Indicators for Monitoring the Millennium Development Goal 1
Definitions and use in official MDG reports in the UNECE region

A B S T R A C T

This report collects and reviews the definitions used by countries of Central, Eastern and South-Eastern Europe, Caucasus and Central Asia to monitor poverty and employment according to the Millennium Development Goal 1. It distinguishes the indices on the basis of the threshold used to measure poverty: international or national, absolute or relative, extreme or less severe, based on food intake only or also on non-food needs. It shows how results can be affected by the definition adopted, as well as by disaggregation of data. It also tries to establish a link between the choice of a particular definition and characteristics like the national average income. Finally, it compares these countries in terms of number and level of detail of the indicators reported in official MDG sources.
NOTE

Throughout the report, the years included in brackets that often follow the name of a country indicate the reference period of the data cited, independent of the date of publication of the document or database in which they were reported.
INTRODUCTION

The choice of definitions and indicators for monitoring countries’ current state and progressive achievements with regard to the Millennium Development Goals, and especially to the first of them, is subject to a trade-off. Indeed, on the one hand, one would wish to ensure international and over-time comparability, thus favouring universal, constant indices; on the other hand, a certain degree of flexibility is necessary for an indicator to be truly meaningful in a country-specific economic, social and institutional context, and this leads to prefer indicators targeted on national characteristics.

This problem is particularly relevant when poverty thresholds are concerned. Efforts have been made, above all by the World Bank, to identify an internationally valid poverty line, which was fixed at roughly $1 a day per person at purchasing-power parity (PPP). However, differences between developed and developing countries are so deep that this common indicator seems to be hardly adequate to provide a realistic assessment of poverty, especially in higher-income areas of the world. The World Bank itself, in fact, suggested the use of an at least double threshold (about $2 a day) as reference parameter for middle-income countries1.

Criticisms to the “$1-a-day” line point out not only its arbitrariness, but also its failure to take into consideration other basic material needs apart from food calories, such as housing, clothing and heating. Another problem is represented by its high sensitivity to the choice of the base year, the currency exchange rate and the basket of goods chosen to compute the PPP. As a result, some institutions like the European Union tend to completely abandon the notion of absolute poverty in favour of a relative threshold condition- al to the median income2.

Yet, imperfect as it might be, the “$1-a-day” poverty line has been adopted as one the main official indicators for monitoring progress towards the First Millennium Development Goal, aimed at eradicating extreme poverty and hunger by 2015. In particular, the first target (1.A) explicitly points towards “halving the proportion of people whose income is less than one dollar a day” with respect to 1990.3 However, the United Nations openly encourages the use of national poverty lines whenever possible when monitoring poverty trends at country level.

Obviously, the main disadvantage is that there is no universally agreed national poverty line, not even according to a common definition4. Countries have therefore a great deal of freedom in defining it, which leads to a considerable multiplicity of choices. The follow-

1 http://go.worldbank.org/F9ZIUH97T0
ing pages will account for the main options adopted by 25 Eastern European and Central Asian countries.

**INDICATOR 1.1  
PROPORTION OF POPULATION BELOW $1 (PPP) PER DAY**

Target 1.A (to halve extreme poverty by 2015) is evaluated firstly through the share of a country’s population living in poverty also known as poverty headcount ratio. A number of versions exist, depending on the threshold employed to separate the poor from the non-poor. In particular, the most important distinction is between the international poverty lines and the national ones. The former constitute the basis for Indicator 1.1 that we examine in this section, the latter for Indicator 1.1a that will be covered in the subsequent section.

1. **$1 a day**

Although the official definition of the indicator makes explicit reference to it, the international poverty line of $1 a day is actually adopted only by a small minority of the countries under study. In particular:

- the updated threshold of $1.25 a day per person (at 2005 PPP) is used only by Armenia (since 2008);
- Tajikistan (2009) still adopts the previous threshold of $1.08 a day per person (at 1993 PPP), as it did for previous surveys: in all cases, it also reports the data disaggregated by gender;
- Armenia (in 2007-2008), Kyrgyzstan (since 1996), Georgia (2000-2004) and Turkey either utilize precisely one dollar or do not further specify what they exactly mean by “$1 a day”;

One can notice that both Tajikistan and Kyrgyzstan, the only two countries among those examined here to be classified as “Low Income” by World Bank, use the standard international poverty line. This is consistent with the key rationale of that threshold, i.e. to measure poverty in the poorest areas of the world. It is however worth underlining that, even in the case of Kyrgyzstan (as well as in Armenia and Turkey), the share of population living below this line has never been higher than 0.5% since 2005.

