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Implementation of the United Nations Economic Commission for Europe Statistical Programme 2020

Addendum

Report of the Expert Meeting on Measuring poverty and inequality: Sustainable Development Goads 1 and 10

Note by the secretariat

Summary

> The present report presents the key outcomes of the Expert Meeting on Measuring poverty and inequality: Sustainable Development Goals 1 and 10, which took place on 5-6 December 2019 in Geneva, Switzerland.

> The expert meeting was organized following a decision of the Conference of European Statisticians in June 2019 (ECE/CES/2019/13). The report is submitted to the Conference of European Statisticians for information.

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I. Attendance

1.   The UNECE Expert Meeting on Measuring Poverty and Inequality: SDGs 1 and 10 was held on 5-6 December 2019 in Geneva, Switzerland. It was attended by participants from Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Czech Republic, Georgia, Italy, Kazakhstan, Kyrgyzstan, Mexico, Poland, Republic of Moldova, Romania, Russian Federation, Switzerland, Tajikistan, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, and Uzbekistan. The European Commission was represented by Eurostat. Representatives of the following organisations participated in the meeting: International Labour Organization (ILO), Interstate Statistical Committee of the Commonwealth of Independent States (CIS-Stat), United Nations Development Programme (UNDP), United Nations Resident Coordination Office Kyrgyzstan, United Nations Economic Commission for Latin America and the Caribbean (ECLAC), United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), and the World Bank. Representatives of the non-governmental organizations International Movement ATD Fourth World (France), International Women's Development Agency (Australia) and ACAPS - Assessment Capacities Project (France) were present. Experts from University of Oxford (United Kingdom) also participated.

2.   A number of participants could attend the Expert meeting thanks to the financial support from the United Nations Development Account.

II. Organization of the meeting

3.   Ms. Trudi Renwick of the United States Census Bureau was elected as Chair of the meeting.

4.   The following topics were discussed at the meeting:

(a)   Disaggregation of poverty indicators for monitoring the 2030 Agenda for Sustainable Development;

(b)   Supplemental poverty measures:

• Impact of social transfers on poverty

• Indexes of multidimensional poverty

• Individual poverty measures;

(c)   Improving response rate and sampling precision in surveys;

(d)   Longitudinal poverty measures;

(e)   Subjective poverty;

(f)   Machine learning;

(g)   Discussion on future work.

5.   The following participants acted as Discussants: for item (b) Ms. Trudi Renwick (United States Census Bureau), for item (c) Mr. Emilio Di Meglio (Eurostat), and for item (d) Mr. Samir Djidel (Statistics Canada).

6.   The discussion at the meeting was based on papers that are available on the UNECE website.[1]

III. Recommendations for future work

7.   The meeting welcomed the substantial progress made by the Task Force on Disaggregated Poverty Measures and by the Task Force on Measuring Social Exclusion.

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[1] http://www.unece.org/index.php?id=51514

8.	Participants recommended that the next Expert Meeting on Measuring Poverty and Inequality should take place in the second half of 2020. Participants took note that a meeting room and interpretation for this are reserved at the Palais des Nations in Geneva for 7-8 September 2020.

9.	Participants proposed the following topics for discussion at the 2020 Expert meeting:

(a)	Disaggregation of poverty indicators for monitoring the 2030 Agenda for Sustainable Development;

(b)	Poverty in specific population groups: children, youth, elderly, disabled, and ethnic minorities;

(c)	Urban and rural poverty;

(d)	Technical issues in poverty measurement, including issues of sample size and allocation, non-response and other survey error, and equivalence scales;

(e)	Innovative tools in poverty measurement: going beyond face-to-face surveys.

10.	The Steering Group will elaborate the call for papers for the 2020 Expert meeting and will ask for volunteers to organize the sessions.

## IV.	Adoption of the report of the meeting

11.	The present report was adopted during the closing session.

12.	A summary of the discussion in the substantive sessions of the meeting will be presented in the annex of this report, to be prepared by the Secretariat after the meeting.

Annex

Summary of discussions

A. Disaggregation of poverty indicators for monitoring the 2030 Agenda for Sustainable Development

1.   The session consisted of contributions from UNDP, CIS-STAT, UN Women and Italy.

2.   "Mainstreaming, Acceleration and Policy Support" (MAPS) is a common approach to frame support for SDG implementation provided by various UN agencies. It consists of three main pillars:

(a)   Mainstreaming: Land and contextualize the global development agenda at national and sub-national levels;

(b)   Acceleration: Identify bottlenecks, synergies and trade-offs across sectors, for targeted policy interventions and resources allocation; and

(c)   Policy Support: Pooled, coordinated and coherent response across different UN entities to countries' requests of policy support.

