

SOME BASIC ISSUES IN THE CPC

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In a paper prepared for the last session of the Voorburg Group, I commented on broad issues regarding the Central Product Classification (CPC), with emphasis on the wholesale and retail trade sectors [1]. This paper identifies and comments on additional basic issues. A number of these comments relate to the treatment of certain issues as adopted for the Classification of Products by Activity (CPA), based on a summary by Norbert Rainer and on a preliminary review of the CPA detail [2].

My main intent is to identify some important issues where country practices differ and which are thus likely to result in conflicting proposals for the CPC. A key objective is that we have more specific information and agreement on the scope of the various broad CPC sectors before trying to make final decisions on the finest detail categories.

BASIC ARRANGEMENT AND STRUCTURE.

The CPC was intended to be an independent product system. It thus provides for logical groupings of similar or related products (including services). These groupings do not correspond to those of ISIC 3, and their arrangement is made different deliberately, to avoid suggesting a direct link. This disconnecting of arrangement and numbering system from the ISIC 3 reflects the need for data on a where-ever produced basis. Most CPC items appear in the publication with an associated ISIC code, but that ISIC does not necessarily cover all of the production of the product and not all products of the CPC are always in that industry. The CPC is a central product system which serves as a linkage among different systems, including those for the national accounts and for export and import trade.

The CPC is thus a separate product system. Yet, for various reasons, there is considerable interest in having a product system tied closely to the industry of origin.

- [1] Neece, Walter E. "Conceptual and Technical Issues in the CPC, with Emphasis on Wholesale and Retail Trade." Papers and Final Report, Voorburg Group, Seventh Meeting on Service Statistics. 1992.
- [2] Rainer, Norbert. "Classification of Products by Activity (CPA) in the Services. Papers and Final Report, Voorburg Group, Seventh Meeting on Service Statistics. 1992.

CPA

For national purposes, and in response to internal interests, Eurostat has developed the Classification of Products by Activity (CPA). This system is derived by subdividing the CPC detail into individual categories corresponding, as much as is feasible, to the scope of individual ISIC 3 and NACE Rev. 1 categories. These subdivisions are then rearranged and numbered according to their appropriate NACE industry-of-origin. Each CPC subdivision--and therefore each product--is assigned to a single NACE category.

US systems

The United States has thus far based its output detail for manufacturing directly on the industry system. Each product is assigned to the industry in which it is primarily produced, with the first four digits of the associated classification number being that of the industry. Product detail within each 4-digit industry is then determined by subdivision to meet various objectives, one of which has been providing detail comparable to the HS framework and derived detail used for exports and imports.

The product details for wholesale trade and for retail trade are structured and numbered independently, as product systems. The detail is, however, grouped largely on the basis of industries.

Product detail for services is generally tailored to the individual industry. There is no common product system, although work has begun on development of one.

Comparisons

The basic problem is that product data are wanted for output that are at the same time comparable both to the activity system and to the trade and other systems. For the latter purpose, we need a unique unduplicated product system where every product has a single location. Much of the effort in developing the current set of international systems has aimed toward achieving a system that meets both objectives. But this has not been completely achieved internationally, and we are still far from achieving such an objective. These two approaches are directly opposed and reflect different priorities. Theoretically sufficient detail could provide the same data; but this seems unattainable.

Each product approach has its advantages and disadvantages. The CPA approach provides a better product match to trade and other systems. But the match to the industry system is not as good and various arbitrary decisions must be made.

Many of the issues relate primarily to the goods-producing sectors. Complicating factors derive mainly from the distinctions and detail adopted for the 6-digit HS, where the distinctions may conflict significantly with those required or

wanted for the industry system and the detail required on such distinctions be too great to permit subdivisions on a different basis.

Although the HS restrictions are not present, the services sectors have their own issues in achieving an independent product system. The main problem lies in that fact that, while the goods-producing areas deal largely in goods that are the same in most characteristics wherever produced, the services products involve a complex mixture of services bundled with goods or with other services. Many of these are problems of data measurement and of separating the various components in data collection.

The current CPC and CPC/EN are not consistently one or the other--independent product categories or categories tied to the industry system.

