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Pilot surveys on Business Services enterprises - data collection on products and clients

First experiences by Denmark, Finland and Sweden

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SESSION ON MEASUREMENT OF TURNOVER

OF DETAILED PRODUCTS

A B S T R A C T

The paper includes the first experiences of carrying out the Eurostat pilot survey on Business Services in Denmark, Finland and Sweden. The data collection on clients and products was carried out in 2001 for computer services and in 2002 for a broader scope of activities. The focus of the paper is on computer services although some first experiences of the other surveyed activities are referred to.

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1. Background

The purpose of this paper is to briefly report on the Nordic experiences on the *client – product* data collection through Eurostat pilot project[1] carried out in the majority of the Member States. The aim of the pilot was to investigate how well Business Services enterprises are able to break down their turnover into products (closely linked to CPA classes) and client groups[2]. In addition, the objective was to collect comparable data across the member countries. In order to ensure the best obtainable comparability, an important part of the project was the testing phase of the draft questionnaire within the member countries.

The earlier experiences on product data collection on services are somewhat mixed in Denmark, Finland and Sweden. Earlier on Statistics Finland has provided product data of services only on ad-hoc basis. The previous broader survey was carried out in the beginning of the 1990's.

Statistics Denmark carries out annual queries covering labour recruitment, technical engineering and computer services. Every third year a survey on cleaning services is carried out as well. The first surveys on technical engineering and computer services cover the year 1995 where as the first surveys on labour recruitment and cleaning services were carried out for the year 1996. The classification used is based on the CPA but adjusted to Danish conditions.

In Sweden the first attempt to collect information on products was made in 1987 regarding reference year 1985. The activities covered could be translated as Computer and related activities, Construction and other engineering consultancy companies, Advertising and marketing companies and Travel agencies and Tour operators. Since then Sweden has carried out product data collection for different activities every year. The queries are intermittent which means that each activity is investigated at intervals of two to five years. The time period varies from sector to sector mostly depending on how expansive the different sectors are. The classification used is the CPC.

It should be emphasised here that except of computer services the paper refers only to first experiences received from ongoing survey activities, which are expected to be finalised during this autumn. The Eurostat pilot project on business services covered altogether 6 activities i.e.

NACE 72 Computer and related activities
NACE 74.12 Accounting, book-keeping and auditing activities; tax consultancy
NACE 74.13 Market research and public opinion polling
NACE 74.14 Business and management consultancy activities
NACE 74.2 Architectural and engineering activities and related technical consultancy
NACE 74.4 Advertising

The survey operated with 5 different questionnaires as the one for accounting and business and management consultancy was integrated. The contents of each ques-

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[1] 'Methodological Development and harmonised data collection on Business Services'
[2] For further details see ANNEX I.

tionnaire was quite focused on client and product breakdowns including harmo-nised explanatory notes.

One of the aims of the survey was to study to what extent business services enter-prises production is converging. One of the key issues were to study computer ser-vices production by enterprises other than those of computer services. This kind of approach would yield input for generating a kind of product / output matrix. Also the recent development of services price indices is linked to increased demand for product data.

It should be noticed that the legal basis for the survey execution varied across the Nordic countries as in Finland the survey was carried out on voluntary basis while it was obligatory for Sweden and Denmark. This obviously explains the differences in response rates.

2. Product classes applied by activity

When designing the product categories the CPA was in most cases the starting point. In some cases the CPA is very detailed for instance concerning computer services and engineering activities. In other cases it has been necessary to add some categories as the CPA is not detailed enough. This goes for Market research and Advertising. None of the questionnaires follows the CPA completely but has been altered.

The testing phase that was prior to the survey where enterprises and organisations gave their comments to the questionnaires was a very useful input to the designing of the questionnaires. For instance the testing showed that in Denmark enterprises engaged in accounting, book-keeping and auditing activities according to the legis-lation are to invoice their services in certain categories that do not correspond with the categories in the CPA.

NACE 72 Computer and related activities [3]

The convergence between telecom and IT activities is obvious and causes increas-ingly problems when defining the businesses activity and is also visible in product breakdowns. Included are some Internet services providers which belong to 72, but these businesses are not always in line with the traditional IT-businesses.

