Meeting of the United Nations Committee of Experts on International Statistical Classifications (UNCEISC) on 14-15 May

Issue paper prepared by Eurostat Unit B.1 as a member of the bureau

Implementing a regular revision cycle for the ISIC – issue paper

Questions and challenges

1. BACKGROUND

In December 2023, the United Nations Committee of Experts on International Statistical Classifications (UNCEISC) recommended [1] to the United Nations Statistical Commission (UNSC) a '*5-year revision cycle for the ISIC and CPC to expedite the formulation of statistical responses to fast-evolving and emerging socioeconomic and environmental circumstances in a short timeframe*'.

In its 55th session, due to strong opposition from several countries, not to the principle of cyclical review but to the proposed five-year review period, the UNSC '*noted the recommendation by the Committee of a five-year revision cycle and acknowledged the concerns expressed about that frequency*' and '*requested the Committee to propose and evaluate procedures, stages and milestones for implementing a regular revision cycle for ISIC and CPC leading to the next revision, and report back to the Commission by 2028*' [2].

2. OBJECTIVE

The purpose of this paper is to analyse the issues and challenges linked with the implementation of new classifications of economic activities, such as ISIC, in the statistical production system and to propose solutions for a consensual definition of the pace of revision of the mentioned classifications. The discussion on the future CPC revision cycle and its link to the ISIC revision pace is not part of this document.

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[1] *Report of the Committee of Experts on International Statistical Classifications* (E/CN.3/2024/21) https://unstats.un.org/UNSDWebsite/statcom/session_55/documents/2024-21-Classifications-E.pdf

[2] *United Nations Statistical Commission Report on the fifty-fifth session (27 February–1 March 2024)* E/2024/24-E/CN.3/2024/36 https://unstats.un.org/UNSDWebsite/statcom/session_55/documents/2024-36-FinalReport-E.pdf

3. GUIDING PRINCIPLES FOR DEVELOPING A NEW VERSION OF A CLASSIFICATION

In the context of changing to a cyclical review, the right balance has to be struck between the competing priorities as expressed in the relevant *basic principles* ([3]) and *best practices* ([4]).

3.1. User requirements

The basic principles note that "Different users' requirements may have to be balanced against each other or a choice may have to be made between them when they are contradictory." For instance:

(1)   Users may express a need for an updated classification featuring new categories in order to better reflect emerging societal phenomena; this is seen as essential to preserve the **relevance** of the statistics based on that classification.

(2)   Users with an interest in benchmarking different economies against each other prioritise **geographical comparability**.
This is reflected in the best practices, which state that the aim of international statistical classifications is 'to provide a basis for statistics that are reasonably comparable between countries' and that countries 'should be able to report in international categories at least at the higher levels of the international statistical classification'.

(3)   Users with needing to take decisions based on the development over time have an interest in long time series i.e., **comparability over time**.
This is also reflected in the best practices, which state that 'In developing and using a statistical classification, consideration must be given to ensuring comparability over time between current and previous versions of the classifications.'

3.2. Implementation

The revision of a classification is characterised by a first wave, during which the existing classification is reviewed yielding modifications to the classification, possibly including structural changes. This is then followed by a second wave, during which the updated classification is stepwise implemented in the statistical business registers, in surveys, in the production and the dissemination of statistical data. These two aspects cannot be disentangled from each other and must be considered jointly when establishing processes and stages for a regular revision cycle for economic classifications.

The basic principles ask '*How does one implement a revised classification in on-going statistical programmes, given the need for comparability with past statistics?*' and note that '*problems of establishing links between the revised classification and its predecessor at various levels of aggregation will be much more serious*' (than is the case with updating and maintaining a

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([3]) E. Hoffmann and M. Chamie (1999): *Standard statistical classifications: basic principles*
https://unstats.un.org/unsd/classifications/bestpractices/basicprinciples_1999.pdf

([4]) A. Hancock (2013): *Best Practice Guidelines for Developing International Statistical Classifications*:
https://unstats.un.org/unsd/classifications/bestpractices/Best_practice_Nov_2013.pdf

classification), '*in particular if double coding […] cannot easily be carried out'*.

4.   **STRIKING THE RIGHT BALANCE**

It is indisputable that classifications that are based on categories which change in relative importance over time must be revised in order for them to remain relevant and to retain their statistical balance (called for in the best practices). However, a balance has to be struck between **relevance** on the one hand, and **comparability** and **efforts** on the other hand.