The CPC and CPC/Explanatory Notes (CPC/EN) themselves are sometimes inconsistent or ambiguous. One example is CPC 931, Human health services. The basic detail here consists of 9311, Hospital services; 9312, Medical and dental services; and 9319, Other human health services. For this general area, the CPC/EN then become inconsistent. CPC 9312 excludes the services of medical laboratories as being in 9319, with the reference to "of" implying the unit rather than the service. The CPC/EN for 9311, Hospital services, specifies the inclusion of "laboratory and technical services including radiological".

But the situation of greatest potential impact is that resulting from the CPA decisions taken for retail trade (CPC 631-632). The CPC for retail trade seemed to provide a relatively perfect example of how CPC and ISIC 3 can be independent and used to show different facets of the economy. The CPC product detail was shown with only the associated ISIC classification number of specialized retail stores, since the same goods are sold in specialized and non-specialized stores and in non-store retailing and since only one SIC was to be listed.

Unfortunately what is apparently a mistake was made. The texts of CPC 63109, 6329, and 63299 refer to "specialized" retail sales. It was thus apparently possible to interpret the retail product detail as applying only to specialized stores and that there was no location for the sales by non-specialized stores, by non-store retailers and by retailers of used goods.

In converting the CPC related system to an industry-of-origin basis, CPA discovered, of course, that, given the organizational principles of CPA, CPC product detail cannot convert at the same time to the activity detail of non-specialized stores (ISIC 521), specialized stores (ISIC 522-523), second-hand goods stores (ISIC 524), and non-store retailing (ISIC 525).

The CPA solution has been to create additional product detail based on and tied directly to the NACE categories related to ISIC 521, 524, and 525. These CPA categories are not subdivided by type of product and appear to cover in total the same products as those specified in the detail of 522-523, on a direct linkage to the activity system that abandons the original objective of an independent product system.

This treatment represents a basic conflict with the original CPC intent. From our standpoint, it seems undesirable and unnecessary because retail trade is one area of services where we find from experience that the integrated ISIC\CPC approach works.

The Bureau of the Census collects industry and product detail for retail trade on a basis similar to the treatment in ISIC and the provisional CPC. Each non-specialized and specialized store and each non-store retailer is requested to provide industry data similar to that of ISIC and core product data similar to that of CPC. (But, for example, retailers of hardware, paint and glass would be asked to provide only a core detail of food, while food retailers would be asked for much greater detail.)

We then handle the dual interests in our retail trade data publication programs rather than by trying to establish a single classification system that handles both at the same time. Data are then published in separate tables on two bases:

1. By industry, subdivided by products sold.
2. By products sold, subdivided by selling industry.

The major problem with the CPA approach is that--based on our experience--having detail data for only the products sold by specialized stores might be of relatively little use. For example, in our 1987 Census of Retail Trade, 85 percent of sales of food were by non-specialized food stores which would fall in ISIC 5211 and NACE 52.11, presumably as an undivided total. ISIC 5219 and NACE 52.12, covering other non-specialized stores, accounted for 47 percent of apparel and accessories except footwear, 36 percent of major household appliances, 62 percent of small household appliances, and 41 percent of toys, hobby goods and games. Non-store retailing accounted for 8 percent of major household appliances, 6 percent of audio equipment and musical instruments, 12 percent of computer hardware and software and calculating equipment and supplies, and 6 percent of kitchenware and homefurnishings. (These percentages can only be calculated from data made available by using the independent industry and product systems.)

We have had success in obtaining data in the detail necessary for the independent product system. This is probably helped by the fact that the non-specialized store and non-store retailers are

often the larger units who are most likely to maintain their records in the detail necessary.

A second problem for linking CPC to industry-of-origin results from the CPC concentration on products that are sold mainly by specialized stores. Non-specialized stores are the primary US sellers of some goods that by default must fall into CPC 63299 and be associated with ISIC 5239.

This is particularly true of non-specialized food stores. For example, US food stores are the primary sellers of cigars, cigarettes and tobacco (56 percent of total sales of these products), soaps, detergents and household cleaners (86 percent), and paper and related products (84 percent).

