

CSO Regional Accounts

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SECTION 1

INTRODUCTION

Regional gross domestic product and personal disposable income for the United Kingdom are now regularly published as part of the regional accounts by the Central Statistical Office in *Economic Trends*. The short articles that introduce the latest regional estimates are not able to discuss in any depth the data sources available or their use in the compilation of the estimates. The present paper attempts to provide a fuller description of the current state of the regional accounts, the inevitable shortcomings in some of the estimates, and the possibilities for future improvements.

Unlike the national accounts which have been well established in the United Kingdom for a long time, the regional accounts are still in a major development phase, and further changes are certain to the methodology. The present description essentially relates to the accounts as published in the Autumn of 1977. Apart from improvements to the existing estimates, new elements are also likely to be added to the accounts in the next year or two. For example, the development of regional estimates of public authorities' expenditure is a strong possibility, and this is discussed in Section 12.

Regional economic accounts provide a framework in which the economic flows within a region and between regions, including those flows aggregating to gross domestic product (GDP), may be presented in a consistent manner. Within this accounting framework the economic relationships between GDP and personal disposable income (PDI) and other economic variables may be studied and comparisons between regions made. At the national level a complex system of economic accounts showing flows between producer units and final consumers, and between institutional sectors, has been developed for the United Kingdom by the Central Statistical Office over many years and is widely used by commentators, forecasters and economists. The national accounts are described in the publication *National Accounts Statistics: Sources and Methods*¹, and annual estimates together with further explanatory notes are regularly published in *National Income and Expenditure* (the Blue Book). Progress on the regional accounts, which provide a spatial dimension to the economy by breaking down some of the main flows identified in the national accounts according to the regions to which they relate, has proceeded rather more slowly, due both to problems in adapting some of the concepts in the national accounts to the regional context, and also to a lack in many instances of suitably disaggregated data. However, considerable progress has been made in recent years and regional accounts covering most of the income and expenditure

summary results and also for the personal sector are now regularly published in *Economic Trends*.

The decision of the Central Statistical Office (CSO) to work towards the production of estimates of regional accounts nearly 5 years ago can be seen as an exercise to draw together and extend the limited series of regional accounts both official and unofficial which already existed. The pronounced national identities of Scotland, Wales and Northern Ireland, together with long standing economic problems in these countries calling for specific economic analysis has meant that they, in the past, took the lead in producing accounts for their countries with the object of enabling comparisons to be made between their economies and the United Kingdom as a whole. Unofficial estimates of gross domestic product and some other elements of regional accounts in Scotland had been produced by McCrone, and Begg, Lythe and Sorley, by Nevin, Roe and Round in Wales and by Carter and Robson in Northern Ireland. The Scottish and Welsh Offices and the Department of Finance, Northern Ireland responded to the need for government series and official gross domestic product estimates are now available.

Prior to the publication of regional accounts by the CSO, there had been no official estimates for the English regions, although unofficial estimates, the most recent of which were by Woodward, have been published. The CSO, entering rather late into this field, has attempted to co-ordinate all of the separate official estimates with the object of providing a consistent set for all regions including the regions of England. In developing along these lines of approach, the CSO has maintained a close consultation with officials in Scotland, Wales and Northern Ireland², from whom it has received invaluable advice (and criticism) and, for many of the estimated components, data. A single official series of gross domestic product for each of the regions is now available each year from 1966.

Although there has been an interest in obtaining separate accounts for the three countries of Scotland, Wales and Northern Ireland for many years it is only recently that there has been a growing domestic interest in the regions of England reflecting the compilation of regional strategies of these areas. While the prime purpose of the regional accounts must be to enable the UK Government to monitor the progress of the regional economies for the purposes of maintaining a coherent regional policy, further interest has

1 Studies in Official Statistics No. 13 (HMSO, 1968).

2 The Scottish Office, The Welsh Office and the Northern Ireland Department of Finance.

been aroused by the debate on devolution and the setting up of the European Regional Development Fund. The latter made necessary the provision of adequate statistics, including regional accounts, to monitor the economic differences observed between the regions of the European Economic Communities (EEC) which, despite continuing regional development programmes, are not diminishing.

1.1 The Standard Regions

Twelve geographical regions are distinguished in the accounts, probably the minimum number consistent with a sufficient disaggregation to show the major differences between the United Kingdom regional economies. This number is considerably smaller than the systems of regions in use by other EEC countries of comparable size, and the relatively large size of the UK regions is one of the reasons why the relative differences between regional incomes appear to be rather small compared with, for example, France and Germany, with 21 and 34 regions, respectively. The UK regions comprise Scotland, Wales and Northern Ireland and the eight economic planning regions of England, together with the 'Continental Shelf' region which includes the oil and gas exploration and production activity offshore. This last region is rather different in nature and in treatment from the rest, in that it includes activities in only one industry and has no residents, and in consequence has no personal sector account. This region is described in Section 5.

The choice of regions for the regional accounts has been based on the principle that the regional boundaries should correspond wherever possible to boundaries recognised in government administration. This condition, also recommended by the Statistical Office of the European Communities, is clearly met by Scotland, Wales and Northern Ireland which have special cultural and administrative status. Within England the administrative functions of the economic planning regions are much weaker, but the alternative choice of boundaries corresponding to the administrative groupings provided by counties would result in a degree of disaggregation which the available data could not support. The largest economic planning region, the South East, includes around one third of the population of the whole of the United Kingdom, and for some purposes it is useful to further sub-divide this region. Accordingly, estimates have been prepared separately for the Greater London Council (GLC) area and for the rest of the South East, although certain problems relating particularly to the basis used elsewhere in the accounts for estimating income from employment (discussed in Section 2 below) causes some difficulties in interpreting the figures derived from this breakdown, particularly when comparisons are attempted with other regions.

1.2 Scope of the accounts

The system of regional accounts attempts to assign each transaction shown in the national accounts to the geographical region where it takes place according to some criterion based upon the location of the appropriate economic agents involved in the transaction. In principle any transaction may be allocated by region, and a complete set of accounts—production, current and capital for each sector—may be envisaged. In practice the scope for development is limited by the availability of both data and resources. As a first priority, work has centred on the building up of estimates of Gross Domestic Product (GDP) for the regions. This measure is widely accepted as a useful statistical indicator for discriminating between and describing the levels of economic activity in the different regions. The dangers of using GDP estimates as measures of comparative economic welfare are well known, and apply generally at the regional level as at the national level; estimates of regional GDP involve the added difficulty of disentangling the relevant information from highly inter-related economies. The widespread use of centralised accounting procedures by companies whose operations are distributed throughout the country makes it very difficult to break down the accounts of such enterprises by region in the full detail which is available at national level.

At current prices GDP may be measured either according to the income or the expenditure approach. Of the two, a regional breakdown of the components of factor incomes is the easier task, and it is this approach which has been used in the regional GDP estimates as described in Sections 2 to 12 below. However, some of the major categories of final expenditure included in expenditure GDP may also be allocated by region without great difficulty in principle. These include consumers' expenditure and gross domestic fixed capital formation (Sections 10 and 11 below). Public authorities' current expenditure on goods and services is rather more difficult to allocate by region, because the services provided by central government frequently overlap regional boundaries. There is however great interest in the analysis of the regional distribution of government provided services, and estimates of government expenditure according to the 'identifiable' concept are regularly published for Scotland and Wales and Northern Ireland. Section 12 briefly indicates the problems involved.

The remaining major component of regional expenditure GDP is the balance of trade in goods and services, which for the standard regions which all have open economies may account for a significant proportion of the total expenditure. (Exports may typically account for more than half of the region's total final expenditure.) No regular and comprehensive data exist on inter-regional trade, and independent estimates of this item for each of the regions of the United Kingdom cannot therefore be made. (See, however,

reference³.) In the foreseeable future, when estimates of public expenditure by region may have been completed for all regions, it would be possible to provide official estimates of total domestic expenditure (the sum of consumers' expenditure, gross domestic fixed capital formation, public authorities' current expenditure on goods and services, and stocks), although regional stockbuilding would be very difficult to estimate with reliability. A rough measure of the regional trade balances could then be derived as residuals between the regions' income based GDP and total domestic expenditure. Like all residuals between estimated aggregates, the regional balances of trade would be subject to wide margins of error. They would depend upon the conventions adopted both in the allocation of factor incomes by region (which would have implication upon the assumed prices of goods crossing the regional boundaries) and upon the further assumptions made in respect of the components of expenditure.

Apart from the summary regional income and expenditure accounts, from which GDP may be derived, a comprehensive system of accounts should also include income and expenditure accounts for the major institutional sectors within the regions. Probably the most useful sector account for regional analysis is that for the personal sector. Estimates of personal income before and after tax and consumers' expenditure are described in Sections 9 and 10. Personal income after tax, etc., otherwise known as personal disposable income (PDI), is an alternative measure of regional comparative welfare. Unlike GDP which measures economic activity, regional PDI, often presented on a per head basis, enables comparisons to be made of the relative spending power of residents in different regions. The different regional patterns observed for GDP on the one hand and PDI on the other reflect both the varying levels of personal receipts of investment income and also the redistributive effects of government taxation and spending on social benefits.

1.3 Concept of residence

The national accounts distinguish between domestic and foreign transactions using the concept of residence. Where possible this concept should be adopted in the regional accounts, that is, the transactions of each economic agent should be credited to the region of residence. In the case of certain transactions, however, for example income from employment, two alternative concepts of residence exist. This income could be allocated to the regional residence of the employees or to the region of location or 'residence' of the work place. When measuring economic activity it is generally more appropriate to use the place of work as the basis for the industrial breakdown of income from employment (and also for profits), but when

considering incomes of individuals in the personal sector account, their home address should form the basis of regional allocation. Fortunately this distinction is not of great practical significance at the standard region level; the results of a 10 per cent sample of the Census of Population returns for 1971 show that for all of the standard regions of England except the East Midlands the net difference between those working in the region and those living in the region was always less than 1 per cent, and in most cases considerably less than 1 per cent, of the economically active population. For the East Midlands the difference was below 2 per cent. Since these differences are within the probable margins of error of the regional accounts estimates, the distinction between the standard region of residence and the region of work may be largely ignored. However, the breakdown of the South East region into GLC and the remainder raises this problem in a rather acute form, where around 10 per cent of workers in the GLC area reside in the outer South East. This problem is discussed in Section 2.

1.4 Reliability of the estimates

The overall margin of error of the regional GDP estimates is very difficult to judge. For each item the national control is provided by the corresponding item in the national accounts. In addition to the errors in the national estimates, errors are introduced by the allocation by region. The use of information based on samples (most notably for the income from employment estimates) suggests that the proportional size of the errors is likely to be inversely related to the size of the individual regions. The largest region, the South East, has a population of about 17 million; the smallest, East Anglia, has a population of around 1½ million. Where sample survey data are used, the sample sizes will be in approximately this ratio, and consequently the estimates must be less reliable for the smaller regions like East Anglia than for larger regions, and most reliable of all for the South East.

The regional estimates of the disposable income of the personal sector and of consumers' expenditure and of fixed investment, are in part based on quite small samples, or on data in other respects unreliable for these purposes. These estimates cannot therefore claim the same degree of reliability as regional GDP. However, it is believed that they are sufficiently reliable to enable valid comparisons between regions to be made. All of the regional estimates are given at current prices. This is necessary because there is inadequate information on the regional variations in price levels or in movements around the relevant national values.

3 The Scottish Input/Output Project 1973—undertaken jointly by the Scottish Council Research Institute, the Frazer of Allander Institute of Strathclyde University, and the IBM United Kingdom Scientific Centre.

SECTION 2

INCOME FROM EMPLOYMENT

2.1 Sources of data: general

Income from employment is the largest single component of GDP at factor cost, accounting for approximately 70 per cent of the total. It comprises wages and salaries (including income in kind) paid to those in civilian employment *plus* employers' contributions to the National Insurance schemes and to life assurance and superannuation funds, *plus* wages and salaries (including income in kind) and employers' contributions of the Forces. For the national accounts, the estimation of wages and salaries in total is currently based on the statistics provided by the Inland Revenue of income subject to deduction of income tax under Pay-as-you-earn (PAYE). This source cannot be used for regional analysis (except for the Northern Ireland region where estimates of total pay by industry are possible) because the tax collection office to which the tax is paid is not necessarily in the region in which the taxpayer lives or works, and the data are not readily available in terms of individual taxpayers. The regional estimates of wages and salaries are built up from several sources of data, including the Inland Revenue Survey of Personal Incomes (providing residence-based estimates), the half per cent sample of the National Insurance contribution records at Newcastle carried out by the Department of Health and Social Security (DHSS), (also residence-based), a special nine per cent sample of the same records for 1971/2 to 1974/5, and the Department of Employment's New Earnings Survey which is used in conjunction with the industry and regional detail of the Annual Censuses of Employment (workplace-based).

2.2 Estimates for 1966 to 1971

For the earlier part of the time series from 1966 to 1971,

the regional estimates of income from employment have been derived from the DHSS half per cent sample and the Survey of Personal Incomes. The latter is an annual survey of income tax records held at Inland Revenue local district offices. It is a stratified sample with sampling fractions varying in recent years from 1 in 1 for the highest incomes down to 1 in 1,200 for the lowest employment incomes, giving a total sample of about $\frac{1}{2}$ per cent of all records. The survey for the year 1969/70, however, was larger with a total sample of about $3\frac{1}{2}$ per cent of all records. The 1969/70 survey is the largest single survey available, and formed the bench-mark estimates for the early part of the time series. Because the Inland Revenue local offices record the address of the taxpayer, it was able to provide estimates of income from employment by region of residence. The aggregate earnings for each region provided by the survey are used not in their absolute form but as factors for the apportioning of the UK total figure for 1969 between the regions. This reduces some of the problems associated with the data, most notably its exclusion both of some low incomes below the PAYE deduction card limit, and of some income in kind. To the extent that these missing incomes are a small proportion of the total (1 per cent), this method of apportionment causes little bias in the regional allocations. For each of the remaining years between 1966 and 1971 the estimates of the regional wages and salaries are based upon the results of the DHSS $\frac{1}{2}$ per cent sample. This sample is taken from the records of the National Insurance graduated contributions scheme, which contains information from tax deduction documents about the gross annual earnings of persons covered by the PAYE scheme. The estimates of average earnings used for regional income from employment covered those persons who had at least 48 weekly flat-rate contributions paid or credited, and so excludes persons who worked for only part of the year. These average earnings figures, which are available in respect of men and women separately, are then multiplied by estimates of the number of employees in employment taken from the annual national insurance card count, to give estimates of aggregate regional earnings.

These data are then converted into a rate of change series which is then spliced onto the 1969/70 bench-mark figure; the whole series is then converted from fiscal to calendar years using the quarterly national wages and salaries series, and the aggregates scaled to the national totals in the Blue Book. A feature of the methods used for this part of the time series is that from 1966 to 1970 no breakdown of the total by industry group is available.

2.3 Regional totals for 1971 to 1974

For the four years 1971/2 to 1974/5 the DHSS agreed to carry out a special random sample of 9 per cent of the records of national insurance contributors to give estimates of aggregate regional earnings. This large sample gave total earnings from all sources of employment for full and part year employees. The sampling error of the regional totals is small, although non-sampling errors could be significant as it is known that the addresses held on DHSS records at Newcastle may not be wholly reliable. Since the regional results using these addresses provide only factors by which the UK control total of wages and salaries is allocated, the incorrect addresses are only a problem to the extent to which they contain regional bias. Circumstantial evidence based on regional migration patterns suggests that the bias at regional level is likely to be small. Most changes of address are between locations which are closely situated and do not cross regional boundaries. However there are certain local areas where net migration is large, and although movements little affect the regional totals, they are more important if the results were to be used for smaller areas.

The regional estimates from the 9 per cent sample giving results in respect of financial years are converted to calendar years using quarterly information from the national accounts. In order to link the separate series before and after 1971, the average of the two methods for the year 1971 is taken.

2.4 Regional totals from 1975 onwards

The 9 per cent DHSS sample used for the estimates from 1971 to 1974 is unfortunately no longer available from 1975 onwards. A major change in the administration of National Insurance contributions introduced in April 1975 has meant that pay is no longer stored on the contribution records. To overcome this problem a special 1 per cent sample of the records has been taken from the years 1975/6 onwards for which arrangements have been made to include the pay still shown on the tax deduction documents. This sample, although smaller than those used in previous years is still large (around ¼ million personal accounts in receipt of pay), and the sampling errors at regional level remain acceptably small. Apart from its size, the main characteristics of the new 1 per cent sample are very similar to the 9 per cent samples described above. The new sample has certain advantages over the old, particularly in the facilities it offers for cross analyses, for example by industry. These are discussed below in Section 12 describing possible future developments.

2.5 Preliminary estimates for recent years

The methods described above provide regional totals for wages and salaries with a delay of between 15 and 20 months after the end of the calendar year to which the figures relate. An alternative approach which yields somewhat more approximate results is used to calculate the preliminary regional totals for the latest published year in the regional accounts. The method uses information disaggregated by industry and region on numbers of employees and of earnings provided by the Department of Employment. National totals of wages and salaries for each industry group (generally at Standard Industrial Classification (SIC) Order level) calculated as part of the national accounts are used as control totals. The method provides estimates of wages and salaries by region and by industry group within region. The industry analyses are discussed further below.

The allocation of the national industry totals by region is achieved as follows. Employment data for men and women separately is provided by region and industry by the Annual Census of Employment. The numbers of full and part-time employees by region of work-place are combined into whole-time equivalents, under the assumption that one full-time employee is equivalent to two part-time employees. The New Earnings Survey (NES) gives estimates of average earnings of full-time employees in a specified pay period, also by region and industry. For each industry within region the product of employment and earnings, summed for males and females, gives an approximate measure of the relative size of the wage and salary bill. This calculation does not provide an absolute estimate of total wages and salaries throughout the year because both employment and earnings are point in time estimates (employment relates to June, and earnings to April). Also the earnings figures in general exclude income in kind. The comparisons between industries provided by the employment and earnings data are also affected by different seasonal patterns of earnings and/or employment. However most of the difficulties mentioned above relate essentially to comparisons between industries rather than regions and these are corrected by scaling each industry total for all regions calculated using the employment and earnings data to the national industry control total.

The calculations described above yield a matrix of wage and salary estimates by industry and region, summing for each industry to the national totals. In certain cells of the matrix, where employment is small, the estimate of earnings given by the 1 per cent NES sample is subject to significant sampling error. For these cells the national average earnings for the industry is substituted.

