ADAPTATION OF EU-HARMONIZED ACTIVITY AND PRODUCT CLASSIFICATIONS IN HUNGARY

STEFÁNIA TÛÛ

The creation of an internationally harmonized system of activity and product classifications can be considered as one of the most outstanding statistical achievements of the last two decades. In close connection with the interrelated world-level economic classifications (ISIC Rev.3., Central Product Classification – CPC; Harmonized Commodity and Coding System – HS) an adequate family of the more detailed European activity and product classifications (NACE Rev. 1., Classification of Products by Activity – CPA; PRODCOM; Combined Nomenclature – CN) has also been developed, according to the prevailing needs of the European Communities.

In Hungary, the rapid pace of transition from a centrally planned to a market economy required close monitoring of the structural changes of economy in comparable terms with the European economic classifications. Therefore the medium-term development programme of Hungarian statistics gave high priority to adapting step by step these internationally harmonized classifications.

This article provides an overview on the main phases of the process of implementation and identifies some important differences between the former and the new situation, first of all in the field of activity classifications. Last but not least, I should like to draw attention to some experiences arising from the use of rather detailed economic classifications in such a relatively small country as Hungary.

Main phases of the implementation of the harmonized, new international economic classifications.

1. On 1st January 1991, the Harmonized Commodity and Coding System was introduced into Hungarian foreign trade statistics. (In order to save comparability with previous time series and production data, over some years HS was used parallel with the former Hungarian Product Nomenclature for External Trade).

2. On 1st January 1992, the revised Hungarian Standard Classification of all Economic Activities (Hungarian abbreviation: TEÁOR) was put into force, not only in statistics but for administrative purposes, too. This new version was fully adjusted to the first two levels of ISIC Rev. 3. and NACE Rev. 1. Efforts were made to adapt the international standards at more detailed levels, too, but this target could only be partly aimed at, due to the fact that the division of labour in Hungary (being still in an early phase of

transition) differed substantially from conditions in market-oriented economies. As a consequence, the number of three- (183) and four-digit level items (366) in the Hungarian activity classification did not achieve that of the NACE Rev. 1. (222 and 5l3, respectively). The implementation of the entire NACE Rev. 1. was scheduled for the second half of 1990s.

3. On 1st January 1992, the revised Classification of Services – CS (Hungarian abbreviation: SZJ) was also introduced. The structure of the CS has been harmonized with the new Hungarian activity classification. At the time of its elaboration, CS consisted of 69 divisions, 219 groups, 487 classes and 629 subclasses. It was decided that further harmonization with CPA would be realised only after the adaptation of NACE Rev. 1.

4. The complete revision of the former Hungarian classification of transportable goods (produced by agriculture, hunting, forestry, fishing, mining and quarrying, manufacturing, electricity, gas and water supply and products of computer related activities) was finished in the second quarter of 1995. The result of this revision, i.e. the new Domestic Product Classification – DPC (Hungarian abbreviation: BTO) has used the subcategories of the CPA as starting points for its detailed breakdowns, and has been fully harmonized with CPA, PRODCOM and Combined Nomenclature, respectively.

Regular data collection based on DPC started on 1st January 1996. The Hungarian DPC is able to satisfy all demands raised by adequate EU classifications, in particular by PRODCOM. Industrial products or groups of products in DPC are directly comparable with PRODCOM headings (based on 1:1 or *n*:1 relationship). In the case of conflicts between continuity of the domestic time series and international demand, priority was given to the latter.

5. On 1st January 1996, the new Nomenclature of Hungarian Customs Tariff, namely the adaptation of the Combined Nomenclature came into force for the purposes of customs declarations and that of foreign trade statistics, too. For the time being the Hungarian combined nomenclature also includes additional sub-items (marked with the 9.-10. digits of the code-numbers) for special national purposes in connection with commodities of great importance from the point of view of import or export transactions.

6. Since 1st January 1998, the final version of Hungarian activity classification, i.e. the result of full adaptation of NACE Rev. 1., has been valid. Although the elaboration of the final version required very thorough scrutiny of the detailed structure and explanatory notes of NACE Rev.1., (published in the meantime), it ment mostly 'fine tuning' compared to the great changeover in 1992. The latest development in Hungary related first of all to the service sectors in order to follow the rapid and wide-spread growth for example in the field of telecommunications, computer related activities, financial intermediation, pension funding, real estate or other business activities.