Product breakdowns were in general answered well but we assume that some busi-nesses just place their turnover very roughly in one class while the others try to break them down in more details. This means that the accuracy of filling in the questionnaire varies from one business to another.

Before sending out the questionnaire on Computer services (NACE 72) Statistics Sweden was in contact with the two major associations[4]. They showed a great in-terest in the survey and provided useful help in adopting the questionnaire to Swed-ish conditions.

As a result the variables "Development and sale of packaged software" and "De-velopment and sale of customised software" were each divided into two more de-tailed variables. The reason for this was partly because it would be easier for the en-terprises to answer and partly because the associations were more interested in the more detailed variables. Some variables have also been added, such as costs and in-vestments for computer and telecommunication in order to meet the demands from

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[3]   The Swedish figures presented in this paper refer to reference year 1999 when a full scale sur-vey at the request from Eurostat was executed. Another reason was a request from the Na-tional Accounts. Therefore the study concerning year 2000 was skipped.

[4]   Svensk Industriförening and IT-Företagen.

the associations. The cooperation has led to a wider knowledge about the branch in Statistics Sweden and also a more positive acceptance by the enterprises.

In Sweden it seems to have been fairly easy to divide the turnover into different product classes (this is maybe a result from the contacts with the associations) except for some large enterprises. Their turnover often comes from complex products and therefore some have had problems to separate it into the different product categories.

In Denmark it has been possible for most of the enterprises to divide their turnover into product classes. At least they have in most cases been able to give an estimate if they could not derive the information directly from their book-keeping. The smallest enterprises seem to have had the greatest problems with splitting up the turnover into product classes as they do not split up their turnover in their book-keeping.

As a result of the survey, the structure of the total turnover broken down by products seems to be quite alike in all three countries. As one could expect most of the turnover comes from software and other computer consultancy services i.e. NACE 72.2 (see annex II). This is where most of the enterprises are active. At least for computer services it seems like the product classification has worked well.

When it comes to the share of respondent enterprises providing the services concerned (see annex II) the picture is somewhat mixed. In Sweden the figures are generally lower than in Finland and Denmark. This could indicate that Swedish enterprises are more specialised and that the product diversity is greater in the other two countries.

NACE 74.12 Accounting, book-keeping and auditing activities; tax consultancy

For Denmark and Finland the replies given by accounting, book-keeping and auditing companies were generally without problems and the classification seemingly operated well. Some of the enterprises in Denmark claimed that the product categories did not correspond with their book keeping. However the testing of the questionnaire prior to the survey showed in Denmark and in other countries that according to the legislation the enterprises are to use the categories used in the questionnaire in their book-keeping. This is the reason why the product categories deviate from the CPA at this point.

In Sweden the questionnaire was mailed out only in August and therefore it is too early to draw any conclusions.

NACE 74.13 Market research and public opinion polling

The product classification in this activity operated smoothly as almost all the activity were concentrated on market research. Also the tested additional breakdown of market research into

- qualitative surveys
- quantitative ad-hoc surveys
- quantitative continuous/regular surveys

caused no problems.

In Denmark the enterprises have been very willing to answer the questionnaire and the response rate is rather high.

Statistics Sweden has experienced most problems with incorrect NACE -codes in this class. Approximately 40 per cent of all enterprises in the sample have been incorrect.

NACE 74.14 Business and management consultancy activities

Seemingly no major problems encountered here. However, as consulting is of course often training and education related, some consulting firms in Finland reported to generate significant turnover from education and training. It looks as it is in fact difficult to separate consulting and training. The explanatory notes should perhaps be more explicit here that the businesses would at least be able to give estimates of the breakdown of training vs. consulting.

In the Danish survey there seem to be no problems with separating consulting and training. (We do not yet know how big a share training represents of the total turnover).

In Sweden the questionnaire was mailed out only in August and therefore it is too early to draw any conclusions.

NACE 74.2 Architectural and engineering activities and related technical consultancy

The product classification did not operate satisfactorily[5]. Several respondent enterprises complained about the supplied product classification as being far too much construction oriented and poor for catching a considerable part of engineering e.g. related to machinery. Now these items will often be part of residual categories although as such quite important. These kinds of experiences were recorded for Finland and Sweden. Another problem in the Danish survey was that enterprises engaged in turn key projects found it difficult to split up their turnover into the different engineering design services.

