

# Evolution of service statistics

Proceedings of the seminar on  
"Service statistics within  
short-term business  
statistics"

Luxembourg, February 2002



EUROPEAN  
COMMISSION



THEME 4  
Industry,  
trade and  
services

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Luxembourg: Office for Official Publications of the European Communities, 2002

ISBN 92-894-3415-5

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## **Introduction**

The Short-term Statistics (STS) Regulation introduced a wide range of indicators covering industry, construction, retail trade and services. It was innovative in covering service sectors for infra-annual statistics besides the more traditional producing and trading sectors. The STS Regulation foresees two quarterly indicators for services: 'turnover' and 'number of persons employed'. These two indicators provide some information on the volume of output and on labour input.

However, the balance between industry and services for quantitative statistics is by far not achieved yet. For industry, a wide range of indicators, many of them on a monthly basis, has been available for a long time thus allowing detailed sectoral and causal analyses. Short-term service statistics have just recently been defined and the implementation in Member States is still going on.

This imbalance is hardly adequate in view of the economic situation. Services constitute roughly 70% of the GDP of European Member States and available analysis shows that these services are indeed strongly influenced by economic cycles. Thus, detailed and timely knowledge of the evolution of services is an essential pre-requisite for economic and monetary policy making. This fact has been well recognised and has resulted in specific actions promoted by the Council of Ministers, ECOFIN as well as more operational decisions taken within the European Statistical System.

This seminar provides a platform to discuss the current status of short-term service statistics and its potential future evolution. The various contributions and the ensuing discussion are also an important input for the work towards a revision of the Short-term Statistics Council Regulation planned to be concluded in 2003. The development of statistics for the service sector is a keyelement in that revision.

Pedro Diaz-Muñoz

# SERVICE STATISTICS WITHIN SHORT-TERM BUSINESS STATISTICS

*Gunter Schäfer*

## SUMMARY

The Short-term Statistics Regulation covers a range of service statistics and requests quarterly indicators on turnover and the number of persons employed. The paper presents the coverage of the Regulation. It also conducts a first analysis of the data available to Eurostat. The critical question concerns the degree to which service sectors are business cycle sensitive. Although the data available to Eurostat is still very incomplete, some conclusions can already be drawn.

## 1. Introduction

It is common knowledge that services are by now the dominating part of modern, post-industrial societies. The service sectors dominate both in size as well as in their growth rate compared to the producing sectors as shown in a recent Eurostat publication<sup>1</sup>.

Sector	Size as share of value added in EU (in 2000)	Growth in value added in EU (in 2000)
Agriculture	2.2%	0.1%
Manufacturing	22.9%	4.0%
Construction	5.3%	1.4%
Trade, transport, communication	21.0%	3.9%
Financial services, business activities	27.2%	4.9%
Public services	21.4%	1.6%

The high growth rates of the service sector of 2000 are no exception. They have been observed since a long time and economists have little doubt that this development will continue for some time in the future.

The high importance of the service sector also means that it must not be ignored in the observation of the business cycle. Traditionally, the service sectors were treated with little priority by almost exclusively focusing on the producing sectors of industry and construction.

The important question for the observation of the service sectors for the purpose of business cycle analysis is: Which of the service sectors are business cycle sensitive?

If a large part of services would fall into this category, their observation could be of critical importance for economic and monetary analysis. Results from National Accounts indeed suggest that the outputs from the aggregates for market service categories move similarly to the movement of overall GDP. The non-market service sectors that are largely public service

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<sup>1</sup> Eurostat: Economic Portrait of the Union, 2000.

dominated show a much lower degree of volatility that could be attributed to business cycle fluctuations<sup>2</sup>.

The creation of the European Monetary Union has lifted the need for a close observation of all factors that influence the business cycle onto a European scale. The Short-term Statistics Regulation (STS) is a key instrument for that purpose. Once fully implemented, STS will have a major role to play in providing data on short-term evolution of the service sector. Compared to national accounts, STS is going into sufficient detail to allow a judgement of individual service sectors.

The aim of this paper is to show some preliminary results from a recent investigation<sup>3</sup> into the degree to which different service sectors are business cycle sensitive.

## 2. The short-term Statistics Council Regulation

The short-term Statistics Regulation 1165/98 covers in its annex D a quite wide range of service statistics for the quarterly indicators of turnover and number of persons employed (according to NACE rev.1 classification):

<b>Sector (NACE Rev.1)</b>	<b>Turnover</b>	<b>Number of persons employed</b>
Division 50: Sale of motor vehicles	- sum of 50.1, 50.3, 50.4 - 50.2 - 50.5 - Only 50 for small MS	- 50
Division 51: Wholesale trade	- 51 at 3 digit level - Only 51 for small MS	- 51
Division 52: Retail Trade	Treated in STS Regulation, Annex C	Treated in STS Regulation, Annex C
Division 55: Hotels and restaurants	- 55	- 55
Section I: Transport, storage, communication (Div. 60 -64)	- 60, 61, 62, 63 - 64 each at three-digit level - Only 64 for small MS	- 60, 61, 62, 63, 64 - Only Section I for small MS
Division 72: Computer and related activities	- 72	- 72
Division 74: Other business activities	- sum of 74.11 to 74.14 - sum of 74.2, 74.3 - 74.4 to 74.8 each at three-digit - Only 74 for small MS	- 74

However, the STS Council Regulation does not cover the entire Section J (financial intermediation), Division 70 (real estate activities), Division 71 (renting activities), Division 73 (research and development) as well as all activities beyond NACE Division 74 that deal with overwhelmingly public services).

<sup>2</sup> Short-term Statistics on services for the Euro Area by Henning Ahnert and Stefano Nardelli; parallel paper submitted to the Eurostat Seminar on short-term service statistics.

<sup>3</sup> Statistics in Focus: Short-term services statistics - Their future use in business cycle analysis, Eurostat 2001

### 3. Preliminary analysis

The study conducted in Eurostat in early 2001 compared the evolution of GDP with that of different service sectors. The following table gives an overview of the expected behaviour of service data series with respect to the cyclical movements and their correlation with GDP. The expected behaviour has been derived from the general knowledge of the different sectors.

<b>NACE Rev. 1</b>	<b>Expected business cycle observation</b>
Section G	Distributive trades are likely to be sensitive to the business cycle. Motor trade probably reacts most to cyclical fluctuations, whilst wholesale and retail trade are more likely to react in a smoother way.
Section H	Turnover of hotels and restaurants is expected to rise as the economy does, due to more consumer spending and because businesses are more likely to send staff to visit clients, attend conferences and trade fairs and so on. In times of recession, turnover of hotels and restaurants will probably contract as well.
Section I	Transport activities are likely to be connected to the business cycle. Air travel will be cyclical due to business demand rising and due to consumer spending rising in periods of growth. Postal activities however are probably only marginally cyclical sensitive and telecommunications are more technology driven than business cycle dependent.
Section J	During expansions there will be more activity for banks in terms of mergers and acquisitions, flotations, loans or new and expanding businesses as well as for consumers. Insurance is expected to be less cyclical and pension funding activity even more stable as the demand for retirement programmes is based on longer-term decision making.
Section K	The sensitivity of real estate activities varies greatly between Member States because of the different housing ownership patterns. R & D is not believed to be very sensitive. Computer activities are likely to be business cycle sensitive, but at the same time these activities are heavily driven by technological developments, such that the business cycle component may be hard to discern. The heterogeneous 'other business activities' can be expected to react strongly to the business cycle.

The comparison of STS data with GDP was done using the correlation coefficients and standard deviations between quarterly growth rates of GDP and different service sectors.

The analysis had to take a number of limiting factors into account:

1. The STS Regulation is still in the process of implementation. Data on services are only available from a few Member States. In none of the sectors could a sufficient coverage for European aggregates be achieved.
2. The time series are still fairly short and necessary data corrections, i.e. for seasonal factors, cannot be done with the same degree of reliability as long consolidated time series.
3. In STS, the service sectors are covered by the turnover variable, which is not corrected for price effects.

Thus, the results could only be judged as very preliminary. They are shown in the following table.

NACE Rev. 1	Observed information based on a limited number of countries
Section G	Motor trade showed strong cyclical movements, with apparent correlation with GDP for S and UK, but hardly any for F and FIN. Smoother developments were observed in wholesale trade, with cycles resembling GDP for most of the series in the four countries. Smooth retail series in FIN, but fluctuating series in the other three Member States; apparent correlation with GDB for FIN, S and UK, less so for F.
Section H	Hotels and restaurants showed fluctuating series in F and FIN, although tied to GDP in both cases. Smooth series in S and UK, but seemingly less correlated with GDP.
Section I	Very strong cyclical movements for all transport and storage series in F and FIN, especially for water transport in F and for air transport in both countries (no data for S and UK). A correlation with GDP is hard to observe, although the general trend of GDP is matched. Unfortunately, no telecommunication series are available, and only one series (FIN) for post and courier activities which is strongly fluctuating and on an upward path, which is the only resemblance to GDP.
Section J	No data available.
Section K	Computer activities showed a strong cyclical pattern in three of the four countries, F, FIN and S. Except for FIN, the series was increasing much faster than GDP. Miscellaneous business activities n.e.c., the only other series in this NACE Rev. 1 Section for which data are available, showed a cyclical pattern in three of the four countries, the series in the UK being smooth. However, there seemed to be a reasonable correlation with GDP in all countries, especially in the UK.

#### 4. Conclusions

The analysis shows indeed a number of indications that some of the service sectors show strong cyclical characteristics. As a result, the service sectors should be given more attention for economic and monetary policy and therefore more attention in terms of economic statistics.

However, it is too early for an accurate picture on the correlation between STS data on service sectors and the GDP evolution. Once more information will be available, Eurostat will continue its analysis. The proceeding implementation of STS in the Member States will provide a good basis for further investigations in the coming years.

# SHORT-TERM STATISTICS ON SERVICES FOR THE EURO AREA \*

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## SUMMARY

This paper attempts to identify priorities for the development of short-term statistics in the service sector. The service sector covers 70% of the euro area and EU economy, but statistical information at monthly or quarterly frequency is rare, with the exception of information on retail trade. More data will become available from some EU regulations in the course of the next years, but, in particular, economic activity and prices are not sufficiently covered. The proposed priorities for improvements of short-term statistics therefore include new indicators (output, output prices and employment), improvements in coverage in particular in the market sector, improvements to the published level of detail for individual service branches as well as better timeliness for some indicators.

## I. Introduction

In the 1998 report on statistical requirements in EMU <sup>1</sup>, the Monetary Committee highlighted the need for progress in the development of a sound statistical basis for the service sector, and in particular “the cyclically sensitive service industries”. The Economic and Financial Committee (EFC), in its 4<sup>th</sup> Progress Report on the implementation of the Monetary Committee's Report, reverted to this subject and concluded:

*"Yet, timely, comparable and high-frequency statistics on them are scarce in relation to those on the industrial sector. The qualitative business surveys introduced by the Commission (DG ECFIN) earlier this year, whilst welcome, are not a long-term substitute. The Regulation concerning Short-term (Business) Statistics provides for only a minimal set of data on service activities (employment and turnover in value). Though some work is underway at the national level it is essential to co-ordinate objectives and efforts in order to achieve early results with good coverage at the EU level. The SPC (Statistical Programme Committee), in co-operation with the CMFB, is therefore invited to develop proposals by April 2002 on what action should be taken to improve the availability of monthly and quarterly data on service activities."*

While since 1998 progress has been made for *qualitative* surveys on service business, very limited progress has been made for *quantitative* short-term indicators. For the latter no significant further improvements can be expected before the second half of 2003, i.e. after derogations granted by Eurostat to most National Statistical Institutes (NSIs) expire. However, with the implementation of existing and new statistical regulations in the coming years more statistical data for the service sector will become available. This note, which is drafted in response to the request of the EFC, therefore not only compares the current

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\* This paper has been submitted for discussion to the CMFB for the meeting on 29-30 January 2002.

<sup>1</sup> Monetary Committee/Working Group on Statistics, "Report to the Monetary Committee on information requirements in Economic and Monetary Union" (Brussels, 28 October 1998).

situation with the statistical requirements, but considers also the situation as it is expected to be in about 2-3 years after the full implementation of important statistical regulations in the EU.

Moreover, while efforts have also been made to provide an adequate and harmonised legislative framework for the production of structural service statistics at annual frequency or annual national accounts data, this note is focused on the identification of gaps in quarterly and monthly short-term service statistics. No attempt is made to identify the requirements for, or possible gaps in, the availability of annual data.

Priorities for action are summarised in section 5 of this document.

## II. The service sector and selection criteria for short-term statistics

Almost 70% of the GDP for both the euro area and EU is produced by activities which are traditionally classified as services. The service sector is formed by a wide and heterogeneous set of activities and it cannot be expected that the statistical requirements are the same for all service industries. Services are often defined as a residual item, i.e. the activity outside the industry sector, or the activity that does not deal directly with the production of goods. The Monetary Committee requested efforts for the *cyclically sensitive* service industries. Unfortunately, this definition is difficult to use, because it does not rely on generally accepted concepts and is difficult to test in practice due to the scarcity of statistical information.

*What could be an operational definition of cyclically sensitive service industries?* Related to this definition, but more operational, is the distinction between *market* and *non-market services*. The ESA 95 set out criteria for this distinction, which are fundamental because they determine the valuation principles in national accounts. According to these definitions, market output consists of output that is provided to the market and sold at economically significant prices (i.e. if more than 50% of the production costs is covered by sales, ESA para 3.16-3.19).

Statistical data on activity, prices and employment are classified according to the NACE Rev. 1 as shown for services in table A.1 of the annex. Services consist of 10 broad sections, subdivided in 27 divisions according to types of services supplied or their destination (and further in the more detailed NACE group and class levels). The distinction between *market* and *non-market* has not been a criterion for the grouping of economic activities in the NACE Rev.1; the main criterion used there is the "principal activity", i.e. the activity of a unit that contributes most to the total value added. Nevertheless, by convention a split between market and non-market activities is adopted in several statistical publications<sup>2</sup>. *Market services* include distributive trade, hotel and restaurant, transport and communication, financial services (banking, insurance, pension funds, financial auxiliary services), other market services (i.e. real estate, renting, computer, research and other business activities). *Non-market services* include public administration and defence, health, education and other non-market services. However, the non-market group contains several activities which are market activities (e.g. driving schools, cinema, hairdressing, or health services supplied through the market) and the market producer group contains some activities which are non-market (e.g. central banking). Table 2.1 reports the share of market and non-market services. Market services account for more than two third of the total value added of all services.

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<sup>2</sup> See, for instance, Eurostat (1999), "Services in Europe. Data 1995-1997", Luxembourg.

**Table 2.1:** Shares of market/non-market services in total economy value added (value added at basic prices, current prices, year 2000)

		Euro area		EU-15	
Breakdown	NACE	Ero billions	%	Euro billions	%
<b>Whole economy</b>	A-Q	6,061.8	100	7,870.7	100
<b>Services</b>	G-Q	4,188.9	69.1	5,481.9	69.6
<b>Market services</b>	G-K	2,902.9	47.9	3,790.2	48.2
Trade, transport and communication	G,H,I	1,267.6	20.9	1,656.2	21.3
Financial intermediation, real estate	J,K	1,635.3	27.0	2,113.9	26.9
<b>Non market services</b>	L-Q	1,286.0	21.2	1,691.5	21.5

Source: Eurostat, National Accounts

More details on the shares of activities within the service sector are given in table 2.2. Due to the lack of sufficiently detailed information on the value added, employment data have been used. Distributive trade has the biggest employment share in services. All main NACE sections (except P and Q) contribute with at least 5% to the total services employment, or, in other words, none of these sections can be disregarded when the aim is to develop representative service sector statistics.

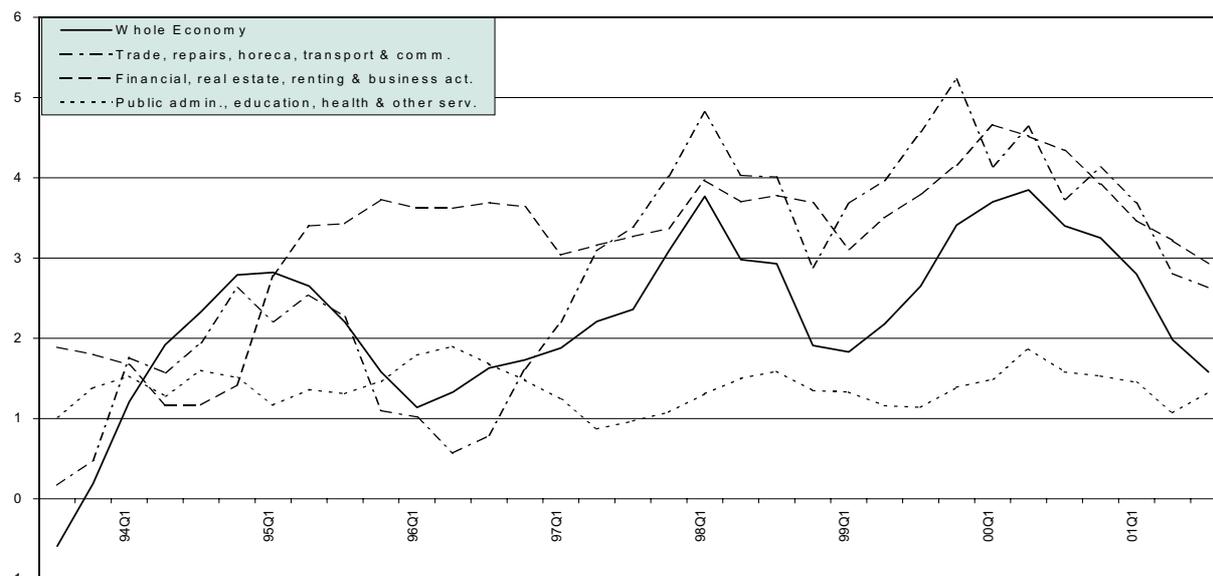
**Table 2.2:** Employment by service activity (thousands, year 2000)

NACE groups		Euro area	%	EU	%
<b>G</b>	Wholesale and retail trade	17,574	22.6	23,405	22.2
<b>H</b>	Hotels and restaurants	4,789.9	6.2	6,366.2	6.0
<b>I</b>	Transport, storage, communication	7,041.2	9.0	9,657	9.2
<b>J</b>	Financial intermediation	3,902.1	5.0	5,379.6	5.1
<b>K</b>	Real estate, renting and business activities	9,711.3	12.5	13,719	13.0
<b>L</b>	Public administr., defence; compulsory soc. Security	9,599.4	12.3	11,982	11.4
<b>M</b>	Education	7,586	9.7	10,546	10.0
<b>N</b>	Health and social work	10,663	13.7	15,071	14.3
<b>O</b>	Other community, social and pers. service activities	5,374.7	6.9	7,391.8	7.0
<b>P</b>	Private households with employed persons	1,465.5	1.9	1,660.2	1.6
<b>Q</b>	Extra-territorial organisations and bodies	114.4	0.1	141.6	0.1
<b>Total services</b>		<b>77,822</b>	<b>100</b>	<b>105,320</b>	<b>100</b>

Source: Eurostat, Labour Force Surveys.

*Are service activities displaying a cyclical pattern?* The assumption that market services and cyclically sensitive industries overlap to a considerable extent is confirmed by a comparison of the short-term movements of the three main service categories available from national accounts. The outputs of the two aggregate market service categories move similarly to the movement of overall GDP (more pronounced for trade, transport and communication than for financial intermediation, real estate, renting and other). The non-market output is much less dynamic with annual growth rates ranging in a narrow band from 1%-2%. However, the picture may be different for variables other than output, in particular for nominal variables (e.g. compensation).

**Chart 1: Value added for the euro area (constant prices, ECU/euro, annual percentage changes)**



*Which short-term statistics should be developed for market and non-market service activities?*

To answer this question two criteria are used in this paper: *relevance* and *short-term dynamics*. Relevance is the degree to which the statistical indicator is expected to reflect economic activity, prices and labour market conditions. Short-term dynamics is the degree to which the statistical indicator is expected to vary with the business cycle or show other significant short-term fluctuations. The indicators examined include value added, turnover, new orders, export/imports (or a breakdown of variables into domestic and external components), business climate, prices, employment and wages for NACE sections. This selection of criteria and indicators is a simplification and could be further refined, but covers the main aspects. Table A.2 in the annex shows the results in more detail.

Any statistical indicator should be relevant and meaningful. Value added information is a meaningful measure for output in all branches, though difficult to measure for non-market services and some market services (financial intermediation). Most other well known short-term indicators for activity and prices that are relevant for the industrial sector are relevant only for market services (e.g. turnover, business climate, output prices). New orders may be relevant only in some market branches (e.g. road transport, consulting). The same applies to exports and imports, since most services are produced and consumed domestically. Unlike indicators for activity and prices, information on employment and wages are relevant for market and for non-market sectors. Hours worked appear to be more relevant for market services, since it is not clear whether and how a change in the actual hours worked affects output (often calculated from input components) and income (often independent from variations in working time) in non-market activities.

Short-term information is needed when economic activity, prices / costs, hours worked or employment vary with the business cycle or shows other significant short-term dynamics. Most of the relevant activity and price/cost indicators for market services fall under this category; for non-market services the short-term dynamics of activity and price/cost indicators are – if relevant - expected to be generally less pronounced. However, employment, hours worked and wage information varies both in market and non-market services.

Summarising this evaluation on relevance and dynamics, short-term information on activity and prices/costs is particularly important for market service sectors, but not *all* indicators are useful for *all* market sectors. For non-market sectors, short-term information on employment and wages has the highest priority for short-term analysis (in addition to the value added estimates produced for quarterly national accounts). For all service activities a detailed analysis of data requirements for individual branches (NACE Divisions and below) is necessary given the heterogeneous composition of many aggregate activity groupings in the NACE.

### **III. EU legal framework and available data**

#### *1. Current coverage of service statistics in EU regulations*

Data on services are covered in the main statistical domains, namely national accounts, business statistics, labour market statistics, but also consumer price statistics (the latter is not further discussed here). Precise legal provisions exist for all domains with the only exception of labour costs indices, where data are supplied on the basis of a gentlemen's agreement but a regulation is currently under adoption as a follow-up on the EMU Action Plan. Table A.3 (Annex) gives a detailed overview of the existing regulations.

In general, the requirement for statistical information at an annual frequency is more comprehensive and complete than the requirements for quarterly or monthly data. Short-term information is not covered homogeneously in the different regulations. In particular for the non-market services the coverage is very limited. Quarterly national accounts offer important indicators for all service branches (value added, employment, compensation and, in future, hours worked), but at very high level of aggregation only (the service sector is split into 3 main subgroups). The EU labour force survey provides complete quarterly information on employment and hours worked on (at least) a NACE Section level. Moreover, the currently discussed draft labour cost regulation foresees the complete coverage of the service sector (labour costs per hour worked), though long derogations of up to 5 years are possible for the coverage of non-market services for NACE sections.

In the short-term business regulation the requirements are limited to only two indicators (turnover, employment) and to selected sub-categories of market services, namely a complete coverage of sections G and I and an incomplete coverage of sections H and K. Section J (Financial intermediation) is not covered by the short-term business regulation. Indicator coverage, frequency and timeliness requirements in the short-term statistics regulation for services are not comparable to the requirements that exist in the same regulation for the industry sector (see table 3.1). A number of pilot studies are foreseen in the regulation to extend the coverage to groups K to O, i.e. into the domain of non-market services, but have not been launched yet.

**Table 3.1: Short-term statistics requested for industry and services by the STS Regulation**

	Industry		Services	
	Frequency	Timeliness	Frequency	Timeliness
<i>Production</i>	Monthly	T+45	Not required	
<i>Turnover</i>	Monthly	T+60	Quarterly (*)	T+90
<i>New orders received</i>	Monthly	T+50	Not required	
<i>Number of persons employed</i>	Quarterly	T+90	Quarterly (*)	T+90
<i>Hours worked</i>	Quarterly	T+90	Not required	
<i>Gross wages and salaries</i>	Quarterly	T+90	Not required	
<i>Output prices</i>	Monthly	T+35	Not required	

(\*) for selected branches only.

Frequency and timeliness are important quality features of short-term statistics. All data mentioned so far are required at quarterly frequency; only HICP results for service prices are monthly. The required timeliness for national accounts results is 120 days after the reporting quarter, but a revised regulation including a requirement of 70 days will be adopted under the EMU Action Plan. Labour force and employment data are required 90 days after the end of the quarter and the same applies to labour cost statistics (but these are expected to be cut to 75 days under the proposed Regulation) and short-term statistics for the service sector.

Not covered by a legal act, but agreed between the European Commission and national statistical institutes, is the European Commission's "Joint Harmonised EU Programme of Business and Consumer Surveys". The monthly qualitative survey consists of five questions (climate, recent and expected demand, recent and expected employment). The Commission compiles a 'Confidence indicator for the service sector'. The survey covers a sub-set of market-related service activities, mainly from the sections I, K and O. It is envisaged to extend the coverage with priority for 'Hotels and restaurants' (division 55) and on 'Post and telecommunications' (division 64).

## 2. Current data availability

While the coverage of service statistics in EU statistical legislation is not complete, the actual availability of data for the euro area and the EU is even more limited due to long implementation times and derogations. Quarterly euro area and EU aggregates from national accounts currently are available only for value added. Quarterly employment data for the labour market from EU labour force surveys are not yet available. Aggregates with partial coverage of market services (but no coverage of non-market services) are available for labour cost indices. From the short-term business regulation turnover data are available only for the retail trade sector, whilst all other information will become available not before 2003. For EC Business surveys the European Commission started in 2001 publishing results for the total of all service branches covered for the balances of the responses on climate, demand and employment. For retail trade a survey exists and contains question on business situation and expectations, employment expectations, stocks and orders, but no information on prices.

However, though the current data availability for all service branches for the EU and euro area is, with the exception of retail trade information, very poor, any longer-term planning has to take into account the expected improvements in the availability due to already agreed regulations.

#### IV. ECB Requirements for short-term indicators on services

The ECB has repeatedly stressed the importance for the purposes of economic and monetary policy to have a methodologically sound and consistent information system that produces relevant information in a timely fashion. Detailed requirements for general economic statistics including service statistics have been endorsed by the Governing Council of the ECB and published for indicators, level of detail, frequency and timeliness<sup>3</sup>.

Price statistics are particularly important for the ECB for monitoring the price dynamics within the euro area. A set of producer prices for services would complete the set of price statistics for services and provide economic analysts with an additional indicator to assess price evolution. Whilst prices for consumer services are covered in the consumer price index (HICP), prices for business to business services may serve the same purposes as the producer price index in industry.

Producer prices may also be used as a deflator for the part of the output sold by service businesses to business, or more generally, the deflation of services turnover and the calculation of output.<sup>4</sup> Considerable research work has been carried out in the last decade in this new field and in half EU countries producer prices for selected, but different service activities are already compiled<sup>5</sup>, so that progress towards EU-wide aggregates may be possible over the next years. Short-term output measures for in particular market services are essential for the analysis of the economy. Short-term information on turnover (nominal and deflated) is essential for the retail trade sector as an indicator of household consumption and may provide a useful indicator of activity in other market services sectors.

Given its importance for the cyclical development and its high contribution to job creation in the economy, the third essential indicator for the short-term service statistics is employment data. The need for information on hours worked arises in the market service sector particularly, given the high and still increasing share of part-time employment in this part of the economy.

As regards leading indicators for the service sector, qualitative information on demand, employment and price expectations is important. Quantitative information with leading indicator properties (e.g. new orders, inventories) is desirable, but most likely not relevant or feasible in many service branches.

#### V. Proposals for action

The following proposals for the development of euro area-wide statistics on services at monthly and/or quarterly frequency are made.

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<sup>3</sup> See European Central Bank (August 2000), "Statistical Requirements of the European Central Bank in the field of General Economic Statistics".

<sup>4</sup> Producer price indices are the preferred measure for deflation in Eurostat's Handbook of Price and Volume measures in national accounts. In some market sectors (e.g. banking, insurance) and most non-market services (e.g. education) the calculation of producer price indices is very difficult or impossible due to the lack of observable prices. Calculation of volumes therefore often have to rely on second best methods which are described in the handbook.

<sup>5</sup> In recent years, the Voorburg Group has carried work on service producer prices. It covered sectors such as telecommunications, legal and accounting services. A survey on the availability of producer price indices including information on national methodologies is available in the document "OECD Inquiry on National Collection of Services Producer Prices -- Preliminary Report, Part 1".

### *1. Increase in the number of indicators*

Better information on prices, output and employment in the service sector is the highest priority.

For improving the situation on producer prices, it is essential that a significant coverage of the branches in particular in the market output sector is achieved. This implies the development of producer price indicators for NACE sections H, I, K and L. Services producer prices are not yet covered in the short-term statistics regulation.

For improving the situation on output data for the service sector, two possibilities exist. The first is to increase the level of detail available for quarterly value added information from national accounts (which provides information at present only at highly aggregated levels). The second is to improve the coverage of nominal turnover data in the short-term statistics regulation and to add a requirement for deflated turnover results. Since it is likely to be difficult to increase the information from national accounts without improving the quality of the underlying primary statistics, the improvement of the short-term statistics regulation for output data in the services sector might be the first step. The availability of adequate producer price indices in the service sector is a pre-condition to compile good quality value added or turnover statistics at constant prices in the service sector. Better producer price and output data will also improve the quality of the GDP estimation.

The third indicator for the services sector which should be treated with priority is employment statistics. Services employment data are currently referred to in the short-term statistics regulation for the currently included service branches as well as in the labour force survey regulation and national accounts. The improvements in the short-term statistics regulation cover the same branches as the proposals for improvement for turnover and deflators above.

Important in the longer term, though with lower priority, is the development of a set of supplementary indicators, such as hours worked and wages and salaries at sufficiently detailed level in the service sector. Hours worked are not yet covered in any existing regulation; wages and salaries are currently included in the national accounts regulation at a high aggregation.

Moreover, in the field of business opinion surveys the set of questions should be extended to cover a new variable on price expectations of retail trade and other service branches.

### *2. Improvement in coverage*

A second priority is the improvement in the coverage of service activities and in particular market service activities for turnover and prices in the short-term statistics regulation as well as employment for market and non-market activities. There was EU-wide agreement on the contents of pilot studies aiming at extending the coverage in the short term statistics regulation and this work should start soon. The EU labour force survey regulation may become one important source for the employment variable if this data will be available at a sufficiently timely basis. An extension of coverage of service branches is also desirable for the qualitative business surveys (work on this is underway).

### *3. Improvement in the available level of detail*

One striking difference between short-term industry and services statistics is that industry statistics are produced at a sometimes extremely high level of detail, whilst service statistics, if available at all, cannot be broken down by the main sectoral contributions. While it is not the objective for short-term service statistics to achieve the high degree of detail available for

industry statistics (and a reduction of requirements in industry statistics might be considered, in particular as regards the NACE 4 digit results for some indicators), any future development should consider the heterogeneous composition of the service sector and the need to analyze the contributions from sub-sectors to the service aggregates. This requires sufficiently disaggregated information. As a rule of thumb, services statistics should target a two-digit Division level in the NACE (e.g. breaking down the complete market services in approximately 17 sub-categories), though in some cases a higher level of detail may be required (e.g. retail trade turnover) and in other cases a lower level of detail may suffice (e.g. for gross wages and salaries).

#### *4. Improvement in timeliness*

Short-term statistics on services fulfill their functions only if their timeliness is good. While in most statistical domains the timeliness requirements for the service data included are not different from the timeliness required for industry data, this is not the case for the short-term statistics regulation. The deadlines for transmission of short-term indicators on services (i.e. t+90) are unsatisfactory. Moreover, short-term statistics would be available later than the corresponding counterparts in quarterly national accounts (to be available after t+70). As for other short-term indicators, the aim should be a timeliness of approximately t+30 for monthly data (e.g. retail trade turnover) and not more than t+60 for quarterly data.

#### *5. Improvement of the frequency of indicators*

As regards the frequency, the lack of any monthly information for the service sector is a shortcoming (with the exception of HICP and Opinion Survey data). Monthly data of the short-term statistics is to be considered an important value added over other, quarterly sources (such as national accounts). In the long run the key indicators for the market service sector output and prices should be available at monthly frequency. However, for the forthcoming implementation period of service statistics priority should be given to more variables, to the extension of coverage in the service sector, to the higher level of detail and better timeliness.

#### *6. Co-ordination under different statistical EU regulations*

In order to avoid unnecessary conceptual differences or overlapping requirements, a close co-ordination between the statistical domains involved should be enforced. The short-term statistics regulation, the labour cost index regulation, the labour force survey and the national accounts regulation contain relevant information in the services area. So far these regulation have been developed largely independently of each other. For the development of short-term service statistics a closer co-ordination of the requirements and concepts in the different statistical domains is useful.

#### *7. Further research and development*

There are many difficult statistical questions to be examined and developed before a satisfactory coverage of the service sector in short-term statistics can be achieved. Many of them are linked to the measurement of prices and output (volumes) and are also mentioned in Eurostat's handbook for national accounts deflation; some of them were included in the list of pilot studies in the short-term statistics regulation of 1998. Joint research and development work in the European Statistical System will be required to produce reliable and comparable service sector statistics.

## ANNEX

**Table A.1: NACE Rev.1 two-digit classification for services**

<b>G</b>	<b>Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods</b>	
	50	Sale, maintenance and repair of motor vehicles and motorcycles
	51	Wholesale trade and commission trade, except of motor vehicles and motorcycles
	52	Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods
<b>H</b>	<b>Hotels and Restaurants</b>	
	55	Hotels and Restaurants
<b>I</b>	<b>Transport, storage and communication</b>	
	60	Land transport; transport via pipelines
	61	Water transport
	62	Air transport
	63	Supporting and auxiliary transport activities; activities of travel agencies
	64	Post and telecommunications
<b>J</b>	<b>Financial intermediation</b>	
	65	Financial intermediation, except insurance and pension funding
	66	Insurance and pension funding, except compulsory social security
	67	Activities auxiliary to insurance and pension funding
<b>K</b>	<b>Real estate, renting and business activities</b>	
	70	Real estate activities
	71	Renting of machinery and equipment without operator and of personal and household goods
	72	Computer and related activities
	73	Research and development
	74	Other business activities
<b>L</b>	<b>Public administration and defence; compulsory social security</b>	
	75	Public administration and defence; compulsory social security
<b>M</b>	<b>Education</b>	
	80	Education
<b>N</b>	<b>Health and social work</b>	
	85	Health and social work
<b>O</b>	<b>Other community, social and personal service activities</b>	
	90	Sewage and refuse disposal, sanitation and similar activities
	91	Activities of membership organisations
	92	Recreational, cultural and sporting activities
	93	Other service activities
<b>P</b>	<b>Private households with employed persons (*)</b>	
	95(**)	Private households with employed persons
	96(***)	<i>Undifferentiated goods producing activities of private households</i>
	97(***)	<i>Undifferentiated services producing activities of private households for own use</i>
<b>Q</b>	<b>Extra-territorial organisation and bodies</b>	
	99	Extra-territorial organisation and bodies

(\*) Changed to "Private households with employed persons" in NACE Rev.1.1.

