WORLD BANK GROUP

Moldova Poverty Assessment 2016

# Poverty Reduction and Shared Prosperity in Moldova: Progress and Prospects

WORLD BANK GROUP Report No. 105722-MD

# Poverty Reduction and Shared Prosperity in Moldova: Progress and Prospects

Poverty and Equity Global Practice
World Bank Group

May 2016

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# Acknowledgments

This report has been prepared by María E. Dávalos (Senior Economist, TTL), Tu Chi Nguyen (consultant), and Mikhail Matytsin (consultant) of the World Bank Poverty Global Practice. The team is grateful for comments received from World Bank colleagues, including Reena Badiani, Hanan Jacoby, Ruth Hill, and Ruslan Piontkivsky, and for comments received in early consultations in Chișinău in June 2015.

We thank Qimiao Fan (Country Director), Carolina Sánchez-Páramo (Practice Manager), and Alexander Kremer (Country Manager) for their guidance and support. Most importantly, we thank the management and staff of the National Bureau of Statistics of Moldova for their hard work in producing survey data for Moldova and for their collaboration with the World Bank team.

# Executive Summary

Moldova has experienced rapid economic growth in the past decade, which has been accompanied by reductions in poverty and good performance in shared prosperity. Nonetheless, Moldova remains one of the poorest countries in Europe and faces challenges in sustaining the progress.

Analysis of the Household Budget Surveys from 2007 to 2014 shows that economic growth was volatile, revealed once more in developments during 2015, but, overall, positive and pro-poor. Economic growth was driven generally by private consumption, fueled by remittances, and household consumption expanded accordingly. Public and private transfers, namely, pensions and remittances, had an important role in reducing poverty. Moldovan labor markets contributed to the progress, mostly through productivity increases rather than job creation, given that employment fell driven by increasingly high inactivity rates. On average, the declines in employment were partly offset by the higher wages in the nonfarm sectors.

The challenges for progress include spatial and cross-group inequalities, particularly because of unequal access to assets, services and economic opportunities. Moreover, strengthening the persistently weak labor markets to boost employment, especially in the nonfarm sectors, is critical for sustaining progress toward the twin goals of reducing poverty and expanding shared prosperity and for addressing the problems associated with an aging population in a fiscally responsible manner. Accordingly, ensuring the viability of the pension system and improving social assistance are necessary areas of reform, particularly in a context of fiscal pressures, the aging population, and the great vulnerability of the poor to shocks.

The Moldova Poverty Assessment 2016 includes three prongs of analysis: this report, which explores trends and the drivers of poverty and shared prosperity, and the accompanying analyses, "A Jobs Diagnostic for Moldova" and "Structural Transformation of Moldovan Small-Holder Agriculture and Its Poverty and Shared Prosperity Impacts." The jobs diagnostic explores the main labor demand and supply challenges in Moldova in more detail, while the analysis of structural transformation focuses on the agricultural sector and whether it can become a driver of progress.

# Overview

**Moldova has experienced rapid economic growth in the past decade, accompanied by significant progress in poverty reduction and shared prosperity.** The economy has been growing at 5 percent annually since 2000. At the same time, the national poverty rate dropped from 68 to 27 percent between 2000 and 2004 and continued the downward trend to 11.4 percent in 2014. Similarly, inequality, measured as the Gini coefficient, declined from 0.3 to 0.23 between 2007 and 2014, and the consumption growth of the bottom 40 outpaced that of the top 60 in 2009-2014. Given pro-poor growth, the country experienced a dynamic process of high upward economic mobility and little churning (that is, contemporary movements in and out of poverty). Its achievements in poverty reduction and shared prosperity have been impressive given its economic level and compared with other countries in Europe and Central Asia (Figure 1 and Figure 2). Yet, with one of the highest poverty rates in the region – 41 percent of its population lived below the regional line of 5 USD a day (2005 PPP) in 2014, Moldova needs to continue this progress.

Figure 1. Poverty rate and GDP per capita, latest available

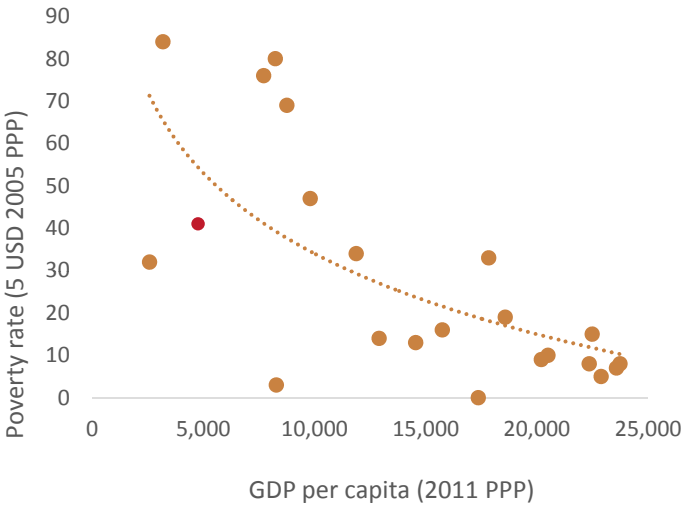
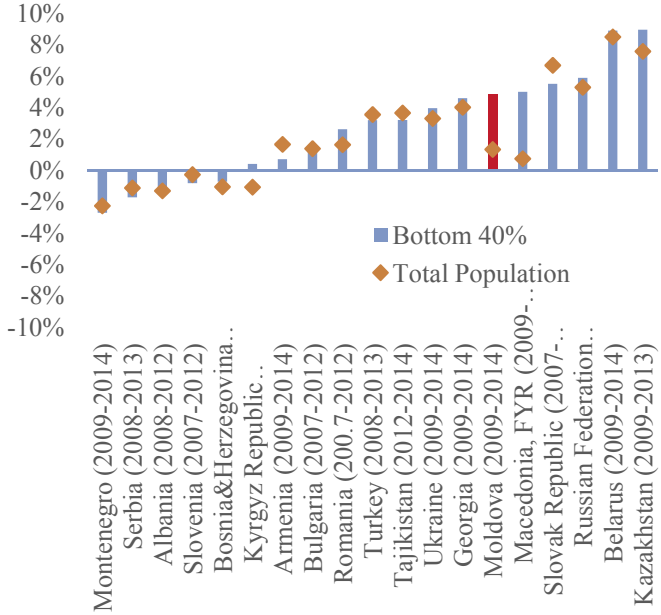



Figure 2. Welfare growth of the bottom 40 and average population, latest available




Source: ECAPOV database harmonization as of April 2016, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

**The past progress has been driven mainly by pensions and remittances.** Economic growth in Moldova has been mostly driven by private consumption, which was in turn fueled by remittances. Private consumption contributed as much as 5.7 percentage points to GDP growth in 1999–2014. Remittances account for 26 percent of GDP in 2014, making Moldova one of the countries most dependent on remittances. More than 25 percent of Moldovan households received remittances, which make up around 18 percent of their income. Remittances helped lift many households, particularly rural ones, out of poverty, and contributed to 21.6 percent of the income growth of the bottom 40 in 2010–14. Similarly, as the government raised pensions to support vulnerable categories, especially during the global crisis, pensions has become the main driver of poverty reduction and shared prosperity, accounting for more than 30 percent of the consumption growth of the bottom 40 in 2007–14.

**Labor markets contributed to the progress, but mostly through nonagricultural wage increases rather than employment creation.** Employment has been declining (from 55 percent in 2000 to below 40 percent in 2014), especially in rural areas. This trend is associated with rising inactivity driven by increasing migration and early retirement among the aging population. With the exceptions of agriculture after 2012 and a few trade-related sectors such as sales, tourism, and transport, employment in most sectors have been on the decline. In contrast, the share of people working in low-intensity agriculture (less than 20 hours a week) has been rising steadily, from 13 percent to 24 percent. Wage growth has been positive, but mainly in the nonagricultural sectors and less in agriculture where the majority of the poor and the bottom 40 work. As a result of this differential wage growth, combined with the shift toward subsistence farming (especially among the poor and bottom 40), the gap in labor income (including wages and self-employment earnings) between the bottom 40 and the top 60 has shown limited signs of narrowing.

**There are concerns about the sustainability of past achievements as the poor and bottom 40 continue to lack the necessary capital to advance.** The slow growth of the agriculture sector and the limited access to markets, non-farm jobs, and modern services mean that people in rural areas are persistently poorer. Coverage of heating, piped water, sewage is limited among the rural population (and the poor and bottom 40). The poor and bottom 40 also have much less educational attainment and own smaller plots of land, which limit their opportunities to gain (better) jobs and improve productivity. And even though they have similar health profiles as the nonpoor, they are less likely to have medical insurance, hence suffer from low quality healthcare or high out-of-pocket spending, which drives them further into poverty in the long term. The same constraints apply to the ethnic minorities, who, because of language barrier or disparities in access to services, end up in worse welfare situation. These dimensions of wellbeing, including educational, health, employment, and housing status, determine a person's capacity to enjoy decent social and economic living standards. This report measures the deprivations of individuals along these dimensions and finds that 24 percent of the population are considered multidimensionally poor in 2014, more than twice the number of those who are monetary poor, and there has been limited improvement since 2007.

**Continued progress in poverty reduction and shared prosperity face tremendous risks due to long-term fiscal pressures and high volatility in the economy.** Driven by declining fertility and accelerating emigration among the young population, the population of Moldova is shrinking and aging rapidly. Combined with low labor force participation, the contribution base of the pension system will contract, hence undermining the system sustainability and reducing pension coverage of the retirees. Even though pensions have not been generous and often insufficient to lift many of the elderly out of poverty – the poverty rate among the elderly is higher than the population average, their potential contraction may jeopardize the economic security of the elderly. At the same time, the economic slowdown in the European Union and Russia is hampering the remittance inflows and growth rates of remittances is expected to be slower than in the past, making it less likely for households to rely on this income source to sustain their consumption. Finally, the agriculture sector is subject to high volatility due to climate and external demand shocks. Since the poor rely on agriculture as a major part of their income and consumption, any fluctuations in the sector will affect their wellbeing directly. Meanwhile, social assistance has limited potential to serve as a safety net for the poor and vulnerable. The main targeted programs are Ajutor Social (social aid) and a heating allowance program, both of which are relatively well targeted, but the coverage is not wide and the benefits low, which constrains the ability of the programs to respond to widespread downturns in household income.

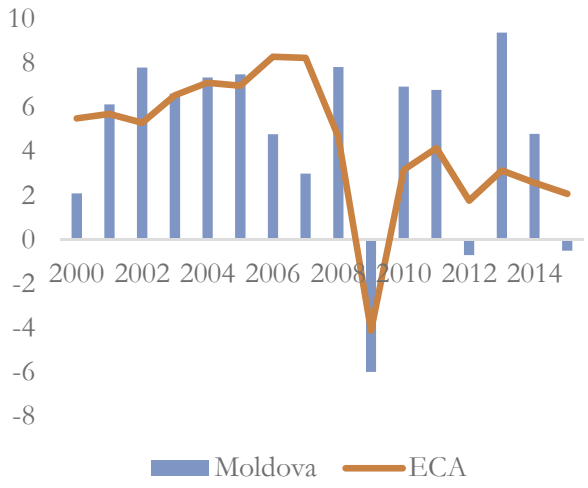
**These challenges point to the need to promote a more vibrant domestic labor market to lead future progress in poverty reduction and shared prosperity.** This involves creating more (and better) jobs and enhancing access to education, health, and services to allow individuals to access those jobs. Some of these policies need to pay additional attention to the abovementioned structural issues, in particular: (i) aging – efforts to promote active and healthy aging can help people work longer and reduce the looming economic dependency ratio growth; (ii) regional and group disparities – policies to ensure equitable opportunities for rural populations and ethnic minorities can allow people to better contribute to the economy; and (iii) economic and climatic shocks – policies to increase adaptation and mitigation of climatic shocks, including through social assistance programs to protect the vulnerable in times of needs. Measures to help households manage and adapt to risks need to be complemented with labor market policies aimed at diversifying household income sources – particularly for the poor who rely disproportionately more on agricultural income.

**The report is structured as follows**. The first section lays out the overall macroeconomic environment of Moldova in recent years and briefly summarizes the report findings. Section II describes trends in poverty reduction and shared prosperity in Moldova. Section III provides analysis of the main factors behind the progress. Section IV continues by assessing the sustainability of the progress and pointing out the remaining challenges and risks. The last section discusses policy implications and concludes.

# 1. Introduction

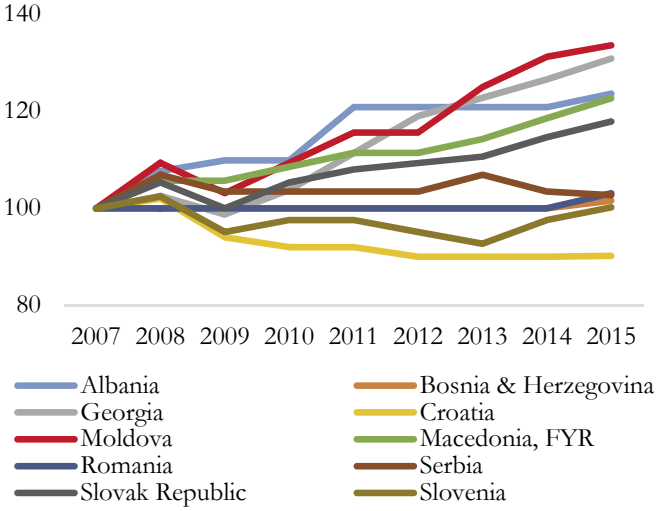
**Moldova has experienced rapid economic growth in the past decade, despite volatility.** The country has grown on average by 5 percent annually since 2000 (Figure 3), much more rapidly than other countries in the region (Figure 4). Even with the sharp contraction during the global financial crisis of 2008–09, Moldova continued to grow quickly until 2014, averaging 5.4 percent growth in 2010–14. Its economic growth trajectory has been increasingly volatile, however. As a small and open economy, Moldova has borne not only several external economic shocks in the past, but also climatic shocks that have particularly affected its agricultural sector, as well as the wider economy. In 2015, a confluence of events pushed the economy into a downturn (−0.5 percent growth in gross domestic product [GDP] in 2015) and projections of little growth in 2016. The main factors behind this recent poor performance are weaker external flows, large-scale bank fraud, and a drought, all of which took place in an environment of political instability.[1]

Figure 3. GDP growth, 2001–15




Sources: World Development Indicators database, World Bank; World Bank 2016a.

Figure 4. Real GDP index (2007 = 100)




Sources: World Bank 2016b, based on WDI and IMF WEO.

**Labor market outcomes are weak in Moldova, and inactivity rates are high.** Employment has been declining, especially in rural areas, driven by increasing migration and early retirement among the aging population. Even though the adult population (aged 15+) has stabilized in recent years, the share of people working or looking for a job abroad has increased from 4.3 percent in 2000 to 10 percent in 2014, leading to a declining active population. In addition, the retirement age in Moldova is relatively low (56 for women and 61 for men) and, post-retirement employment is low—30.5 percent in 2014.[2] As a result, the employment rate decreased drastically from 55 percent in 2000 to below 40 percent in 2014, with the biggest decrease in rural areas (22 percentage points) (Figure 5). Unemployment is low, fluctuating around 3 percent during the period, but inactivity has been on the rise, from 40 percent in 2000 to 59 percent in 2014 (Figure 6).

1 World Bank (2016a).
2 Labor Force Survey.

Figure 5. Employment rate by demographics and location, 2000–14

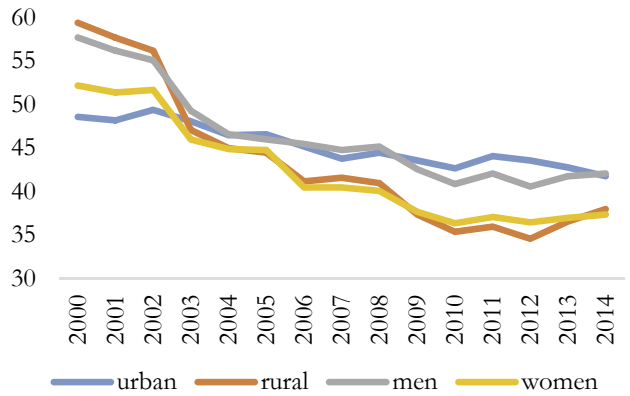
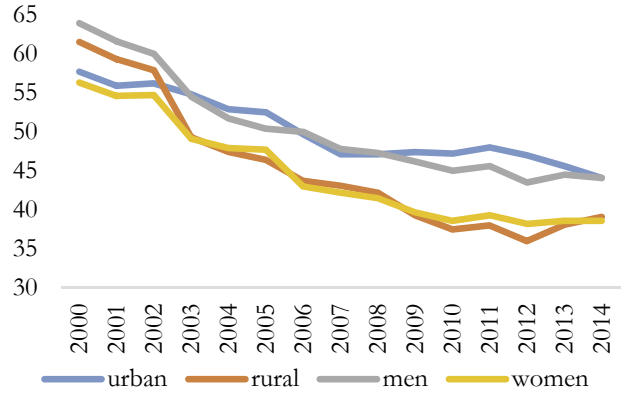



Figure 6. Activity rate by demographics and location, 2000–14




Source: World Bank calculations based on the Moldova National Bureau of Statistics (NBS) data.

**How has Moldova fared in poverty reduction and shared prosperity in recent years?** National poverty estimates reveal a downward trend in poverty in the 2000s and earlier. This is good news. It is important, however, to understand the trends by focusing on various welfare indicators across groups, digging deeper into the forces behind the ***progress*** so far, and exploring whether these driving factors are sustainable so that the ***prospects*** will be equally positive among the less well off.

**This paper aims to assess the recent trends and drivers of poverty decline and shared prosperity—the twin goals of the World Bank—in Moldova and the potential challenges ahead.** It relies on data of the Household Budget Survey (HBS) from 2007 to the latest year available, 2014, produced by the Moldova National Bureau of Statistics (NBS).

**Findings from this assessment show the following:**

- Moldova exhibited good performance in reducing poverty and inequality and boosting shared prosperity. This progress was underpinned by high upward economic mobility.
- Economic growth was volatile, but positive and pro-poor overall. Public and private transfers, namely, pensions and remittances, had an important role in reducing poverty. Moldovan labor markets contributed to the progress, mostly through productivity increases rather than job creation, given that employment declined over the period, driven by high and rising inactivity rates.
- Challenges remain, and the prospects are not too favorable. Spatial and cross-group inequalities persist, particularly in the unequal access to assets and services among, for example, rural areas and ethnic minorities.
- Important and growing risks to sustainable progress persist. Remittances and pensions may not remain crucial forces behind progress in the future, given the changing external environment and the fiscally unsustainable pension system. In addition, the less well-off are increasingly vulnerable to climate shocks.

**This report is accompanied by two additional parts that are also critical to understanding two of the challenges that Moldova faces**: weak labor markets (explored in "A Jobs Diagnostic for Moldova") and a low productivity agricultural sector in which many of the poor are concentrated (explored in "Structural Transformation of Moldovan Small-Holder Agriculture and Its Poverty and Shared Prosperity Impacts"). Together, the three parts represent the Moldova Poverty Assessment 2016. They will provide significant inputs to the more comprehensive approach of the Moldova Systematic Country Diagnostic, which precisely explores the main constraints, across the economy, to achieving progress in poverty reduction and shared prosperity.[3] Emerging messages indicate that creating jobs is critical to raising people's living standards in a sustainable way in Moldova and to alleviating pressures related to aging and the fiscal system.

**This document is organized as follows**. The next section (section II) describes trends in poverty reduction and shared prosperity in Moldova. Section III provides analysis of the main factors behind the advances. To assess the prospects, this discussion is followed, in section IV, by an analysis of the remaining challenges and risks. The last section discusses policy implications and concludes.

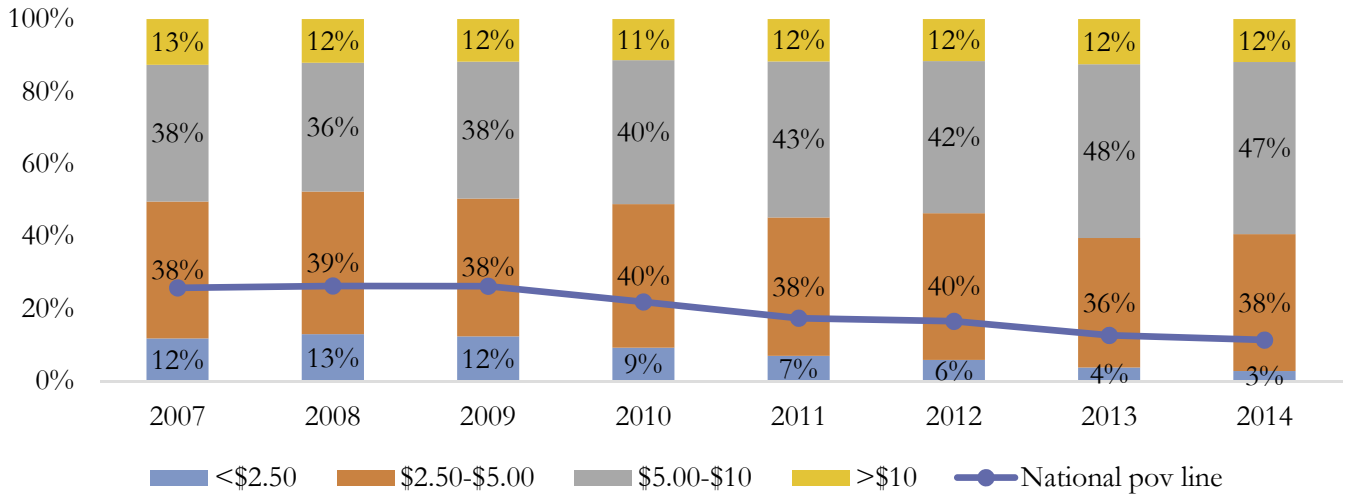
3 See World Bank (2016b).

# 2. Progress in poverty reduction and shared prosperity

## Poverty declined in Moldova...

**The poverty rate significantly declined in Moldova between 2007 and 2014.** Over the period, the national poverty rate fell from 26.0 percent to 11.4 percent (Figure 7), although the downward trend stagnated during the global financial crisis of 2008–09.[4] This is a continuation, albeit at a slower rate, of the progress made in the early 2000s, when the national poverty rate dropped from 68.0 to 27.0 percent (2000–04), after peaking following the 1998 crisis involving the Russian Federation. Similarly, absolute poverty at the World Bank regional poverty line of $5.00 purchasing power parity (PPP) U.S. dollars per day almost halved, to 40.7 percent, and absolute poverty ($2.50 PPP a day), at 2.9 percent, was almost eradicated. (See box 1 for technical information on the calculation of the poverty rate.)

