

UNITED NATIONS
ECONOMIC COMMISSION FOR EUROPE
CONFERENCE OF EUROPEAN STATISTICIANS

Seminar on poverty measurement
12-13 July 2016, Geneva, Switzerland

item 8: Poverty and inequality in the 2030 Agenda for Sustainable Development

Measuring income and non-income inequality in the Transition and Developing Economies of Europe and Central Asia¹

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Abstract: All of the countries of Eastern Europe, Turkey, and Central Asia whose development aspirations are supported by UNDP are now middle-income countries. In terms of UNDP's human development index (HDI), all have for years been classified as countries of "medium", "high", or (more recently) "very high" levels of human development. As such, the eradication of extreme poverty does not dominate policy agendas—even in the region's lower middle-income countries. Policy makers in the region are therefore increasingly focusing on inequalities, exclusion, and vulnerability, rather than on extreme income poverty.

As it is shown in the paper, the official data (from both national and international sources) on inequalities in income and especially wealth in the region leave much to be desired. In addition to spotty coverage within and internal inconsistencies across commonly referenced data sets, significant indications of downward bias in income inequality indicators are apparent.

Official data indicate that, since 2000, income inequalities have generally been low or falling, which has helped to reduce poverty and allowed the regions middle classes to stage a comeback following the "transition recessions" and conflicts of the 1990s. Relatively well developed pre-1990 social protection systems and high levels of gender equality have ensured that the benefits of economic growth have been fairly evenly spread. However, a closer look at the income inequality data suggest less optimistic conclusions and put these accomplishments at risk.

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¹ Authors: Ben Slay and Elena Danilova-Cross with international consultancy and technical support from Rafkat Hasanov. In national examples, the paper makes use of 3 country case studies on inequalities commissioned by UNDP to Moldova, Bosnia and Herzegovina and Turkey which will be published this fall together with the release of the UNDP Regional Human Development Report on Inequalities for the region of Europe and Central Asia. This paper does not necessary reflects the views of UNDP, the United Nations, or its member states.

Key messages (I)

- ***Following increases in income inequalities registered during the 1990s, significant reductions have been reported in much of the region.*** Official data point to either low or falling income inequalities in Belarus, Kazakhstan, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, and Ukraine.
- ***Low or falling income inequalities have helped economic growth reduce poverty***—particularly in this first group of countries. In some other countries, by contrast, high or rising levels of income inequality have slowed progress in poverty reduction. This underscores how—in addition to being desirable in and of themselves—low or falling inequalities are central to prospects for poverty reduction, inclusive growth, and sustainable development in the region.
- ***The numbers of people in the region living in poverty fell from at least 46 million in 2001 to about 5 million in 2013.*** The numbers of people living in extreme poverty dropped below 1 million during this time. Likewise, the numbers of people vulnerable to poverty dropped from about 115 million in 2003 to some 70 million in 2013. By contrast, the size of the middle class grew from about 33 million in 2001 to 90 million in 2013. The numbers of relatively “wealthy” individuals (living on more than PPP\$50/day) had risen to some 32 million in 2013—most of whom were living in Turkey and Kazakhstan.
- ***The region’s middle classes have made a comeback*** since the turn of the millennium, following both absolute and relative declines during the 1990s. In much of the region, middle classes have grown as the shares of national income claimed by wealthy households have declined. As of 2013, at least 80 million people in the region had achieved living standards that are broadly consistent with the bounds of the “global middle class”.
- ***Data and indicator problems with measuring inequalities in the region are significant***, due primarily to apparent downward biases in measurements of income inequalities—particularly in terms of undercounting the income shares accruing to the wealthiest households. Moreover, the Gini coefficient—the indicator most commonly used to measure inequalities in the region—is not on the list of proposed indicators to monitor the implementation of the Sustainable Development Goals (SDGs). Prospects for generating and analysing data to monitor the progress of those income inequality-related SDG indicators that are likely to be officially approved could be problematic.
- ***Progress in reducing income inequalities is now being put to the test*** in much of the region. The combination of low commodity prices, falling remittances, and slow or negative growth on key European and Russian export markets is putting pressures on vulnerable household incomes that have not been seen since the turn of the millennium. This poses new challenges as the implementation of the global sustainable development agenda 2030 begins in the region.

Income inequality (II)

Assessments of income inequality data in the region face three key problems. The first is the ***frequent use of inconsistent data sets***. At the national level, reported levels of income inequalities differ according to whether the underlying data pertain to gross or disposable household income, whether estimates of in-kind goods and services (especially foodstuffs) produced for intra-household consumption are included in household income, or whether consumption expenditures are used as a proxy for incomes received. In addition, some Southeast European countries are moving away from the collection and analysis of standard household budget survey data in favour of the European Union’s Statistics on Income and Living Conditions (EU-SILC) methodology. While international databases like POVCALNET and SWIID should in theory replicate/be repositories for national income-inequality data, the figures they contain are sometimes difficult to reconcile with what are reported by national sources.

The absence of publicly available data for some countries are a second major problem in assessing inequalities in the region. The national statistical authorities in Albania, Azerbaijan, Bosnia and Herzegovina, Tajikistan, Turkmenistan, and Uzbekistan either do not collect the relevant income distribution data, or do not release it publicly (in detailed, time series form).²

A third, emerging problem is that **income distribution is most commonly monitored via measures that are not included in the prospective list of SDG indicators**. Gini coefficients are among the common income-distribution measures but are not included in the list of indicators that have been proposed by the UN Statistical Commission's Inter-Agency and Expert Group on the SDG Indicators, for ratification by the General Assembly. Included instead in these indicators (e.g., for SDG10) are "growth rates of household expenditure or income per capita among the bottom 40% of the population and the total population"; "proportion of people living below 50% of median income, by age, sex and persons with disabilities"; and "labour share of GDP, comprising wages and social protection transfers".

In light of this, two measurements of income inequalities in the region are presented below, in time-series form: Gini coefficients for income distribution (rather than the distribution of consumption expenditures), obtained from national statistical offices (Table 1); and trends in the incomes received by the poorest 40%, relative to national income trends overall (Table 2).

Table 1—Gini coefficients for income inequality

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Albania**													
Armenia	45	43	40	36	37	37	34	36	36	37	37	37	37
Azerbaijan**													
Belarus					26	27	27	27	27	28	29	28	28
Georgia					45	46	45	46	46	46	43	42	41
Kazakhstan	33	32	31	30	31	31	29	27	28	29	28	28	28
Kosovo				30				30	29	28			
Kyrgyz Rep.	42	41	42	43	45	42	36	37	37	38	42	46	43
fYRoM									41	39	39	37	35
Moldova					37	37	37	37	35	34	34	33	32
Montenegro				26	24	26	25	26	24	26	27	26	
Serbia					33	32	30	30	33		38	39	38
Tajikistan**													
Turkey	44	42	40	38	43	41	41	42	40	40	40	40	39
Turkmenistan*				29	30	29	28	28	29	28	29	29	29
Ukraine			32	33	33	27	26	26	25	24	23	24	23

Source: National statistical office websites

*provided by state statistical agencies upon request.