(\*\*) Changed to "Activities of households as employers of domestic staff" in NACE Rev.1.1.

(\*\*\*) New in NACE Rev.1.1.

**Table A2: Relevance and short-term dynamics of short-term service statistics**

	Activity indicators										Prices		Labour market indicators			
	Value added		Turnover		New Orders		Ex/Import (or dom./ext. market)		Business climate		Output Prices		Employment (& hours worked)		Wages	
	Rel	Dyn	Rel	Dyn	Rel	Dyn	Rel	Dyn	Rel	Dyn	Rel	Dyn	Rel	Dyn	Rel	Dyn
G – Trade and Repair	++	++	++	++	++	-	+ <sup>(3)</sup>	++ <sup>(3)</sup>	++	++	++	+	++	+	++	+
H – Hotels and restaurants	++	++	++	-	-	++	-	-	++	++	++	+	++	++	++	+
I – Transport, storage and communication	++	++	++	+ <sup>(2)</sup>	++ <sup>(2)</sup>	++	+ <sup>(2)</sup>	++ <sup>(2)</sup>	++	++	++	+	++	+	++	+
J – Financial intermediation	++	+	-	-	-	-	-	-	++	++	+	+	++	+	++	+
K – Real estate, renting and business activities	++	+	+	-	-	-	-	-	++	++	++	+	++	+	++	+
L – Public administration and defence, compulsory social security	++	-	-	-	-	-	-	-	-	-	-	-	++	+	++	+
M – Education	++	-	-	-	-	-	-	-	-	-	-	-	++	+	++	+
N – Health and social work	++	+	-	-	-	-	-	-	-	-	-	-	++	+	++	+
O – Other community, social and personal service activities	++	+ <sup>(1)</sup>	+ <sup>(1)</sup>	-	-	-	+ <sup>(1)</sup>	+ <sup>(1)</sup>	+ <sup>(1)</sup>	+ <sup>(1)</sup>	+ <sup>(1)</sup>	+ <sup>(1)</sup>	++	+	++	+

<sup>(1)</sup> For market activities; <sup>(2)</sup> for some transport and storage activities; <sup>(3)</sup> for wholesale trade.

**Rel** : Relevance for measuring economic activity, or prices, or labour market conditions

**Dyn** : Short-term dynamics

**++** : highly relevant / high short-term dynamics

**+** : some relevance / some short-term dynamics

**-** : not relevant / no short-term dynamics

Not mentioned are consumer price statistics which are available for all relevant consumer services.

**Table A.3: Coverage of annual, quarterly and monthly service sector statistics in existing EU regulations**

Domains	Legal references	Variables	Coverage and level of detail	Frequency	Timeliness
<i>National Accounts</i>	Council Regulation (EC) No 2223/96 of 25 June 1996 (ESA 95).	<u>value added</u> : - output by industry - intermediate consumption - gross value added at basic prices - consumption of fixed capital <u>capital formation</u> <u>employment and compensation</u> .	A31 (sections G to Q of NACE Rev.1)	Annual	9 months after the reference year.
		<u>Value added, compensation and employment</u> .	A6 (G+H+I, J+K and L to P)	Quarterly	4 months after the reference quarter (70 days in future)
<i>Structural Business Statistics</i>	Council Regulation (EC, EURATOM) No 59/97 of 20 December 1996, amended by Council Regulation (EC, EURATOM) No 410/98 of 16 February 1998. Specific Commission Regulations exist for insurance service and tourism statistics.	<u>demographic</u> : number of enterprises/local units; <u>enterprise characteristics</u> : turnover, production value, value added, personal costs, total purchases of goods and services, gross investments in tangible goods, number of persons employed, number of employees; <u>regional characteristics</u> : wages and salaries, number of persons employed.	Sections G, H, I, J, K Non-market services and public services are not covered.	Annual	18 months after the end of the reference year.  Preliminary national results within 10 months for turnover and number of persons employed.
<i>Short-term Business Statistics</i>	Council Regulation (EC) No 1165/98 of 19 May 1998.	<u>turnover and employment</u> .	Sections G, I, K (only computer and related activities, other business activities). Non-market services, public services and financial intermediation are not covered  Pilot studies are planned on sections K (complete) and J, M, N, O.	Quarterly	90 days after the reference quarter.
<i>Labour Force Survey</i>	Council Regulation (EC) No 577/98 of 9 March 1998.	<u>Labour force, employment, hours worked</u> .	Section G-Q, possibly also Divisions.	Quarterly/ Annual	12 weeks after the end of the reference period (quarterly surveys). 9 months (annual survey).

<b>Domains</b>	<b>Legal references</b>	<b>Variables</b>	<b>Sectors and level of detail</b>	<b>Frequency</b>	<b>Timeliness</b>
<i>Labour Cost Indices</i>	Gentlemen's agreement. Draft regulation in progress.	Total labour costs; labour costs excluding bonuses; wages and salaries; employers' social contributions.	Draft Regulation: Sections G to O Currently the level of detail is very limited.	Quarterly	Currently 95 days after the reference quarters. In the regulation the delay for national data is reduced to 70 days.
<i>HICP</i>	Commission Regulation No 2214/96 of 20 November 1996, amended by Commission Regulation No 1749/99 of 23 July 1999.	Consumer service price indices, accounting for around 38% of the overall index for the euro area.	The main branches covered and published at 3 digit COICOP level are: - rents - health (hospital and out-patient services); - transport; - telecommunications; - recreation and culture; - education; - restaurants and hotels.	Monthly	15 days after the reference month.
<i>EC business survey in the service sector</i>	European Commission decision on the 'Joint Harmonised EU Programme of Business and Consumer Surveys' and the Communication from the Commission to the European Parliament and the Social and Economic Committee, Nov.2000, COM (2000) 770.	5 questions: <ul style="list-style-type: none"> <li>• assessment of the business climate</li> <li>• evolution of demand (in recent months and in the months ahead)</li> <li>• evolution of employment (in recent months and in the months ahead)</li> </ul>	NACE Rev.1 Section I (divisions 60-63); Section K (divisions 71-74); Section O (division 90)	Monthly	Second working day after the end of the reference month

# ECONOMIC ANALYSIS OF SHORT-TERM DATA ON SERVICE SECTORS

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## I. The growing weight of service sector in European economies

Estimates coming from national accounts data provides a broad indication of the increasing weight of the service sector in EMU/EU economies. In France, for example, the share of the service sector on the economy as a whole - in terms of value added at current prices - has increased from 60.8% in 1980 to 71.7% in 2000; in Italy from 55.6 to 68.9%, in the United Kingdom from 57.2 to 71.5%. In Germany the growth of service sector has been of 6.5 percentage points from 1991 to 2000 and in EMU of 4.3 points. This evolution corresponds to a decline in the importance of the industrial sector: in 2000 industry, excluding construction, represented the 21,2% of the economy in EMU.

**Table 1:** Value added at current prices by sectors (percentage on total value added)

	European Union	EURO ZONE	Germany	France	Italy	United Kingdom
<b>1980</b>						
Agriculture	-	-	-	4,6	5,9	2,1
Industry (excluding construction)	-	-	-	28,0	31,4	34,6
Construction	-	-	-	6,6	7,2	6,1
Wholesale and Retail Trade	-	-	-	18,5	23,6	19,2
Financial Intermediation, real estate	-	-	-	23,0	15,8	17,7
Public administration and defence	-	-	-	19,3	16,2	20,3
Total Services	-	-	-	60,8	55,6	57,2
Total Economy	-	-	-	100,0	100,0	100,0
<b>1991</b>						
Agriculture	3,0	3,1	1,4	3,3	3,5	1,8
Industry (excluding construction)	25,5	25,7	30,6	22,3	25,1	26,2
Construction	6,2	6,3	6,0	6,0	6,2	6,0
Wholesale and Retail Trade	21,3	21,3	17,8	20,1	24,1	22,1
Financial Intermediation, real estate	22,8	22,9	24,0	27,1	21,2	22,3
Public administration and defence	21,1	20,7	20,2	21,2	19,8	21,7
Total Services	65,3	64,9	62,0	68,4	65,2	66,1
Total Economy	100	100	100	100,0	100,0	100,0
<b>2000</b>						
Agriculture	2,1	2,4	1,2	2,8	2,8	1,0
Industry (excluding construction)	22,8	22,9	25,3	20,9	23,5	22,5
Construction	5,4	5,5	5,1	4,5	4,9	5,0
Wholesale and Retail Trade	21,3	21,0	17,6	18,6	23,8	23,0
Financial Intermediation, real estate	26,8	27,0	29,8	30,0	26,1	27,0
Public administration and defence	21,5	21,2	21,1	23,1	18,9	21,5
Total Services	69,7	69,2	68,5	71,7	68,9	71,5
Total Economy	100,0	100,0	100,0	100,0	100,0	100,0

## II. STS regulation and its implementation

Given the role of the service sector, the availability of a large set of indicators at high frequency on service activities has become more and more crucial to monitor the economic evolution of European countries. This need has been enhanced by the new framework of the economic and monetary policy in the EMU. The Council Regulation on Short Term Statistics (1165/98, STS Regulation) contains besides the Annex C, concerning Retail Trade and Repair, an Annex (Annex D) explicitly devoted to statistics on the so-called “other services” sector. However the present implementation of Annex D shows a situation highly differentiated among the different European countries, so that only starting from the end of 2002 it will be possible to make the first European aggregate indicators available to the users.

Taking into account that Annex D is a compromise between users’ requirements and feasibility for compiling new statistics by NSI, EUROSTAT, together with ECB, has proposed to quicken the implementation of STS regulation and to widen the set of indicators included in it. The proposal stems from three elements:

- 1) the growing weight of services in European economies
- 2) the interest for the cyclical behaviour of some service sectors
- 3) the need to have a complete set of infra-annual indicators able to detect the cyclical evolution of the European economy.

Recently the ECB and the European Statistical System in their efforts to build a sound system of short term data to monitor the economic evolution in EU and Euro zone, have singled out the statistics on service sector as a field where substantial progresses are needed.

**Table 2: Implementation of STS regulation (Annex D, turnover in services) in MS**

Nace Rev. 1	EU Member States														
	FR	D	I	NL	E	UK	P	LU	DK	IE	AT	B	GR	FI	SE
501+502+504	yes	no	no	no	no	yes	no	yes	yes	yes	yes	no	no	yes	yes
502	yes	no	no	yes (98)	no	yes	no	yes	yes	yes	yes	no	no	yes	yes
505	yes	yes	no	yes (98)	no	yes	no	yes	yes	yes	yes	no	no	yes	yes
511	no	no	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
512	yes	yes	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
513	yes	yes	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
514	yes	yes	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
515	yes	yes	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
516	yes	yes	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
517	yes	yes	no	no	no	yes	no	yes	yes	yes (98)	yes	no	no	yes	yes
55	yes	yes	no	3 dig. (98)	no	yes	no	yes	yes	yes (98)	no	no	no	yes	yes
60	yes	no	no	no	no	no	no	no	yes	yes (98)	no	no	no	yes	yes
61	yes	no	yes (98)	no	no	no	no	no	yes	yes (98)	no	no	no	yes	yes
62	yes	no	yes (98)	no	no	no	no	no	yes	yes (98)	no	no	no	yes	yes
63	yes	no	no	no	no	yes (98)	no	no	yes	yes (98)	no	no	no	yes	yes
641	yes	no	yes (98)	no	no	no	no	no	yes	yes (98)	no	no	no	yes	yes
642	yes	no	yes (98)	no	no	yes (98)	no	no	yes	yes (98)	no	no	no	yes	yes
72	yes	no	yes (98)	yes (98)	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
7411+7412+ 7413+7414	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
742+743	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
744	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
745	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
746	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
747	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes
748	yes	no	no	no	no	yes	no	no	yes	yes (98)	no	no	no	yes	yes

### III. Analysis of economic evolution of turnover indicators

In the context sketched above it appears interesting to study the economic information provided by service sector indicators requested by the STS Regulation that are already available. In particular, the aim of this paper is to provide a first exploratory analysis of the turnover indicators concerning some of the largest countries of EMU, to investigate their information content and, in particular, their cyclical behaviour.

The empirical research has to deal with some problems that do not allow to carry out a deeper analysis:

- 1) breakdowns established by the Regulation do not cover the entire service area;
- 2) the degree of implementation of Annex D is highly differentiated by MS, so that only for few Divisions (i.e. two digits level of the NACE classification) turnover indexes are available in at least two large EMU countries;
- 3) available time series are very short except for France;
- 4) indices of turnover are measured in nominal terms and indicators of output prices of the service sector are almost completely missing;
- 5) there are problems of timeliness.

Anyway it is possible to explore some of the issues above outlined as the data available allow undertaking the following steps:

1. comparison between turnover in services (for the Divisions covered in each country) and turnover in manufacturing for France, Germany, Italy and United Kingdom;
2. deflation of Italian indices of turnover in services activities, through output price proxies, and analysis of their cyclical properties with respect to value added at constant prices in market oriented services;
3. cross analysis between countries for a few sectors where data allow it.

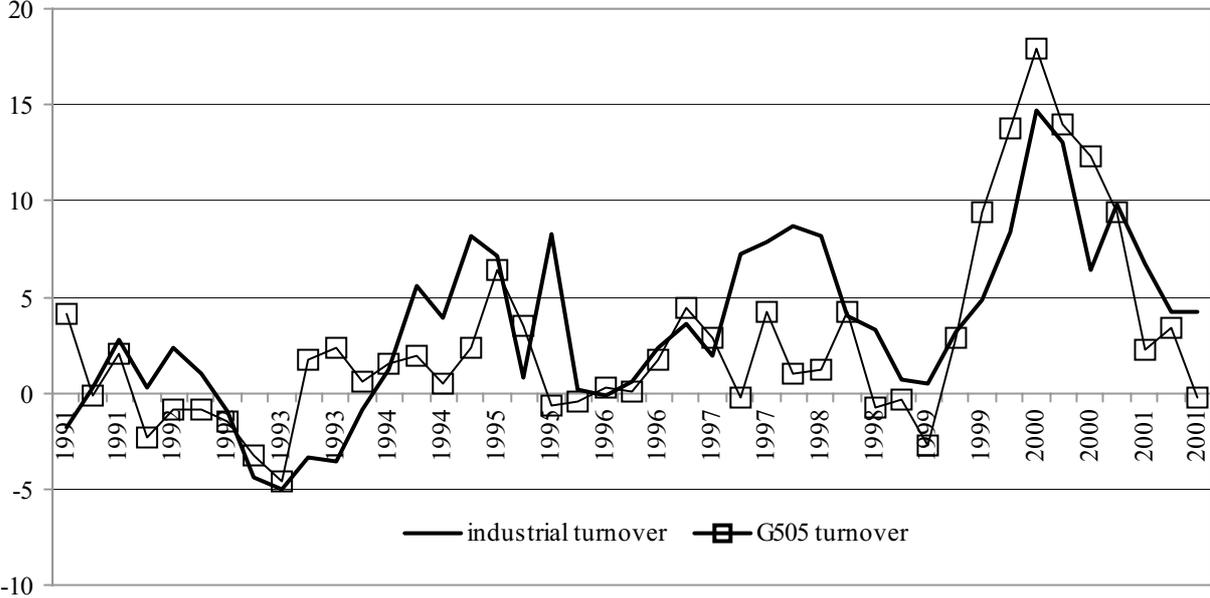
The Data base used to extract time series has been New Cronos.

#### *III.1. Comparison between turnover in services and turnover in industry*

The comparison between turnover in services and turnover in industry has been started, looking at monthly (M/M-12) or/ quarterly (Q/Q-4) growth rates with respect to an year earlier. The graphical inspection shows the sectors that are linked to the industrial cycle and those that are not. As expected, sectors which provide services mostly to industrial enterprises show an evolution coherent with that of industrial turnover. This behaviour is common to the following sectors and countries:

- a) retail trade of automotive fuel (France)
- b) Wholesale of non-agricultural intermediate products, waste and scrap (France and Germany)
- c) Wholesale of machinery, equipment and supplies (France and Germany)
- d) Water transport (France, Germany)
- e) Advertising (France)
- f) Labour recruitment and provision of personnel (France).

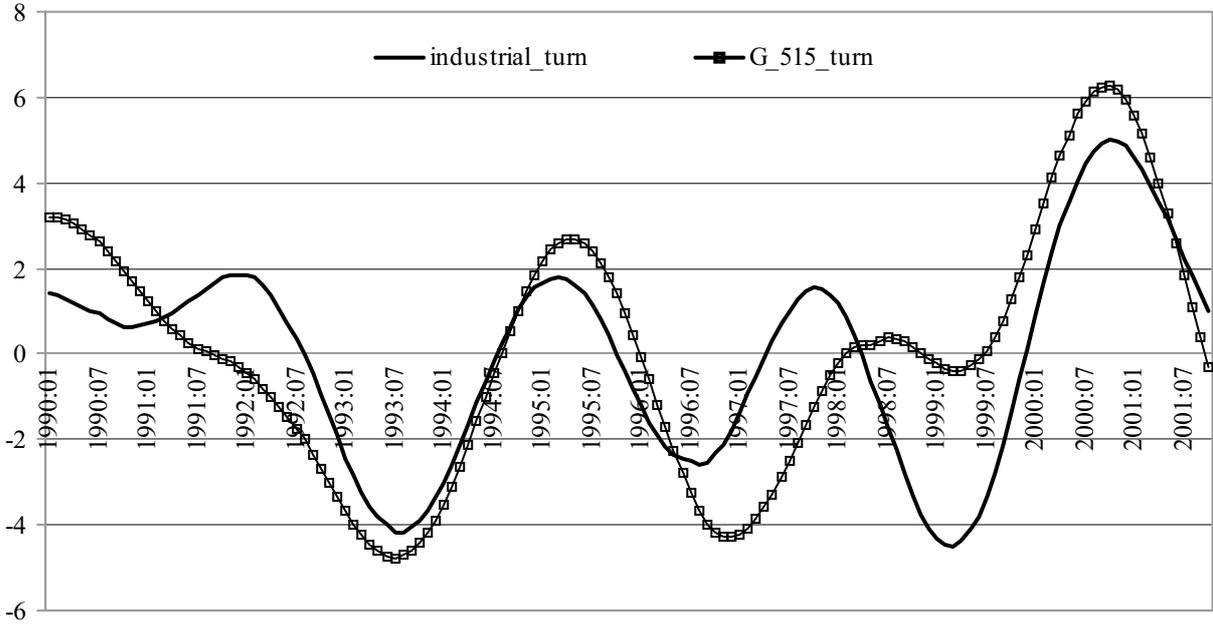
**Figure 1:** Turnover of retail trade of automotive fuel and industrial turnover in France (Q/Q-4 growth rates)



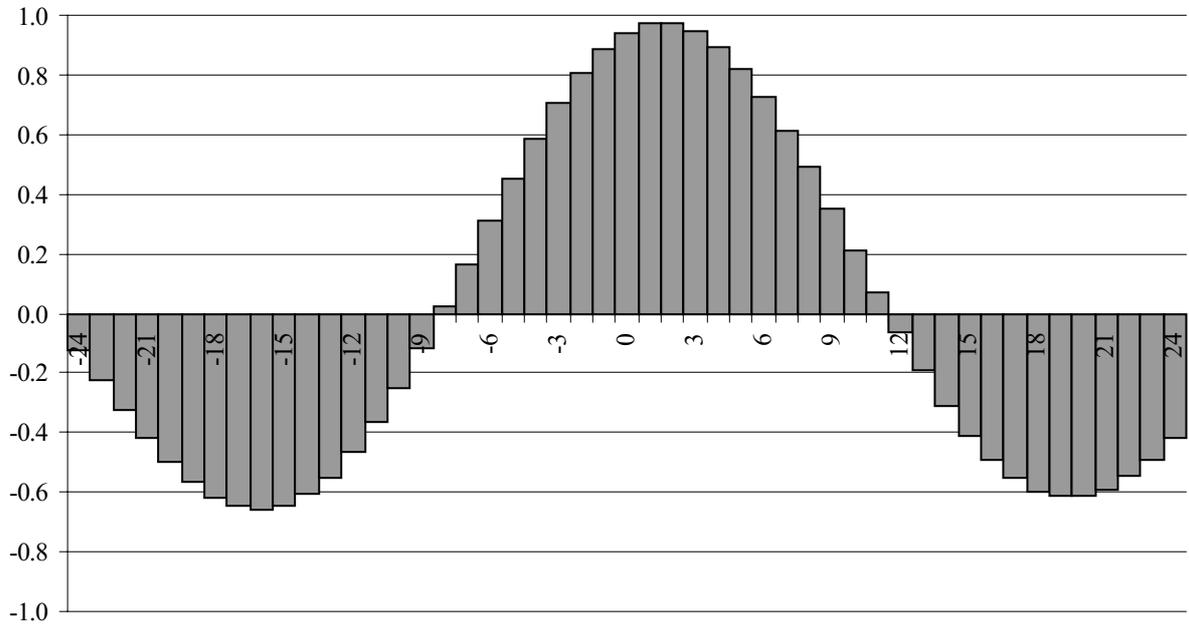
For these sectors the analysis has been deepened, by seasonally adjusting data, extracting cyclical components through band pass filter (where the length of series allows it) and estimating the cross correlations over 24 leads and lags (on monthly data) between the cyclical components of service sector and industrial turnover.

There are interesting results concerning the French wholesale of non-agricultural intermediate products, waste and scrap (that shows the highest value for the cross correlation in correspondence of lead -2) and the retail sales of automotive fuel (0,87 at lead -3). France shows a coincident cyclical behaviour of wholesale of machinery, equipment and supplies (0,75 the highest value of cross correlation at 0 lag). Concerning Germany, where the results are very provisional due to the shortness of series available, the sector of wholesale of non-agricultural intermediate products, waste and scrap is slightly lagging, whereas wholesale of machinery, equipment and supplies shows a coincident behaviour even if weaker than in France.

**Figure 2:** Wholesale of machinery, equipment and supplies and industrial turnover in France (cyclical components)



**Figure 3:** Wholesale of machinery, equipment and supplies and industrial turnover in Germany (cross correlations)



### *III.II. Analysis of Italian data*

Italian quarterly data do not show an high coherence with industrial turnover. Some sectors they cover (currently only five) are deemed to have an economic behaviour independent from the aggregate business cycle. Moreover, the short length of time series (quarterly data start from 1998) does not allow to remove seasonal and irregular components making the comparison with industrial turnover very difficult to interpret.

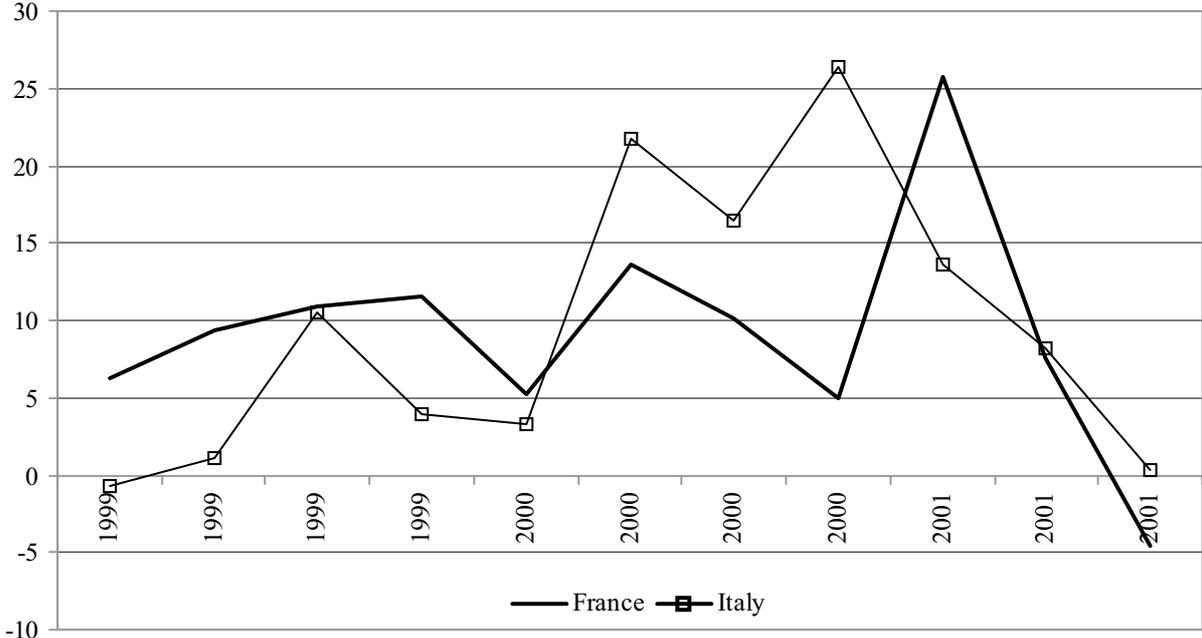
An attempt has been made at eliminating the inflation component in turnover. The idea is to utilise consumer prices indexes referring, on the demand side, to products (for instance some typologies of transportation and telecommunication services) analogous to the ones included in the output of the relevant sectors. Then the growth rates of “volume” indices are compared with those of value added at constant prices in market oriented services and those M-4 of industrial production. The shortness of the series prevents any clear economic interpretation. However deflated series show, although in a noisy manner, analogies with the evolution of value added in market oriented services. Furthermore, in the most recent period the service sector turnover presents with respect to industrial production a much milder downturn.

### *III.III. Cross countries analysis*

The last step of the analysis is aimed at measuring the correlation existing between the evolution over time of the service turnover in different MS. The analysis is limited by the little number of sector breakdowns for which a direct comparison is possible. As far as concerns the countries examined, the comparison is possible between France, Germany and United Kingdom in the retail sale of automotive fuel, in the wholesales and in the sector of hotel and tourism. The cross analysis between Italian data and French data is possible for transports and for the computer and related activities sector. Clear comovements between different countries can be identified in the following cases:

- a) in the sectors more cyclical sensitive;
- b) in the sectors where national markets have been opened to international competition over the last years (as in the air transport).

**Figure 4:** Air transport turnover in Italy and Germany (Q/Q-4 growth rates)



# EXPERIENCES WITH THE COLLECTION AND EDITING OF DATA INCLUDING THEIR PUBLICATION IN THE AREA OF TRADE STATISTICS

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## OVERVIEW

On the national as well as on the international level, turnover and employment indices in trade are important indicators for short-term business research. These items, which are collected monthly, serve as source of information for market research and supply basic information to interest groups, to political decision makers in the field of economy and, last but not least, they are used for enterprise comparisons. This lecture is to provide an overview on the Austrian trade sample, its development, editing and publication. In addition, a contribution to the further harmonisation of short-term trend statistics is intended.

### 1. Review

In 1973, a monthly sample survey in the area of wholesale and retail trade on turnover, purchases of goods, and persons employed was started. At that time, the legal foundations were decrees of the Federal Minister of Trade, Manufacturing and the Industry, of the Federal Minister of Agriculture and Forestry and of the Federal Minister for Social Administration of December 1971.

Till 1998, results were presented basically unchanged in two structural forms: according to groups and selected categories of the Austrian Standard Industrial Classification of all Economic Activities 1968, starting with 26 positions in wholesale trade and 24 positions in retail trade, and according to Austrian provinces one position each in retail and in wholesale trade, respectively. In 1973 variables comprised the overall number of persons employed at the end of the month under report, monthly turnover in wholesale trade, retail trade, from intermediary activities and “other sales”. Purchases of goods was surveyed monthly, as well.

With the Austrian membership in the European Economic Area (EEA) and the country's accession to the European Communities in 1995, its classification of economic activities was harmonized according to the respective regulation of the European Council. The breakdown of economic branches was effected according to Nace Revised 1 and its derived national version (ÖNACE 1995).

First surveys according to ÖNACE 1995 in the area of short-term statistics for the sale with motor vehicles, including the maintenance, repair of motor vehicles and sale of automotive fuel have been performed since January 1996 (reporting month), adding to the amount of variables with “wages and salaries”.

In 1999, short-term data surveys were performed according to the EU concept in section G trade, maintenance and repair of motor vehicles. From this moment onward, results have been

presented as turnover and employment indices according to ÖNACE 1995 and have been adapted to the data supply requirements of European statistics.

## 2. Introduction

For business research, turnover and employment indices in trade are important indicators on the national as well as on the international level. These items, which are collected monthly, serve as source of information for market research and supply basic information to interest groups, political decision makers in the field of economy and, last but not least, they are used for enterprise comparisons.

## 3. Sample planning

### *Kind of sample*

The population used for the selection of sample units in the short-term data survey on trade consists of all enterprises (about 70 000) of the enterprise register (Unternehmensregister/UR) of the ÖNACE classes 50.10 to 52.63.

The selection procedure corresponds to stratified random selection.

### *Stratified sample*

Stratification is effected according to 57 branches, and within the individual branches according to a maximum of four size classes of the variable turnover. The distribution of the sample to individual size classes was effected according to the Lavallee and Hidiroglou procedure, which had been used for former samples, already. Due to the continuous use of the iterative procedure according to Lavallee no gross methodological ruptures with regard to precedent surveys had to be observed. The overall sample size was determined at about 6 000 survey units.

### *Rotating sample*

Since January 1999 (reporting month), annual rotation has been carried through for the sample. This means that, year after year, enterprises were exchanged except the sales strata, which were subject to a census (stratum class 4, in most cases). The steps along which we proceeded were the following: if the sampling ratio is less than 10% an exchange of all survey units is attempted, if the sampling ratio is more than 10% an average of every second enterprise is rotated except the enterprises subject to a census. The enterprises drawn in this way remain in the sample until the next drawing and are completed by new entrants, only, a procedure theoretically allowing the sample size to grow. Only at the beginning of each new year, the sample size is reduced to about 6 000 units. Except the big companies, this kind of sample enables a fair and evenly distributed burden with regard to the smaller and medium-sized enterprises and, consequently, no competitive disadvantages for these establishments.

Due to the fact that, since 1996, no census has been conducted on structural business statistics in the Austrian economy it has become necessary to regularly adjust the sampling ratio to external administrative sources (external registers), as arranged in the 2000 Federal Statistics Act.

#### **4. Editing, timeliness and delivery of data in the area of short-term statistics in trade**

##### *Editing*

Presently, the delivery of data takes place around the 25<sup>th</sup> month after the month under report. The former consignment of paper questionnaires was replaced by an electronic questionnaire (**e-Quest**) from the month under report April 2001 onward.

As a third medium of report, Statistics Austria will enable monthly reports via internet for the coming period of report of 2002.

The daily taking delivery of the ingoing post is effected by an independent administrative working group pre-sorting the questionnaires and controlling the completeness of variables.

Reports arriving electronically are stored directly in the short-term data survey application (KJH) provided for this purpose.

##### *Reminder*

Due to the Austrian national decree legally obliging sampled enterprises to register, a multi-stage dunning procedure is necessary.

1st stage: reminder (about 1 200) addressed to the enterprises inviting them to fulfil their legal obligation to register

2nd stage: return letter – urging letter to about 400 companies having failed to report for two or more months.

If no monthly data are provided the slip of the return letter is the basis for the institution of administrative proceedings with the district authorities.

Dunning deadline is the 18th of the second month following; a part of the reminders is already sent by e-mail.

##### *Register maintenance*

The changes of variables, of enterprise structure and changes in the economic activity, respectively, discovered by the officials in charge of the short-term data survey on trade, are prepared by them for the adjustment of the business register.

##### *Correspondence*

Enterprises selected for sample receive a letter on the purpose of the survey, the obligation to register is explained to them and, in return, the selection of reporting medium as well as free information (very soon, free internet access) are provided.

##### *KJH – application*

Processing is effected by data capture on the terminal or by electronic report.

The necessary applications are carried out by way of project with the following main selection menu:

- year
- month
- printer address.

### *1 – Data input*

Data input starts with the input of the identification number of the enterprise and with the presentation of the essential display panels (ÖNACE, stratum and designation of the company).

After entering the number of persons employed and the turnover the official-in-charge carries out the first plausibility check by pressing the function key. This machine control produces error codes on the display, with the official-in-charge carrying through a plausibility check based on his/her own experience of the matter.

In addition, rotating data are displayed of the past 12 months as well as the reporting status of the past few months.

The following reporting status may occur:

- 1** enterprise report available
- 2** enterprise inactive in reporting month
- 3** unit Non-response
- 4** unit Non-response, values are substituted by weighted data of the preceding month
- A** selected enterprise data (new entrants)

Error codes of the electronic plausibility check:

- FC 1** no persons employed
- FC 2** changes to preceding month exceed 10 percent or a difference of 4 persons employed
- FC 3** changes in number of persons employed to preceding month as in FC 2
- FC 4** no turnover
- FC 5** turnover exceed the sales of the preceding month by 4 times or fall below a fifth of the turnover of the preceding month
- FC 6** turnover difference compared to the preceding month as in FC 5

### *Info – displays enterprises (data input info area)*

In this sector, written information on the individual enterprises may be entered and individual identification numbers of already completed months under report may be viewed.

### *E - Adoption of data in electronic questionnaires*

This area adopts electronic reports into the KJH application.

### *2 and 2E, respectively, plausibility catalogue of R cases*

By invoking items 2 or 2E lists are generated of all reports containing an error confirmed by an input of R. These lists are used for the editing of micro-plausibility checks.

### *3 – Substitution of missing data of all strata*

After the completion of the micro-plausibility check reports still missing (about 10 percent) are substituted.

By starting item 3 of the menu, the data of enterprises having failed to report are substituted for the respective month under report. The estimated value (turnover, persons employed) of a reporting failure per month under report is determined by multiplying the value of the enterprise in the month under report t-1 with a stratum-specific variation factor. This factor is calculated from the ratio of the variables sum in month t divided by variables sum in month t-1. Summing up (numerator and denominator) has to be carried through all units of a stratum of which there is a reported value at moment t and a reported or estimated value at moment t-1.

In the application, all substituted enterprises are provided with reporting status 4.

### *4 – Evaluation*

This selection comprises all tables necessary for macro-plausibility checks as well as branch 4.5 **Projections**.

Projections comprise the extensive tabulation of working tables, publication tables, ISIS files (Statistics Austria data bank) and EUROSTAT files. Evaluation periods are M for monthly evaluations, Q for quarterly evaluations and J for annual evaluations. For all tables and for the EUROSTAT file all three evaluation periods are planned. Quarterly evaluations are available for the completed months under report of March, June, September and December. Annual evaluations are generated in December (completed month under report), only. Calculations of working tables (correctness of absolute values and indices) are controlled by random test. The plausibility of publication tables is checked by comparisons with the results of preceding months or years.

