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Seminar opening

Why a Prodcom seminar at this moment. The Prodcom Regulation was adopted in December 1991. Now we have almost 6000 products included in the Prodcom List. The timeliness has improved, although we have not yet reached the deadline of the six months required by the Regulation. The coverage of Prodcom has improved and so has the actuality of data. Finally, the availability of Prodcom data has improved by disseminating data through the monthly issued CD-ROM Europroms and the database New Cronos. We are in a situation where we have improved in several lines, and the Member States agree that now is the moment for a qualitative jump to improve the Prodcom information.

The seminar aims at giving inspiration to our future work on improving the quality of Prodcom. We will discuss various quality concepts: accuracy, timeliness, and accessibility of the results, comparability and coherence with other statistics. We will exchange views and experiences on best practices on data validation, data processing and data transmission. We will discuss how we can improve cooperation with the business associations. And we will devote an important part of the seminar to detect and to analyse the needs of the users.

Having read the documents and the documentation prepared by the speakers, I acknowledge the very high quality. Looking through the list of participants coming from various departments of the National Statistical Institutes, from business associations and other user groups, I know that the audience will guarantee a successful seminar. A seminar that will put us in a good position to reach our objective for these two days: to discuss ideas for improvements of Prodcom, balancing the burden of respondents, technical feasibility and the utility of Prodcom.

Luxembourg, 20-21 March 2000

Pedro DÍAZ MUÑOZ

Director: Business Statistics, Eurostat

PROGRAM

Monday, 20 March

09.30	Opening
10.00	Mrs Larsen: PRODCOM from the users' point of view
10.30	Discussion
11.00	Mr Hameseder: Statistical units in PRODCOM
11.15	Mr De Geuser, discussant
11.30	Discussion
12.30	**Lunch break**
14.30	Mr Macht: Product classification, production type and valuation
14.45	Mr Mahajan, discussant
15.00	Discussion
16.00	Mr Foghmar: PRODCOM data validation
16.15	Mr Rainer, discussant
16.30	Discussion
20.00	**Dinner: The Circle Munster, 5-7, rue Munster, Luxembourg**

Tuesday, 21 March

09.30	Mr Platteel: The initiation of PRODCOM and its expansion
10.00	Mr Isusi: PRODCOM from the users' point of view
10.30	Discussion
11.00	Mr Hansen: PRODCOM data transmission
11.15	Mr Falorsi, discussant
11.30	Discussion
12.30	**Lunch break**
14.30	Mr Lachize: Co-operation with business associations
14.45	Mr Bahurel, discussant
15.00	Discussion
16.00	Closing

Translation service at the seminar includes interpretation to and from English, French and German

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The initiation of Prodcom and its expansion

The attractiveness of international comparable production statistics

Nino Platteel, Statistics Netherlands, The Netherlands
e-mail: aptl@cbs.nl

Abstract

In December 1991, as a result of long discussions in Working Groups and Task Forces the Prodcom Regulation was adopted by the Council (Council Regulation (EEC) N^{o} 3924 of 17 December 1991). Thereby the first European regulation on data collection was accomplished. From that moment on the true work on its implementation started. First of all in the then 12 Member States of the European Communities, but soon to be followed by the countries of the European Economic Area (EEA). It did not take long before the countries of Central and Eastern Europe became interested too. Nowadays many of them have either an operational system of production statistics compliant with Prodcom or are well advanced in establishing such a system.
This paper gives a brief overview of how Prodcom started and how it became a system of production statistics covering the major part of Europe, which it is today.

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Introduction
A. First approach
B. The initiation of a new system
C. The development of Prodcom
   1. The Prodcom list
   2. The Prodcom Regulation
D. The implementation of Prodcom in the EU Member States
E. Prodcom in countries beyond the EU
F. Final observations

Introduction

Production statistics have always been an important source of information, not only for the various governmental services but also for the business community itself. Therefore it will not be very surprising that most countries have a longstanding experience regarding this kind of industrial statistics. Neither will it be surprising that there were vast differences between the systems of production statistics. Being developed for national purposes it is obvious that aspects like the level of detail, periodicity, coverage and survey characteristics were very much adapted to the specific situation in each country.

The creation of the European Communities brought about a need for European production statistics. Both the European Commission and the national governments needed data to monitor industry and its markets. But also businesses themselves, acting more and more in a European context, showed an increasing interest in European information.

Therefore already in the late fifties the Statistical Office of the European Communities (SOEC), as Eurostat was called in that period, took the initiative to develop a European system for production statistics.

A. First approach

Since many Member States already had a system of production statistics the easiest way was to use these existing statistics as the elements to build a European system. This approach would allow to create a European system with relatively low costs. A project was initiated in which the different sectors of manufacturing were successively included in the system of European production statistics. In a long series of working party meetings product lists were developed on the basis of which Member States had to supply the SOEC with production data. That way product list have been developed for sectors like textile and clothing, leather and shoes, paper mechanical engineering and home appliances and so on. This project went on for many years, but has never been a success. Due to the diversity of nomenclatures used in the surveys of the Member Countries, as well as the different survey methods, these attempts resulted in European product statistics covering about 500 products. However, this did not mean European data were available for 500 products. Far from it. Due to statistical confidentiality for many of these products data were incomplete. Since Member States were in general not allowed to transmit confidential data to Eurostat, only for very few products data were actually available for all countries. It will be clear that the resulting level of detail (or rather lack of detail) was totally unsatisfactory. It should furthermore be noted that the European product lists concentrated on selected products rather than all products of a given sector. This was not only complicating the conversion of data from national nomenclatures into the European one, but it also increased the confidentiality problem. Altogether the project to create European production statistics based on existing national systems could only be designated as complete failure. Therefore it was decided to create a new system of European production statistics.

B. The initiation of a new system

Having learned from the failure of the first approach the new project started by laying down some basic principles. The following conditions were considered to be fundamental for the success of the project.

- The degree of detail should be sufficient to enable users from the private as well as the public sector to derive a noticeable benefit. Clearly, too aggregated product statistics would not serve users and would not make it easier for businesses to supply the information either. On the other hand too detailed statistics, though welcomed by users, would be too much a burden both for industry and the statistical offices. The list of products for the new project should be a balance between user needs on the one hand and burden on the other.
- The new production statistics should be comparable as far as possible with external trade statistics. This comparability would be the strongest feature of the new system. It was recognised that the majority of requests for product data came from users involved in market research. Their main interest is the calculation of apparent consumption, import penetration ratios and similar market characteristics. This would only possible if the products in both production statistics and foreign trade statistics were fully comparable. Of course not only the two classifications should be compatible, but also the unit for volume measurement should be the same in the two systems.
- There should be a legal basis to make the system compulsory in all Member States. One of the weaknesses of the old system was the absence of a legal obligation for Member States to provide the necessary data. Though the Directors General of the National Statistical Institutes had endorsed the project, this appeared not to be sufficient as reason to adapt a national system in order to improve the European product statistics. Even more important in this respect was that the legal basis should offer a solution of the confidentiality problem.

Already in an early stage the project was baptised Prodcom, a contraction of **Pro**ducts of the **Com**munity. It should be said that the designation Prodcom quite easily and smoothly became the generally accepted name for the European system of harmonised production statistics.

C. The development of Prodcom

1. The Prodcom list

The first two conditions mentioned in the previous chapter relate to the list of products, which had to be drawn up. As stated above this list should be comparable with the classification of foreign trade statistics. The simplest solution would have been to merely adopt the nomenclature for trade statistics as such also for production statistics. Either the Harmonised System (HS) or the Combined Nomenclature, being its extension adapted to the needs of the Community, could have been chosen for that purpose.

As a matter of fact Eurostat first proposal was to use the CN. Eurostat was inspired by the fact that this nomenclature was already in use for the collection of production statistics in one of the Member States and apparently in a successful way. However a majority of Member States did not accept this proposal. First of all the CN, being a trade nomenclature in the first place, contained breakdowns and details that were considered of no interest what so ever for industrial statistics. On the other hand breakdowns considered essential for industrial statistics were not available.

As a compromise it was therefore decided to take the foreign trade nomenclature as starting point, but to adjust it according to the specific needs of industrial statistics. This process took place in a rather unique co-operation between Eurostat, the National Statistical Offices and the European industry represented by the various FEBI. A long series of meetings and negotiations resulted finally in a list of products which in fact contained 4 different types of product headings:

i, Headings directly linked to the CN (1 to 1 or 1 to n),

ii, Headings more detailed than the CN, considered essential for industrial statistics, but for which it could not be expected that they will ever be accepted in the CN,

iii, Headings more detailed than the CN for which the FEBI involved would formulate proposals in order to have them adopted in the CN as well.

iv, Headings relating to industrial service activities not included in the CN, but again essential for industrial statistics.

The headings mentioned under i, ii, and iv formed the actual Prodcom list for which the data collection was going to be compulsory. For the headings of the kind mentioned under iii data collection was pending their acceptance in the CN going to be voluntary. However, due to several circumstances this acceptance in the CN only took place for a very limited number of headings.

For the sake of completeness it should finally be mentioned that the first Prodcom list, based on the CN 1993 was published in November 1992 in all nine official languages of the European Communities at that time.

2. The Prodcom Regulation

The third condition (see chapter C) formulated for the new system of European production statistics was the creation of a legal basis for it. To that end the Working Party developing the Prodcom list was simultaneously engaged in drafting a legal text, which at the end should be adopted by the Council as a Regulation. It needs to be mentioned that the Working Party considered a Regulation preferable to a Directive because of the obligations for respondents stemming from a Regulation. Such obligations would not be defined by a Directive, which would have necessitated the adaptation of individual national legislation in some of the Member States.

There was agreement that the Regulation should define a system for the collection of information on industrial production in the European Communities, both in value and in physical volume. Furthermore care should be taken that all industrial production was going to be covered but at the same time covered only once.

The new Regulation should deal with the following aspects:

- Scope and coverage
- Survey characteristics
- Frequency of data collection and transmission deadlines.
- Procedures for implementation, measurements for adjustments and so on (comitology).

It is beyond the context of this paper to go more deeply into these aspects. Nevertheless it is worthwhile mentioning that in the period Prodcom development started (end eighties) there was little or no experience as to European legislation in the area of industrial statistics. By that time the directives on structural statistics and on short-term statistics were the only existing legislation. The development of the Regulations on statistical units, registers, NACE Rev.1 and statistical confidentiality started in the same period. These circumstances have most certainly contributed to the imperfections or weaknesses of the present Prodcom regulation.

In addition to that the already mentioned longstanding experience with production statistics in the Member States has probably also acted counterproductive with respect to the accuracy of the definitions of various aspects in the Regulation. There was for example little doubt that the individual Member States in their respective systems had taken care already to measure all industrial production (or a representative share) at the same time all of them had taken measures to avoid double counting whenever relevant and possible. The Regulation mainly needed to add something on the cross-border effects (Article 2, paragraph 5). Some of the texts and in the Regulation in particular those dealing coverage and scope could probably have been formulated in a less ambiguous way.

The frequency of data collection is another aspect where the situation in the Member States has had an important influence on the Prodcom system as it is nowadays. At the time the Prodcom system was developed approximately half of the Member States were used to conduct a production survey on a quarterly or monthly basis. Only these countries could easily accept such survey frequencies for Prodcom. The remaining countries preferred Prodcom to be annual. Consequently only a relatively small part of the Prodcom list was accepted in the quarterly statistics, while monthly collection was completely rejected.

As already mentioned before a very important issue to be taken care of was the problem of statistical confidentiality. Fortunately circumstances were favourable. By the time the Regulation on Prodcom was finalised the Council had adopted a Regulation on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities Council (Council Regulation (Euratom, EEC) N^{o} 1588/90 of 11 June 1990). This Regulation provided a guarantee that the Commission had to take all necessary measure to ensure the confidentiality of data transmitted by the Member States. Such guarantee in place made it possible to define in the new Regulation the obligation to transmit to Eurostat all data, including those which are confidential under national law. With reference to the afore-mentioned Regulation on statistical confidentiality (Article 7, paragraph 3) Eurostat was charged with the responsibility to safeguard confidentiality. Thereby one of the most important causes for the failure of the old system was removed.

D. The implementation of Prodcom in the EU Member States

After both the Regulation and the Prodcom list had been finalised the conditions described in chapter C of the present paper were fulfilled. The new system for harmonised European production statistics could be launched in the twelve Member States of the Community. All of them had to carry out a statistical survey starting with the reference year 1993, albeit that 1993 and 1994 could be considered a transitional period during which the survey was progressively implemented.

Given the fact that the statistical systems were quite different from one Member State to another it will be clear that the efforts required for the implementation of Prodcom varied considerably too. Furthermore a well-developed system of production statistics was not necessarily an advantage. In practice it appeared much more troublesome to change a sophisticated system, which had been running satisfactorily for years and years, than to start from zero or almost zero.

In practice the activities carried out by the Member States in order to implement Prodcom varied from simply replacing the existing nomenclature by the Prodcom list (sometimes not even that was necessary) to a complete transformation into a new system. In between these two extremes the actions varied from adaptations regarding the survey characteristics to extensions of the survey field.

Finally it can not be denied that the vagueness regarding methodology in the text of the Regulation has had some influence on the way Prodcom has been implemented in the Member States. Due to this vagueness there has most certainly been some divergence in the way the various aspects have been interpreted.

E. Prodcom in countries beyond the EU

Though originally designed to be used as system for production statistics in the Member States of the European Communities (first of all 12 and later 15) followed by the countries of the European Economic Area, other countries became interested in Prodcom too. From the beginning on an important number of countries of Central and Eastern Europe had attended the Prodcom Committee meetings as observers. Apart from that the Economic Commission for Europe of the United Nations has most certainly contributed to the interest in Prodcom in the Central and Eastern European countries. Already in the initial phase of Prodcom the ECE has organised several seminars on European classifications in general and Prodcom in particular. These seminars were specifically aimed at the countries in Central and Eastern Europe and the countries of the former Soviet Union.

Concerning the implementation in the European countries outside the EU it could be mentioned that to some extent the situation is comparable to that in the Member States of the Community starting in 1993. The actions needed in order to implement Prodcom will be strongly related to the state of art of the existing system of production statistics.

However there is an important difference too. Many of these countries, if not all, are also being faced with complete revision of the system of economic statistics in order to satisfy the requirements of a market economy. It goes without saying that such radical changes take time. In particular when taking into account the budget limitations all statistical institutes are confronted with, it will be clear that the changes can not be realised from one day to the next. Nevertheless it is certain that eventually production statistics all over Europe will be harmonised according to Prodcom.

Finally it is worthwhile to mention that in the context of the Phare programme an assessment on the implementation of Prodcom in the Phare countries will take place in the spring of 2000.

F. Final observations

From the above it will be clear that the system for harmonised European production statistics, Prodcom, has enormously improved the insight in industrial production and markets.

To start with it is the first time all countries of the EU collect data on industrial statistics on the basis of a common product list. Moreover this product list is fully compatible with the commodity classification used in Intrastat and in foreign trade statistics. Consequently Prodcom not only allows comparisons of industrial production between countries; it also makes it possible to compile data on the markets of individual products.

Prodcom is furthermore the first European Community statistical system for which Eurostat is systematically handling the confidential data. This has already considerably increased the availability of European statistics. Further refinements in the treatment of confidentiality will probably gradually extend the number of headings for which European data will be available and thus improve the merits of Prodcom.

Taking into account the augmenting number of countries using Prodcom for their statistics on industrial production, the significance of Prodcom will only increase. Several countries outside the European Union have already fully implemented Prodcom. Prodcom data are available for the countries of the EEA as well as for some Central and Eastern European countries.

It is manifest that Prodcom is still hampered by imperfections. The Regulation itself is not always completely clear as to its intentions. This results in some diversity regarding for example statistical units and methodology. Furthermore not all Member States do fully respect the rules on representativeness laid down in the Regulation. Notwithstanding these imperfections (and there are many more!) Prodcom is already and will increasingly be the most widespread system of harmonised production statistics in Europe.

Discussion:

Volkmar Wulf
Febi: MECSEA:
I would like to know if Mr Platteel has an idea of how Prodcom might be implemented in the eastern and central European countries. You did say that the Russian federation and the associated countries have been using Prodcom or considering using Prodcom, would you tell us more about that?

Pasi Markelin
Statistics Finland
There was a question about countries outside Europe using the Prodcom classification. I have one example: Azerbaijan, a country at the Caspian Sea. I have been working there more than two years with a Tacis project statistical classifications. And I was back in Baku last December, and we discussed the national version of product classification, which is based on the Prodcom classification. We are right now introducing the national classification and implementing it. I would like to add that, one way to support the work is to provide documents, for example this kind of articles we have here, in Russian. I just ask whether you can provide me any of these papers in the Russian language. If so, I will forward them to my colleagues in Baku.

Wilhelm Bührer
The Federal Statistical Office, Germany
Germany is very actively engaged in cooperation with the former Member States of the Soviet Union, particular Belarus and Ukraine under a Tacis program. In the future we will have an agreement with Bulgaria. So, in the long run, quite a lot of material on Prodcom will be available in Russian. And I will be happy to get in contact with my Finnish colleague and mail these papers to him.

Nino Platteel
Statistics Netherlands, Agriculture, Industry and Environment
Mr Wulf asked about the implementation of Prodcom in the countries outside the EU. I have been involved in the Tacis programme in the former Soviet Union I have visited several countries. I know that these countries are interested in implementing Prodcom in their business statistics. However, the progress is not fast, because many of them still have many other problems to solve concerning their business statistics in general and the level of their budget is limited. Of the countries that I have visited, I find Azerbaijan is the most advanced on Prodcom implementation at the moment. Concerning the countries in Central and Eastern Europe, I can inform a Phare project has started to get the information on how these countries will be able to implement the Prodcom Regulation. In the framework of that programme, a long list of questions has been worked out. The aim is to detect the current situation regarding Prodcom in these countries as well as the way for future progress. In the coming weeks, I will visit the four most industrialised of those countries. Therefore, soon I will know much more about the state of Prodcom in those countries.

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PRODCOM from the user's point of view
or
How to persuade a client to buy Europroms figures

Karen Larsen, Information adviser, Eurostat Data Shop Copenhagen,
Statistics Denmark Library and Information, Denmark
e-mail: ktl@dst.dk

Abstract

Based on experiences with clients, this papers describes the barriers in disseminating Europroms data to clients.

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   b. On nomenclatures
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D. Future cooperation

A. The clients

The contents of this paper are based on experiences gained in contact with our clients.

Our clients are mainly executive officers in private companies, who need information on markets and competitors. Students, who need information for their various papers, are the other main group of clients.

So I am an intermediary or information broker, not the end-user.

B. Contents of Europroms

a. Before Europroms

The possibility of obtaining figures on production statistics was greatly improved by the appearance of Prodcom and Europroms. Before the set-up of the Prodcom system most EU-countries had their own national classification system and methodology, which were not comparable or compatible with that of any other country.

An exception was the Scandinavian countries. The Danish statistics on production or manufacturers' sales as well as the statistics on external trade have for a long time span, i.e. since 1966 been based on the Combined Nomenclature (or its predecessors).

b. On nomenclatures

The use and knowledge of the Combined Nomenclature is widely spread in the Danish public. Data on domestic supply are in great demand

and can easily be calculated, owing to the fact that both foreign trade and production statistics make use of the same nomenclature.

It is a major challenge to convince the clients that they have to get used to a different system of classification.

This may be a local problem, which is not equally distinct in other countries. Nevertheless, there can be no doubt that it is easier to teach your clients one system of classification than two.

In other words, the introduction of a brand new nomenclature is the first obstacle you meet when trying to introduce Europroms data.

c. On aggregates and other subtleties

Thanks to the excellent lessons on nomenclatures, the client has learned that the Prodcom nomenclature is based on NACE, Rev. 1. Consequently, the client often wonders why it is not possible to have aggregates at 4-digit level. The aggregate of EU-15 is also in demand, but unfortunately is often missing.

Personally, I tend to refrain from explaining the types of production, let alone the abbreviations V,Q and Z, unless it is absolutely unavoidable.

Why bother the client with all these boring details, you may ask.

Unfortunately, it is neccesary, as the client is buying these figures to support him in the decision-making process for a marketing strategy or other business decisions.

So you have to make sure that he is aware of all the reservations and exceptions to the rules.

If the client has not already left, shaking his head, it is time to close the deal. And you must choose beetween two possibilities of retrieving the requested data, either from Europroms cd-rom or the New Cronos database.

C. Dissemination of Prodcom data

a. Europroms cd-rom

The individual client usually needs information on a few products, very rarely on more than 10 products and is reluctant to invest in the entire Europroms cd-rom.

The product is meant for the end-user, but it is rather expensive and the first edition was released prematurely, before the bulk of figures were available.

The user interface on the cd-rom is fairly easy to use for a professional intermediary, but in my experience the client needs a guiding hand; self-service is not likely to succeed.

The cd-rom only enables you to view a table of one product in one period at a time. If you want to find out which products (e.g. which size of tractors) are manufactured in a single country in the last 3 years, it is a very time-consuming process.

b. Europroms in New Cronos

This tool is for the Eurostat Data Shop and the professional intermediary and is a much more flexible software with the possibility of tailor-made tables, according to the clients´ requests.

In all events you have to be careful not to make any promises to your client, before you have checked if indeed there any figures on the product requested.

D. Future cooperation

My statements may sound as if I am very discontented with Europroms, but that is not the whole truth.

There is room for improvement, but without a doubt it is a major step forward that we do have comparable figures on production of single commodities.

Less delay in the release dates, more recent figures, less reluctance to calculate or estimate aggregates and a more flexible software for making tables in Europroms cd-rom is imperative for the success of the product.

The clients have a keen interest in these figures, but at the moment it is for many clients simply too complicated to get the full benefit of the information in Europroms.

If you have a local Eurostat Data Shop do not hesitate to exchange views with the staff, who has direct contact with the clients and will be happy to cooperate with you in any information or sales campaign, exhibition, etc.

PRODCOM from the user's point of view

or

How to persuade a client to buy Europroms figures

Karen Larsen, Information adviser, Eurostat Data Shop Copenhagen,
Statistics Denmark Library and Information, Denmark
e-mail: ktl@dst.dk

Discussion

Helga Limbert

Federal statistical office of Germany, production statistics, member of the working party of Europroms

Germany has its own Eurostat data shop in Berlin and Germany is also a member of the working party on Europroms. Karen Larsen mentioned that Europroms CD-ROM software was not state of the art yet. As far as I know, the Europroms working party is developing new software similar to the software used for New Cronos. So I assume that this situation will improve for the users as a result of the new software.

Humberto Pereira

National statistical institute on Portugal, Prodcom and short-term business statistics

I think Karen Larsen raised some important questions. Personally, I do not think that Prodcom is the right source for information on production quantities at a four-digit level, because you can only give this information when production quantities are measured by the same unit in all the headings of the NACE group. Maybe the structural business statistics are a better source. Secondly, I agree that nobody is interested in buying the Europroms CD for information of only ten or twenty products or even the products from one NACE group. The CD-ROM costs € 2000. In Portugal we produce a sheet or a file including the requested headings of Prodcom sorted by NACE groups. We sell it, and it is included in our web site where people can get information on Portuguese statistics. The site is called 'INFO-L**INE** (the INE at the end are the initials of our institute, Institute Nationale Estatistica). Information is available for one NACE group as well as for their own product. And this service costs less than to buy the Europroms. The site only offers productions statistics, not statistics on external trade. I therefore suggest Eurostat to consider solutions for the data shops to sell only part of the Europroms. This will, I think, be more interesting for the clients.

Jean-Paul Lachize

Ministry of economic, finance and industry, France, the statistical department, Prodcom

Regular publication of Europroms is a very recent. So, perhaps potential customers do not yet know of it. The Europroms CD-ROM includes very useful data for comparing data on production with custom authorities' data on the single market, and the data can be used to indicate where production is taking place. The information can be used for many purposes, but I do not think all potential customers know that. Therefore, I think we must allow some time before knowing who will be able to use the CD-ROM. Hopefully, the feedback will be positive.

Dorte Schmidt-Brown

Prodcom, Eurostat

Let me summarise the different sales possibilities of the information included in Europroms. The clients can buy tables extracted from the Europroms CD-ROM by the data shops if they need only five or ten products. Or, they may buy a sub set of the entire CD-ROM. This might include one, two, three or more NACE groups depending on the wishes of the clients. The price is calculated according to the number of headings involved. Users, who need figures regularly on more than three or four NACE groups, can subscribe to the information on a yearly basis with monthly updates. There are different sales possibilities and I think it is important to offer the different options to the clients. Concerning the new dissemination software mentioned by Mrs Limbert, I can confirm that the interface of the new software for Europroms will be identical for on-line and off line access (CD-ROM). Still, it is too early to say when it will be ready.

Tony Birch
Office for national statistics, UK, Prodcom
I would like to congratulate my colleague on the paper. Concerning these dreams of Mrs Larsen on how we can develop Prodcom in the future. Possibly we all know that we have to balance such things against improvement of the quality of the existing product. It is often difficult to know which way to go. It might help us to make up our minds if we had some sort of a quantitative way for measuring a market for Prodcom data. Is there some knowledge about the market?

Norbert Rainer
Statistics Austria
I think, our discussions of the dissemination policy and how to fulfil the needs of the clients, should distinguish between two things: one is the pricing policy. It is not only relevant for Prodcom; it is a general problem worth discussing because the pricing policy of statistical publications is very different between countries and between the countries and Eurostat. The other issue is more important in this context: it is the content, the way we are disseminating and how we are able to fulfil the requirements of clarity and quick access and all the software tools. In Austria we have a new statistical law since the beginning of this year, and in the future, based on that law we will have more or less to give all usual statistical information to the clients free of charge. Furthermore, within the next two years we will put our usual statistical publications. Only separate tabulations and extractions will be charged.

Inge Feldbaek
Prodcom, Eurostat
Which kind of information does your clients want? Production statistics only? Production statistics compared with data on foreign trade? Data on domestic market? Data on the European area or data on other national markets?

Karen Larsen
Eurostat data shop in Denmark, member of the Eurostat data shop working group
Our clients are interested in production data as well as data on the domestic market. They want to know the supply of single commodities to the market, and they ask for comparison with Poland, Hungary etcetera. Therefore I consider a possible inclusion of these countries to be a major improvement.

Pedro Díaz Muñoz
Director: Business Statistics, Eurostat
Mrs Larsen mentioned several difficulties met by clients interested in Prodcom data. Could you develop this further? More precisely: How many clients give up after these difficulties? And what are the main reasons? Are they disappointed because the product is not available? Because of many cells with non-available information? Or are they disappointed because of the price of the data?

Karen Larsen
Eurostat data shop in Denmark, member of the Eurostat data shop working group
On average, five to ten clients ask for European statistics on domestic supply or production every day. About a third of them do not get what they want. When they do not get what they want, the reasons could be that the answer includes a lot of non-available data, or that recent figures are missing for some countries. However, I must add that some clients are satisfied with the information that there is no significant production of the questioned commodity in the questioned country. Confirmation of 'zero production' is also valid information.

Volkmar Wulf
Febi: MECSEA
How long time does it take from the moment the data is produced in the Member States until they are delivered to the clients?

Dorte Schmidt-Brown
Prodcom, Eurostat
The time it takes from the moment the Member States send the data to Eurostat and the moment data is published in the database New Cronos and the CD-ROM Europroms has decreased. Since Christmas, Prodcom is updated monthly in New Cronos and published monthly on the CD-ROM Europroms. The updating procedure starts around the 7th every month and data will be sent to the printer the 20th, so that the CD-ROM will come out on the 10th in the following month. So, it will take a month from the arrival of the data to Eurostat to the publication on the CD-ROM.

Karen Larsen
Eurostat data shop in Denmark, member of the Eurostat data shop working group
As an Eurostat data shop we are obliged to answer the client within 24 hours after having received his request. This dos not mean that we actually produce the answer within 24 hours. But we must inform the client of the possibilities to answer his request. In most cases, the answer is produced within 24 hours.

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
Mrs Larsen said that ideally Europroms should include services. Do you have any examples of how you deal with clients that want information on industrial services?

Jean Couronne
Ministry of industry in France, department of statistics
Just to amplify what Mr Lachize said. As Prodcom is a survey of products, I would like to know how sub-contracted services are included. In sub-contracting between large enterprises, for example installing electrical equipment on a large scale in buildings. Is there a way of identifying that in the Prodcom system? And how is sub-contracting treated in the steel industry?

Karen Larsen
Eurostat data shop in Denmark, member of the Eurostat data shop working group
The Danish data shop does receive requests on for example IT services, software, Internet etc. Some of the clients expect to find this kind of products in Europroms. They think of these services as products, and we must then tell them that they are not included in Prodcom.

Adrien Lhomme
Head of unit D3 (Production, Business statistics, Special sectors), Eurostat
I think this question is interesting for the future Prodcom. By means of the data shops we need to gather much more information about the needs of users. And I think that data shops should send back statistics on demands and requests and how they have been dealt with. It is very interesting to see what the real underlying demand is in any particular field.

Yvan Bergmanns
National statistical institute, Belgium, Prodcom
I think that there are several types of demand related to the Europroms. The trade associations require information on four-digit NACE level or disaggregated CPA information. Users in private companies require even more detailed information than available in Prodcom. Requests for regional information are another kind of demand. As Belgium is a small country, it takes a lot of time and attention because much information is confidential even at a national level. Everything has to be done manually when providing regional data. Furthermore, as Mrs Larsen said, most users ask for just five or ten products from the Prodcom list. To stimulate the demand for Prodcom data, our marketing sector is planning a campaign on the availability of Prodcom data. Many potential clients are not aware of the possibilities. Universities, associations, chambers of commerce and so forth are all going to be included in the widening of the range of contacts. This will perhaps open up sales possibilities. Obviously if we want to do this sort of marketing, we must make sure that the coding system is clear and more detailed, because that is what users are asking for.

Richard Ragnarson
Statistics Norway
I have a question to Mrs Larsen: Do your customers trust the Prodcom data? Have you got any reactions from the dissatisfied users?

Karen Larsen
Eurostat data shop in Denmark, member of the Eurostat data shop working group
Generally, I believe that they trust the figures. Of course I carefully explain all reservations linked to the figures. So, I think they trust the figures. Have you had problems with Norwegian users who do not trust the figures?

Richard Ragnarson
Statistics Norway
Some of the branch organisations and trade associations use their own figures rather than the official. And we also know that we have problems with the coverage of Prodcom. Estimates of prices based on information published on the Europroms CD differ a lot. So, personally I doubt some of the figures. A quick consultation of the Europroms to estimate prices reveals a lot of peculiarities.

Dorte Schmidt-Brown
Prodcom, Eurostat
There is always room for improvement and especially in data quality. The Member States are working quite hard to improve data quality. In the beginning of Prodcom it was very important to get figures, now we are in a situation where data availability must be accompanied by data quality. When receiving questions on the quality of Europroms, Eurostat asks the relevant Member States to check both Prodcom data as well as foreign trade data. Often questions on the quality are not concentrated on production figures. It might be the combination of production figures and trade figures. The Member States will then contact both the subject units to clarify the question. However, I do believe that the quality is improving. The clients I meet have fewer questions on the quality now than for example two years ago. Nevertheless, I strongly believe that we are still able to improve the quality of the figures

Sanjiv Mahajan
Office for National Statistics, UK, the input-output compilation for national accounts
I have heard some very interesting views on dissemination, and I would like to launch a slightly different approach. From a user perspective in the Community it may be worth finding out what the users want: Do they want a Member States' type of a survey or a European survey? Another dimension is the users' knowledge of the capability of the data set they are receiving. For example is it worth compiling additional analysis showing changes in national trends or in different regions, or growth in products or a major decline in a particular area, etcetera. That may well be quite useful if there are users who need that. And finally, again from the user perspective, it might be worth considering the awareness of Prodcom data with users. Are they aware of this information? And do they know how do you use it? Obviously, compilers and producers of data sets find it much easier to understand what has been produced. But, the users may not be aware of the benefits of this information. Having collected all this information, let us make sure then that we can get the benefit, and disseminate the data as much as we can. I wonder if we have fully exhausted that area.

Dorte Schmidt-Brown
Prodcom, Eurostat
A market study was carried out before Europroms was created. This was back in 1995. The main result at that time was that potential users did not want sophisticated statistics like for example forecasting indicators and estimated data. Furthermore they wanted Europroms to concentrate on production data and trade data, and finally – according to the market study - they wanted simple software to extract and process data. Since 1995, their wishes might have changed, especially because data are now available and the question is no more than just theoretically. Therefore, I agree in the need for a new study to follow up on the 1995 study.

Karen Larsen

Eurostat data shop in Denmark, member of the Eurostat data shop working group

I agree in the comments of Mr Mahajan regarding the user awareness of Prodcom. We do have to do a lot of marketing to make our clients aware of the existence of Prodcom, because very few clients actually know it. So, there is a huge work in making potential users aware of it and its usability. To the question on which data the clients wants, I can answer that they want data on the European area as well as national data. They want actual and comparable data across Europe, and they want time series for single countries. The clients have a wide range of wishes.

Pedro Díaz Muñoz

Director: Business Statistics, Eurostat

To conclude this session, I would like to emphasise Mrs Larsen's information about five to ten potential daily users of Prodcom data in the Danish Eurostat data shop. It proves the high interest of this information, even when one third of them do not get what they want. I agree with Mr Lachize that Prodcom must be updated and published more frequently. Hopefully, the new monthly Europroms CD-ROM, including all national data received at least one month before, will improve this situation. I agree that we need to make an effort to increase users' awareness of the Prodcom products and to improve our marketing effort. I think that we, producers in the Member States and in Eurostat, should keep in touch with our dissemination offices and data shops and combine our forces to increase the awareness of Prodcom and the access to the data. Another point, the different dissemination policies and price policies of the Member States, was raised. Although dissemination of Prodcom is not the subject of this seminar, I would like to refer to Mr Bergmanns' idea to meet the user need for parts of Prodcom to a reduced price. May be this idea should become a standard of the dissemination of Prodcom data. I also agree with Mr Mahajan that the users might need better information on the capabilities of Prodcom as well as its limitations. Finally, I think that better communication of user suggestions and disappointments is needed. A way to do this is to get current feed back from the Datashops, perhaps by inviting one of them to the Prodcom Committee meetings.

PRODCOM from the user's point of view:
The experience of Ikei

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Abstract

The goal of this paper is to give an overview of the perception that Ikei, an Spanish economic and social consulting enterprise has from his experience with the use of PRODCOM. For this purpose, this paper will provide a brief presentation of the general activities of Ikei and the use that Ikei makes of PRODCOM. Subsequently, the paper will identify some of the main problems encountered by Ikei when using PRODCOM and, finally, several possible recommendations for improvement will be suggested.

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A. Foreword

Ladies and gentlemen,

1. First of all we would like to thank EUROSTAT and specially Director Pedro Díaz Muñoz for his kindness to invite the organisation I represent, Ikei, to this seminar. We hope that our comments and suggestions may be of any use for you and your work.

B. General presentation of Ikei

2. Ikei is the acronym for Instituto Vasco de Estudios e Investigación, whose English translation is Basque Institute of Studies and Research. Ikei was founded in 1977 by a group of Basque financial institutions and large enterprises, basically with the idea of being a social and economic research institute committed to the analysis of regional development issues and prospects within the Basque Country.

3. Nowadays, Ikei operates as a non-profit[1)], private commercial firm, combining market-oriented consultancy work and research with projects and research funded totally or partially with its own resources. Meanwhile, our geographical scope has enlarged, since nowadays we do not only carry out our work within the Basque Country but also in the rest of Spain and increasingly within the European and South American domain.

4. Ikei is currently structured around two main Departments, this is, Socio-economic Studies and Projects on the one hand and Management Consultancy on the other hand. Within the Studies Division I belong to, we cover the following research domains, this is, Regional Development and Strategy, Economic Analysis and Modelling, SMEs and Sector Analysis and, finally, Social Studies. On the other hand, the Management Consultancy Division covers the domains of Strategic Management, Commercial Management, Finance Management and, finally, Production and Technology Management. We are 25 people in the organisation.

5. Ikei's clients fall under three groupings, this is, Public Administration at all levels (local, regional, national and international), Business Associations and, finally, Private companies. Around 75-80% of our turnover comes from Public Administrations, and 22% comes specifically from International Administrations.

6. Ikei is active in the international domain. In this sense, Ikei has carried out a large number of projects for the European Commission, specifically for the old DGs III, V, XII, XIII, XIV, XVI, XXII and XXIII, and also for other related institutions such as CEDEFOP and the European Foundation for Living and Working Conditions. Other international institutions with whom Ikei has collaborated include the Inter-American Development Bank and the Inter-American Investment Corporation.

1) In the sense that profits are always reinvested in research projects.

7. We would like to highlight one of our most important projects during the last seven years, this is, the so-called European Observatory for SMEs. This project is financed by former DG XXIII and Ikei is precisely the Spanish representative within this Observatory. For this purpose, Ikei collaborates on a regular basis with a stable network made up by 18 institutes and consultants, one from each Member State of the European Union plus Norway, Switzerland and Iceland: the European Network for SME Research (ENSR). So far, six annual reports have been made within the Observatory framework.

C. Ikei's experience with PRODCOM

8. As it can be seen, one of Ikei's main work domains is related to what we call 'SMEs and Sector Analysis Studies'. It is precisely in the Sector analysis domain where Ikei has mostly made use of PRODCOM as a source of information.

9. Ikei carries out at least 3 sector studies per year since early eighties. These studies are annually contracted by the Confederation of Basque Saving Banks, and they are intended to provide general information for the public on the importance of a concrete sector within the Basque economy. For this purpose, the typical sector study is divided into three main sections, this is, the European context, the Spanish context and, finally, the own Basque context.

10. Ikei uses a wide array of different official and sectorial statistical sources for obtaining the information: In this sense, the main official sources (obtained from the Spanish and the Basque Official Institutes of Statistics) include several such as Industrial accounts, Economic accounts, Research and Development statistics, information on foreign trade, etc.

11. For different reasons, PRODCOM has begun to be used on a regular basis since 1997. PRODCOM allows Ikei to obtain information on different aspects. Firstly, PRODCOM allows us to obtain a clear picture of what kind of product specialisation within the selected specific sector does exist in the Basque Country, and compare it with the Spanish and other European countries' product specialisation. Secondly, PRODCOM provides valuable information on the 'value added content' of the regional/national products, since PRODCOM gives information both for value and quantity. Thirdly, PRODCOM provides insight into any possible changes in product specialisation over time. It is worth underlining that all this information is highly appreciated by the contractor and the public in general.

12. Ikei requests PRODCOM information to the Spanish National Institute of Statistics, who provides us information for the whole of Spain and for a number of selected regions (obviously including the Basque Country). This information requesting process is done in a quick and easy way, probably due to the fact that we know the procedures and we are already known within the Spanish Statistical Office. Moreover, in the last year the use of on-line tools such as e-mail facilities has sped up all these processes.

13. Ikei has also used PRODCOM information for several other sector studies carried out in the past two years. Examples include a sector analysis for the Spanish regional Government of Navarre on the Plastic Processing Industry and a sector study for the European Commission on the fish processing industry in the Northern coast of Spain. The purpose of using PRODCOM is always related to obtaining a picture of the product specialisation available within Spain and within a number of selected Spanish regions in a concrete sector.

D. Problems identified by Ikei when using PRODCOM

14. Ikei is very satisfied with PRODCOM. We believe it is an important information tool that provides valuable information for our clients. However, during our experience we have identified a number of problems and weak points we would like to bring here today.