**calculations are underway based on provided data on income distribution

Gini coefficients. Although it seems unlikely to become an official SDG indicator, the Gini coefficient remains the most commonly used and most widely available indicator of income inequality in the region, as reported by national statistical offices. As the figures in Table 1 show, time series Gini coefficient data are publicly available for 12 economies and for 2 – upon request. They suggest that the region can be divided into groupings of countries:

- That show generally low (by international standards) levels of income inequality—Belarus, Kazakhstan, Kosovo, Montenegro, Turkmenistan and Ukraine;

² Efforts to obtain these data for this report were not fully successful. A partial data sets on income inequalities in Albania, Azerbaijan and Turkmenistan were obtained upon request.

- That show high (or higher) but falling levels of income inequality—Georgia, the former Yugoslav Republic of Macedonia, Moldova, and possibly Turkey³;
- That show high (and not falling) or rising levels of income inequality—Armenia, the Kyrgyz Republic, Serbia, and possibly Turkey⁴; as well as
- For which the data are either unavailable or inconclusive.

Longer-term time series data showing Gini coefficients for the distribution of consumption expenditures (as proxies for income) are available in the World Bank's POVCALNET data base. These series, which in some cases stretch back to the 1980s (i.e., to the pre-transition period), generally show increases (sometimes large ones) in very low (by international standards) pre-transition inequality levels during the 1990s⁵. These have generally been followed by declining income inequality levels during the new millennium.

Table 2—Trends in the shares of national income received by the four poorest quintiles

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Armenia	100	107	95	101	113	112	112	110	111	111	107	111	107
Azerbaijan				100	93	98	99	97	97	101	104	101	102
Belarus				100	98	96	97	98	97	96	96	97	97
Georgia*	100	99	99	100	98	96	95	95	91	92	94	98	
Kazakhstan						100	105	110	107	104		108	107
Kyrgyz Rep.	100	104	103	96	100	99	122	116	116	112	100	87	103
FYRoM									100	90	91	97	
Moldova					100	102	101	99	105	109	112	111	115
Turkmenistan				100	101	104	105	100	101	101	104	107	108
Turkey					100	107	106	104	109	108	108	107	108
Ukraine*	100	103	99	99	101	105	105	107	109	107	109	110	110

Note: The indicator shown above takes this share as 100 in 2002 (or the first year for which these data are available, if later). Growth above 100 means that the share of national income received by the four poorest quintiles has increased; a decline means that this share has declined.

** Consumption expenditures are used as proxies for income.*

Source: National statistical office websites.

“Bottom 40s”. In contrast to the Gini coefficient, the ratio of growth rates of household income per capita among the least wealthy four deciles/two quintiles/“bottom 40%” of the population, relative to the total population, is included in the list of prospective SDG10 indicators. Trends in this ratio, which are shown in Table 2, highlight the importance of global financial crisis (2008)—particularly for Armenia, Kazakhstan, and the Kyrgyz Republic. Whereas the shares of income received by the “bottom 40” rose in the years prior to 2008 in these countries, they declined afterwards. On the other hand, for Moldova, Turkey, Turkmenistan and Ukraine, increases in this share are apparent for the past decade overall, as well as for the post-2009 period in particular. (Cumulative growth in this share is apparent for Turkey as well.) By contrast, for Belarus, the “bottom 40” share has remained roughly constant since 2006. For the former Yugoslav Republic of Macedonia, the data show a sharp decline in this share after 2010, followed by a partial recovery. A somewhat similar pattern is apparent for Georgia, where a large decline in the share of national income received by the poorest four deciles during 2005-2010 was followed by a partial recovery thereafter.

In general, however, eight of the eleven countries for which data are available report growth in the share of total incomes received by households in the poorest four deciles, for the relevant reference years

³ The Gini in Turkey is rather stable in last decade. The country claims Gini being reduced using HH-equalized income.

⁴ Ditto as above

⁵ Slay et al, “Poverty, Inequality and Vulnerability in the Transition and Developing Economies of Europe and Central Asia”, 2014

(Table 2). Since these countries also reported economic growth during this time, these favourable “bottom 40” trends indicate that these countries’ growth was inclusive, as well as helping to reduce poverty (Figures 1, 2). Moreover, of the countries which reported declines in the share of total incomes received by households in the poorest four deciles during the reference period (Table 2), Belarus’s already low levels of income inequality (as seen in its low Gini coefficient—Table 1) would seem to have limited the potential increases in poverty that could have resulted. By contrast, Georgia’s relative high levels of income inequality combined with the reported declines in the share of national income accruing to the poorest four deciles prevented significant reductions in Georgia’s relatively high poverty rates during 2002–2012—despite the high economic growth rates reported during this time.

Figure 1—Poverty rates (2002–2012)

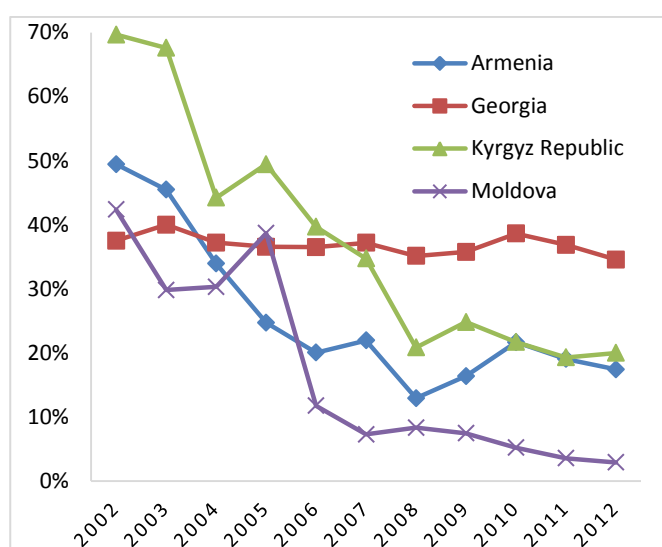
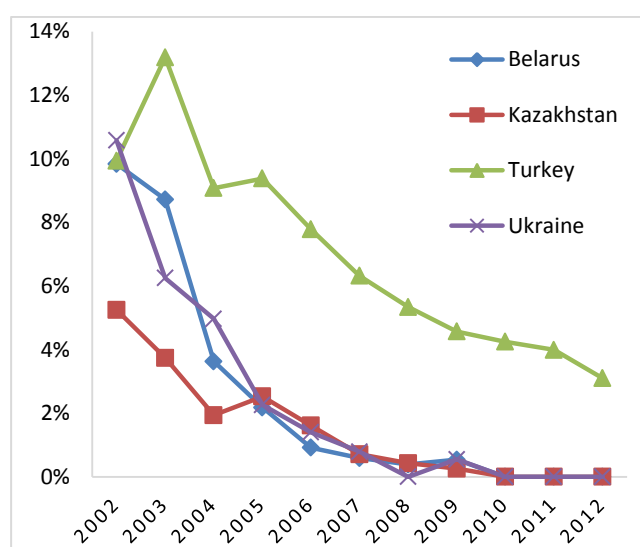


Figure 2—Poverty rates (2002–2012)



Note: The poverty rates are derived using an international poverty threshold of \$3.10/day—in purchasing-power-parity (PPP) terms, based on the International Comparison Programme’s 2011 PPP exchange rates.

Source: World Bank POVCALNET database.

It should be mentioned, however, that as a measure of inequality, the “bottom 40” indicator seems quite inferior to the Gini coefficient. The former is rather a measure of the degree to which the incomes of less wealthy households have undergone compression vis-à-vis, or diverge from, national averages. As such, it tells us nothing about trends in the share of income accruing to well-to-do households. As is explained below, there is evidence suggesting that this is where the data gaps in the region are largest.