### *5 – Confirmation of monthly balance*

By confirming the monthly balance data input is locked to the selected month under report. All tabulations effected afterwards are of final character and serve for the basis of our manifold publications.

### *Timeliness*

The monthly results of short-term statistics in trade are provided at the beginning of the third month following, and at present, t+62 days. As a reduction of the publication deadline of the retail trade index to t+30 is planned by EUROSTAT, we intend to motivate the enterprises to transmit their data on a voluntary basis by the 15<sup>th</sup> day of the following month. In return, we offer a variety of electronic reporting media (e-Quest, online questionnaire, e-mail) to the business world.

Quicker results depend upon the actual willingness of the enterprises to report earlier, as the legal deadline - the 15<sup>th</sup> of every second month following - remains in effect for the whole reporting period of 2002.

## 5. Publications

To enable a distribution of information on the short-term data survey as broad as possible we publish on different scales and in a number of media.

### *Rapid information reports*

Presentation of the turnover and employment indicators (real and nominal), their variation rates and overall comparisons to the respective periods of the preceding year. Short indications on the methods and variables used, on the presentation characteristics as well as, in March, June, September and December, quarterly results. In December (reporting month) annual results are presented, as well.

### *“Statistische Übersichten”*

The publication “Statistische Übersichten“ presents short-term development in the trade area to a larger group (e.g., teachers, students) in the form of indices.

### *Press releases*

Press releases are primarily prepared for the Austria Press Agency (APA); they contain main quarterly results of selected branches.

### *Statistical Yearbook*

The annual result is published within the chapter domestic trade in the Austrian Statistical Yearbook.

### *STATAS*

STATAS is a state-of-the-art table bank system of time series containing mainly economic data. The results of the short-term data survey on trade are presented in index form in chapter 10, domestic trade.

<http://www.statistik.at/> Statistische Übersichten.

### *ISIS data bank*

The ISIS data bank represents the **integrated statistical information system** of **Statistics Austria** presenting the results of, among others, the short-term data survey in the form of time series, starting with the year under report of 1999. Against payment, this data bank is accessible to every external user.

### *Transmission of data to EUROSTAT*

Presently, transmission of monthly results to EUROSTAT is carried out by 62 days after the end of the respective month under report via STADIUM/STATEL.

To ensure the **comprehensibility** and **comparability** of the data content almost all publications contain methodological background information in text form.

Comparability of data in short-term trend statistics on trade with other surveys in business statistics, e.g., those of the structural business survey, exists, in principle, provided possible restructuring and divergent reporting periods are taken into account.

## **6. Outlook**

To safeguard the quality of the sample as the basis for economic forecasts the sampling ratio as well as the size of the sample should remain the same, and possible refinements should be attempted exclusively of the methodological approach. Speedier data supply seems possible only with the improved co-operation of the concerned enterprises and with the support of electronic media.

As no census has been conducted in business statistics since 1996, I believe that it will be necessary to continue performing sample surveys as part of field research. At present, the possibilities of adjustment with other administrative sources are limited (variations in definitions, differing activity classifications and inexact statistical variables) or impossible (no current sales tax data).

For a maximum of international comparability of business statistical data, seminars as the present should take place at regular intervals.

# COOPERATION BETWEEN SHORT-TERM STATISTICS AND QUARTERLY NATIONAL ACCOUNTS AT EUROSTAT ON SERVICES STATISTICS (EXCLUDING THE RETAIL TRADE)

*Frédéric Donzel*  
Eurostat

## INTRODUCTION

There is little contact between the various Eurostat units dealing with infra-annual statistics. Since Eurostat does not collect information from businesses, the short-term statistics section is mainly in contact with the corresponding units in the National Statistical Institutes; the same is true of the quarterly accounts section. Unlike some Member States which use short-term statistics to compile quarterly accounts, Eurostat draws up these aggregates entirely independently.

This paper suggests a model for future cooperation between these two units with the aim of improving the quality of the statistics.

### I. The current situation

#### A. Cooperation today

As mentioned above, short-term data are not used for calculating quarterly accounts aggregates, at least directly, since the situation often differs from one Member State to the next. Few quality checks are carried out, and those that are have so far been limited to industry and construction at Eurostat level. Moreover, even though there are some very rich national sources of methodological information (particularly the STS sources database for short-term statistics), these sources do not record the use of short-term statistics for quarterly accounts purposes. This situation is highly detrimental in that it restricts the opportunities for carrying out checks *a posteriori*.

#### B. Quarterly accounts

The variable collected via quarterly accounts in the Member States is value added, measured at both constant and current prices. When the National Statistical Institutes collect data, they have to interview economic activity units as observation units. The deadline laid down by the Regulation is 120 calendar days. Member States are required to supply gross and seasonally-adjusted series. The level of detail required by the Regulation is that of NACE A6. The table below shows the NACE classification and the respective weightings of its various branches in the European Union and the euro zone.

**Table 1: Share of each branch in GDP, 1999, at constant prices (1995)**

	<b>Euro zone</b>	<b>EU15</b>
GVA agriculture, hunting, forestry and fishing	2.5%	2.5%
GVA industry, including energy	21.8%	21.7%
GVA construction	5.1%	5.0%
GVA trade, transport and communications	19.8%	20.1%
GVA business services, financial services	24.7%	24.5%
GVA other services, including public services	19.7%	19.7%
Taxes less subsidies on production	10.2%	10.4%
FISIM	-3.8%	-3.8%

Member States are also encouraged to supply the level of detail of NACE A17, but only on a voluntary basis.

**Table 2: NACE A17**

GVA agriculture, hunting and forestry
GVA fishing and aquaculture
GVA mining and quarrying
GVA manufacturing
GVA electricity, gas and water supply
GVA construction
GVA wholesale and retail trade; repair of motor vehicles and household goods
GVA hotels and restaurants
GVA transport, storage and communication
GVA financial intermediation
GVA real estate, renting and business activities
GVA public administration
GVA education
GVA health and social work
GVA other community, social and personal service activities
GVA private households with employed persons
GVA extra-territorial organisations and bodies

A new Regulation, currently under discussion and expected to enter into force at the end of 2002, provides for Member States to supply gross value added at A6 level after 70 days. An exemption period will doubtless be necessary for some countries. This will not be necessary for the four largest Member States, since the information is already available and is used to calculate the European aggregate for the first quarterly accounts estimate, currently published at T+65 days. The information on Germany, France and Italy is public, although that on Italy is still confidential to date. The last quarter of the series of the other Member States is estimated at T+65, and then progressively replaced with values supplied directly by the Member States. Countries which have already provided information may revise their figures in parallel. For a given reference period there are therefore three successive estimates: T+65, T+100 and T+120. The length of the series provided by the Member States is satisfactory in general (they begin in 1992 at the latest), which enables satisfactory adjustments to be made for seasonal variations where necessary.

One factor should be noted at this point. Although the sum of the two A6 levels considered here (trade, transport and communications and financial and business services) amounts to over 45% of total European value added, which is considerable, the coverage in terms of businesses covered and the weight they represent is relatively low and certainly below that of industry, for example. There are several reasons for this, including historical factors (industrial statistics have remained dominant despite a regular drop in the share of industry in

GDP) and structural factors (service enterprises are often small and the sector tends to have a widely fluctuating demography).

### C. Short-term statistics

The Member States collect turnover figures in value terms on a quarterly basis. The unit of observation is the enterprise. The deadline laid down by the short-term statistics Regulation is 90 calendar days. The Member States are required to provide gross series and series corrected for working days. Member States may supply seasonally-adjusted series voluntarily, but the Regulation does not oblige them to do so. The breakdown required is the NACE 2-digit level and occasionally the 3-digit level. Services other than retail trade comprise the sale and repair of motor vehicles (NACE 50), wholesale trade (NACE 51), hotels and restaurants (NACE 55), transport and communication (NACE 60 to 64), computer activities (NACE 72) and other business activities (NACE 74).

In addition to the purely regulatory aspects outlined above, the table below shows the availability of data for short-term statistics. The dates shown are those on which the series begins.

	Freq.	Lead time	5000	5100	5500	6000	6100	6200	6300	6400	7200	7400
AT	Month	t+57	Jan-90	Jan-90								
BE	Month		Jan-98									
DE	Month	t+28/55		Jan-94	Jan-94							
DK	Quart	t+100	Jan-95									
ES												
FI	Month	t+90	Jan-95									
FR	Month	t+60	Jan-90	Jan-95	Jan-90	Jan-90						
GR												
IE	Month	t+150	Jan-96	Jan-98								
IT	Quart	t+80					Jan-99	Jan-98			Jan-99	
LU	Month	t+100	Jan-95	Jan-95	Jan-95							
NL	Month				Jan-98						Jan-98	
PT												
SE	Quart	t+60	Jan-90	Jan-90	Jan-90	Jan-95	Jan-95	Jan-95	Jan-95	Jan-95	Jan-90	Jan-90
UK	Quart	t+95	Jan-95	Jan-95	Jan-95				Jan-95	Jan-98	Jan-95	Jan-95
EU				Jan-98	Jan-98						Jan-99	

The only European aggregates available are wholesale trade (51), hotels and restaurants (55) and post and courier activities (64.1). There is a fundamental difference here between national accounts and short-term statistics. Since national accounts are drawn up in an accounting framework which is balanced by definition, there must always be European aggregates for the main branches even if these are very largely estimated. No European aggregate will be computed for short-term statistics if the coverage in terms of turnover is less than 60%. The series are often relatively short (they begin at best in 1990, but often in 1998), which restricts the possibilities of using them for econometric purposes or carrying out processing such as seasonal adjustments.

Some Member States already do more than is prescribed by the Regulation, however. The series are sometimes provided at the same time as retail trade statistics, for which the Regulation lays down a deadline of 60 days. Also, the series are often made available on a monthly basis. The table above shows these two aspects systematically. It is worth noting that

the Regulation is due for amendment in the medium term. The Annex D statistics (other services) will then be required on a monthly basis and with a 60-day deadline. Member States will also have to supply a turnover deflator. Since the exemption period ends in June 2003, considerably improved data availability can be expected in the shorter term.

## II. What kind of cooperation is possible?

The two Regulations offer only limited opportunities for using short-term statistics to draw up quarterly accounts for services. There are many differences, as the following summary table shows:

Quarterly national accounts	Short-term statistics
Value added	Turnover
Unit of observation: unit of economic activity	Enterprise
Lead time: T+120 days	T+90 days
Current and constant prices	Current prices
Presentation required: gross, seasonally adjusted	Presentation required: gross, corrected for working days
NACE A6	NACE 2-digit minimum
All services	Certain levels only

Where the availability of short-term statistical series is not perfect (three Member States missing altogether, lead time not much less than for quarterly accounts, series often fairly short), it appears difficult to use these series. Certain possibilities exist, however:

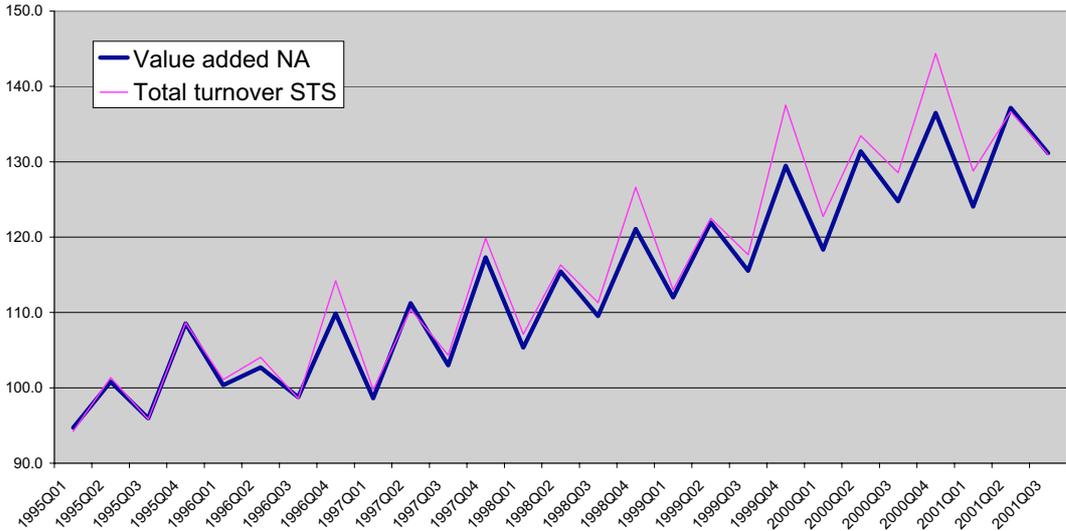
- Although an initial estimate of the quarterly accounts of the large Member States is available at T+65, this is not the case with the smaller countries. Short-term statistics might enable better-quality estimates to be made for these Member States, particularly for publication at T+65.
- Similarly, since the short-term statistics available are always at least at the 2-digit level of NACE, they are far more detailed than quarterly accounts data. This may be particularly useful in view of the transition to NACE A17.
- Moreover, even if the lead times for short-term statistics are not always significantly shorter than those for the quarterly accounts, the fact that the series are often monthly opens up certain possibilities. If we have two months of a given quarter, we can estimate the quarter. The lead times for short-term statistics are therefore slightly misleading in that a forecast may be available 30 days earlier (if we have two of the three months of the quarter).
- We should therefore explore future as well as current possibilities. In the short to medium term, i.e. by mid-2003, the end of the exemptions should bring a sharp increase in the availability of short-term statistics. In the longer term, amendments to the Regulation should make it easier to use these series by imposing tighter deadlines, monthly frequencies and deflated series.

## III. Some examples of series comparisons

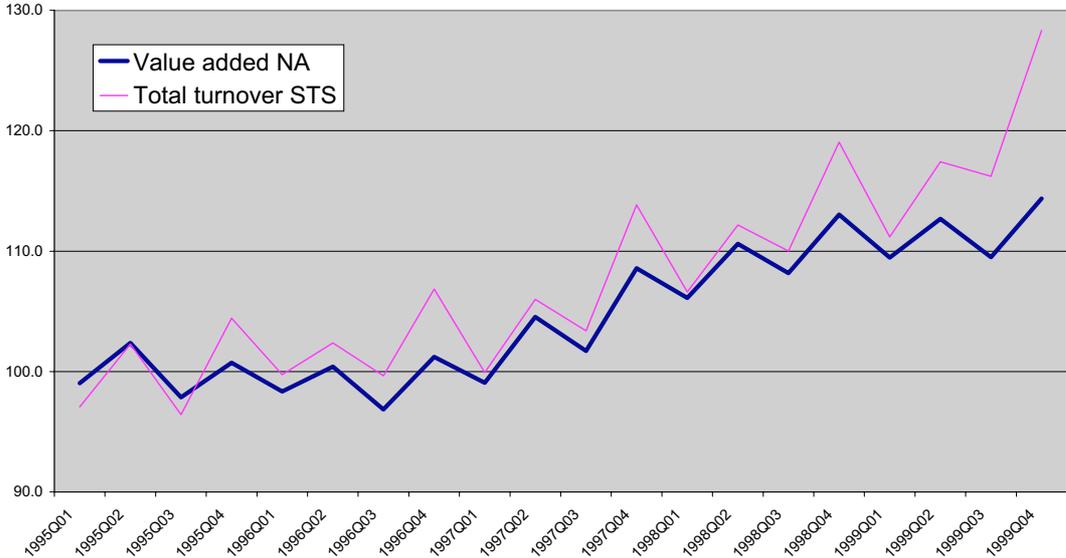
An attempt can be made to compare quarterly accounts at NACE A6 level. The only level at which such a comparison is possible is trade, transport and communications. The other level which is possible *a priori* (business services and financial services) is not entirely covered by business statistics. Three countries for which all data are available are compared. The graphs

compare value added at current prices in the quarterly accounts with total turnover at current prices in the short-term statistics. Where there is no such aggregate for short-term statistics, it is constructed by compiling a weighted average of the NACE 2-digit levels (50, 51, 52, 60, 61, 62, 63, 64). These series are weighted with the help of the turnover figures for 1995 from structural business statistics. This comparison is shown for Sweden, France and Finland.

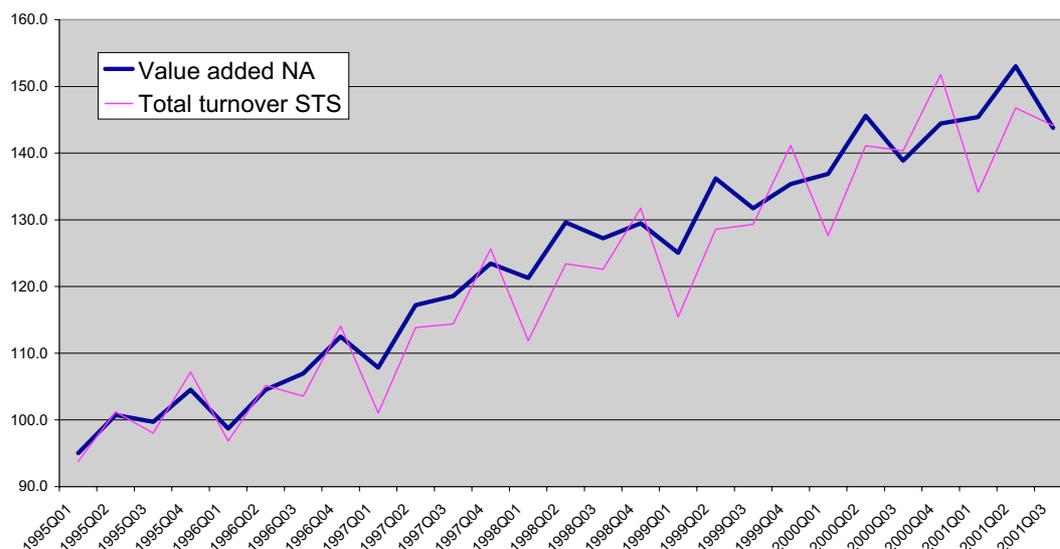
**Trade, transport and telecommunication Sweden**



**Trade, transport and telecommunication France**



## Trade, transport and telecommunication Finland



For Sweden the two series are similar (doubtless for tautological reasons).

For France, the trends in the indices are similar despite some fairly wide gaps between the levels (particularly at the end of the period concerned).

For Finland, the long-term trend is similar, probably because the indicators are both at current prices. The short-term trends differ, however.

Since the concepts of value added and turnover differ widely for a number of reasons, no conclusions can be drawn from these comparisons. The series may differ because their economic background is different. However, the comparison highlights the various ways of using short-term series even in the Member States. It would be very useful in any event to know what methodology is used in each Member State, and particularly whether and how short-term statistics are used in compiling quarterly accounts.

## Conclusion

This micro-study aims above all to give some guidelines on possible cooperation between short-term statistics and quarterly accounts on services. This restricted study is more a point of departure than an exhaustive and definitive approach. Despite the limitations which are immediately obvious (differences in concept and methodology, problems with series length and the small apparent gain in lead time), certain possibilities exist. Short-term statistics can already be used to improve Member States' forecasts for which quarterly accounts are not available at first publication, and may enable more detailed levels of the nomenclature to be calculated. The fact that most series are monthly is also useful, since it enables the quarter to be estimated if figures for two of the three months are available. Moreover, the end of the exemption period laid down in the short-term statistics Regulation and the expected amendments to the Regulation should improve matters in the future. In any event, the comparison shown for three countries highlights the different ways in which short-term statistics are used to compile the quarterly accounts in the Member States. The next step must therefore be to find out from the Member States whether and how they use short-term statistics.

# IMPACT OF THE USE OF ADMINISTRATIVE DATA AND NEW SURVEYS ON SHORT-TERM BUSINESS STATISTICS IN THE SERVICES SECTOR IN GERMANY

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## SUMMARY

The main areas where action is now required to improve short-term statistics in Germany are NACE Sections I, "Transport, storage and communication" and K, "Real estate, renting and business activities". The current strategy is to meet the requirements of the short-term statistics (STS) Regulation in these areas for 2003 to 2005 via a new, fixed-term primary survey. Alongside that, extensive tests will be carried out by the end of 2005 to see how administrative data can be used as secondary statistics illustrating short-term developments and providing a response to other questions. Plans for the primary survey and the use of administrative data are described in detail. In 2005, a decision will be taken on the basis of this experience as to how the requirements of the STS Regulation can be met in these areas as from the 2006 reporting year.

## I. Starting point

The scientific and political debate in Germany about the increasing importance of the tertiary sector for the development of the economy has long highlighted the need for improvements to the data provided by official statistics on market services, in particular. This need has been further underlined in recent years by European integration and discussions about the move towards an information society.<sup>1</sup>

In certain service fields, especially hotels and restaurants, statistics have traditionally been available in Germany with the variables of structural and short-term reporting.<sup>2</sup> For financial intermediation, figures come from the *Bundesbank* and/or the *Bundesaufsichtsamt für das Versicherungswesen* [Federal Insurance Supervisory Office]. For the public sector, figures are taken from government budget statistics, and the annual and quarterly results of national accounts provide a comprehensive overview of structural and short-term changes in services, more especially the quarterly reporting in aggregate form, with a broad breakdown by industry. Information on selected aspects is also available from other, very varied statistics - turnover from turnover tax statistics, for example, or employment from the microcensus. Data on services - of limited availability compared with data on the production industries, in particular - have obviously failed to keep pace with the importance of services for the economy as a whole. The main area in which improvements are currently needed is NACE<sup>3</sup>-Sections I, "Transport, storage and communication" and K, "Real estate, renting and business activities", for which insufficient data are available at national level if they exist at all. The present paper therefore concentrates on these statistics.

Since 2000, statistics on services have been produced annually by the statistical offices as a means of reporting regularly on structural changes in these sections. The sample includes 15% of units at most. This structural survey covers variables such as legal form, centre of

economic interest, number of branch establishments, persons in employment, wages and salaries, turnover, intermediate consumption, taxes, subsidies and capital formation. We are currently considering carrying out a smaller coordinated survey to clarify technical/methodological problems (cf. § 7 (2) of the Federal Statistics Act) and test whether it would be possible to coordinate the collection of statistics on product-related services in the manufacturing industries with the collection of statistics on the service industries.

There is greater uncertainty about the future monitoring of the business cycle in NACE divisions 60 to 64, "Transport, storage and communication" and in computer and related activities (72) and other business activities (74). Those developing new ideas for a sub-annual reporting system have to bear in mind that the short-term economic situation is observed by a wide variety of institutions and individuals who are also potential users of such statistics. At national level, the Federal Government, the Ministry of Finance and Economic Affairs, the *Deutsche Bundesbank*, the *Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung* [the German Council of Economic Experts], economic research institutes, professional organisations and the finance departments of large businesses, particularly in the financial sector, are especially important.<sup>4</sup> Information requirements at national level or at the level of the *Länder* in Germany also depend on who the user groups are, and thus vary considerably, especially as regards the regional and industry-related breakdowns of results.

Discussions about meeting data needs in the NACE divisions referred to above are currently concentrating on requirements arising from Council Regulation (EC) No 1165/98 of 19 May 1998 concerning short-term statistics (the "STS Regulation"), which makes the supply of certain data mandatory. According to the Regulation, the Member States are obliged to send Eurostat by mid-2003 at the latest quarterly data on turnover and persons employed in enterprises in the above NACE divisions. "Persons employed" have to be broken down into seven divisions, with turnover in some cases broken down in even more detail by NACE Rev.1 group. The data have to be sent to Eurostat in absolute form or as an index within three months of the end of each reporting quarter, with the turnover variable also in working day-adjusted form.

For these divisions as a whole, Germany has applied for a derogation from the STS Regulation, requesting a transition period up to June 2003 in every case. At national level, attempts will then be made to meet European information requirements by devising instruments which can at the same time meet the requirements of other user groups, especially the *Länder*. To provide these short-term indicators, Germany has to construct a new sub-annual reporting system, including a legal basis. There are two possible ways of doing this:

- carrying out a new primary survey, or
- extracting the required information on turnover and persons employed from existing administrative records (alternative plan), namely the turnover tax files held by the tax authorities of the *Länder* and data from the *Bundesanstalt für Arbeit* [Federal Labour Office] on persons in employment liable to pay social insurance contributions and those with minor employment.

In Germany, short-term business statistics have traditionally been collected via primary surveys, and so implementing the second solution would be tantamount to a paradigm shift. It would be more cost-intensive initially, since there would be greater design, organisational, technical and legal problems to be solved. Nevertheless, considering that the statistical offices are facing growing demands for more extensive data to be made available, while at the same

time dealing with complaints from information-providers about the increasing burden imposed by statistical surveys and coping with the constraints of cost-cutting in the offices,<sup>5</sup> attempts should obviously be made to produce short-term economic indicators on the basis of administrative data.

The original plan was to use administrative data to meet the requirements of the STS Regulation as from the reporting year 2003. However, in the wake of intensive discussions at national level - especially about the new legal basis that would be needed for the use of administrative data (Use of Administrative Data Act) - the objectives have been extended and the plan amended. The current plan is to meet the Regulation requirements in the relevant service areas during the period 2003 to 2005 via a new, fixed-period primary survey. At the same time, extensive tests on administrative data are planned by the end of 2005, on the basis of a new Use of Administrative Data Act, to solve various problems. Sections 2 and 3 below give further details of plans for the primary survey and administrative data. This experience will then provide the basis for a decision in 2005 on how the service statistics requirements of the STS Regulation can be met as from the reporting year 2006 (Section 4).

## **II. Short-term indicators using administrative data**

### *II.1. Basic plan and legal basis*

The discussion on how administrative data should be used for the short-term monitoring of services is at present concentrating on the "turnover" and "persons employed" variables which, according to Annex D of the STS Regulation, are planned for "other services".<sup>6</sup> To cover these variables, sub-annual data will be required from the tax authorities of the *Länder*. The necessary data will come from the turnover tax monthly prepayment notice and payments system (UVV) and from the *Bundesanstalt für Arbeit* - from the integrated reporting procedure for social insurance.

Data from these two sources are already used for statistical purposes, e.g. for employment statistics, turnover tax statistics, the statistical register and intra-Community trade statistics. Every year, the tax authorities send the statistical offices of the *Länder* data sets (tailor-made) relating to all enterprises reporting under the UVV procedure. The data have been cumulated to give an annual result and adjusted on the basis of correction returns. These transmissions would have to be converted to sub-annual periodicity for the evaluation of short-term indicators. The *Bundesanstalt für Arbeit* sends the Statistisches Bundesamt, *inter alia*, annual employment data from its business data file, and these figures are then passed on to the statistical offices of the *Länder* in regionalised form, for the business registers maintained by the *Länder*. Here, too, the data would have to be sent sub-annually to the Statistisches Bundesamt, for forwarding to the statistical offices of the *Länder*. The tax authorities and the *Bundesanstalt für Arbeit* are willing and able to transmit data sub-annually provided that legislation is introduced covering the purpose and scope of this operation.

Experience to date suggests that there are no fundamental quality problems with the use of these data for this new purpose, i.e. producing short-term statistics, in the services fields referred to above. However, in view of the specific STS requirements, there are plans to link the individual data files from both sources with a lead file derived from the business register. It is only the business register which can be used to dovetail administrative data from different sources in an integrated reporting system and/or adjust the data to the requirements

of the STS Regulation (in particular as regards the underlying units and allocation by industry). This method could possibly also be used to link administrative data and primary surveys.

The general advantages of using administrative data are obvious: along with exhaustiveness (full survey) and the resulting possibilities for disaggregation, plus cost advantages in the longer term, at least, the alternative plan would have the advantage of not overburdening the economy with new surveys and reporting obligations which would inevitably cost money. Businesses and professional associations long thwarted attempts to introduce the annual structural survey on services to which we referred at the beginning of this paper. The alternative plan would fit in with the political objectives of reducing bureaucracy in the economy and make use of modern information technologies in public administration and the statistical offices. It has the backing of umbrella organisations in the Germany economy and of the *Statistischer Beirat* [Statistical Advisory Board]. It would, however, involve a change of method, which cannot immediately be applied to the existing short-term statistics, especially since the statistical offices have limited experience of the alternative plan and the procedures it would entail.

Since the turnover data held by the tax authorities are subject to statistical confidentiality and employment data held by the *Bundesanstalt für Arbeit*, as social data, are protected by the *Sozialgesetzbuch* [Social Security Code], a new national legal basis specifically regulating use of such data for statistical purposes will be required if the alternative plan is to be implemented. The first drafts of a Use of Administrative Data Act have been discussed in great detail in the statistical offices of the *Länder* and in the *Statistisches Bundesamt*, as well as by the federal authorities concerned, and have been amended many times. These discussions threw up a few new aspects which have led to greater expenditure and a longer time-scale than originally planned:

- The current (December 2001) draft of the Use of Administrative Data Act is no longer geared solely to the production of short-term data on services at federal level to meet EU requirements, but is also intended to supply the necessary regional data by producing results at *Land* level.
- This legislation will also provide a basis for examining, *inter alia* by comparisons of administrative data and the results of primary surveys, whether it would be possible to switch from primary to secondary statistics for other areas of the economy as well (wholesale trade, commission trade, hotels and catering, the crafts sector). This would also be a cost-saving measure.
- We shall also investigate whether the data deliveries from the fiscal authorities can be combined for the various requirements into a uniform data set. Comprehensive, uniform data memories would have to be constructed first of all, but such a system would lead to improvements for other statistical purposes (sub-annual updating of the business register, the sub-annual preparation of turnover tax statistics or the presentation of intra-Community trade statistics by branch of the economy).
- Since the statistical tasks carried out up to now with the help of administrative data - with the exception of intra-Community trade statistics - have been performed decentrally, by the statistical offices of the *Länder*, the technical concepts for the production of short-term statistics on services should, wherever possible, also be geared to decentralisation.
- In addition, the present draft of the Act provides for extensive tests to be carried out to establish the suitability of administrative data for the various intended purposes. A

revision clause makes continuation of data deliveries and their further use dependent on the results of these tests, which will include comparisons of administrative data and primary data.

- While the use of administrative data is in the test phase, the requirements of the STS Regulation will be met by a primary survey for a limited period (see Section III).

In view of the current state of play, the Use of Administrative Data Act cannot be approved during the current legislative period (i.e. by September 2002), as was the original aim. Nevertheless, sufficient agreement should be reached to enable it to be passed very quickly during the next legislative period. Although this means postponing further work and tests, the introduction of a primary survey for the transitional period means enables us to gain the time needed to carry out the extra tasks which the use of administrative data involves, and opens up various possibilities for tests on and improvements in the procedure applied.

## *II.2. The turnover variable*

With the use of tax authority data as secondary statistics for the turnover variable, certain properties of these data must be investigated more closely to check on their suitability for short-term statistical purposes. These have to do with the definition of the variable, the date for which turnover is recorded, branch allocation, time restrictions, the treatment of *Organschaften* [integrated groups of companies] and the possibilities for data regionalisation. We shall touch on these aspects below before discussing, in conclusion, the first test results.

- Delimitation of the variable

The main difference between tax and statistical turnover is the different treatment of extraordinary receipts (such as rental income for company-owned production plant, machinery, dwellings or land used by third parties, sales of own land and fixed assets). In statistics, these are not included in turnover but they are included as taxable turnover in the UVV, and may therefore in certain circumstances distort the short-term picture.

Since the bulk of such extraordinary receipts are reported under the UVV heading "non-taxable goods and services with no deduction of tax prepayment", the size of the extraordinary receipts can be estimated fairly accurately. The share of this heading in total goods supplied and services performed changes very little in most industries. In those industries which are relevant here, the share at the breakdown levels specified by the EU is somewhat higher, as much as 10% under a few headings. Nevertheless, the fact that the definition of turnover for tax purposes may differ from the definition used in statistics should not be a barrier to meaningful use of UVV data on services. Presumably, it will be possible to omit this heading when short-term indicators are produced for Eurostat: the tests should check this.

- Time when turnover is recorded

The EU requires information on performance during a given quarter measured in terms of agreed payments - the "target income" of tax statistics. The UVV applies this imputed taxation to most businesses. Enterprises with a turnover of less than DEM 250 000 (EUR 127 823) per annum and those in the liberal professions can opt for taxation on the basis of actual income, i.e. actual incoming payments during the assessment period, regardless of the date of production of the goods or services concerned. If the payment is then made

during one of the following quarters, UVV data based on actual income payments do not accurately reflect the short-term economic situation in a given period.

Taxation is more often based on actual income in the services industries. However, an evaluation of turnover tax statistics for 1998 shows that changes in taxation on the basis of actual income are so small that in our view they are scarcely a hindrance to the meaningful use of UVV data. Although in some NACE subdivisions a very high percentage of taxpayers choose to pay tax on actual income (up to 20% in 64 and 74.2), the share of total goods and services supplied by these taxpayers in the relevant areas of the economy is as a rule very much smaller and only in 74.2 (architectural and engineering activities and related technical consultancy) does it reach a value (11.3%) which might possibly lead to slight distortions.<sup>7</sup>

- Allocation to branch of the economy

The tax authority branch allocations do not entirely meet statistical requirements. The plan is therefore to use the branch data from the business register, linking the turnover returns with a statistical lead file derived from the business register. Only in the case of units which cannot be allocated at the time of this linking would we then have to have recourse to the branch of the economy reported by the tax authorities.

Information on branch allocation in the business register is steadily being improved. By means of annual statistics on services, the share of business register branch data which comes from primary surveys is gradually increasing in NACE Sections I and K, and since the 15% of enterprises questioned every year represent a much higher share of total turnover than 15%, with the use of administrative data the branch allocation of UVV turnover on the basis of the business register should yield results whose quality is on a par with those of a primary survey.

- Time restrictions

To meet the requirements of the STS Regulation, turnover data must be available on time and be exhaustive wherever possible. If results are to be supplied for the first quarter at the end of June, incoming data can presumably be taken into account up to the beginning of June. Under tax legislation, businesses which have not been given a permanent extension for the filing of returns (25%) have to submit their UVV returns by the 10th of the month following the end of the reporting period and businesses with a permanent extension (75%) by the 10th of the second month after the end of the reporting period (for the first quarter (those who pay quarterly) or for March (those who pay monthly) up to 10 May).

However, experience to date with the first test assessments indicates a possible timing problem for the third month of the quarter with returns from enterprises which have a permanent extension, regardless of whether they pay quarterly or monthly. The result of test investigations from 2000 showed - albeit with only a few enterprises - that a return was available in around 90% of such cases. The few missing returns would have to be estimated. Thus in our view the fact that the returns are in some cases incomplete would not lead to any technical problems for the purposes of short-term statistics.

