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STATISTICAL NEWS

**Developments
in British Official
Statistics**



A publication of the Government Statistical Service

Note by the Editor

The aim of *Statistical News* is to provide a comprehensive account of current developments in British official statistics and to help all those who use or would like to use official statistics.

It appears quarterly and every issue contains two or more articles each dealing with a subject in depth. Shorter notes give news of the latest developments in many fields, including international statistics. Some reference is made to other work which, though not carried on by government organisations, is closely related to official statistics. Appointments and other changes in the Government Statistical Service are also given.

A cumulative index provides a permanent and comprehensive guide to developments in all areas of official statistics.

It is hoped that *Statistical News* will be of service and interest not only to professional statisticians but to everybody who uses statistics. The Editor would therefore be very glad to receive comments from readers on the adequacy of its scope, coverage or treatment of topics and their suggestions for improvement.

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Central Statistical Office,
Great George Street,
London, SW1P 3AQ.

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CENTRAL
STATISTICAL
OFFICE

FEBRUARY 1977

Statistical News

No. 36

**Developments
in
British
Official
Statistics**

LONDON

HER MAJESTY'S STATIONERY OFFICE

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First published 1977

LONDON
ALBANY STREET, STATIONERY OFFICE
ISBN 0 11 723290 4

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A system of cyclical indicators

P. B. Kenny, *Chief Statistician, Central Statistical Office*

Introduction

It is a commonplace in discussions of current economic movements to refer to what is to be expected 'at the present stage of the cycle'. It seems to be widely believed that economic activity proceeds in fairly regular cycles of growth and contraction, and that successive cycles are sufficiently similar in character to make it reasonable to expect a certain sequence of events to follow at each given stage. But, until recently, there was little or nothing in British official statistics which was directly aimed at displaying these cyclical movements and facilitating their use in current economic analysis.

This article describes some work undertaken recently in the Central Statistical Office with the object of charting the cycles which have occurred in the British economy in recent years, and assembling a system of indicators which can be used to follow the current cycle month by month. The work was more fully described in an article in *Economic Trends* in March 1975, and is the basis of a regular monthly feature in that journal.

The first question which must be asked is whether it makes sense to talk about *the* cycle. A cursory examination of the charts published each month in *Economic Trends* shows that many important economic time series do display regular rises and falls, which might be interpreted as cycles, but others equally important do not, while of those that do appear cyclical it is not obvious that they all follow the same cycle. To take a few examples, share prices and unemployment both rise and fall in a fairly regular way, with peaks occurring every four or five years, but their movements are far from synchronised; industrial production, over the last twenty years or so at least, is characterised by long periods of expansion with short contractions and a general upward tendency; while Gross Domestic Product shows a virtually unbroken rise until the last few years. It is not obvious that we can identify any such thing as a general economic or business cycle in all these movements, and much of the work of the research project lay in selecting appropriate methods of analysis to extract such a cycle.

It is necessary to mention here, in order to set it aside, one cycle in which we are definitely not interested,

namely the annual cycle of climate and holidays producing what are known as seasonal variations. Annual cycles are clearly identifiable in many economic series, and their effects are quantified and eliminated by processes known as seasonal adjustment. Since the fact that the same seasonal influences are affecting many different series tells us nothing about the current state of the economy, we use only seasonally adjusted data in our analysis.

Historical

The systematic study of business cycles is associated particularly with the National Bureau of Economic Research (NBER) in the United States, and especially with the names of Wesley C Mitchell, Arthur F Burns and Geoffrey H Moore. Similar work had been carried out on a smaller scale before, but from the early 1920's the NBER assembled, classified and analysed large amounts of data on business cycles for several countries, though predominantly of course for the United States, and for long periods of time. This work was seen as a step towards understanding the mechanisms and processes which caused the great swings of economic activity, such as the Great Depression of the early 1930's.

A significant stage in the work of the NBER was reached in 1937. Early in that year the gradual recovery of economic activity from the depths of the Great Depression, which had been uninterrupted since 1934, gave way to a sharp contraction. The NBER were asked by a US Government agency whether their analytical work could give any guide to the probable depth and duration of this downswing. Mitchell and Burns assembled a list of economic variables whose cyclical movements had in past cycles consistently been ahead of those of general economic activity, and they showed that, if these timing relationships were to be maintained, the 1937 contraction would be relatively short, as in fact it was.

This successful application of what is known as leading indicator analysis marked the start of a process of analysis of current economic situations in cyclical terms, which is now recognised as one of the major contributions of the NBER. Today there is in the

United States a monthly publication of the US Commerce Department, *Business Conditions Digest*, which presents a system of cyclical indicators analysed and classified according to NBER methods. The indicators are widely known and quoted as a guide to the current state of the economy.

Analysis of business cycles developed principally in the United States, but of course similar work has been undertaken elsewhere in recent years, particularly in Australia, Canada, Japan and West Germany; in some of these countries official sources issue publications with a coverage similar to that of *Business Conditions Digest*. However, in Britain there has been very little work of this kind; apart from the CSO work described here, the only substantial study of which we are aware is a recent book by D J O'Dea of the National Institute for Economic and Social Research, entitled *Cyclical Indicators for the Postwar British Economy*.

An interesting recent development has been a study by the NBER aimed at producing parallel cyclical analyses for several Western countries, with the intention of examining the international transmission of cycles. NBER have produced a prototype issue of a proposed periodical publication, *International Economic Indicators*, which is intended to give a regular presentation of the results of this work.

Methods and objectives of cyclical analysis

In analysing the history of an individual economic variable, we attempt to divide it unambiguously into alternating periods of expansion and contraction; the point of change from expansion to contraction is a peak, and the point of change from contraction to expansion is a trough. A cycle may be defined as the period from one peak to the next, or from one trough to the next. Having analysed a number of variables this way, we can attempt to match corresponding peaks and troughs of different variables; in doing so we make allowance for the need to 'invert' a variable such as unemployment, whose peaks are naturally matched with troughs in measures of output.

Having matched corresponding turning points, we then see whether the order in which variables turn is consistent from one cycle to the next; does the peak in industrial production always precede the corresponding peak in industrial investment, for instance? Where it is possible to find such consistent timing relationships, we have the beginnings of a system of indicators.

One of the objectives is to provide some indication of the cycles in 'aggregate economic activity'. There is no single economic variable which answers to this description, but it is possible to identify a group of variables, including measures of production, consump-

tion and employment, which have turning points close together in time and which together may be regarded as summarising aggregate activity. On the basis of this group it is possible to determine a reference cycle or reference chronology of aggregate peaks and troughs.

Given the reference cycle, we can classify the individual cyclical variables according to their usefulness as indicators of the cycle. Variables which consistently turn before the reference turns are leading indicators, those which turn at about the same time as the reference turn are (roughly) co-incident indicators, and those which turn after the reference turns are lagging indicators.

Experience shows that very few indicators are perfectly consistent in their behaviour, and it is natural to try to combine the evidence of a group of indicators with similar timing. One method, which was the one chosen for the CSO work, is to construct composite indicators; these are obtained by subjecting the individual indicators in the group to suitable forms of scaling and manipulation, so that they are all in the same units of measurement and display cycles of about the same amplitude, and then forming a simple average.

One part of the exercise which has been glossed over here is the basic task of identifying peaks and troughs in the individual series. Very few indicators are so smooth that one value in each cycle may be identified without doubt as the peak; there will generally be a great deal of irregular variation, leading to multiple peaks, isolated extreme values, subcycles superimposed on the major cyclical swings, and other forms of confusion of the cyclical pattern. In addition, known exceptional events such as strikes and tax changes may cause large but brief swings. To select appropriate turning points in such a series requires a degree of judgment and knowledge of significant events, although rules have been devised to make the process as objective as possible. With very irregular series it may be helpful to smooth using a short period moving average; this must be used with caution, however, since the application of moving averages can produce apparently cyclical movements in random series. In extreme cases it may be necessary to reject a very erratic series as unsuitable for use as an indicator.

Classical cycles and growth cycles

One technical problem of the analysis deserves separate discussion, and this is a consequence of the fact, referred to in the introduction, that many of the major economic variables no longer show cycles of expansion and contraction of the kind described by Burns and Mitchell. This has been the case since the Second World War with major aggregates such as Gross

Domestic Product in most Western countries; either there has been uninterrupted growth, or such downturns as have occurred have been brief and shallow. Indeed, so marked is the contrast with immediate pre-war conditions that many economists have been willing to consider whether the concept of a business cycle had any further relevance; the proceedings of a 1967 conference were published under the title *Is the Business Cycle Obsolete?* and reached a generally affirmative conclusion, at least as regards major depressions.

However, there are still evident fluctuations in growth rate, even if the series do not actually fall, and it seems reasonable to ask whether, if the rising trend could be removed, cycles similar to the earlier ones would be visible. This approach to cyclical analysis seems to have originated with Ilse Mintz of the NBER, and is also the basis of the work by O'Dea mentioned earlier.

The conclusion reached is that the elimination of trend does produce clear cycles in many cases, and that the cycles so produced have a good conformity with one another and with the cycles shown by series without a strong trend. The cycles produced by trend-elimination have been called 'growth cycles', to distinguish them from the 'classical cycles' discussed by Burns and Mitchell.

It is interesting to speculate whether in fact the classical cycle approach was ever wholly appropriate. Although pre-war cycles were severe enough to show clear contractions, there was probably a long-term rising trend throughout the period which has been studied. As O'Dea puts it, what has occurred is a shift in the mix of cycle and trend; pre-war the cycle predominated, now the trend is much more significant. However, if the pre-war analysis were re-worked using the growth cycle approach, some of the results might show a clearer pattern.

Two general methods have been proposed to eliminate the effect of the trend. One is to work with some measure of rate of change, such as the year-on-year percentage change, rather than the original series. The drawbacks to this method are that the irregularity in the original series is very much magnified in the rate of change, and that the locations of the turning points are shifted; there is also a degree of arbitrariness in the choice of the period over which change is measured. For these reasons this method was considered unsuitable.

The second method is to define in some way a curve representing the underlying trend of the series, and then look for cycles in the deviations from this trend. In NBER work the trend has been defined by a long-

period moving average of the original series, while O'Dea used an exponential curve with a constant growth rate. Each definition has its problems; a centred moving average does not provide values for the first and last parts of the series, while a uniform exponential growth will ignore any changes in long-term growth rate and will usually require revision over its whole history whenever new data are added to the series.

Remembering that the present work was to be the basis of a regular presentation with monthly updating, this last problem was the deciding factor; the chosen definition of trend, therefore, was a centred five-year moving average, the missing two and a half years at each end being supplied by fitting straight lines to the first and last five years' data. To avoid any problem of arbitrary decision as to which series had enough trend to require trend-elimination, all series were analysed in the same way; it seemed unlikely that trying to remove a trend in this way from a series with no trend could do any serious harm.

The uses of cyclical analysis

The discussion so far has concentrated on technical matters; what is cyclical analysis, and how is it carried out? Now we turn to another important practical question; supposing that it is possible to determine whether the economy is now in the expansion or contraction phase of the growth cycle, and to construct leading indicators which give reliable guidance on future turning points, why is this a useful thing to do?

Let us consider first the interest of the economic policymaker. The first step in any form of economic planning is to consider what may be expected to happen if no policy changes are made. For instance, if it appears that output is already growing at a rate well above the long-term growth rate, any additional stimulation of growth could well lead to 'overheating'. Ideally the policymaker would like to have a quantitative statement of the capacity for further growth, but failing that an indication of the present phase of the cycle, and possibly a comparison of the magnitude of the cyclical swing with that of earlier swings, will give him some guidance.

However, most policy instruments are rather slow in their effect, and the interest is not only in what is happening now, but in what is to be expected up to a year or more ahead. If it is established that the economy is in a contraction phase, but the leading indicators give reason to expect an upturn in about six to nine months, any stimulation applied now could be taking effect just as the expansion is beginning. This could be desirable if the expansion is likely to be weak, but clearly, caution is necessary.

Thus, if we take it that the policymaker's objective is to achieve sustained growth without violent cyclical swings, a knowledge of the present phase and probable evolution of the cycle should at least help him to avoid action which will reinforce its movement. It might also help him to take positive action to smooth out the cycle, although given the imperfections of any indicator system and the uncertainty of the effect of policy changes such 'fine tuning' is bound to be a risky undertaking.

We have considered so far the needs of national economic policy, but decisionmakers at all levels need to consider what the state of the economy may be when their decisions take effect. To order new productive machinery may appear sensible if output is growing rapidly, but when it is delivered after six months the cycle may have changed to the contraction phase.

Thus, we see that even the limited objectives of cyclical analysis are worth while if they can be achieved. We turn now to a consideration of some of the objections which have been raised by those who question the validity of the approach.

'Measurement without theory'

This heading is the title of a well-known critical review article by T C Koopmans, which followed the publication in 1946 of Burns and Mitchell's major work, *Measuring Business Cycles*. The phrase conveniently encapsulates one recurrent line of criticism of the type of work carried out by the NBER; it is argued that the seemingly arbitrary and subjective assembly of indicators and selection of cycles is inadequate as a means of describing and analysing the economic situation, and that what is required is a detailed and explicit causal theory of the economic behaviour of individuals and groups, yielding forecasts which may be used with some degree of confidence.

The facile answer to such criticism is 'What theory?' Although many different econometric models are constructed (at least as many as there are different groups of workers modelling a given economy), none of them is based on a theory as detailed as Koopmans had in mind, and none of them is so successful as to engender confidence that it embodies the uniquely correct theory. In this situation, the fact that cyclical analysis avoids commitment to any specific economic theory might seem a positive advantage.

Of course, both these views are extreme. The selection of indicators is not arbitrary, but is based on the judgment of economists as to which variables are likely to be related; the economic mechanism is not detailed or explicit, but a plausible chain of influence

can be sketched out. Equally, there is much in common between different macro-econometric models, and the work of the cyclical analyst would carry little weight if it went quite contrary to economic theory.

It may be conceded that, in an ideal world, we would prefer a detailed economic model to the admittedly empirical approach of cyclical analysis. However, in the imperfect real world, it is necessary to make decisions using whatever analytical tools are available. Cycles exist and are important phenomena in their own right; if we view cyclical analysis as complementary to rather than competitive with econometric modelling, we may use both approaches, provided we keep in mind the limitations of each.

Details of the CSO system

The two major objectives of the CSO study were to identify a reference chronology of growth cycles for the UK economy, and to construct a system of indicators which could be expected to conform well to the future course of the reference cycle.

The identification of the reference cycle was based on an analysis of a group of variables whose central place in the economy made them appear suitable as measures of overall activity. The chosen variables were the three alternative measures of Gross Domestic Product at constant prices, the index of production for manufacturing industry, the index of volume of retail sales, and the number of vacancies notified to employment offices. This last variable was chosen so as to have a monthly indicator from the employment sector; however, the analysis showed that turning points in vacancies tended to occur consistently later than those of the other variables in the group, and allowance was made for this lag in choosing the reference turns.

Apart from the problems of locating turning points in irregular series, which have already been discussed, there were a number of exceptional events which have briefly but substantially affected the course of economic activity in recent years. The most significant of these were the severe winter of 1962/63, and the coal mining disputes of 1971/72 and 1973/74. Where these events appeared to have distorted the course of the cycle near a turning point, an attempt was made to judge where the turn would have been in the absence of distortion; the results might be open to disagreement as to the precise location of turning points, but the margin of doubt should be small.

The selection of indicators for the reference cycle was made by screening about 150 variables which were expected on prior grounds to have good cyclical properties; those which seemed to conform to the cycle,

to have consistent timing and to have some economic rationale were collected into a short-list of potential indicators. Leading indicators were naturally of most interest, but coincident and lagging indicators were also required to make it possible to confirm the evolving cyclical pattern. A number of criteria relating to smoothness, frequency and speed of publication and economic significance were used in selecting the final list.

When the selected leading indicators were examined, it was found that there was a very wide spread of average leads. It was therefore decided that two leading groups should be formed, with longer and shorter leads, and separate composite indices formed for each group. Coincident and lagging indicators formed one group each, so that the entire system consisted of four groups of indicator series and four composite indicators.

The indicators published in March 1975 numbered 18. Over the following year further analysis of potential indicators was carried out, and in May 1976 a slightly revised list was published; three of the original series were replaced by other series from the same field, and two new series were added. The system now in use, therefore, contains 20 indicators; 4 longer leading, 5 shorter leading, 6 (roughly) coincident and 5 lagging. The typical timings of the composite indices are about 12 months lead for the longer leads, about 4 to 6 months lead for the shorter leads, about one month lag for the coincident and about 12 months lag for the lagging.

All the figures quoted so far relate to a historical analysis of cycles and their timing; however, a system which is intended for use in current economic analysis has to be judged by the way in which it follows the course of the present cycle month by month. The next section will outline some of the experience obtained since publication began.

Some of the particular technical problems of current measurement should also be mentioned, however. Firstly, the indicators in a group may have different reporting delays, and it will usually be necessary to make an assessment of the latest month based on an incomplete set; this raises special problems in defining the latest values of the composite indicator. Secondly, the method of trend elimination leads to revisions in the recent values of the trend-eliminated series as each new value is added, and this may lead to a change in the composite indicator, although it appears that

the locations of turning points are not seriously affected. Thirdly, the irregularity of many of the indicators, particularly in the leading groups, means that it may be some months before an apparent turn can be considered to have any degree of confirmation.

