non-agricultural activities.

### **5.3 Transfers and international migration**

*Public transfers:* Social transfers are an important income source in rural areas. In contrast with the situation in many other developing countries, rural households in the region benefit from relatively large flows of social transfers, in particular pensions. Information from countries with disaggregate data suggests that the share of social transfers in income in the rural areas is not substantially less than in the urban areas, with the possible exceptions of Albania and Armenia. In fact, both the absolute and the relative level of income from pensions is higher in rural than in urban areas in, for example, Bulgaria, reflecting the differences in age distribution (see figure 3).

Public transfers were particularly important in the higher-income countries of Central and Eastern Europe with relatively good social benefits and pensions, and few people employed in agriculture. These higher-income countries could afford to keep rural poverty - and urban-rural differences - low through social transfers, while at the same time benefiting from the productivity gains from reduction of excess employment in the restructured large-scale farm organizations (Macours and Swinnen, 2000).

*Private transfers:* Remittances from international migration play a key role in the region. In absolute levels, international migration in the former Soviet Union alone accounts for 9% of worldwide migration, and for more than 20% of all South-South migration (Ratha and Shaw, 2006). International migration (both seasonal and permanent) and remittance flows are very strong in Albania (18% of GDP), Moldova (14% of GDP), and the former Yugoslav Republics (WDI, 2005). At the level of the rural household, this translates in average contributions of private transfers to rural income of 13 % in Albania, and 20 % in Kosovo. Migration, often by the young male adults in the households, is an important income diversification strategy in some countries, and probably contributes to mitigating rural poverty. Yet net private transfers tend to be lower in rural than in urban areas (Figure 3). This might partly reflect higher returns to international migration for urban households, because of higher skill levels and differences in migration patterns: seasonal migration for agricultural or construction work from rural areas, versus longer-term migration from urban areas.<sup>22</sup>

## **5.4. Summary**

By 1998, rural poverty was higher than urban poverty in most countries. This can be explained by the combination of price and trade liberalization, deterioration of social services and infrastructure, and initial disadvantages in human capital endowments that were further reinforced by the transition process. The magnitude of the gap between rural and urban poverty differed, however, widely across countries. These differences can be traced back to differences in population structure and economic development at the start of transition, the choices and outcomes of the different land privatization and farm restructuring processes and to differences in factor availability and technology. In Section 7, we integrate these various effects and their interactions to identify several “patterns of rural poverty dynamics”.

## **6. Rural versus Urban Poverty after 1998**

Since 1998 there have been important changes in rural and urban poverty, but these have been more similar across countries. To explain the post-1998 changes we focus again on the three sets of factors (assets, returns, transfers) that condition household incomes and discuss how country- and region-specific developments in the post-1998 period have affected them.

### **6.1. Household asset endowment**

*Access to land:* Land reform was completed in many countries by 1998. However in a few countries substantial changes still occurred afterwards. For example in Azerbaijan and Moldova, new land reforms started in 1996 and 1998, and land was distributed in kind to rural households during the following years, with gains emerging in the second half of the 1990s and later. As such these countries became the latest to follow the pattern of other labor-intensive rural transition economies. This induced important productivity and income gains in rural areas - as in other countries - and may be the main explanation why in Moldova, which was last to implement the new reforms, rural poverty declined stronger than urban poverty over the 1998-2002 period.<sup>23</sup>

*Human capital:* The human capital disadvantage persists in most of the rural areas across the region, and is further exacerbated by migration of the younger, more skilled, population from the rural areas.

## 6.2. Return to household assets

*Wages:* Economic growth was robust in all countries, but there was considerable heterogeneity, with annual growth rates between 1999 and 2002 higher than 6% in Albania, Armenia, Azerbaijan, Russia, Kazakhstan, and Tajikistan, and less than 3% in the Czech Republic, Romania, and Slovakia (WDI, 2005). General wage improvements helped guarantee that the gains from growth were relatively equally distributed (Alam et al. 2005). This can help explain why changes in rural poverty occurred largely in parallel with poverty changes in urban areas. Developments in the Baltics and the Trans-Caucasus illustrate however that growth did not result in rural poverty reductions everywhere.

(Figure 5 here)

*Prices:* Substantial price changes occurred in some countries. This was most important in Russia and its neighbors after the Russian financial crisis. The currency devaluations following the crisis caused important improvements in competitiveness and in the profitability of domestic agricultural producers who saw relative prices rise substantially. For example, in Russia, the grain-over-fertilizer price ratio, which had fallen by around 80% in the early 1990s, increased strongly after 1998. Figure 5 shows that agricultural prices increased on average more than 20% (relative to inflation) in Russia, Kazakhstan, and Ukraine.<sup>24</sup> After reaching their lowest levels in 1998, output and yields rebounded (figure 6). In Tajikistan, agricultural terms of trade also improved, as the cessation of the conflict decreased transportation difficulties and stable exchange rates favored agriculture. The increase in real prices in agriculture probably contributed to a reduction in rural poverty in these countries. In contrast, relative prices declined in the same period in the Central European countries and the Baltics, which can help explain the more modest gains – and even some set-backs - in rural poverty reduction. Terms of trade also declined in Armenia, because of trade disruptions with neighboring countries and frictions in domestic markets (Spoor, 2004), possibly explaining why rural poverty declines there were small, despite substantial GDP growth.

(Figure 6 here)

*Access to markets and infrastructure:* There were substantial improvements in access to markets and infrastructure, in particular in the higher income countries, for two reasons. First, higher general incomes and tax revenues induced an improvement in public rural infrastructure investments. Second, the most advanced countries in the transition process attracted large



amounts of private foreign direct investment in industry and also in the food sector, with large positive spillover effects on agriculture (Swinnen, 2007). In these countries, investments in the food industry and agribusiness induced contracting and vertical integration with farms, which has helped to overcome market imperfections (Dries and Swinnen, 2004). In the poorest and least advanced countries private and public investment in rural areas has been limited. This has contributed to continued constrained access to input and output markets. Deteriorated rural infrastructure continues to limit productivity improvements in agriculture, as well as non-agricultural employment opportunities.

### **6.3. Transfers**

*Public transfers:* Public transfers, such as unemployment benefits and pensions, have improved considerably since 1998 due to sustained growth in Central and Eastern Europe and new growth further East (Mitra and Yemtsov, 2006). For example, Russia, Kazakhstan and Tajikistan benefited from strong growth in government revenues. In Russia and Kazakhstan this was partly due to increased incomes from mineral resources, resulting in a drastic improvement in the government's fiscal situation. In Tajikistan, robust growth followed the end of the civil war, and increased tax revenues allowed the government to increase social sector spending. In several countries, pensions, other social payments, and public sector wages were finally paid (on time) and transfers to hospitals, schools, and other organizations improved. The increase in social transfers likely helped to reduce poverty in both rural and urban areas.

