

Classifications *Newsletter*

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National implementation of a revised Statistical Classification of Economic Activities in the European Community (NACE Rev.2)

Ines Rafael, Bernd Waldmüller

Destatis (Federal Statistical Office of Germany)

General remarks on the national implementation of NACE Rev. 2

From time to time revisions of classifications become necessary to give an adequate description of economic and technical reality.

As a consequence of changes in the Statistical Classification of Economic Activities in the European Community some statistical units may now be classified in different NACE codes. These changes resulted in breaks in statistical time series, seriously complicating the analysis of statistical data.

The transition to the new classification therefore required careful preparation and coordination of all the statistics concerned. The revised Statistical Classification of Economic Activities in the European Community, NACE Rev. 2, is gradually replacing the old NACE Rev. 1.1.

This article addresses the work of adjustment of the Business Register, as well as work on double reporting of statistics and backcasting activities.

Conversion of the Business Register for Statistical Purposes

The Business Register for Statistical Purposes contains the basic population of all units engaged in an economic activity and assigns each of them a NACE code. Basically, the Business Register is the framework used in sampling procedures for surveys in business statistics. Additionally it is a tool for analysis of businesses in Germany.

In the implementation process of NACE Rev. 2, extensive adjustments in the Business Register have been carried out. According to the requirements for coordinated implementation of NACE Rev. 2 across

member States of the European Union (EU), the activity codes within the Business Register had to be recoded in such a timeframe as to enable the Structural Business Statistics (SBS) to be presented on the basis of NACE Rev. 2 starting on 1 January 2008 and Short-Term Statistics (STS) starting 1 January 2009.

In providing the correspondence, at the beginning of 2008 all units of the Business Register (enterprises and local units) were shown next to the national version of NACE Rev. 1.1 and also with a code for the national version of NACE Rev. 2. As a result, different possible scenarios using the NACE Rev.1.1 codes had to be distinguished. In particular, within the conversion key, there were NACE Rev.1.1 items that could be allocated exactly to one code of the NACE Rev. 2, the so-called 1:1-cases. For these cases an automatic conversion was possible. But there were also several conversions where one code of NACE Rev. 1.1 was subdivided into different codes of NACE Rev. 2, the so-called 1:n-cases. For those cases another method had to be chosen.

Currently the German Business Register contains about 3.5 million economically active enterprises. Approximately 1.9 million units of the Business Register could not be converted unambiguously. As a first step, all 1:n-cases were converted using an automatic procedure for the definition of the principal economic activity (probabilistic method). For that purpose, a special conversion key with a hypothesized principal economic activity was compiled by a group of experts. After an automatic conversion procedure, these units which had been allocated by principal activity were checked manually in a second step. Due to limited staff capacity and high response burdens of enterprises, a clarification for all 1.9 million units was not feasible.

In the first stage of the manual checking of the correct NACE Rev. 2 code, different methods of evaluation were applicable:

a) verification by staff of the specialized statistical collections, of the automatically assigned

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codes of NACE Rev. 2 for units which were respondents to those statistics;

b) internal research (via Internet, trade register) by staff of the Business Register unit; as well as

c) a query for the Business Register, using questionnaire and online survey (see Figure 1 below).

The units that were investigated were chosen according to Pareto's Law. Using the methods mentioned above, it was possible to convert about 1.0 million units unambiguously to a code of NACE Rev. 2. The residual units (ca. 900,000) were mainly small units where consideration of the cost-benefit ratio indicated that a separate investigation was not advisable. The adoption of the special conversion key with a hypothesized principal economic activity guaranteed adequate quality in these cases.

Coding to NACE Rev. 1.1 is retained in the Business Register, allowing units to be matched/represented according to NACE Rev. 1.1 as well as NACE Rev. 2.

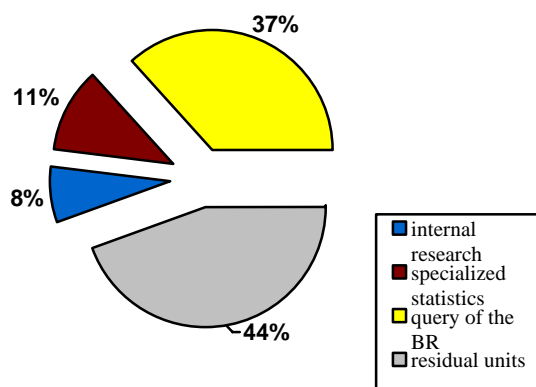


Figure 1: Investigation methods for coding of NACE Rev.2 - 1:n cases

After finishing the investigation process, the conclusions drawn from the query and the other research methods were integrated into a revised conversion key with a hypothesized principal economic activity, which was used for the automatic coding of the residual 1:n-units. Thus the quality of

the coding of NACE Rev. 2 in the Business Register was further improved.