Experience with the published indicators

When the indicators were first published, in March 1975, the economy was judged to have been in the contraction phase of the cycle since July 1973. The longer leading composite indicator had just shown a small rise, from December 1974 to January 1975; this was the first reversal of a downward movement which had begun in early 1972, but was based on an incomplete set of indicators and so could have been a false start. There was no other indication of a change to expansion.

However, as data for further months were added, the rise in the longer leading composite continued, and the inclusion of complete data for 1974 revised the turning point to August 1974. The steep rise continued, apart from a brief pause in mid-1975, until the Spring of 1976. By the middle of 1975 it was clear that the indicators were suggesting a cyclical upturn in the latter part of that year, and the shorter leading indicators were being examined for a confirming signal.

In the event, the shorter leads proved rather erratic, an upturn in one month often being followed by a fall in the next. It was not until nearly the end of the year that an upturn could be reasonably confidently identified as having occurred in August 1975, by which time the first signs of an upturn in the coincident group were also visible. With the information now available, the reference cycle trough has been assigned to October 1975, giving leads of 14 months for the longer leading indicator and 2 months for the shorter.

At the time of writing, the latest figures available are those published in November 1976. The lagging indicator has not yet shown a clear upturn, although very tentative signals are visible from the labour market indicators. However, the timing pattern of the indicators for the October 1975 trough now seems reasonably similar to that for earlier turns. What is evident, however, is that the very large rises in the leading indicators, especially the longer leading, have not been matched by the growth in the economy since the trough. The cyclical analysis has not established any systematic relationship between the amplitudes of cycles in different indicators, but some correspondence might have been hoped for.

Conclusion

This has necessarily been a condensed and rather superficial account of the indicator system. Anyone interested in more detail, especially of the individual indicators and their timing, should first consult the articles in *Economic Trends* for March 1975 and May 1976, and then turn to the charts and commentary in any recent issue.

To sum up the present state of the project, it is clear that we have a method of analysis and presentation which is still imperfect and capable of further improvement, but is nevertheless a worthwhile addition to the discussion of current economic developments.

Drawing the line in the balance of payments accounts

Paul Allin, *Assistant Statistician, Central Statistical Office*

An important new term 'the balance for official financing' was introduced into the UK balance of payments accounts in June 1976. This article is concerned with the general structure of the UK balance of payments accounts as they are now presented in official publications. It attempts to describe this structure and to set it in the context of some alternatives proposed by international organisations or used by other countries. While there is a general pattern to the presentation of balance of payments accounts there are nevertheless some significant variations often arising from differences in national circumstances. The article begins with a brief description of the principles of the UK accounts, concentrating on why a line is drawn in the accounts at the balance for official financing. This line divides the entries in the accounts into 'autonomous' transactions (above the line) and 'official financing' transactions (below the line). The article then explains the change also introduced in June 1976 in recording borrowing in foreign currencies by public sector bodies under the Treasury's exchange cover scheme below the line instead of above, as had been done previously, and discusses more generally the problems of allocating items about the dividing line. Finally, an alternative concept is considered – OECD's concept of the balance on official settlements which is closely related to the balance for official financing.

Principles of the accounts

The balance of payments accounts are a summary of all transactions between UK residents and non-residents over a given period. Each transaction, whether it be, for example, the sale of a good to a non-resident or the purchase of stocks and shares from a non-resident, involves both a credit and a debit to the UK. These are usually estimated from separate and unrelated sources. For example, the sale of a good may involve the export of the item (picked up in the overseas trade statistics) and a payment received by the UK vendor (reflected initially in banking statistics). The balance of payments accounts is thus an amalgam of

credits and debits, indicated by appropriate signs, which ensures that the total of the whole account is always zero for each period provided all transactions are measured accurately. In practice errors and omissions enter the recording process and in presenting the accounts a balancing item is included to compensate for this. The building blocks in the accounts are the entries showing the total of each particular kind of credit or debit. As an aid to interpretation, entries are arranged into a system of broad groups. It is the grouping of transactions that we are here concerned with – further details on the system of estimation used and the definitions and conventions involved are given annually in the notes and definitions at the back of the Balance of Payments Pink Book.

Under this system, and with the sign convention employed, the whole account always sums to zero, but the sum of credits and debits will not necessarily net out to zero for each individual group. The sum of transactions in each group produces a balance for that group, for example the sum of exports of goods (exports carry a positive sign) and the imports of goods (negative) is the balance on visible trade. At a high level of aggregation, the UK balance of payments accounts can be arranged in four main groups. The first of these is called the current account and it covers exports and imports of goods and services, interest profits and dividends and current transfers. The balance on the current account has been described as 'an indicator of whether the nation is paying its way'.⁽¹⁾ Capital transfers form the small second group of transactions. These comprise compensatory payments to holders of sterling under the Sterling Agreements introduced in 1968 and terminated in 1974. 'Investment and other capital flows', the third group, covers such things as official long-term capital transactions, external lending or borrowing by UK banks, overseas investment and trade credit. The second and third groups make up what is known as the 'capital account'. The fourth group, official financing, consists of changes in the UK official reserves of gold and foreign currency and other transactions concerned with their manage-

ment through the Exchange Equalisation Account (EEA).

In the standard presentation of the balance of payments accounts, these four groups are listed in the above order and the balance for official financing, the dividing line across the accounts, is the aggregate balance for the first three groups. The fourth group, official financing, is said to be 'below the line' and completes the account. The structure of the accounts may therefore be summarised in the form of a table:

Table 1

	Net credit or debit
Current account	A
Capital transfers	B
Investment and other capital flows*	C
<hr/>	
Balance for official financing	A+B+C
Official financing	-(A+B+C)
<hr/>	
Total	0

*In practice the balancing item (see above) is included here to compensate for the extent that the sum of the three autonomous groups as measured does not match the total of official financing transactions - which, as defined, is known exactly.

The reasoning behind the presentation of the accounts is that transactions in the first three groups, which are often designated 'autonomous', contribute to the balance for the official financing which is financed by the items below the line which are included as the fourth group in the accounts, official financing. The fourth group, which shows how the UK monetary authorities have met the balance for official financing resulting from the autonomous transactions, can be further divided between 'compensatory' or 'accommodating' transactions. Official financing is 'compensatory' when foreign currency is provided to finance autonomous transactions such as the import of goods; 'accommodating, official financing transactions absorb the proceeds of autonomous transactions such as the export of goods - although the term 'compensatory' is often used in referring to the fourth group, official financing, as a whole. A precise definition of an autonomous, or compensatory, transaction does not exist but the allocation above or below the line is based on an assessment of the motivation of the parties involved. This will be developed in the following paragraphs, the first step being to say that, broadly, international transactions arising purely from business or commercial reasons (eg trade, transportation, investment) or political considerations (eg aid, government subscriptions to international organisations) are autonomous and those transactions of a financing nature by the UK monetary authority will be compensatory.

Autonomous transactions and official financing transactions

In order to explain the nature of the transactions in these categories let us look more closely at the entries in the first three groups. Each entry is either the credit or the debit entry for a particular transaction between a UK resident and a non-resident. In certain cases both credit and debit are separately recorded within the first three groups. For example, a simple barter agreement in goods will involve an export and an import both appearing in the current account, while any credit for trade is entered within investment and other capital flows. Furthermore, where a settlement in respect of a transaction takes place in sterling this will initially affect sterling holdings in London of non-residents and thus be in the third group of transactions. In all these examples all entries are wholly within the autonomous categories and there are many more such examples. (Some are indicated in an article in the September 1976 issue of the *Economic Progress Report* on 'International investment and the balance of payments'.) However, the autonomous categories do not include the arrangements made by the UK monetary authorities to receive or make available foreign currency for international transactions. This can be illustrated by taking, say, the sale of goods to West Germany for which Deutsche Marks are received. The export appears in the current account but the receipt of the Deutsche Marks in the UK will, in perhaps the simplest case, take place through a UK bank authorised to deal in foreign currencies. The bank will pay the exporter in sterling and will then have the Deutsche Marks to dispose of. These may be made available to an importer of goods (thus recovering sterling from the importer) or by selling the foreign currency in the foreign exchange market. The UK monetary authorities will be operating in this market through the Exchange Equalisation Account. In the course of its operations the EEA may be taking in foreign currency in exchange for sterling. In our example, if the EEA purchases the Deutsche Marks on the foreign exchange market, this foreign currency will then constitute an increase in the official reserves and appear in the balance of payments accounts as an accommodating transaction in the fourth group, official financing. In practice in recent quarters the demand for foreign currencies, to cover the cost of UK imports in excess of UK exports and to provide foreign currency to non-residents who chose to reduce their sterling holdings in London, has led to considerable net sales of foreign currency by the EEA so that the net effect of official financing transactions has been compensatory.

The balance for official financing, (A+B+C) in

Table 1, is equal in magnitude but opposite in sign to the total of the official financing transactions, $-(A+B+C)$. The composition of official financing shown in the balance of payments accounts in any period summarises the way that the UK monetary authorities have reacted to the net demand for, or accommodated the net supply of, foreign currency. This is illustrated, for 1975, in Table 2 with figures taken from the latest Pink Book.

Official financing in 1975	£ million
Net transactions with overseas monetary authorities:	
IMF*	—
Other monetary authorities	—
Foreign currency borrowing	
by HM Government	+ 423
by public sector under exchange cover scheme (net)	+ 387
Net drawing on the official reserves*	+ 669
Total official financing	+1479

*Transactions with the IMF affecting the UK reserve position in the fund are included as changes in the official reserves.

The direct effects are drawings on or accruals to the official reserves; the other official financing transactions represent the effects of directly reconstituting or supporting the official reserves by borrowing or similar arrangements (and associated repayments). Historically such arrangements have been with overseas monetary authorities but in recent years support has been obtained from funds borrowed through the euro-currency market. In 1974 and 1975 the UK monetary authorities were involved directly in borrowing in this way and this borrowing has always been recorded below the line. The change introduced in the accounts published in June 1976 was to include in official financing all the borrowing by public corporations and local authorities under the exchange cover scheme. Under the scheme, public sector bodies are able to borrow in foreign currencies from abroad with the assurance of the Treasury that the foreign currency required for interest payments and capital repayments will be available at the same cost in sterling terms as at the time that the loan was raised. Because the public sector bodies require sterling to finance domestic projects, the scheme provides to them an alternative to raising sterling from UK sources and at the same time supplements our official reserves of foreign currency. Apart from the change in the recording of exchange cover scheme borrowing, the structure of the balance of payments accounts is unchanged from the format introduced in the 1970 issue of the Pink Book. The term 'balance for official financing' has however, been introduced in place of the less specific term 'total currency flow'. To illustrate the change in presentation, the whole balance of payments account

for 1975 is summarised in Table 3 taking figures from latest Pink Book, showing also how the account appears on reverting to the pre-June 1976 format. The changes to the figures for the capital account, the balance at the line and the total of official financing are each of magnitude £387 million following the reallocation between the two columns of the exchange cover scheme net borrowing given in Table 2 above.

Balance of payments account 1975	£ million	
	present format	previous format
Current account	—1673	—1673
Capital transfers	—	—
Investment and other capital flows*	+ 194	+ 581
Balance for official financing	—1479	Total currency flow —1092
Official financing	+1479	+1092

*Including balancing item of +£6m in each case.

Above or below the line?

The problems of deciding whether transactions are autonomous (above the line) or compensatory (below the line) are well illustrated by the example of borrowing under the exchange cover scheme. To a public sector body raising a loan, exchange cover is only one of the many commercial considerations influencing the type of financing finally adopted. For example, the charge made for exchange cover has to be viewed against possible movements in exchange rates as well as against rates of interest on loans raised inside the United Kingdom. (For an article written from the point of view of local authority finance, see Boyle⁽²⁾). However, in the context of recording public sector borrowing under the exchange cover scheme in the UK balance of payments accounts, the role of the monetary authorities in setting up the scheme and the degree of control exercised are seen as more relevant than the way in which the transactions are viewed by the borrowers. In some cases, public corporations and local authorities have undertaken foreign currency borrowing for domestic use without exchange cover (ie autonomously) and so it is reasonable to question how much of that borrowed under the scheme would have been raised abroad in the absence of any such scheme. In treating the exchange cover scheme borrowing as compensatory financing it is considered that only a small amount may not strictly belong below the line and that to examine the alternatives to each loan, along the lines indicated, would be impractical.

On the other hand, some official transactions involving the central government or other public sector bodies are not counted as official financing.

Long-term loans to the UK government remain above the line as a component of the group of investment and other capital flows. These loans are not regarded as primarily motivated by considerations of reserve management eg the loans from the USA and Canada were associated with post-war reconstruction. This is similar to any foreign borrowing made by public sector bodies without exchange cover, which also remains above the line (as overseas investment in the UK public sector); the public sector bodies are seen in this context to be acting independently of the monetary authorities' responsibility for managing the reserves except, of course, in that they have to observe the Exchange Control regulations that apply in general to foreign currency borrowing.

Alternative approaches

As a criterion for grouping transactions in the balance of payments the compensatory financing approach is also used for the presentation of some other countries' accounts. Other methods exist however and even within the context of compensatory financing methods the exact content of the items appearing above or below the line varies from country to country. One alternative compensatory financing approach is the official settlements basis adopted in the OECD system of accounts. The official settlement concept draws together below the line 'all transactions which the monetary authorities undertake to influence exchange rates'.⁽³⁾ This OECD concept applied to the UK balance of payments would include additionally below the line changes in liabilities of both official and non-official UK bodies to all foreign monetary authorities. Thus the exchange reserves in sterling of foreign countries, which are identified separately in the capital account in the UK presentation, are moved from above to below the line with, for example, all foreign currency deposits with UK banks from foreign monetary authorities. In this way more symmetry is introduced into the concept of official settlements in that transactions involving liabilities to foreign monetary authorities are included in the same part of the account as transactions by the UK monetary authorities. One consequence of this, however, is that when a UK bank borrows foreign currency from a foreign monetary authority and lends the money to a private dealer in the euro-currency market, the borrowing appears below the line and the lending appears above it, so that the associated changes in UK liabilities and assets would not be offset. This distortion in the presentation arises from London being a banking centre. Although such a presentation of balance of payments is useful for international aggregations, when the transactions of all official monetary authorities would appear

below the line, and claims and liabilities below the line between countries in the aggregation would be offsetting, the accounts would not therefore be presented in the way that is most helpful in examining the UK experience alone.

The OECD concept of exchange rate management also raises the general question of the objectives of monetary authorities in the foreign exchange markets especially with floating exchange rates – do the authorities intervene to manipulate exchange rates or simply to provide or absorb funds arising from autonomous transactions? The official settlements approach, which is concerned with transactions which monetary authorities undertake to influence exchange rates, was derived when exchange rates were fixed and hence the monetary authorities sought to maintain exchange rates, at least within narrow margins, by intervention in the markets. With the present floating exchange rates, pressure from foreign exchange markets is met by a mixture of exchange rate movements and official intervention and so the total of official settlements transactions may not fully indicate this pressure. On the other hand, it is not possible in practice to identify those transactions where the authorities have been acting to maintain the level and composition of the reserves rather than the exchange rate – these could be viewed as autonomous on the official settlements basis (for example, see Lederer⁽⁴⁾). It is worth adding that, as has been demonstrated for sterling, monetary authorities can of course influence the exchange market by other methods, including a change in domestic economic arrangements such as a change in interest rates on domestic credit. In such circumstances the balance of payments accounts alone clearly do not present the whole story.

The balance of payments accounts for the United States included until recently a balance called the 'official reserve transactions balance' (ORT) which was close in concept to the balance arising from the OECD official settlements system of accounts. Below the line there was a symmetrical recording of US official reserve assets together with US liabilities to foreign official agencies.⁽⁵⁾ In 1976 an advisory committee, set up to review the presentation of US balance of payments statistics, recommended however that the ORT balance, as well as two other general balances presented in the accounts, should no longer be struck in the accounts, partly for the reasons given above. The committee also noted that the inflow of funds from the monetary authorities, eg of oil exporting countries, were often influenced by investment potential rather than exchange rate policies. Restricting the content of official reserves to transactions intended to influence the exchange rate was therefore impossible.⁽⁶⁾

In the standard presentation adopted for current issues of their Yearbook, the IMF record a group of items designated 'reserves and related items'. These include the exchange reserves in sterling of foreign monetary authorities but do not, at present, include the foreign currency deposits with UK banks from foreign monetary authorities. A new edition of the IMF's *Balance of Payments Manual* is, however, to be published shortly and is expected to include some modification to the presentation adopted in the Yearbook.

Summary

The two approaches to drawing the line in balance of payments accounts that have been examined in detail – the balance for official financing of the UK and the OECD's balance on official settlements – are both concerned with the compensatory transactions of monetary authorities. Both approaches lead to some conceptual and practical difficulties. The OECD approach differs from that used in the UK by adopting a symmetrical presentation below the line in that the appropriate transactions of all monetary authorities are recorded there. While this is useful in taking aggregates of several countries' balance of payments accounts, as claims and liabilities below the line between the countries involved are offsetting, the UK system, which includes below the line only transactions of the UK monetary authorities, provides a form of analysis which is considered more appropriate in examining the balance of payments experience of the UK taken alone. The balance for official financing alone, however, is inadequate as a basis for examining the pattern of our external transactions. It shows only the net effect of many disparate activities. Many of our external transactions do not impinge on the reserves at all and the related financing arrangements are covered elsewhere in the accounts. The balance for official financing should therefore be examined in conjunction with a comprehensive account of our external transactions.

