STATISTICS SWEDEN

EXTENDING PRICE DATA COLLECTION TO BUSINESS SERVICES

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by

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1. INTRODUCTION

The purpose of this paper is to contribute to the discussion of the possibility to improve the measurement of real output of services industries in the business sector of the Swedish economy by using better deflator than before. The issues treated here concern only methods of measuring output prices and not questions related to methods of measuring value added in constant prices, i.e. the use of double or single deflation, etc.

It is definitely one of the most difficult tasks for a producer of statistics to compute reliable price and quantity indices for business services activities. In Sweden, no indices are yet calculated based on output prices. A labour cost index for salaried employees is the only deflator that the national accounts use. In fact, we do not even have access to a labour cost index which cover employees in the service sector. What is used is a labour cost index for salaried employees in the manufacturing industry.

We are, of course, looking for the possibility to measure output prices, but we are aware that we in many cases have to continue to use input prices. Even in these cases, some improvements may be foreseen. New indices for business services are intended to be compiled for deflation purposes only. Since the national accounts must be comprehensive, weaknesses of price data have to be tolerated to some extent. However, analysts in economics are putting more and more emphasis on the development of the service sector. In particular, the debate has been focused on the low labour productivity that the national accounts figures show. Frequent comparisons of productivity are made between the public and the private service sector and between the manufacturing industry and the private service sector. A special government commission has been set up with the purpose to analyse the weak labour productivity in the private service sector shown by the National Accounts figures.

Productivity measurements are based on the national accounts in the absence of anything better. The figures there are not primarily made for that type of analyses. If productivity is the core, it is of course necessary to try to improve the methods for measuring it, as well as to inform users of the particular weaknesses statistics have when used for this purpose. In order to satisfy productivity analyses, it is not enough to improve statistics used for deflation but also

statistics on labour input. Number of hours worked is not better estimated than output prices.

2 ADOPTED STRATEGY OF DEVELOPMENT

Our program to improve price statistics for services intends to clarify:

-methods used for charging prices

-qualities of the services according to homogeneity, standardisation, etc.

With this information on hand, we may

-propose a price-measuring-model or otherwise conclude that measuring of prices or volumes is so difficult that we have to continue to use a labour cost index as a deflator, or

-make changes in that method by using other approximations of output prices changes (than changes in labour cost)

-take the new models into use once they are approved

The development strategy we adopted at the beginning of our undertaking had several purposes in mind. First of all, we decided to emphasise the work on business services because the weaknesses are most pronounced there, and because this sector is of considerable interest to policy analysts. Second, we wanted to get an overall picture of the problems involved at the same time as we did not wanted to get stuck with "unsolvable" problems from the beginning. "Easy" subsectors should be considered first before undertaking those that appeared more difficult, either conceptually or operationally.

From the beginning, we also agreed that we could not seek perfection. Instead, we would endeavour to make thinks better than before. This has not always proved to be easy to assess. For a large part of the business service sector, our provisional conclusion is that the only practical alternative to a labour cost would be to use hourly fees. The discouraging quality of this method is that it would give a (labour) productivity equal to nil. Deflation by an index based on average income of the employees would not necessarily react in the same fashion. The question whether the fee approach is a better or worse method than the income method is still under debate. Since this seems to be a crucial point in our work, we will give special attention to this problem below. See part 3.3.

The present method of using labour income is an input method. What we are looking for are of course output prices.

However, when units of output measurement are missing there remains a development of the input method. In these cases, the labour cost index may be combined with price indices of other cost items in order to produce a combined overall input (factor) price index as an approximation to an output price index.

3. PRICE MEASURING MODELS FOR COMPLEX SERVICES

3.1 Price charging methods

The overwhelming part of the business services is rather complex and varies from time to time. Units of output are not identifiable. According to our experiences, three main methods are used in Sweden for charging for these types of services.

(a) the fee per hour method (so frequently used by consultants) which include costs for labour and overheads, etc.

(b) the cost plus method charged for each service individually, i. e. an overall fee fixed at the outset

(c) the percentage of "works" method which is based on a percentage of the final cost of that good which the service is used for (not very frequently used)

There exist of course a lot of other methods of setting prices. Fees per hour may be combined with a budget limit. Sometimes services are charged with a fee not per hour but for the overall service. Some advertising offices nowadays seem to be paid according to the effectiveness of the campaigns made. Price per time seems to have been replaced by price per results produced.

The hourly fee approach implies that service producers charge their prices in current account. They sell their services only as a fee per hour. (What they sell are eventually hours of consultancy). The price for the final service will be the hourly fee times the number of hours charged. In most cases probably, a consultancy hour could not be used as a unit of output.

