

EUROPE AND CENTRAL ASIA STUDIES

# SHARED PROSPERITY

Paving the Way  
in Europe and  
Central Asia



THE WORLD BANK

**Maurizio Bussolo and  
Luis F. Lopez-Calva**



# **Shared Prosperity: Paving the Way in Europe and Central Asia**

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## **EUROPE AND CENTRAL ASIA STUDIES**

Europe and Central Asia Studies feature analytical reports on main challenges and opportunities faced by countries in the region, with the aim to inform a broad policy debate. Titles in this regional flagship series undergo extensive internal and external review prior to publication.

# **Shared Prosperity: Paving the Way in Europe and Central Asia**

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**Maurizio Bussolo and Luis F. Lopez-Calva**



**THE WORLD BANK**

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# Foreword

The world has come a long way in its fight against extreme poverty. In low-income and middle-income countries, the proportion of people living in extreme poverty has declined by more than half in two decades, from 43 percent in 1990 to 21 percent in 2010. At the same time, increased income levels have enabled millions of people to join the middle class, particularly in Southeast Asia and Latin America. In 1970, developing economies accounted for 20 percent of world gross domestic product (GDP), whereas in 2014 they account for 34 percent. Many economists foresee this positive trajectory continuing unabated, bringing developing economies' share of global GDP growth close to 50 percent within a generation. Economic prosperity has never been more evenly distributed across the globe than it is today.

Yet, economic prosperity has not been shared with everyone. Within countries, millions of people have been left behind as their incomes grow slowly, stagnate, or, in some cases, decline—while the prosperity gap between the wealthiest and the poorest continues to expand.

Most countries in Europe and Central Asia have done well at increasing the incomes of the bottom 40 percent, which grew by an average of 3.8 percent from 2005 to 2010, faster than the income growth for the population overall. Even though these gains proved resilient to the 2008–09 global financial crisis, the region now stands at a crossroads. The crisis that abruptly halted a prolonged period of strong economic growth in the first decade of the 21st century has been followed by a tepid recovery, leaving many ECA economies at risk of economic stagnation. Short- to medium-term growth forecasts remain grim, with fiscal austerity measures and stifled investment fueling growing frustration and social unrest—particularly among the young, unemployed, and socially excluded. To prevent the past economic gains from being reversed, a better understanding of the interplay between equity and growth is essential for development practitioners, policy makers, and governments.

The World Bank has recently renewed its strategy, establishing two overarching goals: eliminating extreme poverty and boosting shared prosperity. The latter objective, which is the focus of this report, aims to increase the welfare of the bottom 40 percent of the distribution in every country. Long-term sustainability of social progress is also an important consideration in pursuing both of these overarching goals. This commitment of the World Bank to the advancement of the

least well off is not new. The Bank has consistently worked to ensure that economic growth is shared widely, and that benefits the lower-income groups.

Forty years ago, a group of World Bank economists first highlighted the need to view distributional objectives jointly with growth objectives and indeed to express these objectives “dynamically in terms of desired rates of growth of income of different groups” (Chenery et al. 1974, 38). Their quest reflected an early vision of what would eventually become an integral part of the World Bank Group’s strategy: fostering income growth of the bottom 40 percent of the population in every country.

The information and data available in 1974 were far less comprehensive and advanced than what we have at our disposal today, which currently include more than 4,000 surveys of households and firms across 192 countries. We now have data on a wide range of topics such as living standards, demographic characteristics and health conditions, financial situations, constraints to growth, and investment environments. This wealth of data helps to advance economic theory and to better identify and evaluate the impact of economic shocks and policies.

This report aims to propose a way to think and structure a debate about shared prosperity in Europe and Central Asia. It is about better understanding the conditions and policies that lead to more systematic income growth for the bottom 40 percent and identifying policies and investments that can help countries accelerate income growth for the bottom 40 percent. In this endeavor, the report seeks to provide a view of shared prosperity that reconciles equity and growth, while building a bridge between macroeconomic and microeconomic drivers of income growth among the bottom 40 percent in different parts of the region. Achieving shared prosperity may be an enormous challenge, but it is one that we are determined to meet. We hope this report can help pave the way forward.

**Laura Tuck**

Vice President, Europe and Central Asia Region  
The World Bank

## Reference

Chenery, Hollis Burnley, Richard Jolly, Montek S. Ahluwalia, C. L. Bell, and John H. Dulong. 1974. *Redistribution with Growth: Policies to Improve Income Distribution in Developing Countries in the Context of Economic Growth*. World Bank Research Series. Washington, DC: World Bank; New York: Oxford University Press.

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# Abbreviations

EU	European Union
GDP	gross domestic product
GIC	growth incidence curve
SAM	social accounting matrix

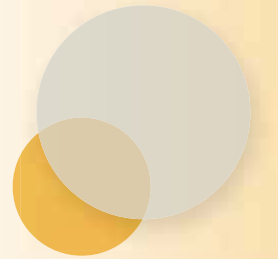
## Country Codes

ALB	Albania
ARM	Armenia
BGR	Bulgaria
BLR	Belarus
CZE	Czech Republic
EST	Estonia
GEO	Georgia
HRV	Croatia
HUN	Hungary
KAZ	Kazakhstan
KGZ	Kyrgyz Republic
KSV	Kosovo
LTU	Lithuania
LVA	Latvia
MDA	Moldova
MKD	Macedonia, former Yugoslav Republic of
MNE	Montenegro
POL	Poland
ROM	Romania
RUS	Russian Federation
SRB	Serbia
SVK	Slovak Republic
SVN	Slovenia
TJK	Tajikistan
TUR	Turkey
UKR	Ukraine

Note: All dollar amounts are U.S. dollars (\$) unless otherwise indicated.







## Executive Summary

The World Bank has recently identified two strategic goals: ending extreme poverty and boosting shared prosperity. The two goals should be achieved in a sustainable way. Here, sustainability is meant in a broad sense, that is, the economic, social, and environmental dimensions are to be considered together.

The present report focuses on the second goal: shared prosperity. Boosting shared prosperity has been defined as “expanding the size of the pie continuously and sharing it in such a way that the welfare of those at the lower end of the income distribution rises as quickly as possible” (World Bank 2013, 21). Income growth among the bottom 40 percent of the income distribution in the population (the bottom 40) is the indicator used to measure shared prosperity.

The report focuses on the bottom 40 in the Europe and Central Asia region and addresses the following key questions:

1. What has been the trend in shared prosperity in the region? The answer is fairly positive, on average. However, the outcomes have also been heterogeneous, and the sustainability is uncertain.
2. What are the determinants of shared prosperity, and how is shared prosperity achieved? This report proposes a framework to answer this two-part question. Within the framework, macroeconomic drivers (aggregate growth, factor returns, and relative prices) and microeconomic characteristics (particularly assets owned by individuals) matter.

3. Who are the people in the bottom 40 in the region? The answer varies by country and by period. A preliminary finding is that the working-age population among the bottom 40 in the majority of countries has accumulated relatively less human capital. Additionally, because of lower labor force participation rates and higher unemployment rates, the bottom 40 uses its human capital less intensively.
4. What can we do to boost shared prosperity, and what does a shared prosperity focus mean for the disparate operations and advisory activities carried out by the World Bank or the policy reforms adopted by governments? This is a challenge reserved for the specific application of the framework within countries. It seems clear, however, that the application of the framework will encourage a more balanced approach to development policy. This new approach will combine the quest for economic growth with a concern for equity because it recognizes that, at least in the long run, these reinforce each other.

Let's consider these questions in more detail.

### **What Is the Trend in Shared Prosperity in the Region?**

The substantial economic growth experienced in Europe and Central Asia appears to have been accompanied by positive performance in shared prosperity in recent years. The incomes of households in the bottom 40 have expanded 20 percent more rapidly than national average incomes. In the region during the period from about 2005 to 2010, the average income among the bottom 40 increased by 3.8 percent. This is a good performance relative to other regions at a similar level of income, such as Latin America and the Caribbean, which achieved a rate of 4.9 percent.

Nonetheless, behind the regional average, there is a large heterogeneity. Between 2005 and 2010, a Belarussian, Polish, Russian, or Slovak household in the lower segment of the income distribution enjoyed an income growth rate of around 8 percent or more a year. At an annual average growth of over 11 percent, the incomes of the Slovaks in the bottom 40 rose by 70 percent during these five years. However, less well off people in Latvia, Turkey, and Ukraine experienced an average yearly increase of only 5 percent or less, almost half the rate of the same group among the best performers. Meanwhile, people in Croatia, Georgia, the former Yugoslav Republic of Macedonia, and Serbia sustained losses of 1 percent or more annually.

The sustainability of this recent income growth among the bottom 40 is unclear given that it appears to have been driven by transfers, not by an expansion in factor accumulation, returns, or productivity. In 2010, households in the bottom 40 in Croatia, Moldova, Serbia, and Ukraine were receiving, on average, 30 percent or more of their incomes in the form of pensions, while, among corresponding households, the average income share accounted for by social assistance was around 10 percent in Albania, Croatia, Kosovo, FYR Macedonia, Moldova, and Turkey.

## How Is Shared Prosperity Achieved? What Are Its Determinants?

One way of answering these questions is by seeking to explain the uneven performance across the region. Clearly, overall economic growth is an important determinant, but what is behind the differences in income growth among the bottom 40 even in countries with similar rates of growth in gross domestic product (GDP)? This is the case, for example, of Georgia and Poland, each with GDP growth of about 5 percent, but with the bottom 40 experiencing a contraction in incomes in Georgia and a strong expansion in Poland. Do the characteristics of individuals and households in the bottom 40 determine their capacity to benefit from and participate in overall growth? Or do macroeconomic drivers, such as the terms of trade, skill premiums, or overall shifts in productivity, shape a specific pattern of growth and growth incidence in favor of or against the bottom 40? An initial answer to these questions is that both the level of growth and the incidence of growth—that is, the income growth at each percentile of the distribution—matter for shared prosperity.

This report proposes an analytical framework to help us understand how micro characteristics and macro drivers affect shared prosperity jointly. The cornerstone of the framework is an asset-based approach. The level and accumulation of the assets people own—human capital, physical and financial assets, and social and natural capital—influence income generation as does the intensity with which these assets are used and the returns associated with the assets. In addition to market income, public and private transfers can account for a significant share of the total income of individuals. Households (and firms) make many important economic decisions affecting the accumulation and the use of the assets of their members. But, most of the time, variables outside the control of households govern the income generated from these assets. For example, the returns to education—a key variable affecting the investment in and income from human capital—result from the interaction of both the supply of and the demand for skilled workers. And the demand for the labor of these workers depends on technology and the availability of other factors. All these variables are determined at the macro level and are taken as a given by individual households (and firms). Our proposed framework combines both (1) microeconomic decisions and the resulting endowments of the various types of assets at the individual level and (2) macroeconomic variables, such as the returns to assets. These two sets of variables jointly determine shared prosperity.

The framework constitutes the report's most important contribution because it overcomes the disadvantages of two narrower approaches frequently followed in the past. The first narrower approach is a standard macro top-down approach that assumes growth is fundamentally determined by aggregate variables and that, once growth has been activated, everybody will be lifted or everybody can be lifted through redistribution. The second is the bottom-up microeconomic approach according to which aggregate growth is the weighted average of the productive efforts of micro units such as households and firms.

The framework can accommodate a variety of assets. For illustrative purposes, this report describes how natural capital and social capital might be included.

Standard markets do not exist for these types of assets; so, the channels through which these assets influence shared prosperity do not encompass prices. For example, through social norms or the incidence of discrimination, social capital can impact income generation by affecting the way individuals use their assets. An example is the gap between male and female labor force participation: although improving, female labor force participation is lagging among the bottom 40 in many countries of the region.

### **Who Are the People in the Bottom 40 in the Region?**

The evidence available on Europe and Central Asia confirms that households in the bottom 40 tend to have a smaller stock of human capital as measured by educational attainment. In addition, the returns to education tend to be lower among the bottom 40 with respect to the top 60 percent of the income distribution (the top 60), indicating differences in productivity that may be related to the quality of education received by the two groups. Market segmentation may also account for this difference. There is evidence that workers in the bottom 40 have fewer employment opportunities outside agriculture, but this varies across countries. People in the bottom 40 are also affected by lower rates of labor force participation and higher levels of unemployment. On average, households in the poorer segment of the distribution depend more heavily on nonmarket income flows, especially public transfers.

In terms of demographic characteristics, each employed member of households in the bottom 40 in Europe and Central Asia must provide for six other individuals on average; the corresponding number of individuals in the top 60 is four. There is evidence that ethnic minorities, such as the Roma, tend to be over-represented in the bottom 40.

### **What Can We Do to Boost Shared Prosperity?**

This is the most difficult question. The answer is beyond the scope of this report, but the report suggests a path to the answer. In the policy realm, it highlights three main issues. First, among policy makers, adopting the goal of shared prosperity implies a major shift toward the simultaneous pursuit of economic growth and equity. Likewise, it implies a shift away from an agenda of maximizing growth without attention to who contributes to it or who benefits from it and also away from a program of redistribution that overlooks incentives. Policy makers are becoming aware that, despite a positive effect on the average income of their citizens, many macro policies sometimes produce such a deterioration in the welfare of specific groups that the policies become socially undesirable and politically untenable. Similarly, poverty reduction policies designed to target specific individuals and households may have macroeconomic (mostly fiscal) consequences. Thus, the selection and implementation of economic policies require a careful assessment of the effects both on aggregate economy-wide variables—such as employment, inflation, or aggregate growth—and on income distribution and poverty.

Second, the time frame for implementing and evaluating policies is crucial. In the short run, policy can influence the intensity of the use of assets, transfers, and prices, which are also affected by cyclical conditions, such as unemployment, inflation, and the fiscal capacity of governments to respond to shocks. But only in the long run can asset accumulation be significantly altered. The policies that can help sustain the long-term drivers of income growth among the bottom 40 are therefore different from the interventions that provide a buffer from an economic crisis or other type of short-term shock.

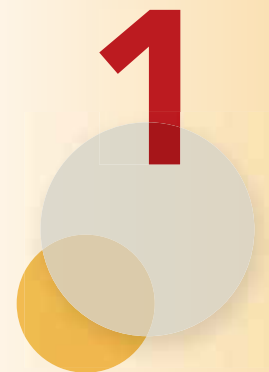
Third, a great challenge in building an integrated macro-micro growth-cum-equity set of policies is the reconciliation of macro- and microdata. Standard macrodata sets, such as those supplied by a central bank or national income accounts, can sometimes provide assessments on economic progress that are opposed to the assessments produced on the basis of microdata sets, such as household surveys, labor force surveys, population censuses, and community-level surveys. Differences in the levels of economic variables—for example, between consumption or income per capita measured through household surveys or national accounts—can still be explained; however, if the trends differ across countries or groups, the issue becomes more complicated.

Shared prosperity is not a new area of attention for the World Bank. (Indeed, in the mid-1970s, Chenery et al. [1974, 38] were already talking about “desired rates of growth of income of different groups” and were referring specifically to the poorest 40 percent.) But achieving this goal sustainably requires changing the way we think about and support development in terms of analysis, measurement, data, and policies. The task ahead is challenging, but it is within reach.

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## Introduction

In line with a long tradition of commitment to inclusive and sustainable development, the World Bank has recently renewed its strategy to help countries sustainably raise the living standards of their citizens at the lower end of the income distribution. During the 2013 Bank-Fund Annual Meetings, the Bank announced the twin goals of ending extreme poverty and boosting shared prosperity. The first goal is to reduce the share of people living on less than \$1.25 a day to fewer than 3 percent globally by 2030. The developing world has cut this extreme poverty rate in half since 1990, and the goal of eradicating poverty is now within reach. The second goal is to foster income growth within every country among the bottom 40 percent of the population (the bottom 40). Developing countries have also been remarkably successful in accelerating overall growth over the last two decades. Average structural growth in gross domestic product (GDP) has doubled, from 3 percent annually in the beginning of the 1990s to more than 6 percent in 2014. It is paramount that people at the lower end of the income distribution participate in and benefit from continued strong economic progress.

This report focuses on the second goal—boosting shared prosperity—because it is especially relevant for Europe and Central Asia. Many middle-income countries in the region have been successful in the past, but are struggling to maintain a rapid pace of equitable growth. The second goal also deserves special attention because there is little understanding of or experience in influencing the growth prospects of the bottom 40 within countries, even if income growth among the bottom 40 is not a completely new area of attention for the Bank. Indeed, in the mid-1970s, Chenery et al. (1974, 38) were already writing about “desired rates of

growth of income of different groups” in reference specifically to the bottom 40. The current renewed focus, however, provides the opportunity to develop a more comprehensive and more empirical understanding of the drivers of income growth among the bottom 40 and to unveil new policy options. We are still at the start of this fresh agenda: we require more and better data, deeper analysis, and extensive policy discussions. This report is meant to jump-start that work in the Europe and Central Asia region.<sup>1</sup>

A first important observation is that overall GDP growth is not necessarily a good proxy for income growth among the bottom 40 and that a favorable macroeconomic environment does not automatically translate into good growth prospects for people at the lower end of the income distribution. Recent developments in Georgia are a case in point. The Georgian economy grew at an average 5 percent a year or more during the first decade of this century, accompanied by important reforms and the promotion of private sector investment. The country continues to grow steadily even in the aftermath of the 2008–09 global financial crisis, after recovering from a year of economic contraction. Foreign investment flows regularly into the economy, attracted by a healthy business climate and an extraordinary record in the doing business indicators.<sup>2</sup> However, people in the bottom 40 in Georgia have experienced limited and even negative growth throughout most of this same period. To address this problem, the government and civil society in the country are engaged in rethinking the growth model to make it more inclusive in a productive way.

However, there are also many examples of more rapid income growth among the bottom 40 than among the top 60 percent of the income distribution in the population (the top 60). In the whole of Europe and Central Asia in 2005–10, income growth among the bottom 40 outpaced income growth among the top 60 by an average of 0.8 percentage points annually. As a result, the bottom 40 in Europe and Central Asia generally did quite well during the period, compared with corresponding groups in other regions.

A second key observation is that income growth among the bottom 40 cannot be understood in isolation from macroeconomic developments. Though there are differences across countries, the correlation between income growth among the bottom 40 and macroeconomic variables is significant and positive. This was apparent during the long boom before the 2008 crisis, and it also emerged during the cyclical developments surrounding the crisis. During boom periods, the bottom 40 benefits from macroeconomic drivers as employment opportunities expand and overall increases in productivity translate into rising wages. During recessions, income growth among the bottom 40 drops as unemployment increases and wages soften, while social safety nets and policy responses determine the degree of mitigation. The terms of trade and, in general, relative prices are, apart from wages and social transfers, major macroeconomic transmission channels.

On the basis of these two observations, this report proposes a framework that combines macroeconomic drivers and microeconomic characteristics. The framework enables us to analyze the components of income growth among the bottom 40. The framework goes beyond the standard macro approach and micro tools. A standard macro approach takes a top-down view of the growth process. This view



A focus  
on shared prosperity  
can unveil new  
policy options for  
inclusive and  
sustainable  
growth.



assumes that growth is fundamentally determined by aggregate variables and that, once growth has been activated, everybody will be lifted or everybody can be lifted through redistribution. The microeconomic tools, on the other hand, follow a purely bottom-up approach. This approach postulates that macro growth is the weighted average of the productive efforts of micro units (households and firms). In reality, income growth among specific groups is simultaneously driven by individual characteristics (schooling, location, employment, access to financial systems, the productivity of natural resources) and macroeconomic drivers (wage growth, skill premiums, the business cycle). Our framework reveals large differences between the characteristics of individuals in the bottom 40 and the characteristics of individuals in the top 60 within the countries of Europe and Central Asia, while also acknowledging the key role of variables outside the control of individuals.

A great challenge in building this integrated macro-micro framework is the reconciliation of macro- and microdata. Standard macrodata sets—including those from a central bank or national income accounts—can, at times, provide assessments of economic progress that contrast with assessments gauged on the basis of microdata sets, such as household surveys, labor force surveys, population censuses, and community-level surveys. Differences in economic variables—for instance, between consumption or income per capita as measured in household surveys or in national accounts—can be explained, and simple methods to reconcile them are available. However, the situation becomes more complicated if trends differ. The case of India is a well-known example: consumption growth and poverty reduction rates calculated on the basis of surveys appear to be much slower than the corresponding rates estimated on the basis of national accounts. And, so, supporters of additional market-friendly reforms of the Indian economy appeal to the positive results from the national accounts, whereas opponents of the reforms use the sluggish poverty reduction shown in the surveys as evidence against recent or future liberalizations. Great gains can be obtained by using and comparing macro- and microdata sets, and considering them together is the only way to “look behind the averages” in the analysis of the growth-distribution nexus (Ravallion 2001, 10).

Finally, the shared prosperity goal urges a revisiting of policy choices and the implementation or, at least, the devising of fresh interventions. Policy makers are becoming aware that, despite a positive effect on the average income of their citizens, many macro policies can produce such deterioration in the welfare of specific groups that the policies become socially undesirable and politically unsustainable. Similarly, poverty reduction policies designed to target specific individuals or specific households may end up generating macroeconomic (mainly fiscal) consequences. Thus, the selection and implementation of economic policies require a careful assessment of the effects on aggregate economy-wide variables—such as employment, inflation, or aggregate growth—as well as on income distribution and poverty. Another effect to consider is the effect on environmental quality and natural resources, which often involves health, productivity, and income issues that implicate the bottom 40 more relative to the overall population.

The countries of Europe and Central Asia display great heterogeneity in terms of the links between aggregate economic growth and the growth of income at the



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bottom of the distribution. Identifying effective and feasible policies that ensure that the welfare of those at the lower end of the income distribution rises as quickly as possible thus requires us to zoom in on the bottom 40 at the country level and explain the potential determinants of this diversity. Placing all these associated factors in a unifying framework is the purpose of this report. By fostering an understanding of the heterogeneity among countries and encouraging policy proposals for boosting growth at the bottom, the shared prosperity discussion can facilitate a fresh perspective on evaluation and renewed action aimed at achieving social progress.

## Notes

1. A more detailed discussion of the bottom 40 indicator is presented in the appendix.
2. See Doing Business (database), International Finance Corporation and World Bank, Washington, DC, <http://www.doingbusiness.org/data>.

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- Chenery, Hollis Burnley, Richard Jolly, Montek S. Ahluwalia, C. L. Bell, and John H. Duly. 1974. *Redistribution with Growth: Policies to Improve Income Distribution in Developing Countries in the Context of Economic Growth*. World Bank Research Series. Washington, DC: World Bank; New York: Oxford University Press.
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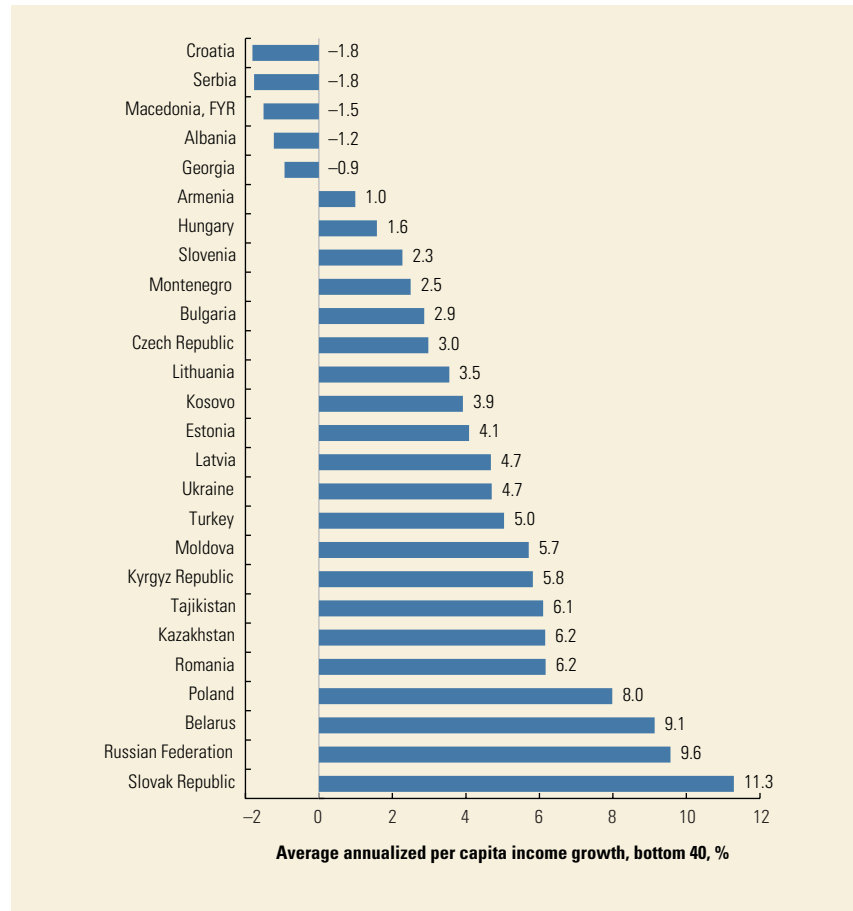
## Shared Prosperity in Europe and Central Asia: Recent Trends

The first years of the new millennium marked a period of strong economic performance in Europe and Central Asia. The data show substantial growth, accompanied by significant poverty reduction through most of the last decade, despite the global financial crisis of 2008, which slowed the trend. Between 2000 and the 2008 crisis, the unweighted average per capita growth rate in the transition countries in the region was 6 percent a year.

How did the countries of Europe and Central Asia fare if they are viewed through the new shared prosperity lens? Figure 2.1 shows the income growth among the population in the bottom 40 percent of the distribution between 2005 and 2010. The data suggest that the strong economic growth and poverty reduction experienced in the region were matched by an overall positive record in shared prosperity in the latter part of the first decade of the 2000s. In all but a handful of countries, household incomes among the bottom 40 grew at relatively high annual rates: the regional average was around 3.8 percent.

A few qualifications are in order. First, the time period examined in figure 2.1 (2005–10) is relatively short. Cyclical fluctuations—for instance, swings in commodity prices—could be driving performance during such a short time span, whereas more profound structural changes, such as the upgrading of an education system or demographic shifts, take longer to become visible. Second, this period includes large fluctuations: the boom period up to 2008, the sizable shock of the global financial crisis of 2008–09, and the rebound in 2010. This five-year period is thus not necessarily representative of the steady-state behavior of these economies. These qualifications notwithstanding (they are dealt with in more detail

**FIGURE 2.1**  
**Rates of Growth of**  
**the Bottom 40 Were**  
**Heterogeneous, but, on**  
**Average, Good across**  
**Europe and Central Asia**  
**in 2005–10**



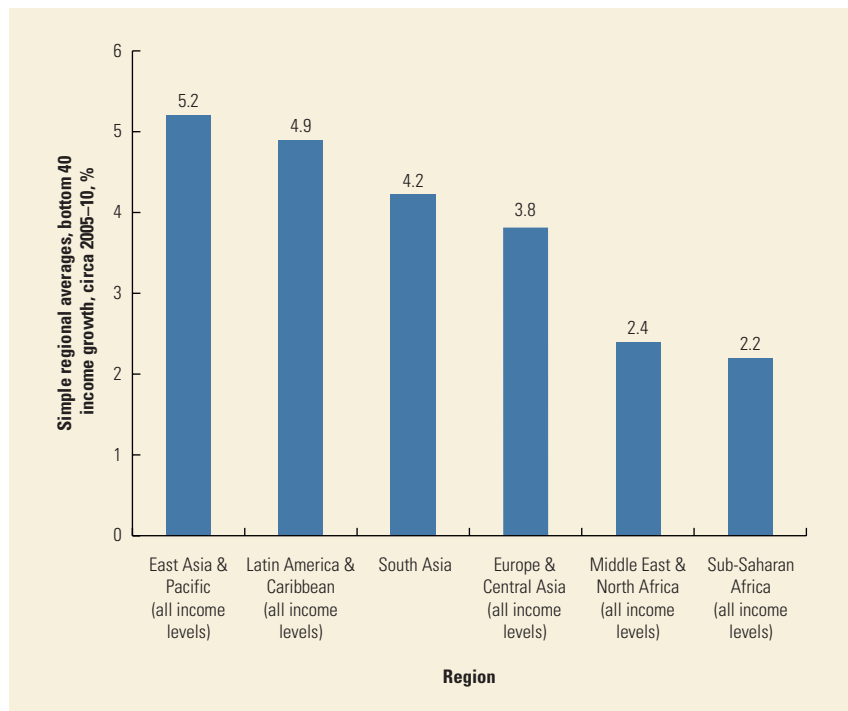
Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

Note: The years in the figure have been chosen because data have been harmonized and are comparable in the countries of Europe and Central Asia circa 2005–10.

later), is there a yardstick for judging the quality of the observed income growth among the bottom 40 in Europe and Central Asia?

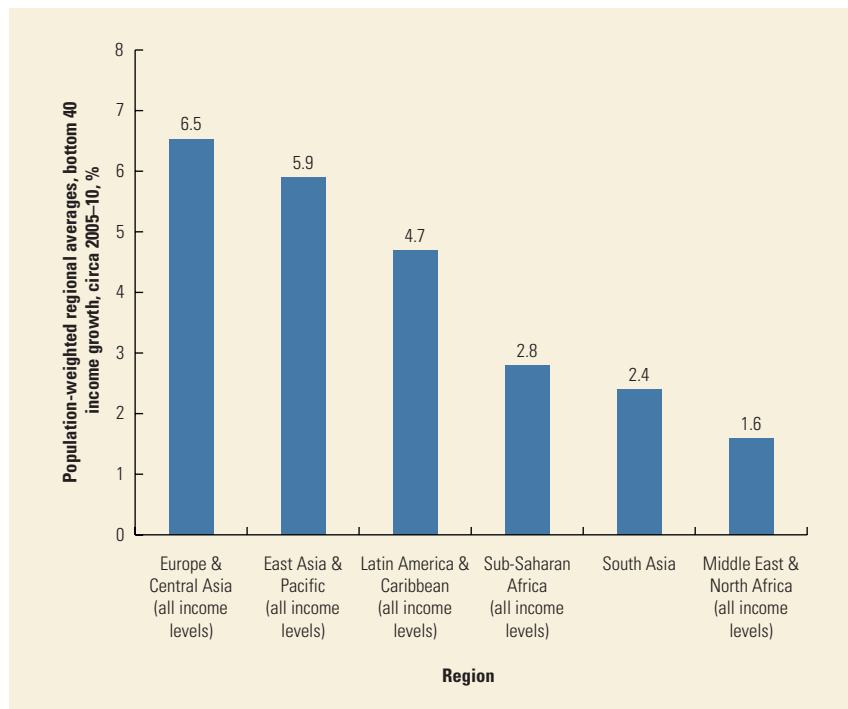
One way to answer this question is to benchmark the performance of the region to that of other regions. Within the global context and during the same period, around 2005–10, Europe and Central Asia did quite well. In simple average terms (namely, calculating the mean of the growth rates for all the countries in each region), the growth in income among the bottom 40 in Europe and Central Asia (3.8 percent, on average) was close to that in South Asia and not so distant from that in Latin America and the Caribbean and in East Asia and the Pacific, the top performers, which achieved rates of 4.9 percent and 5.2 percent, respectively (figure 2.2). If we weight the averages by the population in each country, Europe and Central Asia climb to the first position, reaching a weighted growth rate of 6.5 percent (figure 2.3).