The two other above-mentioned SDG10 indicators—“the proportion of people living below 50% of median income, by age, sex and persons with disabilities”; and “the labour share of GDP, comprising wages and social protection transfers”—also seem problematic in the regional context. The former indicator is not reported by most of the region’s statistical offices, and while the nationwide median income can be estimated from the quintile/decile data that are reported, the absence of such data that are disaggregated “by age, sex and . . . disabilities” would seem to defeat the purpose of such estimates.

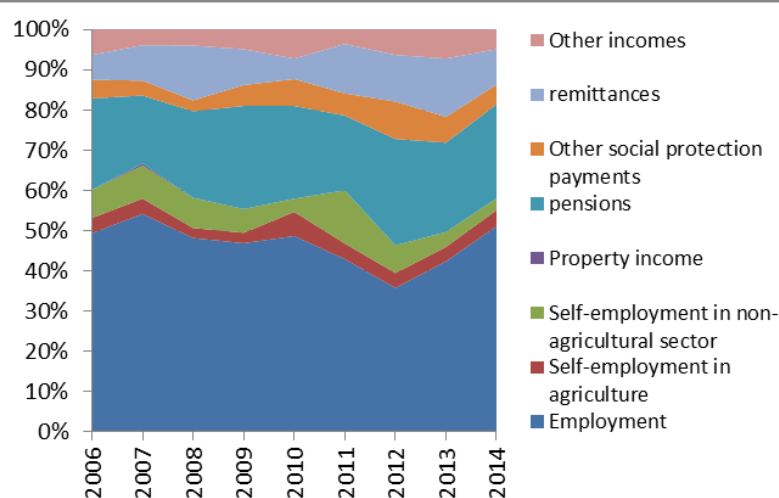
By contrast, shares of income generated from various sources are reported by many statistical offices in the region. However, the links between labour (versus capital) incomes on the one hand and income inequalities on the other are distorted by two factors. The first are the relatively large wage gaps between those with “decent” formal sector employment on the one hand and those labouring in the informal sector—many of whom are engaged in precarious or vulnerable employment (as is explained below). The second distortion lies in the fact that, in countries such as Azerbaijan, Belarus, Turkmenistan, and Uzbekistan, significant shares of the national wealth, including especially natural resources and large enterprises and financial institutions, remain under state ownership. The capital incomes generated by these

assets therefore accrue to states, rather than to private individuals. The states in turn then redistribute these incomes to less wealthy households via social protection and state-provided (or subsidized) social services. In such circumstances, high incomes accruing to the owners of capital (i.e., the state) can help to reduce inequalities, rather than increase them.

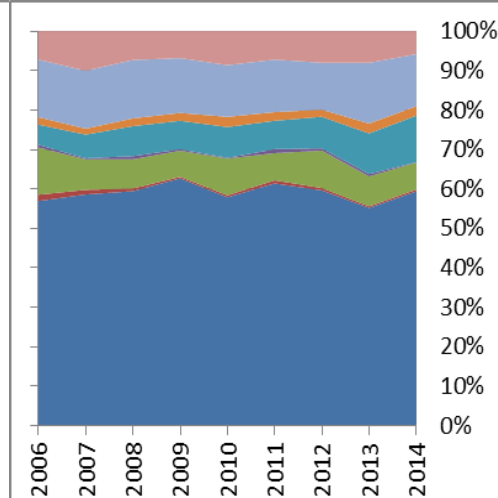
Box 1 - Evolution of Moldova's disposable income in urban areas (2006-2014)

The evolution of the disposable income structure by quintiles in urban area reveals differences in patterns in Moldova. Among the well-off ones, the major contributions to incomes would be the salaries with about 60%, remittances-based incomes – about 15%, and pensions-based incomes – about 10%. The income structure in the quintile with the lowest incomes (the first quintile) registers a salary share of 50%. It may be noted, that a rather big share of the poor's incomes derives from the social benefits, mainly from pensions, which account for almost 20% of the average disposable incomes, meaning that pensioners represent an important share of the persons from the first quintile in cities.

Quintile 1 (bottom 20%)



Quintile 5 (top 20%)

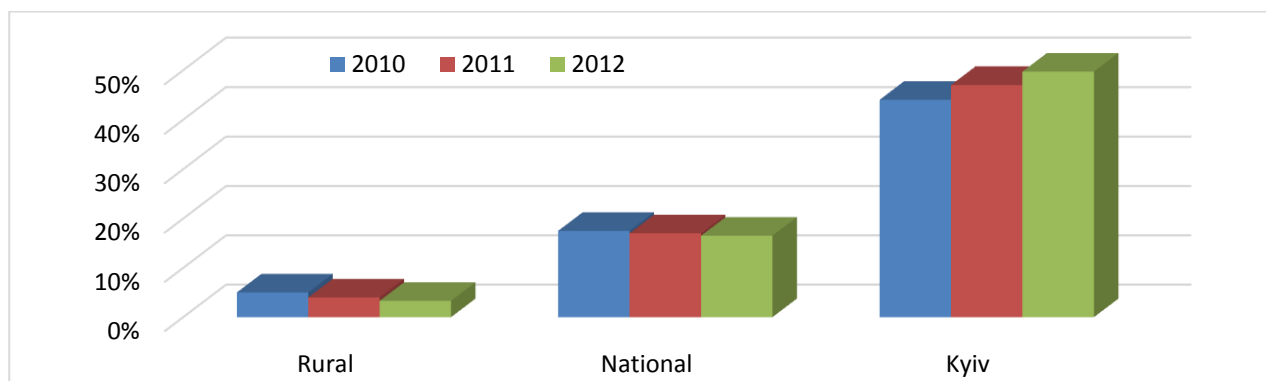


Source: National country case study on inequalities (unpublished)

Relatively favourable assessments of income inequality trends in the region hinge on assumptions about the accuracy of the official data that underpin them. A close examination of these data strongly suggests that they are biased downward—perhaps significantly. There are two reasons for this.

The first is apparent in the decile data on the distribution of consumption expenditures (which often serve as a proxy for household income)—which imply that virtually no one in the region earns (or at least spends) more than \$100/day in purchasing-power-parity terms. Since per-capita GDPs in the region when valued in PPP terms are typically 2-3 times larger than per-capita GDPs expressed in market exchange rates, these data imply that virtually no one in the region earns (spends) more than \$50/day, in nominal dollar terms. Such an implication is difficult to square with the casual familiarity with the household consumption behaviour that is apparent in the shopping malls that now dominate much of region's urban retail trade infrastructure.

Figure 3—Household living standards survey non-response rates in Ukraine (2010-2012)



Source: Professor Volodymyr Sarioglu, *Ukrainian Academy of Sciences* (2016).

Second, a recent study conducted by researchers at Ukraine’s Academy of Sciences found a systematic downward bias in the income distribution data generated by household surveys. Non-response rates for household living conditions surveys during 2010-2012 in Kyiv—Ukraine’s richest region—were double the national average, and many times greater than the non-response rates reported for Ukraine’s (often much poorer) rural regions. In Ukraine, less well-to-do people in the countryside are much more likely to provide the statistical authorities with information on their living conditions than are their wealthier city cousins. The researchers at the Academy of Sciences found that correcting this bias would raise Ukraine’s Gini coefficient for income equality by four points (from 23 to 27).

