

## REGIONAL ACCOUNTS 1986 PART 2

### Introduction

This article presents provisional estimates of consumers' expenditure by region in 1986 and estimates of gross domestic product (GDP) for the counties of England and Wales and the local authority regions of Scotland for 1984. The tables on consumers' expenditure give an eleven year run of regional data and for the first time include a detailed analysis of consumers' expenditure by function.

The first part of the 1986 *Regional Accounts* was published in *Economic Trends, November 1987*. That article contained regional estimates of GDP, personal incomes and gross domestic fixed capital formation. The figures in both articles are consistent with the national accounts published in *United Kingdom National Accounts, 1987 Edition* (The CSO Blue Book). Further data may be made available on request.

These regional statistics are compiled only in current prices which means that most of the increase in the figures over time tends to be the result of inflation. Comparisons of trends over time can be based either on the difference between these increases, or on movements in GDP per head relative to the UK average. It should be realised that both approaches could be misleading if the rate of inflation has been significantly different from the average in any region.

As with the national accounts the estimates, although calculated as reliably as possible, cannot always be regarded as accurate to the last digit shown.

### Gross domestic product by county

Estimates of GDP by county for 1984 are given in Table 1 together with revised estimates for 1977, 1979 and 1981. These provide a broad measure of the level of economic activity in each county.

The methods used to estimate county GDP are in principle the same as those used in the regional accounts, although a simpler approach is necessary for some components. The method of estimation is described in the technical notes to this article but two points are particularly significant. Firstly the GDP of the Continental Shelf region, totalling £19 billion in 1984, is excluded from UK GDP as it cannot be allocated to the eleven standard regions. Secondly the estimates measure GDP on a workplace basis, and the income from employment of commuters is allocated to the region where they work, rather than the region where they live.

The GDP of the counties of the UK varies from over £44 billion in Greater London in 1984 to under £1 billion in the smallest counties. In order to compare the economic performance of counties varying so much in size, it is necessary to use an indicator such as GDP per head of population or GDP per person employed. Comparisons of such indices over time should be used with care for reasons explained earlier in this article. The most commonly used measure is GDP per head indexed to UK = 100 to enable comparisons between years. It is important to note that the estimates of GDP per head by county divide GDP by the resident population, which is of questionable relevance to these workplace based

estimates of county GDP. Thus the productivity of urban areas into which workers commute will tend to be overstated by this indicator, while that of the surrounding areas in which they live will be understated.

The annual regional accounts published in November showed a wide range in GDP per head between the regions of the UK; from 75.1 per cent of the UK average in Northern Ireland to 116.2 per cent in the South East. These statistics conceal an even wider variation in GDP at county level from 70 per cent in Mid Glamorgan to 144 per cent in Greater London. This is further illustrated by the map (opposite) showing county GDP per head in 1984 relative to the UK average. The figures also show the wide variation within each region. Within the South West, for example, GDP per head in 1984 varied from 20 per cent below the UK average in Cornwall to 7 per cent above average in Wiltshire.