In Europe and Central Asia, more populous countries appear to have outperformed the smaller ones. For these comparisons, some regions and some



**FIGURE 2.2**  
Shared Prosperity in Europe and Central Asia Has Achieved Results Close to Those of the Top Performers

Source: Household budget surveys.

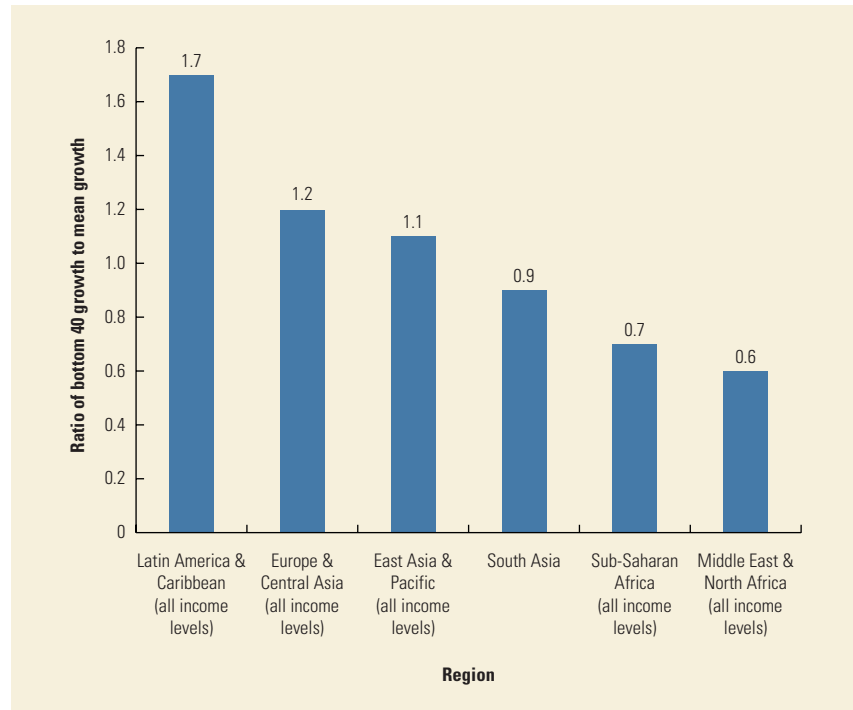


**FIGURE 2.3**  
In Terms of Shared Prosperity, the Largest Countries Have Performed Particularly Well in Europe and Central Asia

Source: Household budget surveys.

**FIGURE 2.4**

**In Latin America and the Caribbean, Europe and Central Asia, and East Asia and the Pacific, Income Growth among the Bottom 40 Has Been Stronger Than Mean Income Growth**



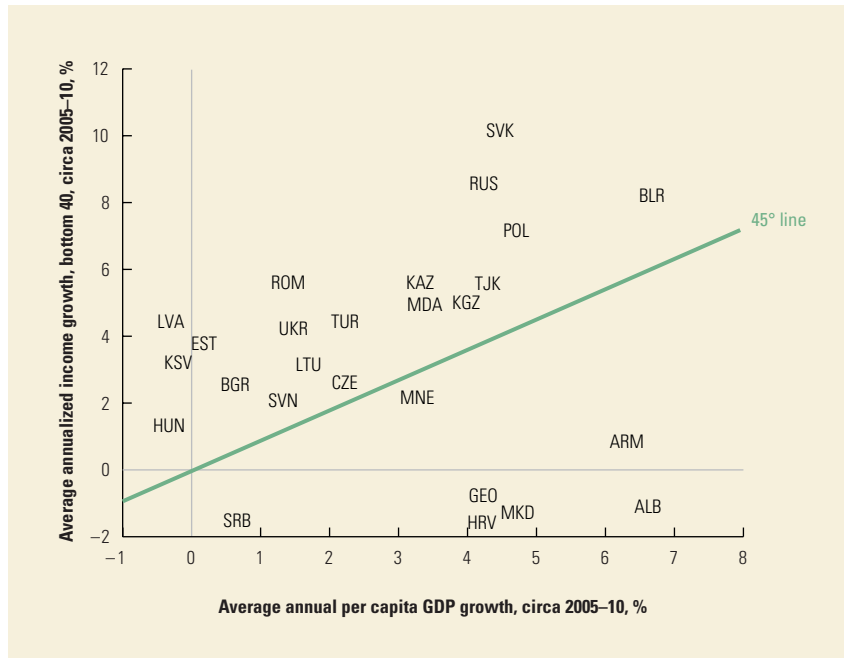
Source: Household budget surveys.

countries within regions provide information about income and consumption variables, while others offer information on only one of these welfare indicators. Azevedo (2014) explains the constraints in terms of sources of data, differences between income and consumption measurement, and consistency between macrodata and microdata. We perform robustness checks in the analysis whenever possible to verify the validity of our conclusions despite the data comparability limitations.

Finally, if the assessment is based on the growth in income among the bottom 40 with respect to mean income growth, the region also performs relatively well: income among the bottom 40 in Europe and Central Asia grew by 20 percent more than the mean. This is below only the performance in Latin America, where income among the bottom 40 grew 70 percent more relative to the mean in circa 2005–10 (figure 2.4).

Despite the positive relative performance, there is extensive heterogeneity across the countries of Europe and Central Asia. Between around 2005 and 2010, a Belarussian, Polish, Russian, or Slovak household in the lower segment of the income distribution enjoyed a growth rate of around 8 percent or more a year. With a yearly growth rate of over 11 percent, the incomes of the Slovaks in the bottom 40 rose by 70 percent during these five years. However, less well off people living in Latvia, Turkey, and Ukraine experienced a yearly increase of only 5 percent or less, almost half the rate of the same group among the best performers. On the other hand, people in Croatia, Georgia, the former Yugoslav Republic of Macedonia, and Serbia sustained losses of 1 percent or more annually. In addition to the issue of establishing

**The positive performance hides considerable heterogeneity within the region.**



**FIGURE 2.5**  
Growth of GDP Alone Does Not Explain the Growth in Bottom 40 Incomes

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc); World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>; national accounts.

Note: Data are calculated at constant purchasing power parity prices.

what constitutes good performance, these uneven growth rates point to the need to understand the determinants of the heterogeneity to be able to shed light on whether the region is on the path to shared prosperity and on ways to foster shared prosperity.

As a first element, gross domestic product (GDP) growth is clearly essential in achieving positive results. In Europe and Central Asia, the relationship between GDP growth and income growth among the bottom 40, though positive, is far from perfectly direct (figure 2.5). Rather than being neatly aligned close to the 45 degree line (which would occur if income growth among the bottom 40 were mainly associated with the growth of GDP), the data points are considerably dispersed. This indicates that, although growth matters, there are other elements that matter, too, and—as we argue—a key element is the pattern in this growth. GDP growth alone may not suffice to ensure strong performance in shared prosperity.

Group averages also hide the high degree of heterogeneity within the region, and there may likewise be large variations in income growth across households in each income group. Three key features should therefore be considered in attempting to unpack the heterogeneity: (1) the level of overall growth; (2) the incidence of the growth, that is, the income growth at each percentile of the distribution; and (3) the initial share of income that goes to the bottom 40 versus the top 60 (box 2.1).<sup>1</sup>

Growth incidence curves (GICs) indicate the growth of incomes along the income distribution from the poorest to the richest individual. In general, all else

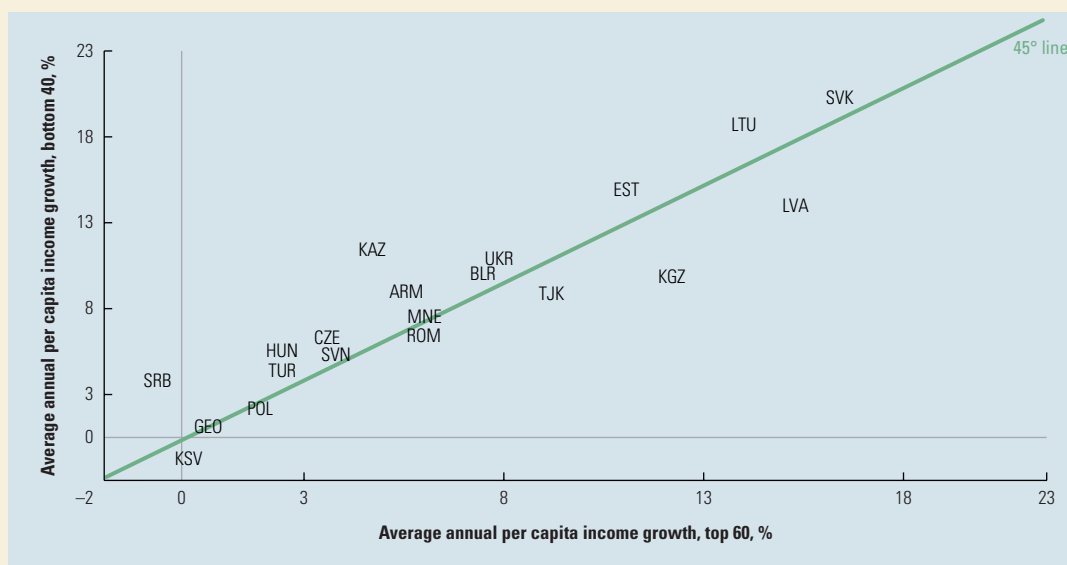
## BOX 2.1 Comparing the Bottom 40 and the Top 60 in the Microdata

Figures B2.1.1 and B2.1.2 show the growth in income among the bottom 40 versus the growth in income among the top 60 during two different periods. The first period is from early 2000 until 2008, before the onset of the global crisis,

a period of steady growth in the region (figure B2.1.1). Figure B2.1.2 shows the same information for the period 2005–10, during which there was growth, contraction, and then recovery.

### FIGURE B2.1.1

**Bottom 40 versus Top 60: During the Steady Growth Period, Growth Rates Were Similar for the Two Groups**



Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

Note: Data are calculated at constant purchasing power parity prices.

(Continued)

held constant, the higher the overall rate of growth, the higher the growth of the incomes of the bottom 40. Figure 2.6 illustrates an example of GICs comparing pairs of countries that had (1) similar GDP growth, but contrasting growth among the bottom 40 (Georgia and Kazakhstan, panels a and b) and (2) contrasting overall growth, but similar growth among the bottom 40 (Ukraine and Tajikistan, panels c and d). The four patterns are considerably different, illustrating the following points:

- Incomes grew more quickly at the bottom in Kazakhstan and Ukraine and less quickly in Georgia and Tajikistan. The growth incidence in Georgia is even slightly regressive; thus, while both Georgia and Kazakhstan register GDP



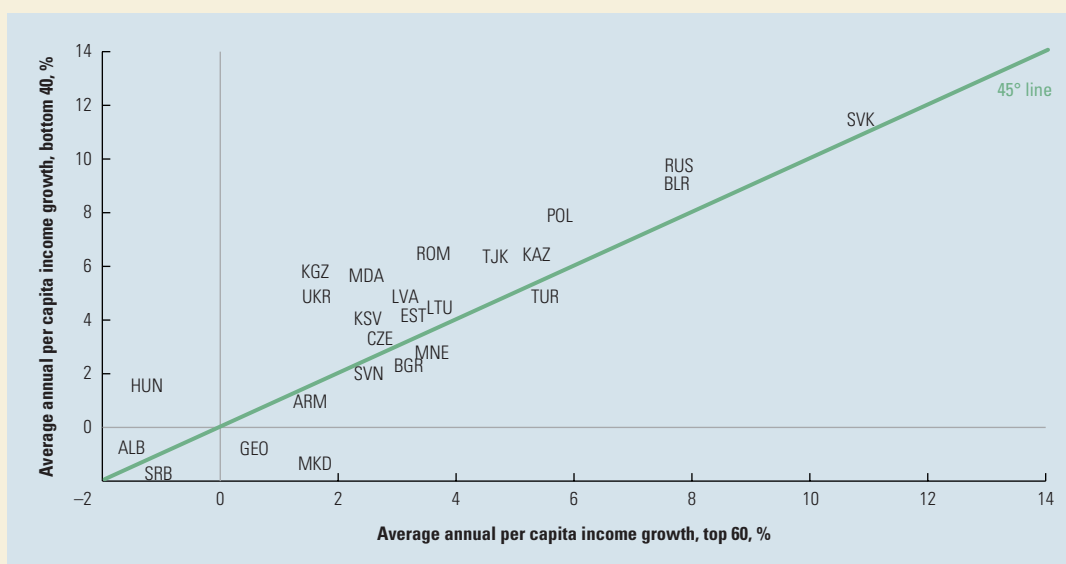
**BOX 2.1** (continued)

In both periods, bottom 40 income growth is greater in most countries, though the pattern is more pronounced during the cyclical period. One potential explanation is the nature of the global crisis, which was triggered by a financial collapse,

thereby affecting the top 60 relatively more than the bottom 40. In addition, in many countries, the fiscal response through transfers and public investments tended to favor the bottom 40 to a larger extent.

**FIGURE B2.1.2**

**Bottom 40 versus Top 60: During the Cyclical Period, the Bottom 40 Outperformed the Top 60**



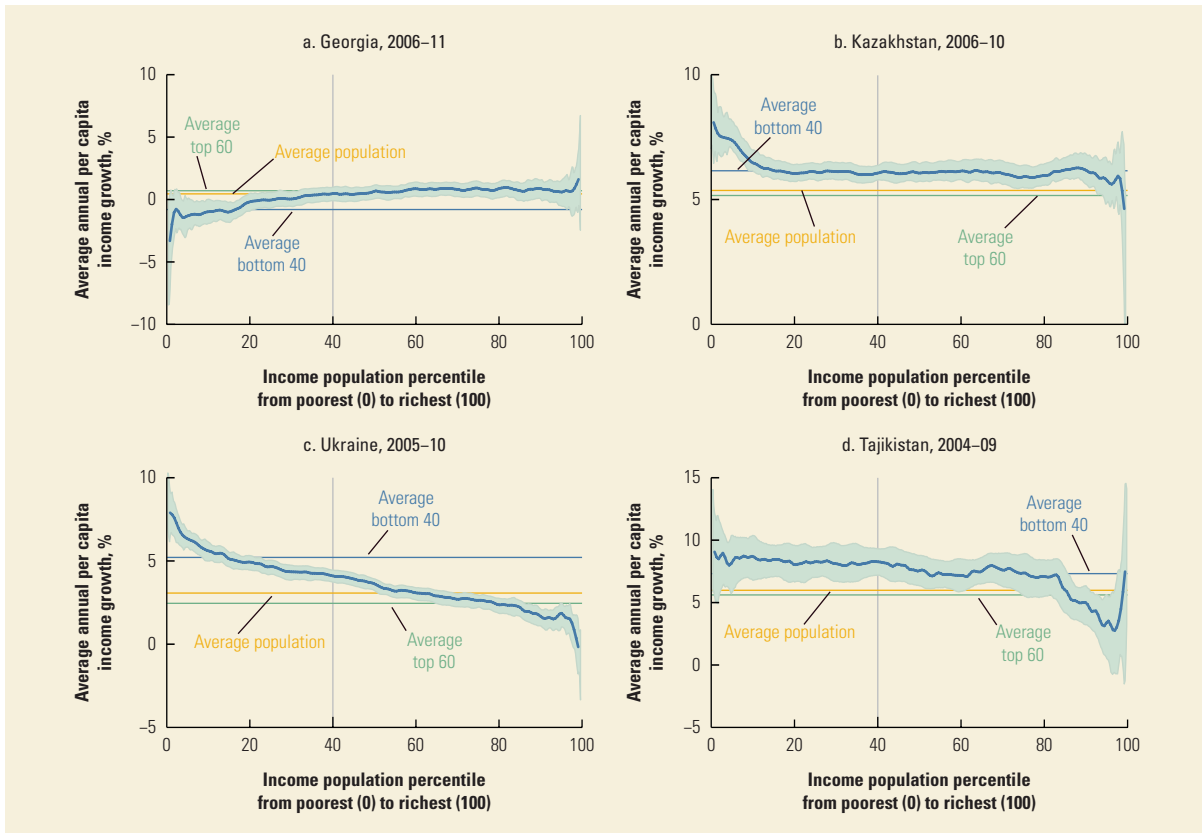
Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc); World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>; national accounts.

Note: Data are calculated at constant purchasing power parity prices.

growth of about 4 percent, they show different rates of growth among the bottom 40 (–1 percent and 6 percent, respectively).

- A direct comparison of the GICs for Tajikistan and Ukraine highlights the fact that, even in a context of quite different macro performance, the bottom 40 in each country was able to grow relatively more strongly than the respective top 60. Tajikistan, however, constitutes a case in which the overall growth rate is such that growth among the bottom 40 is high, although the growth incidence is not particularly progressive.
- The average growth of both the bottom 40 and the top 60 hides a good deal of heterogeneity within these groups. In the case of Tajikistan, for example, the

**FIGURE 2.6**  
**Growth Incidence Curves Show the Diverse Growth Patterns in Europe and Central Asia**



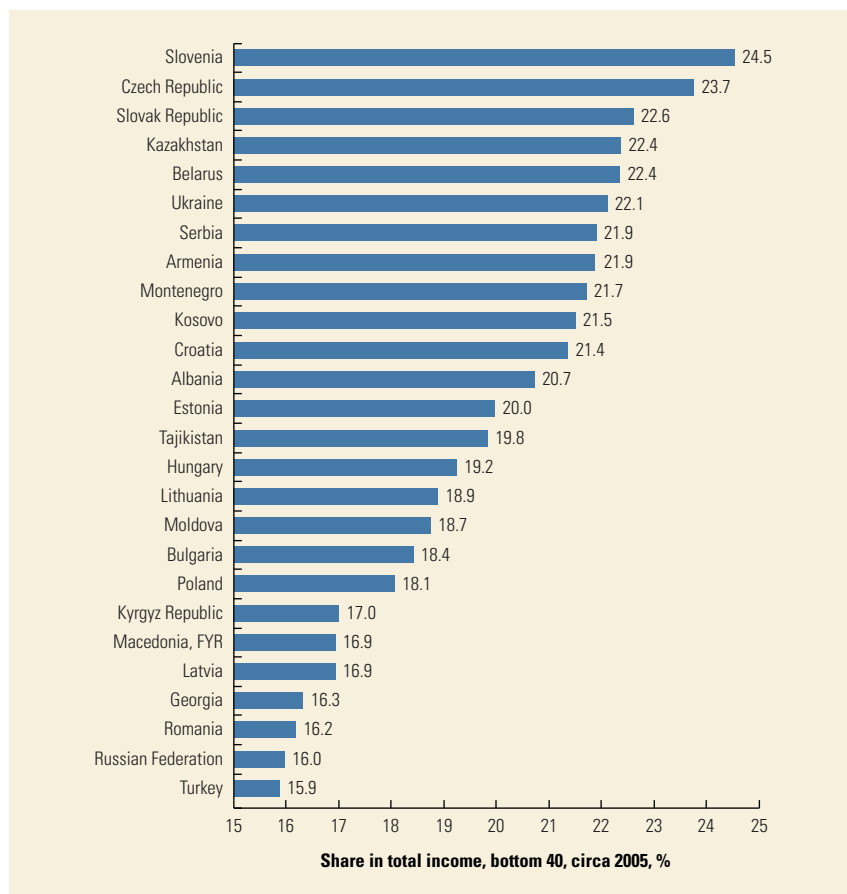
Source: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

Note: The solid horizontal lines in the panels show the average levels of growth for the whole economy, for the bottom 40, and for the top 60 in each case.

average of the top 60 has been affected by a fall in the incomes among a group within the top decile.

Finally, in addition to the level of aggregate growth and the incidence of growth across different income groups, a key element that helps to understand the contribution of the bottom 40 to overall growth is the initial share of income represented by this group. There is a positive correlation between the initial share of total income that goes to the bottom 40 and the contribution of the bottom 40 to overall growth. This indicator also shows a large variation across countries (figure 2.7). The initial share of income held by the bottom 40 is, in turn, associated inversely with the initial level of income inequality.

If one focuses on the performance of the bottom 40, it is helpful to think of growth and distribution as codetermined, as Chenery et al. (1974) suggest one should do. The associations reviewed so far have no causal implication; though helpful as a first instance, they describe the process without providing sufficient elements for us to understand fully the heterogeneity in the performance of the bottom 40. The framework proposed in the next chapter represents an attempt to view the heterogeneity at a deeper level.



**FIGURE 2.7**  
Some Countries Face a Greater Challenge in Closing the Income Gap between the Bottom 40 and the Top 60

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

## Note

1. This pattern remains—though the dispersion is reduced—if, instead of GDP, the comparison relies on the mean income growth shown in survey data. Using GDP is desirable because, whenever we measure overall growth, we do so in terms of GDP, not in terms of household income or consumption as measured in surveys (Azevedo 2014).

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## The Drivers of Shared Prosperity

### An Asset-Based Framework

Our proposed framework relies on an asset-based approach as a building block. This approach incorporates the relevance of the long-term productive capacity of households to contribute to growth as well as the relevance of macroeconomic variables that affect, for example, the demand for labor across sectors, relative prices (returns), and the intensity of the use of assets over the economic cycle. This perspective permits an enhanced understanding of growth incidence (Attanasio and Székely 1999; Carter and Barrett 2006). The main elements of the framework are the following:

- At the macroeconomic level, the scheme includes variables such as commodity prices, external conditions, the importance of trade in the economy, the sectoral composition of growth, and fiscal structure and capacity. Looking forward, measures of national wealth accounting and the carbon (CO<sub>2</sub>) intensity of growth can also be added because it is anticipated that these will affect commodity prices and other macro variables in the future (for example, after 2020).
- At the microeconomic level, the capacity of households to contribute productively to overall growth depends on the assets they own or have access to, the existing returns to these assets, and how intensively the assets can be used. The assets may include human capital, financial capital, social capital, and natural capital, such as land, soil, forests, and water.<sup>1</sup>

- Finally, the income generation capacity of households is complemented by nonmarket income, that is, transfers from private sources (remittances, for instance) and public sources (social assistance, for example).

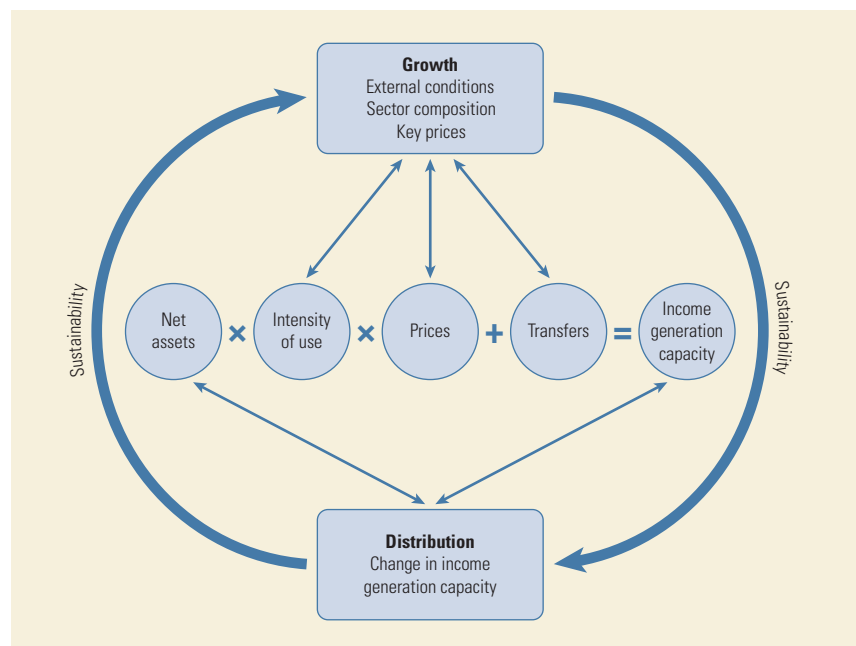
Traditionally, a top-down approach would emphasize the macroeconomic drivers (the first bullet point in the preceding list) and view the resulting distribution as a separate element. A purely bottom-up approach would emphasize the long-term determinants of growth as a function of the productive capacity of the economy and the efficient allocation of household assets to the most productive use.

Our proposed framework considers that, in the short run, the distribution of assets is a given, and variables such as prices, growth composition, and fiscal transfers will play a bigger role (emphasizing the demand side). In the medium and long term, however, the level and distribution of assets and the returns on the assets, which reflect their productivity, will be the main drivers. In this sense, if the bottom 40 possesses a lower productive capacity, there will be an upper bound to the potential for growth (figure 3.1). Clearly, elements such as prices and the intensity of asset use may be affected by cyclical conditions: unemployment would prevent individuals from generating income from labor; inflation may distort the relative returns to assets and induce misallocations; and the fiscal capacity of governments to respond to shocks could limit the countercyclical role of transfers, while households may rely more on private transfers during difficult times.

For instance, if we assume that one of the main assets owned by households is human capital, which represents a principal source of household income, whether the bottom 40 is different from the top 60 in this dimension becomes an important question. Analyses of the determinants of growth demonstrate that an income group characterized by lower human capital accumulation is more limited in growth

The asset-based framework looks at the joint determination of growth and the distribution of growth.

**FIGURE 3.1**  
The Asset-Based Approach and the Joint Determination of Growth and Distribution



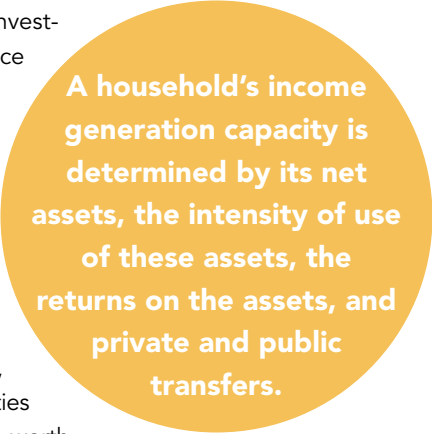
potential. The evidence on Europe and Central Asia confirms that households in the bottom 40 tend to have a smaller stock of human capital as measured by educational attainment. Similarly, it is important to understand whether there is a special relationship between households in the bottom 40 (particularly in rural areas) and reliance on, access to, and the quality and value of productive natural assets. Such an analysis is envisaged for the next stage of the development of the framework.

In terms of returns, although it is more difficult to show a systematic pattern across a large sample of countries because of data limitations, we find that, after we control for observable characteristics, hourly earnings tend to be lower among households at the bottom of the distribution. This may reflect differences in productivity, issues related to market segmentation, and heterogeneity in the quality of education, the variable used to approximate human capital. (Thus, the intensity of the use of human capital measured by the number of hours of work is lower among the bottom 40.) There may also be reasons for differences in returns that are not related to markets, but to social norms, institutions, and culture; an example is offered by discrimination in the labor market.

Assets can be grouped into human capital, physical assets, financial assets, social capital, and natural capital. Policies have an effect on the decisions of agents with respect to these types of assets by influencing relative returns, by removing access barriers, and by providing information about asset use and returns. Interventions to foster growth among the bottom 40 can be understood coherently from this asset-based perspective (see chapter 6). Investments in education and health are the most obvious policies regarding human capital accumulation. Investments in infrastructure can improve accessibility and connect markets, reduce transport or communication costs, and impact relative returns to investment in certain assets. Policies that solve market failures in credit or insurance markets also have an impact on the portfolio decisions of economic agents. Legal and administrative reforms such as the transfer of ownership to local governments and communities, land titling, or the regularization of property rights tend to improve the capacity of households to use their assets more intensively, thereby enhancing their potential to contribute to economic growth. The functioning of markets and the role of regulatory institutions allow agents to access markets, accumulate assets, and use assets more intensively. The impact of addressing gender disparities in access to production assets such as land is another policy-relevant area worth further study and documentation. Through the story of two individuals, box 3.1 illustrates how the asset-based approach can be understood in simple terms.

This report uses data to analyze in more detail the case of human capital and income generation through the labor market because, according to surveys, this source of income represents the largest share of income among most households in the region. However, other types of assets are also important, and there are also interactions and complementarities (box 3.2).

Because the variable of interest is income growth among the bottom 40, the framework must be understood in terms of the dynamics: how net assets, returns, intensity, and net market income change over time, resulting in a change in the income generated by households. The basic notion must be complemented by equations or simple rules that describe the accumulation of each asset.



**A household's income generation capacity is determined by its net assets, the intensity of use of these assets, the returns on the assets, and private and public transfers.**

### **BOX 3.1 The Asset-Based Approach: The Stories of Mariam and Emre**

Let us illustrate the asset-based approach by using the example of two individuals, Mariam in rural Georgia and Emre in urban Turkey.

Mariam has a small plot of land inherited from her parents. Along with her children, she uses the land to produce small amounts of agricultural goods to sell in the local market. She holds traditional rights over her land that have been respected for generations, though there are no legal documents backing up these rights. She completed primary school and works for a relatively low salary, three or four months a year, in a small grocery store owned by a good friend of her late father. She also receives social assistance from the government, mainly because she is a woman head of household. As is customary in her community, Mariam keeps cash savings at home to solve the needs of the household throughout the year. She has managed to accumulate some surpluses, hoping that, one day, she will have enough savings to open her own grocery store and diversify the sources of income in her household.

Emre went to school in Turkey, where he finished high school. He has a job in a local manufacturing plant. Using some savings and money he inherited from his father, he bought a small apartment, where he lives and where he also rents one room to a work colleague, who lives there during the weekdays and goes back to his hometown during the weekends. Emre manages to save part of his salary regularly. (His salary has increased recently because of an active government minimum wage policy that has had an impact on wage negotiations throughout the country.) He plans to buy a new apartment, move into it, and rent out the entire apartment where he currently lives. He is also attending training courses offered by a private provider; he uses a public cash voucher to pay for the course. This training will allow him to become certified in spe-

cific processes related to his work, and it could even open up new job opportunities in the future. Moreover, in these training courses, he is meeting other people working in areas and firms related to his own.

#### **The Market and Nonmarket Incomes of Mariam and Emre**

Mariam and Emre generate income from a different combination of assets, intensity of asset use, and nonmarket income sources (table B3.1.1). Not only has Emre accumulated a higher level of human capital, but also he uses it more intensely and obtains a higher return, which has increased because of the active wage policies in his country. Mariam uses her lower human capital to work her own land and, in return, is able to make extra savings by avoiding the need to hire an additional worker. At the grocery store, she also receives a salary that is high relative to her skills because her father's friend trusts her to carry out cash transactions in the store and manage the inventory.

Both Mariam and Emre also possess physical capital: land and real estate, respectively. Mariam exploits her land and obtains a return by selling the produce at the market. However, she could use it more intensively if the legal property documents were available, which would give her the chance to use the land as collateral to access credit and start a business to diversify her sources of income. Emre obtains an inflow of income through the rent of a second room in the apartment. He can accomplish this also by exploiting his social capital: renting to a person from his job network, someone he can trust who is available to carry out such an informal transaction.