2. **$2 a day**

The World Bank recommends this threshold for middle income countries such as most of the Eastern European and Central Asian ones. The preference for $2-a-day (instead of $1) for these areas is also motivated by considerations concerning the natural environment: the cold climate, in fact, implies that more spending in food, clothes and heating is

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5 Source (for Kyrgyzstan): NSO MDG data.
required in order to ensure one’s mere subsistence (in comparison to Africa, for example).7

As a result, many of the countries examined here use exactly this indicator to estimate the rate of extreme poverty, whereas a higher threshold (usually the double) is employed to assess the share of population vulnerable to poverty, i.e., a less severe degree of deprivation. This is the approach followed in particular by:

- Slovakia (1996) and Moldova (2006-2009), which fix the thresholds respectively at $2.15 and $4.30, according to World Bank indications;
- Belarus (2000-2009), which instead utilizes precisely $2 and $4;
- Armenia, which in 2004-2008 makes use of the $2.15-$4.30 pair (like Slovakia and Moldova), but in 2008-2009 additionally includes a new one ($2.50 and $5.00); moreover, in 2008-2009 Armenia also adopted the $1.25 threshold, thus distinguishing between three levels of poverty.

There is no apparent explanation for Armenia’s and Belarus’ ‘deviations’ from the conventional threshold.

A different case is represented by Tajikistan (1999, 2003), where the $2.15 line (which is roughly the double of the main one used there, i.e. $1.08 a day) indicates the less acute degrees of poverty. Again, this is coherent with this country’s classification as “Low Income”, though not with the climatic considerations explained before.

Figure 1 includes four of the five countries cited above (examined in different years, according to data availability) and shows how dramatically results can change as a function of the poverty line selected.

3. $4.30/$5 a day

As said before, this is largely used as “at-risk-of-poverty” threshold among middle income countries, particularly in South-eastern Europe (SEE) and in Eastern Europe, Caucasus and Central Asia (EECCA). Nevertheless, two countries use it as their unique absolute poverty line.

The first one is Hungary (in 1991, 1996, 2000), whose choice is not unexpected, given that it is considered by the World Bank as “High Income Country”: in this case, living below $4.30 a day can really constitute a more realistic indicator of absolute poverty.

The second case is Ukraine (since 2000), which, despite being classified as “Lower-Middle Income” (LMC, the third level out of four), measures poverty on the basis of indicators more suitable for richer countries: the $4.30 line ($5.00 since 2005), but also the relative threshold of 60% of median income (typical of the European Union), and a national line grounded on the broad definition of cost of basic needs and social exclusion (see also below). The data show relatively low values: for example, in 2009, in Ukraine

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only 4.5% of the population lived under $5.00 dollar a day\(^8\), whereas, for example, in Moldova (another LMC country, geographically close to Ukraine) a similar percentage (5.1%) represented the share living below the much stricter threshold of $2.15\(^9\).

Quite different is instead the case of Armenia (1999, 2004-08) where $4.30 has been selected as the official national poverty threshold. This choice can be considered analogous to the concept of cost of basic needs (see also the next paragraph).

**Figure 1 – Poverty headcount ratio calculated according to different poverty lines**

![Figure 1](image)

**Note.** The value for the $1.08 series for Armenia pertains to the threshold $1.25 a day.

**INDICATOR 1.1a**

**PROPORTION OF POPULATION BELOW THE NATIONAL POVERTY LINE**

The adoption of a country-specific poverty line besides the international ones allows observers to take account of the fact that the economic, social and environmental context deeply affects the local perception of poverty thresholds. In particular, the average income of a country plays a key role in pushing it upwards. National lines aim precisely at catching the local meaning of ‘being poor’: this is why they can be based on both objec-

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\(^9\) Source: DevInfo Moldova 2009
tive information (e.g. daily minimum calories intake) and subjective views, the latter approach being more and more widespread\(^\text{10}\).

Figure 2 shows the extent to which results can change when one switches from the international poverty line to the national one (regardless of the exact definition chosen in both cases) in computing the poverty headcount ratio.