Figure 7. Poverty headcount ratio, 2007–14




Source: World Bank calculations based on the HBS.

Note: The national poverty rate and the World Bank poverty rate rely on two separate consumption aggregates. The figure relies on national and regional poverty lines.

4 The poverty line was set at MDL 104.67 per equivalent adult per month in 2014.

## Box 1. National Poverty Measurement Methodology

Poverty in Moldova is measured using a basic needs approach and relies on consumption expenditure as an indicator of living standards. Consumption is the preferred welfare indicator because it is more accurately measured and less exposed to misreporting. To provide better comparability across the country, the consumption aggregate is modified in several ways, as follows:

- Expenditures for durables and rent are excluded from the aggregate because there is not sufficient data to estimate correctly the stream of services from durables and imputed rent for the owners of housing.
- The differences in energy tariffs are considered, and these price distortions are corrected to account for the actual benefit that the household receives.
- Nominal expenditure has been adjusted for inflation as well as for regional price differences through a Paasche price index constructed using data collected in the survey and information from the official consumer price index.
- To capture the economies of scale within the same households, equivalence scales have been adopted. The former scale of the Organisation for Economic Co-operation and Development is used: 1 for the first household member, 0.7 for any other adult, and 0.5 for children ages below 15.

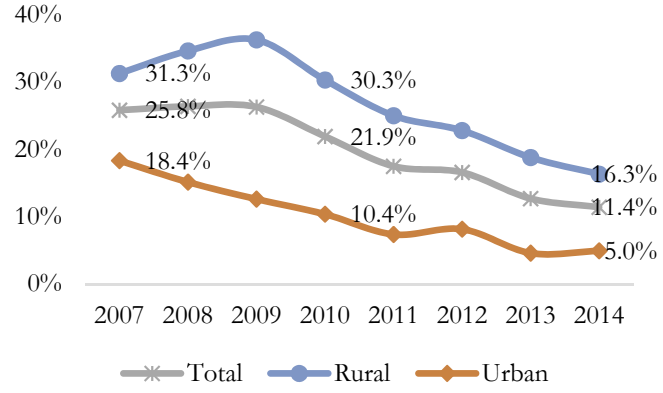
The poverty line is set using cost of basic need methods. The food poverty line is set to meet the minimum energy requirement of 2,282 calories per day per average person, which corresponds to 3,004 calories per day per adult equivalent. The structure of the food bundle is taken directly from the survey and corresponds to the actual set of consumed food by the groups in the HBS from the second to the fourth deciles. The nonfood component of poverty lines is calculated as the share of nonfood expenditures of households the total expenditures of which are equal to the food poverty line. A standard set of poverty measures proposed by Foster, Greer, and Thorbecke (1984) is used to determine the poverty rate.

The poverty methodology has deteriorated for various reasons. First, the sampling frame is outdated because the 2004 census continues to be used. The results of the 2014 census have not yet been released. This is an important consideration, given the large changes the country has experienced in the past decade, including migration. The poverty line also needs to be updated to reflect changes in consumption patterns, particularly because poverty has declined. Efforts to carry out this updating are under way at the NBS. Finally, there is high nonresponse at the national level, at 34 percent by December 2013, and response rates declined by 2.6 percent between 2006 and 2013. This is driven by refusal rates, which peaked in October 2010 at 22.3 percent from a baseline of 10.4 percent in January 2006 and stood at 18.1 percent in December 2013. Starting from an already low response rate in 2006, the response rate continues to be extremely low in urban areas (41 percent), particularly in Chişinău (24 percent), after small but systematic declines. In rural areas and other regions, the changes are much smaller, and the response levels are higher.

Source: World Bank, based on an NBS note on poverty measurement in September 2007 and an NBS note on nonresponse analysis.

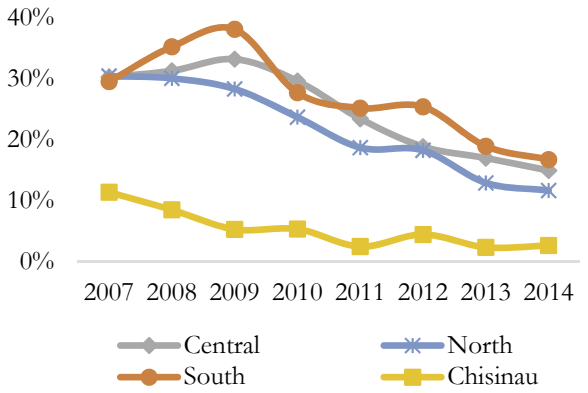
**Poverty has declined throughout the country, but regional disparities persist.** In 2007–09, a period of sharp GDP contraction, the progress in poverty in urban and rural areas diverged. Poverty increased in rural areas and declined in urban area (Figure 8). In 2010–14, both poverty rates fell by half, and rural poverty remained at three times the level of urban poverty (16.3 percent and 5.0 percent, respectively). A similar gap existed between the urban Chişinău, the capital, which accounts for 23 percent of the population, and the rest of the country. Although the gap has shrunk in the last decade, poverty in other regions is still more than five times the rate in Chişinău (Figure 9). Poverty rates in the north, center, and south followed similar trends, although they diverged from the same starting point in 2007.

Figure 8. Poverty rates, by urban and rural areas, %




Source: World Bank calculations based on the HBS.

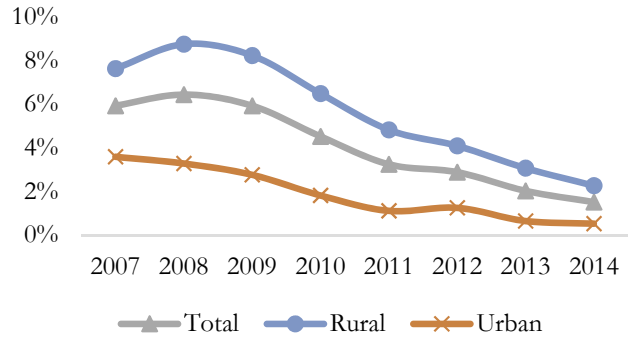
Figure 9. Poverty rates, by region, %




Source: World Bank calculations based on the HBS.

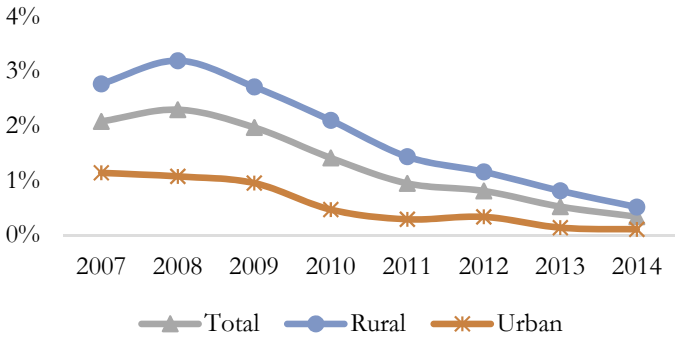
**The depth and severity of poverty in Moldova have also declined in the past decade.** Similar to the headcount ratio, the poverty gap and the squared poverty gap indicators improved in both urban and rural areas in 2007–14 (Figure 10 and Figure 11).[5] This means that the well-being of the people with consumption below the poverty line, particularly the poorest of the poor, also improved significantly even though the people may have remained poor.

Figure 10. Poverty gap, by urban and rural areas




Source: World Bank calculations based on the HBS.

Figure 11. Poverty gap squared, by urban and rural areas



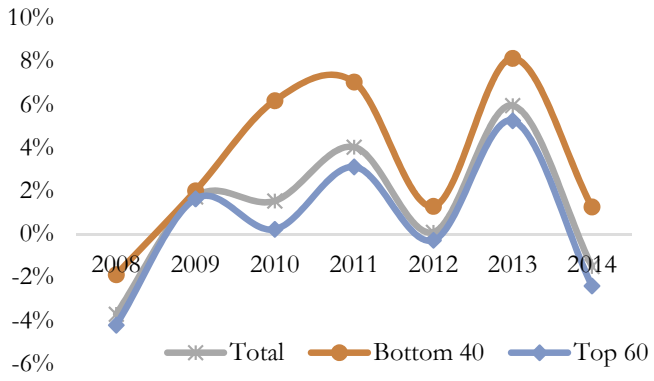

Source: World Bank calculations based on the HBS.

## ... and the country reduced inequality and boosted shared prosperity

**Relatively larger increases in consumption growth among the less well off supported the decline in inequality.** The World Bank goal of *boosting shared prosperity* aims to ensure that growth reaches the less well off and is monitored through an indicator that measures the income or consumption growth among people in the bottom 40 percent of the consumption distribution in a country (the bottom 40). In Moldova, consumption growth among the bottom 40 outpaced consumption growth among the top 60 percent of the distribution (the top 60) in 2007–14 (Figure 12). In 2010, growth rate among the bottom 40 rose slightly, while the rate among the top 60 declined. During the rest of the period, consumption among the bottom 40 and top 60 grew in parallel. As a result of these dynamics across the groups captured in the HBS, consumption inequality declined (Figure 13). The Gini coefficient, for example, declined from 0.3 to 0.23 in 2007–14.

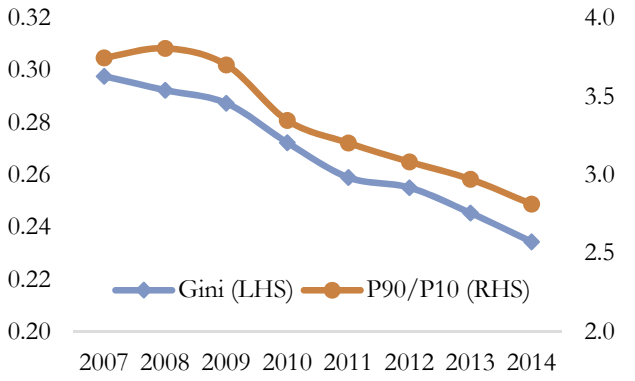
5 The poverty gap is measured as the average distance between the welfare of the poor and the poverty threshold.

Figure 12. Real consumption per capita growth, by group




Source: World Bank calculations based on the HBS.

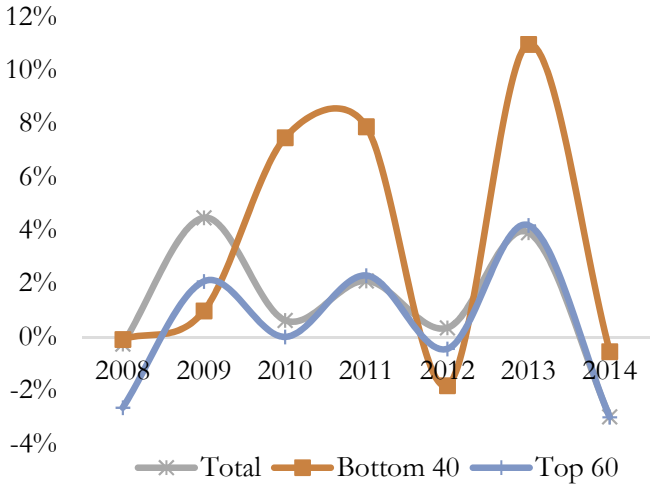
Figure 13. Dynamics of consumption per capita inequality




Source: World Bank calculations based on the HBS.

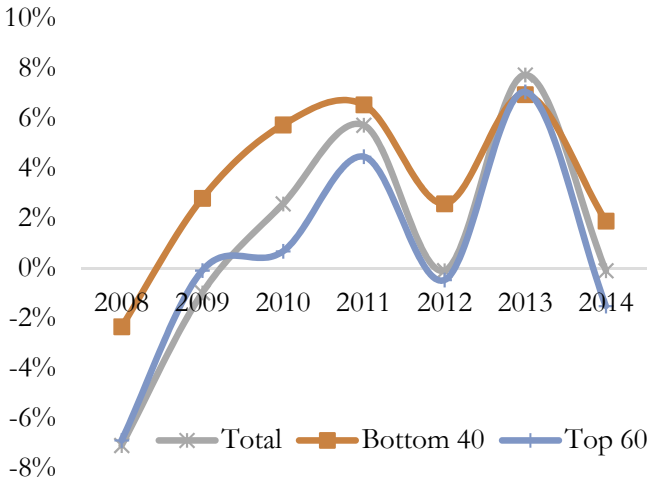
**Consumption growth in urban and rural areas among the bottom 40 was higher overall than among the more well off, but with significant fluctuations.** In particular, the bottom 40 in urban areas faced sharp fluctuations in consumption, while progress among people in rural areas was more stable. The GDP decline in 2012 affected the urban bottom 40 more than people in rural areas, although the former benefited more from the increase in pensions and social assistance in 2012 (Figure 14 and Figure 15). Overall, consumption growth was greater among the bottom 40 than among the top 60, helping to reduce inequality in both urban and rural areas.

Figure 14. Real consumption growth, urban areas




Source: World Bank calculations based on the HBS.

Figure 15. Real consumption growth, rural areas

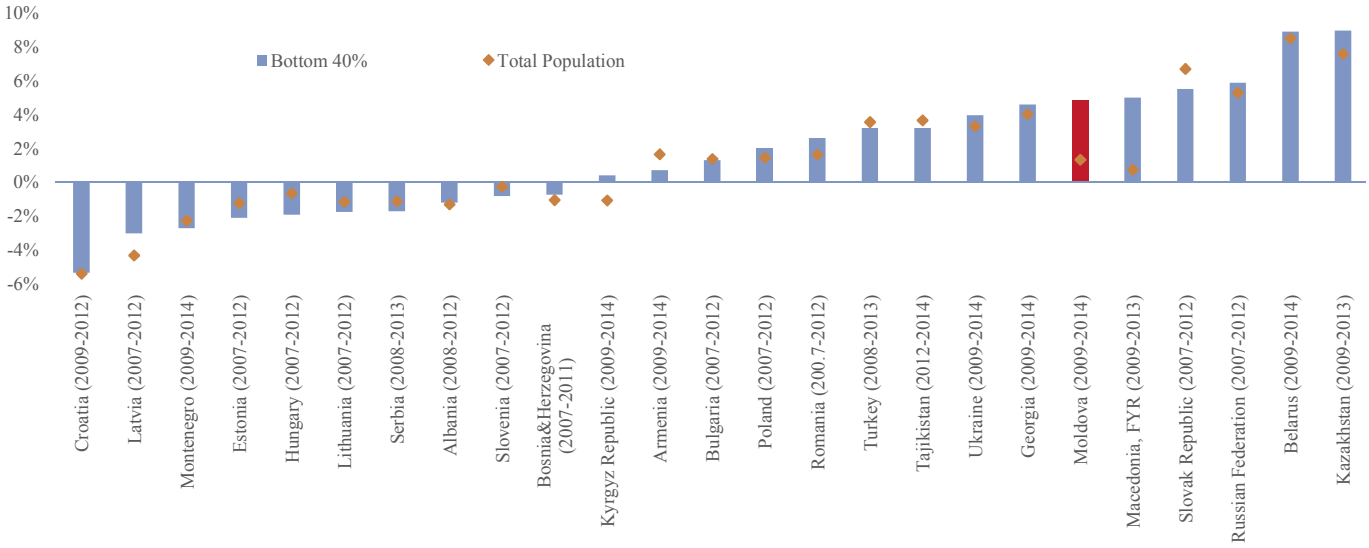



Source: World Bank calculations based on the HBS.

**Overall progress in shared prosperity was remarkable in Moldova relative to other countries in Europe and Central Asia.** Moldova was among the leaders in the shared prosperity indicator in the region (real annualized growth was close to 5 percent in 2008–13), although the total growth in consumption was much slower (below 2 percent) (Figure 16).[6] As a result, the positive gap between the growth of the bottom 40 and the total population was the highest in Moldova, together with the Kyrgyz Republic.

6 The bottom 40 in the region is defined based on a harmonized consumption aggregate, which is different from the consumption aggregate used in Moldova. As a result, the growth rate of the bottom 40 here may be different from the rate in the rest of the analysis.

Figure 16. Real consumption growth, the bottom 40 and total population, by country

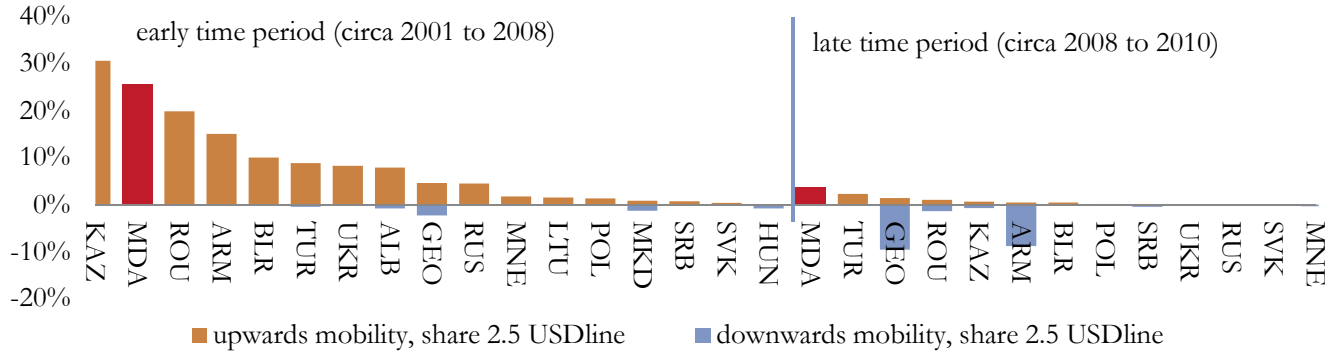



Source: ECAPOV database harmonization as of April 2016, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

# Progress was underpinned by high upward economic mobility

**Moldova presented one of the highest levels of upward economic mobility across the region over the past decade.** Prior to the global economic crisis, upward mobility in Moldova was impressive: 25 percent of the population moved out of extreme, $2.50-a-day poverty (Figure 17). The country experienced a dynamic process of high upward economic mobility and little churning (that is, contemporary movements in and out of poverty).[7]

Figure 17. Households in poverty that escaped poverty or the nonpoor who fell into poverty, %

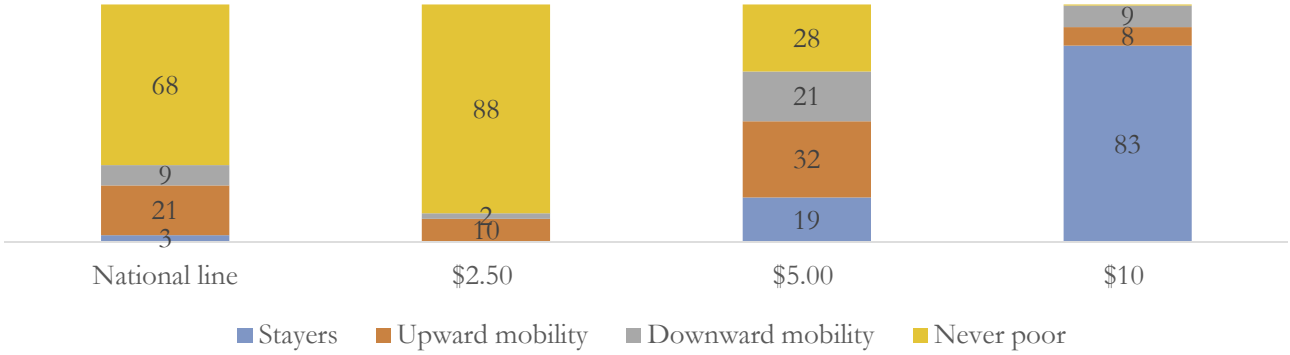



Source: Cancho et al. 2015, using World Bank estimates based on ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.
Note: Based on a linear probability model with the dependent variable equal to 1 if the household experienced upward mobility (cross any threshold) and zero otherwise. Significance evaluated at the 10 percent level. See the source paper for more information on the methodology. The World Bank regional $2.50-a-day poverty line is used.

7 Dávalos and Meyer (2015).

**After the crisis, the rate of upward mobility continued to rise: a large share of poor households were able to improve their living standards and escape poverty, while few nonpoor households fell into poverty.** The share of people who remained poor at the national poverty line was low (3 percent), while the share of those who moved out of poverty was higher than the share of those who fell into poverty. The same dynamics can be observed for the regional poverty lines of $2.50 and $5.00 a day, although churning is more common at the higher poverty lines (Figure 18). However, many households in Moldova remain vulnerable to shocks and thus to falling into poverty. In particular, 9 percent of the 2007 nonpoor (defined according to the national poverty line) were poor by 2014, when the consumption of 21 percent of the population was below $5.00 a day (the regional poverty line).

Figure 18. Intragenerational mobility, by share of the population, Moldova, 2007–14



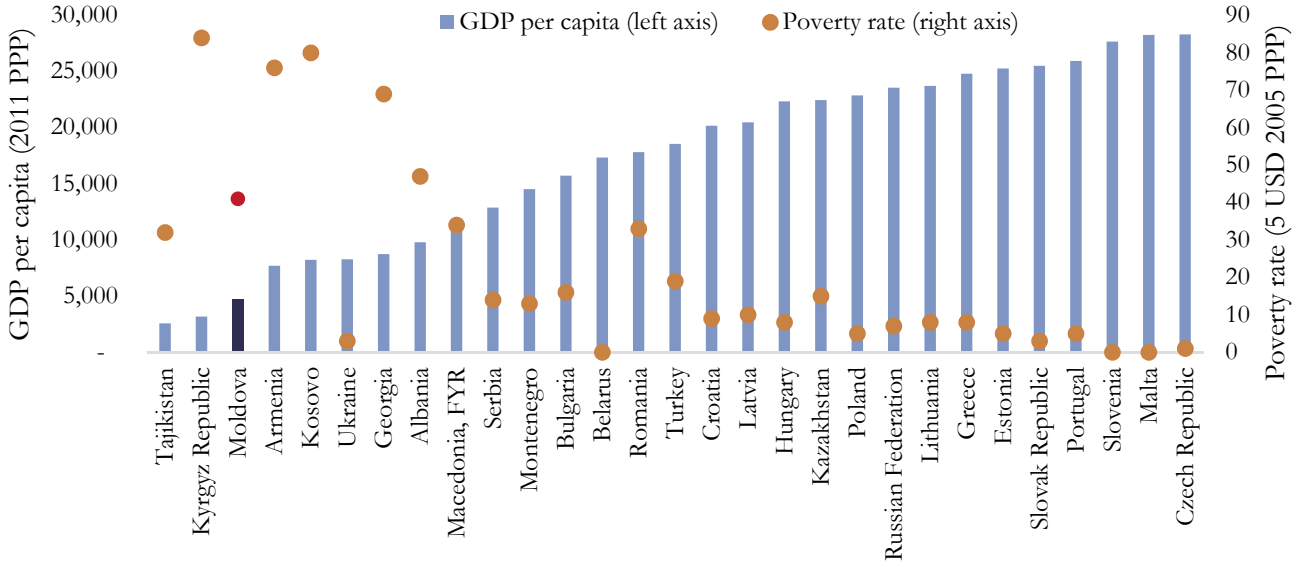

Source: World Bank calculations based on the HBS.