Estimates of the regional wage and salary bills may be obtained by a summing across industries within regions. The regional totals, based as they are on employment and earnings data which have been used for purposes for which the data was not intended, may also be subject to bias. An assessment of the regional

biases is made by undertaking the calculation for each of the years 1971 to 1974, for which regional control totals of wages and salaries are available from the 9 per cent DHSS sample. Approximate adjustment factors for each region may then be derived, and these may be used to adjust the preliminary regional estimates based on earnings and employment for the latest year for which no DHSS control information is available.

2.6 Disaggregation by industry

Regional accounts are of much greater use to economic analysts if the factor incomes can be broken down by industry, as regional differences in income are usually related in part to differences in industrial structure. Because of this, separate estimates by industry have been developed for each of the years since 1971. The calculation of an industry by region matrix of wages and salaries is discussed above in the context of preliminary estimates for regions. For years other than the preliminary year, when regional control totals of wages and salaries are available from the DHSS sample, the calculation is slightly adapted in order to provide estimates for each cell of the industry by region matrix. The whole sequence of this calculation is now described. A starting point is provided by the totals of regional wages and salaries from the DHSS samples, and the totals of industrial wages and salaries for the United Kingdom as a whole available from the national accounts. The calculation, therefore, is designed to complete the elements of a region by industry matrix, using as a starting point the row and column totals. A first estimate of the wages and salaries in each individual cell in the region by industry matrix is obtained, as described previously, by multiplying the average earnings by employment, separately for men and women. The earnings information from the NES is based on a sample, and, as described previously, for those matrix cells where the sample size was not considered adequate (i.e. below 30), the average earnings for the industry as a whole were substituted for the average earnings for the industry in the region.

This first estimate of the nearly 300 individual cells of the industry by region matrix for each year does not aggregate to either the regional or the industry control totals; to adjust the cells in order to obtain row and column balance a convergence routine is used. This involves an iterative procedure which scales individual rows to the row totals, followed by the scaling of individual columns to the column totals. The routine is repeated until convergence is reached, usually after three or four iterations. The final estimates by industry and region sum to both the industry and regional control totals. This procedure, often known as the RAS method, is frequently employed for updating input/output tables. It has the flexibility of allowing any cell or group of cells to be held constant during the iterative process. This technique is used for the industry estimates of wages and salaries for Northern Ireland,

which use alternative data sources described below. Similar adjustments could in future be made elsewhere in the matrix; for example it may be possible in future to obtain direct estimates of wages and salaries in the public services; these would be substituted in the appropriate cells which would then be held constant during the iterations.

Estimates of wages and salaries in agriculture by region are also available from Ministry of Agriculture, Fisheries and Food (MAFF) data. No comparable data exists, however, for forestry and fishing at present, so that the agriculture estimates cannot directly be used to obtain regional totals for Order I, which are derived by the iterative method. However the MAFF figures cover the major part of Order I, and are used to check the RAS method for credibility, adjusting the latter where necessary.

2.7 Northern Ireland estimates by industry

The Northern Ireland row of the industry by region wages and salaries matrix is estimated independently of the iterative procedure outlined above, essentially because the special administrative arrangements within the Province allow direct estimates to be made from tax data and from the Census of Production. In *agriculture* estimates are based on the annual Farm Census together with more limited information for the rest of the Order. In *mining and quarrying* an earnings and employment based estimate is adjusted using information from periodic Labour Cost Surveys.

Within *manufacturing, and gas, electricity and water* the Annual Census of Production is used.

The returns for Northern Ireland are not affected by the problems of allocating establishments to regions, and the use of this source rather than the earnings and employment data used for production industries in other regions, enables consistency to be obtained for the estimates of wages and salaries, profits, and gross and net output. The Northern Ireland census returns for each industry are grossed for undercoverage using employment from the Census of Employment (in 1973 this overall adjustment amounted to 5.7 per cent). To the census wages and salaries are then added estimates of income in kind.

In *construction and services* use is made of PAYE tax data. Unlike the rest of the United Kingdom, where PAYE schemes frequently cover employees located in several regions, the system does generally identify Northern Ireland schemes, including those employees in Northern Ireland whose tax schemes are operated from points outside the Province. The pay derived from the tax data has then to be adjusted for earnings below the tax deduction card limit, income in kind, etc., in a similar manner to the estimates made for the national total in the Blue Book.

2.8 Special adjustments for GLC and the rest of the South East

The employment and earnings data used to make the first estimates of the wage and salary bill in the individual cells of the industry by region matrix, are both coded to regions according to the place of work. The regional control totals, however, are based on the region of residence, and some parts of the imbalance observed between the matrix elements as initially estimated and the regional totals will be due to these different bases of regional allocation. As explained in the introduction, for all of the standard regions the differences between workplace and residence are very small and can for all practical purposes be ignored. However, within the South East, there is substantial commuting between residence and workplace across the GLC boundary. In 1971, around 10 per cent of all employees working in the GLC area lived outside, mainly in the rest of the South East. It is thus necessary to adjust either the workplace based matrix cells to a residence base, or the regional control totals for GLC and the rest of the South East to a workplace basis, in order to improve the compatibility between them.

In principle the factor income included in GDP should include wages and salaries estimates on a workplace basis, but as no reliable regional controls exist in this form, the residence basis is adopted throughout all regions. To conform with this convention, rough adjustments have been made to the employment figures for each industry in the GLC and the rest of the South East sub-regions to convert them from a workplace to residence basis, using information from the 1971 Census of Population. These adjustments result, as expected, in some reduction in the initial imbalance between the earnings and employment estimates for the matrix cells and the control totals for the two sub-regions. However, a further adjustment was found to be necessary in order to bring the matrix into balance, probably reflecting different earnings levels within each industry for GLC residents and residents in the rest of the South East. The need for this special adjustment suggests that the final industry estimates for GLC obtained by the RAS method must be considered to be less reliable than those for the standard regions of the United Kingdom.

2.9 Forces income

Although the income of the Armed Forces amounts to only about 3 per cent of all income from employment, its distribution by region on a residence basis requires different treatment from civilian wages and salaries.

Forces income could be distributed in proportion to the numbers of home-based forces personnel stationed in various regions, but this method is unsatisfactory in the case of Northern Ireland, where the very rapid increase in the number of forces stationed over the last five or six years would significantly distort the GDP estimates for the Province. Consequently, from 1970 onwards estimates of the proportion of home-based forces that are normally stationed in Northern Ireland (about 1.9 per cent of all home-based forces personnel) have been substituted. The difference between this number and those actually stationed in Northern Ireland is included within the category of troops posted overseas. Forces' income is distributed, therefore, in two stages: the income of forces based in the United Kingdom, including the special estimate for Northern Ireland, is distributed according to the region in which they are based; the income of the forces stationed overseas is distributed throughout the United Kingdom regions in proportion to resident population.

2.10 Employers' contributions

Employers' contributions, which together with wages and salaries and forces income make up total income from employment, are the payments made by employers to the National Insurance scheme, the National Health Service, the Redundancy Fund, and to life assurance and approved public and private superannuation schemes. Prior to 1974 the contributions to National Insurance, etc., schemes were levied in two main ways—by flat rate contributions and by graduated contributions, the latter calculated as a percentage of pay within certain earnings ranges. From April 1975 all contributions to National Insurance schemes have been on a graduated basis. The flat rate contributions for each industry for years up to 1975 are allocated by region in proportion to the numbers employed, and the graduated contributions are allocated according to each industry's wages and salaries. Ideally, adjustments should be made for the higher cut-off on earnings above which the earnings attract no graduated contributions. The proportion of earnings above the cut-off is small and no adjustment has been made, although small differences in these proportions between regions might be expected.

There is little information on the incidence of contributions by industry or region to public or private sector superannuation schemes, and these have been allocated on fairly minimal assumptions. The national accounts estimates by industry of the amount of employers' contributions for the United Kingdom in total are taken as a starting point, and are distributed for each industry between the regions according to the wage and salary bill estimates. This procedure carries the implicit assumption that employers' contributions are a fixed proportion of pay, and that there are no regional differences within an industry between the proportions of employees who are members of superannuation schemes. The regional totals of employers'

contributions are obtained by the summation of the calculated values for each industry within the region. Employers' contributions (including the national insurance contributions) amount to only about 10 per cent of civilian income from employment, and inaccuracies in the methods used to allocate by region do not substantially affect the overall figure for income from employment.

2.11 Effects of regional boundary changes in 1974

The change in the standard regions' boundaries in April 1974 resulting from the reorganisation of local government in England and Wales affects the estimates in the regional accounts for most of the English regions; Scotland, Wales and Northern Ireland were unaffected. For years up to 1973 the regional accounts are based on the old boundaries, but from 1974 on-

wards the new boundaries are used, resulting in some discontinuity in the time series. The change in boundaries poses some difficulty for the wages and salaries estimates, for which regional control totals are based on the regional coding programme used for the DHSS 9 per cent sample, which could not be easily adapted to code the addresses into the new standard regions. Estimates for 1974 therefore continued to be made on an old-region basis and were subsequently adjusted into the new regional boundaries, using information relating to 1973 of the number of employees located in the areas which were involved in the changeover from 'old' to 'new' regions. (The figures show the number of employees as measured by the local offices of the Department of Employment in these areas. They do not, therefore, exactly correspond to the number of employees living in these areas.) Employment figures on both an old and a new regions basis are available; thus, on the assumption that wages and salaries per employee in those areas that changed regions were the same as in the parent region as a whole, estimates of the amount of wages and salaries to be transferred were made using both the old region's per head figures and the new region's per head figures. The average of these two estimates was taken as the net amount to be transferred to convert from old to new regions.

SECTION 3

INCOME FROM SELF-EMPLOYMENT

Income from self-employment accounts for about 11 per cent of factor incomes in gross domestic product. The main sources of information are those provided by Inland Revenue records through the analyses of tax assessments, and through the Survey of Personal Incomes. The self-employed are assessed for income tax at local offices of the Inland Revenue. By the nature of self-employment activity, it is likely that the regions of residence and the regions of work are in most cases the same, so that the location of the assessing office is generally appropriate for allocating the income to regions.

3.1 The period 1966–70

For years before 1971 the assessment data compiled by the Inland Revenue analyses separately identified those self-employed incomes that were assessed in Scotland, Wales, England and Northern Ireland but did not distinguish the assessments made in the 8 regions of England. The allocation of self-employment income between the English regions in this period, has been made on the basis of the results of the Survey of Personal Incomes. The Survey gives a total of self-employment incomes which is rather lower than that derived from the tax assessment, partly because it shows incomes net of capital allowances. Using 1971 as a benchmark (for this year the assessment data were disaggregated by English regions), the assessments and survey data were compared for each English region and the shortfalls in the survey results were judged, and appropriate adjustments were made to the survey results for each of the earlier years. A set of estimates was thus obtained on an approximately comparable basis for all of the standard regions of the United Kingdom. Further adjustments are required to the assessments data to bring the incomes in line with the national accounting definitions of self-employment income which, for example, unlike the assessments, do not allow untaxed interest payments as a current cost. The regional totals of self-employment income based on the tax assessments are therefore scaled to aggregate to the national accounts totals. For the period 1966 to 1970 no estimates of self-employment income broken down by industry are available except for Scotland, Wales and Northern Ireland.

3.2 Estimates for 1971 onwards

For 1971 and subsequent years the data position is a great deal more satisfactory. The Inland Revenue provide detailed figures on assessed self-employment incomes broken down according to the Inland Revenue industrial classifications, for each standard region of the United Kingdom (together with separate figures for GLC). Control totals on a national accounts basis are also available at an industry level, and these are used to adjust the corresponding industry estimates from the assessment data to provide a matrix for each year of self-employment income by industry and region. However, Inland Revenue assessments of self-employment income are on a previous-year basis, and the analysis based on profits earned in any particular year cannot be produced until about 2½ years after the end of that year. It is therefore necessary to adopt special procedures for the latest years in the regional accounts. These provisional estimates are calculated using the industrial self-employment control totals available from the national accounts and assuming, for each industry, a regional distribution of per capita income identical to that in the latest year for which assessment data are available.

The 1973 assessment data were analysed by Inland Revenue on both a new and an old region basis. In the regional accounts self-employment income, like employment income, is estimated on the basis of the old regions up to and including 1973, and according to the new regional boundaries from 1974 onwards.

3.3 Self-employment by manufacturing order group

The Inland Revenue industrial analyses of the assessment data at standard regions level show self-employment income in manufacturing as a whole. Estimates for each SIC Order group within manu-

facturing are estimated in two stages. First, the totals for each Order for England and Wales, Scotland and Northern Ireland are obtained from data published by Inland Revenue. Secondly, the estimates for region by industry within England were calculated using more approximate methods. For 1971, information from the Census of Population on the numbers of employers and self-employed, classified by industry and region, were used to allocate the Order group estimates within

the regions of England. This initial matrix of self-employment income by industry and region within England was then adjusted to sum to the regional and industry controls by the RAS method already described for the industry analysis of wages and salaries. The same starting matrix (based on the 1971 Census of Population data) was used for later years, and adjusted by the RAS method to the industry and region control totals appropriate for each of those years.

SECTION 4

PROFITS AND SURPLUSES

Profits are the most difficult of the categories of factor incomes to allocate by region. In the regional accounts the term 'profits' is taken to include both the gross trading profits of companies and the gross trading surpluses of public corporations and of other public enterprises. Except in a limited number of cases for Scotland, no attempt is made to distinguish the separate contributions to profits from these different institutional sectors in building up the estimates. The approach to regional profits adopted in the present exercise corresponds to the definition of profits incomes from domestic production used in gross domestic product at the national level. This is consistent with the contribution which such profits make to output and profits are defined for each economic unit as the gross output *less* the payments to other factors of production, and *less* other current expenses on goods and services. The approach thus seeks to allocate economic activity to the regions where the production units are situated. Figures on this basis are of key importance in economic research on the structure and location of industry by region. It is the only approach currently followed in the UK regional accounts, both because of its importance and because the regional data available from the main data source, the Annual Censuses of Production (ACOP), is essentially on a location of industry basis.

At the level of the country as a whole, it is comparatively easy to consider both 'gross trading profits' (surpluses), which are essentially the money counterpart to productive activity, and 'profit incomes', which accrue to organisations which have owners, who may be individuals or private or public organisations, and who may or may not be domiciled in the United Kingdom. Although there could be interest in such a supplementary analysis at the regional level, the absence of the relevant data makes it unlikely that realistic estimates could be provided. From a welfare point of view, however, the most relevant consideration is estimates of profit incomes—from whatever source—*accruing* to the inhabitants of a region, and the framework to which they relate is the income and expenditure account of the personal sector.

Estimates of profits at SIC Order level are available for the United Kingdom from the national accounts. As in the calculations of other factor incomes, these national totals serve as controls for the regional estimates. For industries within manufacturing the allocation by region for years before 1971 is based on employment. From 1971 it is based mainly on data collected in the Annual Censuses of Production (ACOP). The ACOPs provide estimates in fine industry detail (around 155 industries are distinguished within manufacturing) of net output, which is defined as a residual after the

costs of purchases of materials and energy (adjusted for stock changes) and industrial services received (mainly the amounts paid for work given) are deducted from the total receipts from sales of goods (adjusted for stock changes) and services rendered. Net output has a wider coverage than the national accounts concept of value added, mainly because the cost of non-industrial services (including rents of machinery, plant and buildings, and payments for insurance, advertising and professional fees) has not been deducted. From 1973 onwards the census definition of net output has changed slightly with the exclusion of transport costs from the total of deducted purchases, resulting in a rather greater difference from that year between census net output and national accounts value added. The use of the new style censuses from 1973 onwards is discussed below.

Some four-fifths of the returns made to the censuses are from businesses conducting the whole of their activity at one address. For these there is no difficulty in calculating net output and attributing it entirely to one or other of the standard regions. Multi-unit businesses—i.e. businesses which have units at more than one geographical location—are fewer in number, but account for a substantially greater proportion of output than single-unit businesses. The multi-unit businesses very often can only provide the range of census information for the business as a whole—not for the individual locations. This constraint arises from the integrated nature of many processes and from modern systems of management (e.g. the use of a central selling organisation) and of the computerised recording of transactions. For these multi-unit businesses net output can only be calculated precisely for the whole business, and in a large number of cases the business may cover two or more regions, despite the efforts of the Business Statistics Office (BSO) to obtain less wide ranging returns.

The net output of each of the units of the multi-unit businesses could in some way be estimated and the estimates included in the total net output for the regions. However, when publishing the Annual Census Business Monitors for 1971 and 1972 (PA series) for the individual industries the BSO included in the published regional totals estimates only when more than 80 per cent of the businesses employees were located in one region. The estimate was made by assuming that net output at each location covered by a return was proportionate to employment at that location. The businesses residual net output was included in an item 'unallocated net output' (which also included the net output of businesses not qualifying under the 80 per cent rule and estimates for non-

responding and exempted businesses) and in the United Kingdom total but not, of course, in the figures for individual regions.

4.1 Use of the ACOP in the regional accounts

In the regional accounts it is necessary to make an allocation by region of the net output unallocated by the BSO under the 80 per cent rule. The allocation was made for the years 1971 and 1972 in proportion to the number of employees in each region whose net output had been included in the residual, that is, the 'unallocated' item. The allocation was made separately for each of the 155 industries, and the regional aggregates including these estimates were published for each of the 17 SIC Orders in the manufacturing sector in *Regional Statistics Number 11 1975*, and were used to allocate profits in the regional accounts as described below.

For the censuses for 1973 and subsequent years, a number of changes have been made by the BSO. First, for 1973 the BSO supplemented the regional net output data for businesses with 80 per cent or more of their employment in one region by including estimates for the residual of previously unallocated net output in analyses at SIC Order level. These will be published in the Census Summary Tables (BA 1002) and also in *Regional Statistics*. To achieve this the prorating of returns for multi-unit businesses covering two or more regions, which satisfy the 80 per cent rule, is being extended to net output for all multi-unit businesses. The regional aggregates for 1973 comprised these apportionments of returned data, together with data from returns falling wholly within a region and estimates for non-responding and exempted businesses.

Other developments in the 1973 census include the collection of comprehensive information of purchases of services. The implications of these on the regional accounts is described in Section 12 on future developments.

4.2 Reliability of regional value added estimates

The distribution of the unallocated net output by region in 1971 and 1972 is made on the implicit assumption that net output per employee in any one industry is the same in all regions. The observed net output per employee for establishments satisfying the 80 per cent rule and allocated by BSO does not bear out this assumption. Net output per head is generally

higher in the South East than in other regions. Alternative assumptions taking account of possible differences in regional net output per head, but allowing also for the possible unreliability in the estimates for the allocated net output when only a small proportion of total net output has been allocated by the 80 per cent rule, have been tested. These tests produce a range of results, highlighting the somewhat fragile nature of the profits estimates based on this or other sources.