**Figure 2 – Proportion of population living below the poverty line (international vs. national line)**

<table>
<thead>
<tr>
<th>Country</th>
<th>International Poverty Line (%)</th>
<th>National Poverty Line (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kyrgyzstan</td>
<td>0.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>0.71</td>
<td>15</td>
</tr>
<tr>
<td>Turkey</td>
<td>0</td>
<td>17.1</td>
</tr>
<tr>
<td>Moldova</td>
<td>5.1</td>
<td>26.3</td>
</tr>
<tr>
<td>Armenia</td>
<td>0.1</td>
<td>47.7</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>0</td>
<td>51</td>
</tr>
<tr>
<td>Georgia</td>
<td>16.9</td>
<td>52.7</td>
</tr>
<tr>
<td>Belarus</td>
<td>0</td>
<td>57.6</td>
</tr>
</tbody>
</table>

**Notes:** Kyrgyzstan (data 2008): International Poverty Line (IPL) $1 a day, National Poverty line (NPL) based on cost of basic needs; Turkmenistan (data 2000): IPL $2.15 a day, NPL 50% median income; Turkey (data 2008): IPL $1 a day, NPL cost of basic needs; Moldova (data 2009): IPL $2.15 a day, NPL cost of basic needs; Armenia (data 2008): IPL $1.25 a day, NPL $4.30 a day; Tajikistan (data 2009): IPL $1.08 a day, NPL unspecified; Georgia (data 2004): IPL $1 a day, NPL unspecified; Belarus (data 2009): IPL $2 a day, NPL cost of basic needs.

Even though the comparison across countries is not very meaningful in this case, the contrast between the two figures for each case is striking: it may even happen – like in Belarus – that, whereas the entire population is estimated to live above the international threshold, more than half of it is considered poor according to the national one.

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Given the absence of a unique definition of national poverty line, every country is free to choose the one it believes to be the most appropriate for its situation. After all, the purpose of this indicator is to provide a target for national policies, rather than to allow for international comparisons. Indeed, the latter turn out to be very problematic given the existing multiplicity of alternatives.

Overall, it is possible to delineate three broad groups of options for defining the poverty threshold:

1) threshold defined on the basis of a minimal food basket, reflecting the minimum daily food-energy intake;
2) threshold that additionally considers other basic needs apart from food, and in some cases resort to the broader concept of “social exclusion”;
3) threshold based on a certain percentage of the national median income (a relative threshold).

### 1. Food basket / calorie intake

Nine countries out of 25 employ a definition based on food items. Among them we find economies at different stages of development: Albania, Azerbaijan, Belarus, Kazakhstan and Turkey are labelled as “Upper-Middle Income” (UMC) by World Bank, while Armenia, Moldova and Uzbekistan are considered “Lower-Middle Income” (LMC) and Kyrgyzstan as “Low Income” (LIC).

However, in all cases (apart from Uzbekistan), this option is not chosen as unique national poverty line, but rather as one out of a wider set of indicators: typically, food-basket based indices are meant to grasp the extent of extreme poverty, whereas other ones, which comprise also the cost of basic needs and/or social inclusion factors, should assess less severe degrees of poverty.

Some countries specify the quantity of daily calories they consider essential for subsistence: this amount (and the income needed to purchase it) offers a basis for the computation of extreme poverty rates. The most recurring number is 2100 kcal (e.g. Kyrgyzstan, Turkey and Uzbekistan), in line with FAO recommendations, even though a couple of countries, namely Armenia and Moldova, refer to slightly higher levels, respectively 2232 and 2282 kcal.

On the whole, it is worth pointing out that “universal” thresholds usually provide only a very general indication, that can (and in many cases should) be adapted to different milieus: for instance, the minimal food-energy intake may be differentiated between urban and rural areas\(^\text{11}\), or, alternatively, it may be reasonable to compute a weighted average according to the geographical features of a territory. Of course, this is valid not only for the calorie intake, but also for minimal income or consumption. Similar concerns have led the United Nations to advise disaggregating the poverty headcount ratio, wherever

\(^{11}\) This is for example what India does, by fixing a minimum intake of 2,100 kcal in urban areas and of 2,400 kcal in rural ones
feasible, by urban and rural areas as well as by gender. Nevertheless, only few countries do so. Among those which base their national poverty lines on a food basket, only Kazakhstan, Kyrgyzstan and Uzbekistan distinguish between towns and countryside, whereas only Uzbekistan presents data separated by sex. One should consider, however, that in order to disaggregate by gender, it is necessary either to record and analyze data on an individual (rather than household) basis, which is quite rare and expensive, or to refer to the gender of the household head.

2. Basic needs / Social exclusion

As anticipated before, many countries use, in addition to the food-basket based indicator, also another, less strict one, for the purpose of gauging less severe poverty. This latter index is usually named as national poverty line according to basic needs, and refers to the income required to purchase (or the consumption level corresponding to) essential amounts of food, clothes, heating, and housing availability. According to the World Bank, this is the most appropriate approach to building up a poverty line12.