RELATION OF CPC DETAIL TO ISIC 3

My assumption is that we want an independent product system and detail that can at the same time be tied to other types of systems and to the ISIC 3 industrial activity system. Ideally the product detail should thus correspond to industry boundaries in the sense that a given CPC product falls only in one activity category, and be in such detail that we could rearrange and aggregate the CPC detail to arrive at total outputs of each ISIC 3.

This approach requires, at a minimum, further subdivision of CPC (as for CPA). It would probably necessitate some restructuring of CPC. But the initial need is to know the scope of the various ISIC 3 categories. This seems essential before final decisions could be made on CPC detail.

There are three general ISIC 3 situations that need clarification: (1) inconsistencies among different ISIC categories; (2) inconsistencies between CPC (CPC/EN) and the ISIC; and (3) activities not clearly located in ISIC.

Inconsistencies among ISIC.

The ISIC has been relatively successful in avoiding situations of the type where the same activity is defined into more than one ISIC location. The clearest cases that I have noticed thus far are those of 7010 for "sale of...cemetery lots" versus 9303 for "sale of graves", and of 7411 for "arbitrators" versus 7414 for "arbitration and conciliation."

There is also a more important problem between rentals of 71 (e.g., saddle-horses) and 92 (recreational activities) that is addressed later.

Inconsistencies between CPC and ISIC

In the CPC publication, some CPC codes have an inconsistent associated ISIC 3 code. Some of these probably reflect changes to the ISIC made after the initial draft of CPC, and not subsequently carried to CPC. Examples are CPC 21530, Nuts, ground-nuts, etc., roasted, salted or otherwise prepared n.e.c., which is associated with ISIC 1513 in CPC but is specifically covered in the text of ISIC 1549. CPC 38570, Playing cards, is associated with ISIC 3694 but is specified in ISIC 2221.

These types of situations may account for some of the differences in interpretation of ISIC. The CPA did not always accept the industrial origin given in the CPC. We also agree that some such references are incorrect, but will probably disagree with CPA in some individual cases as to which is correct. For example, NACE appears to categorize the products of the preceding paragraph in accordance with the CPC publication rather than ISIC. We currently regard the ISIC texts as controlling. Identifying and reconciling these differences should be a priority.

More inconsistencies arise when comparing the CPC/EN with ISIC 3. However, many of these probably arise from the haste in completing the notes. These can probably be resolved, but extensive review of the Explanatory Notes is essential.

Inconsistencies between ISIC and NACE.

NACE Rev. 1 makes some decisions that seem clearly contrary to the current ISIC texts. Some of these may result from the differences noted above between CPC and ISIC. The reason for others is not always clear, but seems to originate from an interpretation that ISIC shall be defined by HS (and CPC).

The principal effect of these differences on services CPC is probably in wholesale and retail trade, where attempts are made to maintain consistency of scope across broad lines. But they could also affect the detail of CPC 88. If these are to be proposed as changes to ISIC (and CPC), then it becomes even more important to have early agreement on ISIC.

Activities not clearly located in ISIC.

It is inevitable that a system will be interpreted differently by different countries as to the location of specific individual activities and products. This occurs even with the far more rigorous HS. Indeed it is questionable how well interpretations of the HS can be carried over to the collection of output data, especially where HS definitions and distinctions differ from those used nationally.

Some differences may result from differences in the texts, and perhaps from differences in language where a product-activity has a specific meaning in one that is not carried over to the other. And, of course, there is the persistent problem between "correct" English and American English, where a haberdashery sells notions for CPA but is a seller of men's clothing and accessories for the United States.

Others may result from differences in national practice. Thus CPA 60.24.15 regards the transport of furniture by land, covered by CPC 71234, as always being in specialized vehicles. For us, this might be true for most long-distance transport but probably not for local travel.

The reasons for many differences seem unclear. We do not see why CPC/EN 8432, Data-processing and tabulation services, would specify "rental services of computer time" when this seems clearly specified as CPC 8433, Time-sharing services. We do not know why there is an insistence on putting nuts with fruits and vegetables; ice cream with confectionery; fruit and vegetable juices with beverages; electrical wiring materials with construction materials; or coopers' ware with household goods. And we have no idea what is meant by cleaning materials and why they are grouped as they are.