- Organschaften [integrated groups of companies]

According to turnover tax legislation, a number of enterprises (*Organgesellschaften*, i.e. controlled subsidiary companies) may under certain circumstances combine to form an

integrated group, an *Organschaft*.<sup>8</sup> In this case, only one of the enterprises, the *Organträger*, or controlling company, will submit a return showing the total turnover of the integrated group. The tax authorities will not store any information on the composition of the group or the division of turnover among the different enterprises in the group. If, in statistical evaluations, the total turnover of an *Organschaft* is allocated to the branch/location of the controlling company but the enterprises in the group are not all of the same kind, i.e. they come under different branches of the economy, the branch allocations may be inaccurate. The problems caused by *Organschaften* are much more serious when it comes to producing correct results by *Land*, since in this case a regional breakdown of group turnover is required as well.

The business register now contains some indication - from a register enquiry - of how *Organschaften* are made up. In addition, the *Bundesamt für Finanzen* [Federal Finance Office] keeps a file on such groups, with data on the composition of *Organschaften* involved in external trade. These data could be used for the register, subject to a legal basis. In conjunction with auxiliary variables from the business register to be used for the breakdown of turnover, such as turnover figures from primary surveys or numbers in employment, information from the *Bundesamt für Finanzen* and results from the register enquiry - provided this enquiry is repeated in the future - would be good starting points for the breakdown of the turnover of *Organschaften*. This would go a long way towards solving the problems with such groups.

In NACE Sections I (Transport, storage and communication) and K (Real estate, renting and business activities), *Organschaften* are presumably less important than in manufacturing, (NACE Section D) or financial intermediation (J), for example. The share of the total branch turnover reported by the *Organträger* [controlling companies] in the relevant branch was, according to 1998 turnover tax statistics, 12% in NACE Section I and 7.9% in K (as opposed to 33.6% and 37.4% in Sections D and J respectively). However, these figures do not indicate the size of the turnover of *Organgesellschaften* [controlled subsidiaries] in Sections I and K if these submit returns combined with the figures from a controlling company in a different NACE section.

- Regionalisability

Whether the tax administration's turnover data are regionalisable or not depends largely on whether the turnover of *Organschaften* and enterprises which have activity in more than one *Land* can be assigned to the correct *Land*. The breakdown by *Land* of UVV data on such enterprises may be based on annual service statistics, the breakdown of turnover may be based on numbers in employment or there may be an additional enquiry among a few large-scale enterprises. Carrying out a primary survey in accordance with § 5 (2) of the Federal Statistics Act and supplying administrative data at the same time will be extremely helpful in developing appropriate regionalisation concepts.

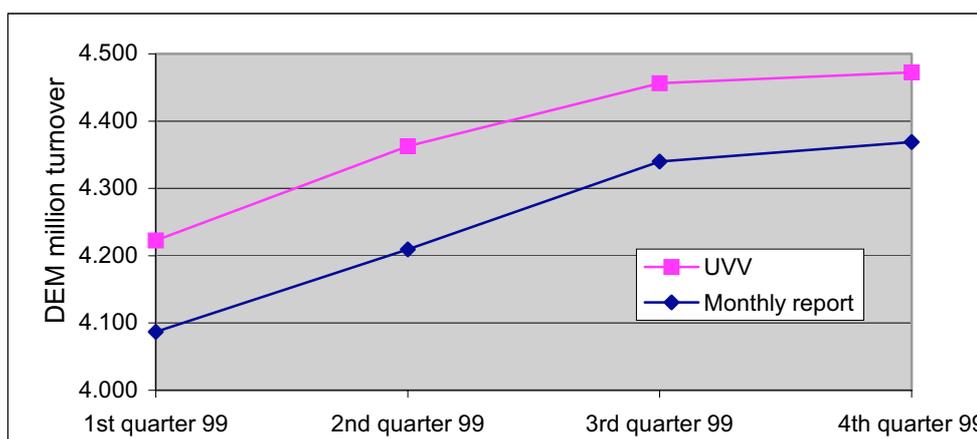
- First test results on the turnover variable

As already stated, for a comprehensive test on whether or not tax authority data are suitable for short-term statistical purposes, a new legal basis is required. Up to now it has been possible to carry out only a few test investigations in this field, yielding few results and no individual data. Tax authority data have been compared with turnover data from the monthly

report relating to 174 multi-establishment enterprises in manufacturing, two of which were paired in each case.

The comparison of levels of UVV returns and monthly reporting results highlighted discrepancies which, in the majority of enterprise pairs investigated, moved within an order of magnitude which might be deemed acceptable, considering the dissimilarity of the two data sources. Seen in relation to the test enterprises as a whole, the discrepancies in the 1999 annual turnover calculated from the individual monthly values were -3.5% (see Figure 1). A comparison of movements in the figures produced a similar outcome. Here, there were no noticeable differences between the two sources. Any differences arose largely from the way in which the intensity of movements in turnover was depicted (comparison of absolute figures for rates of change). As with the comparison of levels, any comparison of movements must avoid overstating the results, owing to the small numbers involved. With so few units being tested, in the worst-case scenario a single pair of enterprises may be responsible for potential discrepancies in values indicating change.

**Figure 1:** *Level of and movements in the quarterly total turnover of all enterprises tested*



No firm conclusion can be drawn from the test on tax authority turnover data. No objective assessment of the difference which emerged in both levels and movements of figures is possible with so few cases.<sup>9</sup> In addition, results for manufacturing cannot be transferred directly to enterprises in NACE Sections I and K (Transport and communication, computer activities, business activities etc.). Despite all the reservations, however, tests carried out so far suggest, at least, that the UVV data are suitable for short-term statistics. This impression was on the whole strengthened by further comparisons of annual turnover data from the investment in manufacturing survey with turnover data from the UVV on the one hand and of primary data on intra-Community deliveries from intra-Community trade statistics with UVV data on the other.

### II.3. "Persons employed" variable

The use of data from the *Bundesanstalt für Arbeit* [Federal Labour Office] as secondary statistics for the purposes of the STS Regulation raises specific questions about the delimitation of the variable, the underlying statistical unit and branch allocation, as well as about restrictions on time. The section below will touch on these points and on selected test results.

- Delimitation of the variable

The variable "persons employed" referred to in the STS Regulation covers the whole of the occupied population, i.e. both employees and the self-employed and family workers.<sup>10</sup> But administrative documents from the *Bundesanstalt für Arbeit* provide data only on those who are liable to pay social insurance and those with minimal employment. No data are available from this source on the self-employed, family workers or government officials, for instance. For the monthly calculation of employment in the national accounts, appropriate data from other sources are therefore estimated and added in. A similar procedure could be chosen for implementation of the STS Regulation. If so, we should have to check, in particular, whether groups not covered by the *Bundesanstalt für Arbeit* affect to any noticeable extent either the level of the "persons employed" variable or changes over time in the service fields under consideration.

- Units and branch allocation

The *Bundesanstalt für Arbeit* is able to report employment data only at the level of the establishment. According to the STS Regulation, the enterprise is the basic reporting unit in the services field, i.e. it is not the individual establishments which have to be assigned to the branches in question but the enterprises, according to their centre of economic interest. However, the connection between individual establishments in an enterprise cannot be derived from *Bundesanstalt für Arbeit* data alone. If information from the business register on the connection between establishments and enterprises is used as well, it is still possible to combine establishments into enterprises and/or to ascertain the branch of the enterprise to which an establishment belongs.<sup>11</sup>

- Time restrictions

Tests have already been carried out using figures for employees liable to pay social insurance contributions, to see whether data from the *Bundesanstalt für Arbeit* meet the time criteria of the STS Regulation.<sup>12</sup> The employment data for a specific quarterly reference date were counted and compressed to establishment data once after three months - as required by the alternative plan schedule based on the STS Regulation requirements - and once after six months - by which time, in the experience of the *Bundesanstalt*, for any given reference date additional entries and deleted entries relating to persons in employment liable to pay social insurance contributions are to all intents and purpose complete in the integrated reporting system for social security.

Providing that the reporting date for the employment enquiry is not the end of the quarter but an earlier date (end of the second month in the quarter) - for the first quarter of 2001, therefore, 28 February 2001, for example - and assuming that the statistical offices themselves need approximately four weeks for data preparation and analysis, including the transmission of results to Eurostat, the time lag between the reporting period and the retrieval/evaluation date for employment data from the *Bundesanstalt für Arbeit* must be cut by 50% from its present level, from six months to three months. Only then can the results be sent to Eurostat on time. According to information from the *Bundesanstalt*, after three months it has received only some 80 to 85% of the additional entries and deleted entries relevant to a particular reference date.

The comparison of levels made first of all showed clearly that, for almost all establishments in NACE Sections I and K, the provisional - counted after three months - and the more or less final - counted after six months - employment data either match in full or are only slightly different. The time restrictions are not generally a problem when it comes to illustrations of changes over time, either, if we disregard the few cases of restructuring, which are unimportant in quantity terms. The use of three-monthly values would therefore appear in principle to be appropriate for short-term statistical purposes.

- Further test results

In any event, comparisons of movements in the figures (three-monthly values compared with six-monthly values) showed that the rates of change can vary considerably depending on the methodology used to delimit the reporting units and the distribution of establishments among the branches of the economy.<sup>13</sup> Further work is therefore needed on methodology, along with comprehensive test investigations, to solve problems of methodology such as the delimitation of the reporting units (constant or variable) and how/when it would be useful to show a change in branch.

An additional comparison of administrative data and data from a primary survey, the monthly report on manufacturing industry, showed that the three-monthly values tally fairly closely with the *Bundesanstalt's* six-monthly values, but there are larger discrepancies when monthly reporting results are compared with six-monthly values taken from administrative data. No further conclusions are possible on this point at present, however, since it would seem that discrepancies in the rates of change arise largely from existing (methodological) differences between the monthly report and the integrated reporting process as regards delimitation of the reporting units and variables, and from the *Bundesanstalt's* less up-to-date branch classification.

The outcome of tests so far indicates that the employment data retrieved three months after the end of the reference date from the integrated social insurance reporting procedure would in principle be suitable for the purposes of short-term statistics. The tests also showed clearly, however, that assessments of the suitability of the data for short-term statistical purposes depend very much on the choice of methodology. There is a further reservation: the tests carried out so far included only a very rough simulation of the later procedure. In particular, they were unable to link administrative data with the business register, and it was therefore not possible to check what effects the business register "interface" would have on the branch-specific results (the business register system would "fine-tune" the results).

#### *II.4. Addition of further variables*

Data users would consider that illustrating short-term changes in services on the sole basis of the "turnover" and "persons employed" variables is a starting point rather than satisfactory definitive coverage. Accordingly, proposals for the further development of short-term statistics at European level include changes in "other services" in the STS Regulation (Annex D).<sup>14</sup> These refer to the following variables: hours worked, gross wages and salaries and producer prices. The aim is to produce results for these variables as from 2003, with a transition time of three years at the most.

From the technical point of view, producer prices can to a large extent be developed and obtained independently of the other survey variables<sup>15</sup>, whereas it is not clear how the

variables, "gross wages and salaries" and "hours worked" can be covered in the future if the administrative data plan comes into effect. Up to now, the *Bundesanstalt für Arbeit* has not had available any data on gross wages and salaries or hours worked, but current plans for remuneration statistics should mean that it will be possible, using the *Bundesanstalt's* breakdown of persons in employment by full-time, part-time and minimal employment, to derive data on gross wages and salaries and, possibly, hours worked at intervals of less than one year. The details of the methodology and a comprehensive assessment of data quality will, however, have to be examined as part of the test investigations.

### III. Short-term indicators via primary surveys

An independent survey in Germany for short-term indicators for NACE Section I, "Transport, storage and communication" and computer and related activities (72) and other business activities (74) has either been postponed or has proved not to be feasible, primarily because preference has been given to developing an annual structural survey, funds have been short and it has been difficult to persuade the economic players to accept such a survey.

With no legal basis as yet for the use of administrative data, work is now under way on a regulation for a quarterly survey, which will oblige enterprises in the NACE areas concerned to provide information on turnover, number of persons in employment and their main economic activity, in order to meet the requirements of the STS Regulation as from 2003 and expand national and regional short-term statistics. In line with §5 (2) of the Federal Statistics Act, a regulation of this kind is limited to three years, i.e. reference years 2003 to 2005. If the survey is to be continued after that, a new legal basis will be necessary.

The current plan is for the survey to be organised as a sub-survey of the structural survey in the relevant services.<sup>16</sup> New entries are to be taken into account at least once a year. The maximum size of the sample was originally to have been 5% (around 28 000 enterprises), but in the meantime an increase to 15% has been discussed, so that reliable results might be obtained for the majority of the *Länder*, at least. To enable more reliable results to be obtained for regional short-term analysis, the "turnover" and "persons employed" variables will also be broken down by *Land* in the case of survey units with branches in more than one *Land* and turnover or income of EUR 250 000 or more.

For the sample selection and extrapolation, there will be stratification by *Land*, by three-digit level of the economic classification and at least a few turnover size classes. The survey itself will be carried out as an electronic enquiry as well as with the traditional type of questionnaire. The aim is to be make the results available two months after the reference quarter.

The general advantages of a primary survey as opposed to the use of administrative data plan are obvious: under the new arrangements, the survey can be designed specifically to meet the STS Regulation requirements. The methodology for incorporating further survey variables such as gross wages and salaries or hours worked will be easier. As regards the breakdown of results by *Land*, it will be an advantage that, for the larger survey units, at least, turnover and numbers in employment will be collected in a breakdown by *Land*. However, the size of the sample - depending on final arrangements - means that reliable regionalisation is possible only within narrower limits than if administrative data are used, since these are based on a total survey. Furthermore, a primary survey will burden respondents with extra work and

hence higher costs and will also increase the cost for official statistics, at least in the medium term.

#### **IV. Overall assessment and outlook**

Germany can meet the vast majority of the STS Regulation requirements via existing statistics. There are, however, substantial gaps in NACE Sections I "Transport, storage and communication" and K "Real estate, renting and business activities", gaps which can be closed with the planned use of administrative data or with a new primary survey.

Since there has been no legal basis, it has not yet been possible to carry out a comprehensive test on the use of administrative data, but a primary survey in conjunction with the development of administrative data use will enable extensive tests to be carried out in the relevant services by 2005. By comparing data collected via primary surveys with data collected via secondary statistics, these tests will give a differentiated picture of the strengths and weaknesses of the two approaches. The impact on the quality of the short-term data should be positive in the end, since the test phase can be used to solve any running-in problems with the administrative data plan and data preparation methods can be optimised, whilst comparisons of data results will pinpoint any potential problem areas in the primary survey. This work will then provide a firm foundation for decisions to be taken in 2005 as to which plan or mix of two plans is to be given priority in the areas in question as from 2006, taking into account quality and costs. If the planned amendment to the STS Regulation is approved, it will also be useful to see what quality level can be achieved for the supplementary variables "gross wages and salaries" and "hours worked".

There are further aspects which may affect decisions in the areas in question: the demands of the *Länder* for the regionalisation of short-term reporting, for example, or, from the point of view of future viability, user requirements above and beyond the proposals for amendments to the STS Regulation currently under discussion. Thus Eurostat's ideas for a switch in the medium-term from quarterly to monthly reporting if administrative data are used would not involve any serious changes, since the basis would already be monthly data. In the case of a primary survey, however, there would be a substantial additional burden for the information-providers,<sup>17</sup> though at the same time the use of administrative data, i.e. a full survey, makes possible a more detailed subdivision of heterogeneous service areas by branch, and this may be of interest to individual user groups.

There are also increasing demands, from the European Central Bank in particular, for improved topicality. For quarterly short-term statistics, there is talk of shortening the data transmission deadline from three to two months. Experience suggests that users' ever more urgent demands for topicality can better be met via a primary survey or a mix of the two concepts than by the use of administrative data.

An assessment of the plan for the use of administrative data must, however - bearing in mind the extended objectives referred to Section II.1 - consider more than just its suitability for supplying short-term indicators for NACE Section I, "Transport, storage and communication" and divisions 72 "Computer and related activities" and 74 "Other business activities". Where short-term economic reporting is concerned, the use of administrative data can potentially yield suitable results, at least for all areas of the economy where market services predominate. Existing short-term statistics, in particular on wholesaling, commission trade, hotels and restaurants and the craft industries, could therefore conceivably be replaced, with a saving in

costs and a lighter burden for respondents. At the same time, administrative data could be tested to see how much additional information they could provide for areas not as yet covered by national short-term reporting (e.g. market producers in other divisions of Section K "Real estate, renting and business activities" or in parts of Section O "Other community, social and personal service activities"). Such information which might be used for national and regional accounts, for example. Thought could also be given to introducing special additional investigations based on the use of administrative data and relating to areas not so far covered by short-term statistics (e.g. enterprises below the cut-off threshold). In the end, however, the possibilities for this extended use of administrative data for short-term statistical purposes should depend on the results of the exhaustive tests on services planned between now and 2005.

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- <sup>1</sup> See, for example, PP. Köhler/G. Kopsch: *Die Bedeutung der internationalen Vergleichbarkeit von Statistiken über die Informationsgesellschaft*, in: *Wirtschaft und Statistik*, Volume 11/1997, pp. 751ff.
- <sup>2</sup> See O. Angermann/V. Polte/A. Dollt: *Überlegungen zur Durchführung der europäischen Verordnungen über die Unternehmensstatistik in Deutschland*, in *Wirtschaft und Statistik*, Volume 7/1998, pp. 555ff.
- <sup>3</sup> Statistical Classification of Economic Activities in the European Community (NACE Rev. 1).
- <sup>4</sup> See W. Stroh: *Beitrag der amtlichen Statistik zur gesamtwirtschaftlichen Konjunkturbeobachtung*, in *Wirtschaft und Statistik*, Volume 10/1997, pp. 683ff.
- <sup>5</sup> See B. Schmidt: *Registergestützte Datengewinnung*, in: *Spektrum der Bundesstatistik*, Volume 15 "Neue Erhebungsinstrumente und Methodeneffekte", Wiesbaden, 2000 and H. Lützel: *Registergestützte Datengewinnung – Überlegungen zur Umsetzung der EU-Unternehmensstatistiken*, in: *Statistische Ämter des Bundes und der Länder, Amtliche Statistik*, 1999.
- <sup>6</sup> See Section II.4 on the variables currently being discussed as extensions: producer prices, wages and salaries and hours worked.
- <sup>7</sup> There is, moreover, no guarantee that enterprises which choose to be taxed on the basis of actual income would report target incomes if there were a primary survey.
- <sup>8</sup> The requirement for being counted as an integrated group under turnover tax legislation is that a legal person (controlled subsidiary company) is integrated into an enterprise (controlling company) taking into account all the relevant facts - financial, economic and organisational. See *Statistisches Bundesamt, Fachserie 14 "Finanzen und Steuern"*, Series 8, "Umsatzsteuer" and S. Hagenkorf/P. Schmidt: *Schwierigkeiten und Lösungsmöglichkeiten der Behandlung von steuerlichen Organschaften im statistischen Unternehmensregister*, in: *Wirtschaft und Statistik*, Volume 11/2001, pp. 922ff.
- <sup>9</sup> When the suitability of the UVV data is being assessed, the fact that it was in every case the first returns submitted by the enterprises which were taken into account must be borne in mind. The test did not take into account any subsequent corrections in the turnover tax prepayment notice. It is possible that use in the test of the first returns submitted early on for the UVV was a source of error, especially since the turnover data have to be reported for the monthly report within a very short period of time. When the alternative plan comes into use, it will be possible under certain circumstances, at least for the first two months in each reporting quarter, to use corrected turnover values as well. This could improve the quality of data from the UVV.
- <sup>10</sup> For these details, see Commission Regulation No 588/2001 of 26 March 2001.
- <sup>11</sup> In the case of establishments not included in the URS [Business Register System] lead file, and for which there is therefore no information available on the enterprise connection, the branch to which the establishment belongs must be taken from the *Bundesanstalt für Arbeit* information. This does at least mean that the branch allocation remains constant throughout the year, since the branch information used is that which referred to the establishment in question at the time of the first delivery during the year.
- <sup>12</sup> For these investigations, however, the branch allocation used by the *Bundesanstalt für Arbeit* for the establishments in question was used.
- <sup>13</sup> For further explanations, see R. Lorenz/B. Schmidt: *Endbericht "Registergestützte Umsetzung der EU-Konjunkturverordnung im Dienstleistungsbereich (NACE-Abschnitte I und K)"*, Part 1, Project report for Eurostat No 9.442.015, Wiesbaden 2000.
- <sup>14</sup> See G. Schäfer: Proposal for the evolution of the STS Regulation, Version 1.1, Eurostat, 4 December 2001.
- <sup>15</sup> In any event, turnover data will be required here in as detailed a breakdown as possible by type of turnover/branch of the economy, for index weighting.

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<sup>16</sup> The following description is based on documents produced during the expert discussions on services statistics and discussed with the statistical offices of the Länder.

<sup>17</sup> There is similar potential for the improvement of national short-term reporting, with the availability of monthly data from the alternative plan leading to an improvement in the data situation in the construction industry, for example.

# IMPLEMENTATION OF REGULAR SHORT-TERM STATISTICS ON SERVICES IN HUNGARY AND FUTURE EVOLUTION

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## SUMMARY

The Hungarian statistical system is in a continuous change determined mainly by the harmonisation with European Union, and the changes caused by the progress of European statistics itself. First, this presentation shows some data regarding the weight of the services within national economy, than are presented the regular short-term statistics, the latest amendments, future evolution within tourism, transport, telecommunication section and other services.

### **I. The share of the services**

In the last few years the modification, planification, new implementation of statistical surveys were determined mainly by the regulations, directives of the European Union, as part of the harmonisation of the Hungarian statistical system. The “bottleneck” between the variables listed in Annex D of Council Regulation 1165/98 and the variables from our regular surveys is poor. Their scope is, after all, different: in our regular statistics the aim is to survey a given activity in general irrespective of the NACE activity code of the data supplier. Nevertheless, in the last years a new conception has started to function in our statistical system: in the past the statistics were independent units, without any significant connexion among them; now the starting point is the statistic system, as a uniform whole, in which the activity-specific surveys should be more or less integrated. This new integration refers both to the annual and short-term statistics. This year we will begin to elaborate a new questionnaire for services (other than retail trade) within the annual survey of enterprises for business statistics. As regards the short-term surveys, a new softver for short-term statistics data was elaborated in 2001, and beginning with year 2002 we have started to «integrate» some of the other regular activity-specific questionnaires into this softver.

To have a view over the activities we work with, first I would like to present some data regarding the share of these activities have within total industries. (Data are taken from the Statistical Yearbook of Hungary for year 2000).

**Table 1:** *The values for employed persons and number of active corporations and unincorporated enterprises by industries for year 2000*

Section	Nr. of employed persons (thousand)	Share within total industries (%)	Nr. of active corporations & unincorporated enterprises (thousand)	Share within total industries (%)
H (Hotels & restaurants)	133	3,5	42	4,9
I (Transport, storage & telecommunication)	312	8,1	46	5,4
J (Financial intermediation)	84	2,2	22	2,6
K (Real estate, renting & business activities)	205	5,3	237	27,9
M (Education)	318	8,3	18	2,1
N (Health and social work)	242	6,3	23	2,7
O (Other community, social and personal activities)	166	4,3	54*	6,3
Total	1 459	37,9	441	52,0

(\*) Including Section P&Q – Private households with employed persons and extra-territorial organisations and bodies.

Logically, the number of corporations compared to the number of employed persons is very high in section K, where the character of the activity (real estate, renting, other business activities as accounting, advertising, book-keeping etc. activities) involve a great number of corporations with few employees. On the other hand within section I there is a great concentration of staff in the key-companies of the respective activity. (These are the so-called “four giant M”: MÁV – the national railway transport; MAHART – the biggest Hungarian water transport company, MALÉV – the Hungarian Air-transport company; MATÁV – the biggest Hungarian telecommunication company).

**Table 2:** *The gross value added, and the share within total industries in year 2000 (in billion EURO)*

	Gross value added (billion EUR)	Share within total industries (%)
H (Hotels & restaurants)	0,8	1,8
I (Transport, storage & telecommunication)	4,2	9,6
J (Financial intermediation)	1,8	4,0
K (Real estate, renting & business activities)	7,3	16,5
M (Education)	2,1	4,7
N (Health and social work)	2,0	4,6
O (Other community, social and personal activities)	1,3	3,0
Total	19,4	44,2

## II. Regular short-terms statistics on tourism activity

At present there are three short-term surveys related to the tourism activity. The *Report on collective accommodation establishment* is a monthly survey where the data suppliers are the accommodation establishments. The questionnaires are collected by the local offices, and the aggregation of the data is carried out by the HCSO.

The table containing the tourist-traffic has two variables:

- tourist arrivals
  - tourist nights
- data broken down by the nationality of the tourists arrived.

The table regarding the capacity data contains the number of:

- functional days
- employees
- rooms, beds to be let at the end of the month
- beds effectively let during the month.

The tables related to the number of rooms and room-prices enclose information on every type of room and apartment, as well as data on renting prices for campings.

The turnover data of the accommodation establishments contain:

- accommodation charge with and without breakfast
- Revenues issuing from other services.

For Restaurants, bars, canteens and catering data are collected for the following variables:

- number of units
- turnover.

In the last few years, only small adjustments were made on the questionnaire. We are planning the extension of the data-suppliers, involving the non-profit accommodation establishments (due to Directive Nr. 57/1995 of the European Union).

Methodologically, the turnover data arising from this survey and the short-term statistics based on the Council Regulation 1165/98 cannot be compared, because here the data suppliers are the accommodation establishments and restaurants within the whole national economy, irrespective if their main activity is in the section H or not. Yet, the calculations we made show that for year 2000 the turnover of public accommodation and restaurant/catering units is higher by 80% than the aggregate turnover data of Section H (data from business short-term statistics). That means that roughly the 40% of the turnover related to activities from Section H come from companies whose main activity is out of Section H.

The second survey within the tourism activity is the *Report on private accommodations* completed twice a year by local governments, who collect data from the private accommodations. The questionnaire contains data both for rented private rooms and rural room services. The variables are:

- tourist arrivals, tourist nights (broken down on domestic and tourists from abroad)
- capacity data – number of rooms and beds.

The third survey is the monthly statistics on *border statistics* is a full-scope survey carried out by the Hungarian frontier guards, and contain information regarding the number of foreigners crossing the border (by citizenship and by mode of transport).

We are preparing a pilot survey this year on the domestic tourism demand, in accordance with the EU Directive 57/1995, collecting data on the tourism habits, motivations and spending patterns of Hungarians. A regular survey based on the pilot survey will be launched beginning with year 2003 or 2004. An other planned survey will collect data on foreign tourism demand; survey on the expenditures of foreigners in Hungary, taking into account the experience of an 1994 survey on the same theme. A pilot survey on foreigners' expenditure and behaviour will be carried out in 2002, the experience and information gained from this project will form the groundwork of a new regular survey, to be introduced in 2003 or 2004. Naturally, all these data can be used as basic information at the compilation of the tourism accounts as well.

### **III. Regular short-terms statistics on transport activities, and the activity of travel agencies and tour operators**

Within these activities we have four short-term surveys. The data suppliers for survey on *goods and passenger transport performances by transport links*, are the companies listed in land transport (other than freight transport by roads) transport via pipelines, water and air transport. The survey is quarterly.

The first table is divided on goods transport performances by either rail or air or pipeline, and respectively goods transport performances by waterways. The variables are:

- Quantity of goods transported
- Tonne-kilometre
- Freight charge receipts in HUF

by rail, aircraft or pipeline respectively by waterways. The water transport data are broken down by vessel traffic on rivers and vessel traffic on sea.

The data suppliers transmit national and international data as well. The international data are broken down by:

- unloaded
- loaded
- transit
- not touching Hungarian border traffic.

The second group of variables contains data on interurban transport by transport links. The division on transport modalities is identical as for goods transport performances, the variables are:

- number of passengers carried
- passenger-kilometre
- fare receipts.

The data for national transport are broken down by:

- scheduled traffic
- traffic on contract basis and
- traffic by extra services.

Within the international data we also have information on scheduled traffic.

The third table is related to urban passenger transport performances. The variables for:

- buses
- trams
- trolley-buses
- metro, underground
- suburban rail
- vessels (of which in Budapest and on the Lake Balaton)

are:

- number of passengers carried
- passenger-kilometre
- fare receipts.

The revenues from freight charge and fare receipts represents about 40-50% for rail transport and inland water transport companies, and about 85-90% for the air transport companies.

The respondents for *The survey on the road transport of goods* are the owners of operators of selected motor vehicles. This survey, running since 1997 is in concordance with the Council Regulation No 1172/98 on statistical returns in respect of the carriage of goods by road.

The survey was elaborated well before the issue of the CR 1172/98 as a necessity to observe the Hungarian freight transport activity. In the past, before the nineties and in the early nineties there were only some few actors – big state-owned freight transport companies – but with the privatisation and the liberalisation of the market, there took place a strong structural change: the number of undertakings related to freight transport rose sharply, and it became inevitable to change the statistical unit, so actually we survey not the company but the vehicle.

The sample is chosen from a number of 250,000 motor coaches and road tractors in accordance with a three-level stratification criteria:

- vehicle operator's legal status (corporation or individual)
- load capacity
- regional criteria.

The samples contain a pack of 12 -14,000 vehicles. (The number of data suppliers is less, because one data supplier might have more than one vehicle in the sample.) The data-suppliers have to fill up their questionnaire four time a year, in the same period of the quarter proportionally for every period of the year (the surveyed period is one week; to have a more exact observation of the international road freight transport, since year 2002, for the international freight transport, the period has been extended up to two weeks/quarter).

In the first table the data supplier give information regarding the changes in the operation of the motor vehicle. In the second table we have major details of the motor vehicle and trailer (semi-trailer), regarding the:

- details about the trailer/ seem-trailer attached to the motor vehicle (loading capacity/number of axles)
- body type
- details of the transport activity (hire/reward or own account)
- fuel purchased during the survey period
- number of days in and out of service.

The third table contains detailed information regarding the journeys during the survey week:

- loading, unloading place, day and month
- weight of goods loaded, unloaded, the ADR code of the goods carried, the type of cargo, the distance travelled
- type of transport (hire/reward or own account).

The 4<sup>th</sup> table contains the same data for delivery and/or collection during the survey period, also including the number of stops during a journey.

As can be seen, the survey doesn't contain any freight charge data (for a given journey it is very hard to link any transport charge) – this isn't the aim of the CR 1172/98 either.

We made some improvements on the survey this year, with the scope of having a more precise measurement of the road transport activity. Beside the extension of the observation period for international road transport data another decision was the narrowing of the basis: before year 2002 we drew the sample from the vehicles with load capacity more than 1 tonne. According to our calculations and our experience the vehicles between 1 t – 3,5 t capacity are the more problematic category (regarding the number of non respondents, the great number of changes of the owners and operators within a year), and their weight within the road transport values, weren't high at all, since 1997 haven't exceeded 9%. Starting with year 2002 the vehicles with less than 3,5 t loading capacity are ruled off, and will be surveyed every five year.

Starting with year 2003, in concordance with CR 1172/98, 96/35, 2000/18 we will introduce new quarterly survey for the transport of dangerous goods on roads. The survey is full-scope; the data suppliers are the participants on the market, which have security adviser (beginning with 1<sup>st</sup> of January 2003 in Hungary all enterprises that transport dangerous goods should hire a security adviser).

As regards the inland waterway transport statistics there is a monthly data collection launched by the Ministry of Transport and Water Management which aims to meet the requirements of the Council Directive 1119/80/EC. The reporting units of the data collection are the ports. The survey of the main indicators meets the requirements of the concerning Directive, in respect of the methodology the harmonisation is at an advanced level however in some respects (for example as groups of goods the NST/R and type of vessels is not applied) it is not in accordance with the Directive. In co-operation with the Ministry the concrete analysis and harmonisational proposal will be made with the aim of building it in the statistical program for 2003.

In 2001 a PHARE pilot project on aviation statistics have started which aims to analyse the existing data collection systems in the candidate countries as well as to set up data production and transmission systems gradually compatible with the EC statistical requirements in this field. During the first mission of the Eurostat expert it was realised that from 2003 it is necessary to launch a survey on airport traffic on quarterly basis that covers the data indicated in the respective Draft Regulation.

For the activity of travel agencies and tour operators (NACE 63.30) we have a very comprehensive quarterly survey, that have to be completed by the undertakings with tour operator licence registered by the Ministry of Economic Affairs MEA), irrespective of their

main activity. The register, updated by the MEA quarterly contain among other data sub-offices, number of employees.

In the first part of the survey, the data suppliers give information regarding the nature of their activities. These can be:

- Outbound tourism (international conducted tourism, by own organisation and own sale, travel organisation from abroad to abroad, rent of accommodation abroad, etc.)
- Inbound tourism (own organisation, own sale, sale of Hungarian services to international tour operators of intermediates)
- Domestic tourism (own organisation, own sale, or as a representing of a travel agency from abroad, etc.).

The data suppliers should give variables regarding the:

- organised domestic tourism (for Hungarian citizens)
- Organised congresses (in Hungary/abroad, for Hungarians/foreigners)
- outbound, inbound tourism activity by own organisation
- international participants on separated sale of domestic programs
- international arrivals by countries
- Hungarians travelling abroad by countries.

For these tables the variables are:

- number of participants/excursionists
- number of tourist arrivals
- number of tourist nights.

The quarterly surveys do not contain turnover data: these data are obtained from the annual survey of tour operators. The survey has been continuously amended during the last few years. The last implementation was launched in 2001: the data suppliers should give an estimation of the percentile distribution of the tourism traffic broken down by the scope of the travel (congress-trip, round voyage, holiday, etc.).

#### **IV. Short-term statistics on telecommunication**

In the Hungarian Central Statistical office there are two short-term surveys related to telecommunication activities (NACE 64.20). These surveys concentrate on the most important performances of the telecommunication activity, they are activity-specific and not NACE-specific, so the target of the observation are not the the companies classified in NACE 64.20, but which have the license for some given telecommunication activity (i.e.: fixed or mobile network operators, VOIP operators).

Related to the *Monthly report on traffic in fixed telephone networks*, there are 12 data suppliers. The survey contains two tables. In the first table the telephone companies report traffic in their network broken down by the destination of the calls (local/long distance/international) and by the caller (calls initiated from residential/business/public lines). The measure is million calls.

In the second table data suppliers report the international traffic broken down by destination (countries). The measure is thousand minutes.

All data on the traffic of the companies are in natural units, and these surveys do not contain questions on economic performances.

Data suppliers on *telephony and broadcasting* (collected quarterly) are the firms which operate fixed or mobile telephone networks, VOIP providers and broadcasting companies. There are 50 data suppliers.

The questionnaire contains five tables. In the first table we collect data on telegram service. The variables are the telegrams/faxes (number/pages).

In the second table data suppliers report their traffic on the fixed and mobile network. Fixed network operators have to break up the traffic by:

- residential
- business
- public line.

And by the destination of the calls:

- local
- long distance
- mobile network.