15. To start with, PRODCOM only covers industrial products and does not provide any information at all on service products. This means that PRODCOM is only used when the sector studies are related to manufacturing sectors. However, tertiary activities are also of interest for our clients. We are fully aware of the difficulties linked to the tertiary sector (problems of definitions, products overlappings, etc) but we, as researchers, would like to get better and wider information on the whole spectrum of economic activities.

16. Ikei has found sometimes difficulties for obtaining information on certain products at regional level, where the problem of statistical secrecy becomes more apparent the smaller the region or the sector is. This problem was clear, for instance, when we dealt with the study for DG XIV on the Northern Spanish fish processing industry. In some small regions (i.e. Asturias or Cantabria), we were not able to obtain any data, due to the small size of the available sample and not to the absence of a significant number of enterprises in the selected regions.

17. It has been the case that in some sectors (i.e. the Plastic Processing industry), the classification of products used by the sector association (based on the process) is impossible to be compared with the product classification provided by PRODCOM. This has posed us important problems for comparing the results.

18. As you may remember from the description of our activities, Ikei is particularly interested in the SME perspective. In this sense, in some cases we have intended to obtain some data on the differences in the product specialisation of the different enterprise sizes. Unfortunately enough, this is not possible with PRODCOM, at least in the Spanish case, since the Spanish PRODCOM survey has been carried out so far only amongst those industrial enterprises with 20 or more occupied people. This problem is really important for the Spanish case since, as all of you probably know, Spain is an SME dominated country where at least 80% of the total industrial enterprises have less than 20 occupied people.

E. Suggestions for improvement

19. As it has already been mentioned, Ikei is very satisfied with our experience with the PRODCOM results and the management that the Spanish Official Institute of Statistics makes of PRODCOM. However, we have explained to you also some weak points that we find when using PRODCOM. Having in mind these weak points, we dare to suggest two possible routes for improvement:

20. On the one hand, enlarge the samples from where you obtain the information, so therefore it is possible to obtain much more detailed and refined information at regional or sector level. This suggestion is especially important, to our opinion, for obtaining detailed information for the lowest enterprise size levels.

21. On the other hand, and linked to the previous one, consider the possibility to start including some tertiary products, at least some of the most commons and/or standard ones in the beginning.

22. That is all from our side. We hope to have been of any use for you and your work. Thanks very much for your attention and your kindness.

PRODCOM from the user's point of view:
The experience of Ikei

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Discussion

Humberto Pereira

National statistical institute on Portugal, Prodcom and short-term business statistics

I enjoyed Mr Isusi's presentation and would like his suggestion for a solution to the problem of enlarging the Prodcom survey to include small and medium sized enterprises. If Portugal includes enterprises with less than 20 employees in the survey, our sample will double two or three times. We can not do that. We have a lot of small enterprises. And it is very difficult to select a representative sample of the enterprises of less than 20 employees. For example in the wood industry, we need to include more than 1000 enterprises with less than twenty employees in our sample to increase the total turnover by 1.5%. We can not do that. The problem becomes worse if we start to publish or disseminate information on regional level. If we combine the two proposals made by Mr Isusi, we would have to increase our sample significantly. Although I understand why it is useful, and although I would like also to do it, it is just not possible. We already include 25,000 kind of activity units (KAUs) in our survey. They belong to 12,000 – 13,000 enterprises. So, we can not include more.

Roberto Monducci

ISTAT, The Italian Statistical Institute, Short term business statistics

The suggestions of Mr Isusi give me the opportunity to mention some points. I think that we need to discuss certain methodological aspects of Prodcom. Mr Isusi's speaking of samples confuses me. I am not sure that the statistical framework of Prodcom is based on a sample. In Italy we survey all enterprises with 20 and more employees and a sample of enterprises with less than 20 employees. In this case we are able to calculate for example quality indicators on the variance. This seminar lacks, in my opinion, a discussion about this aspect. When Mr Isusi proposes to enlarge the sample, I understand that he wants to increase the precision of the estimate, and I do not know if this is because he is disappointed with the Regulation, or because he would like coverage of more than 90%. I think we need to continue discussions - and I propose another workshop - on this issue. I think that we would have to investigate the possibilities to establish a working group for the implementation of Prodcom focussing on the methodological aspects, because I think that we have to clarify a lot of problems to improve on quality for the benefit of the users. I believe that the users need quality and precision. And this aspect of quality should be discussed more thoroughly to precisely determine the statistical approach to Prodcom.

Anne-Marie De Noose

Febi: Intergraf, the European printing Industry

I would also like to stress the importance of an adequate coverage. If we remember what we said yesterday, that the objective was to reach 90% of the industry, the part represented by small companies has to be taken into account. In some sectors, the part of the SMEs and companies employing less than 20 workers represent to 20% or 40% of the industry, so adequate ways of covering this part of industry must be found out.

Jean Couronne
Ministry of industry in France, department of statistics
I just want to pick up what Mr Monducci and Mr Isusi said. Because in particular the high-tech industry, the threshold of 20 employees is perhaps a little inappropriate. I think that companies with between 0 and 20 employees provide very useful information because they generate a very high added value and very often, we do not know how and how much such companies contribute.

Bernard Champin
Febi: Panorama, Paris
The doubt about the Prodcom coverage is also influencing confidence in the calculated apparent consumption. At the moment, we do not get an adequate picture of that.

Yvan Bergmans
National statistical institute, Belgium, Prodcom
I think we need to pay attention to this issue of coverage. In Belgium, like in the other countries, we think that too many companies are left out of the sample. So we set up a threshold of 10 instead of 20 employees, and as some companies have very few staff and very high turnover, we also set a threshold of 100 million Belgium francs. If we include only enterprises with 20 or more employees, we would get a problem because we do not know the products corresponding to some of the NACE codes. If there are several products in a NACE four digit code, it is difficult to extrapolate the data to the rest of the universe. We calculate, each year, a coverage rate. That is about 90% across Prodcom, but in some NACE divisions it is below 90%. We have to disclose that to users, so they have to draw their own conclusions. The Belgium government wishes to reduce the workload imposed by surveys on businesses, so it is not a good climate right now to suggest increasing the number of administrative and statistical questionnaires.

Bernard Bruyere
Febi: CIRFS, the association of synthetic textile industry in Europe
My sector is hit less hard by the problem of small companies rather by a fairly small number of companies. Furthermore, there are some very large companies in our sector. We have been talking about production. This is what all industrial companies want to know about. There is no point engaging in the market unless you have some idea about that industry. So businesses are very much looking for production data, and a lot of data is covered already in Prodcom, in Europroms at the moment. But, given the quality of data and data availability, we find the data are quite expensive. If however the quality improves, then the price would be come rather cheap. But, there are areas in Prodcom where the quality is not satisfactory. I will try to explain why. Data quality depend on several factors, in our case there often is a problem nomenclature, the classification.

We have tried to produce a decent classification for our industry, but we had to work with various constraints, links with NACE, with the foreign trade nomenclature and so on. There were various reference points. Sometimes we had to compromise in our classification, and we knew that there was probably double counting for some products, but we could not solve that problem, given the constraints imposed by the classifications. To change the foreign trade classification you have to change the worldwide Harmonised System and so on, and we know that that kind of change does not happen overnight. The NACE classification is very difficult to amend as well. If we want to achieve a decent Prodcom classification, then the NACE also needs to be revised along with the HS. This is a very technical area and it is obviously not easy to make these changes. Another constraint is due to the fact that we are not masters of the dissemination of the data. We can not tell Eurostat that for a given product it can only be published on the EU-15 level. If we look at the 15 Member States and the 15 products identified by our industry, virtually all the data by fibre and Member State would be confidential. So, we have had to aggregate as many products as possible and come up with totals, which at the end of the day do not help the industrial companies very much. We are not able to say that a given heading can be published only at EU-15 level, therefore we have to come up with our own solution. So we think that the classification is not very good, the results are not very good, and that this is due to lack of flexibility at various levels. I would conclude by saying that in our industry we are concerned first and foremost in having EU15 data, so that we can compare with the Member States and also with the countries of Eastern Europe. Moreover, we are concerned by totals per country. However, our sector is very much a globalised industry, so we feel that it would be more helpful to have aggregates for the major economic blocs than for individual countries.

Pietro Demetrio Falorsi
ISTAT, The Italian Statistical Institute

Prodcom is – according to the experience of Italy – a very expensive survey measured both in human resources and in financial resources. It is a very heavy burden, and we have a quite high rate of non-response or refusal. So, my suggestion is to decrease the sample. I suggest the Regulation to be changed to allow a sample of also the enterprises with 20 or more employees. I suggest starting a pilot project aiming at studying the application of small area or small domain estimation techniques in order to use the collected data more efficiently. We have to respond to the users' needs, without enlarging the sample but by using the data more efficiently.

Jean Couronne
Ministry of industry in France, department of statistics

I agree with Mr Bruyere that the synthetic fibre industry is included in the NACE classification in quite a tricky way. There is a division in two: first, the industry based on the manufacture of synthetic textiles, basically the chemical products; secondly, the industry processing these materials. So we are not necessarily identifying the chemicals involved correctly. Furthermore, we need to identify the actual fibres going into the production process and then of course the finished product. And a terrific problem arises when it comes to quantifying all these things. So, when we look at the revision of NACE, I think we ought to look at this and split into two these headings, because there are too many things going on really.

Pasquale Papa
ISTAT, The Italian Statistical Institute, Prodcom
I think that the real critical issue of Prodcom is to analyse all the possibilities concerning the comparison between countries. That obviously involves an analysis of all methodological aspects concerning for example sample techniques, quality assessment and a set of operative indicators. Only in this case, I think, we can provide a product that is useful for the users. This might also be of use for our users of statistics on regions. However, I think the real issue is the comparison between the countries.

Sanjiv Mahajan
Office for National Statistics, UK, the input-output compilation for national accounts
This morning's discussion has been quite interesting with some tentative proposals. However, the discussions made me - as user – a little concerned. I think for Eurostat's purpose and its way forward, it has to be quite aware of a number of issues. One is clearly quality. The quality of the estimates Eurostat is receiving from all the Member States varies. What I am also concerned about is, that you are not necessarily getting comparable estimates. They are not exhaustive representing the turnover of the manufacturing industry in each country. There is an issue on consistency in terms of the exhaustiveness of what has been provided. The other aspect is if we are struggling to measure this activity, linked to another demand that Eurostat wants from all Member States, an exhaustive measure of Gross National Income, GNI. So it would be interesting to know, how countries achieve exhaustiveness. In the UK, we have a business register, which is a lot better now, than it was before, so its coverage of business enterprises with 0 to 19 employees is very good. I do not know how that is in Prodcom, but we have to demonstrate to your colleagues in the other DGs, that we are presenting the GNI of the UK as best we can. I think that maybe Prodcom methodology might learn from the GNI Prodcom methodology how exhaustive measures are compiled. If we have a sample approach, we carry out pilot studies for enterprises with 0 to 19 employees to get a pattern of the products that they produce; and if we are grossing up, we gross to the turnover of the manufacturing industry. It is just ideas, not proposals, but I think these ideas need to be considered to ensure that what you receive from all Member States is on the same basis. What I heard this morning as suggestions is not necessarily comparable.

Tony Birch:
Office for national statistics, UK, Prodcom
I thought Mr Isusi's presentation was very interesting and I think that we should always try to meet the need of our users. At the same time many people raised the issues of how to provide detailed information. In the UK, we are only a few days away from starting a small section with the intention of actually producing some service statistics. This new system is to be called Servcom. My colleagues involved with that has found that in the UK, the number of enterprises with 0-9 employees is something like 80% or even more than that of the total businesses in the service sector. So when we are going to look at the service statistics, we will have to look at the issue of getting data from small businesses as well.

Humberto Pereira

National statistical institute on Portugal, Prodcom and short-term business statistics

When we implemented the Prodcom survey in Portugal, the first priority was given to representativeness. For us, the 90% of total production are implemented as 90% of the turnover. This is the variable that we have in our register, and this is the best proxy to total production. To achieve this 90%, we need to include enterprises with less than 20 employees, because enterprises with less than 20 employees sometimes represent 20-30% of the total production. We also include enterprises with 20 employees and more even if their contribution is not necessary to achieve the 90% of total production/turnover. The aim of my intervention is to say that I share the concerns of my Italian colleagues on how we interpret the Prodcom regulation. I think that we need to start to do something about the implementation of Prodcom survey, maybe setting up a task force or a working group to discuss all these issues, because we are always talking about the representativeness and about how to achieve total production. I know that we have started something with the questionnaire about methodology, but I think that we all agree that we still do not know what each other is doing, the users do not know what we are doing with Prodcom and what we are disseminating. I think that we should publish some methodological notes maybe in the Europroms to inform the users on exactly what we are doing even if we are doing different things in different Member States.

Helga Limbert

The Federal statistical office of Germany, production statistics, member of the working party of Europroms

The German experience on the reporting field is based on information from enterprises of 20 and more employees. But because of the structure of production, we have to include even smaller units. We are also under pressure to reduce the burden on enterprises when it comes into filling in questionnaires and so forth. Nevertheless, we do hesitate to carry out too many samples because of the problems of extrapolating the figures. We are constantly required to produce eight-digit level Prodcom information, so the requirement of reliability is actually quite strong.

Wilhelm Bührer

The Federal Statistical Office, Germany

I would like to add some comments on the intervention of Mrs Limbert. For enterprises of less than 20 employees, a number of surveys have been carried out, but only to determine turnover and number of employees. I think there is an EU Regulation, according to which Member States have to survey the whole manufacturing industry, including mining. The aim of this is to detect turnover and the number of employed, not production. It seems to me that it will be very difficult to carry out accurate surveys as our Belgian colleague pointed out. To do this, we would have to extend the sample enormously. The number of enterprises would have to increase from 40,000 to 60,000. With the existing resources, we would not be able to cope with that. So I am just wondering whether it really is necessary to extend our Prodcom sample with enterprises of less than 20 employees.

I think we have got enough information to meet the requirements of national accounts on the number employed and the turnover, and also sufficient material for the sector analysis to be carried out. I do feel that it would be difficult to carry out individual market surveys of products. But we do have macro economic data available already.

Jan Foghmar
Statistics Denmark, Prodcom
We have heard before that users want more detailed data, data of higher quality and more timely data. This is not new. To provide this information, we must start to work in another way and to find out how we can produce more detailed information of higher quality in a shorter period of time. If we can not get more resources, how then can we solve this problem? Could we gain something by adopting the same philosophy as the UK? They produce the Prodcom data by a sample survey including the SMEs. If the UK can detect the small companies' production broken down on commodities, why should not all the rest of us adopt the same sample methodology? I think that the time has come to consider this way of sampling data for Prodcom.

Jean Couronne
Ministry of industry in France, department of statistics
Everyone is concerned about the issue of how to get information on enterprises of less than 20 people employed. We ought to do something. Perhaps, in a working group, we could consider using information technology. The problem is that we do not have a list of products for this part of the manufacturing industry. However, everyone wants information on that segment. It is obviously a potentially fruitful area for investigation, and of very topical interest.

Inigo Isusi
Instituto Vasco de Investigaciones Economica, Ikei, Spain
I have three comments. We, the users, fully understand the difficulties to collect information. However, regarding the regional aspect, I ask you to consider that some countries include regional economies that are larger than some national economies in the EU. Secondly, I did say, that IKEI has not yet used Prodcom for comparing with countries, because our experience with Prodcom has been very short. We were thinking of using it. But to be honest, now, after what I have heard, I am a bit afraid of using it. I have heard about the different methodologies, and I get to the conclusion that we may be comparing different fields. Maybe I am wrong. Anyway, I think that Eurostat should make an effort to harmonise this information, otherwise the information is not useful at all. And then, we are fully aware of the difficulties to get information on the SMEs. We also agree that the administrative and statistical burdens on enterprises - and on SMEs especially – should not be increased in the sense that production their main role. However, I think that they also must accept their role as providers of information for society. Therefore, I think that also the SMEs should be included in the Prodcom sample. I know it is difficult and very expensive, but at least, please make an approach. At least in Spain, Italy, France and Portugal, the SMEs account for a significant part of the economy. If you do not include them at least in some way, you will not know how to interpret the results of the survey. This is a feedback from a user point of view.

Richard Ragnarson
Statistics Norway
We are supposed to deliver data to Eurostat within six months after the surveyed year. To estimate totals, we need a picture of the whole manufacturing industry. Often, such an estimate is based on the turnover of the included sectors. To get this, we have to wait for the results of the structural business statistics or the turnover for the business register. I produce these calculations for the national accounts in Norway, and I have a delay of 16 months, i.e. ten months later than the delay for the Prodcom data. Therefore, Prodcom data delivered within six months after expiry of the survey period will only be preliminary. Another point is that I think there should have been a person representing the SMEs present at this seminar. It would have been useful to hear their point of view on the issues mentioned to day.

Adrien Lhomme
Head of unit D3 (Production, Business statistics, Special sectors), Eurostat
Concluding this session first of all, I would like to thank everyone who has contributed to this very fruitful debate around the size and pattern of the Prodcom samples. Wishes have been expressed that at least we should be concerned about IT enterprises employing fewer than 20 people. If the scope of Prodcom is going to be widened, we encounter this eternal problem of costs and benefits plus even political issues such as the wish to lessen the burden on enterprises. Perhaps there is a way of getting to a solution. We should go through methodology and perhaps set up a workshop to try to focus on ways of doing this. As far as individual cases is concerned, I would like to highlight the problems of monitoring the textile fibres, updating the NACE and keeping users better informed of what we are doing with Prodcom. Finally, I have noted the invitation to Eurostat to widen the scope of Prodcom to include services.

Dorte Schmidt-Brown:
Prodcom, Eurostat
As we have a lot of users here, I think it is important to mention that sampling is only used for improving the coverage above the 90% required by the Prodcom Regulation. It is true that the Member States apply different methodology, but they all aim at covering 90%. Just to make sure that users do not get the impression that there are countries that carry out the Prodcom survey only on the basis of a sample.

Statistical units in PRODCOM

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Abstract

The aim of business statistics like PRODCOM is to describe the transactors and their transactions in the real ecomomy. The producing actors in the economy are the statistical units therefore playing one of the fundamental roles in the design and implementation of a coherent survey system.

But, coherence can only be obtained by developing and applying the following common methodological instruments:

The use of well defined **kinds of statistical units** at different levels as subjects of the survey (and therefore as source of information) and/or rapporteurs as well as the building blocks for summarizing singular statistical information (micro data) up to aggregates (macro data) like activity or geographic aggregates,

the use of **standard classifications** to classify units by activity and to delineate the survey population, the use of standard size and regional classification as well as the use of standard classification for products,

and the accessibility to generally accepted interpretative decisions answering definition and classification problems as well as problems in administration of statistical units (meta data).

The quality of information collection highly depends on the quality of the **Statistical Business Register** as the most appropriate source to organize and coordinate statistical surveys by providing a sampling frame and to make available necessary and up-dated information on the singular statistical units at any survey period.

Furthermore it will be clear and must be taken into account that the selection of information variables requested and the choice of statistical units are interdependent actions and therefore a trade off exists between homogeneity of the information in accordance to the kind of units and the number and detail of the variables requested.

Therefore this article tries to analyse the interactions of the basic tools mentioned above and used in PRODCOM; on the other hand it is an attempt to point out the most common and possibly negative effects (for example basing on misinterpretation, not exhaustive definitions, restrictions and uncapabilities of the different actors) on the PRODCOM-survey as well as it is an attempt to initialize some discussion with reference to the aim to avoid or minimize these negative effects and to contribute to the improvement of PRODCOM data quality.

Working group 1:
Hannes Hameseder, Austria (Speaker), Riitta Hakari, Finland, Guiseppe Certomà, Italy

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Statistical units in PRODCOM

A. Introduction

1. The implementation of the European Single Market led to an increasing demand for EC-wide statistical standards applicable to the identification of units as one of the basic instruments of the European harmonized business statistics.
Statistical units play a fundamental role within a coherent system of economic statistics. As transactors of the economy whose transactions the business statistics try to describe they have to satify three different roles:

- the role as linking pins between the different business statistics to be harmonized,
- the role as corner stones of the statistical system and
- the role as building blocks of statistical aggregates.

Under consideration of these roles there is actually no Community Business Statistics Regulation without reference to statistical units.

2. The most important legislation tools with reference to the role, the definition and the use of statistical units should be mentioned hereinafter.

3. First, the Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community (CR-SU) can be described as the methodological reservoir out of which the various business statistics take the units of their choice. Introducing the aims of the Regulation it is stated that, utilization of the statistical classification of economic activities in the European Communities hereafter referred to as NACE, Rev. 1 provided for in Regulation (EEC) No 3037/90 and application of the European System of Integrated Economic Accounts (ESA) require standard definitions of statistical units for registers, surveys and the presentation and analysis of statistics‘.

Section I of the Annex of this Regulation lists and defines eight statistical units, i.e.

- the enterprise group,
- the enterprise,
- the institutional unit,
- the kind-of-activity unit (KAU),
- the unit of homogenous production (UHP),
- the local unit (LU),
- the local kind-of-activity unit (LKAU) and
- the local unit of homogenous production (local UHP).

4. Second, opposite to the CR-SU as the methodological reservoir the Council Regulation (EEC) No 2186/93 of 22 July 1993 on Community coordination in drawing up business registers for statistical purposes (CR-SBR) acts as an instruction to set up and maintain a Statistical Business Register. The Statistical Business Register itself is considered to be the the most appropriate source ensuring the organization and coordination of statistical surveys by providing a sampling frame and to administrate the following obligatory units with reference to Article 2 cf. 1, Chapter (a) to (c) of the CR-SBR continuously:

- the enterprise carrying out economic activities contributing to the gross domestic product at market prices (GDP), as defined in Section III.A of the Annex to the CR-SU,
- the local unit as defined in Section III.F of the Annex to the CR-SU and
- the legal unit as defined with reference to Section II.A.3 of the Annex to the CR-SU.

5. At least, two further methodological instruments - Nace Rev. 1[1)] (for economic activities) and NUTS (for regional purposes) - as standard classifications to classify units and to delineate economic populations - must be mentioned in this context. Especially NACE, Rev. 1 should ensure common guidelines for classifying statistical units in accordance to an unique activity classification. The regional aspects are of importance for the elaboration of regional accounts as well as for numerous industrial branches encountering different business cycles in accordance to the territorial unit envisaged.

6. The definition of statistical units in accordance to the CR-SU is based on three general criteria, i.e. the

- legal, accounting or organizational criteria
- geographical criteria
- activity criteria.

Two further criteria should be added to the list which, from our point of view, influence the selection process in a very impressive manner:

- the criteria of size classification and
- the criteria of classification of changes in the population.

B. The PRODCOM-population with respect to the Regulation

7. The CR-PRODCOM[2)] in general defines the PRODCOM-population with respect to the CR-NACE (and therefore in accordance to NACE, Rev. 1) and NUTS as well as to the CR-SU.

In accordance to the criteria philosophy it takes into consideration the

- activity criteria,
- regional criteria,
- legal criteria (implicitly in accordance to the kind of unit to be used) and
- criteria of size classification.

8. Referring to the activity criteria, Article 2 (1) outlines that ‚the fields covered by the survey referred to in article 1 shall be that of the activities listed in sections C, D and E[3)] of NACE, Rev. 1‘.

Moreover Article 3 dealing with the criteria of representativeness formulates in para 1 that, the production of all undertakings must be recorded with sufficient accuracy for each NACE, Rev. 1-class‘ and referring to para 3, should represent at least 90% of national production per NACE, Rev. 1-class‘. On the other hand an exclusion from para 2 is made in para 4 insofar as PRODCOM-data on headings referring to the production of a NACE-class representing less than 1% of the EC-total need not be collected.

9. Article 2 (5) applies to the NUTS-level and therefore to the regional criteria as it states that, the production surveyed shall be only that production actually carried out within the Member State‘ and therefore ‚shall not include production outside its territory on behalf of some of its undertakings‘.

10. Article 3 stipulates that the survey units should be ‚all undertakings (excursion: the general notes (6) of the PRODCOM-list refers to the local unit, too) which contribute to the 90% of national production per NACE-class‘. If undertakings are identified as the ‚enterprise‘ as defined in the CR-SU as well as mentioned in GESMES/PRODCOM[4]) then this unit is in line with the legal criteria, too.

11. Moreover, Article 3, para 3 takes the criteria of size classification into account, too as it states that ‚the account shall be taken of all undertakings employing at least 20 people‘.

12. Assuming that the SBR follows the rules and criteria mentioned above to define statistical units we might have not only the enterprise but also

- the kind of activity unit (KAU)
- the local unit (LU) and
- the local kind of activity unit (LKAU)

as a potential candidate for PRODCOM-survey purposes.

13. If we attribute great relevance at legal, accounting or organizational criteria (i.e. considering that the best way to investigate industrial production in a national territory is to refer to the statistical unit representing and managing the production policy), the enterprise should be chosen as statistical unit for the PRODCOM survey.

14. If we are, above all, interested to get information in what region industrial production is really carried out, we have probably to select the local unit (LU) as statistical unit for our survey.

15. If we are interested in reflecting most homogenous production processes the best choice obviously is the kind of activity unit.

Taking into account both, reflecting most homogenous production processes and regionalization, we should take the **local kind of activity** (LKAU) as observation unit.

16. The (theoretical) best choices, unit of homogenous production (UHP) and local unit of homogenous production (LUHP), carrying out only one acitivty respectively only one activity at one location cannot be taken into consideration because of many practical reasons (especially no information available in such detail needed; splitting up is not in line with the principle to minimize the response burden).

17. If we consider the three main criteria defining the statistical units and and making our decision on the basis of a priority or priority combination with regard to the three criteria, we can draw the following table differentiating 7 possibly choices (bold-marked):

Table:

Statistical units as possible observation units in contexts with the criteria for choice

Criteria for choice			**Statistical units as possible observation units**
Legal, accounting and organizational	Geographical	Activity	
yes	no	no	**enterprise**
yes	no	yes	**Enterprise -KAU**
yes	yes	no	**Enterprise - Local unit**
yes	yes	yes	**Enterprise – KAU- Local unit - LKAU**
no	no	no	(Not consistent)
no	no	yes	**KAU**
no	yes	no	**Local unit (LU)**
no	yes	yes	**Local unit - LKAU**

18. But, the selection of the ‚correct' observation unit for PRODCOM-purposes not only primarily depends on the aims of the survey basing only on the users wishes (ideal population); rather it is the result of a compromise between the users wishes, the ability of the SBR as basis and the capabilty and willingness of the respondents with reference to the intention of the survey project PRODCOM.

19. If statistical units like the KAUs or LKAUs as observation units instead of the enterprise are chosen it must be ensured that these groupings of all parts of an enterprise (contributing to the performance of an activity at class level (four digits) of NACE, Rev. 1 and corresponding to one or more subdivisions of an enterprise) have a minimum of cost accounting and the enterprise itself has the capability of indicating or calculating at least the value of production, intermediate consumption, manpower costs, the operating surplus, employment and fixed capital formation for each KAU.

20. As a consequence thereof it must be possible to aggregate all relevant data (such as production data) completely up to the enterprise level.

21. In this context ESA 1995 states in para 3.14 and para 3.15:

'Output consists of the products created during the accounting period.

Particular cases included are:

- the goods and services which one local KAU provides to a different local KAU belonging to the same institutional unit
- the goods which are produced by a local KAU and remain in inventories at the end of the period in which they are produced, whatever their susequent use.

But, goods or services produced and consumed within the same accounting period and within the same local KAU are not separately identified. They are therefore not recorded as part of the output of that local KAU.' and:

'When an institutional unit (i.e enterprise) contains more than one local KAU, the output of the institutional unit is the sum of the outputs of ist component local Kau's, including outputs delivered between the component local KAU's.

Therefore the gross production value includes everything leaving the observation unit. Is the enterprise the observation unit, then just all goods leaving the enterprise. Is the LKAU the observation unit and has the enterprise more than one LKAU then just all that leaving the enterprise but including intermediaries for further processing in another LKAU of the enterprise, too.'

Therefore it should be mentioned in this context that the concepts of 'output' and 'gross production value' used in ESA 1995 seem to be quite different from the concept of 'total production' used in PRODCOM.

C. Statistical units in PRODCOM and their impact on data representativeness

22. Article 3, paragraph 2, of the Prodcom Regulation states that:

'Member States shall adopt surveys methods designed to facilitate the collection of data from undertakings representing at least 90% of national production per NACE Rev. 1 class. ….'

Point 6 of the General Notes annexed to the Regulation, repeats:

'…in accordance with paragraph 2 (of Article 3) at leat 90% of production in each (four - digit) class of NACE Rev. 1 must be recorded.'

Analyzing how the requirement of 90% of a NACE class should be measured some aspects need to be clarified.

In accordance with Article 2 (3) and (4), of CR-PRODCOM different production types are used in the survey:

- production sold during the survey period (value);
- production sold during the survey period (physical volume);
- actual production (Total production) during the survey period (physical volume);
- production made during the survey period which is intended for sale (physical volume and/or value).

23. Because different production concepts are used in Prodcom survey, the question is: "What PRODCOM type of production is suitable for this purpose?"

24. Taking into consideration, that the production type ‘sold production’ is compulsory for nearly all PRODCOM headings and that the most Member States therefore collect sold production for all Prodcom headings, it seems to be logical to find a proxy to the ‘ value of production sold’.

25. Variables being a good proxy for this purpose, might be found in the CR-SBS-variables, either

- turnover from the principal activity (18 110) of all observation units grossed up at a NACE, Rev. 1 4-digit level concerning to NACE-Sections C to E or
- turnover from industrial activities (18 120) of all observation units grossed up at a NACE, Rev. 1 4-digit level concerning to NACE-Sections C to E.

26. Another aspect of the representativeness relates to the observation units with ‚inhomogenous‘ activities.

Assume, the activity criteria are the most appropriate criteria to select the PRODCOM-population which units reflect the activities producing PRODCOM goods.

Furthermore, assume that there are not only enterprises carrying out only PRODCOM-homogenous activities (i.e. activities within the NACE-Sections C to E) but also carry out activities referring to the NACE-Sections G to Q as secondary activities too, or on the other hand there exist enterprises as part of the SBR-population with a main activity referring to the NACE-Sections G to Q but having potential operational subdivisions (KAUs or LKAUs) carrying out considerable market oriented production performances in accordance to PRODCOM.

Should we ignore the contribution to the total national production of these mostly large multi activity enterprises?

27. If some Member States ignore this contribution to total production and other countries consider that in their statistical concepts the 90% criteria might be measured on different bases and as a consequence, this might lead to problems in interpreting the Community total as well as to different calculation of the 1%-representativeness.

28. A further aspect of representativeness relates to the question if the choice of the PRODCOM-survey population implicitly contribute to detect all possible activity within the NACE, Rev. 1 C, D and E

Outgoing from the starting point that the PRODCOM survey population is drawn from the SBR total population as a sample frame the PRODCOM-survey population, at the first stage is basing on the activity information (as coded main and secondary activities) which is stored in the singular unit-files and the activities therefore are defined by the SBR in accordance with the CR-NACE for all evident observation units.

On the other hand the PRODCOM-data reported by the unit (respectively the PRODCOM-headings used) implicitly serve as a source for updating the activities information of the SBR.

29. But, ongoing from the aim of the PRODCOM-survey to cover all undertakings which manufacture products of the PRODCOM list and referring to the fact that the PRODCOM headings defined in the list are representative for activities in accordance to NACE, Rev. 1–classes it must simultaneously taken into consideration which and how many activities per observation unit (one main activity but how many secondary activities?) are administrated by the SBR as source for drawing the PRODCOM-population. If so, we have to discuss the following questions:

- Should PRODCOM only refer to the main activity in accordance to the CR-PRODCOM or should secondary activities of the observation units in accordance to the CR-PRODCOM be taken into account, too?

- If secondary activities are relevant for the PRODCOM-survey too, the number of possible secondary activities of the units to be observed depends on the number of activities which can be administrated in practice by the SBR.

Does it therefore seem to be sufficient to include from, say, seven relevant secondary activities with reference to NACE-Sections C to E only two of them because of the fact that the register can administrate only one main activity and (for example) two secondary activities[5)]?

- Of course we can say that an observation unit with a main activity in accordance to the CR-PRODCOM is obliged to report all PRODCOM-headings processed by this unit (i.e. this enterprise has to select the referring PRODCOM-headings out from the comprehensive PRODCOM-list without any restrictions) but this would lead to enormous unwillingness of the respondents as reporting and/or observation unit because of increasing burden (as far as we cannot provide this enterprise with electronic instruments such as an ‚electronic questionnaire' for example). Another possibility is to provide the observation unit with a list of PRODCOM-headings referring to the main activity and all other products processed should be reported by using the term usually applied in market. These goods reported must be reclassified by the survey staff into PRODCOM-terms and this leads to further recalls for information by the survey staff and, as a consequence, to delays in processing the survey.

- Furthermore: Although PRODCOM in general serves as a basis to give information on the goods produced for market producers or their representations of interest it is used as a very important source to calculate input/output tables or to analyze production processes and other market activities of different industrial branches, too. However, for these aims the information provided on the basis of the present PRODCOM headings seem to be too restrictive at the moment.

Therefore it is proposed that PRODCOM should cover not only headings relating to physical goods and industrial services but also other services (relating to NACE, Rev. 1-Sections G to Q) as non physical goods in accordance to a certain CPA-level in future.

This would ensure a great acceptance in macro economic statistics; furthermore it would give a broad information on the different activities carried out by the survey units as well as help to update the SBR with fundamental information.

30. Nevertheless it must be mentioned that all these worthwhile informations are not costless. Selecting the sample size or the different kinds of statistical units respectively, depends more or less on two factors, cost and precision (in general it is assumed that, with increasing sample size and increasing degree of information, the precision will increase, too). However the larger the sample or the more detailed the information requested and reported the more expensive and burdensome as well as time consuming the survey will be for all actors concerned. This should be taken into account by discussing the next point, too.

D. Statistical units in PRODCOM and their impact on data quality

31. Before discussing this point generally acceptable quality criteria should be defined. In case of observation units of the survey we should concentrate on the qualitiy contribution to the general framework of quality policy (concerning not only PRODCOM but all business statistics).

32. In case of Short Term and Structural Business Statistics, quality of statistics is defined with reference to the following main criteria (similar criteria are mentioned in the draft of the SBR-Manual):

- **Relevance** of statistical concepts;
- **Accuracy** of estimates;
- **Timeliness and punctuality** at every segment of the survey cycle;
- **Accessibility** and **clarity** of the information;
- **Comparability** of statistics;
- **Coherence** of data**.**

33. Lacks in the criteria mentioned above coincide mainly with the following errors (here, listed with a special view on the SBR as source of information):

- **Errors in existence:** On the one hand units might be registered in the SBR as economically active but they are not active yet or anymore (often called ‚overcoverage' – the SBR includes dead units, units counted twice or merged units for example) on the other hand the SBR does not include units which are economically active (so called, undercoverage' – for example, units are real ‚born', demerged or misclassified). Especially the error of ‚undercoverage' may be very harmful to the PRODCOM population and the resulting statistical data of the survey (if not detected and treated immediately).

- **Errors in statistical/stratification variables:** As SBR-error type, it refers to variables like the economic activity codes (main and secondary activity codes), legal status, the size class of number of persons employed and the size class of turnover as variables stored and maintained in the SBR-files. Especially activity misclassification (for instance, a wholesale observation unit might be classified under industry or an ‚important' industrial observation unit might be classified in agriculture and vice versa) as well as (indirectly) product misclassification (if PRODCOM serves as one of the update sources for the SBR) seems to be one of the mostly bases for distortions in statistical results. As mentioned, the size class of employment as well as value of national production are the basic criteria defining the representativeness (at least all undertakings with >= 20 persons employed; if not sufficient, then size classes below should be included too,) and therefore wrong classification in size measured employment or turnover as an estimation either for the 90% criteria or for the 1% criteria might result in survey undercoverage and as a conseuqence might lead to total loss of PRODCOM-information on certain NACE Rev. 1 classes in some Member States.

- **Errors in units:** This error type contains errors in the delineation of the structure of statistical units (especially enterprises – for example in delineation of the LUs, maybe KAUs or LKAUs as survey units) and is therefore a restricting factor for comparability

- **Errors in administrative variables:** This type refers to errors in SBR-identifiers (for examples addresses, names, contact persons and especially missing or wrong common keys as links between an administrative register used as source for updating the SBR). These errors might result in problems to locate units (and therefore be very time consuming) but might affect the quality of statistics very persistently in case of using methods of automated linkage and register equalization or adjustment.

- **Errors in links between units over time:** This errors might lead to serious distortions in time series and comparability of certain statistics variables basing on different statistics carried out at different periods (like STS, SBS and PRODCOM-statistics).

- **Errors of double counting:** These errors have a serious impact on the survey results and might occur at any statistical unit-level (enterprises as well as LUs, KAUs respectively LKAUs).

At the enterprise level double counting of economic performance might occur when business partners claim and report the same economic performance[6)]. Errors of double counting should be excluded

- by defining the tasks of the operators and the position of them with reference to the task (for example it must be delineated very clear that there might be a difference between main contractor also called ‚principal' as the ‚economical owner' and the, sub contractor' as the ‚producer' of a physical or non physical product)
- and by defining variables referring to these tasks and their relationship to the different actors.

So, for example the General Notes of the PRODCOM-list state that, ‚in order to avoid duplication, contract processing must be reported only by the subcontractor in the country concerned, i.e. where production actually takes place.' This definition implicitly arrives at the conclusion that Eurostat with regard to contract processing is more interested in information who is the producer (therefore the subcontractor) and not in information who is the owner (in this context it must be mentioned that this is not quite true because this ‚external' processing of semi finished goods or final products is part of the production types requested by the PRODCOM-survey in accordance with the PRODCOM-list). But, very often there is a demand for data depicting and analyzing the production cycle in an economy (between enterprises as the representative of the market economy) as well as different stages of production between the different units (represented by KAU respectively LKAU of one and the same enterprise). If so, two different variables (with clear different contents) reported by two different respondents must be defined to make calculation in different ways possible.

By accepting that the valuation is as well worthwile as the quantity of a product it seems to be necessary to discuss which concept should be preferred, the 'producer' (in case of subcontract work the subcontractor) or the 'owner' (therefore the principal) concept .

34. This enumeration might not be exhaustive but we think it comprises the most effective errors with respect to the selection and administration of observation units which at least must be minimized either before drawing the sample frame from the SBR-population or in the survey phase ‚processing and analysis' at the latest to avoid serious distortions in further survey processing and especially with regard to the results of the survey (leading moreover to misinterpretation of results).

35. Because the most of these errors can occur each of the actors of the survey (respondents and/or observation units might give wrong information, SBR- and survey staff might misinterprete information or use wrong information without verification and correction of errors), a continous and close cooperation between all actors of the survey is necessary to minimize these errors.

E. Producer versus owner of products in context with sub contracting, subcontract work and performances of a general contractor

36. These terms are not very clear and they were subjects of several pilot surveys to make them clear. Before discussing these terms we have to add that the explanations hereinafter reflect only our own opinion.

37. *The term ‚subcontracting'*[7)]
Two enterprises are linked by a subcontracting relationship whenever both conditions mentioned herinafter are met together:

- The customer enterprise (later on the ‚owner' of the product), also said main contractor, participates in the conception of the product providing technical specifications to the supplier enterprise (also called ‚producer' but not ‚owner' of the goods), also said subcontractor, and/or provides it with the materials to be processed.

- The customer enterprise sells the subcontract product, either as such or as a part of a more complex product and takes on the after-sales liability for the product.