4.3 Estimates of manufacturing profits for 1971 and 1972

Several steps are necessary in the conversion of the census net output data to estimates of profits for the regional accounts. Given the difficulties mentioned above in estimating net output, and the changes in definition and coverage of census net output introduced from time to time by the BSO, the procedures for estimating profits within manufacturing industries for years when census information was available are apt to change. This subject is discussed further in Section 12.

For 1971 and 1972 regional estimates of net output from the censuses was adjusted by subtracting the corresponding estimates of income from employment and self-employment described in Sections 2 and 3 above, separately for each element of the matrix by SIC Order and region. The resulting values corresponded to profits plus purchases of services unidentified by the census. The final adjustment to profits was made by scaling these values to the industry profits totals for the United Kingdom available from national accounts data.

4.4 Preliminary estimates for manufacturing

The net output method described above is based on the final census results, and as it is some time before the data become available it is necessary to make provisional estimates of profits within manufacturing, generally for the latest two years. Profits may be allocated by region within each Order using employment, but since this method gives regional allocations which are significantly different from those derived from net output, it would be inappropriate to use them without adjustment. Adjustments are based on comparisons between the employment and the net output based methods for the earlier years for which census information is available. The average ratios for these earlier years of the net output based estimate and the employment based estimate for each Order within region is used to adjust the employment estimate in

the preliminary period, except where the ratios lie outside arbitrary limits. In the latter cases the value of the ratio at the limit is used. These adjusted estimates for the latest preliminary period are then scaled to the national industry profits totals.

4.5 Profits estimates—industries outside manufacturing

In industries outside manufacturing, profits are generally allocated at SIC Order level by region in proportion to employment. Profits in *mining and quarrying* are estimated by special calculations distinguishing the activities of the oil and gas extraction industry (MLH 104), which are allocated to the Continental Shelf region (discussed in Section 5). In Order XXI, *gas, electricity and water*, profits in England and Wales are allocated using employment, but special information on profits is incorporated for Scotland and Northern Ireland. Profits in forestry and fishing, part of Order I, are allocated by region using employment in those industries. There is little information on profits in the service industries (or in construction), and the allo-

cation of the national totals estimated for these industries by SIC Order are made by region wholly on the basis of employment.

4.6 Adjustment for financial services

An adjustment for financial services is shown in the national accounts, but this is not attributed by industry. This adjustment represents net receipts of interest by banks and other financial institutions, which according to conventions adopted in the national accounts are not regarded as payments for factor services, and must therefore be deducted from the profits of these institutions before they are included in GDP. This treatment may be regarded as equivalent to the invention of a pseudo industry *Adjustment for Financial Services* which produces no output but consumes the whole of these services provided by financial institutions. In the regional accounts the 'negative' output of this pseudo industry is allocated by region in proportion to the profits and self-employment income of Order XXIV (*Insurance, banking and finance*).

SECTION 5

THE CONTINENTAL SHELF REGION

The treatment of the oil and gas extraction industry (MLH 104) in the national accounts was described in an article in the February 1976 edition of *Statistical News*. Exploration expenditure is treated as a current cost, so that during the earlier part of the 1970s, when there was substantial exploration activity but when natural gas only was being produced, gross trading profits in the industry were either small or negative. However, production of offshore oil started in 1975 and has built up so that from 1977 onwards large profits will be generated. The presentation of this industry in the regional accounts was changed at June 1977 to a form more suited to the special circumstances of this rapidly growing industry.

One of the major purposes of the regional accounts is to allocate each element of gross domestic product to the region where the economic activity takes place. In the case of offshore oil and gas extraction, the main activities occur offshore in an area which in this context can be regarded as part of the United Kingdom, but not part of any of the eleven existing regions. To accommodate these extra operations in the regional accounts it was decided that a new (twelfth) region would be included, and that it would be known as the Continental Shelf region. The term Continental Shelf is intended to describe the offshore area around the United Kingdom designated as the UK sector for oil purposes. The gross domestic product for the region includes only the profits of the oil and gas exploration and production industry (Minimum List Heading 104 of the Standard Industrial Classification) which are related to activities which take place offshore.

The sub-division of MLH 104 activities between the offshore and onshore regions presents a few difficult borderline cases in principle, although in practice the overwhelming proportion of the activities are clearly allocable offshore. In making the sub-division of MLH 104, onshore activity is primarily related to those using fixed assets onshore (for example separation and stabilisation terminals and storage facilities). The estimates of the offshore and onshore profits of MLH 104 have been compiled from a number of statistical and

administrative sources. For the most part gross trading profits, split between onshore and offshore have been derived from full operating accounts constructed using this data, together with some estimated items. In 1976 (outside the period shown in the attached tables) a new integrated enquiry to operators and contractors was introduced, and this will result in firmly based estimates from 1976 onwards.

The other components of gross domestic product relevant to the Continental Shelf region are income from employment and taxes on expenditure. Total income from employment in the Continental Shelf is very small compared with profits. The present practice is that income from employment is shown throughout the regional accounts according to the region of residence of the employee, and since there are no residents on the Continental Shelf, the allocation of employment income was not altered by the new arrangements. It is recognised that this practice is not wholly satisfactory and that allocation by region of workplace would give an improved measure of economic activity. The present treatment is determined by the available data and for the eleven existing regions the differences between allocation by residence and workplace are thought to be small. Rough estimates of the income of employees in MLH 104 whose main activities are offshore are given as footnotes to the table showing GDP by industry.

The Continental Shelf region is not allocated any taxes on expenditure according to region of consumption, which are allocated solely on the basis of consumers' expenditure. Certain taxes, namely oil royalty payments are however assigned to the Continental Shelf region on the allocation by production approach, as described in the Section on taxes and subsidies.

The analysis of gross domestic fixed capital formation by region also allocates certain investment by the oil and gas extraction industry to the Continental Shelf region, as explained in the Section on fixed investment.

SECTION 6

STOCK APPRECIATION

Gross domestic product is defined as the sum of factor incomes /less stock appreciation. The latter is one of the two components of the change in book values of stocks between the beginning and end of the accounting period (in the regional accounts this period is the calendar year). The other component of the change, the value of physical increase in stocks at current prices, is estimated by revaluing the recorded stocks at the beginning and end of the accounting period to the average market prices of the period, using appropriate price indices. The difference between the revalued opening and closing stocks is taken as the value of the physical increase (VPI), which represents the change in the volume of stocks as valued at the average prices during the period. The difference between the overall change in book values over the period and the VPI is a measure of the holding gain or loss resulting from changes in prices of the items held in stock. This holding gain is described in the national accounts as stock appreciation. As there is no regional information on the relevant price indices used in the estimation of

VPI at the UK level, it would clearly be difficult to repeat for each region the method of estimation used in the national accounts. Instead it is assumed that stock appreciation is allocable between regions in proportion to profits, or where appropriate, to self-employment income.

Stock appreciation estimates for the United Kingdom are available broken down by industry group and by institutional sector of ownership. The regional estimates distinguish two sectors—the personal sector which accounts for around 15 per cent of the total, and the remainder which includes companies and public corporations. Personal sector stock appreciation is distributed by region for each industry in proportion to self-employment incomes. The industry totals for company and public corporations stock appreciation are distributed by regions similarly, according to the regional allocation of profits and surpluses for each industry.

SECTION 7

RENT

In 1975 rent income amounted to just under 8 per cent of GDP at factor cost. It denotes income derived from the ownership of land and buildings, after deducting expenditure on current repairs, maintenance and insurance. A substantial proportion of land and buildings is owner-occupied, and for these assets no rent is paid, although in the national accounts income is imputed to the owners of private dwellings and in respect of property owned by private non-profit-making bodies and government, representing the amount that the owner might receive if the accommodation was let unfurnished and if the tenant was responsible for paying rates, repairs and insurance. The owner is therefore viewed as letting the property for a certain rent to himself as occupier. For government and private non-profit-making bodies the imputed charge is based on estimated capital consumption for the property concerned. For owner-occupied business premises other than farms, however, no rent is imputed. Instead, the economic benefits of ownership are implicitly included in the trading profits of these enterprises.

Estimates of rent are built up from six separate components as shown in the table below:

Rent income, 1975	£ million
Agricultural rent	143
Business rent	732
Private non-profit-making bodies rent and imputed capital consumption	157
Central government rent and imputed capital consumption	259
Local authorities rent and imputed capital consumption	1,939
Rent of private dwellings	4,233
Total	7,463

In the industry analyses of factor incomes in GDP, the agricultural rent component is allocated to Order I, business and central government rent are included in the property-owning and managing industry within Order XXIV (Insurance, banking and finance and business services), rent of dwellings including both private dwellings and the rent of houses owned by the public sector is shown in a separate 'industry' entitled 'Ownership of dwellings'. The remainder of the rent of central government and local authorities is included in Orders XXV, XXVI and XXVII.

The methods used for allocating the six components of rent income by region are, as far as possible, regional adaptations of those used for the national accounts estimates.

7.1 Agricultural rent

Regional estimates of agricultural rent are made by the UK agricultural departments. Rent is defined as the gross receipts from ownership of land and buildings less actual expenditures by the owners on repairs, maintenance and insurance.

7.2 Business rent

The UK total for business rent is based upon rateable values of commercial property excluding shops and dwellings combined, with adjustments to reflect changing business rent levels over time, using a specially constructed index of business rents. The regional allocation is based on similar data since rateable values of commercial property are available by region. An adjustment is made to the regional figures of rateable values to exclude shops with private dwelling accommodation, using the assumption that the proportion of shops with private dwelling accommodation is the same in all regions. Special adjustments have to be made to the rateable values information for Scotland and Northern Ireland to bring them onto a comparable basis with England and Wales. Scottish rateable values include a slightly different range of categories of commercial premises, and also are based on different valuation years. For the period 1966–70 valuations on 1966 were used, and 1971 valuations thereafter, compared with 1963 and 1973 for England and Wales. In Northern Ireland, rateable values are based firstly on 1939 valuations, and then 1976 valuations. The Scottish rateable values are adjusted to the England and Wales base years using the special index of business rents mentioned above constructed for the national accounts estimates of the UK total, and for Northern Ireland the Northern Ireland component of the retail price index for rent is used. The rateable

values of commercial property, excluding shops assessed with private dwelling accommodation, are thus derived for all regions on a comparable basis. The national total for business rent is allocated between the regions in proportion to these figures. Implicit in this treatment is the assumption that the proportions of business property rented rather than owner-occupied are the same in all regions. As already mentioned, the estimates of business rent relate only to rent paid by occupiers of commercial premises, and no imputation is made for owner-occupiers, although the rateable value figures include both types of tenure.

7.3 Central government

About two-thirds of the central government total is an imputed element based on capital consumption of the properties concerned, to cover the Armed Forces housing, Atomic Energy Authority, National Health Service and government offices. The remaining one-third represents rent income from letting of government owned property for which data is available from the government accounts. The regional allocation is made separately for National Health Services and for the rest, using suitable indicators. For the National Health Services the number of beds in each region is taken to indicate the regional distribution of premises, and the remaining imputed income is distributed according to the number of civil servants in post, and according to the distribution of the Forces. The central government component is only a very small proportion of total rent (around 3 per cent) so that inaccuracies resulting from the use of indicators rather than direct estimates do not seriously affect the total.

7.4 Local authorities

Local authority rents include rent of dwellings and the imputed charge for capital consumption of other land and buildings owned by the local authorities, other than those that are part of trading activities. In the national accounts local authority rents of dwellings are related to the loan charges incurred in providing the service before taking into account allowances for depreciation. The estimates of loan charges include the debt charges on the Housing Revenue Account and certain debt charges on the Rate Fund Services Revenue Account. (These components are all shown in *Local Government Financial Statistics*.) To this is added an imputed charge for education based on capital consumption.

The national accounts estimate of local authority rent is compiled by adding the three separate estimates for Scotland, Northern Ireland, and England and Wales. These components are used directly in the regional accounts. For the regions of England and Wales analyses of local authority returns to the Department of the Environment provide regional data for the financial year 1970/71 onwards of the relevant components of the loan charges. These are adjusted to calendar year totals using quarterly information. For years prior to 1970 the regional breakdown for 1970 was used for the allocation by region within England and Wales.

Northern Ireland departments make their own estimates for both local authority and central government rents. These are based on fairly detailed information, such as that available from the Northern Ireland Housing Executive for public authority dwellings. The estimates for Scotland are based on returns by Scottish local authorities.

7.5 Private dwellings

Rent of private dwellings is estimated separately in four components: rent paid to private landlords, owner-occupiers' imputed rent, ground rent of owner-occupiers, and imputed rent of rent-free dwellings. The method used to estimate rent paid to private landlords follows the national accounts methodology. Basic data on rents and water charges, and rates, is extracted from the Family Expenditure Survey (FES) for both furnished and unfurnished accommodation. The estimates per household, for furnished and unfurnished accommodation are combined using ratios of numbers of households in the two categories. These ratios are derived from the Census of Population results for 1961 and 1971 and from the FES. Estimates are made of the number of privately rented dwellings in each region, including those whose rent is subsidized, and these estimates are used to gross up the estimates of rents. Water charges are assumed to be approximately 10 per cent of rates, and these are added to the rents estimates.

The FES data is subject to sampling error at a regional level because of the small sample sizes, particularly in the smaller regions and in certain expenditure categories, for example in the furnished privately rented sector. In order to reduce these fluctuations the FES data for each category within region is smoothed using a least squares model assuming linear movements in the variables over time.

The largest element of rent of private dwellings is owner-occupiers' imputed rent. The national estimates utilize the information on rateable values for England and Wales which emerged from the 1963 and 1973 revaluations. These form benchmarks and the FES provides a measure of the change in domestic rateable values of owner-occupied dwellings between the valuations. This series, at 'constant' prices, is

multiplied by an index which is an estimate of the price component of changes in open market rents of dwellings, to give an estimate of owner-occupiers' imputed rent. For the regional estimates, the 'constant' price series using rateable values and FES information are repeated using the regional information available for both of these sources. As described above, Scotland and Northern Ireland have different valuation years for rateable values and special adjustments to the data are necessary to produce compatibility with England and Wales.

It would have been possible to construct regional versions of the 'price' index of rent following the national accounts method which estimates the full unit cost including subsidies of the local authority and privately rented sector. However there are inaccuracies in the regional breakdowns of some of the data, and it is also doubtful whether the regional variations in rents measured by this index, which may be heavily

influenced by the age structure of the local authority housing stock, is appropriate for owner-occupiers' imputed rent. The national rent index is therefore used to adjust for price changes in every region.

Further small adjustments are made to the national totals of owner-occupiers' rent, principally to allow for imputed rent of private non-profit-making bodies, and these are allocated by region using a constant percentage uplift to each calculated regional value.

The national figure for imputed rent of rent-free dwellings is very small, and is distributed by region according to an estimate of the number of rent-free dwellings in each region. Other adjustments for rents paid to public corporations for dwellings, subsidies other than to local authorities, etc., are distributed by region in proportion to the calculated values of rents of private dwellings.

SECTION 8

TAXES ON EXPENDITURE AND SUBSIDIES

Taxes on expenditure /less subsidies are of importance in the accounts both as the adjustment between GDP at factor cost and at market prices, and also as part of the public authorities' current account. Two distinct methods of regional allocation may be suggested. First, each category of tax and subsidy may be attributed either to imports or to the production or service activity to which it may be considered to be related. Under this system the regional allocation of production taxes and subsidies is generally in proportion to the value added in the industries concerned. Secondly, the taxes and subsidies may be regarded as having their main impact on the prices of final products, and on this view they should be attributed to the region according to its expenditure on the final goods and services so affected. This second approach is generally considered to be the more appropriate in the context of regional budgets, where the relative sizes of the regional tax revenue may be taken as in proportion to the expenditure of final consumers on products subject to these taxes and/or subsidies. The attribution of indirect taxes and subsidies to final products also fits into the account showing the major components of final expenditure—consumers' expenditure, gross domestic fixed capital formation, government expenditure on goods and services. The inclusion of indirect taxes and subsidies enables a conversion of these components of final demand to be made from market prices to factor cost.

In the UK regional accounts indirect taxes and subsidies are calculated according to both of the above approaches, although estimates on the first of these (which may be called the production approach) are provided primarily as part of the European system of regional accounts published by the Statistical Office of the European Communities. Although the two approaches are quite distinct in concept the resulting regional allocations under the two systems are the same for several taxes or subsidies, usually because in these cases the region of production is also the region of final consumption. In some other instances the two concepts require different allocations in principle, although identical allocations are made in practice due to inadequate information to enable a suitable distinction between the two systems to be made. This often arises because an attribution of tax or subsidy to final expenditure could only be made using an input/output model, and data for this, even at national level, is usually not available for recent years. The methods of allocation by region are discussed below in greatest detail in terms of the second (or final expenditure) approach. Notes at the end of this section describe the most important differences in method between the expenditure and the production approaches.

8.1 Taxes on expenditure allocated according to final expenditure

The receipts of duties on *beer, wines, spirits and tobacco* have been allocated in proportion to the estimated final expenditure on each of these products. The expenditure estimates are calculated as part of consumers' expenditure and are based on average weekly household expenditure from FES grossed up for the estimated number of households in the region. The FES estimates at regional level are based on small samples and to reduce the sampling fluctuations a three-year centered moving average is used for each expenditure category. No allowance is made for possible regional biases due to the under-recording in the FES of expenditures on these categories, or to the possible varying regional proportions of business expenditure on these products, not covered by the FES. The overall bias is corrected by scaling the duties calculated using the expenditure figures for each region to the national totals of receipts.

To allocate the tax on *hydrocarbon oils*, statistics of inland deliveries of certain petroleum products by region are used. These are published in *Regional Statistics* disaggregated into light oils, gas/diesel oils, and fuel oil, each of which are subject to different rates of duty. The volume figures of deliveries are multiplied by the appropriate rate of duty to give estimated receipts for each category. The regional figures are scaled to sum to the national accounts totals.

Protective duties include various import duties, ship-builders relief, compensatory levies, import levies, and anti-dumping duties. Since there is no satisfactory way of measuring the impact of these duties, short of a full regional input/output analysis, they are distributed in proportion to regional population.

Purchase tax was levied at four different rates on different groups of goods (including cars) up to March 1972, when the two highest rates were merged. From that date it was levied at three rates until March 1973 when it was abolished. Household expenditure by region on the appropriate groups of goods is estimated using the FES, and the tax receipts in respect of them estimated. It is not possible to obtain an exact correspondence between the FES categories and the purchase tax groups but a reasonable approximation

is made. A three-year moving average is used to smooth the statistical fluctuations in the data.

