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**Measuring poverty****Broken series and coherent communication  
- Lessons learnt in Austria****Note by Statistics Austria***Summary*

Statistical indicators on poverty aim to describe social problems and contribute to their solution. Discontinuities in the methodology and definitions are to be avoided. In practice, however, political initiatives, such as the Sustainable Development Goals, as well as ongoing methodological innovations may alter existing national data collections. This affects the comparability of indicators over time and between countries.

Since it is not desirable to bring the evolution of poverty measurement to a halt, it is inevitable to develop adequate strategies to maintain coherent communication about poverty. This may include the use of multiple indicators, ex-post harmonization and backcasting techniques. Statistical offices need to engage in continuous cooperation with all relevant stakeholders and ministries to take into account users' concerns and ensure full transparency about any breaks in time series.

The document is presented for discussion to the Conference of European Statisticians' seminar on measuring poverty.

## I. Introduction

1. Measurement of poverty informs political and public decision making about effectiveness of policies. The role of official statistics for modern governance can be seen for example in the European Union: in summer 2010, the European Heads of State committed to reducing the number of persons living at risk of poverty or social exclusion by 20 million within 10 years. Political accountability implies that progress towards this target needs to be monitored at least until 2020.
2. The Sustainable Development Goals (SDGs) agreed upon in 2015 would imply a global effort “to end poverty in all its forms by 2030” (Goal #1). Accountability for the corresponding quantitative targets will crucially depend on statistics indicating changes over time.
3. Comparable data are needed to assess differences between countries, regions and social groups to allocate resources for poverty alleviation in an optimal way. When measurement of poverty is already established nationally, these measures are not necessarily useful for comparable global or regional measures.
4. Like the readers of a book who expect a relevant story to continue whenever a new chapter is opened, users attach great importance to the continuity of poverty measures. To ensure such comparability both between countries and over time, it is imperative that variations in the standards for defining and observing changes in poverty over time or between countries do not occur and if so, that they will not interfere with the story line.
5. In practice, the purposes of poverty indicators and the underlying data infrastructures have evolved over time. Consequently, changes in classifications used, definitions, coverage, methods of data collection or processing have occurred. These changes may reflect new political perspectives related to poverty or contradicting purposes of different statistics as well as methodological innovation. Hence, it must be anticipated that the new SDG indicators and differences in statistical capacity have an impact on poverty measurement. These processes are likely to happen at a different pace in different countries and problems in continuity over time will ultimately affect the comparability of poverty measures between countries.
6. This document reflects primarily on the causes and strategies for inevitable changes over time in the measurement of poverty. It briefly reviews general methodological principles and presents practical examples that demonstrate the experience with broken time series on poverty in Austria and its consequences for international comparability.

## II. Principles to ensure comparability

7. To ensure consistency, the Fundamental Principles of Official Statistics demand (a) coordination among statistical agencies and (b) use of international concepts, classifications and methods (principles number 8 and 9).<sup>1</sup>
8. The European Statistical System puts these principles in practice to achieve comparability across countries. It relies on legal frameworks and other instruments for practical cooperation, not commonly available for non EU-Member States.
9. Statistical production in the European Union is also guided by a European Statistics Code of Practice (CoP)<sup>2</sup>, which states in particular that: “European Statistics are consistent

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<sup>1</sup> <https://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx>

<sup>2</sup> <http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955>

internally, over time and comparable between regions and countries; it is possible to combine and make joint use of related data from different sources”.

10. A number of methods which certify comparability in institutional frameworks and statistical production are specified in the accompanying Quality Assurance Framework<sup>3</sup> of the European Statistical System:

#### **Comparability over time**

(a) Significant changes in reality are reflected by appropriate changes to concepts (classifications, definitions and target populations);

(b) Changes in methods are clearly identified and their impact measured to facilitate reconciliation;

(c) Breaks in the time series are explained and methods for ensuring reconciliation over periods of time are made public.

#### **Common standards**

(d) A common repository of concepts or a mechanism to promote coherence and consistency is used;

(e) Periodic assessments of compliance with standards on definitions, units and classifications are carried out and reflected in quality reporting;

(f) Deviations from standards on definitions, units or classifications are made explicit and the reasons for deviating are explained.

#### **Cooperation**

(g) Periodic assessments of comparability are institutionalised.

(h) Methodological studies are conducted in collaboration between Member States and Eurostat.

(i) Eurostat assesses the comparability of data from the quality reports requested from Member States.

