

## ECONOMIC INSECURITY IN TRANSITION: A PRIMARY COMMODITIES PERSPECTIVE

BY ARTJOMS IVLEVS\*

*University of the West of England and GEP, University of Nottingham*

This paper studies the individual and household-level determinants of economic insecurity in post-socialist countries. Exploring subjective, backward- and forward-looking measures of economic insecurity, the paper focuses on: (1) the perceptions of past affordability of primary commodities; and (2) worries about their consumption in the future. We find that low affordability of primary commodities and big worries about their future consumption are experienced by rural residents, people with poor health, and households headed by females, less-educated, and unemployed persons. In addition, low affordability is reported by people with low incomes and non-Russian ethnic minorities, while high affordability is reported by people for whom remittances are the main source of income. Worries about primary commodities are more prevalent among “younger” households, big-city dwellers and people receiving moderate amounts of remittances. People who have experienced lower affordability of primary commodities in the recent past report higher worries about their consumption in the future.

**JEL Codes:** D12, P36

**Keywords:** economic insecurity, ethnicity, primary commodities, remittances, transition economies

### 1. INTRODUCTION

The post-socialist transition from planned to market economy led to dramatic and irrevocable changes in the lives of millions of people. Output fell and inflation soared, eroding real incomes. The systems of state-guaranteed jobs and generous welfare collapsed, and unemployment and income inequality increased. Most countries of the post-socialist world saw the development of increasingly unstable and unpredictable economic relations, resulting in high job, income, and social insecurity. While for many people transition brought about more economic opportunities and higher income levels, other groups, such as ethnic minorities and people with health problems, became more vulnerable and, in some cases, excluded and marginalized. According to a survey carried out in 29 transition economies in 2006, 45 percent of the respondents thought that their households lived better before transition than in 2006, and 49 percent thought that their country’s economic situation in 2006 had deteriorated relative to 1989 (European Bank of Reconstruction and Development, 2007).

This paper studies economic insecurity in post-socialist economies. There are several reasons why this is important. First, it is argued that economic insecurity is

*Note:* I want to thank Romina Boarini, Lars Osberg, Tony Flegg, the participants of the IARIW/OECD Conference on Economic Insecurity, and two anonymous referees for many helpful comments and suggestions, and the UNDP/UNICEF for providing access to the Social Exclusion Dataset 2010.

\*Correspondence to: Artjoms Ivlevs, Department of Accounting, Economics and Finance, Bristol Business School, University of the West of England, Bristol BS16 1QY, UK (a.ivlevs@uwe.ac.uk).

an integral part of individual well-being: worrying about the future detracts from enjoyment of the present (Osberg, 2010; Osberg and Sharpe, 2011). Second, it is well established that different aspects of economic insecurity are linked to individual health, trust levels, work performance, as well as saving, education, and consumption behavior (Witte, 1999; Rocha *et al.*, 2006; Cheng and Chan, 2008; Guriev and Zhuravskaya, 2009; László *et al.*, 2010; Linz and Semykina, 2010). Understanding the causes of economic insecurity and designing policies to deal with it could improve people's lives in many—often far-reaching and unexpected—ways. Third, economic insecurity, instability, and uncertainty have been inherent characteristics of the transition process itself (Institute for Comparative Social Research, 2007; Guriev and Zhuravskaya, 2009; Linz and Semykina, 2010). Qualitative research from Russia (European Bank of Reconstruction and Development, 2007; Institute for Comparative Social Research, 2007) has shown that even people with high incomes and successful businesses may feel extremely insecure and unsure about their future.

This paper identifies groups of people experiencing the highest levels of economic insecurity in six transition economies of Eastern Europe and Central Asia. It contributes to the literature in several ways. First, it looks at several aspects of economic insecurity that have received little attention in the theoretical and empirical literature. Specifically, the paper focuses on households' perceptions of the affordability of primary commodities (food, keeping home warm, clothing, and medication) and worries about the consumption of these commodities in the future—subjective, backward- and forward-looking measures of economic insecurity. Second, the paper reveals the role of ethnicity, health, and migrant remittances in explaining economic insecurity. These factors have been relatively unexplored in the empirical literature and are potentially important determinants of economic insecurity in the post-transition context. Third, the empirical analysis of the paper is based on data from a unique United Nations Development Programme (UNDP)/United Nations Children's Fund (UNICEF) survey, implemented as part of the preparation of the Regional Human Development Report on Social Inclusion for Eastern Europe and Central Asia, and administered in six post-socialist countries—Kazakhstan, the Former Yugoslav Republic of Macedonia (henceforth, Macedonia), Moldova, Serbia, Ukraine, and Tajikistan—in 2009. The survey of 15,901 respondents addressed various issues relating to standards of living and income sources, providing rich material for studying economic insecurity in the region.

While all six countries examined here can be described as transition economies, they represent a rather heterogeneous group. Historically, the centrally planned ex-Soviet republics of Kazakhstan, Moldova, Ukraine, and Tajikistan enjoyed less economic and political freedom than the more liberal and decentralized “market socialist” systems of ex-Yugoslavian Serbia and Macedonia. For example, in the 1960s and 1970s, Yugoslavian citizens were formally allowed to participate in guest worker migration programs with Germany, Austria, Switzerland, and France, generating important diasporas abroad and remitting money and ideas back home; this would be inconceivable in the former USSR.

In all six countries, the transition from planning to markets was marked by a deep recession in the early 1990s (see Figure 1). It was caused by disrupted

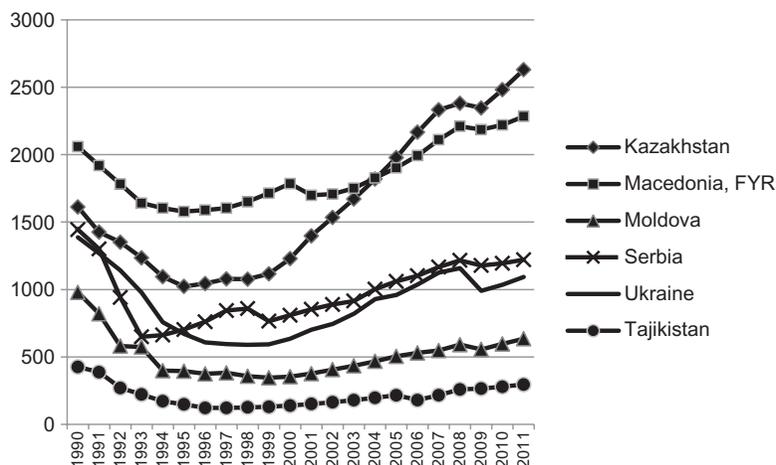


Figure 1. GDP per Capita (constant 2000 US\$) of the Six Economies, 1990–2011

Source: World Bank (2012).

TABLE 1  
SECTORAL GDP STRUCTURE OF THE SIX ECONOMIES IN 1992, 2000, and 2010

Country	Agriculture			Industry			Services		
	1992	2000	2010	1992	2000	2010	1992	2000	2010
Kazakhstan	26.7	8.7	4.8	44.6	40.5	42.4	28.7	50.8	52.8
Macedonia	17.1	12.0	11.3	39.1	33.7	27.8	43.9	54.2	60.9
Moldova	50.9	29.0	14.3	31.5	21.7	13.2	17.6	49.2	72.5
Serbia	N/A	19.9	9.0	N/A	30.5	26.6	N/A	49.6	64.3
Ukraine	20.4	17.1	8.2	50.9	36.3	30.9	28.7	46.6	60.9
Tajikistan	27.4	27.4	21.3	46.1	38.9	22.0	26.5	33.7	56.6

Source: World Bank (2012).

trade links, profound economic, political, and social restructuring, and the breakdown of the Soviet and Yugoslavian monetary unions. The services sector rapidly expanded—at the expense of either industry or agriculture, or both (Table 1). Only Kazakhstan and Macedonia—countries with more favorable initial conditions—were able to recover fully from the 1990s’ fall in economic activity; the real GDP per capita in the other four countries is still below what it was before transition began. Currently, the six countries display a significant variation in their levels of income: according to the World Bank’s classification for 2012, Kazakhstan, Macedonia, and Serbia are upper-middle-income countries, Ukraine and Moldova are lower-middle-income countries, and Tajikistan is a low-income country.