However, take into consideration that the mere stipulation of a colour, size or a catalogue number does not constitute a technical specification in itself. The manufacture of a tailor-made product does not of itself necessarily imply a subcontracting relationship. In contrary to the contract processing mentioned below, the subcontractors receipts might (depending on the contract as agreed) include not only the fee for the work done but might also include receipts for the material sold in charge of the main contractor as well as cost for research and development, for example.

38. *The term ‚contract processing'*

On the other hand the General Notes of PRODCOM stipulate ‚*contract processing*' as economic process, when material supplied free of charge by the principal (as ‚owner') is worked or processed. The work of the contractor is paid by the principal as a fee. It is also mentioned that ‚the principal and the contractor must be different ‚undertakings'' and therefore ‚contract processing between different ‚plants' belonging to the same ‚undertaking' is not possible'. Therefore, in comparison with the term ‚subcontracting' this term is defined more closely insofar as providing materials by the contractor is not an obligatory subject to legitimate 'subcontracting' whereas 'contract processing' is basing only on the materials supplied free of charge by the principal. On the other hand only both principles mentioned above legitimate the existence of subcontracting in the sense of SBS and therefore the case of subcontracting is basing on more conditions than the case of contract processing. It is therefore recommended to adapt the PRODCOM-term by using the same definition as in the CR-SBR.

The term ‚performances of a general contractor'

From our point of view, a ‚general contractor' is characterized by the following aspects:

- The general contractor is charged by a principal with a special project to be carried out in accordance to the general contract made between the both contract partners. The proceeds for the general conrtractor, pre-arranged in the general contract, include all expenditures and a certain degree of profit. Legal effectiveness with reference to the project exists only between the principal and the general contractor on the basis of the general contract.
- The special project to be carried out is the processing of a physical or non physical good (for expample delivering and establishing complete plants or in the construction sector)
- To carry out this work in time or in a certain quality laid down in the general contract the general contractor makes further agreements with other enterprises to carry out parts of the the project, therefore the general contractor acts simultaneously as main contractor and the other enterprises act as subcontractors of the general contractor.

Therefore this relationship is comparable with ‚subcontracting'.

Whether or not or in which extent genereal contractors are to be considered in PRODCOM should be discussed in more detail.

F. Proposals and recommendations

39. Ongoing from the fact that there is neither an ideal statistical world without any imperfections (in case of statistical units for example there is neither a perfect business register as a perfect information source to select all the objectives of a survey nor, as a rule, model respondents who are fully willing and able to report on all data desired) the imperfections have to be identified and to be minimized by finding a balance between the user needs and the capabilities of the respondents to provide the information requested (with a view to the technical and financial capabilities of the NSI) to reach the utmost acceptance of a statistical project in public opinion.

40. Maybe some of the proposals hereinafter mentioned are provocative and might exceed the subject ‚statistical units in PRODCOM' thematically. But, because of the fact that statistical units in all business statistics on the one hand act as souce of information as well as they provide statistical information but on the other hand might affect the outcome of a statistical project very seriously.

In general, it would be useful to differentiate between four groups of questions being in line with the following proposals and recommendations (maybe interfering each other)

41. Firstly: How to improve the understanding of the statistical basic tools ‚classifications' and ‚statistical units' with regard to interpretation and analysis in context with the quality of PRODCOM data?

Recommendations:

- Eurostat should establish and make commonly accessible a ‚case law' database as an unique source for interpreting practical problems referring to activity classification of statistical units as well as product classification with regard to CPA or PRODCOM and accessible for all potential users (for example: How should ‚bundled products' like motor vehicles produced and sold together with repair and warranty services for some defined time period or combined plants as well as the statistical units concerned be classified or a unit processing bundled products be treated?). Furthermore web-sites should be established as a forum for discussion to store the problems requested by the Member States and to be discussed in question form. Then these problems could be commented by the different users applying these web-sites. These web-sites simultaneously could be used as a basis for decision making, too. The starting point should be the PRODCOM 1999 survey.
- Eurostat should make available a common subject index by alphabetical order (so called NACE keyword- and CPA/PRODCOM keyword-database) in the Internet including as many terms as possible used in practice in connection with their referring code number and accessible for all potential users.
- Eurostat should make accessible a common data bank for all users in the Internet including the activity classifications ISIC and NACE, all commodity classifications (SITC, CN, HS, CPA and PRODCOM) with all references as well as reclassification tables.

- Moreover, Eurostat should establish an electronic comprehensive alphabetical register of statistical terms used in the different economic statistical projects including variables and their codification, explanatory notes, technical and legal cross references[8)] with a special view to national deviations from the common line, accessible for all potential users.

- Methodological Manuals in combination with all the sources mentioned above should serve as the logical basis to train the different actors in the statistical production process cooperating in carrying out the projects as well as other statisticians as potential users of statistical informations.

It seems to be clear that the realization of establishing, maintaining and making available such meta data as sources of information proposed is very burdensome, time expensive and cost intensive; therefore it must be ensured that all parties who benefit from a high quality standard make their contribution to the establishment and up-dating of these information sources. On the other hand such common sources seem to be de facto the most important basis for harmonized and coherent classification and delimitation of statistical units and, as a consequence, an important factor to increase the quality of statistics successively. Therefore they are not dispensable.

42. Secondly: How to improve the quality of the different statistical units as source of information for PRODCOM data?

Recommendations:

- The different kinds of statistical units should be discussed with a view to the variables requested. In practice, the best informant as person linked to production and cost accounting variables seems to be the head of the processing plant and not the head of the book-keeping office of the enterprise, for example.

Taking into consideration that an enterprise might have different plants at different locations, the best choice as observation unit seems not to be the enterprise itself.

An attempt to solve the problem of large enterprises with some secondary activities carried out at different locations (also called ‚multi establishment enterprises' in terms of ISIC Rev. 3 or therefore ‚multi LKAU-enterprises', too) might be that only in case of complex enterprises[9)] (and therefore only those having 250 and more employees in secondary activities) all LKAUs (comparable with plants or other subdivisions of the enterprise concerned) or all LUs carrying out main activities within the NACE-sections C to E serve as observation units instead of the enterprise. The problem of this attempt is that there are no employment variables available in the SBR referring to the different types of activities carried out, so the share of employment for each activity must be estimated.

Another attempt would be to differentiate between large enterprises (more than 250 persons employed), medium sized enterprises (50 up to 249 persons employed) small enterprises (10 up to 49 persons employed) and very small enterprises (less than 10 persons employed) and in line with a certain degree of total employment for all activities but not only secondary activities (for example only all enterprises up to 50 persons employed in all activities, carrying out main activities as well as secondary activities referring to NACE Rev. 1 Sections C to E and having more than one LKAU) all LKAUs of these multi LKAU enterprises carrying out an activity in accordance to PRODCOM should serve as observation unit.

Furthermore the PRODCOM-observation units should be discussed with a special view to the needs of other statistical projects such as STS, too.

- The optimization of the SBR for statistical survey purposes is one of the main tasks in the future. Especially there is a need for continuous actualization of the information stored in the SBR as well as for imaging historical states of SBR-units. Only an actual and well updated SBR with a minumum of those errors as mentioned in chapter D by using all external and internal information simultaneously can contribute to (respectively finally ensure) a high survey quality level.

43. Thirdly: How to improve the coherence between the different statistical projects using PRODCOM data and PRODCOM?

Coherence between the different statistical prjects only can be improved by

- documenting the statistical information systems (SIS), the information system architecture (ISA) and information technologies (ITs) used by the different statistical organizations in general and the methods (harmonized as well as possible), quality reports and problem analyses (as a part of the SIS and called ‚metadata') in particular and making these most relevant information accessible for all customers of the statistics
- and improving the coordination and cooperation as well as the knowlegde of the methods (by using the metadata bank) of the statisticians at national and European Community level successively.

44. Fourthly: How to improve the acceptance of statistical necessities by respondents and users?

Acceptance of the users can be improved by making an optimum of information requested available but, by formulating their requests users should take into account the surplus of burden being applied, simultaneously.

The most acceptance of statistical necessities by respondents (often observation and reporting unit simultaneously) can the reached on the one hand by minimizing the administrative burden and on the other hand either by paying an expense allowance or by considering statistics as a public domain and therefore to give the respondents back all the information surveyed and processed at an aggregate level (at national as well as at European level) costless for their own information policy purposes.

Furthermore, the providing with electronic tools to collect and submit data (in connection with the auxiliary instruments mentioned before) would increase the willingness because of decreasing the burden.

Conclusion:

45. The future perspectives of a statistical project (and especially of such a burdensome and costly statistical project like PRODCOM) with reference to the acceptance in the public opinion especially could be reached by improving the statistical information systems (SIS), the information system architectures (ISA) and information technologies (ITs) steadily as well the quality of the information thereof.

46. In the future the improvement of the data information management system requires more careful consideration than in the past.

So we believe that the architectures of the existing registers and their lack in cooperation maybe need to be reorganised insofar as it should be necessary to create the following sub-registers or data banks depending on each other:

- an object register as survey frame,
- a micro data register including all periodically results of the individuals as objects of a survey
- a macro data register including all periodically results of the individual aggregates and estimates thereof (part of a comprehensive data ware house for informations dissemination) and
- a metadata register (including all the surroundings with an impact of the SIS such as methodology etc.) acting as a clearing house.

1) See: Council Regulation (EEC) No 3037/90 of 9 October 1990 on the statistical classification of economic activities in the European Community amended by Council Regulation (EEC) No 761/93 of 24 March 1993 (hereafter called CR-NACE).

2) Council Regulation (EEC) No 3924/91 of 19 December 1991 on the establishment of a Community survey of industrial production.

3) Take into consideration that production with reference to NACE, Rev. 1, division 37 is no subject of the PRODCOM-survey at the moment.

4) See: GESMES/PRODCOM, Technical handbook, chapter 3.

5) Annex II of the CR-SBR indicates that secondary activities should be administrated by the SBR if any, at NACE, Rev. 1 four digit level, amounts to 10% of the total for all activities of the gross value added at factor cost or account for 5% or more of national activity of this type.

6) Double counting might also occur within KAUs respecively LKAUs in case of deliveries and performances within the same enterprise if the KAUs respecively LKAUSs are used as the PRODCOM observation units like in Austria.

7) Source: extract from the definition of CR-SBS variables (23 110)

8) The ‚Glossary of business statistics' available on CD-ROM can be considered as a very promising and extendable start for this purposes.

9) With reference to the draft of the SBR-Manual, Chapter 19.3, page 260, ‚complex enterprises' are those with more than 250 employees in secondary activities.

Annex to subject 1 – statistical units in PRODCOM

Table 1: Definition of the main activity - example:

	Description	*share of the NPV* [1] *at factor costs in %*
Step 1	*Determination of the section*	
Section D	Manufacturing	52
Section G	Wholesale and retail trade; repair of motor vehicles and personal and household goods	35
Section K	Real estate, renting and business activities	13
Step 2	*Determination of the division*	
Division 28	Manufacture of fabricated metal products except machinery and equipment	7
Division 29	Manufacture of machinery and equipment n.e.c.	40
Division 34	Manufacture of motor vehicles, trailers and semi-trailers	5
Step 3	*Determination of the group*	
Group 29.3	Manufacture of domestic appliances n.e.c.	8
Group 29.4	Manufacture of machine tools	3
Group 29.5	Manufacture of other special purpose machinery	29
Step 4	*Determination of the class*	
Class 29.55	Manufacture of machinery for paper and paperboard production	8
Class 29.56	Manufacture of other special prupose machinery n.e.c.	21

[1] NPV, net production value (value added by the statistical unit = contribution of the unit to the gross national product) – the main activity in this example is 29.56 – Manufacture of other special purpose machinery n.e.c.

Table 2: The main demographic events with regard to the enterprise and their impact on the SBR

Real, observable world [2]			*Business register impacts*	
event	***Number of enterprises before the event***	***Number of enterprises after the event***	***Number of creations***	***Number of deletions***
Birth	**-**	**1**	**1**	**-**
Death	**1**	**-**	**-**	**1**
Merging	**=2**	**1**	**1**	**=2**
Take-over	***=2***	***1***	**-**	***n-1***
Break-up	**1**	**=2**	**=2**	**1**
Split-off	**1**	**=2**	**n-**	**-**
Creation of a joint venture	**=2**	**N+1**	**1**	**-**
restructuring	**=2**	**=2**	**=0**	**=0**
Change of an enterprise group	***1***	***1***	**-**	**-**

[2] Number (n) of enterprises being observed in the example: n = 2

Table 3: The different events with reference to the diferent observation units

event	***Enterprise***	***Local units***	***Kind of activity units***	***Local kind of activity unit***
Birth	**YES**	**YES**	**YES**	**YES**
Death	**YES**	**YES**	**YES**	**YES**
Merging	**YES**	**YES**[3]	**NO**	**NO**
Take-over	**YES**	**YES**[3]	**NO**	**NO**
Break-up	**YES**	**YES**[3]	**NO**	**NO**
Split-off	**YES**	**YES**[3]	**NO**	**NO**
Creation of a joint venture	**YES**	**YES**[3]	**NO**	**NO**
restructuring	**YES**	**YES**[3]	**NO**	**NO**
Change of an enterprise group	***YES***	***YES***[3]	***NO***	***NO***
Transfer	**NO**	**YES**	**YES**	**YES**

[3] As far as there is only one local unit of the referring enterprise

Statistical units in PRODCOM

Contribution of Discussant

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Abstract

François de Geuser reflects on the document drafted by Mr Hameseder and more precisely on the various ambiguities that the Prodcom regulation poses, for example, with regard to the observation units, the observed variables, the services, etc. He then discusses its two major conclusions: the impossibility of guaranteeing the quality of the data and the necessary intervention of the statisticians to rectify the figures.

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A. Introduction

Discussing Mr Hameseder's paper appears particularly difficult. Indeed, nothing was overlooked, everything was examined in fine detail and it is therefore almost impossible to add something or to make any corrections. It is indeed formidable for a statistician to have to implement a regulation which is the result of a long series of ideas from other statisticians and also other economic or political advisors.

Obviously the result of this long negotiation is a compromise, arbitration between the desirable and the possible, that which is wished for and that which is available.

The presentation of Mr Hameseder paints a remarkable picture of everything that the Prodcom regulation has left aside, introduced as ambiguities, or even as contradictions with the policy followed by the European statistical system.

B. Ambiguities of the PRODCOM regulation

It is important to remember certain points:

Prodcom is only concerned with the production of industries of the Community, i.e. the sections C, D, E of the NACE Rev.1 - the first and probably the most important ambiguity is that the field covered is not strongly defined, or more precisely is defined on a sectorial basis (the sections of the NACE), and not on a product basis - the survey covers production (of products) in industry.

The second ambiguity covers the units of observation, which can be said to cover all companies in the Community. No real reflection was ever given to ensure that the regulation on statistical units, adopted two years after that of Prodcom, should apply to Prodcom and Mr Hameseder's paper shows the need for harmonisation in the choice of the unit of observation. There are many concerns and if some originate from the companies, others will use the local unit or the unit of economic activity, involving uncertainty on the comparability of the data.

The third ambiguity also covers the units of observation: by introducing thresholds into the selection of the companies, data on at least 90% of production must be collected, starting with the companies employing 20 persons and more and leaving aside the production of companies in a Member State for a class of the NACE accounting for less than 1% of the Community total. The comprehensiveness of the coverage is somewhat limited.

The fourth ambiguity concerns the variables surveyed and particularly, on production, which, on one hand, is not strictly defined and, on the other, there is some confusion between production as understood within the meaning of a sectorial activity - i.e. taking account only of the principal activity of the company - and production of the products as defined in the Prodcom list.

The fifth ambiguity concerns certain services like subcontracting, assembly, etc. for which definitions were neither co-ordinated with the other major regulations on collection like the SBS or foreign trade, nor harmonised as to the interpretation of the definition in the Member States.

The sixth and last ambiguity that I will highlight here is connected with the fact that the Prodcom regulation specifies very clearly why Prodcom was created; namely that information is necessary to know the market and that priority must be given to align production data and foreign trade data. It is then possible to try to reconcile more closely data coming from surveys where the observation units are not the same, equally with periodicity, or recorded variables.

The consequences of all these ambiguities have been analysed and are henceforth well known, not so much in statistical terms, but in terms of image. For the moment, it can be said that the real image of Prodcom has not yet really been tarnished by the consequences of these ambiguities. The implementation of Prodcom making it possible to follow the market is still too recent and consequently the quality of the data is questioned. We still rely on the benefits of Cupertino between Eurostat and professional federations and national statistical systems which aim to create or harmonise the production data and trade data, both internal and external. It is the logic of the « success story » which still prevails and there is no priority towards analysis of the usefulness of Prodcom. It is the collection of data, whose presence is the proof of the success of this collaboration, which is superior to data analysis.

Data exists and companies are beginning to make use of it, or at least, starting to use their own sources of information and to ask for explanations on the significance of an apparently negative consumption, of exports representing double the production or any other anomaly. Europroms is a recent tool which is not yet completely operational and for which the statistical system has not yet been able to reflect all the ideas on quality. There are too many uncertainties on the perpetuity of certain surveys in their current form, concerning as well simplification of the classifications, simplification of collection procedures, like the necessary extension of classifications for services or new activities involved in high technology or with a strong information content. These uncertainties direct priorities more towards a desire for modification to maintain than towards making changes to make it more useful and advantageous.

Observations made by Mr Hameseder should make it possible to question in a very concrete way the nature of the information offered by Prodcom: ambiguities on the field covered, on statistical units and on the variables can be remarked upon.

C. Impossibility of guaranteeing the quality of data, lack of use of the data

A contractor counts on using Prodcom and Intrastat, one of the business tools in the office, in order to define the strategy to be used in the sphere of activity concerning his trade, for which he defines a specific relevant market. It is currently impossible to guarantee that the figures which are supplied to him are exhaustive or truly representative of the market in question. It is even impossible to give him an idea of precision, while it is also impossible to guarantee good comparability of the figures between countries.

A contractor would like to make a strategic observation on products such as planes in Europe. It will be practically impossible to guarantee this contractor that the whole community (we suppose here, in simple terms, that there is no confidentiality problem) does not include a large amount of double accounting due to the fact that for the most part the spare parts are built throughout Europe, through subcontracting, the assembly line being in another country...

How can we assure someone interested in European production of diesel engines built in conjunction with car manufacturers that double accounting does not take place and that subcontracting is treated correctly?

D. Necessary intervention of statisticians to rectify the figures

Certainly, to point out ambiguities on statistical units, and to specify what is measured, it is better to define the variables and improving the co-ordination of surveys will no doubt bring about considerable improvement of quality, but it will probably never be possible to obtain a guarantee, insofar as alignment of product and activity is particularly difficult, especially in the field of the services.

Certain countries already carry out the realignment of Prodcom data, the elimination of double accounting when known or located through the registers, but even here if Mr Hameseder proposes the constitution of a database on Case Law in which everything would be centralised, discussions as well as decisions, it only has to be stressed that the quality of Prodcom is related only to quality of statisticians in-house, to their knowledge of the field as to the structure of the sector. Is it really possible that statisticians are very knowledgeable on a wide range of products, or can they guarantee an acceptable quality for some 5000 products? Wanting to simplify the Prodcom classification, not only to take account of the possible changes of the combined nomenclature, perhaps it was not an attack on the European federations of branches of industry and the collaboration that they have always wanted to maintain with Commission departments but, on the contrary, it is the only possibility of guaranteeing, in the long term, irreproachable quality of data and it is absolutely necessary both for the companies and political authorities. It is not enough to be concerned only with the simplification of new products, or by products within a European market.... The priority is no longer to cover all the products, but to help the markets to develop.

Statistical units in PRODCOM

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Discussion

Francois De Geuser

Head of Unit D1 (Classifications and methdological coordination; infrastructure of business statistics), Eurostat

Although much remains to be done in order to clarify the coordination of the concepts used by Prodcom, two of Mr Hameseder's proposals have been implemented. Eurostat has established a database of concepts, CODED, including 1200 definitions related to business statistics. Secondly, Eurostat has established a database on business statistics methodology. Both databases are available on CIRCA.

Jean Couronne

Ministry of industry in France, department of statistics

The question I would like to raise is how we ensure a valid treatment of the concept: sub-contracting. There are several definitions. Looking at the electronic industry, certain difficulties do arrive because the NACE does not take into account the different information technologies that exist today. Neither does NACE take into account how these electronic components are produced. In general terms, sub-contracting used to be considered as a service provided by one company to another according to an order issued by the principal to the sub-contractor. And the principal would provide the 'raw materials' for the sub-contractor. Sub-contracting used to be a matter of contract work. Now, an increasing number of sub-contracting enterprises purchase the 'raw material' themselves and they own it. This implies change in definition, because the roles and responsibilities of the principal and the sub contractor have changed. Eurostat should therefore devote some resources to analyse how sub-contracting has developed and how sub-contracting is practised. The implications should be considered a possible subject for the forthcoming revision of the NACE, and Eurostat should consider the possibility of setting up working groups to look at these issues. A solution of the treatment of sub-contracting is urgent and not only relevant for the electronic industry. We can not just overlook the different stages of production. They include very complex processes of services combined with electronic component design and installation. And there are certainly companies that have this as their only activity. Finally; I would like to answer Mr De Geuser's thought-provoking remarks on the impossibility to avoid a large amount of double counting when, for example, most parts of an aeroplane come from different countries. At least the companies would send in returns so that these things figures in the national accounts of the countries in question, and not just in one country.

Johann Hameseder

Statistics Austria, Manufacturing Industries

I think that the National statistical offices can not be left with for example individual responsibility to decide whether only the main activity of the enterprise should be examined or also secondary activities, which might be services. Neither do I think that the NSIs should be left with the choice where to put sub-contracting: production or services. There are matters where Eurostat is needed as a coordinating body - obviously with support from the NSIs. Various directorates and various organisational units of Eurostat each publish information on CIRCA, each responsible for special method in specific areas.

Why can we not have some concerted mechanism to record the principles of these issues? This is my idea of a 'case law' database. Why can not the CIRCA database be used for this exercise? In principle, everybody should have access to consult that database for advice. I think this needs to be looked at holistically, and that a real attempt should be made to make information available as widely as possible for each group of users: whether they are reporting units, observation units, statisticians in the NSIs or end-users of the various statistics. All these people should have access to this information.

Alois Macht
The federal statistical office of Germany in Wiesbaden, Classifications
I would like to follow up on contract processing. The working group 2 has looked at this, and I will come back on that in my presentation this afternoon. For the moment, I would just ask if the definition of contract processing has changed, or if contract processing has changed. My question is could we define contract processing to include other activities? The need for information is changing, and we must decide on what to survey when we survey contract processing.

Sanjiv Mahajan
Office for National Statistics, UK, the input-output compilation for national accounts
I think times have changed in the European economy. At least in the UK economy. Sub-contracting, contracting out, privatisation, merges, de-merges, consolidations etc. have changed the market places substantially. In UK for example, a third of the economy is producing goods and two thirds of the economy is producing services. I think Prodcom has evolved very well. It is a huge project, and we are facing at this moment various issues that need resolution. I sympathise with a lot of points made by Mr Hameseder, and I think the responsibility for this is very much in Eurostat with contribution from all Member States. How should sub-contracting be dealt with? Is it an industrial service or non-industrial service? What should be included and what not if we want to match this up with the value of the goods that have been exported? What is the valuation principle of Prodcom? Is it at factory gate's sale or is it at purchaser's price sale? There is a whole horde of questions. I think guidelines should be provided, and a list of best practices set up on what to be done on these types of issues. This is a Eurostat - Member State central issue.

On the contrary: the Prodcom quality. That is a Member State issue. Eurostat can not enforce the quality or assure the quality. That responsibility lies with the data collection and with the Member States. But the guidelines must be provided for the Member States. Another point is the evolution of ESA-95. ESA-95 generates contradictions or differences between the Prodcom Regulation and the ESA-95. This is also an area that needs to be considered. Then we talked about manufacturing companies producing goods. They also produce, at least in the UK, what we call non-industrial services and they generate a lot of income from that. That is all reflected in the total sales' prices of the goods. This is another dimension to be analysed. I think Mr Hameseder's paper is quite cross cutting. It is very difficult to cover just statistical units without going into all the issues which he has covered.

Volkmar Wulf
Febi: MECSEA
Mr Hameseder has described the situation very well. I support the idea of a general database accessible for everybody comparing the combined nomenclatures, the harmonised system and Prodcom by sectors. However, I have considerable doubt that is practicable at least in a short time. Regarding the substantial ambiguities mentioned by Mr De Geuser, of Prodcom compared to foreign trade statistics, I would like to cooperate on that point, but I do not know the source of the problem. Is it because foreign trade statistics, the intra and extra community trade data, are much more precise that the data reported by the enterprises for Prodcom? The enterprises do have to supply data to statistical offices. Unfortunately we see again and again that there is a lot of doubt about the accuracy of the data. I think that Eurostat and the working parties must try to find the source for this doubt.

Johann Hameseder
Statistics Austria, Manufacturing Industries
I do not think it will be particularly difficult to establish a classification database. Some work has already been done. NACE and CPA are already included in the Prodcom List CD-ROM. And there are enough national examples on how a classification database could be established, and how an identifier might be used to study particular activities connected with goods to make it clear how the classifications inter relate. The second point is a bit surprising. I took part in the steel statistics committee in Vienna and it was said that Prodcom was preferred to intrastat, because Prodcom and production statistics are more relevant to harmonising the whole statistical system. Intrastat is not, in my opinion, in line with the statistical units as specified in statistical units Regulation. Perhaps there is the problem with delimitation of activities. And I am not sure that Intrastat always properly reflects production activities. Furthermore, I think that the units in Intrastat and Prodcom do not necessarily cover the same population. My last point concerns the completeness of Prodcom and Intrastat. The Prodcom Regulation states that 90% should be monitored. First you must decide what 100% is. Is it possible to extrapolate from 90% to 100% if you have got different populations in Intrastat and Prodcom?

Humberto Pereira
National statistical institute on Portugal, Prodcom and short-term business statistics
Regarding the representativeness of the Prodcom survey, we need to know the total national production to know what 90% is. The only way we can measure this is by using our business register. I think that most of the Member States use the turnover of the enterprises as a measuring unit for the '100%'. But, turnover is not, even for enterprises with manufacturing as their main activity, derived only from production, because even enterprises producing goods can not sell their products without adding services to them. This is in my opinion an important issue, which we should discuss, to know what information we disseminate. Related with this is the aim of Prodcom to monitor production in terms of commodities. If we choose the enterprises by the order of their turnover, we might risk excluding some products. Imagine that the product in question is microphones, and that our sample does not include any of the enterprises producing microphones.

Only three or four small enterprises outside our sample produce microphones. Then the total production of this - imaginary - Member State will be monitored as zero, and that is not true. The users would think that they have got at least 90% of the production of microphones, and that is not true. I think we need to improve this in order to publish or disseminate information that the users understand.

Jean-Marie Dawagne
National statistical institute of Belgium
I agree that the quality of Prodcom data highly depends on the quality of the register, and I think that it is difficult to measure the quality of business registers. Every Member State or country does its best to improve register quality, but nonetheless we do not have any real measurement detailing quality levels in Belgium. We compare our registers with outside sources, and we always find major discrepancies, which we try to improve. Every year, we calculate the coverage ratio with the view to the '90%' rule. For the moment, we think we are at a level of 93%. Coverage is in fact difficult to measure because to measure 90% we must as well measure 100%. We are never quite sure whether we have got the 90%. Often we end up with an approximation of reality. As Mr Hameseder said, we try to include other statistical units to cover secondary activities and thereby improving completeness. But we are never sure that we have got this completely right. The statistics we give the users only give approximate picture of the real situation. We are never sure whether the coverage is 90, 91 or 94% for example.

Tony Birch
Office for national statistics, UK, Prodcom
I just want to highlight the points on coherent methodology between Member States. Concerning the statistical units, I have no doubt that we will work towards a common definition. However, the UK inquiry is different from those of the other Member States or Prodcom States in the way we collect data. We monitor a stratified random sample of enterprises, and we use the return figures to gross up for an estimate of the total manufacturing production across the UK. And we even do that at product level. So this makes me think that there perhaps is a limit to how far we can actually go in terms of unifying methodology between Member States.

Pedro Díaz Muñoz
Director: Business Statistics, Eurostat
I have noted the need for a strong coordinating role of Eurostat on several issues, in which the Member States must be involved. The responsibility of improving the quality of the data is very much the responsibility of the Member States although they need the guidelines worked out by Eurostat together with the Member States. As mentioned by Mr De Geuser, some tools to do this are already available at Eurostat. We will try to use them advantageously in this project.

Classification, production type and valuation

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Introduction

The subject-matter of Working Group 2 and of this paper is primarily of a conceptual nature. This doesn´t mean that our contribution necessarily remains in theoretical considerations. On the contrary, we tried to find out how the concepts of PRODCOM have been implemented in the member states and which problems need to be resolved. Due to time restrictions we couldn´t embark upon a comprehensive survey among the member states concerning their particular procedures of implementation and measures of resolving the problems. What we did was a short inquiry which didn´t give us a complete overview, but a good insight into national practices and methods of approach. Besides, some of the questions treated in this paper will be pictured in greater detail by the results of the questionnaire survey that were not yet available when this paper was prepared.

This paper deals with the following issues

A. The PRODCOM Product Classification
   1. Harmonisation of NACE/CPA, PRODCOM list and CN and its consequences and problems
   2. Physical volume units in the PRODCOM list
   3. Linking products to PRODCOM headings

B. Type of Production: Sold production, Production intended for sale, Total production

C. Industrial services and contract processing
   1. Industrial services
   2. Contract processing

D. Valuation

Working Group 2:
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A. The PRODCOM Product Classification

1. Harmonisation of NACE/CPA, PRODCOM list and CN and its consequences and problems

CPA and the PRODCOM list use the conceptual principle of industrial origin, i.e. they combine in one classification category goods and services that are typically produced in one industry according to the definition of NACE Rev. 1. Consequently, each product is classified uniquely by one class of NACE Rev. 1, which characteristically produces this product. Therefore the classification structure and coding system of CPA and PRODCOM list correspond with the structure and codes of NACE Rev. 1. The 8-digit PRODCOM heading codes are based on the 4-digit classes of NACE Rev. 1 and the 6-digit subcategories of CPA.

There are some exceptions to this rule. They result from the application of two conceptual principles (NACE, CN), which in specific cases lead to diverging allocations. Examples are nectar, non-alcoholic wine and beer, where the CN-criterion (main constituent material) takes priority over the industrial origin criterion of NACE. Other exceptions are to be found in NACE-division 17 (Manufacture of textiles).

The linkage of the PRODCOM list and the CN aims at the comparability of production statistics and foreign trade statistics (e.g. for calculating the domestic availability of products). The headings of the PRODCOM list are defined on the basis of HS/CN, i.e. the PRODCOM list uses, in principle, the subheadings of CN as building blocks, so that the content of each PRODCOM heading corresponds with one or the combination of several CN subheadings.

The problems of the conceptual linkage with CN should not be disregarded:

Foreign trade classifications are designed for collecting data on those products that are traded significantly or carry specific customs duties (tariffs). The domestic production volume is not taken into account. In production statistics, however, emphasis is put on those product categories that refer to the purpose (use) of commodities. If the use of products is not discernible by customs officers the foreign trade classification does not identify those product categories separately.

With a view to harmonisation it is clearly advantageous to use the elements of HS as building blocks for CPA and all the other product classifications (PRODCOM list etc.) which are or will be attached to CPA. On the other hand, one has to be aware that in doing this the classification is inevitably influenced by the structure and purpose of HS/CN. The single elements of HS/CN are not always homogeneous with respect to industrial origin. In addition, the way in which products are structured in HS/CN (definition and ordering of the items distinguished) clearly has an important impact on a classification based on it.

Furthermore, HS was created as a classification for customs purposes and for international trade negotiations. What was "harmonised" was primarily tariff classifications across negotiating countries in order to have common basis for negotiations and for considering the effects of trade agreements.

The harmonised system, then, is one constructed according to administrative and legal needs and concepts, not out of economic or economic statistics perspectives. It is a system that is built for its intended purpose. To use it – in the name of "comparability" – as the basis for classification of economic statistics inevitably reduces the usefulness of data that are collected for the purpose of economic analysis (other than analytic tariff purposes)

(C*omments by Jack Triplett, US Bureau of Economic Analysis, and others)*

However, neither for CPC nor for CPA the structure of HS was adopted as such. Only/mainly the building blocks were used, which then were restructured according to the industrial origin criterion or other principles. In addition, since HS doesn´t pay regard to products which are never or only occasionally traded internationally, but nevertheless produced in considerable volumes (e.g. heavy goods), the PRODCOM list and/or the derived national versions usually try to classify these products according to an adequate level of detail.

What is the adequate level of detail and how can we reach it?

Basically, the adequate level of detail must be determined by users´ needs, the coherence with CN and confidentiality requirements. While the PRODCOM list was developed for the use within the EU, some member states have extended this nomenclature for national purposes. This implementation causes extra work within the NSI, might deteriorate the links to the CN and increase the administrative burden on enterprises. On the other hand, since the national trade associations often vote for and initiate more detailed product classifications they will encourage the enterprises involved to send in the data. The trade associations can be seen as key figures in this matter.

The confidentiality priority is another issue that needs to be solved. The main objective of the PRODCOM survey is to publish as much compulsory 8-digit headings as possible. The NSIs need to take care that publishing on a more detailed level does not lead to a decrease in the number of publishable 8-digit compulsory PRODCOM headings.

Another aspect: Confidentiality problems might – to a considerable extent – result from an inadequate level of detail in the PRODCOM list. Hence from this point of view additional steps have to be undertaken in order to reduce the number of confidential cells. Decreasing the headings of the optional list B was a first step done in 1999, even if this action will not necessarily lead to a reduction of confidential clusters because the B headings have a special character (not compulsory, not always included in the national data collection programmes). Therefore attention should be directed to list A.

Putting together headings of list A (up to the 6-digit CPA level, if necessary) might deteriorate the detail level comparability (1:1) with CN. On a more aggregated level, however, one can expect that the comparability with CN increases. Besides, if the publishing of production data fails because of confidentiality rules one cannot compare the data at all. In addition, PRODCOM data also serve analytical purposes of their own, not only in connection with foreign trade statistics data.

What about stability?

Stability of classifications is one of the major issues demanded by users of classifications. NACE and CPA are and will be usually updated not more than once or twice every decade whereas CN is updated each year. The PRODCOM list follows the annual changes of CN.

Obviously, the annual changes of classifications complicate the statistical work. In countries where the collection and processing of data are organised decentrally the annual changes of the PRODCOM list cannot be implemented annually in the national programme of the production statistic. Hence estimation procedures must be applied in order to meet the requirements of reporting to Eurostat. Undoubtedly, this has an impact on the quality of data.

Maintaining the PRODCOM list unchanged over a period of three or five years might reduce the coherence with CN and lead to a certain loss of statistical information. On the other hand, stability of the PRODCOM list will improve its consistency and use and, finally, the quality of data. Moreover, stronger co-ordination between the PRODCOM team and the persons responsible for CN is desirable in order to harmonise the particular concerns of the production statistic with those of the foreign trade statistic, including the activities in the context of the SLIM initiative.

2. Physical volume units in the PRODCOM list

In general, the physical volume units of the CN were adopted in the PRODCOM list in order to ensure the comparability of the production and foreign trade statistic for volume data too. The use of volume units in foreign trade statistics, however, follows considerations which are often different from those in production statistics. In foreign trade statistics data are collected on transportable goods, whose weights are known. Therefore weight units prevail. In production statistics weight units usually are only available if they are invoiced. Besides, weight units often are not appropriate for analytical questions regarding production matters.

It has to be mentioned, that in principle one cannot talk about “right” or “wrong” measurement units. Votes for specific volume units frequently reflect subjective views of individuals or in-plant interests of reporting units. Consequently, NSI sometimes are confronted with largely deviating measurement unit proposals for the same classification heading. On European level this problem becomes much heavier as the discussion in the PRODCOM Committee meeting July 1996 showed. In this meeting an attempt was started to find in mutual agreement decisions on appropriate PRODCOM volume units. This exercise soon was given up because no evident progress was made. After that, expectations were directed to the development of a framework of conversion factors for PRODCOM to facilitate the collection and processing of consistent volume data. It seems that this system of unit conversions doesn´t work yet.

Apparently, both from European and from national point of view the problems of physical units still remain. Using additional physical units in questionnaires won´t be a suitable solution because this procedure means an additional burden for the enterprises. On the other hand, physical units of the PRODCOM list which are not used by the industry reduce the acceptance of the survey and the willingness of enterprises to report the data.

What could be done?

We recommend a limited survey on the question which changes of the physical units of the current PRODCOM list are requested urgently by the NSI. The number of proposals could be limited in order to avoid unlimited discussions. In addition, the project "System of unit conversions for PRODCOM" could be revitalized, perhaps with concentration on those PRODCOM headings for which general solutions are not attainable.

3. Linking products to PRODCOM headings

Linking products to PRODCOM headings is a time-consuming aspect for enterprises. For completing the PRODCOM questionnaire the enterprises have to link their own products to the officially used headings. In some cases this is not a big problem, but in many cases NSI are asked for help to assign the appropriate headings. The NSI have a few tools available, like the CN-list with the explanatory notes or the knowledge of the statistical experts. The main point however is the manpower needed to solve the assignment. The use of the explanatory notes of the CN is sometimes really time-consuming, especially when an "other" commodity is applicable. In this case you have to start with excluding headings, until you finally can't go further.

A short inquiry on the question "Do you use the explanatory notes of the CN?" showed that MS use the explanations directly to clarify the description of the official heading, or indirectly when problems of enterprises in assigning products have to be solved.

How to facilitate assigning/coding problems?

We propose the common use of a keyword database application to solve this problem. This database should do more than just linking products to PRODCOM headings, references to the CN (including explanatory notes) should be included as well. By implementing procedures to update this database application new products can be assigned as well. If the database application is available on the Internet, the perfect application can be built for Eurostat and the NSI, even for software producers and world-wide users. Thus, a lot of double work so far done in all NSI and deviating coding decisions can be avoided.

For the assignment (coding) of new products and their insertion into the keyword database a formal procedure has to be established. It should guarantee that final coding decisions are reached in an appropriate period of time in order to facilitate the collection and processing of production data.

B. Type of Production

According to the PRODCOM Regulation the PRODCOM list distinguishes between three types of production:

S	=	production sold (S) The production carried out at some time and which has been sold (invoiced) during the reference period
T	=	total production (T) The actual production which has been carried out during the reference period, irrespective of whether sold, put into stock or used for further processing.
C	=	production intended for sale (C) The production which has been carried out during the reference period, irrespective of whether this production has been sold or put on stock for sale later. It does not include any production used, or to be used, for further processing by the same enterprise.

The PRODCOM Regulation defines the **Sold Production** as the general type of production for the purposes of the PRODCOM survey. This definition was chosen because it is the easiest way of collecting data on the production carried out by each observed unit. Therefore the collection of data in quantities and value, based on the criterion "sold production", does not put special problems and one can consider the sold production as a good proxy for the production as such. Since the enterprises bet on the "Just in Time" principle, the stocks are not so high and don´t need special attention so that we can consider the sold production as almost equal to the production made in the reference period. In this respect, the Members States collect the data without mentioning special problems (the physical units are a different matter).