However, it has to be underlined that the implementation of the rather detailed structure of NACE Rev. 1. could be settled in many cases only by changing the concept of the statistical (reporting) unit. As far as the former statistical practice in Hungary was concerned, the enterprise was taken into account as general statistical unit. Under the new circumstances, in many classes of activities, the local unit or rather the Local Kind-of-Activity Unit (LKAU) has to be classified as statistical unit in order to get homogeneous production and related data. Selection of these appropriate statistical units claimed wide range of preparatory work (including direct negotiations with enterprises in question)

about their possibilities and willingness to calculate gross value added at factor cost in order to determine the classification of the local unit – or LKAU – in accordance with its principal activity. The determination of the principal activity was based in some sectors (for example in agriculture, wholesale or retail trade etc.) on a full-scale census of businesses.

7. The revision of the Classification of Services (which has been valid since 1992) is also in progress. The newest revised version of CS has been directly derived from the present (NACE Rev.1.-conform) structure of the Hungarian activity classification. Thus the first four digits of the code-numbers of both, just mentioned classifications are identical. A close, but not absolute, connection has been established between CS and CPA, too. It means, for example, that as long as the structure of repairs or other industrial services (performed on a fee or contract basis) or that of educational services are more detailed than in CPA, some services – being less developed in Hungary at present – are classified by CS in a more aggregated way than by CPA.

8. From the Hungarian point of view, the last improtant step in the adaptation process of the actual, most important European activity and product classifications is the revision of the former Hungarian version of the Classification of types of Constructions (CC – Hungarian abbreviation: EJ). The revision of EJ is in progress. It is envisaged that the new version (fully harmonized with the CC of the EU) will entry into force on 1st January 2000.

Some significant differences between former and present activity classifications

Transition countries adopting ISIC or NACE faced problems of two different sorts:

1) problems of partly ideological origin (conceptional problems);
2) predominantly practical problems.

In the first place, this paper focuses on some conceptional (methodological) issues which claimed transition countries to accept new – or better to say: reconsidered – ideas.

The first group of problems was connected with the fact that in accordance with the political system of centrally planned economy, the former range of branches of the economy had been divided in two parts: material sphere of production creating national income (i.e. production of commodities and of the so-called material services) and non-material sphere. (The activities in the latter sphere supposed to be of redistributive character, therefore in this sphere primary national income was not calculated.)

ISIC and NACE do not differentiate between productive and non-productive (i.e. material and non-material) spheres and thus the borderlines between primary, secondary or tercier sectors are drawn quite differently from the boundaries of the main economic branches drawn in the centrally planned economies of the former CMEA (Council of Mutual Economic Assistance) countries. For example, data related to Industry (i.e. to the 01 branch of activity classification of CMEA) could not be obtained simply by summarizing data related to *C*. Mining and quarrying, *D*. Manufacturing and *E*. Electricity, gas and water supply, due to the inadequate contents of the just mentioned activity categories. The situation was similar in many other cases: denominations might incidentally be the same (see Construction), but the scope of the covered activities differed considerably.

Repair and maintenance services rendered by industrial units for others can be mentioned as examples causing pretty large difficulties at the adaptation of the common basic structures of ISIC and NACE.

In the former statistical practice of the transition countries, all kinds of repair and maintenance activities, performed as a service for others, were identified as industrial activities, independently from the (possible consumptive) characteristics of the object to be repaired or maintained. However, both ISIC Rev.3. and NACE Rev.1. differentiate, in general between

a) industrial types of repair and maintenance (belonging to the same class of manufacturing as the activity of units producing the machines, instruments or apparatus in question),

b) repair and maintenance of motor vehicles and motorcycles, and repair of personal and household goods, respectively (classified in different classes of section *G*. Wholesale and retail trade),

c) repair and maintenance of office, accounting and computing machinery (classified in class 7250 of section *K*. Real estate, renting and business activities).