The effect of the global economic crisis on the economies of the six countries was also uneven. The largest real per capita GDP fall was registered in Ukraine (14 percent in 2009), followed by Moldova (6 percent), Serbia (3 percent), Macedonia (FYR) and Kazakhstan (both 1 percent). In contrast, in Tajikistan, real GDP per

capita rose by 2 percent in 2009.<sup>1</sup> The crisis also affected external sources of income in the remittance-dependent economies: in Moldova, migrant remittances as a percentage of GDP fell from 35 percent in 2006 to 22 percent in 2009, and, in Tajikistan, from 49 percent in 2008 to 35 percent in 2009 (World Bank, 2012). As the survey employed here was conducted at the end of 2009—the year when most transition economies experienced the negative effects of the crisis—this paper will also reveal whether a relationship exists between the country-level extent of the crisis and individual-level perceptions of economic insecurity.

The remainder of the paper is organized as follows. Section 2 reviews the existing definitions and measurements of economic insecurity, and discusses economic insecurity from the primary commodities perspective. Section 3 presents the data, variables, and estimation strategy. Section 4 presents and discusses the econometric results. Section 5 concludes.

## 2. ECONOMIC INSECURITY: DEFINITIONS, MEASUREMENTS, AND DETERMINANTS

The existing definitions of economic insecurity have revolved around the notions of: (1) the likelihood or risk of an adverse event in one's life; (2) perceptions of this risk; (3) anxieties and concerns associated with this risk; and (4) the ability to cope with or to recover from the costly consequences if an adverse event takes place (Osberg, 1998; Osberg and Sharpe, 2011; Bossert and D'Ambrosio, 2013). Osberg and Sharpe (2011) argue that economic insecurity deals primarily with the *future* (be it the perceived likelihood of adverse events or the associated anxieties), contrasting it with the analysis of poverty, which deals primarily with *current* levels of consumption or wealth. Although one would expect poverty and insecurity to be positively correlated, low income is not a necessary condition for insecurity. People with low but stable incomes, such as pensioners, may plan for the future and be relatively secure about it. Similarly, people who enjoy relatively high current income or consumption levels, yet are involved in riskier ventures, may feel very insecure about their future. Dercon (2006) goes further, arguing that there is a causal link between potential risk and insecurity on the one hand, and poverty on the other. The poor may choose to remain poor in order to avoid even more hardship induced by shocks, while the rich may choose to be involved in high-risk activities because they can afford to lose money.

The concept of economic insecurity is closely related to the concept of vulnerability. Dercon (2006, p. 118) defines vulnerability as “the existence and the extent of a threat of poverty and destitution; the danger that a socially unacceptable level of wellbeing may materialise.” Osberg (2010) states that both insecurity and vulnerability deal with fears of the uninsured hazards of an uncertain future. However, Osberg also points to an important distinction between the two notions: economic insecurity is related to the anxieties of all people, regardless of their income or wealth level, while vulnerability focuses more narrowly on the risks of poverty. This results in a different country focus. The literature on economic

<sup>1</sup>The country-level real GDP growth rates are very similar. The real GDP growth (both country-level and per capita) for 2007, 2008, 2010 and 2011 was positive in all six countries. All data are from World Bank (2012).

insecurity tends to concentrate on affluent countries, where developed systems of social protection make poverty a relatively rare phenomenon. The literature on vulnerability, by contrast, concentrates on developing countries, where both poverty and the chances of falling into it are more commonplace, and social protection systems are largely non-existent. In this context, the post-socialist economies of Eastern Europe and Central Asia represent an interesting case. First, they encompass both relatively poor and relatively rich states: for example, according to the World Bank's 2010 classification, the Kyrgyz Republic and Tajikistan are low-income economies, while Estonia, Poland, and the Slovak Republic are high-income economies. Second, at the outset of transition, most of these countries experienced massive increases in inequality and poverty, which were not matched by the development of strong social protection systems. With such variations of income within and across countries, one should expect less-defined boundaries between economic insecurity and vulnerability in the transition and post-transition contexts.

Despite the major role that economic insecurity plays in political and policy discourse, its definitions have been variable and ambiguous (Anderson and Pontusson, 2007; Bossert and D'Ambrosio, 2013). Often, the definitions are driven by research questions and data availability (Anderson and Pontusson, 2007), with much of the empirical literature concentrating on employment insecurity (see, e.g., Anderson and Pontusson, 2007; Linz and Semykina, 2008; Green, 2009; De Bustillo and De Pedraza, 2010). This paper adopts a different perspective, by looking at economic insecurity in terms of actual and expected household consumption of basic or primary commodities. This corresponds to one dimension of the "Human Rights" approach to economic insecurity and vulnerability, as discussed by Osberg (2010). The approach is based on the UN Universal Declaration of Human Rights and highlights the right of people to access or afford four primary commodities—food, clothing, housing, and medical care.<sup>2</sup> The measurement of economic insecurity, Osberg argues, should therefore involve identifying how many people are deprived of the consumption of these specific primary commodities.

The deprivation of primary commodity consumption, as measured by ex-post experiences and assessments of individuals and households, will be an important focal point of this study. However, more in line with the "future-oriented" definition(s) of economic insecurity, which highlight the likelihood of risks and the presence of anxieties associated with those risks, the paper will also explore what determines individuals' and households' *worries* about their future consumption of primary commodities. In addition, we want to see whether a relationship exists between recent levels of consumption of primary commodities (backward-looking measure of insecurity) and worries about their consumption in the future (forward-looking measure). Studying the interplay between these two facets of economic

<sup>2</sup>Another dimension of the Human Rights approach to economic insecurity is based on the statement in the UN Universal Declaration of Human Rights that everyone has the right to security in the event of unemployment, sickness, disability, widowhood, and old age. Osberg and Sharpe (2005, 2009, 2011) have concentrated on the likelihood of these adverse events to describe economic insecurity at the macro (country) level—one of the four elements forming the Index of Economic of Well-Being (IEWB) for a particular country.

insecurity is motivated by recent theoretical perspectives. For example, Bossert and D'Ambrosio (2013) argue that wealth gains and losses experienced in the recent past shape individuals' feeling about the future. They develop an "adaptive expectations" framework, which predicts that more successful experiences in the past raise one's self-confidence about handling future shocks.

The primary commodities approach to economic insecurity echoes the analysis of poverty, although important differences are likely to exist between the two. First, the analysis of poverty typically uses "objective" measures, such as households' monetary expenditure or relative position in the income distribution, which are then compared with some agreed threshold level to determine who is poor and who is not. Insecurity analysis, by definition(s), would use more "subjective" measures, typically capturing anxieties, worries, or concerns about future consumption or deprivation of primary commodities, yet also describing past or current levels of consumption of primary commodities. For example, Gundersen and Ribar (2011) explore the validity of a backward-looking subjective measure of food insecurity, which is based on the question, "Thinking about the previous 12 months, which of these statements best describes the food eaten in your household?" with four possible answers ranging from "Enough of the kinds of food we want to eat" to "Often not enough to eat." They study how this measure is related to the objectively scaled measures of income and food expenditure, and find, unexpectedly, that the prevalence of subjectively evaluated food hardship is low among households with low income and low food expenditures. This suggests that the subjective measures of economic insecurity may provide additional, non-standard insights, as compared with the objective monetary metrics of poverty analysis.<sup>3</sup> Additional advantages of subjective measures are the simplicity and clarity of the questions on which they are based, as well as the relatively low cost at which such questions can be added to surveys. The downside is that subjective measures are more likely to be "noisier," not least because respondents may interpret the answers, such as "often" or "sometimes," in different ways (Gundersen and Ribar, 2011).

The level of commodity aggregation could be another distinction between poverty and insecurity analyses, especially if the focus is on primary commodities. Poverty analysis tends to concentrate on expenditures in the aggregate rather than at a particular commodity level (Osberg, 2010).<sup>4</sup> Survey cost considerations are

<sup>3</sup>Subjective insecurity measures are also more likely to capture phenomena such as discrimination—an important factor determining the wellbeing of various groups of the population in different countries. For instance, an ethnic minority individual with sufficient income, renting good-quality accommodation, would not be classified as being poor from the access-to-housing perspective. However, if discrimination against ethnic minorities exists in the housing market, the individual may be concerned about future access to housing (eviction, change of accommodation), and hence feel economically insecure.