Double reporting and backcasting of statistics

To facilitate the user in interpreting the impacts of the changes in classification, double reporting of statistics and backcasting of time series had to be done. In this instance, double reporting refers to the processing of the statistical data in old and new versions of the classification, while backcasting is the conversion of time series – especially of aggregates.

In general, for all Structural Business Statistics (SBS) at the European level, the minimum requirement is for double reporting that refers to the reference year 2008, according to both NACE Rev. 2 and NACE Rev. 1.1.

Backcasting is especially important for Short Term Statistics (STS). The year 2009 is the first year for results of STS to be reported in NACE Rev. 2. To ensure harmonization of the process at EU-level, the requirements were formulated in a regulation by the European Commission.

For purposes of backcasting, the year 2005 was the first base year for which NACE Rev. 2 had to be used for STS. The periods for backcasting differ greatly among the several statistics. For some statistics backcasting has been conducted for only a few reporting years. However, for some indices in the manufacturing industry (e.g. new orders received, turnover and production), backcasting was done as far back as the reporting year 1991 in Germany. To be able to do the backcasting the weighting scheme for composite indices also had to be adapted.

The System of National Accounts (SNA) will put into effect a backcasting of its results in the context of the work for the 2011 revision.

In conclusion, it can be observed that the process of introducing a new classification is both time-consuming and labour-intensive. It took approximately eight years from the beginning of the revision process to the implementation of the revised classification, NACE Rev. 2.

Towards harmonized industrial classifications in ASEAN

Lia Emalia

Statistics Unit, ASEAN Secretariat

Harmonization of statistics is one of the major thrusts of regional cooperation in statistics in the Association of South East Asian Nations (ASEAN). Never before have the statistical systems of ASEAN Member States (AMS) been so committed to improving the comparability of statistics through the harmonization of industrial classifications. The more intensive communication established between the United Nations Statistics Division (UNSD) and AMS during the process of revision of the ISIC Rev. 4, along with the shared objectives of ASEAN to support ASEAN initiatives with comparable data, has led to ASEAN cooperation in the harmonization of industrial classifications.

ASEAN responded early to the global initiative on the revision of industrial classifications. The process started with the decision by the ASEAN Heads of Statistical Offices Meeting (AHSOM) to work on harmonization of industrial classifications in ASEAN, in recognition of the importance of standard industrial classifications in the harmonization of statistics. In 2003 a more concrete measure was taken through the establishment of an ASEAN Task Force on Harmonisation of Statistical Classification (TFSC).

The ASEAN Programme for Regional Integration Support (APRIS) has greatly facilitated the work of the TFSC. Based on an early draft of ISIC Rev. 4 and the proceedings of two workshops organized by UNSD in 2002 and 2003, in mid-2004 ASEAN prepared an "ASEAN Position on ISIC Rev. 4 and General Issues in CPC" for input into the revision process of ISIC and CPC undertaken by the UNSD. This also provided the basis for further steps of harmonization of industrial classifications in ASEAN. These actions were augmented by the series of two meetings of the TFSC. The first was funded by UNSD and the second was supported in part by the APRIS 1.

The major points brought up in the ASEAN Position include the following:

a) It was acknowledged that under Agriculture, Forestry and Fishing, firstly, the AMS needed additional detail in the classification of production of permanent crops and therefore strongly recommended that rubber and oil palm be identified at 4-digit level, as they constitute important economic activities in the ASEAN region;

b) A recommendation was made to drop the category "mixed farming", as it is not appropriate for the ASEAN region. The introduction of mixed farming would have created problems in the development of sampling frames because that concept mixes various kinds of crops in one category; and

c) It was decided to maintain categories for cattle farming and dairy farming.

These were not however the only recommendations as AMS have also indicated their positions regarding other economic activities.

The follow-up activities by the TFSC, also supported by APRIS 1, resulted in the development of an ASEAN Common Industrial Classification (ACIC) at three-digit level, in line with ISIC Rev. 4. In 2006 the TFSC met on three occasions to discuss the structure, revision policy and descriptive detail of the ACIC. At its third meeting in March 2006, the TFSC agreed on a draft of the ACIC at three-digit level, based on the International Standard Industrial Classification (ISIC) Rev. 4, with some modifications to suit certain economic conditions specific to AMS. The TFSC also agreed on the Guidelines for Revision that will help AMS in the revision of their current national standard industrial classifications. Some boundary issues and vertically-integrated economic activities needing further or special study were also identified and solutions were provided in the Guidelines.

At the 5th TFSC meeting in August 2006 the ACIC was finalized and became the reference classification for AMS in developing and revising their National Standard Industrial Classifications (NSICs). In this classification, new groups were created under Section B: Mining and Quarrying, Section H: Transportation and Storage, Section P: Education, and Section S: Other Service Activities.