In terms of financial capital, Mariam does have savings, but she does not use them intensively; she keeps them in cash at home, thereby forgoing potential returns from saving in the formal banking sector. Emre has financial capital—his

*(Continued)*



**BOX 3.1** (continued)**TABLE B3.1.1 The Asset-Based Approach: The Stories of Mariam and Emre**

Story	Asset	Intensity	Returns	Accumulation
Mariam	<i>Human</i> : primary school; knowledge of agricultural work	Works her own land; works at a grocery store four months a year	Equivalent salary she would have paid if hiring; salary for grocery store work	None
	<i>Physical</i> : land	Uses land to produce; cannot use it as collateral (absence of legal documents)	Profit from agricultural production	None
	<i>Financial</i>	Low; savings are kept at home	None, or negative because of inflation	Surpluses added every year; hopes to invest in business
	<i>Social</i> : social and family networks	Used to obtain a job in a grocery store every year	Differential salary from job compared with other options	Reinforces networks
	<i>Natural</i> : the land itself	Land is kept arable; no improvements	None	None
	<i>Nonmarket income</i>	Monthly government transfers		
Emre	<i>Human</i> : secondary education	Full-time job	Wages received	Training for certification
	<i>Physical</i> : apartment ownership	High; lives there and rents	Imputed rent (lives there); income from rental of extra room	Potential increase in property value
	<i>Financial</i> : bank savings	High; through the financial sector	Interest	Adds to savings systematically
	<i>Social</i> : work-related social network	High; rents extra room to colleague	Rent	Strengthens networks at work
	<i>Natural</i> : none	None	None	None
	<i>Nonmarket</i>	Subsidy to pay for training		

savings—and is using them more intensively by obtaining a return and accumulating savings to invest in a new apartment.

Mariam is also receiving nonmarket income through public social assistance transfers. Emre receives a voucher to pay for his training, and the voucher represents part of his overall income.

**Asset Accumulation**

Mariam attempts to accumulate assets through savings she keeps at home; she would like to

invest in a business in the future. Formalizing the property rights over her land could accelerate this process because she would be able to use her land more intensively, as collateral for a loan. Emre is investing in his skills, trying to obtain the certification that will enhance his employability in the near future, while also strengthening his networks within the same area of activity. Moreover, he is saving in the bank to accumulate physical assets by, eventually, acquiring another property where he can live.

(Continued)

**BOX 3.1 The Asset-Based Approach: The Stories of Mariam and Emre (continued)****Mariam and Emre Contribute to Overall Growth**

There are variables that Mariam and Emre cannot control, including the existing level of wages, the level of the demand for their skills, and the price of the goods they produce. These are determined by overall macroeconomic performance and may depend on cyclical factors. (If the sector in which Emre works faces lower demand for its products, his situation can change for him, and his plans may be thwarted.) Within this context, however, Mariam and Emre make decisions that allow them to be productive and contribute to overall growth in

their countries. To understand how they can contribute more, become more productive, and achieve the goals they have established for themselves, we need to examine the microeconomic dynamics in terms of their assets, the intensity of the use of their assets, and their returns. But public decisions also matter through a component of nonmarket income—transfers—that is an important complement in providing income support and thereby also influences their economic decisions.

Policies can play a key role in these dynamics. The channels through which this occurs are discussed in chapter 6.

**BOX 3.2 Constrained Social Capital and the Bottom 40: The Case of Displaced Persons**

There are approximately 2.5 million individuals in Europe and Central Asia who have been forcibly displaced as a result of conflict or violence. Where statistics exist, there is evidence that displaced persons are more likely to be poor and more likely to be in the bottom 40 than the nondisplaced. In Azerbaijan, for example, poverty rates among the displaced are at 25 percent, compared with 20 percent among the nondisplaced (World Bank 2011). Employment rates among the displaced are 40 percent compared with 57 percent among the nondisplaced. Research undertaken by the World Bank has shown that constrained social capital is an important factor in the increased likelihood of a displaced person being poor in Azerbaijan. Displaced persons tend to live in socially and geographically isolated settlements with limited chances to make contact and connect with nondisplaced persons who could offer them livelihood opportunities. The displaced suffer from social stigma and derogatory attitudes, which further marginalize them. In addition, there are high levels of mental health challenges among the


displaced, such as depression and hopelessness, which render it more difficult for them to be economically active. These social capital constraints compound many other asset deficiencies, such as the loss of physical assets these individuals experienced when they fled their places of origin, the irrelevance of their human capital assets (education and skills) in the labor markets of the places where they settle, and their poor living conditions and limited financial assets, which reinforce the propensity to poverty.

Marginalization and discrimination based on ethnicity, which affect household economic opportunities, are common among displaced persons across Europe and Central Asia. In Croatia, for example, the difficulty faced by the Serbian minority in gaining access to employment is recognized as an area requiring additional redress (European Commission 2010). In all these cases, it is the group identity and the relative position of the group in the wider society that affects the social capital of a household and the chances to move out of the bottom 40.

Such accumulation rules are asset specific (Attanasio and Székely 1999). A child's human capital accumulation, for example, depends on the human capital of the parents, the accessibility and quality of educational supply, the access to credit, and so on. Accumulation will also be a negative function of exposure to negative shocks that destroy existing assets in the absence of coping mechanisms. Finally, accumulation is related to the incentive structure implied by existing fiscal systems. All these elements are relevant if the framework is applied in the policy realm.

The potential trade-offs between growth and redistribution have been widely discussed in the literature. (The impossibility of lump-sum redistribution leads to interventions that alter relative prices and imply departures from first-best allocations.) Research has emphasized that these short-term trade-offs should not necessarily guide policy making (for example, see Bourguignon 2001). Policy choices should be made within a dynamic long-term framework whereby both efficiency and equity are potentially enhanced. Thus, equity-efficiency trade-offs may be avoided if redistribution involves an increase in the productive capacity of the households at the bottom. In the long run, productivity will determine the capacity of the economy to grow. Productivity is linked to the capacity of people to contribute to growth by using the assets they own, such as human, physical, and financial capital as well as intangible capital, including entrepreneurship and innovative capacity. The introduction of dynamics changes the nature of the potential trade-offs.

The time dimension plays, in this way, a crucial role. It is clear that the policy options are limited in any attempt to influence the microeconomic determinants of growth in the short run, while macroeconomic variables are the primary factors. The application of policy instruments to guarantee access to opportunities must be viewed through a long-term focus on growth. Transfers for social assistance, for example, may be useful as income support, but do not necessarily increase productive capacities and may even deter asset accumulation and labor force participation.<sup>2</sup> On the other hand, investments in education and health, in connectivity and infrastructure, or in the enhancement of the capacity of the government to provide services to everyone are all policies that—if properly assessed *ex ante*—could impact productivity and thus the capacity of the bottom 40 to contribute to growth in the medium term and help overcome the static trade-offs.



**Trade-offs  
between equity and  
efficiency can be avoided  
if redistribution involves  
an increase in the  
productive capacity  
of households.**

## **Labor Market Income, Nonmarket Income, and Growth Incidence**

The asset-based approach allows us to analyze income growth among the bottom 40 by addressing two fundamental questions simultaneously:

- Is the capacity to accumulate assets, use them intensively, and obtain returns that are consistent with the associated productivity different among households in the bottom 40 and households in the top 60?
- Are macro variables—variables that affect household behavior, but are not under the control of households, such as the returns to education, the real

exchange rate, and initial production or occupational structures—affecting poorer and richer households differently?

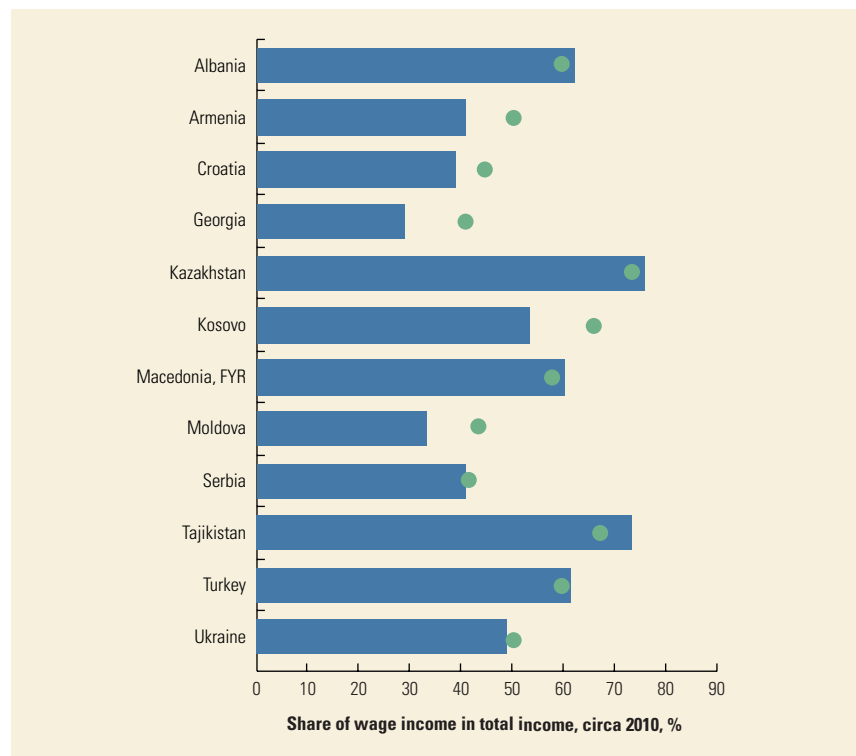
(Note that the framework also includes transfers. In the short run, or during a crisis, these may play an important buffer role, but it is difficult to envisage transfers, either private or public, as a sustainable source of income growth.)

Starting from the first question, the remainder of this chapter presents empirical evidence on the gaps between the bottom 40 and the top 60 across the various dimensions of assets, intensity of use, and returns.

In most countries, income derived from labor market participation represents the most important component in total income: on average, it accounts for 60 percent of incomes in Europe and Central Asia. There is, however, heterogeneity across countries (see figure 3.2 for a sample of countries). Given the significance of human capital as a source of income generation, it is a key asset in the analysis. In terms of nonmarket income, the share of public transfers from pensions and social assistance is particularly high compared with the average in other regions (about 20 percent in Latin America and the Caribbean, for example) (figures 3.3 and 3.4). A strong emerging finding is the high dependency of households in Europe and Central Asia on generous systems of public transfers, which may threaten fiscal sustainability and create disincentives for labor force participation.<sup>3</sup>

**FIGURE 3.2**  
Human Capital Is a Key  
Asset in Income Generation

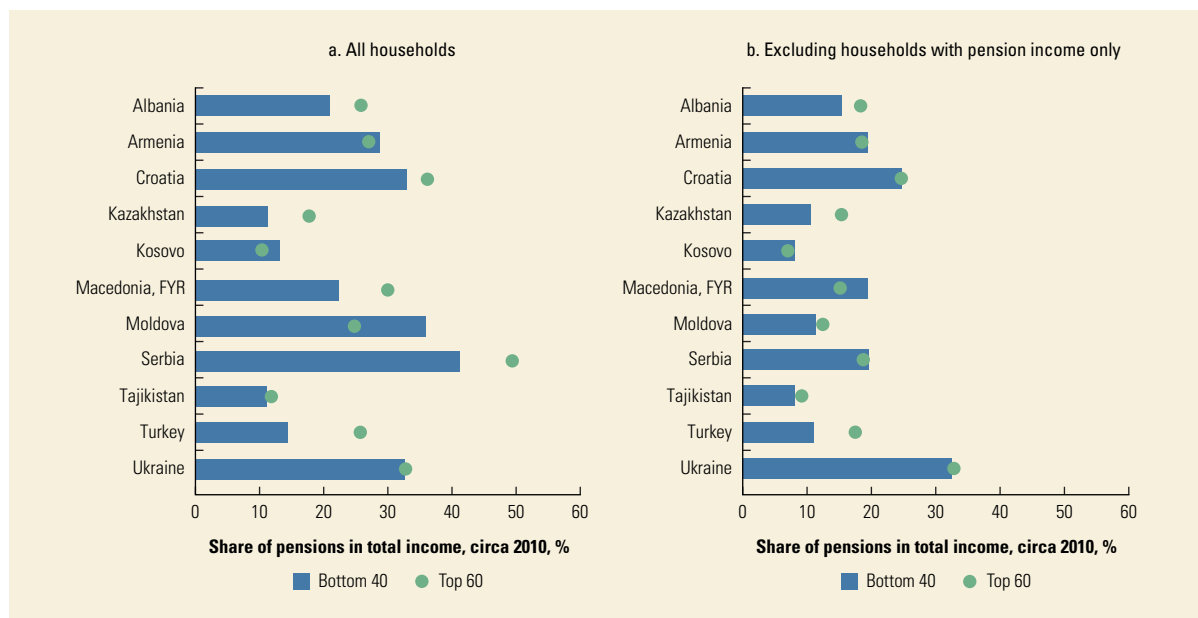
■ Bottom 40  
● Top 60



Source: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

Note: Wage income includes both employee and self-employed earned income.

**FIGURE 3.3**  
Household Dependency on Pensions Tends to Be High in the Region



Source: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

In Serbia, for example, the bottom 40 receives more than 40 percent of their total income from pensions (figure 3.3). Social assistance also plays a major role in some countries, such as Bosnia and Herzegovina as well as Kosovo. In Georgia, which is not included in figures 3.3 and 3.4 because of the difficulty of separating pensions from social assistance in the total nonmarket income from public sources, the bottom 40 receives more than 40 percent of their total income from non-market sources linked to public funding.

Two main messages can be derived from these numbers. First, public nonmarket income plays a key role as an income source in Europe and Central Asia. Second, in general, the bottom 40 tends to depend more on these sources.

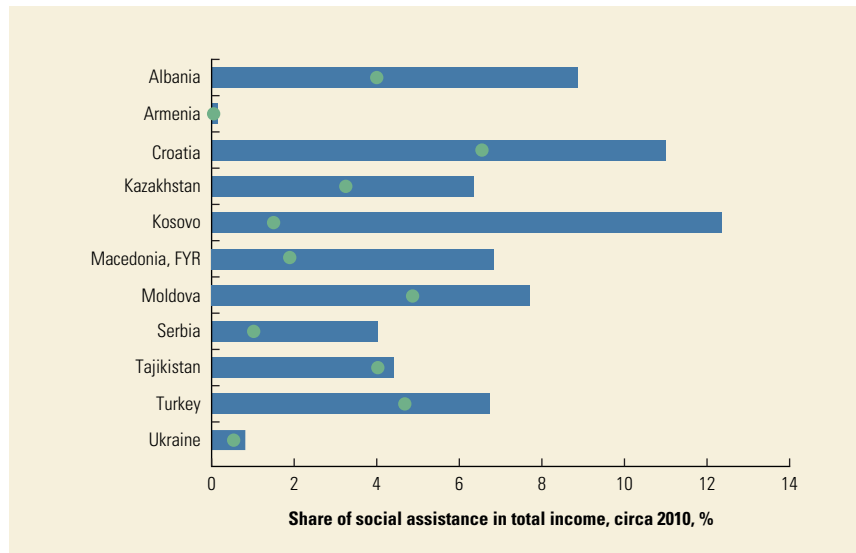
For the analysis of the generation of market income, figures 3.5 and 3.6 provide an indicator of one type of asset, human capital, which is measured using the data available from a large set of countries based on the working-age population that has completed tertiary education (figure 3.5) and on the working-age population that has completed, at most, primary education (figure 3.6). The intensity in the use of the asset—human capital—is represented by labor force participation.

There is a systematic gap between these two groups that implies the bottom 40 possesses lesser capacity to generate income, all else held constant. Among the working-age population, the top 60 in the vast majority of these countries has accumulated higher levels of human capital, while the bottom 40 uses human

Income from public transfers among the bottom 40 is particularly high in the region.

**FIGURE 3.4**  
**Social Assistance Is an Important Source of Income for the Bottom 40 in Selected Countries**

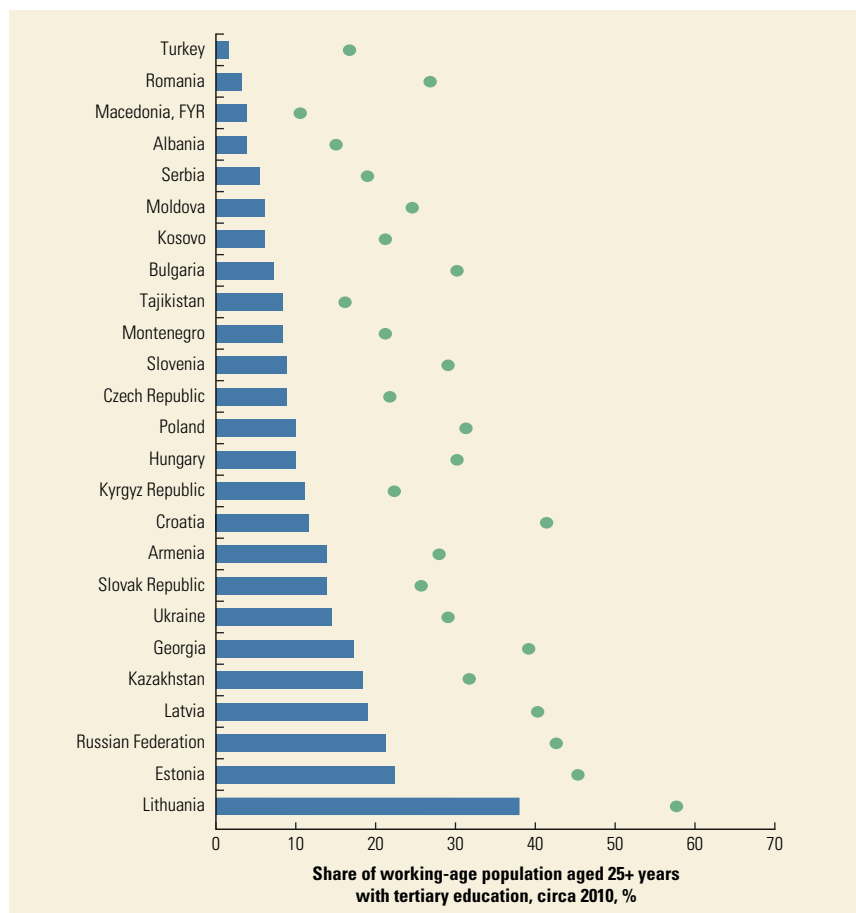
■ Bottom 40  
 ● Top 60



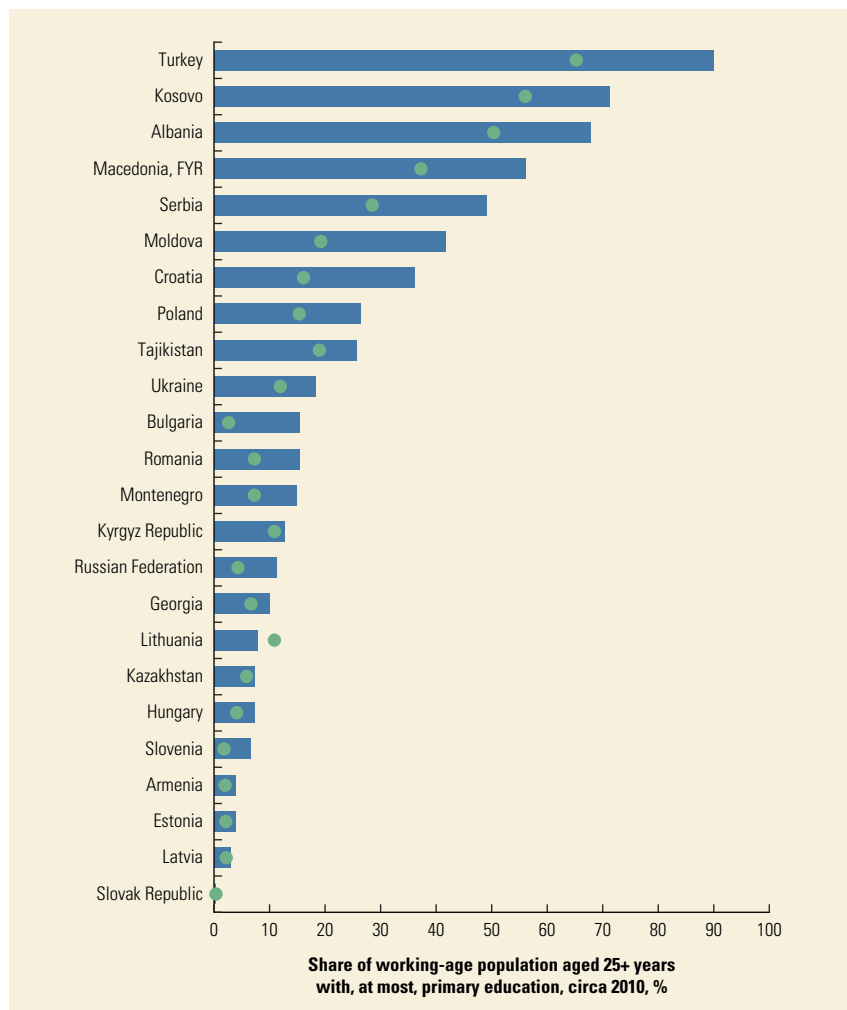
Source: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.

**FIGURE 3.5**  
**The Tertiary Education Gap between the Top 60 and the Bottom 40 Is Large in All Countries**

■ Bottom 40  
 ● Top 60



Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).



**FIGURE 3.6**  
Fewer People in the Top 60 Relative to the Bottom 40 Have Only Primary Education

■ Bottom 40  
● Top 60

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

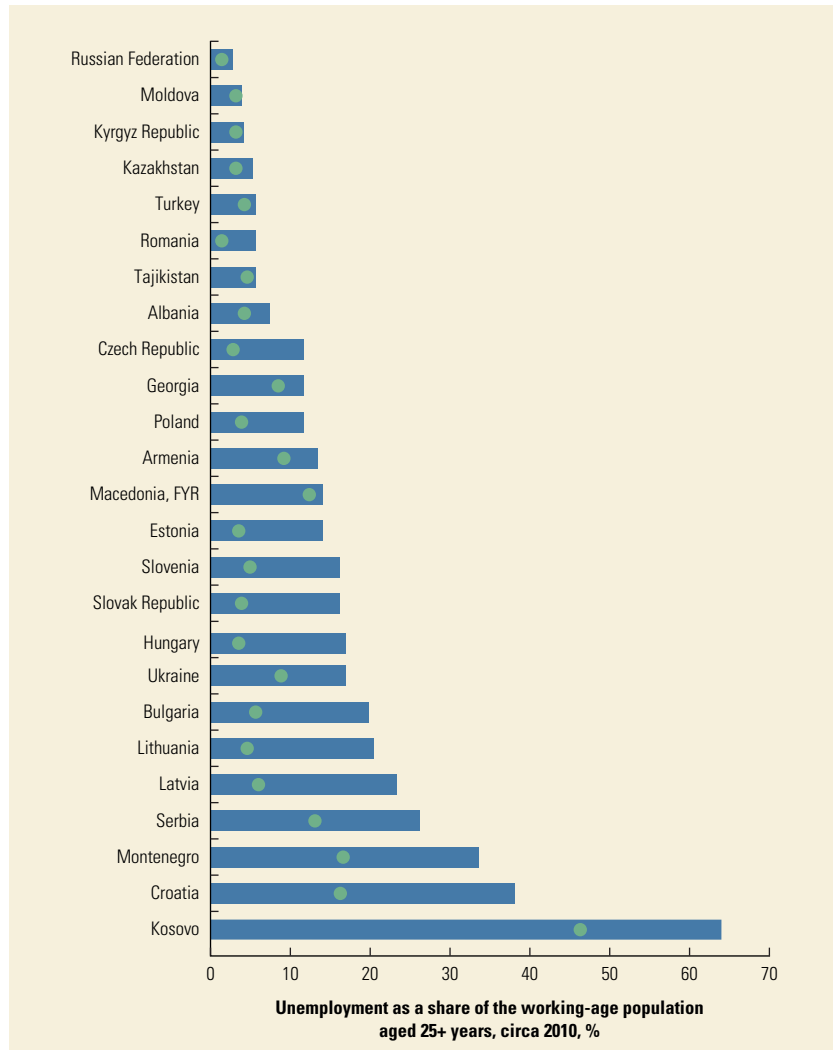
capital less intensively by exhibiting not only lower rates of labor force participation, but also, as figure 3.7 shows, higher unemployment rates.

Our findings highlight two patterns that sketch a portrait of households in the bottom 40 across countries and can help guide policy actions, that is, these households (1) have fewer assets and (2) use their fewer assets less intensively. A third element, the returns to these assets (or factor prices), is also important. Even if these prices are determined at the macro level, they may differ across households in the bottom and top portions of the distribution.

The systematic analysis of returns faces limitations in some countries. However, in countries in which the analysis is feasible, the returns to education are lower among individuals in the lowest two quintiles. For example, in the case of the Russian Federation, the returns to education seem to be greater in the upper part of the distribution.<sup>4</sup> In 2000, the wage premium of a university degree compared with the wage premium of less than a high school diploma among individuals in the top

**FIGURE 3.7**  
**People in the Bottom 40**  
**Are More Likely Than**  
**People in the Top 60 to**  
**Be Unemployed**

■ Bottom 40  
 ● Top 60

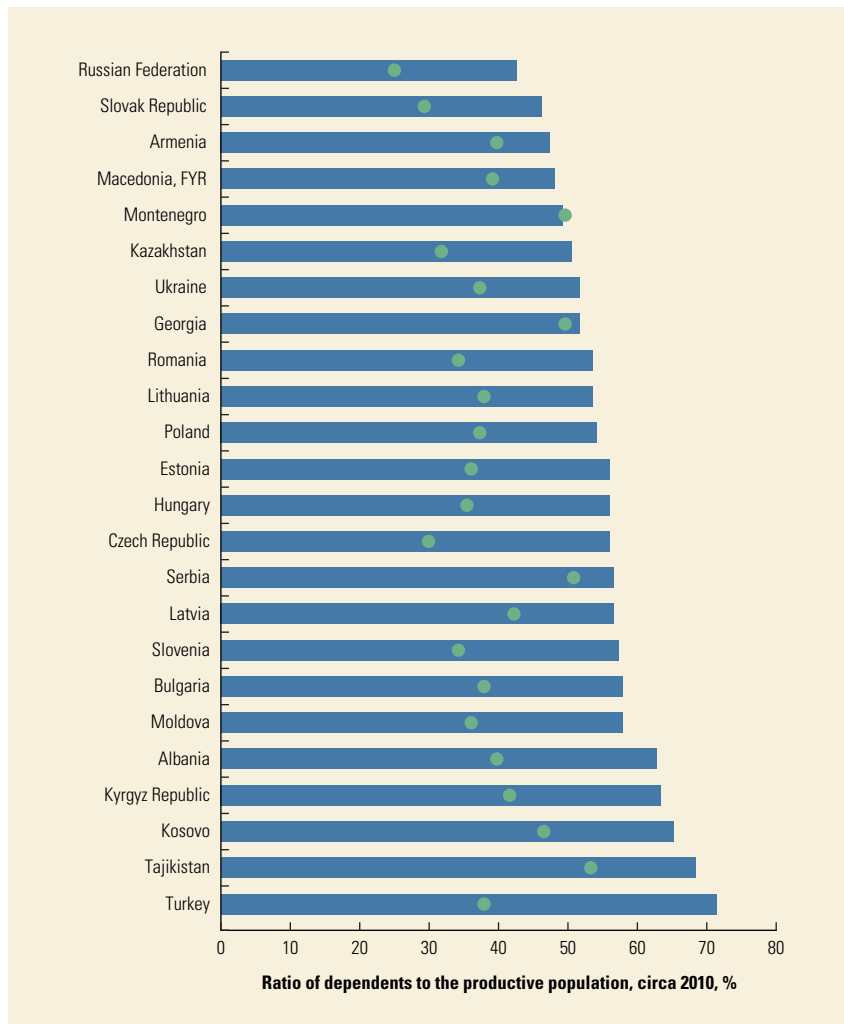


Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

60 relative to the bottom 40 was plus 30 percent; the gap was even wider among individuals at higher levels of educational attainment. In 2005, people at most levels of educational attainment in the top 60 outperformed the most well educated people in the bottom 40. By 2010, people at all levels of educational attainment in the top 60 were outperforming the most well educated in the bottom 40.

The household per capita availability of income generating assets is associated with dependency ratios as well. Thus, the dependency of households on employed members is high among the bottom 40. On average in Europe and Central Asia, each employed member of households in the bottom 40 must provide for six other individuals; the corresponding number of individuals in the top 60 is four (figure 3.8). In Kosovo, the difference between the bottom 40 and the top 60 in this indicator is not two, but four individuals. This pattern in Kosovo is the result of both





**FIGURE 3.8**  
Households in the Bottom 40 Have More Dependents

■ Bottom 40  
● Top 60

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

a higher child dependency ratio and lower employment rates among working-age individuals at the bottom of the distribution. The higher dependency ratio means the earnings of relatively fewer employed household members must support relatively more people, but also that households are relatively more vulnerable to job loss, illness, or other shocks affecting income earners. Generally, the more limited capacity of households among the bottom 40 to use human capital intensively and the higher unemployment rates among this group represent substantial barriers to sharing prosperity efficiently across the entire income distribution.

All these elements—level of asset holdings, intensity of asset use, and returns to assets—are useful in determining the capacity of households at the bottom to generate income and contribute to growth. Likewise, gaps in these areas between the bottom 40 and the top 60 help explain the differential capacity of these groups

The levels of asset holdings, intensity of asset use, and returns to assets within the bottom 40 vary across countries in the region.

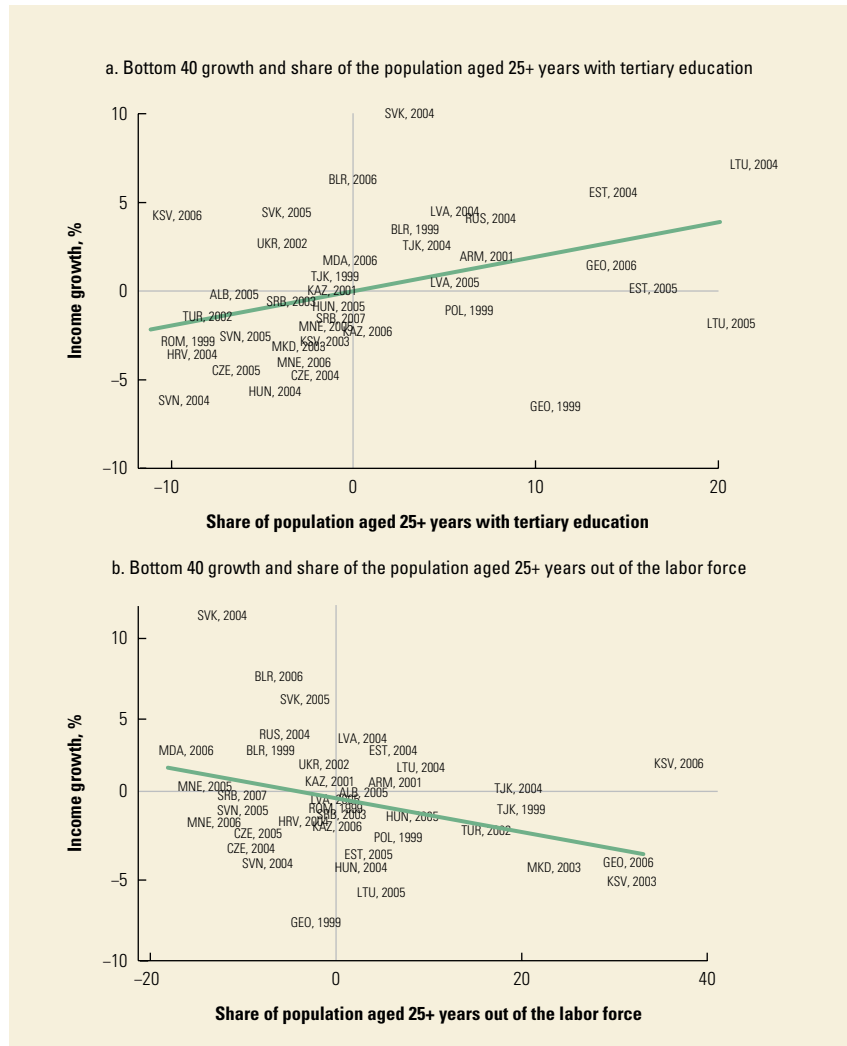
to contribute to overall growth. In principle, these elements are associated with growth incidence: if the bottom 40 has less human capital, it will have less income growth potential, though the structure of the economy matters. For example, if the engine of growth in an economy is a sector intensive in low skills, this would be reflected in the relative returns to low skills, and the incidence of growth could be progressive.