Note: The data are calculated according to the regional poverty lines (2005 PPP) and refer to the lower-bound mobility estimates following the Dang et al. (2011) synthetic panel methodology. See Cancho et al. (2015) for more information on the methodology.

## Yet, Moldova is one of the poorest countries in Europe

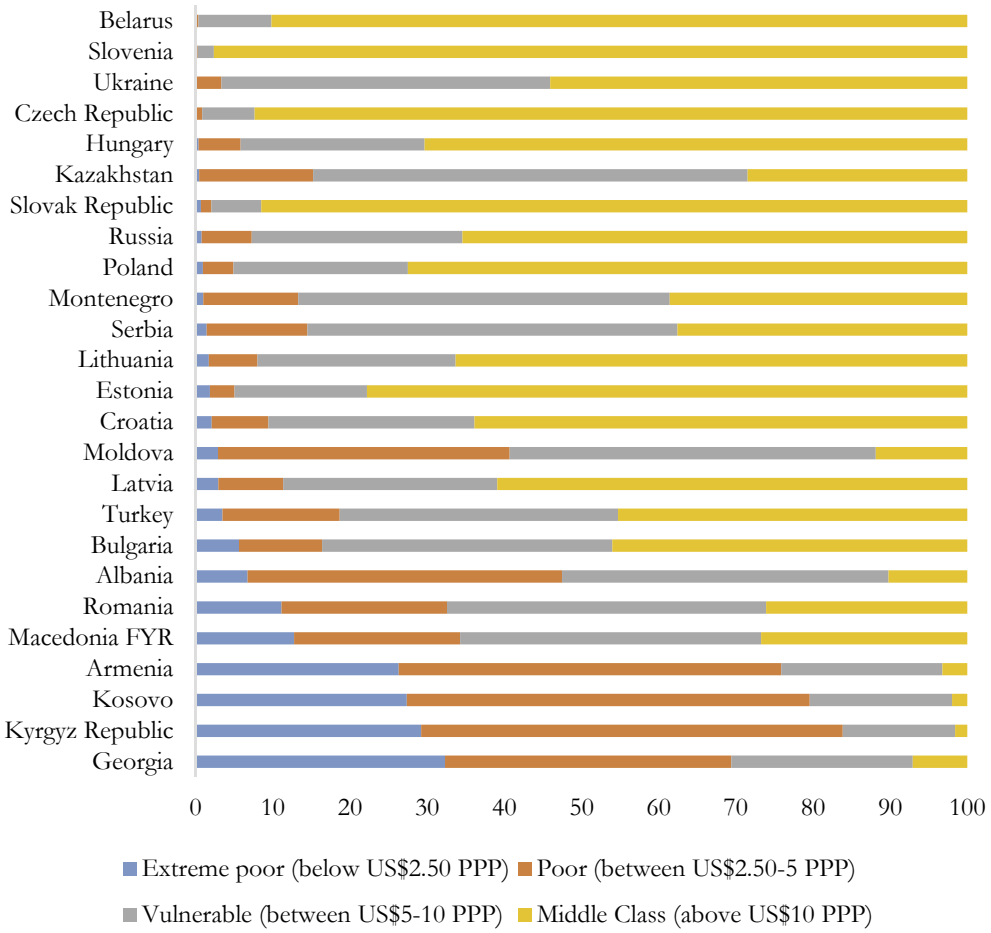
**Moldova is among the countries with the highest poverty rates in Europe and Central Asia and the poorest in Europe**. Its moderate $5.00-a-day poverty rate is lower than other countries in the region at similar GDP, but is among the highest in the region, 40 percent in 2013 (Figure 19). Because it is less unequal than other countries in the region, Moldova had a relatively low extreme $2.50-a-day poverty rate, 6.0 percent, in 2012 and a small middle class (above $10.00-a-day consumption), 11.7 percent. Nonetheless, a large share of the population—41.9 percent in 2012—was concentrated among the vulnerable ($5.00–$10.00-a-day consumption) (Figure 20).

Figure 19. GDP per capita and $5.00-a-day poverty, Europe and Central Asia, latest available data




Sources: ECAPOV database harmonization as of April 2016, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; World Development Indicators database, World Bank.

Figure 20. Welfare group decomposition, by country, latest available data




Source: ECAPOV database harmonization as of April 2016, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

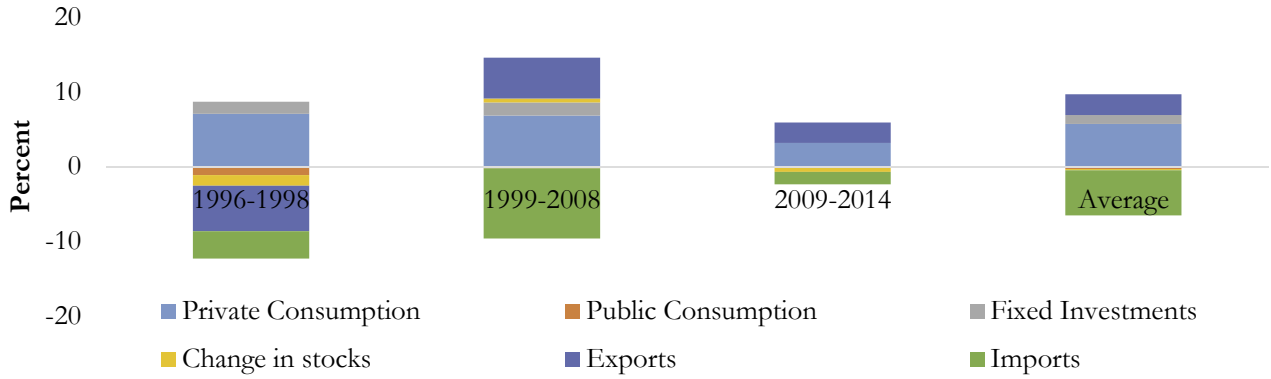
# 3. What drove poverty reduction and shared prosperity?

Given the progress in reducing poverty and boosting shared prosperity, this section seeks to identify the drivers of progress. It focuses on resolving whether economic growth was pro-poor and which sources of income—labor income, public transfers, or remittances—drove the positive performance.

## Economic growth was volatile, but positive and pro-poor overall

**Economic growth in Moldova has been mostly consumption driven.** Fueled by remittances, private consumption contributed as much as 7 percentage points to GDP growth in 1999–2008, that is, prior to the economic crisis, and is a larger contributor than exports (Figure 21).[8]

Figure 21. GDP growth decomposition

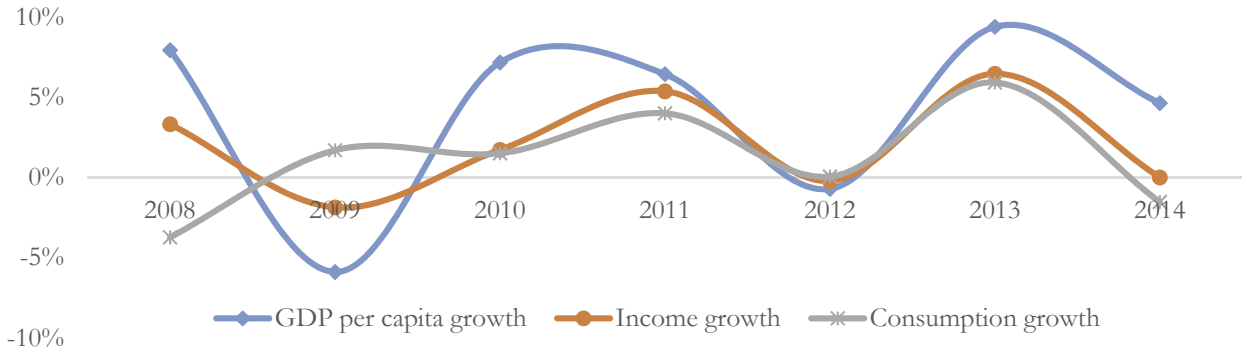



Sources: World Bank 2016b; World Bank calculations based on national accounts.

**Given the large contribution of private consumption to GDP, GDP growth was closely mirrored by both household income and consumption growth.** Household income and consumption trends followed the overall GDP trend closely (Figure 22). However, this also means households suffered from the volatility in the economy. The two downturns as a result of the global economic crisis and the drought, in 2009 and 2012, respectively, drove down household welfare growth. In 2009, households were able to smooth consumption even as income fell sharply.

8 See World Bank (2016b).

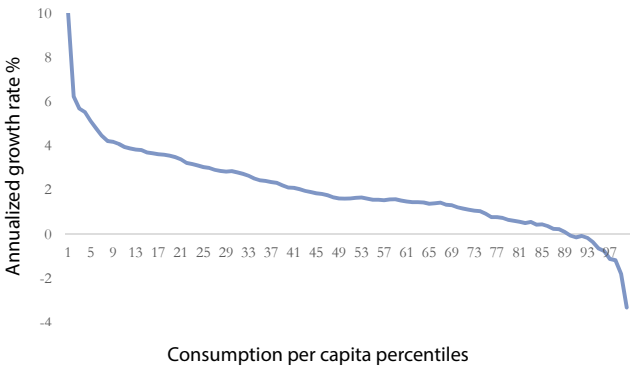
Figure 22. GDP and household income and consumption growth




Source: World Bank calculations based on data of the World Development Indicators database and the HBS.

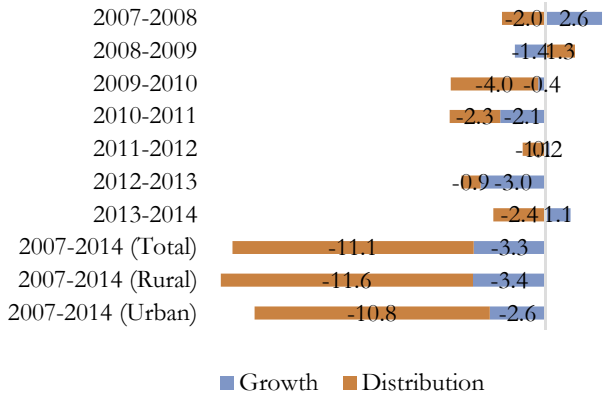
**Consumption growth was pro-poor, and changes in the distribution thus contributed more than the growth in average consumption to the decline in poverty rates.** From 2007 to 2014, consumption growth was positive overall, but average consumption among the bottom 20 percent of the distribution (the bottom 20) grew by more than 10 percent, surpassing the growth rate among higher consumption groups (Figure 23). This positive, pro-poor growth led to progress in poverty reduction, which was therefore driven by changes in both mean growth and redistribution. According to the Datt-Ravallion (1992) decomposition, changes in distribution led, overall, to the poverty decline in 2007–14, except for two brief periods, in 2008–09 and 2012–13 (Figure 24). In 2009–10, after the global financial crisis, the 4 percentage point decline in poverty can be almost fully explained by changes in distribution. In 2013–14, poverty would have increased, given the decline in consumption growth, had it not been for distribution effects. The distribution effects were relatively stronger in both urban and rural areas.

Figure 23. Growth incidence curve, total population, 2007–14




Source: World Bank calculations based on the HBS.

Figure 24. Datt-Ravallion decomposition of changes in the decline in the poverty rate

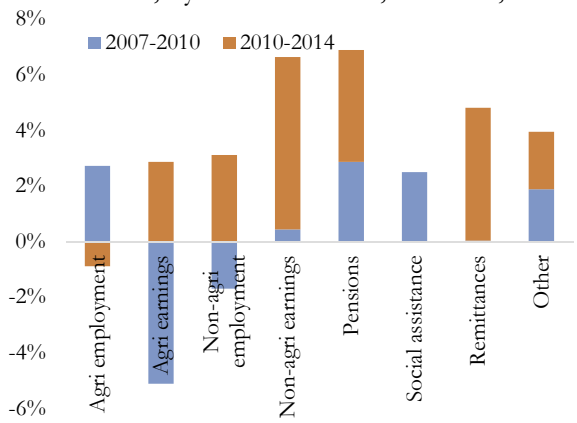



Source: World Bank calculations based on the HBS.

## Labor markets aided the progress mainly by nonagricultural wage increases

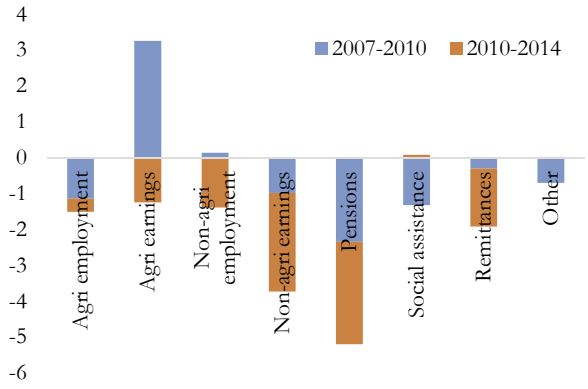
**Domestic labor income growth contributed to income growth among the bottom 40 and to poverty reduction.** Overall, because of a lack of job creation and rising inactivity rates, the contribution of labor income was driven by the nonagricultural sector mostly through wage increases (Figure 25 and Figure 26). Before the economic crisis, the faster growth of nonagricultural earnings relative to agricultural earnings placed many agricultural workers into the bottom 40. After the crisis, agricultural employment and earnings picked up, but this contributed little. Agricultural income was subject to fluctuations over the period, which undermined its contribution to welfare improvements (see below).

Figure 25. Decomposition of income growth, the bottom 40, by income source, 2007–14, %




Source: World Bank calculations based on the HBS.

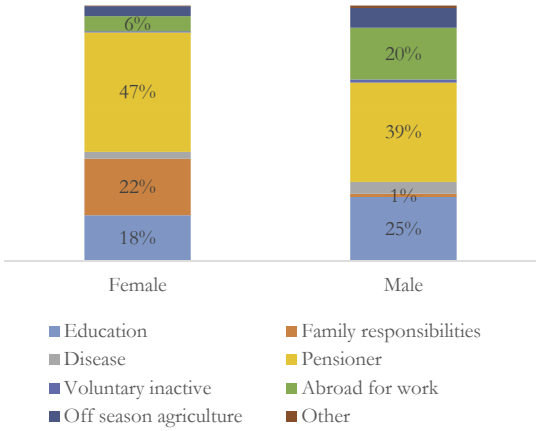
Figure 26. Decomposition of changes in poverty, by income source, 2007–14, % points




Source: World Bank calculations based on the HBS.

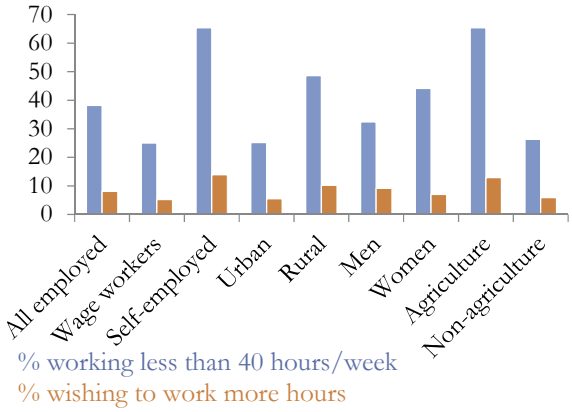
**The inactivity rate rose by 19 percentage points in 2000–14, driving the decline in employment rates.** The decline in labor force participation is explained by international migration and the associated reduction in informal employment.[9] In 2014, for example, 20 percent of inactive men were abroad searching for jobs or working (Figure 27). Early retirement was another factor contributing to the high inactivity rate. In 2014, among inactive men and women in the 15–65 age-group, 39 percent and 47 percent were pensioners, respectively. The sharp increase in the inactivity rate among people ages 57 and above was higher than in previous years; more than 60 percent of people ages 60 and above were inactive.[10] Among women, family responsibilities is an important reason behind inactivity. Of equal concern is the prevalence of underemployment, especially among those who are self-employed and those who work in rural areas or agriculture. This points to the possibly lower quality of jobs in these areas (Figure 28).

Figure 27. Reason for unemployment or inactivity,




Source: World Bank 2016, using estimates based on LFS data.

Figure 28. Underemployment among the employed ages 15+, 2014



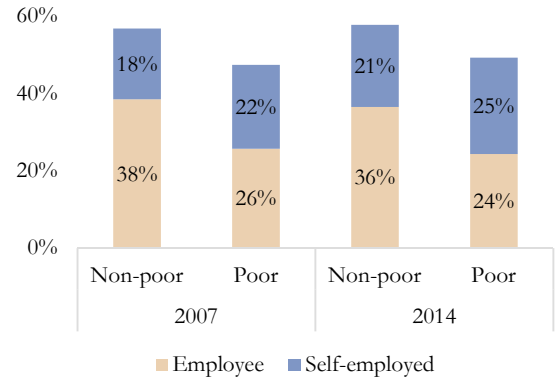

Source: Ronnås 2015, based on LFS data.

**Among those who work, the less well-off experienced an increasingly lower-quality labor market engagement.** Being less well educated, the bottom 40 and the poor had fewer opportunities and less favorable outcomes in the labor market. The structure of employment was quite different for people at the top and the bottom of the distribution, although, in aggregate, the employment and unemployment rates were close in the two groups. The bottom 40 and poor households were employed less often and self-employed more often, especially in the agricultural sector, which usually provides lower-quality jobs (Figure 29 and Figure

9 See World Bank (2014). In Moldovan labor force statistics, people who are working or searching for work abroad are considered inactive.
10 World Bank (2016c).

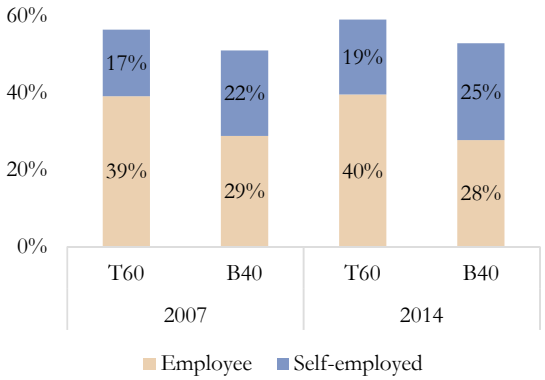
30). Overall, the increase in self-employment among the adult population was alarming because this signaled greater informality.

Figure 29. Employment status of the poor




Source: World Bank calculations based on the HBS.

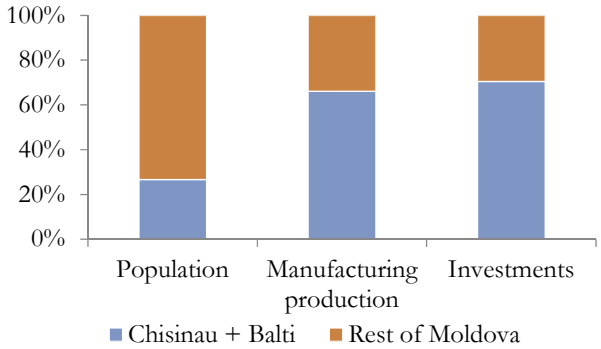
Figure 30. Employment status of the bottom 40




Source: World Bank calculations based on the HBS.

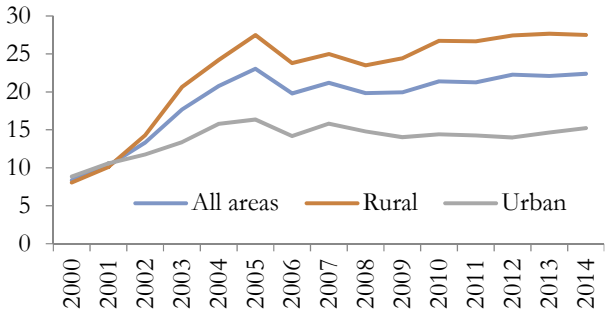
**There is a lack of employment opportunities in nonfarm sectors, especially in rural areas.** Although the majority of the population lives in rural areas, most manufacturing and investment activities take place in the two large cities, Bălți and Chișinău (Figure 31). The concentration of economic development in the capital may serve to perpetuate the competitive gap between firms in the capital and firms elsewhere and represent a constraint on the development of nonagricultural economic activities outside the big cities. The lack of economic diversification in rural areas, combined with poor access to jobs in urban areas, has led to two important trends. One is the high and rising rate of migration from rural areas (Figure 32). Of particular concern is the migration of rural youth. Around 23.6 percent of rural youth ages 15–24 are working abroad, compared with only 15.7 percent in the domestic economy, which points to a lack of attractive employment opportunities among young people in rural areas.[11] The other important trend is a return to subsistence farming (see below).

Figure 31. Population distribution, manufacturing and investment, by location, 2014




Source: Ronnås 2015, based on NBS data.
Note: Investments refer to investments in long-term tangible assets (active material).

Figure 32. Share of employment abroad in total employment, %



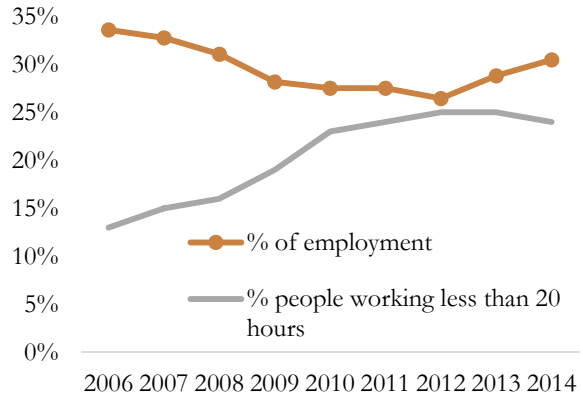

Source: Ronnås 2015, based on LFS data.

**There has been a large shift in employment out of agriculture, which is not reflected in increases in other sectors; rather, subsistence farming is expanding.** Since 2006, the share of workers in agriculture has declined from 34 to 30 percent, partly because of emigration among working-age people in rural areas (Figure 33).[12] Employment in other sectors has been declining, with the exception of trade and transport,

11 Ronnås (2015).
12 Employment in agriculture has experienced a rebound since 2012, partly as a result of new investment in the sector since 2007, but it is unclear if this rebound will be sustainable.