<sup>4</sup>The analysis of insecurity from the primary goods perspective should not be confounded with the recent analyses of multidimensional poverty and multidimensional social exclusion. The analysis of multidimensional poverty (Alkire and Santos, 2010; Alkire and Foster, 2011) uses household-level data on ten indicators (child mortality, malnutrition etc.) to construct a Multidimensional Index of Poverty and development at country level. A related, but much broader, Multidimensional Index of Social Exclusion was proposed in 2011 by the UNDP to assess economic exclusion, exclusion from social services, and exclusion from civic participation (UNDP, 2011). See also Ravallion (2011) for critique of multidimensional (poverty) indices.

one reason for this—it is less costly to ask respondents about total expenditure than about expenditures on particular goods; respondents may also find it difficult to recall their actual expenditures on, for example, food, clothing, medication, or housing, yet may have a better idea about total household expenditure. Arguably, both costs and respondent recollection would be less of an issue in the case of insecurity (from the primary commodities perspective) analysis: it is relatively easy both to ask and to answer questions about worries about future consumption of food, clothing, medication, or housing.

To sum up, this paper positions itself in the literature by adopting subjective, forward-looking, as well as backward-looking, metrics of economic insecurity, and by concentrating on the consumption of primary commodities. The empirical part of the study aims to determine individual and household-level characteristics explaining economic insecurity, as well as testing the relationship between backward- and forward-looking measures of insecurity.

### 3. DATA, VARIABLES, AND EMPIRICAL METHODOLOGY

#### 3.1. *Data*

This study is based on a survey administered by the UNDP/UNICEF in six post-Socialist economies—Kazakhstan, Macedonia, Moldova, Serbia, Tajikistan, and Ukraine—in November–December 2009. The survey was implemented as part of the preparation of a Regional Human Development Report on Social Inclusion for Eastern Europe and Central Asia (UNDP, 2011), addressing, among other things, questions related to employment, access to assets, housing, standard of living and income, health, and social services. National samples consist of approximately 2700 face-to-face interviews per country (2400 in Serbia); there are 15,901 observations altogether. An identical questionnaire, translated into local languages and comprising 136 questions, was used in all surveyed countries. Multi-stage random sampling was employed to create national samples. The primary sampling units were drawn using census, administrative, and electoral information; subsequently, households were selected via the random route method, and respondents within households were selected with the nearest birthday method. The national samples are representative of age, gender, and territorial distributions. Further information about survey design, methodology, and implementation can be obtained from UNDP (2011).

#### 3.2. *Variables*

The empirical analysis of the paper looks the determinants of economic insecurity. This sub-section presents and discusses: (1) the variables capturing economic insecurity; and (2) the variables used to explain economic insecurity. The online appendix reports the respondents' distributions/summary statistics of age, gender, education, activity status, and other individual and household-level socio-demographic characteristics, as well as the correlation matrix of the variables included in the analysis.

## Dependent Variable(s)

Following the Human Rights approach to economic insecurity discussed in the previous section, four variables were created to capture backward-looking insecurity—the household’s ability to afford the basic necessities (food, housing, clothing, and medication) in the recent past. These variables are based on the question: “There are some things that many people cannot afford. Can I just check how often your household could afford it in the past 12 months: (1) *buying food for three meals a day*; (2) *buying medication that you or your household needed*; (3) *buying new clothes and shoes that you or your household needed*; and (4) *keeping your home adequately warm*?” The possible answers were “never,” “seldom,” “sometimes,” and “often,” which were assigned values 1, 2, 3, and 4, respectively. In addition to the four variables capturing affordability of food, housing, clothing, and medication, a composite variable *afford* was created by summing them. This variable ranges from 4 to 16, with lower values indicating lower ability to afford the consumption of primary commodities. The correlation coefficient between the *afford* variable and each of the four variables used to construct it ranges from 0.69 to 0.75.

The next set of variables captures forward-looking insecurity—worries about consumption of primary commodities in the future. Three variables were created by drawing on the question, “There are many situations that could negatively affect you or your household. Please tell me, how worried are you about (1) *hunger*; (2) *denied access to healthcare practitioners*; (3) *lack of housing (eviction)*, assessing each item from 1 to 5 (“1” not worried at all and “5” very worried)?” Unfortunately, the respondents were not asked how worried they were about the future consumption of clothes. As in the case of the *afford* variable, a composite variable *worried* was created by summing the three variables that capture worries about the future consumption of food, medication, and housing. This variable ranges from 3 to 15, with higher values indicating greater worries about the future consumption of the primary commodities. The correlation between the variable *worried* and the three variables used to construct it ranges from 0.82 to 0.86.

## Explanatory Variables

In line with the empirical literature on micro-determinants of economic insecurity (e.g., Green, 2009; Linz and Semykina, 2010), the following socio-demographic variables were included as potential predictors of economic insecurity (see the online appendix for the summary statistics and the correlation matrix of variables included in the analysis):

- Six age groups.
- Gender.
- Having children under 18 in the household.
- Four educational levels, comparable across countries (primary; secondary; vocational; tertiary).
- Equivalized household income, expressed in USD. The respondents were asked into which of six specified income bands their personal monthly income fell, and what was the percentage contribution of their personal income to their total household income. The personal income measure was

constructed using the income bands' mid-points (the point for the highest income band was linearly projected from the mid-points of the two previous bands). Information on the respondent's income contribution to the total household income was then used to calculate household income, and the OECD equivalence scale (first adult = 1, other adults = 0.5, children = 0.3) was used to calculate equivalized household income. Finally, for comparability, the equivalized household income was expressed in USD, using the Purchasing Power Parity exchange rates for 2009 (source: World Bank, 2012).

- Six activity levels (employed in a private firm; working in the public sector; having one's own business or being self-employed; unemployed; retired; other).
- Four types of settlement (village; small town; regional/economic center; capital).
- Six country dummies to control for the aggregate effect on economic insecurity of all possible country-level influences (such as unemployment rates and different levels of social protection).

In addition to the standard predictors of economic insecurity presented above, this study will consider ethnicity, remittances, and health—unexplored and potentially important determinants of economic insecurity in the (post-)transition context.<sup>5</sup> A rationale for including these variables is provided below.

### Ethnicity

Two types of ethnic minorities can be distinguished in the post-Soviet space (outside the Russian Federation): (1) the ethnic Russians; and (2) native ethnic minorities. The ethnic Russians in the ex-Soviet republics originate from the Soviet policies of “russification,” industrialization, and planned migration (Parming, 1980; Laitin, 1998). Often “imported” as industrial specialists, the ethnic Russian migrants tended to be better educated and were concentrated in urban areas. They represented the “power” and “elite,” and enjoyed a privileged access to assets (e.g., housing) compared with titular ethnicities. The collapse of the USSR led to a shift of power in favor of titular ethnicities and, in some cases, different forms of inter-ethnic conflict. It also triggered a wave of “return” migration of the ethnic Russians from the Central Asian and Caucasus states, and, to a lesser extent, the Baltic states, Ukraine and Belarus (Heleniak, 2004). Many ethnic Russians, however, decided to stay, changing their status of ethnic majority (within the USSR) to that of ethnic minority (within the newly independent States). This paper will reveal the position of the newly formed Russian minority vis-à-vis the ethnic majority (and the non-Russian native minorities) in terms of economic insecurity almost two decades after the breakdown of the Soviet empire. Were the ethnic Russians able to capitalize on their typically higher levels of human capital and former political, economic, and social networks?

<sup>5</sup>There may be many other potentially important predictors of economic insecurity in the post-transition countries, but the data for them are not always available. One of the reasons to choose ethnicity, remittances, and health is that the data to capture these variables are readily available in the survey.

The position of the *non-Russian* (or native) ethnic minorities is likely to be different. The native minorities, with the Roma being an extreme example, are more likely to be marginalized, subject to labor-market discrimination, lower education levels, insufficient knowledge of the State language, concentration in specific sectors of the economy offering lower income levels and/or lower social guarantees, involvement in various kinds of ethnic conflict and illegal activities, etc. These attributes would result in higher levels of economic insecurity as compared with the ethnic majority. Interestingly, in many respects, the situation of the disadvantaged ethnic minorities tended to be better during the Socialist times than in today's market economy (Guy, 2009): the ideology of equality of all citizens and the specifics of the command economy guaranteed a job, access to education, health services, and housing for everybody.

To account for ethnicity in our analysis, two dummy variables, *Russian minority* and *non-Russian minority*, will be included. Both are based on the question, "To which ethnic group do you belong?" Note that the *Russian minority* dummy will not appear in the Serbian and Macedonian subsamples, as these countries were not part of the USSR and thus were not subject to the Soviet planned migration policies.