3.   In the region covering Europe and the Commonwealth of Independent States (ECIS), UNDP has been coordinating efforts to bring the MAPS approach to individual countries. A total of 14 MAPS missions were conducted in the countries between 2016-2018. UNDP also developed the Rapid Integrated Assessment (RIA) tool to help countries measure alignment between global SDG targets, and the targets set forth in national/sub-national planning frameworks. Country examples were shown to illustrate how the data available for monitoring the SDG indicators fits into the national development planning.

4.   In 2019, CIS-STAT carried out three studies in the CIS countries to evaluate countries progress in organizing the SDG monitoring at the national level, with a special focus on poverty and disability statistics. The results are available in the annual publication "The Monitoring of the SDG Indicators in the CIS Region[2]". A number of challenges were noted such as lack of methodology for certain indicators, need for harmonization of the national SDGs indicators with the international standards, missing data disaggregation on key variables and absence of financial and technical support. Close coordination at regional level was noted as an important step in producing comparable data between the countries.

5.   UN Women stressed on the importance of accounting for the following dimensions in the analysis of gender inequality in poverty: a) life stages (i.e. periods when individuals are most likely to care for dependents), b) household composition (i.e. presence of children) and c) gender differences in the distribution of unpaid care and domestic work. The disaggregation of the global data on extreme poverty by sex, age and household composition shows large gender gaps in poverty rates among individuals aged 25-34. The main finding is that having children increases the likelihood of living in poverty for both men and women, whereas women assume the risk earlier in the life course and are more likely than men to face poverty alone, for example, in a lone-parent household.

6.   ISTAT provided a country example for monitoring the social inclusion of the Roma, Sinti and Caminanti (RSC) population. The goal of the survey was to build a system of indicators that can monitor regularly the gap in terms of inclusion between RSC in public or private dwellings, and the ones still living in settlements. A mixed qualitative-quantitative research method was adopted, as the target group are too small to allow only a quantitative approach. The core principles of the survey were: self-identification; voluntary and anonymized data collection, provided with the explicit consent of individuals; involving Roma representatives through the National Roma Associations Platform. Italy also conducted a second survey on homeless population. The sampling base was represented by the benefits

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[2] http://www.cisstat.com/rus/sb_monitoring2019.pdf

provided (meals served and beds) at the types of services taken into consideration (soup kitchens and night shelters).

B.   Supplemental poverty measures

7.   The session consisted of contributions from the United States, Mexico, Eurostat, International Movement ATD (All Together in Dignity) Fourth World, Belarus, OPHI, UN ECLAC, International Women's Development Agency. The discussion was led by the United States. The Chair (United Kingdom) of the Task Force on measuring social exclusion presented the work of the Task Force.

8.   The topics in this session were those discussed in the fifth chapter of the forthcoming guide to data disaggregation for poverty measurement drafted by the UNECE Task Force on Disaggregated Poverty Measures (see para 17). The United States set the context for the discussion by briefly describing the topics covered in the chapter: adjustments to poverty thresholds to reflect spatial differences in costs and consumption, household size and composition and disability status and adjustments to resources to reflect social transfers in kind, housing wealth, asset poverty, unequal sharing of resources and the role of multi-dimensional poverty measures. The subsequent contributions in this session explored aspects of these topics.

9.   The presentations on social transfers in kind by Mexico and Eurostat emphasized the impact of the inclusion of these resources on inequality measures (generally reducing inequality) and the challenges involved in identifying these transfers, assigning a monetary value to these transfers, utilizing an appropriate equivalence scale and harmonizing the measurement of these resources across countries.

10.   The International Movement ATD Fourth World discussed how to use both the knowledge of people experiencing poverty and the knowledge of academics and practitioners to identify the dimensions to be included in a multi-dimensional poverty measure. Another presentation looked at the implementation of a multi-dimensional poverty measure for a single country, Belarus. Finally, the delegates discussed the challenges of developing comparable measures for multiple countries: OPHI described the global multidimensional poverty index, which provides internationally comparable measure of acute multidimensional poverty for more than 100 countries, and UN ECLAC reported on their work to develop an internationally comparable index for Latin America.