These considerations apply to the PRODCOM survey with its annual (partly quarterly) reference period. In one member state traditionally the production survey is a short term statistic, with monthly or quarterly collection of data, which requires a particular approach. In short term production statistics the gap between production/manufacturing and sale becomes more important and deserves special attention. If the interest focuses on the actual production then "production (carried out during the reference period) intended for sale" is a more adequate criterion for analytical purposes, e.g. business trends studies. Therefore, in the early PRODCOM negotiations the particular production statistic conditions of this member state have been taken into account in so far as it was conceded to maintain the long-standing criterion "production intended for sale". Considering the distinct reference period(s) of the PRODCOM Regulation one can assume that this particular methodological approach will have no major impact on the comparability with other member states.

In the PRODCOM list **Production intended for sale** is applied to 62 headings of division 15, e.g. preserving of vegetable products and manufacture of wines. A good example is the wine industry where the production usually is carried out in the autumn whereas the sale takes place in the following year(s). In this case, the sale of production takes place in another reference period than the production itself, and there is no doubt that production intended for sale here is the appropriate type.

But what about the other C-headings of division 15? Although member states have already collected data on production intended for sale it seems that there are problems of understanding when this type of production has to be reported. For reporting units problems also could arise because data on the production intended for sale are not necessarily part of the normal business accounting records and therefore additional inquiries are needed. Hence it was recommended by member states to examine whether all C-headings should be maintained.

The PRODCOM list 2000 includes 922 headings for reporting **Total Production**. These headings are used, where further processing has a significant dimension. The PRODCOM list defines the total production as

> *the actual production which has been carried out within an enterprise during the reference period which is made up of the production intended for sale plus that part of the production to be used for further processing in the reporting unit itself, in another plant of the same undertaking or under contract in another undertaking.*

Further processing means either processing into another product or fitting into another product. The production for further processing is not sold and not intended for sale, and therefore this kind of production is not included in the sold production or the production intended for sale, respectively. Taking into account that production for further processing is real production, then there is a need to obtain information on this matter.

Which information are we interested in?

When we collect data on total production (only quantity, according to the PRODCOM Regulation), we don´t get information on quantity and value of the sold production nor information on the quantity of the production for further processing. If companies, however, report for the 922 T-headings their production intended for sale plus their production for further processing then the total production can be calculated easily. The question is whether all NSI are able to supply the data on the production for further processing. Another question is whether NSI are able to report in these T-cases the production intended for sale (instead of sold production). If data on sold production are collected, then stocks and production for further processing have to be added in order to calculate the total production. These stocks, however, are the problem because companies have difficulties to ascertain the volume of stocks produced in the reference period. Consequently, NSI cannot be sure of their inclusion or accurate calculation. As in the case of production intended for sale (some) member states have indicated that they cannot assure the quality of total production data and some even don´t collect data on this type of production. Hence there is a need to find out the reasons of these problems (concerning total production data or data on production for further processing, respectively) and to look for possible means to solve these problems.

C. Industrial services and contract processing

In the literature, contract processing is sometimes regarded as a specific type of industrial services[1)] whereas the PRODCOM list distinguishes between Industrial services (treatment, maintenance and repairs, assembly work/installation) on the one hand and Contract processing on the other hand.

1. Industrial services

Industrial services are services that by definition are characteristic outputs of the goods producing industries. These outputs are usually consumed by those industries.

The output of industrial services is the result of a group of operations that aim at

- assembling or finishing a good on behalf of another unit participating in some of its production phases
- installing and starting an equipment (machine, apparatus, appliance) for its immediate use
- repairing and maintaining the equipment used for industrial production or other professional purposes

Services which are covered by activities of NACE divisions 45-99, in CPA are not considered as industrial services. Within the range of industrial services, repair and installation services are the most important ones. However, not all repair services are industrial ones as CPA follows NACE Rev. 1 which also classifies repair activities in the services part, e.g. 50.20 Maintenance and repair of motor vehicles, 52.7 Repair of personal and household goods, 72.5 Maintenance and repair of office, accounting and computing machinery.

Basically, CPA includes items for repair services wherever such services are characteristic of a manufacturing activity and where repair services can occur, depending on the products that are produced by the manufacturing unit. The same principle applies for installation services. Other industrial services have been incorporated in CPA wherever it was observed that such services are part of the characteristic activity, but not covered by the goods already distinguished there (e.g. 23.30.90 Treatment services of radioactive waste).

Even if the general methodological principles of CPA concerning industrial services are relatively clear (in the theory) the practical work faces several detail problems that result from

- lack of precision in the description of some of them
- lack of particular codes for certain services
- inconsistencies concerning the treatment of maintenance and repair services for industrial/professional or household/domestic equipment

1) M. Beekmann, A. Jacques, CBS Netherlands “The Treatment of Industrial Services in Statistics” (1998), unpublished paper

These problems have been perceived by the NACE/CPA committee, and within the "Operation 2002" various proposals have been made to improve the present situation. It is recommended that problems and inconsistencies concerning the treatment of industrial services in CPA are listed by the members of the PRODCOM committee and submitted to the NACE/CPA committee to be included in the discussions on the updating of NACE/CPA in the context of the Operation 2002.

A particular problem with industrial services was touched in our working group which requires a clear solution: An enterprise, classified to NACE 28.51 (Treatment and coating of metals), carries out pure industrial services. For example, this enterprise receives goods to be refined from a contractor (the producer and owner of the goods). The refining enterprise returns the goods and gets payment for the refining activity which is considered as value of this service.

If the company buys the metal products, carries out a refining process and sells the refined products, then problems appear in case the PRODCOM heading for the product to be refined and the sold product don´t differ:

⇒ This enterprise can say: I am a producer. This is not strange because the enterprise sells final products. If the NSI are not aware of this problem products might be double counted.

⇒ The activity of this enterprise is pure treatment and coating of metal. This means that the enterprise belongs to NACE 28.51. Its activity is not trade or production as such.

⇒ The biggest problem is how to report the value.
Similar problems appear in other NACE/CPA classes. The working group didn´t find a solution. But there is a need for a consistent handling of this problem by all member states.

2. Contract processing

"Contract processing", "Subcontracting", "Work on a fee or contract basis" are some of the descriptions used when production activities are carried out for the account and risk of someone else. Unfortunately, a consistent definition of contract processing is still missing.

The "Statistical Workshop on Subcontracting" that took place in Paris 4th July 1997 proposed the following definition:

> *Two enterprises are linked by subcontracting relationship whenever the two following conditions A) and B) are met together:*
>
> *A. the customer enterprise either participates in the conception of the product providing, even partially, technical specifications to the supplier enterprise or provides it with the materials to be processed;*
>
> *B. The customer enterprise re-sells the subcontracted product, incorporated or not into other products, and takes on the after-sales liability for the product.*

This definition has been mentioned in order to show that the understanding of subcontracting can vary to a large extent. What we need for the purposes of PRODCOM is a pragmatic approach to the subcontracting issue.

The general notes of the PRODCOM Regulation include the following definition of contract processing:

> ***Contract processing***
>
> *is also covered by the PRODCOM statistics. This takes place when material supplied free of charge by the principal is worked or processed. It must be reported by the contractor. The value to be recorded is the fee paid by the principal. In any contract processing arrangement, the principal and the contractor must be different undertakings; contract processing between different plants belonging to the same undertaking is not possible.*
>
> *In order to avoid duplication, contract processing must be reported only by the contractor in the country concerned, i.e. where production actually takes place.*

This definition states that the (sub)contractor has to report the value of the production which corresponds with the fee paid by the principal. Is this the best procedure, particularly with respect to the information available to the principal and the contractor?

a) The enterprise that carries out the production can report the quantity produced, and the amount of money received from the principal for the work performed.

b) The principal (the owner of the raw materials) knows the quantity produced (all that he receives from the subcontractor), the amount of money paid for the work, and the price of the sold product.

Taking into account the concepts mentioned in the PRODCOM Regulation that intend to determine and evaluate the actual production, it could be concluded that it should be the principal to report this kind of production, because only he can give the information of the sales in quantity and value. In this case, however, information on the contractor get lost.

If we follow the general notes of the PRODCOM Regulation the average price of that production does not take into account the raw materials that are incorporated in the product, and there are no specific headings for these – because the subcontractor does not buy the raw materials. This means that if the users are not aware of this special situation they will misunderstand the data – assuming that the average prices of those headings are too low.

Our short inquiry on this matter revealed that the Member States partly collect information from the principals and partly from the subcontractors. Considering this we think that it shouldn´d be so difficult to change the reporting unit in order to reach a harmonised procedure. However, further discussions on the impact of these changes (concerning the data quality and the general notes in PRODCOM) are needed. On the other hand we can use this opportunity to make a detail analysis of the concept of Subcontracting (although this should be discussed with other units, namely the SBS).

D. Valuation

The general notes of the PRODCOM Regulation lay down:

> ***The value of production sold/intended for sale*** *should be calculated on the basis of the ex-works selling price obtained/obtainable during the reporting period.*
>
> *It also includes packaging costs, even if they are charged separately.*
>
> *However the following are not included:*
>
> *Any turnover tax and consumer tax charged, separately charged freight costs and any discounts granted to customers*

A short questionnaire on this subject was sent to the PRODCOM delegates of the EU-countries, including Norway and Iceland. Nine states responded to the survey which shows

The Present Situation

Several states specifically mentioned that they used the PRODCOM definition cited above. Others said that they used a definition of value in terms of basic prises or ESA 1995. Two states said they used a definition in terms of net selling value.

As far as we could make out from the responses given the definitions used are equivalent and consistent. They exclude turnover and consumption taxes, separately charged freight costs, and any discounts granted to customers.

Problems in Applying the Definition

The question was what practical problems arose in applying the definition of value used by the states. Reference was made to the fact that firms don´t always give the value of their sales in strict compliance with what the definition requests. Sometimes internal prices are provided which don´t include all the firms´ expenses. At other times firms include VAT and excise duties. Another problem mentioned was that it is impossible to know if transport charges and subsidies are included in the prices or not. Finally, it was mentioned that yearly discounts based on total turnover and the practice of invoicing by “instalment plans” caused problems.

Transfer Pricing

Transfer pricing refers to the practice engaged in by some multi-national corporations of artificially manipulating the prices of inputs and outputs in transactions between their subsidiaries in different states in order to minimise their tax burden across states.

In our opinion, transfer prices, in principle, shouldn´t apply in the PRODCOM survey. If a producing unit A sells the production to another unit B belonging to the same corporation, and B brings the products on the market, then A (which is the reporting unit) has to calculate the obtainable market price and report it to the statistics office. Transfer prices, in general, are lower than the obtainable market prices. Hence the use of transfer prices would have a considerable impact on the value-volume ratio, which is quite different from the ratio based on the principle of obtainable market prices.

Some states responded that it wasn´t a problem, whereas in one country it was recognised as an increasing problem not yet examined which are the effects of it. Other countries suspect that transfer pricing occurs in some sectors, but they don´t see a way to detect whether transfer pricing is used. It seems the only possibility to check with the firm involved that its figures are authentic.

Procedures Used to Deal with Problems

When practical difficulties appear, generally the NSI phone the firms in question to check their figures if they think there is a problem with the data. Two countries mentioned that they also compare the received data with data from other sources such as VAT, foreign trade, and structural business statistics. In one case, comprehensive explanatory notes are sent to the firms concerning the question how the value of production has to be calculated.

It seems that the basic definition of value used in the PRODCOM survey of the different countries are consistent. However, as outlined above, practical problems arise in applying the definition. Recognising whether firms are in fact adhering to the definition seems to be the main problem. Hence the procedures used to check the reliability of the reported data (i.e. phoning the firms to verify their responses and comparing their answers with other survey data) could be an adequate approach to resolve problems in valuation.

Classification, production type and valuation

Paper by discussant

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Introduction

This is a short paper in my role as a discussant on the paper covering Classification, Production Type and Valuation produced by Working Group 2 led by Alois Macht.

Contents

A. The PRODCOM Product Classification
B. Type of Production
C. Industrial services and contract processing
D. Valuation
Final observation

Background

1. I work in the heart of the United Kingdom National Accounts. Presently, I am the head of a team of ten people that compiles, co-ordinates, balances and publishes current price annual Input-Output (I-O) Supply and Use tables which are used to set the annual level of UK Gross Domestic Product at current market prices.

2. The results of the PRODCOM inquiry in the UK play a key and vital role in the production of the UK Supply tables. At present, we use 123 industry/product I-O groups which are based on the UK Standard Industrial Classification 1992 (SIC(92)) which is consistent with NACE Rev.1.

3. For each manufacturing industry, annual estimates of total sales of goods, work done, own account capital formation, other services provided and sales and cost of goods for merchanting are taken from the UK Annual Business Inquiry (ABI).

4. The product breakdown of sales of goods and work done at the I-O product group level is obtained from the PRODCOM inquiry which operates at a more detailed level. This breakdown is constrained to the ABI total to form the output of products (I-O product groups 1 to 87 out of the 123 groups) for each manufacturing industry.

5. From a National Accounts perspective, the PRODCOM Inquiry does not provide enough detailed information covering other variables. Some of these variables also feature in the move of estimates of industries' sales to industries' total output at basic prices. For example:

- Sales of other services (non-industrial services) provided by type of product.
- Margin on merchanted goods (sales less costs).
- Own account capital formation (including a product breakdown).

6. There are other issues relating to the PRODCOM Inquiry, which are different and appropriate changes would help to meet the needs of Input-Output, for example:

- Wider and more complete industry coverage, for example energy and recycling industries.
- Valuation, for example treatment of duty and other taxes on products.
- Treatment of progress payments.

7. The comments on the Working Group 2 paper are made with the above background in mind.

8. In general, the paper covers the issues well but does raise more questions, which need to be discussed, and agreed, which in turn should lead to changes and improvements to the PRODCOM regulation. As a result, I have tried to briefly list the type of areas requiring further investigation and discussion.

A. The PRODCOM Product Classification

Purpose of PRODCOM

1. It is important that PRODCOM continues to collect sales by type of product on the basis of origin or production, and is not confused with any classification that relates to the 'use' of the product.

Disclosure

2. This section covers discussion of problems at a level of detail (i.e. 8-digit headings) which is well below that needed in the UK National Accounts. On the other hand, the issue surrounding publication is quite pertinent. In the UK, all business statistics are collected under a Statistics of Trade Act that does not allow the Statistical Office to publish any information, which may be disclosive at an individual business level. This generates problems in determining at what level the publication of sales by product data can be achieved.

Stability – classification of businesses

3. The stability of classifications is very important in producing consistent time-series, which are essential for National Accounts. In addition, the product classification does need to be updated so as to reflect technological and economic change at the micro-level.

4. For continuity, it is also paramount that the business register has some form of stability at least at the 4-digit level or below. Otherwise this can generate unnecessary 'noise' when analysing industry by product sales as a time-series.

Linking products to PRODCOM headings

5. The development of business specific forms should help to reduce the amounts entering the 'other' commodity. If over a certain amount, then the form should be amended appropriately following discussion with the business in determining the product(s) covered. Any general type rule may lead to distortions but a CN/PRODCOM keyword list available on the Internet would be welcomed. This should also be extended to cover service products.

B. Type of Production

Assumption that sales is a good proxy for production

6. This assumption needs to be tested. In the UK, there are numerous industries where this assumption is not valid given the growth rates of sales and output can differ markedly. This can be due to various issues, for example:

- Change in inventories of work-in-progress and/or finished goods
- Own account capital formation
- Progress payments – especially in industries like aerospace and shipbuilding

7. For comparison purposes, across industries within the same country and across Member States, it would be better to collect information on all industries using the same approach.

8. For National Accounts, a breakdown of total output rather than sales by type of product meets our needs. At present, this is achieved using other sources to supplement the PRODCOM data.

C. Industrial services and contract processing

1. Industrial services

9. In compiling the Supply table, it is important that industrial services are treated correctly with the associated goods produced. An approach the group may wish to consider is shown below whereby the questions would provide good quality control totals. Although they do not provide information on the product breakdown they would generate accurate estimates of such activity in a way the business understands what is being asked.

a) Work done on materials supplied by you, or sub-contracted out by you.

b) Repairs, installation and maintenance of machinery (excluding computers and office machinery).

c) Repairs and maintenance of:
   Motor vehicles
   Buildings

d) Other.

10. Another dimension that needs to be considered. For example, the printing and publishing industry receives income for selling space in the publication it produces. This income should be treated as the provision of a non-industrial service and not as the principal product.

2. Contract processing

11. If the producer sells its goods, the value recorded for PRODCOM purposes should be inclusive of any contract processing provided by a third party. The fee paid is just a cost of production and not a sale of a product by the producer. In addition, if the producer has itself carried out work on a fee or contract basis for another business, this activity/income should also be included in total sales – the question being what is the product allocation?

D. Valuation

12. This issue is extremely important when considering consistency with the National Accounts and the Input-Output framework, which are compiled in order to meet Eurostat regulation. In this context, industry output (and the product composition) is measured at basic prices.

13. It is worth recognising that businesses do not understand the meaning of basic prices.

14. Most businesses will record their sales at net selling value or invoice value. In some cases this may include duty paid which is valid. It is up to each statistical organisation to set up its data collection such that a consistent valuation can be achieved. For example, in order to achieve such a target further questions may be necessary.

15. It is worth recognising that further discussion covering the treatment of taxes on products and subsidies on products is required. For example, if they are to be excluded how should they be deducted – taken off the principal product or all products produced pro-rata.

16. At present, the PRODCOM valuation (for example, excludes any distributors' trading and transport margins) is not compatible with the valuation of imports and exports of goods (fob basis). Thus the estimation of domestic supply using PRODCOM and trade data are conceptually incorrect.

17. Further discussion and agreement is required on the valuation of PRODCOM data.

Final observation

18. Ultimately, many of the issues in the paper raise a fundamental question, what is the purpose of PRODCOM? Are we attempting to serve too many purposes and in the process develop a hybrid inquiry? Who is the key user, the National Accounts, Trade Associations, Eurostat or somebody else?

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Classification, production type and valuation

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Discussion

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
Let us make sure where we stand on stability. The main part of the Prodcom headings has been stable for a five-year period. Only a small number of headings have changed. I think that the Prodcom List is a very stable list over a five-year period. However, after five years, the List should perhaps undergo some revision, for example, of 1000 headings per year over a five-year period. Is that what you mean by stability?

Alois Macht
The federal statistical office of Germany in Wiesbaden, Classifications
I mentioned NACE and CPA. They change once or twice over ten years. But classifications become obsolete almost as soon as they are published. Secondly, there is this desire of stability in Germany because it is not possible to change the classification every year. We have to estimate figures for new headings, and that affects the quality. Another reason to keep the classification stable is to ease the response burden. In the case of changes, enterprises will suddenly find themselves reporting figures that they were not obliged to report earlier. People have to adjust to changes, even to small changes. Therefore I suggest the classification to be stable at least for three or four years. Finally, I wonder if all the changes of the CN (for Customs purposes) are relevant for Prodcom.

Jean Couronne
Ministry of industry in France, department of statistics
I would like to come back on the problem of the measuring unit. Everyone knows that we use watt to measure the power output of a motor. The customs has successive groups of power for motors, however the common power rating tends to be different. Maybe Prodcom would be able to adapt those power output classes more easily. If we use measurement units that are not common practice, the respondents might not be able to classify the product correctly, and the users will not be able to find the data, even if it is reported. Also the definitions of products create problems. Apparently certain products do not exist in the classification. Complicated hydroelectric power stations and distributors of hydroelectric power for example, are not included. People working in the field know what they are talking of. At European level, people working in the profession, agreed on a way of looking at this problem. But Customs does not have a clear definition. Perhaps Prodcom could include a four-digit category for this kind of item. I think statisticians and people studying the market, have to deal with such difficulties. There is a similar problem with industrial textiles. For the moment there is not proper Customs definition for, for example nylon, cotton treated or processed specifically for a particular application. People want this kind of information because they know that the products exist. But we can not monitor production because the product is not included in the classification. The same goes for assembly. Prodcom includes a heading for personal computers, but Customs does not. This is a problem that needs to be dealt with at European level in order to catch up with the current situation. As a consequence, the work of assembling microprocessors of computers can not be measured.

Helga Limbert

Federal statistical office of Germany, production statistics, member of the working party of Europroms

I just want to come back on the subject of industrial services. There is a big demand in Germany to get this sorted out. The subject was mentioned in my colleague's paper, and the suggestion was that we should monitor the production at the principal enterprise. With the objective to measure economic activity over a period of time, and to classify production according to regional origin, this practice might lead to misinformation, because the work might take place elsewhere, so there would be a confusion of which region should be credited the production. We must discuss that.

Angelika Becker

Febi: Verband der Chemischen Industrie EV, Germany

In Germany we come across cases where companies are asking how we are able to maintain stability over years when other countries appear to introduce changes at frequent intervals. People notice the difference. Until now, we have not been able to answer this question. The ideal situation would be a harmonised implementation and no frequent changes in the classification. So, my question is: How is the Prodcom List implemented in the other countries? For example in France or The Netherlands? It seems that Germany is the only country where these annual changes do not take place. Another subject is the measurement of volume and volume units. A particular example is spray products. Politicians are very interested in figures on volumes to monitor development in environment, and agreement of a unit of measurement would be very useful. Of course it should be discussed within the European trade associations. However, I would like to ask Eurostat about the possibility of introducing an additional unit of volume in the Prodcom List as well as the timetable for developing the data and the final statistics. My last point relates to the database mentioned by Mr Macht. We do face considerable problems when people phone us asking for individual product information. Very often we can not even identify the products. An alphabetical product index, perhaps only in one language, maybe English, would certainly be very useful for the trade associations and small and medium sized companies that do not have experts to identify the products mentioned in the different classifications.

Johann Hameseder

Statistics Austria, Manufacturing Industries

I certainly support the idea of a database including an index of products and keywords. Not only Prodcom headings should be included; also keywords identified by the trade associations. However, this kind of database would require an enormous amount of work and flexible software. Another comment is on contract processing. In the Austrian Prodcom survey, we include both sides. It is a question of getting a good balance, and to solve the problem of identifying the relationship between the principal and the sub contractor. Instalment payments, for example regular payments between enterprises, cause another problem because no product is exchanged with the payments. This is a question of particular importance for Austria because our Prodcom surveys are carried out monthly.

Humberto Pereira:
National statistical institute on Portugal, Prodcom and short-term business statistics
Although participating in preparing Mr Macht's paper, I do not fully share the conclusion on aggregation of Prodcom headings to solve confidentiality problems. This solution could be dangerous, because of the risk of ending up with products on the CPA level. Another solution - discussed in the SBS Regulation – is to ask Member States to refrain from publishing publishable national figures to obtain an adequate number of 'non available data' for the purpose of publishing EU 15 figures. I do not like this idea either. I think that we might look at Member States that represent less than 1% of the total European production of a certain product, and ask those Member States to refrain from publishing. Maybe we could solve some of the problems of confidential EU15 headings in this way. I agree that stability in the Prodcom List is preferable. However, we must not forget that one of the great advantages of Prodcom comes from the fact that Prodcom it is linked to the CN. And I think we should keep that link. We might ask for less frequent CN changes to keep Prodcom more stable. Another question is the question of 'total production'. Mr Mahajan mentioned the need for coherence with the national accounts. I agree. And I think that information should be collected on total production - as well as for sold production – for all Prodcom headings, not only for the 922 headings. Portugal collects data on total production for all the Prodcom headings. It is not difficult for the enterprises to report the quantities produced. What is difficult to report is the value of production not sold. To satisfy the need of data for the national account statistics, Portugal also collects information on the level of kind of activity unit, and we also collect data on purchased raw materials.

Volkmar Wulf:
Febi: MECSEA
I would like to endorse a comment to Mr Macht. It is crucial to take up again this issue of physical volume measurement units. Many products – speaking on behalf of the paper purchasing industries – did not exist in the past. And now we have many classification problems in the industry of paper processing. For example, a press for paper processing can be regarded as an element of the production process or as a sub-component. Another issue is the question of regulation. It aims at improving the harmonisation of the European statistics, in this case the harmonisation of foreign trade statistics with production statistics. I do not doubt the value, but I think we should avoid a situation where comparability dictates everything.

Jean Couronne
Ministry of industry in France, department of statistics
I just want to come back on the subject on the stability of the classification. What happens if a product is produced but not recorded because it is not included in the classification?

Norbert Rainer:
Statistics Austria
All products are included in the CN. According to the methodology of the Combined Nomenclature, no product is missing. It is just a question of interpreting. So, from the point of view of the CN, this is not a problem.

Dorte Schmidt-Brown:
Prodcom, Eurostat
I just want to summarise the way the Prodcom List is worked out. The List is updated every year with the changes of the CN after acceptance of the Member States at the Prodcom Committee meetings. Another type of change is due to the proposals from the European branch organisations, the FEBIs. These changes are also laid before the Prodcom Committee to decide. Normally, proposals are accepted if they respect the link to the CN and do not cause a lot of new Prodcom headings. Proposals received by Eurostat before mid-March will normally appear in next year's Prodcom List. Eurostat expects the Member States to use the List of the year for its Prodcom survey, and as far as I know, Germany is the only exception. It is a question of balance between stability and actuality of the List. Through the latest five years, I think that only 10% of the headings have changed.

Sanjiv Mahajan
Office for National Statistics, UK, the input-output compilation for national accounts
I agree with Mr Rainer that there exists a classification, the CN that provides all the guidance we need. It is just that we all interpret it differently. In the UK we use the CPA, and the CPA does actually give very clear guidance on the treatment of industrial services. So, thus, it does not give a complete product break-down, it offers an approach to be used to ask businesses in a way that businesses understand what activity they are carrying out, and what is industrial and what is non-industrial services. The non-goods headings in Prodcom - collected in the UK - are compared with for example exports of services. If for example a company has produced € 100 of goods and € 10 of services, that company can not have exported € 20 of services. Where do the extra ten come from? So, there are other dimensions that can be used for validation. And finally the valuation, the point made about Prodcom and trade: I think this is important because, balancing the total supply of all goods and services for domestic consumption with actual domestic consumption is very important in terms of product valuation. And if we do not get it right, we have imbalances in the balancing process. We do not like any balancing problems. We prefer them all sorted out before they come to us.

Alois Macht
The federal statistical office of Germany in Wiesbaden, Classifications
Basically, the recommendation made in the paper could be modified, broadened and in any case discussed. We do not expect any answers right now. We just want to stimulate debate and it appears that certainly we have achieved quite lot in this first phase. Next step is to take some of these recommendations up in the Prodcom Committee and within Eurostat and to treat them more deeply, to determine what is feasible, what should be left aside, simply because they are not practicable. It seems to me that the feed-back I have got is that the topics we have thrown up for debate are topics that everyone would like to see coming back on the table again.

Niels Langkjaer
Nomenclatures, Eurostat
Personally, I do not believe in the quality of Prodcom for one simple reason: people who classify the products according to the Prodcom List do not use the explanatory notes to the Harmonised System. Without this, there is no way to classify the different products correctly. The explanatory notes to the Harmonised System costs 20,000 Belgian francs. Therefore the number of people who have access to that is limited. But these notes are necessary. Both Mr Hameseder, Mr Macht, Mr Becker asked for a keyword database. Today we are permitted to dream. A Prodcom keyword database must be worked out in 11 languages. It is not possible to translate one version to the other ten languages. We have problems already in translating the headings in the Prodcom List. Secondly, the database is going to be enormous. A keyword list for the activity for NACE contains 15,000 items for 500 NACE classes. This is a multiplication by 30. And it is not even a complete list. The Prodcom List includes 6000 headings. Multiplied by 30 we arrive at 180,000 keywords. That is going to be expensive, and the difficulties should not be underestimated.

Jean Couronne
Ministry of industry in France, department of statistics
There are simple and not expensive elements available for a keyword list already. I am thinking of documents existing in the trade associations, available in catalogue form also on electronic media. This information enables us to classify products according to professional terminology in quite a range of languages. And it is very easy because in general it enables us to identify products according to the professional language used and the link-up for that to any other Customs system or whatever, any classification.

Dorte Schmidt-Brown:
Prodcom, Eurostat
This keyword database is something the Prodcom Committee has dreamed of for years. And I do hope we get the time and resources to do this in a proper way. This leads me to the auto conversion program of measurement units, mentioned by Mr Macht. We have had some difficulties with the software, but the main reason for the lack of progress is the loss of the external Prodcom team 18 months ago. I hope to be able to present the program at the June Prodcom Committee meeting.

Adrien Lhomme
Head of unit D3 (Production, Business statistics, Special sectors), Eurostat
I have never dreamed that we would come up with a solution today on problems such as confidentiality, stability, measurement units, keyword databases, industrial services and subcontracting. The utility of the discussion has been to list the problems and to raise a number of different issues. Eurostat will have to focus on these problems, as Mr Macht invited us to do, and to come up with some solutions in the years to come. The discussion brought in national accounts and input-output tables, as well as the user point of view. I think, we all have to think of ways to improve Prodcom, so that we improve national accounts and input-output tables as well.

Data validation

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Abstract

Data validation is applied by each country as a natural part of the work on collecting, processing and publishing statistics. However, it is difficult to lay down common guidelines for data validation because the countries do not conduct their Prodcom survey in the same way, and because they use various types of technology.

The paper exemplifies the validation procedure and suggests a catalogue of possible data controls applied by each individual PRODCOM country. Furthermore, it suggests Eurostat to plays a more active role and to collaborate with the PRODCOM countries to enable each data control to be individually adapted, to harmonise data validation, and to avoid double work.

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Working group 3:
Jan Foghmar, Denmark (Speaker), Yvan Bergmans, Belgium, Toni Birch, UK, Birgitta Edberg, Sweden, Helga Limberts, Germany

1. Introduction

Data controls are applied by each country as a natural part of the work on

collecting, processing and publishing statistics.

The main focus is on the production of statistics (not book-keeping). Consequently, errors should only be marked if they have an effect on the final output.

Controls should be applied as early as possible, to ensure that the published figures are as correctly as possible and also out of consideration for the respondents.

It is therefore important to set up a system entailing that a range of controls can already be applied in connection with the data input. The data controls comprise, e.g. comparisons of figures of individual respondents with own data stored from earlier periods, but also with other data sources, where applicable.

This is of importance vis-á-vis the respondents, and should also be an integral part if data are transmitted electronically.

2. The validation system

Different types of errors

2 types of errors are distinguished:

- absolute errors that are to be corrected before a questionnaire can be accepted
- possible errors that can be accepted without any correction, followed by a closer examination

Possible errors are only marked if they have an effect on the total statistics.

The set-up of the data controls implies that they can be continuously adjusted.

An example

A typical data control comprises, e.g.:

An error is marked in the case of a sharp increase in total turnover if

> turnover for quarter T exceeds DKK *5 mio.* and is *1.5* times higher than turnover in quarter t-1 and in quarter t-4.

Both the amount of *5 mio.* and the *1.5* times can be changed as required.

The amount of *5 mio.* ensures that the possible error has an impact on the final output and the *1.5* is the degree of fluctuation you normally allow before further investigation.

Data comparability with the corresponding period of the previous year takes seasonal fluctuations into account.

In the long term, it is possible to allocate these parameter values individually to each single commodity item.

In a special "space intended for comments" it is possible to store information on, e.g. "particularly large orders for the 1st quarter 1998, which may have an impact on future error detection, etc.

Individual data, aggregate data and other sources

Technically, a distinction of error detection activities can also be made:

Uses Prodcom data only

1. one respondent one period
2. one respondent several periods
3. several respondents one period
4. several respondents several periods

5. Uses other data sources also
   - 5.1. comparison with external trade
   - 5.2. comparison with VAT statistics
   - 5.3. comparison with statistics of orders and turnover
   - 5.4. comparison with industrial accounts statistics
   - 5.5. comparison with, e.g. energy and environmental statistics

All error controls mentioned below are today applied by Statistics Denmark for Prodcom data only, i.e. items 1-4.

At the moment, work is in progress on contacting, to a greater extent, the respondents in writing when errors occur at regular intervals. In this context, a special guidance relating to errors is enclosed.

Until 1992 Statistics Denmark has also undertaken the described error detection in relation to external trade, and we intend to resume such controls during the course of 2000.

The mentioned comparison with the monthly statistics of orders and turnover will also be introduced in 2000, while comparison with the industrial accounts statistics and VAT statistics will only, for the time being, be undertaken for large units.

3. The individual data controls

3.1. Prodcom data only, one period only, one respondent only

Scope of the data reported (name, address, workplaces, etc.) appears from the questionnaire. If there are any changes, they must be passed on to the Central Business Register.

Invalid commodity items

There must be a valid commodity item, if not an absolute error is marked.

Missing value
The value indicated must be numerical, positive or empty.

Total turnover

Total turnover (sales of own commodities + contract work + repairs + installation + goods resold without processing + other) is compared to the number of employees.

Errors of calculation are checked (absolute errors if they exceed a specific limit), which may have been caused by missing information on commodities.

Sales of own commodities

Errors of calculation are checked with respect to "own commodities". Minor differences can be automatically corrected in the totals.

Duplicate errors

Duplicate errors with respect to commodity items are checked.

Turnover/employment

Total turnover is compared with total number of employees, and errors are marked, if turnover per employee appears to be too high or too low.

Commodities extraneous to the industry

The industrial affiliation of the commodity item (according to the CPA) is compared to the respondent's industry, and if there are any apparent difference errors are marked as possible errors (e.g. a respondent engaged in the food industry producing prams).

Missing quantities

If information on quantities is missing, it is marked as an error.

A distinction is made, in advance, between commodity items, for which information on quantities are, in advance, of significance and errors are always marked, and other commodities where errors are only marked if the value is of great significance.

3.2. Prodcom data only, one respondent over several periods only

Duplicate errors

It is being checked that a commodity item does not have the same value in 2 consecutive periods.

Great fluctuations

It is being checked that the changes in value, quantity and unit price are not too comprehensive. Errors are only marked, if the value is of a certain significance.

Missing turnover

If information on a significant turnover is usually reported for a commodity item, and the commodity item is suddenly missing.

New commodity item

If information on a significant turnover for a commodity items appears for the first time.

3.3. Prodcom data only, several respondents, one period only

Unit prices

For the same commodity item, comparisons are undertaken between all respondents.

Where a unit price for a given respondent differs extremely (e.g. a factor 1,000), regardless of the size of the value, errors in the digits are marked.

If the unit prices for a given respondent differs widely, and the value is of significance, errors in the unit price are marked.

3.4. Prodcom data only, several respondents, several periods (macro data)

Macro data for each individual commodity item (industry, geocode or other parameters of publishing) can subsequently be compared over time.

In the case of major fluctuations, it is thus possible to go backwards in the system and identify the respondent(s) causing the major fluctuations with respect to the macro data.

In many cases, errors are often already marked for these data by the above-mentioned data controls, and thereby checked and accepted.
Consequently, the priority given to data controls of this type is not high, but may be instrumental in adjusting the level for other controls.

3.5. Comparisons with other statistics

In comparing data from several sources, it should be borne in mind that errors might occur in the data, which are subject to comparison.

This implies that when contacting the respondents who have reported varying data for different surveys, it must first be assured that there is a real basis of comparison (same units in the various sources, special exceptions, etc.).

The inquiry to the respondent must be formulated in a manner that it is the respondent who decides in which statistics the error occurs and who subsequently provides the correct information.

Frequently, it is not possible to undertake these comparisons until at least one of the various data sources are already published as provisional figures, and the comparisons thereby give rise to corrections with earlier periods.

Comparisons with other statistics may be subdivided according to the same model given above. However, the most important division is whether access to macro data is only possible, or if it is possible to undertake comparisons for each individual respondent.

3.5.1. Comparisons with external trade

3.5.1.1. At the level of respondents

Exports larger than output

If exports exceed output for the same period this calls for examination, but the output concerned could cover goods resold without processing, etc. This means that when contacting a respondent, questions should be carefully formulated.

Frequently, the respondent has merely used one commodity item for exports and another commodity item for the production process.

Large output, no exports

This should be examined, but the output may be exclusively intended for the domestic market or that exports are effected via an intermediary.

Large price differentials

This should be examined, but the products may again be heterogeneous, where exports are only covered by the expensive part of the production process or the exact opposite.

3.5.1.2. Comparison with external trade with respect to macro data

Negative supply

If only access to macro data is possible the domestic supply can be estimated and the Prodcom numbers, which show a negative supply of significance, are examined.

Subsequently, identifying which respondents, who could possible manufacture such product, is the next problem.

In this context, the commodity-industry key (CPA) can again be used.

3.5.2. Comparison with VAT statistics

Differences in total turnover

In comparing VAT statistics and Prodcom statistics for the same respondent, it can be checked whether total turnover is similar.

Major differences can subsequently be examined.

3.5.3. Comparison with statistics of orders and turnover

Differences in total turnover

In comparing statistics of orders and turnover with Prodcom for the same respondent, it can be checked whether total turnover is similar.

Major differences can subsequently be examined.

3.5.4. Comparison with industrial accounts statistics

Differences in total turnover

In comparing industrial account statistics with Prodcom for the same respondent, it can be checked whether total turnover is similar.

Major differences can subsequently be examined.

3.5.5. Comparison with other industrial statistics

Comparing Prodcom with other industrial statistics may give rise to further data controls with respect to errors, e.g. large consumption of energy in relation to turnover.

Data controls of this type are most frequently undertaken on an ad hoc basis.

4. Final remarks

The way in which the Prodcom survey is conducted differs from country to country, and various types of technology are used in the Member States.

Consequently, it may be a difficult task to lay down common guidelines for what data controls must/should be applied, and how they are to be applied.

Avoid duplication of work

It is essential that the total system of data controls be designed in manner, which, as far as possible, avoids "duplication of work".

The present situation implies that Eurostat's data controls are frequently duplicated by corresponding controls carried out in each individual Member State (i.e. controls of possible errors, which have already been examined and approved), but where information about "examined and approved" is not passed on in the total system, and, as a consequence of this, is subject to control again.

Catalogue over data controls

However, a catalogue of ideas showing the data controls applied by each individual Member State can be established, and by browsing through the catalogue the data controls, which are best suited for the way in which Prodcom data are compiled in one's own country, can be selected.

5. Eurostat

Data controls are central to an overall methodological description for each individual Member State.

Eurostat's role

Eurostat should be responsible for the collection, co-ordination and dissemination of methodological descriptions (including data controls).

Furthermore, Eurostat plays a more active part in connection with undertaking data comparability among countries and in relation to EU totals.

In this context, the development of data controls is entirely the responsibility of Eurostat.

Collaboration with Member States

This work is carried out in collaboration with the Member States, and is, as far as possible, prepared in a way enabling each data control to be individually adapted, for example, in a form that makes it possible to choose (or reject) the data controls according to one's requirements.

Quality

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Abstract

”Quality” in statistics has become a major topic in the European and national statistical system in the last years. Users are viewed as having a right to be informed about the features of the data they receive, as having a right that their needs are taken into account, and that they can rely on promises of the statistical institutes at which pre-determined dates certain data will become available; and last but not least, they should be given easy access to statistical information and good support concerning the meta-data.

Quality is of course not a new concept nor does it include any criteria that were principally not considered by the producer of official statistics. However, the new feature is that a system of quality indicators or criteria at hand provides the data producer with an instrument to fully take into account the quality aspects all the time. Quality is a never ending task.

The paper starts with a brief description of the concept of quality as elaborated by Eurostat based on experience in member states and further developed. This concept, even if not final in all details, has broadly been accepted as a basis for quality reports that are either already requested by European legislation or produced for national purposes. The main chapter of this paper will then discuss some of the quality criteria with respect to Prodcom. This will neither be comprehensive or complete nor any new specific aspects may be reported that have not explicitly or implicitly been taken up in other papers of this seminar.

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1. Introduction

To take care of the quality of statistical information is not at all a new task. All the different criteria that comprise the bundle of quality indicators have always been observed in the production of official statistics. In all the usual phases of data production - from creating the conceptual and methodological framework, to data collection and processing and the publication of the data - quality is a challenge for the data producer.