*Private transfers:* Remittances have increased substantially in many countries in recent years (WDI, 2005; EBRD 2006) and continue to play an important role, in particular in some of the low-income countries. Part of the private transfers result from the continuation of migration waves which started earlier in the 1990s. But there are also new migration trends. For example, the improved economy in Russia after 1998 attracted a new wave of migrants from the poorer CIS countries, where remittances have become an important part of rural household budgets (Mansoor and Quillin, 2007).

## **7. Patterns of Rural Poverty Dynamics**

As is clear from the previous sections, the reforms and the institutional and structural developments, and their effects have varied tremendously between countries and over time.<sup>25</sup> By

comparing the processes that led to changes in rural households' assets, in returns to their assets, and in transfers across countries, we can identify several patterns that correlate with rural – urban poverty dynamics.<sup>26</sup>

### **Pattern 1: Growth in small-scale labor-intensive agriculture**

In the lowest-income countries – mostly located in southeastern Europe, the Caucasus and Central Asia (including Albania, Armenia, Azerbaijan, Kyrgyz Republic, Moldova, and Tajikistan), governments distributed land to rural households in physical plots, enabling rural households to cope with the negative shock of transition by shifting to self-employed labor-intensive agriculture. The process of land distribution was followed by a strong fragmentation of farm structures, effectively rapidly shifting land from large-scale former collective farms to household farms during difficult times.

Direct access to land and household farming led to shifts towards labor-intensive crops (horticulture) and livestock production. Rapid and strong productivity gains followed, and likely led to increases in household incomes. Figure 6 shows that output and yields grew much stronger in the group of countries that followed this pattern. This path has strong commonalities with the Chinese path of agrarian reform and growth.<sup>27</sup>

This process did not emerge at the start of transition in all these countries, as many governments initially resisted it, typically favoring large-scale farming. In several cases, a crisis or broader political changes triggered radical policy reforms – as had happened in China in 1978. This was the case in Albania in 1990 when food shortages triggered rural revolts and spontaneous de-collectivization, in Armenia and Georgia in the early 1990s following natural disasters and war, and in Azerbaijan and Moldova in the late 1990s after political changes.

The countries with strong fragmentation of farm structures following land distribution have relatively small (and sometimes positive) differences between urban and rural headcounts. This suggests that land access has helped mitigate rural poverty, even if growth in agriculture was hampered by low access to services and infrastructure. Moreover, with opportunities outside of the agricultural sector being limited, a relatively young and dynamic labor force has turned to family farming on the newly acquired land.

The demographic characteristics of the rural areas are arguably favorable for future growth perspectives, in part because land access triggered urban-to-rural migration by

unemployed and food-insecure urban households. The land-individualization process typically coincided with inflows and absorption of labor into agriculture. During the early years of the land reform in these countries, agriculture's share in GDP increased and contributed more than 50% of GDP, suggesting it acted as a safety net for an otherwise collapsing economy.

Finally, in several of the low-income countries (such as Albania, Moldova, Tajikistan) international migration plays an important role in increasing rural (and urban) household's welfare through private transfers, even as it might be depleting the rural areas from their young, male population.<sup>28</sup>

**Pattern 2: Large-scale agriculture-led productivity growth with major employment reductions but good social security.**

An entirely different adjustment pattern has been followed by the higher-income countries of Central Europe (such as the Czech Republic, Hungary, Slovakia). These countries had a much more capital-intensive agriculture and the land restitution process led to a consolidation of large-scale farm structures and a massive flow of labor out of the agricultural sector. Large-scale privatized farms immediately laid off surplus workers who found jobs in other sectors, became unemployed, or went into early retirement.

Public transfers facilitated this reallocation of labor, as did relatively good access to services and infrastructure. The countries in this group had relatively good social benefits and pensions, and few people employed in agriculture. This suggests that these higher-income countries effectively kept rural poverty - and urban-rural differences - low through social transfers, while at the same time benefiting from the productivity gains.

Productivity growth initially came mainly from major gains in labor productivity on large farms, rather than from yield increases, which only started as of the mid 1990s (see figure 6). Productivity gains were further enhanced by the inflow of FDI and investment in the food industry. Investment, through vertically coordinated contracting, induced improved access to inputs, credit, technology, and markets, even for small household farms (World Bank, 2005). This process started earlier in Central Europe, where general economic and institutional reforms were advancing faster, than in countries like Romania and Bulgaria (see pattern 3).

Interestingly, in some of the countries where major labor outflows took place, the remaining agricultural labor force seems less disadvantaged in terms of human capital.<sup>29</sup> Also, international migration only plays a minimal role in those countries.

After 1998, these countries witnessed lower growth rates and terms of trade in agriculture decreased. Yet, with high income levels, rural poverty and rural-urban differences are small, and the remaining rural poverty is mainly linked to social exclusion and marginalization of minority groups (e.g. Roma). The benefits from EU accession are further reducing rural poverty.

### **Pattern 3 : Falling between the cracks in poorer EU accession countries.**

Rural households in the lower-income countries of Eastern Europe (Bulgaria, Romania, Latvia, Lithuania), experienced the worst of both situations. Their unemployment and pension payments were lower than in the richer central European countries. Where state or collective farms dissipated, and the remaining restructured large-scale farms dismissed workers, households had to turn to individual farming on restituted land. As a consequence relatively few people initially left farming.<sup>30</sup>

However, as these countries had relatively developed and capital-intensive agricultural production systems, productivity gains from shifting to small farms were less than in the poor labor intensive agricultural countries (of pattern 1), while the costs in terms of losses of scale economies and technology disruptions were larger (see yields in figure 6).<sup>31</sup> With limited access to credit, inputs, and technology and few off-farm employment opportunities in rural areas, many rural households remained stuck in semi-subsistence farming to complement their incomes and with many constraints limiting growth or investments.

Access to health and education services was severely affected by the collapse of the collective farm system. In addition, there was a dramatic change in the rural population structure with a growing share of older, low skilled and less educated people in rural areas. With declining services and off-farm employment opportunities (which also declined with the disappearance of the non-agricultural functions of the former collective and state farms) young and dynamic people left the rural areas in search for better opportunities in the urban areas, and often abroad. The problem was exacerbated as land restitution concentrated land ownership in older households.<sup>32</sup> This constrained access to land for young people but also induced poor

elderly urban households, who had no access to sufficient public transfers, to move to rural areas to farm their plots for subsistence reasons.

Further deterioration of agricultural terms of trade after 1998 dampened the potential gains of economic growth on rural poverty reduction. The imbalances in the demographic structures of the rural versus urban population can help explain some of the large rural-urban poverty differences in these countries, and indicate that prospects for a dynamic rural sector might be bleaker – although transfers to rural areas following EU accession should have a positive effect on rural poverty reduction in the coming years.