The heterogeneity we seek to explain, however, is the heterogeneity across countries. In this sense, rather than the gap between the bottom 40 and the top 60 within a country, we would like to be able to compare credibly the levels of household asset holdings, intensity of asset use, and prices (returns to assets) between two countries. Across countries, are the differential levels of, for example, human capital in the bottom 40 associated with the heterogeneity in the shared prosperity indicator? Without any implication of causality, we use multivariate regression analysis based on data for the entire Europe and Central Asia region to respond to this question more systematically. Figure 3.9 shows that the higher the value of the indicator of human capital among the bottom 40 by country, the higher the income growth of the bottom 40 in the periods before and after crisis (after one has controlled for other characteristics). If more people of working age in the bottom 40 leave or do not enter the labor force (meaning that the productive capacity embedded in their human capital is not used), then income growth within the bottom 40 slows.

Demographic factors also help explain the heterogeneity in the performance in income growth among the bottom 40 in Europe and Central Asia. One element worth highlighting is demographic composition as captured by the aged dependency ratio. Households in the bottom 40 tend to have lower aged dependency ratios, which tend to be associated with higher income growth (figure 3.10).

A detailed analysis of the specific context is crucial to understanding patterns within countries to help us explain the heterogeneity across countries. For instance, Georgia, Kazakhstan, and Poland exhibited similar GDP growth rates, but different rates of income growth among the bottom 40 during 2005–10. Kazakhstan and Poland performed much better in this indicator. Georgia grew at an average 4.3 percent a year, close to Kazakhstan's 3.5 percent and Poland's 4.7 percent. In contrast, the bottom 40 experienced a decline in consumption in Georgia (–0.9 percent a year), while the bottom 40 in Kazakhstan experienced a sharp increase, 6.2 percent annually, which was above the country's average, and the bottom 40 in Poland showed an impressive 8.0 percent increase for the same indicator. It is worth noticing that Kazakhstan has a greater dependence on earnings from natural resources, and Poland has a more important manufacturing sector.

Why do countries growing at a similar pace present such diverging performance in shared prosperity? One way to explore the potential causes requires taking a closer look at the characteristics of the bottom 40 in each country. The bottom 40 is quite different in Georgia and Kazakhstan. Compared with the bottom 40 in Kazakhstan, the least well off in Georgia live in households with heads who are slightly less well educated, who are less likely overall to be employed, and who are three times more likely not to be participating in the labor force. Households in Georgia are headed by individuals who are twice as likely to have



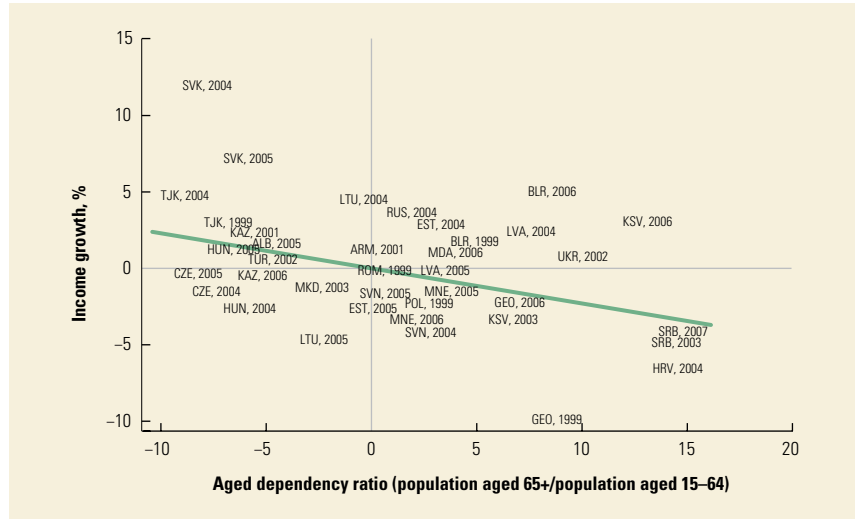
**FIGURE 3.9**  
**Better Asset Holdings and More Intense Use of Assets Are Associated with Stronger Growth among the Bottom 40**

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

completed only primary education relative to the comparison group in Kazakhstan. Finally, a higher proportion of household heads are self-employed in Georgia compared with Kazakhstan, where more people appear to be working as employees (figure 3.11). Educational attainment at the bottom is also at a considerably higher level in Poland than in Georgia, and, among these countries, Poland has the largest share of household heads working as employees rather than self-employed. Poland, however, differs because around 24 percent of its labor force is employed in the public sector, against only 9 percent in Georgia and around 20 percent in Kazakhstan.

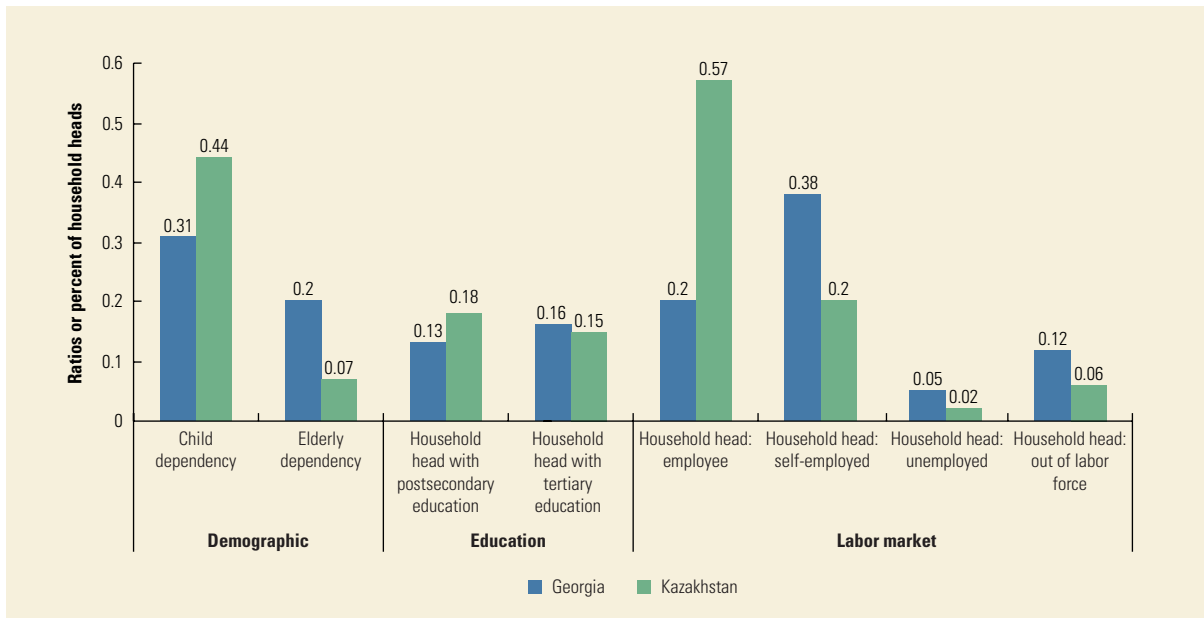
Under these conditions, our framework implies that, if incomes among the bottom 40 are to grow as quickly as incomes among the top 60, some offsetting elements must be in place. Thus, for instance, the returns to relatively unskilled

**FIGURE 3.10**  
**The Aged Dependency Ratio and Income Growth among the Bottom 40 Show a Negative Relation**

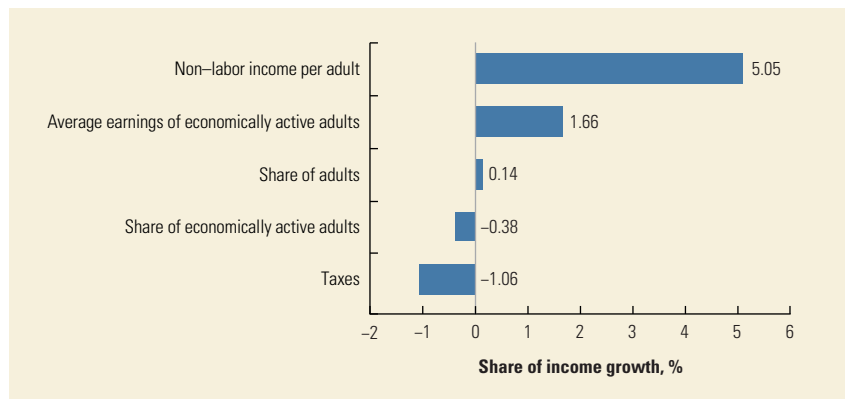


Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

**FIGURE 3.11**  
**Differences in Asset Holdings and in Asset Use Help Explain Differences in Bottom 40 Performance**



Source: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC.



**FIGURE 3.12**  
The High Dependency on Transfers of the Bottom 40 in Romania, 2007–10

Source: Azevedo and Nguyen 2014.

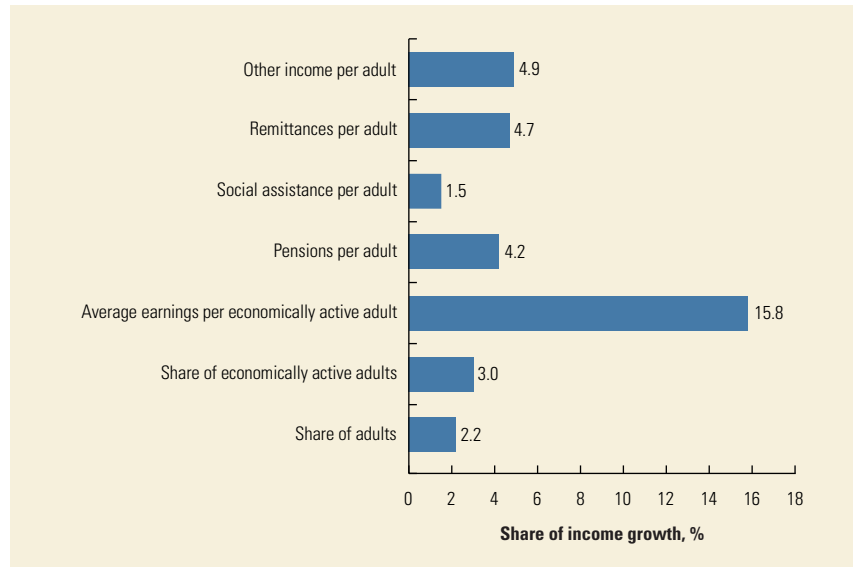
Note: Shapley decomposition of income growth among the bottom 40 using income per capita (2005 purchasing power parity U.S. dollars).

people must be higher, or social transfers must play a compensating role. Otherwise, the bottom 40 in Georgia would continue to be systematically less able to contribute to growth by exploiting productively the assets they possess.

Conversely, we can learn from the case of countries with similar bottom 40 growth, but appreciably different levels of GDP growth. For example, although Romania and Tajikistan enjoyed similar GDP growth before 2005 (around 6 percent annually), GDP responded differently in each country during the period that encompasses the global crisis of 2008–09 (that is, 2005 to 2010). During the latter period, Tajikistan continued to grow at over 4 percent, while GDP growth in Romania averaged between 1 percent and 2 percent a year. Nonetheless, incomes among the bottom 40 in these two countries grew at a similar pace, slightly above 6 percent a year. A decomposition of the sources of this income growth in these countries shows, however, that in Tajikistan, labor market earnings and remittances explain about 40 percent and 12 percent of total income growth, respectively, whereas, in Romania, transfers explain close to 90 percent of the income change among the bottom 40 between 2007 and 2010 (Azevedo and Nguyen 2014; figure 3.12).

Given that labor income is the main driver behind income growth among the bottom 40 in Tajikistan, it would seem that this country would show a more sustainable growth pattern. Nonetheless, most of the growth in earnings has been derived from wages, not from an increase in the share of economically active adults, which increased, but only slightly (figure 3.13). Our framework allows us to disentangle the various elements and understand the implications of these patterns for the sustainability of the observed rate of income growth among the bottom 40. The patterns seem more favorable to Tajikistan given the increasingly limited fiscal space in Romania to sustain income growth via social assistance and pensions. In Romania, going forward, sustaining growth among the bottom 40 will depend on greater labor productivity and a higher employment rate.

**FIGURE 3.13**  
**Income Growth among the Bottom 40 in Tajikistan in 2005–10 Was Driven by Market Incomes**



Source: Azevedo, Atamanov, and Rajabov 2014.

As reflected in these country examples and looking at the regional averages, the framework represents a useful way to approximate the heterogeneity in the growth of the bottom 40. The specifics, however, rely fundamentally on context. There may be different combinations of elements on the supply and demand side that explain the observed outcomes.

## Notes

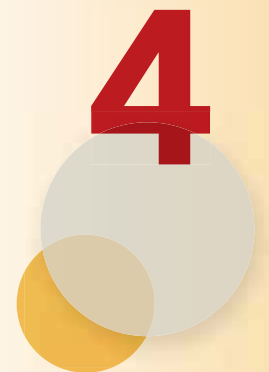
1. Social capital refers to the preferential treatment and social cooperation among individuals and groups that can contribute to the economic gains of these individuals and groups.
2. In some countries, there has been an effort to link (or condition) social assistance programs, investments in human capital, and the health of the next generation (through conditional cash transfer programs). This has been considered a way to maximize the productive impact of social assistance.
3. Schwarz et al. (2014) have analyzed the impact of demographic dynamics on the sustainability of the region's pension systems, raising concerns about the efficiency and fiscal implications of generous pension systems in countries such as Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Serbia, and Ukraine (labeled high-spending transition economies by Schwarz et al.).
4. Returns to education are estimated using a regression model with data from the RLMS-HSE (Russia Longitudinal Monitoring Survey–Higher School of Economics), National Research University Higher School of Economics; ZAO Demoscope; Carolina Population Center, University of North Carolina at Chapel Hill; and Institute of Sociology RAS, <http://www.cpc.unc.edu/projects/rlms-hse>. The analysis follows Mincer (1974): an econometric equation relating hourly wages to age and education levels is defined and estimated for the years 2000, 2005, and 2010, and a second series of equations allows the relationship between education and wages to differ between individuals in the bottom 40 and individuals in the top 60.

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## **Structural and Cyclical Variables within the Framework**

Several variables in the framework introduced in the previous chapter are outside the control of individuals; instead, they are determined by macroeconomic forces. Thus, increases in wage rates follow economy-wide productivity trends, and skill premiums are determined by the overall demand and supply of skilled labor. Similarly, other asset prices result from general market forces; the intensity of the use of endowments is largely affected by the macroeconomic business cycle; and transfers are supplied because of the social security system that has been established. All individuals in a country face the same macroeconomic environment, but this environment will affect individuals differently, depending on the characteristics of the individuals and on the moment in time. During recessions, incomes among certain groups may be protected more than incomes among other groups. During economic booms, people with substantial assets will benefit more than other people. This all means that macroeconomic forces, in combination with individual characteristics, might explain the differences between the growth in income among the bottom 40 and overall income growth in an economy. Ultimately, our framework will allow us to analyze specific macroeconomic drivers and the impact of these drivers on income growth among the bottom 40 in a particular period. Such an application of the framework requires the collection of additional relevant data.

This chapter illustrates how macroeconomic forces influence incomes among the bottom 40 heterogeneously. We examine cases of economies in which the performance in overall growth is similar, but in which the performance in shared prosperity differs. Conversely, we also examine countries with similar performance

in shared prosperity, but different overall growth outcomes. This analysis is carried out separately for a period of steady economic growth (broadly, the decade before 2008) and for a period that includes a full cycle, the 2005–10 interval. This allows us to identify a series of aggregate macroeconomic variables—GDP growth, shifts in the real exchange rate, demographic trends, employment, macro balances—and how these variables are linked to the performance of the bottom 40.

The structure of an economy in terms of sectoral production and employment is also a variable beyond the control of individuals. The Europe and Central Asia region exhibits a wide array of economic structures, including countries relying predominantly on agriculture for employment and value added growth, countries with a stronger manufacturing sector that is integrated with Western Europe, and countries dependent on commodity exports. How do the initial economic structures or shifts in these structures affect the bottom 40? Once again, the framework can help us address this question; the second section of this chapter contains a few specific examples.

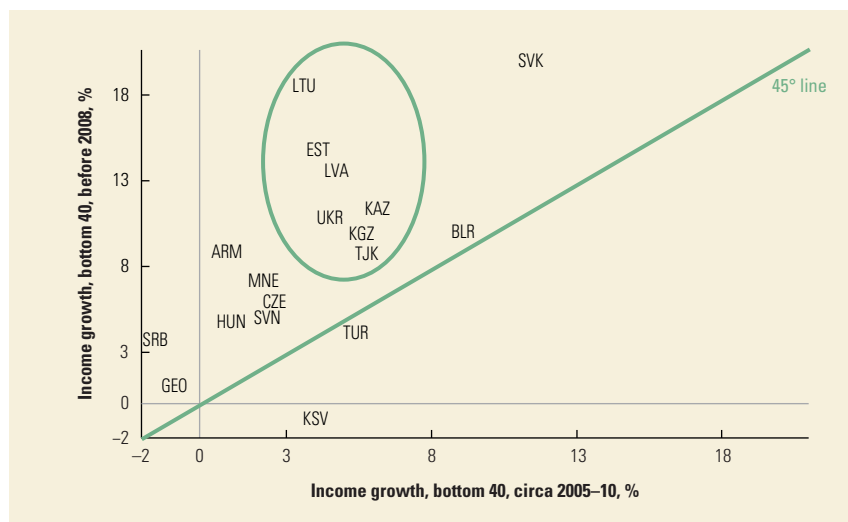
## Periods of Steady Growth and Periods of Economic Cycles

In the long run, asset accumulation, technological progress, and productivity, as well as changes in the key structural features of an economy, for example, urbanization, dependency ratios, and openness, are the relevant macroeconomic drivers of sustained growth. In the short run, business cycle fluctuations in prices, employment, the current account, and government balances are among the major determinants of changes in incomes.

Ideally, we would like to analyze changes in the economic fortune of the bottom 40 in both sets of circumstances. This is because the policies needed to support the long-term drivers of sustainable growth among the bottom 40 are different relative to the interventions required to protect the bottom 40 from an economic crisis, such as the 2008–09 financial crisis, or other short-term shocks. Data availability and comparability are the main challenges to a detailed investigation of this issue. Household surveys have been conducted in many countries of Europe and Central Asia since the mid-1990s, but comparisons of per capita income (or consumption) levels among the bottom 40 between those earlier years and the recent crisis years present difficulties.<sup>1</sup> Dealing with these challenges in the best way possible, figure 4.1 provides a comparison of the growth rates in income (or consumption) among the bottom 40 in 2005–10 with the same indicator during a longer period before 2008 (for most countries).<sup>2</sup> Note that we intentionally include an overlap in the two periods. The longer period covers, data permitting, the full decade before 2008, a time of relatively sustained rapid or even accelerating growth; we thus label it the steady growth period. By overlapping with the later part of the steady growth period, 2005–10 includes three years of strong growth up to 2008, the contraction of 2008–09, and the rebound after the crisis, a full, pronounced cycle; we therefore label this period the cyclical period.

Figure 4.1 shows that the bottom 40 in the countries of Europe and Central Asia experienced a sharp decline in incomes during the crisis. Because of the crisis,

All individuals in a country face the same macroeconomic environment, but they are affected by it differently.



**FIGURE 4.1**  
Different Drivers Are Affecting Income Growth among the Bottom 40 in Periods of Steady Growth and Periods of Economic Cycles

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc).

Note: Especially in the countries in the oval, income growth among the bottom 40 was much more heterogeneous during the steady growth period than during the cyclical period.

growth in average incomes during the cyclical period (2005–10) was rather limited, far below the spectacular income growth during the precrisis steady growth period (before 2008).<sup>3</sup> A more surprising observation is that income growth among the bottom 40 was much more heterogeneous across countries during the steady growth period than during the cyclical period (especially among those countries in the oval in figure 4.1). It seems that the heterogeneity before 2008 reflects structural factors, while cyclical factors dominated during the more recent, volatile period (2005–10) and caused income growth to become more homogeneous.

Some of the vastly different performance of the bottom 40 across countries during the steady growth period occurred while GDP expanded at rather similar rates. For example, during 2004–08, per capita GDP grew at an annual rate of 7.7 percent in Lithuania, but at a slightly lower rate, 5.2 percent, in the Czech Republic (table 4.1). However, the per capita income of the bottom 40 increased by more than 18 percent annually in Lithuania, compared with only 6 percent in the Czech Republic.

What is behind the difference in performance of the bottom 40 in the Czech Republic and Lithuania? Both countries joined the European Union (EU) in 2004 and experienced sustained GDP growth before the 2008–09 crisis. However, the evolution of structural factors—such as demographics, sectoral production shifts (away from agriculture and toward manufacturing and services), and labor productivity—displays noticeable differences in the two economies.

Lithuania experienced a large rise in labor productivity, coupled with growth in total employment. Because labor earnings constitute the chief source of income among the bottom 40, these positive changes are likely associated with improvements in the welfare of this poorer segment of the population. The indicators of sectoral activity underline that Lithuania experienced swifter shifts that moved the

**Bottom 40 growth was more heterogeneous across countries during the steady growth period (pre-2008) than during the cyclical period.**

**TABLE 4.1 Different Bottom 40 Income Growth, Similar GDP Growth: Czech Republic and Lithuania, 2004–08**

Percent

Variable	Czech Republic	Lithuania
GDP growth	5.2	7.7
Bottom 40 income growth	6.3	18.7
Labor productivity growth	3.9	5.9
Total employment growth	1.6	1.1
Change in exports as a share of GDP	11.0	8.2
Change in industry as a share of GDP	3.3	-0.3
Change in services as a share of GDP	-2.4	1.3
Change in industry as a share of employment	1.3	2.2
Change in services as a share of employment	-0.2	5.2
Change in remittances as a share of GDP	-0.1	2.6
Change in government expenditures on social protection as a share of GDP	1.3	5.1

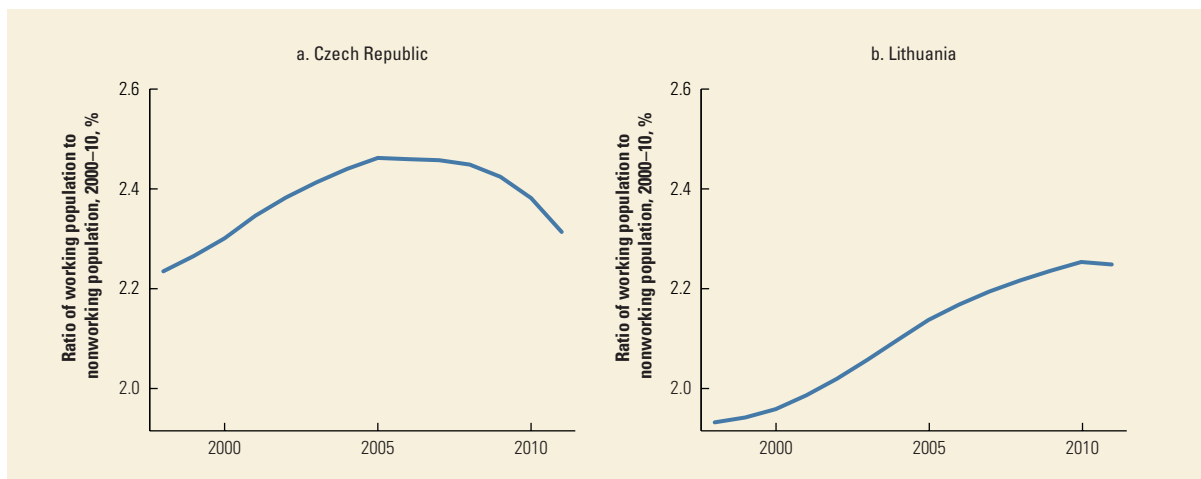
Source: World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>.

economy toward an employment structure in which manufacturing and services—usually accompanied by higher value added than agriculture—account for a large share of the total.

In contrast, labor productivity in the Czech Republic increased by a much lesser extent, but to a similar level of total employment growth. Services shrank both in the contribution to GDP and in relation to job creation. This may indicate that GDP growth was being led by the expansion of other sectors, possibly less labor intensive. (See the next section for more details about the links between the structure of the economy and income growth among the bottom 40.) Demographic trends show another striking difference between these two countries. Even if, in levels, the ratio of the working to the nonworking population is slightly higher in the Czech Republic than in Lithuania, as illustrated in figure 4.2, the change in the ratio, which matters for growth, is supportive only in the latter country.

**FIGURE 4.2**

**In Periods of Steady Growth, Structural Variables, Such as Demography, Are Important for Shared Prosperity**



Source: World Population Prospects: The 2012 Revision (database), Population Division, Department of Economic and Social Affairs, United Nations, [http://esa.un.org/unpd/wpp/unpp/panel\\_population.htm](http://esa.un.org/unpd/wpp/unpp/panel_population.htm).

**TABLE 4.2 Similar Bottom 40 Income Growth, Different GDP Growth: Kazakhstan and Kyrgyz Republic, circa 2000–08**

Percent

Variable	Kazakhstan	Kyrgyz Republic
GDP growth	7.9	3.8
Bottom 40 income growth	11.4	9.8
Labor productivity growth	6.6	2.8
Total employment growth	2.0	2.0
Change in the female labor participation rate	6.0	10.0
Change in exports as a share of GDP	-9.5	0.3
Change in industry as a share of GDP	2.3	-4.3
Change in services as a share of GDP	0.5	18.4
Change in industry as a share of employment	2.6	10.1
Change in services as a share of employment	2.8	8.8
Change in remittances as a share of GDP	0.1	10.9

Source: World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>.

Transfers seem to play a key role in boosting the income of the bottom 40. We observe that, in Lithuania, remittances and government expenditures on social protection have risen, while remittances have declined in the Czech Republic. These flows—if they have a progressive incidence—could explain a significant part of the difference in income growth among the bottom 40 in the two countries.

On the other side of the coin, consider the case of Kazakhstan and the Kyrgyz Republic, which have experienced almost identical income growth among the bottom 40 despite the differences in macro performance. The patterns that have arisen are consistent with the previous example (table 4.2). Despite a lower GDP growth rate, the Kyrgyz Republic showed a substantial increase in the share of services in total value added, mirroring part of the structural change observed in Lithuania. Driven mainly by an upsurge of 4.8 percent in mining activity, sectoral shifts in Kazakhstan led to a boost in the importance of the industrial sector. The contribution of mining to overall growth in Kazakhstan was 34.3 percent, likely associated with a shift in the factorial distribution of income that favored natural resources and capital versus labor. Other differences include the fact that the Kyrgyz Republic widened trade openness considerably, generating a rise in exports, while, in contrast, Kazakhstan tightened trade.

Similar to Lithuania, the importance of industry and services as a share of total employment rose considerably in the Kyrgyz Republic, which might have increased the average wage of the bottom 40. Meanwhile, in Kazakhstan, the average wage and the employment shares remained fairly stable. Finally, we observe a boost in remittances of 11 percent in the Kyrgyz Republic, which represented, potentially, a major contribution to the welfare of the bottom 40.

In summary, the same labor market changes, structural factors, and variations in transfers that boosted shared prosperity in Lithuania and helped in the Kyrgyz Republic, slowed progress in the Czech Republic and Kazakhstan.

As these examples show, by affecting returns and the intensity of the use of assets in a way that is not uniform (see above), the nature and composition of aggregate growth matter perhaps even more than the actual growth rate. During the period of rapid growth and few cyclical fluctuations that we consider here,

The diverse pattern of aggregate growth helps explain the heterogeneity in growth of the bottom 40 across the region.

**TABLE 4.3 Similar Bottom 40 Income Growth, Different GDP Growth: Selected Countries, 2005–10***Percent*

Country	GDP growth	Bottom 40 income growth
	<i>Good</i>	<i>Good</i>
Kazakhstan	3.5	6.1
Tajikistan	4.3	6.1
Kyrgyz Republic	3.9	5.8
	<i>Inferior</i>	<i>Good</i>
Latvia	−0.1	4.7
Estonia	0.1	4.1
Hungary	0	1.6

Sources: ECAPOV database harmonization as of February 2014, Europe and Central Asia Team for Statistical Development, World Bank, Washington, DC; EU-SILC (European Union Statistics on Income and Living Conditions), Eurostat, Luxembourg, [http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu\\_silc](http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc); World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>.

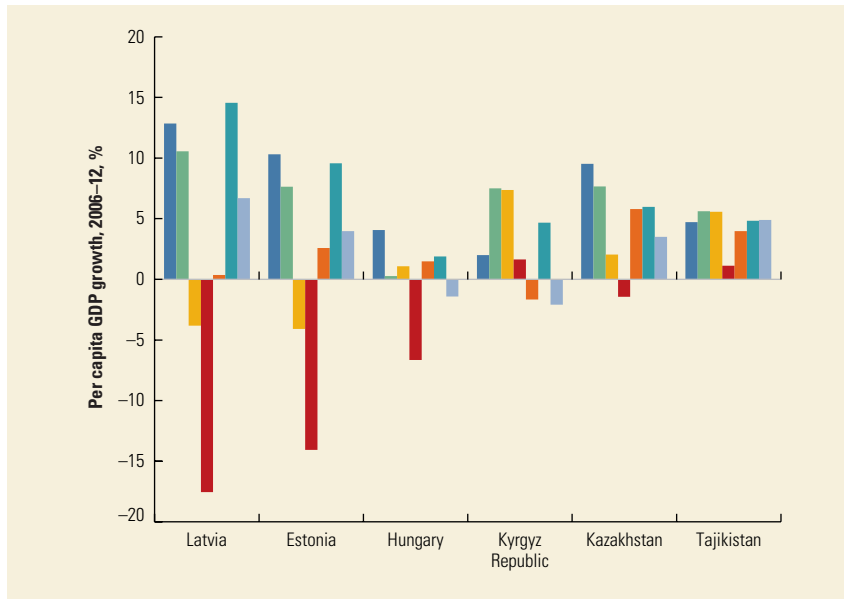
there was an association—note we make no claim of causality—between improvements in the welfare of the bottom 40 and job creation, participation rates, and productivity growth. A structural transition toward a service economy, coupled with supportive population trends, also seems to be accompanied by more inclusive growth patterns.

Are these conjectures still valid if we analyze the 2005–10 cyclical period? Once again, it is helpful to start by contrasting countries showing variations in performance in the aggregate and in income growth among the bottom 40. Consider, for example, the set of countries in table 4.3. These countries have a relatively good record in shared prosperity even if some enjoyed positive GDP growth, while others were caught up in recession or stagnation during the period.