However, there are several reasons why quality should deserve more attention and be treated and taken care of in a more systematic way:

- An overall concept of quality in statistics covers not only criteria for the evaluation of the statistical data as such; it comprises also the users' needs and the way and how statistical information is made available. Statistical data with high validity is of no quality if it does not meet the users' needs. The same is true with regard to data dissemination.
- An overall concept of quality comprises also criteria such as coherence, harmonisation and comparability. All these criteria are complex and have to be taken into account in all aspects.
- A system of quality criteria and indicators provides the data producer with a handbook which can be used as a guideline for permanent quality checks.
- With regard to the further development of the statistical system it seems preferable to improve the quality of existing statistical programmes rather than to extend the system.

2. Quality in statistics

Definition of quality

Eurostat uses as starting point for the definition of quality the ISO 8402 norm which defines quality as:

> *"the totality of features, and characteristics of a product or service that bear on its ability to satisfy stated or implied needs."*

Such a definition is seen too broad as it includes aspects of Total Quality Management that is out of scope from the Eurostat's point of view. So, a more restricted approach is used which concentrates on the "products" only and excludes the "process". From a national point of view also the process would be relevant and is in fact a main management issue.

Eurostat defines quality in statistics with reference to the following six basic criteria:

- Relevance of statistical concepts
- Accuracy of estimates
- Timeliness and punctuality in disseminating results
- Accessibility and clarity of the information
- Comparability of statistics
- Coherence

Relevance of the statistical concepts

It is said that a certain statistical programme is relevant when it meets the users‘ needs. This means that the concepts, definitions and methodology applied result into data that are seen relevant and useful for the user.

Whether relevance is achieved or not can only be tested if the users are asked. However, who are the users of the data? Which users are given priority? What should be the consequences of differing users‘ needs?

In my opinion, the relevance criteria is also an important challenge for the data producer himself in that he should be aware of the purpose and use of the data collection. Sometimes users complain about some statistics and that they cannot use the data for their specific purposes. However, the purposes for which they want to use the data may not have been intended at all when that specific statistical programme was created.

Accuracy of estimates

Usually, the term quality relates to the accuracy of the statistical data. Accuracy can be defined as avoiding errors as much as possible in all the different stages of data production and thus would increase the validity of the data. The more errors are under control or avoided, the more the accuracy will increase. The literature shows us a long list of possible errors which are usually divided into sampling and non-sampling errors.

Until now, statisticians have focussed mainly on sampling errors for which the theoretical basis is well established. In my view for most of economic statistics non-sampling errors are more important, even if the specific statistics are based on samples. However, non-sampling errors are less developed in theory and it is much more difficult to derive valuable indicators for their measurement. Non-sampling errors include coverage, measurement, processing, non-response and model assumption errors. In the daily process of statistical production much emphasis is given to the avoidance of coverage, processing and non-response errors. Much more emphasis should be devoted to the model assumption error.

Timeliness and punctuality

Usually, users want data released much more earlier than it is possible and have no understanding for any delays. In the case that release calendars have been fixed and published, the data should be published at the fixed dates and not later. The policy of data release calendars is more and more a common practice in official statistics, not only because it is forced by some European legislation but also as a general instrument of data dissemination policy.

However, even if release calendars are used users may criticise them and ask for quicker access to data. Clearly, there is a trade-off between timeliness and accuracy and different users may have different priorities. Thus, either early estimates or efforts to improve the timeliness is a challenge to statistical institutes.

Clarity and accessibility of statistics

These quality criteria relate to dissemination standards and policies. Users should be informed on the data availability, physical access to statistics should be convenient, and the statistical data should be accompanied by the necessary information on concepts and methods. Different levels of accompanying information might sometimes be envisaged in order to differentiate between those who are subject specialists and those who are not. Also, all the usual channels of data dissemination should be used for all kind of statistics. Finally, some kind of data analysis and presentations may improve the service dimension.

Comparability

Eurostat predominantly relates data comparability to the international dimension: national data should comply with the European standards, but also European data may be compared with data referring to countries or regions outside the European Union.

However, comparability has two other dimensions: comparability over time and between different statistical domains. The first dimension is obvious: any changes in the methodology and measurement process, as well as changes in the institutional and legal framework of the respective statistical domain should be documented and the impact of these changes be assessed. The second dimensions leads to the last quality criteria: coherence.

Coherence

Coherence refers to relations between different kinds of statistics which have some variables in common. The possible discrepancies between the data in these different kinds of statistics should be analysed, and if possible, quantified. To take an example, employment data of the structural business statistics may differ in total and in their distribution over industries from the employment data shown in the labour force survey or in other kinds of labour market or employment statistics. Such differences may be due to the different definitions, differences in coverage and reference periods, differing statistical units and all the other aspects of data collection and processing.

It is obvious that this quality criterion is not easy to fulfil and in order to achieve a list of reasons responsible for differing data, comprehensive analysis will be needed. Such work will be labour intensive, and may not be undertaken regularly but from time to time, depending on the statistical domain. It will also be quite difficult to achieve a quantification of the differences. It seems to me more important to analyse the differences and to take actions to overcome unnecessarily differences as far as possible rather than to put too much emphasis in regular quantification (of course some quantity indications might be valuable in order to decide on possible changes).

Completeness?

Sometimes reference is given to a seventh quality criterion, namely completeness. This criterion has to measure (indicate) how far the current statistical programmes answers the needs of the most "important" users or the needs of the users in a broader concept. However, this criterion has to be treated carefully. One could say that there are always users whose needs are not fulfilled by the given statistical programmes. However, the mere expansion of the statistical programmes is not a straightforward option given the budget constraints and the related increase in response burdens.

In my opinion, a discussion on completeness of the statistical programmes has to take into account the whole statistical system and thus cannot be undertaken from a single statistics point of view. Furthermore, any discussion on an expansion of the statistical programmes should be accompanied by a discussion on the central tasks of the system of official statistics. Which type of statistical information belongs to the core of an official statistical system? What should be the criteria to react on changes or expansions of official statistical programmes? What could be criteria to redesign programmes from one statistical domain to another one with the consequence to cancel some of the current programmes? In whatever form such questions may be dealt with, the improvement of the quality of the current statistical programmes should be seen as a more important priority as long as these programmes seem to serve users` needs.

Trade-offs

Having introduced the different quality criteria it should not be forgotten to mention that there are several trade-offs between them. There is a trade-off between timeliness and accuracy, between relevance and comparability over time, just to mention the most obvious ones. Furthermore, there may be conflicting views as regards the priority given to each of the quality components, and last but not least, there are the cost constraints, both to the statistical institutes and to the respondents.

3. Prodcom and the quality aspects

In this chapter an attempt is made to discuss some of the quality issues with respect to the concepts of Prodcom. This discussion will predominantly refer to accuracy and relevance. Many aspects are treated in other contributions of this seminar and will not be repeated here. Furthermore, the discussion should not reflect country practices or specific enlargements in the actual implementation of Prodcom in the member countries.

3.1 Accuracy

Knowledge about combined nomenclature?

The Danish paper on data validation contains a lot of proposals to make sure that the data reported are made plausible before producing statistical aggregates. The proposed validation system includes individual data controls as well as controls using other data sources, such as external trade and VAT data. All of the proposals there are very valid and I suppose that many of them are actually introduced in the countries, at least those data control proposals which use Prodcom data only.

Some of the control steps refer to the reliability of the Prodcom codes reported. Already the German paper reflects on several classification issues. However, we have to go a step further. Can we really expect that a classification of that detail and with so many peculiarities is applied by the respondents correctly, especially when there is so less support from the statistical institutes in that respect?

I think we have to recognise that since the introduction of the Single Market expertise in the enterprises on the combined nomenclature has decreased considerably. Furthermore, there is no administrative control over such data. This is of course not only a problem for Prodcom but also for Intrastat. There is another aspect which needs consideration: Even if we can assume that there exists some expertise in the enterprises as concerns the combined nomenclatures, are we sure that those people reporting to Intrastat (or Extrastat) are the same who are also reporting the Prodcom data and thus use at least the same (wrong) codes?

The classification issue is certainly a very important one (both for foreign trade and production statistics) and actions are needed to improve the quality in whatever form it could be achieved (indexes, explanatory notes, reduction of level of detail, etc.).

90% or more of what?

Article 5 of the Prodcom Regulation states that member states shall adopt survey methods designed to facilitate the collection of data from undertakings representing at least 90% of national production per NACE Rev. 1 class. In my view there are conceptual problems involved with this requirement.

The first point is of course that a benchmark of a kind “of 90% or more” means that in some areas it might be 92%, in others 93% ; and this may be different between countries also. Connected therewith is the practical problem in the data collection system how to know when a certain level has been achieved. Given that never all enterprises will be included in the Prodcom surveys, one can only make some estimates on the coverage level achieved on an ex post basis. But then it is too late for Prodcom.

A second point is the neglect of the aspect of secondary outputs of the enterprises which could be very high in the manufacturing industries. The coverage level of the Prodcom regulation refers to the national production per NACE Rev. 1 class and thus relates to the total production of all units classified in the respective class. It is clear that an operational definition of the coverage has to be related to the units but then it should also be clear that no statements can be made concerning the representativeness achieved by products. However, the main target of Prodcom is the collection of the physical volumes and the values of production by products.

Other issues concerning accuracy

There are several other ambiguous conceptual issues that would need attention, two of them should briefly be mentioned here:

- The statistical units for which production has to be reported; as well known, the size of production depends on the units based. Interestingly, the Prodcom regulations avoids any mentioning of the intended statistical unit and uses sometimes the term "undertaking" which is not part of the usual compendium of statistical units and thus leaves it open what really is meant (but it seems that the term undertaking should be used as being meant "enterprise").
- The definition of production: the main production definition refers to production sold during the survey period, but at the same time the regulation states that in certain cases the production should also include any products which are incorporated into other products of the same undertaking. Again, the theory of statistical units is neglected: the choice of the unit determines the output definition. If the underlying unit is the enterprise then the production excludes those products that were produced in one (local) KAU and then used in the production of other products in another (local) KAU of the same enterprise. In case of (local) KAUs as statistical units these outputs will be part of the total output.

3.2 Relevance

Users` needs is a crucial issue in producing any kind of official statistics. As mentioned earlier the data producer is faced with a lot of questions:

- Who are the users of a certain statistics?
- Do they express their needs unambiguously?
- Have their needs a certain stability over time?
- Do their needs fit into the conceptual framework of official statistics?
- Are there needs achievable with respect to conceptual, statistical and survey methodology? (theoretically; not considering budget constraints)
- What to do in case of conflicting interests? Which types of users are given priority?

A list of main users of economic statistics would certainly include the following user categories both at national and international level:

- Policy authorities
- Trade associations
- Actors in the market (enterprises and the like)
- Research institutes
- National accountants

Will they have differing or conflicting users' needs? Certainly, yes. Let us restrict our discussion to Prodcom like data. The users' needs will differ depending on the intended uses of such production data. Actors in the market and trade associations may wish to study the development of certain product markets, thus timeliness, sub-annual data and a high degree of product details will be desired. Furthermore, they might wish to monitor the market transactions and thus do not want to have included in the measurement of production transactions within the same enterprise.

On the other hand, national accountants would certainly like to have the definition of production be in line with the general concepts and to cover total output and not only a (great) part of it. They would also like to have applied a certain degree of product detail for their commodity flow systems at least as the single products could be assumed to have a certain homogeneity with respect to the uses. Furthermore, the level of detail should be as great as to allow that unit values derived from the value and the physical unit of production could be used as proxies of price indicators in case that there is not producer price index existing. The impossibility to know the representativeness of the production figures by products is another distortion for the national accountants. Lastly, they do prefer quarterly instead of annual data.

From a national accounts perspective more emphasis on the coverage of service activities would also be desired, not only in terms of total production figures but also in product terms (at least at a high level of aggregation). If a product type survey of service activities may not be feasible, a more detailed data base on output by activities might be an alternative where the activity output could be used as a proxy for the products produced but the problem of secondary output should not be forgotten which in many service activities is usually as important as in manufacturing. (Furthermore, production of manufacturing products also takes place to some extent in service activities; such production is totally neglected when the enterprises are used as statistical units as only those will be surveyed by Prodcom that are classified in manufacturing)

What can be concluded with respect to Prodcom and relevance? Prodcom certainly fulfils a broad range of user needs with respect to data on production of goods. However, none of the users' needs seems to be totally considered, and certainly not those of national accountants; and I am not in a position to qualify the needs of the other users.

3.3 Other quality issues

Concentrating on relevance and accuracy, a lot of other issues cannot be dealt here. Just a few examples:

- One is the measurement concept of production that takes place over more than one period which in case of sub-annual surveys is more problematic than in annual surveys.

- Similarly, there is the problem of production of complete plants and other complex production relations.
- The treatment of production on a fee or contract basis in a comprehensive and consistent way might also be mentioned.

Lastly, there is an issue with respect to confidentiality. I do not refer here to the problems of treating with confidential data in dissemination. Confidentiality certainly restricts the usefulness of the surveyed data. Data that are confidential do not fulfil any users‘ needs outside the statistical institutes and the question may be raised whether such data should be surveyed at all considering the response burden and whether it would not be more useful to reduce the level of detail requested.

4. Final remarks

My contribution could only be very limited as concerns the whole range of quality issues and may have raised more questions than answers provided. However, the system of quality indicators should force the data producer to reflect the concepts, the methodology, the data collection and processing, and the dissemination policies, and - most important - strengthen the role of data users in this process.

Data validation

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and

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Discussion

Pietro Falorsi

ISTAT, The Italian Statistical Institute

Mr Foghmar's paper emphasises the data-editing problem. I think that more effort should be devoted to measuring the accuracy of the final estimate, or final result. This is very important for the users. Moreover, it is necessary to accompany the results with some indexes that ensure the validity and the quality of the statistical process of the survey. An index of the non-response rate is one example; another is an index on the coverage calculated, for example by comparing tax files with the figures of the selected sample and that of the respondents. The Prodcom Regulation states coverage of 90%. This can only be a theoretical point, because of the time-lag in the updating of the business register. It would be interesting to see the true coverage of the actual Prodcom survey by comparing the data collected with the business register as it is at that time. It would also be useful for the structural business statistics (SBS Regulation) of each country to accompany the estimates by these estimates of coverage, together with the coefficient of variance. At least for a selected set of products, it would be useful to know something about the coefficient of variation and to take into account the sampling process and the non-response mechanism.

Humberto Pereira

National statistical institute on Portugal, Prodcom and short-term business statistics

Mr Rainer spoke about quality and referred to the quality criteria in the Regulation of 1997 on the European statistical system. As the Prodcom Regulation is from 1991, I think that we should adopt those criteria to the Prodcom survey. As Mrs Schmidt Brown said, in the beginning of Prodcom we just wanted the figures, now time has come think about quality. I therefore hope that we will have this issue as a main point on the agenda on the next meeting of the Prodcom Committee. I am sure that we will find some solutions. I also suggest a document produced on the best practices in the Member States on quality and other important issues, for example the implementation of the '90% criteria'. We have discussed that since long time, now we need to do something about it. Moreover, I suggest that we produce a document on the national implementations of the Prodcom Regulation. This is very important, not only for the present Member States and their users, also for the new members of the Prodcom survey and the EU. They need to know the guidelines to have good survey and good data.

Theo Klinkers

The Central Bureau of Statistics of the Netherlands, Prodcom

I liked the proposals of Mr Foghmar for the data validation. Lots of them can be implemented by using available national data. But, as The Netherlands reports around 3500 of headings of which only 1500 are non-confidential, not much reference material is available for validation of the other headings. However, figures for validation might be available in other Member States. Therefore, I would like the non-confidential data of other Member States to be available for the use in our processing systems. I think that many other Member States share this idea.

Tony Birch:
Office for national statistics, UK, Prodcom
I agree with Mr Foghmar. In the UK we have a project called Data Editing that aims at checking data. I also liked the idea of applying controls or checks as early as possible in the process. Again this is something that has been suggested by our national accounts people within the UK. I also like the idea of setting up a catalogue of tests. This might serve as the first step towards best practice. I understand the concerns of my colleague that the more tests we do, the more difficulties we face in delivering on time. One thing, I noticed in Mr Rainer's paper, is the non sampling errors and sampling errors referred to in the paragraph of accuracy of estimates. Within the UK we focus on both. Mr Rainer's statement is that from most economic statistics, non-sampling errors are more important. I agree although I can not provide any figures on why. Therefore, I would like other Member States to give their views on this issue, as well as some evidence on this type of error being a big problem.

Jan Foghmar
Statistics Denmark, Prodcom
Just a remark about non-response compared to the total result. The members of the working group on data validation were delegates from the UK, Germany, Belgium and Denmark: i.e. countries, for which the non-response problem hardly exists. So we did not deal with this issue. I also think that non-response is another issue than data control. It is two different sources of error. To follow up on Mr Rainer's paper, I can inform of the consequences in Denmark when we – in 1992 - changed the threshold for including the enterprises in production statistics from six to ten employees. I analysed the impact on the total results. For the total result, the impact was around 1%, for all activity groups, the impact were less than 10%. But, for some of the commodities, the impact was 100%, i.e. some of them disappeared from the survey!

Dorte Schmidt-Brown:
Prodcom, Eurostat
I support the idea of creating a catalogue of data validation checks. However, I think that the catalogue should contain more than that. I think it is important to link the data validation with the survey population and the way the survey is carried out in each Member State. By doing this each Member State will be able to identify the Member State most similar to itself regarding the relevance of the data validation. For example, Mr Falorsi mentioned the estimation of non-response as an important source or error; this is not the case for Denmark. Furthermore, data validation is different for a survey of 4,000 questionnaires compared with a survey of 100,000 questionnaires. Therefore, I think that the usefulness of a catalogue of data validation checks will improve when also information on how the national Prodcom surveys compare.

Sanjiv Mahajan
Office for National Statistics, UK, the input-output compilation for national accounts
In the UK my colleagues in Prodcom enjoy lots of queries from the unit of input-output tables and the unit of national accounts. For example: why do we have negative supply. There are various reasons why, although the Prodcom number looks odd, it may actually be valid in a wider context. But there needs to be a national account's feedback loop to Prodcom as a quality control and quality assurance. Another item is the quality of the business register. If you are only sampling from the register you do have the population of the register in terms of turnover to compare with. In the UK we have other inquiries to compare with, for example a comprehensive business inquiry other than Prodcom covering all sectors not just manufacturing but all sectors as well as the purchases' inquiry. In terms of negative supply or any of these checks failing, it has to be addressed in the input-output supply and use-tables' framework. That is why it is such a powerful loop. I think that does need to be given priority. Other things: 90% should be covered, 90% of what? It is quite true, that this is not clear. But, if you are grossing the results - depending on the quality of the grossing methodology and the methodology itself - then the register turnover is a very good indicator - at least at the total aggregate level - although it does not give the product breakdown. And that is an area that probably needs further exploration. Here is scope for improvement.

Anne-Marie De Noose
Febi: Intergraf, the European printing Industry
We have tried to analyse the quality of the Prodcom figures for the printing industry. And our members very often have the feeling that the lack of quality results from coding errors because of the companies' lack of knowledge and/or lack of time. Sometimes, the errors are due to incoherence in the business register. Some companies are doing both printing and publishing, but they are registered as doing either printing or publishing.

Jan Foghmar
Statistics Denmark, Prodcom
I know the problem referred to by Mrs De Noose. The printing business is a difficult industry to monitor. The activity is difficult to measure. What do they do? Are they only producing services, printing, or are they producing a product, for example a catalogue? I do not know the answer. I only know the difficulties encountered by trying to monitor products as well as total activity within the printing and publishing sectors. Maybe this problem could be solved by a discussion between the trade associations and the NSIs.

Anne-Marie De Noose
Febi: Intergraf, the European printing Industry
I agree with Mr Foghmar. Many countries benefit from a good cooperation between the trade associations and the national statistical offices. And I know that many of our members get guidelines for filling in questionnaires from the national statistical institutes.

Sanjiv Mahajan
Office for National Statistics, UK, the input-output compilation for national accounts
Mr Foghmar made a point about printing. We have talked about contract processing, sub-contracting and that classifications do not give us easy answers. I think that it is easy, we just need to interpret them. The printing and publishing industry produces books and newspapers etc. These are tangible goods. The industry also gets lot of advertising income. Is that a service product or ?

Yvan Bergmans
National statistical institute, Belgium, Prodcom
In Belgium we have tried to improve the quality by making better use of registers, and we have tried to increase the number of reporting units in headings that would otherwise be confidential. Speaking about measuring quality, my colleagues in the structural survey measure quality by the sample variation. However, to my knowledge most Member States, conduct Prodcom as an exhaustive survey of enterprises of 20 employees, or 10 employees in some countries. Generally, Prodcom is not a sample survey. So we do not have the sample variation figure to measure quality. Secondly I agree with Mrs De Noose. In Belgium, we think the best way of improving the quality of the output figures is to test it on the users, above all the trade associations. We had some fruitful experience with some trade associations when we discussed the figures of our country. Afterwards, we agreed on the errors, and found that half of them would be errors of their part and the other half errors on our part. Sometimes respondents have difficulties in interpreting Prodcom codes. Not all of them know exactly what goes into each Prodcom code. We can use explanatory notes accompanying the combined nomenclature. But, often our respondents do not have the money or the time or inclination to read all the notes that we give them in great detail, or to read the combined nomenclatures. That has an impact on the accuracy and the quality.

Adrien Lhomme
Head of unit D3 (Production, Business statistics, Special sectors), Eurostat
Two aspects of quality were mentioned: the validation procedure in the Member States and the different criteria of quality. Mr Foghmar gave an overview of ways in which data can be checked and validated. It was also mentioned that Prodcom data might be validated against other national data or against data from another Member State. During the presentation we arrived at an important conclusion, namely that Eurostat should try to establish a catalogue of validation checks and Mrs Schmidt-Brown suggested that the catalogue should include a description of all national surveys to enable each Member State to copy good practice of other Member States. Mr Rainer spoke about quality criteria, locating where we can improve Prodcom quality using general quality criteria. I liked the suggested link up with the notion of quality as described in European statistical system. Mr Rainer focussed on accuracy and precision, and many speakers have followed this up. Quality starts with the statistical units, with data collection, and I think there is room for improvement. Then we heard about errors in coding. Mrs De Noose mentioned this. Various suggestions for coping with these errors were mentioned, and I think that there are ways to minimise these errors.

Data transmission

Frank HANSEN, Unit «STS / PRODCOM», STATEC, Luxembourg
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Preliminary remarks:

This paper condenses the conclusions of the working group on «PRODCOM data transmission». Besides the author, Mr. Magnús Kári BERGMANN (Iceland), Mr. Morten Qvenild ANDERSEN (Norway) and Mr. Kevin PHELAN (IRELAND) participated in the working group. Additional contributions, for which the author would like to thank, were sent in by most of the member states.

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A. Some methods for speeding up data collection

B. Some methods for speeding up data validation

C. Some reasons for delays in the annual transmission

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Working group 4:
Frank Hansen, Luxembourg (Speaker), Morten Qvenild Andersen, Norway, Magnús Bergmann, Iceland, Kevin Phelan, Ireland

Introduction

The PRODCOM Regulation of the 19th of December, 1991 states in its article 7 that EUROSTAT should receive data from the member states within 6 months after the end of the reference year. In article 3.2., it is written that the member states must adopt methods to facilitate the collection of data from enterprises representing 90% of the national production by NACE Rev.1 class.

At the moment and for several reasons, most of the member states don't transmit this data within the requisite period. This paper briefly develops three different main points that are closely linked:

- *Some methods for speeding up data collection*
- *Some methods for speeding up data validation*
- *Some reasons for delays in the annual transmission*

A. Some methods for speeding up data collection

After the work consisting in the preparation and the transmission of the questionnaires and guidelines to the enterprises is completed, the responsible units in the institutes (or ministries) in charge of the PRODCOM inquiry must organize the data collection. The speed and the efficiency of data collection largely depends on the organisation inside of the different national statistical institutes and on the survey techniques used. At present, there is no common European guideline on how to proceed, this is a cause for concern for new and smaller member states.

In order to shorten the data transmission delays, it is important to improve and to speed up data collection. This could happen by using one or more of the following methods :

- Increasing the financial resources, that means a growth in human and technical resources inside of the statistical unit in charge of PRODCOM,
- Improving the explanations about how to fill in the questionnaires, about the importance of the PRODCOM inquiry, and for what purposes PRODCOM is used. All this should be done in a close collaboration with the PRODCOM users, and especially with the European Federation of Branches of Industry (FEBI),
- Early reminders by mail («snail mail» or «e-mail»), by phone etc. could improve both the response rate and timeliness,
- Shortening the time between the reminders,
- Following up of reluctant enterprises in order to get the needed data,
- Especially in smaller countries, visits to the enterprises by members or collaborators of the national PRODCOM team should explain the «why's and how's» of the inquiry,
- Individual PRODCOM questionnaires including the previously transmitted data as a guide could help the persons in charge of filling in the questionnaire,

- The design of a «European template questionnaire» (that could be voluntarily used by member states) would be a considerable help for newer or smaller member states and so - because of a possible improvement of the PRODCOM questionnaire - also for the enterprises,
- The use (especially for bigger enterprises) of the possibilities of electronic data collection by specific software or electronic questionnaires (with keyword headings): data could be «extracted» from existing data files in the enterprise,
- Collecting data by using the internet and all its possibilities,
- Introducing different kinds of lures in order to compensate the work invested by the enterprises. For example Spain has reached completely satisfactory results by sending different market quota results to interested enterprises as an incentive for the faster return of the questionnaires,
- Working harder!

In addition to these points, one should mention that in some countries, administrative decisions need to be published earlier. In one specific member state, private collaborators are used for the data collection. Delays in recruiting them, due to existing national legislation, involve delays in collection, validation, transmission and publication of the data.

By employing one or more of these methods, the member states could improve their methods of getting earlier information provided by the enterprises. However, this doesn't mean that the data transmitted has unconditionaly a better quality. Therefore, it is very important to improve and to speed up data validation.

B. Some methods for speeding up data validation

A faster data transmission to EUROSTAT and a prompt publication of the PRODCOM results is only useful if the figures are adequately validated.

After receiving the figures from the enterprises, the validation work begins. Some of the methods suggested to improve the data validation process are the same as those developed in the previous point of this document. Applying the following suggestions could lead to a significant improvement of the validation process:

- Increasing human and technical resources,
- Organizing in a more efficient way the different units in the national statistical institutes,
- Decreasing the turnover in staff,
- Promoting the technical validation procedures with automatically executed logical and statistical tests, coherence and consistency tests, outlier detection,
- Developing a user-friendlier PrcBase software that nowadays is practically not used because of its «unfriendly» interface,
- Creating an official list of conversion factors that can be applied in the case of incomplete or missing figures as well as for validation tests,
- Comparing PRODCOM data to as much as reference data as available (e.g. external trade data),

- Detecting in a faster and better way – and with the help of the persons in charge of the business registers - the creation and stoppage of enterprises,
- Improving the average (and sometimes low) quality of data,
- Improving the ways of estimating missing data, and this especially in the case of missing data from important enterprises, and resolving the problems caused by reconsolidation of the figures,
- Developing common guidelines for data validation,
- Decreasing the amount of data validated by stopping the collection of other data together with PRODCOM figures,
- Using electronic data interchange (EDI) which allows different automatic controls directly on the questionnaire,
- Working harder!

Data collection and data validation, as much as a good planning and execution of the preliminary works (sending the questionnaires and guidelines, definitions etc.) have an impact on data transmission from the member states to EUROSTAT.

C. Some reasons for delays in the annual transmission

In the last few years, data transmission delays from the member states to EUROSTAT changed in an important way. *Chart 1* (in the annex), representing the difference in months between the transmission data according to the PRODCOM regulation and the real date of first transmission (of annual data) for the five biggest member states, shows that the delays have been considerably shortened. For the majority of these five countries, delays are tending towards zero and so the transmission deadlines fixed in the council regulation are almost met.

On *chart 2*, some other member states are represented. The same remarks are valid for these countries, in which a downward trend in the transmission delays is clearly visible. These delays have been reduced and are reaching today an acceptable level. *Chart 3* shows the remaining countries : Greece, although it has considerably reduced its transmission delays, has still problems ; Norway and Iceland, two countries that are not member of EU15 ; but are producing PRODCOM figures and last, but not least Luxembourg, the smallest member state in which the national PRODCOM figures aren't published because of the national confidentiality rules.

All the remarks on data collection and validation are logically also true for data transmission. But there are some additional remarks to be made :

- One of the biggest problems, common to collection and validation, and so having also an impact on transmission delays, is the high number of (small) enterprises to be surveyed (c.f. article 3.2. of the PRODCOM regulation).
- It is also important to resolve eventual register problems before starting the inquiry. Unfortunately, registers are often not up-to-date at the moment of sending questionnaires to the enterprises.

- Organisational problems within the NSI's seem to be frequent. Great changes in the staff, a lack of experience and the lack of time in training new employees are general problems that are common for almost all of the member states.
- A last problem, often underestimated, is the summer holiday period during which a high percentage of the employees are on vacation...

So how can the actual transmission delays further be improved?

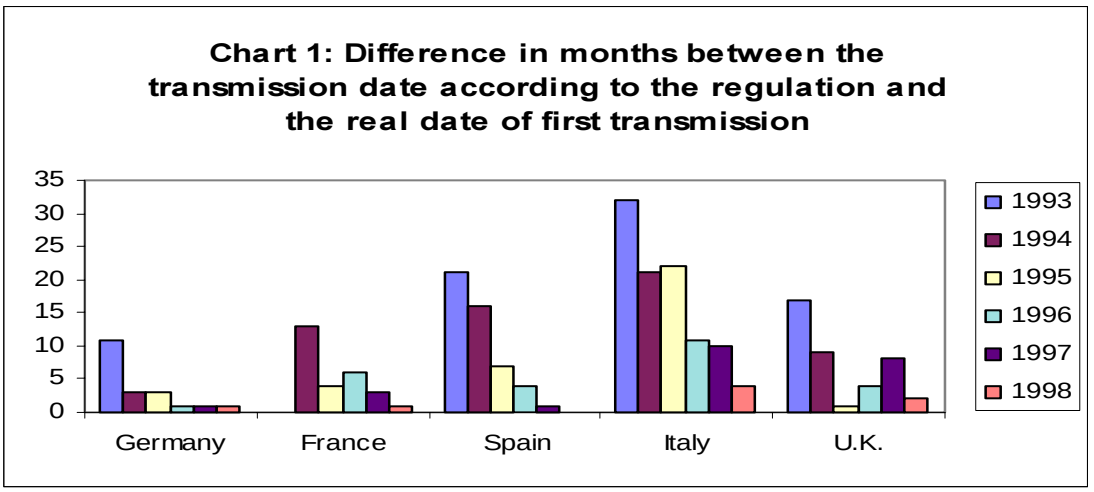
- By resolving all kinds of technical problems in relation with data transmission,
- By improving relations between several institutes or ministries in case of a deconcentrated national statistical system,
- By using appropriate data processing systems,
- By resolving the problems of availability of the employees who are sometimes also working on other statistics, unfortunately often considered as being more important than PRODCOM,
- By preventing a frequent reprogrammation of the data processing applications,
- By understanding and correctly using GESMES,
- By trying to work harder!

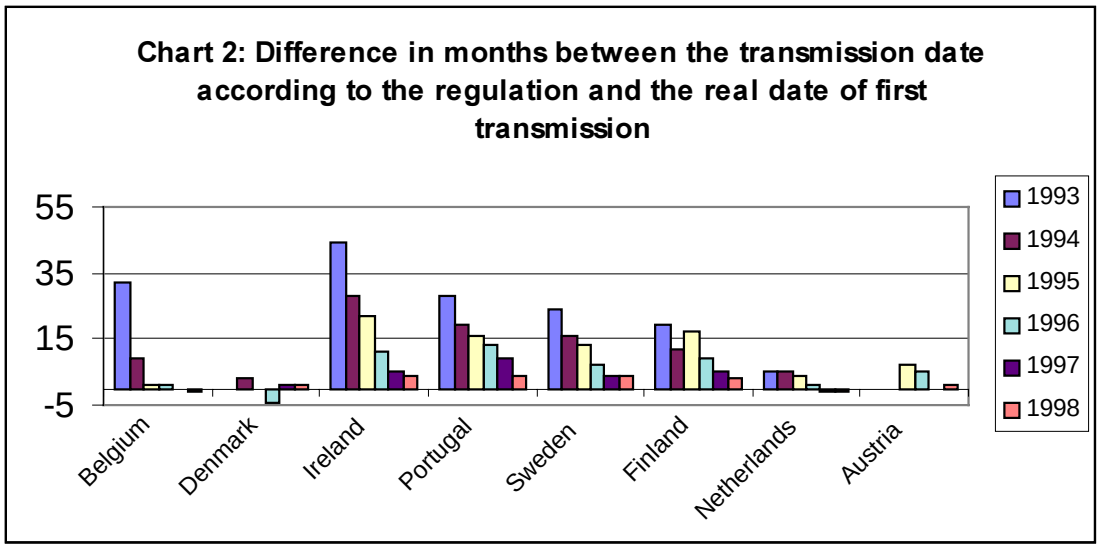
Conclusion:

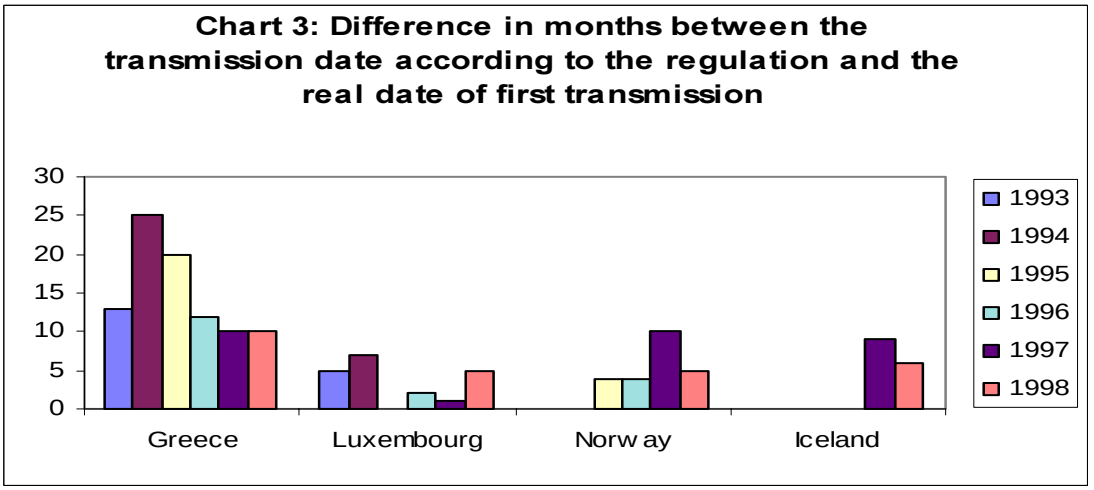
The developed points in this document are far from being exhaustive, but should be considered as a discussion basis.

The member states agree that supplementary efforts must be made in order to reduce the PRODCOM data transmission delays. At the moment, these are not perfect, but also not as bad as often said. All member states, the European Commission and different private users such as the FEBIs, must coordinate their efforts in order to promote PRODCOM. Finally, the delays can only be reduced and the quality be improved if the NSI's get the necessary additional financial resources.

Annex: Charts







Data transmission

Paper by discussant

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Introduction

This is a short paper prepared for the discussion of the paper: Data transmission, author Frank Hansen

Contents

1. General remarks
2. Some methods for speeding up data collection
3. Some methods for speeding up data validation
4. Some reasons for delays in the annual transmission
5. Conclusions

1. General remarks

The paper under discussion illustrates some considerations on the paper *Data transmission* written Frank HANSEN that condenses the conclusions of the working group on «PRODCOM data transmission».

In particular in the paper are given some consideration on three main aspects:

A. methods for speeding up data collection
B. methods for speeding up data validation
C. reasons for delays in the annual transmission

As general remarks we note that:

– the paper is well written and develops a quite deep analysis, especially considering the organisational and technological aspects;
– seem necessary to develop some further analysis linked with some methodological aspects; however these aspects do not represent the *core* of the problem.

In the next sections we will develop some further considerations on the aspects A, B, C, above introduced.

2. Some methods for speeding up data collection

The most important recommendation seems that of *Increasing the financial resources*; indeed a lot of suggested methods are very costly as for example:

– early reminders by mail,
– shortening the time between the reminders,
– following up of reluctant enterprises,
– visits to the enterprises by members or collaborators of the national PRODCOM team.
Very important seems the recommendations aiming to ameliorate the co-operation of the respondent:
– improving the explanations about how to fill in the questionnaires, about the importance of the PRODCOM inquiry,
– individual PRODCOM questionnaires including the previously transmitted data as a guide could help the persons in charge of filling in the questionnaire. *This seems very important, but it necessitates the use of a panel survey,*
– the use (especially for bigger enterprises) of the possibilities of electronic data collection by specific software or electronic questionnaires;
– collecting data by using the internet and all its possibilities,
– introducing different kinds of lures in order to compensate the work invested by the enterprises.

3. Some methods for speeding up data validation

A faster data transmission to EUROSTAT and a prompt publication of the PRODCOM results is only useful if the figures are adequately validated.

In my opinion the most important suggestion is that of *promoting the technical validation procedures with automatically executed logical and statistical tests, coherence and consistency tests, outlier detection*. Indeed the development of a software that has to be used by each country seems the unique solution to the problem of developing a *speed* and *good quality validation.* Another problem seems that of developing an unique set of simple indicators of quality as for example: the *non response ratio,* the *ratio of unresolved units*; the *ratio of imputations over all data collected* and so on.

As general impression I think that there is the necessity of more work for *developing common guidelines and software for data validation.*

The recommendations on technological and organisational aspect are however very important, as for example those of:

- increasing human and technical resources,
- organizing in a more efficient way the different units in the national statistical institutes,
- decreasing the turnover in staff,
- using electronic data interchange.

4. Some reasons for delays in the annual transmission

As general remarks this section seems optimistic; indeed, we see that the delays are decreasing and the things seems to go better.

Seems very interesting the consideration that one of the biggest problems, common to collection and validation, and so having also an impact on transmission delays, is the high number of *small* enterprises to be surveyed. This gives the suggestion of changing the PRODCOM regulation in order to exclude from the survey population the small enterprises (with one or two labour units) with a low amount of the variables of interest.

5. Conclusion

The paper seems well done and gives interesting suggestions especially on technological and organisational aspects. Some further development should be necessary for doing a deeper analysis of the data validation problem.

Data transmission

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and

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Discussion

Dorte Schmidt-Brown:
Prodcom, Eurostat
I would like to use the opportunity to stress the Member States' big effort to meet the deadline of six months, according to the Prodcom Regulation. The graphics of Mr Hansen's presentation show very well the progress. At the same time, I would like to stress that a prerequisite to shorten production time is to use a standard format for transmitting national data to Eurostat. Actually, Prodcom is one of the few Eurostat surveys that exploit the advantages of transmitting data to Eurostat in the standard format, Gesmes. 14 of 15 Member States are now using this format. The last has just begun.