4.1.   **Comparability**

4.1.1. Comparability over time

The challenge to strike a balance regarding comparability over time is noted in the basic principles ('*Important time-series breaks should be avoided but may sometimes be necessary when this reflects changes to the reality that the classification should mirror.*') Solutions such as correspondence tables, backcasting and double coding/reporting are noted in the best practices ('*Time-series can be managed through the use of correspondences (which map or link together different versions of classifications), or through back-casting or dual-coding.*') but in case of many-to-many relationships between two classifications more sophisticated methods, such as backcasting, would be needed to ensure a higher level of coherence in the time series).

In addition, double coding (which essentially also is a prerequisite for backcasting, regardless of whether a micro- or macro-approach is followed) is resource consuming and may also increase the respondent burden – thus piling onto the efforts needed. This includes the management of statistical disclosure control risks (to ensure that the highly granular data resulting from double encoding – in particular for many-to-many relationships – are not accidentally revealed).

4.1.2. Geographical comparability

Each country and region have their own practical constraints, meaning that the roll-out of a new classification version takes place at different points in time. However, unless the new version of classification is rolled out simultaneously across countries, comparability issues ensue, with different versions in place in different countries for the same reference period.

4.1.3. Comparability across domains (coherence)

While simultaneous implementation across all statistical domains would be the ideal scenario from a user perspective, practical constraints typically hinder this. In particular, certain 'downstream' domains (such as national accounts and the associated satellite accounts) do require a certain amount of data and statistics from other domains according to the new classification before they can compile their own outputs in terms of the new classification. To ensure that the domain-by-domain rollout is synchronised across the

European Statistical System (ESS) – to achieve geographic comparability – the schedule is also set out in the legal act defining NACE Rev. 2.1 (⁵).

However, and by necessity: each new version of the classification of economic activities will lead to a number of reference years for which the coherence (comparability across domains) is reduced.

4.2. Efforts

Every revision of for classifications of economic activities will, not the least due to their high uptake across various statistical domains, require considerable resources – both for their development and for their implementation. Certain comparability issues can be mitigated by means of (considerable) resource investments (whereas others, as discussed above, are unavoidable). However, as noted in the basic principles, sufficient resources '*will not necessarily be available to fully adhere to all principles for the development and implementation of statistical classifications at the national and international level*.'

4.2.1. Development of a new classification version

The definition of a new classification starts with the collection of user requirements to assess the need for a revision and is followed by the creation of an updated structure, the drafting of new explanatory notes, the setting up of correspondence tables to other classifications as well as the definition of the respective national versions.

By way of example, ISIC Rev 5 was defined and made ready to be used in 7 years (starting in 2019 with the first general consultation and finalised by 2025 with the definition of the national versions), NACE Rev 2.1 in 7 years (between 2018 and 2024). This period includes, in addition to the co-ordination and synthesis work carried out by the classification custodians, the involvement into the process of different national statistical offices (the Task Team ISIC Rev 5 was composed of 25 countries and international organisations, the new NACE was discussed and agreed by 31 countries in the ESS Standards Working Group) as well as of a large mirror of stakeholders (e.g. associations, public administrations, research centres). This large number of involved partners, to which there could also be legal constraints etc., make the process of defining a classification a consensual act between future users, which, however, takes a certain amount of time.

Experience has also shown that the definition of a national classification version (such as the NACE national versions), takes considerably less time if based on an already existing regional or international classifications.

4.2.2. Implementation of a new classification version

The second wave of the revision is marked by the implementation of the new classification in the production system, in which these modifications and changes are implemented in the respective statistics. As a basis for implementation in the statistical system, a consolidated version of the ISIC explanatory notes as well as the correspondence between the previous and