The ACIC, which was agreed by all the AMS, consists of 243 groups as compared to 238 groups in ISIC Rev. 4.

Following are the new groups that were created:

Division	Group	Description
07	073	Mining of precious metals
49	492	Transport via buses
85	856	Pre-primary education
96	961	Personal services for wellness, except sport activities
	962	Laundry services
	963	Other personal services n.e.c.

AHSOM 6 adopted the ACIC along with its Guidelines for Revision in 2006. The ACIC is currently being used as a guideline for AMS in revising their NSICs. The following countries have completed the revision of their NSICs in line with the new structure of ISIC Rev. 4: Singapore (with Singapore Standard Industrial Classification – SSIC 2005); Malaysia (with its Malaysia Standard Industrial Classification – MSIC 2008), and Viet Nam (with its Viet Nam Standard Industrial Classification – VSIC 2007). Other AMS currently working on their NSIC revisions include Brunei Darussalam, Indonesia, the Philippines and Thailand. This is being accomplished with the countries' own technical resources, using the experience gained at the TFSC. The revised versions are expected to be ready in 2009. At the three-digit level, all AMS have adopted the same classification, which is ACIC, except for Singapore which had finished its SSIC earlier, based on an earlier draft of ISIC Rev. 4. At the four- and five-digit levels, NSICs may differ from country to country. However, they are guided by ISIC Rev. 4; hence it is easier to construct correspondence tables. The construction of correspondence tables linking the new NSICs to ACIC, to ISIC and to prior versions of the respective NSICs remains a very important objective.

With regard to Cambodia, Lao PDR and Myanmar, capacity building has been ongoing, with assistance from the Ministry of Economy, Trade and Industry (METI) of Japan, to help these countries in developing their NSICs, based on ACIC and ISIC Rev. 4. First drafts have been developed. Under the

same sponsor, a pilot study has been undertaken in four ASEAN countries to harmonize the manufacturing part of the NSIC. This has led to the adoption of the first draft.

Currently some countries are carrying out a pilot study to test the population census questionnaire, using their revised NSICs. For example, Statistics Indonesia has conducted workshops and a pilot study to obtain feedback from the field. The objective was to improve the draft of the Indonesia NSIC, in line with the ACIC and ISIC Rev. 4 and to revise the questionnaire for the population census. At the United Nations Workshop on International Economic and Social Classifications that was conducted in Bangkok in November 2008, some countries reported that they would apply their revised NSICs to the 2010 round of population censuses.

A number of tasks and challenges lie ahead for each country in the implementation process of their NSIC. Coordination among government and relevant stakeholders, users and data providers is very important in implementing new NSICs in line with ACIC and ISIC Rev. 4. Strong advocacy and good communication are also needed in updating the application of NSICs in other statistical activities. A fixed schedule of implementation should be maintained and monitored by implementing NSOs.

Building statistical capacity – classifications workshops in the ECA and ESCAP regions

As part of the implementation programme for the International Standard Industrial Classification of All Economic Activities (ISIC), Rev.4 and the Central Product Classification (CPC), Ver.2, the United Nations Statistics Division (UNSD) organized workshops on International Economic and Social Classifications in Addis Ababa, Ethiopia, on 3-6 November 2008 and in Bangkok, Thailand, on 24-27 November 2008. The workshops were organized in cooperation with the Economic Commission for Africa (ECA) and the Economic and Social Commission for Asia and the Pacific (ESCAP). A total of 58 participants from 38 countries attended the workshops.

The overall purpose of the Workshop was to improve the capacity of countries in the ECA and ESCAP regions to implement and use classifications in economic statistics. In particular, the workshops aimed to familiarize the participants with the newly revised activity and product classifications, ISIC Rev.4 and CPC Ver.2. In addition, the workshops reviewed current practices in classification matters in the respective regions and discussed ways forward in adapting and implementing the revised classifications to national circumstances.

Through the course of these workshops, a wide range of issues were brought up and discussed. UNSD staff delivered a series of presentations on the newly revised classifications, addressing underlying changes in structure, concepts and methodology as well as guidelines for the implementation process. Participants gave presentations on current classification practices and applications in their respective countries, as well as on future plans. The resulting deliberations brought up several particular challenges in the regions, but also interesting developments and practices in individual countries.

During the country presentations, it became clear that all participating countries use ISIC or ISIC-derived classifications in their statistical offices, with ISIC Rev.3 being most frequently mentioned. In some countries, several versions of ISIC are used simultaneously, either by different institutions or even for different programmes within the same institution. This does not only present additional challenges, but also underlines the strong need for coordination on standards among programmes and institutions. Encouraging efforts by a number of countries, including the creation of classification coordination committees, or increased cooperation on classifications issues among statistics-producing agencies, have been reported.

