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FULLY RECONCILED UK NATIONAL AND SECTOR ACCOUNTS FOR 1989-1992

M A Baxter, Central Statistical Office

Introduction

The Central Statistical Office's Agency Framework Document says that 'the Treasury expects the CSO to produce, each year, fully reconciled accounts that remove all inconsistencies in the accounts'. Such accounts were produced for 1988-91 (Baxter 1992); that paper gives details of the methodology. This paper updates the work.

If all items in the National Accounts were known exactly, the sector balancing items, the items in the last row of Table A (summary analysis by sector) of the *Blue Book*, would be zero. For many purposes, it is useful to adjust the National Accounts to make these items zero while of course keeping the constraints that appropriate rows of this Table should sum to zero. When adjusting, the items altered most should be those deemed most uncertain or subject to deficiencies in coverage.

The larger the balancing items, the larger will be the alterations to the accounts needed to make them balance. As the balancing items are now smaller than they were a few years ago, the effects of balancing are smaller than in the original study (CSO 1989).

This exercise is still regarded by the CSO as experimental. Its main aims are to find the likely areas of weakness in the National Accounts, to help in interpreting them and to produce the reconciled accounts required by the Framework Document. It is not yet felt that the results of balancing should supersede the *Blue Book* data; the results have therefore been constrained to retain the published value of GDP.

Balancing Model

The mathematical details of the model, the method of solution and the diagnostic tests are described in the Annex to Baxter (1992). This section outlines the inputs to the model, with particular attention to those aspects which have changed since that article.

Error ranges

To balance the accounts in the way chosen, we need the standard deviations of the errors of all items in Table A for 1989 to 1992. As a proxy for these, confidence intervals were used; the compilers of the series were asked to supply intervals such that they are 90% confident that the 'true' values are within these intervals. These are based, inevitably, on compilers' judgments, but they allow for both the sampling error of any surveys used to obtain the figures, and all known sources of non-sampling error. Half the width of a confidence interval is called the error range; if the errors are normally distributed, the range is 1.645 times the standard deviation of the error. It is assumed that the confidence intervals are symmetric about the published values. Last year, a bias was assumed in the published figures for ICC and financial company profits and in CSO (1989) many such bias corrections were made.

As a starting point, the ranges used last year were brought forward, so those used for 1988 are now being used for 1989 and so on.

However, many of these ranges have been widened since last year, often on the basis of revisions analyses. In such an analysis, revisions to previously published figures are considered. Thus, if an item is regularly revised by amounts of the order of £100 million three years after first publication, its uncertainty must be at least of this order. The number of items given a range of only £0.5 million (implying that the figure is thought to be correct to the nearest £1 million) has in consequence been greatly reduced. Also, all substantial items (those generally exceeding £100 million) have been given ranges of at least £10 million. This does not mean that CSO estimates are thought to have deteriorated, but that compilers have made more realistic assessments of errors, especially in the light of revisions analyses.

Rents

For rows not summing to zero, it was assumed in CSO (1989) and Baxter (1992) that the figure for each sector is estimated independently. The row total is thus not an independent estimate conveying any extra information, so it gets an arbitrarily large margin (in practice, £1 million million). This is not appropriate for rents, where a total for persons, ICC and financial is first estimated, then split between these three sectors. Thus the errors in rents for these sectors include the error in the total and further errors due to uncertainties in the split. Rents for public corporations, Central Government and Local Authorities come from other, usually more accurate, sources. A further complication is that personal rent is the sum of actual rent received (a share of total rents) and imputed rent nominally paid by owner occupiers to themselves; this does not apply to other sectors. To model this, a realistic error margin was assigned to total rents, and the margins for the rents by sector for persons, ICC and financial were widened to allow for the allocation errors; the margins for total rent and personal rent were further widened to include the uncertainty in imputed rent.

The GDP constraint

To remove all inconsistencies, the sum of the components of GDP (on either the income or expenditure breakdown) must, after balancing, equal published GDP, which is not derived from the balancing process. As noted above, balancing makes the income and expenditure components of GDP sum to the same total. In all the results given below, GDP is constrained to the value published in the 1993 *Blue Book*. To achieve this, published GDP was added as an extra variable, with an error margin of £0.5 million; an extra constraint that the sum of the income components (income from employment and self-employment, profits, rent and imputed charge for capital consumption, less stock appreciation) must equal published GDP was added.

Published GDP for 1991 and 1992 uses information derived from income, expenditure and output. (For 1989 and 1990, only income and expenditure data were used.) Thus the GDP constraint brings in output data not in Table A. Ways to add this information to the balancing model more directly are being considered.

Further constraints

In some cases, the sum of a number of items is known more accurately than any of them individually. This can be allowed for in the model by a similar method to the one above: add an extra variable equal to the required sum, with a suitably small error margin, and an extra constraint that the relevant items sum to the new variable. In the balancing, the sum of the items is forced to remain equal to the new item, which changes relatively little because of its smaller margin. This has been done for personal, Central Government and Local Authority consumption (these constraints have not been used before) and for Central Government accruals. The bank profit constraint used in CSO (1989) and Baxter (1992) is no longer thought appropriate.

Personal consumption: This item includes two notional values: an imputed charge for capital consumption (ICCC) by private non-profit-making bodies serving the public and imputed rent on owner-occupied and rent-free dwellings. Both also appear in the income part of Table A, so cancel out in the sector balancing item. Allowing for the sign convention in Table A, a new item was added and constrained to be equal to the sum of rent, ICCC and consumption; it has a smaller error margin than consumption, as the uncertainty in imputed rent and ICCC is removed.

Central Government consumption: The item with this name has independent components: ICCC and "true" consumption. A new item was added equal to the sum of ICCC and consumption; ICCC cancels out.

Local Authority consumption: As for Central Government.

Central Government accruals: The sum of a number of items, less the accruals adjustment, equals total cash receipts by Central Government; this is known quite accurately.

Correlations

Another way to represent the fact that the sum of two items is known more accurately than either of them individually is to add a negative covariance between them to the covariance matrix described in the Annex to Baxter (1992). For the personal, ICC and PC sectors a covariance representing a correlation of -0.235 is assumed between stock appreciation and value of physical increase in stocks (stock appreciation in other sectors is negligible).

In some cases, the sum of two items is known almost exactly. This occurs if the uncertainty in both of them is mainly due to an item which is added to one and subtracted from the other. In these cases, the two items are given equal error margins and a covariance equivalent to a correlation of -1. The pairs so treated were:

- Personal: Other current transfers, receipts and
- Overseas: Other current transfers, payments
- Personal: Other current transfers, payments and
- Overseas: Other current transfers, receipts

Four pairs so treated last year have on further consideration been excluded. It is probable that many more correlations exist. Work is continuing to identify them and include them in future balancing exercises.

Financial flows for the Overseas sector

This constraint relates financial flows and dividend and interest receipts for the overseas sector. As explained in the Annex to Baxter (1992), this constraint involves all four years together.

Results

Published data and balanced accounts for 1989 to 1992 are given in tables 1 to 4 and 5 to 8 respectively. These are in the same format as Table A in the *Blue Book*, except that figures below the line for Banks and Building Societies and for OFIs are not shown separately. There is no point, for the purposes of this article, in splitting them below the line, since we cannot calculate separate sector balancing items if they are not split above the line.

With only one exceptions for 1989 and three for 1990 (shown below) all balanced data are within the confidence intervals of the unbalanced data. These four items do not necessarily have errors greater than the assumed ranges; the magnitudes of the adjustments needed to achieve balance are merely symptoms of the incoherence of the overall accounts. Nor does the fact that they are all in the public sectors mean that these are the weak link in the accounts; on the contrary, these sectors usually have the smallest balancing items. It may, however, mean that for these sectors some of the error ranges are too small. As the confidence intervals are 90% ones, not 100% ones, it would be surprising if nothing went outside them; indeed, it might be expected that this would happen more often.

Items changed by more than their error ranges

Item	Blue Book	Balanced	Change	Range	Change/ range
1989					
LA Accruals adjustments	-94	-497	-403	336	-1.20
1990					
CG Taxes on capital	4342	4551	209	150	1.39
CG Other capital transfers: payments	-11094	-10870	224	200	1.12
LA Other capital transfers: receipts	2039	1872	-167	150	-1.11

Diagnostic tests

A useful test of the error ranges and the coherence of the accounts is to see if the sector balancing items are larger than would be expected from the size of the ranges. This can be tested by using the Mahalanobis distance; see Baxter (1992).

Applying this test to the data gives the following diagnostic statistics. As an aid to interpretation, note that with the assumptions given in Baxter (1992) each diagnostic has a chi square distribution with seven degrees of freedom. Thus the expected value of each diagnostic is 7, and values greater than 18.5 occur by chance with only 1% probability. Thus, values greater than 18.5 imply that there is probably some incoherence in the accounts, and the greater the diagnostic the more the incoherence. The values of the diagnostic depend crucially on having accurate error ranges.

1989	20.10
1990	30.06
1991	6.42
1992	9.89

The figure for 1989 is clearly, and that for 1990 is very, significant, though both are far lower than the 52.47 found last year for 1988. However, those for 1991 and 1992 are far from significant. Indeed, the figure for 1991 is less than its expected value. Last year, 1989 and 1990 were not quite significant at 1% and 1991 was not significant. This may mean that the accounts for the two most recent years are more coherent than the preceding ones, but it could also mean that compilers are realistic about the errors in recent data but overly optimistic about how the data improve over time.

Table 14 gives a rough breakdown of these diagnostic statistics by sector. The only sectors for which the sector balancing item differs significantly from zero with even 5% confidence are PC for 1989 (1.8%) and 1992 (4.3%) and personal for 1990 (2.4%). This is a great improvement on the 1992 results, when there were six such sectors, two with significance 0.01%. Again, this does not prove that these sectors are the weak link in the accounts, but that for them some of the error ranges are too small.

Conclusions

This paper presents the fully reconciled accounts required by our Framework Document. It also tests whether the incoherence of the published accounts is too great to be explained by the assumed errors. There are some problems with 1989 and 1990, probably in the public corporation and personal sectors respectively, where the balancing items are larger than would be expected from the error ranges and correlations in the balancing model. There may possibly be problems with public corporations in 1992, but not enough to make the accounts significantly incoherent overall. However, the diagnostic tools available do not allow us to be more specific. There seem to be no problems with 1991.

Further work

The diagnostic tests would be more sensitive if they had more degrees of freedom, which means more sectors. The only feasible way to do this is to split the financial sector above the line into two or more sectors; data to do this should be available by next year.