From our parochial view the "correct" treatment for these seems obvious. But we know there is undoubtedly a good basis for differing from our view. These differences can often be identified and clarified in the CPC/EN, if they are reviewed intensively and reconciled. But in many cases the problem will extend beyond the CPC back to a question of ISIC scope.

Special problem--services produced in goods-producing industries.

CPC 88 covers services produced in industries which are categorized as goods-producing. CPC 886 covers those repair services which are defined in the ISIC as manufacturing. CPC 881-885 cover other services which are specified at a broad level as "incidental to" the goods-producing industries but which in fact comprise largely production on a fee or contract basis. These broad categories are further subdivided to link to the goods-producing categories, generally at less than the full ISIC 4-digit class level.

For CPA, it has been elected not to make complete separate provision for the contract production from materials owned by others, as covered in CPC 881-885. Provision is made for situations where this arrangement is considered the usual one (e.g., textile finishing, reproduction of recorded media). For other products the services are included in the categories provided in CPC 0-4 for the goods themselves.

This is a major change from the current CPC that, if proposed, should be addressed early. Its effect depends in part on examination of the situations when CPA has concluded that this arrangement is or is not the "usual" one. Clearly contract production is not applicable for every ISIC class.

Our basic treatment approach is more in accord with that of the current CPC. We separate contract production receipts from integrated or final production at the industry level, with only the latter classified by detail product. The contract producer seems to be in a position to know only his own service contribution to the value of a product. He may contract to produce only goods meeting certain specifications and not even know what the final product is. His receipts will be duplicated in final product output. And his receipts are not comparable to those of the trade categories. It is thus a question whether merging the contract production with that of complete production provides the most useful data. This would need to be reviewed for us by others, particularly as to whether this treatment is acceptable for the national accounts and input-output work.

One aspect of the CPA is probably desirable. The contract production detail should probably be closer to that of the full 4-digit ISIC class detail, although the service is clearly not applicable for some. Contract production is very important in the United States for such products as livestock (especially poultry) and apparel.

Repairs

For some time I have thought that the major difference between the US SIC and the ISIC in the treatment of repairs was in the US SIC inclusion of virtually all repair (except rebuilding) in services rather than having that of capital goods in manufacturing.

Detail review of the ISIC and comparison with U.S. practices reveals even more issues for repairs and related items of maintenance and installation. We are still identifying differences between our treatment and that of ISIC for these activities. We anticipate difficulties in trying to follow the approach of ISIC and the CPA interpretation.

Basic treatment in ISIC.

The basic guidelines for the treatment of these activities are described in the introductory material to the Manufacturing sector (ISIC 3, p. 76). The repair of office and computing machinery is clearly placed in ISIC 7250, of motor vehicles in ISIC 50, and of other consumer goods ("as a general rule") in ISIC 5260. Repair of industrial, commercial, and similar machinery and equipment is, in general, classified in

manufacturing with the original manufacturing. Further material found in the ISIC to supplement these guidelines also poses problems for us, primarily for ISIC but indirectly for CPC.

Substantial alteration

ISIC specifies that "Substantial alteration, renovation or reconstruction of goods is generally considered to be manufacturing." This seems to correspond to our activity of rebuilding, which we also have in manufacturing.

It is not clear how this guideline will apply as regards motor vehicle and part repair of ISIC 50, repair of other consumer goods of 5260, and repair of computers and office machinery of 7250. We currently include repair of these goods with services and most rebuilding with manufacturing. However, complete repair of a motor vehicle and of many consumer items actually constitutes rebuilding.

Assembly on site.

ISIC specifies that assembly on the site of prefabricated parts into buildings or structures, and certain other components or fittings of these, is classified as Construction. US practice seems consistent with this.

ISIC further states that "assembly and installation of machinery and equipment in mining, manufacturing, commercial or other establishments, when carried out as a specialized activity, is classified in the same class of manufacturing as manufacture of the item installed." Presumably this also includes installation without assembly.