**Pattern 4: Delayed restructuring in the 1990s and externally driven recovery in the 2000s in the middle-income CIS countries.**

In the middle income CIS (Kazakhstan, Russia, Ukraine), large-scale farms continued to play an important role for rural employment. The implementation of the land reforms allowed farm managers to keep control of the land as the privatization processes were slow and implemented through distribution of shares, which was instrumental in keeping the large farm structures in place. Continued soft budget constraints prevented the farms' bankruptcies. This resulted in the partial maintenance of the social functions of these large-scale farms, but simultaneously it was an impeding factor for productivity gains. This might help explain why rural-urban differences are larger for income than for non-income poverty in Russia and Kazakhstan.

Wage arrears initially contributed to rural poverty, and household plots provided a crucial, though limited, income source. Land access to household plots played a buffer role even in these countries. E.g. in Russia, there was a substantial net inflow of population into rural areas in 1992 (Bogdanovskii, 2005).<sup>33</sup> In Ukraine and Uzbekistan, where no large-scale de-collectivization had occurred at that time, household plots accounted for more than 25% of rural incomes. In Russia and Kazakhstan, households produced more than half of agricultural output by the end of the 1990s (Lerman et al, 2004).

Still, rural-urban poverty differences are large and exacerbated by large differences in human capital. Individuals with higher human capital migrated from the rural areas to urban areas, leaving the rural areas disproportionately populated with older and less educated individuals.

More recently, poverty has been reduced substantially following strong economic growth and improvements in government tax revenues and in agricultural terms of trade. This was particularly true for Russia and Kazakhstan, countries that benefited from increased mineral and energy prices. Rural households have benefited from increased public transfers and from an increase in public investments in infrastructure and a decline in wage and payment arrears. At the same time, improved competitiveness of farms and investments by private companies in agribusiness, food and other rural enterprises, as well as increased vertical coordination in the farm sector, all might have contributed to rural poverty reduction.

### **8. Conclusions and Implications for Poverty Reduction Policies**

This paper has described rural poverty changes and rural-urban poverty differences in the transition countries of Eastern Europe and the Former Soviet Union, both before and after 1998. Through a comparative analysis of the different transition experiences in these countries, it has shed light on a set of hypotheses that help explain the different patterns in rural-urban poverty dynamics. Research aimed at rigorous testing of the possible underlying causal relationships will be key to shed further light on the challenges and opportunities for rural poverty reduction in the region. The policy lessons of this paper are therefore necessarily of a general nature, and do not attempt to relate to specific interventions. Instead they focus on the differences between rural and urban poverty and on the implications of the wide heterogeneity in the structural characteristics and processes in the different groups of countries.

The poverty trends discussed in this paper suggest that recent poverty reduction looks remarkably similar in rural and urban areas. However, there continues to be more poverty in rural areas. Indeed, if trends witnessed since 1998 continue, the share of rural poverty in total poverty will further increase in the future. This indicates that the focus on rural poverty will be essential for overall poverty reduction strategies. Policies that want to attempt to address the rural-urban poverty gap necessarily will have to account for the structural disadvantages of rural areas, and for the large heterogeneity in transition processes and outcomes that this paper has identified.

Rural poverty is unlikely to decrease unless policies facilitate rural household asset accumulation, successfully increase the returns to those assets, or provide sufficient transfers. Given that most transition countries have now completed the land privatization process,

increasing rural households' asset base might crucially depend on policies that target human capital accumulation. This indicates the potential role of education and health policies specifically targeted to the rural poor. More generally, improvements in rural service delivery, including education and health services, is needed, in particular given that the quantity and the quality of services has declined strongly in rural areas.

As agriculture remains a major source of income and employment, agricultural growth is likely to remain crucial for poverty reduction, in particular in the poorest countries. Identifying and addressing the key imperfections in input and output markets will be essential to enable the self-employed farmers to lift themselves out of poverty. Increasing evidence indicates that investments in food processing, agribusiness, trade and retail companies can play a role in increasing the returns to smallholders' assets, as it allows to upgrade the quality of their products, and facilitates access to input and output markets. Successes in Central Europe indicate that the productivity gains from such investments can be substantial.

In the middle-income countries where a larger share of rural households relies on non-agricultural income, the integration of labor and capital markets in (backward and remote) rural areas with the rest of the economy might be the most effective mechanism to increase the returns to existing households assets. The integration of the rural poor in the labor markets, either through rural off-farm employment generation or by improving access to urban labor markets is likely to be key for sustained and equitable income growth in many transition countries.

Yet, the human capital disadvantages that exist in many rural areas, and in particular the disproportionate presence of the older generation in several countries, also suggests that the welfare of a large share of rural households will continue to rely on public transfers, and in particular pensions, for a number of years to come.

The rapid changes that occurred during transition, and the widely diverging rural-urban poverty outcomes that resulted, offers a unique opportunity to analyze rural-urban poverty differences. The lessons that can be derived from this analysis carry relevance beyond the region, as well-designed and targeted rural policies and programs are key to address increasing tensions regarding rural-urban inequalities in many parts of the world. The analysis in this paper suggests that policies that affect rural households asset base or the returns to those assets, as well as transfers, can all be crucial for rural welfare. Our analysis also indicates that the outcome of such policies depend on initial income levels, taxation, and factor intensity in agriculture. These

findings entail broad implications for the design of poverty reduction policies and programs for rural areas in other developing and transition economies.

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<sup>1</sup> “Transition” refers here to the process of transformation that the economies of these countries underwent in the shift from a centrally planned to a market economy.

<sup>2</sup> Alam et al. (2005) have analyzed the general poverty changes in the post-1998 period. They show that poverty has decreased after 1999 in almost all countries in the region and emphasize the crucial role of economic growth.

<sup>3</sup> As argued elsewhere (Macours and Swinnen, 2002) many of the reform choices were themselves endogenous and can be traced back to the initial conditions at the onset of the transition process. This paper does not aim at identifying causality but rather describes general patterns of rural-urban poverty differences in transition countries within the constraints of the available data.

<sup>4</sup> Examples of such studies include Muravyev (2006) and Vranken et al. (2007).

<sup>5</sup> All headcount indices were calculated based on consumption aggregates from national representative household level surveys (household budget surveys or household living standard measurement surveys). The consumption aggregates were constructed from the unit record data. The same set of rules and definitions was applied for all countries, with regard to which components enter the aggregate, adjustments for regional price differences, imputation of monetary values for home production, and cleaning for outliers. As a result, differences across countries in the final consumption (and therefore poverty) measure are due to differences in primary data, not due to differences in aggregation. Differences in primary data (e.g. questionnaire design) could help explain why the absolute poverty levels in Azerbaijan appear low. For more information regarding the methods used to guarantee comparability across and within countries, and on the datasets used, we refer to the appendix in Alam et al. (2005).