The correlations within rows that sum to zero would be better represented if the way that the rows are made to sum to zero were correctly modelled. For some rows, this is done by double entry book-keeping; the row is the sum of a limited number of items, each of which is added to one sector and subtracted from another. The entries in this row should be replaced by these underlying items. The constraint that the row must sum to zero can then be removed, as it will sum automatically. It may be easier to model some rows if they are split up. Table A has 20 rows below the line but *Blue Book* table 11.1 has 45. This will substantially increase the size of the model, and it will be necessary to get error ranges for all the resultant items.

References

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- STONE J R N, CHAMPERNOWNE D G and MEADE J E (1942) The precision of National Income accounting estimates. *Rev. Econ. Studies*, 9, p. 111-125.

Table 1
1989 data as published

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor Incomes:								
Income from employment	283454	0	0	0	0	0	0	283454
Income from self-employment	54440	0	0	0	0	0	0	54440
Gross trading profits, etc	0	80095	-13631	6528	-323	522	0	73191
Rent	24802	4458	556	568	108	3238	0	33730
Imputed charge for capital consumption less stock appreciation	557	0	0	0	1484	1964	0	4005
	-803	-6203	0	-55	0	0	0	-7061
Inter-sector transfers:								
Earnings on direct investment overseas	123	16190	342	1	0	0	-16656	0
Earnings due abroad	-81	-8635	-522	0	0	0	9238	0
Dividends and interest:								
receipts	61714	10014	119647	659	9974	1368	61352	264728
payments	-44038	-41292	-96154	-2616	-17984	-5322	-57322	-264728
Taxes on income	-48204	-19038	-2706	-102	70050	0	0	0
Social security contributions	-32902	0	0	0	32902	0	0	0
Social security benefits	44965	0	0	0	-45503	0	538	0
Community charge	-586	0	0	0	0	586	0	0
Other current grants by government:								
receipts	9068	0	0	0	2143	24200	5883	41294
payments	0	0	0	0	-33793	-5358	-2143	-41294
Other current transfers: receipts	2034	0	0	0	431	0	2050	4515
payments	-2441	-260	-64	0	0	0	-1750	-4515
Royalties and licence fees on oil and gas production	0	-556	0	0	556	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	60067	19913	0	79980
Subsidies	0	0	0	0	-4774	-1008	0	-5782
Expenditure:								
Consumption	-327363	0	0	0	-63294	-38502	0	-429159
Exports of goods and services	0	0	0	0	0	0	-121486	-121486
Imports of goods and services	0	0	0	0	0	0	142808	142808
Balance = Saving	24739	34773	7468	4983	12044	1601	22512	108120
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-29075	-52538	-7873	-5467	-4951	-4631	0	-104535
Value of physical increase in stocks and work in progress	-449	-3080	0	-219	163	0	0	-3585
Taxes on capital	-3175	-1114	-151	0	4440	0	0	0
Other capital transfers:								
receipts	2509	561	0	1453	24	2387	0	6934
payments	-90	-319	0	-148	-5503	-874	0	-6934
Balance = Financial surplus or deficit	-5541	-21717	-556	602	6217	-1517	22512	0
FINANCIAL TRANSACTIONS								
Notes and coin	826	67	320	-27	-1245	0	59	0
Sterling treasury bills and government securities	-3306	-140	-11612	-4	15391	13	-342	0
National savings and tax instrument	-1492	136	37	-78	1397	0	0	0
Issue Departments transactions in commercial bills	0	1996	1230	0	-3598	0	372	0
Other government domestic transactions	-47	-7	-608	6	-347	1003	0	0
Government overseas transactions	0	0	-62	0	-6613	0	6675	0
Local authority debt	-427	29	-699	-44	2589	-1385	-63	0
Public corporations' debt	21	0	-207	607	1798	-84	-2135	0
Deposits with banks:								
Sterling sight	10964	2059	-15337	2	179	16	2117	0
Sterling time	10097	5278	-25469	-197	107	-169	10353	0
Foreign currency	359	3095	-35815	-42	-2	21	32384	0
Deposits with BS: sterling	17580	1044	-19239	0	0	0	615	0
: foreign	11	23	-1082	0	0	0	1048	0
Bank lending (excluding public sector)	-13280	-35948	78211	0	0	0	-28983	0
Other lending	-35166	-5944	40126	259	1081	-292	-64	0
Trade and retail credit	-451	-1182	1131	582	-8	0	-72	0
UK and overseas securities and unit trust units	-20898	10376	36528	-9	-4657	149	-21489	0
Other domestic instruments	29728	-13374	-46879	152	-289	-119	30781	0
Other overseas instruments	32	10205	1569	62	-27	0	-11841	0
Accruals adjustments	3904	42	-4099	17	230	-94	0	0
Total financial transactions	-1545	-22245	-1956	1286	5986	-941	19415	0
BALANCING ITEM	-3996	528	1400	-684	231	-576	3097	0

Table 2
1990 data as published

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	312358	0	0	0	0	0	0	312358
Income from self-employment	61138	0	0	0	0	0	0	61138
Gross trading profits, etc	0	79721	-14973	3801	-545	557	0	68561
Rent	28532	5238	696	578	142	3383	0	38569
Imputed charge for capital consumption	585	0	0	0	1623	2183	0	4391
less stock appreciation	-695	-5316	0	-120	0	0	0	-6131
Inter-sector transfers:								
Earnings on direct investment overseas	72	15474	36	1	0	0	-15583	0
Earnings due abroad	-109	-7713	784	0	0	0	7038	0
Dividends and interest:								
receipts	72767	12695	141010	589	9700	1233	70359	308353
payments	-54853	-48734	-116038	-1934	-17879	-5471	-63444	-308353
Taxes on income	-55587	-18735	-2219	-161	76702	0	0	0
Social security contributions	-34651	0	0	0	34651	0	0	0
Social security benefits	48898	0	0	0	-49503	0	605	0
Community charge	-8629	0	0	0	0	8629	0	0
Other current grants by government:								
receipts	10041	0	0	0	2231	38273	6223	56768
payments	0	0	0	0	-48603	-5934	-2231	-56768
Other current transfers: receipts	2099	0	0	0	504	0	2100	4703
payments	-2569	-265	-69	0	0	0	-1800	-4703
Royalties and licence fees on oil and gas production	0	-654	0	0	654	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	73169	5129	0	78298
Subsidies	0	0	0	0	-5401	-665	0	-6066
Expenditure:								
Consumption	-347527	0	0	0	-70108	-42826	0	-460461
Exports of goods and services	0	0	0	0	0	0	-133284	-133284
Imports of goods and services	0	0	0	0	0	0	148285	148285
Balance = Saving	31870	31711	9227	2754	7337	4491	18268	105658
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-27640	-54729	-6793	-4955	-6415	-6244	0	-106776
Value of physical increase in stocks and work in progress	-86	1106	0	254	-156	0	0	1118
Taxes on capital	-3207	-1035	-100	0	4342	0	0	0
Other capital transfers:								
receipts	3124	513	0	6827	0	2039	0	12503
payments	-92	-319	0	-134	-11094	-864	0	-12503
Balance = Financial surplus or deficit	3969	-22753	2334	4746	-5986	-578	18268	0
FINANCIAL TRANSACTIONS								
Notes and coin	-149	41	-21	229	-78	0	-22	0
Sterling treasury bills and government securities	-694	866	-1620	-29	5181	-17	-3687	0
National savings and tax instrument	814	286	72	-79	-1094	1	0	0
Issue Departments transactions in commercial bills	0	-312	-202	0	708	0	-194	0
Other government domestic transactions	34	69	1567	211	-531	-1350	0	0
Government overseas transactions	0	0	177	0	18	0	-195	0
Local authority debt	-158	116	412	80	741	-1127	-64	0
Public corporations' debt	-61	0	126	4416	-4303	-73	-105	0
Deposits with banks:								
Sterling sight	8542	1490	-12406	129	378	209	1658	0
Sterling time	7948	-496	-16865	-83	65	-1549	10980	0
Foreign currency	677	3960	-39627	33	24	3	34930	0
Deposits with BS: sterling	17959	1880	-20517	0	0	0	678	0
: foreign	7	13	-597	0	0	0	577	0
Bank lending (excluding public sector)	-8466	-19583	69085	0	0	0	-41036	0
Other lending	-33940	-3520	37970	-315	473	-314	-354	0
Trade and retail credit	-256	198	883	-264	-2	0	-559	0
UK and overseas securities and unit trust units	-9997	-5247	21111	-75	-4462	81	-1411	0
Other domestic instruments	26990	-11336	-30131	1	125	-10	14361	0
Other overseas instruments	32	4619	394	51	-499	0	-4597	0
Accruals adjustments	4014	286	-5148	101	-2212	2959	0	0
Total financial transactions	13296	-26670	4663	4406	-5468	-1187	10960	0