The mobile network operators report on the traffic broken up by the called party:

- calls ending in the same mobile network
- to other mobile network
- to the fixed network
- international calls.

The measure is thousand calls and thousand minutes.

In the third table we collect data on traffic of the VOIP (Voice over Internet Protocol). The companies detail their traffic by the destination of the calls (countries). The measure is thousand minutes.

In the fourth table the fixed and mobile network operators report on the number of their subscribers. There are the following variables:

- number of residential/business/public/main lines
- number of ISDN channels
- leased lines
- number of mobile phone subscribers.

The fifth, the last table is on broadcasting: we collect data on the radio and television broadcasting time, detailed by the type of the broadcasted programmes (local/regional/nation-wide).

All the data are on the traffic of the companies in natural units, and doesn't contain variables on economic performances either.

The rapid changes in the telecom sector, the introduction of new technologies, methods and regulations urge us to adjust our surveys. The most important event of the last year was the new Unified Telecom Act launched in December. Liberalisation of the telecom market will increase the number of actors on the market – number of our data suppliers – and it will result in new types of actions – which have to be observed in the future.

## V. Other services

The HCSO has a quarterly updated Local unit register for trade and services (KISREG) for stores and other local units with operating licence emitted by the local governments. The register include the following activities:

- Sale, maintenance, repair of motor vehicles, vehicle parts & accessories (NACE classes 50.10 – 50.40)
- Retail sale of automotive fuel (NACE class 50.50)
- Wholesale stores
- Retail trade, repair of personal and household goods (NACE classes 5211 – 5250, 5270)
- Hotels, camping sites (NACE classes 5511 – 5523)
- Restaurants, catering (NACE classes 5530 – 5551)
- Travel agencies (NACE class 6330)
- Renting activities (NACE classes 7110 – 7140).

The Register contain the following data:

- the name of the local unit
- its main activity
- type of the activity (permanent/seasonal)
- identity number
- since 2000, for units with more than 20 employees: number & annual income of the employees, the surface of the unit, and the yearly turnover for units within NACE classes 50-55.

The Register is frequently used for regional analyses related to local units, retail trade and service units, and for regular publications as well. Since 1998 we have a quarterly publication with retail trade stores data; in year 2001 the HCSO issued a publication containing data on wholesale stores and renting units, and in 2002 will be issued a publication on repairing units, shopping centres and hypermarkets.

Excepting the quarterly business survey (in compliance with the CR 1165/98 of the European Union) for the other activities within the other services the HCSO don't have other regular short-term statistics. During the year 2001 there was made a comprehensive study on the available statistical and administrative data sources, and the future demands both of Hungary and the European Union. This exploring work will continue in year 2002, including some very useful consultations as the bilateral meetings we have with the Statistical Institute of France.

# SHORT-TERM STATISTICS ON SERVICES IN FRANCE

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## SUMMARY

Before discussing the outlook for the French system of short-term statistics on services, we have to define the field covered and report on sources currently available. The first of these points leads us to consider the groupings used by activity and product classifications, and to discuss whether these are relevant to the objectives of short-term analysis. An up-to-date list of indicators shows that, despite the wide variety of statistical departments which contribute to it, the French system manages to provide fairly uniform information on both industrial and service enterprises.

The plan for the next few years is to concentrate essentially on the following three aspects:

- consolidating the monthly monitoring of turnover;
- extending the coverage of the price indices for business services, and
- launching a quarterly survey on products, charges and assets.

The growing constraints of European comparability mean, of course, that these developments, along with the more minor adaptations to the present system, are driven by the choices made at Community level.

## I. Defining services

To begin with, the services sector has to be defined. In the broadest sense, it may refer to the whole of the tertiary sector, i.e. sections G to O of the NACE, as opposed to the primary sector and a secondary sector made up of industry, construction and energy distribution. Household (section P) and extra-territorial services (section Q) have specific features which automatically rule them out of the picture.

In this broad sense, the services sector covers nine NACE sections: wholesale and retail trade (G), hotels and restaurants (H), transport, storage and communication (I), financial intermediation (J), real estate, renting and business activities (K), public administration and defence; compulsory social security (L), education (M), health and social work (N) and other community, social and personal service activities (O).

The first point to note is that in France this group is monitored in varying ways for short-term statistics. The kind of monitoring may vary even within a given section.

Broadly speaking, the tertiary sector in France is broken down as follows for business statistics, whether the data are structural or short-term:

		NACE
Trade	Trade and repair of motor vehicles	50
	Wholesale trade	51
	Retail trade	52
Transport (*)		60 to 63 (except 63.3)
"Services"	Real estate	70
	Business services	64, 71 to 74
	Services for individuals (*)	55, 63.3, 90 to 93
Financial services		65 to 67
Services which are mainly non-market		75, 80, 85

(\*) Travel agencies (63.3) are included in services to individuals.

In France, financial services (section J) and sectors which are mainly non-market (sections L, M and N) are monitored via sub-annual indicators geared specifically to certain aspects of these activities. Since short-term statistics are restricted to the market sector, the activities of membership organisations, which come under Section O (Division 91) are excluded *de facto*. The rest of this document will therefore concentrate on the three groups made up of trade, transport and "services" in the narrow French sense of the term. Below, the term "services" will refer to the whole of this group.

## II. Availability of sub-annual data on services

The weekly "scoreboard" produced by the INSEE shows the main short-term indicators published regularly, in particular those referring to services. Scoreboards relating solely to services, and giving results at a more detailed level of classification, are compiled periodically and sent out to our main correspondents. The most detailed level available is published in the INSEE's "*Informations rapides*", which are specific to each indicator, and in the monthly statistical Bulletin.

Short-term surveys covering industry, construction and services taken together, are *qualitative surveys* on past and future trends as perceived by businesses. The same principle underlies all these surveys, but the details differ depending on the nature of the activity or the characteristics of the enterprises in the sector. Both the questionnaire and periodicity may be adapted:

- questions on stocks, orders, sales to other countries, imports or payment deadlines are not included for sectors where they would have little meaning;
- the short-term surveys are monthly for retail trade and, since 2001, for "services" in the narrow sense (as for industry), two-monthly for wholesale trade and quarterly for transport (cf. Table 1).

Most of the sub-annual *quantitative data* on the services sector are obtained from statistical investigations covering the whole area of private enterprises (excluding, in some cases, agriculture and financial services): turnover, stocks, business start-ups and closures, paid employees, wages and salaries (cf. Table 2). In this case, the methods of collecting information, processing and dissemination deadlines are the same for services as for the other sectors.

There is also a specific monthly survey of hypermarkets and supermarkets selling food, designed to obtain from these outlets a breakdown of their turnover into food and non-food

products and fuel (cf. Table 3). The need for this information highlights the usefulness of short-term information identifying the type of product sold rather than the vendor's sector of activity.

Finally, quarterly accounts provide results on the output of branches and the market for products, in a breakdown into five services branches and three products (plus trade and transport margins).

The way in which data on *the prices of services* are obtained is specific to this sector, owing to its nature. For services included in household consumption, the consumer price index is representative of a production index whenever the consumption "basket" may be deemed a good match with the production "basket": consumer price indices are thus used to deflate the turnover of hotels and restaurants and personal services.

To deflate trade, price indices are sought for the different products at the various marketing stages. For retail trade, combinations of consumer price indices of the goods sold are used. For wholesale trade, various indicators are used: purchase prices (industrial sales prices, agricultural producer prices) or selling prices (wholesale prices on the Rungis market, consumer prices, export prices, etc.).

Specific monitoring is required for the prices of businesses services. The general method is based on that used for industrial sales prices but the periodicity is different: whereas industrial sales prices are monitored monthly, the prices of services are monitored either quarterly or annually. In fact, the basis for monitoring services is frequently contracts or fees, since businesses do not generally revise these monthly. Overall, therefore, the prices of services do not reflect market pressures from one month to the next.

Coverage of the prices of business services is still incomplete. By the end of 2002, price indices will be available for engineering, advertising, accountancy services, cleaning, vehicle hire, the hire of machinery and equipment for construction and survey and security services. These sectors taken together represent a little over one quarter of the output of business services.

For transport, there is a quarterly index of the price of goods transport by road.

**Table 1:** *Short-term surveys on services: opinion polls*

	<b>Variables</b>	<b>Level of detail</b>	<b>Periodicity</b>	<b>Deadline</b>
<u>Retail trade:</u> non-specialised stores (52.1), specialised stores excluding food and pharmacies (52.3)	sales, order intentions, stocks, past and future prices, general activity outlook, cash position, past and future staffing, time allowed for payment	5 sets: non-specialised, major household fixtures and fittings, small household fixtures and fittings, culture/leisure/luxury goods, leather, clothing sales by product (all sectors), 18 products	monthly	m + 5 days
<u>Wholesale trade:</u> excluding agents (51.1)	sales, export sales, deliveries from other countries, order intentions, stocks, past and future prices, prices expected for sales to other countries, prices expected from foreign suppliers, general activity outlook, cash position, past and future staffing	4 sets (+ 2 partial): food consumer goods, non-food consumer goods (of which non-pharmacy), capital goods, intermediate goods (of which industrial)	two-monthly	2m + 5 days
<u>Transport :</u> transport of goods by road (60.24 excluding removal and vehicle hire, activity by road of freight transport organisers - 63.40)	recent and expected trend for: domestic and international traffic, staffing, domestic prices, cash position, time allowed for payment, vehicle purchases, vehicle utilisation	1 item « transport of goods by road »	quarterly	t + 45 days
<u>"Services"</u>	recent and expected trend for: activity, activity in other countries, staffing, prices, operating results, expected demand trend	7 sets (+ 1 partial): consultancy and assistance, operational services (including temporary), travel agencies, hotels and restaurants, cultural, recreational and sporting activities, personal services, real estate	monthly	t + 5 days

**Table 2:** *Transverse short-term transactions covering the services sector*

	<b>Coverage (NACE)</b>	<b>Level of detail</b>	<b>Periodicity</b>	<b>Deadline</b>
Turnover	excluding other short-term accommodation (55.2), research (73), recreational activities excluding audio-visual (92.3 to 92.7)	in general NAF 4-digits, a few regroupings	monthly	m + 60 days
Stocks	trade (50 to 52), excluding food retail, partial for other services (*)	3 NACE sections for trade 1 item for transport + "services"	quarterly	t + 75 days
Business start-ups		NAF 4-digits	monthly	m + 45 days
Paid employment		5 sets: trade, transport, real estate, business services, services for individuals	quarterly	t + 100 days (t + 45 days for the "tertiary" total)
Basic monthly salaries	establishments with more than 10 salary-earners	9 sets : trade, transport, real estate, consultancy and assistance, operational services, research and development, hotels-café-restaurants, recreational, cultural and sporting activities, personal services	quarterly	t + 100 days (t + 45 days for the "tertiary" total)
Quarterly accounts: output and value added of the branches, uses of products		5 branches: trade, transport, real estate, business services, services for individuals, 3 products + trade and transport margins	quarterly	t + 50 days

(\*) Output of services outstanding only - sectors covered: transport excluding space transport, business services, recreational, cultural and sporting activities

**Table 3:** *Survey of supermarkets and hypermarkets selling food*

	<b>Variables</b>	<b>Periodicity</b>	<b>Deadline</b>
Hypermarkets and supermarkets	sales of food products, sales of non-food products, sales of fuel, number of stores, selling area	monthly	m + 35 days

Finally, the list of quantitative data available includes the indicator of the consumption of manufactured products, compiled approximately 20 days after the end of each month. On the face of it, this indicator appears to be for industry rather than services, but in fact it represents an aggregate very close to retail trade turnover and is calculated in part from observations of sales of various products. Analysts find this early indicator useful for more than just sectoral analysis: it can be used to monitor a share of household consumption which accounts for one-third of GDP and which, being rapidly available, is an advance indicator of the short-term economic situation in general.

### **III. Comparison with manufacturing industry**

In comparison, three sets of indicators are available for manufacturing industry which have no equivalent for services.

The first concerns the sub-annual monitoring of investment and production capacity. Admittedly, the manufacturing sector is probably more directly affected by pressures on production capital, and investment is much less concentrated in the services sector and therefore more difficult to cover via small-scale surveys. For all that, investment is of almost the same order of magnitude in business services as in industry. If we add trade, transport and services to individuals, services as a whole excluding real estate invest twice as much as industry every year. Information on investments made by businesses is included on their VAT returns and in the quarterly survey on "products, charges and assets", but no use is made of this information at present. However, there are plans to process the survey data in 2003.

The second relates to external trade. There is no services equivalent of customs data: the information available from the balance of payments lacks precise details of the nature of the transactions recorded. But if external trade is in fact marginal for certain services, it is definitely not for others, and the scale of such services is likely to increase markedly. The difficulties of measuring external trade in services are largely structural. Monitoring export turnover may provide some kind of response to the problem, but only a partial one.

Finally, there is no real equivalent of industrial output indices. Only monthly returns relating to the tonnage of goods transported by the different modes of transport and of numbers of passengers can provide equivalent information in the transport field. There is a survey of telecommunications operators which in principle comes close to measuring output volume: information is collected on quantities from all operators, whatever their sector of activity. But the enquiry is at present annual: a quarterly enquiry is planned for the main operators in 2002.

### **IV. Planned Developments**

In France, work on short-term indicators for services will concentrate on the following three aspects in the coming years:

- *Consolidating the monthly monitoring of turnover*

This consolidation involves technical aspects linked to the setting up of a new chain of computer processing of VAT returns, but it also has a bearing on the consistency and relevance of the available processed information.

The monthly turnover of enterprises is a variable which can be used to track ad hoc exogenous factors as well as "purely" economic trends. Adjustments for seasonal variation and working days help with the problems to some extent, especially in the case of activities where seasonality is irregular or of minor importance. But the monthly indices should be interpreted with care, to check whether they substantiate or alter the trend of previous months. Our publications have to guide users along these lines.

More specifically, a great deal is expected from the monitoring of retail trade. On the one hand, the European authorities have asked for an early 30-day indicator. Secondly, the profession would like an indicator which is representative of small-scale trade. Finally, data relating to concepts which are close to each other but based on different information have to be linked together: as well as the turnover of enterprises classified according to the activity classification, we have available data on hypermarkets and supermarkets by form of sale and by total products as well as the early indicator of the consumption of manufactures. We are therefore planning a data availability system which would highlight the particular kind of information provided by each of these operations:

- an early 30-day index to meet the requirements of the future STS regulation, compiled according to methods which are similar to those used for the consumption index. It has not yet been decided how this new indicator will tie in with the consumption indicator, which is defined specifically for immediate use in quarterly accounts;
- within 60 days, detailed indices by detailed sectors, supplemented by an indicator of "small-scale trade", possibly broken down into a few sub-sectors, and by information on the detailed activity of hypermarkets and supermarkets derived from the specific enquiry.

Finally, the global indices have to be supplemented in the longer term, in all sectors, by a breakdown into domestic and export markets.

- *Extending the coverage of the price indices for business services*

This extension will relate initially to computer services, telecommunications and temporary work. Management consultancy would follow, which would make price indices possible for 59% of the business services field or even 65% if we exclude business administration activity, for which no price index is directly observable owing to the importance of holding companies in this sector.

The construction of a price index for inland waterway transport is also being studied.

- *Launching a quarterly survey on products, charges and assets*

The INSEE has just completed a reorganisation of the quarterly survey on the main components of the operating account, the value of stocks and the intangible assets of businesses with more than 20 employees in trade (excluding food retailing), transport (excluding space transport), business services (excluding part of NACE 74.1) and recreational, cultural and sporting activities. These results should lead to indicators of value added, gross operating surplus, investment and changes in stocks available around 75 days after the end of the quarter. The various indicators are expected to come into production gradually: the stock indicators are already being published, data on balancing items could be available by the end of 2002 and data on capital formation during 2003.

## V. Thoughts on activity classifications

The value of short-term economic data lies in the speed with which they can be made available. This advantage of speed may be offset by a relative lack of detailed aggregates. It is useful in this connection to see which groupings have been considered relevant for services, either when information is collected or when the results are analysed.

**Table 4:** *Classification used for short-term statistics on services*

Level 1	Level 2	
Trade	Motor vehicle trade and repairs	
	Wholesale of food consumer goods Wholesale of non-food consumer goods	Of which excluding pharmacies
	Wholesale of capital goods Wholesale of intermediate goods	Of which industrial
	Non-specialised retailing Retail sales of major household fixtures and fittings Retail sales of small household fixtures and fittings Retail sales of cultural, leisure and luxury products Retail sales of clothing and leather	
Transport		
Real estate activities		
Business services	Consultancy and assistance Operational services  Research and development	Of which temporary
Services to individuals	Hotels, cafés, restaurants Recreational, cultural and sporting activities Personal services	

The first level (cf. Table 4), used by quarterly accounts and short-term employment statistics, breaks the whole set down into five items which do not exactly match the five NACE sections. On the one hand, the grouping of transport and telecommunications (I) is not retained, the second of these activities being included in business services. Secondly, real estate activities have been separated out even at this first level, whereas hotels and restaurants are grouped together with community, social and personal services in an item referred to as "services to individuals".

The short-term surveys allow for more detailed analysis by working at a more detailed level of around 20 items (level 2). Most of the other data are available at the most detailed level of the activity classification.

This table should be added to the file when the revision of classifications is under discussion, as at present. Although it reflects the current experience of French experts working on short-term economic aspects, and in this sense has a specific history which cannot necessarily be generalised, it also has the merit of describing a tool which has been judged effective for one of the objectives of an aggregate economic classification, namely short-term analysis.

# THE FUTURE OF SERVICE STATISTICS IN PORTUGAL

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## SUMMARY

With the entry into force of Council Regulation (EC) No 1165/98 and the creation of Monetary Union (UM), Member States face a new challenge: disseminating better-quality short-term statistical information earlier.

This paper looks at how Portugal has implemented the Regulation, and Annexes C and D in particular, how enterprises have cooperated, what information has been collected, the use of new technologies in collecting statistical information as well as the difficulties encountered and the developments which the future may bring in this field.

In Portugal, basic statistical information on the services sector was in short supply, and the Regulation on short-term indicators is therefore a good opportunity to fill this gap. In addition to the requisite variables, it was decided to obtain information for others which would not only strike a better balance between the different annexes but would improve knowledge of the different sectors of activity. The aim was to seek more detail on NACE Rev. 1 groups and to reduce the monthly reference period for all the variables in Annex D and for the number of employees in Annex C.

Implementing the Regulation in this area of services is not without technical problems, which are also set out hereafter.

We shall also present the measures taken by the INE in pursuit of the objective defined by the Statistical Programme Committee of making the turnover index in retail trade available within 30 days at most, an objective which Portugal will achieve in 2002.

## Preliminary remark

While this Seminar focuses on Other Services (Annex D to the Regulation), and this contribution concentrates essentially on this area, it is important to refer to some aspects relating to retail trade (Annex C) as an activity within services in the broad sense.

## Framework

When the Regulation was approved the Member States already had a significant number of the indicators which it provided for, these did not have the level of detail or the characteristics which the regulation laid down.

Some indicators, such as those for services, had to be created from scratch because they did not exist in Portugal's National Statistical System.

It was also clear that short-term statistical information on services was in scant supply. Beyond a few qualitative operations, there was precious little available. This, combined with the lack of administrative information which could be used to produce the new indicators, forced the decision to set up new statistical operations looking at business.

Although care was taken not to overload respondents, in view of the lack of information on services, these new operations had to include variables beyond those required by the Regulation, for which reason the periodicity was reduced and the scope extended.

### **Characteristics of the statistical operations set up**

As already mentioned, in spite of our concern not to overburden enterprises responding to a statistical operation, the lack of information dictated changes to the provisions of the Regulation, so that these operations incorporated some variables and levels of detail, etc. which were provided for in the pilot study.

#### *Variables*

It was, of course, important to include the so-called social variables which make for a better balance between the different Annexes of the Regulation. The Business Statistics Directors Group (BSGD) had recently discussed this subject and made an appeal to this effect, which Eurostat was incorporating into its proposed revision of the Regulation.

The following variables were therefore surveyed (in **Annex C** and **Annex D**):

- turnover;
- number of persons employed;
- number of hours worked (not provided for in the Regulation);
- wages and salaries (not provided for in the Regulation).

#### *Periodicity*

Annex C to the Regulation provided monthly periodicity for turnover and quarterly for the remainder, while Annex D provided that the quarter be adopted as the reference period for all variables. Portugal chose to adopt the month as the reference period for all the variables and both Annexes.

It would thus be possible to obtain fresher information if enterprises were cooperative. This proved to be the case, as will be seen.

#### *Level of detail*

On the level of detail, too, changes were made on the provisions of the Regulation, as recommended by the pilot study.

As the level of detail required for the retail trade was already considered sufficient, it was only increased for Other Services (Annex D). The following levels of detail, which are greater than those provided by the Regulation, were therefore adopted:

- Groups 513, 514 and 515 at NACE Rev.1 class level;
- Division 60 – Land transport and transport by pipelines at NACE Rev. 1 group level;
- Division 63 – Travel agencies, at NACE Rev. 1 group level;
- Division 64 – Post and telecommunications at NACE Rev. 1 group level;
- Division 70 – Real estate activities at NACE Rev. 1 group level;
- Division 71 – Renting of machinery and equipment without operator and of personal and household goods at NACE Rev. 1 group level.
- Class 7415 - Management activities of holding companies in NACE Rev. 1.

### **Survey organisation**

As this was a new survey and no-one had any great experience of processing the information on these new sectors, there were doubts as to how willing enterprises would be to respond.

To reduce the burden on respondents, it was decided that responses could be sent by e-mail, and businesses were invited to play their part in electronic data collection.

The response to electronic collection was a success, in that some 25% of the businesses surveyed stated an interest in this method in the first two weeks.

Alongside electronic collection, it was also possible to use faxes and a fax server. This procedure also proved useful in data collection, particularly for sending out reminders to enterprises which had not opted for electronic collection.

Initially, it was planned to suspend the collection of information on activities which were not compulsory for the purposes of the Regulation in case the response rate was poor or enterprises raised obstacles or proved reluctant to respond. Specifically, enterprises were expected to record difficulties in adopting monthly periodicity for Annex D. In fact, however, they were highly receptive, and the response rates from numerous enterprises were very high.

The good response was largely due to the INE's decision to pursue personal contacts in collecting information. Instead of increasing costs, personal contacts with enterprises reduced them in the long term, because the contacts tend to diminish and enterprises respond more promptly and provide quality data. Regularly offering little gifts also increased the motivation to respond.

### **Dissemination**

Bearing in mind the exceptions requested and accepted by the Commission for all the indicators concerned, it should be possible to begin to disseminate the information during the first half of 2002.

As these are new statistical operations, the year 2000 will be taken as the base for the indices to be produced, using the information relating to the statistical operations in the context of Structural Business Statistics (SBS) to compile the weighting structure.

As the series for the retail trade turnover index is 1995-based, the base will be changed at the same time, and preparations to this end have been under way since 2001.

The form they will take in the new indicators – which should include those following on from adopting a greater number of variables - will correspond to that defined in the Regulation and discussed in the working group on short-term indicators. Portugal is keen to align the form of dissemination on that used by Eurostat and the other Member States. This should avoid the systematic problems posed by the apparent contradiction between indicators disseminated by different organisations (INE or Eurostat).

As regards dissemination, the INE would emphasise the importance it attaches to the harmonisation of the rules for dissemination between Eurostat and the Member States as the only means of avoiding sewing confusion among users. This should be a constant concern for producers of statistical information. Accordingly, given the importance of indicators in short-term analysis within the Union, the INE is prepared to make the necessary changes to how it disseminates its statistical information to make it easy to read these important indicators.

As the time to begin dissemination draws near, however, it is important that a final decision be taken on these matters. Discussions between the Member States has already begun, but it is important that a decision be reached quickly which can be adopted by those which will begin to disseminate new indicators and proceed to change the base for existing ones.

It is therefore crucial that a prompt agreement be reached on the following:

- *Form of dissemination:* Should only homologous rates of change ( $n/n-12$ ) and month-on-month rates of change ( $n/n-1$ ) be disseminated, or should others?
- *Correction of working days:* How should this be done? Can the Member States opt for any method (regression or proportional)? If regression is chosen, how many regressors should be adopted?
- *Seasonal correction:* Which options should be taken?
- *Revision of series:* How should the series be revised: revision of the last two months with a final revision at the end of each year, or should another procedure be chosen?

### **Some difficulties encountered**

Although these operations were a success in terms of enterprises' willingness to cooperate, some of the difficulties encountered should be discussed because some of them undoubtedly concern the part included in the pilot studies.

#### *Annex C to the Regulation*

##### Retail sale of second-hand articles in stores

One of the series to be transmitted to Eurostat includes Group 52.5, which corresponds to retail sales of second-hand articles in stores.

This group should include antique dealers. The variations in turnover recorded in this kind of business may be determined by sales – which, according to the kind of article sold (works of art), may reach abnormally high values – or by auctions which are not organised to any regular schedule.

The kind of activity these enterprises pursue makes the series erratic and their economic significance hard to interpret. In Portugal, specifically, while the relative weight of this activity is very limited, its impact on the general index is sometimes unmissable and, given its characteristics, may distort interpretation of the index.

Accordingly, and given the “perverse effects” on the results to be published, the wisdom of retaining this activity in the series to be sent to Eurostat and including it in the general index could be reassessed.

#### Other non-store retail sale

Another of the series to be sent to Eurostat and which is part of the general index is Group 52.60, including, in Class 52.63, mobile sales. In Portugal, this activity is closely bound to a certain kind of culture and even ethnic background, in that it is sometimes carried out by nomadic groups. This increases the difficulties of establishing contact and obtaining responses for statistical operations. While this does not account for all mobile sales in Portugal, it does represent a good share of the total.

Many mobile sales carried out by individuals as sole proprietorships are also tied to the informal economy and the sale of counterfeit products, which makes monitoring them within the framework of this indicator even more difficult.

While the features of mobile sales in Portugal are undoubtedly not typical of every Member State, some are bound to face the same kind of problem, and this is one factor in the poor quality of the information produced.

Here again, the wisdom of including class 52.63 in those surveyed could be examined. In analysing this situation, the relative weight of this activity should be assessed within retail trade as a whole.

#### *Annex D to the Regulation*

Overall, Portugal has not encountered any major difficulties within the set of activities to be covered by the various indicators to comply with the Regulation.

On some of the sectors provided for the pilot study, however, some questions could be raised in this seminar.

Some adjustment is needed to apply the concept of turnover in some NACE Rev. 1 entries for Annex D, given that some activities do not really entail sales or the provision of services as usually observed in industry or in the retail trade. This is true of Division 71 – Renting of machinery and equipment without operator and of personal and household goods. In this case, the income received by enterprises from their principal activity should be considered as turnover.

#### Real estate activities

Division 70 covers real estate activities. This kind of activity presents a very erratic series. As a rule, this kind of enterprise is generally small-scale, acts as an intermediary in property

sales, and records high values over a specific period (a month) but may not realise any transactions in subsequent periods.

The way in which this market operates may mean that the series obtained makes no economic sense. Periods of growth and decline may not be identified because the enterprises in the sample have not carried out any transactions.

If, then, it is decided to extend the detail and coverage of these indicators, the difficulties which could then arise in analysing statistical series and interpreting them in economic terms should be borne in mind.

#### Management activities of holding companies

The pilot study provides for obtaining the indicators provided for in Annex D for the activities of holding companies included in Class 74.15 of NACE Rev. 1.

Holding companies' sole contractual purpose is the management of holdings in other businesses as an indirect form of exercising economic activity.

It follows from the very definition of this kind of enterprise where a group of companies is generally supported by one (usually the parent company) that many often employ no staff directly because the majority of the people working in them are common to other enterprises (within the group).

Even if changes are made to the concept, there is normally no turnover which can be monitored monthly or quarterly.

Bearing this in mind, this kind of activity should not be included in the set which contributes to the kind of indicators which we are producing. The INE has therefore suspended surveys of enterprises in class 74.15, these businesses have been dropped from the sample, and this statistical series will not therefore be reported.

#### **The process of reducing the deadlines for turnover in the retail trade**

As the Statistical Programme Committee decided to act on the proposal presented by Eurostat following the initiative taken by the Task Force Benchmarking on infra-annual statistics to reduce the time for reporting turnover in retail trade to 30 days, Portugal has taken steps to achieve this important objective.

Given the importance and the urgency of reducing the time needed to present information on this sector, the INE has set itself the objective of making the turnover index for retail trade available 30 days after the end of the reference period by the end of 2002.

A number of measures have been defined with a view to achieving this objective:

- Personal contact with enterprises

The INE has been forging closer links with enterprises since mid-2001. To this end, officials telephone individuals in an attempt to persuade enterprises to keep to the deadlines.

It is important to persuade enterprises to respond rather than imposing fines in the event of non-response (although these are still imposed when necessary).

At the same time, those enterprises which have proved most reluctant to respond are sent letters spelling out the importance - for Portugal and for Europe - of responding to surveys conducted in this field.

- Electronic collection

Electronic collection has proved to be an excellent tool for increasing businesses' speed of response.

Using the so-called new technologies, it is possible to check the quality of the information received by validating it as it is input.

The excellent results in terms of the cooperation from enterprises and acceptance of this kind of response has to be emphasised.

- Fax server

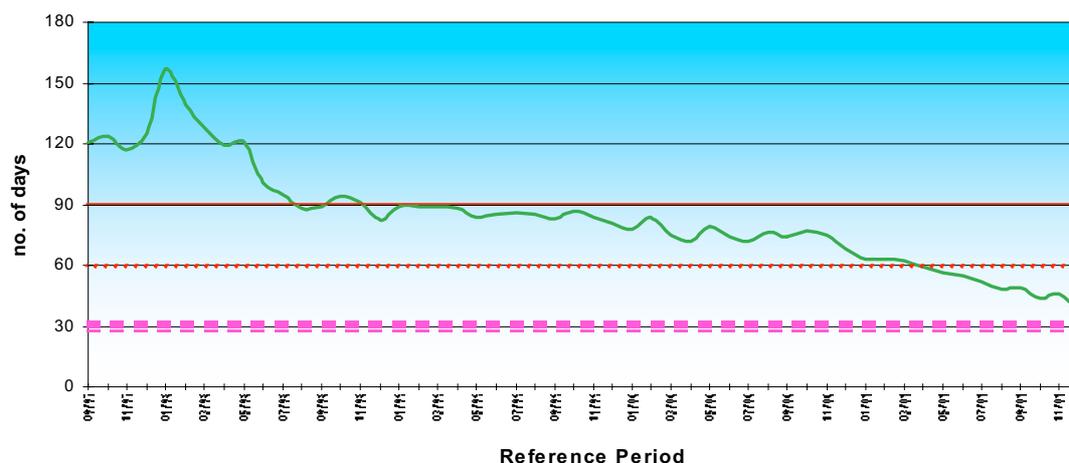
Enterprises without e-mail or which chose not to use this method have preferred to use the fax via a server.

It is possible to contact more enterprises more quickly, and while the time saved is not the most significant, it does contribute to the whole process of cutting down deadlines.

*Goals achieved*

Putting all these measures into practice has made it possible to begin the process of reducing deadlines.

**Dissemination of Turnover Index on Retail Trade**



The graph shows that, from June to December 2001, the time needed to submit this indicator fell from 55 to 38 days. It is intended to continue this campaign.

Studies comparing analysis within 30 days (with a poorer response rate) and the current performance show that there are no great changes at the level of the general index, although the same cannot be said of the levels of detail transmitted to Eurostat. In view of how work is progressing, however, we are extremely optimistic that we will be able to achieve the objective set out during the current year.

## **CONCLUSION**

Our aim was to present how short-term statistics on services are organised, with the emphasis on their characteristics, success stories and failures.

We also set out the measures taken to achieve the objective of reducing the time needed to submit the turnover index for the retail trade to 30 days, as a first step towards achieving even prompter submission times.

We referred how certain statistical series should be interpreted, bearing in mind the coverage of activities which present erratic behaviour.

Lastly, we are calling on Eurostat and the other Member States urgently to define rules to be observed in disseminating short-term information and in correcting seasonality and working days. This is crucial when we are preparing to publish new indicators and to change the base for existing ones in the first half of 2001.

# AN OVERVIEW OF THE UK'S EXPERIMENTAL CONSTANT PRICE MONTHLY INDEX OF SERVICES

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## SUMMARY

In December 2000, the ONS launched an experimental monthly index of services (IoS) in response to demands from users of economic data. It completed the first stage of a development programme aimed at improving the periodicity, range and quality of output indicators for the UK service industries. The IoS is consistent with the corresponding quarterly series in the output or production measure of GDP.

This paper explains the background to how the IoS has been developed, what work has been completed so far and the methodology and data sources that make up the index. The paper then looks at the programme in place for improving the IoS through its established development programme. Since these developments will also improve the quality of the quarterly output measure of GDP it will move the ONS towards publication of a monthly estimate of GDP.

## Introduction

Service industries account for around two thirds of GDP in the UK. An experimental constant price monthly Index of Services has been developed in response to user demands. This paper covers the following:

- the reasons why the Index of Services has been developed
- what we have done so far
- the methodology and data sources that make up the index
- the proportion of monthly data that make up the index
- the development programme that is in place to improve the IoS.

## Why develop an index of services?

Over the years, in the UK, services have become a much larger part of the economy. In 1948, services accounted for only 46% of the economy, whereas now it accounts for 66%. The increasing dominance of the services sector has meant increased pressure for more timely data to measure the service sector. In response, the ONS has developed an experimental constant price monthly index of service sector output.

Much of the pressure has come from the main users; HM Treasury and Bank of England. In the UK, the Bank of England is responsible for setting UK interest rates (Monetary Policy Committee).

They want ONS to redress the imbalance between the data available for the production sector and the data available for the service sector, both in terms of data quality and timeliness. Currently the UK's monthly Index of Production (IoP) is published 5½ weeks after the end of the month, but as the Bank and HM Treasury are particularly interested in improving the quality of the indicators, it may prove impractical to publish a monthly index of services to the same timescale as the IoP.

The other main benefit of developing a monthly IoS is that it drives improvements to the quarterly GDP estimates in terms of improving the data sources and improving the quality of the early estimate of the quarterly output measure of GDP (GDP(O)). The IoS and GDP(O) share the same data sources and methods.

### **What have we done so far**

Work started in this area in 1999, and the first output was an Index of Distribution (CPA50-52). This was launched as an experimental series in December 1999. In the UK experimental series are data that are still being tested and are not yet fully developed, but they have been released for three main reasons:

- in order to consult with potential users whilst developing the series
- to acclimatise users with the new series
- and for people to use knowing the limitations of the series).

A year later the experimental index for the rest of services was published. The series is published monthly and is broken down into 5 broad industry categories. These are:

- distribution
- hotels and restaurants
- transport, storage and communications
- business and finance
- government and other services.