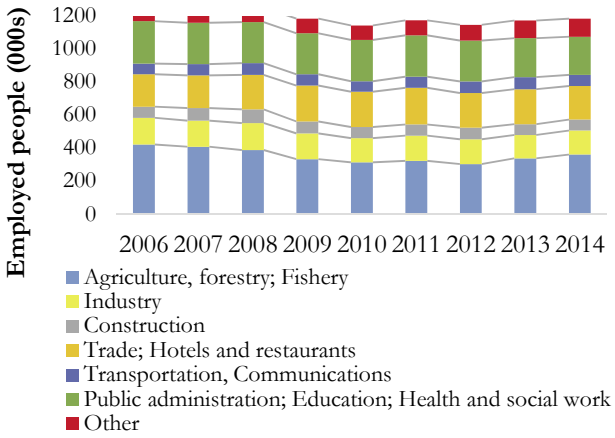
which expanded only slightly (Figure 34). In contrast, the share of people working in low-intensity agriculture (less than 20 hours a week) has been rising steadily, from 13 percent to 24 percent. This agricultural work is often conducted by the owners of the plots and, so, is not officially considered employment. Without formal employment, there is a risk these part-time agricultural workers will not be eligible for pensions and the associated benefits.

Figure 33. Employment in agriculture




Source: World Bank calculations based on NBS and LFS data.

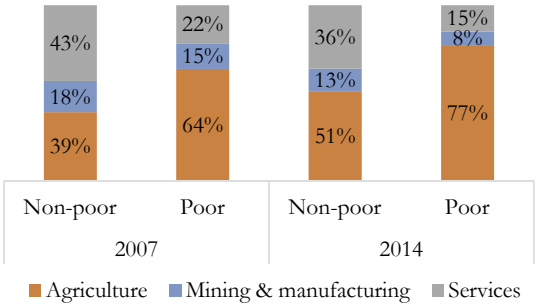
Figure 34. Employed populations, by sector




Source: NBS data.

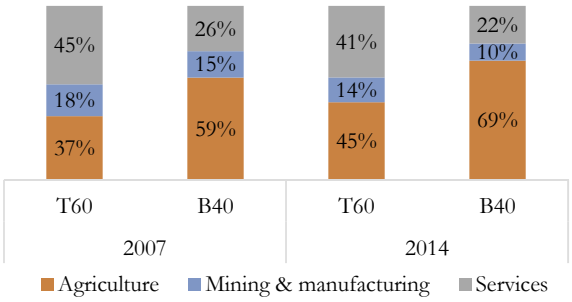
**The poor and the bottom 40 are more likely to be employed in agriculture than in services; this concentration has increased in recent years.** Almost 80 percent of the poor and 70 percent of the bottom 40 are employed in the agricultural sector (Figure 35 and Figure 36). Given the high informality in agriculture relative to other sectors, this dependence on agricultural employment means that the informality rate among the poor and the bottom 40 is high. The volatility and seasonality of agriculture in Moldova, including frequent climatic shocks, in addition to trade bans by Russia for certain agricultural products, means that these workers suffer large fluctuations in income and are highly vulnerable.[13] In 2013, farmers and agricultural workers, together, accounted for 40 percent of the poor. Overall, although farm income continues to make up a significant part of the income of smallholder households, its importance has declined in recent years, from 30 percent in 2007 to 18 percent in 2013, because of the drought in 2007 and the global crisis in 2008–09, among other factors.[14]

Figure 35. Employment sector of the poor




Source: World Bank calculations based on the HBS.

Figure 36. Employment sector of the bottom 40




Source: World Bank calculations based on the HBS.

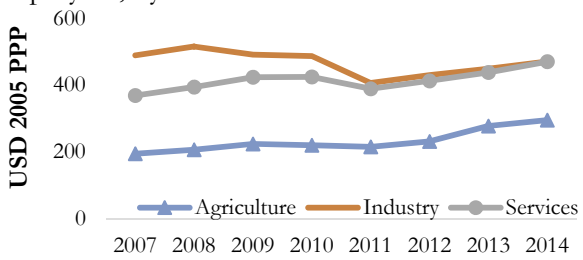
**Although wage growth slowed during the crisis, it has been positive since.** Average wages recovered from zero growth in 2011 to 4 percent in 2012 and almost 6 percent in 2014. The growth was mainly in the nonagricultural sectors, which explains the larger contribution of nonagricultural labor income to income growth and poverty reduction (see Figure 25 and Figure 26). However, because of the concentration of the poor and the bottom 40 in low-productivity agriculture and the fact that agricultural wages are persistently

13 The number of the employed in agriculture ranges from 200,000 during the winter to over 400,000 during the second and third quarters. There are also large seasonal variations in the number of hours worked per week (Ronnås 2015).

14 Möllers et al. (2016) provide more detail on conditions among small farms and their impact on poverty.

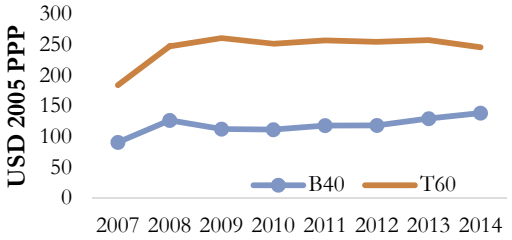
lower than wages in services and industry, the gap in labor income (including wages and earnings from self-employment) between the bottom 40 and the top 60 has shown limited signs of narrowing in recent years (Figure 37 and Figure 38).

Figure 37. Average monthly salary earnings for employees, by sector




Source: World Bank calculations based on NBS data.
Note: Average gross monthly earning represents the relation between the gross amounts for employees by the economic and social units (remuneration fund) and the number of employees.

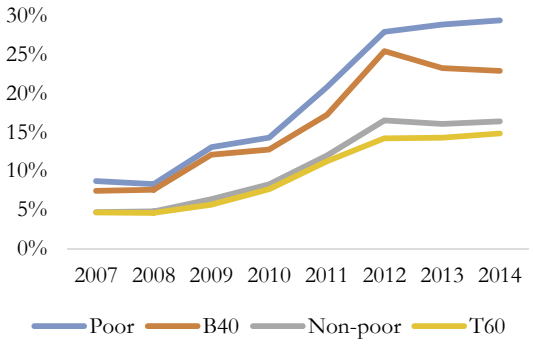
Figure 38. Monthly labor income, bottom 40 and top 60




Source: World Bank calculations based on the HBS.

**More broadly, given the semisubsistence nature of the farm sector, its potential to be a driver of progress is limited.** Semisubsistence farming is a core component of rural livelihood strategies, and this is likely to persist in the medium and longer term. Smallholder farming is prevalent in agricultural work. The 2011 General Agricultural Census revealed that more than half the farms cultivate less than 0.5 hectares, and about 95 percent use an area less than 3 hectares. Small family farms produce around 71 percent of total agricultural output.[15] Livestock production is also primarily managed by smallholders.[16] Most smallholder farms are subsistence farms. Subsistence farm households accounted for 74 percent of all farm households in 2013, a rise from 73 percent in 2007. Smallholder farms are more likely to switch to subsistence farming (39 percent) than to commercial farming (13 percent). Adults are increasingly engaging in low-intensity farming (less than 20 hours a week), especially among the poor and the bottom 40 (Figure 39).[17]

Figure 39. Share of low-intensity agriculture among adults (aged 15+)




Source: World Bank calculations based on the HBS.

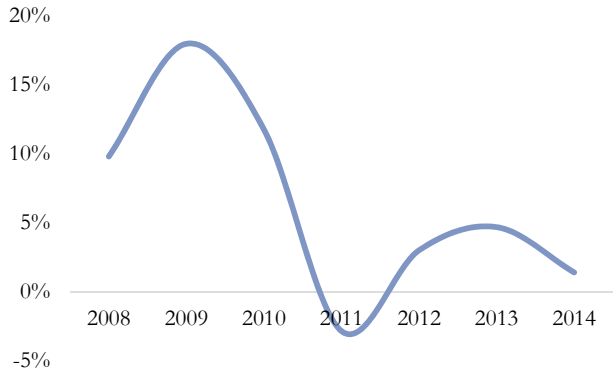
**Dependence on subsistence farming undermines the ability of households to enhance their welfare.** Subsistence farming is often labor intensive; the level of productivity is typically low and, in Moldova, steadily declining. This outcome is linked to missing investments and a lack of capital and credit availability, which have resulted in low-yield technologies and poor use of fertilizers and pesticides.[18] Subsistence farming households are often small and woman-headed and characterized by lower educational attainment and older household heads with health problems, which means that the members of these households have few alternatives in the labor market. Lacking a dynamic land rental system, smallholders have limited opportunities to commercialize and increase the size of their farms. Low nonfarm income also means they do not have sufficient resources to mechanize or invest in inputs to raise productivity.[19]

15 Volk et al. (2015).
16 World Bank (2015a).
17 This analysis draws on Möllers et al. (2016).
18 Munoz et al. (2015).
19 Möllers et al. (2016).

# Public transfers, mainly pensions, drove some improvement in living standards

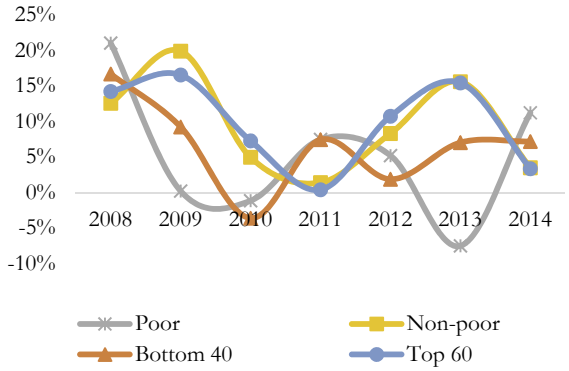
**Income growth and poverty reduction were partly driven by a pension increase.** They contributed to reducing poverty by 4.8 percentage points in 2007–14. Average pensions rose 50 percent cumulatively in real terms in that period.[20] This partly led to an increase in the share of pensions in total income among the poor and the bottom 40. More importantly, pensions were the main driver lifting people out of poverty and out of the bottom 40. In particular, the pension increases in 2009 and 2010 generated a reduction in the share of pensioners who were among the poor and the bottom 40, leading to a drop in the average pension among these groups (Figure 40 and Figure 41); in other words, the composition of those in the various groups changed. The government raised pensions and social assistance that supported vulnerable categories of the population significantly, though mostly in urban areas. However, because real pensions fell slightly in 2011, pensioners moved back into the bottom 40 and among the poor, causing a rise in the average pension among these groups.

Figure 40. Real growth, average monthly pension, % year-on-year




Source: World Bank calculations based on NBS data.

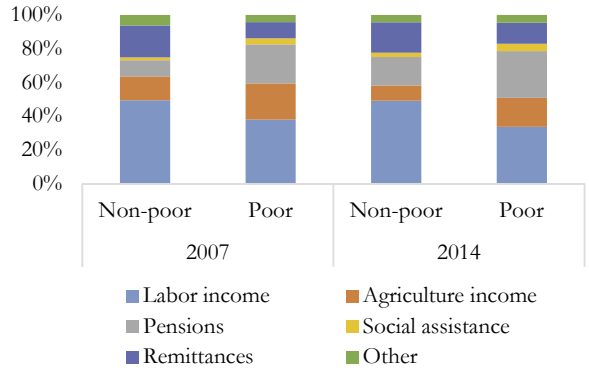
Figure 41. Real growth, average monthly pension, by welfare group, % year-on-year




Source: World Bank calculations based on the HBS.

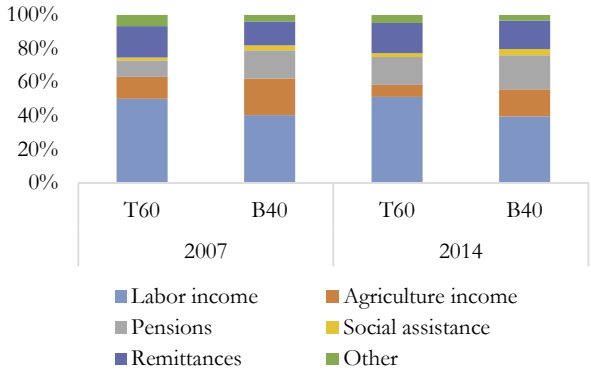
**The expanding role of pensions is reflected in the structure of household incomes.** The share of pensions in the budgets of the poor rose from 23.2 percent to 27.7 percent during the period. A similar pattern was observable among the bottom 40 (Figure 42 and Figure 43). Pensions are a key income source: around 28 percent and 20 percent of total household income among the poor and the bottom 40 were accounted for by pensions in 2014, respectively, compared with 17 percent among the nonpoor and the top 60. The dependence on pension income was much larger among urban households, while the dependence on remittances was greater among rural households (Figure 44 and Figure 45).

Figure 42. Income structure of the poor, %




Source: World Bank calculations based on the HBS.

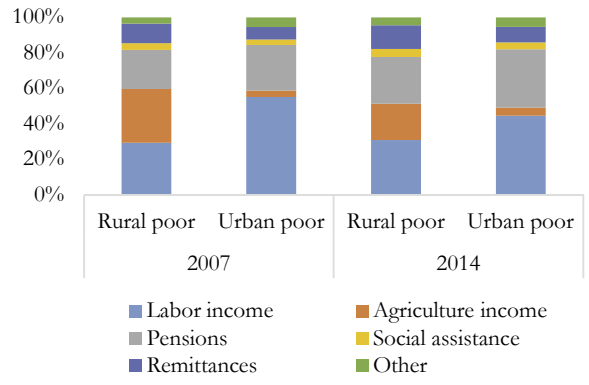
Figure 43. Income structure of the bottom 40, %




Source: World Bank calculations based on the HBS.

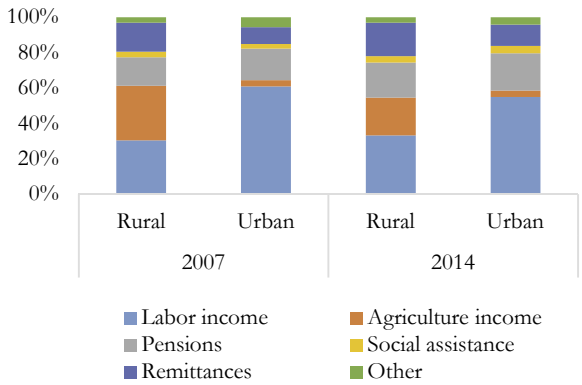
20 NBS data.

Figure 44. Income structure, poor, by area




Source: World Bank calculations based on the HBS.

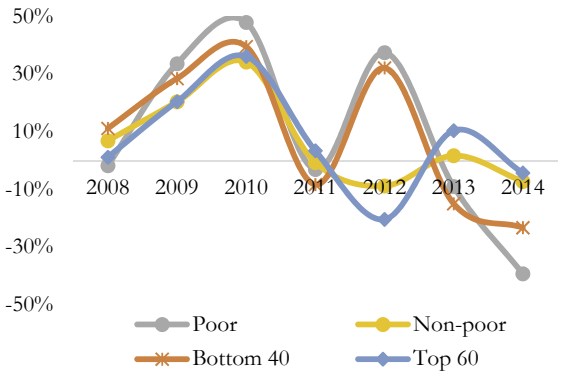
Figure 45. Income structure, bottom 40, by area




Source: World Bank calculations based on the HBS.

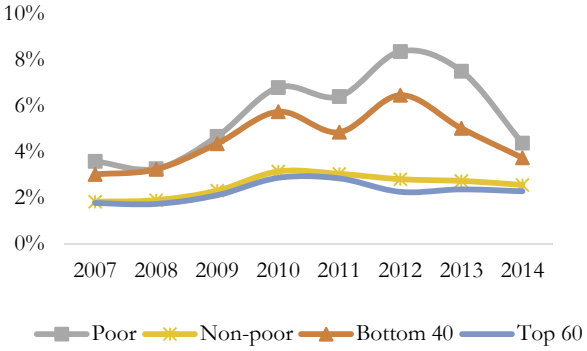
**Social assistance is targeted, but the benefits are small and insufficient to protect the poor and vulnerable.** The share of social assistance in the budgets of poor households rose from 3.6 percent to 4.4 percent in 2007–14. Social assistance provided a cushion to households in 2009 and 2012, when total household consumption stagnated following the contraction of GDP during the crisis in 2009 and during the drought of 2012. The real growth in social assistance was high among both the poor and the bottom 40 during these two periods. Meanwhile, social assistance did not grow among the top 60 and the nonpoor in 2012, indicating that targeting was effective (Figure 46). As a result, the share of social assistance almost doubled among the poor, from 4 percent to 8 percent in 2007–13, although it fell again in 2014 even as consumption declined (Figure 47). The main targeted programs are Ajutor Social (social aid) and a heating allowance program, both of which specifically address people most in need and are relatively well targeted. However, coverage is not wide, which limits the ability of the programs to respond to sharp downturns in consumption such as in 2014. The level of the benefits are also not sufficient to provide full security for the vulnerable categories of the population. There is substantial room for additional support.

Figure 46. Real year-on-year growth of social assistance, by group




Source: World Bank calculations based on the HBS.

Figure 47. Share of social assistance in overall income, by group




Source: World Bank calculations based on the HBS.

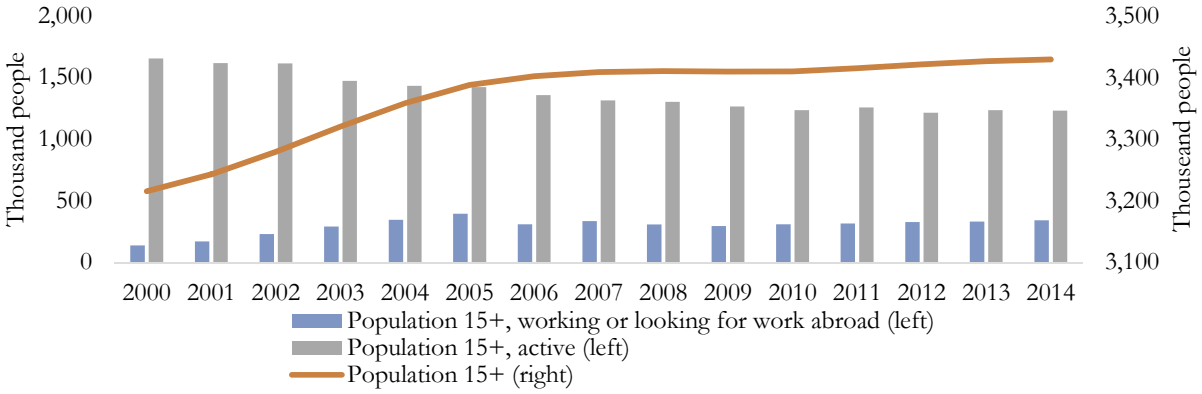
# Migration and remittances have shaped growth, poverty reduction, and shared prosperity[21]

**Migration is substantial, and a large share of migrants are labor migrants.** Although precise data are lacking on labor migrants from Moldova, various estimates point to a high share of the working-age population looking for jobs and working abroad. According to the LFS, a peak of labor emigrants, 394,500, was registered in 2005.[22] The results of surveys conducted by the Center of Sociological Research and

21 This subsection draws on Prokhorova (2016).
22 Labor migrants are defined as people ages 15 and above who are looking for work or working abroad.

Marketing suggest that one-quarter of the economically active population was working abroad in mid-2006.[23] According to a more recent International Labour Organization survey on labor force migration in Moldova, 460,000 people, or 17 percent of the working-age population, were working abroad in 2012.[24] The share of the economically active population involved in labor emigration grew from 8 percent to 27 percent in 2000–05. In recent years, the number of people working abroad stabilized, but the economically active population continues to decrease, hence raising the share of migrants among the active population (Figure 48).[25]

Figure 48. Adult population (15+) who are active in Moldova or abroad, 2000–14




*Sources:* World Bank calculations based on World Population Prospects: The 2015 Revision (database), Population Division, Department of Economic and Social Affairs, United Nations, New York, http://esa.un.org/unpd/wpp/; NBS data.

**Migrants are usually men who work in low-skilled jobs.** The profile of labor emigrants changed over the 2000s, reflecting the shifts in the composition of the population. Recent research shows that the average age of a typical emigrant increased substantially, from 30.5–31.0 years in 2000–02 to 35.0–36.0 years in 2010–12. According to LFS data, men dominated among emigrants, accounting for about 67.6 percent of the total registered in 2012. The main group of migrants was represented by people employed in low-skilled jobs (61.9 percent), especially in construction (56.5 percent of total migrants). About one-third were employed as unqualified labor (32.5 percent), and only 17.9 percent were employed in services and trade (Table 1).[26] In recent years, however, there has been an increase in the share of emigrants with higher educational attainment, mirroring the improvement in educational attainment within the general population.

Table 1. Moldovan labor emigrants, by labor sector in home and destination countries, 2012

| *Labor sector* | *In home country, %* | *In destination country, %* |
|---|---|---|
| Agriculture and forestry | 43.3 | 2.8 |
| Mining | 9.5 | 2.6 |
| Construction | 13.1 | 56.5 |
| Trade and commerce | 11.6 | 9.7 |
| Services (hospitality sector) | 2.2 | 3.6 |
| Transport and communication | 5.0 | 3.6 |
| Household services and assistance | 0.2 | 18.7 |
| Other activities | 15.1 | 2.5 |
| Total | 100.0 | 100.0 |

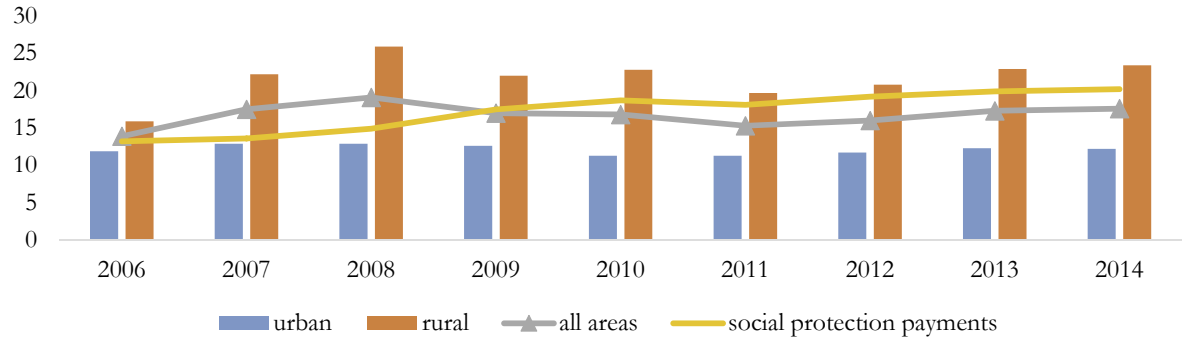
Sources: Prokhorova 2016; calculations based on Vremiş et al. 2012.

23 Lücke, Mahmoud, and Pinger (2007).
24 ILO (2012).
25 These shares are based on population numbers estimated from the 2004 Census. The 2014 Census, which has yet to be released may indicate lower population overall, higher share of migrants to working age population.
26 Ibid.