11. The above principles are challenged by a preference for output rather than input harmonization in the European Statistical System. This holds specifically for the European Union Statistics on Income and Living Conditions (EU-SILC) which aim for comparable results rather than comparable methods. A critical review of EU-SILC data collection methods by Statistics Austria and Lars Lyberg raised doubts whether the desired comparability could be achieved with a diverse patchwork of methods and listed recommendations for EU-SILC poverty measurement which include that:<sup>4</sup>

(a) The comparative value needs to be emphasised in the competing priorities. Many countries have similar surveys to EU-SILC in place with an established set of questions and methodology with a steady and informed user base. Tensions between immediate national interests and perhaps more distant international interests are inevitable;

(b) Special attention must be paid (and resources allocated) to problems that only affect multi-population studies. In particular, this includes concepts such as equivalence, cultural bias, and response styles. For example, income components (e.g. from own

<sup>3</sup> <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>

<sup>4</sup> [http://www.statistik.at/wcm/idc/idcplg?IdcService=GET\\_PDF\\_FILE&dDocName=081094](http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&dDocName=081094)

production, rent, social transfers in kind etc.) or deprivation items (e.g. heating, air conditioning etc.) can have specific relevance and meaning across countries;

(c) Specific quality assurance and quality control measures need to be put in place. Comparative survey programmes as, for instance the European Social Survey, or the OECD led Programme for International Assessment of Adult Competences (PIAAC), all seem to suggest that abstract output specifications are usually not sufficient for comparability:

(d) Infrastructures which assist countries in their design and control work appear instrumental to ensure comparability in process quality. Centres of excellence may provide advice for certain practical key competencies that are not equally developed (e.g. conceptualisation, measurement, translation, quality assurance and control methods):

(e) Application of new survey methods requires continuous capacity building to reach informed design decisions. Better knowledge on responsive design, paradata, cognitive elements of the response process, and interviewer and other mode effects can help to reduce cost and minimize errors in a multinational and multicultural context;<sup>5</sup> and

(f) In the absence of centralized implementation rules and their active surveillance, convergence in methods will therefore rely strongly on open forms of cooperation such as joint methodological studies, continuous exchange on current best practices in meetings and participation of NSI staff in international meetings on survey methodology.<sup>6</sup>

### III. Challenges for poverty measurement in Austria since 1995

12. As a consequence of the evolution of poverty measurement, Austrian poverty rates for 1995 and 2015 cannot be expected to be strictly comparable. The first major break was the introduction of EU-SILC in 2003/2004, which implied a complete institutional relaunch of poverty measurement. The second break occurred in 2011/2012 with the collection of income information from registers, rather than questionnaires. Although the EU-SILC time series which had begun in 2004, remained well within the margin of error of the time series for 1995-2001, the institutional discontinuities proved a greater challenge than the methodological modifications of 2012 which implied a more serious level shift of about two percentage points.

13. Until the mid-90s, only occasional reports on poverty, typically based on the Household Budget Survey, existed in Austria.<sup>7</sup> The decisive impulse for poverty measurement came with Austria's accession to the European Union in 1995. As a Member State, Austria received financial support from Eurostat (as well as methodological guidelines) to conduct the European Community Household Panel survey (ECHP).<sup>8</sup>

14. The ECHP in Austria helped to build a critical mass of statistical literacy on poverty measurement among researchers and policy stakeholders. It also helped to build a pool of

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<sup>5</sup> The practical guidelines published by the continuing workshop on Comparative Survey Design and Implementation (CSDI) give further examples. See: <http://ccsg.isr.umich.edu/>

<sup>6</sup> Examples are the annual CSDI workshop or meetings of the American Association for Public Opinion Research (AAPOR) or the European Survey Research Association (ESRA).

<sup>7</sup> Bauer, M., & Kronsteiner, C. (1997). Statistische Beiträge zu Armut. *Armutsgefährdung und Sozialer Ausgrenzung in: Österreichisches Statistisches Zentralamt (ÖSTAT), Statistische Nachrichten, 1*

<sup>8</sup> The project was coordinated by the International Centre for Comparative Research in the Social Sciences (ICCR) a private non-profit research and jointly fielded by two market research companies.

qualified staff, of which at least 4 individuals stayed involved in poverty measurement long after the ECHP was discontinued.<sup>9</sup>

15. Due to a natural process towards methodological maturity (regarding e.g. questionnaire design, fieldwork organization and monitoring as well as imputation and calibration) the 2001 wave of the ECHP had already been distinct from the 1995 exercise. Some methodological variations could however be compensated. For example, in the early years, publications still relied on poverty lines calculated as a percentage of mean equivalised income of households instead of the median value in the distribution of equivalised incomes among individuals. It turned out crucial to be in a position to apply revised definitions also to earlier data waves and keep users appropriately informed.