Table 3
1991 data as published

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	328257	0	0	0	0	0	0	328257
Income from self-employment	58533	0	0	0	0	0	0	58533
Gross trading profits, etc	0	80161	-18752	1809	-443	407	0	63182
Rent	32904	5091	677	572	178	3599	0	43021
Imputed charge for capital consumption	600	0	0	0	1675	2088	0	4363
less stock appreciation	-394	-2098	0	-30	0	0	0	-2522
Inter-sector transfers:								
Earnings on direct investment overseas	182	12330	260	1	0	0	-12773	0
Earnings due abroad	-128	-5440	1087	0	0	0	4481	0
Dividends and interest: receipts	69989	11445	133959	378	9381	854	72038	298044
payments	-51092	-47316	-112692	-1259	-16307	-5312	-64066	-298044
Taxes on income	-57331	-15389	-1723	-451	74894	0	0	0
Social security contributions	-36373	0	0	0	36373	0	0	0
Social security benefits	57381	0	0	0	-58093	0	712	0
Community charge	-8128	0	0	0	0	8128	0	0
Other current grants by government: receipts	11806	0	0	0	4899	47578	5232	69515
payments	0	0	0	0	-56739	-7877	-4899	-69515
Other current transfers: receipts	2188	0	0	0	545	0	2200	4933
payments	-2719	-259	-55	0	0	0	-1900	-4933
Royalties and licence fees on oil and gas production	0	-581	0	0	581	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	84695	121	0	84816
Subsidies	0	0	0	0	-5410	-585	0	-5995
Expenditure:								
Consumption	-365057	0	0	0	-77085	-47120	0	-489262
Exports of goods and services	0	0	0	0	0	0	-134148	-134148
Imports of goods and services	0	0	0	0	0	0	140775	140775
Balance = Saving	40618	37944	2761	1020	-856	1881	7652	91020
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-24161	-50042	-6409	-3779	-6876	-5267	0	-96534
Value of physical increase in stocks and work in progress	449	4829	0	-58	-151	0	0	5069
Taxes on capital	-2622	-760	-100	0	3482	0	0	0
Other capital transfers: receipts	3899	495	0	3715	0	2640	0	10749
payments	-16	-219	0	-146	-9289	-1079	0	-10749
Balance = Financial surplus or deficit	18167	-7753	-3748	752	-13690	-1825	7652	-445
FINANCIAL TRANSACTIONS								
Notes and coin	405	42	-162	-111	-207	0	33	0
Sterling treasury bills and government securities	734	482	1726	-81	-7503	-6	4648	0
National savings and tax instrument	2165	-75	48	67	-2205	0	0	0
Issue Departments transactions in commercial bills	0	-957	-591	0	1777	0	-229	0
Other government domestic transactions	-35	14	-1120	195	-44	990	0	0
Government overseas transactions	0	0	14	0	1049	0	-1063	0
Local authority debt	298	-60	-399	-1	1069	-848	-59	0
Public corporations' debt	-125	0	207	85	-115	1	-53	0
Deposits with banks: Sterling sight	5506	897	-5596	19	-427	-347	-52	0
Sterling time	577	3957	5883	628	-17	-1685	-9343	0
Foreign currency	6	-1224	16019	-75	62	17	-14805	0
Deposits with BS: sterling	17345	1707	-19482	0	0	0	430	0
: foreign	9	20	-1288	0	0	0	1259	0
Bank lending (excluding public sector)	-1963	1875	-32370	0	0	0	32458	0
Other lending	-26081	-956	27501	-3	106	-363	-204	0
Trade and retail credit	-666	-705	1077	234	0	0	60	0
UK and overseas securities and unit trust units	-5334	-11405	43638	-15	-8925	-9	-17950	0
Other domestic instruments	28899	-6969	-42752	9	243	-9	20579	0
Other overseas instruments	32	573	7702	42	632	0	-8981	0
Accruals adjustments	2907	-114	-3261	-200	659	9	0	0
Total financial transactions	24679	-12898	-3206	793	-13846	-2250	6728	0

Table 4
1992 data as published

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	341009	0	0	0	0	0	0	341009
Income from self-employment	58060	0	0	0	0	0	0	58060
Gross trading profits, etc	0	80614	-16040	1813	-285	374	0	66476
Rent	36957	4794	639	565	134	3757	0	46846
Imputed charge for capital consumption	604	0	0	0	1608	1995	0	4207
less stock appreciation	-80	-2105	0	-31	0	0	0	-2216
Inter-sector transfers:								
Earnings on direct investment overseas	221	13121	734	1	0	0	-14077	0
Earnings due abroad	-129	-5186	-160	0	0	0	5475	0
Dividends and interest: receipts	70421	9617	117155	311	8927	675	59543	266649
payments	-45517	-47551	-94097	-1121	-16619	-5026	-56718	-266649
Taxes on income	-57906	-13410	-1937	-199	73452	0	0	0
Social security contributions	-37464	0	0	0	37464	0	0	0
Social security benefits	65525	0	0	0	-66172	0	647	0
Community charge	-7859	0	0	0	0	7859	0	0
Other current grants by government: receipts	14067	0	0	0	2888	53062	7026	77043
payments	0	0	0	0	-64273	-9882	-2888	-77043
Other current transfers: receipts	2263	0	0	0	571	0	2250	5084
payments	-2789	-261	-59	0	0	0	-1975	-5084
Royalties and licence fees on oil and gas production	0	-600	0	0	600	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	87555	124	0	87679
Subsidies	0	0	0	0	-5482	-626	0	-6108
Expenditure:								
Consumption	-382696	0	0	0	-82477	-49901	0	-515074
Exports of goods and services	0	0	0	0	0	0	-139827	-139827
Imports of goods and services	0	0	0	0	0	0	149164	149164
Balance = Saving	54687	39033	6235	1339	-22109	2411	8620	90216
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-22953	-47847	-5271	-4255	-6911	-5655	0	-92892
Value of physical increase in stocks and work in progress	-130	2115	0	-10	17	0	0	1992
Taxes on capital	-2300	-513	-100	0	2913	0	0	0
Other capital transfers: receipts	4012	537	0	3305	0	8076	0	15930
payments	-7	-141	0	-151	-14417	-1214	0	-15930
Balance = Financial surplus or deficit	33309	-6816	864	228	-40507	3618	8620	-684
FINANCIAL TRANSACTIONS								
Notes and coin	1108	95	278	-148	-1398	0	65	0
Sterling treasury bills and government securities	510	-666	16081	9	-16950	-3	1019	0
National savings and tax instrument	4974	-319	-89	47	-4617	4	0	0
Issue Departments transactions in commercial bills	0	-2183	-426	0	4470	0	-1861	0
Other government domestic transactions	-47	10	-875	38	233	641	0	0
Government overseas transactions	0	0	5042	0	-11103	0	6061	0
Local authority debt	326	-14	1131	-22	-5936	4589	-74	0
Public corporations' debt	56	0	-99	-718	1302	5	-546	0
Deposits with banks: Sterling sight	3072	-805	-2939	-100	127	-57	702	0
Sterling time	2577	189	-5434	172	61	297	2138	0
Foreign currency	171	-1247	-20481	19	57	21	21460	0
Deposits with BS: sterling	10641	227	-11226	0	0	0	358	0
: foreign	16	32	-1343	0	0	0	1295	0
Bank lending (excluding public sector)	88	4425	19463	0	0	0	-23976	0
Other lending	-18389	297	18307	-14	449	-268	-382	0
Trade and retail credit	-590	-622	1316	143	0	0	-247	0
UK and overseas securities and unit trust units	-1403	-4468	30988	-4	-7631	-5	-17477	0
Other domestic instruments	28489	-7312	-47815	10	177	-10	26461	0
Other overseas instruments	32	-2683	9063	77	188	0	-6677	0
Accruals adjustments	2722	1776	-3161	-293	358	-1402	0	0
Total financial transactions	34353	-13268	7781	-784	-40213	3812	8319	0
BALANCING ITEM								
	1044	6452	6917	1013	294	104	201	684

Table 5
Balanced 1989 accounts

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	284140	0	0	0	0	0	0	284140
Income from self-employment	54643	0	0	0	0	0	0	54643
Gross trading profits, etc	0	79614	-14085	6528	-323	523	0	72256
Rent	24823	4430	555	568	108	3239	0	33722
Imputed charge for capital consumption	557	0	0	0	1482	1998	0	4037
less stock appreciation	-801	-6219	0	-20	0	0	0	-7039
Inter-sector transfers:								
Earnings on direct investment overseas	124	16195	353	1	0	0	-16672	0
Earnings due abroad	-79	-8630	-514	0	0	0	9223	0
Dividends and interest:								
receipts	62118	10001	119410	671	9974	1369	61382	264924
payments	-44007	-41475	-96204	-2616	-17984	-5321	-57315	-264924
Taxes on income	-48189	-19046	-2713	-102	70050	0	0	0
Social security contributions	-32905	0	0	0	32905	0	0	0
Social security benefits	44977	0	0	0	-45515	0	538	0
Community charge	-587	0	0	0	0	587	0	0
Other current grants by government:								
receipts	9066	0	0	0	2143	24201	5883	41292
payments	0	0	0	0	-33793	-5356	-2143	-41292
Other current transfers: receipts	2109	0	0	0	431	0	1990	4529
payments	-2375	-260	-64	0	0	0	-1830	-4529
Royalties and licence fees on oil and gas production	0	-556	0	0	556	0	0	-0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	60067	19914	0	79981
Subsidies	0	0	0	0	-4774	-1007	0	-5781
Expenditure:								
Consumption	-327014	0	0	0	-63293	-38453	0	-428760
Exports of goods and services	0	0	0	0	0	0	-121742	-121742
Imports of goods and services	0	0	0	0	0	0	142557	142557
Balance = Saving	26599	34054	6737	5032	12030	1691	21871	108013
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-29053	-52522	-7871	-5467	-4951	-4630	0	-104495
Value of physical increase in stocks and work in progress	-435	-3070	0	-182	170	0	0	-3518
Taxes on capital	-3064	-1114	-151	0	4329	0	0	0
Other capital transfers:								
receipts	2525	561	0	1453	24	2452	0	7015
payments	-90	-319	0	-148	-5586	-873	0	-7015
Balance = Financial surplus or deficit	-3518	-22410	-1285	688	6015	-1361	21871	0
FINANCIAL TRANSACTIONS								
Notes and coin	821	69	320	-27	-1245	0	62	-0
Sterling treasury bills and government securities	-3309	-140	-11613	-4	15391	13	-338	0
National savings and tax instrument	-1492	136	37	-78	1397	-0	0	0
Issue Departments transactions in commercial bills	0	1996	1230	0	-3598	0	372	0
Other government domestic transactions	-47	-7	-608	6	-347	1002	0	-0
Government overseas transactions	0	0	-62	0	-6613	0	6675	0
Local authority debt	-427	29	-699	-44	2589	-1386	-63	-0
Public corporations' debt	21	0	-207	607	1798	-84	-2135	-0
Deposits with banks:								
Sterling sight	10943	2067	-15326	-7	191	3	2130	-0
Sterling time	10073	5280	-25461	-197	107	-170	10368	-0
Foreign currency	359	3090	-35820	-42	-2	20	32394	-0
Deposits with BS: sterling	17579	1044	-19239	0	0	0	616	-0
: foreign	11	23	-1082	0	0	0	1048	-0
Bank lending (excluding public sector)	-13308	-35953	78190	0	0	0	-28929	-0
Other lending	-35179	-5944	40139	259	1081	-293	-64	0
Trade and retail credit	-1056	-1271	1131	392	-8	-0	811	0
UK and overseas securities and unit trust units	-21947	10400	36620	-9	-4657	148	-20556	0
Other domestic instruments	29221	-13374	-46577	152	-289	-120	30986	0
Other overseas instruments	-21	10012	1480	62	-27	0	-11506	-0
Accruals adjustments	4240	133	-3738	-378	240	-497	0	-0
Total financial transactions	-3518	-22410	-1285	688	6015	-1361	21871	-0
BALANCING ITEM	-0	0	0	0	0	0	0	0