Armenia (1999, 2004-08), Belarus (2000-2009), Kazakhstan (1997-2009), Kyrgyzstan (1996-2008), Moldova (2000-2009) and Turkey (1994, 2002-08) compute both indicators, and the resulting values differ considerably between the two, as shown in Figure 3. As expected, in all cases, the less stringent indicator leads to qualify a much larger share of the population as poor. Passing from the stricter to the looser, the percentage of poor gets multiplied by several times, often more than ten.

In other cases, such as Bosnia and Herzegovina (2000, 2004, 2007), Montenegro (2005-2009) and Serbia (2002, 2006-2008), the basic-needs based is the only non-relative national poverty line. This may reflect the fact that all these three Balkan countries are considered “Upper-Middle Income”, and therefore a threshold based only on food items might generate not very significant results.

Rather than speaking of basic needs only, Albania, Czech Republic and Ukraine prefer to apply an even more comprehensive definition, according to which poverty “is not limited to basic livelihood elements—food, clothing and housing”, but also “encompasses a lack of hope, exclusion from economic and social life, inability to support family and maintain social traditions, lack of adequate infrastructure, low security, low quality of health and limited education services”13. From this perspective, also factors like exclusion of groups from public life, polarization and marginalization assume importance14. Therefore, also phenomena like long-term unemployment, dependence on social benefits, the persistence of poverty, distribution of income across social classes and regions, life ex-

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pectancy at birth, self-defined health status and the condition of single mothers should be taken into consideration\textsuperscript{15}.

**Figure 3 – Headcount ratios: poverty line based on cost of food basket (blue), on cost of basic needs (red) and on social exclusion (yellow) in 2009.**

![Graph showing poverty headcount ratios](image)

**Note.** UNECE MDG database. Data for Albania, Armenia and Turkey refers to 2008.

Yet, while Albania computes its poverty rates according both to the cost of a food basket and to social exclusion, the other two countries employ only the latter definition: this is more understandable for the Czech Republic (a “High Income” country for World Bank) than for Ukraine.

As for the distinction by gender and urban/rural areas, the first one is carried out only by Azerbaijan (2003) and Albania (2008), while the second is reported by Azerbaijan (2003), Bosnia and Herzegovina (2001, 2004, 2007), Kazakhstan (1997-2009), Moldova (2000-2009) and Serbia (2002, 2007).

3. Relative poverty thresholds

Defining poverty not on the basis of any supposed “absolute” needs (in reality, often identified with a great deal of arbitrariness and/or incompleteness\(^\text{16}\)), but as the share of people living below a certain percentage of the median income, is the approach suggested by Eurostat for EU member States. The most common threshold in this case is 60% of median income. As a matter of fact, all the countries that employ relative poverty lines refer just to 60%, with the exception of Turkmenistan (which used 50% in 2000), Macedonia and Azerbaijan (which opt for 70%), while Latvia exploits an additional threshold of 40% of median income to gauge the harshest poverty.

In general, this indicator identifies especially those who are “at risk of poverty”, i.e. not the poorest among the poor. Furthermore, the use of thresholds lower than 60% is discouraged within the EU, because:

a) income data are less reliable as one moves down the distribution;

b) even for the new members from Central and Eastern Europe, 60% of median income is already very low;

c) lowering the threshold does not overcome the objections that can be moved against the 60%: in particular, it is debatable to state that a lower line could assess extreme (instead of relative) poverty\(^\text{17}\).

On the other hand, one observes that the adoption of the relative poverty line does not seem to be strictly related with the membership of the European Union. In fact, it certainly concerns many countries that would have become members in 2004 or 2007, but often only with regard to older data, much older in some cases. Some examples are: Czech Republic (1996, 2001), Hungary (1991, 1995, 2000), Latvia (1996, 2000, 2002-03), Slovakia (1996, 2003), Slovenia (1993, 1998), and also Bulgaria (2001-2007) and Romania (2001, 2008). Anyway, the same indicator is also calculated in third countries, like Croatia (2002, 2004, 2007) – which is actually an official EU candidate – Bosnia and Herzegovina (2004, 2007), Serbia (1996, 2002), Ukraine (2000-09). It is likely, in any case, that many of their respective Statistical Offices (or Ministries) have benefited from technical support by Eurostat and have acquired its approach.

Perhaps more significant findings emerge when one looks at the countries that measure poverty exclusively through relative thresholds: it is the case of Croatia, Slovenia, Latvia, Bulgaria, and Macedonia. All of them are either already members or official candidates to the EU, and three of them (Croatia, Slovenia and Latvia\(^\text{18}\)) were considered as “High Income” by World Bank at the moment of the most recent data. This seems to confirm that such an indicator is very suitable for assessing poverty especially in the more developed parts of the world.


\(^{17}\) Ibidem, pp. 39-40.