Yvan Bergmans
National statistical institute, Belgium, Prodcom
A major problem regarding data collections is the interpretation of the nomenclature. Eurostat has a very important role in this respect. Most texts of the Prodcom headings are based on CN descriptions. Unfortunately, we find too many incidences of 'not elsewhere classified'. People question that, when filling in the questionnaires. A second point on nomenclatures is comparison between languages. In Belgium we have two official languages, Dutch and French. Very often there is no time or inclination to make these comparisons not to speak of comparing with the German version to get a chance of understanding what is meant. I have already sent some of those questions to Mr Langkjaer's unit. Then there is the CPA. I thought there was a sort of first version of Prodcom to be followed up or even changed according to a new version of the CPA. As far as I can see, the second version of the CPA has never really been fully adopted by the Prodcom. An example of this is the NACE 32.30 covering services and installation of telephones. Another point on the correct completion is the importance of getting it right from the very first time. In Belgium we used to visit enterprises and tried to explain how to fill in the questionnaires. Unfortunately, this service has been reduced over time. Only if a respondent requests a visit, we will help them. However, major difficulties in data collection could be avoided if the respondents got it right the first time.

Jean Couronne
Ministry of industry in France, department of statistics
I agree with Mr Bergmans that the nomenclature system in general and the Harmonised System in particular are very difficult to change. It is time consuming, and the results reflect the facts that trade associations are less and less represented in these discussions.

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
I would like to mention the use of electronic questionnaires as particularly interesting when it comes resubmitting information to enterprises. It might ease the burden of the enterprises as well as that of the NSIs to check the data shortly after reception. Perhaps this is something for the future. In France we did a small survey, using that technology. And it has been very successful, although it only covered 100 companies plus the trade associations. We detected the wish for a feed back within a month. Unfortunately, we are very far from that in Prodcom.

Wilhelm Bührer
The Federal Statistical Office, Germany
I have a question on the use of EDI. I would like to know which countries already have some experiences in that. If possible could Eurostat coordinate the experience and submit it to us. We have had a preliminary discussion that was not very encouraging, and nothing has been established at the European level. I think this is an obvious potential for rationalisation.

Theo Klinkers
The Central Bureau of Statistics of the Netherlands, Prodcom
The Netherlands has some experiences on EDI questionnaires. We distinguish between at least two types: a simple solution and a complex. Our first experience related to complex solution, i.e. an electronic questionnaire including tools for the enterprises to enable them to link their own product to the Dutch Prodcom List. This was only a limited success because of the time consuming updating process and the supplementary need for CN information. Furthermore, it took a lot of time to develop such a big application. Our second experience with EDI relates to a simple questionnaire, a copy of the paper questionnaire. This seems to be working well for the general part of the industry. For the time being, we do not really know which solution to embark on. We are most inclined to choose the simple solution, i.e. to issue a simple electronic questionnaire which enterprises can complete with their data and return it to a database on the Internet from where the data is automatically transported to our processing system. This seems to work. A more advanced solution risks being very complex.

Wilhelm Bührer
The Federal Statistical Office, Germany
I would like to come back with a question on transmission data by e-mail or the Internet. How do you solve the question on confidentiality? The European Parliament has recently pointed out the risk for certain commercial secrets being revealed when transmitting data via the Internet.

Theo Klinkers
The Central Bureau of Statistics of the Netherlands, Prodcom
This can be dealt with in several ways, for example by coding the data or by using secret lines for the transmission.

Dorte Schmidt-Brown:
Prodcom, Eurostat
I would like to add the experiences of the UK. The ONS developed software that was sent to the large enterprises and it was quite complicated and therefore not really successful. However, it seems that the Finns have improved the rate and the speed of response by using e-mail. Mr Klinkers conclusion in favour of a simple questionnaire to a whole programme is very much in line with Eurostat's experiences, and a study made a couple of years ago to detect the easiest way for the enterprises to transmit their data.

Johann Hameseder
Statistics Austria, Manufacturing Industries
I would like to mention Austria's plans for an electronic questionnaire. The questionnaire covers not only the Prodcom survey. The survey also aims at monitoring short-term economic indicators. Hopefully, this electronic questionnaire will facilitate completion and validation of the questionnaires within the enterprises. It will include important support such as future keyword databases, conversion factors to the CN and Prodcom, links to various methodological definitions and explanations and so forth. We feel that that this would be an increasing potential for transmitting data in this form. Other aspects of data processing could take place as well. We have established a good cooperation with those involved, and we would like more work done within the company, for example check of data plausibility and identification of potential errors. A draft questionnaire should be ready for presentation at our next November meeting of the Prodcom Committee. By 2001 the questionnaire might be ready for the enterprises, and they will of course get it free of charge.

Juergen Migge
Eurostat, Steel and special sectors
It seems to me that in the field of informatics we should facilitate correction to take place within the enterprises so that we pre-empt any difficulties. That will speed up the whole process. As Mr Hameseder just mentioned, there is a provision for that in the system that they are working on. This would at least speed up data correction.

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
Is there in the Austrian system, Mr Hameseder, also provision for feed back of the data to the enterprises to the encourage them to answer or to respond more quickly?

Johann Hameseder
Statistics Austria, Manufacturing Industries
Well, the companies get feedback of the results of the enquiry. However, it is not linked to the electronic questionnaire. The enterprises have the opportunity to subscribe to the data updated on a monthly basis. The data is stored in a database and might be accessed at any time.

Richard Ragnarson
Statistics Norway
I would like to warn against building in too many tests into the electronic questionnaire, because this will either increase the response burden or require a very high quality of business register including correctly defined units and definitions. In Norway we cooperate at the moment with the tax authorities and the Register for legal entities to develop an electronic questionnaire.

Victor Smeets
The Central Bureau of Statistics of the Netherlands, department of industry statistics
Before I joined the department for industry statistics I worked at the department for foreign trade, and was a member of the EDICOM task force. This discussion seems very similar to the discussion we had at that time, four years ago. The EDICOM task force did a lot of work on electronic questionnaires like the Prodcom questionnaire. Before re-inventing the wheel, I would think it to be very wise to ask for their experiences. They would know what is feasible and what is not feasible.

Lars Schmidt
Prodcom, Eurogramme
Mr Ragnarson: If we cannot include quality checks in the electronic questionnaires, how is it possible to check the data later?

Richard Ragnarson
Statistics Norway
What I meant was to warn against building in quality checks that prevented the enterprise to proceed answering questions if the previous answers were not compatible to certain quality checks.

Jan Foghmar
Statistics Denmark, Prodcom
I suggest we focus on the companies' main workload. The main workload is not eased by electronic questionnaires. The main workload is to detect which commodity belongs to what Prodcom heading. Most enterprises have an internal inventory where they keep their own commodity codes. They have to match this inventory with the Prodcom codes listed in the questionnaire.

Frank Hansen
STATEC, The Statistical Institute of Luxembourg, STS/PRODCOM
The idea put forward by Mr Lachize, a feedback of the findings of the survey is practised in Spain. Mr Martin of the Spanish statistical office has written a document on this issue. He refers to a kind of reward system according to which enterprises receive the results of Prodcom in return for their efforts and contribution. For example market-share data. I think that this is something worth considering more closely, because the Spanish have achieved very good results.

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
I can confirm this. I too have read the Spanish document. However, that is not in conjunction with the electronic questionnaire. The only example I have got is about 100 companies in a particular sector of industry and I think their system has been working very well since 1998. You can work with an electronic questionnaire, but it is not easy. Particularly not if you want to use it wide spread. If you look in a particular sector of industry with a small number of companies then I think you can get the agreement of the enterprises to use an electronic questionnaire. But I do not think you can apply that across borders.

Johann Hameseder
Statistics Austria, Manufacturing Industries
From 1995 we had a similar plan for an electronic questionnaire. It was not as detailed or as big as we hoped to have. And it was a bit of a disappointment to find out that the plan was only taken up by about 280 of 12,000 companies. An electronic questionnaire and a software packet cost money. The license was about 1500 shillings per annum. I think an enterprise would have had to pay that fee if interested in the project.

Wilhelm Bührer
The Federal Statistical Office, Germany
Looking at the catalogue suggestions that Mr Hansen presented as the result of the working group, there are some ideas that can not be implemented. And some may be impossible to implement in the short or medium term. In Germany, we would need more staff and technical resources. This is not likely at the moment. The trend is in the opposite direction. Every year our manpower is cut. Therefore I hardly think it possible to visit enterprises to help them complete the questionnaires. In Germany however, it is mandatory to deliver the data. We have got a very high response rate as a result. But, nobody has talked about the mandatory requirement to provide data and brought in compulsion as a way of increasing the response rate.

Adrien Lhomme
Head of unit D3 (Production, Business statistics, Special sectors), Eurostat
The discussion has focussed on support tools for data collection and data transmission. Mr Hansen referred to the promising experiences of a high response rate outlined in a Spanish paper. The Spanish enterprises are rewarded for their early completion of the questionnaire by the return of their own figures compared to the aggregate figures of the sector. That procedure seems to work because it whets the appetite for the enterprises. Austria was talking about a quick publication of the data on the Internet web site. Moreover Austria also proposed a set of quality checks linked to a possible electronic questionnaire, so that the quality of the completed questionnaires would improve. Mr Smeets reminded us of the EDICOM working party and suggested that they gave us a presentation on their conclusions on the EDICOM questionnaires. I agree. Let us know about the difficulties, the pros and cons of using such a tool. However, our effort to include modern technology in the data collection must not make us forget the real difficulties for the enterprises, namely, as Mr Foghmar pointed out, to match the companies' codes of the products with the Prodcom List. Mr Bergmans supported this view by reminding us of the difficulties with the classifications and their different language versions. I think we need to look through the various language versions of the classifications to ensure their coherence. The German points of more resources and a decrease in staff turnover are – it seems to me – quite difficult to do. It seems to me that increased staff turnover and mobility has become a feature of modern management.

Cooperation with business associations

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Preliminary remarks

The purpose of this document is highlighted in the subtitle

Co-operation for PRODCOM data pertinence

Vocabulary

FEBIs are designate as business associations at the European level.
TAs are designate as the national Trade Associations (business associations at the national level).
NSI are designate as the Member State's National Statistical Institute.

Contents

Business organisations as:

I - Experts
II - Statisticians
III - Users

Working group 5:
Jean-Paul Lachize, France (Speaker), Debra Prestwood, UK, P. Bemelmans, The Netherlands, Erich Mielke, Germany

Introduction

The co-operation between EUROSTAT, the NSI and the business associations, TAs or FEBIs, can be examined in three different ways. These business associations can be:

- "*Experts"* concerning the up-date of product classifications and definition of production types.
- "*Statisticians"* when they produce themselves a production survey relating to PRODCOM.
- "*Users"* of PRODCOM figures.

I - Experts

European level

EUROSTAT considers proposal from the business associations as an expert contribution to the PRODCOM list.

"*Their proposed changes are welcome, they must either introduce new products to list, aggregate more headings or improve the descriptions of the product headings to make classification easier for respondents*".

A guideline for changing the PRODCOM list is available on FEBINET. This is a web site based with information sources set up by EUROSTAT in 1997 with assistance from FEBI members and DGIII (now DG enterprise).

It is possible for EUROSTAT (directly or via the PRODCOM committee) to reject proposals from the FEBIs. This will happen if there is a problem with confidential data or an incompatibility with other classifications.

The rejections from EUROSTAT are certainly causing negative feeling from the FEBIs toward NSIs and PRODCOM.

In another way, the lobbying of these associations concerning PRODCOM is far to be exhaustive. Only, around 30 of the associations (of 120) attend twice year the FEBIs' meeting with EUROSTAT.

It is a problem to up-date the list PRODCOM at the European level when the FEBIs remain outside the official statistic system (not interested or/and using only European private statistics).

It is important to notice that a not interested FEBI doesn't signify that all TAs, depending of this FEBI, are indifferent to the work with PRODCOM. This increases the difficulty of a co-ordinated co-operation between the European and the national levels.

How to resolve these problems ?

National practices

The U K: PRODCOM started in 1993. In the UK the ONS contacted more than 300 TAs so they could provide PRODCOM with expert advice to the list and how it could be improved. A consequence of the co-operation was an increase in category splits (for UK use only) for a large number of industries.

Today ONS has a close relationship with industry representatives covering most sectors of manufacturing. TAs continue to provide proposals for changing the PRODCOM list although this is on a much lesser degree than during the Review (1993). The UK does receive requests from TAs to provide more detailed breakdowns of PRODCOM products; this is implemented in the UK system providing firms confirm they will be able to provide the more detailed data.

Changing the PRODCOM list remains the main difficulty, *requiring too much effort for an uncertain result*, particularly in gaining European agreement.

The Netherlands: Concerning PRODCOM, there is no regular consultation between the TAs and the CBS. Of course, TAs are always welcome to communicate with the CBS concerning their proposals for adaptations in the list.

On the other hand, the know-how of the TAs is being used to define the national questionnaires. Regularly the CBS receives questions from TAs for more detailed figures than the PRODCOM level. If this is considered to be of national importance, the CBS implements the more detailed levels in its system. If the CBS agrees with the proposal of the TAs, the TAs need to take care that the more detailed questionnaires are filled by the enterprises. Headings that are of national importance consist of 10 digits.

Germany: The national federations (TAs) are members - with the 'right of voting' - of the Committee that advises the Federal Statistics Office (StBA), in the discussion of new law projects from the Federal Government concerning statistics.

For PRODCOM, for example, the TAs advises are regarding the list of variables, the characteristic subdivisions and the definitions (as units of measurement).

France*:* A half of production surveys are made by TAs, which have an official agreement with the French administration (*see part II*). Under these conditions, they have a large influence on the PRODCOM list. A more detailed list is used, called PRODFRA (a code with PRODCOM eight-digits plus one and a list about 8000 headings).

More than 230 TAs in the industrial field are involved in PRODCOM, especially the TAs, which produce their own agreed surveys (a little more than 100 TAs). Every year, the French administration re-examined all questionnaires, this is the "visa" procedure. At this moment, TAs provide proposals for changing the PRODFRA list, under the following well known constraints: to be in accordance with basic classifications (PRODCOM, CN, HS) and to avoid more confidential data in the final results by agreeing on a too detailed list.

The co-operation with TAs is not uniformed and there is a large diversity. Usually there are close relationships when PRODCOM surveys are being made by TAs, except when they are renouncing the work with PRODCOM (lack of interest and/or lack of human resources). Only a third of TAs, which is not directly involve in production survey, have some relations with the French administration concerning PRODCOM (generally administration initiative).

TAs interest in figures depend of different factors, one of them is certainly the pertinence of PRODCOM list. This is connected with the activity covered by each business association. It's much more difficult for PRODCOM when nature of products is quickly changing, as in Information and Communication technologies. In this case, there is a need for quickly up-to date classifications (PRODCOM and CN)

Conclusions

- Co-operation with FEBIs and TAs is a necessity, generally they are experts concerning products in their field and make contacts with enterprises easier.
- The up-date of product classification depend of FEBIs but this process is much too slow.
- It seems that all FEBIs are not involved in changing the PRODCOM list with the same determination.

Recommendations

Regular consultations on a national and an international level.

1 - Encourage Member States (NSI) to actively seek feedback from TAs covering all sectors in manufacturing (and implement any pertinent suggested changes) on quality of data/improve the product list (*this is connected with recommendations, point 3 - user)*.

Corollary: to actively seek feedback could have an important cost within NSI for investigating and correcting data. When the resources are close to their limits, how can funding get provided?

2 - Encourage FEBIs to raise awareness of and interest in PRODCOM in the Member States (TAs).

Proposed solutions:

- EUROSTAT could arrange a meeting in Luxembourg with a "PRODCOM only agenda" for FEBIs once a year.
- EUROSTAT could organise task force with some FEBIs, TAs, NSI particularly interested/involved in a change of PRODCOM list subsection.
- and so on ….

To be quicker with the up-date of product classifications, particularly implementation of new products within PRODCOM

3 - To look for a solution to simplify and accelerate the procedures for changing the PRODCOM list.

4 - Make more visible links to the basic nomenclatures (CN, HS, NACE and CPA) for FEBIs and TAs.

The same efficiency for all sectors in manufacturing concerning the PRODCOM list update.

5 - To consider FEBIs as essential partners to update PRODCOM list but not as the only ones, enlarge to all users of PRODCOM statistics, including TAs, NSI?

II - Statisticians

Europe

There is at least one branch of activity where TAs generally makes surveys themselves: the Iron and Steel branch.

This is linked with the ECSC Treaty. Up to now, PRODCOM data are just a by-product of ECSC data in this branch. These ECSC data are produce in totality by national TAs in 9 countries and partially in one of them.

EUROSTAT's Source	*Number of Member States*	*Member States*
National Trade Association	9	**B, E, F, I, L, NL, A, S, UK**
Individual enterprises	3	DK, IRL, FIN,
NSI	2	EL, P
Partly National Association, partly NSI	1	**D**

This treaty will expire in July 2002 and a Task force "PRODCOM headings on Iron and Steel products" is working on the subject (*which is out of the subject here*).

The interest for our subject is the very close co-operation between business associations and national and European administrations, and this for 50 years.

National practice

Knowing only the French example, just this one is described here. All the other examples are welcome.

France: As it was said in point I, a half of production surveys are made by TAs. This co-operation has a long history, which started more than 50 years ago.

Shortly, it is possible to say that a little more than 100 TAs are involved in PRODCOM surveys, acting as a statistical service. The periodicity of TAs PRODCOM surveys are divers: monthly, quarterly or annual, not really coupled with the European regulation. The periodicity depends much more of the need of the profession.

The efficiency of these surveys is also divers. Considering that 60% to 70% of TAs official statistical services make a real good job: good quality figures, transmission of results in time. Beside around 20% need an administration help and 10 % have serious problems. Sometimes the only solution for the administration is to ask the TAs to give the survey back.

There is certainly a strong correlation between the efficiency of TAs as official statistical services and their capacity to respond well to the needs of users (business companies) with these official surveys.

Recommendations

Historic considerations explain in these two examples below the reasons why TAs make surveys instead of national administration. It would be inopportune to recommend this way: advantages and disadvantages are linked too much with the particularities of the national situations.

It is better to focus on the main advantages of TAs in PRODCOM surveys, their capacity to know the usefulness of statistics on production (pertinence). This advantage is rather evident when they make their own PRODCOM survey with success.

6 - Pertinence being one of the main factors of the quality in statistic, working with FEBIs and TAs can be a help to go further in this way.

III - Users

PRODCOM takes place under "*the growing demand for statistical information on the part of the institutions of the European Union, the governments of the Member States, operators in the political, economic and social spheres, universities, researchers and the media. Such information is indispensable for the formulation, application and evaluation of Community policies*" (Eurostat).

As operators in the economic sphere, business associations are clearly identified as users in EUROSTAT objectives. With a particular position, they are solicited as expert to propose changes in PRODCOM list. Being at the beginning and at the end of the process, it is evident that a competitive dissemination toward FEBIs and TAs will contribute to a well up-date PRODCOM list by Business associations (point I).

The Europroms CD-ROM provides detailed and comparable data on the production, external trade, and markets of almost 4 400 industrial products in the European Union. Data are available for 1993, 1994, 1995, 1996, 1997 and 1998.

The results published in Europroms are derived mainly from the European Union statistical survey of production, PRODCOM, along with external trade data.

In a context marked by the opening of the single market and the increasingly important role of information as a factor in business competitiveness, the adoption of this survey constitutes an important step forward, which allows:

(a) European Union-wide comparison of production and sales data on industrial products,

(b) The calculation of derived markets, thanks to the compatibility between its nomenclature (the PRODCOM list) and the Combined Nomenclature (CN) of external trade.

Up to now, this very attractive product includes too many confidential data. And, the uncertainty of the dates of release of the CD-ROM makes it difficult to promote. How to do when the figures are not recent enough and when it is not possible to tell when a new release will be produced?

Recommendations

7 - To continue to produce the Europroms CD-ROM regularly with a monthly updating.

8 - To engage in a competitive dissemination toward FEBIs and TAs.

In conclusion, all the recommendations in this document follow the same idea: to make as useful as possible PRODCOM data for users, pertinence being the first QUALITY criterion.

Cooperation with business associations

Paper by discussant

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Contents

I - Our survey
II - Comments
III - What can be done?
IV - Conclusion
V - Annex: SESSI questionnaire and PRODCOM nomenclature
VI - Annex: Manufacturer/SESSI/PRODCOM data comparison

I - Our survey

Under BLIC supervision and with the participation of several national trade bodies (S.N.C.P., ASSOGOMMA, WDK and R.M.A.F.), we examined the problems raised by the gathering and the data processing of PRODCOM.

We also questioned the Service des Etudes et des Statistiques Industrielles Français (SESSI) who found, on first analysis:

- The rubber tyre data is good
- The aggregated data for industrial rubber is acceptable
- The detailed data for industrial rubber is inadequate

We therefore investigated the rubber data, focusing particularly on the fields of tyres, where the data is best, to understand better the process of data collection and data processing.

II - Comments

Here are our comments resulting from this survey:

Although the BLIC proposed in 1998 a revision of the PRODCOM codes so that they are in agreement with the combined Nomenclature, the definitions of PRODCOM are not used rigorously in the SESSI questionnaires.

We were convinced that PRODCOM represented production statistics. It is in fact sales statistics in quantity and in value.

On the data provided by the manufacturers, it is noticeable that the quantities sold are higher than the quantities produced. This results from the fact that inter-company sales precede final sale to the consumer. The Group to which I belong sells more tyres than it produces!

The « production value invoiced net of tax » does not appear significant to us since it is an average of:

- European inter-company sales
- Sales to the Manufacturers
- Sales in the replacement market

which are certainly not conducted at the same selling price.

The concept of « Value of sold production » is not defined in the same way by all. Indeed, the question was put to BLIC:

- does this include the variable production costs?
- does this include the variable costs and the fixed production costs?
- If so, which fixed costs must be taken into account?
- Do financial costs have to be taken into account?

In certain fields, the high number of PRODCOM codes leads to:

- an increase in the number of confidential cells
- more aggregations

> **Example of gloves** :
> - surgical gloves
> - domestic gloves
> - non-surgical and non-domestic gloves

In the 1998 PRODCOM results, figures appear only for Italy and the United Kingdom. There would be undoubtedly more if there were only one code for the gloves. Or it would be desirable to have for each heading a EUR 15 total.

In addition, it seems that the data provided by certain National Statistical Institutes are only estimates and not of the quantities actually sold.

Lastly, the confidentiality rules are applied at three levels:

- At industrial level, aggregation of the values invoiced for products, the values of which are certainly very different
- At the national level, application of the confidentiality rules which lead to new aggregations which are not homogeneous with previous figures
- At European level, application of the confidentiality rules which still eliminate information or neutralises them by aggregation

However, the collection and processing of these data represents an important workload for industry, the National Statistical Institutes and PRODCOM.

In our example, in just the field of tyres, the Manufacturer provides, each quarter, 50 items which, after processing and application of the rules of confidentiality at the various levels, leads to 24 publishable headings and 20 confidential headings.

One can finally wonder about the significance of these 24 statistical headings when the cascade of the aggregation procedures is applied.

III - What can be done?

If our survey made it possible to demonstrate a number of problems, it unfortunately did not lead us to the miracle solution of these very difficult issues.

It seems, however, possible to work to improve the system and we suggest the following for consideration:

- To rigorously apply the PRODCOM definitions in the questionnaires sent by National Statistical Institutes to industrialists
- To define clearly what is meant by:
  . Physical volume of sold production
  . Value of sold production, because there is, evidently, major confusion in the mind of Industrialists.
- To reduce the number of headings in order to limit the number of confidential cells
- To encourage responders to permit publication of their figures
- To improve the quality of returns at the industrial level
- To apply the confidentiality rules only at European level
- To reduce the delays arising from data processing
- To avoid aggregations which damage the results
- Etc

IV - Conclusion

The aim of PRODCOM is fully justified and its results are potentially very useful to European industrialists.

We have to work to make them more accurate and relevant.

V Annex: SESSI questionnaire comparison and PRODCOM nomenclature

SESSI questionnaire		PRODCOM nomenclature	
Description	Code	Code	Description
New tyres for passenger vehicles (Break and cars racing included) - Total 1 era goes up + replacement export - Internal market replacement	11100 11100 1 11100 2	25.11.11.00	New pneumatic rubber tyres for motor cars (incl. for racing cars)
New, rubber tyres for motorcycles	11235 0	25.11.12.35	New pneumatic rubber tyres for motorcycles and scooters with rims > 33 cm in diameter
		25.11.12.37	New pneumatic rubber tyres for motorcycles and scooters with rims < = 33 cm in diameter
		25.11.12.50	New pneumatic rubber bicycle tyres with sewn-in inner tubes
New tyres used for bicycles or auto-cycles other than bowels (including tyres for motor cycles)	11270 0	25.11.12.70	New pneumatic rubber bicycle tyres (excl. tyre cases with sewn-in inner tubes)
New, light tyres, having a charge index = < 121	11355 0	25.11.13.55	New pneumatic rubber tyres for buses or lorries with a load index <= 121
New, heavy tyres, having a charge index > 121	11357 0	25.11.13.57	New pneumatic rubber tyres for buses or lorries with a load index > 121
New tyres, for planes	11370 0	25.11.13.70	New pneumatic rubber tyres for aircraft
New tyres for traction wheels and agricultural directors (agricultural equipment and Para-agricultural and forestry machines) - for traction wheels	11404 11404 1	25.11.14.04	New pneumatic rubber tyres for agricultural or forestry vehicles
New tyres for units of civil Engineering	11405 0	25.11.14.05	New pneumatic rubber tyres for civil engineering vehicles
		25.11.14.07	New pneumatic rubber tyres with to herring-bone but similar tread (excl. agricultural for, forestry but civil engineering vehicles)
Other new tyres, including for microtractors and cultivators	11409 0	25.11.14.09	New pneumatic rubber tyres excl. for motor cars, motorcycles, bicycles, buses, lorries, aircraft, agricultural, forestry or civil engineering vehicles, with a herring-bone or similar tread
		25.11.15.30	Solid or cushion rubber tyres; interchangeable rubber tyre treads
Flaps	11550 0	25.11.15.50	Rubber tyre flaps
Tyre tubes of the types used for cars	11573 0	25.11.15.73	Rubber inner tubes for motor cars, buses and lorries
Tyre tubes of the types used for bicycles with or without auxiliary engine and auto-cycles	11575 0	25.11.15.75	Rubber inner tubes for bicycles
		25.11.15.77	Rubber inner tubes for motorcycles or scooters
		25.11.15.79	Rubber inner tubes (excl. for motor coaches, motorcycles, scooters, bicycles, tubes but lorries)
		25.11.16.00	Camel-back strips for retreating rubber tyres
Retrod tyres intended for passenger vehicles	21030	25.12.10.30	Retreated tyres of rubber of a kind uses on motor cars
Retrod tyres intended for lorries or buses	21050	25.12.10.50	Retreated tyres of rubber of a kind used on buses and lorries
Retrod tyres intended for planes or for other uses	21090	25.12.10.90	Retreated tyres of rubber (incl. of to kind used one aircraft; excl. of to kind used one motor coaches, tubes but lorries)

VI Annex: Manufacturer/SESSI/PRODCOM data comparison

		MANUFACTURER Answer on Survey of Branch Third quarter of 1999				SESSI Branch survey 1998				PRODCOM (France 1998)	
		Produced quantities		Quantities Delivered	Invoicing HT	Produced quantities		Quantities Delivered	Invoicing HT	VALUE	Quantity
PRODCOM	Description	tonnes	parts	parts	KF	tonnes	parts	parts	KF	Euro	parts
25.11.11.00	New pneumatic rubber tyres for motor cars (incl. for racing cars)	31 530	4 133 546	8 311 038	1 878 000	424 156	59 752 321	82 022 964	16 056 856	2 432 337 334	82 022 964
25.11.12.35	New pneumatic rubber tyres for motorcycles and scooters with rims > 33 cm in diameter	109	21 278	161 824	88 000	10 663	10 778 902	11 206 695	659 399	M	M
25.11.12.37	New pneumatic rubber tyres for motorcycles and scooters with rims < 33 cm in diameter									O	O
25.11.12.50	New pneumatic rubber bicycle tyres with sewn-in inner tubes	Question not raised by SESSI								M	M
25.11.12.70	New pneumatic rubber bicycle tyres (excl. tyre cases with sewn-in inner tubes)	000 385	000 599 789	1 518 979						35 190 058	9 598 922
25.11.13.55	New pneumatic rubber tyres for buses or lorries with a load index < = 121	10 131	000 621 523	000 702 787	1 355 000	70 596	4 958 857	6 275 724	2 689 076	407 348 733	6 275 724
25.11.13.57	New pneumatic rubber tyres for buses or lorries with a load index > = 121	40 216	000 599 216	000 752 225		165 624	2 747 090	3 330 172	4 059 229	M	M
25.11.13.70	New pneumatic rubber tyres for aircraft	000 396	000 000 8 463	000 000 11 764	330 000	(S)	(S)	(S)	(S)	M	M
25.11.14.04	New pneumatic rubber tyres for agricultural or forestry vehicles	000 000 15	000 000 517	000 000 34 148		111 722	875 508	1 171 978	2 419 936	268 945 271	000 983 821
25.11.14.05	New pneumatic rubber tyres for civil engineering vehicles	000 9 359	000 000 32 229	000 000 34 136						M	M
25.11.14.07	New pneumatic rubber tyres with to herring-bone but similar tread (excl. agricultural for, forestry but civil engineering vehicles)	Question not raised by SESSI								O	O
25.11.14.09	New pneumatic rubber tyres excl. for motor cars, motorcycles, bicycles, buses, lorries, aircraft, agricultural, forestry or civil engineering vehicles, with a herring-bone or similar tread	000 000 38	000 000 977	000 000 16 867		000 857	000 46 238	100 702	22 303	000 000 3 378 521	000 100 702
25.11.15.30	Solid or cushion rubber tyres ; interchangeable rubber tyre treads	Question not raised by SESSI				3 018	1 421 078	1 464 847	171 801	M	M
25.11.15.50	Rubber tyre flaps	000 351	000 193 377	000 255 530	52 000					M	M
25.11.15.73	Rubber inner tubes for motor cars, buses and lorries	000 000 0	000 000 000 0	000 205 529		1 065	229 915	1 886 233	88 995	000 13 481 211	1 886 235
25.11.15.75	Rubber inner tubes for bicycles	000 105	000 755 685	2 728 322		1 965	13 418 481	14 127 833	000 60 636	000 8 450 770	13 972 810
25.11.15.77	Rubber inner tubes for motorcycles or scooters	Question not raised by SESSI								M	M
25.11.15.79	Rubber inner tubes (excl. for motor coaches, motorcycles, scooters, bicycles, tubes but lorries)	Question not raised by SESSI								O	O
25.11.16.00	Camel-back strips for retreating rubber tyres	Question not raised by SESSI				(S)		(S)	(S)	M	M
25.12.10.30	Retreated tyres of rubber of a kind used on motor cars		000 101 066	000 125 546	000 16 781		1 736 192	1 682 534	191 272	000 28 974 416	1 682 534
25.12.10.50	Retreated tyres of rubber of a kind used on buses and lorries		000 189 286	000 225 502	236 180		1 085 692	1 244 613	1 055 855	000 159 943 860	1 244 613
25.12.10.90	Retreated tyres of rubber (incl. of to kind used one aircraft; excl. of to king used one motor coaches, tubes but lorries)		000 000 2 223	000 000 2 416			000 24 277	000 23 885	65 475	M	M

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Discussion

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
I would like to invite Mr Bahurel to visit us in Paris to discuss the difficulties with the SESSI data. You said that of 45 SESSI values only 24 fed through to Prodcom. We do have a more detailed list, probably of 45 values, and I assume that they have been rolled up into the 24 Prodcom headings. But we will have to take a closer look at that.

Jean Couronne
Ministry of industry in France, department of statistics
When it comes to Mr Bahurel's recommendations, I think that one of them is vital, and that is that industrial enterprises need to answer the survey's questionnaires more quickly. If delays prevail, estimates have to be made. That will influence quality. The company you referred to, is more or less the only one that exists in France in that sector. That doubles the troubles, because we also face the problem of confidentiality. In France, we have the Law of 1951 protecting enterprises. That law stipulates that the data sent are treated confidential. We can not disseminate confidential data in your particular case, unless we have taken very many precautions. We have to be scrupulous in ensuring that we comply with that law.

Yves Bahurel
BLIC, Liaison Office of the Rubber Industry of the EU
The data published by SESSI are almost as detailed as the data we have got. I do not think that is the problem. The problem is when data are aggregated for Prodcom. You referred to the law of confidentiality. This is not the problem in this case. The biggest loss of data, I think, comes afterwards. I mentioned 50 headings from the industry. 45 were published by SESSI. Obviously, some aggregations have been made there. However, you end up with 24 items published by Prodcom. That is where the real data loss is. Finally, what happens to the sector surveys published by you?

Jean Couronne
Ministry of industry in France, department of statistics
I think this is a crucial issue. Confidentiality according the Law of 1951 is applied when an enterprise asks the administration to treat its data confidential. Otherwise data is public. If an enterprise would allow us to publish its data, we can publish more. But this is entirely the responsibility of the enterprises and their associations. It is up to the enterprises to take it further than the rules strictly say.

Yves Bahurel
BLIC, Liaison Office of the Rubber Industry of the EU
I agree. However, I think the situation described by me is correct. I think that we need to look back over the years to find out what happened. I am sure that the manufacturing enterprises have a share in this apart from SESSI and Prodcom. Perhaps the manufactoring industry should be asked whether they always need to have their data kept confidential. People tend to say that data should be kept confidential simply because they have always requested that. And they hesitate to reconsider their views.

Bernard Champin
Febi: Panorama, Paris
Regarding confidentiality, I think it regrettable that the products are aggregated to comply with confidentiality rules. Many users prefer to get the data by detailed product. Perhaps a better solution is to publish EU15 aggregates instead of aggregates on Member State level. Publishing on the EU15 level would avoid aggregating products to larger groups. I think this is what the users would prefer.

Volkmar Wulf:
Febi: MECSEA
Earlier, even back in the early sixties, trade associations in Germany used to carry out surveys on production and foreign trade. Still, some German associations continue with this. When we make comparison with official statistics, certain diversions are identified. Some of them were explained by the fact that the associations' surveys do not include a representative sample of all companies. German associations of today have different tasks and are no longer in the position to carry out those surveys. The reasons for that are partly the terrific range of products in the market, and partly the lack of financial resources and other priorities. This might also apply to European trade associations. I would be interested to know if there are French trade associations in France that still carry out such surveys. Would it be possible to get a list of the names? And finally, we have heard that the Member States have different regimes on confidentiality. How is confidentiality applied? Is there a threshold of for example three or more companies?

Jean-Paul Lachize
Ministry of economic, finance and industry, France, the statistical department, Prodcom
The number of French associations carrying out surveys is around 100. Regarding confidentiality I think the rules are almost similar in the countries. Published figures should include at least three companies, none of them dominating the market, i.e. having 80 or 90% of the production in that market.

Dorte Schmidt-Brown:
Prodcom, Eurostat
Concerning the confidentiality rules, I can inform that most Member States' rules are public. Eurostat has not yet come out with precise rules. Eurostat is working for general European confidentiality rules for all EU sueveys. In Prodcom, we apply rules agreed on by the Prodcom Committee and the Eurostat committee on confidentiality.

Jean Couronne
Ministry of industry in France, department of statistics
On the problem on confidentiality, I just want to inform that there is only one unit in Europe producing carbon fibres. Even at EU15 level, that would affect that company. The problem might, perhaps, be solved for the manufacture of special fibres by asking the approval of the one or two companies producing them to publish the data. Of course, an application has to go through official channels. But the decision is really up to them. Talking of carbon fibres, a problem of nomenclature arises. Everything is under the same heading in the HS. There is no break down on filament. The results of Prodcom therefore show this predominance of technical textiles without the possibility to identify the basic product in value or quantity. Again, we come back to a big classification problem not only applicable to carbon fibres. There are other types of fibres.

Sanjiv Mahajan

Office for National Statistics, UK, the input-output compilation for national accounts

Concerning the quality of the trade association surveys: How do you ensure complete coverage, or 95% or 90%? As a national accountant expert, I always believe that official statistics give the best statistics. If trade associations are collecting them, there are a number of issues that should be raised: for example what checking mechanisms do they apply to ensure that the data that has been collected is accurate? I am sure that the associations are doing a very good job. Their feedback such as validation or qualitative feedback on official statistics is extremely useful. The experiences of the trade associations are obviously good and they have been around for a while. The experiences of the trade associations are useful to manage control and to assure that the service gets the accuracy of the numbers in line with expectations.

Jean-Paul Lachize

Ministry of economic, finance and industry, France, the statistical department, Prodcom

This case is specific, because it is governed by an official agreement that has legal force in France. The trade associations are obliged to give all details about which companies are covered by their surveys. We receive the results, and of course we wet them before sending them to Eurostat. We validate the data in conjunction with the results of survey on structural business statistics carried out by ourselves. We need to check that the trade associations have covered all the enterprises involved in producing this product. It is our responsibility to carry out this monitoring exercise to ensure a satisfactory result.

Jean Couronne

Ministry of industry in France, department of statistics

In connection with this, I would like to mention a point on steel. The trade associations carried out a comparative survey on steel statistics of different countries. The results are published partly published by Eurostat and certainly available through the NSIs. The main divergence in the data has been identified in France. We did that by comparing with the results of the survey of structural statistics. Furthermore we found that the two sets of figures generally converge. This is a further guarantee of course.

Alois Macht

The federal statistical office of Germany in Wiesbaden, Classifications

I am not sure that I fully understood Mr Bahurel's point about the preference of having virtually no figures to aggregated or too highly aggregated figures. The consequence is, as pointed out by Mr Wulf, that some headings are dropping out. Should that not lead to the preference for at least some figures, even if only aggregated, rather than nothing at all? I touched some of this yesterday. Would it perhaps be worth to try to modify Prodcom in a sense to getting around this confidentiality issue at least so that we get something? My contacts with the trade associations show that they always want something, even if it is not detailed enough.

Yves Bahurel
BLIC, Liaison Office of the Rubber Industry of the EU
As I explained, our survey covered the field of pneumatic tyres. It included big tractor tyres, construction and civil engineering tyres. Those tyres can be four meters high, weigh a ton or more, and cost several thousand French francs. If they are included in aggregated figures, these figures will not be relevant, even though the value is considerable. This does not necessarily have to apply to all areas covered by Prodcom. I can only focus on those bits that I know well. However, there are anomalies because of that. This aggregation it is a bit dangerous, because significant different products get aggregated. If you aggregate in the field of rubber gloves: surgery gloves, domestic gloves and so on we will certainly have a more sensible figures even though for most countries this will be confidential.

Alois Macht
The federal statistical office of Germany in Wiesbaden, Classifications
May I give another example: There is a Prodcom heading for glass bottles containing 20 cm^3 up to 20 litres. It covers a wide range of bottles. We did not have any objection to aggregation because we agreed the physical measuring unit should not be numbers but tonnes.

Jean Couronne:
Ministry of industry in France, department of statistics
I agree there are measuring problems of different levels, tonnes, litres, meters etcetera. But, when the negotiations on the Prodcom products list, took place - before 1992 - apparently some trade associations decided not to be involved, even though they were invited, or they did not make any comments. So they have left themselves a lot of room for manoeuvre. Eight years or so later, we still face problems of the units of measurements. Perhaps, we are not going to get out of this difficulty. Furthermore, the Prodcom List includes some products that have dropped out; they no longer exist, whereas some new ones are not covered yet. We need to do something about that. And I think that the associations will have to tell us what they need, otherwise this will go on for another 20 years. I know we have a dialogue with the trade associations. They keep coming back saying - in general terms - we need to change this, we need to change that, and to give us examples of what is not adequately covered. Faced with this kind of requirement, statisticians must insist that people in the industry show us what is being made and suggest a solution. We will most certainly adopt it, as we did, for example, with this distinction between the type of tyres.