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Qualified manpower statistics

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The main statistical source material relating to qualified manpower was described and discussed in an article in *Statistical News* 17.11 *et seq* and statistics on scientific manpower were the subject of an article in *Statistical News* 2.4 *et seq*. The material described in these two articles formed, with other research done in the Department of Employment by the Unit for Manpower Studies (formerly the Unit for Qualified Manpower), the basis for an assessment of the 'Employment prospects for the highly qualified'⁽¹⁾. The purpose of this article is to bring the bibliographical material covered in these earlier articles up-to-date.

Stock of qualified manpower

The 1971 Census of Population included a question asking for details of all relevant formal qualifications obtained since reaching the age of 18. A sample of 10 per cent of the census forms was analysed and each qualification listed was checked against a list of higher level qualifications to see whether it was an 'acceptable' qualification, that is a qualification normally obtained at 18 and over by study at a level above that required for GCE 'A' level. Each acceptable qualification was classified by academic level:

- a* – higher university degrees
- b* – first degrees and other qualifications of an equivalent or higher standard other than higher degrees
- c* – other qualifications

and by subject (a classification of 145 primary subjects grouped into 10 main subject groups). Those with qualifications at levels *a* and *b* are described as 'highly qualified'; if those with level *c* qualifications are included the term 'qualified' is used.

One set of tabulations has been prepared on the basis of the last qualification obtained at the highest level achieved – the question asked for qualifications to be listed in chronological order. Some of these tables covering age, sex, occupation, industry, country of birth have been published⁽²⁾ and many others are available on an unpublished basis (a full list is given in Appendix F to ⁽²⁾). The tables also cover two other groups of people, first, people not qualified at level *a* or *b* or *c* but holding GCE 'A' level or equivalent

qualifications, and people holding none of these qualifications. The material on qualified people has been summarised and commented on and the results set in the context of the population as a whole in a volume in the Studies in Official Statistics series⁽³⁾. The notes in both these volumes on comparisons with similar material from the 1966 Census need to be borne in mind as changes in the questions asked and in the coding of the data make comparisons difficult.

The second set of tabulations arising from the 1971 Census question on higher level qualifications relate to persons with qualifications at first degree level or, where no qualification at first degree level is shown, at higher degree level in engineering, technology and science. These people are coded to the subject of the first such qualification they obtain. A volume of tables has been published by the Department of Industry⁽⁴⁾ and again a list of unpublished tables is included.

There are two other sources of data on the stock of qualified manpower, both of them covering much smaller samples than the Census and therefore more constrained in the detail of information which can be provided. The General Household Survey, a continuous multi-purpose household survey, has been conducted since 1971 and a question on qualifications has always been included. The results from this question have been cross-classified by a number of attributes including age, socio-economic group and earnings⁽⁵⁾⁽⁶⁾⁽⁷⁾. A question on qualifications was also asked in the National Training Survey and first results on this topic are expected during 1977⁽⁸⁾.

Using the 1971 Census of Population as a sampling frame more detailed information on the careers and training of qualified people was sought in a follow-up survey conducted by the Office of Population Censuses and Surveys. It is hoped that first results from this survey will be available early in 1977⁽⁹⁾.

Future additions to the stock of qualified people

The most recent published information on long-term estimates of the stock of highly qualified people (those with qualifications at levels *a* and/or *b*) is contained in Department of Employment *Manpower Papers* No. 8⁽¹⁾. However these estimates were out of

date even before they were published due to a reduction in the expected demand for higher education places. A new review of employment prospects currently under way in the Unit for Manpower Studies will take account of supply estimates prepared by the Department of Education and Science and based on more recent plans for higher education.

Shorter term estimates of the number of new graduates likely to be available for employment are being published each year in the *Department of Employment Gazette*, the most recent estimates being published with notes on how the calculations were made, in April 1976⁽¹⁰⁾.

The new supply of persons qualified in engineering, technology and science was the subject of an article in *Economic Trends* in March 1976⁽¹¹⁾, which includes a time series of new supply for 1958 to 1974 by subject and type of qualification with estimates for 1975, 1976 and 1977 made by the Department of Industry.

Migration

There are no new sources of statistics on the migration of highly qualified people but the results of the *International Passenger Survey*, which gives details of occupations, are now published in *Population Trends*⁽¹²⁾.

Initial employment of the newly qualified

The University Grants Committee (UGC) has continued to publish its annual volumes on the first destinations of university graduates⁽¹³⁾. A summary volume on a slightly different basis is published somewhat earlier than the UGC volume by the Central Services Unit for Careers and Appointments Services (CSU)⁽¹⁴⁾. The information on first destinations of those qualified in engineering, technology and science for the period 1958 to 1974 was drawn together and discussed in the article in *Economic Trends* mentioned above⁽¹¹⁾. A recent article in the *Department of Employment Gazette* used UGC data for a series of years to discuss the trends in graduate entry into Industry⁽¹⁵⁾. This article highlighted some of the limitations of the data and the constraints these placed on interpretation.

The same sort of information is now becoming available on people getting first degrees and Higher National Diplomas from polytechnics. A volume relating to 1975 and covering 27 of the 30 polytechnics was published by the CSU⁽¹⁶⁾. A volume giving extra details has also been prepared⁽¹⁶⁾.

Earnings information

After the 1971 Census of Population two follow-up surveys were undertaken, one on income and the other on qualified manpower, which will give earnings data on all types of qualified people for the year ending

5 April 1972. It is expected that this information will be available early in 1977⁽¹⁷⁾.

The results of the annual New Earnings Survey include information on earnings in various occupations which might be expected to require qualifications⁽¹⁸⁾. Information on the earnings of people who register with the Professional and Executive Recruitment Service is grouped by age and occupation and published on a regular basis⁽¹⁹⁾.

Surveys of earnings of particular groups of qualified people are carried out by a number of professional institutions. The Council of Engineering Institutions has continued with its series of surveys of professional engineers and data are available for 1973 and 1975⁽²⁰⁾. The results of the 1971 survey of earnings of professional scientists and applied scientists who were members of the constituent institutions of the Council of Science and Technology Institutes were published in 1973⁽²¹⁾. Some of the constituent institutions also conducted surveys in 1976⁽²²⁾. The various institutes representing scientists have also conducted further surveys and results are available for biologists, chemists, mathematicians, metallurgists and physicists for a number of recent years⁽²³⁾. Among the other institutes conducting surveys are the Institute of Statisticians⁽²⁴⁾ and the Chartered Insurance Institute⁽²⁵⁾.

Earnings information on school teachers is published in *Statistics of Education*⁽²⁶⁾. Information about the salaries of university teachers is available from the University Grants Committee⁽²⁷⁾.

Information on the earnings of new graduates is available for a number of institutions including the Universities of Aston, Brunel, Heriot-Watt and Salford and Lanchester Polytechnic and is sometimes published in the annual reports of their Careers Services. The longest series of data is available from the University of Leeds and data for 1965-72 were reproduced in *Department of Employment Manpower Papers No. 8*⁽¹⁾.

Other sources

Material on the highly qualified is also available from a variety of research projects and studies of specific groups of people. Some particularly useful information is to be found in a study of the careers of social scientists⁽²⁸⁾, a review of post-graduate education⁽²⁹⁾ and a survey of qualified engineers, scientists and technologists in the engineering industry⁽³⁰⁾.

Using information from a number of the sources listed above the Department of Industry is up-dating its earlier volume on persons with qualifications in engineering, technology and science to cover the period 1959-1976⁽³¹⁾.

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The measurement of student flows: A major phase completed

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(This is an edited version of a note written for the Statistics Users Conference on Education Statistics held in November 1976, and is reproduced here by kind permission of the Royal Statistical Society)

The early development of two statistical systems based on individualised data for university students (the University Statistical Record) and for those in further education colleges have been described in previous articles in this journal⁽¹⁾⁽²⁾. The following paragraphs report the progress achieved in the context of measuring all transitions of young people from the time they leave school to final entry to full-time employment.

The first and perhaps the most crucial transition takes place at age 16, when the decision to study for GCE advanced level examinations whether at school or in further education colleges largely determines whether a young person will be equipped to go directly to higher education. In recent years 14 per cent of the age group have entered full-time courses of higher education at ages 18–20. The remainder of the 16 to 18 year old school-leavers move towards employment either directly or after preparation through vocationally orientated full-time courses mostly of fairly short duration. Once employed some 20 per cent of these young people obtain day release for part-time study during the day while others pursue studies while working part-time or during the evening. The qualifications obtained may lead them eventually to re-enter full-time education and it is estimated that allowing for late entrants, the proportion of an age group who at any time follow full-time higher education courses rises to about 19 per cent.

The complexity of the route to degree work is indicated by the following analysis of the previous institutions attended by first degree entrants to courses validated by the Council for National Academic Awards (CNAA) in 1975.

An analysis of these students by highest qualification held on entry shows that 75 per cent held 2 or more GCE Advanced level passes, 15 per cent National Certificates or Diplomas at Ordinary or Higher level, and the remainder a variety of qualifications. Transition data may be required either in terms of institutions

Institution attended during previous year by home students

	percentage		
	Attending CNAA course		Part-time (day and evening)
	Full-time	Sandwich	
Previous institution:			
Secondary school	42.2	44.1	0.9
Further education:			
Full-time or sandwich	18.7	24.7	4.7
Part-time day	4.5	9.0	25.7
Evening	2.1	1.0	5.7
University	1.7	2.2	1.1
College of education	0.5	0.1	0.5
Other education	5.2	4.9	4.0
Not attending institution during previous year	25.1	14.1	57.4
Total	100	100	100
Number	10,702	6,104	1,713

or of qualifications held, or a cross-classification of both.

The methods of collecting information about flows of students between institutions or various levels of course are broadly as follows; (i) and (ii) may be collected in aggregate from colleges, or through individual returns:

- (i) Prospective, on leaving institution/course e.g. school-leaver survey⁽³⁾ first destination of graduates⁽⁴⁾
- (ii) Retrospective, on entering an institution/course e.g. University applicants⁽⁵⁾ CNAA survey⁽⁶⁾
- (iii) Linking individuals enrolled at sequential institutions/courses throughout education e.g. University Statistical Record⁽¹⁾ (see below)
- (iv) Longitudinal survey e.g. surveys by J W B Douglas⁽⁷⁾.

Method (i) has obvious disadvantages in that the intended destination of the individual is not certainly known, or may change. Method (ii) is potentially valuable, though in large scale statistics it will rarely be possible to record a full history. The admitting

institution may well be more concerned with qualifications. Method (iii) is potentially valuable, but may be costly to operate and completeness depends on an integrated system for all educational institutions, ideally including those in the private sector. Method (iv) is likely to be achieved through a sample cohort and by the time post-school education is reached it is very difficult to keep up response rates.

Over the past decade the Department of Education and Science (DES) and University authorities have set up a system of statistics for higher and further education students described below, which relies to some extent on information of types (i) and (ii) but has the potential in the long term to allow for the records of students to be linked for statistical purposes through educational sequences from school to employment, in so far as the courses attended are in universities or DES maintained colleges. As presently designed these do not cover education in private colleges or training carried out 'on the job' (for example nursing, industrial). Nor will they give clear indications of what happened in the intervals between recorded education periods.

The university sector

Information about the type of school or college attended by applicants to universities has been published for some years by the Universities Central Council for Admissions⁽⁵⁾.

Over the last few years the Committee of Vice-Chancellors and Principals of the Universities and the University Grants Committee have developed a complete system of statistics based on individual student and staff records known as the University Statistical Record⁽¹⁾. The undergraduate record was started with entry in 1968 and complete information built up by 1972/73; postgraduate and staff records started in 1970/71 and are now also complete. These records begin with the personal history of the student, including the last educational establishment attended and date of leaving it, and then trace the student through years of course recording subject transfers, those who leave the course without completion (and for what reason), and those who complete the course whether successfully or not. The potential is there to link undergraduate to postgraduate experience and eventually through to staff records.

In 1970/71 the system was also extended to take in the documentation of the first destination of both first and higher degree graduates, thus continuing the extremely valuable and longstanding series initiated by careers and appointments officers who still form the vital link in contacting graduates to find out what employment they have taken up⁽⁴⁾.

The wealth of detail becoming available from this system is used by university administrators and a wide range of customers, though full exploitation especially of the flow data has still to come. The Department of Education and Science has so far examined mainly the undergraduate record to compile models based on transitions throughout first degree years.

The public sector – polytechnics and further education colleges

A system of statistics for all non-university students in higher and further education in England and Wales has also been built up over the past few years, involving some 600 colleges and 2 million individual records each year⁽²⁾. This November sees the completion of the main scheme which has evolved since 1972 by gradually bringing in colleges and has been achieved without disruption of the basic series on FE student numbers. The system is technically different from that for universities to suit the numbers involved and the proportion on short courses, etc., but it will allow flow statistics to be built up with much the same type of results.

The DES has worked in close consultation with local education authorities and colleges with the aim of providing analyses useful at regional levels as well as in the management of individual colleges.

The main scheme covers students at polytechnics and other further education colleges except evening institutes and will incorporate teacher training for which there was formerly a separate system. Part-time students are included as well as full-time except for evening students on some types of course.

The record for these large numbers had to be confined to details readily verifiable by the colleges, but includes the education of the student 12 months previously in seven categories with a 'nil' coding indicating broadly that they entered after a spell of employment or inactivity. The system will then be able to trace students statistically through each year of the course, and from one course to another within the further education system, for example from Ordinary National diploma to Higher National diploma or CNA A degree, or from GCE advanced levels to professional qualifications.

It was not possible to include in the main scheme terminal information which is essential for work on transitions – that is the final examination outcome and entry to employment. It is planned that results for CNA A and teacher training students should be linked at an early stage and consideration will be given to extending this to other courses once the main scheme has been consolidated. General statistics of

examination results for the main courses are available from the examining bodies.

Meanwhile the polytechnic careers advisers, in co-operation with the Committee of Directors of Polytechnics, have been developing a series of first destination and employment statistics for those students awarded First degrees and Higher National diplomas with assistance from the DES in processing. This has been designed to give results on very much the same lines as the University series and the results for 1975 cover the output of all 30 Polytechnics, with details of destination given by 27 of them⁽⁸⁾.

The full FESR scheme was preceded by partial schemes which have yielded useful information on transitions. There was, for example, a series covering all CNAAs students during the five years up to 1975/6 which allows transition patterns to be established in the same way as for University first degree students. A more broadly based series for 1 in 10 students on full-time and advanced part-time day courses records, among other items, the previous education of students on different types of course.

In conclusion it can be said that a great deal of effort and resources have been committed to building up successful systems based on individual student records which will not only give great flexibility in analysis of the usual 'descriptive' data but will also permit very thorough and good quality analysis of flows within the main education system. They will also provide a firm starting point for those users who wish to build up integrated models of the movements of young people from leaving school to jobs at the end of the education training sequence. Because of the complexity and flexibility of the higher and further education system however some of the data is going to be rather 'soft' even when these systems are complete. Ingenuity will be required to estimate missing streams and reconcile conflicting evidence in some areas. To fill in the remaining gaps with 'hard' statistics is likely to be a costly business, even if practicable.

References

- (1) *Statistical News* No. 19 Universities Statistical Record (HMSO November 1972).
- (2) *Statistical News* No. 20 Further Education Statistical Record (HMSO February 1973).
- (3) *Statistics of Education 1974* Vol. 2 School Leavers, CSE and GCE (HMSO July 1976).
- (4) First Destination of University Graduates 1974-75 University Grants Committee 1974-75 (HMSO).
- (5) Statistical Supplements to Reports of the Universities Central Council on Admissions.
- (6) *Statistics of Education 1974* Vol. 3 Further Education Statistics (Tables 56-58) (HMSO November 1976).
- (7) National Survey of Health and Development 1946 Cohort: various publications by Dr J W B Douglas and others.
- (8) Polytechnic First Degree and HND Students 1975 and Statistical Supplement: Central Services Unit for Careers and Appointments Services.

Survey into the capacity of the brickmaking industry, November 1975

Frank Mooney, *Statistician, Department of the Environment*
and Anne Wheatcroft, *Statistician, Department of the Environment formerly at the Business Statistics Office*

Introduction

Because of the importance of the brickmaking industry in relation to new construction and in particular to housing, it has been the practice of the Department of the Environment (formerly Ministry of Public Building and Works) to conduct periodic surveys into the manufacturing capacity of the industry. Previous surveys were held in 1967 and 1970. The latest voluntary inquiry to assess the current capacity of the industry was carried out towards the end of 1975 by the Business Statistics Office on behalf of the Department of the Environment.

As well as reporting the outcome of the present survey, this article describes the historic background of the industry and identifies the main changes that have occurred since the late 1940's.

Bricks can be classified in two main ways, by type of material and by the use of the finished product. Most bricks are made from clay although concrete and sandlime are also used to a lesser extent. Clay bricks can further be divided – according to the type of clay used – between 'flettons' and 'non-flettons'. The fletton sector enjoys a natural cost advantage because the clay has a high carbon content and requires less fuel for firing; also the number of separate manufacturing processes is reduced.