\(^{18}\) Latvia was actually downgraded to “Upper-Middle Income Country” in 2011.
It may be useful to recall that despite their possible strengths, relative poverty lines of this kind do not belong to the official MDG indicators list. Information about the distribution of income and/or consumption is rather estimated through the share of the poorest quintile in national consumption (see Indicator 1.3).

4. Unspecified thresholds

Finally, some countries cite an own “national poverty line” without providing further clarifications. It is the case, for example, of Georgia (2002-04), Slovakia (1996, 2003), and Tajikistan (1999, 2004, 2009), while Romania (2001-08) distinguishes between an “absolute” and an “extreme” poverty line without going more into details. Since often these countries are also not very clear in indicating the sources of their data, it is advisable that they make an additional effort to improve the precision of their reporting.

Further remarks about Indicators 1.1 and 1.1a

The proportion of population below the poverty line (either international or national) is the only indicator that recurs in the MDG reports of all the countries studied here, which gives an idea of its importance.

Nevertheless, the variety of definitions employed, especially as far as the national line is concerned, does constitute a problem in terms of international comparability. Even though flexibility is certainly an advantage for this index, which is meant above all to steer domestic policy and to evaluate advances over time, it might be useful to reach an international agreement at least about the criterion to be adopted for its calculation (i.e., cost of basic needs or a certain percentage of the median income). In that case, cross-country variation would be significantly reduced and international comparability would considerably improve.

Below we present a table that summarizes the methods used by the countries of our sample to define their official national poverty line (table 1). We also give information about how each of them is classified by World Bank on the basis of national income.

We would like to emphasise again the importance of disaggregating data whenever possible, as recommended by the United Nations. In fact, especially with regard to the distinction between urban and rural areas, differences in results may be extremely large, independent of the threshold adopted. Figure 4 shows the ratio between rural and urban poverty (the latter being fixed at 1 for each country) in some of the countries of our sample. Actual costs of living might differ between rural and urban areas in a country and this might not always be taken into account. Nevertheless, the figures that emerge still keep a great deal of significance.
### Table 1 – Basis for calculation of the official national poverty line

<table>
<thead>
<tr>
<th>Cost of food basket</th>
<th>Kyrgyzstan, Uzbekistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of basic needs</td>
<td>Azerbaijan, Belarus, Bosnia and Herzegovina, Kazakhstan, Montenegro, Moldova, Serbia, Turkey</td>
</tr>
<tr>
<td>Cost of basic needs and social exclusion</td>
<td>Albania</td>
</tr>
<tr>
<td>$4.30 a day</td>
<td>Armenia, Hungary</td>
</tr>
<tr>
<td>&lt;50% median income</td>
<td>Turkmenistan</td>
</tr>
<tr>
<td>&lt;60% median income</td>
<td>Bulgaria, Croatia, Czech Republic, Latvia*, Romania, Slovakia, Slovenia, Ukraine</td>
</tr>
<tr>
<td>&lt;70% median income</td>
<td>FYR of Macedonia</td>
</tr>
<tr>
<td>unspecified</td>
<td>Georgia, Tajikistan</td>
</tr>
</tbody>
</table>

**Notes:** Dark green: high-income country (HI); light green: upper-middle income country (UMC); orange: lower-middle income country (LMC); red: low-income country (LIC).

* Latvia was considered HI at the time of the data, even though it was downgraded to UMC in 2011

**N.B.** - Only the official national poverty line is taken into consideration here; yet, usually countries also report additional indicators of poverty based on other thresholds, which differ both from the international and the official national one.

### Figure 4 – Ratio between rural and urban poverty headcount ratios (Urban = 1)

**Note:** for Azerbaijan (data 2003), Bosnia and Herzegovina (2007), Kazakhstan (2009), Serbia (2008) and Moldova (2009), the poverty line is based on the cost of basic needs; for Uzbekistan (2003) and Kyrgyzstan (2009) it is based on the cost of a food basket; for Tajikistan (2009) it is defined as $1.08 a day; for Turkmenistan (data 2000) and Ukraine (2009) it is based on 50% and 60% of median income respectively.
INDICATOR 1.2
POVERTY GAP RATIO

Headcount ratios, like all the indicators listed so far, provide a simple and concise appraisal of the incidence of poverty in a country, but suffer from some limitations. In particular, they do not show the depth of poverty, because individuals (or households) immediately below the threshold are weighted the same as the poorest among the poor. This has also non-negligible policy implications. A government, in fact, might be tempted to address its efforts to improve only the conditions of the “less poor” (those closest to the poverty line), so that the ratio will be automatically reduced, even if the situation for the poorest remained unchanged or even worsened19.