**The unique geographic location of Moldova has provided the population with many opportunities for migration.** Situated between the EU and Russia, many Moldovans choose these two key emigration directions. Currently, in the Commonwealth of Independent States (which attracts 63 percent of all Moldovan emigrants), the most popular migration destination is Russia (56 percent of the labor migrant stock). In the EU, which accounts for approximately 30 percent of all Moldovan emigrants, the dream migration country is Italy (19 percent), followed by Poland and Romania. The migration outflows toward the two main destinations—Russia and Italy—differ not only in absolute numbers, but also in gender composition and the rural or urban background of the migrants. For example, emigrants oriented toward Russia are more typically men from rural areas, whereas women represented 68 percent of the emigrants to Italy. While, in Italy, the typical migrant jobs include babysitting and catering, foreign workers in Russia are mostly employed in construction.[27] Relatively older migrants prefer the EU, while younger migrants prefer the Commonwealth of Independent States.[28] Migrants to Russia are more likely to stay there, given the legal possibility of obtaining Russian citizenship, while migrants to Europe are more likely to return to Moldova in their retirement. These differences have implications for remittance behavior. Migrants working in the EU countries earn more and send larger amounts of money home, while those working in Russia send relatively small amounts of money.[29]

**The migration patterns resulted in a surge in remittances.** Because of the limited productive capacity of the economy, which was reflected in low productivity and little employment creation, remittance inflows were the primary force driving the boom in private consumption and the surge in imports during the 2000s. Remittances are a critical source of foreign currency in Moldova: they are second after exports and before foreign direct investment, loans, and external assistance on the list of sources of foreign exchange. In 2010–14, remittances accounted for around 20 percent of the income growth of the bottom 40. In 2006–08, they surpassed social protection payments to households through pensions, child allowances, compensation, and other social support (Figure 49).

Figure 49. Remittances as a share of monthly disposable household income, 2006–14, %

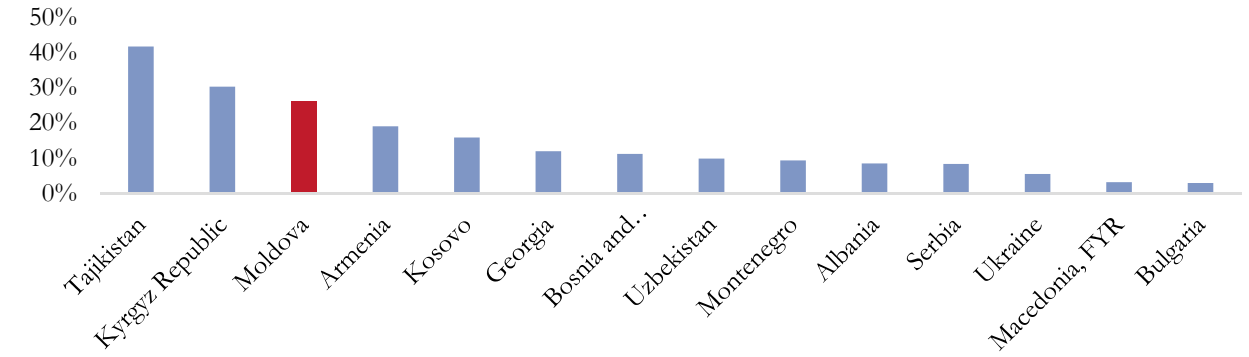



Source: World Bank calculations based on the HBS.

**The economy was highly dependent on remittances.** As a share of GDP, remittance inflows tripled from 11.5 percent to a peak of 32.8 percent in 2000–06, a period of substantial poverty reduction, but also declines in employment.[30] By 2014, remittances represented 26 percent of GDP, and, after Tajikistan and the Kyrgyz Republic, Moldova was the most remittance-dependent country in the region (Figure 50). Overall, about a fourth of the population benefited from remittances in 2014. Among the nonpoor, 26.7 percent received remittances, and remittances accounted for 54.6 percent of their incomes. Although a smaller share among the poor received remittances, 14.9 percent in 2014, those who did were highly dependent on them, deriving more than half of their incomes from these flows. The share of the inflows in disposable household income was two times greater among rural households receiving remittances relative to corresponding urban households.

27 Hristev et al. (2009).
28 ILO (2012).
29 Prohniţchi and Lupuşor (2013).
30 HBS data for this period does not include data on household incomes, thereby curtailing the use of poverty decompositions and income growth exercises to determine the role of remittances more clearly.

Figure 50. Remittances as a share of GDP, 2014

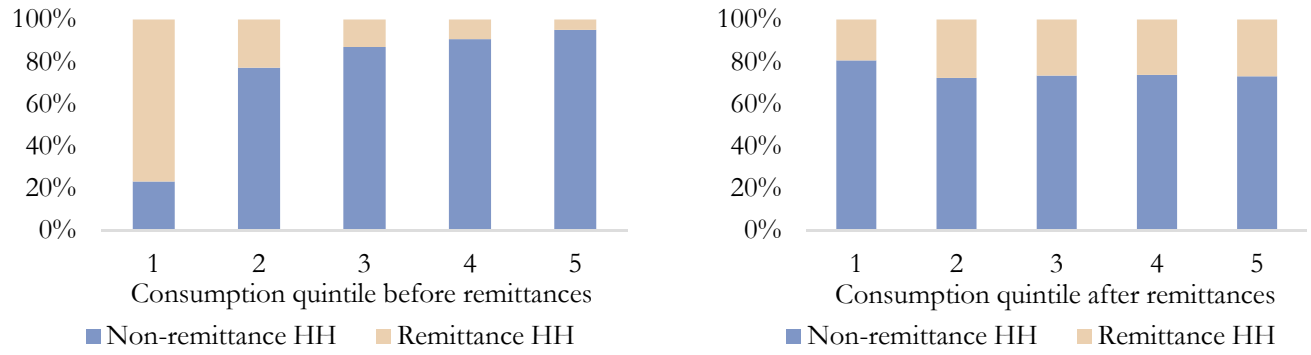



Source: World Bank calculations based on data of the Development Economics Prospects Group.

**Alongside pensions, migration and remittances contributed to lifting people out of poverty.** Remittance-receiving households were more likely to be in rural areas (56 percent). Remittances helped many households escape poverty and boost their welfare. Indeed, in 2014, 17.9 percent of the nonpoor would have been poor had they not received remittances. Among remittance-receiving households, 60 percent would have been in the bottom quintile without remittances. Remittances helped move 75 percent of these households to higher income groups (Figure 51). They also helped reduce inequality—the Gini coefficient—from 0.29 to 0.22.[31]

**However, not all households benefit from remittance income.** The share of emigrants in the total population varies across the country. For example, the highest emigration rates were registered in southern Moldova, a poorer region. Thus, in Gagauzia, up to 34 percent of the adult population works and resides abroad. The share is much lower in the northern part of the country. However, the survey conducted in 12 rural raions in 2008 by the Center of Sociological Research and Marketing found that around 25 percent of emigrant households cannot count on remittances from abroad.[32] Therefore, although the northern and central regions do not send out the most emigrants, they account for the majority of remittance households, 31 percent and 44 percent, respectively.[33]

Figure 51. Household welfare ranking before (left) and after (right) remittances




Source: World Bank calculations based on the HBS.

31 The welfare estimates with and without remittances do not take into account household coping behaviors.
32 Hristev et al. (2009).
33 Data of the 2007 European Bank for Reconstruction and Development's survey on remittances in Moldova.

# 4. Abiding challenges and the issue of sustainability

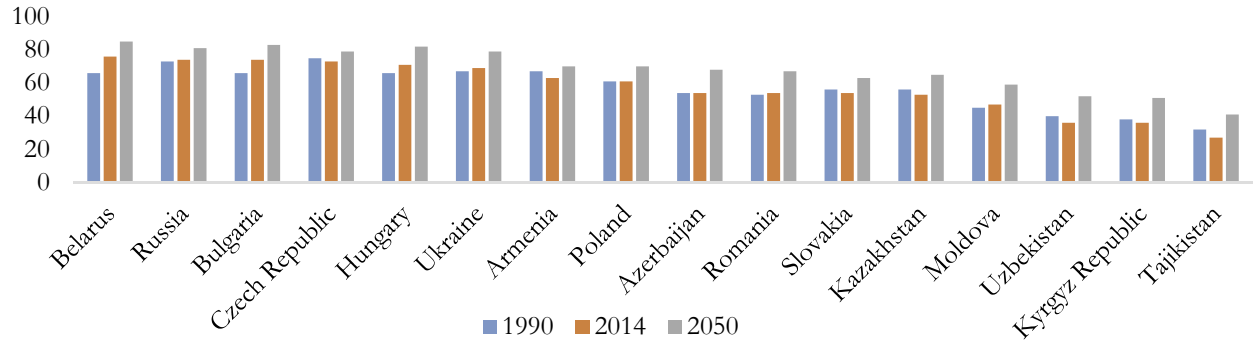
The remaining challenges that could affect the prospects for poverty reduction and shared prosperity include (1) spatial and cross-group inequalities and (2) increasing risks to sustainable progress.

## Spatial and cross-group inequalities persist

### The poor and bottom 40 are concentrated in rural areas

**Moldova is a rural country, and poverty is a rural phenomenon.** Around two-thirds of the population are estimated to live in rural areas.[34] Most people live in the north (31.5 percent) and the center (30.5 percent). Although the share of the rural population has declined, partly driven by labor migration, the urbanization profile reveals a greater similarity with Central Asia than with Eastern Europe (Figure 52). Rural poverty stands at 19 percent compared with urban poverty, at 5 percent. Of the bottom 40, 75 percent live in rural areas, while 84 percent of the poor live in rural areas; only 7 percent and 2 percent, respectively, live in large cities (Figure 53 and Figure 54). This is consistent with a higher poverty rate in rural areas relative to cities. Part of the higher poverty rates in rural areas may be associated with the nature of income sources. Rural people are dependent on agricultural income and remittances, which are more volatile compared with other income sources, making these people more vulnerable to poverty (see below and Figure 42 and Figure 43).

Figure 52. Urban population share in selected countries, %



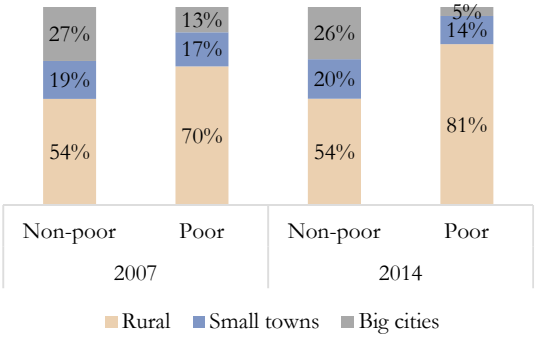

Sources: Prokhorova 2016; calculations based on NBS data.

**Residence in rural areas also explains the poor's limited access to markets, jobs, and modern services.** The lack of road infrastructure and transport services plays a crucial role in preventing people from connecting to employment and economic opportunities, markets, health care, and education; the extent to which this is a constraint on rural areas in Moldova requires more research (see below and **Box 2**). Thus, although a greater share of the population is living in rural areas, the rural population receives only a quarter

34 Preliminary results of the 2014 census show urban areas accounting for 34.2 percent of the population (995,227 people), compared with 65.8 percent (1,918,054 people) in rural areas. In June 2015, the NBS produced lower estimates of the urban and rural populations: 1,507,3000 (42.4 percent) and 2,047,900 (57.6 percent), respectively. See "Demographic Situation in the Republic of Moldova in 2014," NBS, Chişinău, http://www.statistica.md/newsview.php?l=en&idc=168&id=4787.

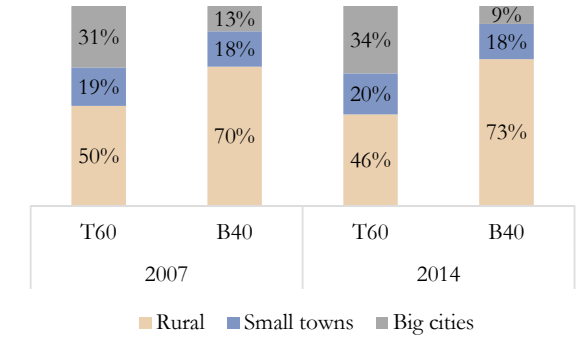
of the amount of water supplied to the urban population. Similarly, urban residents receive almost four times more gas than the rural population.[35]

Figure 53. Type of settlement, poor and nonpoor




Source: World Bank calculations based on the HBS.

Figure 54. Type of settlement, bottom 40 and top 60




Source: World Bank calculations based on the HBS.

## Box 2. Transport and Household Welfare in Moldova

The literature suggests that transport infrastructure and policies—direct transport infrastructure investments, price instruments, and regulations—can induce beneficial outcomes among households and firms, foster growth, and reduce poverty through five key mechanisms: (a) lowering transport costs (including time costs), which promotes trade and structural change in local economies, creates agglomeration effects, and leads to higher productivity; (b) improving access to input, output, and labor markets and public health care and education services, especially in remote and rural areas, which favors social inclusion and provides better matches to the skills and needs of individuals; (c) cutting the prices of consumption goods and services; (d) creating jobs in road construction and maintenance and in public and private transport services; and (e) expanding connectivity across regions and sectors to promote mobility and enhance productive capacity.[a]

These beneficial effects largely depend on supportive conditions in other sectors. Thus, linking unemployed rural workers to nonfarm jobs may require training to trim the skill mismatch, and manufacturing, trade, and service development needs an enabling environment for doing business (Berg et al. 2015). The link between better transport infrastructure and poverty reduction through greater farm production can be mediated by solving issues of land ownership, access to credit, trade barriers, and labor mobility (Starkey and Hine 2014).

Transport policies may also affect households and locations differently, which often leads to ambiguous aggregate effects. For instance, households in a village closer to an urban center are likely to pay lower prices for consumer goods (manufacturing and services) because of lower transport costs (Emran and Hou 2013). But they may also face higher prices for housing and agricultural products because of their urban proximity. The relocation of activities from one place to another induced by changes in the transport network may have potential gains in one place and losses in the other (Berg et al. 2015). Rural residents with greater access to capital and resources, particularly more well educated individuals, are more able to adapt to changing market conditions and use new economic opportunities. For this reason, transport upgrades are less likely to benefit the chronically poor, at least in the short run (Benjamin et al. 2002; Duncan 2007; Starkey and Hine 2014).

Given the large urban-rural welfare gap in Moldova, exploring how connectivity is associated with household consumption, income, and employment outcomes in rural areas is key. This may help expand the knowledge base within a multicriteria approach to prioritize road investments through a welfare and equity lens.

35 World Bank (2016b).

This initial research focuses on a specific aspect of transport infrastructure and policies: the distance of households to roads. Using new geographic information system–based data on the distance of communities to three types of roads, local, republican, and magistral (highways), merged with data on households and individuals from the 2008–13 HBSs can help identify the links between distance to roads, household welfare, and labor market outcomes. Proper instruments to deal with the potential endogeneity of transport investments were not found; so, this paper relies on repeated cross-sections with raion- and year-fixed effects and assumes that the road network and the quality of the network rarely change within a short period.

The results on the effect of distances to local, republic, and magistral roads on outcome variables among rural households and individuals are mixed and nonrobust. These outcome variables include real and spatially deflated rural household per capita consumption, labor income, agricultural income among individuals, rural household nonfarm income, the probability of poverty based on the absolute poverty line and subjective measures, an individual's probability of employment, and the probability of employment in agriculture, conditional on being employed.

The results suggest other aspects of transport infrastructure and policies should be examined, such as prices and transport services, which may matter more than distance to roads. Research is thus needed to identify how road quality, transport costs, and the market for transport services affect, especially, rural welfare. Given the heterogeneous effects of transport connectivity on labor markets and household welfare, the impact may be muted, and unpacking the household and individual benefits of enhanced road networks would be crucial.

Source: Kupets, Olga (2016), Background paper, with Abla Safir, World Bank, Washington, DC.
a. Berg et al. (2015) supply a recent review of the literature on transport policies and development. Starkey and Hine (2014) provide a review of existing research on the relationship between transport and poverty reduction (covering about 360 studies). The same literature warns about possible negative externalities generated by transport activities such as air pollution, road accidents, congestion, impact on health, displacement of the poor, and degradation of ecosystems.

## Ethnic and language minorities have less access to services and labor market opportunities[36]

**Ethnic and language minorities face significant barriers to using public services.** Moldova is an ethnically diverse country. Around one-quarter of the population is of other ethnic groups, such as Gagauzian, Romanian, Russian, and Ukrainian.[37] There is also substantial diversity in the languages spoken as the first language; over a quarter of the population is not exposed to Moldovan at home. In regions where non-Moldovan groups are more prominent, such as in Gagauzia, children receive substandard instruction in the national language at school. In 2011, 10 percent of high school graduates in Gagauzia failed to achieve even a minimum passing score in their Romanian language exams, and were in jeopardy of not graduating. Part of the reason is that there are not enough qualified Romanian-speaking teachers in Gagauzia or enough teachers willing to teach in Gagauzia to help improve the quality of learning of the national language. As the government rolls out the open governance initiative through e-services (all in the national language), the barriers minority groups will face in using these services will become greater.

**The barriers translate into lower labor market opportunities and welfare outcomes.** These gaps in education represent disparities in human capital, which undermine the capacity to obtain quality employment. Given that data on minority groups are scarce and tend to be underrepresented in national surveys, there is little information about the magnitude of the disparities. For example, the Roma, who account for a small share of the population (around 0.4 percent, though they are likely underreported), fare poorly relative to the general population on almost all welfare indicators. One in five Roma are unable to read or write, and

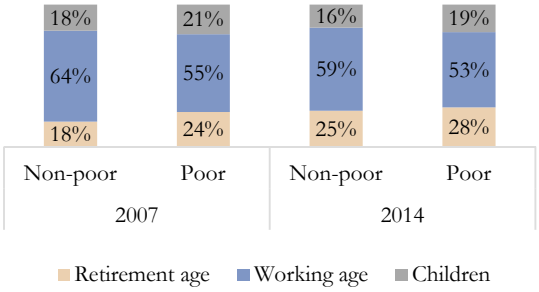
36 Adapted from World Bank (2016b).
37 Based on data of the 2004 census.

about a third complete primary school only. One-third of Roma households live in an insecure dwelling, and more than 80 percent do not benefit from basic housing conditions such as the supply of potable water and sanitation facilities.[38]

## Households with children and elderly are less well off than the rest of the population

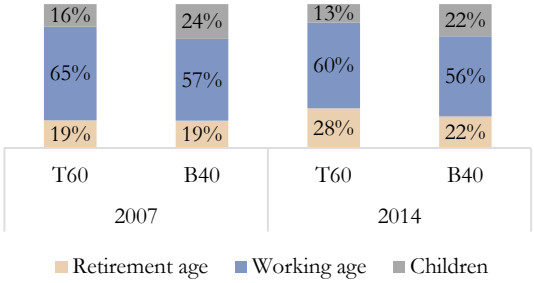
**While the gender profile is about the same among the bottom 40 and the poor relative to the rest of the population, the age profile is different.** There are no major differences in gender characteristics across the bottom 40, the poor, the nonpoor, and the top 60. Poverty has been declining across all age-groups in recent years, but the elderly (ages 65 and above) and children are slightly more likely to be living in poverty, and, together, they make up 40 percent of the population. Children account for a higher portion of the poor and the bottom 40 than of the more well off groups. The share of the population below working age is 19 percent among the poor compared with 16 percent among the nonpoor (Figure 55). Children are also more likely to be in the bottom 40 (Figure 56). Among the poor, the share of pensioners—the population above the upper limit of working age—is also relatively greater. Indeed, regression results show that people ages 55 and over are substantially more likely to be poor (see annex A). Nonetheless, some pensioners managed to rise to the top 60, indicated by an expansion in the share of pensioners in this group (beyond the effect of aging).

Figure 55. Age composition of the poor




Source: World Bank calculations based on the HBS.

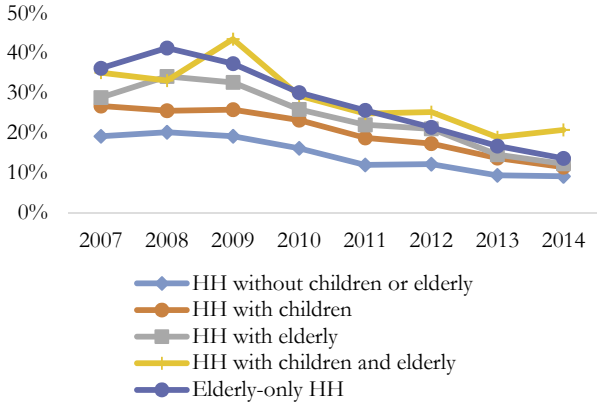
Figure 56. Age composition of the bottom 40




Source: World Bank calculations based on the HBS.

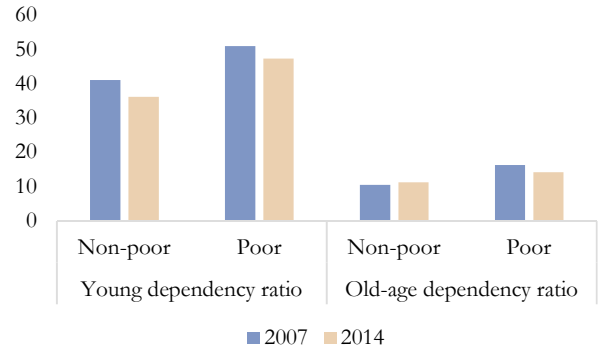
**Poverty is thus concentrated among larger households and households with children and elderly members.** Households with children and elderly members and elderly-only households show higher poverty rates relative to the overall population (Figure 57). They seem also to be more sensitive to economic downturns such as the2008–09 global crisis, the 2012 drought, and the 2014 slowdown. Larger households with more children tend to be poorer, and their progress in poverty reduction is slower. Similarly, poor households exhibited a higher child dependency ratio, 47 percent in 2014, compared with 36 percent among the nonpoor. The old-age dependency ratio among poor households is also slightly higher (14 percent versus 11 percent, respectively) (Figure 58).

Figure 57. Poverty rate, by household composition




Source: World Bank calculations based on the HBS.

Figure 58. Dependency ratio, the poor and nonpoor

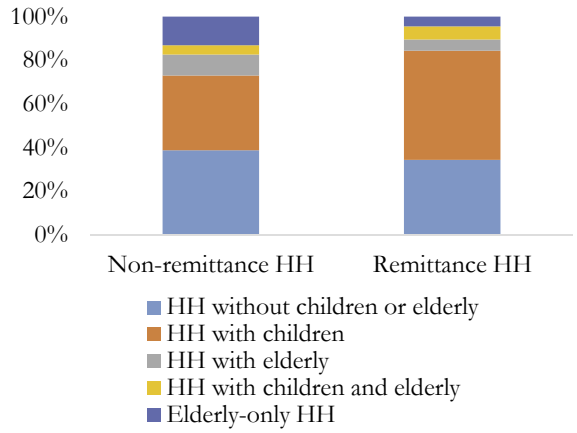



Source: World Bank calculations based on the HBS.