16. The termination of the ECHP in 2001 marked the first decisive break in poverty measurement. It had followed from the so-called Lisbon Strategy which put poverty higher on the political agenda in the European Union. Comparative indicators were now to be collected within the European Statistical System (ESS). A joint framework regulation by the European Parliament and the Council was finally endorsed in 2003 which established the Community Statistics on Income and Living Conditions (EU-SILC) in all EU-Member States.<sup>10</sup>

17. The transition period between the ECHP and EU-SILC was most critical. In Austria, there was great uncertainty not only on how the new source (and results) would look like, but also how such a new collection would be feasible. This consideration was due to the very restrained staff capacities at Statistics Austria. The changeover was foreseen without any additional funding in the Austrian Statistics Law, which had already been endorsed before the EU-SILC framework regulation in 2000.

18. The resilience of Austrian poverty measurement, therefore, largely depended on the Social Ministry's continued interest in poverty measurement and commitment to provide a stable funding environment. After one gap year, the Ministry financed a fully-fledged, cross sectional pilot survey in 2003, which anticipated the methodology required by the new EU-SILC regulation. The first wave of fieldwork according to this regulation was carried out in 2004.

19. The shock from discontinuity between the ECHP and EU-SILC was also felt on the European level. A comprehensive report had, therefore, been published to investigate the consequences for policy indicators.<sup>11</sup>

20. As with its predecessor, the first wave of EU-SILC did not strictly follow the same methodology as today. Already the full implementation of its rotational design, with an integrated four year panel, took until 2007. The initial four (!) years could, hence, be considered as an extended piloting phase without providing strict comparability. Incremental changes that were since implemented as well as any possible limitations to international comparability are carefully documented in standard quality reports required by the EU-regulations. Examples range from using Statistics Austria's own interviewer infrastructure instead of outsourcing fieldwork to the introduction of telephone interviewing (CATI).

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<sup>9</sup> This may hold also on international level. The ECHP had been designed as a comparative data collection outside the European Statistical System and stimulated a lot of academic research. EPUNET - a network of academic institutions providing training and data access played a pivotal role also for the qualification and later recruitment of staff involved in production or use of poverty data. <http://epunet.essex.ac.uk/>

<sup>10</sup> <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32011R1173> on indicators see: Atkinson, T., Cantillon, B., Marlier, E., & Nolan, B. (2002). *Social indicators: The EU and social inclusion*. OUP Oxford.

<sup>11</sup> [http://ec.europa.eu/eurostat/ramon/statmanuals/files/transition\\_echp\\_eu-silc.pdf](http://ec.europa.eu/eurostat/ramon/statmanuals/files/transition_echp_eu-silc.pdf)

21. However, even incremental methodological differences (e.g. panel attrition and exclusion of new migrants in the ECHP) which could not be accounted for by revision of time series were relatively modest compared to the radical change of the institutional setting in EU-SILC. The transition from the ECHP rather amounted to opening a new book on the same theme than a new chapter within the same story and thus was the greatest challenge to maintain coherent communication in the history of poverty measurement in Austria.

22. In this process, it proved essential that the Austrian Social Ministry did not only provide funding for the fieldwork, but commissioned annual reports on basic results and methods. While for single years, funding usually appeared insufficient to sustain major research efforts, the cumulative investment ensured that the production team was steadily involved in the analysis, dissemination and quality assurance and capacity building. Since 2008, Statistics Austria participates in NETSILC – which is a network of statistical offices funded by Eurostat to advance analysis and methodology of EU-SILC.

23. The Social Ministry also commissioned a dashboard of national indicators for social inclusion, which Statistics Austria developed in close partnership with experts and policy stakeholders. This provided also a platform to establish broad ownership for poverty indicators, and discuss and improve definitions, which for example lead to the inclusion of an indicator on the number of homeless derived from register data.<sup>12</sup>

24. Statistics Austria's steady engagement with users' concerns improved understanding and created trust in its poverty data. This was also facilitated by offering a broad catalogue of complementary inclusion indicators. In recent years, these indicators basically supported the message that according to European indicators - and in comparison with other Member States – the crisis had done relatively little harm, while the additional national indicators also highlighted emerging problems in housing and on the labour market in Austria.

25. Clearly, the most significant methodological innovation in the Austrian EU-SILC was the replacement of income questions by register information.<sup>13</sup> This step was implemented from the EU-SILC 2012 operations onwards based on a national regulation by the Social Ministry. The aim of this step was primarily to reduce response burden, improve precision and reduce survey cost.

26. The income data thus collected showed markedly broader dispersion than the data collected from questionnaires. This led to an upward level shift of two percentage points in the poverty rate. Inevitably, this would have resulted in a serious break amidst the monitoring of political targets for the Europe 2020 strategy. In order to guarantee an unbroken time series, a revision of EU-SILC data from 2008-2011 based on income register data was carried out.<sup>14</sup>

27. The transition to register data had been carefully prepared in the 2011 data collection as a transition year in which both methods could be applied in parallel and provided a basis for a provisional backcasting of the series when the new data was published. Due to the availability of anonymised identification numbers both in EU-SILC and in registers it was possible within less than one year to re-process data with register information for years 2008-2011 to obtain a fully revised data series.