A significant number of participants reported that their offices have started using ISIC Rev.4, at least for some purposes. A particular and important case of adaptation of ISIC Rev.4 is the development of a regional classification for member countries of the Association of Southeast Asian Nations (ASEAN). The ASEAN Common Industrial Classification (ACIC) has been developed as a common classification, based on ISIC Rev.4. (See separate article in this Newsletter for details.)

With regards to the new ISIC revision, one important point of discussion was the consistent treatment of the increasingly widespread phenomenon of outsourcing. The problem arises particularly in the manufacturing industries. As part of the discussion on application rules in general, UNSD gave a detailed presentation on the topic of outsourcing, and explained how, in the case of manufacturing, the correct treatment is made based on ownership of input materials, reflecting ISIC guidelines that are also in line with the treatment of goods for processing in the System of National Accounts and the Balance of Payments. This treatment ensures that the production of goods is recorded only once, avoiding double counting, which may otherwise be difficult to ensure, especially when outsourcing happens across national borders.

A presentation and discussion on the adaptation of ISIC to national circumstances proved very useful since several countries had expressed the need for certain country-specific activities in a new activity classification. In response, UNSD explained how countries can develop their national activity classifications based on ISIC by adding and removing detail. Different coding options were discussed, as well as methods to preserve maximum comparability with ISIC when carrying out modifications like splitting or merging of categories. Some possible approaches for deciding where national modifications could be warranted were also outlined. Additionally, in the cases where countries do not base their national activity classification on ISIC, recommendations were given on how to align new national versions as much as possible with the existing ISIC.

While the use of ISIC as the standard activity classification is universally accepted, not all countries currently use product classifications based on the CPC. In several cases the Harmonized System or other product classifications were used instead. However, about half of the workshop participants reported that their offices have scheduled a move to CPC Ver.2 in the future, or are considering doing so.

With regard to the CPC, a session was dedicated to the new concepts relating to the information economy, as this is an area where the new version has conceptually changed significantly from earlier versions. Also, given its particular importance in the region, another session was dedicated to discussing

the classification of agricultural and food products, which is a part of the CPC where a significant amount of detail has been added that often goes beyond the that provided in the Harmonized System, which otherwise serves as a provider of building blocks for the CPC.

Some participants questioned why the underlying structure of the CPC was not based on the industry-of-origin approach found in some other product classifications. UNSD explained the arguments for and against the industry-of-origin approach, and why the Expert Group on International Economic and Social Classifications had chosen not to base the CPC structure on this principle for this revision of the CPC. It was however acknowledged that both approaches have advantages and disadvantages and that the question of the most appropriate overall CPC structure will remain on the agenda of future meetings of the Expert Group.

The discussions of the workshop resulted in a set of recommendations for future actions for the countries in the regions, as well as for the United Nations and the regional organizations. For the countries, these included: making efforts to implement the new classifications and elaborating specific plans for doing so; establishing specialized classification units to facilitate the implementation and coordination among relevant bodies within a country; encouraging regional cooperation both in implementation and in construction of associated tools like indexes. Recommendations for the international and regional partners included: undertaking advocacy efforts directed towards policy makers and line ministries to help putting classifications on the national agenda and promote their common use; increasing their presence in regional forums; providing sustained technical support, including additional workshops on a regional basis; making sure information on existing cooperation programs is available and transparent, and in the case of international agencies, coordinating advice to ensure that common standards are promoted.

All documents discussed at the workshops are available on the UNSD Classifications website, at <http://unstats.un.org/unsd/class/> under "Training and Workshops".

Calendar of Meetings

Expert Group Meeting

The next Meeting of the Expert Group on International Economic and Social Classifications is scheduled for the first week of September 2009. This meeting will focus on a variety of topics, such as the development of the tools for implementation of ISIC Rev. 4 and CPC Ver. 2, including the *Companion Guide to ISIC and CPC* and the *Implementation Guide for ISIC Rev. 4*, the implementation of the International Standard Classification of Occupations (ISCO-08), the review of the International Standard Classification of Education (ISCED), classifications related to energy and environmental accounting, and others. Documents for the meeting are available on the Classifications website under "International work", "Expert Group".

Editorial note

The Classifications Newsletter summarizes recent developments in the field of international classifications, announces upcoming events and draws attention to the availability of relevant classifications material in print and on the Internet. The Classifications Newsletter can be found on the United Nations Classifications Website at <http://unstats.un.org/unsd/class> under "Newsletter".

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United Nations Statistics Division
Attn: Economic Statistics and Classifications
Section

United Nations
New York, NY 10017, USA

E-mail address: chl@un.org
Fax: +1 212 963 1374

Classifications Website:
<http://unstats.un.org/unsd/class>