38 Cace et al. (2007).

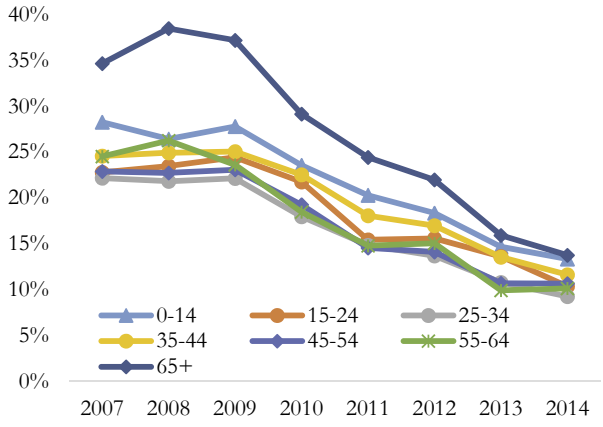
**Migration and aging affect the demographics and, potentially, poverty.** The share of people who live in elderly-only households rose from 9 percent to 11 percent in 2007–14, likely driven by migration. The elderly, however, are less likely than children to benefit from remittances. Families with children are more likely to receive remittances, or it may be that having children and facing a higher risk of poverty are key push factors behind migration (Figure 59). The elderly benefit less from remittances. Though 25 percent of the population received remittances in 2014, only 10 percent of the people in elderly households did so. This means that the latter are highly dependent on pensions, which will become less reliable in the future, raising the risk of poverty among the elderly (see below). The poverty rate has been falling sharply among elderly households, which are still among the poorer groups (Figure 60). In 2013, half the elderly were living on less than $5.00 a day (2005 PPP). By 2060, the share of elderly will have more than doubled, from 12 percent to 27 percent of the population, which will have important implications for poverty overall.[39]

Figure 59. Composition, remittance households




Source: World Bank calculations based on the HBS.

Figure 60. Poverty rate, by age

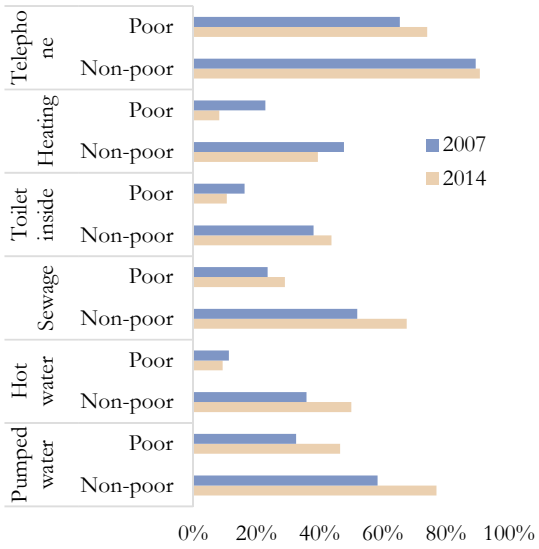



Source: World Bank calculations based on the HBS.

## The poor and bottom 40: less stock of physical and human capital and less access to services

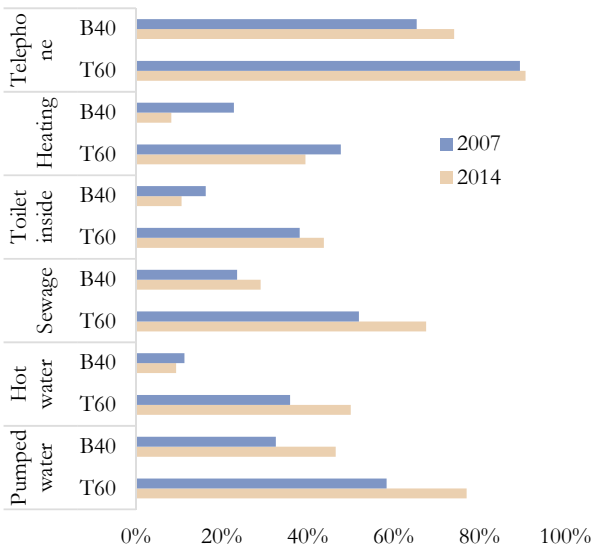
**The poor have less access to basic services.** They have less access to housing utilities, cold and hot water, sewerage, central gas, and sanitation facilities (Figure 61 and Figure 62). This may partly derive from the fact that households at the bottom of the distribution frequently live in rural areas with less developed utility services.

Figure 61. Living conditions and access to utilities, poor




Source: World Bank calculations based on the HBS

Figure 62. Living conditions and access to utilities, bottom 40



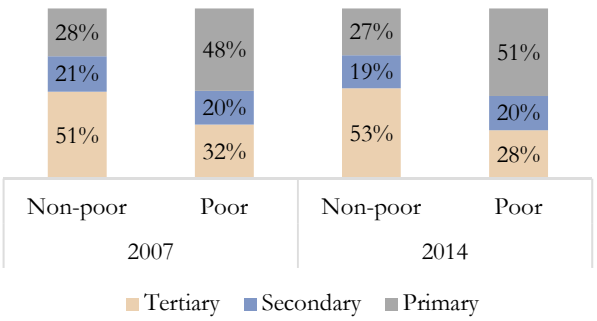

Source: World Bank calculations based on the HBS

39 World Bank (2016c).

**The poor and bottom 40 have fewer assets.** Families at the top of the distribution live in bigger houses. The average area of apartments and houses overall and per capita is greater among the top 60 and the nonpoor relative to the bottom 40 and the poor. Nonpoor households have an average of 23 percent more home area. In rural areas where nearly all households own land, owners of larger plots are less poor. The nonpoor own an average of 51 percent more farmland than the poor.

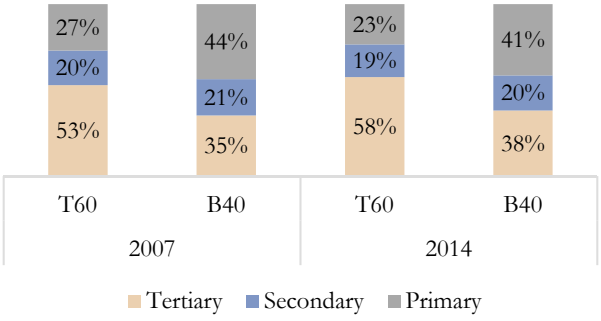
**The poor and bottom 40 have much less educational attainment.** The average educational attainment is quite high in Moldova, as in most of former central planning economies; only 1 percent of people ages 12 and above report they do not have primary education. Nonetheless, the level of education varies widely across the population. The bottom 40 and the poor tend to have primary or secondary education at most, while the top 60 and the nonpoor more commonly have tertiary education (Figure 63 and Figure 64). Similarly, the heads in vulnerable households are usually less well educated (annex A). For example, people in households with heads who have at least a college or university degree are 27 percent less likely to be poor. This inequality in educational attainment may be a result of a lack of affordability in education. The poor spent 15 percent of the expenditure of the nonpoor on education in 2014, although there are more children in poorer households (see above). This inequality in education significantly affects people at the bottom of the distribution by rendering them less competitive on the labor market.

Figure 63. Level of education of among poor and nonpoor adult population




Source: World Bank calculations based on the HBS.

Figure 64. Level of education of among bottom 40 and top 60 adult population

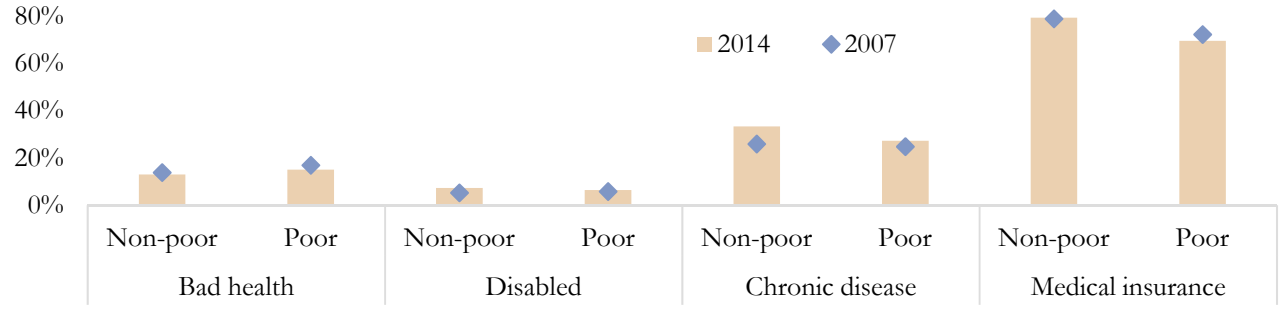



Source: World Bank calculations based on the HBS.

**People at the bottom of the distribution have less access to health care.** Health outcomes are poor across the country. The number of people with various degrees of disability or chronic disease is equally distributed between the bottom 40 and the top 60. Self-rated health status is not necessarily worse among the bottom 40 and the poor relative to the top 60 and the nonpoor, although the share of the population that reports they are experiencing a bad or very bad life is two times greater among the bottom 40 relative to the top 60, and the gap is even wider among the poor relative to the nonpoor (Figure 65). Nonetheless, the poor spend less on health care. The poor spent 27 percent of the expenditure of the nonpoor on health in 2014. Higher spending on health is not always positive, but, given that the poor and the nonpoor have a similar health profile, it does offer an indication of the quality of health services to which the poor have access and can afford. One-quarter of the socially vulnerable working-age population has, for instance, no adequate access to health care services.[40] This is partly explained by the lower coverage of medical insurance among these vulnerable population categories; only 70 percent of the poor have medical insurance, compared with 80 percent of the nonpoor. This has important implications for the burden of out-of-pocket (OOP) health spending (**Box 3**).

40 Molodikova (2008).

Figure 65. Population, by health status




Source: World Bank calculations based on the HBS.

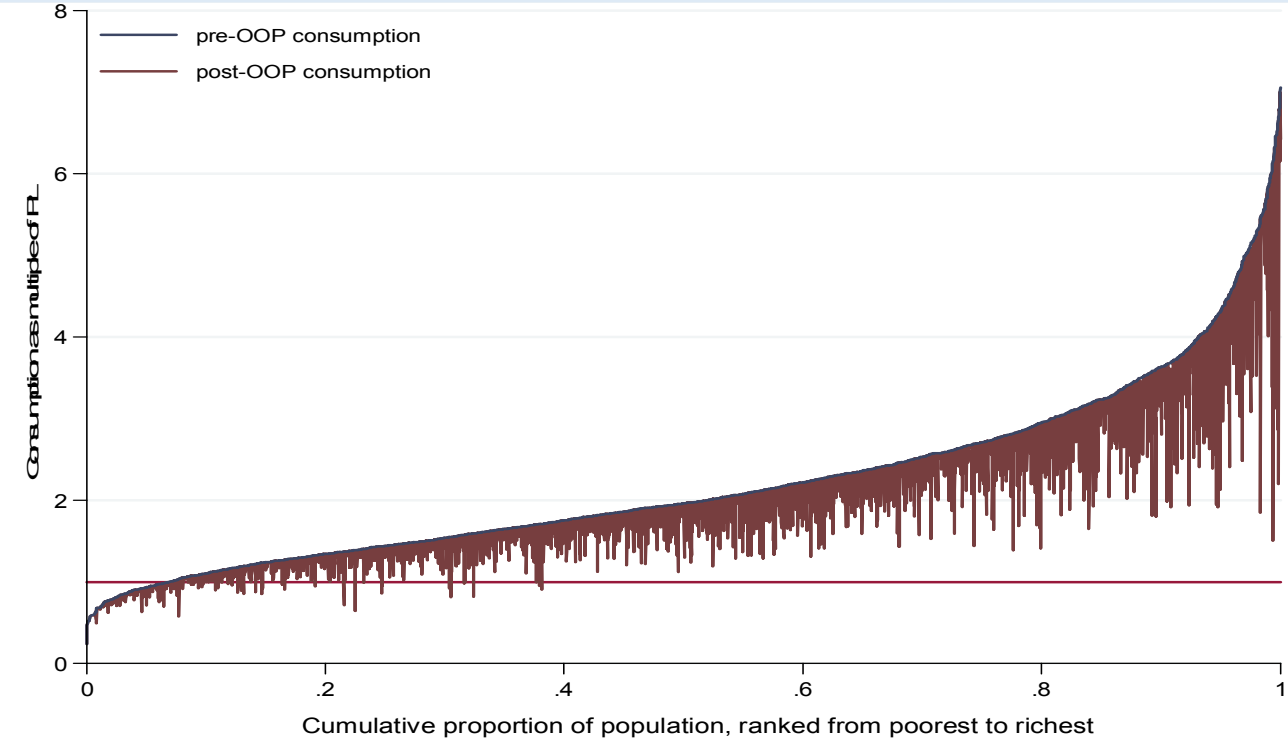
## Box 3. Out-of-Pocket Health Spending

The poorer segments of Moldovan society—the bottom quintile—may appear to be more well protected from health-related shocks because they are less likely to incur OOPs health fees and face catastrophic health expenditures. This conclusion would be mistaken, for two main reasons.

**First, inpatient-outpatient service use is two times lower among the bottom 20 households than among the top 20;** indeed, it is lowest among the former. While the inequalities in outpatient service use in 2008 were somewhat reduced in the following five years, outpatient-inpatient service utilization usage rates were still strongly positively correlated with the levels of household consumption, income, and wealth. Similarly, in 2012, according to the Multiple Indicator Cluster Surveys, the bottom 20 among women were four times more likely to forgo antenatal care during pregnancy and, if they sought care, were 5.5 times more likely to receive inadequate antenatal supervision, that is, less than four antenatal visits. Obviously, such behavior negatively affects maternal health outcomes, and, as a consequence, the bottom 20 among women were 2.7 times more likely to stay in the hospital longer postpartum because of delivery complications. In addition, relative to the top 20, they showed a probability of visiting a health provider after birth that was 0.6 times lower. These findings highlight that the poorest segments of the population use health services the least and frequently forgo treatment when in need partly because of a lack of adequate insurance and other financial barriers, which thus have a negative effect on health outcomes.

**Second, because poorer households live close to the poverty line and experience poorer living standards, even relatively low health-related OOP payments can push them into poverty.** In figure B3.1 (the Pen Parade), the smooth line along the top represents pre-OOP expenditure consumption levels, from the poorest to the richest individuals who reported positive OOP expenditures for medical services. Consumption levels are measured on the vertical axis as multiples of the poverty line. The Pen Parade shows that approximately 8 percent of those who reported medical expenses were living below the poverty line in 2013. The vertical lines show the amounts of OOP expenditures for medical services reported by the individuals interviewed. The lines show that the net consumption of medical services were below the pre-OOP consumption line for all households. Some people who started off above the poverty line in the first and second poorest quintiles fell below the poverty line as a result of medical expenditures. Some people who were already below the poverty line had to pay for medical services and, as a result, fell deeper into poverty. OOP payments are most prevalent among the richest population segments. Higher OOP spending by the rich signals that people are using higher incomes to purchase better access and higher-quality services.

**Figure B3.1. Effects of OOP health payments on household consumption, 2013**




Source: Data of the 2007–13 HBS.

Moreover, the health care financing system is failing to provide protection from catastrophic health payments and, consequently, from impoverishment mainly among rural residents and residents of the northern and southern regions. Indeed, in 2007–13, especially regional inequalities, although inequalities also exist between urban and rural locations, widened, and geographical equity gaps became more pronounced. Along with health financing issues, these inequalities may arise because of a lack of information and awareness or because of the inadequacy of a supply network and other supply-side factors.

Source: Adapted from World Bank 2015b.

**Alternative measures of poverty focusing on nonmonetary indicators show that the incidence of poverty is much greater and more persistent than measured by monetary indicators.** Although Moldova relies on monetary consumption–based measures, using nonmonetary welfare measures can provide additional information on trends in living standards, particularly in a country in which remittances have fueled consumption growth. This initial attempt at a multidimensional poverty measure for Moldova involves the construction of an index based on several dimensions of well-being to explore whether and the extent to which individuals and households face deprivations in these areas.[41] The dimensions considered in the index are weighted equally and relate to health, education, labor, and housing following the international literature (Table 2). Each dimension is assessed through indicators chosen to reflect the material or human capital deprivations that undermine a person's capacity to enjoy decent social and economic living standards. Individuals are considered multidimensionally poor if they live in households deprived in more than one-third of the weighted indicators. Other dimensions, indicators, and thresholds could be explored in alternative ways to define the multidimensional measure.

41 Using the Alkire and Foster (2011) methodology.

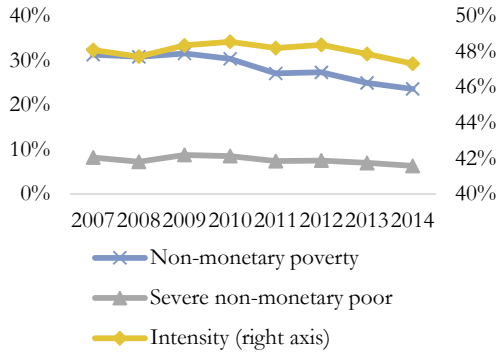
Table 2. Multidimensional poverty index: dimensions and indicators

| *Weight* | *Dimension* | *Indicator* | *Description* |
|---|---|---|---|
| 1/4 | Health | Bad health | At least one household member reports bad to very bad health status |
| | | No insurance | At least one household member is without health insurance |
| 1/4 | Education | Low education, working age | There is no working age—15–56 among women and 15–62 among men—household member with secondary education or more |
| | | Behind in compulsory schooling, school age | At least one child ages 12–15 has not completed primary school or, ages 15–18, has not completed lower secondary school |
| 1/4 | Employment | Labor force participation, working age | Active ratio is less than 0.5 among working-age members (15–56 among women and 15–62 among men) |
| | | Unemployment and underemployment, working age | At least 75 percent of active working age members (15–56 among women and 15–62 among men) are unemployed or underemployed (working less than 40 hours a week but want to work more) |
| 1/4 | Housing | House material | The house is not made of brick or stone |
| | | Living space | Living space is insufficient |
| | | Toilet deprivation | There is no indoor toilet facility |
| | | Heating | There is no heating, or heating is provided by coal, wood stove, or other solid materials |
| | | Sewerage | Household lacks any access to a sewerage system |
| | | Water | Household lacks a water connection |

**The multidimensional poverty index reveals that 24 percent of the population was poor in 2014**. This represented small improvement from the 31 percent in 2007. In this period, those who remained multidimensionally poor were deprived in more dimensions of the index (higher intensity), especially during the global crisis and the 2012 drought.[42] If multidimensional poverty is defined by a stricter criterion, that is, households that have deprivations in more than 50 percent of the weighted index indicators, the result might be considered a measure of severe poverty. The share of households living in severe poverty remained stable at around 8 percent (Figure 66).

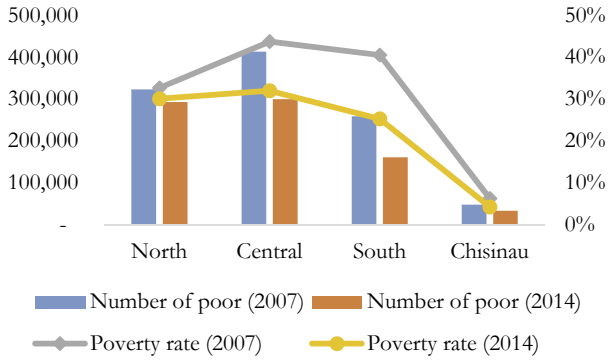
**Similar to monetary poverty, multidimensional poverty tends to be concentrated in rural areas, and the rate is much higher in areas outside Chișinău.** Nonetheless, although monetary poverty is most extensive in the south, the region has made significant progress in multidimensional poverty. Almost 100,000 people have moved out of multidimensional poverty. The multidimensional poverty rate is now lower in the south than in the north and central regions (Figure 67).

Figure 66. Nonmonetary indicators




Source: World Bank calculations based on the HBS.

Figure 67. Nonmonetary poor, by region

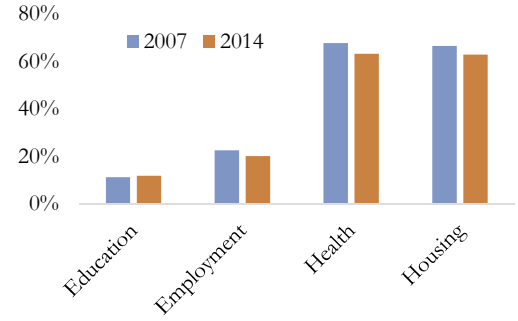



Source: World Bank calculations based on the HBS.

42 Intensity is the weighted average of the deprivations in the index.

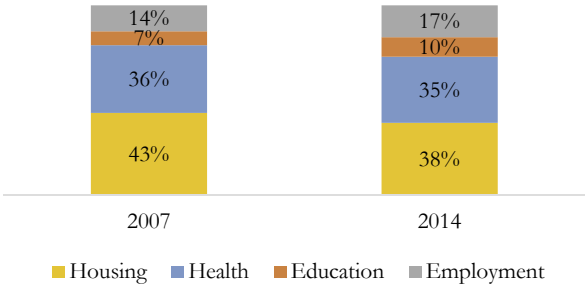
**Deprivations in health and housing conditions are particularly high.** More than 60 percent of the population faced deprivations in these indicators during the period considered (Figure 68). However, there have been small advances in these dimensions as households have more access to health insurance, pumped water, and sewerage, and their contribution to multidimensional poverty has decreased (Figure 69).

Figure 68. Share of people deprived in each dimension




Source: World Bank calculations based on the HBS.

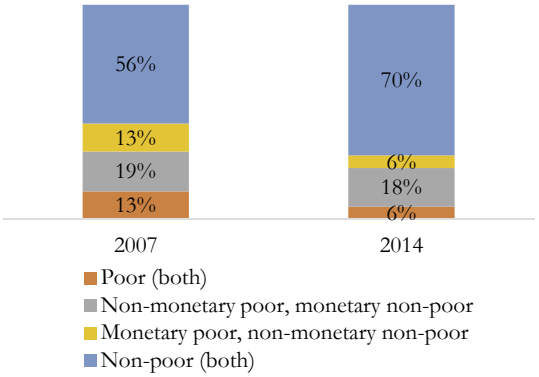
Figure 69. Contribution of each dimension to multidimensional poverty




Source: World Bank calculations based on the HBS.