Table 6
Balanced 1990 accounts

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	314002	0	0	0	0	0	0	314002
Income from self-employment	61623	0	0	0	0	0	0	61623
Gross trading profits, etc	0	77278	-14548	3801	-544	557	0	66543
Rent	28612	5139	697	578	143	3383	0	38552
Imputed charge for capital consumption	585	0	0	0	1627	2144	0	4356
less stock appreciation	-688	-5362	0	-140	0	0	0	-6191
Inter-sector transfers:								
Earnings on direct investment overseas	73	15479	77	1	0	0	-15630	-0
Earnings due abroad	-105	-7710	817	0	0	0	6998	-0
Dividends and interest:								
receipts	73395	12632	141078	582	9701	1233	70524	309146
payments	-54801	-49626	-116024	-1934	-17878	-5471	-63407	-309146
Taxes on income	-55560	-18777	-2204	-161	76702	0	0	-0
Social security contributions	-34647	0	0	0	34647	0	0	0
Social security benefits	48875	0	0	0	-49480	0	605	-0
Community charge	-8629	0	0	0	0	8629	0	0
Other current grants by government:								
receipts	10049	0	0	0	2232	38273	6223	56776
payments	0	0	0	0	-48602	-5943	-2231	-56776
Other current transfers: receipts	2236	0	0	0	505	0	1989	4731
payments	-2448	-265	-69	0	0	0	-1949	-4731
Royalties and licence fees on oil and gas production	0	-655	0	-0	655	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	73169	5129	0	78298
Subsidies	0	0	0	0	-5401	-665	0	-6066
Expenditure:								
Consumption	-346537	0	0	0	-70097	-42862	0	-459496
Exports of goods and services	0	0	0	0	0	0	-133768	-133768
Imports of goods and services	0	0	0	0	0	0	147810	147810
Balance = Saving	36031	28133	9824	2727	7379	4404	17166	105663
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-27592	-54808	-6770	-4955	-6414	-6244	0	-106783
Value of physical increase in stocks and work in progress	-54	1096	0	236	-158	0	0	1120
Taxes on capital	-3416	-1035	-100	-0	4551	0	0	-0
Other capital transfers:								
receipts	3071	513	0	6826	0	1872	0	12282
payments	-92	-321	0	-135	-10870	-865	0	-12282
Balance = Financial surplus or deficit	7948	-26422	2954	4699	-5512	-834	17166	-0
FINANCIAL TRANSACTIONS								
Notes and coin	-159	46	-21	229	-79	0	-16	0
Sterling treasury bills and government securities	-700	934	-1691	-29	5180	-17	-3677	0
National savings and tax instrument	814	286	72	-79	-1095	1	0	-0
Issue Departments transactions in commercial bills	0	-312	-202	0	707	0	-194	-0
Other government domestic transactions	34	69	1567	211	-532	-1350	0	-0
Government overseas transactions	0	0	176	0	17	0	-193	0
Local authority debt	-158	116	412	80	740	-1127	-64	0
Public corporations' debt	-61	0	126	4416	-4304	-73	-105	-0
Deposits with banks:								
Sterling sight	8500	1541	-12454	133	354	218	1708	-0
Sterling time	7898	-465	-16891	-83	64	-1549	11025	0
Foreign currency	677	3976	-39744	33	23	3	35031	-0
Deposits with BS: sterling	17957	1882	-20520	0	0	0	681	-0
: foreign	7	13	-597	0	0	0	577	0
Bank lending (excluding public sector)	-8517	-19488	68785	0	0	0	-40780	-0
Other lending	-33951	-3520	37981	-315	472	-314	-354	-0
Trade and retail credit	-1744	225	883	-171	-3	0	809	0
UK and overseas securities and unit trust units	-12666	-5168	20960	-75	-4463	81	1330	0
Other domestic instruments	26346	-11332	-30319	1	124	-10	15189	0
Other overseas instruments	-90	4534	-192	51	-500	0	-3803	0
Accruals adjustments	3761	241	-5379	295	-2218	3301	-0	0
Total financial transactions	7948	-26422	2954	4699	-5512	-834	17166	-0

Table 7
Balanced 1991 accounts

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	329720	0	0	0	0	0	0	329720
Income from self-employment	59229	0	0	0	0	0	0	59229
Gross trading profits, etc	0	77674	-18412	1807	-443	407	0	61033
Rent	33022	5005	678	572	178	3599	0	43053
Imputed charge for capital consumption	601	0	0	0	1664	2062	0	4327
less stock appreciation	-384	-2123	0	-31	0	0	0	-2538
Inter-sector transfers:								
Earnings on direct investment overseas	183	12325	267	1	0	0	-12775	-0
Earnings due abroad	-126	-5448	1093	0	0	0	4480	-0
Dividends and interest: receipts	70356	11402	133881	377	9381	854	72339	298590
payments	-51069	-47932	-112709	-1259	-16307	-5312	-64001	-298590
Taxes on income	-57305	-15417	-1720	-451	74892	0	0	0
Social security contributions	-36369	0	0	0	36369	0	0	0
Social security benefits	57401	0	0	0	-58113	0	712	-0
Community charge	-8071	0	0	0	0	8071	0	0
Other current grants by government: receipts	11839	0	0	0	4899	47572	5232	69542
payments	0	0	0	0	-56744	-7899	-4899	-69542
Other current transfers: receipts	2197	0	0	0	545	0	2194	4936
payments	-2714	-259	-55	0	0	0	-1908	-4936
Royalties and licence fees on oil and gas production	0	-581	0	-0	581	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	84694	121	0	84815
Subsidies	0	0	0	0	-5410	-585	0	-5995
Expenditure:								
Consumption	-364408	0	0	0	-77096	-47152	0	-488656
Exports of goods and services	0	0	0	0	0	0	-134167	-134167
Imports of goods and services	0	0	0	0	0	0	140742	140742
Balance = Saving	44103	34646	3023	1016	-911	1736	7950	91563
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-24108	-50190	-6389	-3779	-6877	-5272	0	-96615
Value of physical increase in stocks and work in progress	470	4793	0	-59	-153	0	0	5052
Taxes on capital	-2542	-760	-100	-0	3402	0	0	0
Other capital transfers: receipts	3924	495	0	3719	-0	2626	0	10763
payments	-16	-218	0	-146	-9304	-1079	0	-10763
Balance = Financial surplus or deficit	21831	-11234	-3466	751	-13843	-1989	7950	-0
FINANCIAL TRANSACTIONS								
Notes and coin	400	45	-162	-111	-207	0	35	-0
Sterling treasury bills and government securities	707	545	1690	-81	-7503	-6	4648	-0
National savings and tax instrument	2165	-75	48	67	-2205	0	0	0
Issue Departments transactions in commercial bills	0	-957	-591	0	1777	0	-229	0
Other government domestic transactions	-35	14	-1120	195	-44	990	0	0
Government overseas transactions	0	0	12	0	1049	0	-1062	-0
Local authority debt	296	-60	-398	-1	1069	-848	-59	-0
Public corporations' debt	-125	0	207	85	-115	1	-53	0
Deposits with banks: Sterling sight	5472	987	-5652	19	-422	-342	-62	-0
Sterling time	555	3984	5874	628	-17	-1684	-9340	-0
Foreign currency	6	-1188	15986	-75	62	17	-14808	-0
Deposits with BS: sterling	17342	1710	-19484	0	0	0	433	0
: foreign	9	20	-1288	0	0	0	1259	-0
Bank lending (excluding public sector)	-1988	1969	-32451	0	0	0	32470	-0
Other lending	-26091	-956	27510	-3	106	-363	-204	-0
Trade and retail credit	-1375	-57	1077	240	0	0	114	0
UK and overseas securities and unit trust units	-6816	-11128	43712	-15	-8925	-9	-16819	-0
Other domestic instruments	28523	-6961	-42593	9	243	-9	20788	-0
Other overseas instruments	-17	1002	7503	42	632	0	-9162	0
Accruals adjustments	2805	-127	-3346	-249	655	262	-0	0
Total financial transactions	21831	-11234	-3466	751	-13843	-1989	7950	-0

Table 8
Balanced 1992 accounts

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	341855	0	0	0	0	0	0	341855
Income from self-employment	58446	0	0	0	0	0	0	58446
Gross trading profits, etc	0	78260	-14502	1674	-285	374	0	65522
Rent	37048	4667	647	565	134	3761	0	46823
Imputed charge for capital consumption less stock appreciation	604	0	0	0	1637	2000	0	4241
	-76	-2148	0	-69	0	0	0	-2293
Inter-sector transfers:								
Earnings on direct investment overseas	221	13052	759	1	0	0	-14033	-0
Earnings due abroad	-128	-5221	-135	0	0	0	5483	-0
Dividends and interest:								
receipts	70022	9552	118171	305	8927	675	59852	267505
payments	-45575	-48587	-93910	-1121	-16619	-5026	-56667	-267505
Taxes on income	-57908	-13437	-1901	-199	73446	0	0	0
Social security contributions	-37461	0	0	0	37461	0	0	0
Social security benefits	65494	0	0	0	-66141	0	647	-0
Community charge	-7918	0	0	0	0	7918	0	0
Other current grants by government:								
receipts	14046	0	0	0	2888	53066	7026	77025
payments	0	0	0	0	-64259	-9878	-2888	-77025
Other current transfers: receipts	2249	0	0	0	571	0	2262	5082
payments	-2803	-261	-59	0	0	0	-1959	-5082
Royalties and licence fees on oil and gas production	0	-600	0	-0	600	0	0	0
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	87554	124	0	87678
Subsidies	0	0	0	0	-5482	-626	0	-6108
Expenditure:								
Consumption	-382374	0	0	0	-82420	-49892	0	-514686
Exports of goods and services	0	0	0	0	0	0	-139766	-139766
Imports of goods and services	0	0	0	0	0	0	149214	149214
Balance = Saving	55741	35278	9070	1155	-21987	2496	9171	90925
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	-22904	-47978	-5157	-4269	-6907	-5628	0	-92844
Value of physical increase in stocks and work in progress	-115	2066	0	-48	16	0	0	1920
Taxes on capital	-2388	-514	-99	-0	3000	0	0	-0
Other capital transfers:								
receipts	4002	537	0	3284	0	8067	0	15890
payments	-7	-141	0	-151	-14376	-1214	0	-15890
Balance = Financial surplus or deficit	34330	-10752	3815	-30	-40254	3721	9171	-0
FINANCIAL TRANSACTIONS								
Notes and coin	1106	97	278	-148	-1398	0	65	0
Sterling treasury bills and government securities	511	-562	15972	9	-16950	-3	1022	0
National savings and tax instrument	4974	-319	-89	47	-4617	4	0	-0
Issue Departments transactions in commercial bills	0	-2183	-426	0	4470	0	-1861	-0
Other government domestic transactions	-47	10	-875	38	233	641	0	-0
Government overseas transactions	0	0	5031	0	-11103	0	6072	0
Local authority debt	329	-14	1128	-22	-5936	4589	-74	0
Public corporations' debt	56	0	-99	-718	1302	5	-546	-0
Deposits with banks:								
Sterling sight	3063	-665	-3070	-96	123	-58	703	-0
Sterling time	2585	323	-5604	187	58	296	2156	0
Foreign currency	173	-1183	-20628	23	54	21	21540	0
Deposits with BS: sterling	10650	252	-11272	0	0	0	370	0
: foreign	16	32	-1344	0	0	0	1296	-0
Bank lending (excluding public sector)	101	4634	19160	0	0	0	-23894	0
Other lending	-18360	298	18279	-14	446	-268	-382	-0
Trade and retail credit	-1011	-171	1314	576	-0	-0	-707	0
UK and overseas securities and unit trust units	-1484	-4068	30150	-4	-7631	-5	-16958	-0
Other domestic instruments	28994	-7294	-49079	10	177	-10	27202	0
Other overseas instruments	19	-1705	8254	77	188	0	-6834	0
Accruals adjustments	2654	1765	-3265	5	332	-1491	-0	0
Total financial transactions	34330	-10752	3815	-30	-40254	3721	9171	0