Value added tax (VAT) replaced purchase tax in April 1973 and covers a much wider range of goods than the former tax. It is distributed by region according to household expenditure on the goods and services on which the tax is paid. The FES provides estimates of these goods and services, identifying where possible the categories to be excluded which are exempt or zero rated. The main categories excluded are food, new construction work, children's clothing, books, magazines, etc., and financial services.

Car tax was introduced in 1973 at the same time as VAT. It is distributed by region according to the numbers of new cars registered.

Betting and gaming tax has been distributed in proportion to the regional population aged over 15.

The small category of *Other Customs and Excise duties* includes the duty on matches and mechanical lighters, and other duties with only a small yield. This category is allocated in proportion to the sum of all the other Customs and Excise duties.

Receipts of motor vehicle licence duties are available separately for England, Wales, Scotland and Northern Ireland, and they can be split into categories covering different classes of vehicles. Three categories are used in the regional allocations: private cars, goods vehicles, and other vehicles. For the allocation across the English regions the total figure for each category is distributed in proportion to the number of vehicles with licences current. This treatment makes no special adjustment in respect of licence payments for commercial vehicles, which should strictly be regarded as a tax on intermediate expenditure and allocated to final expenditures using input/output techniques. However, a lack of data prevents this formally 'correct' approach.

Selective employment tax applied only up to 1973, and is allocated to regions according to the number of employees in industries which came within the scope of the tax. No account is taken of the varying rates of tax between juveniles, adult males and females, full and part-time, etc., although special estimates are made of employees in industries eligible for refunds of the tax. The net payments by region are scaled to the national accounts totals. As with motor vehicle licence duties, selective employment tax was levied on an intermediate expenditure, and for consistency with the treatment of other taxes in the regional accounts, it should be allocated to final expenditure categories, using input/output. This has, however, not been done.

A breakdown of *television contractors additional payments* is available showing payments received from the different independent broadcasting authorities. These are converted on a rather approximate basis to standard economic planning regions. Receipts of *stamp duties* are shown in the Inland Revenue reports, broken down into the receipts from different types of stamp duty, and split into England and Wales, Scotland and Northern Ireland. For Scotland and Northern Ireland the financial year receipts are converted to calendar year figures, and adjusted to sum, with the English total, to the total shown in the national accounts. Receipts of stamp duties in England and

Wales by the Inland Revenue office of collection are available, but it is considered that these figures provide a misleading geographical allocation, so far as the regional accounts are concerned, since, for example, many duties on stocks, shares and debentures are paid in the City of London although the persons paying these duties live elsewhere. For this reason it is decided that these figures should not be used. Instead, stamp duties are allocated to the regions of England and Wales by dividing the receipts into three categories: duties on land and property, duties on stocks, shares, debentures, etc., and other stamp duties. The first category is allocated in proportion to average dwelling prices weighted by the distribution of new building society mortgages in each region. The second category is allocated in proportion to receipts of rents, dividends and net interest by the personal sector, excluding receipts of life assurance and superannuation funds. A regional breakdown of these receipts is calculated as part of total personal income. The third category is allocated in proportion to the totals of the first two categories.

The remaining central government taxes—*oil royalties, miscellaneous taxes less export rebates, and bus fuel grants*, are distributed in proportion to the allocation of all other taxes. This category is fairly small in the period up to 1975 and it does not seem worth while to identify the individual taxes and distribute them separately. In later years when oil royalty payments are expected to increase sharply, new methods of regional allocation will have to be devised.

Receipts of *rates* in England and Wales are available from returns from local authorities to the Department of Environment for financial years on a regional basis. Separate estimates are made for Scotland and Northern Ireland. These are converted to calendar year figures and adjusted to sum to the national accounts totals. As with selective employment tax and motor vehicle licence duties, rates are in part a tax on intermediate demand, and this part should have been reallocated to final expenditure using input/output. This has not been done.

8.2 Subsidies allocated according to final expenditure

There are a wide range of subsidies, including central government subsidies to housing, agriculture, forestry and food, nationalised transport undertakings, compensation for price restraint, employment premiums, assistance to the coal industry and an 'other' category which includes grants to the civil aviation authority and support to private industry. Also included are local authorities' subsidies to housing, passenger transport and other trading bodies. At present, the problems of allocating subsidies to regions have not been fully solved, and several arbitrary assumptions have been made, pending further analysis.

The largest of these subsidies is the *housing* subsidy paid both by central and local government. Using the

housing revenue accounts provided by returns from local authorities, an approximation to the central government and local authorities' housing subsidies can be derived as follows:

Loan charges
plus other expenses
less rents paid, etc.
plus central government subsidies to public corporations (for new towns)

A regional breakdown of all of these items except the last is available for England and Wales from the system of returns from local authorities. The Scotland and Northern Ireland figures are also separately available. Central government housing subsidies to public corporations comprise grants to new towns which can be broken down into the amounts paid to each new town corporation, and thus allocated to region.

The subsidy to *agriculture, etc.*, is complex, including a large number of different payments for different purposes, many of which change in nature at frequent intervals. National Food Survey (NFS) data is used to allocate by region many agricultural subsidies, using the consumption of commodities to which they are relevant. Some subsidies, for example the fertilizer subsidy, are not separately allocated but distributed in proportion to the allocated parts of agricultural subsidies. The subsidy to *forestry* is distributed according to the area under plantation, and the *fishing* subsidy according to expenditure on fish shown in the NFS.

There are a large number of *transport subsidies*: including the subsidies to British Rail, the Scottish Transport Group, the Northern Ireland Transport Holding Company, and local authority subsidies to road passenger transport. The Scottish and Northern Ireland subsidies, and those to road passenger transport, can be classified to regions without much difficulty, and the rest are allocated according to consumers' expenditure on rail travel (the allocation of this item is explained below).

Compensation for price restraint includes payments to the Gas and Electricity Councils, to the South of Scotland Electricity Board, North of Scotland Hydro-Electric Board, Northern Ireland Electricity Service, and, from 1972 onwards, to the Post Office. The payments to the Gas and Electricity Councils, and to the Post Office are allocated according to consumers' expenditure on gas, electricity and communication services respectively.

In 1971 the Coal Board subsidy was a small payment towards the social costs of reorganisation of the coal industry. This is allocated by regions by the National Coal Board. From 1972 onwards the subsidy became much larger and includes some special government grants for writing off deficits. Although these can be allocated by Coal Board regions, the total from 1972 onwards has been allocated except in Scotland according to consumers' expenditure on coal, an approach more consistent with the principle of attribution of the subsidies to final expenditure. (The Coal Board allocation is according to production rather than final expenditure, although in Scotland these two bases roughly coincide, and the Coal Board figures are used.)

A regional allocation of *employment premiums* is available from the Department of Employment for financial years, and these figures are adjusted to the

rational calendar year totals. This is a subsidy to intermediate expenditure and, as for selective employment tax, a correct allocation to final expenditure is not possible.

The remaining category of subsidies includes a number of miscellaneous items. Some of these can be separately identified, for example the subsidies to the North of Scotland Hydro-Electric Board (1974 only), and the Northern Ireland Finance Corporation (from 1973 only). The remaining subsidies are allocated by region according to the distribution of all other subsidies.

8.3 Indirect taxes and subsidies—production approach

The European system of accounts (ESA) regards indirect taxes and subsidies as levied on production or on imports, requiring an allocation of the former to a production activity (or branch). In the regional accounts a further allocation by region of location of the activity is necessary for taxes or subsidies on production. No regional allocation is made for taxes on imports, which include protective duties. The taxes and subsidies allocated by branch and region may be used to convert the corresponding value added at factor cost to market prices.

There are some differences in coverage between the ESA taxes on production and imports and on the UK system of indirect taxes, the most important of which is in respect of motor vehicle licence duties, which exclude the tax on private vehicles under the ESA system (regarded as a tax on income).

Beer, wines, spirits and tobacco are allocated to Branch 36 (NACE-CL10 system—*Foodstuffs, drinks and tobacco based products*) in proportion to regional net output in the industries concerned. This net output is calculated for years when annual production censuses are available at the detailed industry level as part of the allocation procedure described already for profits. For later years similar calculations are undertaken for each of the industries to which these duties are attributed—MLH 231, 239.1, 239.2, and 240 (*Beer, wines, spirits and tobacco*).

Hydrocarbon oils. This tax is allocated in proportion to regional net output in the mineral oil refining industry MLH 262.

Betting and gaming are allocated to Branches 69 (*Banking and insurance services*) and 73 (*Real property rental and leasing services*) in proportion to employment in this industry (MLH 883).

Purchase tax is allocated by region in proportion to employment in MLH 812 (other wholesale distribution) and by branch according to the allocation made in the national return on the ESA basis.

Value added tax. The allocation by branch for the United Kingdom as a whole is made as part of the national accounts. Within each branch the allocation by region is in proportion to value added on net output.

Stamp duties are allocated by region in proportion to GDP in Branches 69 and 74 (*Banking and insurance services and Other commercial services*).

Oil royalties are allocated to Branch 06 (*Energy products*) in the Continental Shelf region.

The remaining taxes are allocated by region in the same way as for the estimates on the expenditure basis described above. For some of these taxes the output of the corresponding service and the region of expenditure on it may be assumed to coincide; for others, for example rates, selective employment tax, motor vehicle licence duties, the only regional breakdowns available are in terms of production rather than expenditure. The allocation of several of the taxes by branch presents problems, particularly where the incidence of the tax by branch is widely spread. For these cases the allocations by branch involve approximations and no attempt has been made to estimate a separate regional distribution of the taxes within each branch. The regional patterns estimated for these taxes in total (all branches summed together) has been applied to the proportion allocated to each branch.

The allocation of subsidies according to the production approach is briefly as follows:

Housing subsidies are allocated by region as in the expenditure based estimates. They apply to branches 69 and 74 (*Banking and insurance services and Other commercial services*)

Agriculture subsidies are allocated in proportion to GDP in agriculture. Most of them relate to Branch 01 (*Products from agriculture, forestry and fishing*) the

fertilizer subsidy to Branch 17 (*Chemicals*) and a small amount relate to Branch 36 (*Foodstuffs, drinks and tobacco based products*).

Transport subsidies. Part of these are allocated as in the expenditure based estimates, for example local passenger transport. The majority, including the subsidy to British Rail, which are allocated in the expenditure based estimates according to consumers' expenditure on rail travel, are allocated on the production approach according to the region of operation receiving the subsidy, wherever possible. British Rail subsidies, for example, can be allocated by region. A small proportion of subsidies for which information is not readily available, are allocated in proportion to other transport subsidies. All of the transport subsidies are attributed to Branch 60 (*Transport and communication services*).

Assistance to the coal industry. These are allocated regionally by the National Coal Board and are attributed to Branch 06 (*Energy products*).

Compensation for price restraint. The subsidies for gas and electricity are allocated in proportion to total sales by region in volume terms, and are attributed to Branch 06 (*Energy products*). The subsidy to the Post Office is allocated in proportion to employment in MLH 708, and is attributed to Branch 60.

Regional employment premiums are allocated by region using estimated total payments provided by the Department of Employment. Within regions the allocation by branch uses estimates of employment, and the matrix of payments by branch within region is then adjusted to sum to the national branch totals which are independently calculated.

Other subsidies are allocated by region according to the totals of the subsidies discussed above. The allocation by branch made in such a way that the total of all subsidies allocated by branch sum to the national totals independently calculated.

SECTION 9

PERSONAL INCOME

No system of regional accounts can be regarded as comprehensive without some attempt at a disaggregation of the current accounts by institutional sector. Among the sector current accounts, that relating to persons (including non-profit-making bodies serving persons) is probably of greatest general interest. The income side of the personal sector account generates two important totals, total personal income and personal disposable income. Both of these are significant indicators in the regional context, and the second, which represents personal incomes after deduction of tax and compulsory social security payments and after deducting transfers, provides a measure, albeit imperfect, of the comparative spending powers of residents in the different regions. The two measures are often expressed on a per head basis, and it is arguable that in this form they are better indicators of regional standards of living than is regional GDP per head, which includes regionally generated profits which are not directly available to residents to spend. However, unlike the national accounts, personal disposable income in the regional accounts is estimated only at current prices, so that movements over time are not corrected for changes in prices, and comparisons between regions do not take into account differences in price changes or levels on consumer goods between the regions.

The other side of the regional personal sector account comprises consumers' expenditure, which is also estimated only at current prices in the regional account. At the national level, the balance between personal disposable income and consumers' expenditure provides an estimate of personal saving although, as in the nature of all residuals, this estimate is rather less reliable than either of the aggregates from which it is derived. This warning applies with much greater force to the regional analogues of personal saving, the errors on which, due to the unreliability of many of the regional estimates of items both on the income and the expenditure sides of the personal accounts, are large. Thus movements over time in regional personal savings or comparisons between regions at a point in time, using estimates implied by the published personal disposable incomes and consumers' expenditure, are probably quite misleading. Personal disposable income however, although not as accurate at regional level as for the United Kingdom as a whole, is considered sufficiently reliable for useful comparisons to be made.

9.1 Total personal income

Total personal income includes wages and salaries of employees plus employers' contributions, as well as self-employed incomes, all of which have been already derived for regions as part of the calculations for regional GDP. Other items not included in GDP comprise rents, dividends and net interest received by the personal sector, national insurance benefits received by persons, and other current grants from public authorities. The methods used to allocate these items are described below.

Rents, dividends and net interest can be divided into receipts of life assurance and superannuation funds, and 'other' receipts. Receipts of life assurance and superannuation funds are allocated by region in proportion to the contributions from which these funds are built up. These include employers' and employees' contributions to superannuation funds, and contributions to individual life policies, purchased annuities, etc. The regional allocation of employers' contributions has already been calculated as part of the regional GDP estimate, and employees' contributions are allocated in the same proportions as employers' contributions. This treatment carries the implicit assumption that employers' contributions to non-contributory schemes are allocated by region in the same proportion as their contributions to all schemes. Contributions to life assurance policies are allocated by region using FES data on payments for life assurance.

The imputed rent of owner-occupiers and the rents received by the personal sector are also included in total personal income. These have already been allocated by region as part of the GDP estimates, as described above. The remaining part of the rents, dividends and net interest receipts by the personal sector are allocated using the category 'Net investment income' provided by the Inland Revenue Survey of Personal Incomes. The survey results are usually

available after some delay, and it is generally necessary to use the regional pattern for the latest available year to allocate this item in the most recent periods in the published regional accounts.

9.2 National insurance benefits and Other current grants from public authorities

Regional estimates of expenditure on national insurance benefits, war pensions, family allowances, and supplementary benefits are calculated by DHSS and are used directly in the regional accounts. These social security benefits form a large part of the total of current grants to persons. Rent rebates and allowances were introduced in 1972, and are allocated by region within England and Wales using information published by the Chartered Institute of Public Finance and Accountancy. Estimates for Scotland and Northern Ireland are obtained from departmental records.

Grants to universities, colleges, etc., are also included in this item, since these institutions, like other non-profit-making bodies, are part of the personal sector. Estimates of grants to individual universities are available for some years in *Statistics of Education*, supplemented for the latest periods by information in the Supply Estimates. Scholarship and maintenance allowances paid by both central government and by local authorities are distributed in proportion to the numbers of full-time students in establishments of further education.

The remaining parts of current grants from public authorities, including payments of unemployment benefit, and many other smaller payments to persons and to charitable organisations, are allocated by region in proportion to the total of all the current grants to persons discussed above. The small item Transfers to charities from companies is allocated in a similar manner.

9.3 Estimates of personal disposable income by region

A number of items must be subtracted from total personal income to give personal disposable income. These are:

- Net transfers abroad
- Taxes paid abroad
- UK taxes on income: payments
- National insurance, etc., contributions

There is no regional information on taxes paid abroad or on transfers abroad, and these are allocated in proportion to population.

Payments of taxes on income by the personal sector are allocated using estimates of tax payments provided by the Survey of Personal Incomes. The five major categories of national insurance contributions, employers, employees, self-employed persons, HM Forces, and non-employed persons, are treated separately. Employees contributions are distributed by region using the proportions already calculated for employers' contributions. The contributions of HM Forces are allocated in proportion to Forces incomes, and those of the self-employed in proportion to the numbers of self-employed persons. The remainder for non-employed persons is very small and is distributed in proportion to the sum of the other categories.

The estimates of personal taxes from the Survey of Personal Incomes are derived from a different data source to that used for the major category of income, employment income. This results in a possible lack of comparability between the major building blocks used to derive personal disposable income. A new method of estimating taxes on employment income, which overcomes this particular problem, is discussed in the section on future developments, and will be used for final estimates from 1975 onwards. For earlier years, comparability may be best achieved between pay and tax by adjusting the tax and pay given by the survey, in order to achieve congruence between the pay provided by this source, and from the DHSS 9 per cent sample.

SECTION 10

CONSUMERS' EXPENDITURE

The estimates of consumers' expenditure by region may be considered to serve two purposes. First, they form the major part (about two-thirds) of total domestic expenditure. Secondly, the regional estimates of consumers' expenditure complement the estimates already discussed for personal disposable income and, together with them, complete the current account of the personal sector. However, warnings have already been given concerning the use of personal disposable income and consumers' expenditure to derive a residual for the personal sector account—regional personal savings, which when estimated in this fashion are subject to wide margins of error. The methods described below for constructing the regional estimates of consumers' expenditure, which involve a great reliance on the Family Expenditure Survey which has only small regional samples, serve to underline the uncertainties to be expected.

Consumers' expenditure is defined in the national accounts as the sum of the expenditures on goods and services by households, other individuals and non-profit-making bodies serving persons, all of which are resident units in the United Kingdom. The total thus includes expenditure abroad by resident consumers and excludes expenditure in this country by foreign residents. These last two items are shown in the national accounts as adjustments and are not disaggregated by category of expenditure. The expenditure categories shown therefore relate to total expenditure within the United Kingdom, irrespective of whether this is incurred by UK or foreign residents.

The regional accounts attempt to follow the same principles for consumers' expenditure as in the national accounts—namely to define the regional totals in terms of expenditures by residents. Non-residents' expenditure in any region includes not only that of persons resident outside the United Kingdom but also the expenditures by units resident in other regions of the United Kingdom. It would be very difficult to reproduce the national accounts procedures at the regional level by first estimating the total expenditure for each category within each region and then adding to this the expenditure elsewhere in the United Kingdom and abroad of the region's residents, and deducting the expenditure in the region by non-residents. Instead the regional estimate has been built up more directly in terms of expenditures by residents for which the major data source used is the Family Expenditure Survey (FES), so that, although the regional estimates are defined in an analogous way to the national totals, the data sources are somewhat different. In general the regional accounts, by placing greater reliance on the FES, use a much more limited range of data than the national estimates, which also

make use of statistics of supplies, retail sales and other statistical surveys, data from nationalised industries, and customs duties for certain items.