The main reason of the aforesaid differentiation was that under the circumstances of market economy a significant rate (or possibly the whole amount) of repair and maintenance services was carried out by the same unit which was engaged for example in the trade of motor vehicles or other personal or household goods in question. (In order to characterize the possibilities of different combinations of economic activities also in market economy, it can be mentioned that ISIC Rev.2. still classified, the repair of personal and household goods in major division 9. Community, social and personal services.) From the point of view of Hungary, the intention to transfer these repair activities to section *G*. was contradicted by the fact that the repair and maintenance services in question were generally rendered by enterprises specialized directly for this performances, without any trade activities and they traditionally considered themselves industrial enterprises. Thus for us the problem became a characteristic case when priority was given definitely to international comparability instead of national tradition.

Generally speaking we had to overcome the methodological difficulties originating from the fact that under the organizational circumstances of centrally planned economies, the usual combinations of activities carried out by enterprises, co-operatives, institutions, etc. differed to a great extent from the patterns in market economies.

From the point of view of transition countries, among the common conceptional problems it could be mentioned that – compared to ISIC and NACE – their former activity classification differently identified architectural and engineering activities, foreign trade activities, research and experimental development, activities of publishing, lending activities, laundry service activities, etc.

In some cases, the impact of the important structural changes between the former and present activity classifications was not directly perceptible due to equalization. For example in 1992 – approaching to NACE, Rev.1. to an optimum extent – the number of statistical units belonging to Manufacturing has increased significantly by transferring 'Publishing of books, newspapers and periodicals etc.' from earlier '853 Miscellaneous cultural services' to the new division '22 Publishing, printing and reproduction of recorded media'. But the effect of decrease due to transferring enterprises and co-operatives, performing repair and maintenance of motor vehicles, motorcycles and per-

sonal and household goods from Industry to Trade or those of performing laundering and dry-cleaning from Industry to '93 Other service activities', has significantly outstripped the above mentioned impact.

It is worth mentioning that the former activity sphere of 'Construction' has been restricted to a great extent by transferring activities of architectural design, organization of investment and maintenance etc. from 'Construction' to '74 Other business activities' (more exactly to '742 Architectural and engineering activities and related technical consultancy').

Furthermore, several minor modifications were made for example among the domains of agriculture or forestry and manufacturing, respectively, due to borderline changes among sections of activities.

Some arguments for the sake of two-phased approaching to NACE; methods of reclassification of statistical units

At the beginning of the 1990s it was a subject of wide-spread discussions, whether, for the moment, the full approach to NACE Rev.1. would be or not a realistic target for Hungary. I should like to recall a few special reasons which – in my opinion – properly influenced the decisions relating to the necessary and possibly degree of adaptation, mainly in the field of activity classifications.

The most important counter-arguments of full-adaptation referred to the still overwhelming majority of big, multi-activity enterprises and the lack of a broad stratum of small- and medium-sized businesses. In the end, the decision in 1991 related to the new Hungarian activity classification, took into account that statistical data would be significantly distorted and misleading if enterprises and co-operatives carrying out a big amount of mixed secondary activities (which cannot be segregated into separate statistical units) would be classified according to an unduly detailed activity classification. Under such circumstances a more cautious design seemed to be more advisable (at least as a temporary solution). Therefore the basic structure of NACE Rev.1. (referring to divisions) was adopted in an unaltered form but in some well-founded cases the detailed categories (groups and classes, respectively) were created according to the actual division of labour in Hungary.

Regarding the full-adaptation of NACE Rev.1. in 1998, it can incidentally be mentioned, that in the meantime the aforesaid problem of big, multi-activity enterprises was mostly solved by the structural changes of the economy. But as far as the proper monitoring and classifying of small- and medium-sized businesses are concerned, it has to be considered that in many cases not only the scope of their activities is unstable, but their individual existence is doubtful as well (although the whole stratum of small businesses showed rapid development in the recent few years).

It is well-known that reclassifying the statistical units according to a new activity classification demands great efforts from every participant. Taking into account that the financial resources of the Hungarian Central Statistical Office have been diminished significantly, the actual reclassification of statistical units had to be managed economically and at the same time without burdensome processes, as far as data suppliers were concerned.