<sup>6</sup> While questionnaires from different countries use different recall periods for consumption, or ask more or less details about different items that are part of general consumption categories (e.g. food, education, housing), data from rural and urban area within a country are derived from the same survey and questionnaires. As a result, comparing rural with urban poverty allows to factor out some of these differences across countries.

<sup>7</sup> While comparative data is not available for some higher-income countries in Central Europe (Czech Republic, Slovakia and Slovenia) data from previous studies based on the national poverty lines show very low levels of poverty (less than 3%) as early as 1996 (World Bank, 2000).



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<sup>8</sup> The rural-urban ratio based on relative shares in the poorest quintiles show somewhat smaller differences for Kazakhstan and Russia.

<sup>9</sup> For Georgia, the various indicators are less consistent.

<sup>10</sup> In Poland and Lithuania, poverty increased slightly. More exceptionally, in Latvia rural poverty increased significantly. See data on changes at the country-level in table A1 in the appendix.

<sup>11</sup> Alam et al. (2005) point out, however, that poverty reduction in capital cities has been stronger than in secondary cities and rural areas, especially in the CIS.

<sup>12</sup> While figure 1 does not include a Central Asian country because data is not available for the whole 1998-2002 period, the trends over shorter periods in each of these countries show that rural and urban poverty moved in the same direction (see table A1).

<sup>13</sup> This striking pattern can be reconciled with the parallel developments demonstrated in figure 1 and 2, by looking at the urban and rural poverty rates in 1998. Overall poverty was lower in middle-income countries than in low-income countries, but the gap between rural and urban poverty was larger, and as a consequence similar percentage point declines led to a widening in the differences between urban and rural poverty between the 2 sets of countries. This reinforces our argument that rural-urban differences in 1998/99 are key to understand the changes in more recent years.

<sup>14</sup> As in the standard household models by Singh, et al. (1986). See also de Janvry and Sadoulet (2006) for a recent review of this literature.

<sup>15</sup> Subsistence farming, in which rural households cultivate mainly for food security reasons, and with production often uniquely destined for home consumption, increased drastically during transition (see also Seeth et al., 1998).

<sup>16</sup> Several studies have shown high and increasing returns to education in transition countries (e.g. Campos and Joliffe, 2002; Munich et al. 2005; Fleisher et al., 2005).

<sup>17</sup> Unemployment or underemployment is high in many rural areas. While rural/urban unemployment ratios should be interpreted with caution because of reporting differences linked to the possibility of unemployment benefits, and to the occurrence of underemployment in rural areas by people working tiny household plots, the available data suggest that rural unemployment is particularly high in Bulgaria and Russia.

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<sup>18</sup> Belarus provides an important exception as price and trade reforms have been modest, and extensive subsidies of agriculture are continuing. As such it provides an interesting benchmark case. In fact, it stands out for having low levels of rural poverty and small rural-urban differences.

<sup>19</sup> See Macours and Swinnen (2000).

<sup>20</sup> In many countries, former collectives or state farms were also active in other activities, and as such provided non-agricultural employment, which disappeared with restructuring. The overall changes in rural off-farm employment, and the impacts on rural poverty, remain however unclear, in part because of the many informal self-employment or wage jobs.

<sup>21</sup> For example, less than 10% of households have a water connection in Romania, Moldova and Kazakhstan; and the share of rural households without telephone connection is as high as 97% in Albania, 94% in Tajikistan, and 91% in Georgia (World Bank, 2004a).

<sup>22</sup> See Carletto et al. (2006) for evidence from Albania. Higher private transfers might also reflect more intra-family transfers within urban areas that could be explained by the fact that, due to space constraints, members of an extended household might be less likely to live under the same roof.

<sup>23</sup> Nevertheless, as in Albania, external migration by the younger generation might possibly explain why – despite land distribution - rural poverty remains higher than urban.

<sup>24</sup> We present output prices deflated with CPI instead of relative input prices indices, for lack of the later. This is however unlikely to affect the interpretation since most large shocks in input prices occurred in the beginning of transition, when subsidies were cut.

<sup>25</sup> The reasons behind the differences in policy choices, i.e. the political economy of the land reforms, are discussed in Swinnen (1999) and Swinnen and Rozelle (2006).

<sup>26</sup> This list of patterns is not conclusive and some countries may not fit in. For instance, agriculture in Poland and the successor states of Yugoslavia was dominated by individual farms already prior to transition, and land reforms therefore did not play a major role.

<sup>27</sup> The paths are not identical since the Chinese land reforms only distributed use rights, and not ownership rights on land. Moreover, as discussed, the Chinese reforms coincided with major increases in agricultural terms of trade (Macours and Swinnen, 2002).

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<sup>28</sup> The effect of the latter depends on whether migration is temporary rather than permanent. At least in Albania a large share of migration tends to be temporary (Germenji and Swinnen, 2005).

<sup>29</sup> For example, in Estonia, where agricultural employment declined by around 60% in the 1990s, only 19% of agricultural employment is 55 years or older, compared to 13% of the workforce in construction. Also with respect to the level of education, the inter-sectoral differences are small in Estonia. This contrasts with, e.g. Slovenia and Poland where no such labor restructuring occurred and those employed in agriculture are on average much older and less educated than in other blue-collar sectors of the economy (Swinnen and Dries, 2004).

<sup>30</sup> In Lithuania and Latvia, the positive trend in agricultural employment reversed around 1997.

<sup>31</sup> See Lerman, et al. (2004) for a discussion of market imperfections and power politics that help explain the possible advantages of large(r) farms in a transition context.

<sup>32</sup> For example in Romania, a large share of the “farming population” consists of households older than 65 who used to work on collective farms. As collective farm workers pensions are only 25% of state pensions – themselves low by international standards – they are forced to farm for survival. As a consequence, the employment rate of people between 60 and 75 years of age is more than 40% among the rural population and around 5% among the urban population (Swinnen and Dries, 2004).

<sup>33</sup> Interestingly, this temporary inflow of labor into rural areas in the wake of an economic shock is similar to migration patterns observed after the East Asian crisis (see e.g. Frankenberg, et al. 2003 for evidence on Indonesia).