Furthermore, architects found it difficult to split up their turnover in Denmark. They were very much confused with all the categories within for instance engineering design services that they are not engaged in. It might be better to design a questionnaire aimed only at architects. (The only problem is that not all countries are able to separate architects from engineers.)

NACE 74.4 Advertising

In all three countries experiences were that the enterprises apparently have confronted major problems with the *breakdown of sales by media* introduced as an additional question here. The reasons for this are probably that even though the classification given in the question followed rather standard approach, the businesses were not able to figure out their activity in this framework. Also the media types listed are not exhaustive, as e.g. design of shops/windows/ shop signs/packing equipment and other advertising material such as pencils, t-shirts etc. are not included.

In Finland the businesses in advertising activities are traditionally fairly reluctant to participate in voluntary surveys, also this time. However, we have just recently succeeded to improve the response rates by telephone reminders. In Sweden the response rate received in obligatory survey was as high as 79 per cent.

Comments were received in Finland that it would be more feasible for businesses to break down the trade margin instead of the total turnover. This might include large amounts of invoicing through the company.

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[5] For Finland we expect considerable problems for any feasible tabulations of these products.

For the breakdown of products the adopted classification included an item "services of full service advertising agencies" which was probably quite attempting to place the turnover instead of breaking it further down. The experience from the Danish survey was that photography related to advertising is difficult to split from other advertising, as it is often an integrated part of the product.

Another problem in the Danish survey relates to the fact that the borderline between graphical and advertising-related activities is not quite clear. There are enterprises classified within advertising, whose main activity is concentrated on printing or in other ways transferring logos or other advertising designs to different types of products. The enterprise does not necessarily carry out any design-related activity, as its activity is concentrated on a) buying relevant material (e.g. pencils, umbrellas, t-shirts etc.) receiving logo designs (or the like) from the customer/his advertising company.

3. Clients

The section asking information on clients[6] was common to all activities. This included three question on clients. The first one requested turnover breakdown for *enterprises, public sector and households/non-profit institutions*. The second question consists of client breakdown to *resident vs. non-resident clients*. Both of these breakdowns are asked in percentages. The final question is a tick mark one on *the importance of the three most important clients* (see annex IV for details).

Related to the first question, Statistics Finland employed an extra question asking to break down the enterprise sector into the following activity groups:

- manufacturing
- trade
- transport, storage and communication
- business services
- financing and insurance
- other

The Finnish experience so far is encouraging and generally the enterprises have provided the data without problems. This was also assumed as one of the results of the testing phase was that in the majority of branches the businesses are used to provide data of their clients by activity.

In Sweden, turnover breakdown was divided into four groups instead of three: *enterprises, public sector, households and non-profit institutions*. One additional difference between the questionnaire from Eurostat and the one used in Sweden is that the enterprises were asked to make the breakdown on clients for every product category. Previous questionnaires operated with client breakdowns for total net turnover as in the Eurostat proposal but due to demands from the National Accounts Sweden have used this "new" model. It seems almost as it is easier to divide clients for every product category instead of having a breakdown on total net turnover.

The experiences on client data collection in accordance with Eurostat model were mainly positive in all three countries. Even though the questions in use were fairly simple, some conceptual problems were encountered:

Based on the results of testing phase for question 1 some problems in public sector for technical services could be expected, i.e. the classification did not explicitly

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[6] See Annex IV for the questions.

classify semi-public bodies as research institutes anywhere. These are quite common clients in technical services.

The question on exports for resident vs. non-resident clients could perhaps be further developed asking only services exports, not total exports. This would better yield information on pure services exports currently under discussion in many countries

4. Other survey related issues

A general problem in Sweden with all the questionnaires was that many small companies seem to have an incorrect NACE-code in the Business Register. Approximately 25 per cent of all the enterprises in the sample are wrongly classified. Similar problems were also recorded in Finland and Denmark. On average 10 per cent of the enterprises in the Danish sample had an incorrect activity code in the Business Register.