The US SIC regards these activities as construction. We also consider the repair of this machinery and equipment on site as construction, rather than as repair. For example, the installation and repair of electrical goods is regarded as being a main part of the electrical work specified for ISIC 4540.

It is difficult to believe that manufacturers perform most of this work--the apparent rationale for this ISIC treatment. It is also unclear why this specialized activity should even fall in manufacturing.

Assembly and installation incidental to sale.

ISIC specifies that "Assembly and installation of machinery and equipment which is performed as a service incidental to the sale of the goods by a unit primarily engaged in manufacturing, wholesale trade or retail trade, is classified with its main activity." Again, this presumably does not require assembly.

This, of course, is a relatively simple statement that is loaded with difficulties with respect to implementation by different interpreters in a comparable manner. Installation of a household refrigerator in combination with its retail sale seems clearly retail trade. And installation and sale of plumbing equipment and electrical wiring seems clearly construction.

But there are many situations in between that can result in inconsistencies. There are problems in determining the "main activity" when more than one are involved. This problem has potential for substantial differences. The CPC rules of interpretation address the issue, but the necessary approach may be to identify as many of these as possible and to specify their classification by convention.

Personal and household goods.

ISIC 5260 and equivalent NACE 52.7 both specify inclusion of "repair of personal and household goods when not done in combination with manufacture, wholesale or retail sale of these goods." NACE further states that "If done in combination the repair is included in the retailing, wholesaling or manufacturing activity."

In addition, the introductory materials to ISIC/NACE 52 also specify that division 52 includes the "repair and installation of personal and household goods, whether or not done in combination with retail sale."

The following questions seem appropriate for the ISIC and CPC categories involved:

1. The scope of the category is very unclear. What is meant by the restriction to "when not done in combination"? Presumably classification of the unit will still be in accordance with primary activity such that a unit with 75% receipts from repair of goods for others and 25% from retail sale of goods to others would still fall in ISIC 5260. Where would these units and products fall, if not here? If with retail sales, why should they?
2. What is meant by the mention of "installation"? See also the references earlier to sale and installation.
3. Must a distinction be made for goods that can be either household or of business types? And if so, how?

Renting (including leasing).

Most renting of goods without operators has been concentrated in ISIC 71, CPC 83. Specific exception is made in ISIC 71 for financial leasing (ISIC 6591, CPC 8112), along with a very

unclear reference to the renting of leisure and pleasure equipment which sounds more like a reference to secondary activities.

Although they are not mentioned as exclusions from ISIC 71, some rentals are provided for elsewhere. Thus ISIC 9301, Washing, and (dry-) cleaning of textile and fur products, covers these services when performed by the use of self-service coin-operated machines and also the renting of linens, industrial work uniforms, and related items by laundries (both CPC 9701). ISIC 7494, Photographic activities, includes such activities when they are performed by coin-operated machines (CPC 8750). ISIC 9249, Other recreational activities, specifies the inclusion of "renting of facilities such as bath houses, lockers, chairs, etc." (CPC 9649). ISIC 9211, Motion picture and video production and distribution, specifies inclusion of the "rental of movies or tapes to other industries (CPC 96113?).

In view of the prevailing situation, it would seem useful to develop a rationale for treating different types of rentals and determining the scope of ISIC 71, CPC 83. We also need to note the complicating situations where what are in essence rentals are not always described as such--for example, riding stables (renting horses) and most coin-operated service machine rentals.

The following are suggested for discussion as general guidelines:

1. Rentals which are generally for use on or near the rental site and for periods of less than one day shall be excluded from ISIC 71 and classified according to the nature of the service.

This would probably include most recreational rentals including bicycles and horses (ISIC 9249, CPC 9649); amusement arcades; coin-operated lockers, shoe-shine and car washing machines; sports equipment; and golf carts.

2. Other rentals (including all leasing except financial) shall be included in ISIC 71, CPC 83.

This category could include rental on a longer term basis of some of the same products to the units which rent on a short term basis. The distinction suggested is thus not one based on the products involved.