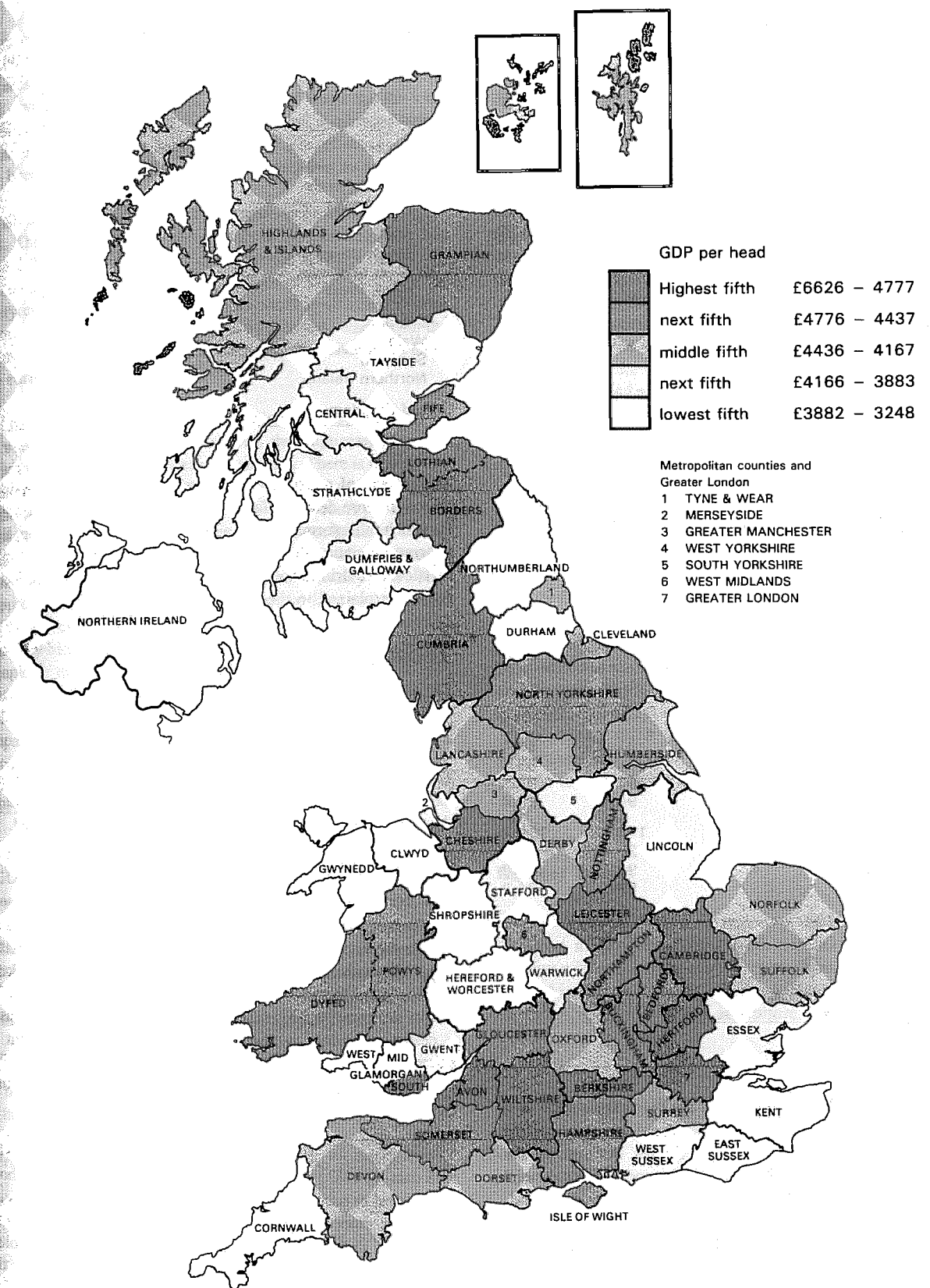
The county with the highest GDP per head in 1984 as in other years was Greater London at £6,626 (144 per cent of the UK average) reflecting the dominance of the capital as an industrial and commercial centre and the inclusion of commuters wages and salaries. The next highest GDP per head in 1984 is estimated to have been £5,924 in the Grampian region (128 per cent) followed by Cheshire £5,364 (116 per cent), Cambridgeshire £5,314 (115 per cent), Berkshire £5,195 (113 per cent) and South Glamorgan £5,069 (110 per cent). This list does not include counties such as Surrey and Hertfordshire which have substantial numbers of commuters.