The Baltic economies were the most overheated in Europe and Central Asia on the eve of the financial crisis. Two of them, Latvia and Estonia, together with Hungary, represent the subgroup with relatively high-income growth among the bottom 40, but low GDP growth. Unlike these three EU member countries, the Central Asian countries (and Moldova)—the contrasting subgroup in table 4.3—were much less affected by the 2008–09 global financial crisis and thus did not experience a severe economic contraction. Mainly because of their less-open economies and minimal exposure to global capital markets, Kazakhstan, the Kyrgyz Republic, Moldova, and Tajikistan limited the negative impact of the global crisis on the domestic market (figure 4.3).

Current account imbalances in the three EU countries were caused by a large influx of foreign capital, mainly directed toward the nontradable sector. These countries experienced price and wage inflation as a consequence of the inflows, which also triggered a domestic demand and credit boom. The crisis-mandated adjustment in these countries is especially visible in the change in current accounts (or the net trade positions depicted in figure 4.4). Estonia and Latvia—because of the drop in domestic demand and a boost in exports triggered by depreciated real exchange rates—experienced 11 and 13 GDP percentage point improvements in their net trade balance, respectively.<sup>4</sup>

It is likely that the change in the real exchange rate affected people differently across sectors, benefiting those in exportable and import-substituting industries, while hurting those employed in nontradable sectors. Using the framework,



**FIGURE 4.3**  
The Baltic States Were More Affected by the 2008–09 Global Financial Crisis

■ 2006  
■ 2007  
■ 2008  
■ 2009  
■ 2010  
■ 2011  
■ 2012

Source: World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>.

we should then be able to trace these macro shocks to the income of individuals and, specifically, to individuals in the bottom 40.

The framework also identifies transfers as one of the sources of household incomes. During the cyclical period, public transfers appear to have played a quite important role. The fiscal adjustment imposed by the crisis was mitigated by the greater use of EU funds and, in the case of Latvia, of financial assistance from the International Monetary Fund. Government spending rose by 7.1 percent in Estonia and 7.6 percent in Latvia and remained high, at 50 percent of GDP, in Hungary. More government expenditure on social security helped cushion poverty impacts by protecting the incomes of existing beneficiaries and expanding the coverage to new ones (Williams et al. 2012). Government expenditure in Kazakhstan changed only marginally (by 1.8 percent), whereas, in the Kyrgyz Republic and Tajikistan, it rose by 8.3 percent and 7.4 percent, respectively (figure 4.5).

These examples indicate that there are links between shared prosperity and macroeconomic growth, changes in the labor market, structural shifts, and policy interventions. However, we have explored these associations in an ad hoc fashion, with no attempt at controlling for potential cross effects. Up to this point, we have not gauged the strength of the relationship between shared prosperity and any of these specific variables in a setting that keeps the others constant. A multivariate approach is needed to isolate the effect of an individual variable if nothing else changes; the simplest method is a regression analysis.

Continuing with the distinction between the steady growth period and the cyclical period, we carry out our analysis in two steps: one dealing with the longer period before 2008 and one dealing with the 2005–10 interval, which includes the 2008–09 crisis.<sup>5</sup>

Shared prosperity is linked to macroeconomic growth, but also to changes in the labor market, structural shifts, and policy interventions.

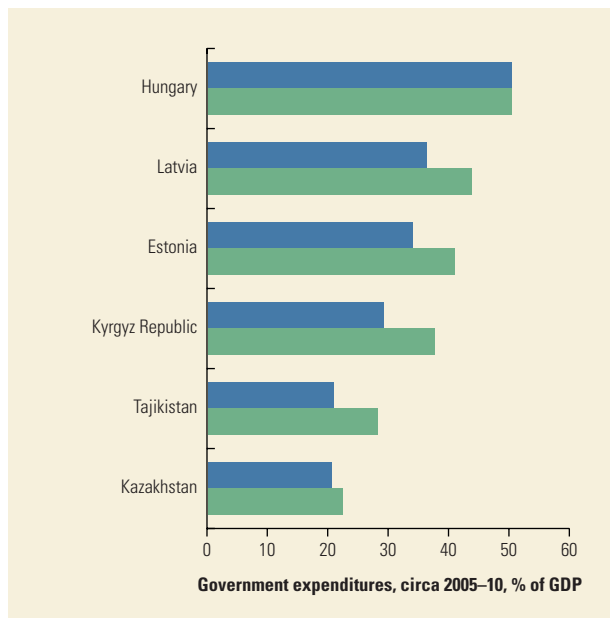
**FIGURE 4.4**  
**Large Adjustments in**  
**Tradable Sectors Accompany**  
**Crises and Economic Cycles**



Source: World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>.

The results confirm—in a context in which there is no other change—some of our previous observations.<sup>6</sup> For instance, they suggest that there is a significant positive relationship between the level of industrialization, any change in this level, and income growth among the bottom 40. A graphical representation of this relationship and of that with the change in the labor market participation rate is shown in figure 4.6. Using the case of the Kyrgyz Republic as an example may clarify how these results can be read. The slope of the line in panel a, figure 4.6 is about 4, meaning that every 1 percent change in the industrial employment share is associated with a 4 percentage point change in income growth among the bottom 40 (if we hold constant all other factors linked to this growth). During 2000–04, the first part of the steady growth period, the income of the bottom 40





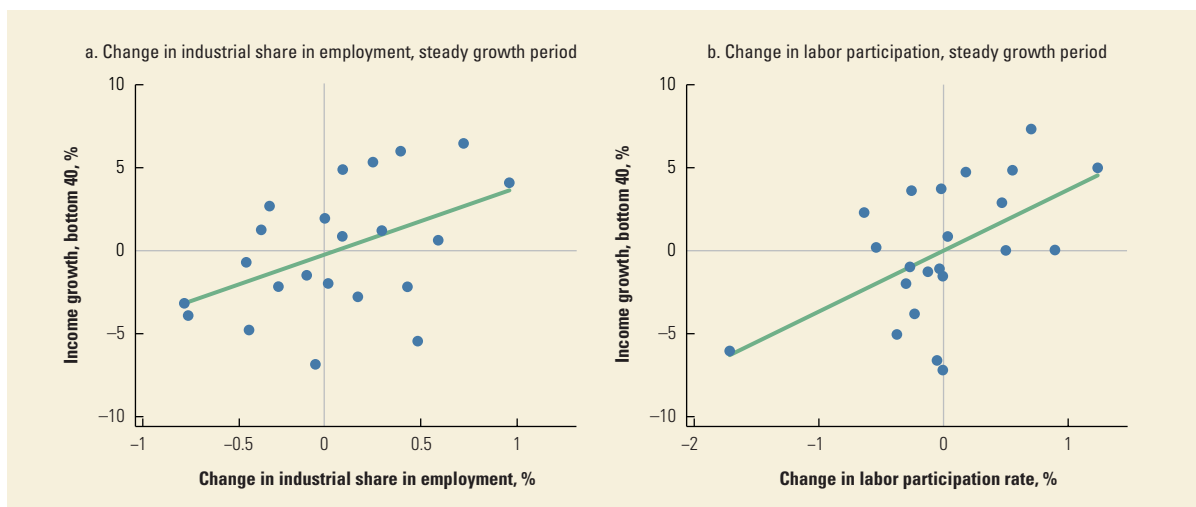
**FIGURE 4.5**  
Countercyclical Policies Can Potentially Protect Incomes among the Bottom 40 during a Crisis

■ Government expenditure, % of GDP, initial year  
■ Government expenditure, % of GDP, final year

Source: World Development Indicators (database), World Bank, Washington, DC, <http://data.worldbank.org/data-catalog/world-development-indicators>.

Note: Along the x-axis, the initial year is, broadly, 2005, but not always, while the final year is, broadly, but not always 2010.

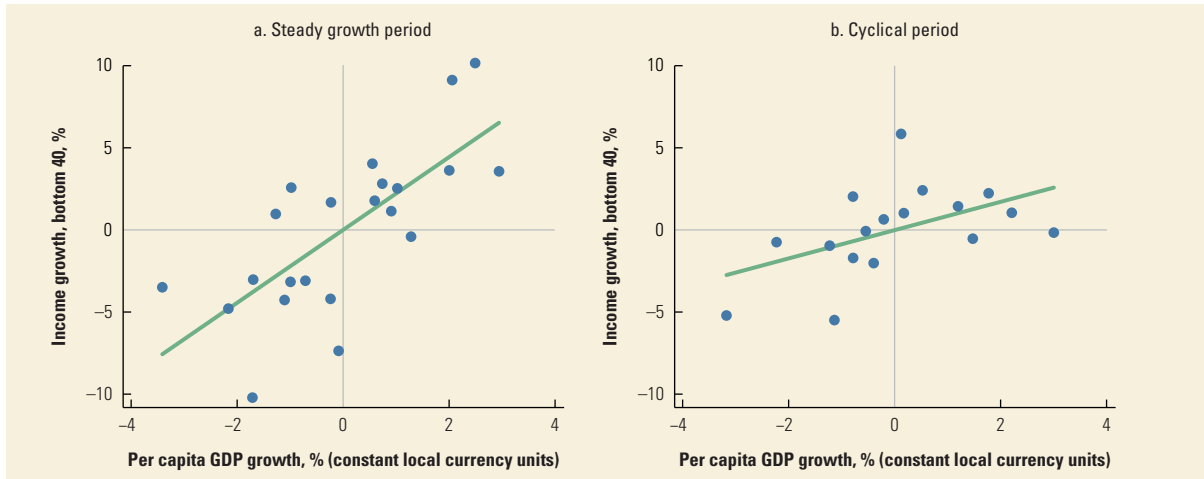
**FIGURE 4.6**  
Shifts toward Manufacturing (and Services) and Increases in Participation Are Associated with Stronger Growth among the Bottom 40



Note: The panels are partial regression plots or added variable plots, which are often used to illustrate graphically the relationship between the dependent variable and one of the independent variables from a multivariate regression model. Plots of this type often have a ceteris paribus interpretation because they capture the relationship between the two variables, while the effects of the remaining independent variables are taken out. The horizontal axis in a partial regression plot represents the residuals from regressing one independent variable on all the other independent variables from the original regression. The vertical axis represents the residuals from regressing the dependent variable on the original set of independent variables, with the variable plotted on the horizontal axis omitted from the regression. Panel a: coef. = 4.0422007, se = 1.932234, t = 2.09; panel b: coef. = 3.668389, se = 1.4054773, t = 2.61.

**FIGURE 4.7**

**GDP Growth and Income Growth of the Bottom 40 Are More Strongly Associated during Steady Growth Than during Cyclical Periods**



Note: Partial regression plots; see the note to figure 4.6 for a detailed explanation. Panel a: coef. = 2.2179138, se = .52473303,  $t = 4.23$ ; panel b: coef. = .86063292, se = .4951238,  $t = 1.74$ .

Overall growth and growth of the bottom 40 were more strongly correlated in the steady growth period (pre-2008).

expanded at a yearly rate of 11.5 percent in the Kyrgyz Republic. During this same period, the share of employment in the industrial sectors in the Kyrgyz Republic rose by 1.7 percentage points. In terms of the relationship shown in figure 4.6, about 7 percentage points of the 11.5 percent income growth among the bottom 40 are associated with the industrialization of employment, while other factors contributed to the remaining 4 points.<sup>7</sup>

We replicate the analysis for the 2005–10 cyclical period. Some interesting results emerge. The correlation between overall growth and income growth among the bottom 40, which was strong and statistically significant during the steady growth period, becomes insignificant during the cyclical period (figure 4.7). What might explain the less significant association in the short-term cyclical period? One factor may be related to profits. Profits tend to be the most volatile component of added value, much more than labor earnings, which may clarify why GDP growth and income growth among the bottom 40 (which mainly consists of growth in labor income) are disconnected in 2005–10.<sup>8</sup>

This confirms a result highlighted earlier: the pattern of economic growth, perhaps even more than the magnitude, affects the opportunities of people at the lower end of the income distribution. However, this link is much clearer in periods with relatively steady growth than in more cyclical periods.

### Economic Structure and Growth Opportunities among the Bottom 40

Interindustry links, production, export specialization, and the relative abundance of factors, as well as import dependency, are some of the relevant structural

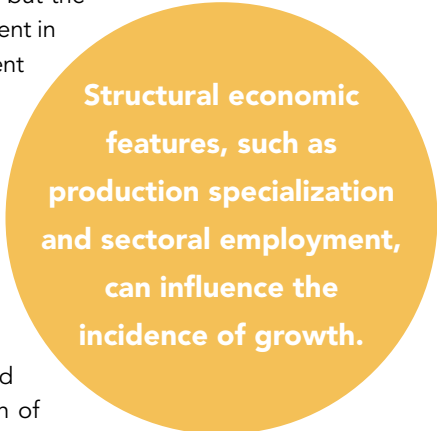
features influencing growth and the incidence of growth. The links between the structure of the economy and income growth among the bottom 40 are highlighted using a simple linear multiplier model based on a recent social accounting matrix (SAM) (see annex 4B for details). In nontechnical terms, a multiplier indicates the amount of the rise in the income for a certain factor, for example unskilled labor, in response to a rise in the demand for a specific product, for example bread. It is known as a multiplier because it accounts not only for the direct demand for the unskilled labor needed to produce the additional bread, but also for the indirect effects associated with the demand for the intermediates (flour, water, electricity, and so on) that are included in the production. To supply additional intermediates, further demands of unskilled labor arise, and so on. The size of the multipliers depends on the structure of the economy. Looking at the multipliers for unskilled labor relative to those for skilled labor or capital can thus provide a quick summary of how the structure of the economy affects income growth among the bottom 40 (assuming that unskilled labor is the main source of income among this group).

Table 4.4 offers a snapshot of the economic structure in the region. The table collects simple country-specific and regional averages for the sectoral structures of GDP and employment by skill level. Europe and Central Asia is a heterogeneous region. On average, agriculture accounts for about 10 percent of GDP, but the share varies from a high of 20 percent in the Kyrgyz Republic and 18 percent in Georgia to a low of 3 percent in Hungary. In the mining sector, a coefficient of variation of almost 200 percent signals much larger variations around the regional mean of 10 percent: from 60.0 percent in Azerbaijan to 0.4 percent in the Kyrgyz Republic. Finally, the wide range in the share of GDP generated by utilities—a composite sector including energy, water, telecommunications, and other infrastructure services—potentially indicates how countries in the region have organized production in these crucial infrastructure sectors differently.

We observe a similar heterogeneity in employment structures. However, the most striking regional features are the concentration of unskilled employment in agriculture and food production and the concentration of skilled employment in services. About one-third of unskilled workers are employed in agriculture and food production, whereas more than half of skilled individuals are working in services.

Table 4.4 also reports on labor inputs, which are expressed as the number of workers needed to produce output valued at \$1 million given the current (static) structure of production in these countries. The inputs illustrate the extensive diversity across these economies: on average about 50 workers—12 unskilled and 36 skilled—are employed for every \$1 million in output. Across the region, the ratio varies from 12 workers to 177 workers; for reference, in China and the United States, 50 and 5 workers, respectively, are used to produce \$1 million in output.

Using input-output tables embedded in the SAM, we may estimate the income multiplier effects associated with a change in demand. The SAM multipliers can be seen as a first approximation of the full general equilibrium effects that derive from an increase in demand. These multipliers do not merely cover the direct increase in the use of the factor (and thus in the associated income) that is needed to satisfy the additional final demand (as in the last two rows of table 4.4), but also the indirect effect derived from the interindustry links in the economy.



**Structural economic features, such as production specialization and sectoral employment, can influence the incidence of growth.**

**TABLE 4.4 Economic Structure, Selected Countries, Europe and Central Asia, 2007**

Indicator	Albania	Armenia	Azerbaijan	Belarus	Bulgaria	Georgia	Hungary
<i>Structure of GDP, by sector, %</i>							
Agriculture	13	11	6	5	4	18	3
Food products	3	9	1	3	5	3	5
Mining	4	3	60	4	3	2	1
Manufacturing	8	8	2	17	15	6	27
Utilities	2	9	5	12	11	3	4
Construction	8	34	7	12	8	6	8
Firm services	14	2	3	7	22	6	24
Other services	49	25	18	40	32	57	28
<i>Structure of unskilled employment, by sector, %</i>							
Agriculture	36	36	36	36	0	25	12
Food products	1	13	1	2	5	2	8
Mining	1	2	17	1	6	27	3
Manufacturing	10	9	3	17	28	3	43
Utilities	1	5	11	7	7	2	2
Construction	8	15	6	7	8	3	4
Firm services	9	1	3	3	8	2	8
Other services	33	18	22	25	37	36	19
<i>Structure of skilled employment, by sector, %</i>							
Agriculture	8	8	8	8	5	3	4
Food products	1	12	1	2	4	4	6
Mining	1	3	23	2	2	1	1
Manufacturing	9	9	2	15	21	8	29
Utilities	2	9	17	12	8	5	4
Construction	13	25	9	12	9	5	7
Firm services	14	3	5	6	9	5	15
Other services	52	31	34	43	42	69	35
<i>Labor multiplier: how many workers are needed to produce one unit of output, that is, \$1 million</i>							
All	50	61	50	28	31	76	12
Unskilled	16	20	16	9	5	1	2
Skilled	34	41	34	19	26	75	11

Sources: Household surveys; GTAP Data Base, Global Trade Analysis Project, Center for Global Trade Analysis, Department of Agricultural Economics, Purdue University, West Lafayette, IN, <https://www.gtap.agecon.purdue.edu/databases/default.asp>.

Note: n.a. = not applicable.

We present two relevant sets of figures. In the first set, the multipliers are shown for the incomes of unskilled labor, skilled labor, natural resources (which are considered a factor of production), and capital that are associated with an increase in the demand for agricultural, mining, and manufacturing products (figures 4.8 and 4.9). The countries in the figures are ranked according to the size of the multipliers, from the largest, at the top, to the smallest, at the bottom. Thus, for example, for every dollar of additional demand for agricultural products, unskilled workers enjoy an increase of \$0.52 in income in Turkey (figure 4.8, panel a). In the case of an increase of \$1.00 in the demand for mining products, the incomes of unskilled workers in Kazakhstan go up by \$0.17 (figure 4.8, panel b), and so on.

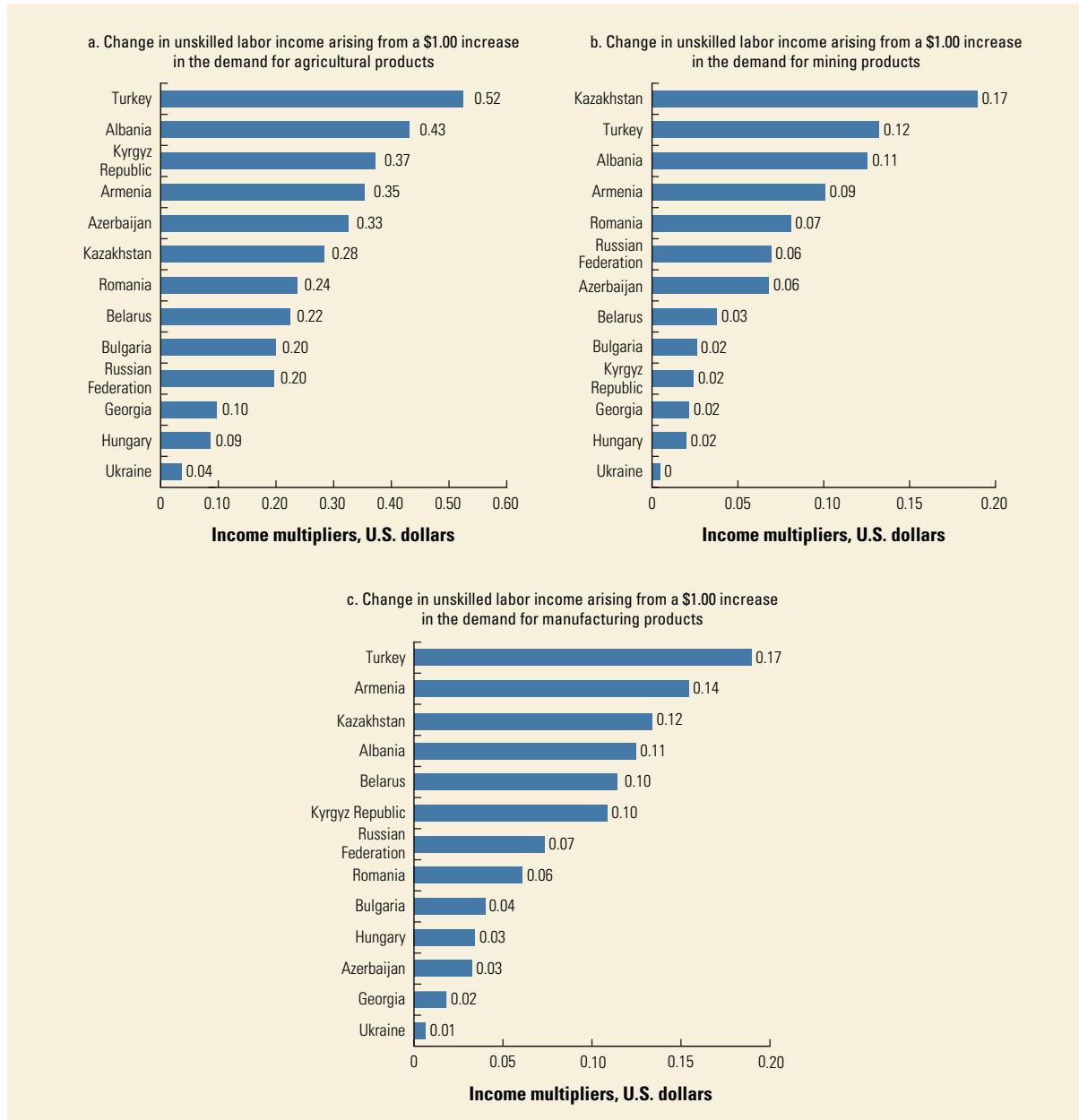
Figure 4.8 shows that the intersectoral links as well as the household consumption loops—that is, the feedback effects from the initial increase in demand, through the additional demand for intermediate goods, and through the increase in final demand—can be substantial. The direct increase in the demand for unskilled labor (also called the technical coefficient) because of a rise in the

Kazakhstan	Kyrgyz Republic	Romania	Russian Federation	Turkey	Ukraine	Simple average
5	20	8	6	7	9	9
3	1	12	2	5	2	4
19	0	3	16	2	4	9
11	8	20	10	18	7	12
4	42	5	5	2	19	9
8	4	11	9	7	5	10
13	2	17	10	10	12	11
37	24	25	43	48	41	36
36	36	40	12	36	32	29
2	1	4	3	3	2	4
6	0	6	5	1	2	6
12	10	17	20	9	7	15
3	27	3	6	1	16	7
5	3	6	8	7	4	6
7	2	5	8	6	7	5
29	20	20	38	36	30	28
8	8	8	4	7	9	7
2	1	6	2	2	2	4
8	0	2	5	2	3	4
10	8	26	14	7	8	13
5	43	5	7	2	21	11
8	5	10	10	11	6	10
12	3	8	10	10	9	8
48	32	35	47	59	40	43
19	177	24	27	21	47	n.a.
6	58	4	5	12	1	n.a.
13	119	20	22	9	46	n.a.

demand for agricultural products is 0.3 in Turkey (that is, \$0.30 per \$1.00 increase in the demand for agricultural products), whereas the full multiplier effect is 0.5.

The impact of the same unitary increase in the demand for agricultural, mining, and manufacturing products is quite different if the incomes of skilled labor, capital, or natural resources are considered (figure 4.9). The multipliers for the incomes of skilled workers tend to be higher than those for unskilled workers, and they benefit from increases in the demand for any of the three products we consider here. In Russia, for example, an increase in the demand for agricultural, mining, and manufacturing products of a dollar generates an increase of \$0.56, \$0.34, and \$0.32, respectively, in the incomes of skilled workers; whereas it produces an impact of \$0.20, \$0.06, and \$0.07, respectively, in the incomes of the relevant unskilled workers. Unskilled workers are earning most of their incomes from primary activities and tend to be less interconnected with the rest of the economy. Perhaps not surprisingly, natural resources, panels d–f in figure 4.9, show an even larger concentration of income multipliers. These are above \$0.10 in only three

**FIGURE 4.8**  
**Income Multipliers Highlight the Wide Range in Structure in the Economies of Europe and Central Asia, Part 1**



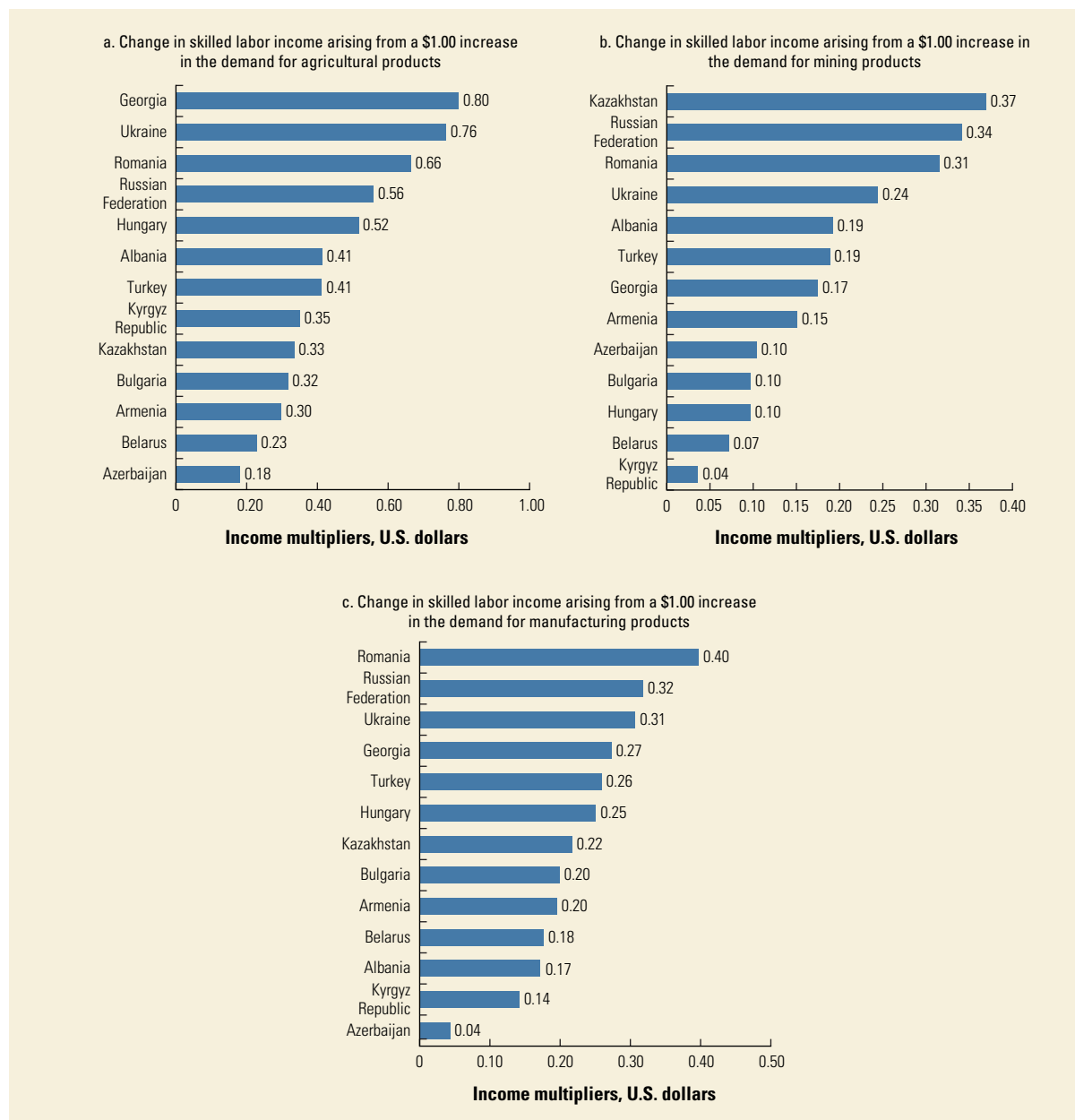
Source: GTAP Data Base, Global Trade Analysis Project, Center for Global Trade Analysis, Department of Agricultural Economics, Purdue University, West Lafayette, IN, <https://www.gtap.agecon.purdue.edu/databases/default.asp>.

Note: Some multipliers have been rounded.

countries—Azerbaijan, Kazakhstan, and Russia—and only with respect to increases in the demand for mining products.