## Remittances

Migration and remittances play an important role in supporting thousands, if not millions, of households in the post-socialist states. In 2009, remittances were equivalent to 35 percent of the Gross Domestic Product in Tajikistan, 23 percent in Moldova, 15 percent in the Kyrgyz Republic, and 13 percent in Serbia (World Bank, 2012). In the context of the wider developing world, remittances have been shown to reduce the extent and depth of poverty (Adams and Page, 2005; Ratha, 2007; Jha *et al.*, 2010), contribute to educational expenditures and school enrolment (Calero *et al.*, 2009; Quisumbing and McNiven, 2010), and provide capital for micro-enterprises (Lopez-Cordova and Olmedo, 2006). At the same time, households that receive remittances may reduce their labor-force participation and productive effort, and invest in riskier projects (Sharma, 2009). In addition, if owing to high migration costs, migrants are drawn from high-income households, remittances may exacerbate income inequality in the home country.

What effect would remittances have on economic insecurity? On the face of it, one would expect the households receiving remittances to experience, through extra income, lower levels of economic insecurity relative to households not receiving remittances. This would be particularly true for the consumption of basic necessities—food, clothing, medication, and housing. However, a reverse causality between economic insecurity and receiving remittances is likely to exist: it may be that those households experiencing greater economic insecurity are the ones who send migrants abroad in the first place. Indeed, sending family members abroad can be viewed as a strategy to diversify the risks facing households; in case of an economic shock (unemployment, crop failure, etc.), remittances serve as insurance, by helping to smooth household consumption (Stark and Bloom, 1985; Stark, 2009). Hence remittances are likely to reduce a household's level of economic

insecurity relative to its previous level, but not necessarily relative to that of other households.

Remittances in our study will be captured by two dummy variables, reflecting the relative importance of remittances in the household's budget. They are based on the question, "Have you or someone else in your household received any of the following types of income over the past 12 months," with one of the possible answers being "Help from relatives or friends abroad." The respondents then had to indicate whether a particular source of income contributed most to total household income. The dummy variable *remittances major source* will capture households in which help from relatives and friends abroad constitutes a major source of income, and the dummy variable *remittances non-major source* will capture households which receive help from relatives and friends abroad, but it is not their major source of income.

## Health

Poor health can be both a cause and a consequence of economic insecurity. On the one hand, less healthy people may be subject to labor-market discrimination, thus receiving lower incomes and experiencing higher levels of economic insecurity compared with healthy people. Even at similar income levels, the less healthy would spend more money on medication and less on consumption of other primary goods. This is all the more important because, in many post-Socialist countries, effective social health protection systems are virtually non-existent and the lack of affordable healthcare is one of the major concerns people have (Institute for Comparative Social Research, 2007). On the other hand, higher levels of economic insecurity—due to unpredictable incomes, inadequate housing, informal work arrangements, the lack of social and health insurance, etc.—could aggravate health. Exploring this argument, László *et al.* (2010) found a negative association between job insecurity and self-rated health in 16 Western and Eastern European countries. Irrespective of the way causality runs, we expect a positive association between poor health and economic insecurity.

To account for a respondent's health status, the *poor health* variable was created using the question "In general, would you say your health is excellent/very good/good/fair/poor?" Values 1 to 5 were assigned to the answers, with larger numbers indicating poorer health.

### 3.3. Estimation Approach

Given the qualitative and ordered nature of the variables capturing economic insecurity, all models will be estimated via an ordered probit approach.<sup>6</sup> As the respondents were asked to assess affordability and worries about primary commodities consumption from the household's point of view, the regressions explaining economic insecurity will include, where possible, the attributes of the head of

<sup>6</sup>As a robustness check, all models were estimated with ordered logit. In addition, where the dependent variables were formed by summing other variables (*afford* and *worried*), the OLS estimation technique has been used. Both ordered logit and OLS results are consistent with ordered probit results and are available upon request.

the household (the data are available on gender, age, education, and activity group of the head of the household).

Note that the cross-sectional nature of the data and the lack of suitable instrumental variables make it impossible to establish precise causal effects between economic insecurity and the variables potentially affecting it. All estimation results presented in this paper should therefore be interpreted as (partial) correlations rather than causalities.

#### 4. RESULTS

##### 4.1. *Backward-Looking Economic Insecurity: Variables Explaining the Ability to Afford Primary Commodities in the Past 12 Months*

Table 2 reports the correlates of the ability to afford specific primary commodities, as well as the composite variable *afford*. Demographic variables—the gender of the household head and having children under 18 in the household—emerge as strong predictors of consumption of primary commodities. Respondents from female-headed households report a lower ability to afford each of the four primary commodities. At the same time, having children under 18 is associated with higher consumption of primary commodities. In both cases, the results are significant at 1 percent, except the specification explaining the ability to afford medication, where both coefficients are significant at 10 percent.

Education is a strong predictor of the ability to afford primary commodities. Compared with households headed by a person with secondary education (the reference group), respondents from households headed by persons with vocational and university education report a higher ability to afford primary commodities, while respondents from households with primary-educated heads report a lower ability to do so.

The sector of activity is another important determinant of the ability to afford primary commodities. Compared with households headed by a privately employed worker (the reference group), those where the head was a business owner or self-employed could afford higher levels of consumption of food, clothing, and medication. The coefficient in the heating specification is also positive but statistically insignificant. People from households headed by an unemployed person were worse off in terms of consumption of all primary commodities, most likely reflecting insufficient levels of state unemployment benefits in transition economies. Households with retired heads reported a greater ability to afford medication, but less ability to afford clothes. Finally, households headed by public sector employees reported a marginally higher ability to afford medication, which could be related to better access to health-insurance schemes in the public sector. However, comparing households with publicly and privately employed heads, no statistically significant difference in the patterns of consumption of other primary commodities was observed.

Contrary to other attributes, the association between the age of the household head and the ability to afford primary commodities differs markedly across commodity types. Compared with households headed by 45–54 year-olds (the reference group), those headed by 35–44 year-olds were less likely to be able to afford

TABLE 2  
CORRELATES OF AFFORDABILITY OF PRIMARY COMMODITIES, ORDERED PROBIT COEFFICIENTS

	How Often (1 = never; 2 = seldom; 3 = sometimes, 4 = often) Can You Afford the Following:				Afford: Composite Variable
	Buying Food for 3 Meals per Day	Buying Medication When Needed	Buying New Clothes	Keeping Home Warm	
Household head: female	-0.100***	-0.063**	-0.142***	-0.096***	-0.124***
Household has children under 18	0.088***	0.046**	0.165***	0.079***	0.131***
Age of the household head					
15–24	0.038	-0.135*	0.015	-0.074	-0.065
25–34	-0.033	-0.058*	-0.022	-0.017	-0.060*
35–44	-0.056*	-0.026	-0.031	-0.009	-0.053*
44–54	Ref.	Ref.	Ref.	Ref.	Ref.
55–64	-0.021	0.015	-0.102***	0.019	-0.047
65+	-0.055	0.119***	-0.297***	0.014	-0.087**
Education of household head					
Primary	-0.159***	-0.143***	-0.171***	-0.155***	-0.183***
Secondary	Ref.	Ref.	Ref.	Ref.	Ref.
Vocational	0.053*	0.061**	0.098***	0.101***	0.097***
Tertiary	0.179***	0.165***	0.202***	0.095***	0.209***
Activity of household head					
Works in private sector	Ref.	Ref.	Ref.	Ref.	Ref.
Works in public sector	0.047	0.056*	0.012	0.010	0.038
Own business/self-employed	0.150***	0.138***	0.077*	0.071	0.147***
Unemployed	-0.126***	-0.143***	-0.283***	-0.143***	-0.233***
Retired	0.039	0.118***	-0.164***	-0.003	-0.025
Other	0.013	0.009	-0.105***	-0.017	-0.054
Equalized household income/10	0.003***	0.001***	0.004***	0.002***	0.003***
Type of settlement					
Village	-0.364***	-0.145***	-0.050*	-0.001	-0.185***
Small town	Ref.	Ref.	Ref.	Ref.	Ref.
Regional center	-0.017	-0.008	0.028	0.090**	0.008
Capital	0.255***	-0.142***	-0.002	0.066	0.032
Ethnicity					
Ethnic majority	Ref.	Ref.	Ref.	Ref.	Ref.
Non-Russian ethnic minority	-0.082**	-0.217***	-0.081***	-0.191***	-0.178***
Ethnic Russian minority	0.009	0.033	-0.014	-0.061	0.004
Remittances major source of income	0.104**	0.114**	0.178***	0.084*	0.159***
Remittances non-major source of inc.	0.061	0.030	0.030	-0.042	0.034
Poor health	-0.150***	0.001	-0.230***	-0.097***	-0.156***
Country					
Ukraine	Ref.	Ref.	Ref.	Ref.	Ref.
Tajikistan	-0.549***	-0.511***	-0.495***	-1.006***	-0.838***
Serbia	-0.730***	0.225***	-0.592***	0.267***	-0.338***
FYR of Macedonia	0.446***	0.401***	-0.166***	0.181***	0.199***
Moldova	-0.551***	-0.073**	-0.551***	-0.236***	-0.460***
Kazakhstan	-0.005	-0.234***	-0.268***	0.259***	-0.135***
Number of observations	13,533	13,424	13,518	13,412	13,195
Chi <sup>2</sup>	2,195	1,431	2,369	2,371	2,755
Prob > Chi <sup>2</sup>	0.000	0.000	0.000	0.000	0.000
Pseudo R <sup>2</sup>	0.0973	0.0453	0.0856	0.103	0.0552