To overcome these shortcomings, other, more accurate measures have been conceived. Among them, the poverty gap ratio is defined as the mean distance separating the population from the poverty line (with the non-poor being given a distance of zero), expressed as a percentage of the poverty line itself. By multiplying the incidence by the depth of poverty, we arrive at the poverty deficit of the entire population, i.e. “the per capita amount of resources that would be needed to bring all poor people above the poverty line through perfectly targeted cash transfers”20. In plain words, it not only says how many poor people there are in a country, but also how poor these poor are.

This indicator, officially included in the list of the official indicators for MDG monitoring, is exempt from many of the shortcomings of the headcount ratios21. Nevertheless, it is still sensitive to choices about the poverty line. As a rule, the countries examined here refer to the same threshold used for indicators 1.1 and 1.1a. In particular, they prefer to utilize their national poverty line, which makes the poverty gap ratio more suitable for domestic policy purposes, or for cross-time national comparisons, than for cross-country ones. In fact, calculations on the basis of the international poverty line are usually done by the World Bank, not by national agencies.

In our sample, indeed, only Armenia (2004-2008) and Georgia (2000-2004) provide a measure of the gap on the basis of “$1 a day”, and both also compute another ratio according to the national line (not further specified). Also Kazakhstan (1996-2009) and Romania (2001-2009) use the national line (without providing more detailed information about it) as reference.

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19 This is the paradoxical effect of the headcount ratio’s failure to satisfy the “monotonicity axiom”, according to which, ceteris paribus, an increase in any person’s income should reduce the overall poverty. See Amartya Sen (1976). ‘Poverty: An Ordinal Approach to Measurement’. Econometrica 33(2), 219-231.
21 However, not all the desired characteristics for a poverty indicator are fully satisfied by the poverty gap ratio. In particular it violates Sen’s “weak transfer axiom”, which states that, all else the same, a transfer of income from a poor individual to a poorer one should decrease the overall level of poverty. In fact, in this case, a transfer of the same amount involving two such individuals would leave the gap ratio unmodified.
Among the countries that more clearly indicate the precise line employed, Turkey (1994, 2002-2008) utilizes the one based on the cost of a food basket, while Azerbaijan (2002-2003), Moldova (2000-2009) and Montenegro (2005-2008) refer to the cost of basic needs, and Albania (2002, 2008) to the concept of social exclusion. Finally, Bulgaria (2001, 2007) and Macedonia (1997-2009) base their measures on a relative threshold (a certain percentage of the median income). In practically all cases, the poverty line definition is the same as the one officially adopted in publications about indicator 1.1a.

In total, however, only 11 countries of the 25 under study actually present calculations of the poverty gap ratio.

**INDICATOR 1.3**

**SHARE OF THE POOREST QUINTILE IN NATIONAL CONSUMPTION**

Relative inequality in the distribution of income and consumption within a country is assessed, according to the official MDG Indicators, through the computation of the share of income owned by the poorest fifth of the population. This index can range from 0 (highest inequality: the poorest fifth owns nothing) to 20 (perfect equality with respect to the rest of the population). It is sensitive not to changes in *absolute* consumption levels among the poor, but rather to *the proportion* by which such changes may affect the poorest 20% as compared to the remaining population.

Apart from some intrinsic limitations (lack of further distinction between the two bottom deciles, sensitivity to differences among countries in terms of household size and consumption needs), an important source of non-comparability is represented by the preference for income or consumption as basis for evaluating inequality. In general, the United Nations advises national agencies to favour consumption-based data, because: a) the distribution of consumption is usually less unequal than that of income; b) the definition of consumption is more homogeneous among surveys.22

As a matter of fact, all the countries considered here either make reference to consumption (Albania, Azerbaijan 2002-03, Bosnia and Herzegovina, Belarus, Georgia, Moldova, Montenegro, Romania, Turkey), or do not explicitly specify the base of their data (Armenia, Azerbaijan 2008-09). Only Azerbaijan in 2003 computes the share also on the basis of income.

Overall, the number of countries that offer a measurement of Indicator 1.3 is 10 out of 25.

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**INDICATOR 1.4**

**GROWTH RATE OF GDP PER PERSON EMPLOYED**

Indicators from 1.4 to 1.7 are relative to Target 1.B (“Achieve full and productive employment and decent work for all, including women and young people”), which was added to the official list of MDGs in 2005. This may explain why only a small minority of countries provide data about them in their MDG documents. Obviously, most of them do compute such statistics, but they are often published elsewhere.