3.2 The collection of model prices

When prices are charged by the cost plus method (an overall price is fixed at the outset), it might be possible to collect model prices. The model method was presented at the Ottawa meeting in a paper from Statistics Canada. It means that services producers should be asked to estimate a model price for a very specified service. The respondents should, given the specification, count an estimate what they would have charged if the service in question would have been delivered. The Canadian paper treated engineering and

architectural services. We have visited some Swedish firms in this subsector, and we agreed that the model method is the most appropriate method. It is important to establish that this proposed price measuring model is consistent with how prices are charged within the firms themselves. We have no experiences to report how this model would work in practice. Nor do we know if the respondents would like to do the calculations.

3.3 The hourly fee method

The income from services made with hourly fee as a price could be obtained as the number of hours charged times the fee. Consequently, the method is the same thing as saying that the number of hours charged is the volume. Instead of collecting hourly fee, you may as well collect the number of hours charged. With the assumption that the number of hours charged is the same as the number of hours worked, the method will per definition result in a labour productivity equal to nil. If the share of hours charged goes up but the number of hours worked is unchanged, the effect will be an increase in labour productivity.

Is the hourly fee method a satisfactory model? Probably not, since it does not tell us anything about the output per time unit. Is it better than the present labour cost index? Probably. At least in the sense that hourly fee measures are supposed to be applicable for a particular subsector, while labour cost index is compiled based on one estimates for the whole service industry. The hourly cost methods has the advantage that it better takes into account the number of hours worked or charged. Both methods have the disadvantages that productivity is "deflated away".

Hourly fee could be compiled as an average per company or per establishment unit or maybe also as an average for various categories of employees according to their qualification. Using this breakdown, it is possible to compute a volume index Laspeyre based on hours charged with the fee of the base period as weights. Compared with the company average alternative, the weighted computation means for instance that the volume index is growing faster if the share of expensive consultancy hours goes up.

In summary, the hourly fee method is tantamount to an employment indicator. There might make sense to compile the quotient hours charged/total accessible time to produce a measure of how well a company uses its resources irrespectively of what it produces. By computing a weighted volume index Laspeyre, it is theoretically possible to say something on productivity rises which stem from shifts of routine work to more qualified work. Other changes in labour productivity, however, must be estimated directly. The only possible solution to this problem is maybe to ask the

5 OTHER IMPROVEMENTS

Sometimes services are delivered as a package that includes both services and goods. Maintenance and repair services are services where the buyer pays for a service that includes goods (spare parts, etc.). In the case of office machinery and equipment, the costs for goods and necessities are said to amount to half of the overall service fee. Units of measurement are not identifiable and it has been judged impossible to define a representative service and collect a price for an imaginable service.

Expected improvement: A labour cost index could be replaced with a weighted index based on labour cost and producer prices.

There are many examples where service producers sell "services" in which deliveries of goods are a significant part of the overall price. Within computer related services, we have systems integration and turnkey systems. A recently made surveys to this industry showed that fourteen percent of total operating revenue were sale of goods.

Expected improvement: New statistics on the distribution of the output of the service industries show that producer price indices also should be used in computing volumes.

In the case of brokerage services, units of output are not identifiable. One example is placing of advertisement on different media. In this case, values can be deflated with media space prices.

The table in the Appendix intends to summarize how we now estimate the alternatives to the present labour cost index method (LCI) for business services. For sixty percent of the industry's output, we still have no other solutions. If the model price method is realisable, this share will be reduced. The fee approach is, on the other hand, a doubtful method.

Appendix

The alternatives to labour cost index for activities within the business service industry

Activity/services	Size in percent of the industry's total revenue per mille	Type of deflator
Legal services		
-Legal aid services	6	Fee
-Debt collecting services	2	Prices
-Other legal services	23	LCI
Accounting, book-keeping and auditing	97	Fee
Market research and public opinion polling	9	Prices
Management consulting	34	LCI
Architectural and engineering services		
-Architectural and engineering services	227	LCI
-Sales of goods	64	Prices
-Technical testning	20	Prices
Advertising		
-Placing in media	67	Prices
-Sales of goods	12	Prices
-Other services	116	LCI
Computer related services		
-Computer time use	23	Prices
-Sale of computers	21	Prices
-Sale of software	17	Prices
-Technical services	5	Prices
-Training services	3	Prices
-Other services	160	LCI
Investigation and security services	27	Fee
Other business services		
-Direct marketing	12	Prices
-Exhibition services	6	Prices
-Packaging services	2	Prices
-Sales of goods	8	Prices
-Labour recruitment services	2	LCI
-Other services	38	LCI
All business services	1 000	
Fee	130	
Prices	270	
Labour cost index (LCI)	600	