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## Tables and Figures

**Table 1: Rural income and non-income poverty and rural/urban poverty differences**

	International poverty line:		National poverty lines		Mortality rate	
	Headcount ratio (P0)		P0	% in lowest quintile	(infants under 1 year)	
	rural	rural/urban	rural/urban	rural/urban	rural	rural/urban
Czech Rep	-	-	-	-	4.0	1.03
Hungary	0.3	1.0	1.62	1.43	7.6	1.10
Poland	3.2	1.4	2.34	2.27	8.5	0.92
Slovakia	-	-	-	-	8.0	1.10
Albania	27.1	1.5	1.47	1.54	-	-
Bulgaria	16.6	1.6	3.82	2.04	16.9	1.41
Romania	24.4	3.0	2.33	2.63	19.8	1.37
Estonia	5.0	1.2	-	-	5.0	0.83
Latvia	4.0	1.9	2.55	-	12.9	1.59
Lithuania	8.8	4.5	-	2.44	9.7	1.43
Armenia	50.9	0.9	0.74	0.74	14.2	0.85
Azerbaijan	4.8	0.9	0.76	0.65	14.2	1.28
Georgia	55.6	1.3	0.84	0.90	10.4	0.59
Belarus	1.9	0.8	-	1.47	10.2	1.46
Moldova	60.6	1.3	1.48	2.29	14.6	0.97
Russia	13.7	2.0	1.94	1.75	19.0	1.17
Ukraine	3.7	1.3	1.07	-	11.4	1.01
Kazakhstan	35.4	1.9	2.13	1.75	15.7	0.87
Kyrgyz Republic	79.5	1.3	1.38	1.64	18.0	0.64
Tajikistan	76.4	1.1	1.09	1.25	-	-
Uzbekistan	46.9	1.4	1.36	1.45	17.1	0.80
Bosnia & Herzegovina	4.6	1.0	1.44	1.45		
Croatia	-	-	1.74	-	7.9	1.23
Kosovo	-	-	1.09	1.11	-	-
Macedonia	4.5	1.1	2.52	-	9.8	0.93
Serbia and Montenegro	9.1	2.2	1.82	1.56	-	-

*Sources:*

P0 for 2002 (2001 for Bulgaria and Bosnia, and 2003 for Tajikistan) using international poverty line at 2.15 US\$ (2000PPP): Alam et al. (2005)

P0 for latest year available according to national poverty line: World Bank: various Poverty Assessments

% of population in the national lowest income quintile in 2000-02: World Bank (2004a)

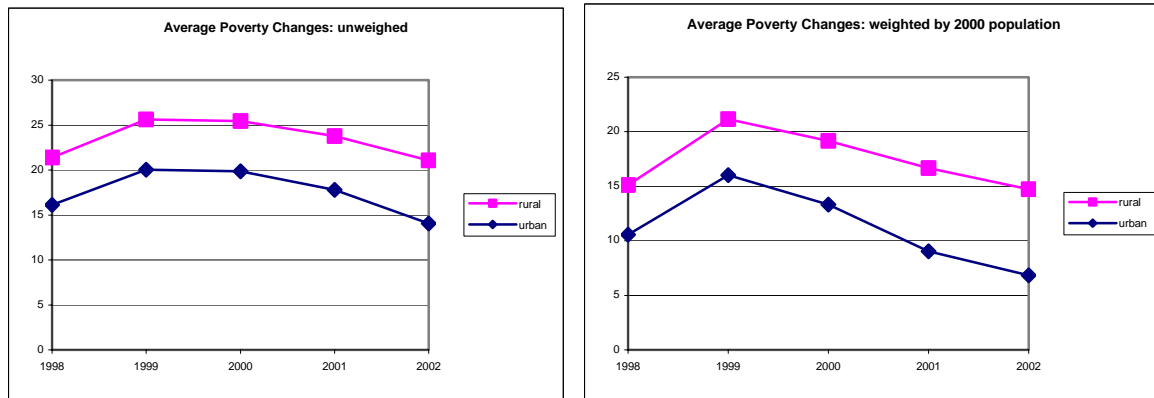
Infant mortality (number of deaths per 1000 live births) for 2002 (2001 for Georgia and Uzbekistan; 2000 for Armenia; 1999 for Poland and Russia): United Nations Statistical Division (2005).

**Table 2: Human Capital Distribution: Age and Education (most recent year available)**

	Population 25-39		Population 65+		Population with less than secondary education	
	% of rural population	rural/urban ratio	% of rural population	rural/urban ratio	% or rural population	rural/total ratio
Czech Rep.	22	0.97	14	1.04	-	-
Hungary	21	0.94	15	1.04	81	1.28
Poland	21	1.02	13	1.17	77	1.36
Slovenia	22	1.02	15	1.00	-	-
Albania	-	-	-	-	74	1.26
Bulgaria	17	0.76	25	1.89	66	1.75
Romania	21	0.87	18	1.70	-	-
Estonia	19	0.89	16	1.03	-	-
Latvia	20	0.97	15	0.97	-	-
Lithuania	19	0.83	18	1.41	49	1.64
Belarus	18	0.79	23	2.42	45	1.79
Moldova	19	0.79	11	1.44	24	1.44
Russia	20	0.89	14	1.25	39	1.47
Ukraine	19	0.86	18	1.59	-	-
Armenia	24	1.06	10	1.07	29	1.28
Azerbaijan	24	1.02	7	1.13	25	1.23
Georgia	21	0.92	16	1.34	28	1.55
Kazakhstan	20	0.81	6	0.87	28	1.27
Kyrgyzstan	21	0.83	5	0.92	14	1.35
Tajikistan	20	0.90	3	0.71	33	1.05
Uzbekistan	21	0.89	4	0.71	21	1.03
Bosnia&Herzegovina	-	-	-	-	56	1.19
Macedonia	22	0.95	9	1.24	-	-
Serbia&Montenegro	21	1.02	15	1.28	64	1.58

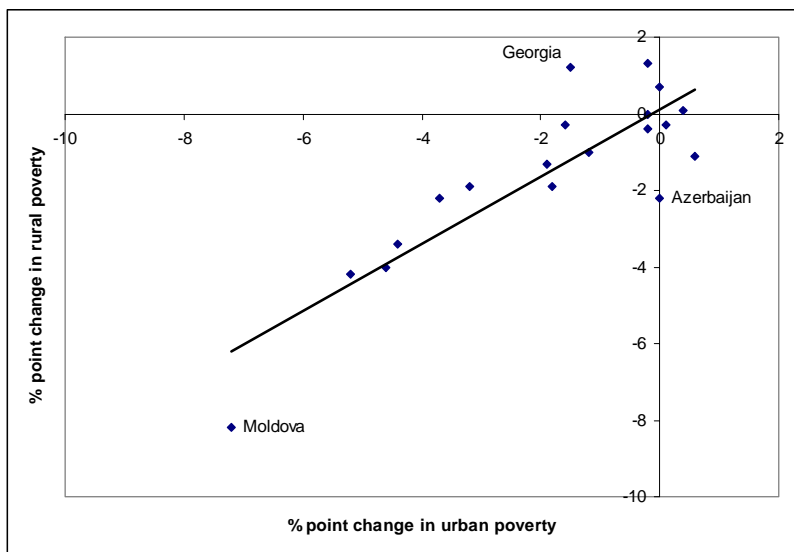
Source : United Nations Statistics Division (2005) and World Bank (2004a)

