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DEVELOPMENTS IN UK SERVICE SECTOR STATISTICS

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Introduction

1.   This paper describes recent and planned developments in the UK to
enhance the range of short-period data available for the services sector. The
two main recent advances have been (i) the establishment of a range of quarterly
turnover inquiries and (ii) the derivation of quarterly estimates of gross output and
value added, by industry, at current prices, consistent with the long-standing
constant price data. The latter development has covered the whole economy, not
just services. For the future, consideration is being given to establishing a monthly
index of services, alongside the existing index of production, and then, possibly, a
monthly GDP. This will be based on new monthly information on turnover and prices.
The paper also discusses some of the problems envisaged with the collection of
this new information and the development of the proposed index.

Background

2.   It will be useful to set the scene for the developments described in this paper.
To begin with, collection of service sector statistics in the UK has, hitherto, been
mainly for the national accounts, for purposes of economic policy. The national
accounts estimates of GDP are compiled in three largely independent ways - based
on output, expenditure and income data. For the quarterly series, given the relative
accuracy of the three components, the movement in GDP is based almost entirely
on the output measure. This is derived by using indicator series for detailed industry
groups which are deemed to proxy the movement in net output. The detailed
components are combined using the value of net output in the base year (currently
1990). For the current price figures, annual estimates of expenditure and income
are balanced using input-output tables. This, in turn, impacts on the constant price
estimates, and provides calibration, when needed, for the annual movement in the
output series.

3.   For a number of industries within the services sector it had long been felt that
improvements could be made to the indicators used to compile the quarterly
constant price GDP estimates. This was particularly true where employment series
were used as a proxy for net output movements, despite the fact that adjustments
were made to the basic series (although not by convention for non-market services)
to try to allow for assumed productivity changes.

Quarterly turnover and price inquiries

4.   With a view to improving the quality of the GDP estimates, the past few years
have seen the introduction of a range of quarterly turnover inquiries for market
services. The results of these inquiries, appropriately deflated, are now feeding in
to improved estimates of constant price GDP. Deflation has utilised industry-specific
output prices for a handful of industries, where collection was begun at about the
same time as the introduction of the turnover inquiries. For other industries,
deflators are based on specific prices from other sources, on consumer prices or
productivity adjusted wages/salaries. The developments on the quarterly turnover

inquiries and related issues were foreshadowed in a UK paper prepared for the 1991 meeting of the Group. The new quarterly inquiries cover activities within wholesaling, catering, transport and professional, business, personal and miscellaneous services. With retailing, which is available on a monthly basis, and certain other sources, quarterly turnover data included in the quarterly GDP calculations account for around 60 per cent of market services. The turnover estimates, in value terms, from the new inquiries are being published in as much detail as quality allows.

5.   Mention was made above of the limited collection of quarterly price information for the services sector. This had covered private education, road haulage, contract cleaning, waste disposal, and bus and coach hire. Plans are in hand to expand the range of industries from which price data is collected, including the likely move to collection on a monthly basis. The experience of the initial work pointed to a quite varied range of characteristics needed to define the units of output for which information should be collected. Preliminary proposals for further collection are described later.

Quarterly current price GDP, by industry

6.   In compiling GDP estimates for each quarter, information has been available for many years, at current prices, for expenditure and income, and at constant prices for all three measures. The second major recent development has been to establish estimates for the 'missing' component - current price GDP, based on output data. Such analysis has always been possible for production, where the constant price estimates are mostly deflated values. For the service industries, however, retailing apart, there had, until the collection of quarterly turnover data, been comparatively little information on quarterly values or prices to enable such estimates to be compiled. However the new quarterly turnover data for the services sector has provided a firmer basis from which to derive current price estimates by industry alongside the existing constant price data.

7.   In respect of services, the approach is to use quarterly value data wherever possible as a basis for deriving the estimates of gross and net output. Where such data are not available, the constant price estimates are inflated by appropriate price indices (or some estimated measure of inflation). The quarterly estimates are 'benchmarked' to the annual current price estimates of gross and net output compiled as part of the input-output tables (as mentioned in para 2). Such tables, published just after the middle of, say, year n, relate to year n-2. The new methodology also provides a basis for producing provisional figures of industry gross and net output for the latest year (n-1) in advance of the I/O tables. The projection for year (n-1) from the latest input-output estimates (n-2) incorporates what indications might be available about possible changes in net/gross ratios. Within services, direct value estimates (turnover or income) account for over three quarters of total services (market and non-market). Consideration will be given to publishing the new quarterly current price estimates.

8.   An interesting by-product of this work is that the whole economy estimates of net output at current and constant prices yield an implied deflator. This may have some use in determining constant price income GDP, which at the moment uses

the deflator implied by current and constant price expenditure measures.