In particular, Indicator 1.4, which aims at measuring the growth rate of labour productivity (in order to evaluate “the likelihood of a country’s economic environment to create and sustain decent employment opportunities with fair and equitable remuneration”\(^\text{23}\)) is one of the least present in the MDG reports. In fact, it can be found in these publications only in the case of Armenia (for years from 2004 to 2008), Romania (2001-2009) and Turkey (1991-2009).

**INDICATOR 1.5**

**EMPLOYMENT-TO-PopULATION RATIO**

This percentage expresses the proportion of the working-age population (above 15 years old) who held any job in the reference period, paid in terms of profit, wage or in kind, either in the formal or in the informal sector. It is reported in official MDG documents by five countries: Azerbaijan (2003), Bulgaria (2001-07), Turkey (1991-2009), Armenia (1999, 2004-2008) and Bosnia and Herzegovina (2001, 2006-2010). Only the last two disaggregate the data by gender, which provides additional, useful details. Furthermore, Bulgaria fixes an upper limit of 64 years old to working-age population, even though, according to the UN, “if possible, age groups beyond this upper limit should be included in the employable population”\(^\text{24}\).

\(^{23}\) United Nations, *Indicators for Monitoring the Millennium Development Goals—Definitions, Rationale, Concepts and Source*, Updated Version [Draft], New York 2010 – As specified in this source, “There is empirical evidence that the link between productivity growth and poverty reduction is strong when productivity growth and employment growth go hand in hand. However, labour productivity growth is not always associated with employment growth. Consequently, measuring both growth in employment (see employment-to-population ratio, Indicator 1.5) and labour productivity is required to assess whether GDP growth is likely to reduce poverty”. Moreover, it must be pointed out that both the measures are meant to include also people employed in the informal sector, which is particularly large in developing countries.

\(^{24}\) Ibid
**INDICATOR 1.6**  
**PROPORTION OF EMPLOYED PEOPLE LIVING BELOW $1 (PPP) PER DAY**

This indicator is intended to estimate poverty among the labour force, thus signalling the lack of decent jobs in a country. It depends on poverty data but also on countries’ specific labour market characteristics, such as the size of the labour force. Despite the official definition of the indicator, all the four countries that report it base their estimations on their own national poverty line: **Azerbaijan** (2003), **Armenia** (1999, 2004-08), **Serbia** (2007) and **Ukraine** (2000-09). In the last case, the threshold adopted is the *relative* poverty line.

**INDICATOR 1.7**  
**PROPORTION OF OWN-ACCOUNT AND CONTRIBUTING FAMILY WORKERS IN TOTAL EMPLOYMENT**

This indicator is defined as the proportion of total employment constituted by workers in self-employment who do not have employees, and by unpaid family workers. Its aim is to identify the segment of vulnerable workers, i.e. those most exposed to economic downturns, because of their exclusion from social protection and formal safety nets.

Since it has been elaborated only recently, its actual application is still limited. Among the countries analyzed here, for example, this is the single least frequently used indicator for MDG 1. It is found only in the reports of **Romania** (2001-09) and **Turkey** (1990-09).

**OTHER INDICATOR FOR TARGET 1.B**  
**YOUTH UNEMPLOYMENT RATE (15-24)**

Despite not strictly belonging to the official MDG indicators, the youth unemployment rate is sometimes included in national MDG reports. In our case, this is done by **Armenia** (2001-2009, the only country that also disaggregates these data by gender), **Bosnia and Herzegovina** (2000, only for those aged 19 to 24, then 2007 and 2009), **Bulgaria** (2001, 2007), **Kyrgyzstan** (2002-2006, 2008) and **Serbia** (2005, 2009).

In all cases, the indicator adopted for assessing unemployment among young people is exactly the *youth unemployment rate*: this means that the number of unemployed people aged 15 to 24 is divided by the *labour force* (sum of the employed and unemployed) of the same age, not by the total youth population, contrary to what was done for computing Indicator 1.5 with regard to whole of ages.
INDICATOR 1.8
PREVALENCE OF UNDERWEIGHT CHILDREN UNDER FIVE YEARS OF AGE

This indicator and the following one (1.9) are used for evaluations about Target 1.C (“Halve, between 1990 and 2015, the proportion of people who suffer from hunger”). Also in this case, the number of countries that show data about them in their reports is quite limited, although this target has been present in the official MDG list since 1990.

The first indicator in this subgroup intends to measure the percentage of children under five years (60 months) whose weight for age is less than minus two standard deviations from the median for the international reference population of the same age, as defined by the World Health Organisation (WHO) Child Growth Standards. This benchmark was based on the conditions of more than 8000 children from Brazil, Ghana, India, Norway, Oman and the United States. They were selected for their exposure to an optimal environment for proper growth, including recommended infant and young child feeding practices, good healthcare, non-smoking mothers, and other factors associated with good health outcomes.