**Figure 1: Average Urban and Rural Poverty 1998-2002\***



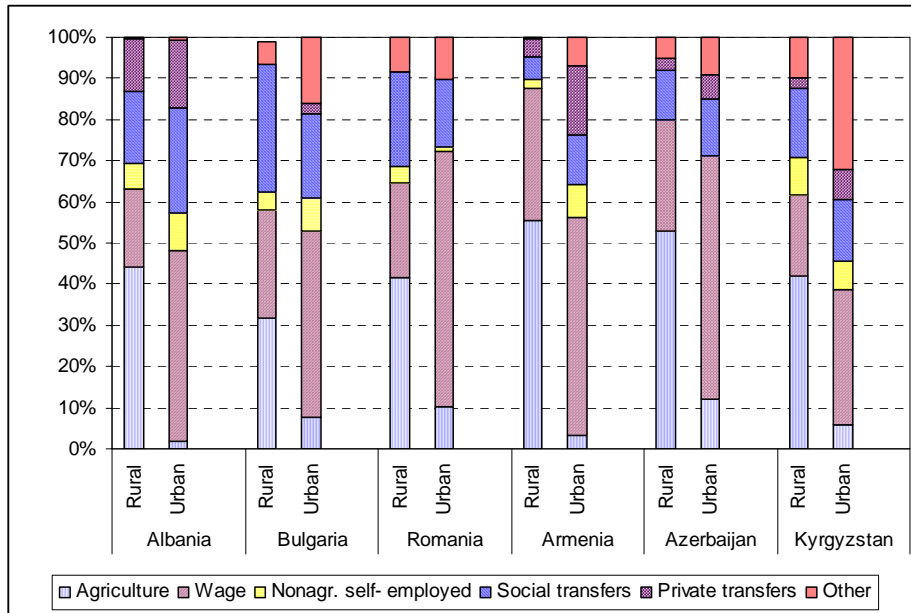
\*Averages for Belarus, Georgia, Hungary, Lithuania, Moldova, Poland, Russia, and Romania  
 Source: own calculations based on data from Alam et al. (2005)

*Figure 2: Changes in urban and rural poverty: average annual change after 1999*



Note: see Table A1 for specific time periods.  
 Source: Alam et al. (2005).

**Figure 3: Rural and urban income sources in selected countries**

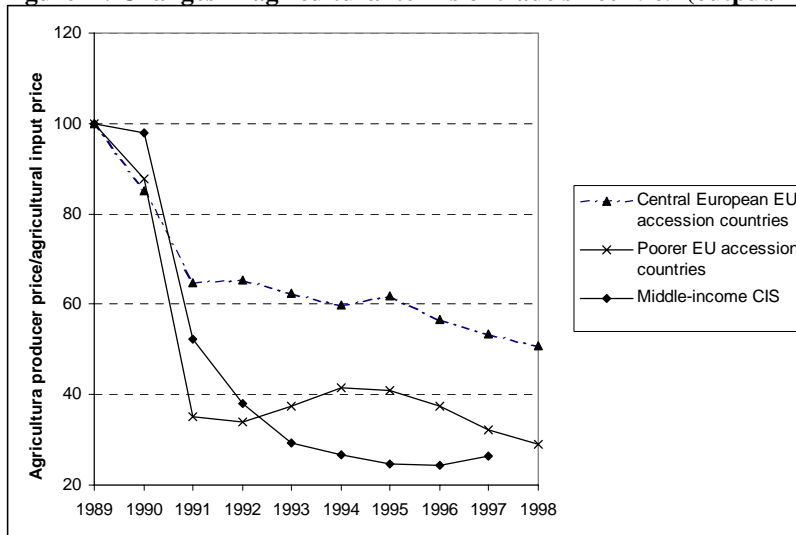


Wage includes both agricultural and non-agricultural wage

Data derived from household surveys in 2002 for Albania, Romania, 2001 for Bulgaria and Azerbaijan, 1998/99 for Armenia and Kyrgyzstan,

Source: World Bank, various poverty assessments

**Figure 4 : Changes in agricultural terms of trade since 1989 (output/input price index)**



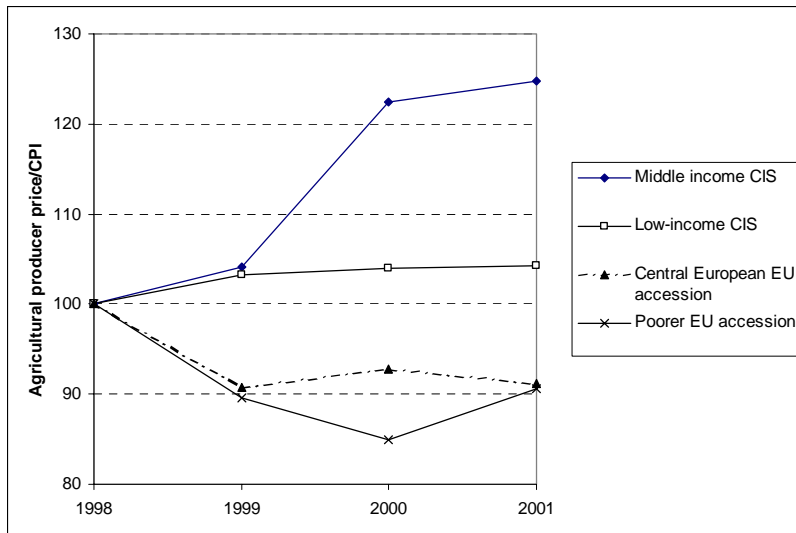
Central European EU accession countries shows average for Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia,

Poorer EU accession countries shows average for Bulgaria, Romania, and Lithuania

Middle-income CIS shows average for Russia, and Ukraine

Source: Macours and Swinnen (2002)