Notes: \*denotes statistical significance at 10%, \*\*at 5%, and \*\*\*at 1%. Robust standard errors (not reported to save space) were used to calculate regressors' levels of significance. Ref = reference group.

three meals a day (a coefficient significant at 10 percent), whereas the coefficients of other age groups were statistically insignificant. People from households headed by very young people (aged 15–24) were less likely to be able to afford medication, while people from households with heads aged 65 and over were more likely to be able to do so. People from households with relatively old heads (aged 55–64 and 65+) reported a significantly lower ability to afford clothes, with the coefficient being more pronounced for the eldest category. Finally, the age of the household head was not correlated with the ability to keep the home warm.

Unsurprisingly, respondents from households with higher income levels could afford more of all four primary commodities: the equalized household income coefficient is positive and highly significant in all specifications. Given that a significant proportion of respondents (26 percent) reported no income, additional

regressions, which excluded zero incomes, were performed as a robustness check. The results (available on request) show that the income coefficient remains significant at 1 percent in all affordability specifications, except keeping home warm, where it is significant at 10 percent, and the size of the estimated income coefficients slightly increases (which would be expected if zeros were excluded).

The type of settlement is an important predictor of the affordability of primary commodities. Compared with people living in small towns (the reference group), those living in villages are significantly less likely, and those living in capitals more likely, to be able to afford three meals a day. However, both village and capital dwellers report a lower ability to afford medication. Rural residents are also less likely to be able to afford clothes (the coefficient significant at 10 percent). People from regional centers reported a significantly greater ability to keep their homes warm. Looking at the aggregate consumption of the primary commodities, village dwellers emerge as the most disadvantaged group.

Next, we turn to ethnicity, remittances, and health—the variables of particular interest for this study. The non-Russian ethnic minorities appear as a disadvantaged group, as they reported a lower ability to afford all types of primary commodities. The coefficients are significant at 1 percent in all cases except for the food specification, where the coefficient is significant at 5 percent. In the meanwhile, the consumption patterns of ethnic Russians are not statistically different from those of titular ethnicities (the reference group).

Receiving remittances (when they represent the main source of income) is associated with a higher ability to afford all primary commodities; the coefficient is also positive and highly significant in the specification capturing the aggregate consumption of primary commodities. At the same time, the households where remittances do not constitute a major source of income tend to have similar affordability patterns to the households which do not receive remittances at all (the reference group). Overall, the findings are consistent with the evidence on the poverty-reducing effects of remittances at the individual and country level (see, e.g., Adams and Page, 2005; Ratha, 2007; Jha *et al.*, 2010). It should, however, be recalled that the reported coefficients represent correlations rather than causalities. It is possible that only wealthier households (can afford to) send migrants abroad in the first place, and the positive coefficient of the remittances variable captures generally higher levels of consumption in such households.

Poor health has a strong negative association with the ability to afford all primary commodities, except medication. Again, it is not clear which way the causality runs: poorer health could lead to the lower consumption of primary commodities or vice versa. The insignificant coefficient in the specification capturing the consumption of medication might also suggest that people with poorer health are forced to spend a higher proportion of their incomes on medication, at the expense of other primary commodities.

Finally, the results suggest a significant variation in the ability to afford primary commodities at a country level. Compared with Ukraine (the reference country) and keeping other factors constant, respondents in Tajikistan, Moldova, Serbia, and Kazakhstan tended to report a lower ability to afford primary commodities, while Macedonians tended to report a greater ability to do so. Partly, these findings can be explained by the average per capita income levels. The results

suggest that Tajikistan and Moldova are the most disadvantaged countries (their coefficients are negative and significant in all specifications, and have the largest absolute values in the composite affordability specification), which may reflect their lowest per capita GDP in our sample of six countries. At the other end of the spectrum, the positive and statistically significant coefficients of Macedonia in all specifications, except medication, is consistent with a higher income per capita in Macedonia relative to Ukraine. Evidence for Kazakhstan and Serbia (both middle-income countries) is more mixed: people in both countries reported a greater ability to keep their homes warm, but lower ability to buy clothes. Serbs reported, on average, a higher affordability of medication and, quite surprisingly, a lower affordability of three meals per day compared with any other country of the sample. Kazakhstan, technically the richest of the six countries, is associated with the second lowest (after Tajikistan) ability to afford medication, which could be explained by a relatively low public expenditure on health in the two Central Asian republics (1.8 percent of GDP in Tajikistan and 2.7 percent in Kazakhstan), compared with the rest of the sample (3.4 percent in Ukraine, 4.6 percent in Macedonia, 6.3 percent in Serbia, and 6.4 percent in Moldova (data for 2009 from World Bank, 2012).

In sum, the results in the rightmost column of Table 2, where the correlates of the composite variable *afford* are reported, suggest that a particularly disadvantaged individual (from the past affordability of primary commodities point of view) would be somebody with low income, belonging to the non-Russian minority group, with poor health and living in a rural area, belonging to a household headed by a female, unemployed, and/or less educated person, and living in the poorest countries of the sample—Tajikistan and Moldova. It should also be noted that, rather than reflecting a (dis)advantage, the estimated coefficients may reflect varying levels of primary commodity needs/prioritization by different groups of people. For example, households with children may prioritize the consumption of all primary commodities, resulting in their greater affordability. Similarly, looking at the age-group coefficients in the medication specification, older people may prioritize medical expenses in their budget, hence reporting a higher ability to afford medication, while younger people may spend more of their incomes on non-primary commodities (e.g., luxury goods), leaving them with less money for medication should the necessity arise.

Next, we turn to the analysis of the forward-looking facet of economic insecurity—worries about the future consumption of primary commodities.

#### 4.2. *Forward-Looking Insecurity: Variables Explaining Worries About Primary Commodity Consumption*

Table 3 reports the results of the regressions explaining worries about the future consumption of food, access to medical services, and eviction, as well as the composite variable *worried*.

Similarly to the affordability analysis, respondents from female-headed households were more likely to be worried about the future consumption of primary commodities. The coefficients are significant at 1 percent in the hunger, healthcare, and composite worry specifications, and positive but insignificant in