10.1 Adjustment of national totals to a residence basis

The regional estimates of consumers' expenditure using the FES require national totals for each category defined on a residence basis, in order to provide controls. As mentioned above the categories of consumers' expenditure shown in the national accounts include expenditure in the United Kingdom on these items by tourists and other non-residents. It is necessary, therefore, to adjust each category for this non-residents' expenditure, and this is done by allocating the total of expenditure by foreign tourists, etc., in the United Kingdom to the individual categories using a set of weights obtained for Great Britain from surveys by the British Tourist Authority, and for Northern Ireland by the Northern Ireland Tourist Authority.

10.2 Estimates based on the Family Expenditure Survey

The FES provides estimates of household expenditure by detailed category for all of the standard regions. The sample is balanced at regional level, but its overall size is quite small (some 10,000 responding households), so that sampling errors at the regional level, even for fairly broad groupings of expenditure, can be significant. The FES regional data is aggregated to the expenditure categories shown in the national accounts (Table 4.9 in the 1977 Blue Book), corrected to a per head basis, grossed up for each region by the regional population, and then expressed as a percentage of the UK total. Finally a moving average over three successive years (with weights 1:2:1) is used to provide a smoothed estimate for the central year of the period.

The choice of a 3-year moving average is a compromise between the achievement of maximum smoothing and the retention of sufficient flexibility to detect changes in the percentage shares over fairly short periods of time.

10.3 Categories subject to special procedures

The FES estimates provide the regional breakdowns of the national tables for the great majority of categories of expenditure. There are a few items, however, which are either not covered by the FES, or for which better regional estimates may be obtained by alternative means. The methods used for these are briefly described below:

Expenditure on fuel and light. Although present regional estimates are based on the FES, alternative data on fuel consumption by region may be used in future.

Rail and bus travel. Estimates of rail and bus passenger transport for Scotland and Northern Ireland are based directly on receipts of operators in these countries, adjusted for business travel, rather than on the FES. In Wales and the English regions the FES is used, both because of the difficulties in obtaining direct information, and because of the rather greater proportion of public transport users in some of these regions who are residents of other regions or from overseas.

Betting and gaming. The amounts of net expenditure on betting and gaming reported in the FES are probably unreliable in total, and may be also subject to regional bias. Consumers' expenditure on this item is therefore allocated by region in proportion to the regional populations aged over 15.

Wages and salaries, etc., paid by non-profit-making bodies. These are not covered by the FES and have therefore to be allocated by region using alternative means. About one-third of the total represents the wages and salaries paid by universities, and these are allocated by region of location of the universities using data from *Statistics of Education*, which gives information for individual universities. This treatment is also consistent with that according to the region of location of the student, the ultimate consumer of university services, which is also taken by convention to be in accordance with his or her term-time residence. No information is readily available for the remaining non-profit-making bodies, which include charities, trade unions, religious organisations, friendly societies, housing associations, etc., and the wages and salaries of these are allocated according to the regional employments in Minimum List Headings 875 and 899 combined.

Income in kind not included elsewhere. Income in kind received by the Forces is allocated in proportion to the number of Forces stationed in each region. Merchant seamen's and fishermen's food is allocated in proportion to employment in Minimum List Headings 003 and 705 combined.

Consumers' expenditure abroad. The expenditure abroad by the Forces and government employees stationed abroad is allocated by region using population, a treatment which is compatible with that used for Forces' income on the income side of the personal sector account. Expenditure abroad by other travellers, mainly on holiday, is allocated to the region of residence of the traveller using weights provided by the National Travel Survey, and data from the Northern Ireland Tourist Authority.

SECTION 11

FIXED INVESTMENT

The allocation of gross domestic fixed capital formation by region does not present too many difficulties in principle, as the greater part of fixed investment is on assets which have a well-defined geographical location. However, the investment in mobile equipment (vehicles) cannot always be unambiguously assigned to a specific location, and for them certain conventions have to be adopted in the regional accounts, the most usual being to allocate vehicles to the region to which they are attached for administrative purposes. This principle of allocation cannot always be followed in practice, as data according to this convention is not always readily available, and other methods have to be used in some instances, notably for investment in railways and air transport, described in more detail below.

The principle of allocation of fixed investment to the region of location implies that the investment offshore by the oil and gas extraction industry, Minimum List Heading 104, should be allocated to the Continental Shelf region, and this allocation is followed in the regional analyses. Fixed investment by the shipping and fishing industries would in principle be allocated to the onshore centres of interest, providing a consistent treatment with that already described for gross domestic product.

Three main types of analysis of gross domestic fixed capital formation are published at the national level—by industry of ownership, by asset and by institutional sector. In the regional accounts (as currently published) the only analysis systematically followed is that by industry, although results for the public authorities' sector are also identified, and are broken down by function or purpose. The main reason why regional analyses by asset and by sector are not prepared is that certain parts of the regional fixed investment account are at present not calculated owing to lack of suitable data. These parts are most readily identified in terms of industry groups, for which suitable means of estimating fixed investment are not available for construction, shipping, distribution and other services. The Census of Distribution for 1971 does provide regional breakdowns of fixed investment for retail distribution for that year, but there is no satisfactory means for updating these results for later years. It is expected that a new system of annual enquiries undertaken by the Business Statistics Office for the retailing and other service trades will yield estimates of fixed investment for all regions, but the earliest year for which this data might be collected is 1979.

The procedures for estimating regional fixed investment follow the pattern observed in many other parts of the regional accounts, namely to use the best

regional indicator available for each category as a means of allocating the national total derived as part of the national accounts. In the great majority of cases the indicators used are direct measures of the value of fixed investment in the regions, although timing and other adjustments made to the national totals result in small differences between them and the sums of the regional values. Indirect indicators are used for parts of fixed investment in certain central government services, for which a full territorial analysis is not readily available from departmental records, for parts of other mining and quarrying and transport, and for forestry and fishing. The main sources of information and method used in each industry are as follows.

11.1 Agriculture, forestry and fishing

Fixed investment in agriculture by region is estimated from enquiries conducted by the Ministry of Agriculture, Fisheries and Food. The national estimates of fixed investment in forestry and fishing are allocated by regions other than Scotland using as an indicator, the employment *plus* self-employment in these industries. For Scotland, direct estimates are made using information from the Forestry Commission.

11.2 Mining and quarrying

Estimates of fixed investment by the coal mining industry are provided by region by special analyses prepared by the National Coal Board. These regional figures for financial years are then adjusted proportionally to sum to the nearest calendar year total. Fixed investment by the oil and gas extraction industry is located mainly in the Continental Shelf region, which is taken as the residual after deductions from the national total for the small amounts of investment

onshore have been made, based on information from a variety of sources. There is no regional information on fixed investment by the rest of the mining and quarrying industry, totalling about £60 million in 1975, and this is allocated by region using employment.

11.3 Manufacturing

The Annual Censuses of Production provide regional analyses of fixed investment in manufacturing—a five-fold breakdown by industry groups within the total is published in *Regional Statistics*. These analyses are not compatible with the national totals used in the Blue Book, since unlike the latter, net fixed investment in land and existing buildings is included. The regional figures are adjusted proportionately for each industry group to bring the totals to those used in the Blue Book. The estimates relating to the latest two or three years in the regional accounts are based on provisional results from the censuses of production, and these are revised when the final figures become available.

11.4 Gas, electricity and water

Regional estimates of fixed investment by the gas and electricity industries in England and Wales are provided by special analyses for financial years provided by the Gas and Electricity Councils. The data for gas are in terms of non-standard regions, and these are roughly converted to standard regions using population. Similar data is available for Scotland and Northern Ireland from returns provided by the corporations to the government. As for the coal industry, the financial year figures are adjusted proportionately to sum to the calendar year totals. Regional estimates of investment by the water industry are built up separately for the local authority undertakings, the public corporations (set up under the 1974 reorganisation of local government in England and Wales), central government (in Northern Ireland) and the private sector. Separate figures for Scotland and Northern Ireland, and for the local authorities in the regions of England and Wales, are available from government records. Fixed investment by the regional water authorities in England and Wales are apportioned to standard regions from the regional water authority areas using approximate methods based on population. The relatively small amounts of investment by private water undertakings are allocated mainly to the South East region, where the great majority of them are located.

11.5 Transport and communications

- (a) *Railways*. Special analyses of fixed investment in plant and in buildings and works are prepared by region by British Rail. The national total of fixed investment in vehicles is allocated by region according to the numbers of employees in Minimum List Heading 701 (railways) after deducting the employees in London Transport. Investment by the latter corporation is separately available as are estimates of fixed investment in railways for Northern Ireland.
- (b) *Road passenger transport*. Fixed investment by the Passenger Transport Executives and by local authority undertakings can be allocated directly by region, and estimates are also available for the Scottish Bus Group and the Belfast City Bus and Ulsterbus companies. Investment by the National Bus Company and by the private sector can be allocated in proportion to current licences for passenger transport vehicles.
- (c) *Road haulage and storage*. The national total is allocated using the numbers of new registrations of goods vehicles in each region.
- (d) *Sea transport*. No regional estimates of fixed investment are made for this industry.
- (e) *Ports, etc.* The regional investment by local authorities is obtained from annual returns to the government of capital payments, and is used in the analysis of fixed investment by public authorities. Fixed investment by the whole of this industry in the regional analysis by industry is allocated using employment.
- (f) *Air transport*. Fixed investment by this industry is allocated in proportion to the total number of passenger movements through airports in each region.
- (g) *Post Office*. Estimates of fixed investment by Post Office regions are available from special analyses prepared by the Post Office; these are approximately adjusted to standard regions using population.

11.6 Distribution; Insurance, banking and finance and business services; Other private services

As explained in the introduction to this section, no regional estimates of fixed investment are made for these industries.

11.7 Dwellings

The public sector and private sector components of fixed investment in new construction work in dwellings are allocated separately. Capital payments for new housing work by local authorities are available from returns to the Department of the Environment, and the investment by new town corporations, the Scottish Special Housing Association and the Northern Ireland Housing Executive may also be easily assigned to standard regions. Housebuilding by central government, a relatively small proportion of the total public sector, is allocated according to the numbers of service personnel normally stationed in each region.

Reliable regional data on the values of housing construction work by the private sector is not available, and the regional estimates are based on averages of the numbers of housing starts and completions, adjusted by estimated regional value indexes for new housing construction. These indexes are compiled from average dwelling prices less price per plot of housing land. These figures are prepared for standard regions by the Department of the Environment (DOE) and the Building Societies Association, and are included in *Regional Statistics*. Corresponding estimates are made for Northern Ireland.

11.8 Transfer costs

These are allocated by region in proportion to the total fixed investment of all other industries covered by the regional analysis.

11.9 Public services

Two separate analyses by region for fixed investment by central and local government are shown. Certain public services are given as part of the industry analysis. These are public education, health and social services, and one group including all of the remaining public services not already allocated to other industries. The second analysis covers the whole of the public authorities' sector, including trading activities,

and gives a breakdown by five broad functional groupings. These are general administration and defence, education, health and social services, housing and community development including other environmental and recreational services, and economic services (employment, agriculture, trade and industry and road building). The groupings approximate to 1-2, 3, 4-5, 6-7, and 8 of the European System of Accounts classification of the purposes of government.

The estimates of fixed investment are built up separately for local authorities and for central government. Expenditures by local authorities are available from returns to the central government departments. Authorities in England and Wales make regular returns of capital payments to DOE in considerable service detail. These are published in the annual volume *Local Government Financial Statistics*, and may also be analysed by standard region. Corresponding data are available for Scotland and for local authorities in Northern Ireland. In the industry analysis of fixed investment certain items of local authority capital expenditure are allocated to industries within manufacturing, etc., as already described. Estimates for these industries are available from the service details provided by the local authorities in their returns to central government. The analysis of local authority fixed investment by purpose of government is obtained by combining the service groupings to approximate as closely as possible to the ESA classification. The congruence achieved is quite good, since, for England and Wales the service breakdown attempts to include within each service category the whole costs of providing the service—including the administrative overheads. The UK totals of the regional data for each purpose group and for the industry groups shown, are adjusted to agree with the national totals used in the national accounts and, for the analysis by government purpose, in the estimates provided to the Statistical Office of the European Community, and published in the annual volumes on national accounts.

Corresponding estimates by region for fixed investment by central government are more difficult to obtain, as there is no comprehensive analysis by standard region available from government records. Analyses for the four countries of the United Kingdom are available as part of the PESC system, but for regions within England *ad hoc* methods have to be used. These are briefly described below.

(i) Agriculture, forestry and fishing

The small amounts of central government fixed investment in these industries are allocated between the English regions in proportion to the total fixed investment for agriculture already described. The estimates for central government are used only in the analysis of government investment by purpose, and are not needed for the industry analysis.

(ii) Manufacturing

Fixed investment by standard region is roughly estimated using the geographical distribution of government manufacturing establishments. As for agriculture, the estimated government fixed investment is used only for the analysis by purpose. Estimates for the manufacturing total are based, as already described, on the Annual Censuses of Production, which include government establishments.

(iii) *National Health Service*

Fixed investment by the National Health Authority areas is apportioned to standard regions using approximate proportions based on population. Fixed investment for the administration services in health and social security is allocated by region in proportion to the numbers of civil servants.

(iv) *New construction on trunk roads*

Estimates by region are published in *Highways and Transport Statistics*.

(v) *Government factory building*

The regional allocation uses weights derived from statistics of the additional employment resulting from these projects.

(vi) *Industrial research*

Allocation by region is made using fixed weights approximately relating to the geographical distribution of government research establishments.

(vii) *All other central government services*

The fixed investment of the remaining central govern-

ment services, for which regional information within England is not readily available, is allocated by region in proportion to the numbers of civil servants. The allocation by purpose is made in two stages. Most of the items in this group clearly belong to the general administration and defence purpose group. The remaining items, principally the fixed investment on common services, are allocated between the different purposes of government, in proportion to the numbers of civil servants within each purpose.

In the analysis by purpose, the items described in paragraphs (i), (iv), (v) and (vi) above are allocated to the government purpose 'economic services', paragraph (ii) to 'general administration and defence', paragraph (iii) to 'health and social services'. Paragraph (vii) is sub-divided into two parts before allocation by region, as just described. The first part is allocated to 'general administration and defence', and the remainder is spread across all purposes. The national totals of expenditure for each purpose by public authorities is obtained by a regrouping of the expenditure programmes used to compile the functional analysis shown in the National Income Blue Book (Table 9.4 in *National Income and Expenditure 1966-76*).

SECTION 12

FUTURE DEVELOPMENTS

The UK regional accounts are at present in a relatively early stage of development, and a large number of changes may be expected over the next few years. Only some of these can be foreseen, and of these it is the major pieces of work that are discussed here. Developments to the methods of estimating the components of GDP are probably the most important changes expected in the near future, when two quite distinct improvements are likely, both of them resulting from new or improved basic data.

12.1 Annual Censuses of Production

The first development stems from a number of changes in the coverage of the Annual Census of Production from 1973, already referred to in the section on profits. From the 1973 census, the definition of net output has been changed by the exclusion of transport services from the purchases that are deducted from gross output. This results in a small widening in the gap between census net output and the national accounts concept of value added, but it has been ignored in the regional accounts, which use census net output less income from employment only for the regional allocation of the national control totals of profits within manufacturing. However, the 1973 annual census also collected information for the first time on purchases of all services (including transport) by establishments, making possible a calculation of gross value added for each industry. Gross value added is very close in concept to value added in the regional accounts, and so in principle can provide the basis of improved estimates for the manufacturing industries of value added or GDP. Unfortunately, analyses of gross value added are not available by standard region and have not so far been used in the published regional accounts. If regional analyses were provided, either directly by the Business Statistics Office, or indirectly by combining the regional net outputs at industry level with the industry national totals of gross value added, means would be found of incorporating these results into the regional accounts.

The present regional accounts make no use of the available regional analyses of wages and salaries from the censuses of production. These could be used in a modification of the present methods of estimating pro-

fits, where wages and salaries are deducted from net output. At present these wages and salaries are estimated quite independently using the census of employment and New Earnings Survey. If the census of production wages and salaries were substituted in the calculations the potential incompatibility between the two sources of data would be removed.

Consideration could also be given to the use of the census wages and salaries within manufacturing industries as the benchmark estimates for employment incomes as well as in the profits calculations as suggested above. Advantages would include the full census coverage compared with the one per cent sample of the present New Earnings Survey source, compatibility of data source with that used for profits (a consideration of particular importance if in the future other parts of the census information was used, for example in regional input/output studies), and compatibility with the sources already used for the national totals for industries within manufacturing. Census based estimates would also be on a workplace rather than residence basis, and thus more appropriate for their use as a component of GDP. The disadvantages of the census as the major source for manufacturing wages and salaries in the regional accounts rest on the delay before results become available in final form, necessitating preliminary estimates for the latest years in the accounts, the difficulties of splitting multi unit establishments between regions, and the incompatibilities, particularly marked at regional level, between the grossed up employment totals given by the censuses of production and those given by the censuses of employment.

12.2 The DHSS one per cent pay sample

The second data development of potential importance to the regional accounts relates to the one per cent sample by DHSS of records at Newcastle from 1975/6 onwards. This will be used for the regional control totals of wages and salaries in place of the earlier 9 per cent sample of similar records. The new sample, although smaller, has several possibilities which were not present in the former system. It is able to provide cross analyses of pay by region and industry and by demographic characteristics. It also includes informa-

tion on tax deducted under PAYE and national insurance contributions, all of which may be similarly analysed. The first set of regional analyses using post-codes, which have been manually inserted into the records of the sample, will be ready in the first half of 1978, and for 1976/7 onwards, the results should be available more quickly—between 15 and 18 months after the end of the tax year.

Problems exist in the quality of the sample addresses, which may be expected to deteriorate following the abolition of insurance cards for employees, which, prior to 1975, provided about one third of address changes. There are also difficulties in correctly post-coding all the addresses recorded and in accurately coding the data to the industry of employment. If these problems could be overcome or are not too serious, the one per cent sample could provide an important new source for wages and salaries by industry and region, together with comparable estimates of PAYE tax and national insurance contributions, which will be of particular value in the personal sector account in building up estimates of personal disposable income.

12.3 Regional public expenditure

A major omission from the present regional accounts is a section containing estimates of public expenditure broken down by region. Incomplete analyses of 'identifiable expenditure' are published regularly for England, Scotland, Wales and Northern Ireland, based on the annual territorial analysis of public expenditure carried out by the Treasury as part of the Public Expenditure Survey system. The lack of comparable data for the English regions represents an important shortfall in regional economic information, given both the significant impact of public expenditure on the regional economies, and the general interest in the levels of provision of public services despite the well known difficulties of interpretation.