**Figure 5: Change of relative agricultural producer prices since 1998**



Middle-income CIS shows average for Russia, Kazakhstan and Ukraine

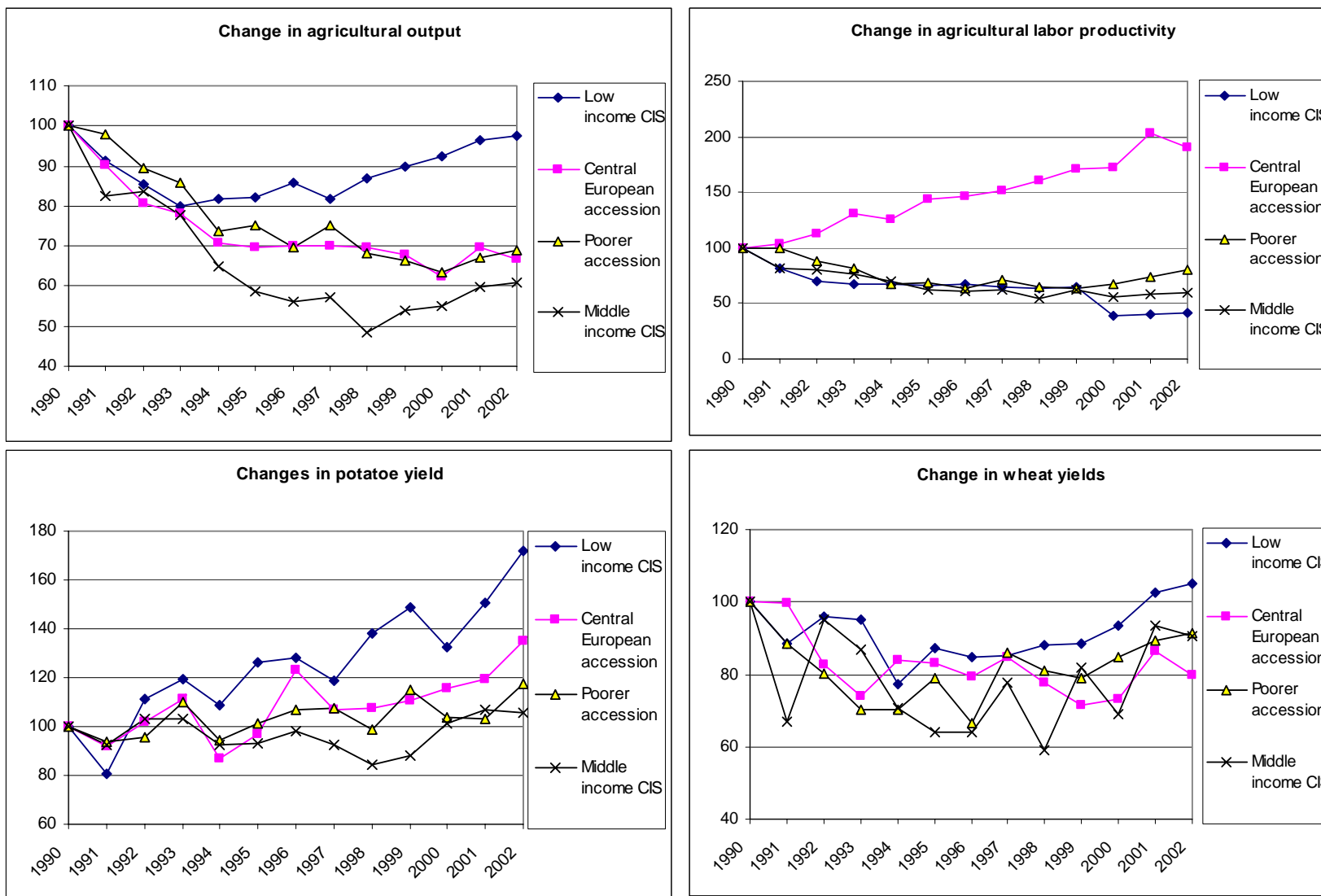
Low-income CIS shows average for Azerbaijan, Kyrgyzstan, Moldova;

Central European EU accession countries shows average for Czech Republic, Estonia, Hungary, Poland, Slovakia, Slovenia,

Poorer EU accession countries shows average for Bulgaria, Latvia and Lithuania

Source: OECD (2004) and CIS statistics (2003)

**Figure 6: Changes in agricultural output and productivity since 1990<sup>a</sup>**



<sup>a</sup> Average changes for typical countries within each pattern: Low income CIS = Albania, Armenia, Azerbaijan, Kyrgyzstan; Central European EU accession countries = Czech Rep., Slovakia, Hungary, Estonia; Poorer EU accession countries = Bulgaria, Romania, Latvia, Lithuania; Middle income CIS = Russia, Ukraine, Kazakhstan  
 Source: Macours and Swinnen (2002); FAO (2004), ILO (2004), CIS statistics (2003)

## Appendix: Additional data on rural and urban poverty changes post 1998.

**Table A1: GDP growth and urban and rural poverty changes after 1999 (annual change)**

		GDP	urban poverty	rural poverty
	period	% point	% point	% point
Hungary	1999-2002	4.2	-0.2	-0.4
Poland	1999-2002	2.3	0.4	0.1
Romania	1999-2002	3.4	-1.2	-1.0
Estonia	2000-2002	7.6	0.1	-0.3
Latvia	2002-2003	8.2	-0.2	1.3
Lithuania	1999-2002	5.6	0.0	0.7
Armenia	1999-2002	10.2	-1.6	-0.3
Azerbaijan	2002-2003	11.2	0.0	-2.2
Georgia	1999-2002	6.5	-1.5	1.2
Belarus	1999-2002	5.5	-1.9	-1.3
Moldova	1999-2002	3.0	-7.2	-8.2
Russia	1999-2002	6.2	-4.4	-3.4
Ukraine	2002-2003	9.1	-1.8	-1.9
Kazakhstan	2001-2003	10.3	-5.2	-4.2
Kyrgyz Republic	2000-2003	3.1	-3.7	-2.2
Tajikistan	1999-2003	11.1	-4.6	-4.0
Uzbekistan	2000-2003	4.1	-3.2	-1.9
Bosnia & Herzegovina	2001-2004	4.0	-0.2	0.0
Macedonia	2002-2003	3.1	0.6	-1.1

*Source* : World Development Indicators (2005) and Alam et al. (2005)