In 1991, in accordance with the significant modifications (generally enlargements) of the new activity classification, all in all more than 120 000 (reporting) statistical units (enterprises, co-operatives, limited liability companies, etc.) should have been reclassified, while the number of sole proprietors (including craftsmen, artisans, professionals, etc.) exceeded 800.000 units. Performing this task, various procedures were applied to the different groups of the statistical units.

Reclassification of old economic units was managed by the Central Statistical Office automatically, if homogeneous character of the activity allowed to use correspondence tables or the necessary information could be provided from the annual surveys and/or from other data sources. In other cases enterprises were asked for additional information referring to the exact distribution of sales by industries in the previous year. New economic units established in the second half of 1991 have instantly been classified in a parallel way, according to the 1991 and 1992 versions, simultaneously.

The close co-operation with the tax authorities proved to be a crucial question, because the huge majority of the units was not registered earlier for statistical purposes; for example, the reclassification of sole proprietors based on the Tax Office's information system. It contained data about 338 professions, of which 324 professions could be classified unambiguously in the adequate classes of the new activity classification.

The conceptual differences between the former and present product classifications

Harmonization of product classifications has considerable traditions in Hungary. During the last three decades, Hungarian statistics has developed a well-proportioned product classification which reflected every important technological phase of production processes. Beside unified product nomenclatures, the classification of buildings and constructions and that of services were elaborated and regularly used, not only for statistical but also for some administrative purposes. This expertize was likely appreciated internationally, too when from the CMEA countries (beside Czechoslovakia) the representative of Hungary had been invited to take part in the UNSO/SOEC Joint Working Group which delt, from 1977 to 1989, with the revision of ISIC Rev. 2. and the preparation of the Central Product Classification.

The former Hungarian Nomenclatures of Industrial and Agricultural Products – which were valid from 1968 to 1995 – included all raw materials, semi-finished and finished products which originated both from domestic production and import. The basic principle of these classifications was unification based on industrial origin. Thus, in accordance with them, comprehensive product-balance reports could be accomplished covering all sectors of the economy, regarding production, domestic and foreign trade, transport, material and technical supply. Monitoring the detailed data of consumption and investments was also based on the unified content of the aforesaid product classifications.

As far as the actual, internationally harmonized product classifications are concerned, their most important conceptual invention is to provide foreign trade classifications (i.e. Harmonised Commodity and Coding System and Combined Nomenclature, respectively) with an outstanding, basic position. Therefore the new systematical interrelation among the product classifications means that the elements of HS and CN have been used as

building blocks for CPC, CPA, PRODCOM and thus for the new Hungarian Domestic Product Classification, too. So, applying these harmonized product classifications for data inquiries, the diverse stages of commodity flows (import, export, domestic production, intermediate and final use) can be represented in an interrelated statistical data system and the results can provide a connected framework for international comparisons.

In some exceptional cases there were slight differences between the basic structure of the former Hungarian industrial product nomenclature and that of the national activity classification. It happened, for example, when the activity classification delineated the domains according to the raw material used, while the product classification stressed on the first place the user-needs, i.e. the uses to which the goods were put. (For example furniture, sport goods, games and toys.) The new product classification establishes an unequivocal link with the appropriate class of the activity classification, because the first 4-digits of both code-systems are adequate and furthermore the subcategories of the CPA were taken into account as starting points of the more detailed breakdowns. Thus the new product classification will conceptually be linked to the activity classification in accordance with the industrial origin criteria.

Some special features of the adaptation process

In order to ensure comparability – as far as it was possible – between the categories of the former and present product classifications and to take into account the special needs of Hungarian enterprises, the Central Statistical Office requested proposals from representatives of the most important Trade Associations and from a few other experts. In connection with industrial product chapters about 40-45 entrusted people (including also a few experts of customs tariffs and product standards) co-operated with the HCSO in the preparatory phase. The experts often submitted proposals referring to further subdividing of a PRODCOM heading in order to preserve some important features of the former product classification but in strict condition that all demands raised by PRODCOM had to be satisfied (according to 1:1 or n:1 relationships). Experts were obliged to give exact proposals regarding the individual DPC-items (including code-numbers, names and measurement units) and further to elaborate two-directional conversion-keys, between the former and the new (proposed) Hungarian product classifications, and between DPC–CN, respectively.