The two most common uses of bricks are 'facings', for use in external walls and in positions where appearance is important, and 'commons' which are used elsewhere. Fletton and non-fletton bricks, whether commons or facings are for most practical purposes interchangeable. However fletton clay cannot be used for a third type – engineering bricks – which have to be of greater strength than facing or common bricks.

The majority of brickworks produce both common and facing bricks but there are a number of works, particularly in Scotland, where only commons are made.

Historical background

The brick industry is now heavily dependent upon the housing market as alternative materials are being used

to an increasing extent in other forms of construction. A recent development has been the competition from concrete blocks, plasterboard, etc. for internal work in which common bricks had previously been used. As a result, the proportion of bricks sold as commons has been declining steadily. Facing bricks for external walls now represent at least 50 per cent of production. This change underlines the importance of the housing market to the brickmaking industry. Unfortunately, this market has in recent years proved to be extremely volatile and the industry has been subject to both seasonal fluctuations in demand and the cyclical fluctuation dependent upon the rate of house-building.

The number of separate brickworks in the industry has decreased. It is estimated that there were about 900 in 1948 and 700 in 1958. The survey carried out in 1967 showed that there were 581 brickworks with an annual production capacity amounting to nine thousand million bricks. Total employment was estimated at 30,000. During the same year, brick production amounted to 7,200 million. The 1970 survey revealed that the number of works had further declined, bringing with it a reduction in capacity and employment. At the present time there are about 300 brickworks.

Another important development, with amalgamations and closures in the fletton brick industry has been the increasing dominance of one firm⁽¹⁾. It is no longer possible therefore to publish separate details relating to this part of the industry because this could disclose information about the firm in question.

Planning the 1975 survey

The decision to launch the survey in 1975 was undertaken against a background of falling output, the lowest since 1948, an increased number of closures and general uncertainty within the industry. Although there was no doubt that unused capacity existed, there was no accurate measure of the amount, the type of brick involved, or the location of the sites. Information was also lacking on numbers employed in the industry.

The questions asked on current capacity, planned new capacity and employment were similar to those asked in the previous survey. Questions related to the number and age of kilns and their energy requirements were new to the survey. These questions were only asked of clay brick producers; concrete and sandlime bricks are made without standard kilns. Another extra feature was the question on the use of shift working. The survey was extended in order to relate capacity and employment to the intensity of kiln use.

The date selected for the survey, 28 November, was chosen because of the need to avoid seasonal influence but to get as close as possible to the year end.

The design of the questionnaire

Because the scope of the survey had been considerably widened from previous inquiries, the advice of the Building Research Establishment and the Brick Development Association was sought in framing appropriate questions and wording. The layout of the form was designed by the Business Statistics Office. The questionnaire is reproduced at Appendix A.

Despatch and return of the questionnaire

All the brickmaking sites known to the Business Statistics Office, 307 works in total, were sent a form. Respondents were asked to reply as soon as possible, but not later than 31 December 1975. By the closedown date, only 15 replies were outstanding, representing no more than 3 per cent of current production. This response rate was particularly noteworthy, taking into consideration the voluntary nature of the survey, and compares favourably with the response to previous surveys.

The results

The results are summarised in the tables at Appendix B.

Capacity

Whilst the overall shortfall between production and capacity in 1975 was about 30 per cent, this encompassed some very wide differences between types of brick and between the raw materials being used. Producers making concrete and sandlime bricks were nearly 50 per cent below capacity, whilst non-fletton clay bricks were only 25 per cent down. There was also a switch towards commons production among the non-fletton brickworks in England and Wales not encountered in the returns from fletton producers. In Scotland commons production predominates anyway.

Shift working and employment

The different activity levels were also reflected in the type of shift working adopted. Whereas the majority

of producers using concrete and sandlime recorded a change in shift working from that at full capacity, only a small percentage of clay brick producers had altered their working patterns. Possibly the modern clay kiln allows less flexibility in shift arrangements. Even in these times of reduced production, split and continuous shift working predominated at sites with tunnel kilns but, at sites with other types of kilns, shift working is still the exception rather than the rule. There has been a very marked reduction in the employment of the brickmaking industry, from 30,000 recorded in 1967 to 17,500 in 1975. This reflects, not only the contraction in the industry but also the increased productivity available from the newer tunnel kilns.

Analysis

The movement towards tunnel kilns is clearly shown. Of current non-fletton clay capacity, tunnel kilns account for only 4 per cent of those installed prior to 1955. Between 1955 and 1964, 39 per cent of installed capacity was in the form of tunnel kilns and, between 1965 and 1969, 87 per cent. The lower percentage of 58 per cent from 1970 onwards may show some slight reversal of the trend. Since 1970, several new continuous kilns have been installed with a much higher capacity than the usual non-fletton continuous kiln. The new kilns had an average capacity of 25 million bricks, as against seven million bricks for other continuous kilns. The average size of tunnel kilns has hardly varied over the last ten years at about 19.5 million bricks per year. Intermittent kilns had an average of one million bricks, again with no significant time differential and all other kiln types produced, on average, 2.7 million bricks per year. Figures for the age of kilns can be distorted by the tendency to rebuild old kilns rather than start from scratch. This problem is particularly reflected in the figures of fletton continuous kilns, where the majority date originally from before 1955. Because of this problem, fletton kilns have been omitted from the age analysis.

Fuel use

Here again there is a large difference in the pattern of fletton and non-fletton clay production. The more heavily fuel-intensive non-fletton producers have diversified their fuel use to a much greater extent. Natural gas now accounts for nearly 50 per cent of fuel used in non-fletton production, with coal and liquified petroleum gases (LPG) taking 20 per cent each of the market and oil the remaining 10 per cent. Whilst the change is most marked in the newer kilns, especially tunnel kilns, a large number of older, continuous and intermittent kilns have also been converted. The brickmaking industry is one of the major users of

LPG either independently or in combination with gas or oil. The type of firing has no effect on the size of the kiln which is completely dependent on the type of structure used.

New capacity

Plans for new capacity to be installed by the end of 1977 were concentrated on a small number of sites and were of the order of one-third of the net increase in capacity from 1970 to 1975.

Conclusions

The survey was planned against the expectancy of an upsurge in new housing, particularly in the private sector, which presented a potential danger of capacity shortages during the upswing. Fears had been expressed that the deep effect of the recession, coupled with the high number of closures, had resulted in a substantial reduction in overall capacity. Whilst the survey has shown that the industry responded to the depressed trade by closing down its less economic units, it also confirmed that existing and planned future capacity was sufficient to support expected housing demands.

The survey also highlighted the dual structure of the industry. Fletton and non-fletton brick production need to be treated separately. Because the fletton brick industry is composed of a few relatively large works, it has not been possible to publish the results of the survey broken down between the two sectors without disclosing data on the operation of individual producers.

The problem of maintaining a close watch on capacity versus demand always remains. Monthly production figures and notification of closures can be compared with the survey benchmark but will never provide the detailed picture of the inner workings of the industry that the Brick Capacity Survey was designed to produce.

Reference

- (1) Building Bricks, Monopolies and Mergers Commission 1976.

NOTES

- A. Optimum output is defined as the maximum annual saleable output consistent with reasonably profitable working and satisfactory labour supplies. It excludes any kilns which could not be brought back into production.
- B. The questions relate to the situation on 28 November 1975.
- C. Where precise figures are not available estimates are acceptable.

- 1. What is the optimum output of the works named overleaf? (see note A)
- 2. How much of the above capacity is temporarily inactive?
- 3. Are you planning to bring into commission any new plant by the end of 1977?
(Delete as appropriate).
- 4. If YES by how much will this increase your capacity?

YES	NO
-----	----

million bricks			
Commons	Facings	Engin- eering	Total

- 5. How many kilns are installed in the works, by type?

Active	Inactive	Total optimum output (see note A)
number	number	million bricks
Tunnel		
Intermittent		
Continuous		
Other *		
Total		†

* Please specify
 † should agree with the total in answer to question 1.

- 6. When were the kilns installed?

Before 1955
 1955 - 1964
 1965 - 1969
 1970 to date
 Total

Active	Inactive
number	number
⊕	⊕

⊕ should agree with totals in answer to question 5.

- 7. What method of firing do you use. (tick box as appropriate)?

Coal	Oil	Gas	Other 0

0 please specify

- 8. How many people were on your payroll at the works for the week ending 28 November 1975 (or the nearest normal working week)?

Oper- atives	Other (distribution, transport, clerical or administration)	Total
number	number	number

- 9. What kind of shift system applies to the works (tick box as appropriate)?

Week ending 28 Nov 1975
 When working at or near full capacity

No shift working	Split/double day shift	Continuous/rotary shift

Signature Date
 Person to contact for further information (block capitals please)
 Telephone no/ext Telex

Brick capacity survey: November 1975⁽¹⁾

Summary: Analysis by operatives shift working, use and material type, fuel use and clay brick capacity

(a) Summary

Number of companies	Number of works						Employees			Number of clay kilns
	Total	Works in production				Works not in production	Total	Operatives	Others	
		Working single shifts	Working split shifts	Working continuous shifts	Single shifts/continuous					
193	307	165	61	37	17	27	18,133	14,275	3,858	613

(b) Analysis of operatives' shift working

Type of kiln	Operatives					Works					number
	Total	Type of shift				Total	Type of shift				
		Single	Split	Continuous	Single/Continuous		Single	Split	Continuous	Single/Continuous	
Clay bricks											
Tunnel	2,891	503	1,483	748	157	48	15	19	11	3	
Continuous	9,322	2,475	5,340	997	510	134	73	32	18	11	
Intermittent	997	560	65	57	127	47	30	3	3	3	—
Others											
Total	13,210	3,726	6,888	1,802	794	229	126	54	32	17	
Concrete bricks	610	503	187	215	—	33	29	7	5	—	—
Sandlime bricks	455	160									
Grand total	14,275	4,389	7,075	2,017	794	280	165	61	37	17	

(c) Analysis by use and type of material

	Total	Use type			Material type		
		Commons	Facings	Engineerings	Clay	Concrete	Sandlime
1975 capacity	7,571	3,052	4,061	458	6,366	703	502
1975 production	5,046	2,149	2,515	382	4,405	375	266
Planned new plant to 1977	255	62	154	39	213	42	—

(1) Capacity survey figures have been grossed up to allow for a three per cent non-response.

(d) Analysis of fuels used for production of clay bricks

Type of kiln	Type of fuel by capacity (million bricks)					Type of fuel by number of kilns				
	Total	Coal/ ² combined	Oil	Gas	LPG	Total	Coal/ ² combined	Oil	Gas	LPG
Tunnel	1,205	182	67	716	239	67	9	4	42	12
Continuous	4,892	3,858	195	602	237	316	188	29	60	39
Intermittent	200	36	42	69	53	204	22	51	81	50
Others	69	10	5	20	35	26	4	6	7	9
Total	6,366	4,085	309	1,407	564	613	223	90	190	110

(e) Analysis of clay brick capacity

Capacity of works (million bricks)	Total capacity (million bricks)	Number of works	1975 production: percentage of total capacity
0 to 5	160	53	70
> 5 to 10	502	64	73
> 10 to 15	501	41	87
> 15 to 20	240	13	78
> 20 to 25	465	20	75
> 25 to 30	227	9	76
> 30 to 40	317	12	79
Over 40	3,954	27	62
Total	6,366	239³	68

¹Capacity survey figures have been grossed up to allow for a three per cent non-response.

²This category includes 194 coal-fired kilns which have a capacity of 3,815 million bricks.

³Includes 10 works which produced clay bricks during the year but which had no operatives on the date of the survey.

Notes on current developments

POPULATION AND VITAL STATISTICS

Population Trends

The editorial of *Population Trends* 6, the journal of the Office of Population Censuses and Surveys, gives an assessment of the demographic events of 1975.

In the 12 months from mid-1974 to mid-1975, the excess of births over deaths in England and Wales (36 thousand) was more than offset by the net outflow of migrants, that is the excess of people leaving the country over those coming in (44 thousand). This led to the first decline in population of the country recorded in recent times.

Evidence on migration during 1976 together with a continued decline in births and a likely increase in the numbers of deaths point to a continuing fall between mid-1975 and mid-1976 in the population of England and Wales.

The first of the articles examines the causes of death in a sample of nearly 2,000 alcoholics between 1953 and 1974. An examination of both the underlying cause of death and other contributory conditions mentioned on the death certificates suggests that alcoholics may be particularly susceptible to diseases which contribute to death but do not necessarily cause death for example nutritional diseases, mental disorders other than alcoholism, emphysema of the lungs and certain digestive diseases. Cirrhosis of the liver may not be as sensitive an indicator of alcoholism as it has been taken to be, being mentioned in only 8 per cent of death certificates studied. Confirming other studies, mortality as a whole is very high, especially from accidents and suicides and relatively high from certain cancers.

An analysis of the population distribution in Great Britain shows that the most densely populated 1 km grid square in the country is in the Earls Court area of London, with a population of 24,300 (equivalent to a density of nearly 100 people per acre). A map shows that out of some 2,700 10 km squares covering the country, 30 squares have populations over a quarter of a million – together the 30 squares contain one quarter of the country's population. The analysis is based on detailed figures now available from the 1971 Census of Population for each national grid square in Great Britain. The second article discusses the use of this information for planning the location of a wide range of facilities.

In September 1976 the Council of Europe held a seminar on the implications of a stationary or declining population in Europe. In a report on the seminar Norman Davis, the UK delegate, writes that no country represented seemed unduly concerned at the prospect of a stationary or declining population, although France preferred more people rather than less, while the Dutch welcomed a reduction in numbers. Most delegates at the seminar felt that policy measures to influence the size and structure of a country's population (the level of maternity grants, tax relief, child allowances and so on) would not have a great impact on the longer term demographic trends but stressed that whatever policies were introduced, member countries should think through the demographic implications in advance of legislation.

The regular series of tables in *Population Trends* continue, each brought up to date with the latest available figures.

Population Trends 7, due for publication in March 1976, will include a discussion of the relationship between alcoholism and cirrhosis of the liver, together with an assessment of the local uses of population statistics and an analysis of the social characteristics of women having children.

References

- Population Trends* 6 (HMSO) December 1976 (Price £2.00 net).
Population Trends 7 (HMSO) due in March 1977 (Price £2.00 net).

Scotland

The Registrar General's second quarterly return for 1976 was published in December.

A trial set of tables, based on the postcode sector of residence, has been compiled for deaths by age and sex and deaths by 12 selected causes and sex in 1974 and 1975. These are available at copying cost. Further data extraction can be undertaken (as resources permit) for areas specified by the user, who would be required to meet the programming and computer costs. The information on the basic file includes all items featured in the C (cause of death) series of tables in the Registrar General's annual report and all tabular output is subject to scrutiny to ensure that information on identifiable individuals is not disclosed. Population statistics from the 1971 census are being re-aggregated to postcode sectors, to provide a rough population base in the more stable areas.

The unpublished table series for local government areas, corresponding to those described for 1974 in *Statistical News* No. 32, are now available for 1975.

Population projections to 1996 for local government regions, consistent with the Government Actuary's 1975-based projections for Scotland, are published in abbreviated form in the second quarterly return. Full versions for regions and districts, and the unpublished tables mentioned above, may be obtained from

General Register Office
Statistics Branches
Ladywell House
Edinburgh
EH 12 7TF

SOCIAL STATISTICS

Social statistics liaison group

An informal liaison group dealing with social indicators and other social statistics has recently been established in the Department of the Environment and includes representatives from the Central Statistical Office.

The group has the following main aims:

- (i) to improve the availability of information about activities in the social statistics and social indicators fields;
- (ii) to establish contact between those engaged on or involved with such activities;
- (iii) to comment on the statistical methods and concepts used for the information of members.

Two meetings have been held so far and a composite paper describing ongoing work in the two departments has been prepared.

Copies of this paper can be obtained from the secretary of the group, Mr R H Jenkinson, Room S13/03, Department of the Environment, 2 Marsham Street, London SW1P 3EB (Tel: 01-212 8563).

It should be emphasized that the paper makes no claims to be comprehensive and only includes those activities with which members of the group were individually familiar.

Criminal statistics

Criminal Statistics, England and Wales, 1975, produced by the Home Office and published on July 27, 1976 (price £5.50) contains a new chapter dealing with indictable offences as known to the police in which firearms were involved.

Tables in the chapter show the types of weapon involved in each type of offence in which firearms are reported to have been involved; and the degree of injury (if injury were caused) is related to the age of the offender and the type of weapon used.

The reported increase in both the use and the misappropriation of firearms over the years 1971-1975 is shown, and annual tables or graphs are provided for these five years.

Amendments to Social Trends No. 7

The following amendments should be made:

Page 12

Changes in population structure

2nd paragraph, line 9. Delete half a million and substitute four hundred thousand.

3rd paragraph, line 10. Delete 9 per cent and substitute 7 per cent.

Page 19

Industrial training

Lines 12 to 19. Delete In 1975 the system . . . which began in 1972 and substitute In 1972 the Training Opportunities Scheme (TOPS) was set up under the auspices of the Manpower Services Commission. The Training Services Agency came into being in August 1974. The number trained under TOPS in 1975 rose to 61 thousand; a fourfold increase over the 1971 total.

Page 22

Social security and income support

3rd paragraph, line 1. Delete and substitute There was an increase of over 200 thousand, to over 4.6.

Page 26

2nd paragraph, line 5. Delete and substitute stood at 13,184, an increase of 51 per cent since.

Page 28

Changes in stock of dwellings

Line 9. Delete 506 and substitute 522.