Dorte Schmidt-Brown
Prodcom, Eurostat
I just want to remind that almost anybody can make proposals for the change of Prodcom List. We do prefer that proposals from the associations go through the European federations because of the risk to include national peculiarities that do not exist on European level. But NSIs and FEBIs are most welcome to propose changes of the Prodcom List.

Pedro Díaz Muñoz:

Director: Business Statistics, Eurostat

The European trade associations are valuable partners in at least two fields for the Prodcom project. One role is an expert role to provide information to update the Prodcom List. It is really important, and Eurostat will have to make an effort to involve the European trade associations more and better. However, this expert role is not only linked to improvements of the headings of Prodcom List; it should also include guidelines on the relevant measurement units and proposals for possible simplifications of the List. There is another role for the associations. Namely to encourage their members, the enterprises, firstly to report more quickly, and secondly, to look into confidentiality matters, and try to make the situation clear to the enterprises so that they might consider giving up the confidentiality claim.

Seminar closing

Pedro Díaz Muñoz:
Director: Business Statistics, Eurostat

It is a difficult task to conclude and close this seminar because we have been through so many different matters: visibility of the Prodcom data, quality and harmonisation of the data, the actors involved in Prodcom, the possible extension of Prodcom, just to mention some of the most important.

In line with visibility is accessibility of the Prodcom data. We can assess that at present there is a fairly good use of the Prodcom data. I took note of the Danish figure of 5-10 daily users, even though – in some cases - there are difficulties in supplying these users with what they really want. I think there is a need of improved interchange of experiences between users and producers and the centres that disseminate the Prodcom data, the Data Shops in the different Member States and the federations. We need to improve the contact and to make use of feedback from the users, and to strengthen the link between users, disseminating offices and producers. There is also a need to stabilise the products derived from Prodcom, i.e. to issue Europroms regularly and timely and to improve the tools for selective extraction. Concerning the issue of visibility, I think an effort must be made to make the users aware of the possibilities to access the Prodcom data on New Cronos and Europroms.

Many issues were raised on the data quality. For example simplification of the headings of the Prodcom List, the need for a quick updating and stabilisation of the List – at least for some years, to achieve consistency. There are several points to explore. Service and tools must be provided for the respondents to ease linkage between their products and the Prodcom headings. And we must look into solutions for reducing the number of confidential data. The assistance of the business associations in this matter might be considered.

Many questions concerned the business register, the statistical units used, the possible 'undercoverage' or 'overcoverage', misclassification and double counting. Various questions were raised on representativeness, on this '90%' rule, on subcontracting, the measurement units and valuation in different areas. Many of those conceptual problems need to be discussed. We must look into ways of how we can harmonise these concepts in an acceptable way and how we make use of 'best practices' in the future.

To improve the involvement of the actors around Prodcom we will have to build in some forum in our Prodcom Committee meetings to ensure user point of views to be brought up, and I encourage the Member States to do the same. We must clarify the roles of Eurostat and the NSIs when it comes to improving the quality. Furthermore, we must encourage the federations to use their connection to the data producers to get better and quicker data. The efforts of all the actors must be concerted to improve the quality of the Prodcom data.

And finally, the possible extension of Prodcom: One is to include services in the future Prodcom, and another is to extend Prodcom to the central European countries.

This was just a summary of some of the issues. So, what are we going to do now? Many solutions have been offered. But also too many problems. In any case it will not be easy to achieve all of this. We will have to be selective; we will have to analyse the problems and the solutions. Eurostat will reflect on this during the next weeks. We will look into this and work out a strategy on the actions and the way to carry them out to inspire the future work in Eurostat and the NSIs. We will make this reflection and maybe involve some of you. The Prodcom Committee meeting in June will include the reflections from this seminar. So that some (just some) of our dreams mentioned today will turn out as actions.

Mr Mahajan:
There is no simple way forward. The difficult task is to develop a strategy on how to implement change from now on. Because a lot of the issues raised imply some form of change. And managing that process is going to be very difficult because Prodcom up to now has only changed a little. But, but today a whole horde of issues have been opened up for. They are going to generate changes. The development for strategies is one key issue. Another one is the implementation of the change. When Member States sign up to the change Eurostat may have to start considering the need for revisions policy. We have got Prodcom data 1993-1997/98, of which we have had hardly any real methodological change. This is a short period. Another 4-6 years' data collected according to a possible change in methodology along the issues raised to day will accentuate the need for a revision policy to ensure consistency to the 'old' data. Or at least some guidelines on how the Member States should handle the change. Do we have a discontinuity in the methodology from a point in time or ?

Another dimension of a possible change in the Prodcom methodology is the number of new countries aligning to the new Prodcom methodology. If we are changing the methodology, they need to be carefully managed as well. And I think that the new Prodcom countries will have an advantage over us 'old' Prodcom countries in one sense. They are starting from a clean slate. For us, countries already having Prodcom and having to change, it is going to be very difficult. This does not mean that the new countries have got it easy, they have got to manage the change process as well.

Finally, I think the idea of bringing users from various areas together is a very good idea and you may want to consider a similar seminar once every two years or, maybe, even more regularly. We do not mind. It will give Eurostat a forum of conveying to at least the non-national institutes how progress is being made and whether people liked the progress or not, or come up with even more dreams. Because I do not think that the dreams have stopped to day. Thanks!

Pedro Díaz Muñoz:
Director: Business Statistics, Eurostat
I then close the seminar and thank the Prodcom speakers, the people behind them in the working groups, the discussants, active participants and the people preparing the seminar, including the interpreters for your good work to support and make this a succcessful event. It is now up to Eurostat to analyse your interventions and comments, to publish them and to discuss with you the lines of action for a better Prodcom.

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Statistical units in PRODCOM

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Abstract

The aim of business statistics like PRODCOM is to describe the transactors and their transactions in the real ecomomy. The producing actors in the economy are the statistical units therefore playing one of the fundamental roles in the design and implementation of a coherent survey system.
But, coherence can only be obtained by developing and applying the following common methodological instruments:

- The use of well defined **kinds of statistical units** at different levels as subjects of the survey (and therefore as a source of information) and/or rapporteurs as well as the building blocks for summarizing singular statistical information (micro data) up to aggregates (macro data) like activity or geographic aggregates,
- the use of **standard classifications** to classify units by activity and to delineate the survey population, the use of standard size and regional classification as well as the use of standard classification for products,
- and the accessibility to generally accepted interpretative decisions answering definition and classification problems as well as problems in administration of statistical units (meta data).

The quality of information collection highly depends on the quality of the **Statistical Business Register** as the most appropriate source to organize and coordinate statistical surveys by providing a sampling frame and to make available necessary and up-dated information on the singular statistical units at any survey period.

Furthermore it will be clear and must be taken into account that the selection of information variables requested and the choice of statistical units are interdependent actions and therefore a trade off exists between homogeneity of the information in accordance to the kind of units and the number and detail of the variables requested.

Therefore this article tries to analyse the interactions of the basic tools mentioned above and used in PRODCOM; on the other hand it is an attempt to point out the most common and possibly negative effects (for example basing on misinterpretation, not exhaustive definitions, restrictions and uncapabilities of the different actors) on the PRODCOM-survey as well as it is an attempt to initialize some discussion with reference to the aim to avoid or minimize these negative effects and to contribute to the improvement of PRODCOM data quality.

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Statistical units in PRODCOM

A. Introduction

1. The implementation of the European Single Market led to an increasing demand for EC-wide statistical standards applicable to the identification of statistical units as one of the basic instruments of the European harmonized business statistics.

In general, the production of business statistics can be conceived as the bridging of the gap between the users demand for statistical information at a certain disaggregate level and information sources held by the respondents, often simultaneously statistical units.

2. The process of (re)designing a survey and its implementation[1)] into a common statistical framework can be seen as an ongoing cycle consisting of the segments

- setting the survey objectives (including the stages of exploring the users needs, defining the general framework and tools and specifying the variables as well as the total population);
- designing form and sample frame (including the preparation of the survey operations and sample sources);
- data collection and data entry;
- processing and analysis (including data editing, imputation, often weighting and reweighting as well as seasonal adjustments, checking the internal and external consistency – i.e. micro and macro plausibility) and
- publication and dissemination (including disclosure control and preparing for the different publication media).

3. This article in general, deals with the first two segments with a special view to the role of the different statistical units within the general framework of harmonized European business statistics concepts; on the other hand it tries to reflect the practical problems determining and selecting the different kinds of statistical units for survey purposes especially with regard to the PRODCOM-survey. Third, the different restrictions and demands of the trade offs, on the one hand the respondents often observation and/or reporting units and therefore data providers, too and the potential data users is taken into account.

Fourth, only by using common definitions of statistical units and classifications it seems to be possible for the NSI to provide integrated statistical information for the management of the internal market policy as well as for statistical units such as enterprises and enterprise groups (maybe being data provider and user) with an optimum of reliability, speed flexibility and degree of detail as well as sufficient quality standards.

4. But as mentioned before, in many cases the aims and interests of users and providers are considerably conflicting each other and moreover the data producers (NSI) as the bridge between them often have to fight against political restrictions (for example ongoing budget cuts but also relevant restrictions like the order to minimize the survey burden).

Therefore, by treating this subject the following challenges (often not solvable in a satisfying manner) should not be taken out of consideration:

- Response burden (i.e. the administrative burden of statistical units) should be minimized or at least decreased substantially.
- Productivity of the NSI should increase, because financial means and ressources of the NSI as a rule will decline more and more (respectively more and more statistical projects should be realized with equal or even declining funds).
- Output basing on the information of the units should more and more increase because the user needs for information become more and more demanding.
- Forth, users require data which can be related and compared with each other and therefore coherence of the statistical tools and moreover the statistical output is to be considered as the key issue to provide a comprehensive and coherent picture of the total economy of the different Member States as well as of the total economy of the EUR.

As far as necessary special proposals to the different points pay attention to the difficulties with reference to the selection of statistical units and their implementation in economic surveys.

5. Assuming that users of statistical data are interested in certain information about a certain survey population (for example all ‚businesses‘) with reference to a certain period (or referring to a certain moment) as well as to a certain territory and furthermore agreeing to the fact that these populations consist of different statistical units more or less suitable to provide information (data) on variables for this purpose we can define

- an *ideal population* including all ‚observation units‘ of a certain territory - being full of willingness and capability - to give all information requested at a certain moment or at a certain period,
- the *sampling frame* reflecting the best materialisation of the ideal population in accordance to
- the *sample population* itself reflecting all units from which data can be collected, calculated and presented (as best practice reflecting the real world insofar it is observable).

6. It seems clear that there are some essential reasons (contradicting the users wishes) not to base a statistical survey periodically on the ideal population.

The most important reasons for that are:

- Although, in general, the need for statistical data is recognized by the survey units themselves it seems (especially for small units) to be too burdensome or costly to provide the information requested.

- The subjects of observation often are not willing or not capable at all to respond because of too high administrative burden or even the information is not available; furthermore the sense of a statistical survey is not considered at all.
- The Business Register used as the source to draw the population often lacks on imperfections (i.e. undercoverage, overcoverage, misconstructions of units and misclassifications).
- Financial means and ressources of the NSI decline more and more (respectively more and more statistical projects have to be realized with equal or even declining funds) and therefore budget constraints of the NSI lead to serious restrictions.
- Politicians on the one hand as users of statistical information are interested in more and more detailed information on economic subjects but on the other hand (as elected representatives of the clientèle: respondent) they have to respect the wishes of these subjects to ensure a priori minimizing the statistical burden by legal acts.

7. But, as far as political constraints do not delimitate the selection of certein statistical methods by statistical legislation, it is necessary for the NSI themselves to find a compromise between the different interests of the users and the subjects of a survey (especially with reference to the selection of a survey population as well as to the variables requested to avoid a priori total rejection by important parts of the survey population).

B. Statistical units and their status within the European Statistical System

8. Statistical units are (in addition to economic classifications as activity identifiers and the Statistical Business register as source for drawing the sample population) the key tools when designing and implementing business surveys. One might say statistical units are, on the one hand, the transactors of the economy and therefore the objectives of economic surveys and, on the other hand, one of the target variables outlined in tables. It is therefore necessary to have different views on the definition, delimitation and interpretation of problems arising thereof.

a. Observation versus reporting unit

9. Before discussing the different kinds of statistical units it seems to be necessary to differentiate between the following types of units:

- The unit *about* which data are to be reported i.e. to whom the questionnaire corresponds (or which is the basis for statistical aggregates) is called the *‚observation unit‘*; the ‚real life‘ of these units as economic entities is the object of a business survey and therefore the source of data collection.

- The unit which (as a rule) is obliged to submit data and therefore *from which* data are obtained (often more or less a contact address for the NSI to get information about the referred observation unit) is named ‚*reporting unit*'.
- At least the ‚*analytical unit*' as an artificial unit only plays a role as construction of ultimate homogeneity for special economic analyses (for example by splitting up an enterprise into three units of homogenous production to calculate symmetric input/output tables for SNA-purposes).

Observation unit and reporting unit might be the same unit or the reporting unit might be an own observation unit; on the other hand the observation unit might be reporting unit for other statistics. For example the *enterprise* in structural business statistics is one of the three observation units and moreover reporting unit for itself and the other observation units, the *local unit(s)* and the *kind-of-activity unit(s)*.

b. The legal basis

10. Statistical units play a fundamental role within a coherent system of economic statistics. As transactors of the economy whose transactions the business statistics try to describe they have to satify three different roles:

- first, the role as linking pins between the different business statistics to be harmonized,
- second, the role as corner stones of the statistical system and
- third, the role as building blocks of statistical aggregates.

Under consideration of these roles there is actually no Community Business Statistics Regulation without reference to statistical units.

11. The most important legislation tools with reference to the role, the definition and the use of statistical units should be mentioned hereinafter.

12. First, the **Council Regulation (EEC) No 696/93** of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community (**CR-SU**) can be described as the **methodological reservoir** out of which the various business statistics take the units of their choice. Introducing the aims of the Regulation it is stated that ‚utilization of the statistical classification of economic activities in the European Communities hereafter referred to as NACE, Rev. 1 provided for in Regulation (EEC) No 3037/90 and application of the European System of Integrated Economic Accounts (ESA) require standard definitions of statistical units for registers, surveys and the presentation and analysis of statistics'.

Section I of the Annex of this Regulation lists and defines eight statistical units, i.e.

- the enterprise group,
- the enterprise,
- the institutional unit,
- the kind-of-activity unit (KAU),
- the unit of homogenous production (UHP),
- the local unit (LU),
- the local kind-of-activity unit (LKAU) and
- the local unit of homogenous production (local UHP)

in accordance to the legal, accounting or organizational respectively geographical and activity criteria.

13. Second, opposite to the CR-SU as the methodological reservoir the **Council Regulation (EEC) No 2186/93** of 22 July 1993 on Community coordination in drawing up business registers for statistical purposes (**CR-SBR**) acts as an instruction to set up and maintain a Statistical Business Register. The Statistical Business Register itself is considered to be the the most appropriate source ensuring the organization and coordination of statistical surveys by providing a sampling frame and to administrate the following obligatory units with reference to Article 2 cf. 1, Chapter (a) to (c) of the CR-SBR continuously:

- the enterprise carrying out economic activities contributing to the gross domestic product at market prices (GDP), as defined in Section III.A of the Annex to the CR-SU,
- the local unit as defined in Section III.F of the Annex to the CR-SU and
- the legal unit as defined with reference to Section II.A.3 of the Annex to the CR-SU.

Enterprises carrying out a main activity with reference to the NACE, Rev. 1 Sections A, B and L might be optional included.

Notice that the legal unit is not listed as a statistical unit in Section I of the Annex of the CR-SU; although the legal unit is an important *input unit*, it is not relevant as an *output unit* at the moment.

14. At least, two further methodological instruments - **NACE Rev. 1**[2)] (for economic activities) and **NUTS** (for regional purposes) - as standard tools to classify units and to delineate economic populations - must be mentioned in this context. Especially NACE Rev. 1 includes common guidelines for classifying statistical units in accordance to an unique activity classification. The regional aspects are of importance for the elaboration of regional accounts as well as for numerous industrial branches encountering different business cycles in accordance to the territorial unit envisaged.

c. Criteria for selecting statistical units

15. The definition of statistical units in accordance to the CR-SU is based on three general criteria, i.e. the

- legal, accounting or organizational criteria
- geographical criteria and
- activity criteria.

Two further criteria should be added to the list which influence the selection process in a very impressive manner and these are

- the criteria of size classification and
- the criteria of classification of changes in the population.

16. *The legal, accounting or organizational criteria:*

As expressed in Annex 2 of the CR-SU the definition of units requires the application of *legal* or *institutional criteria* respectively in some cases the application of *accounting or financial criteria*. Legal units refer to

- one ore more legal persons whose existence is recognized by law indepently of the individuals or institutions which may own them or are members of them
- one or more natural persons who are engaged in an economic activity in their own right.

In general, the legal unit always constitutes (sometimes in combination with other legal units), the legal basis for the statistical unit called ‚enterprise'; it is one of the obligatory units to be implemented in and administrated from the SBR.

The most widespread forms of legal status in most Member States are:

- sole proprietorship – enterprises owned exclusively by one natural person,
- partnership – an association of persons who conduct a business under a collective name usually taking the form of a limited partnership
- limited liability companies – mostly enterprises comprising the joint stock company, the limited partnership with share capital and the private limited company being obliged to introduce a system of annual accounts in accordance to the Fourth Council Directive
- cooperative societies – bodies set down by national law and as a rule only entitled to provide their services to members,
- enterprises with other forms of legal constitution – including nationalised industries, publicly owned enterprises and state or local authority monopolies.

17. *The geographical criteria:*

Observation and analytical units must be geographically identifiable. Therefore the survey population, mostly derived from a Business Register and consisting of (maybe) different kinds of units can be splitted up by geographical aspects (often combined with the activity criteria) to give figures with respect to local, regional, national, Community and worldwide areas.

To ensure a single uniform breakdown of territorial units especially for the production of regional statistics for the European Union the Nomenclature of Territorial Units for Statistics (NUTS) subdividing the economic territory of the European Union into five hierarchical levels, was established by Eurostat (although the NUTS has no legal status per se it is more or less obligatory and serves as basis for collection and harmonization of Community regional statistics, socio-economic analyses of the regions as well as for the framing of national and Community policies).

The population of statistical units according to the geographical area (usually in connection with the only or more economic activities) can be broken down as follows:

- statistical units economically operating primarily within the national borders,
- statistical units economically operating primarily in a local area within the national borders,
- statistical units economically operating primarily outside their own country but within the EU and
- statistical units economically operating primarily outside the the EU.

18. *The activity criteria:*

An activity is said to take place when resources such as equipment, labour, manufacturing techniques, information networks or products are combined leading to the creation of specific goods or services.

An economic activity with reference to a certain level of NACE, Rev. 1 is characterized by an input of products (physical or non physical goods or services), a production process and a resulting output of products or services thereof. In practice, the majority of statistical units carry out more than one activity.

19. *The criteria of size classification:*

One might say that size in general is an attribute of each statistical unit and therefore might be of high relevance with respect to the selection process of statistical units for survey purposes.

Many economic statistical CR‘s (especially the CR-SBR) define either variables[3)] or even representativeness with reference to

- employment size classes or
- net turnover from sale of goods and services or
- total production.

For example, the PRODCOM-Regulation in Article 3, cif. 2 to 4 itself includes three sizes with massive impacts on the selection process of statistical units (cif. 2: ‚... collection of data from undertakings representing at least 90% of national production per NACE Rev. 1 class‘ ..; cif. 3: ‚.... account shall be taken of all undertakings employing at least 20 people‘ and cif 4: , ... representing less than 1% of the Community total, the data on the headings in that class need not be collected.‘).

20. *The criteria of classification of changes of the population:*

From our point of view the major events in an unit's life such birth, death, change of economic activities or size as well as structural changes (like split off or mergers) or even changes in the legal forms might have a great impact on the definition or existence of statistical units and therefore on the survey population respectively.

Therefore it seems to be necessary to define such a classification of changes obligatory (not only for tabulation in economic demographic statistics but for administration and maintenance of survey population, too.

d. Kinds of statistical units

21. As mentioned above, the CR-SBR defines eight statistical units but only the observation units enterprise and kind-of-activity (KAU) unit with their regional counterparts local unit (LU) and local kind-of-activity unit (LKAU) are of relevance for economic statistics. The artificial ‚unit of homogenous production' (UHP) and it's local counterpart ‚local unit of homogenous production' (LUHP) is indicated by a single activity which is identified by it's homogenous inputs, homogenous production process and output, a more or less impossible case in practice and only of relevance for analytical purposes of relevance. Therefore the statements should be concentrated on these kinds ot statistical units relevant for statistical survey purposes.

But it should mentioned in this context, that, with reference to the Market Globalisation the *enterprise group* will become more and more important, too. This statistical unit is the only one which, in its economic activities, is not confined to national borders. As an association of enterprises (or combination of all legal units) with common ownership, controlling interest, financial management, taxation and extensive decision making (therefore bound together by legal and/or financial links) it is the unit at the top of the hierarchy of statistical units. At the moment this statistical unit is not foreseen in the SBR and therefore no subject of business surveys.

22. The *enterprise* is the smallest combination of legal units (maybe a sole unit but maybe a corporate body of more than one legal unit because of different economic or legal reasons)

- that is an organizational unit,
- producing goods or services in a market oriented manner,
- which benefits from a certain degree of autonomy in decision making especially for the allocation of it's current resources,
- carrying out one or more activities,
- at one or more locations

and therefore consists of at least one local unit (LU), one kind of activity unit (KAU) and as a consequence, one kind-of-activity unit (LKAU).

23. The *kind-of-activity unit* (KAU) corresponds to one or more operational subdivisions of an enterprise by grouping all parts of the enterprise contributing to the performance of an activity at class level of NACE, Rev. 1 . To define a kind of activity unit and to collect data from this unit the enterprise information system must be capable to indicate or calculate at least the value of production, intermediate consumption, manpower costs, operating surplus, employment and fixed capital formation. Therefore, the KAU is the actual transactor in the production process. The KAU stands for more homogeneity in accordance to the economic activity than the enterprise but, like the enterprise, can carry out not only one main activity, but (maybe) one to n secondary activities, too.

24. The *local unit* (LU) is an enterprise (considered at a regional level) or a part thereof (such as a workshop, factory, depot or office) situated at a geographically identifiable place (postal address) where at least one person (even only part time employed) is carrying out one or more activity. In practice, it is more homogenous than the enterprise with reference to the regional criteria; although derived from the enterprise, the local unit is not autonomous in decision making like the enterprise itself.

25. As mentioned before the *local kind-of-activity unit* (LKAU) can be described as the local counterpart of the KAU and therefore each KAU (but also each enterprise) must have at least one LKAU. The LKAU being considered as both a part of a KAU and a part of a LU is a real observation unit and corresponds to the operationl definition of the establishment in accordance to ISIC, Rev. 3.

26. *Activity Classification:*

As mentioned before each statistical unit carries out at least one economic activity which should be identifiable within a harmonized system of economic activity classifications. At the Community level, NACE Rev. 1 (derived from the UN-standard ISIC) is the standard and therefore the common basis for statistical classification of all economic activities carried out by the statistical units. National classifications can be derived from NACE Rev. 1 considering the following rules

- national headings of the the different levels shall consist of either the same headings as the corresponding NACE Rev. 1 level (or headings which are constituting an exact breakdown thereof);
- additional levels may be introduced;
- each of the additional national levels introduced shall agregate exactly into the next higher level of NACE Rev. 1 ;
- the national coding may be different from the NACE Rev. 1 coding.

Following these rules and considering that NACE Rev. 1 is an extension of the UN-ISIC it is ensured that all classification standards (world level, European level and national level) are compatible.

27. The Statistical Programme Committee established by the CR-NACE is responsible to interpretate NACE Rev. 1 in a general and valid way, aligning, clarifying and updating texts and explanatory notes and preparing a common position concerning the work at the UN-level on activity classifications. Moreover, preparation and cooordination of work on revision of the NACE in accordance to the technical developments as well as elaboration of guidelines for classifying statistical units in accordance to NACE Rev. 1 are important tasks of the Committee which might influence the selection of certain statistical units for survey purposes substantially.

28. *Relevant types of activities:*

In practice statistical units perform one or more economic activities falling under one or more headings of NACE Rev. 1.

In the simple case that, at class level, a unit performs only one activity, then the activity classification of that unit is determined by the position of NACE Rev. 1 which covers the activity of that unit. In the case that a unit, at class level, performs more than one activity but all of them fall under the same position of NACE Rev. 1 , then the activity classification of that unit is determined by the position of NACE Rev. 1 in which all these activities are covered.

Basically, three types of activities can be distinguished:

- *Principal (or main) activitiy*:
- *Secondary activity (activities*
- *Ancilliary activities.*

29. The principal activity is considered as the activity which contributes most to the total value added of a unit to be observed. In the case that, at class level, a unit performs activities falling under different positions of NACE Rev. 1 , general rules are necessary for the determination of the principal activity. In the also simple case that, at class level, one activity accounts for more than 50 % of value added, this determines the classification of the unit.

So, in the case that a unit performs activities falling in only two different positions of NACE Rev. 1 , there will always be one position which accounts for more than 50% of value added, except in the unusual case that both activities of the different positions of NACE Rev. 1 have equal shares of 50%.

In the more complex case that a unit performs more than two activities falling into more than two different positions of NACE Rev. 1 , and none of them accounting for more than 50 % of value added, the activity classification of that unit has to be determined by using the ‚top down method'[4)] (i.e. the classification of the principal activity is determined by reference to the highest level of NACE Rev. 1 first and then at more detailed levels at least until the NACE-class - 4-digit of NACE Rev. 1 - or national sub-levels).

30. Secondary activities are other activities than the principal activity of the statistical unit producing goods and/or providing services in accordance to the demands of the market - each unit can carry out one or more secondary activities classified by NACE Rev. 1 -classes or national sub-classes.

31. Ancilliary activities can be described as supporting activities to carry out the main activity and/or the secondary activities - each unit can carry out more than one ancilliary activity (for example bookkeeping, transport, storage, selling, repair and maintenance). Thus, ancilliary activities are those that exist solely to support the productive activities of a unit by providing non durable goods or services for the use of that unit.

According to the CR-SU an activity must be regarded as ancilliary if it satisfies all the following conditions:

- Commodities produced (goods and services) must not be sold to satisfy market demands.
- The activity is not only significant for the observation unit but it must occur in comparable producing units.
- Services and (for once) consumer goods are produced which are not implemented into the composition of the final product.
- The activity contibutes to the generating costs of the unit itself (therefore it must not result in activating gross fixed capital formation).

32. Therefore, it should be noted that under the above definition the following activities are not regarded as ancilliary activities:

- production of goods and providing services or carrying out work as contribution to gross asset formation,
- partially commercialized production,
- production of integrated parts of the final output of the principal or secondary activities (such as boxes and shacks for packaging),
- energy generation in own power stations and coking plants for own uses to carry out the principal or secondary activity,
- purchases of commodities for resale as sold,
- research and development (research and development do not produce services in accordance to current production).

33. But in practice it is often not possible to obtain the information on value added referring to the different activities carried out.

Then the principal activity is determined by other criteria to obtain the best proxy possible considering the value added concept such as those mentioned in the following list:

- Based on output:
  - gross output of the unit that is attributable to the goods or services associated with each activity;
  - value of sales of those groups of products falling within the activities (usually accepted as a sufficient approximation of their gross output);
- Based on inputs:
  - wages and salaries attributable to the different activities; if an activity is capital intensive, with wages and salaries accounting for a relatively small proportion of total valued added, the value of physical assets may be taken into account in assessing the relative importance of the different activities;
  - employment in the activities according to the proportion of people engaged in the different activities of the unit.

The use of such substitute criteria however does neither change the methods to determine the principal activity nor the rules of the top-down method. They are only operational approximations of value added data.

34. However, the thoughtless use of the above listed substitute criteria may sometimes lead to misinterpretation. This will always be the case when the structure of the substitute criteria is not proportional to the (unknown) value added.

For example, using sales (turnover) as an **output based substitute criteria** it immediately becomes evident that in certain cases the proportionality of turnover and value added is not valid: for example, trade turnover has usually a much lower value added share than a manufacturing activity.

Other examples are turnover of forwarding agents, of general enterprises and so forth, but also within manufacturing the relation between sales and resulting value added may vary between and within activities. In some cases a turnover figure is of no sense or not existing (financial intermediation activities, insurance activities).

The same applies for gross output even if here the trade problem is naturally of smaller importance as the output measure is already the trade margin.

Just as the example above the use of **input based substutite criteria** might lead to misinterpretation and misidentification. The proportionality between wages and salaries or employment and the value added is not given if the capital intensity of the various activities is different. Higher capital intensity results into higher depreciation and thus a lower share of wages and salaries in value added. Clearly, the capital intensity varies substantially between the different economic activities and also between the activities of the same NACE Rev. 1 class (for example, the activity of painting road surfaces will certainly have a much lower capital intensity than the activity of constructing streets and roads; however, both activities are subsumed under the same NACE Rev. 1 class).

e. Variables and their dependency from the kind of the statistical unit used

35. The variables (items) defined in the most important economic statistics such as Structural Business Statistics, Short Term Statistics as well as PRODCOM-statistics (often with a view to other statistical concepts like the ESA, social statistics, foreign trade statistics, research and development statistics and environmental statistics) can be seen as the key variables applying to certain statistical units.

Therefore it seems to be clear that the selection of variables and the choice of certain statistical units are interactions or trade offs between homogeneity of activity and data on the one hand and the detailism of variables (expression of the items) on the other hand.

Profit or loss as well as external sales (turnover) for example, can be described as typical variables applying to the enterprise group or the enterprise and therefore they cannot be surveyed at the KAU or LKAU-level (as far as KAU or LKAU are not ident with the enterprise itself) because there will be no meaningful profit and loss accounts available or only the enterprise as legal unit is authorized sign contracts with other enterprises.
On the other hand all components of the value added as well as employment figures, volume of work, earnings and especially input and production can be surveyed at the KAU- (mostly at the LKAU-) level and summed up to enterprise aggregates.

C. The Statistical Business Register (SBR) and the sampling frames

36. The significance of a statistical business registers is emphasized by the CR-SBR as follows: , ... business registers for statistical purposes represent a basic element of systems of information on enterprises, making it possible to organize co-ordinated statistical surveys by providing a sampling base, possibilities of extrapolation and means of monitoring the replies from enterprises ...‘

37. Moreover, it is a system transforming data from administrative sources or integrated micro data resulting from different surveys. Taking into account that the aim of economic statistics is to observe and describe country’s or locality’s total productive activitiy as well as to get basic information on the structure and activities of the different statistical units the SBR should reflect the businesses of the real, observable world insofar as they are considered to be relevant to the needs for information of the users of the statistics.

38. In general the ideal SBR for statistical purposes can be defined as ‚an up-to date file of all statistical units (i.e. the ideal population), active within a territory or a locality and generating value added as well as information on relevant statistical and administrative attributes[5)].

Moreover it should reflect the hierarchical links between the different kinds of statistical units.

In practice, the SBR is thus not an instrument in its own right but a pathfinder for surveys relating to economic statistics which comes into its own when there are surveys to be conducted (delimiting the parent populations, statistical reporting obligations, addressing etc.). It can also be used for statistical analyses of the parent population of enterprises and of the units which depend on those enterprises.

a. Aims of the SBR and the SBR-population

39. The SBR is used mainly for the following purposes:

- to compile a directory of the statistical units included in surveys and related to economic statistics; this directory can be used for the mailing of survey forms, too;
- as a frame for the selection of the components comprising a sample population for statistical sample surveys;
- as a frame for grossing-up the results of sample surveys;
- as a frame for checking whether the survey forms have been completed and returned by all the relevant units;
- to improve the consistency of the results of different economic surveys;
- as a basis for analysing enterprise populations including enterprise and other units registrations and deregistrations;
- as a direct source for statistical data relating to activity classification, regional and size distribution of the different components specifying the parent population for economic statistics.

40. The SBR, in line with the CR-SBR, obligatory has to implement three kinds of units:

- *the legal units*
- *the enterprises (being attached to one or more legal units) and*
- *the local units,*

but this list might not be exhaustive[6)].

41. Because of the fact that enterprises with a principal activity within Section A, B and L of NACE Rev. 1 (as well as legal units responsible for, or local units depending on them) are foreseen as optional, the SBR mostly covers the whole of the profit/earnings-oriented economy including the liberal professions (e.g. physicians, lawyers, trustees, civil engineers), too. However, agricultural and forestry holdings (NACE-Sections A, B) as well as private non-profit organisations (e.g. clubs) are often not included in the SBR.

b. Changes in the SBR-population and their treatment

42. In principle, populations refer either to a period or a moment. Moment bound populations are satisfying the needs for collecting moment bound data (as for example stocks or employment).

Therefore, by discussing the relevance of changes in the SBR-population (and therefore often changes in a certain survey population, too) the *time dimension* is a further element to delineate a population.

43. The most important reasons to examine the relevance of changes in the populations and of the time dimension are:

- The demand for information on business demographic changes (number of births, deaths, merger and take over, break-up and split-off, creation of a joint venture and restructuring, transfers and changes of group[7)]) at the different unit-levels available in the SBR and their economic impact is more and more increasing.
- As mentioned before nearly all economic statistics based on populations of SBR-units have a time dimension and therefore the treatment of changes first affects the consistency as well as the compatibility of these SBR-based statistics and especially it influences how short term statistics like the Short Term Statistics (STS) are related to long term statistic such as the Structural Business Statistics (SBS).

44. Business demographic changes in the real, observable world are called ‚*events*', whereas the changes in the SBR are called ‚*movements*'.
To avoid confusion in terminology, it seems to be important to define the different events and resulting movements in the SBR thereof very exactly as well as to define in a common way when these events and movements take place.

45. *How to define relevant demographic events?*

Outgoing from the enterprise definition[8)] and taking into account that the enterprise is the central statistical unit and that all other units (as far as they are observable and therefore subjects of a survey) are defined in terms of the enterprise it seems clear that all changes in the existence, distribution or redistribution of the combinations of production factors and their parts as well as transfers of statistical units to another higher hierarchical level than before with respect to the economic activity or location are of relevance[9)] in this context.

The most relevant demographic events superficially can be described as follows:

- *Birth and death*
- *Merging and take over*
- *Break up and split off*
- *Creation of a joint venture and restructuring*
- *Transfer*
- *Change of a group.*

46. *Birth* and *death* (applicable for all possible statistical units): In line with the para before, birth of a unit can be seen as the creation of a combination of production factors or their parts and therefore creating a new statistical unit. In opposite to that, death can be described as dissolution of existing production factors and their parts. Therefore these events are called ‚*existential changes*', too.

47. *Merging* and *take over* (only enterprise and local unit as far as there is only one local unit of the referring enterprise): If two or more enterprises are integrated into or absorbed by another enterprise (i.e. a completely new organizational unit is caused by this event) and these enterprises loose their identity this is called ‚merging'. If only a number of the enterprises involved are dissolving respectively are loosing their identity and one of the enterprises involved is absorbing the others and remains largely the same as before, a take-over takes place. Take into account that neither merging nor take over lead to a death of an enterprise involved – death therefore is a different event because in case of merging or take over the production factors existing before are transferred into a new organization; on the other hand only merging leads to the birth of a new enterprise. Both events are summarized under the term ‚*concentration*'.

48. *Break up* and *split off* (enterprise and local unit as far as there is only one local unit of the referring enterprise): Break up and split off are the counterparts of merging and take over. If an enterprise is broken up into two or more enterprises the old enterprise looses its identity and new ones are created. In the case of split off the enterprise splitted off remains as an independant unit but loosing parts of the production factors. These events are called ‚*deconcentration*'.

49. *Creation of a joint venture* and *restructuring* (enterprise and local unit as far as there is only one local unit of the referring enterprise): Joint venture is a special form of cooperation (partnership) within two or more enterprises creating a new enterprise to carry out a special common project or an indefinite number of common projects. Whereas, the original enterprises remain existing a new enterprise for these purposes is born.

Restructuring comprises all cases not mentioned above. Although, at least the identity of one of the enterprises involved is changing, the total number of enterprises involved might be the same as before. For instance, because of the complete reorganization of the production capacity within an enterprise group, principal activity and/or size classes of the enterprises may change.

Deviating from the official opinion it might be said that restructing could happen at the KAU or LKAU-level, too.

50. *Transfer (*applicable for all possible statistical units with the exception of enterprises): Each statistical unit of the SBR is linked to one and only one enterprise. If a new link with another enterprise comes into being and the statistical unit does not loose its identity but will become a hierarchical part of the new enterprise this event is called ‚transfer'.

51. Change of a group (only enterprise – this event is more or less not relevant with respect to the SBR at the moment): This is meant when an enterprise remains the same keeping its identy but changes from one enterprise group to another.

52. The general question is: Which are the conditions for keeping and changing the identity of a SBR-unit - or basing on the theoretical point of view that an enterprise or an organizational part thereof can be considered to be continued if its production factors or parts are continued – which practical and operational criteria of the SBR can be found to check continuity with respect to the production factors?

This point of view leads back to

- the legal criteria (mostly in accordance with the accounting and organizational criteria)
- the geographical criteria and
- the acitivy criteria.

53. Therefore the following continuity rules are recommended for enterprises[10)]:

- If there is a change of the **controlling legal unit** and no other changes (maybe with the exception of the address of the administrative enterprise site) there is deemed to be no discontinuity. Change of the controlling unit only seems to be no sufficient reason to delete an existing enterprise record in the SBR when the enterprise continues its main activity and the location where this main activity and the employment takes place.
- A change of **main location** of the enterprise and no other changes is deemed to be no discontinuity too, although consider, that a move over long distances within a national territory often might be connected with the loss of clientele and therefore the enterprise must be restructured as a whole). The register has to change the address of the enterprise.
- A change of **main activity** of the enterprise and no other changes is deemed to be no discontinuity, too, because in most cases the change of the activity (connected with the change of the NACE, Rev.1-code in the SBR), often takes place gradually and in that case it is assumed that the production factors do not change abruptly (or not all of them at the same time, respectively).
- However, if **two of the three criteria** mentioned above take place for the enterprise then discontiuity is assumed meaning that the old enterprise record in the SBR has to be deleted and a new one has to be created. This leads to the fact that for survey purposes a new enterprise is ‚born' and an old enterprise ‚looses its life'.

54. The criteria ‚main activity' and ‚main location' can be used for LU as well as for KAU and LKAU if the latter are administrated in the SBR. The criteria ‚controlling legal unit' should be replaced by ‚enterprise'. Further criteria to discuss relevant SBR-changes and their impact at units-levels below the enterprise might be

- changes in the **production factor employment** as an observable representative of the constituent factors of the production system.

Therefore, at LU-, KAU- or LKAU-level discontinuity (and as a consequence, a change of the referring unit) takes place when

- changes of enterprise and main activity of the unit (same employment),
- changes of enterprise and employment of the unit (same main activity),
- change of the main activity and employment of the unit (same enterprise)

occur.

55. So in general, the conclusion is that at least two of all the factors defined for the enterprise and the other units administrated by the SBR have to change to loose the units identity.

c. Sources for up-dating the SBR

56. Because of the numerous changes in units and their attributes all possible sources and informations outside and inside the NSI should be utilized to up-date and maintain the SBR continuously. Only a fully up-dated SBR can carry out the tasks of an ultimate source for survey purposes.