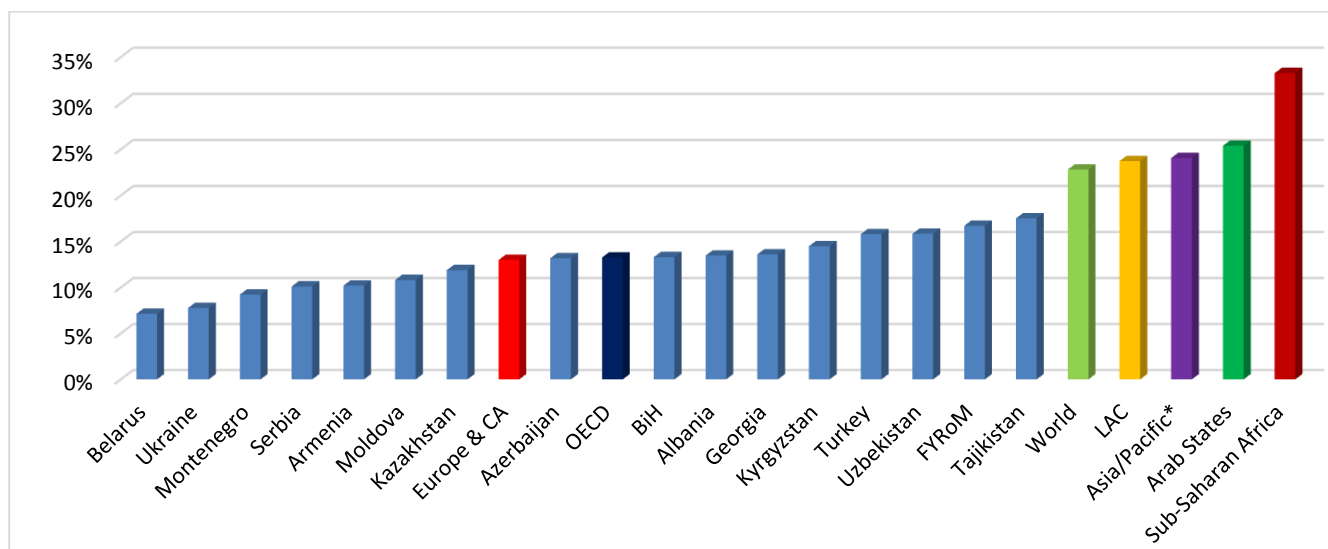
While official estimates of income distribution are well known to contain downward biases,⁶ these factors suggest that these biases in the transition economies of Europe and Central Asia could be significantly larger than in other regions. This increases the importance of other, subjective measures and assessments of inequality (which are explored below).

Non-income inequality measures (III)

Income poverty rates are incomplete measures of the extent to which people are deprived of the goods, services, capabilities, and opportunities they need to live long, healthy, fulfilling lives. Much of the rest of this report is devoted to examining other measures of non-income inequalities and exclusion—particularly as concerns labour market, gender, health, and other drivers of vulnerability. Composite indicators—such as UNDP’s human development index (HDI), the multidimensional poverty index (MPI) developed by the Oxford Policy and Human Development Institute, or the indicators used in UNICEF’s multi-cluster surveys—can provide fuller measures of development progress. In terms of disparities vis-à-vis national averages, the inequality-adjusted HDI can offer insights, as it reflects losses to each of the HDI’s three components (measures of per-capita GNI, education attainment, and life expectancy) due to inequalities. As is shown in Figure 4, the countries of Europe, Turkey, and Central Asia perform quite well compared to other regions—and even relative to OECD countries in this respect.

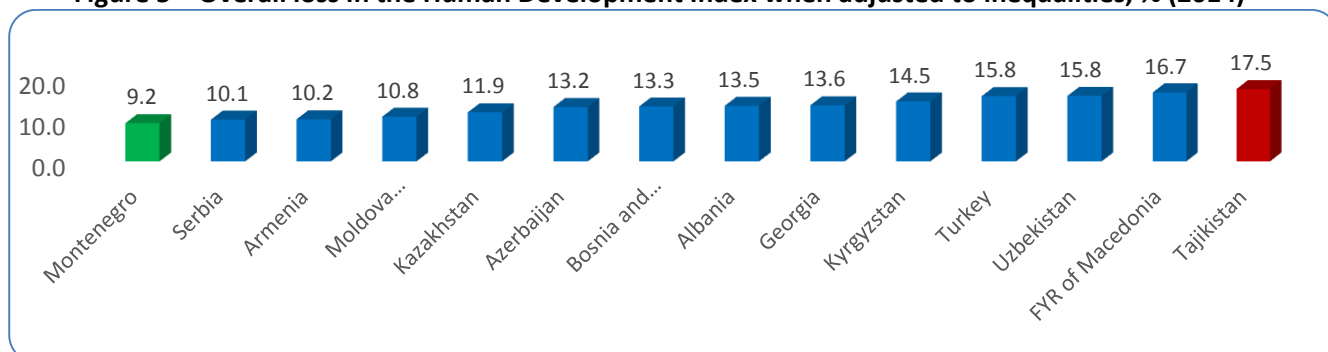
Figure 4—The Inequality-adjusted Human Development Index (2014)

⁶ The World Bank’s POVCALNET poverty and inequality database website notes that “estimates of the densities [of income data points] near the bottom and top tails of the distribution could be quite unreliable”.



Source: UNDP Human Development Report, 2015.

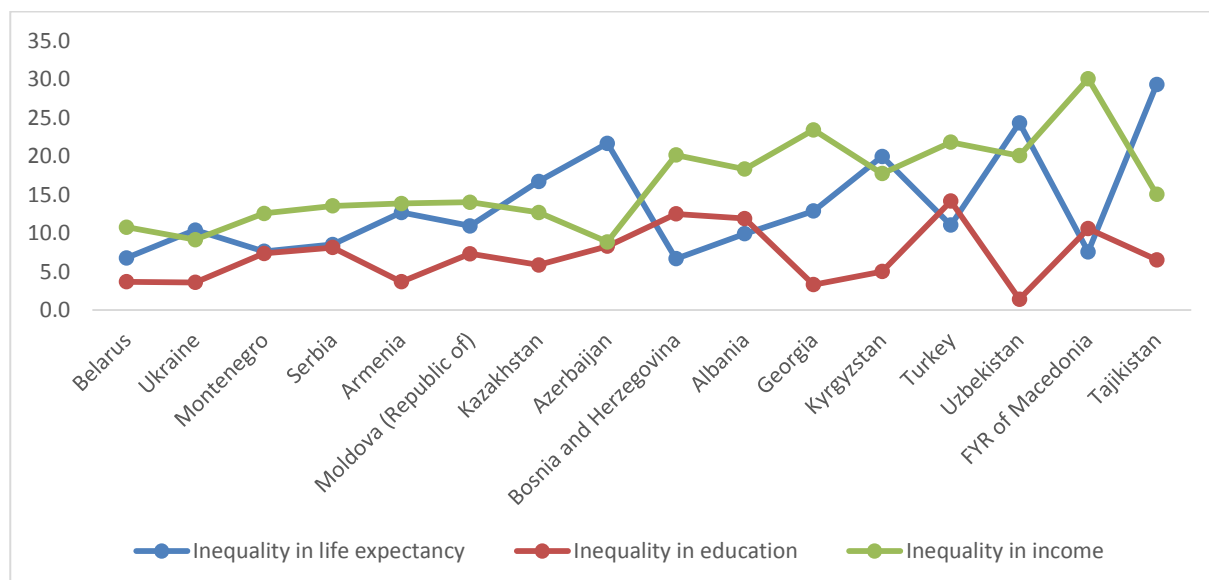
Figure 5 – Overall loss in the Human Development Index when adjusted to inequalities, % (2014)



Source: UNDP Human Development Report, 2015.