Page 29

Northern Ireland

Line 8. Delete 4,876 and substitute 4,857.

Page 60

Footnote 7, line 2. Delete \$250,000 and substitute \$750,000.

Page 62

Sex and age structure: population changes: variant projections

Line 5. Delete but and substitute and.

Page 69

Table 1.14

After Total lone parents add footnote indicator 2 and after the entry for footnote 1 add 2 Includes lone parents that are living with their children who are not dependent.

Page 122

Chart 5.27

Lower graph, the legend. In both instances delete renewal and substitute reassessment.

Page 123

Table 5.29

1975 data. Delete 5,250 and 8,880 and substitute 5,210 and 8,790 respectively. (A departmental revised estimate.)

Page 179

Leisure activities

5th paragraph. Delete the last two sentences, 11th paragraph. Delete whole paragraph.

Page 214

Chart 14.10

Add at foot of chart *Not available.

HEALTH

Mental illness and mental handicap statistics

The continued decline in the number of persons admitted for the first time to mental illness hospitals and units, and the continued increase in the number of admissions to mental handicap hospitals and units to allow temporary relief to families caring for the mentally handicapped in the community are two prominent trends illustrated in a Department of Health and Social Security Statistical Report⁽¹⁾ published in January 1977. The report, which is based on the Mental Health Enquiry for 1974 and is one of a regular series, contains statistics and commentaries on recent trends and major changes.

For mental illness hospitals and units, the number of first admissions during 1974 was 56,140 representing a reduction of 2,310 compared with 1973 and of more than 7,000 compared with 1970. In 1974, for the first time for a number of years, re-admissions fell marginally, to 114,687. These figures suggest a change in the pattern of mental illness services resulting in new patients being kept out of hospital where satisfactory alternative means of care are available. For mental handicap hospitals and units, the number of first admissions, 1,540, was at a similar level to 1973 but re-admissions increased by 638 to 10,592. Well over half of this increase was accounted for by admissions to give temporary respite to families. Admissions for this purpose have increased by 2,149 between 1964 and 1974 and account for the bulk of the increase of 2,404 in all admissions between those years.

The decrease in the total number of resident patients has continued. For mental illness hospitals and units the number of in-patients resident at the end of 1974 was 90,151, a fall of 5,050 compared with the previous

year and nearly 18,000 less than at the end of 1970. This trend may be attributed to the continuing development of methods of treatment and care and the expansion of community services. For mental handicap hospitals and units the number of resident patients at the end of 1974 was 50,620, a reduction of 1,198 from 1973 and nearly 5,000 less than at the end of 1970, again reflecting the greater availability of community care through non-in-patient services.

Reference

(1) In-patient statistics from the Mental Health Enquiry for England 1974. *DHSS Statistical and Research Report Series No. 17*. HMSO price £3.50

Child health services

Comprehensive restructuring of health services for children in England and Wales is recommended in the report⁽¹⁾ of a Government committee set up in 1973 under the chairmanship of Professor Donald Court 'to review the provision made for health services for children up to and through school life'.

The report is published in two volumes the second of which comprises a statistical appendix to the main report.

The main recommendation of the Committee is that prevention and treatment should be provided by the same service and not by different services as at present, with family doctors providing treatment while other doctors employed by health authorities and working in separate clinics survey the health and development of babies and young children and children at school. The report says that doctors and nurses – particularly those to whom parents first go for help – need more training in child health and development. While children are growing they have special health needs.

All family doctors should therefore have an extended training in childhood development and illness, and some while remaining general practitioners, should specialise in children's health. These would be known as General practitioner paediatricians (GPPs). GPPs would not only provide treatment but would also be responsible for health checks on pre-school children, and would act as school doctor to one or more local schools. This would mean that comprehensive child health care would in time be provided by the general practitioner services.

The Committee proposes a new post of Child health visitor (CHV) to work with the new General practitioner paediatricians. Like the GPP she would specialise in work with children and their parents, would help parents with the nursing of a sick child in the home as well as providing advice on growth and develop-

ment and the prevention of illness and the encouragement of healthy living.

There would also be more help for families with handicapped children. The GPP would be trained to understand their needs and would have a special responsibility for those being cared for in the community. In addition there would be a district handicap team in each health district headed by a new kind of consultant – the consultant community paediatrician. This multi-professional team would provide specialist assessment and ensure appropriate care for children with every kind of handicap including the severely mentally retarded; with the GPP they would cover both the hospital and the community.

The Committee says there should be a new committee for children at national level to watch over children's health, social and educational needs and the way in which they are being met. It says children cannot speak for themselves and society has a duty to ensure that their special needs are kept under review.

The Statistical appendix includes a selection of the statistical material requested by the committee. It is arranged in seven sections, each with a short commentary designed both to draw attention to the more important trends and to difficulties in interpretation. The sections are:

- A. Child Population and Births (16 tables)
- B. Marriage, Family and the Environment (24 tables)
- C. Infant and Child Mortality (12 tables)
- D. Infant and Child Morbidity (17 tables)
- E. The Use of Health and Personal Social Services (37 tables)
- F. Manpower (17 tables)
- G. Area profiles (24 indicators for each Regional and Area Health Authority)

The statistics are derived mainly from data collected by the Office of Population Censuses and Surveys and the Department of Health and Social Security (The Welsh Office in the case of many health statistics for Wales). It is believed that this is the first occasion on which statistics on so many aspects of the health of children have been brought together in one volume.

Reference

(1) *Fit for the Future*. The Report of the Committee on Child Health Services Cmnd 6684 – HMSO London – 2 vols £10.50.

SOCIAL SECURITY

New statistical series from DHSS

The following series, although not yet published, have recently become available from the Department of Health and Social Security. They will eventually appear in the 1977 edition of *Social Security Statistics*, due out in November 1977.

Supplementary Benefits: Analysis of amounts of Supplementary Pensions/Allowance and rents added in the assessment of supplementary pension/allowance and certain *ad hoc* analyses of regular weekly awards of supplementary pension/allowance on quarter dates in each year.

Number of and results of claims for supplementary pension/allowance, numbers by types of claimant, numbers and amounts of exceptional payments.

100 per cent count of live load by type of claimant.

Quarter ended 30.9.76

War Pensions: Analysis of pensions in payment by war, residence, awards and rejections.

October 1974–September 1975

Industrial Disablement Benefit: Analysis of pensions, allowances, and gratuities by sex, age, cause, industry, etc.

Special Schemes: (Workmen's Compensation) (Pneumoconiosis, Byssinosis and Miscellaneous Diseases).

Allowances and deaths analysed by age and industry.

Quarter ended 30.9.76

Maternity Benefit: Analysis of awards in the period by marital status, region, etc.

Quarter ended 30.9.76

Attendance Allowance: Allowances current and awards in period by age, cause and region separately for Higher and Lower rates.

Quarter ended 31.3.76

Death Grant: Analysis of grants paid by sex of deceased, age, and date of death, country, amount, reason for reduction and whether incapacitated.

2 months ended 30.9.76

Family Allowances: Analysis by size of families, age of children and country.

At May 1976

Analysis of registered unemployed by class, rate of benefit, age, sex, dependency and duration.

October 1974–September 1975

Pneumoconiosis Medical Panels: Results of boardings showing industry assessment and age of claimant.

All the above are obtainable from:

Mr D Smith
Statistics and Research Division 3B
Department of Health and Social Security
10 John Adam Street
London WC2N 6HD.

EDUCATION

Statistical users conference

This conference, one in an annual series inaugurated in 1970 by the Standing Committee of Statistical Users, is intended to provide a forum for users and providers of statistics to discuss topics of mutual interest. This year the conference was organised by the Royal Statistical Society on the theme of education statistics.

The conference was held on 25 November 1976 in the rooms of the Royal Society and was attended by 156 people, drawn from central and local government, research institutions, trade unions, the education press, business, industry and universities. The opening address was given by the President of the Royal Statistical Society, Stella Cunliffe, who emphasized the importance of education statistics for the decisions that had to be made, and the timeliness of the conference.

Professor Bernard Benjamin then introduced the first session on 'statistical needs for policy and planning'. Mr R Aitken, Director of Education, Coventry, indicated some of the ways LEAs used information, and what further information could be used, laying particular stress on small area data. Mr E H Simpson, of DES, described the Department's philosophy of statistics and went on to describe the new planning command recently set up at the Department. Mr Simpson also indicated the way he hoped the command would operate, and the emphasis it intended to give to statistics and models.

The second session dealt with 'monitoring the education system'. Dr R Sumner, of NFER, discussed recent work on ability tests and assessment problems, and in discussion afterwards Mr B Kay of the DES described how the new Assessment of Performance Unit would be looking at these problems. Mr L J Kail, of CIPFA, presented a paper that showed some of the problems that arose in local authorities in relation to resource allocation. He described how there was frequently a difference in approach between LEAs and the DES. Mr B Rodmell, from the DES, described how clashes might occur and how better statistical support could be of assistance. Mr A W Brodie, now of the Crofters Commission, described how the SED had developed a computerised model to help with assessing staffing needs and standards.

The afternoon session, devoted to 'filling the information gaps', was chaired by Sir Fred Dainton of the UGC. Mr W Stubbs of Cumbria Education Authority looked at some of the information requirements for planning secondary re-organisation, and how some of these requirements could be met. Mr P Wedge of the National Children's Bureau, returned to the theme

of standards, and argued in favour of more and better research to provide greater understanding of existing standards and of trends. Mr J Murphy, an NUT executive member and a headmaster, gave some insight into the way statistics are often lacking in the fundamental debates that take place. Maureen Woodhall presented some recent work on education costs, and Mr B M Rooney of GEC-Marconi, argued that there was often a mismatch between the educational and employment systems, resulting in 'undesirable economic inefficiency and social dissatisfaction'. He indicated that employers were all too often given too little information, and often not of the type they really needed.

About half of the conference was taken up by discussion from the floor; representatives of the DES played a prominent part in these discussions, and this was a valuable aspect of the conference.

The traditional open forum at the end of the day was presided over by Sir Claus Moser, and again provided a lively discussion; but one which, perhaps inevitably, raised more questions than answers.

It is hoped that an edited version of the proceedings will be published in the journal of the Royal Statistical Society. Copies of the main papers may be obtained from the Royal Statistical Society; other enquiries should be made to J R B King, Ministry of Overseas Development 01-834 2377 ext 763.

Undergraduate income and spending

The latest pamphlet in the *Education Today* series issued by DES, 'Undergraduate Income and Spending', summarises the main findings of a sample survey of the income and expenditure of undergraduate students in Great Britain, carried out for the Education Departments in 1974-75 academic year by OPCS Social Survey Division. OPCS are to publish a full report of the survey in due course.

The purpose of the survey was to establish facts which would assist with the Department's policy on student grants, and these are currently being used in their triennial review. The summary examines the income received by students from grants and awards, parents, vacation earnings and other sources, and the pattern of expenditure of students living in different types of accommodation.

A similar survey of postgraduate student income and expenditure was undertaken during 1976 and the preliminary results will also be available for the triennial review.

Copies of 'Undergraduate Income and Spending'

may be obtained from the

Department of Education and Science
Room 1/27
Elizabeth House
York Road
London SE1 7PH.

Education in Wales

The Welsh Office has recently published a new document *Statistics of Education in Wales*. This is the first of an annual series and brings together a wealth of detailed information, some of it previously unpublished, on the education service in Wales. It is intended to complement the England and Wales data given in the long standing DES series *Statistics of Education*. One novel feature of the publication is the section covering teaching provision through the medium of the Welsh language, the first time such detailed information is available.

Reference

Statistics of Education in Wales No. 1 1976 (HMSO) 1977 (Price £3.00).

MANPOWER AND EARNINGS

Manpower planning

Further articles in the manpower planning series in the *Department of Employment Gazette* (*Statistical News* 35.38 etc) have been published. The October 1976 issue contained two articles, one on the way in which manpower planning techniques were used to improve decision-making in a construction firm; the other on the flow of new graduates from university into employment in the last decade, focussing particularly on flows into industry. The article in the November 1976 issue continued the review of manpower planning literature with a look at the books, papers and articles which examine approaches to demand forecasting, techniques and practices.

Reference

Department of Employment Gazette, October and November 1976 (HMSO) (Price 90p net).

The changed relationship between unemployment and vacancies

Unemployment and vacancies are both related to the level of economic activity and so to each other; generally as unemployment rises the level of vacancies falls and vice versa. The relationship in the late 1960s was noticed to have departed from the previous pattern. The Department of Employment set up a working party to study evidence which might throw light on the change and in particular the possible

effects on benefits, a number of which were improved in 1965 and 1966, on the level of unemployment. An article summarising the report of the working party appeared in the October 1976 issue of the *Department of Employment Gazette*.

The main conclusions were that the shift in the relationship in 1966-74 was equivalent to an increase in unemployment of about 300,000 corresponding to a given level of vacancies. The introduction of statutory redundancy payments and the earnings related supplement to unemployment benefit probably increased male unemployment by less than 20,000 and 50,000 respectively, only a small part of the total shift to be explained. The increase in unemployment for men can be explained by the almost continuous fall in male employment between 1966 and 1972, leaving little to be added by other possible explanations. The remaining part of the explanation, relating to the behaviour of vacancies, may lie in the more economical use of labour which may have led to a greater increase in the flow of vacancies as the economy expanded in 1972-3.

Reference

Department of Employment Gazette, October 1976 (HMSO) (Price 90p net).

The unregistered unemployed

Most discussion of the unemployment situation is in terms of the official figures released each month. These figures are counts of the numbers of unemployed persons who are registered at local offices of the Employment Service Agency or careers offices of local education authorities. In addition, however, there are those unemployed who are seeking work but do not register at one of these offices. An article in the December 1976 issue of the *Department of Employment Gazette* discusses this group of people described as the 'unregistered unemployed', their numbers and some of their characteristics.

The problems of defining unregistered unemployed are discussed; and the latest estimates currently available (up to 1973) of male and female unregistered unemployment are given, using as data sources the *Census of Population* in 1966 and 1971 and the *General Household Survey* for the years 1971-73.

Reference

Department of Employment Gazette, December 1976 (HMSO) (Price 90p net).

Distribution and concentration of industrial stoppages in manufacturing in Great Britain

An article in the November 1976 issue of the *Department of Employment Gazette* presents information on the proportion of establishments in manufacturing industry unaffected by stoppages due to industrial

disputes during the years 1971 to 1973. Some 98 per cent of plants were found to be stoppage free in an average year and 95 per cent of establishments were stoppage free over the whole three years.

Analyses of stoppage incidence and of the proportion of stoppage free manufacturing establishments in 61 sub-regions of Great Britain are also provided. Over the period 1968 to 1973 considerable differences in stoppage incidence were found to exist between sub-regions even after standardisation for industrial structure. However, in all cases stoppages were found to be highly concentrated, with at least 92 per cent of manufacturing plants free of stoppages over the period 1971 to 1973 in all sub-regions.

Reference

Department of Employment Gazette, November 1976 (HMSO) (Price 90p net).

New Earnings Survey 1976

The publication of the six-part booklet giving the detailed results of the New Earnings Survey 1976 (*Statistical News* 34.34) will be completed when Part F becomes available in mid-March. The main contents of the six parts are:

- Part A General results; streamlined analyses of key results by collective agreement, industry, occupation, age and region. Descriptions of the survey methods, classifications, terminology etc.
- Part B Earnings and hours of particular wage-negotiation groups.
- Part C Earnings and hours in particular industries.
- Part D Earnings and hours in particular occupations.
- Part E Earnings and hours in regions, counties and age-groups.
- Part F Hours; earnings by length of service; and earnings and hours of part-time women workers.

The main general results and streamlined analyses of key results for particular collective agreements, industries, occupations, age-groups and regions were also published in the October 1976 issue of the *Department of Employment Gazette*. These give a wide range of results in a very compact and convenient way, especially for those who may not require the more detailed analyses.

References

New Earnings Survey 1976, a publication in six parts (HMSO) (Price £1.50 per part net).

Department of Employment Gazette, October 1976 (HMSO) (Price 90p net).

Regional earnings

Regional statistics of gross annual earnings produced

by the Department of Health and Social Security are now available in respect of the 1974/75 tax year, and summaries have been published in *Regional Statistics No. 12 1976*.

It was not possible to use the earners' national insurance flat-rate contribution record to separate full and part-year employed earners as in the past (as described in *Statistical News* 1.22 and 7.32). Instead, all persons with some PAYE earnings in the year are included in the one series of tables.

To provide a comparison with earlier years the 1973/74 earnings have been tabulated on both bases.

Details can be obtained from:

Statistics Branch SR3C

Department of Health and Social Security

10 John Adam Street

London WC2N 6HD

Telephone 01-217 3051

Reference

Regional Statistics No. 12 1976 (HMSO) December 1976 (Price £6.50 net).

Distribution of income

Annual estimates of the *National Income and Expenditure 1965-75* (Blue Book) table on the distribution of income before and after tax for the United Kingdom were made and published for 1949 to 1973-74, except for the four years 1968-69 to 1971-72. These estimates cover taxable income and non-taxable social security benefit for all tax-units in the population but they exclude the imputed rent of owner-occupied dwellings. Unpublished, provisional estimates for one of the missing years, 1971-72, and for 1973-74, including imputed rent, are now available and can be obtained from:

Mr T Brennan

Central Statistical Office

Great George Street

London SW1P 3AQ

Telephone: 01-233-7666.