At the other end of the scale the GDP per head of Mid-Glamorgan in 1984 is estimated to have been £3,248 (70 per cent of the UK average). Only slightly higher are Northern Ireland £3,469 (75 per cent) East Sussex £3,550 (77 per cent), Durham £3,560 (77 per cent), Gwynedd £3,600 (78 per cent), Shropshire 3,689 (80 per cent) and Cornwall £3,693 (80 per cent). It should be noted that the estimates of relative GDP for Mid-Glamorgan and Durham were lower than in previous years reflecting the effect of the miners strike on the counties' incomes. It is also worth noting that Cornwall has moved gradually upwards within this group.

The size of the employed population is a major factor in determining a county's GDP and this is also shown in Table 1 together with statistics of area, population, population density and unemployment rates. Other factors in determining GDP include average wage levels and profitability, which tend to reflect the county's industrial structure.

Where a county relies heavily on employment in one industry, its GDP is particularly sensitive to changes in the profitability of and employment in that industry. The large movements in the GDP of Dyfed and Powys and West Glamorgan for example reflect the changing fortunes of the oil refineries. Furthermore the effects of the 1984 miners' strike can be seen in many counties, with South Yorkshire showing a particularly sharp fall in GDP per head in 1984 relative to the UK average. The long term decline in manufacturing (as a percentage of GDP) is reflected in the relative decline in GDP of the industrial counties eg. the West Midlands metropolitan county, Cleveland and Merseyside. Counties which have shown relatively strong growth are Grampian, Cambridgeshire, Warwickshire and Surrey.

### GDP per head by county<sup>1</sup>, 1984



<sup>1</sup>Local authority regions in Scotland; Northern Ireland is not sub-divided

## Consumers' expenditure

Provisional estimates of regional consumers' expenditure in 1986 are given in Table 2 together with revised estimates for 1976-85. The usual breakdown by broad function is given in Table 3 for the latest four years and Table 4 gives a more detailed analysis for 1985.

Consumers' expenditure, which includes expenditure by private non-profit-making bodies serving persons eg. universities, as well as expenditure by United Kingdom households at home and abroad, rose by 9 per cent in real terms between 1976 and 1981 and 17 per cent between 1981 and 1986. Regional estimates are in current prices and are based on the Family Expenditure Survey, which has a relatively small sample; despite a smoothing process these estimates can move erratically and should therefore be used with caution.

Since 1981, when UK consumers' expenditure has been growing strongly at constant prices, the South East, East Anglia and Northern Ireland have grown faster than the average (see Table A). Although the South West held its own throughout the period, every other region experienced slower growth and there is now a much greater regional variation in consumers' expenditure per head than in 1981. Since 1981 the West and East Midlands have both experienced well below average growth and consumers' expenditure per head in both regions is now relatively low.

## Consumers' expenditure per head as a percentage of the UK average

TABLE A

Region	1981	1986 <sup>1</sup>
North	91.3	89.4
Yorkshire and Humberside	88.4	85.8
East Midlands	93.5	87.9
East Anglia	94.2	99.4
South East	115.2	120.2
South West	99.4	98.9
West Midlands	94.1	87.6
North West	95.6	92.7
England	101.6	101.7
Wales	90.8	88.0
Scotland	94.1	92.9
Northern Ireland	87.1	92.8
United Kingdom	100.0	100.0

<sup>1</sup> Provisional.

The pattern of consumers' expenditure does not vary a great deal from region to region (see Table B). Nevertheless some interesting points emerge from a closer study of the figures. For example the regions with higher personal disposable income and consumers' expenditure tend to spend a lower proportion of income on food, drink and tobacco. In the South East, where consumers' expenditure per head is 20 per cent above average, expenditure on food, drink and tobacco was one of the highest at £1,051 per head in 1986. Nevertheless this accounted for only 21 per cent of expenditure compared with 25 per cent in the UK as a whole.