When HDI is penalized for inequalities, the least overall losses are enjoyed in Montenegro - just slightly above 9% - but grow twofold in Tajikistan (at 17,5%). The closer look at the 3 components of losses (in life expectancy, education and health) suggests that major inequalities in 2014 were concentrated in income and are true for the most of countries of the region except Ukraine, Kazakhstan, Azerbaijan, Kyrgyzstan, Uzbekistan and Tajikistan, while inequality in education are of a least concern in the region apart from Western Balkans and Turkey. The health inequalities (measured in life expectancy at birth), are pronounced in Kazakhstan, Azerbaijan, Kyrgyzstan, Uzbekistan and Tajikistan.

Figure 6 – Losses in the inequality-adjusted Human Development Index by components, %

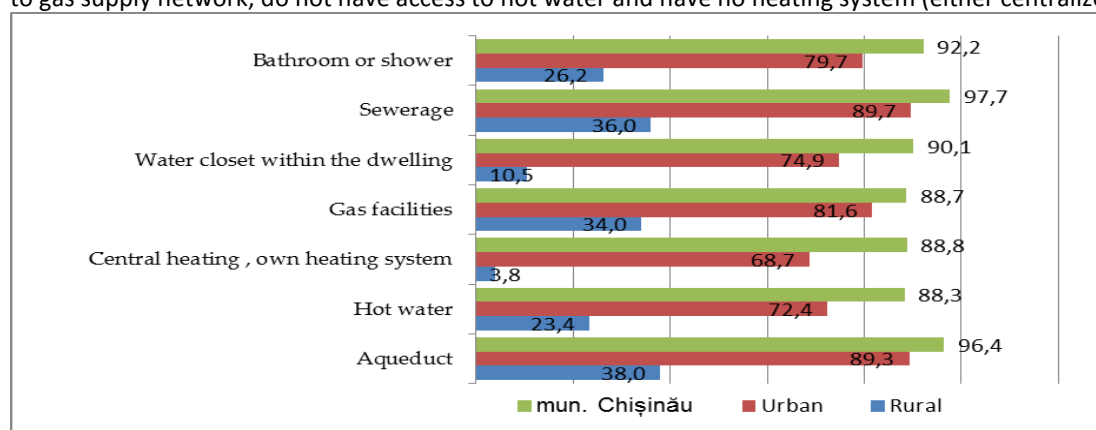


Source: UNDP Human Development Report, 2015.

It is unquestionable, that losses in HDI due to inequalities may not demonstrate the full spectrum of multifaceted unjust distribution of and access to resources, services, etc. These come in different forms and manifestations, be them due to geographic location or personal characteristics (age, social group, (dis)ability, etc) and are explored in subsequent chapters of the Report. Below collection of country examples from national inequality case studies are to reflect on just few of them.

Box 2 - Unequal access to utilities by areas of residence in Moldova

The worst level of utility provision in dwellings continues to be registered in the rural area, and the availability of such utilities varies between 3.8% and 38% of the total number of dwellings. The urban area is assured with utilities in a share of 70%-80%. But the capital city with all its more advanced financial capacities, access to resources, and availability of infrastructure networks does not ensure fully the availability of utilities and qualitative housing conditions for the entire population. There is still a number of dwellings which are not equipped with different facilities, respectively almost 10% do not have bathrooms or showers, WCs in the house, over 10% are not connected to gas supply network, do not have access to hot water and have no heating system (either centralized or individual).



Source: National country case study on inequalities (unpublished)

Box 3 - Spatial development inequalities in Bosnia and Herzegovina

The national inequality paper aimed at identifying how uneven development is in Bosnia and Herzegovina and how different quality of life is in different parts of the country. Development Inequalities Index is an innovative method used in the analysis which is a composite index of three sub-indices, and 15 socio-economic indicators. Spatial development inequalities in Bosnia and Herzegovina are extensive and whether they have increased or decreased actually depends at which spatial tier inequalities have been analyzed. In the observed 8-year period (2007-2014) at the Entities/Brcko District level inequalities increased by 4.8%. At the following spatial geographic tier, looking at 17

geographic areas in Bosnia and Herzegovina, inequalities decreased by 8.1%. Largest inequalities are evident in terms of access to services, followed by economic wellbeing and social wellbeing.

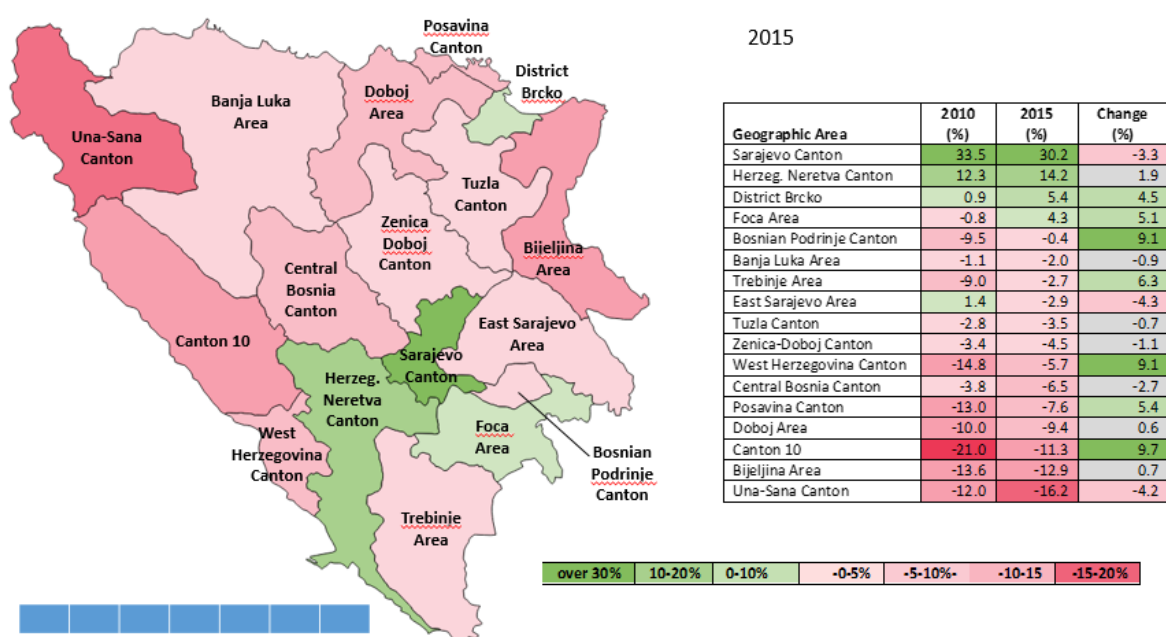
Inequalities Pyramid – Bosnia and Herzegovina (2015)



First key message of this paper is that **inequalities are hidden in averages** – if we do not know where inequalities are, how large they are and whether they are on increase or decrease it will not be possible to address them in any meaningful way.