Public expenditure includes a wide range of payments serving different purposes, and allocation by region is much easier for some categories than for others.

Expenditure by local authorities is usually within clearly defined administrative boundaries, and on behalf of the residents concerned. This spending may therefore be readily allocated by region, and estimates may soon be prepared and published. Some expenditure by central government, for example on social security benefits, may also be related to the regions where the recipients reside and indeed, this expenditure is already allocated by region in the published personal sector accounts. Other categories of expenditure, often involving services for the nation as a whole are much more difficult to allocate by region. Apart from the difficulty of deciding in principle upon the correct basis of allocation, there are often practical problems to be overcome before a regional allocation of central government expenditure can be made. Departmental records are often centralised, and cannot be readily analysed on a geographical basis, and substantial cost would be required to provide the extra detail needed for a regional breakdown.

12.4 Other developments

The present allocations of indirect taxes and subsidies by region are in need of further refinement, and several minor improvements may be expected. The estimates of regional consumers' expenditure are similarly of a somewhat provisional nature, relying heavily on the results of the Family Expenditure Survey even where alternative sources may be expected to yield more reliable estimates. Finally the regional accounts would provide a more useful source of background information to regional economists and planners if greater disaggregation by area were possible. The standard regions include within their boundaries wide variations in income levels and industrial activity which are necessarily averaged out in the published figures. A start at disaggregation by area has been made with the publication of separate estimates of GDP and personal disposable income for the Greater London area. This could eventually be followed up by similar estimates for each of the new metropolitan counties in England, and for a suitably defined conurbation around Glasgow in Scotland.

Gross domestic product

TABLE 1 Factor cost: current prices

	1968	1969	1970	1971	1972	1973	1974	1975
£ million								
United Kingdom	37,154	39,836	43,725	48,883	55,264	63,332	72,870	92,582
North	1,885	2,032	2,263	2,525	2,905	3,372	3,740	4,930
Yorkshire and Humberside	3,089	3,324	3,631	3,938	4,442	5,072	6,024	7,799
East Midlands	2,182	2,369	2,585	2,861	3,302	3,803	4,677	6,003
East Anglia	1,065	1,140	1,273	1,395	1,564	1,847	2,159	2,683
South East	13,219	14,087	15,343	17,345	19,555	22,283	25,062	31,584
South West	2,304	2,484	2,725	3,105	3,556	4,083	5,075	6,409
West Midlands	3,635	3,884	4,279	4,640	5,169	5,857	6,815	8,403
North West	4,349	4,695	5,127	5,751	6,512	7,418	8,316	10,512
England	31,728	34,015	37,226	41,560	47,005	53,735	61,868	78,323
Wales	1,571	1,668	1,847	2,113	2,405	2,767	3,126	4,023
Scotland	3,170	3,396	3,751	4,237	4,739	5,551	6,408	8,342
Northern Ireland	709	782	882	1,004	1,083	1,279	1,530	1,919
United Kingdom less Continental Shelf	37,178	39,861	43,706	48,914	55,232	63,332	72,932	92,607
Continental Shelf(1)	-24	-25	19	-31	32	0	-62	-25
United Kingdom=100								
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	5.1	5.1	5.2	5.2	5.3	5.3	5.1	5.3
Yorkshire and Humberside	8.3	8.3	8.3	8.1	8.0	8.0	8.3	8.4
East Midlands	5.9	5.9	5.9	5.9	6.0	6.0	6.4	6.5
East Anglia	2.9	2.9	2.9	2.9	2.8	2.9	3.0	2.9
South East	35.6	35.4	35.1	35.5	35.4	35.2	34.4	34.1
South West	6.2	6.2	6.2	6.3	6.4	6.4	7.0	6.9
West Midlands	9.8	9.7	9.8	9.5	9.4	9.2	9.4	9.1
North West	11.7	11.8	11.7	11.8	11.8	11.7	11.4	11.4
England	85.4	85.4	85.1	85.0	85.1	84.8	84.9	84.6
Wales	4.2	4.2	4.2	4.3	4.4	4.4	4.3	4.3
Scotland	8.5	8.5	8.6	8.7	8.6	8.8	8.8	9.0
Northern Ireland	1.9	2.0	2.0	2.1	2.0	2.0	2.1	2.1
Continental Shelf	-0.1	-0.1	0.0	-0.1	0.1	0.0	-0.1	0.0
Per head, £(2)								
United Kingdom less Continental Shelf	675	721	789	880	990	1,132	1,303	1,655
North	574	619	688	767	881	1,023	1,196	1,577
Yorkshire and Humberside	645	693	757	818	921	1,050	1,230	1,594
East Midlands	657	708	768	844	967	1,103	1,258	1,610
East Anglia	655	693	765	827	913	1,062	1,228	1,506
South East	769	817	889	1,003	1,129	1,287	1,478	1,865
South West	622	666	723	818	928	1,053	1,207	1,514
West Midlands	724	767	840	906	1,004	1,135	1,316	1,623
North West	648	698	761	852	964	1,098	1,261	1,598
England	695	742	810	901	1,015	1,157	1,332	1,686
Wales	581	615	680	776	880	1,006	1,133	1,455
Scotland	610	652	719	812	910	1,065	1,226	1,602
Northern Ireland	472	518	579	654	701	827	988	1,248
Per head, United Kingdom less Continental Shelf = 100								
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	85.0	85.9	87.2	87.2	89.0	90.4	91.8	95.3
Yorkshire and Humberside	95.6	96.1	95.9	93.0	93.0	92.8	94.5	96.3
East Midlands	97.3	98.2	97.3	95.9	97.7	97.4	96.5	97.3
East Anglia	97.0	96.1	97.0	94.0	92.2	93.8	94.2	91.0
South East	113.9	113.3	112.7	114.0	114.0	113.7	113.4	112.6
South West	92.1	92.4	91.6	93.0	93.7	93.0	92.6	91.4
West Midlands	107.3	106.4	106.5	103.0	101.4	100.3	101.0	98.1
North West	96.0	96.8	96.5	96.8	97.4	97.0	96.9	96.6
England	103.0	102.9	102.7	102.4	102.5	102.2	102.2	101.9
Wales	86.1	85.3	86.2	88.2	88.9	88.9	87.0	88.0
Scotland	90.4	90.4	91.1	92.3	91.9	94.1	94.1	96.8
Northern Ireland	69.9	71.8	73.4	74.3	70.8	73.1	75.9	75.5

(1) Gross domestic product for the Continental Shelf region does not include income from employment which is allocated according to the region of residence of the employee. Estimates of income from employment relating to activity in the Continental Shelf region are:

£million	1968,	1969,	1970,	1971,	1972,	1973,	1974,	1975,
	1	1	1	1	2	2	2	3

(2) Estimates of gross domestic product per head cannot be calculated for the Continental Shelf region as there is no resident population in this region.

TABLE 2 Factor incomes in the gross domestic product

	Income from employment	Income from self- employment	Gross trading profits and surpluses	Less Stock appreciation	Rent(2)	Gross domestic product
£ million						
1968						
United Kingdom	25,408	3,110	6,749	600	2,487	37,154
North	1,260	154	381	28	118	1,885
Yorkshire and Humberside	2,113	238	622	54	170	3,089
East Midlands	1,511	156	425	38	128	2,182
East Anglia	699	137	171	19	77	1,065
South East	9,164	1,092	2,129	188	1,022	13,219
South West	1,562	245	365	36	168	2,304
West Midlands	2,554	250	683	67	215	3,635
North West	2,921	310	938	79	259	4,349
England	21,784	2,582	5,714	509	2,157	31,728
Wales	1,043	155	301	22	94	1,571
Scotland	2,126	282	623	55	194	3,170
Northern Ireland	455	91	135	14	42	709
Continental Shelf(1)	—	—	-24	—	—	-24
1969						
United Kingdom	27,160	3,377	7,272	745	2,772	39,836
North	1,349	177	417	41	130	2,032
Yorkshire and Humberside	2,270	251	681	67	189	3,324
East Midlands	1,635	170	466	46	144	2,369
East Anglia	737	143	198	23	85	1,140
South East	9,743	1,181	2,252	225	1,136	14,087
South West	1,670	268	399	42	189	2,484
West Midlands	2,736	270	735	99	242	3,884
North West	3,137	338	1,019	89	290	4,695
England	23,277	2,798	6,167	632	2,405	34,015
Wales	1,116	168	313	35	106	1,668
Scotland	2,272	311	663	65	215	3,396
Northern Ireland	495	100	154	13	46	782
Continental Shelf(1)	—	—	-25	—	—	-25
1970						
United Kingdom	30,415	3,774	7,528	1,157	3,165	43,725
North	1,541	190	446	62	148	2,263
Yorkshire and Humberside	2,550	273	694	100	214	3,631
East Midlands	1,820	194	479	74	166	2,585
East Anglia	833	171	210	38	97	1,273
South East	10,800	1,302	2,305	357	1,293	15,343
South West	1,849	307	422	70	217	2,725
West Midlands	3,075	299	767	139	277	4,279
North West	3,533	381	1,026	145	332	5,127
England	26,001	3,117	6,349	985	2,744	37,226
Wales	1,266	194	314	48	121	1,847
Scotland	2,576	350	681	102	246	3,751
Northern Ireland	572	113	165	22	54	882
Continental Shelf(1)	—	—	19	—	—	19
1971						
United Kingdom	33,659	4,383	8,392	1,090	3,539	48,883
North	1,734	209	482	61	161	2,525
Yorkshire and Humberside	2,745	329	724	91	231	3,938
East Midlands	2,015	241	479	57	183	2,861
East Anglia	882	194	249	39	109	1,395
South East	12,050	1,504	2,665	326	1,452	17,345
South West	2,095	373	459	69	247	3,105
West Midlands	3,299	352	802	113	300	4,640
North West	3,930	446	1,152	142	365	5,751
England	28,750	3,648	7,012	898	3,048	41,560
Wales	1,428	221	381	52	135	2,113
Scotland	2,827	390	845	112	287	4,237
Northern Ireland	654	124	185	28	69	1,004
Continental Shelf(1)	—	—	-31	—	—	-31

(1) See footnote (1) to Table 1 on page 33.

(2) Including imputed charges for consumption of non-trading capital.

TABLE 2 Factor incomes in the gross domestic product

(continued)

£ million

	Income from employment	Income from self- employment	Gross trading profits and surpluses	Less Stock appreciation	Rent ⁽²⁾	Gross domestic product
1972						
United Kingdom	37,916	5,415	9,290	1,401	4,044	55,264
North	1,994	255	556	84	184	2,905
Yorkshire and Humberside	3,093	397	827	138	263	4,442
East Midlands	2,306	308	574	96	210	3,302
East Anglia	967	242	280	51	126	1,564
South East	13,519	1,894	2,848	379	1,673	19,555
South West	2,368	470	519	90	289	3,556
West Midlands	3,687	420	857	138	343	5,169
North West	4,435	540	1,294	178	421	6,512
England	32,369	4,526	7,755	1,154	3,509	47,005
Wales	1,630	270	421	69	153	2,405
Scotland	3,200	472	889	135	313	4,739
Northern Ireland	717	147	193	43	69	1,083
Continental Shelf ⁽¹⁾	—	—	32	—	—	32
1973						
United Kingdom	43,571	6,707	11,431	3,183	4,806	63,332
North	2,319	314	708	201	232	3,372
Yorkshire and Humberside	3,529	493	1,050	301	301	5,072
East Midlands	2,664	392	694	193	246	3,803
East Anglia	1,132	340	337	111	149	1,847
South East	15,418	2,310	3,438	895	2,012	22,283
South West	2,693	582	666	190	332	4,083
West Midlands	4,232	500	1,031	312	406	5,857
North West	5,122	638	1,569	407	496	7,418
England	37,109	5,569	9,493	2,610	4,174	53,735
Wales	1,866	339	574	187	175	2,767
Scotland	3,751	619	1,099	299	381	5,551
Northern Ireland	845	180	265	87	76	1,279
Continental Shelf ⁽¹⁾	—	—	—	—	—	—
1974						
United Kingdom	52,738	7,690	12,650	6,147	5,939	72,870
North	2,724	329	777	357	267	3,740
Yorkshire and Humberside	4,450	588	1,147	533	372	6,024
East Midlands	3,423	529	788	389	326	4,677
East Anglia	1,375	384	427	218	191	2,159
South East	18,274	2,581	3,527	1,767	2,447	25,062
South West	3,546	689	770	359	429	5,075
West Midlands	5,094	573	1,270	631	509	6,815
North West	6,051	720	1,782	846	609	8,316
England	44,937	6,393	10,488	5,100	5,150	61,868
Wales	2,184	351	712	351	230	3,126
Scotland	4,557	730	1,222	565	464	6,408
Northern Ireland	1,060	216	290	131	95	1,530
Continental Shelf ⁽¹⁾	—	—	-62	—	—	-62
1975						
United Kingdom	68,674	8,916	12,887	5,358	7,463	92,582
North	3,707	399	818	321	327	4,930
Yorkshire and Humberside	5,874	708	1,233	483	467	7,799
East Midlands	4,495	590	841	346	423	6,003
East Anglia	1,791	441	396	185	240	2,683
South East	23,603	2,931	3,513	1,506	3,043	31,584
South West	4,562	811	806	323	553	6,409
West Midlands	6,365	666	1,277	546	641	8,403
North West	7,864	843	1,758	713	760	10,512
England	58,261	7,389	10,642	4,423	6,454	78,323
Wales	2,880	424	741	311	289	4,023
Scotland	6,140	858	1,245	503	602	8,342
Northern Ireland	1,393	245	284	121	118	1,919
Continental Shelf ⁽¹⁾	—	—	-25	—	—	-25

(1) See footnotes on page 34.

TABLE 3 Gross domestic product and wages and salaries by industry groups

£ million

	Gross domestic product ⁽¹⁾				Wages and salaries			
	1972	1973	1974	1975	1972	1973	1974	1975
United Kingdom⁽³⁾								
Agriculture, forestry & fishing	1,518	1,881	2,136	2,575	481	557	668	811
Mining and quarrying ⁽⁴⁾	835	860	1,050	1,673	596	614	881	1,273
Manufacturing	16,884	19,078	21,694	26,343	11,481	13,301	16,220	19,861
Construction	3,853	5,094	5,977	6,960	2,092	2,851	3,362	4,070
Gas, electricity and water	1,745	1,921	2,324	3,028	676	709	907	1,201
Transport, communications	4,787	5,621	6,664	8,691	3,142	3,448	4,171	5,599
Distributive trades	6,046	6,618	7,230	8,838	3,451	3,922	4,613	5,859
Insurance, banking, finance	4,356	5,471	5,628	6,430	2,165	2,491	2,502	2,984
Ownership of dwellings	3,011	3,552	4,485	5,732				
Professional, scientific services	10,213	11,401	13,530	18,685	7,029	7,505	9,197	13,048
Miscellaneous services								
Public administration, defence ⁽²⁾	3,908	4,414	5,436	7,288	3,408	3,764	4,649	6,176
Adjustment for financial services	-1,892	-2,579	-3,284	-3,661				
Total	55,264	63,332	72,870	92,582	34,521	39,162	47,170	60,882
North								
Agriculture, forestry & fishing	108	123	103	137	27	31	27	33
Mining and quarrying	122	126	153	229	90	89	120	171
Manufacturing	966	1,125	1,286	1,650	643	774	955	1,246
Construction	228	315	373	446	148	212	244	301
Gas, electricity and water	92	103	131	169	36	39	52	67
Transport, communications	209	238	271	365	133	138	162	227
Distributive trades	292	326	339	412	154	180	205	260
Insurance, banking, finance	120	142	141	165	55	59	57	72
Ownership of dwellings	133	175	205	253				
Professional, scientific services	495	554	602	889	352	375	415	637
Miscellaneous services								
Public administration, defence ⁽²⁾	198	220	228	317	170	186	188	259
Adjustment for financial services	-58	-75	-92	-102				
Total	2,905	3,372	3,740	4,930	1,809	2,083	2,424	3,274
Yorkshire and Humberside								
Agriculture, forestry & fishing	145	171	203	264	55	61	73	88
Mining and quarrying	180	194	269	408	134	138	216	307
Manufacturing	1,523	1,752	2,000	2,475	1,057	1,243	1,498	1,886
Construction	297	400	495	566	169	232	292	339
Gas, electricity and water	161	181	229	305	63	68	92	123
Transport, communications	345	397	486	626	225	238	305	395
Distributive trades	475	522	559	734	261	298	343	479
Insurance, banking, finance	204	247	269	310	100	109	118	141
Ownership of dwellings	197	227	284	361				
Professional, scientific services	778	845	1,032	1,435	547	566	724	1,022
Miscellaneous services								
Public administration, defence ⁽²⁾	232	261	362	498	201	222	312	422
Adjustment for financial services	-95	-125	-164	-183				
Total	4,442	5,072	6,024	7,799	2,812	3,175	3,974	5,202

(1) Gross domestic product is shown for each industry after deducting stock appreciation.

(2) Including HM Forces income.

(3) Due to rounding the United Kingdom industry totals may not be precisely equal to the sum of the regional figures shown.

(4) The UK figures for mining and quarrying include estimates of gross domestic product in the Continental Shelf region, see Table 1 on page 33.

(5) Estimates for Greater London and the Rest of the South East within the South East total are somewhat less reliable than those for standard regions, for reasons explained in the text.