11.   The final two discussions focused on how household-level data collection can mask within-household inequality. The contribution from the International Women's Development Agency uses individual, multidimensional data collected in Fiji to construct both household and individual measures of deprivation along three dimensions focusing on gender inequality. The OPHI contribution discusses four strategies for using a national multidimensional poverty index to focus on child poverty, discussing the pros and cons of including key child indicators in the national MPI, disaggregating the national MPI by age, doing intra-household analysis of the MPI by age and gender and using a separate child MPI that directly links to the national MPI.

12.   Any methodology for measuring poverty relies on a number of assumptions and a multitude of decisions about how to set the poverty threshold, how to define resources and how to implement any particular methodology. The supplemental poverty measures are therefore important for policy-relevant measurement. Further information and recommendations on developing supplemental poverty measures will be available in the forthcoming guide to data disaggregation for poverty measurement (see para 17).

13.   The Chair (United Kingdom) of the Task Force on measuring social exclusion presented first results of the work. The Task Force was set up by the CES Bureau in June 2018 to consolidate current and emerging good practices in measuring social exclusion and develop practical guidance highlighting the value of social exclusion measurement. Two rounds of consultations were conducted among all Task Force members to identify how social exclusion or other related concepts are currently being measured in their country. The first round consisted of a survey carried out in February 2019 to check the extent to which

the Task Force members collect data on topics across various socio-economic dimensions such as health and well-being, living environment, social and cultural participation, etc. and how are these used to measure social exclusion. The second round gathered later in the year best practice examples in data collection, analysis, dissemination and linkage to the SDGs. In the cases when countries were not currently measuring social exclusion, the consultation included what might be possible to measure given the data available. The information collected during the two rounds was comprehensive but also illustrated the substantial differences between countries in the use of concepts and in practical ability when it comes to data and expertise. The next steps involve analysis of the results of the Task Force consultations and developing a structure for the report.

C. Improving response rate and sampling precision in surveys

14.   The session of improving response rate and sampling precision in surveys was composed of two paper contributions by the UNECE consultant Prof. Gianni Betti from University of Siena and Bosnia and Herzegovina. The discussion was led by Eurostat. The Chair (Austria) of the Task Force on disaggregated poverty measures presented the work of the Task Force.

15.   The first paper "Assessing and improving survey methods" presented an extensive compendium on survey quality assessment and survey improvements techniques. All areas of survey management were tackled with a pragmatic and hands on approach. The different types of errors were described as well as the quality frameworks and ways to report about survey quality. The discussion covered methods to improve survey design, data collection, data processing and imputation, weighting, variance estimation and dissemination as well as practical recommendations in these domains. Other current methodological issues such as small area estimates, pooling and rapid estimates were also shortly explained. The analysis, including practical recommendations for national statistical offices on controlling sampling and non-sampling errors for small domains, weighting and improving coverage for hard-to-reach population groups, will be included in the forthcoming guide on data disaggregation for poverty measurement.

16.   Bosnia and Herzegovina shared their experience in analysing non-response in the Household Budget Surveys (both incomplete interviews and no interviews) and in applying different technical solutions to improve the situation, such as introducing a new master sample, a mode change in data collection and introducing post stratification. The discussion tackled communication of sampling and non-sampling errors and the use of innovative tools.

17.   The Chair (Austria) of the Task Force informed about the progress made by the Task Force during the last two years and the completion of the work. The Task Force on disaggregated poverty measures was set up by the CES Bureau to consolidate current and emerging good practices in disaggregating poverty indicators and in assessing their robustness, and develop recommendations to statistical offices for the production, analysis and dissemination of disaggregated poverty measures. The Task Force's report "Poverty Measurement: Guide to data disaggregation" is being finalised. The Task Force aims to send its report to the CES Bureau for review at its February 2020 meeting and for an electronic consultation with the CES Member States in Spring 2020. Subject to a positive outcome of the country consultation, the report is expected to be endorsed by the CES plenary session in June 2020, and to be published by the end of year 2020. Various topics discussed during the meeting are addressed in the report.

D. Longitudinal poverty measures

18.   The session consisted of contributions from the United Kingdom, Switzerland and United States. The discussion was led by Canada.