Table 9
Error ranges for 1989

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	3093	0	0	0	0	0	0	1000000
Income from self-employment	1680	0	0	0	0	0	0	1000000
Gross trading profits, etc	0	2850	2850	10	10	10	0	1000000
Rent	1742	740	134	10	10	10	0	951
Imputed charge for capital consumption less stock appreciation	168	0	0	0	224	270	0	1000000
	280	504	0	112	0	0	0	1000000
Inter-sector transfers:								
Earnings on direct investment overseas	60	224	336	0.5	0	0	1800	-
Earnings due abroad	90	280	336	0	0	0	700	-
Dividends and interest: receipts	2240	504	2240	56	10	10	1344	-
payments	616	1904	1030	10	10	10	4000	-
Taxes on income	392	500	500	10	10	0	0	-
Social security contributions	1000000	0	0	0	90	0	0	-
Social security benefits	1000000	0	0	0	50	0	10	-
Community charge	1000000	0	0	0	0	10	0	-
Other current grants by government: receipts	1000000	0	0	0	10	10	10	-
payments	0	0	0	0	10	20	10	-
Other current transfers: receipts	550	0	0	0	10	0	475	-
payments	475	10	0.5	0	0	0	550	-
Royalties and licence fees on oil and gas production	0	1000000	0	0.5	10	0	0	-
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	10	10	0	1000000
Subsidies	0	0	0	0	10	10	0	1000000
Expenditure:								
Consumption	2250	0	0	0	225	300	0	1000000
Exports of goods and services	0	0	0	0	0	0	1850	1000000
Imports of goods and services	0	0	0	0	0	0	1850	1000000
Balance = Saving	-	-	-	-	-	-	-	-
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	392	1176	336	10	10	10	0	1000000
Value of physical increase in stocks and work in progress	336	672	0.5	112	112	0	0	1000000
Taxes on capital	1000000	10	10	0.5	150	0	0	-
Other capital transfers: receipts	112	10	0	10	0.5	100	0	-
payments	0.5	20	0	10	150	10	0	-
Balance = Financial surplus or deficit	-	-	-	-	-	-	-	-
FINANCIAL TRANSACTIONS								
Notes and coin	1000000	112	10	0.5	10	0	112	-
Sterling treasury bills and government securities	157	739	728	0.5	10	0.5	200	-
National savings and tax instrument	10	10	0.5	0.5	10	0.5	0	-
Issue Departments transactions in commercial bills	0	10	10	0	10	0	10	-
Other government domestic transactions	0.5	0.5	224	10	10	10	0.5	-
Government overseas transactions	0	0	56	0	10	0	170	-
Local authority debt	50	0.5	50	0.5	10	10	0.5	-
Public corporations' debt	0.5	0	10	10	10	0.5	10	-
Deposits with banks: Sterling sight	448	560	700	50	50	50	500	-
Sterling time	500	250	500	10	10	10	500	-
Foreign currency	10	560	500	10	10	10	900	-
Deposits with BS: sterling	100	100	500	0	0	0	100	-
: foreign	10	20	100	0	0	0	25	-
Bank lending (excluding public sector)	448	896	1456	0	0	0	1120	-
Other lending	448	22	448	10	10	10	22	-
Trade and retail credit	2016	2240	10	224	10	0.5	3360	-
UK and overseas securities and unit trust units	3696	672	1344	10	10	10	3000	-
Other domestic instruments	2240	123	3360	10	10	10	1600	-
Other overseas instruments	560	2240	1456	10	10	0	3100	-
Accruals adjustments	448	224	448	448	90	336	0.5	-
Total financial transactions	-	-	-	-	-	-	-	-

Table 10
Error ranges for 1990

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	3314	0	0	0	0	0	0	1000000
Income from self-employment	1800	0	0	0	0	0	0	1000000
Gross trading profits, etc	0	3750	2850	10	10	10	0	1000000
Rent	1841	792	144	10	10	10	0	1019
Imputed charge for capital consumption	180	0	0	0	240	290	0	1000000
less stock appreciation	300	540	0	120	0	0	0	1000000
Inter-sector transfers:								
Earnings on direct investment overseas	60	240	360	0.5	0	0	1900	-
Earnings due abroad	100	300	360	0	0	0	750	-
Dividends and interest: receipts	2400	540	2400	60	10	10	1440	-
payments	660	2040	1104	10	10	10	4200	-
Taxes on income	420	500	500	10	10	0	0	-
Social security contributions	1000000	0	0	0	96	0	0	-
Social security benefits	1000000	0	0	0	50	0	10	-
Community charge	1000000	0	0	0	0	10	0	-
Other current grants by government: receipts	1000000	0	0	0	10	10	10	-
payments	0	0	0	0	10	50	10	-
Other current transfers: receipts	550	0	0	0	10	0	475	-
payments	475	10	0.5	0	0	0	550	-
Royalties and licence fees on oil and gas production	0	1000000	0	0.5	10	0	0	-
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	10	10	0	1000000
Subsidies	0	0	0	0	10	10	0	1000000
Expenditure:								
Consumption	2750	0	0	0	243	329	0	1000000
Exports of goods and services	0	0	0	0	0	0	1900	1000000
Imports of goods and services	0	0	0	0	0	0	1900	1000000
Balance = Saving	-	-	-	-	-	-	-	-
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	420	1260	360	10	10	10	0	1000000
Value of physical increase in stocks and work in progress	360	720	0.5	120	120	0	0	1000000
Taxes on capital	1000000	10	25	0.5	150	0	0	-
Other capital transfers: receipts	120	10	0	10	0.5	150	0	-
payments	0.5	20	0	10	200	10	0	-
Balance = Financial surplus or deficit	-	-	-	-	-	-	-	-
FINANCIAL TRANSACTIONS								
Notes and coin	1000000	120	10	0.5	10	0	120	-
Sterling treasury bills and government securities	168	792	780	0.5	10	0.5	220	-
National savings and tax instrument	10	10	0.5	0.5	10	0.5	0	-
Issue Departments transactions in commercial bills	0	10	10	0	10	0	10	-
Other government domestic transactions	0.5	0.5	240	10	10	10	0.5	-
Government overseas transactions	0	0	60	0	10	0	180	-
Local authority debt	50	0.5	50	0.5	10	10	0.5	-
Public corporations' debt	0.5	0	10	10	10	0.5	10	-
Deposits with banks: Sterling sight	480	600	750	50	50	50	500	-
Sterling time	500	500	500	10	10	10	500	-
Foreign currency	20	600	800	10	10	10	1000	-
Deposits with BS: sterling	150	100	500	0	0	0	100	-
: foreign	10	20	100	0	0	0	25	-
Bank lending (excluding public sector)	480	960	1560	0	0	0	1200	-
Other lending	480	24	480	10	10	10	24	-
Trade and retail credit	2160	2400	20	240	10	0.5	3600	-
UK and overseas securities and unit trust units	3960	720	1440	10	10	10	3500	-
Other domestic instruments	2400	132	3600	10	10	10	1700	-
Other overseas instruments	600	2400	1560	10	10	0	3300	-
Accruals adjustments	480	240	480	480	96	360	0.5	-
Total financial transactions	-	-	-	-	-	-	-	-

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	3596	0	0	0	0	0	0	1000000
Income from self-employment	2480	0	0	0	0	0	0	1000000
Gross trading profits, etc	0	5400	2850	124	10	10	0	1000000
Rent	2376	918	174	10	10	10	0	1372
Imputed charge for capital consumption	186	0	0	0	250	310	0	1000000
less stock appreciation	372	620	0	124	0	0	0	1000000
Inter-sector transfers:								
Earnings on direct investment overseas	70	248	372	0.5	0	0	2000	-
Earnings due abroad	130	310	372	0	0	0	800	-
Dividends and interest: receipts	2480	558	2604	62	10	10	1736	-
payments	620	2108	1228	10	10	10	4200	-
Taxes on income	558	500	500	10	100	0	0	-
Social security contributions	1000000	0	0	0	124	0	0	-
Social security benefits	1000000	0	0	0	100	0	10	-
Community charge	1000000	0	0	0	0	160	0	-
Other current grants by government: receipts	1000000	0	0	0	10	50	10	-
payments	0	0	0	0	50	100	10	-
Other current transfers: receipts	550	0	0	0	10	0	475	-
payments	475	10	0.5	0	0	0	550	-
Royalties and licence fees on oil and gas production	0	1000000	0	0.5	10	0	0	-
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	100	10	0	1000000
Subsidies	0	0	0	0	50	10	0	1000000
Expenditure:								
Consumption	3250	0	0	0	275	357	0	1000000
Exports of goods and services	0	0	0	0	0	0	1950	1000000
Imports of goods and services	0	0	0	0	0	0	1950	1000000
Balance = Saving	-	-	-	-	-	-	-	-
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	620	1550	558	50	20	50	0	1000000
Value of physical increase in stocks and work in progress	434	868	0.5	124	124	0	0	1000000
Taxes on capital	1000000	10	25	0.5	200	0	0	-
Other capital transfers: receipts	124	10	0	50	0.5	150	0	-
payments	0.5	20	0	10	200	10	0	-
Balance = Financial surplus or deficit	-	-	-	-	-	-	-	-
FINANCIAL TRANSACTIONS								
Notes and coin	1000000	124	10	10	10	0	124	-
Sterling treasury bills and government securities	471	893	868	0.5	10	0.5	280	-
National savings and tax instrument	10	10	0.5	0.5	10	0.5	0	-
Issue Departments transactions in commercial bills	0	10	10	0	10	0	10	-
Other government domestic transactions	0.5	0.5	248	10	10	10	0.5	-
Government overseas transactions	0	0	248	0	10	0	250	-
Local authority debt	200	0.5	200	0.5	10	10	0.5	-
Public corporations' debt	0.5	0	10	10	10	0.5	10	-
Deposits with banks: Sterling sight	496	1240	900	50	50	50	500	-
Sterling time	500	500	700	20	10	20	500	-
Foreign currency	50	620	1000	50	10	10	1000	-
Deposits with BS: sterling	200	150	600	0	0	0	250	-
: foreign	10	20	100	0	0	0	50	-
Bank lending (excluding public sector)	496	992	1612	0	0	0	1240	-
Other lending	558	50	496	10	10	10	50	-
Trade and retail credit	2480	2790	50	248	10	0.5	3720	-
UK and overseas securities and unit trust units	5456	1364	1860	10	10	10	4500	-
Other domestic instruments	2480	236	3968	10	10	10	2100	-
Other overseas instruments	620	2480	1860	10	10	0	3500	-
Accruals adjustments	496	248	496	496	150	372	0.5	-
Total financial transactions	-	-	-	-	-	-	-	-
BALANCING ITEM								
	-	-	-	-	-	-	-	-