Azerbaijan and Turkey disaggregate the data by seriousness of malnutrition, distinguishing between children “moderately to severely underweight” (i.e., the official indicator), and those “severely underweight”. In both cases, data are indicated both for the whole territory and separately for urban and rural areas. The considerable differences that emerge highlight the advisability of carrying out such disaggregations (figure 5).

No country, instead, brings data about the two indices that influence weight-for-age, that is: a) height-for-age (index of stunting), which reflects the cumulative effect of good or bad nutrition in the long run, and b) weight-for-age (index of wasting), which – if low – indicates recent and severe processes of weight loss, often associated with acute starvation or severe disease. According to United Nations guidelines, though, “when possible, all three indicators should be analyzed and presented since they measure and reflect different aspects of child malnutrition”.

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Figure 5 – Prevalence (%) of underweight children under five years of age
Disaggregations by seriousness of malnutrition and by rural/urban areas

Note: Turkey, data 2008; Azerbaijan, data 2006
Sources: Turkey MDG Report 2010, Azerbaijan NSO MDG data

**INDICATOR 1.9**
**PROPORTION OF POPULATION BELOW MINIMUM LEVEL OF DIETARY ENERGY CONSUMPTION**

In this case, under-nourishment is estimated with regard to all ages. The indicator is calculated as the percentage of population whose food intake falls below the minimum level of dietary energy requirements. Only three countries report it in their MDG documents: Armenia (1999, 2004-2009), Bosnia and Herzegovina (2002, 2007), Kyrgyzstan (2000-2009). Neither of them carries out any kind of disaggregation.
CONCLUSIONS

We have surveyed the variety of indices and definitions used in the countries of the UNECE region with regard to MDG 1. Yet, as partly already pointed out, not all countries use all the indicators, or all of their variants. Indeed, only the headcount ratio according to the national poverty line (1.1a) is reported by all the countries, whereas, for instance, indicators 1.4 and 1.7 are present only in two or three cases. This means that the number and the level of detail of the statistics provided varies widely across countries.

Nine out of 25, for example, restrict themselves to communicating information only about the poverty headcount ratio (1.1 and/or 1.1a). Two of these, Croatia (2002, 2004 and 2007) and Slovenia (1993, 1998) offer a unique definition for it, with the (national) poverty line conceived as 60% of the median income. Other four of them use two definitions: Hungary (1991, 1996, 2000), Latvia (1996, 2000, 2002-03), Czech Republic (1996, 2001) and Macedonia (1997-2008). As for the remaining three, Slovakia (1996, 2003) and Turkmenistan (2000) also present the ratios based on international thresholds, whereas Tajikistan (1993, 2003/04, 2009) additionally separates between males and females, and between urban and rural areas.

The average number of definitions employed with regard to MDG 1, including disaggregations and the multiple variants for each indicator amounts to 2.0 for the six “high income” countries (including Latvia), to 8.3 for the ten “upper-middle income”, 8.7 for the seven “lower-middle income” and 10 for the two “low-income countries”. Again, this is in line with the conclusion stated above. The single countries that make available the highest number of indices are Armenia (with 21 different definitions, among which 8 refer to Indicator 1.1 or 1.1a), Azerbaijan (19 definitions, 7 of which for Indicators 1.1 or 1.1a) and Moldova (16 definitions, 11 regarding Indicators 1.1 or 1.1a). All of them are classified as “lower-middle income”.

As far as the official indicators are concerned, the richer a country the less detailed and comprehensive the reporting about poverty. However, high income countries frequently add a number of modified goals that are deemed to better suit their most urgent political challenges, even though these are not included in the list of MDGs. For instance, one often finds measurements of the prevalence of poverty among specific social subjects like ethnic minorities such as the Roma, or single mothers, or the proportion of population that depends on social benefits. The report of the Czech Republic (issued in 2004) constitutes a prime example of such an approach.

A more general conclusion from this report is that convergence about the definitions adopted for MDG indicators is far from being achieved. Great variability emerges in both the quantity and the type of indices calculated by every country. This might partly reflect the different reality in the countries. Nevertheless, some definitions seem to have more success than others, for example, of poverty lines based on the cost of basic needs, or on 60% of median income. Unless collecting data according to them represents an unachievable challenge for some countries, it would be advisable to agree upon them as international standards. To further assist national and international monitoring and to enable cor-
rect interpretation of the data, an agreed set of metadata would be necessary. Without sacrificing the necessary flexibility, this would represent a significant step forward in the quality of metadata and would allow for more accurate time-series and cross-country comparisons.
REFERENCES