In this context, the CR-SBS laid down that, as a general rule, register information (variables, especially entities and removals) and information obtained from administrative sources or annual surveys shall be updated at least annually.

In general, it is useful to distinguish between external and internal sources (registers and their information available).

57. The most commonly **external sources** (also often called administrative sources) are tax registers, registers of Social Insurance Boards, registers of the Chamber of Commerce, registers of the National Bank and commercial data banks about enterprises.

58. **Internally**, all surveys using the SBR as a sampling frame should serve as checks on the existence of units and on the correctness of variable-attributes of the SBR (for example, principal and secondary activities, size classes, regionality, turnover classes). For instance, production statistics like PRODCOM seem to be most fitted for this purpose. Also other internal registers (like the those for Intrastat- or agricultural purposes) might have information relevant for the SBR.

On the other hand the information of external sources often are not coherent to the SBR-needs especially there are often discrepancies in definition of the units and their delimitation as well as in classifying the activities and so those informations are found to be of poor quality; to improve the register quality in these cases it is obligatory that follow-up actions by the SBR staff take place mostly supported by the staff of a survey project.

59. Therefore to have a SBR available in line with the needs of a survey population the following requirements should be met at a high level:

- All registers should be harmonized insofar as they use a common language defined by obligatory rules (like the CR-SU and especially the SBR-NACE) and should be able and allowed to communicate and interact with each other to ensure the providing of relevant register information. Furthermore, they should have a common key to identify paired register units.
- The external and internal register staffs as well as the survey staffs must be trained in a common way by defining the different units for different survey purposes as well as their delimitation and restrictions (in accordance to their activities carried out and with respect to their regional aspects) in line with the CR-SU and other statistical tools like CR-SBR and especially CR-NACE.

D. The PRODCOM-population with respect to the Regulation

60. The CR-PRODCOM[11)] in general defines the PRODCOM-population with respect to the CR-NACE (and therefore in accordance to NACE Rev. 1) and NUTS as well as to the CR-SU.

In accordance to the criteria philosophy it takes into consideration the

- activity criteria,
- regional criteria
- legal criteria (implicitly in accordance to the kind of unit to be used) and
- criteria of size classification.

61. Referring to the **activity criteria**, Article 2 (1) outlines that ‚the fields covered by the survey referred to in article 1 shall be that of the activities listed in sections C, D and E[12)] of NACE Rev. 1‘.

Moreover Article 3 dealing with the criteria of representativeness formulates in para 1 that ‚the production of all undertakings must be recorded with sufficient accuracy for each NACE Rev. 1-class‘ and referring to para 3 , should represent at least 90% of national production per NACE Rev. 1-class‘. On the other hand an exclusion from para 2 is made in para 4 insofar as PRODCOM-data on headings referring to the production of a NACE-class representing less than 1% of the EC-total need not be collected.

62. Article 2 (5) applies to the NUTS-level and therefore to the **regional criteria** as it states that ‚the production surveyed shall be only that production actually carried out within the Member State' and therefore ‚shall not include production outside irs territory on behalf of some of its undertakings'.

63. Article 3 stipulates that the survey units should be ‚all undertakings (excursion: the general notes (6) of the PRODCOM-list refer to the local unit, too) which contribute to the 90% of national production per NACE-class'. Identifying undertakings as the ‚enterprise' as defined in the CR-SU as well as mentioned in GESMES/PRODCOM[13)] then this unit is in line with the **legal criteria**, too.

64. Moreover, Article 3, para 3 takes the **criteria of size classification** into account too, as it states that ‚.. the account shall be taken of all undertakings employing at least 20 people' implicitly deductible, that, if the 90% criteria is not covered by the enterprises with 20 and more employees, further enterprises with less than 20 emplyees should be implemented into the survey (for example all enterprises referring to employment size class 15-19, and/or 10-14 and/or 5-9 and/or even 1-4).

On the other hand let me put a provocative question: ei es gestatet eine provokante Frage zu stellen:

65. *Is the enterprise in praxi really the best choice as PRODCOM-observation unit?*

Assuming that the SBR follows the rules and criteria mentioned above to define statistical units we might have not only the enterprise but also

- the kind of activity unit (KAU)
- the local unit (LU) and
- the local kind of activity unit (LKAU)

as a potential candidate for PRODCOM-survey purposes.

66. If we attribute great relevance at legal, accounting or organizational criteria (i.e. we think that the best way to investigate industrial production in a national territory is to refer to the statistical unit representing and managing the production policy), we probably choose the **enterprise** as statistical unit for the PRODCOM survey.

67. If we are, above all, interested to get information in what region industrial production is really carried out, we have probably to select the **local unit** (LU) as statistical unit for our survey.

68. If we are interested in reflecting most homogenous production processes the best choice obviously is the **kind of activity unit** (as mentioned before the KAU is assumed to be the actual transactor of the production process).

69. Taking into account both, reflecting most homogenous production processes and regionalization, we should take the **local kind of activity** (LKAU) as observation unit.

70. The (theoretical) best choices, **unit of homogenous production** (UHP) and **local unit of homogenous production** (LUHP), carrying out only one activty or only one activity at one location cannot be taken into consideration because of many practical reasons (especially no information available in such detail needed; further splitting up is not in line with the principle to minimize the response burden).

If we consider the three main criteria defining the statistical units and and making our decision on the basis of a priority or priority combination with regard to the three criteria, we can draw the following table differentiating 7 possibly choices (bold-marked):

Table:

Statistical units as possible observation units in context with the criteria for choice

Criteria for choice			**Statistical units as possible observation units**
Legal, accounting and organizational	Geographical	Activity	
yes	no	no	**enterprise**
yes	no	yes	**Enterprise -KAU**
yes	yes	no	**Enterprise - Local unit**
yes	yes	yes	**Enterprise - KAU- Local unit - LKAU**
no	no	no	(Not consistent)
no	no	yes	**KAU**
no	yes	no	**LU**
no	yes	yes	**LKAU**

71. But, the selection of the ‚correct' observation unit for PRODCOM-purposes not only primarily depends on the aims of the survey basing only on the users wishes (ideal population); rather it is the result of a compromise between the users wishes, the ability of the SBR as basis and the capability and willingness of the respondents with reference to the intention of the survey project PRODCOM.

If statistical units like the KAUs or LKAUs as observation units instead of the enterprise are chosen it must be ensured that these groupings of all parts of an enterprise (contributing to the performance of an activity at class level (four digits) of NACE Rev. 1 and corresponding to one or more subdivisions of an enterprise) have a minimum of cost accounting and the enterprise itself has the capability of indicating or calculating at least the value of production, intermediate consumption, manpower costs, the operating surplus, employment and fixed capital formation for each KAU.

As a consequence thereof it must be possible to aggregate all relevant data (such as production data) completely up to the enterprise level.

72. In this context ESA 1995 states in para 3.14 and para 3.15:

'Output consists of the products created during the accounting period.

Particular cases included are:

- the goods and services which one local KAU provides to a different local KAU belonging to the same institutional unit
- the goods which are produced by a local KAU and remain in inventories at the end of the period in which they are produced, whatever their susequent use.

But, goods or services produced and consumed within the same accounting period and within the same local KAU are not separately identified. They are therefore not recorded as part of the output of that local KAU.' and:

'When an institutional unit (i.e enterprise) contains more than one local KAU, the output of the institutional unit is the sum of the outputs of ist component local Kau's, including outputs delivered between the component local KAU's.

Therefore the gross production value includes everything leaving the observation unit. Is the enterprise the observation unit, then just all goods leaving the enterprise. Is the LKAU the observation unit and has the enterprise more than one LKAU then just all that leaving the enterprise but including intermediaries for further processing in another LKAU of the enterprise, too.'

Therefore it should be mentioned in this context that the concepts of 'output' and 'gross production value' used in ESA 1995 seem to be quite different from the concept of 'total production' used in PRODCOM.

a. Statistical units in PRODCOM and their impact on data representativeness

73. *How to check the common ‚90%' respectively ‚1%' criteria?*

Article 3, para 2, of the PRODCOM Regulation states that:

> *"Member States shall adopt surveys methods designed to facilitate the collection of data from undertakings representing at least 90% of national production per NACE Rev. 1 class. (...)."*

Analyzing how the requirement of the 90% coverage of a NACE class should be measured some aspects need to be clarified.

In accordance with Article 2 (3) and (4) of CR-PRODCOM different production types are used in the survey:

- production sold during the survey period (value);
- production sold during the survey period (physical volume);
- actual production (Total production) during the survey period (physical volume) and
- production made during the survey period which is intended for sale (physical volume and/or value).

74. Because different production concepts are used in Prodcom survey at the moment, the question is: "What PRODCOM type of production is suitable for this purpose?"

Taking into consideration, that the the production type 'sold production' is compulsory for nearly all PRODCOM-headings and that most Member States therefore collect sold production for all PRODCOM headings, it seems to be logical to find a proxy to the ' *value of production sold'*.

Variables being a good proxy for this purpose, might be found in the CR-SBS-variables, either

- turnover from the principal activity (18 110) of all observation units grossed up at a NACE Rev. 1 4-digit level concerning NACE-Sections C to E or
- turnover from industrial activities (18 120) of all observation units grossed up at a NACE Rev. 1 4-digit level concerning NACE-Sections C to E.

75. *Observation units with ‚inhomogenous' activities*

Assume, the activity criteria are the most appropriate criteria to select the those PRODCOM-population which units reflect the activities producing PRODCOM goods.

Furthermore, assume that there are not only enterprises carrying out only PRODCOM-homogenous activities (i.e. activities within the NACE-Sections C to E) but also carry out activities referring to the NACE-Sections G to Q as secondary activities too, or on the other hand there exist enterprises as part of the SBR-population with a main activity referring to the NACE-Sections G to Q but having potential operational subdivisions (KAUs or LKAUs) carrying out considerable market oriented production performances in accordance to PRODCOM.

Should we ignore the contribution to the total national production of these mostly large multi activity enterprises?

If some Member States ignore this contribution to total production and other countries consider that in their statistical concepts the 90% criteria might be measured on different bases and as a consequence, this might lead to problems in interpreting the Community total as well as to different calculation of the 1%-representativeness.

76. *Excursion:*

In Austria, for example the observation unit of the PRODCOM-survey (as well as in Short Term Statistics) primarily is the KAU (or LKAU, if it is necessary to consider the regional aspects, too) as the actual transactor in the production process.

The fact is that in Austria more than 94% of the SBR-population carrying out an activity within the NACE, Rev.1 Sections C to E (it should be mentioned in this context, that section F is also covered in the Austrian PRODCOM-survey) are enterprises with only one KAU, one LU and therefore one LKAU (in Austria called ‚single establishment enterprises') too. Only about 6% of the total population are mostly large multi-activity enterprises (in Austria called ‚multi activity/multi establishment enterprises'[14]).

77. *Does the choice of the PRODCOM-survey population implicitly contribute to detect all possible activity within the NACE, Rev.1 C, D and E?*

Outgoing from the starting point that the PRODCOM survey population is drawn from the SBR total population as a sample frame, the PRODCOM-survey population, at the first stage is basing on the activity information (as coded main and secondary activities) which is stored in the singular unit-files together with further unit attributes. The activities therefore are defined by the SBR in accordance with the CR-NACE for all evident observation units as one of the attributes.

On the other hand the PRODCOM-data reported by the unit (or the PRODCOM-headings used, respectively) implicitly serve as a source for updating the activities information of the SBR.

78. But, ongoing from the aim of the PRDOCM-survey to cover all undertakings which manufacture products of the PRODCOM list and referring to the fact that the PRODCOM headings defined in the list are representative for activities in accordance to NACE Rev. 1–classes it must simultaneously taken into consideration which and how many activities per observation unit (one main activity but how many secondary activities?) are administrated by the SBR as source for drawing the PRODCOM-population. If so, we have to discuss the following questions:

- Should PRODCOM only refer to the main activity in accordance to the CR-PRODCOM or should secondary activities of the observation units in accordance to the CR-PRODCOM be taken into account, too?
- If secondary activities are relevant for the PRODCOM-survey too, the number of possible secondary activities of the units to be observed depends on the number of activities which can be administrated in practice by the SBR.
  Does it therefore seem to be sufficient to include from, say, seven relevant secondary activities with reference to NACE-Sections C to E only two of them because of the fact that the register can administrate only one main activity and (for example) two secondary activities[15)]?

- Of course we can say that an observation unit with a main activity in accordance to the CR-PRODCOM is obliged to report all PRODCOM-headings processed by this unit (i.e. this enterprise has to select the referring PRODCOM-headings out from the comprehensive PRODCOM-list without any restrictions). This obligation however, would lead to enormous unwillingness of the respondents or reporting unit staffs because of increasing burden (as far as we cannot provide this enterprise with electronic instruments such as an ‚electronic questionnaire' for example). Another possibility is to provide the respondent with a list of PRODCOM-headings referring to the main activity and all other products processed should be reported by using the term usually applied in market. These goods reported must be reclassified by the survey staff into PRODCOM-terms and this leads to further recalls for information by the survey staff and, as a consequence, to delays in processing the survey.
- Furthermore: Although PRODCOM in general serves as a basis to give information on the goods produced for market producers or their representations of interest it is used as a very important source to calculate input/output tables or to analyze production processes and other market activities of different industrial branches, too. However, for these aims the information provided on the basis of the present PRODCOM headings seem to be too restrictive at the moment.

79. Therefore it is proposed that PRODCOM should cover not only headings relating to physical goods and industrial services but also other services (relating to NACE, Rev.1-Sections G to Q) as non physical goods in accordance to a certain CPA-level in future.

This would ensure a great acceptance in macro economic statistics; furthermore it would give a broad information on the different activities carried out by the survey units as well as help to update the SBR with fundamental information.

80. Nevertheless it must be mentioned that all these worthwhile informations are not costless. Selecting the sample size or the different kinds of statistical units respectively, depends more or less on two factors, cost and quality or precision of information (in general it is assumed that, with increasing sample size and increasing degree of information, the quality will increase, too). However the larger the sample or the more detailed the information requested and reported the more expensive and burdensome as well as time consuming the survey will be for all actors concerned. This should be taken into account by discussing the next point, too.

b. Statistical units in PRODCOM and their impact on data quality

81. Before discussing this point generally acceptable quality criteria should be defined. In case of observation units of the survey we should concentrate on the qualitiy contribution to the general framework of quality policy (concerning not only PRODCOM but all business statistics).

82. In case of STS and SBS, quality of statistics is defined with reference to the following main criteria (similar criteria are mentioned in the draft of the SBR-Manual):

- **Relevance** of statistical concepts: A survey is relevant if it meets user's needs; in case of the survey population errors seem to occur if the statistical units and the sample frame selected do not reflect information on the *real world;*
- **Accuracy** of estimates: Accuracy is defined as the closeness between the estimated value and the (unknown) true population; with reference to the PRODCOM population it should be discussed in this context if the criteria of representativeness can be the basis to estimate the the unknown total population;
- **Timeliness and punctuality** (at every segment of the survey cycle): In general, users want up-to-date figures which are published frequently and in time. This request, however presupposes that the respondents submit their information with a certain degree of timeliness and punctuality;
- **Accessibility** and **clarity** of the information: It seems to be absolutely necessary to provide assistance in using and interpreting the statistics because statistical data have most value being easily accessible by users and available in the forms users desire and being adequately and comprehensively documented;
- **Comparability** of statistics: statistics have the greatest usefulness when they enable reliable comparisons of values taken by the characteristic across space and over time and between different statistical concepts;

and last, but not least:

- **Coherence** of data: Statistics are coherent insofar as they base on common definitions, classifications and methodological standards to ensure clear relationship to each other or at least avoid contradiction between the different surveys and their information provided.

83. Lacks in the criteria mentioned above coincide mainly with the following errors (here, listed with a special view on the SBR as source of information):

- **Errors in existence:** On the one hand units might be registered in the SBR as economically active but they are not active yet or anymore (often called ‚overcoverage' – the SBR includes dead units, units counted twice or merged units for example) on the other hand the SBR does not include units which are economically active (so called ‚undercoverage' – for example, units are real ‚born', demerged or misclassified). Especially the error of ‚undercoverage' may be very harmful to the PRODCOM population and the resulting statistical data of the survey (if not detected and treated immediately).

- **Errors in statistical/stratification variables:** As SBR-error type, it refers to variables like the economic activity codes (main and secondary activity codes), legal status, the size class of number of persons employed and the size class of turnover as variables stored and expected to be maintained in the SBR-files. Especially activity misclassification (for instance, a wholesale observation unit might be classified under industry or an ‚important' industrial observation unit might be classified in agriculture and vice versa). Product misclassification (indirectly, if PRODCOM serves as one of the update sources for the SBR) seems to be one of the mostly bases for distortions in statistical results, too. As mentioned, the size class of employment as well as value of national production are the basic criteria defining the representativeness (at least all undertakings with >= 20 persons employed, if not sufficient then size classes below should be included, too) and therefore wrong classification in size measured employment or turnover as an estimation either for the 90% criteria or for the 1% criteria respectively, might result in survey undercoverage and as a consequence, might lead to total loss of PRODCOM-information on certain NACE Rev. 1 classes in some Member States.
- **Errors in units:** This type contains errors in the delineation of the structure of statistical units[16)] (especially enterprises – for example in delineation of the LUs, maybe KAUs or LKAUs as survey units) and is therefore a restricting factor for comparability
- **Errors in administrative variables:** This type refers to errors in SBR-identifiers (for examples addresses, names, contact persons and especially missing or wrong common keys as links between an administrative register used as external source for updating the SBR and the SBR itself). These errors might result in problems to locate units (and therefore be very time consuming) but might affect the quality of statistics very persistently in case of using methods of automated linkage and register equalization or adjustment.
- **Errors in links between units over time:** These errors might lead to serious distortions in time series and comparability of certain statistics variables basing on different statistics carried out at different periods (like STS, SBS and PRODCOM-statistics).
- **Errors of double counting:** These errors have a serious impact on the survey results and might occur at any statistical unit-level (enterprises as well as LUs, KAUs or LKAUs).
  At the enterprise level double counting of economic performance might occur when business partners claim and report the same economic performance[17)] within the same survey. Errors of double counting should be excluded
  - by defining the tasks of the operators and the position of them (i.e. supply and demand of economic performance, respondent and observation unit of a survey) with reference to the economic project (for example it must be delineated very clear that there might be a difference between main contractor also called ‚principal' as the ‚economical owner' and the ‚sub contractor' as the ‚producer' of a physical or non physical product)
  - and by defining variables referring to these tasks and their relationship to the different actors.

So, for example the General Notes of the PRODCOM-list state that, ‚in order to avoid duplication, contract processing must be reported only by the subcontractor in the country concerned, i.e. where production actually takes place.‘ This definition implicitly arrives at the conclusion that Eurostat with regard to contract processing is more interested in information who is the producer (therefore the subcontractor) and not in information who is the owner (in this context it must be mentioned that this is not quite true because this ‚external‘ processing of semi finished goods or final products is part of the production types requested by the PRODCOM-survey in accordance with the PRODCOM-list). But, very often there is a demand for data depicting and analyzing the production cycle in an economy (between enterprises as the representative of the market economy) as well as different stages of production between the different units (represented by KAU or LKAU of one and the same enterprise). If so, two different variables (with clearly different contents) reported by two different respondents must be defined in an unmistakable manner to make calculation in different ways possible.

By accepting that the valuation is as well worthwile as the quantity of a product it seems to be necessary to discuss which concept should be preferred, the ‘producer’ (in case of subcontract work the subcontractor) or the ‘owner’ (therefore the principal) concept

84. This enumeration might not be exhaustive but we think it comprises the most effective errors with respect to the selection and administration of observation units which at least must be minimized either before drawing the sample frame from the SBR-population or in the survey phase ‚processing and analysis‘ at the latest to avoid serious distortions in further survey processing and especially with regard to the results of the survey (leading moreover to misinterpretation of results).

Because the most of these errors can occur each of the actors of the survey (respondents and/or observation units might give wrong information, SBR- and survey staff might misinterprete information or use wrong information without verification and correction of errors), a continous and close cooperation between all actors of the survey is necessary to minimize the number of these errors.

b. Producer vs. owner of products in context with sub-contracting, subcontract work and performances of a general contractor

85. These terms are not very clear and they were subjects of several pilot surveys to make them clear. Before discussing these terms we have to add that the explanations hereinafter reflect only our own opinion.

86. *The term ‚subcontracting'*[18]

Two enterprises are linked by a subcontracting relationship whenever both conditions mentioned herinafter are met together:

- The customer enterprise (later on the ‚owner' of the product), also said main contractor, participates in the conception of the product providing technical specifications to the supplier enterprise (also called ‚producer' but not ‚owner' of the good), also said subcontractor, and/or provides it with the materials to be processed.
- The customer enterprise sells the subcontract product, either as such or as a part of a more complex product and takes on the after-sales liability for the product.

However, take into consideration that the mere stipulation of a colour, size or a catalogue number does not constitute a technical specification in itself. The manufacture of a tailor-made product does not of itself necessarily imply a subcontracting relationship. In contrary to the contract processing mentioned below, the subcontractors receipts might (depending on the contract as agreed) include not only the fee for the work done but might also include receipts for the material sold in charge of the main contractor as well as cost for research and development, for example.

87. *The term ‚contract processing'*

On the other hand the General Notes of PRODCOM stipulate ‚*contract processing*' as economic process, when material supplied free of charge by the principal (as ‚owner') is worked or processed. The work of the contractor is paid by the principal as a fee. It is also mentioned that ‚the principal and the contractor must be different ‚undertakings'' and therefore ‚contract processing between different ‚plants' belonging to the same ‚undertaking' is not possible'. Therefore, in comparison with the term ‚subcontracting' this term is defined more closely insofar as providing materials by the contractor is not an obligatory subject to legitimate 'subcontracting' whereas 'contract processing' is basing only on the materials supplied free of charge by the principal. On the other hand only both principles mentioned above legitimate the existence of subcontracting in the sense of SBS and therefore the case of subcontracting is basing on more conditions than the case of contract processing. It is therefore recommended to adapt the PRODCOM-term by using the same definition as in the CR-SBS.

88. *The term ‚performances of a general contractor'*

From our point of view, a ‚general contractor' is characterized by the following aspects:

- The general contractor is charged by a principal with a special project to be carried out in accordance to the general contract made between the both contract partners. The proceeds for the general contractor, pre-arranged in the general contract, include all expenditures and a certain degree of profit.

Legal effectiveness with reference to the general contract and therefore to the project exists only between the principal and the general contractor but not among the general contractor and all the other enterprises concerned, too.

- The special project to be carried out is the processing of a physical or non physical good (mostly in the construction sector but we think, not exclusively).

To carry out this work in time or in a certain quality laid down in the general contract the general contractor makes further agreements with other enterprises to carry out or to participate in carrying out parts of the the project. Therefore the general contractor simultaneously acts as main contractor of the principal and the other enterprises whereas the other enterprises act as subcontractors of the general contractor.

Therefore the latter relationship among general contractor and other enterprises is comparable with ‚subcontracting'.

Whether or not or in which extent general contractors are to be considere in PRODCOM should be discussed in more detail.

c. Statistical units of the PRODCOM survey with a view to other statistical concepts

89. Assuming, that the statistical units of the PRODCOM-survey in some Member States do not only act mainly as source of information for FEBI's and industrial sectoral policy we can find the following interdepencies to other units mentioned in the harmonized European economic statistical framework and its legal acts:

90. The *European System of National and Regional Accounts (1995 ESA*) as the internationally compatible accounting framework for a systematic and detailed description of a total economy and its components as well as its relationship to other total economies consisting of two main sets of tables, i.e.

- the sector accounts (providing a systematic description of the different stages of the economic processes and therefore especially for production, too) but more relevant with regard to PRODCOM,
- the input-output framework and the accounts by industry describing in more detail the production process (especially the flows of goods and services (output, imports, exports, intermediate and final consumption and capital formation).

Whereas in chapter 2 the producers units[19)] used are described and chapter 3 deals with their market relationship of these units[20)], chapter 9.10 stipulates indirectly the use of PRODCOM-data as a source for calculating input/otput tables: ‚Most statistical information that can be obtained from producers units indicates what type of products they have produced/sold and usually less detailed, what type of products they have used/bought.' and furthermore in 9.17: ‚... the classification used for industries is the NACE Rev. 1 and the classification employed for products is the CPA ..'.

The flows of goods and services are valued at purchaser's (market) prices in the use table and at basic prices in the supply tables. The input/output tables of the 1995 ESA therefore can be described as the most important link between production statistics and foreign trade statistics carrying out a very effective control function at the macro economic (national or regional) level

91. *CR-STS* (Council Regulation (EC) No 1165/98 of 19 May 1998 concerning Short-Term Statistics) indicates in para (16) the reference to the CR-NACE and CR-SU and more precise in Article (2) the obligatory use of the NACE Rev. 1 by applying all market activities in Section C to K and M to O. Para (2) of this Article refers to the different kinds of units of the Annex II of the CR-SU. In more detail, Annex A (describing the industry module) the KAU is stated to be the observation unit for all variables with the exception that the enterprise can act as observation unit if only few persons are employed in secondary activities. Furthermore the Manual on Short Term Statistics in part A, chapter 3 recommends to use ‚the CPA product classification or rather the more detailed PRODCOM-list as far as queried units must report data by products'[21)].

92. As mentioned before there is a great interdependence between the CR-PRODCOM and the *CR-SBS* (Council Regulation (EC, Euratom) No 58/97 of 20 December 1996 concerning structural business statistics). On the one hand PRODCOM-information on the activities of the units concerned in the SBS too, might provocate updatings and corrections before drawing the SBS-sample from the SBR; moreover, turnover as a variable of the SBS can serve as ex post controlling instrument in accordance to the PRODCOM-representativeness.

93. The *CR-INTRASTAT* (Council Regulation (EEC) No 3330/91 of 7 November 1991 on the statistics relating to the trading of goods between Member States) has to be mentioned in this context too, because external trade statistics play the counterpart role to production statistics.

94. Other statistical projects as potential users of PRODCOM-statistics are *food statistics* (Modules 661 and 671 of the valid Statistical Programme), *iron and steel statistics* (Module 446) *energy statistics* (Modules 451 to 453) and *environmental statistics* (Modules 711 to 715).

95. Therefore one of the main requests concerning PRODCOM is to take care of other statistical interests and to cooperate more closely with them and to coordinate the harmonization of the methods (meta data).

E. Proposals and recommendations

96. Ongoing from the fact that there is no ideal statistical world without any imperfections (in case of statistical units for example there is neither a perfect business register as a perfect information source to select all the objectives of a survey nor, as a rule, model respondents who are fully willing and able to report on all data desired) the imperfections have to be identified and to be minimized by finding a balance between the user needs and the capabilities of the respondents to provide the information requested (with a view to the technical and financial capabilities of the NSI) to reach the utmost acceptance of a statistical project in public opinion.

97. Maybe some of the proposals hereinafter mentioned are provocative and might exceed the subject ‚statistical units in PRODCOM' thematically. But, because of the fact that statistical units in all business statistics act as sources of informations themselves as well as they provide statistical information they might affect the outcome of a statistical project very seriously. In general, it would be useful to differentiate between four groups of questions being in line with the following proposals and recommendations (maybe interfering each other):

98. Firstly: How to improve the understanding of the statistical basic tools ‚classifications' and ‚statistical units' with regard to interpretation and analysis in context with the quality of PRODCOM data?
Recommendations:

- Eurostat should establish and make commonly accessible a ‚case law' database as an unique source for interpreting practical problems referring to activity classification of statistical units as well as product classification with regard to CPA or PRODCOM and accessible for all potential users (for example: How should ‚bundled products' like motor vehicles produced and sold together with repair and warranty services for some defined time period or combined plants as well as the statistical units concerned be classified or a unit processing bundled products be treated?). Furthermore web-sites should be established as a forum for discussion to store the problems requested by the Member States and to be discussed in question form. Then these problems could be commented by the different users applying these web-sites. These web-sites simultaneously could be used as a basis for decision making, too. The starting point should be the PRODCOM 1999 survey.
- Eurostat should make available a common subject index by alphabetical order (so called NACE keyword- or CPA/PRODCOM keyword database) in the Internet including as many terms as possible used in practice in connection with their referring code number and accessible for all potential users.
- Eurostat should make accessible a common data bank for all users in the Internet including the activity classifications ISIC and NACE, all commodity classifications (SITC, CN, HS, CPA and PRODCOM) with all references as well as reclassification tables.

- Moreover, Eurostat should establish an electronic comprehensive alphabetical register of statistical terms used in the different economic statistical projects including variables and their codification, explanatory notes, technical and legal cross references[22)] with a special view to national deviations from the common line, accessible for all potential users.
- Methodological Manuals in combination with all the sources mentioned above should serve as the logical basis to train the different actors in the statistical production process cooperating in carrying out the projects as well as other statisticians as potential users of statistical informations.

It seems to be clear that the realization of establishing, maintaining and making available such meta data as sources of information proposed is very burdensome, time expensive and cost intensive; therefore it must be ensured that all parties who benefit from a high quality standard make their contribution to the establishment and up-dating of these information sources. On the other hand such common sources seem to be de facto the most important basis for harmonized and coherent classification and delimitation of statistical units and, as a consequence, an important factor to increase the quality of statistics successively. Therefore they are not dispensable.

99. Secondly: How to improve the quality of the different statistical units as source of information for PRODCOM data?

Recommendations:

- The different kinds of statistical units should be discussed with a view to the variables requested. In practice, the best informant as person linked to production and cost accounting variables seems to be the head of the processing plant and not the head of the book-keeping office of the enterprise, for example.
- Taking into consideration that an enterprise might have different plants at different locations, the best choice as observation unit seems not to be the enterprise itself.

  An attempt to solve the problem of large enterprises with some secondary activities carried out at different locations (also called ‚multi establishment enterprises' in terms of ISIC Rev. 3 or therefore ‚multi LKAU-enterprises', too) might be that only in case of complex enterprises[23)] (and therefore only those having 250 and more employees in secondary activities) all LKAUs (comparable with plants or other subdivisions of the enterprise concerned) or all LUs carrying out main activities within the NACE-sections C to E serve as observation units instead of the enterprise. The problem of this attempt is that there are no employment variables available in the SBR referring to the different types of activities carried out, so the share of employment for each activity must be estimated.

Another attempt would be to differentiate between large enterprises (more than 250 persons employed), medium sized enterprises (50 up to 249 persons employed) small enterprises (10 up to 49 persons employed) and very small enterprises (less than 10 persons employed) and in line with a certain degree of total employment for all activities but not only secondary activities (for example only all enterprises up to 50 persons employed in all activities, carrying out main activities as well as secondary activities referring to NACE Rev. 1 Sections C to E and having more than one LKAU) all LKAUs of these multi LKAU enterprises carrying out an activity in accordance to PRODCOM should serve as observation unit.

Furthermore the PRODCOM-observation units should be discussed with a special view to the needs of other statistical projects such as STS, too.

- The optimization of the SBR for statistical survey purposes is one of the main tasks in the future. Especially there is a need for continuous actualization of the information stored in the SBR as well as for imaging historical states of SBR-units. Only an actual and well updated SBR with a minumum of errors as mentioned in chapter (D.) by using all external and internal information simultaneously can contribute to (respectively finally ensure) a high survey quality level.

100. Thirdly: How to improve the coherence between the different statistical projects using PRODCOM data and PRODCOM?

Coherence between the different statistical prjects only can be improved by

- documenting the statistical information systems (SIS), the information system architecture (ISA) and information technologies (ITs) used by the different statistical organizations in general and the methods (harmonized as well as possible), quality reports and problem analyses (as a part of the SIS and called, metadata‘) in particular and making these most relevant information accessibl for all customers of the statistics
- and improving the coordination and cooperation as well as the knowlegde of the methods (by using the metadata bank) of the statisticians at national and European Community level successively.

101. Fourthly: How to improve the acceptance of statistical necessities by respondents and users?

Acceptance of the users can be improved by making an optimum of information requested available but, by formulating their requests users should take into account the surplus of burden being applied, simultaneously.

The most acceptance of statistical necessities by respondents (often observation and reporting unit, simultaneously) can the reached on the one hand by minimizing the administrative burden and on the other hand either by paying an expense allowance or by considering statistics as a public domain and therefore to give the respondents back all the information surveyed and processed at an aggregate level (at national as well as at European level) costless for their own information policy purposes.
Furthermore, the providing with electronic tools to collect and submit data (in connection with the auxiliary instruments mentioned before) would increase the willingness because of decreasing the burden.

102. **Conclusion:**
The future perspectives of a statistical project (and especially of such a burdensome and costly statistical project like PRODCOM) with reference to the acceptance in the public opinion could especially be reached by improving the statistical information systems (SIS), the information system architectures (ISA) and information technologies (ITs) steadily as well the quality of the information thereof. in the future the improvement of the data information management system requires more careful consideration than in the past.

So we believe that the architectures of the existing registers and their lack in cooperation maybe need to be reorganised insofar as it should be necessary to create the following sub-registers or data banks depending on each other:

- an object register as survey frame,
- a micro data register including all periodically results of the individuals as objects of a survey
- a macro data register including all periodically results of the individual aggregates and estimates thereof (part of a comprehensive data ware house for informations dissemination) and
- a metadata register (including all the surroundings with an impact of the SIS such as methodology etc.) acting as a clearing house.

[1] See: Handbook on the design and implementation of business surveys, ed. by Ad Willeboordse, Statistical document, European Communities, 1998

[2] See: Council Regulation (EEC) No 3037/90 of 9 October 1990 on the statistical classification of economic activities in the European Community amended by Council Regulation (EEC) No 761/93 of 24 March 1993 (hereafter called CR-NACE).

[3] For more information see Annex II of the CR-SBR, No 2186/93 of 22 July 1993.

[4] For more detail referring to the to ‚top down method', see Annex, table 1 of this article.

[5] For more information see Annex II of the CR-SBR, No 2186/93 of 22 July 1993.

[6] In Austria for example, the unit-type establishments (as statistical unit taken to mean a cost accounting unit and tending to be kind of activity unit at local level in the manufacturing industries and in services kind of activity unit) is considered to be required for EU Short Term Statistics and for Structural Business Statistics as well as for national and regional accounts. This is in accourdance with the UN-classification standard ISIC, Rev.3.

[7] Table 2 of the Annex of this article refers to the main demographic events and their impact on the number of enterprises involved as well as their consequences for the SBR in terms of number of register cerations and deletions in tabular form.

[8] See chapter (B (d.)) of the article.

[9] Table 3 of the Annex lists the different events with reference to the different observation units.

[10] See draft manual: Business Register for statistical purposes – methodological recommendations, volume 2, January 1999, Section 14 and 15.

[11] Council Regulation (EEC) No 3924/91 of 19 December 1991 on the establishment of a Community survey of industrial production.

[12] Take into consideration that production with reference to NACE, Rev.1, division 37 is no subject of the PRODCOM-survey at the moment.

[13] See: GESMES/PRODCOM, Technical handbook, chapter 3.

[14] The (Ö)PRODCOM-population therefore covers all single establishment enterprises and all establishments (KAUs respectively LKAUs with own cost accounting) of multi activity/multi establishment enterprises carrying out a main activity within the NACE-Sections C to F. Enterprises carrying out a main activity in accordance to NACE-Sections G to Q are definitely excluded but not their establishments carrying out a main activity in accordance to NACE-Sections C to F – see footnote 7, too.

[15] Annex II of the CR-SBR indicates that certain secondary activities should be administrated by the SBR if any , at NACE, Rev.1 four digit level, amounts to 10% of the total for all activities of the gross value added at factor cost or account for 5% or more of national activity of this type.

[16] See in particular chapter C (b.) ‚Changes in the survey population and their treatment'.

[17] See chapter D (b.), too. Double counting might also occur within KAUs respecively LKAUs in case of deliveries and performances within the same enterprise.

[18] Source: extract from the definition of CR-SBS variables (23 110)

[19] In particular, see explanations to LKAU and UHP, page 33 ff of the 1995 ESA.

[20] In particular, see explanations, page 39 ff of the 1995 ESA.

[21] For example, see the survey method used in Austria (and I think Belgium too) where the montly PRODCOM-survey provides the data basis for claculating the production index. Part A, Chapter 6.2 of the Manual on Short Term Statistics indicates that ‚information on products or commodity groups in quantity or in value are the most appropriate in order to follow the ‚true' evolution of production' and 6.3 refers to the PRODCOM-list as product identification source.

[22] The ‚Glossary of business statistics' available on CD-ROM can be considered as a very promising and extendable start for this purposes.

[23] With reference to the draft of the SBR-Manual, Chapter 19.3, page 260, ‚complex enterprises' are those with more than 250 employees in secondary activities.

Annex to subject 1 – statistical units in PRODCOM

Table 1: Definition of the main activity - example:

	Description	*share of the NPV* [1] *at factor costs in %*
Step 1	***Determination of the section***	
Section D	**Manufacturing**	**52**
Section G	**Wholesale and retail trade; repair of motor vehicles and personal and household goods**	**35**
Section K	**Real estate, renting and business activities**	**13**
Step 2	***Determination of the division***	
Division 28	**Manufacture of fabricated metal products except machinery and equipment**	**7**
Division 29	**Manufacture of machinery and equipment n.e.c.**	**40**
Division 34	**Manufacture of motor vehicles, trailers and semi-trailers**	**5**
Step 3	***Determination of the group***	
Group 29.3	**Manufacture of domestic appliances n.e.c.**	**8**
Group 29.4	**Manufacture of machine tools**	**3**
Group 29.5	**Manufacture of other special purpose machinery**	**29**
Step 4	***Determination of the class***	
Class 29.55	**Manufacture of machinery for paper and paperboard production**	**8**
Class 29.56	**Manufacture of other special prupose machinery n.e.c.**	**21**

[1] NPV, net production value (value added by the statistical unit = contribution of the unit to the gross national product) – the main activity in this example is 29.56 – Manufacture of other special purpose machinery n.e.c.

Table 2: The main demographic events with regard to the enterprise and their impact on the SBR

Real, observable world [2]			*Business register impacts*	
event	*Number of enterprises before the event*	*Number of enterprises after the event*	*Number of creations*	*Number of deletions*
Birth	**-**	**1**	**1**	**-**
Death	**1**	**-**	**-**	**1**
Merging	**=2**	**1**	**1**	**=2**
Take-over	***=2***	***1***	**-**	***n-1***
Break-up	**1**	**=2**	**=2**	**1**
Split-off	**1**	**=2**	**n-**	**-**
Creation of a joint venture	**=2**	**N+1**	**1**	**-**
restructuring	**=2**	**=2**	**=0**	**=0**
Change of an enterprise group	***1***	***1***	**-**	**-**

[2] Number (n) of enterprises being observed in the example: n = 2

Table 3: The different events with reference to the diferent observation units

event	*Enterprise*	*Local units*	*Kind of activity units*	*Local kind of activity unit*
Birth	**YES**	**YES**	**YES**	**YES**
Death	**YES**	**YES**	**YES**	**YES**
Merging	**YES**	**YES** [3]	**NO**	**NO**
Take-over	**YES**	**YES** [3]	**NO**	**NO**
Break-up	**YES**	**YES** [3]	**NO**	**NO**
Split-off	**YES**	**YES** [3]	**NO**	**NO**
Creation of a joint venture	**YES**	**YES** [3]	**NO**	**NO**
restructuring	**YES**	**YES** [3]	**NO**	**NO**
Change of an enterprise group	***YES***	***YES*** [3]	***NO***	***NO***
Transfer	**NO**	**YES**	**YES**	**YES**

[3] As far as there is only one local unit of the referring enterprise