Table 12
Error ranges for 1992

£ million

	Personal sector	ICCs	Financial sector	Public corps	Central govt	Local auths	Overseas sector	TOTAL
CURRENT TRANSACTIONS								
Factor incomes:								
Income from employment	4588	0	0	0	0	0	0	1000000
Income from self-employment	3100	0	0	0	0	0	0	1000000
Gross trading profits, etc	0	6100	2850	310	10	10	0	1000000
Rent	2475	1512	198	10	10	99	0	1730
Imputed charge for capital consumption	186	0	0	0	300	310	0	1000000
less stock appreciation	434	930	0	186	0	0	0	1000000
Inter-sector transfers:								
Earnings on direct investment overseas	70	992	372	0.5	0	0	2100	-
Earnings due abroad	180	713	372	0	0	0	850	-
Dividends and interest: receipts	2480	620	3472	62	10	10	1860	-
payments	942	2480	1488	10	10	10	4200	-
Taxes on income	620	500	500	10	248	0	0	-
Social security contributions	1000000	0	0	0	186	0	0	-
Social security benefits	1000000	0	0	0	150	0	10	-
Community charge	1000000	0	0	0	0	400	0	-
Other current grants by government: receipts	1000000	0	0	0	10	100	10	-
payments	0	0	0	0	100	100	10	-
Other current transfers: receipts	550	0	0	0	10	0	475	-
payments	475	10	0.5	0	0	0	550	-
Royalties and licence fees on oil and gas production	0	1000000	0	0.5	10	0	0	-
Factor cost adjustment:								
Taxes on expenditure	0	0	0	0	186	10	0	1000000
Subsidies	0	0	0	0	100	10	0	1000000
Expenditure:								
Consumption	3700	0	0	0	408	369	0	1000000
Exports of goods and services	0	0	0	0	0	0	2000	1000000
Imports of goods and services	0	0	0	0	0	0	2000	1000000
Balance = Saving	-	-	-	-	-	-	-	-
CAPITAL TRANSACTIONS								
Gross domestic fixed capital formation	930	1674	744	100	50	250	0	1000000
Value of physical increase in stocks and work in progress	558	1178	0.5	186	186	0	0	1000000
Taxes on capital	1000000	100	100	0.5	250	0	0	-
Other capital transfers: receipts	124	10	0	100	0.5	175	0	-
payments	0.5	20	0	10	235	10	0	-
Balance = Financial surplus or deficit	-	-	-	-	-	-	-	-
FINANCIAL TRANSACTIONS								
Notes and coin	1000000	124	10	10	10	0	124	-
Sterling treasury bills and government securities	496	980	868	0.5	10	0.5	350	-
National savings and tax instrument	10	10	0.5	0.5	10	0.5	0	-
Issue Departments transactions in commercial bills	0	10	10	0	10	0	10	-
Other government domestic transactions	0.5	0.5	248	10	10	10	0.5	-
Government overseas transactions	0	0	496	0	10	0	300	-
Local authority debt	200	0.5	200	0.5	10	10	0.5	-
Public corporations' debt	0.5	0	10	10	10	0.5	10	-
Deposits with banks: Sterling sight	868	1240	900	50	50	50	500	-
Sterling time	500	1000	1200	100	50	50	600	-
Foreign currency	200	620	1300	50	50	20	1000	-
Deposits with BS: sterling	400	400	700	0	0	0	400	-
: foreign	10	20	100	0	0	0	100	-
Bank lending (excluding public sector)	620	1240	1612	0	0	0	1240	-
Other lending	620	81	620	10	50	10	62	-
Trade and retail credit	2728	3100	100	550	10	0.5	3720	-
UK and overseas securities and unit trust units	6820	1984	2356	10	10	10	5500	-
Other domestic instruments	2480	310	4340	10	10	10	2700	-
Other overseas instruments	620	3720	2108	10	10	0	3700	-
Accruals adjustments	496	248	496	496	375	372	0.5	-
Total financial transactions	-	-	-	-	-	-	-	-

Table 13
Main changes due to balancing

	Change on balance				Error ranges				Change/error range			
	89	90	91	92	89	90	91	92	89	90	91	92
PERSONAL SECTOR												
Trade and retail credit	-605	-1488	-709	-421	2016	2160	2480	2728	-0.30	-0.69	-0.29	-0.15
UK & overseas securities & unit trust units	-1049	-2669	-1482	-81	3696	3960	5456	6820	-0.28	-0.67	-0.27	-0.01
Accruals adjustments	336	-253	-102	-68	448	480	496	496	0.75	-0.53	-0.21	-0.14
INDUSTRIAL AND COMMERCIAL COMPANIES												
Gross trading profits, etc	-481	-2443	-2487	-2354	2850	3750	5400	6100	-0.17	-0.65	-0.46	-0.39
FINANCIAL SECTOR												
Gross trading profits, etc	-454	425	340	1538	2850	2850	2850	2850	-0.16	0.15	0.12	0.54
Accruals adjustments	361	-231	-85	-104	448	480	496	496	0.81	-0.48	-0.17	-0.21
PUBLIC CORPS												
Trade and retail credit	-190	93	6	433	224	240	248	550	-0.85	0.39	0.03	0.79
Accruals adjustments	-395	194	-49	298	448	480	496	496	-0.88	0.40	-0.10	0.60
CENTRAL GOVERNMENT												
Taxes on capital	-111	209	-80	87	150	150	200	250	-0.74	1.39	-0.40	0.35
Other capital transfers: payments	-83	224	-15	41	150	200	200	235	-0.55	1.12	-0.08	0.17
LOCAL AUTHORITIES												
Other capital transfers: receipts	65	-167	-14	-9	100	150	150	175	0.65	-1.11	-0.09	-0.05
Accruals adjustments	-403	342	253	-89	336	360	372	372	-1.20	0.95	0.68	-0.24
LA Consumption adjustment	83	-75	-58	14	131	155	177	200	0.63	-0.48	-0.33	0.07
OVERSEAS												
UK & overseas securities & unit trust units	933	2741	1131	519	3000	3500	4500	5500	0.31	0.78	0.25	0.09

This table lists every item for which the change on balancing exceeds 0.5 of the error range in at least one of the four years 1989-1992

Table 14
Breakdown of diagnostics by sector

Sector	Balancing item	margin	ratio	SD	chisq	% significance
1989						
Personal	-3996	6185	-0.65	3760	1.13	28.8
ICC	528	4854	0.11	2951	0.03	85.8
Financial	1400	4897	0.29	2977	0.22	63.8
PC	-684	474	-1.44	288	5.63	1.8
CG	231	413	0.56	251	0.84	35.8
LA	-576	521	-1.11	317	3.30	6.9
Overseas	3097	5899	0.53	3586	0.75	38.8
Total:					11.91	
1990						
Personal	-9327	6789	-1.37	4127	5.11	2.4
ICC	3917	5646	0.69	3432	1.30	25.4
Financial	-2329	5144	-0.45	3127	0.55	45.6
PC	340	508	0.67	309	1.21	27.1
CG	-518	446	-1.16	271	3.65	5.6
LA	609	571	1.07	347	3.08	7.9
Overseas	7308	6310	1.16	3836	3.63	5.7
Total:					18.54	
1991						
Personal	-6512	7963	-0.82	4841	1.81	17.9
ICC	5145	7226	0.71	4393	1.37	24.1
Financial	-542	5629	-0.10	3422	0.03	87.4
PC	-41	546	-0.08	332	0.02	90.2
CG	156	539	0.29	328	0.23	63.4
LA	425	635	0.67	386	1.21	27.1
Overseas	924	7058	0.13	4291	0.05	82.9
Total:					4.71	
1992						
Personal	-1044	9492	-0.11	5770	0.03	85.6
ICC	6452	8527	0.76	5184	1.55	21.3
Financial	-6917	6405	-1.08	3894	3.16	7.6
PC	1012	823	1.23	500	4.09	4.3
CG	-294	829	-0.35	504	0.34	56.0
LA	-194	796	-0.24	484	0.16	68.9
Overseas	301	8086	0.04	4915	0.00	95.1
Total:					9.33	

THE RETAIL SALES INDEX AND ITS USE IN CONSUMERS' EXPENDITURE

Philip Gooding Central Statistical Office

Introduction

The monthly retail sales index is one of the key indicators of the progress of the economy and is a major focus of attention for retailers, economists and analysts. It is used directly by government as an early indicator of how the economy is performing. It is used indirectly to calculate quarterly consumer spending on retail goods and the output of the retail sector which feed into the compilation of the national accounts.

The index has been the subject of some criticism in the past. Much of this was unjustified but there were weaknesses in the monthly retail sales inquiry from which the index was derived. Major improvements have been made over the past two years. This article describes those improvements and further initiatives designed to improve the estimates of consumer spending based on the index.