The IoS and IoD were originally published 13½ weeks after the end of the month, however in May 2001, the Index of Distribution was given First Release status and at the same time publication was speeded up to 9½ weeks. This followed an extensive evaluation process within ONS.

In January 2002, publication of the IoS was speeded up to 9½ weeks.

### **Methodology and sources**

As mentioned above, the IoS uses the same data sources and methods as used to compile the service element of quarterly GDP(O). The main sources are as follows:

*Turnover* — the ONS has been conducting turnover inquiries for the service sector since the early 90's. They were originally collected quarterly but have all now been converted to monthly. As well as ONS surveys, administrative turnover data is also used both as a proxy for measuring movements in GVA and also to validate ONS surveys. The table below shows the industries currently covered. In total 30,000 forms are sent out each month to service sector companies.

**Table 1:** Coverage of UK Monthly turnover survey

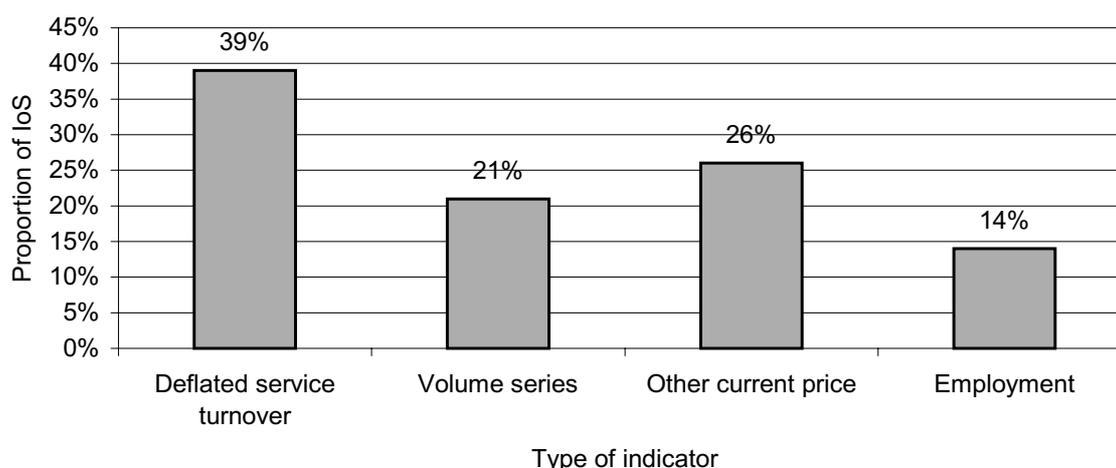
SIC	Description	SIC	Description	SIC	Description
50.1	Sale of motor vehicles	55.5	Canteens and catering	74.1	Legal, consultancy etc; holdings
50.2	Maintenance & repair of motors	60.2	Other land transport	74.2	Architectural, technical consult
50.3	Sale of motor vehicle parts etc	63.1	Cargo handling and storage	74.3	Technical testing and analysis
50.4	Sale, repair etc m'cycles & parts	63.2	Other supporting transport	74.4	Advertising
50.5	Retail sale of automotive fuel	63.3	Travel agencies etc; tourist nec	74.5	Labour recruitment
51.5	Wholesale fee or contract basis	63.4	Other transport agencies	74.6	Investigation & security
51.2	Wholesale raw materials & animals	64.12	Courier other than national post	74.7	Industrial cleaning
51.3	Wholesale food, beverages & tobacco	64.2	Telecommunications	74.8	Miscellaneous business nec
51.4	Wholesale of household goods	71.1	Renting of automobiles	80.3	Higher education
51.5	Wholesale intermediate prods, waste	71.2	Rent other transport equipment	80.4	Adult and other education
51.6	Wholesale machines, equipment etc	71.3	Rent other machinery & equipment	85.1	Human health activities
51.7	Other wholesale nec	71.4	Rent personal & h'hold goods nec	85.2	Veterinary activities
55.1	Hotels	72.2	Software consultancy and supply	90	Refuse disposal, sanitation etc
55.2	Camp sites & short-stay accom'n	72.5	Maintenance office, comp'g mach	92.2	Radio and television activities
55.3	Restaurants	72.6	Other computer related activities	92.3	Other entertainment activities
55.4	Bars	73.2	R&D on social sciences & human's	92.4	News agency activities
				93	Other service activities

*Deflators* — in the UK a range of corporate service price indices are collected and these measure the prices of services that are sold between businesses. These series are currently experimental, but a small number are already used within the IoS and GDP(O). Where these industry specific deflators are not available, CPIs (Consumer Price Indices), AEI (Average Earnings Indices) PPIs (Producer Price Indices of manufactured products) are used.

*Volume indicators* — these include proxies such as passenger km for rail travel, volume of letters delivered (broken down by type).

*Input indicators* — for some industries these are the only short-term indicators available, the most obvious of which is employment.

**Chart 1: Composition of the IoS by indicator (as at 02/2002)**

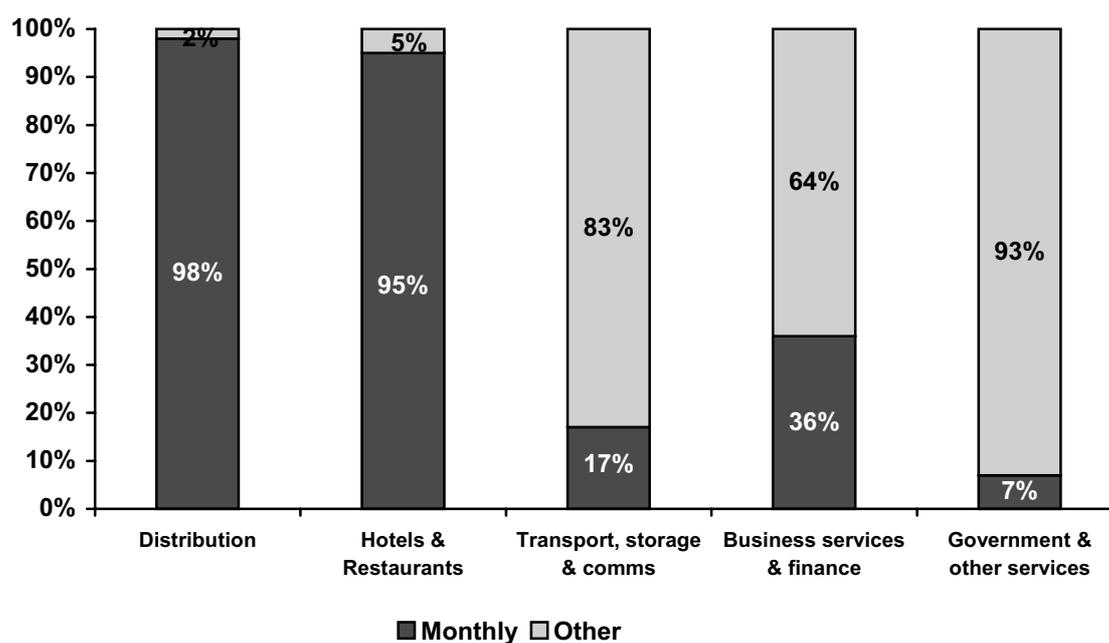


As well as using the same data sources and methods in both the services part of the quarterly GDP(O) and the experimental monthly the two teams work closely together in compiling the indices. The monthly IoS is presently constrained to the quarterly path of GDP(O).

### Proportion of monthly data

At present, the IoS is made up of 38% monthly data, with the rest either quarterly or in some cases annual. However, this proportion is not equal across the service industries. The following graph shows the breakdown by the 5 broad industry categories.

**Chart 2: Proportion of monthly data in IoS component series (02/2002)**



As the graph shows, the source data is mostly monthly within distribution and within hotels and restaurants, whereas only 7% of source data for government is available monthly.

One obvious question is, what do we do where we do not have any monthly data available? The procedure that we use is to forecast the quarter three points ahead and then interpolate a monthly path. Forecasting is carried out using the Holt-Winters method and interpolation uses a cubic spline. More details of these procedures can be found within the IoS documentation on the ONS website (see link at end of document).

## **Developments**

We will now look at the development programme that is in place to take the IoS forward and eventually lead to the dropping of the experimental label.

When the experimental IoS was launched, an article was also published that set-out the development programme. There are four main themes:

- improving timeliness
- improving data sources and methods
- increasing "monthliness"
- improving the range of price indices used.

### **Improving timeliness — Speeding up**

We have already seen the steps taken in publishing the IoS and IoD more quickly. Future improvements will come from carrying out the procedures for constructing and quality assuring the index more.

### **Improving data sources and methods**

The strategy that has been adopted for improving the data sources and methods is an industry-by-industry review approach. Each of the industries within services will, over time, be reviewed.

The review process examines the existing data sources and methods. The current methods are then evaluated against the Eurostat guidance for annual price and volume measurement. Alternative data sources that are available are investigated; this includes both internal sources (this is mainly through taking on the ONS turnover data that has been collected since the early 90s that has not yet been used within quarterly GDP(O)) and external data sources (i.e. other government departments, external organisations). Consultation is also held, this can be with trade associations, industry experts, academics and other NSIs. Once a preferred option is identified, the data is tested. This is followed by a National Accounts Peer Group Appraisal, where the proposed methodology is presented to National Accounts experts and Methodologists within ONS and approval is sought. Once this has been completed, final reports for industry are written and the system changes implemented on the computer systems.

This process has already reviewed the motor trade and wholesale industries. For the motor trade we are currently using volume data of vehicle registrations and petrol and from June 2002 will be using deflated turnover.

For wholesale we are currently using deflated turnover for parts of the wholesale division, and we use the IoP and Retail Sales Index as proxies for wholesaling for over 75% of the division. As a result of the industry review we will be using deflated turnover for all of wholesale from June 2002.

### *Future programme of reviews*

In planning the future programme of reviews, we have been faced with competing priorities, these include:

- addressing recognised weaknesses
- taking on new data sources
- reviewing rapidly changing industries

After consultation with our main users, we have set out the future programme of reviews that yields a balanced approach to addressing the various priorities. As a result the reviews that are currently taking place are retail and computer services, and these will be followed by post and telecommunications, hotels and restaurants and other business services. The aim is to cover the entire service sector.

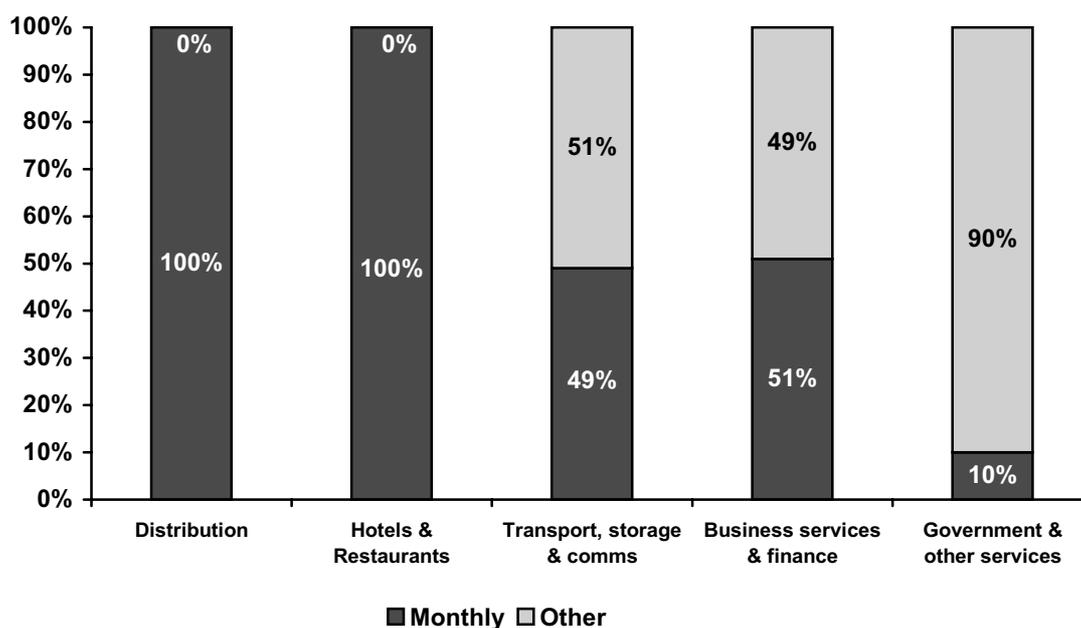
### **Improved "monthliness"**

As the slide earlier showed, the Index of Services currently comprises of 38% monthly data, and part of the development programme is focussed on using more monthly data. There are three main areas that we are looking at.

The main way that the proportion of monthly data will be increased is by using the ONS turnover survey data as monthly data. The ONS services turnover survey was converted from quarterly to monthly in two stages, in April 2000 and January 2001. Although it is collected monthly, since there is insufficient monthly data in order to seasonal adjust (at least two years, preferably three years data are required), we have to wait a minimum of 2 years before the monthly data can be used within the IoS. We will not be able to derive a seasonally adjusted monthly path from the newly converted monthly data until April 2002 at the earliest, for those industries that were converted to monthly in the first stage and January 2003 for the other industries.

The graph overleaf shows the proportion of monthly data within the IoS components once these monthly series have been taken on.

**Chart 3:** *Proportion of monthly data in IoS component series (from 06/2002)*



As can be seen, both distribution and hotels and restaurants will be exclusively monthly data, transport, storage and communications and business services and finance will remain at roughly 50% monthly data. Government and other services will see a slight increase to 10% monthly data. Overall the proportion of monthly data will increase from 38% to 48%.

Turnover data is currently collected for 45% of the service industries (by GVA), but there are areas such as finance and government where turnover is not a suitable proxy for value added. There is a particularly low proportion of monthly data within government and finance.

We are also reviewing the data that we currently receive on a quarterly basis from external sources and asking suppliers (mainly other government departments), whether they have monthly data available.

Linked to this, we are also considering benchmarking monthly series onto series that we currently receive quarterly. Good examples of this may be in health, where more detailed quality data is available only quarterly, and key output indicators may be available monthly, which, although lower in quality (they don't measure output directly), can help to inform the monthly path of the quarterly data.

### **Improving the range of price indices**

The final area of development is in the field of service price indices. In the UK, there has been a rolling programme of developing CSPIs (Corporate Service Price Indices).

CSPIs are based on the price movements of services provided to the business community, central and local government. Virtually all of the activities classified to the service sector are covered, but any element where the service is provided directly to the individual for final consumption is excluded.

Just over 50% of the potential coverage has been achieved so far. Indices for 28 industries are currently released every quarter along with an experimental top-level index in the experimental statistics area on the ONS website.

It is the aim of the IoS development programme, to take on CSPIs once they are developed, for inclusion as deflators within the IoS and GDP(O). The development programmes of both IoS and CSPI are linked closely together.

A separate paper on the agenda of this meeting will provide an overview of the UK CSPIs.

## **CONCLUSIONS**

The experimental monthly IoS is a first step toward providing, for the service industries, the periodicity, range and quality of output indicators that has existed for the production industries for many years. By improving the quality of the service industry output statistics, it will in turn, improve the quality of the quarterly estimate of GDP(O), by improving the data sources and quality and by increasing the amount of data available when the early estimate of GDP(O) is published.

Although we have made encouraging progress we acknowledge that this is a long-term project with a lot of work ahead and many outstanding issues that need to be addressed.

## REFERENCES

1 Rob Pike and Geoff Reed. Introducing the Experimental Monthly Index of Services. Economic Trends, No 565 December 2000.

[http://www.statistics.gov.uk/themes/economy/articles/general/extracts/downloads/Experimental\\_Monthly\\_IoS\\_Aug\\_2000.pdf](http://www.statistics.gov.uk/themes/economy/articles/general/extracts/downloads/Experimental_Monthly_IoS_Aug_2000.pdf)

2 Hugh Skipper and Ian Cope. Plans for the Development of a Monthly Index of Services. Economic Trends, No. 551 October 1999.

[http://www.statistics.gov.uk/themes/economy/articles/general/extracts/downloads/Experimental\\_Monthly\\_IoS\\_Aug\\_2000.pdf](http://www.statistics.gov.uk/themes/economy/articles/general/extracts/downloads/Experimental_Monthly_IoS_Aug_2000.pdf)

3 Gross Domestic Product: Output approach (Gross Value Added), GSS Methodology Series No.15, 1999, a GSS publication available from the National Statistics Direct on 01633-812078.

4 Hugh Skipper and Ian Cope. Release of a Prototype Monthly Index of Distribution. Economic Trends, No. 553 December 1999.

[http://www.statistics.gov.uk/themes/economy/articles/shorttermindicators/downloads/Indexof\\_Services.pdf](http://www.statistics.gov.uk/themes/economy/articles/shorttermindicators/downloads/Indexof_Services.pdf)

5 Index of Services methodology – this can be found on the ONS website

[http://www.statistics.gov.uk/themes/economy/articles/shorttermindicators/IoS\\_Methodology/default.asp](http://www.statistics.gov.uk/themes/economy/articles/shorttermindicators/IoS_Methodology/default.asp)

For more information on the IoS, including latest data and some of the articles above, please visit IoS area on the National Statistics website: <http://www.statistics.gov.uk/ios>



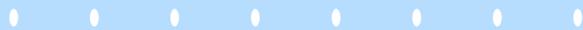
# Seminar



## Service Statistics within Short-term business statistics

Luxemburg, February 2002

*Franz-Josef Klein*



## Short-term opinion surveys in the surveys sectors

Sample

Timing

Periodicity

Questionnaire

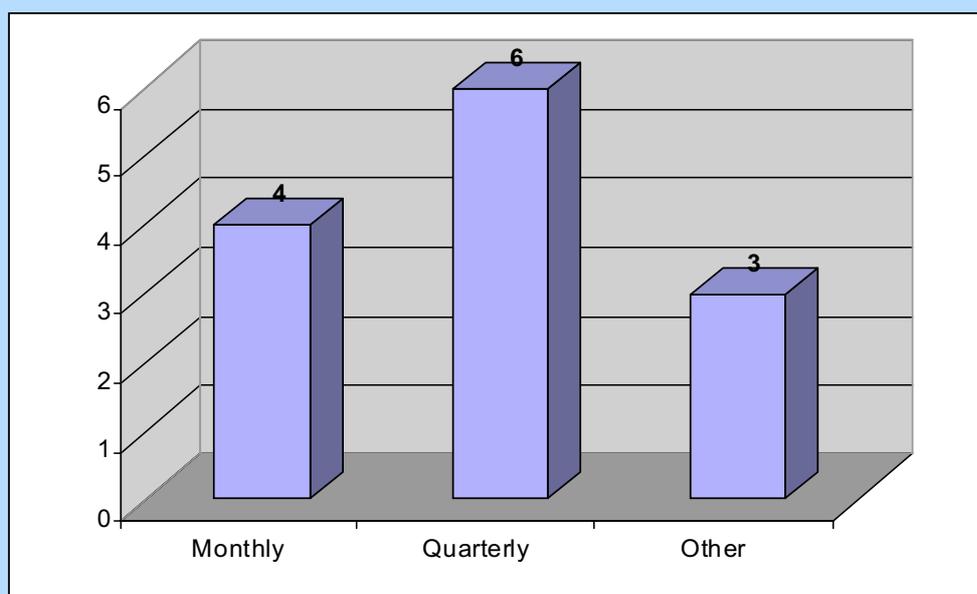
## Sample and Response rate.

<b>INSTITUTE</b>	<b>SAMPLE</b>	<b>RESPONSE RATE (%)</b>
WIFO	1 540+84	38
BNB	999	90-94
DST		
IFO	1,220	50-70
INTERGALLUP	638+64	20-23
CFIE	75+10	80-85
INSEE	4,300	55-70
FEIR		
ISAE	1,000	14-17
ESRI		
STATEC		
CBS	5,000	65-70
INE	926+44	53-67
NIER	1450+850	
GFK UK	500+300	
ETH	1,430	66/77
GKI	1,600	20-25
EKI	120	70-80

## Timing

- Fieldwork: in the first half of the month
- Results arrive at the Commission before the end the month
- The Commission will publish the results on the last working day of the month

## Periodicity?



## Questionnaire service sector

- Assessment of business climate
  - good
  - satisfactory(normal for the season)
  - bad
- Evolution of demand in recent months
  - Up
  - Unchanged
  - Down

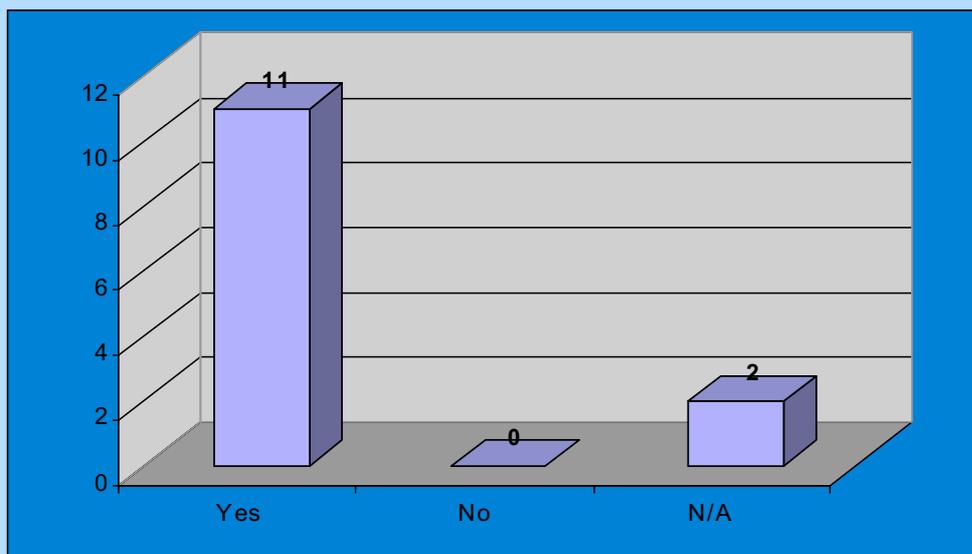
## Questionnaire service sector

- Evolution of demand expected in the months ahead
  - Up
  - Unchanged
  - Down
- Evolution of employment in recent months
  - Up
  - Unchanged
  - Down

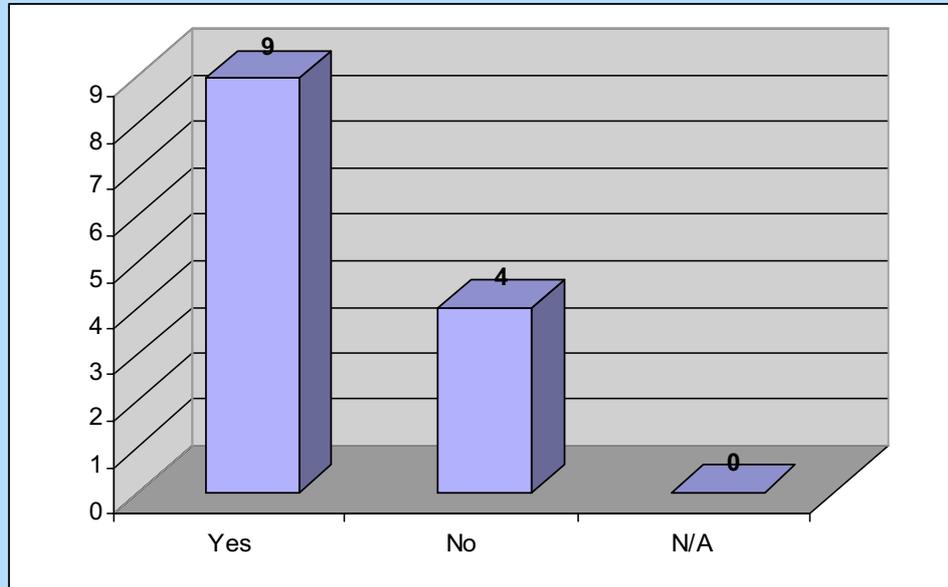
## Questionnaire service sector

- Evolution of employment expected in the months ahead
  - Up
  - Unchanged
  - Down

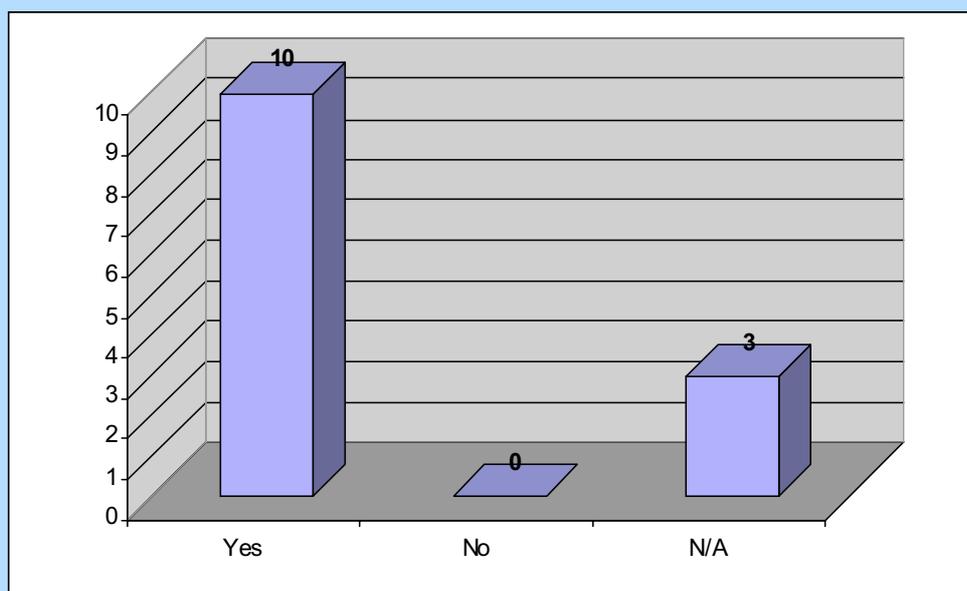
## Do you consider the questionnaire adequate?



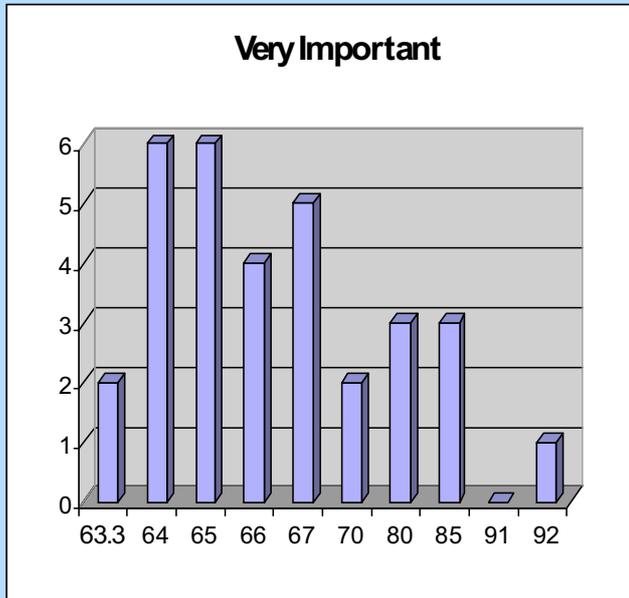
## Do you include more questions?



## Rate of response suitable?

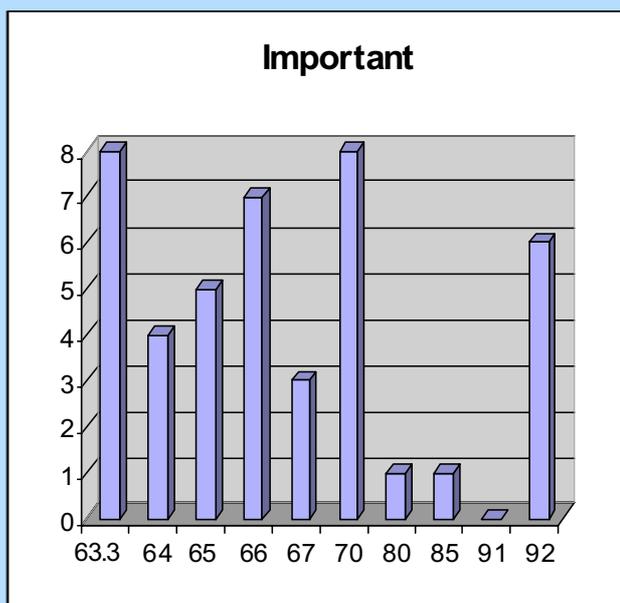


## What are the more significant sectors?



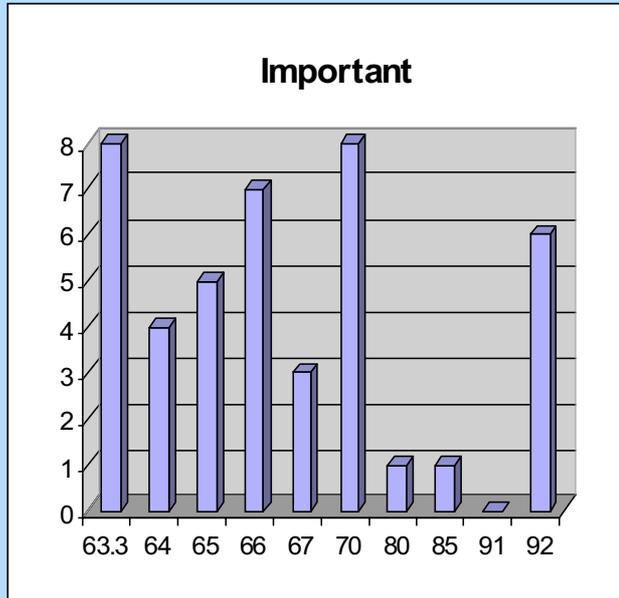
- 63.3 travel agencies
- 64 post and telecomm.
- 65 financial intermediation excl. 66
- 66 insurance and pension funding
- 67 activities auxiliary to financial intermediation
- 70 real estate activities
- 80 education
- 85 health an social work
- 91 activities of memberships organizations
- 92 recreational, cultural and sporting activities

## What are the more significant sectors?



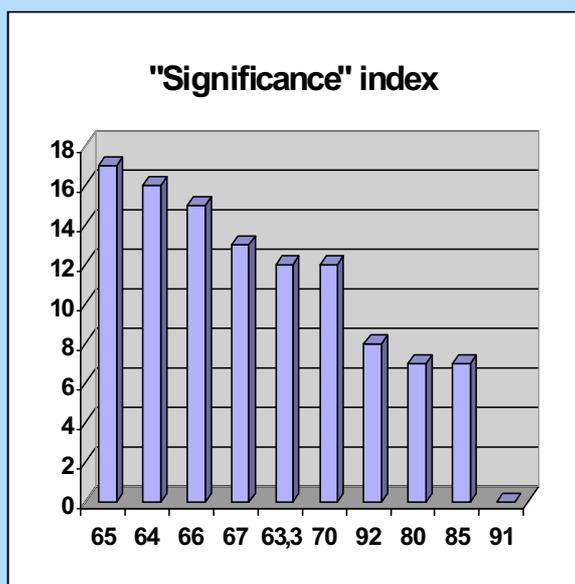
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- 91 activities of memberships organizations
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## What are the more significant sectors?



- **65 Financial intermediation exc. insurance & pension funding**
- **64 Post & telecommunications**
- **66 Insurance & pension funding**
- **67 Activities auxiliary to financial intermediation**
- **63.3 Travel agencies**
- **70 Real estate activities**
- 92 Recreational, cultural and sporting activities
- 80 Education
- 85 Health an social work
- 91 Activities of memberships organizations

# Economic sentiment indicator

		Since 01/1990				2001												2002
		Min.		Max.		Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	
		Value	Date	Value	Date													
<b>EU</b>	1. industrial conf. ind.	-28	07-93	6	12-94	0	4	-5	-8	-8	-10	-11	-13	-17	-19	-19	-16	
	2. consumer conf. ind.	-27	07-93	2	01-01	1	1	-1	-2	-2	-4	-8	-8	-10	-12	-9	-9	
	3. construction conf. ind.	-44	10-93	4	03-90	-1	-2	-2	-3	-4	-5	-7	-4	-7	-9	-9	-10	
	4. retail trade conf. ind.	-18	12-92	6	06-00	1	-3	-3	-5	-5	-2	-5	-4	-7	-6	-6	-8	
	=5. economic sent. ind.	93,5	07-93	104,4	06-00	103,2	102,5	102,2	101,5	101,4	101,1	100,3	100,3	99,3	98,7	98,9	99,3	
	6. services conf. ind.	-4	11-01	34	06-00	26	25	24	22	21	18	13	12	-1	-4	-3	1	
<b>Euro area</b>	1. industrial conf. ind.	-31	08-93	8	06-00	1	-1	-4	-5	-7	-9	-10	-11	-16	-18	-17	-14	
	2. consumer conf. ind.	-29	08-93	2	12-00	1	1	0	-2	-3	-6	-8	-9	-10	-12	-10	-11	
	3. construction conf. ind.	-47	10-93	6	03-90	-2	-2	-2	-2	-5	-7	-8	-5	-8	-10	-9	-12	
	4. retail trade conf. ind.	-21	03-93	7	06-00	0	-5	-4	-7	-7	-4	-8	-6	-9	-9	-10	-12	
	=5. economic sent. ind.	93,1	08-93	104,6	06-00	103,1	102,5	102,1	101,6	101,1	100,7	100,1	100,1	99,1	98,6	98,9	99,0	
	6. services conf. ind.	-6	11-01	34	06-00	26	25	25	23	23	17	14	12	-2	-6	-5	1	

# Services indicator

		Since 01/1990				2001												2002
		Min.		Max.		Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	
		Value	Date	Value	Date													
<b>Monthly survey of services — Monthly questions</b>																		
Balances: i.e. differences between the percentages of respondents giving positive and negative replies (s.a.)																		
<b>SERVICES CONFIDENCE INDICATOR</b>		<b>EU</b>	-4	11-01	34	06-00	26	25	24	22	21	18	13	12	-1	-4	-3	1
		<b>Euro area</b>	-6	11-01	34	06-00	26	25	25	23	23	17	14	12	-2	-6	-5	1
<b>ASSESSMENT OF BUSINESS CLIMATE</b>		<b>EU</b>	-8	11-01	38	09-00	25	25	20	19	21	19	13	12	-6	-8	-7	-2
		<b>Euro area</b>	-7	11-01	43	08-00	29	28	23	24	24	21	16	17	-4	-7	-5	1
<b>EVOLUTION OF DEMAND IN RECENT MONTHS</b>		<b>EU</b>	-11	01-02	31	03-00	18	13	18	16	15	12	6	6	-4	-4	-6	-11
		<b>Euro area</b>	-16	01-02	32	03-00	17	10	17	15	16	10	4	5	-6	-7	-11	-16
<b>EVOLUTION OF DEMAND EXPECTED IN THE MONTHS AHEAD</b>		<b>EU</b>	0	11-01	38	05-98	35	36	33	31	28	23	21	17	8	0	5	17
		<b>Euro area</b>	-4	11-01	39	05-00	33	36	34	30	29	21	21	15	3	-4	1	18
<b>EVOLUTION OF EMPLOYMENT IN RECENT MONTHS</b>		<b>EU</b>	-4	12-01	27	06-00	16	16	9	10	7	12	8	8	2	0	-4	1
		<b>Euro area</b>	-5	12-01	27	03-99	16	16	8	9	5	11	7	8	2	-1	-5	0
<b>EVOLUTION OF EMPLOYMENT EXPECTED IN THE MONTHS AHEAD</b>		<b>EU</b>	-3	11-01	22	02-01	22	22	18	15	14	12	8	5	2	-3	0	9
		<b>Euro area</b>	-4	11-01	21	02-01	21	21	16	14	14	9	6	2	0	-4	-3	5

# **DEVELOPMENT OF THE CORPORATE SERVICES PRICE INDEX:**

## **An interim progress report produced for the Statistical Office of the European Community (Eurostat)**

*Nick Palmer*  
**Corporate Services Price Index Branch  
Office for National Statistics, UK**

### **Introduction**

1. This is an interim progress report produced by the Office for National Statistics (ONS) for the Statistical Office of the European Community (Eurostat) in support of an application for payment of €30,000, being the second tranche of a grant of €150,000 in total agreed in December, 2000 (Eurostat Contract  $\zeta$  200044200018). The first payment of €60,000 was made in January, 2001. The report is required specifically under Article 5 of the Grant Agreement – Reports and Other Documents.