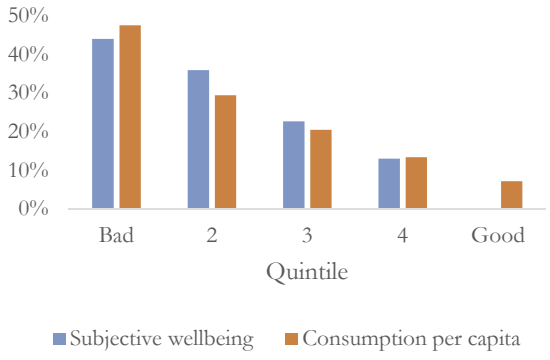
**The majority of the multidimensionally poor are not poor according to the consumption-based poverty measure.** The poor identified by the nonmonetary indicators and the monetary indicators were identical in only 12.7 percent of the possible cases in 2007, and, given that monetary poverty declined significantly, this overlap represented only 5.5 percent of cases in 2014. At least half the reduction in monetary poverty arose among people who were not multidimensionally poor, whereas the share of those who were multidimensionally poor, but not poor by the monetary measure was constant (Figure 70). This persistence of multidimensional poverty reflects long-lasting deprivations in living standards that may stem from a lack of access to markets and services, for example, education, health, and other services, rather than a lack of income. There is, nonetheless, a strong correlation between multidimensional poverty and rankings of subjective well-being and consumption, which suggests that richer households and people who enjoy higher living standards do appreciate their advantages in life (Figure 71).

Figure 70. Overlap, nonmonetary and monetary poor




Source: World Bank calculations based on the HBS.

Figure 71. Nonmonetary poverty, by subjective well-being and consumption quintiles




Source: World Bank calculations based on the HBS.

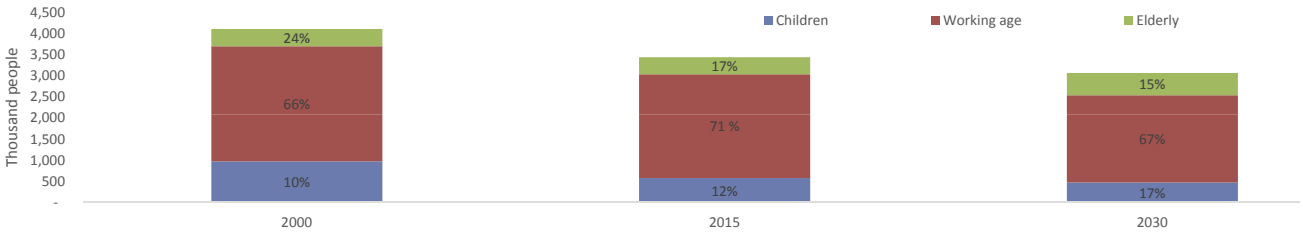
# Important and increasing risks to sustainable progress persist

## Fiscal pressure because of aging and weak labor markets will limit the role of public transfers

**The population of Moldova is shrinking and aging rapidly.** Driven by declining fertility and accelerating emigration among the young population, the population shrunk by 16 percent in 2000–15. This is equivalent to a reduction of around 670,000 people. The share of the working-age population (ages 15–64) rose from 66 percent to 71 percent during the period, creating a demographic dividend for the economy. This occurred

mainly because of a rather rapid decline in the share of the population below working age, from 24 percent in 2000 to 17 percent in 2015. The share of the population above working age (ages 65 and over) rose moderately, from 10 percent in 2000 to 12 percent in 2015 (Figure 72). As a result, both the child dependency ratio and the total dependency ratio declined during the period, while the old-age dependency ratio rose slightly, providing favorable demographic conditions for economic growth. However, the situation is expected eventually to reverse as large cohorts approach retirement age. By 2030, the share of the elderly will have increased rapidly to 17 percent, more than the share of children.

Figure 72. Demographic composition, 2000–30




Source: World Bank calculations based on World Population Prospects: The 2015 Revision (database), Population Division, Department of Economic and Social Affairs, United Nations, New York, http://esa.un.org/unpd/wpp/.
Note: The population forecast is based on the medium fertility, normal mortality, and normal migration scenario, which assumes fertility rates follow a trend from high to low, then fluctuate around the replacement rate (2.1 children per woman), while life expectancy at birth and migration follow historical trends in each country. The estimates do not include Transnistria.

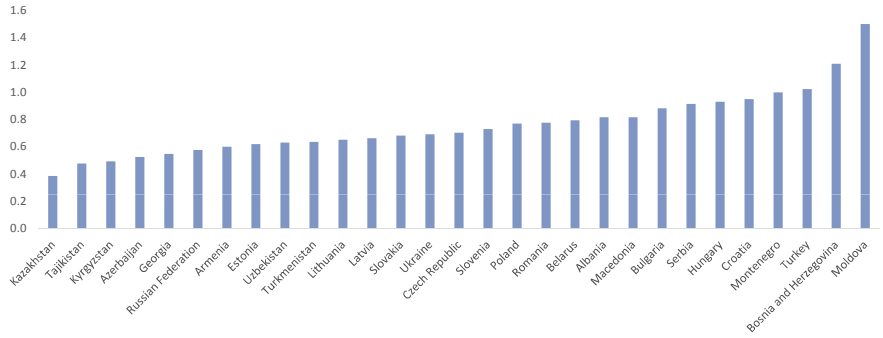
**If these trends continue, Moldova will face stark demographic challenges affecting prospects in growth and shared prosperity.** The population is expected to shrink by another 25 percent, or 1.2 million people, by 2060. Because the reduction will be concentrated among the young population, Moldovan society will also be much older (Figure 73). The share of the elderly is anticipated to increase from 12 percent to 30 percent in 2015–60, and women ages 60 and 70 will account for a major segment of the population. Accelerating population aging is likely to put pressure on the progress in economic growth and shared prosperity.

Figure 73. Age-gender pyramid, 2015–60


Source: World Bank calculations based on World Population Prospects: The 2012 Revision (database), Population Division, Department of Economic and Social Affairs, United Nations, New York, http://esa.un.org/unpd/wpp/.
Note: The population forecast is based on the medium fertility, normal mortality, and normal migration scenario, which assumes fertility rates follow a trend from high to low, then fluctuate around the replacement rate (2.1 children per woman), while life expectancy at birth and migration follow historical trends in each country. The estimates do not include Transnistria.

**Low labor force participation and a shrinking working-age population have led to a large dependency ratio.** Moldova has one of the lowest employment rates in the region. It is third after Bosnia and Herzegovina and Kosovo. This is driven by a persistent fall in labor force participation among both men and women (see above). As a result, the country has an exceptionally high dependency ratio. On average, there are 1.6 inactive adults for each active adult (Figure 74).

Figure 74. Adult (15+) dependency ratio: inactive population relative to active population, 2013




Source: Bussolo, Koettl, and Sinnott 2015.

**Given demographic aging and the labor market situation, sustaining the pension system involves a high fiscal burden.** Pension spending has risen substantially. The cost of pensions jumped from 5 percent to 8 percent of GDP in 2002–14, which fueled the fiscal deficit of up to 1 percent of GDP. The spending is relatively greater than in many European countries that are more advanced in economic development and characterized by fewer problems in population aging, such as Croatia, Estonia, and the Slovak Republic.[43] Because of the rising share of the elderly and shrinking working-age population, the pension system dependency ratio—the number of pensioners per contributor—is expected to increase from 77 percent to a peak of 108 percent in 2014–55 (Figure 75). Labor migrants do not tend to contribute to the pension system, exacerbating the decreasing pension contribution rates. Given that inactivity and informality are expanding, fewer people will contribute to the pension system and thus undermining system sustainability and reducing pension coverage of the retiree population (Figure 76).

Figure 75. Pension system dependency ratio, number of pensioners per contributor

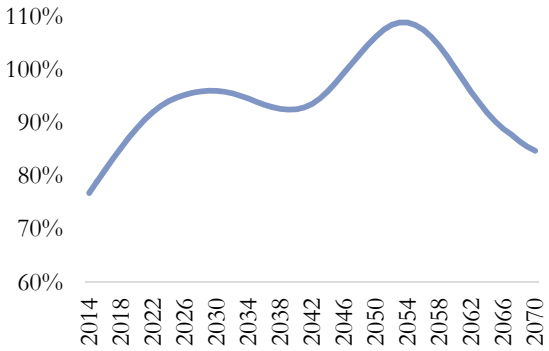
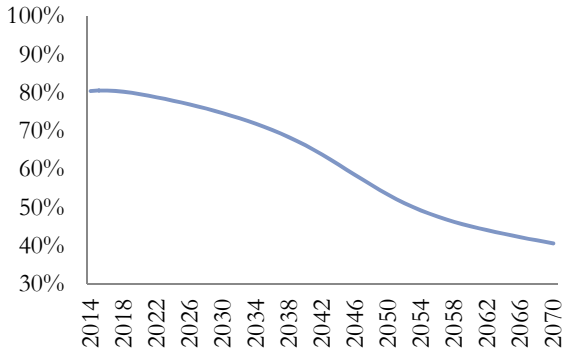



Figure 76. Pension coverage, population above standard retirement age



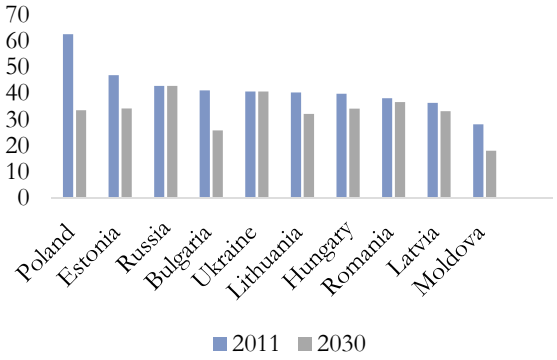

Sources: World Bank 2016c; calculations based on PROST (Pension Reform Options Simulations Toolkit), World Bank; data of the National Social Insurance House.

**The declining pension coverage and replacement rates may increase the risk of old-age poverty.** Pensions play an important role in reducing poverty. They are particularly important in reducing old-age poverty. Without pensions, the poverty rate in Moldova would have increased by a factor of 11 overall and a factor of 14 among the elderly.[44] Pension replacement rates—the ratio of old-age pensions to the average wage—are already low and are on a declining trend because of shrinking contributions (Figure 77 and Figure 78).

43 World Bank (2016c).
44 World Bank (2016c).

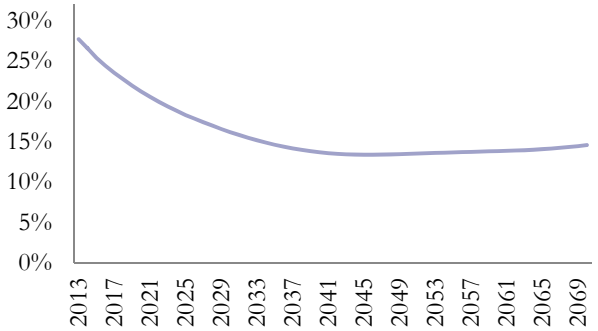
Addressing this challenge requires broader reforms and cannot rely on the government budget to bridge the gap between contributions and benefits.

Figure 77. Replacement rates, selected countries




Source: World Bank 2016c.

Figure 78. Replacement rates, 2013–2069

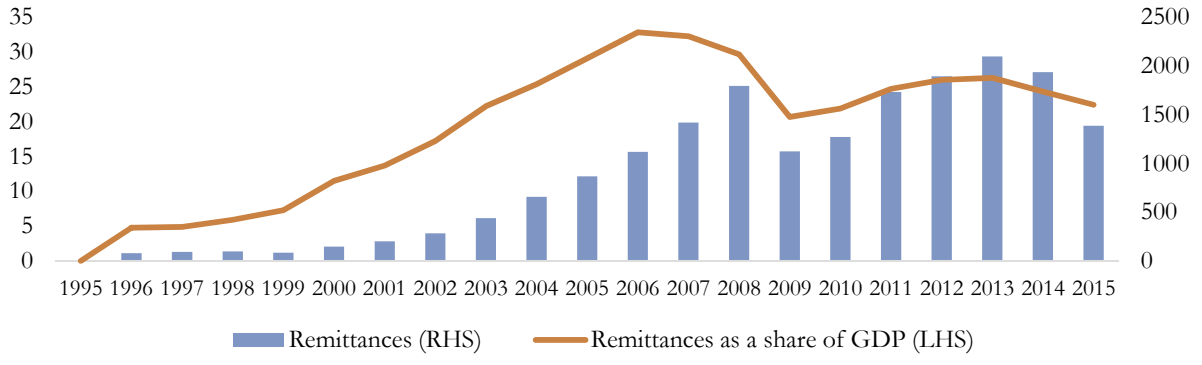



Sources: World Bank 2016c; calculations based on PROST (Pension Reform Options Simulations Toolkit), World Bank; social reports.

## Remittances: unsustainable drivers of poverty reduction and shared prosperity

**Remittances are an unsustainable driver of Moldova's economic growth.**[45] Remittance income can be highly volatile, and this especially affects households that are highly dependent on them. A large share of the remittances received in Moldova are sent from the EU and Russia. Remittances dipped significantly during the financial crisis of 2008–09 and have been decreasing since 2013 (Figure 79). Because of the slowdown in the economic activity of Russia beginning in 2014, remittances to Moldova dropped by 30 percent in 2015. The biggest reduction was in the transfer of rubles. The impact of slow growth on remittances measured in U.S. dollars has been driven by the valuation effects of the appreciation of the dollar against the currencies of remittance-source countries (contributing 13.8 percentage points to the total decline in transfers in 2015), especially the ruble, as well as by the reduction in actual transfers (16.2 percentage points). Many households depend heavily on remittance income for consumption; so, lower inflows can hamper such consumption. Less foreign currency income among households and domestic exporters because of declining remittances also fuels inflationary pressures, further affecting the welfare of households. Remittance flows are not likely to continue to expand at a rapid pace as in the past given the already high share of the population of Moldova abroad and the fact that second-generation migrants may be less attached to their home country and thus reduce their remittances.

Figure 79. Remittances to Moldova, 1995–2015



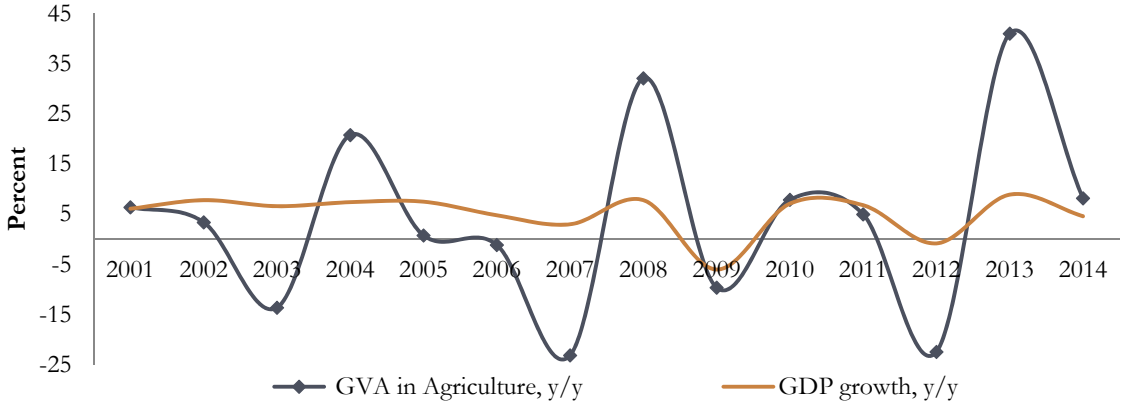

Sources: World Bank Development Economics Prospects Group; 2015 data: Moldova Central Bank, World Economic Outlook Database, International Monetary Fund, Washington, DC, http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/index.aspx.

45 World Bank (2016b).

## Volatility because of climate shocks is increasing, particularly among the poor and bottom 40

**The agricultural sector, critical to the livelihoods of the rural poor, is highly volatile.** Episodes of drought, the most recent in the summer of 2015, are increasingly driving fluctuations in agriculture valued added, household consumption, and overall GDP (Figure 80). A majority of farm households are smallholders, who tend to be poorer and have less buffer against shocks. More than one-third of all farm households reported they faced difficulties in paying for the food needed to ensure decent nutrition among household members over the previous year. The numbers are higher among subsistence farm households. Subsistence farm households consume more than 99 percent of their farm production, while other smallholder farm households consume around 80 percent. This means that there is little left for income generation.[46]

Figure 80. Value added in agriculture and GDP growth, 2001–14



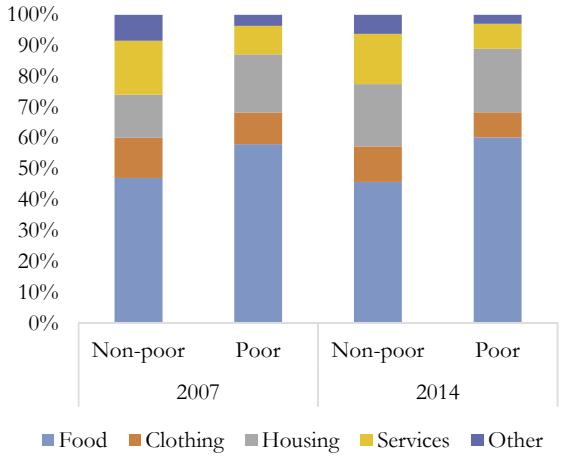

Source: World Bank 2016b, using World Bank estimates based on national accounts.

**The structure of incomes mean the poor and the bottom 40 are more vulnerable to various shocks.** The poor and bottom 40 depend more than the nonpoor and the top 60 on agricultural income, pensions, and social assistance. The high share of agricultural incomes in overall household income—19.2 percent among the poor and 22.9 percent among the bottom 40—make these incomes more volatile and vulnerable to external factors, such as weather conditions and food price fluctuations. Among farm households, the average nonpoor household has 2.8 sources of income, while the average poor household has 2.3 sources of income, and many poor households rely almost exclusively on one income source. The relative importance of the various income sources in total income is revealed through the application of a Hirschman-Herfindahl index.[47] Across all years, poor households are characterized by a higher Hirschman-Herfindahl index value, indicating a stronger concentration of income streams in fewer sources.[48] This also reflects the lack of nonfarm opportunities in rural areas. The slowdown in the rise in nonagricultural wages and the volatility of agricultural income, coupled with limited employment growth, meant that the share of labor in income was declining among the poor and the bottom 40. For example, among the poor, the share of nonagricultural labor income in total income increased from 38 percent to 34 percent in 2007–14. Without fiscal support, the incomes of the poor and the bottom 40 cannot grow as they did in 2007–14; indeed, they may even contract. In contrast, the nonpoor and the top 60 have a healthier income composition. They rely more on direct labor income and remittances.

**Linked partly to climate shocks, fluctuations in food prices affect the poor disproportionately.** In 2014, the poor spent 60 percent of their consumption expenditure on food, compared with 45 percent among the nonpoor. Conversely, the nonpoor spent more of their consumption expenditure on services and durables (Figure 81). The same patterns are observed among the bottom 40 and the top 60 (Figure 82). In recent years, the prices of food have risen much more than the prices of services (Figure 83). These changes in food prices are affecting the poor and the bottom 40 much more, potentially squeezing out spending on other needs, including health care and education, that are important for long-term well-being.

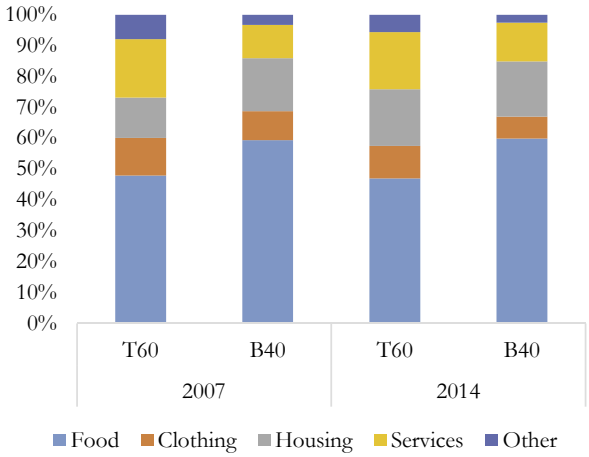
46 Möllers et al. (2016).
47 See Herfindahl (1950); Hirschman (1945, 1964).
48 Möllers et al. (2016).

Figure 81. Composition of the consumption of the poor and nonpoor



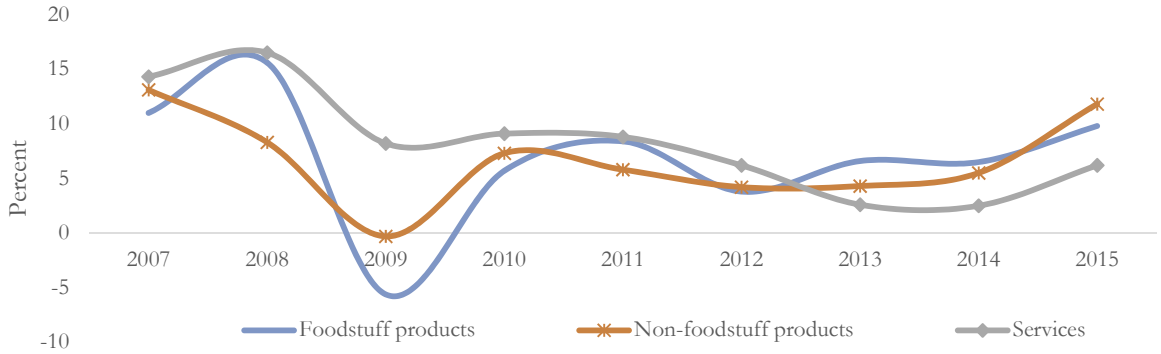

Source: World Bank calculations based on the HBS.

Figure 82. Composition of the consumption of the bottom 40 and top 60




Source: World Bank calculations based on the HBS.

Figure 83. Consumer price indicators, year-on-year, 2007–15




Source: World Bank calculations based on NBS data.

# Conclusion

Moldova has made good progress in reducing poverty and boosting shared prosperity. However, the drivers of this progress in the past are likely to exercise a much more limited role.

- Aside from increases in nonagricultural wages, pensions have been the biggest contributor to income growth among the bottom 40, as well as to poverty reduction. However, pensions are not the most efficient means to target the neediest. Moreover, given population aging, the shrinking workforce, and currently low employment rates and worker productivity, increases in pension spending will be fiscally unsustainable.[49]
- Remittances are volatile and are not likely to continue to grow at the high pace of the past given the external context and the already high share of the population living abroad.

Strengthening domestic labor markets is thus becoming more critical in the effort to maintain the progress toward reaching the twin goals of reducing poverty and boosting shared prosperity and to address the problems associated with an aging population in a fiscally sustainable manner. The accompanying analysis, "A Jobs Diagnostic for Moldova," explores in more detail the main challenges facing the labor market and the areas for eventual action. Addressing issues of governance, which have taken center stage in Moldova in recent years, is critical to creating an environment in which the necessary reforms and private sector-led job creation are possible.