Household and tourist expenditure by function: 1986<sup>1</sup>

TABLE B

Region	Percentage spent on		
	Food, drink and tobacco	Housing and fuel	Other
North	28	20	52
Yorkshire and Humberside	27	21	53
East Midlands	26	21	52
East Anglia	23	20	57
South East	21	21	58
South West	24	21	55
West Midlands	26	22	53
North West	27	20	53
England	24	21	55
Wales	27	18	55
Scotland	29	17	54
Northern Ireland	29	17	54
United Kingdom	25	20	55

<sup>1</sup> Provisional.

The pattern of regional consumers' expenditure by function is shown in more detail in Table 4 for 1985, which is the latest year for which full information is available. These results are more liable to erratic variation than the broader aggregates and the estimates for alcoholic drink should be treated with particular caution for reasons explained in the technical notes.

## Technical notes

## Regional Accounts methodology

The regional accounts presented in this article are consistent with the national accounts published in the *United Kingdom National Accounts 1987 Edition*, which also defines the terms used.

## Consumers' expenditure

The consumers' expenditure estimates are based mainly on the Family Expenditure Survey (FES), supplemented by information from other sources eg on rent and education. The FES, like all surveys, is subject to both sampling and non-sampling errors. The results are smoothed to reduce the effect of sampling error using a centred moving average with a 1:2:1 weighting, but no adjustments are made for non-sampling error except that the FES data are grossed up using regional population estimates not sample size.

The estimates for 1986 are provisional and will be revised when FES data for 1987 becomes available. None of the estimates should be regarded as accurate to the last digit shown, though the aggregate results are more reliable than the components. The estimates of consumers' expenditure on alcohol are particularly unreliable as the FES consistently records much lower levels of expenditure than those implied by the Customs and Excise data used to estimate national consumers' expenditure. The reason for this difference is not entirely clear, though business expenditure is thought to be a major factor. It is assumed in producing these estimates that there is no regional bias in the FES data. The *Family Expenditure Survey Handbook* is an excellent source of information on the survey.

## GDP by county

Estimates of GDP at county level were published for 1977, 1979 and 1981 in *Economic Trends June 1984*. This article includes estimates for 1984 consistent with the latest regional accounts. The areas covered are the counties of England and Wales and the local authority regions of Scotland; Northern Ireland is not subdivided. Estimates for some of the smaller areas are less reliable and these have been combined with estimates for neighbouring counties.

The allocation of GDP to such small areas can be made in different ways. The method used to compile these estimates is described in the following paragraphs. One difference between the county level estimates and the regional estimates of GDP is that in the county estimates, income from employment is allocated to area according to the location in which it was earned, whereas in the regional estimates it is allocated according to the residence of those who earned it.

This workplace basis of the county estimates is consistent with that used in previous articles and with the requirements of the Statistical Office of the European Community. There is in fact little difference at regional level between residence and workplace estimates, but differences can be substantial at county level. It is important to note that the estimates of GDP per head by county divide GDP by the resident population, which is of questionable relevance to these workplace based estimates of county GDP. Thus the productivity of urban areas into which workers commute will tend to be overstated by this indicator, while that of the surrounding areas in which they live will be understated. The most extreme example of this process is Greater London, where GDP in 1984 is estimated at £38,238 million on a residence basis, but £44,762 million on a workplace basis - a difference of 17 per cent. However comparisons of total GDP reflect primarily the different size of the counties and this indicator does serve to give a broad measure of the relative level of and trend in economic activity in the counties.

The data sources and methods used in producing county estimates of GDP are closely akin to those used in the regional accounts, although a simpler approach is sometimes necessary where data is not available or is insufficiently reliable; no industrial analysis has been attempted at county level for example. The estimates for 1981 and 1984 are not entirely comparable with those for 1977 and 1979 as the methodology has been improved over time. A brief outline of the method used for 1984 is given below.

In assessing the quality of the results, it should be remembered that the national and regional accounts provide a firm framework for the estimates of county GDP. The estimation procedures described here are intended only to provide robust indicators to determine how each region's GDP should be allocated to its constituent counties.