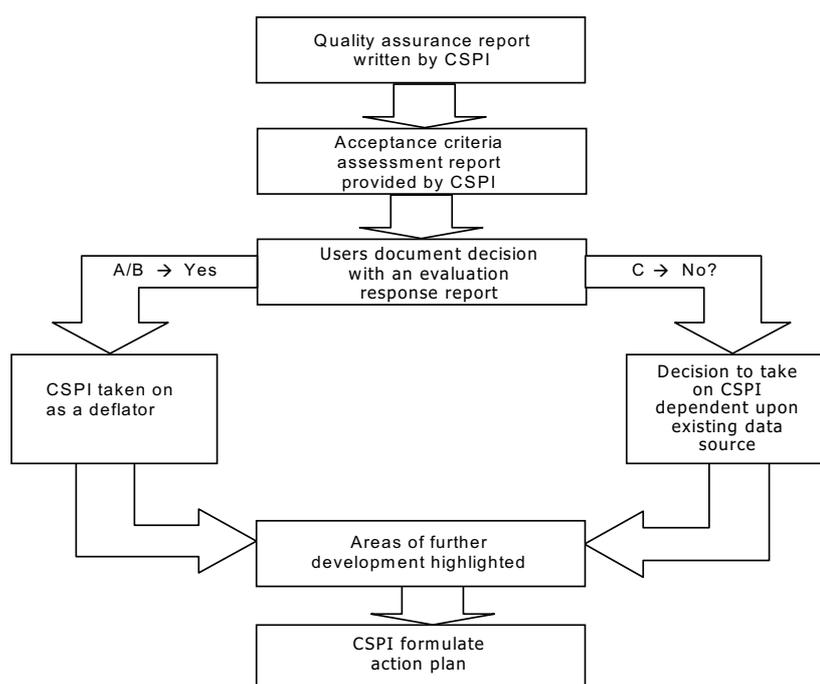
### **Summary**

2. The overall objectives of the programme, to develop a full range of price indices for corporate services in the UK, were outlined in detail in the documentation provided in support of the first grant application for this project (Eurostat Contract N<sup>o</sup> 9.442.016, agreed in December 1999). The project comprises three phases, linked by a common thread, and this report specifically refers to progress on the second phase. The table attached to this report at Annex A illustrates the phases in detail.
3. Significant progress has been made against the key areas of the project plan (as set out in the Strategic Development Proposal included with the contract documents). Expectations have been exceeded in terms of wider dissemination and the CSPI quarterly publication is achieving recognition as being a reliable and key source of data. For example, CSPI is acknowledged as a key source of data by the Bank of England's Monetary Policy Committee in its regular Inflation Report which sets out its decisions on base interest rates and the reasons for any changes. A full copy of this report is available on-line at [www.bankofengland.co.uk/inflationreport](http://www.bankofengland.co.uk/inflationreport).
4. The excellent working relationships have continued with colleagues in other national statistical offices such as Australia, New Zealand, Japan, South Africa, the US and other Member States of the European Community. The exchange of ideas and procedures through forums such as the Voorburg conferences has been an important element in the ongoing development process, leading to the consideration of some of the UK's methods and procedures by other countries, and vice versa. The UK has also provided guidance to other Member States, e.g. Statistics Sweden, during visits and presentations and the feedback received has been very positive. As a result of this growing level of contact, recognition of ONS as one of the leaders in the field of measuring and monitoring price movements in the area of services provided to corporate consumers has increased.

## Background

5. Very limited development of service sector price indices began in the early 1990s as an adjunct to the familiar and well-established Producer Price Index (PPI) system for estimating price changes in manufactured goods. Initial efforts concentrated on price collection in a small number of relatively straightforward industries where collection methods used were very similar to those already in place for the PPI. The first inquiries were voluntary and went to around 150 companies in five industries.
6. In 1995, the ONS committed further resources for the independent development of service sector prices with the establishment of a proper branch structure (Corporate Services Price Index branch) and the employment of dedicated staff to take things forward. After a slow beginning, the number of industries published and under development has increased substantially; 28 separate service sector indices are now published and a further 15 are under active development. A wide range of price collection methodologies are employed to cope with the problems of defining prices in some of the more difficult industries generally defined as “professional business services”, such as architects and legal services.
7. Funding for the first full year of the expansion was grant-aided by the European Community and the availability of this aid is seen by ONS as broad support by Eurostat for the overall development programme (with its potential as a pilot study for any future statistical outputs of a similar nature produced by other Member States). It is also an important endorsement of the programme’s primary objectives.
8. Development of the UK indices for prices in the corporate services sector has not been in isolation; every opportunity has been taken to incorporate the advances made by other countries in this field. The ONS has continued to liaise closely with the Australian Bureau of Statistics, Statistics Canada and the US Bureau of Labour Statistics, all of whom have made significant and valued contributions to the UK’s progress in this field. ONS continues to be a major participant and contributor at international conferences, such as Voorburg, which helps to maintain these established contacts.
9. The development of this increasingly important economic measure has been expanded again in 2001/2002 by the recruitment of extra staff resources. This has enabled the expansion of the development work to continue and for important work to commence on rebasing the current CSPI indices from 1995=100 to 2000=100, in accordance with the requirements of the primary users. A key element of the rebasing exercise is a one-off survey to collect turnover information by service category, and such a survey has been conducted during the latter part of 2001 with results due by April 2002. The information obtained from the survey has many potential uses beyond the rebasing project; it will provide essential information for sampling, recruitment and development, for example.
10. Another major area of development is the current and future use of outputs as deflators within the National Accounts. CSPI data are currently used as deflators for 8 indices in the quarterly GDP(O) and Index of Services (IoS) and indices for a further 15 industries have been identified, and prioritised, for future incorporation by these key users. A key milestone was achieved in this phase of the development when a set of quality-based acceptance criteria, to be satisfied prior to adoption of CSPI data for deflation purposes, was agreed with our National Accounts users. This systematic and rigorous evaluation process (as illustrated below) is thought to be the first to be adopted anywhere.

## Process for evaluating CSPIs as deflators for IoS/GDP(O)



### Progress achieved against the main elements of the development plan

11. The primary objectives of the development project were defined in the supporting documentation to the application for the first phase of the programme as follows:

#### Wider dissemination

- (a) The quarterly results continue to be easily accessible and available through the National Statistics web site ([www.statistics.gov.uk/cspi](http://www.statistics.gov.uk/cspi)) – with free and open access to all. On average, the results web page already receives more than 500 hits a month. There is also evidence of growing external demand for this data over the past year with more than 100 regular users, within and outside the UK, now receiving an electronic version of the CSPI publication on the release date. The team also deals with around 20 *ad hoc* requests per month for data and advice from the business community and other Government departments.
- (b) Due to the ongoing review of the National Statistics publication policy, which also includes reviewing the First Release series, the results are still categorised as experimental and will continue to be treated as such until the quality assurance process has been completed and identified improvements implemented. This does not appear to have had a negative impact on their usefulness in the wider context, however. For example, the Bank Of England uses the data to compare price inflation with data on average costs index and average prices charged produced by the Institute of Purchasing and Supply, a well-respected industry source.

- (c) The scope of published information has been significantly increased with data for 28 individual service industries now available (compared to 22 in January last year). The aim is to increase this to 35 by the end of 2002 or early 2003.
- (d) Improvements to the format and presentation of the CSPI publication have been made each quarter and, due to fine tuning of the results procedures, the published data are now available almost a full week earlier in the cycle compared to twelve months ago. A full copy of the latest data set (for the third quarter of 2001) is attached for information at Annex B of this report.
- (e) In addition to the electronic release on the web, CSPI data continues to be made available through the regular publication of *Economic Trends*, following a launch article containing the first full set of results in the July, 2000 edition.

12. There are 10 main strands in the development plan and the progress to date for each is reported below:

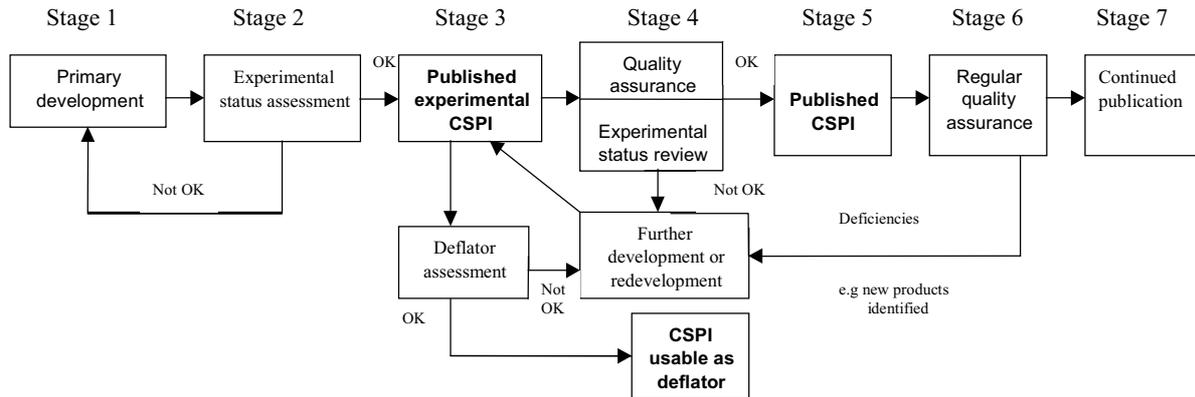
**(a) *Development of reliable price mechanisms for remaining industries***

Work has continued in this area and some progress has been made in the development of representative and robust pricing mechanisms in the areas of accountancy, hotels, legal and other professional services, as described below:

- Architects, consulting engineers and quantity surveyors – In the light of work by Statistics Canada and the CSPI pilot study into consulting engineers, the notion of using model prices approach has been replaced by a charge-out rate methodology.
- Legal services – A pilot form on charge-out rates, for data collected over a 2 year period (1998–2000), has been analysed thoroughly. It is clear that the open-ended survey of 10 charge-out rates per sector will have to be further refined. The inquiry will seek specific rates for the four grades of staff that have been identified (partner, solicitor, trainee, and administrative staff) although the details have yet to be finalised.
- Accountants and management consultants – CSPI will accept both model and actual contract prices (primarily from small and medium enterprises) and fee income by grade from larger companies, but these have yet to be integrated to form a composite index. The work is ongoing, but there is a clear case to differentiate between accountancy and management consultancy services and so the eventual aim will be to produce two separate price indices.
- Hotels – The initial development programme is almost complete. Small but significant improvements in quality have been identified and implemented, by enhancing the sample and updating the family tree for more representative coverage, for example. The index is being considered for inclusion in the experimental statistics series in the near future.

As a matter of course, the final industry development and QA reports – including any conclusions and recommendations for action - are made widely available for evaluation, analysis and comment by key users and other interested parties. The development and QA processes are open and transparent, and enables early notification and validation of proposed methodology changes, pricing mechanisms etc. The following diagram illustrates the full development and evaluation process.

## CSPI Development



### (b) *Quality assurance of all developed industries and those currently under development*

A comprehensive programme to ensure a rigorous quality assurance review (QA) under an agreed protocol has continued and all current industries are subject to this process. Reports for six industries have been finalised, twelve industries are currently undergoing this process and are at various stages of completion (target is end-2002) and the remaining ten industries will undergo the QA process during 2002/2003. Two industries are being re-developed, namely:

- Business Telecommunications – Through discussions with the Government regulator, Oftel, it became apparent that: (i) the trend recorded in the current CSPI index was too stable, (ii) the changing rates and variables of the mobile telephone sector were not being adequately reflected and (iii) the model for monitoring fixed-line telephone services was weakened by the huge growth in Internet use and changes in available discounts. Therefore a new methodology (based on revenues and volumes), which has the flexibility to react better to changing technology, is being developed. This is being done in conjunction with our colleagues in the Retail Price Index (RPI) as the industry is an important element in both indices.
- Computer Services – Data have been collected for a range of activities within this industry since 1998, but an index has not been published due to problems caused by the rapidly changing technology. The key area is understanding the technical specifications of the service contracts and changes to them which might impact on the quality of the service. At the outset, supplier companies were not asked to provide sufficient details of the services supplied and so it is difficult to accurately assess the impact of any changes to the service. Consultation with industry continues in order to resolve the problem and a strategy for interpreting future changes in a consistent manner is being developed.

Each of the key elements in the development phase (structure of the industry, sample design, pricing mechanism, etc.) are re-visited and re-evaluated during the QA process. The views of both data providers and data users are key inputs to this, especially in the context of the quality of the relevant industry index produced to date. Although progress has been made with the quality assurance programme, some resources have had to be diverted over the last few months to work on the rebasing project, checking the integrity of historical data prior to the construction of the new rebased series.

The progress reports for the following industries are available:

- Car repair and maintenance
- Car contract hire
- Telecommunications
- Security services
- Couriers
- Technical testing.

**(c) *Re-assessment of weighting schemes***

The methodology has been reviewed as part of the QA process, and all weights are being re-evaluated. New weighting patterns will be derived for products as a result of the rebasing project, i.e. 2000=100. The turnover inquiry, which is the first stage of the project, will be completed by the end of January 2002 and the aim is to re-calculate the top index weights for all indices by October 2002. The implementation of any new processes will be dependent on data produced from the rebasing process and revised results on 2000=100 are unlikely to be published until mid-2003.

**(d) *Establishment of CSPI database and improvements to the robustness and efficiency of data capture methods***

The new CSPI inquiry database and results processing system was successfully introduced for results in the second quarter, 2001. The processing system is fully independent of the monthly PPI system and specifically deals with the needs of data capture, validation and processing for a quarterly inquiry. Some of the key benefits of this database are:

- The system holds quarterly data making processing quicker and more reliable than the monthly system, whilst still allowing mid-quarter prices to be taken on.
- The Telephone Data Entry (TDE) programme works more efficiently and data can be completely processed and cleared within this system, a much quicker and more effective approach.
- A new results calculation system has been introduced: it is quicker to use (all industry data can be processed in half an hour, compared to half a day) and enables on-screen analysis at each stage of the calculation process.
- More effective management information can be accessed quickly, enabling a greater range of integrity checks leading to improved data quality and more informative and useful briefing commentary.

**(e) *Development of CSPI compilation system***

There has been approval in principle for a comprehensive re-development of the basic index compilation system, to include all price index inquiries within the ONS (including PPI and RPI), and that has subsumed the plan to independently develop a CSPI-specific routine. The new CSPI system outlined at para.12(d) above has been introduced as an intermediate measure until the new processing system is available. The detailed business case for the major system re-write is being prepared for submission to the ONS Investment Board with a decision on funding expected in April this year.

**(f) *Quarterly publication of experimental top-level CSPI data in Economic Trends***

The CSPI data has been made available to users within and outside government via a regular, quarterly article in Economic Trends since July, 2000.

**(g) *Design and market testing of CSPI First Release format and content, together with release and revisions protocol***

As mentioned in para.11(b) above, the National Statistics publication policy is currently under review, including the “First Release” series. Regular improvements are being made to the presentation of results, even though there is now an established format and content for the CSPI publication; the next step will be to remove the experimental status and to incorporate an agreed revisions protocol. In the short term, it is expected that some industry-specific indices will have this status removed when the relevant QA procedures have been completed.

**(h) *Research and development of price collection mechanisms for professional services***

Significant progress has been made in the development of representative and robust pricing mechanisms for professional services, see para.12(a). Banking and insurance services are the two largest, and most complex sectors currently in the process of extended development. Positive progress has been made with both industries over the past 12 months, following a series of meetings with senior representatives in both areas which resulted in general agreement on the principles and procedures to be followed. Discussions with representatives are currently focused on the fine details and practicalities of data collection, etc.

- Banking — ONS has been working in close consultation and collaboration on methodological issues; a joint project plan has been set up involving the Bank of England and the British Bankers’ Association. Work on a prototype price index is progressing (for commercial loans and deposits only at the moment) using data on interest payments, balances and fees provided by the Bank of England. The proposed methodology was discussed at a recent international conference on service sector statistics.
- Insurance — Discussions have been held with representatives of various associations including the Association of British Insurers and Lloyds of London on a possible pricing methodology for this complex sector. A number of alternative methodologies are being explored but a final decision has yet to be made.

**(i) *Examination of the methodology underlying the collection and compilation of the indices***

Work on improving all methodology underpinning the compilation of indices is an ongoing process, and changes to processes to correct any apparent weaknesses are introduced at appropriate times. The ONS’ Methodology and Statistical Development Directorate is involved in key areas of this work and will approve and endorse any recommendations for change. The methodologists are advising on the development of an enhanced sampling strategy for the regular prices survey, based on contributors returning data to the turnover inquiry linked to the rebasing project.

**(j) *Rebasing the CSPI to the year 2000***

The rebasing project started in April 2001; a project plan and a project initiation document were created and an internal project board has met regularly since its inception. As service sector statistics in the UK do not have the equivalent of the manufacturing-based PRODCOM inquiry, it was necessary to conduct an independent turnover survey to collect the relevant information on product category turnover for the new base year, 2000. A pilot survey was successfully carried out in August 2001, followed by the main survey in September 2001. Work on collecting, validating and processing this data will be completed by end-January 2002, well within the projected timescale, with final results

due in April. More than 5,000 businesses were included in the survey and a very good response rate of over 75% has already been achieved. Some large and important businesses are still to respond, however, and work is currently focused on obtaining data from them.

Phase 2 of the project will begin in February 2002 and will include the calculation of new product weights which will then be applied to the main CSPI dataset. A full set of CSPIs rebased to the year 2000 is due to be available by mid-2003. As part of this phase, a recruitment exercise will begin for each industry in the published series, and those under development, to enhance the sample for the regular prices survey. The objective is to double both the existing number of data suppliers (to 2,000) and prices collected (to around 6,000). The sample for recruiting the additional contributors will be derived from those which responded to the turnover inquiry. Recruitment of new contributors is due to start in April 2002 and will be staged over the remainder of this year.

## **Conclusion**

13. On the basis of the evidence of progress made on the development of the CSPI – in accordance with the overall project plan, ONS requests payment of the second tranche of grant aid for €30,000, as per Article 5 of the Grant Agreement (Reports and Other Documents) made in December, 2000, contract no. 200044200018. An invoice for said amount will be sent separately.
14. Any further documentation or evidence required by Eurostat to support this application for payment will be provided. ONS will also be pleased to discuss any of the matters raised above or other related issues. Keith Jones (e-mail [keith.h.jones@ons.gov.uk](mailto:keith.h.jones@ons.gov.uk)) tel.(44) 1633 812037 or Sonia Jones on (44) 1633 812410 (e-mail [sonia.jones@ons.gov.uk](mailto:sonia.jones@ons.gov.uk)) should be contacted in the first instance for further information or advice required on any aspect of this report.

*Nick Palmer*  
**February, 2002**

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## ANNEX: CORPORATE SERVICES PRICE INDEX (EXPERIMENTAL) – 4th QTR 2001

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This summary contains the latest quarter's results for the experimental Corporate Services Price Index (CSPI) and the industry-level indices it encompasses. "Corporate services" are those services purchased by businesses and government from other businesses to support them in their usual line of activity. Broadly, the CSPI is the services sector equivalent of the manufacturing Producer Price Index (PPI).

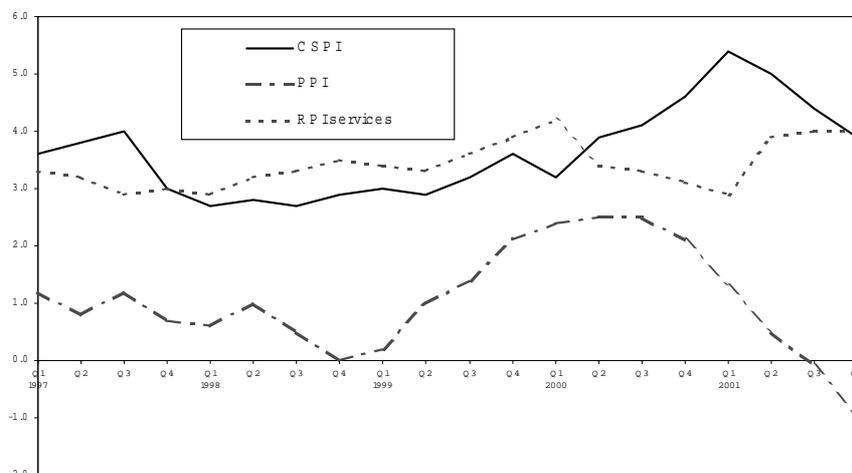
An article published in the July 2000 issue of Economic Trends contained background details of the development of the CSPI (also available at [www.statistics.gov.uk/cspi](http://www.statistics.gov.uk/cspi)).

The main uses of the CSPI are as:

- a key indicator of inflation in the services sector;
- a deflator of service sector output for use in calculating GDP and the Index of Services; and
- an information tool for business itself.

N.B. Measurement of service sector prices is inherently difficult and challenging. When viewing the results **it should be borne in mind that the indices shown are regarded as experimental**, particularly those that have been added to the series most recently. Therefore some of the results will be subject to revision before the completion of the CSPI development project. The top-level index should also be viewed as **experimental**.

**Experimental top-level CSPI compared with the Retail Price index (RPI) for services and the PPI for manufactured products: percentage change on same quarter a year ago**



### Results for Quarter 4, 2001

The top-level CSPI is constructed by weighting together the currently available industry-level indices. Coverage is now around 50 per cent of the total turnover of the targeted corporate services sector.

The graph above shows that the annual rate of increase for the CSPI reduced to 3.9 per cent in Q4 2001, compared to 4.4 for the previous quarter. (It should be noted that the prices collected are the average prices for each quarter)

The top-level quarterly results are shown in the table on the next page. Results are also shown with *property rental payments* excluded, due to its relatively high weighting within the top-level index (just under a third).

As a reminder, this summary includes revisions to the indices for business telecoms and technical testing which were first incorporated into the results for quarter 3 2001. These have had a minor effect on the top-level CSPI.

**Experimental corporate services price index (CSPI),  
quarterly index values and percentage changes:**

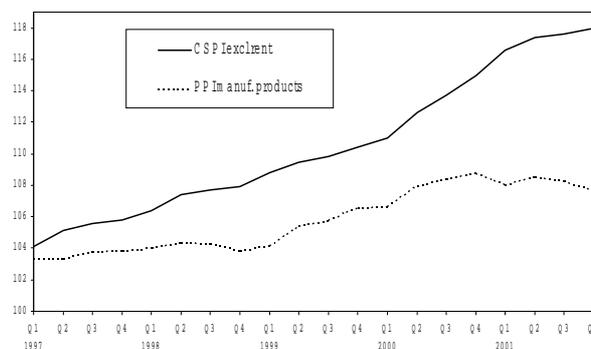
		Quarterly CSPI index values (1995=100)		Percentage change on same quarter in previous year (%)	
		Including rent	Excluding rent	Including rent	Excluding rent
1996	Q1	100.5	100.2	0.7	0.2
	Q2	101.3	101.0	1.3	1.0
	Q3	101.6	101.2	1.7	1.4
	Q4	103.0	102.9	2.7	2.7
1997	Q1	104.2	104.2	3.6	4.0
	Q2	105.1	105.2	3.8	4.1
	Q3	105.7	105.6	4.0	4.3
	Q4	106.1	105.8	3.0	2.9
1998	Q1	107.0	106.4	2.7	2.2
	Q2	108.0	107.4	2.8	2.2
	Q3	108.5	107.7	2.7	1.9
	Q4	109.1	107.9	2.9	2.0
1999	Q1	110.2	108.8	3.0	2.2
	Q2	111.1	109.5	2.9	1.9
	Q3	112.0	109.8	3.2	2.0
	Q4	113.0	110.4	3.6	2.3
2000	Q1	113.8	111.0	3.2	2.0
	Q2	115.4	112.6	3.9	2.9
	Q3	116.7	113.7	4.1	3.5
	Q4	118.2	115.0	4.6	4.1
2001	Q1	120.0	116.6	5.4	5.0
	Q2	121.2	117.4	5.0	4.2
	Q3	121.8	117.6	4.4	3.4
	Q4	122.7	118.0	3.9	2.6

In Q4 2001, the CSPI (including property rental payments) rose by 0.8 per cent. The key rises contributing to this were for property rental payments and road freight. Smaller impacts on the top-level CSPI were due to increases for business airfares and decreases for freight forwarding.

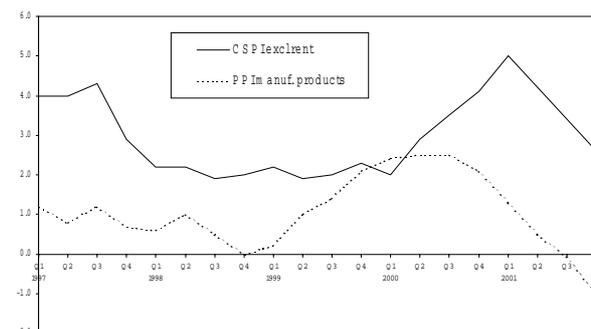
The top-level CSPI (excluding property rental payments) is compared to the net sector output PPI for manufactured products in the top graph on the right. Prices of corporate services covered by this inquiry have shown a relatively smooth upward path since 1997 but have been rising at a greater rate over this period than that of the PPI (which has begun to fall in recent quarters).

The annual increases have been slowing for both CSPI and PPI in recent quarters. Increases in the CSPI have almost always been higher than PPI from 1997 onwards.

**Experimental top-level CSPI and PPI for manufactured products: index values (1995=100)**



**Experimental top-level CSPI and PPI for manufactured products: percentage change on same quarter a year ago**



## Industry-specific indices

The tables on the next 4 pages contain the series for the 28 industries for which indices of corporate services prices are currently available. The weighting for each index is shown separately for when property rentals are included and excluded. Some key points to note are:

- *bus and coach hire* show a 3.0 per cent increase over the year for Q4 2001. Increases in fuel bills and drivers' wages remain the major factors, according to the industry
- a 1.2 per cent price increase is shown for *road freight* in the latest quarter although prices are still 4.7 per cent higher than a year ago – apparently mainly due to higher fuel costs;
- *sea and coastal water freight* prices show a decrease of 4.6 per cent this quarter. This decline is due to increasing competition in the market, according to the industry;
- price increases for long-haul flights have been the main cause for the 2.0 increase shown over last quarter for *business airfares* (10 per cent higher than a year ago), according to the industry;
- the *freight forwarding* price index is the lowest it has been since the series started and shows a 1.0 per cent decrease this quarter, reportedly due to market conditions and a general decline in trade levels.
- increases in fuel bills and drivers' wages are again reported to have been the main cause of a 3.7 per cent increase for *courier services* over the last year, although the annual rate of increase has slowed.
- *property rental payments* are 6.5 per cent higher than a year ago; rental prices of office property were the main factor, as reported by data suppliers, IPD;
- price rises for *car contract hire* through 1999 and early 2000 have been offset by falls in recent quarters and prices are now at their lowest level since 1997. This is apparently the net result of: an upward effect from the end of 1998 to the end of 2000 caused by leasing companies expecting lower sale values of their cars at the end of the lease; and the continued downward trend in new car prices from June 2000;
- *security services* has shown an increase of 2.4 per cent over the previous quarter (and 3.9 per cent higher than a year ago) mainly due to the increase in the minimum wage, according to the industry.
- *adult education* has shown an increase of 1.6 per cent, 4.1 per cent higher than a year ago, to reflect increases in course costs at the start of the educational year, according to the industry;
- charges for *waste disposal* have been affected in recent years by increases in the rate of Landfill Tax following its introduction in quarter 4 1996. The latest quarter shows a 0.2 per cent increase and prices are now 5.2 per cent higher than a year ago.

The next set of CSPI results will be issued on 17<sup>th</sup> May 2002 via the National Statistics website [www.statistics.gov.uk](http://www.statistics.gov.uk) (under "Experimental Statistics").

**Note to the main table:** There are external sources for the indices denoted by an asterisk, as follows:

Index	Source
Property rental payments	Investment Property Databank (IPD)
Car contract hire and Maintenance and repair of motor vehicles	Yewtree.com Ltd
Construction plant hire	Construction Plant-hire Association (CPA)
Business telecommunications	Published sources: Tarifica Telecom Pricing Intelligence and What Cellphone magazine
Sewerage services	Ofwat (Office of the Water Regulator)
National post parcels	Parcelforce

## Corporate Services Price Indices (EXPERIMENTAL) (1995=100)

SIC(92):	Freight transport by road							
	Maintenance and repair of motor vehicles* 50.20	Canteens and catering 55.50	Bus and coach hire 60.23/1	Total 60.24	International component	Commercial vehicle ferries 61.10/1	Sea and coastal water freight 61.10/2	Business air fares 62.10/1
1995 net sector weights (%):								
(including property rentals)	3.95	0.78	0.59	19.80		0.51	0.59	1.97
(excluding property rentals)	5.71	1.13	0.86	28.63		0.74	0.85	2.85
<b>Annual</b>								
1995	100.0	..	100.0	100.0	100.0	..	..	..
1996	99.8	..	103.0	103.8	101.1	..	..	103.4
1997	104.5	..	108.5	110.4	105.2	96.9	95.4	115.1
1998	106.0	112.0	115.2	113.4	105.4	96.4	88.6	123.5
1999	108.0	114.7	119.7	116.5	101.4	101.9	79.6	127.2
2000	110.0	115.9	130.5	123.6	103.4	101.3	82.1	135.3
2001	112.6	120.3	135.6	132.6	104.6	101.2	84.9	153.5
<b>Percentage change, latest year on previous year</b>								
1996	0.2	..	3.0	3.8	1.1	..	..	..
1997	4.7	..	5.4	6.3	4.0	..	..	11.3
1998	1.4	..	6.1	2.7	0.2	-0.4	-7.2	7.3
1999	1.9	2.5	3.9	2.7	-3.8	5.6	-10.2	3.0
2000	1.9	1.0	9.1	6.1	1.9	-0.6	3.2	6.3
2001	2.4	3.8	3.9	7.3	1.2	-0.1	3.4	13.5
<b>Quarterly results (not seasonally adjusted)</b>								
1997 Q1	104.2	..	106.8	108.3	101.7	99.2	95.2	112.7
Q2	104.4	..	108.4	110.5	106.3	98.0	95.4	113.7
Q3	104.8	111.0	109.2	111.3	106.3	95.8	95.7	116.6
Q4	104.8	110.8	109.8	111.4	106.3	94.4	95.5	117.3
1998 Q1	105.4	110.8	111.9	112.2	105.2	97.0	93.7	119.8
Q2	106.4	111.9	115.5	113.3	105.8	96.3	88.4	124.2
Q3	106.3	112.4	116.2	113.9	106.0	95.9	88.1	124.9
Q4	106.1	112.8	117.1	114.3	104.6	96.6	84.0	125.1
1999 Q1	107.0	113.9	118.4	114.8	104.3	103.8	81.8	125.4
Q2	107.9	114.9	119.6	115.5	100.6	102.7	81.2	127.5
Q3	108.2	115.1	120.1	116.8	100.5	101.5	77.1	127.7
Q4	108.9	115.1	120.5	119.0	100.4	99.6	78.0	128.3
2000 Q1	109.2	115.1	126.6	119.3	102.3	102.1	79.6	129.5
Q2	109.5	116.1	130.8	121.9	102.3	101.5	81.9	132.4
Q3	110.1	116.2	131.9	124.9	102.9	101.4	83.1	135.9
Q4	111.2	116.3	133.0	128.3	106.1	100.3	83.8	143.3
2001 Q1	111.9	119.6	134.2	131.1	106.1	103.7	85.8	150.3
Q2	112.6	120.5	135.1	132.1	106.3	101.9	87.3	150.8
Q3	113.1	120.4	136.1	132.8	102.2	100.2	85.2	154.9
Q4	112.8	120.7	137.0	134.4	104.0	98.9	81.2	157.9
<b>Percentage change, latest quarter on previous quarter</b>								
1997 Q1	3.4	..	2.4	2.3	-0.8	-1.7	-1.1	3.9
Q2	0.2	..	1.5	2.0	4.6	-1.2	0.2	0.8
Q3	0.4	..	0.8	0.6	0.0	-2.3	0.3	2.6
Q4	0.0	-0.1	0.5	0.1	0.0	-1.4	-0.2	0.6
1998 Q1	0.6	0.0	1.9	0.8	-1.1	2.7	-1.9	2.2
Q2	0.9	1.0	3.2	0.9	0.6	-0.8	-5.7	3.7
Q3	-0.1	0.5	0.6	0.5	0.2	-0.4	-0.3	0.6
Q4	-0.2	0.4	0.8	0.3	-1.3	0.8	-4.6	0.1
1999 Q1	0.8	0.9	1.1	0.5	-0.3	7.4	-2.6	0.2
Q2	0.8	0.9	1.0	0.6	-3.6	-1.1	-0.7	1.7
Q3	0.4	0.2	0.5	1.2	-0.1	-1.2	-5.1	0.2
Q4	0.6	-0.1	0.3	1.9	-0.1	-1.8	1.1	0.5
2000 Q1	0.2	0.0	5.1	0.3	1.9	2.5	2.1	1.0
Q2	0.3	0.9	3.3	2.2	0.0	-0.6	2.8	2.2
Q3	0.5	0.1	0.8	2.5	0.6	-0.1	1.5	2.6
Q4	1.0	0.1	0.8	2.7	3.1	-1.1	0.9	5.5
2001 Q1	0.6	2.8	0.9	2.2	0.0	3.4	2.4	4.9
Q2	0.6	0.8	0.7	0.8	0.2	-1.7	1.7	0.3
Q3	0.5	-0.1	0.7	0.5	-3.8	-1.7	-2.4	2.7
Q4	-0.3	0.2	0.7	1.2	1.8	-1.3	-4.6	2.0
<b>Percentage change, latest quarter on corresponding quarter of previous year</b>								
1997 Q1	5.1	..	4.8	5.9	0.1	..	..	11.2
Q2	5.0	..	5.9	7.0	6.3	..	..	11.7
Q3	4.9	..	5.5	7.4	6.1	-7.4	-1.6	14.5
Q4	4.0	..	5.3	5.1	3.8	-6.5	-0.8	8.1
1998 Q1	1.1	..	4.8	3.6	3.4	-2.2	-1.5	6.2
Q2	1.9	..	6.6	2.5	-0.5	-1.8	-7.3	9.3
Q3	1.4	1.3	6.4	2.4	-0.3	0.1	-7.9	7.1
Q4	1.3	1.8	6.6	2.6	-1.6	2.3	-12.0	6.7
1999 Q1	1.5	2.8	5.8	2.3	-0.9	7.0	-12.7	4.7
Q2	1.4	2.7	3.5	1.9	-4.9	6.6	-8.1	2.6
Q3	1.8	2.4	3.4	2.6	-5.2	5.8	-12.5	2.2
Q4	2.7	2.0	2.9	4.1	-4.1	3.1	-7.2	2.6
2000 Q1	2.0	1.1	6.9	3.9	-1.9	-1.6	-2.7	3.3
Q2	1.5	1.0	9.3	5.6	1.7	-1.1	0.8	3.8
Q3	1.7	1.0	9.8	7.0	2.4	-0.1	7.7	6.4
Q4	2.1	1.1	10.4	7.9	5.7	0.6	7.4	11.7
2001 Q1	2.5	3.9	6.0	9.9	3.7	1.5	7.8	16.0
Q2	2.8	3.8	3.3	8.4	3.9	0.4	6.6	13.9
Q3	2.8	3.6	3.2	6.3	-0.6	-1.2	2.5	14.0
Q4	1.4	3.8	3.0	4.7	-1.9	-1.4	-3.1	10.2