The second set of graphical representations of the economic structure of these countries, shown in figure 4.10, depicts the forward and backward links across the eight production sectors considered here. A backward link measures the strength (in percentage terms) of a sector’s interindustry links if we are considering the

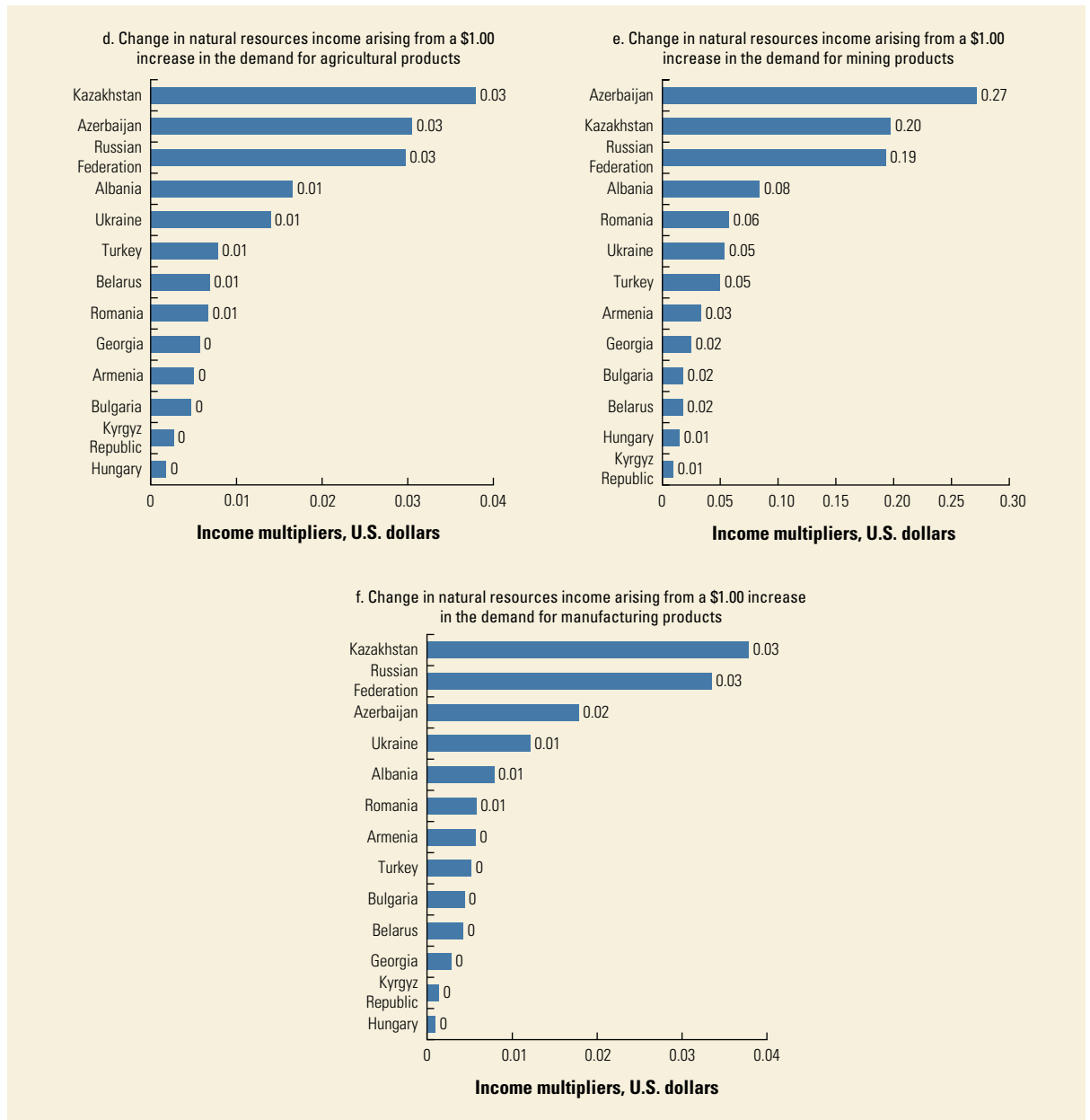
**FIGURE 4.9**  
**Income Multipliers Highlight the Wide Range in Structure in the Economies of Europe and Central Asia, Part 2**



(Continued)

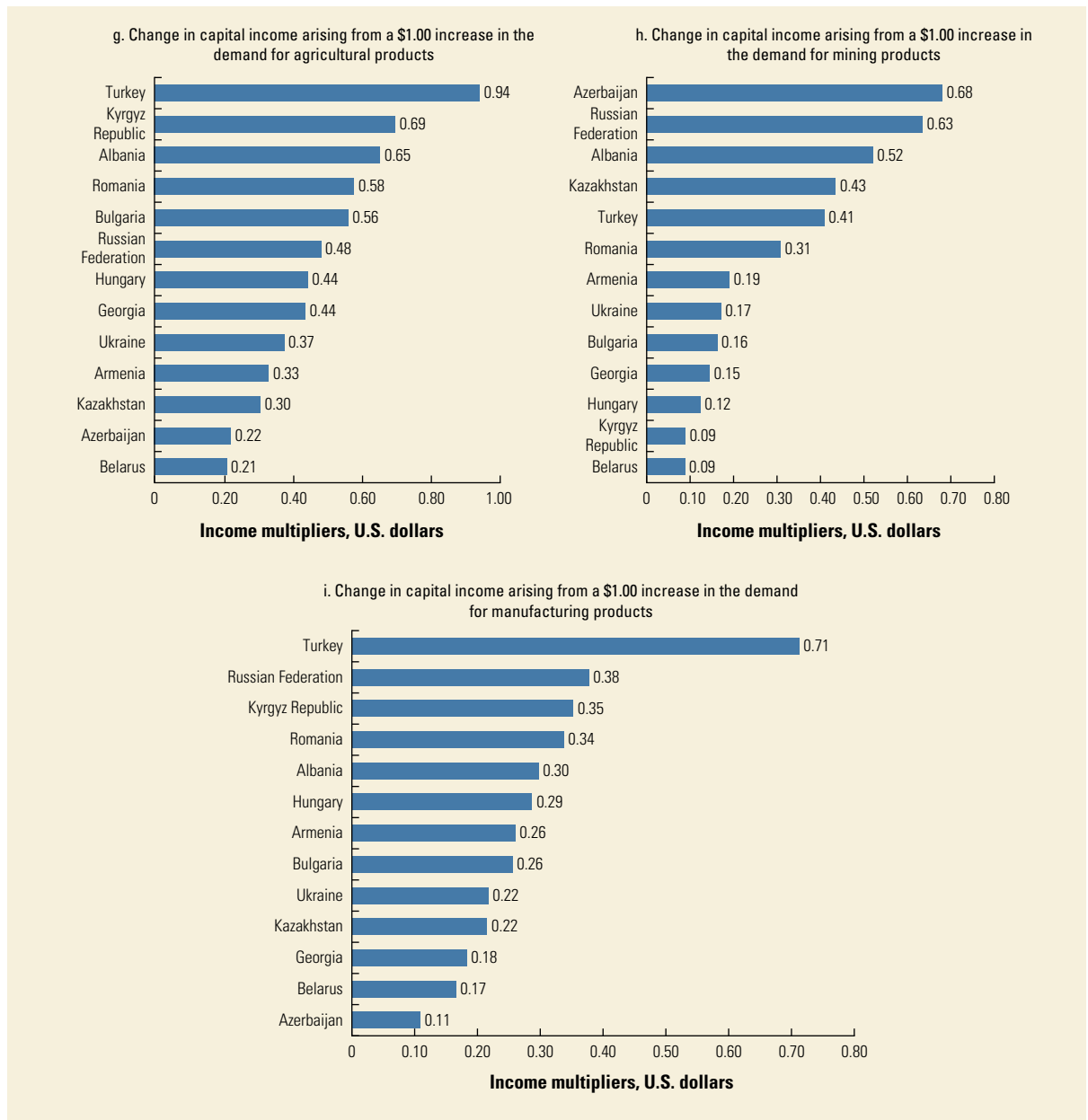
sector's demand for intermediate goods; a forward link measures the sector's deliveries of output (as intermediate goods) to the rest of the economy (see Azevedo 2014).

We then classify sectors as weak if both the forward and the backward links are less than 1, key if they are both above 1, and forward or backward oriented if one link, but not the other, is above 1. In eight of the countries we consider, the mining sector is weak: it tends to be an enclave sector the expansion of which does not

**FIGURE 4.9****Income Multipliers Highlight the Wide Range in Structure in the Economies of Europe and Central Asia, Part 2 (continued)***(Continued)*

generate significant beneficial effects for the rest of the economy by stimulating demand for inputs or efficiently delivering inputs to other sectors. We also find the utility or infrastructure sectors located across the four quadrants, which points to the diversity across the region and the possibility, for a number of countries, of improvements in the physical infrastructure connections with the rest of the econ-



**FIGURE 4.9****Income Multipliers Highlight the Wide Range in Structure in the Economies of Europe and Central Asia, Part 2 (continued)**

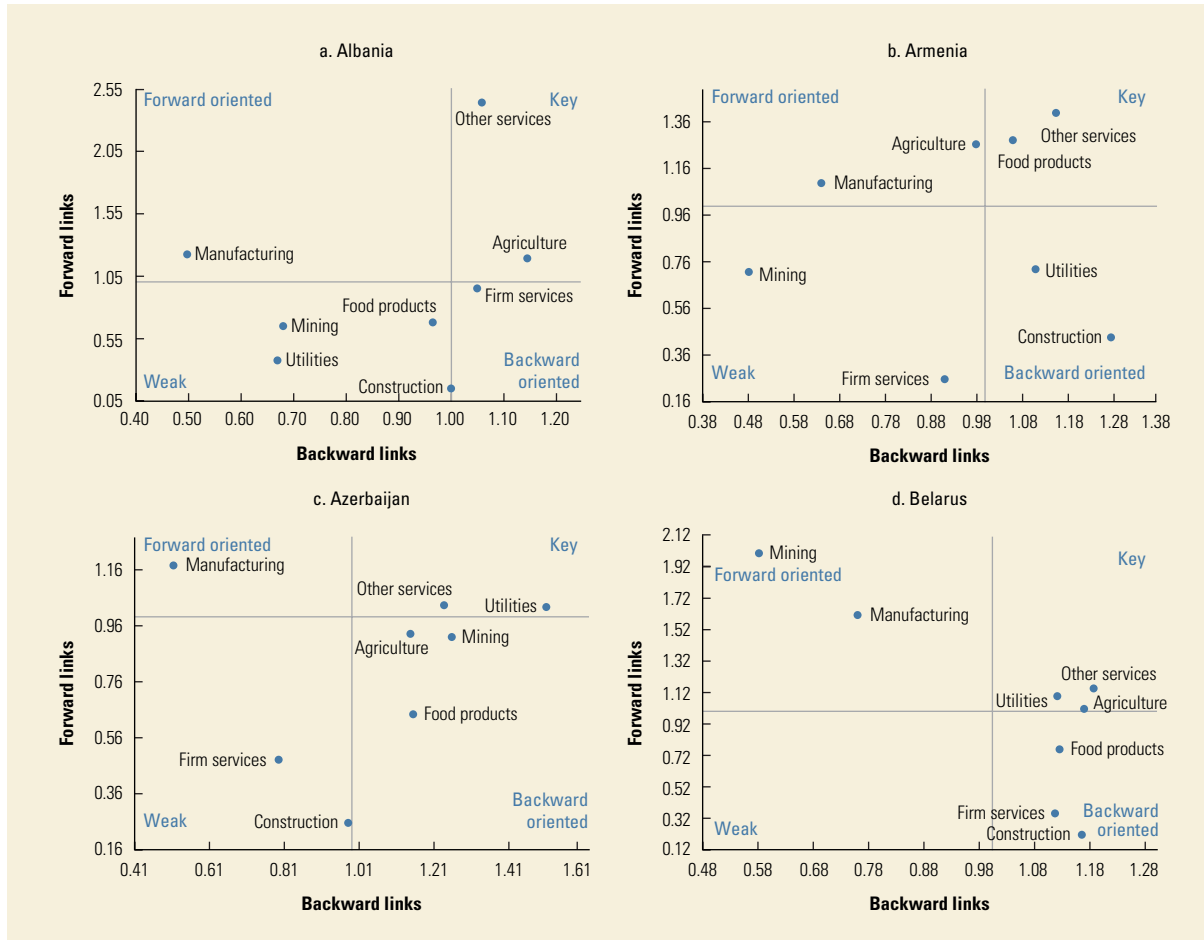
Source: GTAP Data Base, Global Trade Analysis Project, Center for Global Trade Analysis, Department of Agricultural Economics, Purdue University, West Lafayette, IN, <https://www.gtap.agecon.purdue.edu/databases/default.asp>.

Note: Some multipliers have been rounded.

omy. Finally, manufacturing prominently figures as the most crucial forward-oriented sector, while agriculture is the most common backward-oriented sector.

A first conclusion based on these calculations is that economic structures vastly differ across the countries of the region. In economies in which agriculture still

**FIGURE 4.10**  
**Backward and Forward Links, Selected Countries, Europe and Central Asia, 2007**

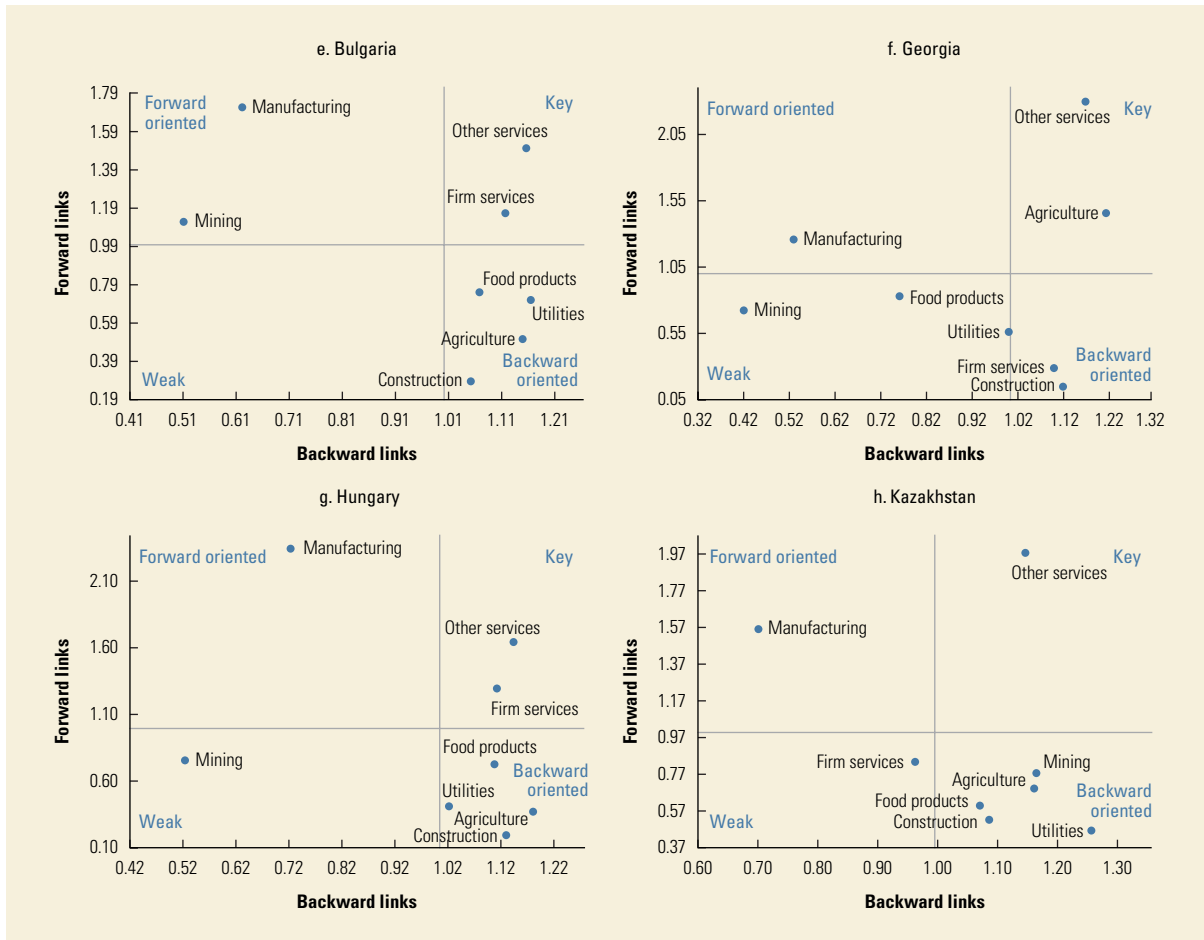


(Continued)

accounts for a large share, the incomes of unskilled workers, many of whom are among the bottom 40, will be strongly affected by changes in agricultural revenues. In these countries, workers who are able to move out of agriculture into manufacturing or services have a huge potential for realizing gains. In other countries, the share of agriculture is small, and these gains have already been realized.

A second conclusion is that transmission channels may be quite different in the same sectors in different countries. For instance, in some countries, the utilities sector shows almost no forward or backward links and is remarkably isolated, while, in other countries, the same sector is much more integrated and has a much clearer impact on income growth among the bottom 40.

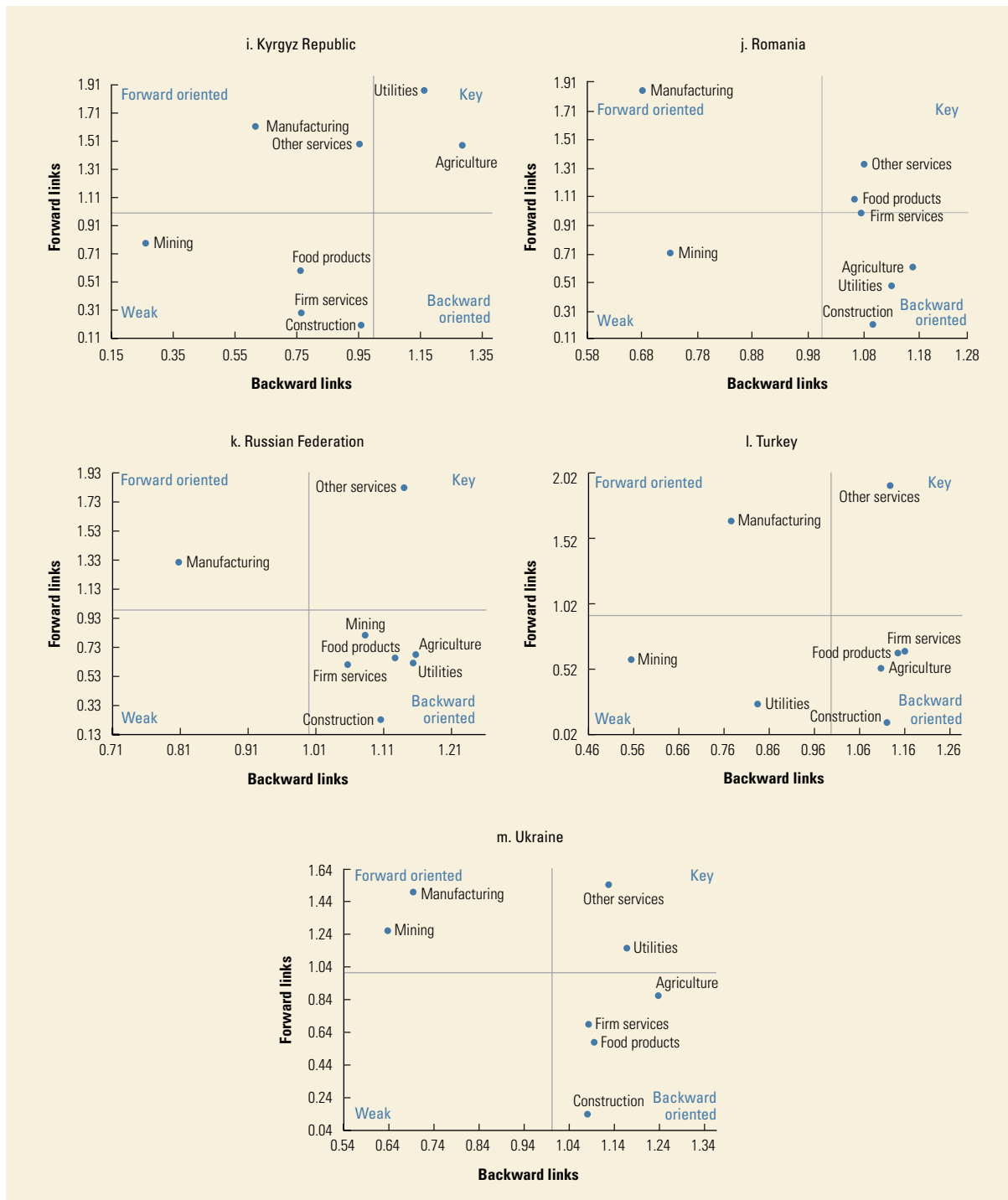
**FIGURE 4.10**  
**Backward and Forward Links, Selected Countries, Europe and Central Asia, 2007 (continued)**



(Continued)

There are, however, many caveats: our input-output analysis has severe limitations. For example, the mining of natural resources may have few direct links to other parts of an economy, but real incomes may still rapidly rise because, as a result of a commodity price boom, surplus profits are being spent, and the currency is experiencing a real appreciation. More research is needed to assess the full impact of macroeconomic developments on income growth. Because of these differences, infrastructure investments may have quite different impacts on the welfare of the bottom 40.

**FIGURE 4.10**  
**Backward and Forward Links, Selected Countries, Europe and Central Asia, 2007 (continued)**



Source: GTAP Data Base, Global Trade Analysis Project, Center for Global Trade Analysis, Department of Agricultural Economics, Purdue University, West Lafayette, IN, <https://www.gtap.agecon.purdue.edu/databases/default.asp>.

Note: The axes, that is, backward and forward links, are expressed as the ratio of the type of link with the average change in the economy arising from a shock. For example, if the ratio is higher than 1 for a forward link, then the change in sector *j*'s income is higher than the average income change in the economy after a unitary injection in all sectors.

## Annex 4A Income Growth Rates, the Bottom 40

**TABLE 4A.1 Income Growth Rates among the Bottom 40, circa 2004–08 and 2005–10**

Country	Survey type	Before crisis	Bottom 40, yearly growth rate, %	Survey type	Circa 2005–10	Bottom 40, yearly growth rate, %
Slovak Republic	Income	2004–08	20.3	Income	2005–10	11.3
Russian Federation					2004–09	9.6
Belarus	Expenditure	1999–2008	10.0	Expenditure	2006–11	9.1
Poland	Expenditure	1999–2008	2.2	Income	2005–10	8.0
Romania	Expenditure	1999–2008	6.7	Income	2006–10	6.2
Kazakhstan	Expenditure	2001–08	11.4	Expenditure	2006–10	6.2
Tajikistan	Expenditure	1999–2007	8.9	Expenditure	2004–09	6.1
Kyrgyz Republic	Expenditure	2000–08	9.8	Expenditure	2006–11	5.8
Moldova				Expenditure	2006–11	5.7
Turkey	Expenditure	2002–08	4.8	Expenditure	2006–11	5.0
Latvia	Income	2004–08	13.9	Income	2005–10	4.7
Ukraine	Expenditure	2002–08	10.9	Expenditure	2005–10	4.7
Estonia	Income	2004–08	14.9	Income	2005–10	4.1
Kosovo	Expenditure	2003–06	–0.7	Expenditure	2006–11	3.9
Lithuania	Income	2004–08	18.7	Income	2005–10	3.5
Czech Republic	Income	2004–08	6.3	Income	2005–10	3.0
Bulgaria					2007–10	2.9
Montenegro	Expenditure	2005–08	7.5	Expenditure	2006–11	2.5
Slovenia	Income	2004–08	5.9	Income	2005–10	2.3
Hungary	Income	2004–08	5.4	Income	2005–10	1.6
Armenia	Expenditure	2001–08	9.0	Expenditure	2007–11	1.0
Georgia	Expenditure	1999–08	1.2	Expenditure	2006–11	–0.9
Albania				Expenditure	2005–08	–1.2
Macedonia, FYR				Expenditure	2003–08	–1.5
Croatia				Expenditure	2004–08	–1.8
Serbia	Expenditure	2003–08	3.8	Expenditure	2007–10	–1.8
Maximum			20.3			11.3
Minimum			–0.7			–1.8

## Annex 4B The Social Accounting Matrix Model<sup>9</sup>

In technical terms, the social accounting matrices (SAMs) represent the circular flow of income in an economy between sectors or activities, as well as between sectors, the government, households, and the rest of the world. Each cell in a SAM, denoted by  $SAM_{ij}$ , represents payments from an account  $j$  to another account  $i$ . In using a SAM for analysis, one must set some accounts as endogenous (meaning that they can react to a shock in the economy) and the rest of the accounts as exogenous (no change in the account following a shock). In the exercise we describe in this report, we set the government, capital, and rest of the world accounts as exogenous, but this choice can be changed according to the type of analysis. Mathematically, the structure of the simulations can be presented using a simple representation of a SAM (table 4B.1).

**TABLE 4B.1 The Schematic Social Accounting Matrix**

Income/expenditure	Endogenous accounts	Exogenous accounts	Total
Endogenous accounts	T	X	Y
Exogenous accounts	L	T	$Y_x$
Total	Y	$Y_x$	

Source: Adapted from Defourny and Thorbecke 1984.

The core of the SAM analysis is the multiplier model. Assume there are  $n$  endogenous accounts. Let  $A_{n \times n}$  denote the matrix of technical coefficients, that is, the matrix resulting from dividing every cell  $T_{ij}$  in  $T_{n \times n}$  by the respective column sum  $Y_j$ . Let  $Y_{n \times 1}$ ,  $N_{n \times 1}$ , and  $X_{n \times 1}$  denote column vectors with the sums of the total expenditures for the endogenous accounts, the endogenous component of these expenditures, and the exogenous component, respectively. Then, by construction, the following two equations hold:

$$Y = N + X \quad (4B.1)$$

and

$$N = AY. \quad (4B.2)$$

Combining these equations yields

$$Y = AY + X, \quad (4B.3)$$

which may be rewritten as follows:

$$Y = (I - A)^{-1} X = MX, \quad (4B.4)$$

where  $I$  is the  $n \times n$  identity matrix. The matrix  $M = (I - A)^{-1}$  is known as the accounting multiplier matrix, the Leontief inverse matrix, or simply the inverse matrix. Each cell,  $m_{ij}$ , of  $M$  quantifies the change in total income of account  $i$  as a result of a unitary increase in the exogenous component of account  $j$ . This change takes into account all the interactions in the economy that follow from an initial shock, so that SAMs are general equilibrium models.

In using SAMs in simulations of standard demand shocks (for example, an increase in the demand of tourism from the rest of the world), one must realize that a number of assumptions are implicit in the framework. The two main assumptions

are that all prices remain fixed, as do all expenditure propensities, whether one considers productive activities or the commodities purchased by households. Thus, a SAM is essentially a picture at one point in time of the economy and of the relations between different sectors as well as institutions or groups of agents. In using the SAM for simulations, we assume that the structural relations observed in the economy do not change, which is to say that there are no behavioral adjustments by agents following a shock. This is a strong assumption, which implies that the analysis obtained from a SAM is often tentative and indicative only and may lead to an overestimation of the impact of a shock.

## Notes

1. Even if annual surveys are available for a subset of countries, there are cases in which surveys were not conducted during 2008 and 2009, thus rendering observation of the crisis in the microdata quite difficult.
2. Annex 4A, table 4A.1 provides more information on the data underpinning figure 4.1. This includes the specific time periods considered for each country and the welfare measure used to calculate the shared prosperity indicator.
3. This is particularly noteworthy given that the two periods overlap; see the details in annex 4A, table 4A.1.
4. The changes in net trade are large and imply that Latvia moved from a deficit of 15 percent of GDP in 2005 to a deficit of 2 percent in 2010, whereas Estonia moved from a deficit of 7 percent to a surplus of 4 percent in the same period.
5. This analysis is merely descriptive; no causality can be inferred from these results, which merely constitute suggestive associations.
6. Note that the regression analysis carried out on data on the steady growth period identifies the following as the variables with the strongest link to shared prosperity: (a) the growth of GDP per capita, (b) a change in the labor participation rate, (c) a change in the employment share of industrial sectors (that is, mining and manufacturing), (d) the initial share of employment in the industrial sectors, (e) the initial labor participation rate, and (f) the change in the mortality rate.
7. The total effect of the change in the employment share of industry (independent variable) on the growth of the bottom 40 (the dependent variable) in the case of the Kyrgyz Republic varies between 1.19 percent and 13.16 percent. This range is calculated by using the 90 percent confidence interval bounds of the coefficient estimate in the model. The wide range derives from the large standard error in the estimation, which, in turn, depends on the limited number of observations used in the regression: one additional warning sign that the results are to be taken with a grain of salt.
8. Similarly, among the demand components of GDP, investments are much more cyclical than consumption.
9. The SAM multiplier estimation has been carried out using SimSIP SAM, a Microsoft Excel-based tool for the analysis of input-output tables and SAMs. For documentation on the tool, see "SimSIP: Simulations for Social Indicators and Poverty," SimSIP, World Bank, Washington, DC, <http://www.simsip.org/>.

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## The Sustainability Dimension

At the core of the two World Bank goals of ending extreme poverty and boosting shared prosperity is an overarching concern for sustainability. The World Bank's strategy establishes explicitly that the pursuit of shared prosperity, measured through income growth among the bottom 40, must be economically, environmentally, and socially sustainable. Shared prosperity cannot be achieved, for instance, through approaches that are self-defeating over time. Thus, an imprudent fiscal policy that involves redistribution to the bottom 40, but undermines future financial solvency; a growth model that relies on the overexploitation of natural resources without a corresponding investment in the productive capacity of the economy through a strategy of diversification; and a social contract that systematically excludes some groups, inducing polarization and weakening social cohesion: all these would have to be ruled out. Sustainability is therefore understood broadly to include, but not be limited to, one-dimensional notions that are focused only on fiscal or environmental concerns.

### **Economic Sustainability**

Economically, a path to development is sustainable if it promotes fiscally responsible financial management. In several countries following the crisis in 2008–09, including Georgia and Romania, growth was led by public investment and substantial expansion in social assistance programs, which resulted in a partial recovery in the incomes of the bottom 40. However, this growth pattern may not be

The pursuit of shared prosperity must be economically, environmentally, and socially sustainable.

fiscally sustainable, and an effort must be made to reorient growth so that it is driven by the private sector.

Additionally, an important obstacle in the pursuit of sustained shared prosperity is the unequal distribution of power and influence, which may result because of substantial income inequality, particularly if income and wealth are highly concentrated at the top (box 5.1). A system in which a more well off minority at the top of the distribution has disproportionate power to lobby and to influence the distribution of resources through the political process can distort policy making and slow growth (Robinson 2010; Saint-Paul and Verdier 1996). Under such conditions of inequitable access to influence, policies and institutional designs can easily emerge that favor anticompetitive rent seeking, thereby negatively affecting the potential for growth (Guerrero, Lopez-Calva, and Walton 2009).<sup>1</sup> How do these distortions in policy making affect the bottom 40 in particular? To name but one example, powerful interests may effectively veto measures to boost market access among small entrepreneurs in the bottom 40,

### BOX 5.1 The Concentration of Wealth in Europe and Central Asia

According to *Forbes*, Europe and Central Asia had 181 billionaires in 2013, 110 of whom were in Russia, 43 in Turkey, 10 in Ukraine, and the others in Kazakhstan (5), the Czech Republic and Poland (4 each), Cyprus (3), and Georgia and Romania (1 each) (table B5.1.1).

Hosting 13 percent of the billionaires in the world, Europe and Central Asia is the fourth most affluent region after North America (Canada and the United States), Asia, and the EU15 (map B5.1.1). However, unlike the EU15 and North America, where the share of billionaires has decreased dra-

matically over the last decade, it doubled in Europe and Central Asia (as well as in Asia), moving up from 6 percent to 13 percent. Although the average per capita net worth of the billionaires in Europe and Central Asia (\$3.09 billion) is the third lowest after North Africa and the Middle East, as well as Asia (respectively, \$2.93 billion and \$2.90 billion), billionaires have increased their wealth more quickly in Europe and Central Asia than anywhere else.

The Europe and Central Asia region also holds another record: the billionaires are the youngest in the world, with an average age of 54 years in

**TABLE B5.1.1** Number of Billionaires, by World Region, 2005–13

Region	2005	2008	2013
Europe and Central Asia	43	146	181
Sub-Saharan Africa	3	5	10
Asia	81	187	356
Australia and Zealand	6	18	25
EU15	156	193	233
Latin America and Caribbean	26	38	100
North Africa and Middle East	18	44	50
North America	358	494	471
Total	691	1,125	1,426

Sources: World Bank staff analysis; "The World's Billionaires," *Forbes*, New York, March 25, 2013.

Note: EU15 = Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

(Continued)

**BOX 5.1** (continued)

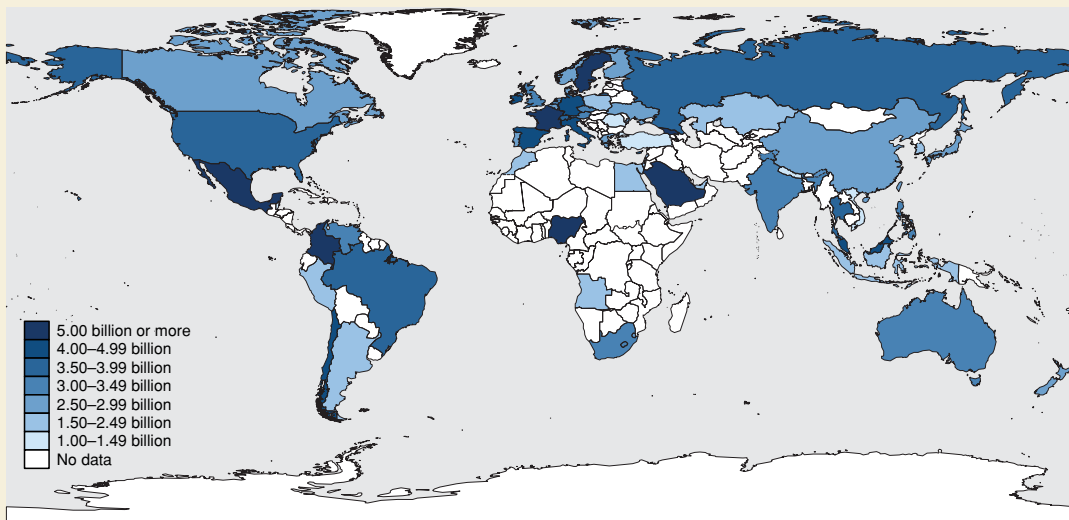
2013, while, in all other regions, the average is 60 or above; in North America, it is 68 (figure B5.1.1).