Finally, the industrial part of the Domestic Product Classification covered about 11-12 thousand items at the lowest level. The number of the similar agricultural items came close to 2 thousand.

Elaboration of the Domestic Product Classification was considerably supported by the computer background of the Hungarian Central Statistical Office: first of all by checking the completeness of the draft and eliminating occasionally overlapping elements.

Completeness of the product-range was controlled in two different ways, namely comparing every item of the draft:

1. with international standards,
2. with elements of the former Hungarian product classifications.

1. In case of comparing industrial items of the DPC with that of the PRODCOM, checking process was two-directional: *a*) whether each DPC-item can be coupled only with one PRODCOM-item: *b*) whether each PRODCOM-item was represented at least by one DPC-item.

By comparing the list of DPC-items with that of CN-items, it could be controlled whether the whole adequate range of the CN-items was included in the draft of the DPC. (It has to be taken into account that regarding agricultural, sylvicultural or energy products this was the only way to control completeness of the draft making use of an international standard.)

2. Other important possibility for checking the completeness was given by comparing the list of DPC-items with the present Hungarian classifications of industrial, agricultural and sylvicultural products, respectively.

It is worth mentioning that comparisons in question should be carried out on the possible lowest levels of the adequate classifications.

Further important point was that at the same time the aforesaid control system also produced (and partly checked) the necessary conversion keys between the national and international product classifications or between the old and new Hungarian nomenclatures.

A searching system, especially developed for supporting the elaboration of the DPC, rendered to display possible optional items and relations of the product classifications (stored in the ORACLE data base). Searching could be executed according to product code numbers or names or optional (textual) parts thereof.

The Domestic Product Classification and the conversion keys (belonging to the lowest level of items) were published not only in printed form but also on disquettes, in order to make the transformation of business records by the enterprises easier and quicker. To comply with user's need, a detailed alphabetical index was also published in 1997.

The permanent maintenance of comparability with the relevant EU classifications belongs to the regular tasks. The yearly changes are published firstly in the Official Journal of the HCSO and on disquettes. Printed publication of the yearly modifications depends on the numbers of the items in question.

The most effective forms of international assistance

According to my experiences, the adaptation of international classifications belongs to the most labour-consuming tasks, especially nowadays when – instead of using conversion keys for the elimination of differences – the accepted strategy is the direct adjustment of national practice to international demands. The significant achievements of Hungary in this field cannot be summarized without acknowledging the great help given to us by international institutions and fellow-workers, too.

First of all, I should like to mention the three seminars organized by the European Commission for Europe dealing not only with general methodical problems but giving practical answers to the questions raised by the representatives of transition countries.

Bilateral connections (consultations abroad and advisory visits of counterpart-experts from the Statistical Offices of Western countries) proved to be especially useful because they helped to a great extent the better understanding of special theoretical and practical

issues and besides provided more direct impressions about the statistical practice of the leading institutions.

Some experiences for further consideration[1]

− In small countries the problem of confidentiality may cause relatively major obstacle. Data on industries with few (usually less than three) units or with the predominance of one or two big units cannot be published. In such a way, the advantage gained by more detailed activity or product breakdowns gets lost by the lack of published data. Besides, with a high rate of non-specialized enterprises, a too detailed activity classification may have substantial drawbacks in terms of feasibility, costs and analysis.

− In order to use local units or local-kind-of-activity units to a proper extent for classification purposes (instead of enterprises), bookkeeping practice had to be substantially developed because, for the time being, it cannot provide all necessary data for calculating value added at this level.

− In data collection referring to industrial or some agricultural products classification, the principle of industrial origin can be enforced only to a limited extent, because many HS/CN headings (used as 'building blocks') compress several products originated from different activities (for example products of agriculture and food industry, etc.). In my opinion, elimination or at least moderation of these new problems in production statistics cannot be imagined without greater empathy in the development of more homogeneous HS/CN headings.

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[1] The views expressed are those of the author and do not necessarily reflect the opinion of the Hungarian Central Statistical Office.