## Corporate Services Price Indices (EXPERIMENTAL) (1995=100) – continued

SIC(92):	Freight forwarding	National post parcels*	Courier services	Business telecomm-unications*	Property rental payments*	Real estate agency activities	Car contract hire*	Construction Plant hire*
	63.40	64.11	64.12	64.20	70.20	70.30	71.10	71.32
<b>1995 net sector weights (%):</b>								
(including property rentals)	5.78	4.28	0.97	7.40	30.84	1.18	1.34	1.99
(excluding property rentals)	8.35	6.19	1.40	10.71	0.00	1.71	1.94	2.88
<b>Annual</b>								
1995	..	..	..	..	100.0	..	..	..
1996	..	100.0	100.4	..	102.2	..	..	98.4
1997	103.9	103.7	101.4	86.1	105.4	..	96.4	96.5
1998	99.2	110.5	105.6	83.4	110.0	119.5	97.5	99.8
1999	95.5	113.3	107.0	81.7	116.0	125.5	99.2	103.9
2000	96.1	118.6	110.1	77.7	122.6	134.5	102.2	109.3
2001	96.0	122.3	116.5	75.6	130.5	139.0	97.0	113.9
<b>Percentage change, latest year on previous year</b>								
1996	..	..	..	..	2.2	..	..	..
1997	..	3.7	1.0	..	3.1	..	..	-1.9
1998	-4.5	6.6	4.2	-3.2	4.3	..	1.2	3.4
1999	-3.7	2.5	1.3	2.1	5.4	5.0	1.7	4.1
2000	0.6	4.7	2.9	-4.9	5.7	7.2	3.0	5.1
2001	-0.1	3.1	5.9	-2.6	6.5	3.3	-5.1	4.2
<b>Quarterly results (not seasonally adjusted)</b>								
1997 Q1	103.5	100.0	101.2	88.3	104.2	..	96.1	98.2
Q2	103.7	104.9	101.5	86.1	105.1	..	96.7	96.3
Q3	104.0	104.9	101.2	85.6	105.7	..	96.2	94.9
Q4	104.4	104.9	101.7	84.4	106.7	..	96.5	96.6
1998 Q1	102.2	104.9	102.7	83.5	108.4	117.0	97.6	101.3
Q2	99.7	112.4	105.8	83.1	109.3	119.0	98.4	99.8
Q3	98.1	112.4	106.8	83.5	110.5	120.9	96.9	99.1
Q4	96.7	112.4	107.3	83.5	111.7	121.3	97.3	99.1
1999 Q1	97.4	112.4	107.3	83.5	113.4	121.9	97.8	105.3
Q2	94.7	113.6	106.9	83.0	114.9	124.6	98.1	102.6
Q3	94.5	113.6	106.9	81.5	116.9	126.6	99.6	103.0
Q4	95.4	113.6	107.0	78.7	118.7	128.8	101.4	104.9
2000 Q1	95.2	113.6	108.5	79.1	120.1	131.8	102.3	105.6
Q2	95.7	120.3	108.6	78.7	121.7	133.9	102.7	110.1
Q3	96.3	120.3	109.3	77.0	123.3	135.2	102.2	111.1
Q4	97.1	120.3	114.0	75.9	125.2	137.2	101.6	110.2
2001 Q1	98.0	120.3	114.8	75.9	127.6	138.6	99.5	111.3
Q2	97.0	122.9	116.2	75.5	129.6	139.1	96.6	118.0
Q3	94.9	122.9	116.9	75.5	131.4	139.2	96.2	114.8
Q4	94.0	122.9	118.3	75.6	133.3	139.1	95.7	111.4
<b>Percentage change, latest quarter on previous quarter</b>								
1997 Q1	..	0.0	0.6	..	0.9	..	2.1	1.5
Q2	0.2	4.9	0.3	-2.5	0.8	..	0.6	-1.9
Q3	0.3	0.0	-0.4	-0.6	0.6	..	-0.5	-1.4
Q4	0.4	0.0	0.5	-1.4	0.9	..	0.3	1.8
1998 Q1	-2.1	0.0	1.0	-1.1	1.6	..	1.1	4.8
Q2	-2.5	7.1	3.1	-0.4	0.9	1.7	0.8	-1.4
Q3	-1.6	0.0	0.9	0.4	1.1	1.6	-1.5	-0.7
Q4	-1.4	0.0	0.5	0.0	1.1	0.4	0.4	0.0
1999 Q1	0.7	0.0	0.0	0.0	1.5	0.5	0.5	6.3
Q2	-2.8	1.1	-0.4	-0.5	1.3	2.2	0.3	-2.6
Q3	-0.2	0.0	0.0	-1.8	1.8	1.6	1.6	0.5
Q4	0.9	0.0	0.1	-3.5	1.5	1.7	1.9	1.8
2000 Q1	-0.2	0.0	1.4	0.5	1.2	2.3	0.9	0.7
Q2	0.5	5.8	0.1	-0.5	1.3	1.6	0.4	4.3
Q3	0.6	0.0	0.6	-2.1	1.3	1.0	-0.5	0.8
Q4	0.8	0.0	4.4	-1.4	1.6	1.4	-0.6	-0.7
2001 Q1	1.0	0.0	0.7	0.0	1.9	1.0	-2.1	1.0
Q2	-1.0	2.2	1.2	-0.6	1.5	0.4	-2.9	6.1
Q3	-2.1	0.0	0.7	0.0	1.4	0.0	-0.4	-2.7
Q4	-1.0	0.0	1.1	0.1	1.5	0.0	-0.5	-3.0
<b>Percentage change, latest quarter on corresponding quarter of previous year</b>								
1997 Q1	..	0.0	1.5	..	2.8	..	..	-0.2
Q2	..	4.9	1.2	..	3.2	..	3.5	-3.4
Q3	..	4.9	0.3	..	3.3	..	3.2	-4.1
Q4	..	4.9	1.1	..	3.3	..	2.5	-0.1
1998 Q1	-1.2	4.9	1.4	-5.5	4.0	..	1.5	3.1
Q2	-3.8	7.1	4.2	-3.5	4.1	..	1.8	3.6
Q3	-5.7	7.1	5.5	-2.4	4.5	..	0.8	4.4
Q4	-7.3	7.1	5.5	-1.1	4.8	..	0.8	2.5
1999 Q1	-4.7	7.1	4.5	0.0	4.7	4.2	0.2	4.0
Q2	-5.0	1.1	1.0	-0.1	5.1	4.8	-0.3	2.8
Q3	-3.6	1.1	0.1	-2.4	5.8	4.7	2.7	4.0
Q4	-1.3	1.1	-0.3	-5.8	6.2	6.1	4.2	5.9
2000 Q1	-2.3	1.1	1.1	-5.3	5.9	8.1	4.7	0.3
Q2	1.0	5.8	1.6	-5.3	5.9	7.4	4.8	7.4
Q3	1.8	5.8	2.2	-5.5	5.4	6.8	2.6	7.8
Q4	1.7	5.8	6.6	-3.5	5.5	6.5	0.2	5.1
2001 Q1	3.0	5.8	5.8	-3.9	6.3	5.2	-2.8	5.4
Q2	1.4	2.2	7.0	-4.1	6.5	3.9	-6.0	7.2
Q3	-1.4	2.2	7.0	-2.0	6.6	2.9	-5.9	3.4
Q4	-3.2	2.2	3.7	-0.4	6.5	1.4	-5.8	1.0

## Corporate Services Price Indices (EXPERIMENTAL) (1995=100) – continued

	Market research	Technical testing	Employment Agencies	Security Services	Industrial cleaning	Commercial film processing	Contract packaging
SIC(92):	74.13	74.30	74.50	74.60	74.70	74.81/9	74.82
1995 net sector weights (%):							
(including property rentals)	1.28	1.21	6.32	1.15	2.27	0.09	0.49
(excluding property rentals)	1.85	1.75	9.14	1.66	3.29	0.12	0.71
<b>Annual</b>							
1995	..	..	..	..	100.0	100.0	..
1996	..	..	..	99.4	99.4	101.7	..
1997	..	..	108.9	99.5	98.8	104.7	..
1998	..	106.7	114.9	100.3	101.3	105.5	..
1999	112.2	109.1	120.6	103.0	101.8	105.6	109.4
2000	116.1	110.2	124.4	105.0	102.0	106.3	112.7
2001	120.9	111.3	128.7	107.8	101.8	107.6	112.9
<b>Percentage change, latest year on previous year</b>							
1996	..	..	..	..	-0.6	1.7	..
1997	..	..	..	0.1	-0.5	2.9	..
1998	..	..	5.5	0.9	2.5	0.8	..
1999	..	2.2	4.9	2.7	0.5	0.1	..
2000	3.5	1.0	3.1	1.9	0.1	0.7	3.0
2001	4.1	1.0	3.5	2.7	-0.1	1.2	0.2
<b>Quarterly results (not seasonally adjusted)</b>							
1997 Q1	..	..	107.0	98.9	98.8	104.4	..
Q2	..	..	108.4	99.2	98.6	104.4	..
Q3	..	..	109.9	99.7	98.9	104.7	..
Q4	..	..	110.4	100.0	99.0	105.3	..
1998 Q1	..	106.1	112.9	100.3	100.8	105.5	..
Q2	..	106.7	114.1	99.8	101.3	105.5	..
Q3	106.8	106.7	115.3	100.4	101.5	105.5	..
Q4	108.6	107.4	117.5	100.8	101.7	105.5	..
1999 Q1	111.7	109.1	119.4	101.4	101.8	105.5	109.2
Q2	112.0	109.1	120.7	102.5	101.9	105.6	109.5
Q3	112.4	109.0	121.0	103.9	101.9	105.6	109.5
Q4	112.8	109.3	121.3	104.3	101.7	105.6	109.5
2000 Q1	115.2	109.5	121.9	104.3	102.0	105.9	112.0
Q2	115.7	110.3	124.4	104.4	102.1	105.9	112.2
Q3	116.5	110.6	125.1	105.6	102.0	106.5	113.5
Q4	117.1	110.6	126.0	105.7	101.7	107.0	113.0
2001 Q1	120.5	109.9	128.4	106.8	101.6	106.8	112.6
Q2	121.0	111.2	129.3	107.2	101.7	107.0	112.8
Q3	120.7	111.8	128.5	107.3	101.4	108.2	113.2
Q4	121.4	112.4	128.5	109.8	102.7	108.4	112.9
<b>Percentage change, latest quarter on previous quarter</b>							
1997 Q1	..	..	..	0.2	0.0	0.3	..
Q2	..	..	1.2	0.3	-0.2	0.0	..
Q3	..	..	1.4	0.5	0.3	0.3	..
Q4	..	..	0.5	0.3	0.1	0.6	..
1998 Q1	..	..	2.2	0.3	1.8	0.2	..
Q2	..	0.5	1.1	-0.5	0.5	0.0	..
Q3	..	0.0	1.0	0.6	0.2	0.0	..
Q4	1.6	0.7	1.9	0.3	0.1	0.0	..
1999 Q1	2.9	1.6	1.6	0.6	0.1	0.0	..
Q2	0.3	0.0	1.0	1.1	0.1	0.1	0.3
Q3	0.4	-0.2	0.2	1.4	0.0	0.0	0.0
Q4	0.3	0.3	0.3	0.4	-0.2	0.0	0.0
2000 Q1	2.1	0.2	0.5	0.0	0.3	0.3	2.3
Q2	0.5	0.7	2.0	0.1	0.1	0.0	0.1
Q3	0.7	0.3	0.6	1.1	-0.2	0.5	1.2
Q4	0.6	0.0	0.7	0.2	-0.2	0.4	-0.5
2001 Q1	2.9	-0.7	1.9	1.0	-0.1	-0.2	-0.3
Q2	0.4	1.2	0.8	0.4	0.1	0.2	0.1
Q3	-0.2	0.5	-0.6	0.0	-0.2	1.2	0.4
Q4	0.6	0.6	0.0	2.4	1.2	0.2	-0.2
<b>Percentage change, latest quarter on corresponding quarter of previous year</b>							
1997 Q1	..	..	..	-1.0	-1.3	3.0	..
Q2	..	..	..	-1.1	-1.2	3.3	..
Q3	..	..	..	1.0	0.2	4.5	..
Q4	..	..	..	1.3	0.3	1.1	..
1998 Q1	..	..	5.5	1.4	2.1	1.1	..
Q2	..	..	5.3	0.6	2.8	1.1	..
Q3	..	..	4.9	0.7	2.6	0.8	..
Q4	..	..	6.4	0.8	2.6	0.2	..
1999 Q1	..	2.8	5.8	1.1	0.9	0.0	..
Q2	..	2.3	5.7	2.6	0.6	0.1	..
Q3	5.2	2.1	4.9	3.4	0.4	0.1	..
Q4	3.9	1.7	3.2	3.5	0.1	0.1	..
2000 Q1	3.1	0.3	2.1	2.9	0.2	0.4	2.6
Q2	3.3	1.0	3.1	1.9	0.2	0.3	2.4
Q3	3.6	1.5	3.5	1.6	0.0	0.8	3.7
Q4	3.9	1.2	3.9	1.4	0.0	1.3	3.2
2001 Q1	4.6	0.3	5.3	2.4	-0.4	0.8	0.5
Q2	4.6	0.9	4.0	2.7	-0.5	1.0	0.5
Q3	3.6	1.0	2.7	1.6	-0.5	1.6	-0.3
Q4	3.7	1.6	2.0	3.9	1.0	1.4	0.0

## Corporate Services Price Indices (EXPERIMENTAL) (1995=100) – continued

SIC(92):	Direct	Translation &	Adult	Sewerage	Waste	Commercial	TOP-LEVEL CSPI	
	marketing & secretarial services 74.83 (part)	Interpretation services 74.83 (part)	Education 80.42	services 90.00/1	disposal 90.00/2	washing & dry cleaning 93.01	Including property rentals	Excluding property rentals
1995 net sector weights (%):							<b>100.00</b>	<b>..</b>
(including property rentals)	0.19	0.15	0.58	1.33	2.39	0.58		
(excluding property rentals)	0.27	0.21	0.84	1.92	3.46	0.83	..	<b>100.00</b>
<b>Annual</b>								
1995	..	..	100.0	100.0	100.0	..	100.0	100.0
1996	..	..	103.4	105.5	111.3	..	101.6	101.3
1997	..	..	108.5	109.9	126.8	..	105.3	105.2
1998	108.0	106.9	111.1	114.1	129.0	108.9	108.2	107.4
1999	109.9	108.5	114.7	118.1	138.1	112.1	111.6	109.6
2000	109.5	108.6	118.8	107.8	145.2	114.8	116.0	113.1
2001	107.3	107.7	123.5	105.6	149.9	116.2	121.4	117.4
<b>Percentage change, latest year on previous year</b>								
1996	..	..	3.4	5.5	11.3	..	1.6	1.3
1997	..	..	4.9	4.2	13.9	..	3.6	3.8
1998	..	..	2.4	3.8	1.8	..	2.8	2.1
1999	1.8	1.5	3.2	3.4	7.0	2.9	3.2	2.1
2000	-0.3	0.0	3.6	-8.7	5.2	2.4	4.0	3.2
2001	-2.0	-0.8	4.0	-2.0	3.3	1.2	4.7	3.8
<b>Quarterly results (not seasonally adjusted)</b>								
1997 Q1	..	..	107.2	106.8	126.4	..	104.2	104.2
Q2	..	..	107.3	111.0	125.9	..	105.1	105.2
Q3	..	106.5	108.8	111.0	126.8	106.5	105.7	105.6
Q4	..	106.6	110.7	111.0	128.0	107.7	106.1	105.8
1998 Q1	106.4	106.9	111.1	111.0	128.5	107.3	107.0	106.4
Q2	108.1	106.7	110.9	115.2	129.2	109.2	108.0	107.4
Q3	109.1	106.9	110.7	115.2	128.9	109.8	108.5	107.7
Q4	108.2	107.1	111.9	115.2	129.3	109.4	109.1	107.9
1999 Q1	109.3	108.5	113.9	115.2	130.9	110.5	110.2	108.8
Q2	110.4	108.6	114.4	119.0	139.6	112.5	111.1	109.5
Q3	109.7	108.5	115.0	119.0	140.8	112.4	112.0	109.8
Q4	110.0	108.5	115.4	119.0	140.9	112.9	113.0	110.4
2000 Q1	110.2	109.1	117.6	119.0	141.7	114.6	113.8	111.0
Q2	109.8	109.1	117.6	104.0	147.3	114.9	115.4	112.6
Q3	110.2	108.2	119.7	104.0	146.2	115.3	116.7	113.7
Q4	107.8	107.9	120.4	104.0	145.5	114.4	118.2	115.0
2001 Q1	106.9	107.9	122.1	104.0	145.5	115.6	120.0	116.6
Q2	106.8	108.0	123.3	106.1	148.7	116.2	121.2	117.4
Q3	107.6	107.7	123.4	106.1	152.5	116.1	121.8	117.5
Q4	107.7	107.3	125.4	106.1	153.2	116.9	122.7	118.0
<b>Percentage change, latest quarter on previous quarter</b>								
1997 Q1	..	..	3.0	0.0	2.2	..	1.2	1.3
Q2	..	..	0.1	3.9	-0.4	..	0.9	1.0
Q3	..	..	1.4	0.0	0.7	..	0.5	0.5
Q4	..	0.1	1.7	0.0	0.9	1.1	0.4	0.2
1998 Q1	..	0.2	0.3	0.0	0.4	-0.4	0.9	0.6
Q2	1.7	-0.1	-0.2	3.8	0.5	1.7	0.9	0.9
Q3	0.9	0.2	-0.2	0.0	-0.2	0.6	0.5	0.2
Q4	-0.8	0.2	1.1	0.0	0.3	-0.4	0.5	0.3
1999 Q1	1.0	1.3	1.8	0.0	1.2	1.0	1.0	0.8
Q2	1.0	0.0	0.4	3.3	6.7	1.8	0.8	0.6
Q3	-0.6	0.0	0.5	0.0	0.8	-0.1	0.8	0.3
Q4	0.3	0.0	0.4	0.0	0.1	0.5	0.9	0.6
2000 Q1	0.2	0.5	1.9	0.0	0.6	1.5	0.7	0.5
Q2	-0.4	0.0	0.0	-12.6	4.0	0.2	1.4	1.5
Q3	0.4	-0.8	1.8	0.0	-0.8	0.4	1.1	0.9
Q4	-2.2	-0.2	0.6	0.0	-0.4	-0.7	1.3	1.2
2001 Q1	-0.8	0.0	1.4	0.0	-0.1	1.0	1.5	1.3
Q2	-0.1	0.0	0.9	2.0	2.2	0.5	1.0	0.7
Q3	0.8	-0.2	0.1	0.0	2.5	-0.1	0.5	0.1
Q4	0.1	-0.4	1.6	0.0	0.4	0.7	0.8	0.4
<b>Percentage change, latest quarter on corresponding quarter of previous year</b>								
1997 Q1	..	..	4.5	5.3	20.0	..	3.6	4.0
Q2	..	..	3.7	3.9	17.6	..	3.8	4.1
Q3	..	..	5.1	3.9	16.1	..	4.0	4.3
Q4	..	..	6.4	3.9	3.4	..	3.0	2.9
1998 Q1	..	..	3.6	3.9	1.6	..	2.7	2.2
Q2	..	..	3.3	3.8	2.6	..	2.8	2.2
Q3	..	0.4	1.7	3.8	1.7	3.1	2.7	1.9
Q4	..	0.4	1.1	3.8	1.1	1.5	2.9	2.0
1999 Q1	2.8	1.6	2.5	3.8	1.9	3.0	3.0	2.2
Q2	2.1	1.7	3.2	3.3	8.1	3.0	2.9	1.9
Q3	0.6	1.5	3.8	3.3	9.2	2.3	3.2	2.0
Q4	1.7	1.4	3.1	3.3	8.9	3.2	3.6	2.3
2000 Q1	0.8	0.5	3.2	3.3	8.2	3.7	3.2	2.0
Q2	-0.6	0.5	2.8	-12.6	5.5	2.1	3.9	2.9
Q3	0.5	-0.3	4.1	-12.6	3.8	2.6	4.1	3.5
Q4	-2.0	-0.6	4.4	-12.6	3.3	1.3	4.6	4.1
2001 Q1	-3.0	-1.0	3.8	-12.6	2.7	0.9	5.4	5.0
Q2	-2.7	-1.0	4.8	2.0	0.9	1.2	5.0	4.2
Q3	-2.4	-0.4	3.1	2.0	4.3	0.7	4.4	3.4
Q4	-0.1	-0.6	4.1	2.0	5.2	2.1	3.9	2.6

# DEVELOPMENT OF SERVICE PRICES IN STATISTICS SWEDEN — A SMALL COUNTRY'S EXPERIENCE

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## SUMMARY

Private services represent about 50 percent of GDP in Sweden. Together with governmental services, services represent 70 percent of GDP. These large amounts should be deflated with good figures. Designing price indices for that purpose is a true challenge. Since the subject is methodologically complex, it is difficult for small countries to initiate the work and allocate resources for developing price indexes for services.

The Price section of Statistics Sweden compiles several price indexes for services. It also develops new service price indexes. The National Accounts section of Statistics Sweden has commissioned the development of new service price indexes. Since January 2000, this work is carried out in project form at the departmental level.

This paper presents the project and describes its history and how it is currently working. It focuses on some of our experiences and finishes with some ideas for future work. There are currently a number of different methods for tackling the problem. Various methods are used in different countries and for different sectors. However, a discussion of these methods and an evaluation of their advantages and disadvantages are beyond the scope of this paper.

## I. Current production of TPI

TPI is an abbreviation for Service Price Index in Swedish (TjänstePrisIndex).

In Sweden, the search resumed for relevant deflators for service businesses within the framework of the National Accounts during the first half of the 1990s. These efforts led to the production of four price indexes for service industries that have been used by the Price program since the mid-1990s: Hotels, Scheduled air transport services, Telecommunications and Real estate activities on a fee or contract basis. This production was fragmented and a review has been ongoing since 2000. Differences in existing TPI indexes are primarily due to the lack of uniform rules and control instruments for the area as a whole, in Sweden and internationally.

## II. Organising development on a project basis

All previous experiences led to the idea of an interdepartmental development co-operation involving users, the National Accounts program, the Prices program and the Services program. This idea was welcomed due to the ongoing quality improvements in the National Accounts. Since January 2000, this work is carried out in project form at the departmental

level. A project board was formed consisting of the departmental head as chairperson and involved the program managers, the department chief statistician and the project managers as members.

The purpose of developing a service price index is to create a producer price index for services to be used in the Swedish National Accounts system to calculate the production of services at fixed prices at the product group level. This is done regardless if household, government or enterprises use the service. Alternatively, a service price index can be created by weighing together information on price developments for the product use by enterprises and government with the corresponding CPI (which measures the price development for households).

The creation of any sector-wide price index requires knowledge about the structure of the sector (its size and concentration), the economic players' (the enterprises') size, number, turnover, geographical dispersion in the industry, etc. It requires study of price setting mechanisms and identification of typical products. International contacts are necessary. This preparatory work is very time consuming and the results are dependent upon this research in several aspects.

### **III. The development of TPI**

Thus, the first price indexes for services had a CPI component. List prices were collected once every measurement period, sometimes including VAT. Their goal was not to model the PPI for goods, which in Sweden intends to measure the average price development for goods during a month. Nonetheless, the production of these first price indexes for services can be considered quite an achievement. The above experience provided insight into the necessity for the new project of having a firm foundation of knowledge on how the PPI for services should be formed and what is considered valid in an international context.

The project started the review and found that the price indexes for services are not included in the terms of reference of the European regulations. The work on the Handbook on Price and Volume Measures in National Accounts was ongoing under the leadership of Eurostat. The first work, which the project ordered from the co-operating National Accounts, was an inventory of the A, B and C methods then used for deflating services (at the product group level). From this inventory, the project was able to gain a clear picture of the number of product groups that awaited an improved deflator. There were over a hundred product groups that were to be replaced, while at the same time the project budget allowed for the work of only 1½ full time staff per year. An internal marketing effort of the project was started to inform about the conditions.

The project also found that the PPI manual was outdated (published in 1979 by the UN) and that the revised PPI manual will include services and is scheduled to be completed in 2003. This meant that there were no solutions yet.

### **IV. Work methods**

The project maintain co-operation with industry organisations and companies since the objective of the project is observing and describing price changes. Initially, the project had to

develop special industry competence. These special industry competences require much time, but both co-operation and competence are extremely essential components of the work for each industry where a price index should be established. The project spend much time on communicating with firms and their industry organisations and on industry studies. Due to budget restrictions, the project prefers to find price leaders and limit the inquiries to them.

Director General became personally interested in the project and Statistics Sweden's Scientific Council has discussed the subject. The Council found that the subject is complex, but that the project is on the right path.

Despite all the goodwill and hard work, the project began to understand that organised and systematic co-operation is lacking in the area and that such co-operation would be useful for the harmonisation of statistics in the EU.

## **V. Future work**

The organisation of development work as a departmental project with the co-operation of several programs has created interest from some smaller countries, which are looking for solutions to problems of price indexes for services. The project is already part of an informal Nordic network. Even though the project has grown by nearly a hundred per cent, the resources are small. The speed by which the project moves forward is very dependent on the remaining financial situation of the Prices program.

It is difficult for small countries to start work on and finance the development of price indexes for services. The number of service industries for which price indexes are sought in accordance with ISIC/NACE/etc. is the same regardless of the size of the country. Therefore, a collaboration of efforts is desirable. For example, statisticians from small countries can cooperate in the development of a price index for a certain industry. Another group of countries can develop a price index for a different industry. Then all the groups can share the results. Such an approach would be able to achieve a greater methodological comparability among different countries for a certain industry. There is currently no statistical body that is prepared to formally shoulder the full responsibility for such collaboration.

It is my hope that Eurostat will play a major role in this context.

# EXPERIENCES OF CONDUCTING SURVEYS AT STATISTICS DENMARK

## Seminar on short-term statistics in Eurostat, March 2001

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In Denmark the production of statistics is centralised at Statistics Denmark. A very considerable volume of statistics is based on administrative registers. About 50 surveys, primarily in the division for business statistics, are based on questionnaires. Except for a few, it is compulsory for the enterprises to participate in these surveys.

Over the last 5 years Statistics Denmark has focused on especially 3 topics regarding how to conduct surveys in general. The issues have been:

- Timeliness
- Response burden
- Cooperation with respondents — a question of quality.

### **Timeliness**

The question of timeliness was one of many goals presented in a corporate plan, Strategy for Statistics Denmark from 1995 covering the period 1995-2000. The goal had two dimensions. The first one was to reduce the release time every year by a certain percentage for respectively monthly, quarterly and annual statistics. The other part was for all statistics to fulfil certain minimum standards, which were easy to remember, namely:

- Monthly statistics have to be released not later than 2 months after the end of the reference period
- Quarterly statistics have to be released not later than 3 months after the end of the reference period
- Annual statistics have to be released not later than one year after the end of the reference year.

These goals covered all statistics, e.g. both statistics based on administrative registers and surveys based on questionnaires.

For most of the economic short-term indicators, the second part of the goal was already fulfilled right from the beginning. So for these statistics the goal was primarily to reduce release time.

The results have been evident. In the following table 1, the raw percentage changes in release times in the period 1996-1999 are shown.

**Table 1:** *Percentage changes in release times 1996-1999. Statistics Denmark*

	<b>All statistics</b>	<b>Busines statistics</b>
Monthly surveys	-18 %	-33 %
Quarterly surveys	-16 %	- 9 %
Annual surveys	-21 %	-22 %

Most of the statistics covered in the Short-Term Regulation are categorised under the division Business Statistics, but not, for example, employment statistics.

The next two issues are only dealing with surveys based on questionnaires.

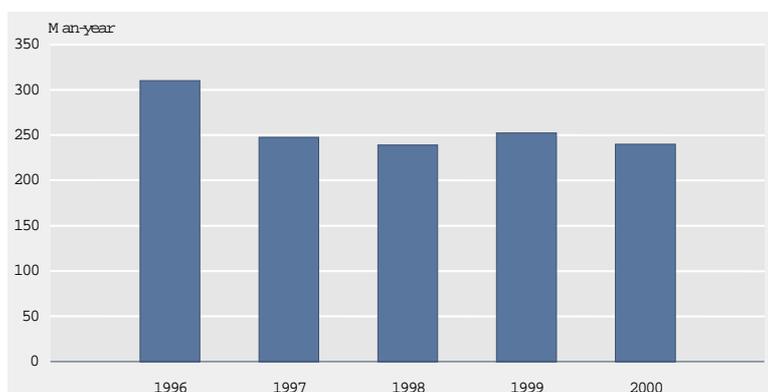
### **Response burden**

Over the last 5 years there has also been a political discussion about the response burden imposed on enterprises. The discussion has been general. Of all the administrative burdens imposed on enterprises, it turned out that the proportion of Statistics Denmark amounted to about 6 percent.

It was a surprising small proportion, but Statistics Denmark decided as a consequence of the discussions to make annual calculations of the response burden. The burden is measured as the number of data reports multiplied by estimated time consumption for each data report. The time estimates are based on assessments conducted by the trade organisations.

In the following figure the results are shown.

**Response burden 1996 to 2000**



The figure shows that after a decline in 1997 the burden has almost remained at the same level. The increase in 1999 was caused by a total survey of forests, which is conducted every 10th year.

The overall dominating survey is the foreign trade survey, which amounts to 2/3 of the total response burden, which reached 240 man-years in 2000. Totally the number of reports amounted to about 400.000 in 2000. Without reducing the burden on foreign trade, it is difficult to reduce the overall response burden; and this is even more difficult in times of comprehensive demands, and maybe also future demands in the field of economic short-term statistics.

However, Statistics Denmark's goal according to our new Strategy 2005 covering the period 2000-2005, is *not* to increase the response burden.

### **Cooperation with respondents — a question of quality**

How to deal with the respondents is another issue that has been discussed and much work has been performed over the last 5 years. The question is indeed a question of quality. A good and efficient cooperation with the enterprises ensures first that the questionnaires are filled in correctly, second that the reports are sent back timely for inclusion in the results of the survey.

The question of improving the efficiency of contacts with the respondents has been important to Statistics Denmark, although it is a fact that the majority of the surveys based on questionnaires, are compulsory. Because of this, the response rate right from the beginning has had a high level, i.e. around 95-98 %. For voluntary surveys the level varies depending on which branches are involved.

But in spite of these high response rates, it has been important to set up common guidelines for all questionnaire-based surveys. From the beginning of the 1990's, there was a tendency to decentralize many of the functions connected to conducting a survey. This did indeed result in a major improvement, but the decentralizing process had, to a certain degree, also the consequence that common rules were suddenly replaced by rules for each statistics.

Consequently, an internal committee dealing with these questions was set up in 1996. In this committee all mayor surveys are represented. The main goal is to draw up common standards to secure a fair treatment of all respondents. The result of this work was a guideline.

The guideline focused on 5 areas. These were:

#### *1. Motivating respondents*

- Information in advance
- Folder about each survey
- Cooperation with Trade organisation
- Etc.

#### *2. The questionnaires*

- Explanations on form, if possible
- Pilot surveys
- Different methods of data collection
- Common design
- Etc.

#### *3. Reminder policy*

- Standard rules for respectively monthly, quarterly and annual surveys
- Mixture of methods (mail, telephone, recommended letters)
- About 300 cases annually submitted to the police
- Etc.

*Scope:* fair and equal treatment in all surveys.

#### 4. *Handling of questions from respondents*

Contact person on the form  
Quick and satisfactory replies  
Etc.

#### 5. *Feedback to respondents*

Offer to send, e.g. a news release  
Direct feedback on the next form  
Etc.

Since 1 January 2001 statistical information can be obtained free from the Statbank Denmark. This can change the feedback-policy in the future.

The work in the committee is still continuing and more and more common standards are developed, e.g. all kinds of letters. The work is supported electronically via Intranet. The committee is also the forum where new experiences are discussed.

### **Conclusions**

The conclusion from the Danish experiences is:

Focus on timeliness can reduce release times to a certain point. (After that other means should be taken into consideration, if necessary to reduce further.)

It is a very good exercise to calculate the annual response burden. It enhances the consciousness of being careful with new or added questionnaires. On the other hand, it is not always easy in a more and more demanding world in regard of statistics to secure a non-increasing response burden.

The question of how to cooperate with the respondents is also a question of quality. Although, it is difficult to measure it is unquestionably a good area to continuously improve. The results are increased efficiency — and at the same time respect and understanding for the respondents' work are shown. To find new ways creative thoughts are necessary all the time.

# ANNEX

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