Because of the large share of the population, particularly the poor and the bottom 40, in rural areas and in the agricultural sector, ensuring that rural areas enjoy the proper conditions for the development of the nonfarm and farm economies is key. The accompanying analysis, "Structural Transformation of Moldovan Small-Holder Agriculture and Its Poverty and Shared Prosperity Impacts," examines the main challenges in the agricultural sector, focusing on the nature and potential or lack of potential in smallholder agriculture.

Policies to promote healthier labor markets need to take account of and address the structural challenges to the extent possible, as follows:

- *Aging:* The country needs to prepare for the rapidly aging population. By 2060, the population is projected to have dropped by 29 percent, while the share of the elderly (ages 65+) will have tripled to 30 percent. Given the substantial migration, low fertility, and weak labor markets, the demographic dividend may vanish before the country has reaped the benefits. This raises serious questions about the ability of society and the economy to support a growing elderly population.[50] Efforts to reduce old-age mortality, accompanied by policies to improve education and health care and to promote active aging, can allow people to work longer and contribute more to the economy.
- *Regional disparities:* The gaps in welfare and access to services across urban and rural areas and among ethnic minorities call for more active engagement by the government to enhance the provision and quality of services in remote areas. Failing to address these barriers would risk widening inequality and undermining economic mobility and harmonization across the country. Improving the equitable access

49 World Bank (2016c) discusses the pension system and relevant options in depth.
50 World Bank (2016c) explores the challenges involved in aging in Moldova in depth.

to and the quality of education, particularly among the less well off, is also key to increasing productivity and the opportunities to find jobs. Equity in access to services, including health care, without the currently high OOP expenditures is also critical to permitting individuals to build up their human capital.

- *Significant vulnerability:* The vulnerability to external and climate shocks seems to be increasing, and this will affect more heavily those households dependent on the agricultural sector. The poor are more highly exposed to such shocks. Mitigation and measures to help households adapt to climate shocks are needed. Social assistance can also be improved. The targeting of social assistance has been enhanced through the Ajutor Social and heating allowance programs, although they still represent a small share of total spending and cover only 4 percent and 6 percent of the total population, respectively. There is likewise scope for improvements within the overall expenditure envelope, including program consolidation to provide room to expand the coverage of social assistance programs.

Previous analyses of poverty and equity in Moldova point to challenges similar to those discussed in this report. More than a decade ago, a similar document identified challenges related to the lack of sufficient investment in human capital accumulation by the poor, large spatial inequalities in living standards, dependence on pensions, increasing inactivity, and dependence on subsistence agriculture, substantial migration, and the poor coverage of social assistance.[51] Addressing these challenges once and for all is critical for sustainable growth, poverty reduction, and shared prosperity in coming years.

51 World Bank (2004).

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# Annex A. Characteristics of the poor and bottom 40

Table A.1. Headcount ratio and Gini, by location

| | 2007 | | | | 2014 | | | |
|---|---|---|---|---|---|---|---|---|
| | Poverty headcount | Poverty gap | Squared Poverty Gap | Gini | Poverty headcount | Poverty gap | Squared Poverty Gap | Gini |
| Total | 25.8 | 5.9 | 2.1 | 29.8 | 11.4 | 1.5 | 0.3 | 23.4 |
| Urban | 18.4 | 3.6 | 1.1 | 29.4 | 5.0 | 0.5 | 0.1 | 22.7 |
| Rural | 31.3 | 7.6 | 2.8 | 28.4 | 16.3 | 2.3 | 0.5 | 21.6 |
| North | 30.4 | 6.9 | 2.3 | 27.1 | 11.6 | 1.6 | 0.4 | 21.6 |
| Central | 30.2 | 7.5 | 2.8 | 30.7 | 14.9 | 1.8 | 0.4 | 22.4 |
| South | 29.5 | 6.6 | 2.3 | 27.7 | 16.7 | 2.4 | 0.5 | 20.8 |
| Chisinau | 11.4 | 2.2 | 0.7 | 28.2 | 2.6 | 0.4 | 0.1 | 22.9 |

Source: World Bank calculations based on the HBS

Table A.2. Headcount ratio, by household and individual characteristics

| | 2007 | | | 2014 | | |
|---|---|---|---|---|---|---|
| | Poverty headcount | Distribution of the Poor | Distribution of Population | Poverty headcount | Distribution of the Poor | Distribution of Population |
| **Location** | | | | | | |
| Urban | 18.4 | 30.0 | 42.2 | 5.0 | 18.8 | 43.2 |
| Rural | 31.3 | 70.0 | 57.8 | 16.3 | 81.2 | 56.8 |
| North | 30.4 | 34.9 | 29.7 | 11.6 | 29.8 | 29.2 |
| Central | 30.2 | 33.2 | 28.4 | 14.9 | 36.7 | 28.1 |
| South | 29.5 | 21.9 | 19.2 | 16.7 | 28.0 | 19.1 |
| Chisinau | 11.4 | 10.0 | 22.8 | 2.6 | 5.5 | 23.6 |
| **Gender of the household head** | | | | | | |
| Male | 25.9 | 66.1 | 66.0 | 12.1 | 69.6 | 65.9 |
| Female | 25.7 | 33.9 | 34.0 | 10.2 | 30.4 | 34.1 |
| **Household head's age** | | | | | | |
| 15-19 | 4.9 | 0.1 | 0.4 | 1.9 | 0.3 | 1.7 |
| 20-24 | 15.0 | 1.3 | 2.2 | 4.6 | 2.1 | 5.3 |
| 25-29 | 17.0 | 3.1 | 4.7 | 9.2 | 5.6 | 6.9 |
| 30-34 | 21.1 | 6.4 | 7.8 | 9.4 | 6.9 | 8.4 |
| 35-39 | 24.7 | 9.6 | 10.0 | 12.6 | 10.8 | 9.8 |
| 40-44 | 23.9 | 10.1 | 10.9 | 9.6 | 8.8 | 10.4 |

| | 2007 | | | 2014 | | |
|---|---|---|---|---|---|---|
| | Poverty headcount | Distribution of the Poor | Distribution of Population | Poverty headcount | Distribution of the Poor | Distribution of Population |
| 45-49 | 24.1 | 13.3 | 14.3 | 13.4 | 15.4 | 13.0 |
| 50-54 | 25.0 | 13.3 | 13.8 | 9.8 | 11.7 | 13.6 |
| 55-59 | 23.9 | 10.8 | 11.7 | 13.4 | 13.0 | 11.1 |
| 60-64 | 28.7 | 5.9 | 5.3 | 14.7 | 25.2 | 19.6 |
| 65+ | 35.5 | 26.1 | 19.0 | | | |
| **Household's head education** | | | | | | |
| Primary | 41.4 | 40.4 | 25.2 | 21.1 | 42.0 | 22.7 |
| Secondary | 26.8 | 17.5 | 16.9 | 12.0 | 18.5 | 17.7 |
| Tertiary | 18.8 | 42.1 | 57.9 | 7.5 | 39.5 | 59.7 |
| **Age group** | | | | | | |
| 0-13 | 28.2 | 18.6 | 17.1 | 13.0 | 17.4 | 15.3 |
| 14-14 | 28.8 | 2.2 | 1.9 | 18.0 | 1.9 | 1.2 |
| 15-19 | 24.4 | 8.6 | 9.1 | 10.7 | 5.9 | 6.3 |
| 20-24 | 21.1 | 6.8 | 8.4 | 10.1 | 5.4 | 6.1 |
| 25-29 | 21.4 | 5.0 | 6.0 | 6.9 | 4.1 | 6.7 |
| 30-34 | 23.0 | 5.2 | 5.8 | 12.2 | 5.8 | 5.4 |
| 35-39 | 25.0 | 5.4 | 5.6 | 10.4 | 4.7 | 5.2 |
| 40-44 | 24.2 | 5.4 | 5.8 | 12.8 | 6.3 | 5.6 |
| 45-49 | 24.1 | 7.2 | 7.7 | 9.8 | 5.4 | 6.3 |
| 50-54 | 21.7 | 6.6 | 7.8 | 11.3 | 8.6 | 8.7 |
| 55-59 | 23.0 | 6.4 | 7.1 | 9.5 | 7.6 | 9.1 |
| 60-64 | 27.4 | 4.0 | 3.7 | 10.8 | 7.7 | 8.2 |
| 65+ | 34.7 | 18.7 | 13.9 | 13.8 | 19.1 | 15.9 |
| **Education (adult 15+)** | | | | | | |
| Primary | 33.3 | 59.1 | 45.9 | 16.7 | 60.8 | 41.6 |
| Secondary | 24.4 | 15.7 | 16.7 | 11.4 | 16.3 | 16.3 |
| Tertiary | 17.4 | 25.2 | 37.5 | 6.2 | 22.9 | 42.0 |
| **Employment status (adult 15+)** | | | | | | |
| Employed | 22.0 | 47.5 | 54.5 | 9.6 | 49.5 | 56.8 |
| Unemployed | 34.7 | 4.4 | 3.2 | 16.3 | 4.1 | 2.8 |
| Inactive | 28.7 | 48.1 | 42.3 | 12.7 | 46.4 | 40.4 |
| **Number of children 0-14 years old** | | | | | | |
| no children | 23.7 | 46.4 | 50.7 | 10.6 | 52.8 | 57.0 |
| 1 | 22.6 | 22.6 | 25.8 | 8.0 | 16.1 | 23.0 |
| 2 | 29.6 | 20.2 | 17.6 | 15.0 | 20.5 | 15.6 |
| 3 or more children | 47.0 | 10.7 | 5.9 | 27.9 | 10.7 | 4.4 |
| **Household size** | | | | | | |
| 1 | 25.8 | 8.1 | 8.1 | 9.0 | 9.2 | 11.6 |
| 2 | 23.8 | 20.1 | 21.8 | 10.7 | 27.1 | 29.0 |

| | *2007* | | | *2014* | | |
|---|---|---|---|---|---|---|
| | Poverty headcount | Distribution of the Poor | Distribution of Population | Poverty headcount | Distribution of the Poor | Distribution of Population |
| 3 | 17.4 | 15.6 | 23.2 | 7.6 | 13.7 | 20.7 |
| 4 | 23.7 | 23.3 | 25.4 | 11.1 | 21.4 | 21.9 |
| 5 | 35.7 | 17.6 | 12.7 | 19.3 | 19.0 | 11.3 |
| 6 | 40.8 | 9.1 | 5.8 | 19.5 | 7.1 | 4.1 |
| 7 or more | 53.0 | 6.1 | 3.0 | 20.8 | 2.5 | 1.4 |

Source: World Bank calculations based on the HBS

Table A.3. Welfare distribution, by country quintiles, location and household head characteristics

| | 2007 | | | | | 2014 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **Location** | | | | | | | | | | |
| Urban | 12.3 | 16.5 | 19.3 | 23.6 | 28.3 | 9.8 | 14.9 | 19.5 | 25.1 | 30.8 |
| Rural | 25.6 | 22.6 | 20.5 | 17.4 | 14.0 | 27.8 | 23.9 | 20.3 | 16.1 | 11.9 |
| North | 22.4 | 23.0 | 21.8 | 19.4 | 13.5 | 20.1 | 21.4 | 22.9 | 20.5 | 15.1 |
| Central | 24.9 | 20.7 | 19.0 | 17.4 | 18.0 | 25.9 | 22.7 | 19.9 | 16.5 | 15.1 |
| South | 23.3 | 25.6 | 20.3 | 18.0 | 12.7 | 25.9 | 26.8 | 19.4 | 17.2 | 10.7 |
| Chisinau | 7.9 | 10.6 | 18.6 | 25.7 | 37.2 | 8.0 | 9.5 | 16.9 | 25.9 | 39.7 |
| **Gender of the household head** | | | | | | | | | | |
| Male | 20.7 | 19.9 | 20.1 | 20.8 | 18.5 | 21.0 | 19.9 | 20.1 | 19.8 | 19.3 |
| Female | 18.6 | 20.3 | 19.8 | 18.3 | 23.0 | 18.1 | 20.2 | 19.7 | 20.5 | 21.5 |
| **Household head's age** | | | | | | | | | | |
| 15-19 | 4.9 | 2.4 | 14.5 | 14.8 | 63.4 | 19.9 | 5.2 | 0.0 | 24.2 | 50.7 |
| 20-24 | 11.7 | 12.2 | 11.9 | 17.6 | 46.6 | 9.2 | 8.2 | 16.2 | 20.4 | 46.0 |
| 25-29 | 16.6 | 16.2 | 17.7 | 17.5 | 32.0 | 17.6 | 10.5 | 20.4 | 19.3 | 32.2 |
| 30-34 | 21.0 | 16.9 | 25.8 | 15.6 | 20.7 | 20.0 | 16.3 | 20.3 | 20.9 | 22.6 |
| 35-39 | 26.1 | 20.0 | 18.9 | 19.1 | 15.9 | 24.8 | 21.8 | 22.5 | 17.6 | 13.3 |
| 40-44 | 19.7 | 19.9 | 21.6 | 18.1 | 20.6 | 27.0 | 20.6 | 16.4 | 17.1 | 18.9 |
| 45-49 | 18.1 | 20.6 | 19.0 | 22.2 | 20.0 | 20.5 | 18.5 | 18.2 | 24.5 | 18.4 |
| 50-54 | 20.5 | 18.5 | 21.6 | 17.7 | 21.7 | 21.8 | 18.5 | 15.3 | 20.3 | 24.0 |
| 55-59 | 16.9 | 20.0 | 17.7 | 23.9 | 21.5 | 16.3 | 23.0 | 19.8 | 21.1 | 19.9 |
| 60-64 | 19.4 | 19.2 | 20.0 | 20.6 | 20.8 | 18.2 | 20.0 | 23.5 | 16.3 | 21.9 |
| 65+ | 21.6 | 24.5 | 19.9 | 21.7 | 12.3 | 18.0 | 23.7 | 23.3 | 21.1 | 13.9 |
| **Household's head education** | | | | | | | | | | |
| Primary | 30.6 | 24.9 | 19.8 | 16.3 | 8.4 | 31.9 | 23.2 | 20.1 | 15.5 | 9.3 |
| Secondary | 21.0 | 22.5 | 19.6 | 16.5 | 20.4 | 20.5 | 20.7 | 25.2 | 17.4 | 16.2 |
| Tertiary | 15.0 | 17.2 | 20.2 | 22.6 | 25.0 | 15.3 | 18.6 | 18.4 | 22.5 | 25.2 |

Source: World Bank calculations based on the HBS.
Note: Individuals are ranked by consumption per capita.

**The characteristics of individuals and household heads correlate with poverty status.**

Table A.4. Household and individual characteristics correlations with poverty status

| | *Correlates with poverty status* | | *Population average* | |
|---|---|---|---|---|
| | *2007* | *2014* | *2007* | *2014* |
| Female | 0.00 | −0.01 | 54.4% | 54.3% |
| | (0.01) | (0.00) | | |
| *Age group (reference group = 0–14)* | | | | |
| 15–24 | 0.01 | 0.01 | 17.5% | 12.5% |
| | (0.01) | (0.01) | | |
| 25–34 | −0.01 | 0.00 | 11.8% | 12.2% |
| | (0.01) | (0.01) | | |
| 35–44 | 0.01 | 0.02* | 11.4% | 10.8% |
| | (0.01) | (0.01) | | |
| 45–54 | 0.03* | 0.02** | 15.5% | 14.9% |
| | (0.01) | (0.01) | | |
| 55–64 | 0.06*** | 0.03* | 10.9% | 17.2% |
| | (0.02) | (0.01) | | |
| 65+ | 0.11*** | 0.04** | 13.9% | 15.9% |
| | (0.02) | (0.02) | | |
| Urban | −0.10*** | −0.11*** | 42.2% | 43.2% |
| | (0.03) | (0.02) | | |
| Household size | 0.04*** | 0.01* | 3.44 | 3.11 |
| | (0.01) | (0.01) | | |
| Number of children | 0.02 | 0.03** | 0.82 | 0.69 |
| | (0.01) | (0.01) | | |
| Number of elderly | 0.05*** | 0.03* | 0.31 | 0.32 |
| | (0.02) | (0.02) | | |
| Constant | 0.12*** | 0.09*** | | |
| | (0.03) | (0.02) | | |
| Observations | 16,589 | 11,741 | | |
| Adjusted $R^2$ | 0.051 | 0.042 | | |

Source: World Bank calculations based on the HBS.

Table A.5. Household head characteristics correlations with poverty status

| | *Correlates with poverty status* | | *Population average* | |
|---|---|---|---|---|
| | *2007* | *2014* | *2007* | *2014* |
| Female | −0.01 | −0.03** | 34% | 34.1% |
| | (0.02) | (0.01) | | |
| *Age group (reference group = 15–24)* | | | | |
| 25–34 | 0.08** | 0.06*** | 12.4% | 12.1% |
| | (0.03) | (0.02) | | |
| 35–44 | 0.14*** | 0.09*** | 20.9% | 18.2% |
| | (0.03) | (0.02) | | |
| 45–54 | 0.13*** | 0.10*** | 28.1% | 23.5% |
| | (0.03) | (0.02) | | |
| 55–64 | 0.10*** | 0.08*** | 17.0% | 24.6% |
| | (0.03) | (0.02) | | |
| 65+ | 0.10*** | 0.05** | 19.0% | 19.6% |
| | (0.04) | (0.02) | | |
| *Education level (reference group = without primary)* | | | | |
| Primary | −0.09 | 0.03 | 6.0% | 3.6% |
| | (0.06) | (0.11) | | |
| Secondary incomplete | −0.11 | −0.14 | 17.5% | 18.6% |
| | (0.07) | (0.11) | | |
| Secondary complete | −0.23*** | −0.20* | 16.9% | 17.7% |
| | (0.06) | (0.12) | | |
| Secondary professional | −0.25*** | −0.20* | 26.2% | 29.1% |
| | (0.07) | (0.11) | | |
| College | −0.31*** | −0.27** | 16.4% | 14.7% |
| | (0.07) | (0.11) | | |
| University | −0.37*** | −0.28** | 15.3% | 16.0% |
| | (0.06) | (0.11) | | |
| *Sector of employment (reference group = inactive or unemployed)* | | | | |
| Agriculture | 0.01 | 0.03 | 32.6% | 44.5% |
| | (0.03) | (0.02) | | |
| Industry | −0.06** | −0.05** | 16.4% | 13.4% |
| | (0.03) | (0.02) | | |
| Services | −0.10*** | −0.03 | | |
| | (0.02) | (0.02) | 27.3% | 28.8% |
| Constant | 0.42*** | 0.25** | | |
| | (0.07) | (0.12) | | |
| Observations | 16,589 | 11,741 | | |
| Adjusted $R^2$ | 0.073 | 0.064 | | |

Source: World Bank calculations based on the HBS.

# Annex B. Nonmonetary poverty

Table B.1. Correlations between the multidimensional poverty indicators and monetary poverty status

| | *Probit monetary poor=1* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *2007* | *2008* | *2009* | *2010* | *2011* | *2012* | *2013* | *2014* |
| Bad health | 0.127*** | 0.208*** | 0.085 | 0.207*** | 0.135** | 0.155*** | 0.116 | 0.174** |
| | (0.049) | (0.048) | (0.053) | (0.058) | (0.056) | (0.060) | (0.072) | (0.074) |
| No insurance | 0.141*** | 0.090** | 0.180*** | 0.261*** | 0.184*** | 0.080 | 0.159** | 0.199*** |
| | (0.048) | (0.046) | (0.054) | (0.054) | (0.056) | (0.065) | (0.065) | (0.076) |
| Low education, working age | 0.259*** | 0.261*** | 0.378*** | 0.314*** | 0.322*** | 0.187** | 0.354*** | 0.205** |
| | (0.066) | (0.069) | (0.069) | (0.073) | (0.078) | (0.077) | (0.092) | (0.088) |
| Behind in compulsory schooling, school age | 0.409*** | 0.133 | 0.315** | 0.256 | -0.031 | 0.383** | 0.422* | 0.176 |
| | (0.157) | (0.167) | (0.158) | (0.161) | (0.161) | (0.190) | (0.217) | (0.255) |
| Labor force participation, working age | 0.051 | 0.081 | 0.009 | -0.085 | 0.060 | 0.088 | 0.075 | -0.053 |
| | (0.065) | (0.062) | (0.072) | (0.077) | (0.081) | (0.081) | (0.097) | (0.093) |
| Unemployment and underemployment, working age | 0.116 | 0.213*** | 0.247*** | 0.207** | 0.327*** | 0.324*** | 0.360*** | 0.180* |
| | (0.074) | (0.075) | (0.074) | (0.081) | (0.080) | (0.086) | (0.094) | (0.104) |
| House material | 0.027 | 0.207*** | 0.252*** | 0.155*** | 0.201*** | 0.027 | 0.206*** | 0.117 |
| | (0.054) | (0.053) | (0.059) | (0.059) | (0.060) | (0.064) | (0.069) | (0.075) |
| Toilet | 0.023 | 0.146 | 0.147 | -0.034 | 0.083 | 0.221* | 0.509*** | 0.198 |
| | (0.103) | (0.092) | (0.111) | (0.102) | (0.122) | (0.122) | (0.173) | (0.138) |
| Water | 0.106 | 0.050 | -0.064 | 0.071 | -0.096 | 0.169** | 0.010 | 0.147 |
| | (0.079) | (0.067) | (0.068) | (0.072) | (0.067) | (0.074) | (0.081) | (0.096) |
| Living space | 0.386*** | 0.335*** | 0.263*** | 0.383*** | 0.306*** | 0.355*** | 0.475*** | 0.362*** |
| | (0.048) | (0.047) | (0.054) | (0.055) | (0.055) | (0.061) | (0.069) | (0.077) |
| Heat | 0.227*** | 0.254*** | 0.331*** | 0.539*** | 0.614*** | 0.372*** | 0.093 | 0.410*** |
| | (0.076) | (0.074) | (0.088) | (0.083) | (0.106) | (0.113) | (0.162) | (0.149) |
| Sewage | 0.429*** | 0.372*** | 0.610*** | 0.511*** | 0.520*** | 0.420*** | 0.607*** | 0.405*** |
| | (0.105) | (0.089) | (0.094) | (0.093) | (0.086) | (0.093) | (0.099) | (0.112) |
| Constant | -1.496*** | -1.591*** | -1.775*** | -1.997*** | -2.183*** | -2.037*** | -2.503*** | -2.324*** |
| | (0.064) | (0.060) | (0.065) | (0.080) | (0.081) | (0.089) | (0.104) | (0.110) |
| Number of observations | 16,589 | 16,420 | 15,066 | 14,379 | 14,659 | 13,974 | 12,354 | 11,741 |
| Adjusted R2 | 0.092 | 0.108 | 0.161 | 0.168 | 0.168 | 0.138 | 0.198 | 0.141 |
| Note: *** .01, ** .05, * .1 | | | | | | | | |