TABLE 3  
CORRELATES OF WORRIES ABOUT FUTURE CONSUMPTION OF PRIMARY COMMODITIES,  
ORDERED PROBIT COEFFICIENTS

	How Worried, on the Scale from 1 to 5 ("1" not worried at all and "5" very worried), Are You About:			Worried: Composite Variable
	Hunger	Denied Access to Healthcare	Lack of Housing	
Household head: female	0.087***	0.068***	0.037	0.069***
Household has children under 18	0.043*	0.026	0.032	0.042*
Age of household head				
15–24	0.028	0.031	0.286***	0.121*
25–34	0.061*	0.046	0.199***	0.118***
35–44	0.062**	0.060**	0.054*	0.058**
44–54	Ref.	Ref.	Ref.	Ref.
55–64	0.002	–0.002	–0.061*	–0.022
65+	0.003	–0.042	–0.163***	–0.076*
Education of HH head				
Primary	0.094***	0.091***	0.030	0.079***
Secondary	Ref.	Ref.	Ref.	Ref.
Vocational	–0.060**	–0.042	–0.044	–0.053**
Tertiary	–0.152***	–0.091***	–0.074**	–0.107***
Activity of HH head				
Works in private sector	Ref.	Ref.	Ref.	Ref.
Works in public sector	–0.013	0.026	0.001	0.013
Own business/self-employed	0.030	0.032	–0.040	0.011
Unemployed	0.137***	0.129***	–0.014	0.101***
Retired	–0.017	0.089**	–0.046	0.013
Other	0.076**	0.098***	–0.001	0.076**
Equalized household income/10	–0.001***	–0.001***	0.000	–0.001**
Type of settlement				
Village	0.082***	0.046*	–0.016	0.037
Small town	Ref.	Ref.	Ref.	Ref.
Regional center	0.120***	0.037	0.116***	0.097***
Capital	0.259***	0.128***	0.281***	0.251***
Ethnicity				
Ethnic majority	Ref.	Ref.	Ref.	Ref.
Non-Russian ethnic minority	0.094***	–0.028	0.038	0.038
Ethnic Russian minority	–0.036	0.060**	–0.016	–0.003
Remittances major source of income	–0.032	0.014	0.126***	0.043
Remittances non-major source of inc.	0.115***	0.056	0.209***	0.150***
Poor health	0.168***	0.209***	0.093***	0.172***
Country				
Ukraine	Ref.	Ref.	Ref.	Ref.
Tajikistan	–0.256***	–0.339***	0.025	–0.208***
Serbia	–0.067*	–0.190***	–0.168***	–0.154***
FYR of Macedonia	–0.245***	–0.314***	–0.158***	–0.294***
Moldova	0.034	–0.104***	–0.013	–0.021
Kazakhstan	–0.404***	–0.336***	–0.268***	–0.363***
Number of observations	13,513	13,493	13,384	13,287
Chi <sup>2</sup>	901.0	1,010	490.2	848.3
Prob > Chi <sup>2</sup>	0.000	0.000	0.000	0.000
Pseudo R <sup>2</sup>	0.0223	0.0259	0.0130	0.0137

Notes: \*denotes statistical significance at 10%, \*\*at 5%, and \*\*\*at 1%. Robust standard errors (not reported to save space) were used to calculate regressors' levels of significance. Ref = reference group.

the lack of housing specification. The situation, however, is not the same with the children variable. In the case of past affordability, the presence of children was associated with higher consumption of primary commodities. Now we find that it is associated with more anxiety about the future consumption of primary commodities. In particular, the children coefficient is positive in all specifications, and significant at 10 percent in the hunger and the composite worry specification.

Similarly to the affordability analysis, higher levels of education of the head of household are negatively correlated with worries about the future consumption

of all three primary commodities. Keeping other factors constant, higher levels of human capital seem to increase one's confidence and ability to deal with possible future shocks associated with shortages of primary commodities.

The activity of the household head is an important predictor of worries associated with the future consumption of primary goods, although the sign and significance of coefficients are not uniform across commodity types. Compared with households with privately employed heads, the unemployed-headed households are more likely to worry about hunger and being denied access to medical services, but not about the lack of housing. People from households headed by the retired worried more about being denied access to medical services, but not about the consumption of other goods. An interesting result emerges about the heads of households who owned a business or are self-employed. People from such households were equally likely to worry about all three primary commodities, compared to households where the head was privately employed. Recall that they reported higher ability to afford all types of primary commodities (except keeping the house warm). Finally, no difference is observed in the extent of worries between the households with privately and publicly employed heads.

Concerning the age of the household head, people from "younger" households appear to be more worried about the consumption of primary commodities. The association is most obvious in the lack of housing specification where, compared with the households with heads aged 45–54 (reference group), "younger" households are significantly more, and "older" households are significantly less, likely to worry about the lack of housing. A similar, albeit weaker, pattern is observed in the hunger specification: relatively "young" households (head aged 25–44) were more likely to worry about hunger. As for access to health services, only households with heads aged 35–44 expressed higher anxiety; the coefficients of other age groups are insignificant.

Income shows a highly significant negative association with worries about hunger and access to healthcare, as well as a negative correlation, significant at 5 percent, with the composite worry variable. However, the correlation between income and worries about the lack of housing is insignificant (and has an unexpected sign). As a robustness check, we ran the regressions excluding the respondents who reported zero income. While the income coefficient remained negative and highly significant in the hunger specification, it lost significance in the healthcare and composite worry specifications, and, surprisingly, became positive and significant at 5 percent in the lack-of-housing specification. A possible explanation for the latter result is that both zero-income and high-income people are particularly likely to worry about eviction. In particular, high-income people would generally be more likely to take out home mortgages; in the context of an ongoing crisis (the interviews were conducted in December 2009), living in a property for which mortgage payments are due every month could be an important source of anxiety. Therefore, removing zero-income observations would then make the correlation between income and worries more positive. Overall, while our findings suggested that higher income was associated with a higher ability to afford all primary commodities (backward-looking economic insecurity), we found rather limited evidence that higher income was associated with fewer worries about their future consumption (forward-looking economic insecurity).

Interesting insights are provided by the type of settlement. Compared with people living in small towns (reference group), village and especially big-city dwellers were more likely to worry about hunger. This contrasts with the previous result that village dwellers were less likely, and people from capitals more likely, to be able to afford food. Village and capital dwellers were more anxious about being denied access to healthcare services; these two groups also showed a lower ability to afford medication. People living in regional centers and capitals are significantly more likely to be worried about the lack of housing relative to small-city dwellers, while there is no difference between village dwellers and the reference group. On the whole, looking at the composite worry regression, people in regional centers and the capitals appear to be more worried about the consumption of primary commodities than small-town and village dwellers.

Next, we turn to ethnicity, remittances, and health. A respondent's ethnicity is an important determinant of worries about the future consumption of food and healthcare services: relative to the ethnic majority, the non-Russian ethnic minorities are more likely to be worried about hunger (coefficient significant at 1 percent), while the ethnic Russians are more likely to be worried about access to healthcare services (coefficient significant at 5 percent).

Receiving remittances, especially if they do not constitute a major source of household income, tends to be associated with higher anxiety about the future consumption of primary commodities: the coefficient is positive and significant at 1 percent in the hunger, lack-of-housing, and composite worry specifications, and positive but statistically insignificant in the healthcare specification. Respondents from households in which remittances were the main source of income reported more worries about the lack of housing; the coefficients in other specifications are not significant. Overall, the finding that remittance receivers reported bigger worries about consumption of necessities could be related to the unstable nature of remittance flows and, in particular, the negative effect that the recent recession might have had on them (see, e.g., O'Hara *et al.*, 2009). Recall that the survey used in this study was implemented at the end of 2009—a time when most migrant host countries were struggling with the adverse consequences of the global financial crisis.

Poor health is a strong predictor of anxiety about the consumption of all types of primary commodities. Combined with a previous finding that the less healthy are less able to afford most primary commodities, they emerge as a particularly disadvantaged group—both from the past consumption and worrying about future consumption points of view. Note, however, that the cross-sectional data in hand cannot guarantee to establish causal effects. It is possible that there are people who are generally more worried than average about issues such as their health and future consumption of necessities, and the health variable could then be capturing this personality effect.

Looking at country dummies, Ukraine and Moldova emerge as countries with the highest average level of worries, followed by Serbia, Tajikistan, Macedonia, and Kazakhstan. This finding could be explained by the extent to which the six countries suffered from the economic crisis. In 2009, Ukraine and Moldova experienced the largest GDP per capita fall (14 and 6 percent, respectively) in the sample; these countries also have the higher average level of

worries. At the other extreme, GDP per capita hardly changed in Macedonia and Kazakhstan (–1 percent in both) and actually increased by 2 percent in Tajikistan, and these countries display the lowest average levels of worries. Note, however, that the suggested relationship between the extent of the crisis and the average level of worries could be spurious. Other factors, such as the degree of social protection or the mentality of people, could underlie how much, on average, people worry about the future consumption of primary commodities in a particular country.

To summarize, the greatest worries about the future consumption of primary commodities were experienced by people with poor health, living in Ukraine and Moldova, big-city dwellers, those belonging to households with children under 18 and receiving moderate amounts of remittances, as well as households headed by females, the relatively young, those less educated and/or unemployed.