GDP is estimated as the sum of factor incomes at both regional and county level. Wages and salaries are estimated for the economy of each county as a whole, combining employment of males and females as recorded in censuses of employment with average earnings from the New Earnings Survey. National Insurance and other employers' contributions are assumed to vary directly with wages and salaries and the income of HM forces to vary with the number of forces.

Estimates of self-employment income are derived from the Survey of Personal Incomes data on Schedule D profits and professional income. Data are averaged over time to reduce random sampling variations.

Manufacturing and non-manufacturing profits and stock appreciation are estimated separately. Manufacturing profits are estimated from the Annual Census of Production data on gross value added less wages and salaries. Manufacturing stock appreciation is estimated pro-rata gross value added. Estimates of non-manufacturing profits and stock appreciation are made pro-rata employment.

Rent is estimated in three parts: local authority rent, owner occupiers imputed rent and other rent. Local authority rent is estimated from the relevant items of income and expenditure of local authorities on the Housing Revenue Account. Owner occupiers' imputed rent is estimated from the average rateable value of domestic property and the estimated number of owner-occupied dwellings. Other rent is estimated in proportion to the first two components of rent.

## Continental Shelf

Gross domestic product for the Continental Shelf region consists only of profits and surpluses less stock appreciation, which cannot be allocated to standard regions. It does not include income from employment, which is allocated to the region of residence of the employee; there is no resident population in the Continental Shelf region. Since GDP per head cannot be calculated for the Continental Shelf region, it is excluded from the United Kingdom total in the calculation of the national average.

## Regional Trends

A range of information on the regions of the United Kingdom can be found in *Regional Trends 1987*, (HMSO) price £17.50 net, together with selected statistics at county level. The range of topics covered in *Regional Trends* includes population, health, housing, education, employment and agriculture.

Central Statistical Office





## Consumers' expenditure by function 1985

TABLE 4

	Food	Alcoholic drink	Tobacco	Clothing and footwear	Housing	Fuel and power	Household goods and services	Transport and communication	Recreation etc <sup>1</sup>	Other	Consumers' expenditure in the UK <sup>2</sup>
<b>£ million</b>											
United Kingdom	30 064	15 783	7 006	14 879	32 129	10 657	14 128	35 686	19 736	30 216	210 284
North	1 517	868	430	748	1 427	548	606	1 521	889	1 255	9 809
Yorkshire & Humberside	2 404	1 248	568	1 079	2 324	896	1 055	2 615	1 465	2 097	15 750
East Midlands	1 989	1 012	478	828	1 952	685	897	2 099	1 241	1 678	12 861
East Anglia	1 037	484	212	463	1 254	398	498	1 250	692	1 054	7 343
South East	9 747	5 306	1 993	5 582	12 316	3 232	5 377	13 450	7 504	12 448	76 954
South West	2 393	1 092	477	1 041	2 827	889	1 188	2 798	1 604	2 362	16 669
West Midlands	2 611	1 271	576	1 142	2 792	919	1 094	2 823	1 570	2 171	16 971
North West	3 224	1 762	857	1 512	3 403	1 160	1 312	3 468	1 905	2 849	21 452
England	24 923	13 041	5 591	12 395	28 296	8 727	12 027	30 025	16 870	25 913	177 808
Wales	1 474	743	370	692	1 304	558	603	1 666	871	1 280	9 561
Scotland	2 692	1 673	831	1 312	2 074	975	1 243	2 957	1 616	2 384	17 758
Northern Ireland	975	325	214	480	455	397	255	1 038	378	639	5 156
<b>Per head, £</b>											
United Kingdom	531	279	124	263	567	188	250	630	349	534	3 714
North	492	281	139	242	463	177	196	493	288	407	3 179
Yorkshire & Humberside	490	255	116	220	474	183	215	533	299	428	3 212
East Midlands	511	260	123	212	501	176	230	539	319	431	3 300
East Anglia	528	246	108	236	638	203	254	636	352	536	3 737
South East	567	309	116	325	716	188	313	782	436	724	4 476
South West	532	243	106	231	628	197	264	622	356	525	3 703
West Midlands	504	245	111	220	539	177	211	545	303	419	3 274
North West	505	276	134	237	533	182	205	543	298	446	3 359
England	529	277	119	263	601	185	255	637	358	550	3 774
Wales	524	264	131	246	464	199	214	593	310	455	3 400
Scotland	524	326	162	255	404	190	242	576	315	464	3 457
Northern Ireland	626	209	138	308	292	255	164	666	243	410	3 309
<b>Percentages</b>											
United Kingdom	14	8	3	7	15	5	7	17	9	14	100
North	15	9	4	8	15	6	6	16	9	13	100
Yorkshire & Humberside	15	8	4	7	15	6	7	17	9	13	100
East Midlands	15	8	4	6	15	5	7	16	10	13	100
East Anglia	14	7	3	6	17	5	7	17	9	14	100
South East	13	7	3	7	16	4	7	17	10	16	100
South West	14	7	3	6	17	5	7	17	10	14	100
West Midlands	15	7	3	7	16	5	6	17	9	13	100
North West	15	8	4	7	16	5	6	16	9	13	100
England	14	7	3	7	16	5	7	17	9	15	100
Wales	15	8	4	7	14	6	6	17	9	13	100
Scotland	15	9	5	7	12	5	7	17	9	13	100
Northern Ireland	19	6	4	9	9	8	5	20	7	12	100