In order to monitor **respondent burden** caused by the new questionnaire, Denmark and Finland used a question on how many minutes it took to fill in the questionnaire. Denmark has used this question earlier in similar kind of surveys but for Finland this was the first time. The table below is only indicative as the data for Denmark relates to 2001 data and the Finnish figures are based only on the first received answers of 2002 [7].

TABLE 1: Average time reported to fill in the questionnaire in NACE 72 Computer and related activities

	in minutes	
empl.s.c.	**Denmark**	**Finland**
-9	20	11
10-49	25	14
50-249	36	21
250+	74	..
TOTAL	**25**	**14**

According to the businesses feedback the respondent burden imposed by the new survey seems to be "tolerable". It is obviously not possible to carry out any cost – benefit analysis here based on the results but the average replying time of 15 to 25 minutes is probably feasible also from businesses' perspective, particularly when the majority of the data is not directly derivable from business accounts.

5. Conclusions

It is quite evident to statisticians that our knowledge of services sector production and clients – markets are lagging far behind that of manufacturing. The pilot survey showed that it is possible – though not always easy - to collect information on this area. The current development on services price indices together with the National Accounts and other clients will increase future pressure for production data on services

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[7] As the survey is voluntary for Finland the first received answers are expected to include mainly businesses which can easily provide the figures. Furthermore, as a voluntary survey the 'hardest to answer' businesses generally do not give the reply at all. Both these reasons partly explain the lower replying minutes recorded for Finland.

When these kind of surveys are carried out on regular basis – as in Denmark and Sweden - it is seemingly easier for the enterprises to answer the questionnaire on annual basis. This observation is particularly valid for large enterprises included in the survey frame every year.

One important conclusion is that it is almost a necessity to let a few possible respondents and associations take part in the design of the questionnaire to be able to adapt the questions to country conditions. A critical part of the project was to test the approach with associations and some businesses before actually launching the survey.

In most cases enterprises were able to break down their turnover into the clients and products categories properly. Generally the enterprises do not have the information directly available but are presumably able to give reliable estimates. The quality of the replies - however – is difficult to check. It also looks that enterprises fill in the questionnaires with a quite different degree of accuracy.

It should be emphasised that the experiences reported in this paper are preliminary and to be further elaborated later on. As it looks now, the classes used for some activities - particularly advertising and technical engineering - should be reconsidered after having the full data and experiences available. At this stage it is premature to make any concrete proposals for potential improvements.

Furthermore, it is important to evaluate the necessity of the product breakdown related to activities outside the core activities. If results show that these other activities are of minor importance it would be more fruitful to elaborate on the core question and description/examples/possible further breakdown of products related to the core activities. We should bear in mind that questions which are not relevant to the respondent will potentially be irritating and confusing for the businesses.

Issues to discuss:

* Do the countries perceive the CPA as a feasible tool for collection of product information or are the national practices / 'the real life' so different from the product nomenclature that more tailored wordings have to be used – perhaps differing from country to country?

* The other countries are invited to express their views on the selected approach and the preliminary experiences / own experiences on the subject matter

Annex I: The product classes used by activity

NACE 74.12 Accounting, book-keeping and auditing activities; tax consultancy
NACE 74.14 Business and management consultancy activities

(a) Accounting, book-keeping and auditing services; tax consultancy services
    i) auditing services
    ii) accounting and book-keeping services, except tax returns
    iii) tax consultancy services, including tax returns
(b) Business and management consultancy services
    i) business organisation consultancy services, including mergers and acquisitions
    ii) financing management consulting services
    iii) human resources management consulting services
    iv) Other business and management consultancy services
(c) Computer services
    i) hardware consultancy services
    ii) software and other computer services
    iii) other computer related services
(d) Training services
    i) of which IT-related training services

NACE 74.13 Market research and public opinion polling

(a) Market research services
    i) qualitative surveys
    ii) quantitative ad-hoc surveys
    iii) quantitative continuous/regular surveys
(b) Public opinion polling services
(c) Advertising services
(d) business and management consultancy services
(e) Computer services
    i) hardware consultancy services
    ii) software and other computer services
    iii) other computer related services
(f) Training services
    i) of which IT-related training services