19.   The participants stressed the importance of longitudinal studies on poverty. While cross-sectional indicators are essential for calculating poverty rates and observing trends over time, longitudinal measures of income and poverty could provide further insights into the

dynamic nature of economic well-being. These longitudinal estimates allow policy makers, academic researchers, and the general public to paint a more detailed portrait of poverty.

20.   United Kingdom presented a study that compared trends in poverty and persistent poverty in the United Kingdom with the rest of EU member states. The findings showed that poverty in the United Kingdom is more temporary compared to the EU average, income is fluid around the poverty threshold, and poverty and severe material deprivation have a strong positive correlation.

21.   The Swiss Federal Statistical Office publishes regularly longitudinal poverty indicators, based on the Statistics on Income and Living Conditions, introduced in Switzerland in 2007. New analyses focusing on poverty transitions showed that poverty entry and exit rates are linked to changes in labour market status or household composition, but also to rather stable characteristics such as age class, education, nationality and health status.

22.   United States described poverty using measures with different time horizons based on estimates produced from the U.S. Census Bureau's Survey of Income and Program Participation. The longitudinal poverty measures discussed include annual, episodic, and chronic poverty rates, as well as poverty entry and exit rates. A special emphasis was made on the frequency of transitions into and out of poverty in the United States. The study further examined how poverty dynamics vary across demographic groups, age and family composition.

23.   The discussion noted the data limitations for longitudinal analysis due to small sample size or rather short panel duration. While it would be important to increase the number of observations, the statisticians should also consider methodological approaches less sensitive to sample size.

E.   Subjective poverty

24.   The session consisted of contributions from the Poland and United States.

25.   Poland has experimented with several approaches in constructing subjective poverty lines (SPLs) and suggested modification when data on income perceptions was not available. The proposed solution is based on Leyden Poverty Line (quasi LPL), and aims to "objectivized" the subjective poverty lines. The tests showed that SPLs estimated using the quasi-LPL method reflect in general the standard of living in the selected EU countries as measured by income.

26.   In a study by the Institute of Sociology of the Czech Academy of Sciences and the US Bureau of Labor Statistics, subjective poverty thresholds were derived from the Minimum Income Question (EU-SILC): What do you consider as an absolute minimum income for a household such as yours to be able to "make ends meet"? Using the estimated thresholds, equivalence scales specific for each country were obtained. Subjective-based scales were then compared with the officially used (country-uniform) OECD-modified scale and the poverty rates based on the SPL for each country were compared to the officially used at-risk-of-poverty (AROP) rates. The results suggest that country-specific economies of scale should be considered in studies of economic well-being, in particular by those focused on income poverty.

F.   Emerging issues: Machine learning

27.   The session consisted of contributions from UNECE, Austria and the World Bank.

28.   The UNECE started a machine learning project early this year engaging 38 participants from 18 organizations in 14 countries. The aim of the project is to help countries explore the potential of machine learning for use at statistical offices, especially in the production process. This can make immediate contribution by significantly reducing the production time or providing more disaggregated and tailored to the user statistical products. Pilot studies are currently being conducted to illustrate the use of machine learning on traditional data where production processes are well-defined (such as coding & classification

and edit & imputation), and on integration of alternative non-survey data sources using geospatial information (such as imagery data).

29.   In the session, the participants discussed how the machine learning techniques can be concretely used for poverty measurement. The presentation from Austria provided an example on the use of machine learning and geospatial information for mapping EU-SILC based poverty estimates (project LEARN4SDGis). It aims to extend the use of geographic information systems to sample data for which detailed regional estimates are usually not available. This involves the production of maps with enhanced geographic resolution, as opposed to direct estimates from relatively small survey samples in the social statistics domain. The project explores new data sources on spatial distributions, registers and their integration with sample data by machine learning algorithms.

30.   The World Bank showed application of machine learning techniques on survey data. A simple application of machine learning can cause large biases in the estimates of poverty; therefore, they proposed several methodologies where machine learning and machine imputation combined in different ways could add more accuracy in poverty measurement. The World Bank's tool called SWIFT (Survey of Well-being via Instant and Frequent Tracking) demonstrated the use of machine learning techniques to reduce the number of survey questions from hundreds to 10-15 simple questions and in developing formulas which can convert survey data to poverty estimates in a few minutes. SWIFT also employs the latest Information and Communications Technology (ICT) innovations to improve data quality and significantly reduces time and costs for collecting data.

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