INDUSTRIAL STATISTICS

Recent improvements to output statistics

The measurement of changes in production⁽¹⁾, published in July 1976 as No. 25 in the series of *Studies in Official Statistics*, described the index of industrial production and the output-based measure of gross domestic product. In general, it related to the methods in use at mid-1975. Since then a number of improvements have been made, mainly resulting from the use of information available from the Business Statistics Office's comprehensive quarterly sales inquiries.

Index of industrial production

A number of the improvements involved indicators used in the index of industrial production. Quarterly inquiry results are now used to obtain firm quarterly estimates, supplementing provisional monthly estimates, of the output of metal goods industries (Order XII) and the single indicator for 'other metal goods' (part of MLH 399) has now been replaced by seven new series as follows:

Series	Weight per 1,000
Metal windows and door frames	1.58
Safes, locks, latches, keys and springs	2.18
Needles and other metal small ware	1.72
Domestic gas appliances	1.90
Metallic closures	0.83
Metal finishing	1.80
Miscellaneous metal goods	11.52
	—
	21.53
	—

Quarterly estimates are also available for 'formulated adhesives, gelatine, etc' (MLH 279/2), previously represented by changes in the output of the remainder of 'other chemical industries' (MLH 279). The weights for the components of MLH 279 are now as follows:

Series	Weight per 1,000
Polishes	0.70
Formulated adhesives, gelatine, etc	0.86
Explosives and fireworks	1.38
Formulated pesticides, etc	0.90
Printing ink	0.59
Surgical bandages, etc	1.22
Photographic chemical materials	1.47
	—
	7.12
	—

The new series for 'formulated adhesives, gelatine etc' has been allocated to 'Intermediate goods industries: materials' in the analysis by market sector, resulting in a minor redistribution of the total weight between consumer goods and intermediate goods industries.

The results of the quarterly inquiry into miscellaneous building materials and minerals and mineral products are now used as an indicator for the output of a substantial part of 'building materials, etc, not elsewhere specified' (MLH 469/2) to supplement the indicator for ready mixed concrete previously used. These weights are now:

Series	Weight per 1,000
Ready mixed concrete	0.90
Other building materials	3.07
	—
	3.97
	—

The quarterly inquiries also supply the information now used to derive the production indicators for fruit

and vegetable products (MLH 218) and canned meat (part of MLH 214).

A new monthly sales inquiry into the pharmaceutical chemicals and preparations industry (MLH 272) is being used to estimate the monthly output of that industry. Production figures are used to represent the monthly output of low temperature coke and fuel briquettes (part of MLH 261) in place of the input measures previously used.

Following a review of statistics of North Sea oil and gas (described in *Statistical News*⁽²⁾, February 1976, pages 32.1 to 32.4), a change has been made to the way in which exploration and development activities are assessed within the petroleum and natural gas industry (MLH 104). Net output of an industry is defined as the value of its gross (or total) output less any goods or services acquired from other industries or imported. In 1970, the indigenous crude oil production industry's imports, etc associated with exploration exceeded the net output of UK exploration companies, and thus the combined contribution to domestic product by establishments classified to MLH 104 in respect of their exploration activities was negative (that is, the current deficit of the oil operators exceeded the UK factor incomes). Development activities, however, made a positive contribution (representing, in national accounts terms, capital formation less imports). Because changes in the net output of exploration and development activities may be independent, the single indicator which represented total drilling activity has been replaced by two separate indicators. This revised treatment of exploration and development affects also the weight in the index for natural gas production. The weights the petroleum and natural gas industry are now as follows:

Series	Weight per 1,000
Exploration activities	-0.42
Development activities	0.39
Indigenous crude oil extraction	0.03
Natural gas extraction	0.88
	—
	0.88
	—

In the absence of more comprehensive indicators, estimates of changes in the output of exploration and development activities are based on distances drilled in the course of each activity.

Gross domestic product: output measure

Outside the index of industrial production, improvements have been made to the annual indicators used in the output-based measure of gross domestic product within Order XXV, *Professional and scientific services*.

For educational services, where employment is used as an indicator of output, a notional allowance has been made, for periods since 1970, for 'grade drift' (that is, for changes in the proportion of teachers on any one scale). Within medical and dental services, the output of National Health Service hospitals and local authority community health services for 1974 onwards is now measured by a single index of current expenditure on wages and salaries at constant prices.

Improvements have also been made to the quarterly indicators for a number of industries where employment is used as an indicator of output, by the introduction of information derived from the Department of Employment's quarterly sample inquiry into numbers of employees in employment which started during 1974. The indicators concerned are as follows:

Order	MLH	Series	Weight per 1,000
XXII	709	Miscellaneous transport services, etc	6.3
XXIV	864	Advertising and market research	0.1
	865	Other business services	5.9
	866	Central offices not allocable elsewhere	3.7
XXV	872	Educational services	41.7
	874	Medical and dental services	30.0
	876	Research and development services	3.4
		Remainder of Order XXV	22.6
XXVI	899	Other services	14.2
XXVII	901	National government service (other than (part) armed services and women's services)	22.8
	906	Local government service	25.2

Other indicators used for the index of industrial production and the output-based measure of gross domestic product are under review. The implementation of further improvements will be reported in future issues of *Statistical News*.

References

- (1) *Studies in Official Statistics No. 25. The measurement of changes in production* (HMSO 1976) (Price £1.05 net).
- (2) *Statistics of North Sea oil and gas* by David J Reid *Statistical News No. 32*, February 1976 (HMSO 1976) (Price 60p net).

Annual censuses of production

1972

Business Monitor PA 1002, the final part of the Report on the Census of Production 1972, has recently become available priced £5.25. As in the 1970 Monitor (C154) and the 1971 Monitor (PA 1002) there are a number of tables summarising results previously published in the separate industry monitor (PA 101-PA 603) together with a number of tables analysing census data by enterprise. These tables include, for each industry, as did those for 1970 and 1971, concentration ratios for the five largest enterprises by employment size. Besides analyses of enterprises by size of employment and net output there are tables summarising data for the 100 largest enterprises in manufacturing

industries (Orders III-XIX of the Standard Industrial Classification (revised 1968)) by size of employment, net output and turnover.

1973

As the Business Monitors reporting the results of the 1973 Census of Production become available they will be brought to the attention of the readers of *Statistical News*. A list of the first of these Monitors to be published is given below:

Business Monitor Number	Description	Standard Industrial Classification Minimum List Heading
PA 1001	Introductory Notes	
PA 101	Coal mining	101
PA 221	Vegetable and animal oils and fats	221
PA 382	Motor cycle, tricycle and pedal cycle manufacturing	382
PA 441	Weatherproof outerwear	441

1974 - Construction industry

A new Business Monitor has been published for the Construction industry.

The reference and title is PA 500 Report on the Census of Production, Construction 1974.

The information in this report related to the undertakings in the Construction industry minimum list heading 500 in the Standard Industrial Classification, (revised 1968) and covers the construction work done by private enterprises and by persons directly employed by Local Authorities, Public Authorities, and Government Departments.

As well as other tables this Business Monitor includes an analysis of Output and employment in both private and public undertakings, Capital expenditure and stocks for 1968 and 1974 and an analysis of purchases by undertakings employing 20 or more persons.

Other new Business Monitors

A new Business Monitor has been added to those available in the Services and Distributive Series. The reference and title is:

- SD 22. Report on the Census of Distribution and Other Services 1971
Part 13. Retail Organisation Tables and Services Trades (Price £2.95).

The New Monitor is available on Standing Order from:

Her Majesty's Stationery Office
PO Box 569
London SE1 9NH

or can be purchased separately from Government bookshops or through booksellers.

Further information about statistics in this publica-

tion can be obtained from the Business Statistics Office, Newport, Gwent NPT 1XG. Telephone Newport 56111 (STD Code 0633) Extn 2000.

1975

Business Monitor PA 1000 –Provisional results – the first of the volumes reporting the results of the Census of Production 1975, will be published shortly. This volume presents estimates of some of the principal results of the census, with comparative data for 1970–74. Besides giving information on output, employment and net capital expenditure, it includes figures for total sales of goods produced, receipts for work done and services rendered, cost of purchases, a breakdown of employment and wages and salaries between operatives and other employees (administrative, technical and clerical employees) and details of capital expenditure.

Copies of these Business Monitors are available on standing order from:

Her Majesty's Stationery Office
PO Box 569
London SE1 9NH
Telephone 01-928 6977,

or through any Government Bookshop. They are not, however, included in the global subscription arrangements of the Business Monitor Series.

Further information on the PA series of Business Monitors and of the Censuses generally can be obtained from:

Mr R J Egerton
Business Statistics Office
Cardiff Road
Newport
Gwent NPT 1XG
Newport 56111 (STD Code 0633) Ext 2455

TRANSPORT

Road mileage statistics in England and Wales

The Department of Transport obtains annual statistics from English County Authorities of the lengths of roads for which local authorities exercise responsibilities, that is all public roads except trunk roads.

Before local government reorganisation in England and Wales in 1974 it was possible to classify these road mileages as urban or rural according to whether they lay in urban or rural local authorities. But now most of those urban authorities have been merged with rural areas and have lost their separate identity.

An urban and rural classification is important in a number of contexts, for example in road traffic statistics, road accident studies and highway main-

tenance standards. A new classification has therefore been adopted in England, by collecting separate figures from 1976 for those stretches of road with speed limits of 40 mph or less (built-up areas) and those with speed limits of over 40 mph (non built-up areas). For this purpose, a number of counties have remeasured all the roads under their control, which has consequently improved the over-all accuracy of the statistics of road mileages.

A similar classification into built-up and non built-up road mileages is expected to be available for Wales after the 1977 mileage survey.

Road lengths data for England in 1976 are available by road class (principal, other classified and unclassified roads) by county districts (and London Boroughs) and by the built-up and non built-up categories.

Further information can be obtained from:

J M Munden
Department of Transport
Statistics Transport and General Division
Room 1/45
St. Christopher House
Southwark Street
London SE1 0TE
Telephone: 01 928 7999 Ext 2630.

Civil Aviation Authority

The most extensive collection to date of UK civil aviation statistics has just been published in *Civil Aviation Authority Annual Statistics 1974 and 1975*. It gives much greater detail of the activities of UK airlines than the previous edition.

For the first time tables are published showing the expenditure on personnel by individual airlines and the numbers they employ.

The airline financial statistics include for the first time a table of output measures so that financial results and outputs can be compared over the same annual period.

The statistics of activities at UK airports are presented in similar detail to the 1973 edition. A notable addition is a table providing estimates of passenger movements between planning regions and airports in 1975. It was originally published in a CAA survey on origins and destinations of passengers at UK airports, now updated to 1975.

The detailed statistics published now reflect the revised system of statistical collection (introduced by the CAA on 1 January 1974) which has been designed primarily to provide a firm factual basis for the decisions

which the Authority must take in the interests of the aviation industry.

Reference

CAA Annual Statistics 1974 and 1975 (CAP 386), published by the Civil Aviation Authority, price £10.00. Copies from CAA, PO Box 41, Cheltenham, Glos., or to personal callers from the CAA Central Library, Aviation House, 129 Kingsway, London WC2B 6NN.

Survey of airports in Scotland and Central England

A survey by the Civil Aviation Authority into the travel patterns of passengers at the four major Scottish airports and the three Central England airports has been published. The seven airports handled 7.9 million passengers in 1975, 19 per cent of the UK total of 42 million terminal passengers.

Scottish airports

The four major airports in Scotland accounted in 1975 for about 9 per cent of passengers at UK airports and 88 per cent of passengers at all Scottish airports. Aberdeen handled 645,000 passengers (1.4 per cent), Edinburgh 874,000 (2.1 per cent), Glasgow 1,763,000 (4.2 per cent) and Prestwick 395,000 (0.9 per cent). More than 3.2 million passengers were estimated to have begun or finished their air journey at these airports and 94 per cent said that their origin/destination was within Scotland.

Edinburgh, Glasgow and Prestwick were covered by a similar survey in 1970. A comparison of the results from the two surveys shows an increase in the proportion of business journeys at Edinburgh, an increase in the proportion of UK leisure passengers on international flights at Glasgow, and a fall in the share of foreign leisure passengers at Prestwick. Aberdeen was the only one of the four at which the majority of passengers were travelling on business. The most popular method of transport between the airport and the origin/destination was private car, used by more than 50 per cent of passengers.

Central England airports

The three Central England airports together handled 4.2 million terminal passengers in 1975, about 10 per cent of the total of all passengers using UK airports. Manchester was the third largest airport, behind Heathrow and Gatwick, handling 2,579,000, or 6.2 per cent of all passengers. Birmingham handled 1,082,000 (2.6 per cent) and East Midlands 545,000 (1.3 per cent).

Of the terminating passengers at Manchester 72 per cent had their origin/destination within the North West planning region; 75 per cent of terminating passengers at Birmingham had origin/destination within the West Midlands planning region; and 57 per cent of terminating passengers at East Midlands said their

origin/destination was within the East Midlands planning region.

Birmingham and East Midlands had previously been surveyed in 1971, and Manchester in 1970. Each airport shows an increase in the proportion of international business passengers and a fall in domestic leisure traffic. East Midlands also shows a rise in the share of UK leisure passenger on inter-nation flights.

A private car was used by more than 70 per cent of passengers at each of the airports to travel between the airport and their origin/destination.

Extent of survey

Other information provided in the report includes:

Number of persons travelling with and number of meeting/seeing off the passengers; frequency of air travel and duration of trip; business passengers analysed by Standard Industrial Classification and, for those at Scottish airports, whether their journey was connected with the oil industry; passengers' incomes; demographic characteristics of the passenger; an analysis of individual routes; interline passengers; and booking patterns.

Reference

Passengers at major airports in Scotland and Central England, price £8, copies available from CAA, PO Box 41, Cheltenham, Glos; or by personal callers from the CAA Central Library, Aviation House, 129 Kingsway, London WC2B 6NN.

WASTE DISPOSAL

1974/75 survey of waste disposal

National figures on waste disposal operations of local authorities during 1974/75 have recently been published by the Department of the Environment⁽¹⁾. Information on quantities of waste and on methods and costs of treatment and disposal was obtained from Waste Disposal Authorities in England (the county councils plus the GLC) in an inquiry conducted jointly by the Society of County Treasurers, the County Surveyors Society and the Department of the Environment. This national inquiry was the first of its kind since 1965/66. The survey did not however cover the activities of the private sector which handles approximately the same amount of waste as the public sector, but mainly of an industrial character.

The Department has also prepared an unpublished paper containing a more detailed analysis of the results of the survey. Copies are available on request to Statistics Planning and Regional Division, Department of the Environment, Room S13/14, 2 Marsham Street, London SW1P 3EB.

The Society of County Treasurers has published detailed statistics from the inquiry for individual Waste Disposal Authorities⁽²⁾. National figures in the Society of County Treasurers publication differ slightly from those published by the Department of the Environment because of differences in interpretation of some of the returns. Further information on this can be obtained from Statistics Planning and Regional Division, Department of the Environment.

References

(1) *Waste Management Paper No. 10: Local Authority Waste Disposal Statistics 1974/75*, (HMSO). Price 70p.

(2) *Waste Disposal Statistics 1974/75, Society of County Treasurers 1976*. Available from: The Honorary Treasurer of the Society of County Treasurers, PO Box 38, Milner House, Rope Walk, Ipswich, Suffolk.

FOOD AND AGRICULTURE

Agricultural censuses and surveys

The June 1976 Agricultural Census

The final results of the June census in England and Wales, and those for the United Kingdom were both published in Statistical Information Notices.

The September 1976 Sample Agricultural Enquiry

The results of this enquiry in England and Wales were published in a Press Notice on 10 November 1976⁽¹⁾.

These show that within an almost unchanged breeding herd, dairy cows increased and beef cows decreased in number compared with September 1975. The pig breeding herd was greater than a year before. The egg-laying flock and the number of growing pullets showed little change compared with September 1975.

New type of farming maps

A new booklet published by the Ministry entitled *Type of farming maps for England and Wales* contains maps showing the incidence of various types of farming and size of business, measured in standard man-days, in each 10 Kilometer grid square. The maps are based on agricultural returns for June 1971, and are similar to those produced in 1968 based on the 1965 census⁽²⁾.

Reference

(1) Press Notice No. 356 issued by the Ministry of Agriculture, Fisheries and Food.

(2) Press Notice No. 412 issued by the Ministry of Agriculture, Fisheries and Food.

Final results of the June 1976 Scottish Agricultural Census

Final results of the Scottish Agricultural Census held on 1 June 1976 were published as a Scottish Office Press Notice on 4 November 1976 (Press Notice 1110/76).

For the first time since 1964 the numbers of beef cows at the June census has fallen. The number of dairy cows has reached a new low but at 298,000, the

percentage drop is only 1 per cent compared to 4 per cent for beef cows. The size of the sheep flock has fallen by 1 per cent but the number of pigs has increased by 38,000, a 7 per cent increase over last year. An eight per cent increase in the numbers of the poultry flock has been largely due to broiler numbers increasing by over a million. In the cropping sector, the switch from oats to barley continues, decreases of 4 per cent and 15 per cent respectively in the areas of wheat and oats being more than offset by a 5 per cent increase in the barley area. For the first time in six years the area under potatoes has increased by 11 per cent but there have been decreases of five per cent and thirteen per cent respectively in the areas of land used for vegetable and soft fruit production. There has been little change in the total number of persons employed in agriculture.