The source of wealth in Europe and Central Asia varies, from natural resources (oil, natural

gas, mining) to agriculture and food, and services (construction, insurance, banking, and telecommunications). Many of the billionaires have diversified their fortunes across numerous activities.

**MAP B5.1.1**

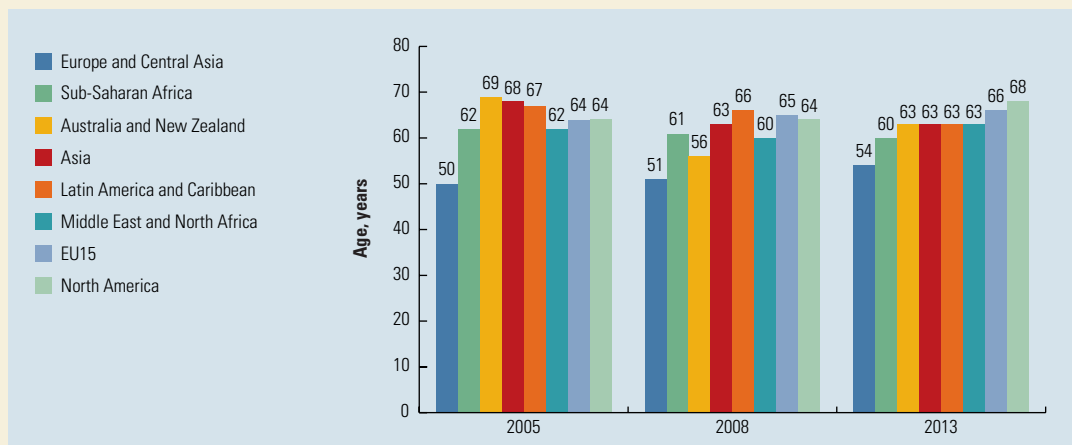
Average Net Worth per Billionaire, World, 2013, U.S. dollars



Sources: World Bank staff analysis; "The World's Billionaires," *Forbes*, New York, March 25, 2013.

**FIGURE B5.1.1**

Average Age of Billionaires, by World Region, 2005-13



Sources: World Bank staff analysis; "The World's Billionaires," *Forbes*, New York, March 25, 2013.

Note: EU15 = Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

thus preventing them from contributing to growth. As box 5.1 shows, there has been a large concentration of wealth at the top in the countries of Europe and Central Asia.

## Social Sustainability



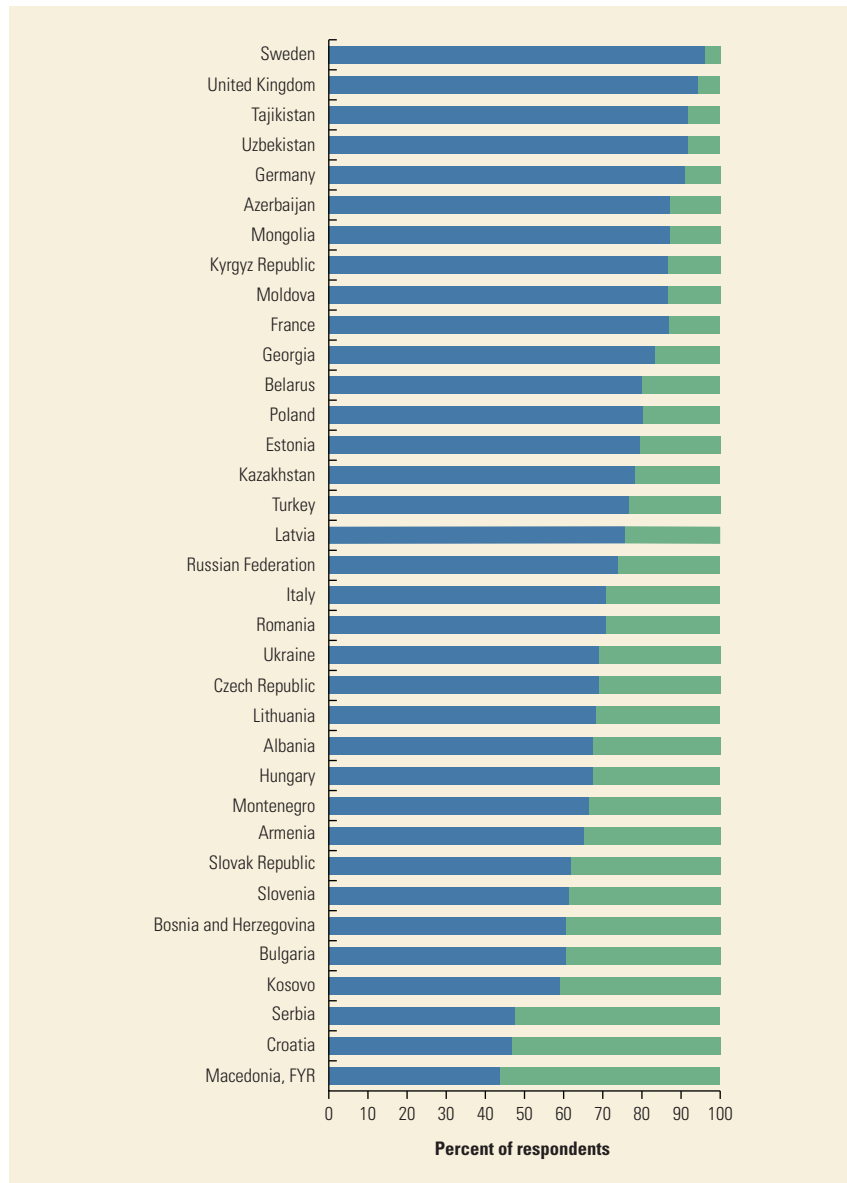
A concern with social sustainability means ensuring equality of opportunities, thereby allowing all citizens to contribute to growth.

Images of social unrest, protests against political and economic elites, and discontent among disenfranchised or vulnerable groups have been common in Europe and Central Asia in recent years. Studies on subjective indicators of social advancement report that populations have a systematic perception of deterioration in economic conditions, contrary to conclusions drawn from objective indicators. According to qualitative and quantitative studies, the rise in average incomes and in living standards is not reflected in a widespread perception that society is more inclusive and fair; there is consequently a clear risk of societal fragmentation, which could significantly affect the process of economic development. More than 15 percent of the people in 25 countries in Europe and Central Asia say that political connections or breaking the law are the main elements of achieving success in life; the only country in Western Europe in this group is Italy. In Croatia, FYR Macedonia, and Serbia, the share of people responding this way is greater than 50 percent. Conversely, fewer than 6 percent of the population believe so in Sweden and the United Kingdom (figure 5.1).

Such concerns about social sustainability should also be taken into consideration. By excluding groups—such as the Roma, youth, women, the rural poor, and so on—from participation in certain markets and from benefiting from social investments, society also prevents these groups from contributing to growth and alienates them from the social contract. Poverty rates among the Roma, for example, are systematically high (box 5.2).

In chapter 3, which introduces the asset-based approach, we emphasize the relevance of considering other assets besides traditional human and financial capital. Indeed, a key asset among households is social capital, the extent and power of the household's social connections, networks, and other such nonmarket factors that may be used to increase economic gains. In Europe and Central Asia, household social capital can be constrained by the existence of historic patterns of exclusion, discrimination, absence of voice and civic participation, low political representation, and barriers of entry or access to employment and entrepreneurship affecting certain groups based on their social status. Groups affected by these dimensions have a smaller stock of social capital to apply toward realizing economic gains, and this may make them more likely to be counted among the bottom 40. Assessing how the bottom 40 differs from the top 60 in the strength of social capital and who is disadvantaged is important because it leads to the formation of policies that are socially as well as economically targeted.

The concern with social sustainability and overall governance in the context of the growth process should translate into ensuring equality of opportunity among all citizens so that socioeconomic achievement is not associated with specific circumstances or particular social identities.



**FIGURE 5.1**  
Most Important Factor in Succeeding in Life, Europe and Central Asia, 2010

■ Effort or skills  
■ Political connections or breaking the law

Source: LITS (Life in Transition Survey database), European Bank for Reconstruction and Development, London, <http://www.ebrd.com/pages/research/economics/data/lits.shtml>.

## Environmental Sustainability

Policies to promote economic growth should reflect the limited nature of non-renewable resources, as well as the impact of economic activity on the environment—with special emphasis on climate change—and the need to protect biodiversity. Environmentally sustainable policies are essential for economic growth in general and for income growth among the bottom 40 in particular. Multiple two-way links that are relevant in this area will be analyzed and articulated as the

## **BOX 5.2** The Sustainability of Shared Prosperity: The Roma and Gender Equality

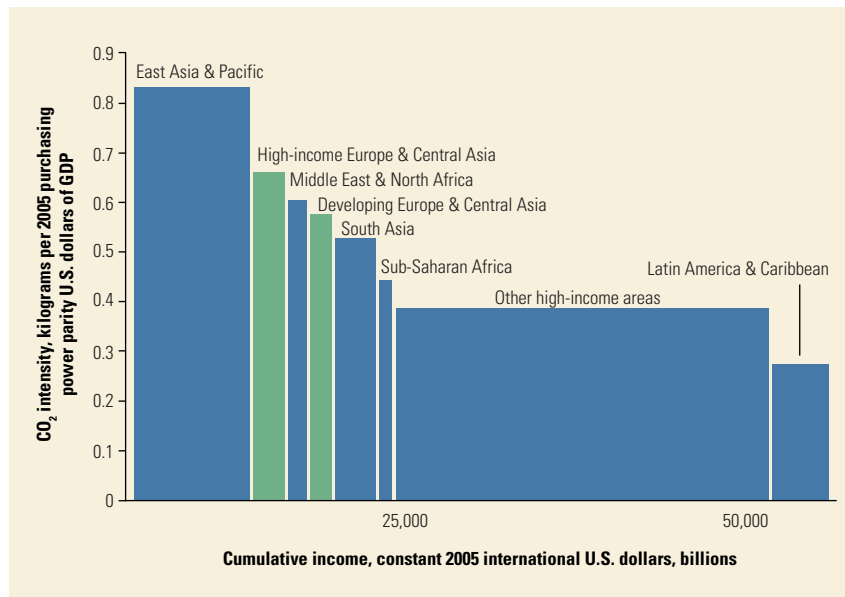
More workers are needed to ensure that dependency ratios and the fiscal burden do not become unsustainable. New entrants to the labor market play a large role in paying the taxes that provide pensions, health care, infrastructure, and other benefits. A broad view of social and economic sustainability must therefore account for the productive potential of excluded groups that could contribute significantly to the income of their households and GDP growth. The populations of Eastern Europe are rapidly aging, and inclusive labor markets have become a pressing economic necessity. The conditions among the Roma and the consequences of gender inequality are two areas that highlight the potential cost of exclusion.

Boosting employment among the Roma, the largest, poorest minority in Europe and one of the continent's most rapidly growing populations, would have economic and fiscal benefits in several countries. Thus, for instance, government social assistance payments would decline as a result, and income tax revenue would rise. The Roma are now less likely to be employed than their non-Roma peers and earn considerably less if they are employed. A World Bank study (2010) estimates that closing the labor market gap between the Roma and non-Roma in Bulgaria, the Czech Republic, Romania, and Serbia, where the employment gap is 26 percentage points, and the average wage gap is 50 percent, would lead to €2 billion to €5.5 billion in economic benefits and €0.7 million to €1.8 million in fiscal benefits

(depending on the population estimates). Up to 10–20 percent of new labor market entrants in Eastern Europe are young Roma, meaning that addressing the persistent inequalities behind the low productivity among the Roma is all the more urgent. Investing in this group's human capital assets from an early age by improving the access of the Roma to education and greater educational attainment is a prerequisite for bridging the labor market gap, which would allow more Roma to use their assets intensively and for higher returns.

Similarly, the countries of Europe and Central Asia have not yet taken advantage of the full productive potential of women, who represent over half the population. The female labor force participation rate, 52 percent in the region, is 23 percentage points lower than the corresponding rate among men. Increasing women's inclusion in labor markets would allow women to maximize the returns on their human capital assets, thereby generating productivity gains that would have a direct impact on GDP (World Bank 2014). According to Booz & Company research, raising employment among women to the levels among men could boost GDP by up to 19 percent in Italy, which has labor force participation rates similar to the average in Europe and Central Asia (Aguirre et al. 2012). The potential gains may be highest where female labor force participation rates are relatively low and women are relatively well educated, which is the case in most countries of Europe and Central Asia, where women account for over half of university students.

framework is developed. Countries relying extensively on nonrenewable natural resources as a source of growth (minerals, hydrocarbons, and so on), as is the case in many countries in Europe and Central Asia, should be managing the revenues derived from this growth wisely, thereby laying the foundation for efficient long-term development and ensuring that the communities living where these resources are located obtain a fair share of the benefits. The mismanagement of renewable resources (water, fertile soil, forest), leading to their degradation and depletion, may have a serious adverse impact on the productivity and well-being



**FIGURE 5.2**  
CO<sub>2</sub> Emissions, Europe and Central Asia versus Rest of the World, 2009

Source: World Bank calculations.

Note: Excludes land use.

of households, and the poor are the least able to cope. Recall the effects of the shrinking of the Aral Sea, which has devastated the livelihoods of nearby communities, many of which were traditionally inhabited by poorer ethnic minorities. Environmental pollution negatively impacts human capital (mainly through poor health), productivity (through both poor health and the poor quality of inputs), and competitiveness. In Kosovo, the economic cost of environmental degradation was equivalent to 5 percent of the country's GDP in 2010 (World Bank 2013a). Meanwhile, the more efficient and sustainable use of natural resources increases competitiveness, reduces the cost of degradation, and has the potential to raise the incomes of the bottom 40 (box 5.3). Furthermore, the countries of Europe and Central Asia also face important challenges because of their vulnerability to climate change and the need to become more energy efficient and less CO<sub>2</sub> emission intensive (figure 5.2).

Recognizing the importance of achieving growth and shared prosperity through sustainable policies, the World Bank has helped countries apply a number of analytical tools, such as the inclusion of natural and social capital in national accounting (currently being undertaken in Turkey), assessing the costs of environmental degradation and priority measures to reduce these (country environmental analysis has been carried out in Kosovo and is now ongoing in Armenia), and, most recently, green growth low carbon studies (completed in Poland and the former Yugoslav Republic of Macedonia, and initiated in Romania). As a next step, it would be useful to add to these tools a capacity to measure the relevant impacts on the bottom 40.

Integrating the sustainability dimension into efforts to boost growth and shared prosperity successfully would "ensure better balance between natural resources, physical and human capital, and economic institutions" (Gill et al. 2014, xvii).

**Policies promoting growth should account for the impact of economic activity on limited natural resources and the environment.**

### **BOX 5.3** **Converting Natural Assets into Bottom 40 Income: The Environmental Services Approach**

Low income generation capacity is most prevalent in Albania's northern upland county of Kukes, which is characterized by sloped, heavily eroded terrain. Historic underinvestment in forestry and rural land management means that the returns to these investments are high, particularly for the bottom 40, among which income growth lags behind per capita GDP growth. The Environmental Services Project supports a package of interventions designed to boost income from natural capital in upland rural areas (World Bank 2013b). The project aims to reverse trends in land degradation and improve forest health, thereby increasing the stock of natural assets; promote the intensive, sustainable use of rural landscapes through management planning; raise the farmgate prices of environmental goods through payments for environmental services; and provide income transfers that will simultaneously target the poor and enhance environmental service flows.

#### **Assets**

Land is a critical asset for Albania's rural poor. The predominant agricultural activity in upland Albania is livestock cultivation, which puts considerable pressure on the productive value of land. Overgrazing leads to erosion, which has both in-place and downstream productivity costs. Investing in fences, remote water points, and reforestation can restore the value of land assets. Furthermore, the project has a property registration component that, in the long run, should secure the access of rural communities to forests and pastures.

#### **Promoting Intensive, Sustainable Use**

The key to sustainable forestry management is thinning, which supplies fuelwood in the short

run, while increasing the long-run supply of harvestable timber. Investments in the capacity of the district forest service and local communities to manage forest data and execute management plans can lift timber extraction rates, while simultaneously boosting sustainable yields.

#### **Prices**

Rural land management practices that reduce overgrazing, expand vegetative cover, and improve forest health will simultaneously sequester carbon and improve downstream water services (both water flows and water quality), environmental services that typically go uncompensated. The project supplies financing through carbon markets and other public or private sources so that rural land managers can increase the prices they receive for managing their land.

#### **Transfers**

Payments for environmental services can be considered as getting the prices right for nonmarketed goods, or the payments can be considered as income transfers. In Albania, monetary rewards for land management practices that generate ecosystem services have the dual benefit of augmenting the incomes of the rural poor, while providing benefits to downstream users such as water utilities and hydropower plants.

Through this combination of interventions, the Environmental Services Project in Albania harnesses the power of the access to natural assets, the sustainable, intensive use of these resources, more accurate pricing, and conditional transfers to raise the incomes and well-being of Albania's bottom 40.

Special attention should be paid to identifying pro-growth policies that promote all three dimensions of sustainability at once; for example, reducing energy subsidies through a more targeted design can support fiscal, social, and environmental objectives.



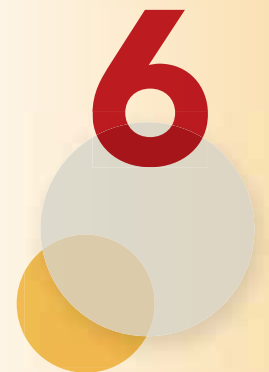
## Note

1. For an in-depth discussion on inequality, lobbying, and resource misallocation, see Esteban and Ray (2006).

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## Policy Links

Applying the framework to the analysis of specific policies will bring a new perspective to policy design, one that allows the incorporation of a shared prosperity focus. The first added value of looking at policies through a shared prosperity lens is that it helps debunk common misconceptions about two widely accepted, but false, dichotomies.

The first dichotomy is the one between macro- and microeconomic approaches to income growth at the bottom of the distribution. The purely macro view implies that getting the macro fundamentals right and creating the conditions for growth would be enough to expect income growth at the bottom (Dollar, Kleineberg, and Kraay 2013). In this sense, a strictly macroeconomic approach, basically focused on overall growth, could explain the heterogeneity of performance in a shared prosperity indicator. On the other hand, a microeconomic perspective by itself would tell us that the heterogeneity can be fully explained by looking at the characteristics of those at the bottom and then seeing overall performance exclusively as the addition of the individual trajectories. This framework integrates both the macroeconomic and microeconomic elements, explaining how the macro variables affect income growth differentially along the income distribution, for example, through relative prices and the composition of growth, but also how the distribution of assets at the bottom will determine the capacity of each group to contribute to overall growth. Growth and the incidence of growth can be understood as jointly determined processes.

The second false dichotomy, better defined as a false trade-off, is between growth and redistribution. As explained above, growth and distribution are jointly

The framework allows the analysis of the transmission mechanism between policy interventions and income growth among the bottom 40.

determined (Ferreira 2010). More importantly, redistribution policies that increase the productive capacity of the poor through, for example, the provision of education and health or investments in connectivity will pay off and enhance the overall growth potential of the economy. Then, by adding the temporal dimension and differentiating among the short, medium, and long terms, the equity-efficiency trade-off can be overcome. A recent review of the evidence has shown that the trade-off between fiscal redistribution and growth cannot be empirically validated (Ostry, Berg, and Tsangarides 2014).

The second added value of the shared prosperity framework proposed in this report is that it offers a new and concrete way to analyze the transmission mechanisms between policy interventions and the sustainable growth of the bottom 40. Interventions in specific policy areas could be assessed for their potential impact on the income generating capacity of the bottom 40—and, therefore, their capacity to contribute to growth—through asset holdings and accumulation, the intensity of asset use, the impact on the returns to assets, and the implications of nonmarket income (public and private transfers) for equity and efficiency. The shared prosperity approach, using the proposed framework, can provide guidance to policy makers on key questions to be considered in the formulation of interventions.

**TABLE 6.1 Policy Matrix for Implementing the Asset-Based Approach within a Shared Prosperity Framework**

Policy area	Assets	Intensity of use	Prices	Transfers	Sustainability
1. Macroeconomic fundamentals	Is the macro environment inducing investments in asset accumulation by the bottom 40?	Is unemployment affecting the bottom 40 disproportionately? Is this because of the sector composition of GDP growth? What can be done to boost employment at the bottom?	Is inflation distorting relative prices and inducing the misallocation of resources? Is it affecting net borrowers in the economy, typically the bottom 40?		Is the macro environment allowing the bottom 40 to save and accumulate assets?
2. Fiscal systems	Are in-kind transfers sufficient to guarantee asset accumulation by the bottom 40 (human capital and health, for instance)?	Does the tax structure affect work incentives among individuals? The decisions of firms to hire and invest? Are countercyclical components in the fiscal system being adequately targeted and financed? Are public investments following correct evaluations of long-term productive impacts?	Are fiscal systems inducing inefficiencies through their effects on prices? Are fiscal systems progressive in providing investment space to the bottom 40?	Are transfers for social assistance well targeted? Do they distinguish between the chronic and transitory poor?	Is a prudent fiscal policy ensuring that the fiscal burden does not fall disproportionately on future generations? Is it crowding out the private sector, particularly small and medium enterprises, by distorting the portfolio decisions of banks?

(Continued)

**TABLE 6.1** (continued)

Policy area	Assets	Intensity of use	Prices	Transfers	Sustainability
3. Institutional capacity, service delivery	Are the good-quality services provided to the bottom 40 sufficient to guarantee access to economic opportunities? Are institutional conditions appropriate for the protection of social and natural capital?	Does infrastructure, transport, or connectivity enhance the capacity to use assets more intensively? Have markets been established for the sustainable use of natural capital?	Do prices reflect the relative scarcity of resources? Are the returns to assets affected by the quality of publicly provided complementary inputs?	Is there sufficient institutional capacity to manage transfer programs in a transparent way?	Are systems in place to ensure monitoring and evaluation and systematic improvements in the services delivered to the bottom 40? Are certain groups systematically excluded from services? Why?
4. Risk management	Are the assets of the bottom 40 being destroyed by shocks or overexposed to shocks? Are the portfolio decisions of the bottom 40 being affected by exposure to risks?	Are extensive and intensive risks leading to an inefficiently low use of specific assets, particularly those of the bottom 40?	Do prices or returns appropriately reflect risk, or are they inducing inefficient risk taking?	Are transfers or public insurance mechanisms inducing moral hazard by, for example, providing commercial risk guarantees to investors at the expense of taxpayers?	Is exposure to risk threatening the capacity of the system to survive in the long term?
5. Well-functioning markets, business environment	Are markets excluding the bottom 40 from access to financing or access to investments in specific assets? Is market power preventing the operation or growth of small and medium enterprises through high costs for adopting new technology and undertaking new investments among the bottom 40?	Do markets allocate resources for the most efficient and equitable use? Do markets provide incentives for economic participation among less-privileged households? How do the rule of law, regulations, and the availability and quality of public goods induce higher intensity in the use of household assets?	Do price and factor rewards reflect undistorted conditions? Are there gaps in the returns for the bottom 40 that could be corrected if markets were functioning more adequately?	Are fiscal transfers and subsidies distorting competitive conditions? Is market power reflected in the allocation of fiscal subsidies?	Are market imperfections generating inequality traps and threatening social cohesion in the long term? Are key regulations being captured by powerful actors, distorting the regulatory capacity of the state and negatively affecting investors and consumers?

As a proposed tool, this report provides a matrix (table 6.1) that outlines the transmission channels through which interventions in five broad policy areas can affect the capacity of the bottom 40 to contribute to growth by influencing their asset accumulation, asset use, and returns to assets. These five policy channels may contain many specific policy interventions. The matrix represents an attempt to structure the conversation around the elements of the proposed framework, and it does this by providing questions rather than answers in each cell. The main

reason why the different cells are presented as questions is because the answers are necessarily context specific and require analysis of the specific interventions under consideration. Responding to these questions may also be demanding in terms of data requirements.

The five policy areas we review here are (1) macroeconomic management; (2) fiscal policies, including tax structure and spending; (3) the institutional capacity at various levels of government to deliver good-quality services efficiently; (4) effective risk management instruments and systems; and (5) the capacity to enable well-functioning markets and a favorable business environment. The next section discusses concrete examples of policy interventions in Europe and Central Asia to illustrate how the matrix for implementing the shared prosperity framework can be applied in these five areas.

## Macroeconomic Management

Responsible macroeconomic policy is crucial to sustaining any growth strategy by providing certainty and avoiding the distortions in relative prices and the returns to assets that induce major misallocations and regressive redistribution (table 6.2). Inflationary environments, for example, redistribute to net savers from net borrowers, who are typically among the bottom 40. The literature has shown that inflationary environments and exchange rate misalignment do have distributional implications and, particularly inflation, tend to affect the bottom of the distribution (Bulíř 2001; Li and Zou 2002). Exchange rate volatility has an effect on investment decisions, productivity, and the accumulation of assets, thereby distorting portfolio decisions (Aghion et al. 2006). Macroeconomic stability and prudent monetary and fiscal policies are thus a necessary condition for a sustainable growth model and, consequently, for shared prosperity.

For example, natural resource-rich countries in Eurasia are confronted by these macroeconomic and fiscal challenges because extensive reliance on revenues from natural resources can result in volatility in GDP, government outlays, and the real exchange rate. In the face of this, countries such as Kazakhstan or the Russian Federation tend to filter inflows from resource revenues into oil or stabilization funds. These can be accessed to help manage macroeconomic volatility and can guarantee that revenues from natural resources also benefit future generations, rather than increasing government expenditures

Responsible macroeconomic policy can prevent misallocations and regressive redistribution.

**TABLE 6.2 The Asset-Based Approach and Macroeconomic Management: Macroeconomic Fundamentals**

Assets	Is the macro environment inducing investment in asset accumulation by the bottom 40?
Intensity of use	Is unemployment affecting the bottom 40 disproportionately? What can be done to boost employment at the bottom?
Prices	Is inflation distorting relative prices and inducing the misallocation of resources? Is it affecting net borrowers in the economy, typically the bottom 40?
Transfers	Is the structure of transfers threatening fiscal sustainability?
Sustainability	Is the macro environment allowing the bottom 40 to save and accumulate assets?

for immediate political gains. But a recent World Bank study finds that Eurasian countries should do more to diversify their asset portfolio not least by investing more of their revenues from natural resources into human capital and quality services (Gill et al. 2014). This will ultimately ensure that assets beyond land and natural assets are employed to generate greater returns.


## Tax Structure and Fiscal Spending

Through the use of taxes and transfers, fiscal policies have efficiency and equity implications. In the short run, the net system of fiscal incentives either reinforces or offsets the patterns determined by market income. These policies, however, have a medium- and long-term impact as well because they prompt behavioral responses in asset accumulation and use—as in the case of labor force participation or hiring decisions by firms—and may induce factor misallocations or affect the size distribution of firms. Additionally, policies related to tax structure and spending have important implications for fiscal sustainability in the long term. This will be exacerbated in most parts of Europe and Central Asia by the changing demographic structure: aged dependency ratios are increasing at a more rapid rate than the share of the population contributing to the fiscal system through labor taxation.

For instance, social assistance and pensions play a major role in the income generation pattern of the bottom 40 in Europe and Central Asia. On the positive side, social assistance and pensions provided the necessary protection from the shocks generated by the 2008–09 crisis to a large part of the bottom 40 in several countries. Indeed, through income support, social assistance programs are aimed also at preventing temporary shocks from having permanent effects on household welfare. They might impede, for example, households from divesting assets during downturns, thereby lowering the capacity to recover and to contribute to growth productively after a shock. On the other hand, transfers can distort the incentives for labor force participation and can become a threat to fiscal sustainability.

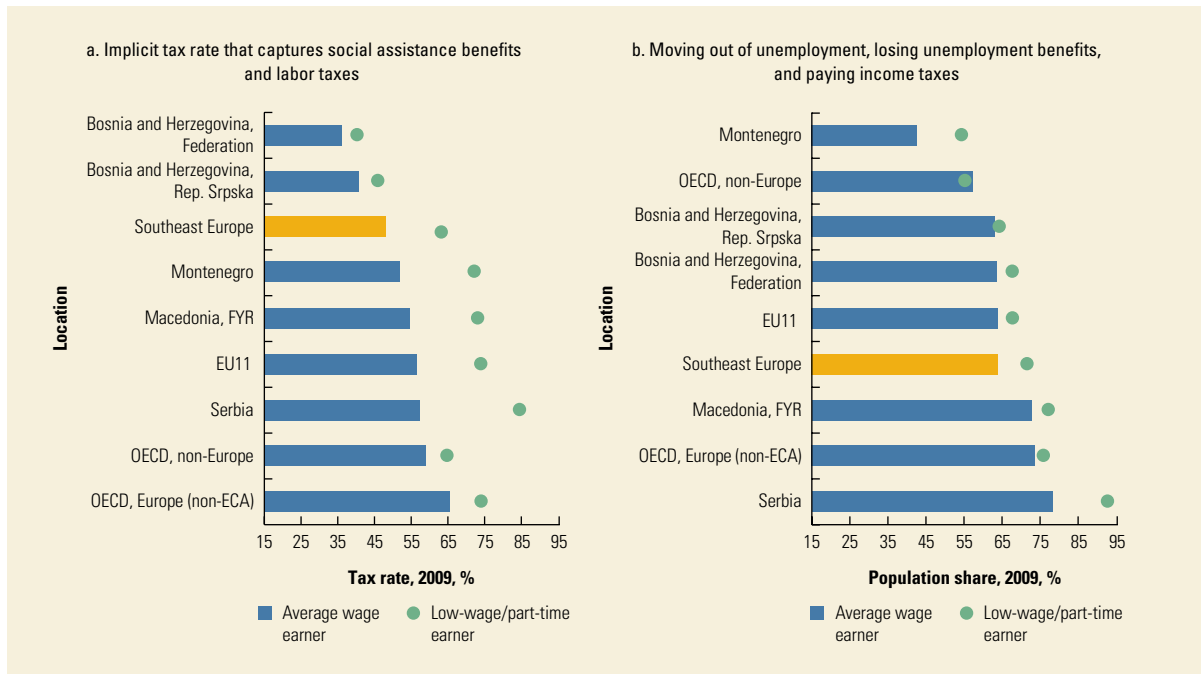
Thus, in the western Balkans, the structure of taxes and social protection systems distorts the returns to participation in formal employment, particularly among low-wage earners. People in the bottom 40 are overrepresented among low-wage earners, who tend to rely more heavily on transfers. The cost of moving out of social assistance in these countries—measured by an implicit tax rate that captures social assistance benefits and labor taxes (labeled the inactivity trap)—is likely to be more onerous among the bottom 40 (figure 6.1, panel a). Disincentives to work are particularly substantial in the former Yugoslav Republic of Macedonia, Montenegro, and Serbia, where tax rates are above 70 percent among low-wage earners: in other words, taking a (formal) job increases a household's total income by a mere 30 percent of the low-wage earner's potential new salary (Ceriani and Davalos 2014). Moving out of unemployment is also discouraged through the fiscal system via generous unemployment benefits (labeled the unemployment trap) (figure 6.1, panel b).