NACE 74.2 Architectural and engineering activities and related technical consultancy

(a) Architectural services
    i) advisory and pre-designed architectural services
    ii) architectural design services for buildings and other structures
    iii) other architectural services
(b) Engineering design services including integrated engineering services for turnkey projects
    i) engineering design services for the construction of foundations and building structures
    ii) engineering design services for mechanical and electrical installations for buildings
    iii) engineering design services for the construction of civil engineering works
    iv) engineering design services for industrial process and production
    v) engineering design services n.e.c.
(c) Urban planning services
(d) Project management services
(e) Other architectural and engineering services
(f) Construction
(g) Computer services
    i) hardware consultancy services
    ii) software and other computer services
    iii) other computer related services
(h) Training services

i) of which IT-related training services

NACE 74.4 Advertising

(a) Sale or leasing of advertising space or time
(b) Planning, creating and placement services of advertising
    i) full service advertising
    ii) direct marketing
    iii) advertising design
(c) Other advertising related services
    i) photography services related to advertising
    ii) production of films for advertising
    iii) public relations services
    iv) compiling and selling list services
    v) other advertising related services
(d) Market research services
(e) Business and management consultancy services
(f) Computer services
    i) hardware consultancy services
    ii) software and other computer services
    iii) other computer related services
(g) Training services
    i) of which IT-related training services

Annex II: The distribution of the products in NACE 72 Computer and related activities

	%- of total turnover broken down by products (raised final figures)			%-share of respondent enterprises providing the services concerned Turnover > 0		
	DENMARK	**FINLAND**	**SWEDEN**	**DENMARK**	**FINLAND**	**SWEDEN**
(a) Hardware consultancy services	5	1.9	1.8	29	17.8	12.3
(b) Software and other computer consultancy services	52	55.3	64.2	85	86.9	
i) development and sale of *packaged software*	9	18.6	15.6	39	51.4	21.7
ii) development and sale of *customised software*	32	25.7	34.4	64	56.4	52.2
iii) Other software and computer consultancy services	11	11.0	14.2	41	44.0	28.0
(c) Other software and computer consultancy services	22	21.0	15.8	53	41.7	
i) computer facilities management	13	7.2	8.0	23	20.1	17.4
ii) database services	2	2.0	1.5	15	7.3	3.5
iii) system maintenance	6	7.2	3.8	29	31.3	13.1
iv) computer hardware servicing, repair etc.	1	4.6	2.5	16	9.7	5.9
(d) Network and telecommunication services	4	5.3	3.7	14	12.7	8.5
(e) IT-related training	2	1.6	1.5	24	23.9	17.5
(f) Leasing or rental services of computing machinery	0	0.2	1.0	5	4.2	3.1
(g) Resale	15	9.7	11.8	44	27.0	
i) software (not self developed)	6	2.2	3.6	33	20.1	13.8
ii) hardware and equipment	6	7.3	7.4	36	18.1	19.1
iii) other resale	3	0.2	0.8	11	4.6	5.9

ANNEX III: *Number of enterprises and response rates for NACE 72 survey*

empl.s.c.	sample size			response rate		
	Denmark	Finland	Sweden	Denmark	Finland	Sweden
				%-shares		
-9	345	238	1238	80.3	33.6	
10-49	390	245	210	88.2	48.6	
50-249[1]	88	70	118	96.6	71.4	
250+[2]	15	12	45	93.3	83.3	
TOTAL	838	565	1611	85.9	45.8	75.9

[1] Size class 50-199 in Sweden

[2] Size class 200+ in Sweden

ANNEX IV: Harmonised questions on client breakdown

1) Total Net turnover by client

a)	**Enterprises** (including public owned enterprises, sole proprietorships and companies with limited liability)		%
b)	**Public sector** (including public administration, health and education, excl. public owned enterprises)		%
c)	**Households and non-profit institutions**		%
	TOTAL	100	%

2) Total Net turnover by client

a)	**Resident clients**		%
b)	**Non-resident clients (i.e. exports)**		%
	TOTAL	100	%

3) Share of total Net turnover from your 3 biggest clients (please tick the relevant box)

0–24 % ☐   25–49 % ☐   50–74 % ☐   75–100 % ☐