The August 1976 Pig Sample Census – Scotland

The results of this census in Scotland were published as a Scottish Office Press Notice on 13 October 1976 (Press Notice No. 1043/76).

These results show that the steady build up of pig numbers since April 1975 continues. Compared with last June's final census results, total pig numbers are up by about 9,000 (1½ per cent) and over the year they have risen by 33,000 (nearly 6 per cent). There has however been a drop of about two thousand pigs (over 3 per cent) in the breeding herd since last June.

NATIONAL ACCOUNTS

Manufacturers' capital expenditure by regions

The quarterly series of manufacturers' capital expenditure by regions described in the May edition of *Statistical News* (33.30) is being discontinued after the second quarter of 1976. The final set of figures will be published in *Trade and Industry* in February 1977. The effect of staff cuts arising from Central Government economies led to the decision to drop this inquiry. The decision however was also influenced by the fact that the Business Statistics Office is speeding up the processing and publication of the regional analyses of the annual Census of Production. Although these census results cannot be expected as quickly as the results of the quarterly inquiry it is planned to publish provisional figures in future with a lag of only some fifteen months. For example, those for 1975 are expected to be published in *Trade and Industry* in March 1977.

HOME FINANCE

Current cost accounting

An Exposure Draft of a proposed Statement of Standard Accounting Practice on current cost accounting (CCA)

was issued by the Accounting Standards Committee on 30 November 1976. Also published at the same time were a guidance manual on CCA, a set of background papers, and a brief guide designed to give the busy non-financial reader an outline of this new system of accounting. All these documents were compiled by the Inflation Accounting Steering Group, which was set up by the Consultative Committee of Accountancy Bodies, in consultation with the Accounting Standards Committee, to draw up a draft accounting standard for CCA in response to the Report of the Inflation Accounting Committee (the Sandilands committee) (*Statistical News* 31.39).

The Exposure Draft has been issued for public comment. Comments should be sent to the Inflation Accounting Steering Group, 6th Floor, First National House, 119 Finsbury Pavement, London EC2P 2HJ.

Under the system proposed in the draft Standard, a company's annual accounts will include:

- a profit and loss account:
- an appropriation account:
- a balance sheet; and
- a statement of the change in the shareholders' net equity interest after allowing for the change in the value of money.

The basic principles of the system are:

- a. The non-monetary assets of the business should be shown in the balance sheet at their value to the business at the balance sheet date. Their value to the business will normally be their written-down replacement cost, but in exceptional circumstances could be the higher of their net realisable value and their economic value (ie the present discounted value of expected future cash flows) if both are lower than replacement cost.
- b. Revenues should be charged with the depreciation of fixed assets calculated on their value to the business, and with the cost of stock consumed valued at its replacement cost at the date of sale.
- c. Revaluation surpluses should be credited in the first instance to the appropriation account. These surpluses will arise mainly from the revaluation of fixed assets and from the difference between the replacement cost and historical cost of stock consumed.
- d. Directors should appropriate to revaluation reserve, out of the revaluation surpluses and, if necessary, out of current cost profit, an amount based on their assessment of the needs of the business.

Under the timetable proposed in the Exposure Draft, application of the Statement of standard accounting

practice will be phased over a three year period. It will apply first to the accounts of the largest enterprises, for accounting periods beginning on or after 1 July 1978, and will be extended in two stages to the accounts of all companies with annual turnover or total assets in excess of £100,000. The proposals do not yet specify a starting date for the mandatory use of CCA by businesses with annual turnover and assets below £100,000.

The draft Standard specifies the methods and sources of data that may be used for estimating the current replacement cost of plant and machinery and stocks. Although other methods are preferred where they are practicable (having regard to materiality and the cost of valuation), the permitted methods include the use of authorised external price indices analysed by asset type or by user industry. Land and buildings should normally be valued at their open market value for existing use, but in certain circumstances it may be necessary to value a building at its written-down replacement cost, and for this purpose an authorised index of building costs may sometimes be used. 'Authorised' indices include all price indices published by the Government Statistical Service.

To allow for the 'change in the value of money' in the statement of the change in the shareholders' net equity interest, the draft Standard specifies that companies registered in the United Kingdom should use the general index of retail prices.

Publication of price indices

The third issue of the CSO's booklet *Price index numbers for Current Cost Accounting* (PINCCA) was published on 15 December 1976. This series of booklets was introduced in response to the recommendation of the Sandilands Committee that the Government Statistical Service should publish price indices suitable for use in CCA. In addition to the indices classified by user industry which the Sandilands Report had recommended, and which were contained in the first two issues, the third issue includes a range of over 90 indices classified by type of asset ('asset-specific' indices) which companies may wish to use for revaluing fixed assets. It also lists more than 600 other asset-specific indices which may be useful to companies for revaluing their stock and which can be supplied on request: those for which there is a sufficient demand will be included in later editions of the booklet. In general, indices are now given up to October 1976.

References

- Exposure Draft 18: *Current Cost Accounting*. Accounting Standards Committee, 1976. (Price £1.20).
- Guidance Manual on Current Cost Accounting, including the Exposure Draft*. Tolley Publishing Company Ltd. and the Publications Department

of the Institute of Chartered Accountants in England and Wales, 1976. (Price £6.25).

Background Papers to the Exposure Draft on Current Cost Accounting. Tolley Publishing Company Ltd. and the Publications Department of the Institute of Chartered Accountants in England and Wales, 1976. (Price £3.95).

Brief Guide to the Exposure Draft on Current Cost Accounting. Tolley Publishing Company Ltd. and the Publications Department of the Institute of Chartered Accountants in England and Wales, 1976. (Price 75p).

Report of the Inflation Accounting Committee. (Cmnd 6225). HMSO, 1975. (Price £4.25).

Price index numbers for Current Cost Accounting, No. 3. Central Statistical Office (HMSO), 1976. (Price £2.70).

Flow of funds: income and expenditure

In table 30/3 of the Statistical Annex to the Bank of England's December 1976 Bulletin, industrial and commercial companies are distinguished from financial institutions.

Copies of the Bank's Bulletin may be obtained, free of charge, from:

The Economic Intelligence Department
Bank of England
London EC2R 8AH

OVERSEAS FINANCE

Overseas aid

The latest edition of *British Aid Statistics*⁽¹⁾ is due to be published in mid-February 1977. It provides comprehensive information on official long term flows from the United Kingdom to less developed countries of the world for the period 1971-1975 together with aggregated data for private flows.

The tables in *British Aid Statistics* are mainly concerned with official flows and especially with 'public expenditure on overseas aid' which differs slightly in scope from flows classed as 'official development assistance', the latter term being the yardstick by which our performance against the internationally recognised 0.7 per cent GNP target is measured. The main features and terminology of aid statistics are fully discussed in the general introduction.

Total net public expenditure on overseas aid amounted to £393 million in 1975 (£437 million gross less £44 million amortisation) compared with £311 million in 1974, an increase of 26 per cent. Of this, net disbursements from the Aid Programme in 1975 amounted to £387 million (423 million gross less £35 million amortisation) compared with £303 million in 1974, an increase of 28 per cent. Other net investment by the Commonwealth Development Corporation which comprises the balance of 'public expenditure on overseas aid' amounted to £6 million in 1975 compared with £7 million in 1974. Additional flows from other programmes of public expenditure amounted to £10 million net of amortisation compared with £30 million in 1974. This fall was due primarily to a reduc-

tion in payments made under the ECGD Interest Stabilization Scheme and to the reclassification of the UK share of EEC food aid and other expenditure by the EEC for developmental purposes which is now included in the Aid Programme. Total net official flows thus amounted to £403 million (£446 million gross less amortisation of £44 million) in 1975 compared with £341 million in 1974 and this represents an increase of 17 per cent. The DAC deflator for UK official flows increased by 18.1 per cent between 1974 and 1975. It would appear therefore that there was little change in the real volume of official flows going to developing countries between 1974 and 1975.

Total United Kingdom long term private flows to developing countries are provisionally estimated at £2,193 million for 1975. The 1975 figure includes for the first time £1,584 million eligible euro-currency flows to developing countries arising from the activities of banks and other institutions resident in the United Kingdom. Net private flows excluding euro-currency flows are estimated at £609 million in 1975 compared with £669 million in 1974. This decline is due to a fall in other net investment (primarily portfolio investment and oil); net export credits increased from £151 million in 1974 to an estimated £187 million in 1975. Grants from voluntary organisations are estimated at £24 million in 1975.

Total official and private flows from the United Kingdom to developing countries were £2,596 million in 1975, representing 2.5 per cent of GNP.

The United Kingdom in common with many other donor countries, has accepted the target of 0.7 per cent of GNP for official development assistance, but the rate at which we move towards this will be governed by the pace of our economic recovery and other calls on our reserves. When classified according to the international criteria, total net official flows for 1975 represent £389 million official development assistance (oda) and £14 million other official flows. United Kingdom oda represents 0.37 per cent of GNP in 1975, the same level as in 1974.

Further particulars of the development activities of the United Kingdom are contained in the 1976 United Kingdom memorandum to the DAC⁽²⁾. Comparative information on the activities of all members of DAC are included in the Chairman's Annual Report published last November as the DAC 1976 Review⁽³⁾.

References

(1) *British Aid Statistics 1971-1975* (HMSO)

(2) *The British Aid Programme in 1975 - Text of United Kingdom Memorandum to the Development Assistance Committee of the Organisation for Economic Co-operation and Development - Cmnd 6544* (HMSO) (Price 50p net).

(3) *Development Co-operation: Effects and Policies of the Members of the Development Assistance Committee, 1976 Review OECD November 1976* (Price £8.00).

Exchange rates and comparative interest rates

In table 28 of the Statistical Annex to the Bank of England's December 1976 Bulletin, the investment dollar rate is shown both in terms of the number of US dollars to the pound sterling and, for the first time, in percentage terms, as the 'effective' premium over the spot rate.

Copies of the Bank's Bulletin may be obtained free of charge from:

The Economic Intelligence Department
Bank of England
London EC2R 8AH

PUBLICATIONS

Regional Statistics, No. 12 1976

The latest issue of *Regional Statistics* was published in the middle of December. It has been compiled by the Central Statistical Office in collaboration with the Statistics Divisions of Government Departments, and presents a fairly detailed, quantitative picture of regional variations over the country across a broad range of topics, social, demographic and economic. It goes some way to meet the needs of regional planners, marketing managers and the many others who have regional interests.

The publication comprises fifteen sections, each dealing with a topic such as education, health and employment. A regional accounts section has replaced the gross domestic product section, which appeared in previous additions. It has an expanded coverage and includes tables showing industrial breakdowns of GDP, in direct taxes and subsidies, consumers' expenditure and personal disposable incomes.

Regional profiles are again included. These provide a contrast to the main body of the volume where comparisons of individual measures across the regions of England and Wales, Scotland and Northern Ireland are shown. They include a selection of key statistics for each separate region. Each profile has a key indicators section giving a series of statistics for the region including comparisons with the equivalent figures for the United Kingdom where available. Basic county statistics are this year's topic for special presentation. A selection of indicators at county level have been included.

All sections are preceded by introductory notes which give further explanations on sources and definitions for the tables. There is an index of further sources and as an innovation this year a subject index has been included after the main body of tables.

Reference

Regional Statistics, No. 12, 1976. (HMSO) (Price £6.50 net).

National Institute Economic Review

European Energy Prospects – G. F. Ray

The 1975 reduction of energy consumption was chiefly due to the recession; plans and forecasts for 1975–80 indicate a return towards pre-1973 energy usage and the upward trend becomes moderated only in 1980–85. Europe's relative dependence on imported oil is likely to decline, due to increased production of North Sea oil and of nuclear electricity, as well as to the better utilisation of other indigenous sources; though there are some uncertainties about these. Beyond 1985, however, new energy sources are likely to be needed; in order to secure them in time, R & D effort ought to be strengthened now, and on a cooperative international basis. *National Institute Economic Review*, November 1976, Vol. 4/76, (No. 78), pp. 40–47 (English).

Errors in National Institute forecasts of personal incomes, inflation and employment – A. J. H. Dean

This article examines the accuracy of the National Institute's forecasts of incomes, inflation and employment from 1965 to 1975. It is found that in recent years the Institute has tended to underestimate inflation, although less seriously for the consumer price index than the other current price variables studied. The accuracy of the forecasts has generally increased in relative terms, although it has deteriorated in absolute terms. The forecasting performance in 1974 was particularly poor but there has been a distinct improvement in 1975 and 1976. *National Institute Economic Review*, November 1976, Vol. 4/76, (No. 78), pp. 48–57 (English).

Labour costs in OECD countries – G. F. Ray

British wage costs per hour, including social charges, had – by 1974 – become the lowest among the fifteen industrial countries included in the comparison in this note; this competitive advantage of British industry was however partly or entirely offset by lower labour productivity. Hourly earnings in money terms were not rising outstandingly rapidly in Britain in this period, but since consumer prices increased faster, the improvement in real earnings was slower than in most other countries. *National Institute Economic Review*, November 1976, Vol. 4/76, (No. 78), pp. 58–62 (English).

INTERNATIONAL

The Munich centre for advance training in applied statistics for developing countries

The Munich Centre was described in an article by Mr K V Henderson in *Statistical News* 27.6. The eighth course which was on the subject of agricultural

statistics was held between 1 September and 17 December 1976. The course was for students from English speaking countries – primarily the ACP countries associated with the EEC – and was similar in form to the seventh course held earlier in the year for French speakers.

Twenty participants from 15 developing countries and from the East African Community Organisation attended the course, including for the first time people from Dominica, Jamaica, Nepal and Zambia. In addition, one statistician from the Ministry of Overseas Development attended the course to obtain training in the particular problems associated with agricultural statistics in developing countries. His training will strengthen the assistance that ODM are able to provide in this field to developing countries under the Aid Programme.

The course covered all aspects of agricultural statistics and included lectures on organisation, sampling theory, data processing and case studies. Particular emphasis was also paid to the 1980 World Agricultural Census and the FAO Programme for that census. As with previous courses, many of the lectures and case studies were presented by visiting lecturers from the Ministry of Overseas Development and other institutes in the United Kingdom.

At a meeting of the Scientific council of the Centre held in October 1976 agreement was reached on the future programme. The Centre will continue to hold two long courses of about 16 to 17 weeks each year on the same topic, one in English, the other in French. In addition, from 1977 they will include one short seminar in alternative years in English and French of about four weeks for more senior staff.

The topics agreed are as follows:

Long courses

- 1977 Household Surveys (English Course 1 March to 24 June)
- 1978 National Accounts
- 1979 Social Statistics
- 1980 Foreign Trade Statistics
- 1981 Agricultural Statistics (Provisional)
- 1982 Demographic Statistics (Provisional)

Seminars

- 1977 Organisation of Statistical Services (English)
- 1978 Organisation of Statistical Services (French)
- 1979 Electronic Data Processing and Statistics (English)
- 1980 Electronic Data Processing and Statistics (French)

Before it will be possible to hold the Seminars on Electronic Data Processing it will be necessary for the

Centre to make arrangements for access to data processing equipment. If this proves impossible the 1979/80 Seminars will be held on Sampling Methods.

Publications of the European Communities

As mentioned in the November issue of *Statistical News*, this will be the last in the series of features detailing the latest statistical publications of the European Communities. *Eurostat News*, described in *Statistical News No. 34*, gives full details of the publications and copies can be obtained, free of charge, by writing to:

Eurostat
Publications
BP 1907
Luxembourg
Grand Duche de Luxembourg

The following list of publications, published or about to be published, brings up to date those listed in the previous issue of *Statistical News*. It is taken from the list shown in *Eurostat News* 8/9 – 1976.

Published:

- (S) *Survey of the structure and distribution of earnings in industry in 1972 – Volume 4 A and B – Belgium*
- (A) *Balance of payments – Global data (1961–1975)*
- (A) *Selling prices for vegetable products (1969–74)*
- (S) *Survey of the structure and distribution of earnings in industry in 1972 – Volume 5 A and B – Netherlands*
- (A) *Analytical tables of EC external trade – NIMEXE – 1974*

To be published shortly:

- (A) *Regional accounts: main economic aggregates – 1970*
- (A) *Agricultural prices – Fruit, vegetables and potatoes – 1975*
- (A) *Feed balance sheets: Resources*
- (S) *Community survey of orchard fruit trees*
- (A) *Utilization of nuclear power stations, 1975*
- (S) *Survey of the structure and distribution of earnings in industry in 1972 – Volume 6 A and B – Germany*
- (S) *Agricultural price statistics 1969–1975*
- (S) *Input-Output Tables – Volume I: Methodology 1970–1975*

(A) denotes annual publications

(S) denotes special publications and series

GOVERNMENT STATISTICAL SERVICE

Conference on data collection

Sir Claus Moser, Director of the Central Statistical Office and Martin Fessey, Director, Business Statistics Office will be participating in the Institute of Statisticians 1977 Conference on Data Collection and its Effect on Analysis.

The Conference, which will be held at Kings College, Cambridge July 13-16, will cover many aspects of data collection, from the points of view of both collectors and users of data.