Services in the UK economy

9.   The UK has compiled quarterly estimates of GDP, based on output, expenditure and income data, for some 40 years. The coherence of the three measures as well as their general quality have been greatly improved, particularly over recent years, partly with the collection of more data, particularly on services, but also as a result of better use of existing data, for example via input/output analysis. Improved sample design and estimation methodology have also contributed. As well as improvements to quality there have also been significant advances in timeliness. An estimate of quarterly GDP, based on output data, is now made 3 and a half weeks after the end of the quarter.

10.   It is worth looking briefly at the growth in services in the UK economy. Their share in GDP has grown from just below one half in 1960 to almost two thirds now. In contrast manufacturing now accounts for just over one fifth having fallen from nearly two fifths in 1960.

11.   It is also of interest to look at the movements in output for production and for services. These are shown in Graph A, quarterly from 1970. The path for services is seen as a much smoother series than that for production, although this may owe something to the method of measurement, particularly the use of employment indicators. With the decreasing importance of production and the possible smaller cyclical amplitude now apparent in this series than hitherto, in seeking early indications of movements in total economic activity, it has become increasingly important to include some assessment of the movement in service sector activity.

Future developments

12.   To provide an improved basis for estimating total economic activity, the UK is considering the compilation of a monthly index of services. This may eventually be extended to a monthly GDP by the incorporation of estimates (which will need to be made) for construction and agriculture (about 10% of total UK economic activity). There is much developmental and experimental work to be undertaken before this can be achieved. Initially at least the monthly data should help to improve the quality and perhaps timeliness of the quarterly estimate. The next few paragraphs outline our initial thinking on how a monthly index of services might be developed. Discussions will be held with practitioners in other countries.

13.   At present within the services sector monthly turnover data are available essentially only for retailing. For other industries very little monthly data exists which might be used as an indicator of movements in economic activity. A key feature of the proposed development, therefore, would be the introduction of a series of monthly turnover inquiries. Collection of monthly price data will also be introduced for a range of service activities. These two developments are now considered separately.

Monthly turnover inquiries

14. The possible introduction of monthly turnover inquiries will build on the recent work of establishing a system of quarterly inquiries. The industries which might be covered monthly are to be determined, but will be selected from those currently included quarterly. A number of factors will be assessed in deciding both coverage and sample size. Three key criteria, which are not always easy to reconcile, are accuracy, cost and form-filling burden. Also for consideration is the degree of detail which might be published.

15. While desired accuracy will imply a given sample size, it will be imperative to look at costs and the burden on respondents. The ease with which firms can provide monthly turnover data will be ascertained during consultations with them as a basis for setting up the inquiries. This will also throw some light on external needs and possibly influence accuracy requirements. Ultimately as ever a balance will need to be struck over the issues of accuracy, costs and form-filling burden. The sample design is likely to include all large businesses, with the smaller ones covered in a rotational sample scheme.

16. Other criteria will also be evaluated in determining the industries to be covered, including their size, ease of collection, and meaningfulness of the results. On the last of these, for example, it may not be meaningful to collect monthly turnover for private education, and possibly research and development and computer services, unless, in each case, some form of progress payment can be recorded as part of turnover. An important related feature, which is really part of accuracy, is the need to ensure that a monthly series does indeed provide a sensible indication of broad movement in activity. In other words, the monthly figure is not too erratic to mask the trend in the series.

Monthly price inquiries

17. On prices, the various issues - accuracy, cost, burden, ease of collection - identified above in respect of turnover will also obtain. As mentioned in para 5, limited collection of quarterly data covering five service activities has proved successful, using the well-established basis for collecting producer price indices for manufacturing industry. Given these developments and in the light of experience in US and Japan, in particular, the prospects of obtaining price quotations from a wide range of service industries are thought to be very promising. A key part of the process will again be consultation with providers. This will cover amongst other things issues such as units of output and ease of collection and also whether, where relevant, turnover and prices might be collected on the same form. Subject to these discussions and other criteria, a provisional list of areas which might be covered in a first tranche of price collection include advertising, computer services and legal services. The aim will be to try to introduce about 10 to 12 monthly price series in each of the next three years.

A monthly index of services

18. While collection of monthly data on turnover and prices for a range of service sector industries provides the basis for deriving a monthly index of services, a number

of related developments are necessary to complete the estimation process. These include for example the need for trading day adjustments within the monthly data, estimation for industries not covered by monthly inquiries, including the possibility of establishing a monthly profile based on available quarterly data, and how a monthly series might be established in the early years before a sufficient run of data is available to permit seasonal adjustment. The issue of timing of publication would also need to be considered. A possible target would be around five weeks after the end of the month in question, in line with the publication of the existing index of production series.