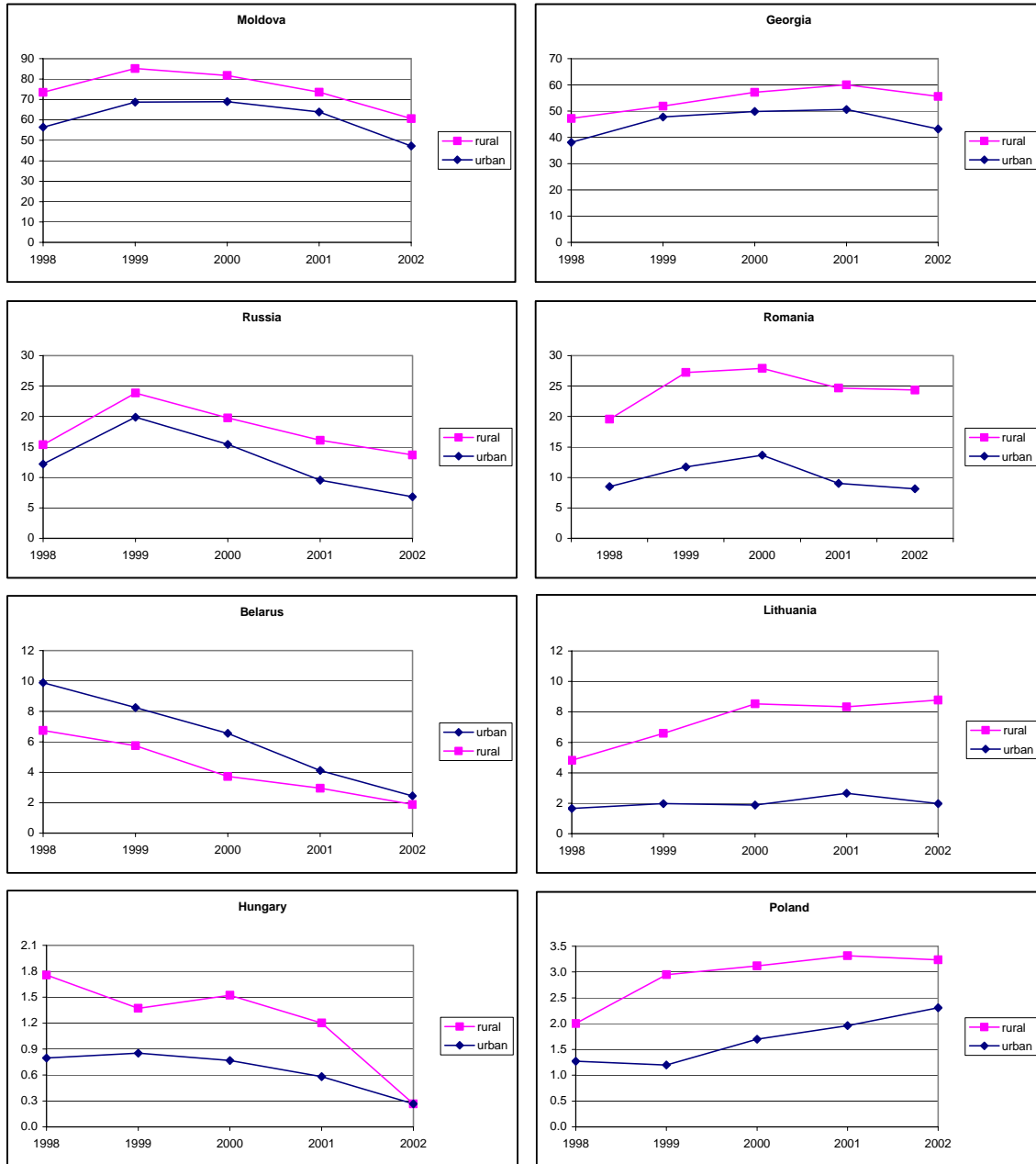
**Table A2: Access to services**

		Water connection		Electricity access		Telephone connection	
		% HH with access		% of HH with 24hour access		% of HH with access	
		Rural	Rural/total	Rural	Rural/total	Rural	Rural/total
Hungary	2000	88.9	0.94			74.7	0.93
Poland	2001	91.7	0.95			62.4	0.81
Albania	2002	23.6	0.44	7.2	0.50	2.6	0.11
Bulgaria	2001	96.3	0.98	96.0	0.99	59.5	0.79
Romania	2002	8.4	0.16				
Lithuania	2000	38.7	0.52			52.3	0.69
Armenia	2001	64.0	0.78			44.0	0.71
Azerbaijan	2001	17.1	0.31			18.4	0.48
Georgia	2001	71.4	0.87	11.6	0.54	8.8	0.25
Belarus	2001	44.5	0.58			47.8	0.68
Moldova	2001	2.4	0.07			25.0	0.58
Russia	2001	46.3	0.58			25.6	0.49
Kazakhstan	2001	7.8	0.15	42.8	0.74	19.7	0.46
Kyrgyz. Rep	2001	16.8	0.42	26.2	0.62	12.8	0.46
Tajikistan	1999	30.7	0.66	12.9	0.67	5.4	0.39
Turkmenistan	1998	19.8	0.40	39.7	0.92	14.4	0.41
Uzbekistan	2000	26.7	0.50			6.8	0.27
Bosnia-Herzegovina	2001	63.7	0.82	86.5	0.99	69.1	0.96
Kosovo	2000	21.7	0.42	8.2	0.38	20.1	0.50
Serbia	2002	79.2	0.88			58.2	0.78

Source: World Bank (2004a)

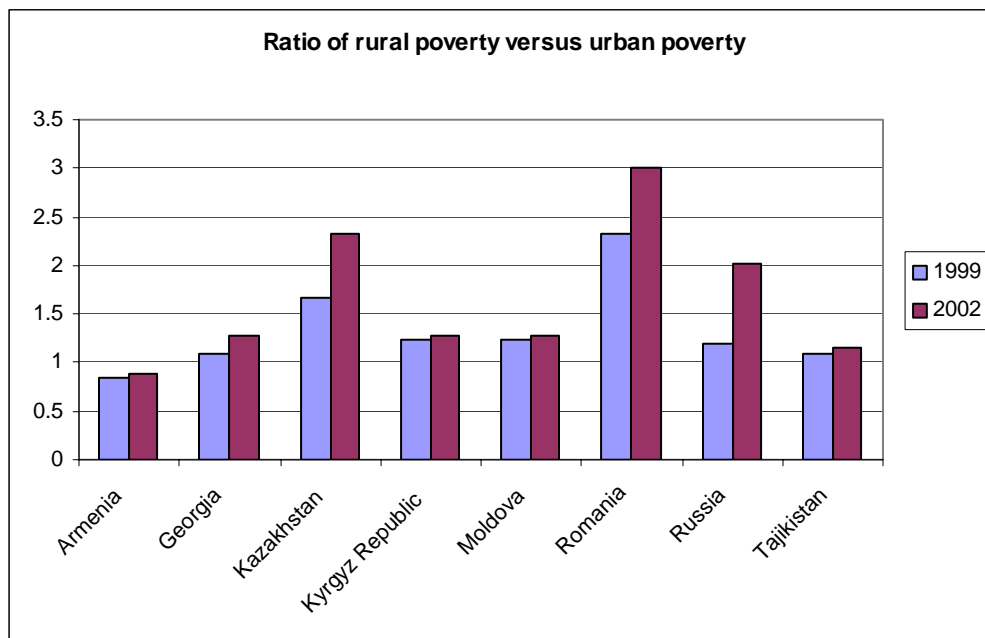


**Figure A1: Rural and urban head count ratios between 1998 and 2002 by country**



Source: own calculations based on data from Alam et al. (2005)

**Figure A2: Ratio of rural versus urban poverty in 1999 and 2002<sup>a</sup>**



<sup>a</sup>: changes for 2000-2002 for Kyrgyz Republic and 2001-2003 for Kazakhstan  
*Source: own calculations based on data from Alam et al. (2005)*