Making the monthly retail sales inquiry statutory

For many years the official retail sales index was compiled from monthly figures returned by a voluntary panel of around 3,500 retailers. The inquiry was generally a reasonably sound indicator of trends in the total of retail sales but was occasionally subject to significant revisions in total when firmer annual information became available and was certainly deficient in the detail. Most large retailers contributed but a few major operators in particular areas did not, which weakened the index. Moreover, the reluctance of many small firms to contribute meant that it was difficult to ensure that the index gave an unbiased measure of the performance of the retail trade.

There was increasing concern that the voluntary inquiry did not give results that were sufficiently reliable for economic management. In November 1991, the Chancellor of the Exchequer announced a package of measures designed to improve the reliability of economic statistics. This included the decisions to make the retail sales inquiry compulsory and expand the size of the panel to 5,000 retailers.

The simplest approach in setting up the new inquiry would have been to include all of the existing volunteers in the compulsory sample. A good working relationship was in place with the voluntary panel and timely response was being achieved. This approach would not, however, have been fair nor would it have met one of the criticisms of the index that the voluntary contributors were in part self-selected and not necessarily representative of retailers as a whole. The new inquiry sample therefore was completely redesigned.

The 250,000 retailers in Great Britain were divided into 29 different types of retailer (such as butchers or jewellers) and then subdivided further into cells according to their size. The number of firms to be approached in each cell was chosen to ensure that the overall index was as reliable as possible given the overall sample size. This resulted in all large businesses being approached and a reducing fraction of smaller ones. The method of compilation of the index

ensures, however, that all types and sizes of retailer are given their proper weight in the calculations. This is achieved by allocating each cell a weight based on sales information from a larger, more detailed annual Retailing Inquiry¹.

The first forms for the improved inquiry were sent out to collect information for January 1992. They are simple to complete and ask only for a single figure of total retail turnover in a specified four or five week period close to the calendar month. Reporting for a whole number of weeks as opposed to a calendar month eases the burden for most businesses since it is usual to keep records on this basis. The approach also aids interpretation of the figures since they are independent, for example, of the number of Saturdays in a calendar month. The index is a measure of average sales per week within the four or five week periods so that comparison across time is not hindered by the different lengths of periods.

Response quickly built up to an adequate level and the official index was fully based on the new inquiry from April 1992. The voluntary panel was run in parallel for the first three months of 1992 so that a firm link could be made between the results of the old and new inquiries. The procedures used meant that the average estimate of sales in the first quarter was unchanged but improved measures of the not seasonally adjusted monthly movements in the quarter were constructed and published.

There is no longer a problem with major firms failing to respond. The inquiry is conducted under the Statistics of Trade Act 1947. Firms who do not respond could ultimately be liable to prosecution, although the Central Statistical Office only reluctantly takes this step.

Calculation of the retail sales index

The basic method of calculating the index is to use matched pairs of returns within each cell to project forward the estimate of sales. In other words, returned retail sales figures are compared with those supplied by the same businesses in the previous month to calculate the percentage change for the sample. This percentage is applied to the previous month's estimate of weekly retail sales for all retailers represented by the cell. The resulting estimates are aggregated to produce weekly sales estimates for individual types of retailer, for five broad kinds of business (such as food retailers, household goods retailers, etc) and for all retailers in total.

The resulting index shows the pattern of average weekly sales in current prices - that is, the actual value of "money through the till" - over time. However, for some purposes there is more interest in the pattern of sales with the effect of price changes removed. To convert from a current price to a constant price series, detailed components from the Retail Price Index are combined to produce a deflator for each of the 29 types of retailer reflecting the mix of commodities sold by each. These deflators are applied to the current price sales indices to produce constant price series.

¹ The annual Retailing Inquiry involves a sample of 12,000 depending on the year and collects, for example, sales information on individual commodities such as jewellery or footwear.

The indices produced are most useful in making comparisons with corresponding months in earlier years, but it is difficult to use them to compare different months. This is particularly important for retail sales which are more affected by seasonal variations than any other major economic series. It is therefore necessary to provide a valid method of comparison of, say, sales in the fourth quarter of a year with sales in the first quarter.

To permit this, seasonal adjustment routines are used to remove the normal monthly variations in sales which occur each year. For example, sales by clothing and footwear retailers in February are only about half those in December. The seasonal adjustment is based on the pattern of sales over a number of years and is calculated by a standard, widely used, procedure called X-11 developed by the United States Bureau of the Census. The seasonally adjusted series include, where possible, additional adjustments for the timing of holidays although there are particularly difficult problems in adjusting entirely satisfactorily for the effects of spending around Christmas. Seasonal adjustment takes no account of abnormal effects such as particularly cold or wet weather in a single month.

From February 1992, the seasonal adjustment routines have been rerun each month using a procedure known as "current updating"; previously the seasonal factors used to produce seasonally adjusted sales series were estimated only once or twice per year. The change in procedure means that the latest sales data contributes to the derivation of the seasonal pattern which is therefore more soundly based.

Publication of the index

The first estimate of retail sales for a given month is published about two-and-a-half weeks after the end of the period to which it relates. Since the beginning of 1992, the format and content of the publication have been improved twice. In January 1992, we began to provide earlier estimates of sales by the five broad kinds of business mentioned earlier; until then only total retail sales (in current and constant prices) had been published at the early stage.

More recently, in April this year, all Central Statistical Office press notices were changed into a uniform First Release format. While this improved the presentation of retail sales information generally, it also provided an opportunity to meet a British Retail Consortium request - to give a little more prominence to year-on-year percentage changes. This is the way in which most retailers themselves view the results. While this is a natural comparison for retail sales, the monthly changes compared with a year earlier need to be interpreted carefully. Differences in these changes from month to month reflect performance in the earlier year as much as in the current year.

The retail sales index is published earlier than most other monthly indicators within the UK and compares well on timeliness with corresponding index numbers published by other members of the European Community. Early publication is only sensible, however, if it can be achieved without major loss in quality. The early publication of the retail sales index is justified on this count: since the inquiry became compulsory, there appears to be no bias in the first estimate, and the average of the absolute revisions between first and final estimates is about 0.2 per cent, although response at first publication has sometimes fallen below the target rate. The revision is small in relation to the long-term month to month variability of the index (which approaches one per cent) and does not affect sensible interpretation of the movements of the index.

While the official retail sales index is a timely indicator, it is usually published a day or so after the results of the CBI Distributive Trades

Survey. The CBI Survey, because it is published so early, attracts media attention. It usefully covers a wider range of variables than retail sales. However, it is based on responses from around 300 retailers in comparison with the 3,000 or so responding to the RSI at the time of first publication. More importantly, it does not collect figures of sales but instead a qualitative judgement of whether the volume of sales is higher or lower than a year earlier.

Retail sales estimates used in consumers' expenditure

One of the main government uses for the retail sales index is in the calculation of estimates of consumer spending used in the national accounts. Consumers' expenditure figures are based on a number of different sources. These include household surveys such as the National Food Survey, and the Family Expenditure Survey which is mainly used for estimates of spending on services. Among other significant sources, HM Customs and Excise provide figures for quantities of alcohol and tobacco on which duty has been paid and the Department of Trade and Industry provide estimates of consumers' expenditure on energy. The retail sales index is used to produce estimates of spending on most retail goods other than food, drink and tobacco. Altogether, it forms the basis of some twenty per cent of total consumers' expenditure estimates.

The methodology used to produce the retail sales based consumers' expenditure figures is complex. The basic information on commodity sales is derived from the annual Retailing Inquiry mentioned earlier. This inquiry collects information on a number of variables including detailed commodity sales headings. The sales figures from the inquiry are adjusted in a number of ways to produce annual consumers' expenditure estimates. Adjustments include additions to cover expenditure in Northern Ireland and sales to consumers by wholesalers and manufacturers which are not fully covered in the inquiry. An estimate of sales by retailers to other businesses is subtracted.

While the Retailing Inquiry provides annual estimates of the sale of commodities, quarterly estimates are needed for the national accounts. The quarterly series is interpolated and extrapolated from the latest annual information using the monthly retail sales index.

One of the main problems in constructing the quarterly path is that consumer spending estimates relate to expenditure on various **products**, whereas the retail sales index is based on total retail sales by **different types of retailer**. For example, consumer spending figures are published for footwear but the monthly inquiry collects only total sales by footwear retailers. The monthly inquiry is designed to keep the form-filling burden on retailers to a minimum and so a breakdown of the total turnover by individual commodities is not requested.

The basic method used to produce the quarterly current price consumer spending series is to estimate movements in sales of individual commodities, such as footwear, by movements in the total sales of the relevant specialist type of retailer - in this example, footwear retailers. If sales by footwear shops increase by five per cent on the previous quarter, then a first estimate of consumer spending on shoes is that they have increased by five per cent. The success of the method for any particular category depends on the extent to which the sales are concentrated in specialist shops.

Many retailers, however, obviously sell a range of products. In particular, three types of retailer covered by the inquiry - mixed retailers (department stores and large multiples like Marks and Spencer), large grocers and general mail order houses - sell a wide variety of goods. To attempt to deal with any divergence in the

pattern of commodity sales through these businesses, their sales are projected separately. Within each of the three groups, for example, mixed businesses, commodity sales are projected using the monthly retail sales indices for the relevant specialist types of retailer, but the total of all the commodity series is constrained to the sales for mixed businesses as a whole.

Despite this attempt to overcome the problem of estimating spending when mixtures of commodities are sold by businesses, there is still the danger that the specialist types of retailer may not be good proxies for commodity sales by mixed retailers. Although total estimates of spending in any one period should be reasonable, there is the possibility that the method may not adapt quickly to changing patterns of product sales by mixed businesses. This could lead to errors in individual consumers' expenditure series.

Quarterly commodity inquiry

Concerns over the problems of commodity mix in the consumer spending estimates led to the recommendation that a new quarterly retail commodity inquiry be included in the package of measures announced by the Chancellor in November 1991. Two problems associated with this proposal were that it would result in an increased burden on retailers and that some small businesses would not necessarily have the information available. To keep these problems to a minimum, information has been collected for just the nine broad headings described below compared to the roughly 40 headings in the standard annual Retailing Inquiry. In addition, it has been collected only from the limited number (around 130) of large retailers where the mix of products sold and the size of the business is a significant problem for the estimation methods.