#### 4.3. *Does Past Experience Explain Worries About the Future?*

This sub-section tests the conjecture that economic insecurity experienced in the recent past affects worries about the consumption of primary commodities in the future. Four regressions were estimated, using worries about the three primary commodities (food, medication, housing) and the composite *worried* variable as regressands and the corresponding affordability variables as regressors. In addition, each regression includes the same set of socio-demographic controls and country-fixed effects as in Tables 2 and 3. The results, reported in Table 4, show that the backward-looking measures of economic insecurity are positively correlated with their forward-looking counterparts; all coefficients are strongly significant at the 0.1 percent level. This lends support to the conjecture that past experiences affect ability and the confidence to deal with future shocks (see, e.g., Bossert and D’Ambrosio, 2013). The results cannot, however, guarantee to capture causal effects, as the data used are a cross section and the omitted-variable bias may be present.<sup>7</sup> The use of longitudinal data, which would make it possible to isolate unobserved individual effects, is one way of dealing with this type of endogeneity and represents a direction of future research. Note that another potential source of endogeneity—a cognitive bias, which arises when two similar questions are asked in a row and the answer to the first question conditions the answer to the second one, is not likely to be an issue here: 16 questions separate the affordability and worries blocks in the questionnaire, including, for instance, a general question on the effects of ethnicity on life chances.

Notwithstanding the endogeneity issues, note that the levels of statistical significance and size of most socio-demographic controls remain largely unchanged when the backward-looking measures of economic insecurity are included as predictors of the forward-looking measures. Only income and education dummies display lower coefficients in absolute terms, and somewhat weaker

<sup>7</sup>While one could also argue that worries about future consumption affect past affordability of primary commodities, as well as other regressors (e.g., income), potentially resulting in simultaneity bias, we expect such reverse causalities to be weak.

TABLE 4  
LINKING BACKWARD AND FORWARD-LOOKING MEASURES OF ECONOMIC INSECURITY,  
ORDERED PROBIT COEFFICIENTS

	Dependent Variable: How Worried, on the Scale from 1 to 5 ("1" not worried at all and "5" very worried), Are You About:			
	Hunger	Denied Access to Healthcare	Lack of Housing	Worried: Composite Variable
In the past 12 months, how often could you afford (1, never; . . . , 4, often):				
Buying three meals per day	-0.141*** (-12.14)	-	-	-
Buying medication when necessary	-	-0.068*** (-5.57)	-	-
Keeping your home adequately warm	-	-	-0.200*** (-13.26)	-
Afford: composite variable	-	-	-	-0.090*** (-15.45)
Household head: female	0.080***	0.065***	0.032	0.061***
Household has children under 18	0.053**	0.031	0.042*	0.056**
Age of household head				
15-24	0.027	0.020	0.272***	0.101
25-34	0.057*	0.039	0.196***	0.113***
35-44	0.057**	0.056**	0.049*	0.051*
44-54	Ref.	Ref.	Ref.	Ref.
55-64	-0.002	-0.002	-0.061*	-0.025
65+	-0.001	-0.038	-0.173***	-0.078*
Education of household head				
Primary	0.082***	0.086***	0.017	0.057**
Secondary	Ref.	Ref.	Ref.	Ref.
Vocational	-0.056**	-0.047*	-0.037	-0.047*
Tertiary	-0.138***	-0.080***	-0.056*	-0.075***
Activity of household head				
Works in private sector	Ref.	Ref.	Ref.	Ref.
Works in public sector	-0.009	0.021	-0.002	0.010
Own business/self-employed	0.043	0.037	-0.036	0.029
Unemployed	0.127***	0.115***	-0.030	0.077**
Retired	-0.014	0.091**	-0.041	0.022
Other	0.077**	0.096***	0.006	0.086**
Equalized household income/10	-0.001***	-0.001***	0.000	-0.000
Type of settlement				
Village	0.046*	0.037	-0.020	0.001
Small town	Ref.	Ref.	Ref.	Ref.
Regional center	0.117***	0.029	0.125***	0.092***
Capital	0.277***	0.125***	0.289***	0.259***
Ethnicity				
Ethnic majority	Ref.	Ref.	Ref.	Ref.
Non-Russian ethnic minority	0.096***	-0.032	0.021	0.020
Ethnic Russian minority	-0.035	0.066**	-0.021	-0.002
Remittances major source of income	-0.016	0.017	0.135***	0.061
Remittances non-major source of inc.	0.121***	0.057	0.204***	0.153***
Poor health	0.156***	0.208***	0.082***	0.160***
Country				
Ukraine	Ref.	Ref.	Ref.	Ref.
Tajikistan	-0.307***	-0.373***	-0.102**	-0.336***
Serbia	-0.132***	-0.167***	-0.150***	-0.158***
FYR of Macedonia	-0.228***	-0.307***	-0.134***	-0.249***
Moldova	-0.012	-0.107***	-0.025	-0.061*
Kazakhstan	-0.406***	-0.351***	-0.242***	-0.371***
Number of observations	13,431	13,307	13,188	12,939
Chi <sup>2</sup>	1.052	1.017	649.9	1.047
Prob > Chi <sup>2</sup>	0.000	0.000	0.000	0.000
Pseudo R <sup>2</sup>	0.0255	0.0266	0.0177	0.0173

Notes: \*denotes statistical significance at 10%, \*\*at 5%, and \*\*\*at 1%. Robust standard errors used to calculate regressors' level of significance. *z* values are in parentheses.

levels of significance, which could be explained by their high correlation with the affordability variables (the affordability variables are now picking up some of the income and education effects).

## 5. CONCLUSION

This paper has studied individual and household-level determinants of economic insecurity in six post-socialist countries two decades after the fall of communism. As a proxy for economic insecurity, we have used individual perceptions of past and future consumption of primary commodities—food, clothing, medication, and heating/housing. Using data from a large UNDP/UNICEF survey, carried out in 2009, the study reveals the population groups subject to the highest levels of economic insecurity, and comments on possible linkages between backward- and forward-looking economic insecurity.

Our findings suggest that households headed by females and the unemployed, as well as people with poor self-assessed health, are among the most disadvantaged groups in terms of both the affordability of and worries about necessities consumption. To a large extent, this reflects the low capacity of the welfare state in transition economies and indicates areas where policy could be applied more vigorously. High levels of both types of insecurity are also observed among households where the head is less educated. This result is likely to reflect higher job insecurity, usually experienced by people with low levels of human capital (see, e.g., Linz and Semykina, 2008; Green, 2009; De Bustillo and de Pedraza, 2010). Similarly, rural residents appear among the most economically insecure, although the coefficients tend to be more pronounced in the affordability than in the worries specifications.

Ethnicity represents an interesting case. First, we notice that the patterns of economic insecurity of the ethnic Russian minority are not statistically different from those of the ethnic majority. This might suggest that ethnic Russians—the former Soviet migrants and their descendants—have been able to benefit from their social and political capital accumulated before transition. On the contrary, the non-Russian ethnic minorities emerge as a disadvantaged group relative to the ethnic majority, especially if we look at the affordability of primary commodities. This might be explained by labor-market discrimination, which leads to lower incomes and a lower ability to afford food and clothes, and social discrimination, which might limit the minorities' access to housing and medical services. Policy makers undoubtedly should make more of an effort to improve the situation of the disadvantaged minorities. However, despite their good intentions, certain policies—especially those involving unconditional transfers of money from the taxpayer to the disadvantaged minorities—could be met with skepticism and a lack of support from the general public. For instance, some people believe that social protection generates a culture of dependency and “free-riding,” whereby the minorities self-select into illegal employment while continuing to receive public benefits (UNDP, 2002, 2011). Others argue that, irrespective of whether they receive social protection or not, the minorities, such as Roma, would not actively search for employment or try to improve their living conditions (Milcher and Zigová, 2005).

Remittances emerge as an important and, in some sense, controversial determinant of economic insecurity. On the one hand, households for whom remittances represent the main source of income are more likely to report greater affordability of primary commodities in the recent past—by and large, an expected result. On the other hand, and somewhat unexpectedly, we find that remittance receivers are more likely to worry about the future consumption of primary commodities. This is particularly likely to be the case when remittances are received in modest amounts (are not the main source of income). This finding could be explained by the unstable nature of remittance flows—they are dependent on the macroeconomic conditions of remittance-sending countries. It also sends a message to the policy makers, who advocate remittances as a poverty-alleviating instrument, that remittances may contribute to an increase of insecurity among their receivers. Note, however, that the data used in this paper do not allow us to determine precise causal effects between remittances and economic insecurity.