Second key message is that **spatial development inequalities are extensive in Bosnia and Herzegovina** with three dimensions of the overall index forming a picture of inequality pyramid.

Third key message is that **inequalities are both on the increase and on the decrease, depending on where you look**, as will be further elaborated in this paper.



Source: BiH national case study on inequalities (un-published)

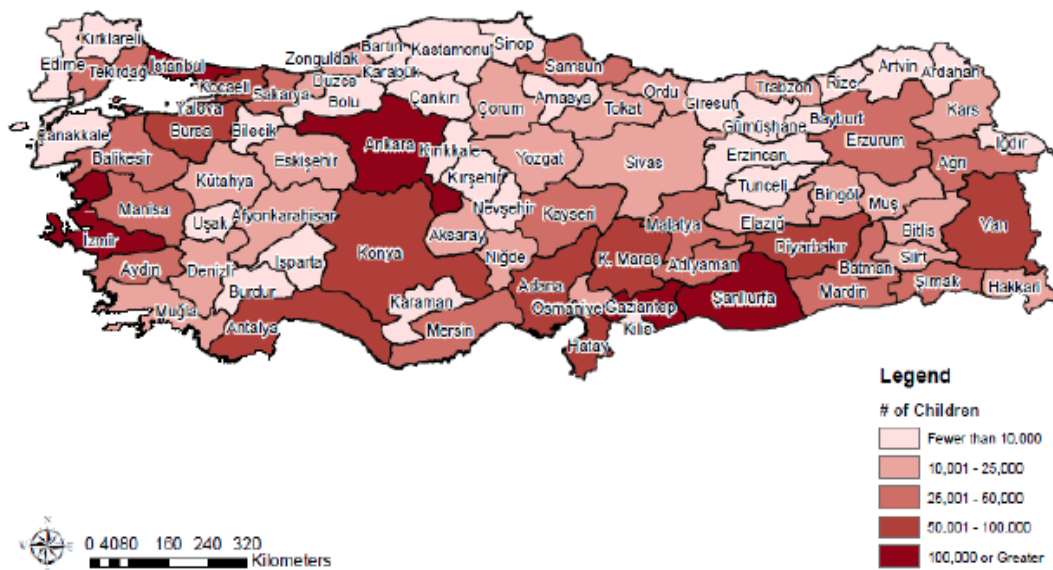
Box 4 - Where you live matters in accessing childcare and early education in Turkey

Turkey has the lowest pre-school education enrolment among the OECD countries. For the age group 3-5 years, enrolment rates is 30.6% as of 2012⁷. Transition to the “4+4+4” system has disrupted the improvements in pre-school education as Ministry of Education has diminished its target for pre-school enrolment.

⁷ <http://stats.oecd.org/Index.aspx?DataSetCode=FAMILY>
Turkey is the only country without data for 0-3 age care access.

Below visualization demonstrates the unmet early childhood education and child care needs and underline the need for more service providers in early childhood education and child care in the cities including but not limited to Istanbul, Ankara, İzmir, Konya, Şanlıurfa, Gaziantep and Van.

Total number of children ages 3-5 not enrolled in centre-based care, by province, 2015



Source: World Bank, Supply and Demand for Child Care Services in Turkey, 2015, 14.

Source: National case study on inequalities (unpublished)

Middle classes in the region (IV)

Many studies of inequalities naturally focus on the “most unequal”—the richest and the poorest, how many of them there are, what makes them this way, and how different they are from the rest of us. But analyses of the “tails” of the income distribution are implicitly also concerned with the “middle” of the distribution, since a smaller middle makes for bigger tails (and vice versa). Studies of inequalities can therefore also be studies of the middle class—particularly since concerns about greater inequalities are often accompanied by concerns about middle classes.

Such issues are particularly relevant among the developing and transition economies of Europe, Turkey, and Central Asia. Prior to the 1990s virtually all of the region’s transition economies had “socialist” middle classes, consisting of well-educated blue- and white-collar workers, engineers, and other members of the technical, creative, and administrative intelligentsia. While not necessarily commanding incomes or possessing wealth that corresponded to middle-class societies in OECD countries, these middle classes were forces of stability, and progress prior to the advent of transition. They certainly thought of themselves as possessing middle-class status.

Moreover, since the 1990s, many of these countries—as well as Turkey—have experienced significant increases in per-capita income. Their relatively low income inequality levels imply that millions of people in the region’s upper middle-income countries (Albania, Azerbaijan, Belarus, BiH, Kazakhstan, Kosovo, FYRoM, Montenegro, Serbia, Turkey, and Turkmenistan) could today be considered members of the “global middle class”—possibly with aspirations and world views to match.

How large are the region’s middle classes? How are they best defined and measured? Three approaches to answering these questions may be identified:

- **Material well-being**, as reflected in such criteria as per-capita income and wealth/property ownership (e.g., car(s), housing) and the corresponding ability to access certain services (e.g., education, health, travel);
- **Subjective perceptions**, concerning such issues as education, family background, and the associated social implications—based on individual self-identification; and
- **“Neither rich nor poor”**. To be a useful category of social analysis, the middle class (those in the middle of the socio-economic distribution) must be qualitatively and quantitatively different from those in the tails.

Many different approaches to defining and measuring the middle class can be found in the literature (for a subset of these, see Box 1). A key question that must be faced is whether the middle class is to be defined in terms of absolute criteria (e.g., “members of the middle class earn between ‘X’ and ‘Y’ per day/month/year”); or relative criteria (e.g., “if the rich are the top 10% and the poor are the bottom 20%, then the middle class is the middle 70%”).

Box 5—Examples of methodologies for defining and measuring the middle class

- *ILO: Members of the middle class have average daily per capita incomes in the PPP\$4-13 range in developing countries, and above PPP\$13/day in developed countries.*
- *African Development Bank: Members of the middle class have average daily per capita incomes in the PPP\$10-20 range.*
- *OECD: Members of the middle class have average daily per capita incomes in the PPP\$10-100 range.*
- *Atkinson/Brandolini: Members of the middle class have average daily per capita incomes in the range of 75-125% of the median income.*

In this paper, we present the results of the application of two such approaches, both of which embody two key elements: (i) they are based on quantitative indicators that are methodologically compatible with the income equality data presented above; and (ii) they reflect both the “material well-being” and “neither rich, nor poor” logic described above. These are:

- A relative approach, which defines the:
 - Bottom two deciles of national household income distribution data as “lower-income” (i.e., relatively poorer than the middle class);
 - Middle six income deciles as “middle class”; and
 - Top two income deciles as “upper-income” (i.e., relatively richer than the middle class); and
- An absolute approach, which defines the:
 - Poor as those living below the World Bank’s new global poverty threshold of PPP\$3.10/day (with the extreme poor living below the PPP\$1.90/day threshold);
 - Vulnerable as those living below the PPP\$10/day threshold, but on more than PPP\$3.10/day;
 - Middle class as those living below the PPP\$50/day, but on more than PPP\$10/day; and
 - Upper class as those living on more than PPP\$50/day.