Through the fiscal channel, policy appears to distort relative prices and the returns to assets in favor of lower labor force participation, thus affecting the



Fiscal policies, through the use of taxes and transfers, have efficiency and equity implications.

**FIGURE 6.1**  
**Labor Market Incentives Can Be Curbed by Taxation and Benefits**



Source: Ceriani and Davalos 2014.

Note: Calculations are based on one-earner couples with two children. They measure the share of gross income of the accepted formal job—including in-work benefits—that is taxed away through personal income tax, social security contributions, and lost benefits (for the inactivity trap, this refers to social assistance, family, and housing benefits; for the unemployment trap, this refers to unemployment, family, and housing benefits). Children are assumed to be ages 4 and 6. The data for Montenegro are from 2011. Low-wage earner refers to those earning 50 percent of the average wage. ECA = Europe and Central Asia; EU11 = Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, and Slovenia; OECD = Organisation for Economic Co-operation and Development.

**TABLE 6.3 The Asset-Based Approach and Fiscal Systems: Social Assistance Policies**

Assets	Are transfers sufficient to guarantee asset accumulation or prevent disinvestment in human capital among the bottom 40 during shocks?
Intensity of use	Do the tax structure and its interaction with social protection systems affect the incentives of individuals in the bottom 40 to work?
Prices	Do the tax system and the generosity of social assistance distort the returns to assets in favor of lower labor force participation for those at the bottom?
Transfers	Are social assistance programs well targeted? Do social assistance programs distinguish between the chronic poor and the transitory poor in the bottom 40?
Sustainability	Is the size of total social assistance transfers fiscally sustainable? Or will the fiscal burden to which transfers contribute fall disproportionately on future generations? Will the demographic composition of the country (for example, high aged dependency ratios) generate additional fiscal concerns?

intensity of the use of the human capital endowment and, ultimately, the contribution of the bottom 40 to overall growth. Decisions regarding fiscal incentives through taxes and transfers should thus be analyzed in terms of their impact on the structure of household income generation (table 6.3).

Along similar lines, several other measures may affect the way fiscal policy impacts the accumulation, use, and returns to assets among the bottom 40.



This might include, for example, tax structures and incentives for firms to hire and invest, thus creating jobs for the bottom 40, or to government transfers beyond social assistance (for example, energy subsidies).

## Government Institutional Capacity for Efficient Service Delivery

The institutional capacity to deliver good-quality services enhances overall productivity and supports equality in opportunities. Access to good-quality services such as education and health, which can equip the least well off in society with the human capital assets necessary to participate in the labor market, for example, should be a priority in the shared prosperity agenda. Furthermore, infrastructure services, connectivity, and the provision of key inputs such as energy must be in place to ensure that the assets of the bottom 40, such as human capital, physical assets such as land, or financial assets, can be used intensively. The adequate delivery of these services for asset accumulation and use requires good governance and strong institutional capacity.

Increasing the efficiency and sustainability of infrastructure services such as electricity and water utilities and improving connectivity and the transport infrastructure are important challenges in many countries of Europe and Central Asia. The rapid growth many countries experienced during the first decade of the 2000s brought to the fore the need to improve service quality in utilities by, for example, upgrading dilapidated infrastructure and addressing rapidly growing demand. If we look at energy sector reforms from the angle of shared prosperity, two sets of issues arise (table 6.4). The first relates to service delivery and how service delivery might translate into the accumulation, use, and sustainability of assets highlighted in the matrix. Are utility services accessible to all, including the bottom 40? Or do the poorest segments of the population have less access to utility networks or good-quality services? The level of access of the bottom 40 to good-quality services may determine their ability to accumulate assets, for example, in health care, which is a prerequisite for subsequent human capital accumulation and use through the labor market. Inadequate service delivery among the poorest may incur a cost in poor financial and environmental sustainability. As recent analyses of the electricity sector in western Balkan countries such as Albania show, the lack of adequate services can contribute to the unwillingness to pay and to poor collection rates (electricity sector), in addition to the incidence of illegal connections (water). Environmental sustainability is threatened if households in the bottom 40 cannot afford to use utility services and resort to more highly polluting methods to generate heat.

The second set of issues linking energy sector reforms and the bottom 40 within our framework relates to fiscal systems. As fiscal pressures increase, especially in the aftermath of shocks, subsidies to maintain affordable prices may become less viable. The poorest households, already seeking to minimize energy consumption, are at greater risk of abandoning basic services. Policy makers may be called upon to ensure that transfers, through efficient and effective social protection mechanisms, reach those at the bottom of the income distribution so that these people



The institutional capacity to deliver good-quality services enhances overall productivity and supports equality of opportunity.

**TABLE 6.4 The Asset-Based Approach and Institutional Capacity: Service Delivery**

Assets	Is energy accessible and affordable to the bottom 40 so they are guaranteed human capital accumulation? Is connectivity a constraint to asset accumulation? Are the energy services used by the bottom 40 of adequate quality? Are the energy sources they use more polluting or dangerous than those used by the rest of the population?
Intensity of use	Are energy services enabling the more effective use of assets and access to economic opportunities? Is connectivity favoring the most productive use of assets among the bottom 40?
Prices	Is connectivity fostering prices that reflect the actual productivity of assets across different uses?
Transfers	Do public transfers ensure the affordability of good-quality energy services among the bottom 40? Do subsidies for energy producers distort competitive conditions? Are they effective in trickling down to users in the bottom 40, resulting in lower prices and greater affordability among this group?
Sustainability	Are energy services being provided at high environmental cost? Will the cost be passed on to future generations? Is the political economy such that, in periods of austerity, the bottom 40 is most affected?

are guaranteed access to basic services. Romania, which, in recent years, has replaced a central subsidy for district heating with the extended coverage of a benefit targeting low-income users, presents an example of the implementation of this type of reform.

Transport and connectivity reforms provide another opportunity to reflect upon the link between good-quality services and institutional capacity on the one hand and the accumulation and use of assets by the bottom 40 on the other. Improving land, air, and information and communications technology connectivity tends to have a positive impact on competitiveness and, ultimately, job creation and income growth. By reducing the cost of doing business and creating job opportunities through trade and links with external markets, enhancing transport routes and connectivity can lead to asset accumulation and greater intensity in the use of assets. Armenia, a landlocked economy, has recently been experiencing the benefits of enhanced connectivity with world markets, not least because of aviation sector liberalization. The expected drop in the cost of traveling to and from the country will improve opportunities for trade and the movement of people. This will likely generate jobs and greater returns on assets and decrease the prices of the imported goods consumed by the bottom 40, thus allowing for greater investment in asset accumulation.

Another natural candidate to highlight the link between service delivery and asset accumulation among individuals in the bottom 40 is education. The delivery of low-quality education services can hinder the chances of the least well off to accumulate the human capital necessary to access employment opportunities and maximize the returns to assets. This limits upward mobility and may perpetuate the systematic exclusion of certain groups concentrated among the bottom 40 from economic opportunities. Roma children, for example, are particularly vulnerable to exclusion from good-quality education because of their high drop-out rates or because of their segregation from the school system in special schools for children with disabilities. A 2010 four-country study shows that low levels of employment and low wages among the Roma translate into economy-wide productivity losses of hundreds of millions of euros (estimated at as much as €5.7 billion annually) and annual fiscal losses of €2 billion (World Bank 2010).

## Risk Management

There is vast evidence showing that transitory shocks can have permanent effects on household welfare. Assets can be destroyed, and shocks can induce agents to divest in inefficient ways. Catastrophic shocks, such as health crises among income earners who do not have insurance, can cause households to lose sufficient asset holdings so that they become caught in poverty traps, that is, a new, low level of steady-state welfare (Carter and Barrett 2006). Understanding the correlates of household entries into and exits from the bottom 40 is relevant not for the purpose of identifying the individuals in this situation to target them, but to understand the channels through which this occurs and manage these channels through policy (box 6.1).

In the Europe and Central Asia region, as in other regions, net changes in poverty mask the mobility of people in and out of poverty. The churning associated with the vulnerability to shocks among individuals and households close to the poverty line and the need these people feel to protect themselves from the shocks can affect their asset portfolio decisions and induce more asset accumulation.

Shocks such as those generated by the 2008–09 crisis are transmitted to households and social spending programs through several channels that affect the

### BOX 6.1 Shared Prosperity, Anonymity, and Mobility

One of the characteristics of the shared prosperity indicator—average income growth among the bottom 40—is anonymity, that is, the indicator does not consider the identity of people at the bottom of the income distribution, unlike mobility measures, which are aimed at following the welfare of a single set of individuals. Thus, the people who are at the bottom may be completely different individuals in two different periods.

Nonetheless, though it is not explicit in the bottom 40 indicator, mobility is a policy concern. The underlying interest in equity and access to opportunities means that inter- and intragenerational mobility is an important aspect of the shared prosperity-focused policy discussion. The nonanonymous mobility analysis supplies important insights. First, it provides key details about the assets and pathways that may allow individuals and households to escape the bottom 40 and the factors that may cause others to remain in this

population group. Second, beyond this between-group analysis, a mobility approach also sheds light on intergenerational change: Is the inequality in the distribution of assets maintained across younger or older cohorts? Does the presence of well-educated parents in a household significantly determine the educational attainment and thus the income generation potential of other household members?

To understand the factors associated with mobility, the analysis should maintain non-anonymity and use panel data or alternative techniques. This would allow researchers to explore (a) the factors associated with the vulnerability to poverty, the mobility out of poverty, and entry into the middle class; (b) changes in the asset composition of groups over time; and (c) the effects of systemic and idiosyncratic risks and shocks on mobility patterns, including potential traps (threshold effects) and the permanent effects of transitory shocks.

**TABLE 6.5 The Asset-Based Approach and Risk-Coping Mechanisms**

Assets	Are shocks inducing inefficient portfolio reallocation—divesting in productive assets, destruction of assets—because of the lower access of the bottom 40 to formal insurance mechanisms? Are the shocks reducing assets beyond a threshold that may create low income generation traps?
Intensity of use	Are shocks affecting the capacity of the bottom 40 to use their assets more intensely (for example, by increasing unemployment)? Are shocks inducing an overuse of assets—for example, natural assets—that affects sustainability?
Prices	Do price and factor rewards reflect undistorted conditions? Are there gaps in the returns for the bottom 40 that could be corrected if markets were functioning more adequately?
Transfers	Are transfers responding effectively to provide income support to the bottom 40? Do transfer systems reflect the transitory nature of shocks, or do they induce dependency on social assistance?
Sustainability	Are shocks inducing the depletion of natural capital? Are fiscal responses sustainable, or are they creating a disproportionate fiscal burden?

Transitory shocks  
can have permanent  
effects on welfare  
among the bottom 40.

vulnerability to risks at both the micro and macro levels. Because of reductions in credit access, declines in savings, and losses in the value of assets, financial markets represent a first transmission channel. Shocks are also channeled through product markets, which are characterized at times of crisis by slower growth, less production, and changes in relative prices. The third transmission channel through which a crisis can affect households is labor markets, which exert their impact through downturns in employment and income. These three channels of transmission—financial markets, product markets, and labor markets—affect the market income component in the asset-based approach. Nonmarket income may also be affected through a fiscal channel if the political economy of adjustment implies that budget cuts affect the transfers and service provision to individuals at the bottom.

Indeed, not only the levels, but also the composition of social expenditure may change. Lower revenues impose stronger fiscal constraints on governments, which face pressures to reduce the social spending that would allow asset accumulation (for example, spending on education and health), while the demand rises for unemployment spending and social assistance spending. If the instruments to respond are not well designed, transfers may be difficult to withdraw after the shock, affecting permanently the capacity to provide higher-quality in-kind services, endangering fiscal sustainability, and potentially creating distorted incentives (table 6.5).

### Enabling Well-Functioning Markets and a Favorable Business Environment

Well-functioning markets have the effect of allowing resources—assets—to be allocated to the most productive use. Exclusion and barriers to access imply, therefore, an increase in the inefficiencies that affect the capacity of the bottom 40 to contribute to overall growth. If bottom 40 households are excluded from specific markets, they are prevented from accumulating assets or using assets more intensively and effectively. One dimension of these market inefficiencies is labor mobility. Shared

prosperity will become more difficult to attain if people in the bottom 40 are stuck in firms exhibiting slower productivity growth. Not only the level of skills matter, but also how skills are allocated. Workers who appear to have similar skills may be employed in different firms and earn different wages. Such wage gaps have been observed, for instance, between large and small firms and between state-owned enterprises and private firms. A market imperfection, policy, or regulation may be segmenting workers, thereby preventing them from sharing equally in growth. The exact nature and cause of such segmentation may vary; several economic models explain how specific market failures, policies, or regulations may cause the segmentation. Informality is also widespread in many countries of Europe and Central Asia. Evidence exists that excessive regulation may create incentives to remain informal, even though, relative to formal firms, informal firms offer only limited opportunities for income growth. The bottom 40 in the countries of Europe and Central Asia are likely to be disproportionately employed in low-growth areas. The differences we observe in employment and wages across the region may be the result of a policy or market failure that prevents low-wage workers in the bottom 40 from finding more well paying jobs.

Constraints that inhibit the poor from engaging in entrepreneurial activities generate high efficiency costs. Poorly functioning financial markets may distort the allocation of capital in ways that affect the bottom 40 more adversely than the rest of the population. For instance, such markets could disproportionately restrict the opportunities for entrepreneurship and innovation among the bottom 40. Like the rest of the population, many people in the bottom 40 possess entrepreneurial ability and good business skills and want to start businesses or invest in improving their enterprises. But, because of poorly functioning financial markets, access to finance is more constrained among the bottom 40, irrespective of the potential for growth, because the bottom 40 is characterized by a shortage of collateral.

The Life in Transition Survey provides evidence that the access of the bottom 40 to financial services is relatively more restricted and that the bottom 40 must rely more on informal sources of credit (figure 6.2). In all countries, the majority of households seeking to borrow money reported that they approached relatives or friends.<sup>1</sup> The share of households that try to borrow from banks is systematically higher in the top 60 than in the bottom 40. In Albania, Azerbaijan, Bulgaria, Croatia, Georgia, Lithuania, Slovenia, and Turkey, the gap in access to credit through banks between the top 60 and the bottom 40 is at least 10 percentage points and, in FYR Macedonia, reaches 25 percentage points.

The excessive regulation of business entry may also be a serious constraint because of the resulting high costs associated with establishing a business that are particularly prohibitive for poorer would-be entrepreneurs. Likewise, financially underdeveloped countries characterized by difficult business entry requirements are plagued by lower start-up rates among formal sector businesses. Moreover, to the extent that new businesses are more likely to employ young, relatively less-skilled workers from the bottom 40, this constraint also affects people in the bottom 40 who might otherwise find higher-paying jobs in new firms.

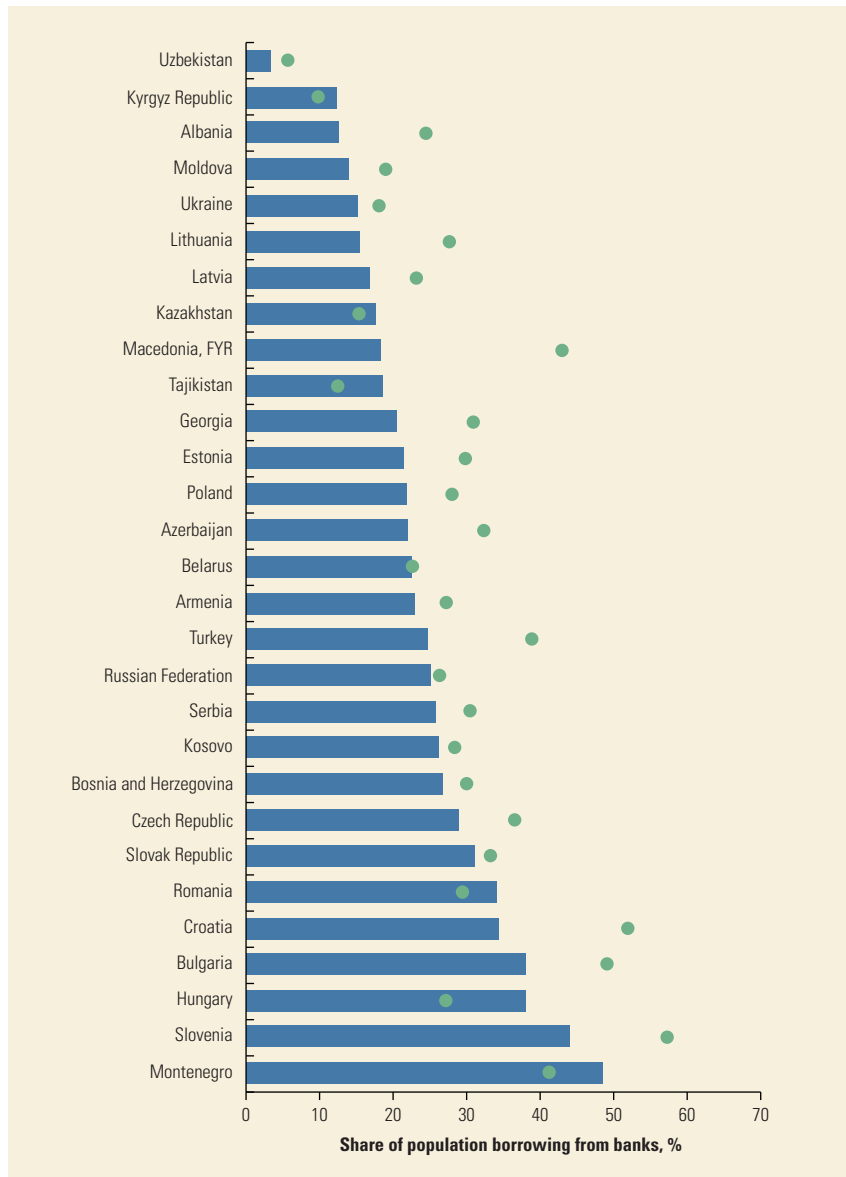
Such distortions restrict overall productivity growth by misallocating capital and may inordinately burden the relatively less well skilled in the bottom 40. If people



**If the bottom 40 faces relatively greater barriers in the access to markets, they are prevented from accumulating and using their assets effectively.**

**FIGURE 6.2**  
**The Bottom 40 Gap in**  
**Accessing Financial Assets**  
**Relative to the Top 60**

■ Bottom 40  
 ● Top 60



Source: LITS (Life in Transition Survey database), European Bank for Reconstruction and Development, London, <http://www.ebrd.com/pages/research/economics/data/lits.shtml>.

in the bottom 40 are more likely to be working in firms that are relatively more constrained by a poor business environment, then they would bear a disproportionate share of the incidence of the constraints on doing business (table 6.6).

### Using the Policy Matrix to Design Policies in a Different Way

The proposed matrix is a tool that provides a well-structured set of questions to be addressed during the design of policies in a way that is consistent with the approach

**TABLE 6.6 The Asset-Based Approach, Well-Functioning Markets, and the Business Climate**

Assets	Are markets excluding the bottom 40 from access to financing or access to investments in specific assets? Is market power preventing the operation or growth of small and medium enterprises through the high costs for adopting new technology and undertaking new investments among the bottom 40?
Intensity of use	Do markets allocate resources for the most efficient and equitable use? Do markets provide incentives for economic participation among bottom 40 households? How do the rule of law, regulations, and the availability and quality of public goods induce higher intensity in the use of household assets for the bottom 40?
Prices	Is connectivity fostering prices that reflect the actual productivity of assets across different uses?
Transfers	Are fiscal transfers and subsidies distorting competitive conditions? Is market power reflected in the allocation of fiscal subsidies?
Sustainability	Are market imperfections generating inequality traps and threatening social cohesion in the long term? Are key regulations being captured by powerful actors, distorting the regulatory capacity of the state, and negatively affecting investors and consumers?

proposed in this report. The answers to these questions are necessarily context specific and, as we have explained, may be demanding in terms of the data required to respond to them. The fundamental issue, however, is that answering such questions within a shared prosperity lens will lead to a policy design that is different from traditional approaches. Aspects related to targeting, which imply a specific answer if policies are discussed in terms of extreme poverty reduction, may elicit different answers if they are viewed through this lens. Unlike the concern with poverty, the concern about the bottom 40 is anonymous: instruments should not be designed to reach a specific individual with particular characteristics.<sup>2</sup> Policies, in this case, should be designed to affect the channels through which individuals accumulate assets, use them productively, and respond to the incentives established by transfers, but independently of who the individuals are. The matrix is an attempt to pose the appropriate questions in the direction of creating those policies that generate a dynamic whereby the bottom 40 becomes more productive, contributes more actively to economic growth, and improves its standard of living.

## Notes

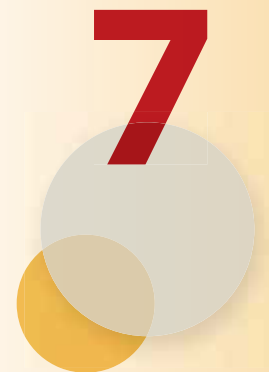
1. Except among the top 60 in Bulgaria, while, in Slovenia, banks were the first choice.
2. One of the main achievements of recent poverty reduction strategies, such as conditional cash transfers, is the creation of large databases with information whereby specific individuals can be qualified and admitted into the specific components of the intervention.

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## Concluding Remarks

The recent adoption of the twin goals—ending extreme poverty and promoting shared prosperity—has renewed the World Bank’s commitment to helping countries raise the living standards of their citizens at the lower end of the income distribution in a sustainable way. This report proposes an integrated framework for understanding the heterogenous performance within Europe and Central Asia in terms of the shared prosperity goal: fostering income growth among the bottom 40. Understanding the determinants of income growth among the bottom 40 can assist in the design of better policies, which can lead to sustainable growth.

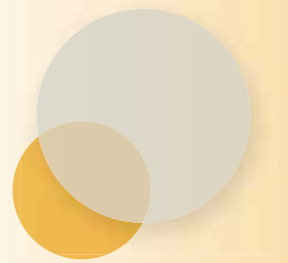
In its analysis, the approach combines macroeconomic drivers and microeconomic characteristics to explain growth at the bottom end of the distribution. It considers growth and the incidence of growth as jointly determined. To explain how they are jointly determined, the report proposes a framework that builds on an asset-based approach, and it highlights the importance of the time horizon to overcome potential equity-efficiency trade-offs. The trade-offs are, in any case, only apparent: the redistribution of productive capacities feeds back into long-term growth.

The cornerstone of the framework is the asset-based approach. The level and accumulation of assets that people own (human capital, financial capital, physical assets, natural capital, and social capital) matter for income generation, as do the intensity with which they are used and the existing returns to these assets. In addition to market income, transfers (both public and private) either reinforce or offset the patterns determined by the market. In the medium and long term, the level

and distribution of assets and their returns become key drivers behind growth and the incidence of growth.

The analysis includes comparisons of countries with a similar profile of aggregate economic expansion, but different income growth rates among the bottom 40. The report finds that, overall, the long-run determinants of income growth among the bottom 40 are quite different from performance in the short term, when cyclical fluctuations dominate, such as during the 2008–09 financial crisis. A variety of examples are used in the report to illustrate how the framework can be applied to approximate the heterogeneity in the growth of the bottom 40, although the specifics depend on the context. Relying on the shared prosperity lens, the report proposes five main areas of policy that can affect how the bottom 40 accumulates assets and uses these assets productively and how the returns are accrued from the use of the assets, as well as how nonmarket income complements income generation capacity. These areas are (1) macroeconomic management; (2) fiscal policies, including tax structure and spending; (3) institutional capacity for efficacy in quality service delivery at various government levels; (4) instruments and systems for risk management; and (5) capacity to enable well-functioning markets and a favorable business environment.

Applying the framework to the analysis of specific policies will bring a new perspective to policy design. Thus, looking at policies through a shared prosperity lens helps debunk common misconceptions about two commonly accepted, but false, dichotomies. The first dichotomy is between macro- and microeconomic approaches to income growth at the bottom of the distribution. The framework integrates both the macroeconomic and microeconomic elements, explaining how the macro variables affect income growth differentially along the income distribution, for example, through relative prices and the composition of growth, but also how the distribution of assets at the bottom will determine the capacity of each group to contribute to overall growth. The second false dichotomy is between growth and redistribution. By adding the temporal dimension and differentiating among the short, medium, and long terms, the equity-efficiency trade-off can be overcome. If this more comprehensive view is installed in the policy discussion, and we are able to change the way in which we think about the design of specific interventions, our report will have achieved its objectives.



## Appendix

# The Bottom 40 Indicator in Context

The focus on growth at the bottom of the income distribution is not without precedent. Recently, Basu (2011) has proposed the *quintile axiom*, which states that, in evaluating a country's performance, one should focus on the incomes of the bottom 20 percent of the population's income distribution (the bottom quintile). Much earlier, in their *Redistribution with Growth*, Chenery et al. (1974, 38) stated that a "concern with income distribution is not simply a concern with income shares but rather with the level and growth of income in lower-income groups." For at least 40 years, this debate has been accompanied by a discussion about which measure can best capture these concepts. Income growth among the bottom 40 has often been considered a candidate indicator.

The point of departure in the framework of Chenery et al. (1974) is the understanding that growth in social welfare can be defined as the weighted sum of the growth in the incomes of all income groups (for example, income quintiles) in a society:

$$G_{t,t+1} = g_{1,t,t+1}w_1 + g_{2,t,t+1}w_2 + \dots + g_{n,t,t+1}w_n \quad (1)$$

where  $g_1, \dots, g_n$  = the income growth rate for each of the  $n$  income groups between periods  $t$  and  $t+1$ ; and  $w_1, \dots, w_n$  = the weight for each of the  $n$  income groups (which is the share of income of that group in the initial period  $t$ ).

Choosing the weight of each income group or quintile implies a normative choice and "reflects the social premium on generating growth at each income level" (Chenery et al. 1974, 39). As Ferreira (2010, 4) puts it, "average income,

poverty, and inequality are all aggregate concepts: averages of incomes or income gaps, measured in different ways, and with different weights along the distribution. Their evolution over time—economic growth, changes in poverty, and changes in inequality—are all jointly determined by the individual income dynamics in that distribution.”

If overall growth is taken as the only measure of progress, then the initial income share of each income group determines the relative weight of that group. As a result, those people with initially larger income shares would continue to be weighted more than others. By focusing on overall growth, one would therefore promote greater growth among those people with initially larger income shares. Maximizing overall growth is thus not a distributionally neutral objective.

Instead, if the progressivity of growth is a concern, then the distributional weights must be redefined to account for the dynamics at the bottom of the distribution. This is consistent with the Rawlsian view that greater weight should be placed on the disadvantaged. The question of how this should be done, however, has triggered an important debate in the academic and policy realms.

The implicit issue of the weighting of different groups in terms of welfare is addressed in the work of Foster and Székely (2008). Concerned with the progressivity of growth and the redefinition of distributional weights, the authors propose a general framework to assess whether economic expansion is felt by the more well off, with little if any benefits trickling down to poorer income groups. They set forth a new way to aggregate growth among various groups, considering GDP growth as a special case in which inequality is not a concern. In contrast to standard approaches, their methodology does not employ an arbitrary income threshold, which would ignore the incomes only a little above the threshold by giving these incomes a weight of zero. Instead, they provide a method to track low incomes that builds on Atkinson’s (1970) parametric family of equally distributed equivalent income (general means), while allowing for subgroup consistency. They outline a parameter range that is bottom sensitive and select different low-income standards from this range, which they verify empirically. Thus, their low-income standards assign progressively less weight to the incomes that are higher up the distribution, so that their overall welfare measure is less sensitive to income growth at the top of the distribution.

Such a reweighted welfare measure is, however, not easy to apply in practical economic policy. Basu (2013), for instance, points out that the use of the bottom 40 indicator is a practical and easily understood tool so that policy makers can measure shared prosperity. Because countries already track aggregate growth, one might also simply compare these data with data on the income growth among the bottom 40 to assess the degree of inequality. He argues that, obviously, there is also an important weakness of the bottom 40 indicator: two countries with the same level of per capita income and Lorenz curves that cross at the 40 percent population mark will be viewed the same, even if, elsewhere in the distribution, incomes are different. However, the advantage of the simplicity of the indicator outweighs the disadvantages.

Boosting income growth among the bottom 40 is not a specific goal that can be met. There is no maximum growth that can be achieved. However, a temporary

growth spurt that cannot be sustained would backfire in the long run. This is why the sustainability of the growth is crucial. As Basu (2013, 3) notes, pursuing the goal should “not create a liability for future generations.” Shared prosperity should therefore be achieved in a way that: (1) manages the resources of the planet for future generations, (2) ensures social inclusion and thus minimizes social strife, and (3) adopts fiscally responsible policies that limit future debt burden (World Bank 2013).

Poverty eradication and fostering shared prosperity are complementary endeavors, as are the two indicators proposed for monitoring their pursuit, which have substantially different properties. The poverty measure is absolute in nature: it accounts for the share of the population living below a fixed monetary threshold, be it country specific (a national poverty line), international (the \$1.25-a-day line), or established according to regional parameters (for Europe and Central Asia, \$2.50 a day or \$5.00 a day). Shared prosperity, on the other hand, is a relative measure that looks at income (or consumption) growth among the poorest 40 percent in a country’s population over time. The shared prosperity indicator is not an inequality measure, although it can be extended to become one, for example by looking at the share of national income owned by the bottom 40 or by comparing growth among the bottom 40 with the mean growth in the distribution. Regardless of the income level of the country and even in situations of close-to-negligible poverty levels, the shared prosperity goal will always be relevant: there is always a bottom 40 that represents a group of concern.

Like GDP growth and changes in the poverty rate, income growth among the bottom 40 is anonymous. The people at the bottom of the income distribution in the beginning of a period are not necessarily the same as the people at the bottom of the income distribution at the end of that period.

While the focus on income growth among the bottom 40 is an old concept and builds on a long history of debates about how best to measure welfare, there are not many examples of thorough empirical analyses. One problem is the lack of consistent long time series.

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The World Bank has recently defined two strategic goals: ending extreme poverty and boosting shared prosperity. Shared prosperity is measured as income growth among the bottom 40 percent of the income distribution in the population. The two goals should be achieved in a way that is sustainable from economic, social, and environmental perspectives. *Shared Prosperity: Paving the Way in Europe and Central Asia* focuses on the second goal and proposes a framework that integrates both macroeconomic and microeconomic elements.

The macro variables, particularly changes in relative prices, affect income growth differentially along the income distribution; at the same time, the microeconomic distribution of assets at the bottom of the distribution determines the capacity of the bottom 40 to take advantage of the macroeconomic environment and contribute to overall growth. Growth and the incidence of growth are thus understood as jointly determined processes. Besides this integration, the main input of the framework is the finding that the trade-off between growth and equity may be an issue only in the short run. Over the long run, redistribution policies that increase the productive capacity of the bottom 40 percent enhance the overall growth potential of the economy.

This report considers shared prosperity in Europe and Central Asia and concludes that the performance in sharing prosperity during the period 2000–10 was good, on average, but heterogeneous across countries and that sustainability is unclear. It also describes examples of the application of the framework to selected countries in the region. Finally, the report provides a tool to structure the policy discussion around the goal of shared prosperity and explains that specific policy links associated with the goal can be established only after a thorough analysis of the country-specific context.

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