TABLE 3 Gross domestic product and wages and salaries by industry groups

(continued)

£ million

	Gross domestic product ⁽¹⁾				Wages and salaries			
	1972	1973	1974	1975	1972	1973	1974	1975
East Midlands								
Agriculture, forestry & fishing	107	147	213	241	37	42	64	79
Mining and quarrying	165	177	241	376	124	128	193	285
Manufacturing	1,193	1,340	1,599	1,970	849	982	1,227	1,530
Construction	232	302	367	413	125	170	206	236
Gas, electricity and water	120	135	162	216	47	50	65	87
Transport, communications	210	245	315	411	136	147	195	261
Distributive trades	330	375	429	540	187	224	268	352
Insurance, banking, finance	142	182	194	219	65	82	86	100
Ownership of dwellings	162	193	259	343				
Professional, scientific services	521	593	720	1,019	368	402	499	722
Miscellaneous services								
Public administration, defence ⁽²⁾	185	204	297	387	162	174	258	332
Adjustment for financial services	-65	-90	-119	-132				
Total	3,302	3,803	4,677	6,003	2,099	2,401	3,062	3,983
East Anglia								
Agriculture, forestry & fishing	137	188	216	251	46	55	63	79
Mining and quarrying	5	6	7	9	4	4	6	6
Manufacturing	416	464	555	655	254	298	409	474
Construction	131	179	210	235	59	82	99	119
Gas, electricity and water	48	53	63	82	17	19	22	29
Transport, communications	113	136	170	222	70	79	95	134
Distributive trades	165	185	207	257	89	103	120	163
Insurance, banking, finance	83	108	108	132	41	47	43	60
Ownership of dwellings	93	109	144	185				
Professional, scientific services	296	339	395	532	198	216	248	360
Miscellaneous services								
Public administration, defence ⁽²⁾	115	133	151	198	103	117	130	174
Adjustment for financial services	-38	-53	-67	-75				
Total	1,564	1,847	2,159	2,683	882	1,020	1,235	1,599
South East								
Agriculture, forestry & fishing	236	315	368	398	87	102	125	147
Mining and quarrying	29	32	34	54	22	23	27	40
Manufacturing	4,870	5,360	5,921	7,041	3,233	3,630	4,410	5,262
Construction	1,256	1,609	1,848	2,150	624	831	974	1,182
Gas, electricity and water	564	605	703	942	222	226	280	388
Transport, communications	2,064	2,467	2,892	3,822	1,384	1,557	1,863	2,535
Distributive trades	2,259	2,461	2,649	3,219	1,374	1,554	1,805	2,255
Insurance, banking, finance	2,544	3,220	3,300	3,708	1,300	1,510	1,519	1,752
Ownership of dwellings	1,244	1,457	1,823	2,315				
Professional, scientific service	3,943	4,408	5,211	7,157	2,654	2,839	3,484	4,925
Miscellaneous services								
Public administration, defence ⁽²⁾	1,606	1,806	2,163	2,841	1,405	1,540	1,856	2,416
Adjustment for financial services	-1,060	-1,457	-1,850	-2,063				
Total	19,555	22,283	25,062	31,584	12,304	13,812	16,343	20,902

See footnotes on page 36.

TABLE 3 Gross domestic product and wages and salaries by industry groups

(continued)

£ million

	Gross domestic product ⁽¹⁾				Wages and salaries			
	1972	1973	1974	1975	1972	1973	1974	1975
of which Greater London⁽⁵⁾								
Agriculture, forestry & fishing								
Mining and quarrying								
Manufacturing	2,042	2,204	2,435	2,833	1,259	1,399	1,736	2,051
Construction	554	683	814	951	285	371	448	548
Gas, electricity and water	272	286	332	430	95	94	122	169
Transport, communications	1,134	1,354	1,591	2,106	712	801	966	1,334
Distributive trades	1,169	1,253	1,368	1,647	699	781	928	1,149
Insurance, banking, finance	1,647	2,125	2,208	2,439	714	855	873	995
Ownership of dwellings	626	721	870	1,092				
Professional, scientific services								
Miscellaneous services	1,915	2,166	2,554	3,459	1,203	1,297	1,596	2,247
Public administration, defence ⁽²⁾	672	757	1,067	1,416	563	613	902	1,190
Adjustment for financial services	-801	-1,082	-1,390	-1,550				
Total	9,230	10,467	11,849	14,823	5,530	6,212	7,571	9,683
Rest of South East⁽⁵⁾								
Agriculture, forestry & fishing								
Mining and quarrying								
Manufacturing	3,093	3,503	3,888	4,660	2,082	2,356	2,826	3,398
Construction	702	926	1,034	1,199	339	459	526	634
Gas, electricity and water	292	319	371	512	127	132	157	219
Transport, communications	930	1,113	1,301	1,716	671	756	897	1,201
Distributive trades	1,090	1,208	1,281	1,572	675	773	877	1,106
Insurance, banking, finance	897	1,095	1,092	1,269	586	655	646	758
Ownership of dwellings	618	736	953	1,223				
Professional, scientific services								
Miscellaneous services	2,028	2,242	2,657	3,698	1,452	1,542	1,888	2,679
Public administration, defence ⁽²⁾	934	1,049	1,096	1,425	842	926	955	1,226
Adjustment for financial services	-259	-375	-460	-513				
Total	10,325	11,816	13,213	16,761	6,774	7,600	8,772	11,219
South West								
Agriculture, forestry & fishing	191	214	244	303	55	62	79	96
Mining and quarrying	24	27	32	45	18	19	25	33
Manufacturing	875	1,006	1,229	1,483	614	704	936	1,137
Construction	286	394	470	531	138	195	237	276
Gas, electricity and water	131	146	197	275	50	53	78	108
Transport, communications	246	290	377	473	158	171	227	290
Distributive trades	402	451	551	651	224	259	348	424
Insurance, banking, finance	179	228	267	316	87	101	116	145
Ownership of dwellings	220	251	331	435				
Professional, scientific services								
Miscellaneous services	702	774	1,013	1,381	478	500	680	950
Public administration, defence ⁽²⁾	381	415	525	696	344	369	467	616
Adjustment for financial services	-81	-113	-161	-180				
Total	3,556	4,083	5,075	6,409	2,166	2,434	3,193	4,075

See footnotes on page 36.

TABLE 3 Gross domestic product and wages and salaries by industry groups

(continued)

£ million

	Gross domestic product ⁽¹⁾				Wages and salaries			
	1972	1973	1974	1975	1972	1973	1974	1975
West Midlands								
Agriculture, forestry & fishing	111	132	147	183	34	40	46	59
Mining and quarrying	59	63	83	128	44	45	66	96
Manufacturing	2,214	2,463	2,903	3,411	1,637	1,880	2,264	2,656
Construction	321	416	479	542	176	231	270	313
Gas, electricity and water	155	170	202	257	62	65	81	103
Transport, communications	312	364	429	543	200	219	264	341
Distributive trades	521	565	618	731	301	341	394	479
Insurance, banking, finance	249	318	316	368	119	146	134	169
Ownership of dwellings	268	320	412	525				
Professional, scientific services	804	898	1,059	1,452	563	601	736	1,032
Miscellaneous services								
Public administration, defence ⁽²⁾	270	306	360	478	232	258	306	401
Adjustment for financial services	-115	-158	-193	-215				
Total	5,169	5,857	6,815	8,403	3,368	3,827	4,559	5,648
North West								
Agriculture, forestry & fishing	79	86	94	130	26	25	27	38
Mining and quarrying	38	43	50	72	29	31	40	54
Manufacturing	2,418	2,760	2,997	3,720	1,593	1,890	2,215	2,787
Construction	409	559	645	735	221	320	373	438
Gas, electricity and water	193	204	256	313	75	77	100	123
Transport, communications	627	701	797	1,001	415	432	500	641
Distributive trades	740	794	873	1,069	411	458	545	695
Insurance, banking, finance	407	498	487	556	204	226	212	260
Ownership of dwellings	330	389	486	612				
Professional, scientific services	1,119	1,257	1,463	2,008	773	838	1,007	1,416
Miscellaneous services								
Public administration, defence ⁽²⁾	333	367	465	627	282	303	387	517
Adjustment for financial services	-181	-240	-297	-331				
Total	6,512	7,418	8,316	10,512	4,029	4,599	5,406	6,969
England								
Agriculture, forestry & fishing	1,114	1,376	1,588	1,907	367	416	504	619
Mining and quarrying	622	668	869	1,321	463	478	693	992
Manufacturing	14,475	16,270	18,490	22,405	9,880	11,402	13,915	16,978
Construction	3,160	4,174	4,887	5,618	1,660	2,273	2,694	3,205
Gas, electricity and water	1,464	1,597	1,943	2,559	572	597	768	1,027
Transport, communications	4,126	4,838	5,737	7,463	2,722	2,981	3,611	4,824
Distributive trades	5,184	5,679	6,225	7,613	3,003	3,416	4,028	5,107
Insurance, banking, finance	3,928	4,943	5,082	5,774	1,972	2,279	2,284	2,699
Ownership of dwellings	2,647	3,121	3,944	5,029				
Professional, scientific services	8,658	9,668	11,495	15,873	5,933	6,337	7,794	11,064
Miscellaneous services								
Public administration, defence ⁽²⁾	3,320	3,712	4,551	6,042	2,901	3,169	3,904	5,136
Adjustment for financial services	-1,693	-2,311	-2,943	-3,281				
Total	47,005	53,735	61,868	78,323	29,471	33,350	40,196	51,653

See footnotes on page 36.

TABLE 3 Gross domestic product and wages and salaries by industry groups

(continued)

£ million

	Gross domestic product ⁽¹⁾				Wages and salaries			
	1972	1973	1974	1975	1972	1973	1974	1975
Wales								
Agriculture, forestry & fishing	105	129	121	159	28	34	38	47
Mining and quarrying	98	106	128	193	73	75	100	144
Manufacturing	707	820	942	1,144	486	570	674	825
Construction	213	266	286	328	124	152	161	191
Gas, electricity and water	91	107	132	171	35	41	50	65
Transport, communications	193	221	262	351	123	132	160	223
Distributive trades	235	251	260	316	122	135	149	190
Insurance, banking, finance	95	117	117	134	41	45	45	54
Ownership of dwellings	107	122	169	216				
Professional, scientific services	434	494	556	775	301	329	378	542
Miscellaneous services								
Public administration, defence ⁽²⁾	171	193	226	317	147	162	188	263
Adjustment for financial services	-44	-59	-73	-81				
Total	2,405	2,767	3,126	4,023	1,481	1,674	1,944	2,544
Scotland								
Agriculture, forestry & fishing	221	280	326	387	66	81	98	106
Mining and quarrying	76	80	107	173	56	57	84	129
Manufacturing	1,382	1,602	1,825	2,264	902	1,087	1,342	1,696
Construction	371	523	650	828	241	344	418	561
Gas, electricity and water	162	186	217	257	53	57	72	86
Transport, communications	410	489	579	766	263	293	350	481
Distributive trades	513	561	600	732	271	306	356	458
Insurance, banking, finance	275	336	329	406	133	143	143	191
Ownership of dwellings	222	274	334	434				
Professional scientific services	921	1,031	1,207	1,688	650	695	829	1,194
Miscellaneous services								
Public administration, defence ⁽²⁾	316	363	457	656	272	306	380	543
Adjustment for financial services	-130	-174	-223	-249				
Total	4,739	5,551	6,408	8,342	2,908	3,368	4,071	5,446
Northern Ireland								
Agriculture, forestry & fishing	78	96	103	123	20	26	28	38
Mining and quarrying	5	7	6	12	4	4	4	8
Manufacturing	322	383	433	528	213	242	288	362
Construction	109	132	155	186	67	82	89	113
Gas, electricity and water	29	30	33	41	16	14	17	23
Transport, communications	58	75	88	112	34	42	50	70
Distributive trades	115	128	144	177	55	65	80	103
Insurance, banking, finance	58	76	99	115	19	24	30	40
Ownership of dwellings	33	35	39	53				
Professional, scientific services	200	207	273	349	145	144	196	247
Miscellaneous services								
Public administration, defence ⁽²⁾	101	145	202	273	88	127	177	234
Adjustment for financial services	-25	-35	-45	-50				
Total	1,083	1,279	1,530	1,919	661	770	960	1,238

See footnotes on page 36.

TABLE 4 Wages and salaries in manufacturing industries

£ million

	All(1) manufac- turing	Food, drink and tobacco	Coal, petroleum and chemical products	Metal manufac- ture	Mechanical engineering	Instrument and elec- trical engineering	Shipbuilding, marine engineering and vehicles
1972							
United Kingdom	11,481	1,111	793	861	1,459	1,301	1,727
North	643	49	96	75	95	74	81
Yorkshire and Humberside	1,057	102	68	156	145	40	81
East Midlands	849	74	38	71	136	58	97
East Anglia	255	50	14	2	39	30	33
South East	3,233	294	238	70	397	567	460
South West	614	94	22	10	78	69	139
West Midlands	1,637	88	36	216	202	154	400
North West	1,593	167	192	41	183	155	232
England	9,880	918	702	640	1,275	1,147	1,521
Wales	486	27	38	152	39	42	46
Scotland	902	128	49	68	131	92	131
Northern Ireland	213	38	4	1	14	18	29
1973							
United Kingdom	13,301	1,279	874	978	1,680	1,521	2,030
North	774	57	107	90	117	90	101
Yorkshire and Humberside	1,243	120	66	183	166	53	98
East Midlands	982	83	43	81	153	70	105
East Anglia	298	60	16	4	46	33	39
South East	3,631	330	251	74	441	640	538
South West	704	104	25	11	96	83	155
West Midlands	1,881	105	38	240	223	181	472
North West	1,890	194	220	48	212	190	279
England	11,402	1,053	765	729	1,452	1,339	1,787
Wales	570	30	40	166	48	55	57
Scotland	1,087	153	64	82	162	105	156
Northern Ireland	242	43	5	1	18	22	30
1974							
United Kingdom	16,220	1,556	1,180	1,206	2,075	1,908	2,340
North	955	62	143	113	138	108	134
Yorkshire and Humberside	1,498	155	99	224	203	67	122
East Midlands	1,227	113	65	99	197	93	129
East Anglia	409	73	22	5	51	43	43
South East	4,410	386	344	91	534	801	599
South West	936	133	38	17	131	126	193
West Midlands	2,264	131	52	307	286	206	521
North West	2,215	226	278	56	255	225	310
England	13,916	1,279	1,040	911	1,796	1,669	2,050
Wales	674	34	55	193	52	68	63
Scotland	1,342	191	78	101	207	144	189
Northern Ireland	288	52	7	1	20	27	38
1975							
United Kingdom	19,861	2,007	1,533	1,566	2,626	2,301	2,829
North	1,246	84	184	161	197	126	177
Yorkshire and Humberside	1,886	199	125	305	250	81	149
East Midlands	1,530	139	88	139	236	112	161
East Anglia	474	102	27	6	74	52	67
South East	5,262	492	452	104	654	965	719
South West	1,137	170	54	20	166	142	241
West Midlands	2,656	154	68	370	339	255	568
North West	2,787	306	358	64	331	288	389
England	16,978	1,644	1,354	1,168	2,246	2,022	2,470
Wales	825	48	74	255	68	79	66
Scotland	1,696	251	97	142	283	166	238
Northern Ireland	362	64	8	1	29	34	55

(1) Due to rounding, the totals may not be precisely the sum of the component industries shown in the table.

TABLE 4 Wages and salaries in manufacturing industries

(continued)

	£ million						
	Metal goods n.e.s.	Textiles	Leather goods and clothing	Bricks, pottery, and glass etc.	Timber, furniture etc.	Paper, printing and publishing	Other, manufacturing industries
1972							
United Kingdom	757	722	474	462	379	969	466
North	18	27	32	24	17	31	24
Yorkshire and Humberside	100	154	48	52	35	53	23
East Midlands	36	133	75	37	25	42	26
East Anglia	7	3	12	10	14	28	12
South East	191	31	112	107	145	478	145
South West	22	18	31	15	24	60	33
West Midlands	238	37	23	95	26	43	79
North West	69	168	75	67	44	132	68
England	680	573	406	406	331	867	409
Wales	31	26	16	15	12	19	23
Scotland	40	74	32	33	30	74	22
Northern Ireland	6	49	20	8	6	9	12
1973							
United Kingdom	860	920	537	504	469	1,102	547
North	24	39	40	26	22	36	26
Yorkshire and Humberside	113	199	55	56	47	63	26
East Midlands	45	166	82	42	32	51	31
East Anglia	8	4	14	12	15	32	17
South East	208	39	122	116	174	530	167
South West	24	22	34	16	28	70	37
West Midlands	270	47	27	102	32	53	93
North West	78	219	88	75	60	150	79
England	770	735	459	445	409	984	474
Wales	36	34	18	18	16	22	31
Scotland	47	96	39	34	36	86	27
Northern Ireland	7	55	21	7	8	10	15
1974							
United Kingdom	1,094	996	635	617	567	1,376	670
North	31	45	47	31	23	51	30
Yorkshire and Humberside	147	173	66	73	58	78	37
East Midlands	62	168	100	56	38	66	44
East Anglia	11	61	16	12	17	37	19
South East	256	42	148	130	218	661	198
South West	39	23	37	26	37	93	43
West Midlands	339	49	32	126	37	66	113
North West	100	232	95	92	72	181	94
England	984	792	541	546	499	1,231	579
Wales	42	35	23	24	18	27	40
Scotland	60	103	48	40	41	104	35
Northern Ireland	8	66	23	7	9	14	16
1975							
United Kingdom	1,276	1,143	765	730	669	1,651	765
North	35	57	56	40	29	67	32
Yorkshire and Humberside	180	235	83	85	63	90	43
East Midlands	73	219	120	59	47	89	49
East Anglia	14	6	19	13	22	51	21
South East	295	49	163	147	248	763	212
South West	42	28	48	26	44	104	52
West Midlands	392	55	37	167	44	78	130
North West	118	262	126	106	89	226	124
England	1,149	912	653	643	584	1,469	661
Wales	48	37	26	25	21	33	46
Scotland	71	113	57	53	53	134	39
Northern Ireland	8	81	29	9	11	15	19

TABLE 5 Taxes on expenditure and subsidies: production method⁽¹⁾

	Taxes				Subsidies			
	1972	1973	1974	1975	1972	1973	1974	1975
£ million								
United Kingdom	9,264	10,122	11,435	14,146	1,144	1,471	2,987	3,827
North	413	427	501	633	105	125	205	273
Yorkshire and Humberside	508	578	685	856	109	130	252	310
East Midlands	534	465	675	872	89	109	224	258
East Anglia	160	189	228	290	39	54	132	194
South East	3,080	3,335	3,519	4,445	221	346	799	936
South West	578	593	725	950	63	78	196	275
West Midlands	520	579	734	942	70	93	202	242
North West	1,251	1,382	1,486	1,739	111	147	287	366
England	7,044	7,548	8,553	10,727	807	1,082	2,297	2,854
Wales	389	487	540	636	71	85	157	217
Scotland	1,109	1,241	1,380	1,705	235	257	443	635
Northern Ireland	356	398	411	514	31	47	90	121
Continental Shelf	14	15	18	24	—	—	—	—
Unallocated (Taxes on imports)	352	433	533	540	—	—	—	—

(1) Taxes and subsidies allocated according to region of location of industry to which they relate. Taxes on imports are not allocable to production industries and are therefore omitted from this regional breakdown.

TABLE 6 Taxes on expenditure and subsidies: consumption method⁽¹⁾

	Taxes				Subsidies			
	1972	1973	1974	1975	1972	1973	1974	1975
£ million								
United Kingdom	9,264	10,122	11,435	14,146	1,144	1,471	2,987	3,827
North	502	546	609	723	84	102	197	270
Yorkshire and Humberside	685	765	893	1,093	57	78	188	246
East Midlands	524	584	710	882	42	58	142	185
East Anglia	284	312	349	417	24	35	80	99
South East	3,296	3,532	3,888	4,968	317	439	967	1,216
South West	621	681	803	998	51	71	164	208
West Midlands	817	906	1,060	1,288	64	87	220	282
North West	1,056	1,160	1,287	1,544	130	162	331	447
England	7,785	8,486	9,599	11,913	769	1,032	2,289	2,953
Wales	431	464	525	649	71	89	159	201
Scotland	872	967	1,103	1,332	239	274	428	538
Northern Ireland	176	205	208	252	65	76	111	135

(1) Taxes and subsidies allocated according to region of final expenditure to which they may be regarded as applying.