Results of the “relative” approach. Trends in the evolution of the middle classes in Europe, Turkey, and Central Asia generally show similar pattern: their share of the national income fell in the 1900s (during transition recessions) and then recovered after the new millennium. In most of these countries, the middle classes’ shares of national income are now at, or above, pre-transition levels.

Virtually all of the variation in middle classes' shares of national income can be explained by offsetting changes in upper-income classes' shares of national income. The shares of national income received by the bottom two deciles have remained surprisingly constant over time (at around 8-10% of national income) in most of the region.

In all but two countries in the region (Georgia and Turkey), the middle classes' shares of national income have generally been significantly larger than the upper-income classes' share. In Georgia and Turkey, by contrast these two shares are roughly constant (at 45-50%). The shares of national income received by the bottom two deciles in these countries have been the smallest in the region (fluctuating around 5%). Economies with the largest middle classes (e.g., Belarus, Kazakhstan, Kosovo, Ukraine) also tend to have the largest shares of national income received by the bottom two deciles, and the smallest shares of national income received by the richest 20%.

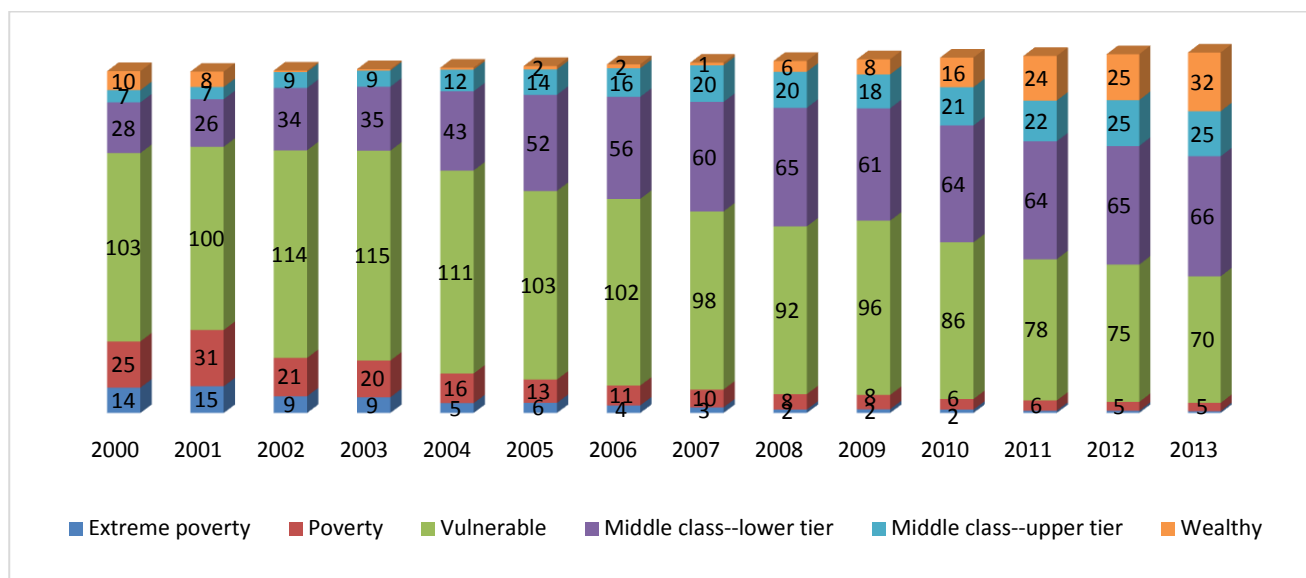
The results of the Ukrainian Academy of Sciences research suggest that the shares of income ascribed to the wealthiest deciles may well be under-counted. Still, on the whole these data do not describe a region whose middle classes have been decimated by transition or development. They instead broadly suggest a return to pre-transition income shares. In light of the region's generally low Gini coefficients, this conclusion should not come as a surprise. Still, it stands in contrast with many of the narratives. It may be that the truly relevant changes are occurring within the deciles (especially the bottom two) rather than across them—or that quantitative data are unable to accurately capture the truly wrenching social changes that these countries have experienced in the past 25 years. Nonetheless, these results provide food for thought.

Results of the “absolute approach”. Compared to the above analysis, this approach has a number of advantages. These include *inter alia*: (i) explicit links to global poverty thresholds—thereby linking absolute and relative poverty (i.e., inequality) measures; (ii) an extension of the previous approach's three-tiered social stratification, to include also those vulnerable to poverty (i.e., living above the poverty line but not necessarily in the middle class)—and also (if we so chose) those living in extreme poverty (i.e., below the World Bank's new PPP\$1.90/day threshold), as well as different tiers within the middle class (i.e., those living between PPP\$10/day and PPP\$20/day, versus those living between PPP\$20/day and PPP\$50/day); and (iii) answers to such questions as “how many people in country X have incomes above PPP\$20/day?”

This analysis suggests that, during 2000-2013, the numbers of people in the region living in poverty fell from 46 million in 2001 to about 5 million in 2013 (Figure 7).⁸ (The numbers of people living in extreme poverty, as per the World Bank's PPP\$1.90/day criterion, dropped below 1 million.) Likewise, the numbers of people vulnerable to poverty (i.e., in the PPP\$3.10/day – PPP\$10/day range) dropped from about 115 million in 2003 to some 70 million in 2013. By contrast, the size of the middle class grew from about 33 million in 2001 to 90 million in 2013. Interesting, after nearly disappearing 2002-2004, the numbers of “wealthy” individuals (living on more than PPP\$50/day) had risen to some 32 million in 2013—most of whom were in Turkey and Kazakhstan. Adding the 25 million individuals estimated to be living on between PPP\$20/day and PPP\$50/day to this figure suggests that some 60 million people in the region have achieved living standards that are broadly consistent with the bounds of the “global middle class”.

Figure 7—Changes in absolute numbers of middle, other classes in the region (2000-2013)

⁸ These data do not include Turkmenistan and Uzbekistan.



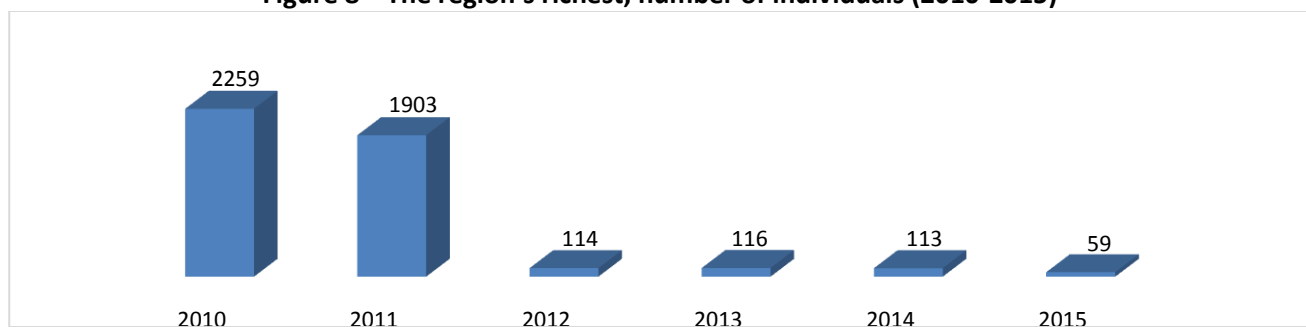
UNDP calculations, based on POVCALNET data. Figures are in millions. Turkmenistan and Uzbekistan are not included.