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(⁵) https://eur-lex.europa.eu/eli/reg_del/2023/137/oj

current version has to be timely available. Both the UNSD and Eurostat have published implementation plans for ISIC Rev 5 and NACE Rev. 2.1, respectively. The UNSD defined a recommended timetable for countries, starting by the adoption of the national classifications by 2025, the adaptation of the business register by 2026 and the use of ISIC Rev. 5 in the economic census, business surveys, national accounts environmental and social statistics starting in 2027, without mentioning when the new classification has to be implemented in all statistical products. The ESS Committee agreed that the new NACE national versions had to be validated by Eurostat by the end of 2024, introduced into the statistical business registers by end of 2025, and defined a stepwise implementation of the new NACE into the statistical production between 2026 and 2030 with minor exceptions (see Annex A).; this schedule is established in Article 2 of the legal act defining NACE Rev. 2.1 (). It is important to note that for some statistical areas the implementation of a new classification takes considerably more time than one year. Looking at the illustrative examples of short-term indices, the weights should be defined based on the new classification (based on the first annual data by the new classification) and, after that, 3 years of monthly observations are needed to map the seasonal patterns and to make seasonal adjustment for the indices.

Moreover, there is an important need to coordinate the revision of the classifications of economic activities with those concerning other normative elements, such as the systems of national accounts, the manuals for balance of payments and the standards for trade statistics.

5. WHEN SHOULD CLASSIFICATIONS OF ECONOMIC ACTIVITIES BE REVISED?

On the one hand, the basic principles state that revisions '*should only be undertaken at long intervals, such as every 15-20 years*'. However, with the evolution of the global economy having accelerated, this appears to be a somewhat overly conservative approach.

On the other hand, the 2023 UNCEISC report ([1]), which advocates for '*5-year revision cycle for the ISIC*', would (at least for European statistics) lead to a permanent lack of coherence: for the majority of reference years, business statistics and national accounts would be compiled using different economic activity classification versions.

Moreover, if the revision of a classification would be launched while the previous version has not yet been implemented, the revision phase is deprived from the opportunity to consider the experiences and learnings of the implementation phase of the previous version – a situation which negatively impacts the information base for the revision process.

While maintaining the relevance of ISIC is an unquestionable user need, an increased revision cycle frequency to quinquennial is not equally favoured by users. Most user feedback has rather indicated that the costs of reduced data comparability over time and across domains are higher than the benefit which would result from a revision cycle shortened to 5 years.

To strike a balance, based on the time period required for the revision (definition and implementation) of ISIC Rev. 4 as well as the requirements of the statistical producers concerning the implementation, an ideal revision pace for a classification of economic activities would be **10 years**.

If strictly necessary, a limited preparatory 5-year exercise (presented in section 6) for identifying new activities with no changes to the classification structure, could be performed in between.

6. INTERMEDIATE REVISIONS OF A PREPARATORY NATURE

Revisions of classification can have different degrees of complexity. In order to better reflect the evolving economy without triggering comparability and resource issues, an approach whereby the proposed regular 10-year cycle is combined with intermediate revisions in between (thus 5 years after each regular revision), with a focus on on-boarding the research agenda. This would be achieved by means of updates to the explanatory notes so that the allocation of new phenomena becomes clear and consistent without changing the structure of the classification. This would

- allow those regions or countries that see a need to do so (e.g. due to higher prevalence of the phenomena in scope) to create more granular positions in a consistent way – and thereby pilot their statistical feasibility (as defined in the basic principles)

- prepare the global statistical community for the consistent incorporation of these phenomena during the next major (decennial) revision.

This may, in turn, lead to more granular correspondence tables and a partial enrichment of the introductory notes.

It would be of the utmost importance that *no structural changes* result from such intermediate revision, since this would negatively impact data comparability over time and (in addition to operational efforts such as those outlined in 4.2 above) would require a re-definition of regional and national versions.

7. QUESTIONS TO UNCEISC MEMBERS

To have a good overview of the implementation phase the following questions address key points of the implementation:

I. By when is your national version of ISIC Rev. 5 defined?

II. By when does your organisation foresee to achieve full implementation of ISIC Rev. 5 in

- your statistical business register

- in business statistics

- in national accounts?