1 Recreation, entertainment and education.

2 Expenditure by UK households and foreign tourists etc.

## Index of sources

Data given on page 5 may be more recent than that shown elsewhere in the publication.

United Kingdom balance of payments: National income and expenditure. In addition to the series indexed below, further detailed statistics are included in the regular quarterly articles (see inside back cover).

	Page	Source	Further statistics
Average earnings	5,40	Department of Employment	Monthly Digest of Statistics Employment Gazette
Balance of payments	5,48	Central Statistical Office	Financial Statistics Quarterly articles in Economic Trends
Banking			
Bank loans, advances and acceptances	62,64	Bank of England	Financial Statistics
British government securities (long dated) 20 years yield	66		
Building societies		Bank of England	Financial Statistics
Advances on new dwellings	20	Building Societies Association	
Average prices of new dwellings on mortgage (see also Housing)	20		
Commitments on new dwellings	20		
Recommended share rate (see also Interest rates)	66		
Capital account summary, analysis by sector	58	Central Statistical Office	Financial Statistics
Car registrations and production (see also Motor vehicles)	12,32		
CBI Intentions Inquiry (see also Fixed investment)	18		
Coal (see also Energy)	24		
Commercial vehicles, production (see also Motor vehicles)	32		
Companies		Central Statistical Office	Financial Statistics
Financial companies			
Capital account, financial surplus/deficit	58		
Saving	58		
Gross trading profits	60		
In relation to total domestic income	14		Monthly Digest of Statistics
Industrial and commercial companies	60		Financial Statistics
Appropriation account	60		
Dividends, interest and current transfer payments	60		
Fixed investment	62		
Income	60		
Net borrowing requirement	62		
Saving	60,62		
Security prices and yields (see also Interest rates)	66		
Stock appreciation	60		
Taxes	60		
Construction industry		Department of the Environment	Housing and Construction Statistics
Index of output (see also Industrial production)	26		
Orders received	18,20,30		
Output	30		
Consumer credit	12	Central Statistical Office	Financial Statistics
Consumers' expenditure		Central Statistical Office	Monthly Digest of Statistics
Component categories	10		
In relation to personal income	10		
In relation to total final expenditure	14		
Per capita	14		
Counterparts to changes in M3	54	Bank of England	Financial Statistics
Credit business (see Hire purchase)	12		