Consideration of these trends in terms of changes in the relative size of the various classes shows that, whereas more than three quarters of the region was living in poverty or vulnerable to it during 2000-2003, by 2013 this share had dropped to under 40%. While the middle classes were the chief beneficiaries of these improvements in living standards, it is interesting to note that the share of those living on more than PPP\$50/day had risen to 16% in 2013 (from close to zero in 2002-2003).

In broad brush strokes, these results are quite consistent with those suggested by the “relative” approach to defining the region’s middle classes described above. They also do not describe a region whose middle classes have been decimated by transition. An important difference lies in the two approaches’ treatment of the wealthy, however. Whereas the relative approach shows the upper classes’ shares of national income remaining roughly constant or shrinking in most of the region, the absolute approach points to the rapid growth in this group’s share of total income from virtually nothing in 2003 to 16% a decade later. This may be able to explain the widespread concerns about growing inequalities in the region—even if the distribution of total household incomes (as measured in deciles) has not changed so dramatically.

How rich are the regions rich? (V)

Figure 8—The region’s richest, number of individuals (2010-2015)



Source: Credit Swiss Global Wealth Reports (2010-2015).

Global household wealth is unequally distributed: there are an estimated 31 million millionaires and more than a thousand billionaires (in US dollar terms) in the world. As one authoritative source notes: “The bottom half of the global population together possess less than 1% of global wealth. In sharp contrast, the

richest 10% own 86% of the world's wealth, with the top 1% alone accounting for 46% of global assets" (Credit Suisse *Global Wealth Databook*, 2013).

Table 3—Gini coefficients for the distribution of wealth in the region (2010-2015)

	2010	2011	2012	2013	2014	2015
Albania	0.68	0.654	0.657	0.656	0.668	0.658
Armenia	0.668	0.644	0.639	0.639	0.668	0.628
Azerbaijan	0.612	0.595	0.652	0.651	0.646	0.591
Belarus	0.648	0.637	0.624	0.622	0.646	0.65
BiH	0.678	0.665	0.659	0.658	0.663	0.67
Georgia	0.703	0.684	0.79	0.68	0.68	0.666
Kazakhstan	0.658	0.863	0.838	0.867	0.873	0.874
Kyrgyz Republic	0.673	0.659	0.66	0.659	0.646	0.633
fYRoM	0.727	0.694	0.689	0.688	0.69	0.693
Moldova	0.688	0.671	0.648	0.647	0.68	0.674
Montenegro	0.652	0.669	0.635	0.634	0.657	0.658
Serbia	0.645	0.635	0.626	0.625	0.654	0.661
Tajikistan	0.669	0.657	0.638	0.638	0.629	0.624
Turkey	0.704	0.844	0.842	0.837	0.843	0.821
Turkmenistan	-	-	-	0.68	0.667	0.673
Ukraine	0.64	0.889	0.892	0.9	0.919	0.916
Africa	0.849	0.872	0.865	0.846	0.856	0.856
Asia-Pacific	0.869	0.881	0.889	0.887	0.895	0.892
China	0.69	0.697	0.689	0.695	0.719	0.733
Europe	0.799	0.829	0.831	0.83	0.827	0.834
India	0.778	0.804	0.813	0.813	0.814	0.831
Latin America	0.785	0.793	0.797	0.806	0.809	0.809
North America	0.799	0.816	0.842	0.841	0.837	0.842
World	0.881	0.893	0.902	0.905	0.911	0.915

Source: *Credit Swiss Global Wealth Reports (2010-2015)*.

A quick browse through Forbes' most recent realtime billionaires list⁹ shows that only 34 (2%) come from Eastern Europe, Turkey, and Central Asia. Turkey is responsible for 23 of these, followed by Ukraine and Kazakhstan (five each) and Georgia (with one). Four of these are women (three from Turkey, one from Kazakhstan). Interestingly, large differences in wealth are apparent between these billionaires: the richest billionaire in Turkey is some four times richer than the "poorest" billionaire; in Ukraine the gap is five-fold. Wealth is predominantly and accumulated via the natural resources and banking sectors of economy; construction and pharmaceuticals are specific to Turkey. Interestingly, one billionaire in Ukraine makes money in the agricultural sector.

According to the *Credit Swiss Global Wealth Report*, the numbers of billionaires in the region dropped by some 95% during 2010-2015 (Figure 8). The *Global Wealth Report* also estimates Gini coefficients for the distribution of wealth, in the region as well as globally (Table 3). A number of conclusions

⁹<http://www.forbes.com/billionaires/list/#version:realtime> (last consulted on 21 June 2016) Of course, rich lists are just estimates. They are popular precisely because they're willing to put a hard dollar number on the personal wealth of the super-rich. Yet in truth, no one really knows what many of the super-rich are worth at any given moment (including the super-rich themselves). Many of them own private companies, which are hard to value until they're sold. And they often have debts, other accounts, financial obligations and investments that don't show up to the public.

are suggested by these estimates. First: with the exceptions of Kazakhstan, Turkey, and Ukraine, inequalities in the distribution of wealth generally remained the same or declined during this time. Second, inequalities in wealth in most of the region are generally below world averages. This also can be seen as a legacy from the region's socialist past, when significant private holdings of wealth as such did not exist. (In light of the large share of state property that remains in state hands in much of the region, the role of the state may not be a legacy.)

Conclusions (VI)

For those who are concerned about the global effects of increasing inequalities, the above analysis of the quantitative data on the distribution of income and wealth in the region suggests a reassuring picture. Many of the developing and transition economies of Europe, Turkey, and Central Asia (with a few exceptions) report low, or declining, levels of income inequality; estimates of the distribution of wealth that are based on internationally comparable methodologies propose the same results. However, such a picture is at odds with many commonly accepted narratives about the region—which tend to reference large and growing inequalities in income, wealth, and other important aspects of human development.

This raises the question: what's wrong—the data, or the perceptions? To be sure, the quality of the data on income and wealth inequalities in the region is not beyond reproach. For example, that the household budget survey data from which the income inequality indicators that populate both national and international data bases are drawn are widely recognized as missing both the very poor (who typically slip between the cracks of national surveying activities) and at least a portion of the incomes of the very rich. It is telling, for example, that the POVCALNET database reports that virtually no one in the region earns more than PPP\$100/day—millionaires and billionaires (as reported by Forbes) notwithstanding. Part of this may be due to the reliance on consumption-based surveys that underpin internationally comparable databases like POVCALNET. Such surveys do not reflect incomes earned but not spent on consumption—which, in the case of wealthy households (with high average propensities to save)—may further understate the shares of national incomes distributed to wealthy households. All this underscores the need for more investment in national statistical offices' capacity to conduct regular household budget surveys that accurately capture (according to internationally comparable methodologies) the entirety of household incomes—including those shares that are not consumed.

Still, these data should not be dismissed out of hand. Declines in income inequalities in many Latin American countries during the past decade have been well documented; there's no reason that other developing regions cannot report similar tendencies. Perhaps more serious questions concern whether those economies in the region that seem to have made the most progress in reducing income inequalities—Albania, Belarus, Kazakhstan, Kosovo, Moldova, Ukraine—will be able to maintain these accomplishments in the face of the socio-economic tensions that are now present in the region.