Other speakers from commerce, industry and market research will include:

Mr R Artingstall	- Beechams
Mr N A Belson	- Survey Research Centre
Mr M Brighton	- Documentary Reading Services
Sir Maurice Kendall	- World Fertility Survey
Mr J Miller	- Fielding Newson Smith
Mr M Thornton	- Bank of England

The names of further speakers and more details will be available shortly. Application forms and further particulars are available from:

The Secretary
Institute of Statisticians
36 Churchgate Street
Bury St Edmunds
Suffolk IP33 1RD
Tel: 0284 63660

Death

Readers will learn with regret of the sudden death on 9 January of Mr T S Pilling, Head of Economics and Statistics Division 5, Departments of Industry, Trade and Prices and Consumer Protection, and previously an Assistant Director in the Central Statistical Office.

New Year honours 1976

Mr M C Fessey, Director of the Business Statistics Office was awarded the CB.

Appointments and changes

Mr K Mansell, statistician in the Department of Industry was promoted to Chief Statistician and replaced Mr P D Dworkin as head of Branch ECS5 with effect from 4.1.77.

Mr P D Dworkin transferred to the Department of Employment on the same date.

Mr D S S Hutton OBE, Chief Statistician in the Department of Health and Social Security retired on 31.12.76.

LATE ITEMS

General Household Survey 1974

Processing of the 1974 General Household Survey is now complete, and a series of tabulations broadly similar to those in earlier years has been produced. These tabulations will be made available on request, subject to reliability and resources. In no circumstances is the information given in a form that would allow individual households to be identified. Unpublished data from the General Household Survey are supplied subject to an undertaking as to the use made of them. When appropriate, applicants for information may be asked:

- To certify that they will do nothing to suggest that the individual confidentiality of households and their members has not been preserved.
- To declare in any work based on an analysis of the data supplied that those who carry out the original collection and analysis of the data bear no responsibility for the further analysis of interpretation of the data.
- To submit to the Office of Population Censuses and Surveys before publication or distribution, eg in presentation to a conference or seminar, any report or interpretation of the further analyses of data for specific permission to publish or distribute.

Enquiries about unpublished data should be made to:

Mr R Barnes
Chief Social Survey Officer
Room 445
Office of Population Censuses and Surveys
St Catherine's House
10 Kingsway
London
WC2B 6JP

Offprints of articles from *Economic Trends*

A limited number of offprints of articles from *Economic Trends* are now available, and may be obtained from Publications Unit, Central Statistical Office, Government Offices, Great George Street, London SW1P 3AQ.

Articles published recently include:

November

- 'United Kingdom regional accounts'
- 'Trends in UK energy prices'
- 'International comparisons of taxes and social security contributions 1969-74'

December

- 'Effects of taxes and benefits on household income 1975'
- 'Economic prospects to end-1977'

January

- 'A review of the effects of taxes and benefits on household incomes 1961-74'

New surveys notified to the Survey Control Unit

October to December 1976

Introductory note

Starting with this issue, lists of new statistical surveys notified by government departments and associated bodies of the Survey Control Unit of the Central Statistical Office are to be published each quarter in *Statistical News*. In principle surveys will be listed in the first available issue after they have been assessed by the Unit; but the inclusion in the lists of some surveys, where advanced publicity might prejudice the quality of response, may be deferred until fieldwork has been completed. There will also be occasions when surveys will be omitted because publicity about them may affect national security or the freedom of government in its choice of policies.

The government needs to conduct a wide range of statistical surveys to help in the formulation and monitoring of its economical and social policies. The lists are being published to provide more information about this activity of government. The Survey Control Unit has the overall responsibility to ensure that the demands on respondents are properly co-ordinated, that duplication is avoided and that the form-filling burden is kept to a minimum. All government departments and associated bodies are required to consult the Survey Control Unit whenever it is proposed to undertake a new statistical survey or to make significant alterations to an existing one. The Unit regularly assesses surveys notified to it and an article in *Statistical News* 21.15 indicated the criteria used in these assessments. Articles on other aspects of the work of the Survey Control Unit appeared in *Statistical News* 17.32, 30.20 and 31.22.

The first list of surveys, covering those assessed in the fourth quarter of 1976, is given below. Further information on the details of the surveys listed, including the appropriate departmental contact, may be obtained in the first instance from Mrs Elsa Sedgwick (01-233 8551), Survey Control Unit, Central Statistical Office, Great George Street, London SW1P 3AQ.

In the whole of 1976, 396 new surveys were assessed by the Survey Control Unit compared with 358 in 1975 and 361 in 1974. The increase in 1976 was mainly in the numbers of small-scale 'one-off' surveys.

New surveys assessed October - December 1976

Title	Dept.	Those approached	Approximate number approached	Location	Frequency
Business surveys					
Manufacturers' Sales - pilot personalised form assessment	BSO	Manufacturers	850	UK	AH
Conferences in Hotels: Market Study	BTA	Hotels	176	GB	AH
A Review of the Export Intelligence Service	CABT	Exporters	300	UK	AH
Survey of Profitability of Gaming Machines	C&E	Owner/Manager	100	GB	AH
Pesticide Usage in Glasshouses and on Hardy Nursery Stock	DAFS	Horticulturist	300	S	I
Effects on Pay and Collective Bargaining of the Abolition of Wages Councils	DEM	Manufacturers	1,360	GB	AH
Employment in Research and Development Manufacturing Industry	DI	Manufacturers	110	UK	AH
Postal Inquiry to Personal Shareholders	DI	Shareholders	3,625	UK	AH
EEC State of Trade Inquiry	DOE	Construction Companies	1,500	GB	Q
Communication Needs in Regional Offices	DOE	Manufacturers	330	N	AH
Policy on the Employment of Non-UK Domiciled Seafarers	DT	Shipping Companies	50	UK	AH
Hull Industrial Location and Freight Transport Study	DTP	Freight Intensive Firms	30	YH	AH
National Survey of Engagements and Vacancies	ESA	Employers	12,000	GB	AH
Hotel Occupancy Survey	HIDB	Hotels	340	S	M
Primary Sources of Beef Cattle and Sheep for Fattening	HIDB	Farmers	625	S	AH
Equipment for Harvesting and Feeding Forage Roots	MAFF	Farmers	50	E	AH
National Survey of Mastitis in Cows	MAFF	Farmers	500	GB	AH
Beef Production Survey 1976/77	MAFF	Farmers	220	EW	AH
Eggs Authority Producer Survey	MAFF	Farmers	400	UK	M
Equipment for Cleaning Grain in On-Floor Stores	MAFF	Farmers	32	EW	AH
Pesticide Usage by Bacon Curers and Meat and Fish Product Manufacturers	MAFF	Manufacturers	180	GB	I
Employment Problems of Young People	MSC	Employers	700	GB	AH
Supplies of Castings - Diesel Engine Manufacturers	NEDO	Manufacturers	12	UK	AH
Repair of Domestic Appliances and Installations	PC	Service Departments	310	UK	AH
Prices of Soft Drinks	PC	Public Houses and Hotels	325	UK	AH
The Prices of Privately Prescribed Hearing Aids	PC	Retailers	70	GB	AH
Recommended Retail Prices from Manufacturers	PC	Manufacturers	97	GB	AH
Costs of Insurance with Intruder Alarms	PC	Insurance Brokers	21	GB	AH
Engineering Industry Training Board Statutory Return	TSA	Engineering Companies	200	GB	A
Local Authority Surveys					
Local Authority Borrowing Inquiry - Monthly	CSO	Finance Departments	135	EW	M
Organisation of Urban Community Information	DOE	Social Services	N/K	SE	AH
House Condition Survey - Local Authorities	DOE	Chief Executives	215	E	AH
Funeral Charges - Local Authorities Cost Analysis	PC	Town Clerks	24	GB	AH
Research into Social Inquiry Reports for the Courts	SHHD	Social Services	50	S	AH

New surveys assessed October – December 1976—cont.

<i>Title</i>	<i>Dept.</i>	<i>Those approached</i>	<i>Approximate number approached</i>	<i>Location</i>	<i>Frequency</i>
Other Surveys					
Washington New Town Household Survey	BRE	Households	2,010	N	AH
Rain Penetration of Cavity Fill Insulation Study	BRE	Households	800	N	AH
Metrication Board – Test of Celsius Thermometer Cards	COI	Housewives	530	UK	AH
Army Commercials Research – ‘Call Out’ Concept Test	COI	Men	32	E	AH
Public Works Exhibition Surveys	COI	Adults	1,600	WM	AH
Army Officer Advertisements Concept Test	COI	Students	30	UK	AH
Examination of the ‘School Audio/Visual Packs’ Business	COI	Headmasters	800	GB	AH
Metrication Board – Ownership of Dual Marked Tape Measures and Measuring Jugs	COI	Housewives	1,000	GB	AH
Drink and Drive Campaign Evaluation	COI	Drivers	3,600	GB	AH
Seat Belts Campaign Evaluation	COI	Drivers	18,500	GB	AH
Royal Naval Officer Recruitment Publicity Study	COI	Men	4,900	UK	AH
Seventh Survey of Public Attitudes to Energy Saving	COI	Adults	1,000	UK	AH
Secondary School Staffing Model and Sample Survey	DES	Teachers	23	EW	AH
Cost of Books/Stationery etc Required for 1st Degree Courses	DES	Students	43	UK	AH
Hodgkin’s Disease – Cancer Survey	DHSS	Patients’ Relatives	200	UK	AH
Doctors’ Choice of Speciality	DHSS	Doctors	9,000	GB	AH
Patients and their Doctors in 1977	DHSS	Patients	1,000	EW	AH
Regional Highway Traffic Model Long-term Monitoring Survey – Non-Co-operators Study	DOE	Adults	50	E	AH
Organisation of Rural Community Information	DOE	Households	N/K	EM	AH
Gravelly Hill Study of Blood Lead Level in Pre-School Children	DOE	Parents	2,240	WM	AH
Housing Condition Survey 1976 – Follow-up	DOE	Households	9,000	E	AH
Leisure Provision and Human Need – Household Surveys	DOE	Households	1,000	SE	AH
A303 Mere to Wincanton Improvement PPE	DTP	Adults	575	SW	AH
Proposed Stoke–Derby Link Road PPE	DTP	Adults	4,000	EM	AH
A650 Drighlington By-pass – Yorks PPE	DTP	Adults	400	YH	AH
A303 Trunk Road Somerset Improvement PPE	DTP	Adults	Continuing ⁽¹⁾	SW	AH
British Home Tourism Survey 1977	ETB	Adults	2,000	GB	M
Factory Holiday Information Service – Assessment Survey	ETB	Adults	1,000	NW	AH
Ardnamurchan/Modart/Morvern/Sunart and Ardgour Transport Vehicle Ferry Crossing – Sound of Harris	HIDB	Drivers	2,500	S	AH
Existing Recreational Provision in Highlands and Islands	HIDB	Travellers	150	S	AH
Diet Survey on Children Under One Year of Age	HIDB	Adults	5,000	S	AH
Food Waste Survey	MAFF	Mothers	300	EA	AH
Training Opportunities Scheme Follow-up Survey	MAFF	Households	500	GB	AH
Young Peoples’ Employment Experience Study	MSC	Trainees	2,500	GB	Q
Acceptability of the Enhancement of the Electoral Canvas for Statistical Purposes – Pilot Inquiry	MSC	School Leavers	3,000	GB	AH
A Study of Rural Housing Conditions	OPCS	Adults	120	GB	AH
Community Councillor Survey	SDD	Adults	650	S	AH
Holiday Planning Survey	SDD	Councillors	200	S	AH
Holiday Marketing Check Back Study	STB	Households	550	GB	AH
Knowledge of and Attitudes to Road Traffic Law	STB	Tourists	2,200	GB	AH
Postbus Survey	TRRL	Drivers	1,540	UK	AH
Measurement of Perceived Change in Visual Amenities following Road Improvements	TRRL	Travellers	200	GB	AH
Adults’ Comprehension of Road Safety Terms	TRRL	Adults	400	SE	AH
‘At the Scene’ Accident Investigation	TRRL	Adults	50	SE	AH
	TRRL	Adults	1,100	SE	AH

⁽¹⁾A self-selection of visitors to exhibitions etc. who choose to complete a form.

Abbreviations used

General

EEC – European Economic Community
 N/K – Not Known
 PPE – Public Participation Exercise

Department

BRE – Building Research Establishment
 BSO – Business Statistics Office
 BTA – British Tourist Authority
 CABT – Cabinet Office
 C & E – Customs & Excise
 COI – Central Office of Information
 CSO – Central Statistical Office
 DAFF – Department of Agriculture and Fisheries, Scotland
 DEM – Department of Employment
 DES – Department of Education and Science
 DHSS – Department of Health and Social Security

DI – Department of Industry
 DOE – Department of the Environment
 DT – Department of Trade
 DTP – Department of Transport
 ESA – Employment Services Agency
 ETB – English Tourist Board
 HIDB – Highlands and Islands Development Board
 MAFF – Ministry of Agriculture, Fisheries and Food
 MSC – Manpower Services Commission
 NEDO – National Economic Development Office
 OPCS – Office of Population, Censuses and Surveys
 PC – Price Commission
 SDD – Scottish Development Department
 SHHD – Scottish Home and Health Department
 STB – Scottish Tourist Board
 TSA – Training Services Agency
 TRRL – Transport and Road Research Laboratory

Location

E – England
 EA – East Anglia
 EM – East Midlands
 EW – England and Wales
 GB – Great Britain
 N – Northern England
 NW – North West England
 S – Scotland
 SE – South East England
 SW – South West England
 WM – West Midlands
 YH – Yorkshire and Humberside
 UK – United Kingdom

Frequency

A – Annual
 AH – Ad Hoc (or single time)
 I – Irregular or less frequent than annual
 M – Monthly
 Q – Quarterly

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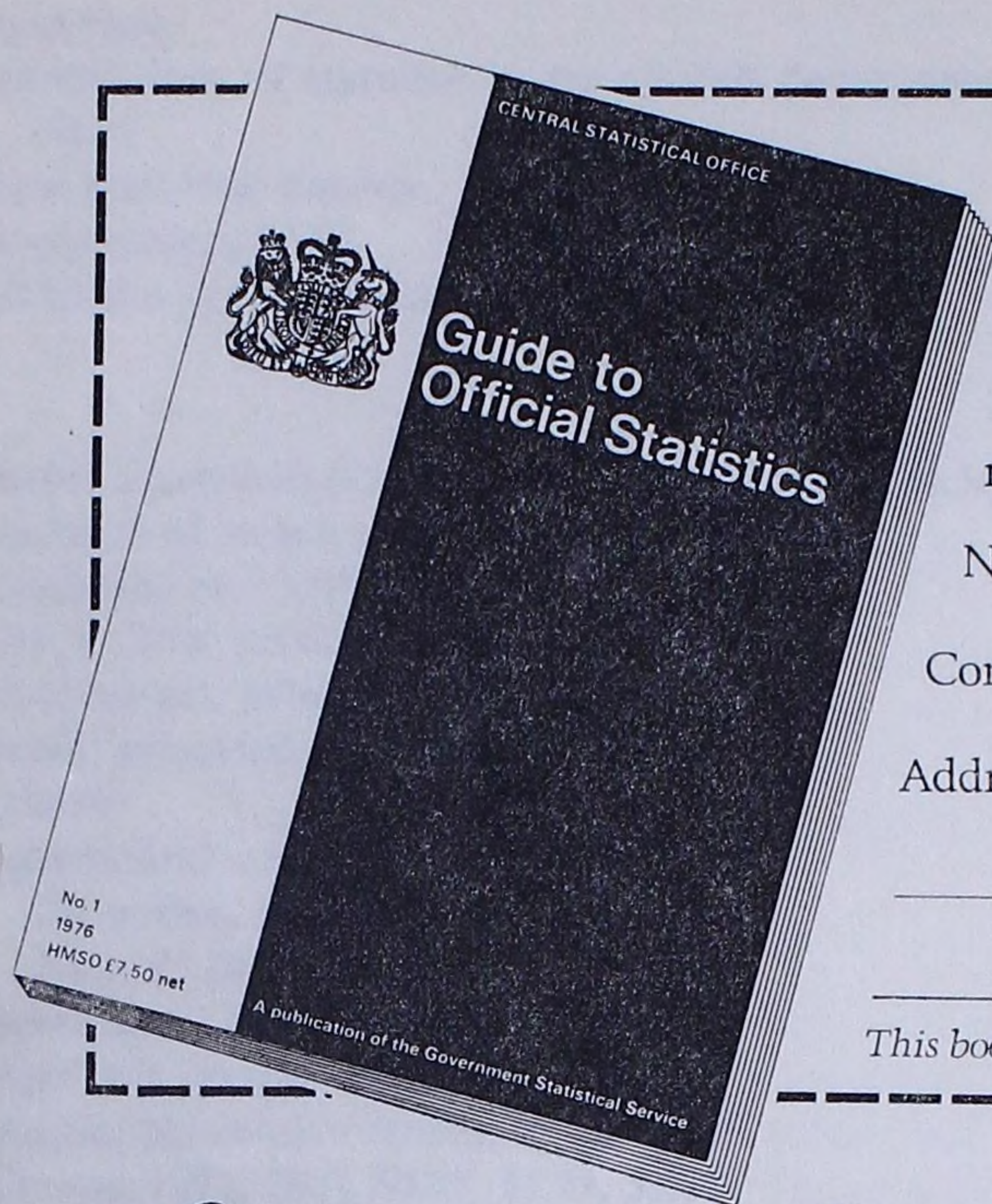
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