28. As a result of careful planning, proactive engagement with users to prevent misinterpretation and the revision exercise which moved the break in series 4 waves prior

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<sup>12</sup>[http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.15/2015/WP\\_19\\_EN\\_Austria\\_rev.pdf](http://www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.15/2015/WP_19_EN_Austria_rev.pdf)

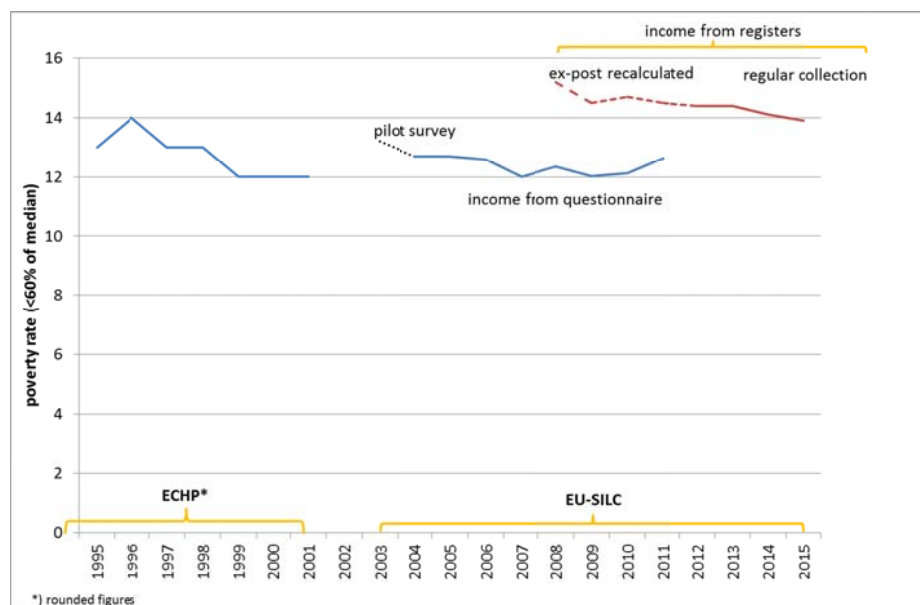
<sup>13</sup> Angel, S. Lamei, N., Heuberger, R. (2016). Using Register Data in Income Statistics in the Austrian EU-SILC: (Why) Do People Get Poorer?. *Third ISA Forum of Sociology (July 10-14, 2016)*. Isaconf.

<sup>14</sup>[http://www.statistik.at/wcm/idc/idcplg?IdcService=GET\\_PDF\\_FILE&RevisionSelectionMethod=LatestReleased&dDocName=079281](http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=079281)

to when the new methodology was introduced, the actual break appeared to be digested relatively easy by the public.

29. This is in sharp contrast with the transition from the ECHP, which did not only lack overlapping observation points but left also a considerable gap. In such situation, it was apparently hard to guess how the ECHP series would have continued and how the new figures could be related to these levels. It can, thus, be concluded that uncertainty, rather than the magnitude of a well-documented break threatens coherent communication. To reassure users when overlapping observations or backcasting is impossible, it may thus be appropriate to have at least additional information on similar, correlated variables which are not affected by the break in series. Unfortunately, in the case of ECHP and EU-SILC even deprivation items were slightly refined.

Figure 1  
**At-Risk-Of-Poverty Rates in Austria since 1995**



#### IV. Conclusions and recommendations

30. Comparability of indicators between countries and over time is not self-propagating. It requires designed and coordinated long-term commitments. In the field of poverty measurement it appears particularly important to:

- (a) Identify the specific national purposes for poverty measurement while adhering to international classifications whenever possible;
- (b) Streamline data production methods;
- (c) Ensure continuity of resources, institutions and staff;
- (d) Anticipate breaks from incremental methodological improvement;
- (e) Communicate margins of error and focus on material breaks<sup>15</sup>;

<sup>15</sup> Level shifts above two percentage points may be considered a useful rule of thumb given that EU-SILC sampling errors are typically of a magnitude around one percentage point.

(f) Provide target group specific methodological information, which explains the rationale for changes and deviations;

(g) Show differences in results using simple but precise terminology if breaks are anticipated; and

(h) Foresee ex post harmonization or backcasting.

31. To support these efforts in the context of the SDGs, international organizations may consider to:

(a) Provide practical guidelines and advice to facilitate streamlined data collection and production of indicators;

(b) Actively support knowledge transfer between data producers and involve producers in collaborative methodological work;

(c) Further standardize quality reporting on poverty data in the ECE region;

(d) Produce international quality and comparability assessments; and

(e) Establish national stakeholder platforms which accompany the development of poverty indicators.

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