TABLE 7 Consumers' expenditure

	£ million				
	Food, drink and tobacco	Housing and fuel	Durables and vehicles	Other	Total
1972					
United Kingdom	11,963	7,112	7,077	13,792	39,944
North	736	365	335	694	2,130
Yorkshire and Humberside	1,017	518	549	1,040	3,124
East Midlands	724	394	418	776	2,312
East Anglia	346	200	249	409	1,204
South East	3,807	2,740	2,572	5,309	14,428
South West	753	493	549	831	2,626
West Midlands	1,079	614	651	1,081	3,425
North West	1,482	820	769	1,566	4,637
England	9,944	6,144	6,092	11,706	33,886
Wales	581	307	311	590	1,789
Scotland	1,145	539	511	1,189	3,384
Northern Ireland	293	122	163	307	885
1973					
United Kingdom	13,606	7,971	7,842	15,782	45,201
North	831	394	392	787	2,404
Yorkshire and Humberside	1,162	551	582	1,214	3,509
East Midlands	837	479	482	917	2,715
East Anglia	383	236	278	479	1,376
South East	4,258	3,078	2,772	5,940	16,048
South West	876	569	612	961	3,018
West Midlands	1,261	715	732	1,280	3,988
North West	1,665	895	880	1,785	5,225
England	11,273	6,917	6,730	13,363	38,283
Wales	669	320	346	671	2,006
Scotland	1,328	601	573	1,409	3,911
Northern Ireland	336	133	193	339	1,001
1974					
United Kingdom	15,748	9,579	8,532	18,118	51,977
North	925	456	424	886	2,691
Yorkshire and Humberside	1,362	664	652	1,409	4,087
East Midlands	1,025	610	577	1,073	3,285
East Anglia	438	303	303	548	1,592
South East	4,861	3,625	2,931	6,657	18,074
South West	1,053	721	663	1,168	3,605
West Midlands	1,496	871	818	1,522	4,707
North West	1,880	1,061	930	2,001	5,872
England	13,040	8,311	7,298	15,264	43,913
Wales	775	370	372	781	2,298
Scotland	1,548	740	649	1,661	4,598
Northern Ireland	385	158	213	412	1,168
1975					
United Kingdom	19,460	12,279	10,398	21,415	63,552
North	1,109	576	519	1,041	3,245
Yorkshire and Humberside	1,686	907	845	1,687	5,125
East Midlands	1,309	789	727	1,273	4,098
East Anglia	548	386	353	642	1,929
South East	5,999	4,600	3,526	7,808	21,933
South West	1,339	968	842	1,468	4,617
West Midlands	1,830	1,092	977	1,783	5,682
North West	2,279	1,345	1,092	2,311	7,027
England	16,099	10,663	8,881	18,013	53,656
Wales	968	479	463	950	2,860
Scotland	1,914	933	805	1,922	5,574
Northern Ireland	479	204	249	530	1,462

TABLE 8 Total personal income

	£ million				Per head, UK = 100			
	1972	1973	1974	1975	1972	1973	1974	1975
United Kingdom	54,604	63,014	75,990	97,051	100.0	100.0	100.0	100.0
North	2,864	3,323	3,846	5,110	88.7	89.5	90.6	94.2
Yorkshire and Humberside	4,408	5,043	6,306	8,172	93.3	92.7	94.9	96.3
East Midlands	3,238	3,774	4,871	6,248	96.9	97.2	96.5	96.6
East Anglia	1,542	1,857	2,266	2,858	92.1	94.8	94.9	92.6
South East	19,302	22,132	26,130	33,063	113.9	113.4	113.5	112.6
Greater London	8,810	10,060	12,092	15,263	122.6	122.6	124.2	123.8
Rest of South East	10,492	12,072	14,038	17,800	107.5	106.8	105.7	104.5
South West	3,684	4,240	5,506	6,961	98.2	97.0	96.4	94.8
West Midlands	5,061	5,804	7,001	8,697	100.4	99.8	99.5	96.8
North West	6,322	7,274	8,585	10,986	95.6	95.6	95.9	96.3
England	46,421	53,447	64,511	82,095	102.4	102.2	102.3	101.9
Wales	2,424	2,795	3,265	4,223	90.6	90.3	87.2	88.1
Scotland	4,628	5,463	6,611	8,669	90.8	93.0	93.2	96.0
Northern Ireland	1,131	1,309	1,603	2,064	74.8	75.1	76.3	77.4

TABLE 9 Personal disposable income⁽¹⁾

	£ million				Per head, UK = 100			
	1972	1973	1974	1975	1972	1973	1974	1975
United Kingdom	44,622	51,205	60,474	75,031	100.0	100.0	100.0	100.0
North	2,376	2,717	3,087	4,022	90.1	90.1	91.4	96.0
Yorkshire and Humberside	3,638	4,128	5,032	6,358	94.3	93.3	95.1	96.9
East Midlands	2,674	3,098	3,918	4,889	97.9	98.2	97.5	97.8
East Anglia	1,270	1,513	1,799	2,203	92.8	95.0	94.7	92.3
South East	15,471	17,674	20,394	24,911	111.7	111.5	111.3	109.7
Greater London	6,957	7,917	9,318	11,361	118.4	118.8	120.3	119.1
Rest of South East	8,514	9,757	11,076	13,550	106.8	106.2	104.8	102.9
South West	3,018	3,469	4,455	5,479	98.5	97.7	98.0	96.5
West Midlands	4,141	4,735	5,581	6,708	100.5	100.2	99.7	96.6
North West	5,221	5,996	6,955	8,683	96.7	97.0	97.6	98.5
England	37,809	43,330	51,221	63,253	102.1	101.9	102.1	101.6
Wales	1,997	2,316	2,626	3,320	91.3	92.0	88.1	89.6
Scotland	3,858	4,445	5,312	6,814	92.6	93.2	94.1	97.6
Northern Ireland	958	1,114	1,315	1,644	77.5	78.6	78.7	79.8

⁽¹⁾ Personal disposable income equals total personal income minus taxes on income, National Insurance contributions, transfers abroad, and taxes paid abroad.

TABLE 10 Gross domestic fixed capital formation by industry

£ million

	1971	1972	1973	1974	1975
United Kingdom					
Agriculture, forestry and fishing	303	372	469	587	648
Mining and quarrying ⁽¹⁾	167	217	288	745	1,827
Manufacturing	2,187	2,044	2,286	3,150	3,461
Gas, electricity and water	789	729	771	951	1,233
Transport and communications	991	1,033	1,258	1,374	1,708
Dwellings	1,898	2,254	2,700	3,184	4,097
Public education services	331	370	459	464	508
Public health and social services	213	251	337	352	437
Other public services	1,047	1,144	1,465	1,492	1,689
Transfer costs of land and buildings	323	453	565	495	625
Total ⁽²⁾	8,249	8,867	10,598	12,794	16,233
North					
Agriculture, forestry and fishing	24	29	36	34	36
Mining and quarrying	10	10	17	64	109
Manufacturing	205	178	177	297	431
Gas, electricity and water	70	73	53	65	93
Transport and communications	35	38	52	52	68
Dwellings	107	153	200	171	208
Public education services	19	21	26	25	25
Public health and social services	12	16	21	18	22
Other public services	66	52	64	74	93
Transfer costs of land and buildings	23	31	37	34	48
Total ⁽²⁾	571	601	683	834	1,133
Yorkshire and Humberside					
Agriculture, forestry and fishing	34	38	48	61	67
Mining and quarrying	19	18	20	27	46
Manufacturing	297	259	263	368	432
Gas, electricity and water	75	59	61	58	56
Transport and communications	51	57	71	81	104
Dwellings	119	152	203	231	261
Public education services	25	27	36	38	47
Public health and social services	15	18	24	30	43
Other public services	72	68	88	86	96
Transfer costs of land and buildings	29	38	47	41	51
Total ⁽²⁾	736	734	861	1,021	1,203
East Midlands					
Agriculture, forestry and fishing	22	27	34	48	51
Mining and quarrying	19	21	22	29	45
Manufacturing	116	122	133	186	192
Gas, electricity and water	34	31	33	35	33
Transport and communications	46	49	65	70	94
Dwellings	113	147	185	221	291
Public education services	20	23	28	28	31
Public health and social services	16	20	28	26	32
Other public services	44	47	68	71	80
Transfer costs of land and buildings	18	27	34	30	38
Total ⁽²⁾	448	514	630	744	887

(1) The UK figures for mining and quarrying include estimates of gross domestic fixed capital formation in the Continental Shelf region.

(2) The totals are of all industries shown, and exclude fixed investment by distribution, shipping and private service industries.

TABLE 10 Gross domestic fixed capital formation by industry

(continued)

£ million

	1971	1972	1973	1974	1975
East Anglia					
Agriculture, forestry and fishing	27	33	42	53	60
Mining and quarrying	1	1	2	5	4
Manufacturing	48	47	62	80	83
Gas, electricity and water	18	16	15	22	32
Transport and communications	30	32	39	44	52
Dwellings	79	104	120	151	167
Public education services	10	14	14	12	12
Public health and social services	7	9	12	12	14
Other public services	27	38	46	34	43
Transfer costs of land and buildings	10	16	20	17	21
Total ⁽²⁾	257	310	372	430	488
South East					
Agriculture, forestry and fishing	45	53	65	75	81
Mining and quarrying	7	7	6	8	9
Manufacturing	441	412	521	756	725
Gas, electricity and water	210	183	204	285	386
Transport and communications	450	452	545	595	731
Dwellings	646	734	848	1,033	1,455
Public education services	106	120	150	150	159
Public health and social services	72	83	116	114	135
Other public services	344	412	514	610	609
Transfer costs of land and buildings	95	134	170	152	189
Total ⁽²⁾	2,416	2,590	3,139	3,778	4,479
South West					
Agriculture, forestry and fishing	35	45	59	77	79
Mining and quarrying	9	9	11	16	15
Manufacturing	75	99	102	158	136
Gas, electricity and water	64	42	61	57	62
Transport and communications	55	56	78	85	107
Dwellings	165	205	244	253	308
Public education services	21	25	32	31	31
Public health and social services	16	19	25	25	27
Other public services	100	103	126	124	147
Transfer costs of land and buildings	22	33	42	35	40
Total ⁽²⁾	562	636	780	861	952

See footnotes on page 46.

TABLE 10 Gross domestic fixed capital formation by industry

(continued)

£ million

	1971	1972	1973	1974	1975
West Midlands					
Agriculture, forestry and fishing	21	29	37	52	55
Mining and quarrying	8	8	8	19	28
Manufacturing	224	200	256	310	314
Gas, electricity and water	42	29	30	39	58
Transport and communications	70	72	93	102	127
Dwellings	137	159	188	232	320
Public education services	29	30	39	38	41
Public health and social services	17	21	24	31	36
Other public services	79	83	100	102	126
Transfer costs of land and buildings	26	34	44	39	49
Total ⁽²⁾	653	665	819	964	1,154
North West					
Agriculture, forestry and fishing	12	14	17	23	26
Mining and quarrying	6	6	7	4	4
Manufacturing	340	303	313	422	429
Gas, electricity and water	99	122	148	166	151
Transport and communications	114	121	127	141	174
Dwellings	200	229	274	305	357
Public education services	38	39	46	48	54
Public health and social services	26	26	35	37	49
Other public services	123	113	149	128	157
Transfer costs of land and buildings	39	53	64	53	62
Total ⁽²⁾	997	1,026	1,180	1,327	1,463
England					
Agriculture, forestry and fishing	220	268	338	423	455
Mining and quarrying	79	80	93	172	260
Manufacturing	1,746	1,620	1,827	2,577	2,742
Gas, electricity and water	612	555	605	727	871
Transport and communications	851	877	1,070	1,170	1,457
Dwellings	1,566	1,883	2,262	2,597	3,367
Public education services	268	299	371	370	400
Public health and social services	181	212	285	293	358
Other public services	855	916	1,155	1,229	1,351
Transfer costs of land and buildings	262	366	458	401	498
Total ⁽²⁾	6,640	7,076	8,464	9,959	11,759

See footnotes on page 46.

TABLE 10 Gross domestic fixed capital formation by industry

(continued)

£ million

	1971	1972	1973	1974	1975
Wales					
Agriculture, forestry and fishing	20	26	35	48	51
Mining and quarrying	10	9	9	13	19
Manufacturing	202	191	167	183	235
Gas, electricity and water	41	36	30	35	62
Transport and communications	38	39	53	59	72
Dwellings	74	102	126	157	183
Public education services	17	21	26	23	26
Public health and social services	9	10	15	17	24
Other public services	64	72	80	73	95
Transfer costs of land and buildings	20	28	31	26	34
Total ⁽²⁾	495	534	572	634	801
Scotland					
Agriculture, forestry and fishing	42	51	63	72	91
Mining and quarrying	8	12	26	55	87
Manufacturing	179	182	220	304	394
Gas, electricity and water	112	112	113	174	284
Transport and communications	80	90	105	113	142
Dwellings	195	205	246	365	454
Public education services	36	41	51	53	62
Public health and social services	20	25	33	35	44
Other public services	103	129	206	164	207
Transfer costs of land and buildings	32	46	61	56	78
Total ⁽²⁾	807	893	1,124	1,391	1,843
Northern Ireland					
Agriculture, forestry and fishing	21	27	33	44	51
Mining and quarrying	2	2	2	3	3
Manufacturing	60	51	72	86	90
Gas, electricity and water	24	26	23	15	16
Transport and communications	22	27	30	32	37
Dwellings	63	64	66	65	93
Public education and services	10	9	11	18	20
Public health and social services	3	4	4	7	11
Other public services	25	27	24	26	36
Transfer costs of land and buildings	9	13	15	12	15
Total ⁽²⁾	239	250	280	308	372

See footnotes on page 46.

TABLE 11 Gross domestic fixed capital formation by purpose of government⁽¹⁾

	£ million				
	1971	1972	1973	1974	1975
United Kingdom					
General administration and defence	253	248	331	475	540
Education	354	424	532	525	553
Health and social services	219	262	359	380	448
Housing and community development ⁽²⁾	1,076	1,130	1,603	2,153	2,436
Economic services ⁽³⁾	660	667	835	877	1,053
Total	2,562	2,731	3,660	4,410	5,030
North					
General administration and defence	11	10	15	21	19
Education	21	25	30	29	27
Health and social services	13	18	24	22	26
Housing and community development ⁽²⁾	72	88	116	127	145
Economic services ⁽³⁾	45	38	54	57	70
Total	162	179	239	256	287
Yorkshire and Humberside					
General administration and defence	15	13	18	31	31
Education	27	31	42	43	51
Health and social services	16	19	26	32	43
Housing and community development ⁽²⁾	71	70	103	138	135
Economic services ⁽³⁾	46	48	71	62	75
Total	175	181	260	306	335
East Midlands					
General administration and defence	12	11	14	24	23
Education	21	27	32	32	34
Health and social services	16	20	29	27	33
Housing and community development ⁽²⁾	52	60	88	125	155
Economic services ⁽³⁾	23	23	41	35	42
Total	124	141	204	243	287
East Anglia					
General administration and defence	8	5	6	10	14
Education	11	16	16	14	13
Health and social services	7	9	13	13	14
Housing and community development ⁽²⁾	28	33	45	56	57
Economic services ⁽³⁾	13	25	37	28	38
Total	67	88	117	121	136

(1) Includes fixed investment by public authority trading bodies.

(2) Includes other environmental and recreational services.

(3) Includes employment, agriculture, trade and industry and road building.

(4) The Northern Ireland Housing Executive assumed responsibility for housing in later years, and investment by Public Corporations is not included in this table.

TABLE 11 Gross domestic fixed capital formation by purpose of government⁽¹⁾

£ million

(continued)

	1971	1972	1973	1974	1975
South East					
General administration and defence	100	97	132	185	227
Education	114	138	174	171	174
Health and social services	73	87	122	123	137
Housing and community development ⁽²⁾	383	425	577	893	963
Economic services ⁽³⁾	182	192	224	251	305
Total	852	939	1,229	1,623	1,806
South West					
General administration and defence	26	29	34	46	57
Education	22	29	38	35	34
Health and social services	16	20	26	26	27
Housing and community development ⁽²⁾	62	60	83	99	112
Economic services ⁽³⁾	66	62	82	86	101
Total	192	200	263	292	331
West Midlands					
General administration and defence	12	12	17	27	32
Education	31	34	45	43	45
Health and social services	18	21	26	33	37
Housing and community development ⁽²⁾	79	78	105	134	195
Economic services ⁽³⁾	47	45	61	74	79
Total	187	190	254	311	388
North West					
General administration and defence	28	25	36	53	49
Education	41	44	53	55	59
Health and social services	27	28	38	41	51
Housing and community development ⁽²⁾	121	113	174	227	230
Economic services ⁽³⁾	90	79	100	83	103
Total	307	289	401	459	492

See footnotes on page 50.

TABLE 11 Gross domestic fixed capital formation by purpose of government⁽¹⁾

(continued)

	1971	1972	1973	1974	1975
£ million					
England					
General administration and defence	212	202	272	397	452
Education	288	344	430	422	437
Health and social services	186	222	304	317	368
Housing and community development ⁽²⁾	868	927	1,291	1,799	1,992
Economic services ⁽³⁾	512	512	670	676	813
Total	2,066	2,207	2,967	3,611	4,062
Wales					
General administration and defence	12	10	14	23	26
Education	19	24	30	26	28
Health and social services	10	11	16	18	25
Housing and community development ⁽²⁾	43	48	65	88	106
Economic services ⁽³⁾	53	56	60	58	69
Total	137	149	185	213	254
Scotland					
General administration and defence	23	30	37	45	51
Education	38	47	59	60	68
Health and social services	20	25	35	37	44
Housing and community development ⁽²⁾	139	140	244	266	338
Economic services ⁽³⁾	74	78	82	115	134
Total	294	320	457	523	635
Northern Ireland					
General administration and defence	6	6	8	10	11
Education	9	9	13	17	20
Health and social services	3	4	4	8	11
Housing and community development ⁽²⁾⁽⁴⁾	26	15	3	—	—
Economic services ⁽³⁾	21	21	23	28	37
Total	65	55	51	63	79

See footnotes on page 50.