19.   On these various issues, for the trading day adjustments, it should be possible to establish reasonable estimates from information on the operating practices of the individual businesses. This issue can be discussed with the providers of the data as part of the consultation process. Where monthly data are not available one possibility will be to make an estimate for the next quarter and use a simple interpolation procedure to provide a monthly estimate. Deriving a monthly figure in this way is likely to be a not unreasonable approach for non-market services and possibly for some market services such as private education, private health and insurance.

20.   On the question of how a monthly series might be introduced without having to wait three years before an adequate run of data is available to permit seasonal adjustment, two possible solutions might be considered. The first would involve deriving some sort of trend estimate, perhaps using monthly interpolation of quarterly data. In the second, say with two years' data, it may be possible to construct a 'dummy' unadjusted monthly series so as to permit seasonal adjustment.

<u>Summary</u>

21.   The possibility of collecting monthly turnover and price data from a wide range of market service industries will provide a major challenge and a key source of data for both Government and external users. Collection arrangements will need to be established carefully, while a number of technical issues will need to be resolved to ensure optimum use of the data.

KM
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GDP BY INDUSTRY

Index 1990=100

Year/Quarters
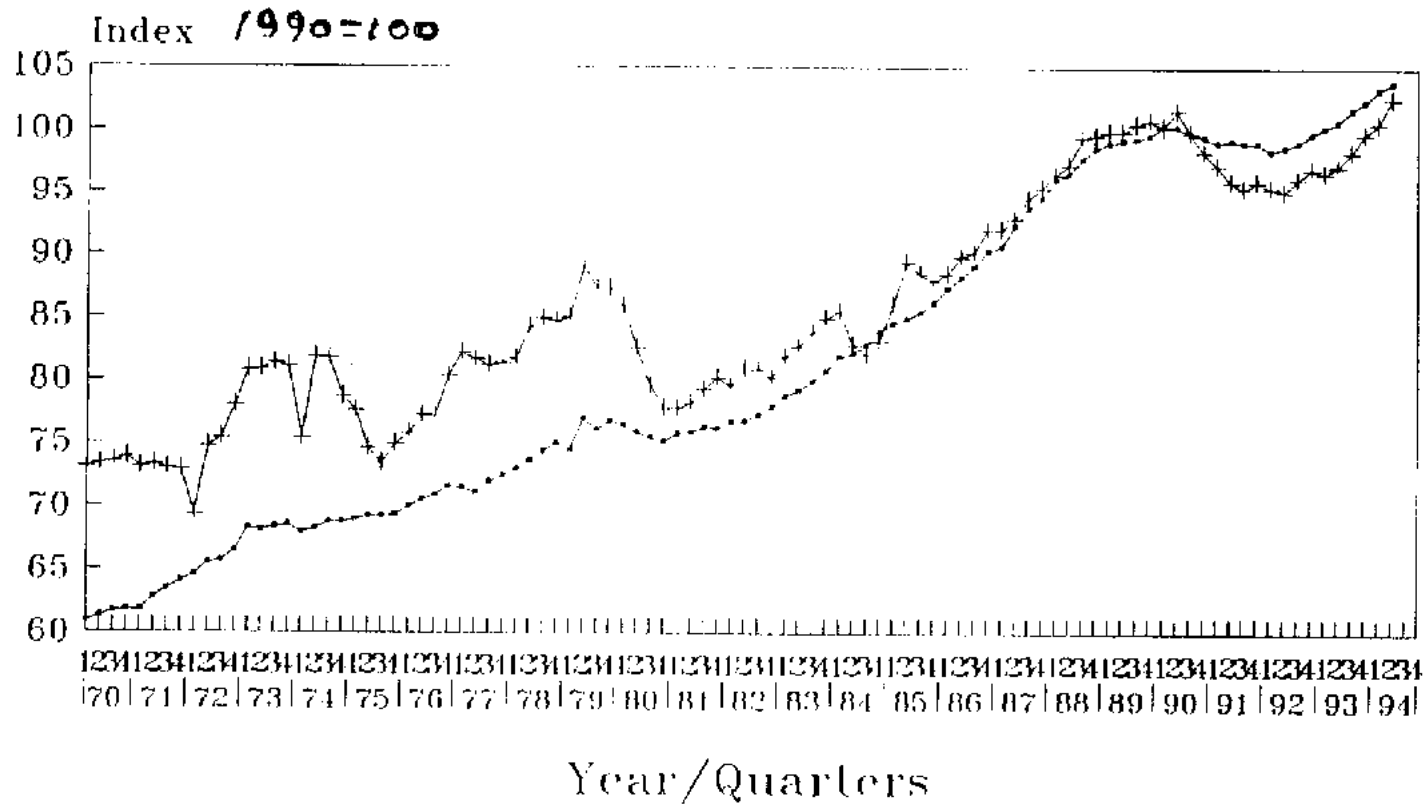
Services CKCE   Production DVZI

CSO Output and Expenditure