Annex A — NACE Rev. 2.1 implementation plan

Group	Statistical product/register	Implementation period of the revised NACE (Reference period[6])	Provision time
BSDG	Statistical Business Registers (SBRs)	2025	2025/12/31[7]
BSDG	Information society - households and individuals	2025	2025/10/05
BSDG	PRODCOM	2025	2026/06/30
BSDG	Structural Business Statistics	2025	2026/10/31 (prel) 2027/06/30 (final)
BSDG	Trade in goods by enterprise characteristics	2025	2026/12/31
BSDG	Research and development	2025	2027/06/30
BSDG	Services trade by enterprise characteristics	2025	2027/06/30
BSDG	Foreign affiliates statistics	2025	2027/08/31
BSDG	Foreign direct investments	2025	2027/09/30
BSDG	Short Term Statistics	2025	2028/12/31[8]
DIMESA	Material flows and resource productivity accounts	2025	2027/04/30
BSDG	Information society – enterprises	2026	2026/10/05
BSDG	Innovation	2026	2028/06/30
DIMESA	Environmental taxes – Environmental taxes by economic activity (ETEA)	2026	2028/04/30
DIMESA	Road freight survey - quarterly data	2026	2026/08/31
DIMESA	Waste statistics	2026	2028/06/30
DIMESA	Forest accounts	2026	2028/09/30
DIMESA	Environmental goods and services sector (EGSS) accounts	2026	2028/09/30
DIMESA	Environmental subsidies and similar transfers (ESST) accounts	2026	2028/12/31
DIMESA	Environmental expenditure based on SBS – Environmental protection expenditure accounts (EPEA)	2026	2028/12/31
DIMESA	Water statistics	2026	2028/12/31
DSS	Labour Force Survey (EU-LFS)	2026	2026/05/31
DSS	Job Vacancy statistics (JVS)	2026	2026/06/10
DSS	EU-Survey on Income and Living Conditions (EU-SILC)	2026	2027/03/31
DSS	Structure of Earnings Survey (SES)	2026	2028/04/30
DIMESA	Energy statistics	2027	2028/09/30[9]
DIMESA	Air emission accounts	2027	2028/09/30
DIMESA	Physical energy flow accounts	2027	2029/09/30
DSS	Labour Cost Index (LCI)	2027	2027/06/1
DSS	Gender Pay Gap	2027	2029/01/31
DSS	European Occupational Diseases Statistics (EODS)	2027	2029/06/30
DSS	European statistics on accidents at work (ESAW)	2027	2029/06/30
DSS	Health Care Expenditure (HCE) (health care providers)	2027	2029/06/30
DMES	National Accounts	2028[10]	2029/12/31
DMES	Public Corporations	2028	2029/12/31
DSS	Adult Education Survey (AES)	2028	2029/05/31
DSS	Labour Cost Survey (LCS)	2028	2030/06/30
DSS	Minimum Wages	01/07/2028	2028/07/31
DSS	Labour Cost Levels	2030	2031/03/31
DSS	Continuing Vocational Training Survey (CVTS)	2030	2032/01/31
DSS	Household Budget Survey (HBS)	2030	2032/04/30
DSS	Time Use Survey (HETUS)	2030	2032 at the earliest
DSS	Population and housing census	2031[11]	TBD
DSS	European Health Interview Survey (EHIS)	2031	2032/10/31

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[6] Note: for products with sub-annual reference periods, the application is understood to be **January** of the reference year for monthly data, and **the first quarter** of the reference year for quarterly data.

[7] The implementation of the new NACE in the Statistical Business Registers is foreseen to be achieved by the end of 2025.

[8] For STS the new NACE would be implemented at the same time as the implementation of the base year 2025 which according to the regulation needs to be done before end 2028. Until the rebased data are available, STS for reference periods in 2025, 2026 and 2027 will continue to be provided in NACE Rev.2., while STS data will be backcasted until at least reference periods in 2021. The need for backcasts for reference periods in years earlier than 2021 is still to be discussed by the Working Group.

[9] This presupposes that summaries by NACE would not be needed for the monthly data.

[10] For National Accounts, data (using the new NACE) are to be transmitted to Eurostat in 2029 for a time series ending in 2028, with the start year to be set out in the legal basis in the future version of the European System of Accounts (ESA). Some tables in the ESA transmission programme will relate to latest reference years before 2028.

[11] The new NACE is foreseen for implementation in 2031, i.e. 10 years after the ongoing 2021 censuses. This year is in line with the 2030 worldwide round of population and housing censuses. The schedule for data transmission has not yet been established. It depends on the Conference of European Statisticians *Recommendations on Population and Housing Censuses* due to be published in 2025 as well as on EU priorities and data needs. The deadline will be established in a secondary legislation, under Regulation (EC) No 763/2008 or the future framework regulation concerning European statistics on population.