Finally, our results suggest a strong association between the backward- and forward-looking measures of economic insecurity: other things equal, people reporting higher affordability of primary commodities in the recent past also appear to be less worried about their consumption in the future. Although the cross-sectional data in hand do not allow us to determine precise causal effects, this lends some initial empirical support to recent suggestions in the literature that, at the individual level, the presence of shocks in the past negatively affects confidence and the ability to deal with future shocks, implying an “adaptive expectations” mechanism behind the formation of forward-looking perceptions of economic insecurity (Bossert and D’Ambrosio, 2013).

This study raises a number of questions and suggests directions for future research. First, on a theoretical level, economic insecurity remains an elusive and ambiguous concept, subject to individual interpretations. If anything, the perspective on primary commodities taken in this paper has made the concept more rather than less elusive. This is rather unfortunate for policy makers, who would arguably prefer a (more) unified definition of economic insecurity. Second, the cross-sectional data used in this paper have not allowed us to establish the causal effects of time-variant variables, such as income, remittances, and health status, on economic insecurity, and the causal links between the two kinds of economic insecurity. Given the importance of causal effects for policy, the use of longitudinal datasets and/or appropriate instrumental variables would help mitigate the problems of endogeneity and represent an important direction of future research.

## REFERENCES

- Adams, R. and J. Page, “Do International Migration and Remittances and Migration Reduce Poverty in Developing Countries,” *World Development*, 33, 1645–69, 2005.
- Alkire, S. and J. Foster, “Counting and Multidimensional Poverty Measurement,” *Journal of Public Economics*, 95, 476–87, 2011.
- Alkire, S. and M. E. Santos, “Designing the Inequality-Adjusted Human Development Index,” UNDP HDRO Background Paper 2010/28, 2010.
- Anderson, C. and J. Pontusson, “Workers, Worries and Welfare States: Social Protection and Job Insecurity in 15 OECD Countries,” *European Journal of Political Research*, 46, 211–35, 2007.
- Bossert, W. and C. D’Ambrosio, “Measuring Economic Insecurity,” *International Economic Review*, forthcoming, 2013.

- Calero, C., A. S. Bedi, and R. Sparrow, "Remittances, Liquidity Constraints and Human Capital Investments in Ecuador," *World Development*, 37, 1143–54, 2009.
- Cheng, G. H. L. and D. K. S. Chan, "Who Suffers More from Job Insecurity? A Meta-Analytic Review," *Applied Psychology: An International Review*, 57, 272–303, 2008.
- De Bustillo, R. M. and P. De Pedraza, "Determinants of Job Insecurity in Five European Countries," *European Journal of Industrial Relations*, 16, 5–20, 2010.
- Dercon, S., "Vulnerability: A Micro Perspective," in F. Bourguignon, B. Pleskovic, and J. van der Gaag (eds), *Annual World Bank Conference on Development Economics (ABCDE)—Europe 2006*, World Bank, Washington DC, 2006.
- European Bank of Reconstruction and Development, "People in Transition. Transition Report 2007," European Bank of Reconstruction and Development, London, 2007.
- Green, F., "Subjective Employment Insecurity Around the World," *Cambridge Journal of Regions, Economy and Society*, 2, 343–63, 2009.
- Gundersen, C. and D. Ribar, "Food Insecurity and Insufficiency at Low Levels of Food Expenditures," *Review of Income and Wealth*, 57, 704–26, 2011.
- Guriev, S. and E. Zhuravskaya, "(Un)happiness in Transition," *Journal of Economic Perspectives*, 23, 143–68, 2009.
- Guy, W., "Roma: Living Conditions, Social Perception and State Policy in the Macro-Region of 'Eastern Europe' before and after 1989," *Südosteuropa Mitteilungen*, 02/2009, 54–65, 2009.
- Heleniak, T., "Migration of the Russian Diaspora after the Breakup of the Soviet Union," *Journal of International Affairs*, 57, 99–117, 2004.
- Institute for Comparative Social Research, "Russian Attitudes and Aspirations: The Results of Focus Groups in Nine Russian Cities," CESSI Report (<http://www.ebrd.com/downloads/research/surveys/asp.pdf>), 2007.
- Jha, R., N. Dang, and Y. Tashrifov, "Economic Vulnerability and Poverty in Tajikistan," *Economic Change and Restructuring*, 43, 95–11, 2010.
- Laitin, D., *Identity in Formation: The Russian-Speaking Populations in the Near Abroad*, Cornell University Press, New York, 1998.
- László, K., H. Pikhart, M. Kopp, M. Bobak, A. Pajak, S. Malyutina, G. Salavec, and M. Marmot, "Job Insecurity and Health: A Study of 16 European Countries," *Social Science & Medicine*, 70, 867–74, 2010.
- Linz, S. and A. Semykina, "How Do Workers Fare During Transition? Perceptions of Job Insecurity Among Russian Workers, 1995–2004," *Labour Economics*, 15, 442–58, 2008.
- , "Perceptions of Economic Insecurity: Evidence from Russia," *Economic Systems*, 34, 357–85, 2010.
- Lopez-Cordova, E. and A. Olmedo, "International Remittances and Development: Existing Evidence, Policies and Recommendations," Occasional Paper, Integration and Regional Programs Department, Inter-American Development Bank, 2006.
- Milcher, S. and K. Zígová, "The Impact of Social Policies on Self-Reliance Incentives for Roma in Central and Eastern Europe," *Ekonomika-Vilnius University Research Journal*, 69, 58–77, 2005.
- O'Hara, S., A. Ivlevs, and M. Gentile, "The Impact of Global Economic Crisis on Remittances in the Commonwealth of Independent States," *Eurasian Geography and Economics*, 50, 447–63, 2009.
- Osberg, L., "Economic Insecurity," SPRC Discussion Paper No. 88, Social Policy Research Centre, University of New South Wales, Sydney, Australia, 1998.
- , "Measuring Economic Insecurity and Vulnerability as Part of Economic Well-Being: Concepts and Context," Dalhousie University Department of Economics Working Paper No. 2010-04, 2010.
- Osberg, L. and A. Sharpe, "How Should We Measure the 'Economic' Aspects of Well-Being," *Review of Income and Wealth*, 51, 311–36, 2005.
- , "New Perspectives on the Economic Security Component of the Index of Economic Well-Being," Paper presented at the Canadian Economics Association 43rd Annual Conference, 2009.
- , "Measuring Economic Insecurity in Rich and Poor Nations," Paper presented at the IARIW-OECD Conference on Economic Insecurity, Paris, November, 2011.
- Parming, T., "Population Processes and the Nationality Issue in the Soviet Baltic," *Soviet Studies*, 32, 398–414, 1980.
- Quisumbing, A. and S. McNiven, "Moving Forward, Looking Back: The Impact of Migration and Remittances on Assets, Consumption, and Credit Constraints in the Rural Philippines," *Journal of Development Studies*, 46, 91–113, 2010.
- Ratha, D., "Leveraging Remittances for Development," Policy Brief, Migration Policy Institute, 2007.
- Ravallion, M., "On Multidimensional Indices of Poverty," *Journal of Economic Inequality*, 9, 235–48, 2011.

- Rocha, C., J. H. Crowell, and A. K. McCarter, "The Effects of Prolonged Job Insecurity on the Psychological Well Being of Workers," *Journal of Sociology and Social Welfare*, 33, 9–28, 2006.
- Sharma, K., "The Impact of Remittances on Economic Insecurity," DESA (United Nations Department of Economic and Social Affairs) Working Paper No. 78, 2009.
- Stark, O., "Reasons for Remitting," *World Economics*, 10, 147–58, 2009.
- Stark, O. and D. Bloom, "The New Economics of Labor Migration," *American Economic Review*, 75, 173–78, 1985.
- UNDP (United Nations Development Programme), *The Roma in Central and Eastern Europe: Avoiding the Dependency Trap*, Bratislava, Slovakia, 2002.
- , *Beyond Transition: Towards Inclusive Societies*, UNDP Regional Human Development Report, Bratislava, 2011.
- Witte, H. D., "Job Insecurity and Psychological Well Being: Review of the Literature and Exploration of Some Unresolved Issues," *European Journal of Work and Organizational Psychology*, 8, 155–77, 1999.
- World Bank, *World Development Indicators 2012*, World Bank, Washington DC, 2012.

### SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

**Appendix:** The Summary Statistics and Correlation Matrix of the Variables Included in Analysis