1. Food
2. Clothing and footwear
3. Furniture and floor coverings
4. "White goods", for example, refrigerators and washing machines
5. "Brown goods", for example, televisions and audio systems
6. Other household goods, for example, household textiles and do-it-yourself supplies
7. Toiletries and medication
8. Stationery, photographic goods, toys and games, sports goods and jewellery
9. Alcoholic drink, tobacco and all other retail goods and services

Before introducing the inquiry, discussions were held both with users and providers of the data to decide the exact product headings to use. Selection of the businesses to approach was based on analyses of the forms returned to the annual Retailing Inquiry. The size of the business and the mix of products sold were the criteria used in determining the sample.

The inquiry has been operating since the second quarter of 1992 and a full year of data has recently become available. This has allowed investigations into the reliability of the results. First, the total figures for the four quarter period have been compared with the latest annual figures available. The correlation has been encouraging and has suggested that the inquiry is producing sound estimates.

Second, the pattern of sales throughout the year has been matched with the existing estimates of consumer spending from the mixed commodity businesses. The results provide firm figures to measure expected seasonal patterns. For example, sales of "brown" goods -

televisions, videos and audio systems - have been projected using the same indicator as "white" goods - refrigerators, washing machines and so on. This resulted in both series having largely the same seasonal path. The results of the quarterly inquiry confirm that sales of brown goods have a larger peak in the fourth quarter as a result of Christmas sales and that, conversely, sales of white goods have a smaller peak.

Although the inquiry estimates have to date been used as a check on consumers' expenditure series, work is now being undertaken to incorporate the results fully in the methodology used to convert retail sales indices into the corresponding series required for consumers' expenditure.

Monthly commodity inquiry

Many users of the monthly retail sales index do not want information on total sales by, say, food retailers but rather figures of sales of food. This is particularly true of retailers themselves. To collect such commodity detail each month from the 5,000 contributors would increase the form-filling burden to an unacceptable level and delay the publication of the index.

Instead we have begun to collect monthly data for a five-way commodity split from around 45 of the largest retailers who sell a mix of commodities. The five commodity groups are: food; clothing and footwear; household goods; confectionery, drink and tobacco; and other non-food goods.

This information will permit an alternative presentation of the results of the monthly retail sales inquiry which will give a closer approximation to sales of commodities than the present figures. For example, without collecting the commodity breakdown, the current index for food retailers accounts for around 90 per cent of food sales. By collecting the commodity breakdown from the 45 retailers, over 95 per cent of food sales will be included in a new measure. The position for other broad commodity headings is much more significant. For example, the sales of clothing and footwear accounted for by the current category of clothing and footwear retailers, would increase from about 60 per cent to probably around 97 per cent in the new measure, if the breakdown is obtained from all 45 large retailers. These new measures will provide good approximations to the path of sales of broad commodity groups without the necessity to approach smaller retailers for a disaggregation of their total sales.

When planning the inquiry, future contributors were contacted about the availability of the data. Response suggested that figures could generally be supplied and the first forms were despatched in January this year.

To date, retailers have had more difficulty than anticipated in providing the information, particularly for historical periods requested on a voluntary basis, which would have enabled us to produce inquiry results more quickly. The present position is that we are aiming to publish some results of the enhanced inquiry early next year soon after thirteen months of data are available.

The monthly commodity figures also, of course, have a potential use for consumers' expenditure. While the quarterly retail commodity inquiry provides a more detailed breakdown, results are not available until after the first estimates of consumers' expenditure are produced. Once established, monthly commodity inquiry figures could be used as an early indicator in producing the first consumers' expenditure estimates each quarter.

Further developments

The move to a statutory monthly inquiry outlined earlier has improved the first estimates of sales by detailed types of retailer to the extent that they may be publishable. Estimates are currently available some seven weeks after the end of the month in Business Monitor SDM28. The hope is that some of this detail could be released after around three weeks at the same time as the more aggregated figures in the First Release.

One further technical development is to be investigated. As explained earlier, the monthly index is essentially derived by projecting forward the results of a recent annual inquiry (presently the inquiry for 1990). This procedure leads to the possibility of late revisions when further annual data become available. We plan to investigate alternative estimation procedures which will gross the results of the monthly inquiry directly to the known (but changing) population of retailers represented on the CSO's register of businesses. If this procedure proves technically satisfactory it will provide good quality estimates of total retail sales which should be less subject to longer term revisions than at present.

The developments described in this article have already improved and will further improve the quality of short term retail statistics. However, even compulsory inquiries require the co-operation of their contributors, in particular, if timely estimates are to be available. Thanks are due to the inquiry contributors without whom the improvements described above could not be made.

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INHERITANCE OF HOUSE PROPERTY

Margaret Frosztega and Alan Holmans, Department of the Environment

The increase in owner occupation in the 1980's and the concurrent rise in house prices led to much increased interest in the place of owner occupied house property in the British economy. The changes were perceived as having produced a major shift in the distribution of personal wealth, with far-reaching implications. With nearly two-thirds of households owner-occupiers, a high proportion of men and women would on death leave very substantial estates. Heirs would stand to inherit large sums of cash or houses that could be sold for cash. As this happened, the ownership of financial assets would alter, with large numbers of households acquiring through inheritance financial assets that they would have been unlikely to have been able to acquire in other ways. The growth of owner occupation would in time have a powerful secondary effect on ownership of other kinds of assets.

Such widely distributed increases in holdings of financial assets could have important economic and social effects. Possession of financial assets confers spending power that is independent of the terms and conditions on which money can be borrowed. How this spending power might be used is significant in many contexts, not least as a potential source of finance for house purchase or for spending on home improvements.

The Department of the Environment undertook a study of the magnitude and likely effects of transmission by inheritance of wealth accumulated through home ownership. Information was required both about inheritance and about the structure of asset ownership. For information about the distribution of ownership of house property and financial assets reliance was placed on sources of information already in being, notably the Inland Revenue wealth estimates derived from information about estates, and survey information about ownership of dwellings and income from interest and dividends. To obtain information about inheritances, the Department of Environment commissioned a survey of inheritances, with particular reference to house property. To draw a sample of inheritors, the only practicable procedure was to use a sample of the whole population. A short supplement was added to the General Household Survey (GHS) which is carried out by the Office of Population Censuses and Surveys (OPCS). Questions were added to the GHS in two years, 1989/90(1) and 1990/91(2). An advantage of using the GHS was the large amount of other information collected which would be relevant, high response rates and interviews with all adult household members. The last was particularly important for surveying inheritances. Using a general survey also enables comparisons of the characteristics of those who have received inheritances and those who have not. The GHS is however a survey of households and does not include residents in institutions. This was not thought to be a major problem since only at very high ages are residents of institutions more than a small fraction of the total population. At these ages, very few people were thought likely to receive inheritances. The survey applied to Great Britain, as Northern Ireland is not included in GHS.

The survey of inheritances was designed to estimate the number of inheritance above a threshold of £1,000, excluding inheritances by a surviving spouse. Inheritances by surviving spouses were outside the scope of the study because when one partner of an owner

occupier married couple dies, his or her interest in the house almost invariably passes to the survivor, as do a high proportion of other assets. In the vast majority of instances the widowed survivor continues to live in the former matrimonial home. No house property changes hands and no funds are released for transmission to heirs. Respondents were asked to give details of inheritances received since the beginning of 1978. Questions were asked about the composition of their inheritance, the value of the inheritance, the year received, whom they inherited from, their tenure when they inherited and the main use they made of the moneys received. For those who inherited a whole or share in a dwelling, additional questions were asked about the value of the dwelling, whether they were already resident in the dwelling, whether the dwelling was vacant or rented out, and the use made, if any of the dwelling. If the dwelling had been sold, the use made of the proceeds of the sale was collected.

The remainder of this article discusses a few of the findings of the survey of inheritance. A report, entitled 'House Property and Inheritance in the United Kingdom', will be published shortly by the Department of the Environment. The report describes the ownership of house property and of financial assets over the recent past to provide a base line with which to compare future changes that might be brought about by inheritance. It describes the findings of the survey, and their implications for the future. It also discusses in detail the comparisons made with other sources of information to assess whether the survey under-stated inheritances received. Such comparisons were important owing to experience suggesting that the results of interview surveys on financial subjects were particularly likely to be under-stated. The comparisons are complex and not definitive. Broad figures are given in this article for the number of inheritances above £1,000 excluding inheritances by surviving spouses, and of the amount. But for the most part the results are presented as percentage distributions.

Amounts Inherited and Numbers of Inheritances

From the survey itself and from Inland Revenue information about estates passing on death, the total amount inherited by individuals, net of taxes and expenses, in 1989-90 is estimated at about £11.3 billion a year, and the number of inheritances of more than £1,000 at about 600,000 a year. Of the £11.3 billion total, about £4.9 billion consisted of dwellings, shares in dwellings, and money from executors' sales of dwellings. This figure does not include the financial assets of men and women who sold their homes before going to live with relatives or in residential care or nursing homes. The number of ex-owner occupiers of this kind can be derived in an approximate way from the estimates of deaths of owner occupiers. It is estimated that in the late 80's about 25,000 owner occupier households dissolved in this way each year. The value of their dwellings at 1988 prices would be about £1.3 billion. The amount of inheritance in subsequent years that derived from this source would be substantially less as some of the proceeds of the sale would have been spent. Assuming about half remains at death, say £0.6 billion, this suggests that about £5.5 billion is derived from house property, approximately half of the total amount transferred through inheritance in the late 80's. Estimates were also made for the early 1980's.

Table 1. Estimates of amounts inherited annually by individuals United Kingdom

	Inheritances of dwellings (a)	Other inheritances (b) (£ billion)	Total
Early 80's	1.8	2.8	4.6
1989-1990	4.9	6.4	11.3

Note: (a) Includes money from executors' sales of dwellings
(b) Includes money originating from dwellings sold before moving to residential care, etc.

Inheritances of dwellings (and money from them) increased faster than did inheritances of other assets, but did not predominate. An estimate of £11.3 billion as the total value of inheritances, excluding inheritances by surviving spouses, is not large in relation to the total marketable wealth of individuals, some £1,290 billion in 1988 (3), excluding life policies and consumers' durable goods. That the amounts inherited are less than 1 per cent of marketable wealth of individuals is significant for the rate at which inheritance can modify the distribution of wealth.

Composition and Size of Inheritances

Five types of property were distinguished:

- (a) whole dwelling;
- (b) share in dwelling;
- (c) money from an executor's sale of a dwelling;
- (d) other money, shares etc; and
- (e) anything else.

This sequence was taken as an order of priority, and an inheritance that comprised more than one type was classified to the highest ranking type. 76 per cent of inheritances consisted of one type of property only. Table 2 shows the content of inheritances.

Of the 2,511 inheritances identified by the survey, 226 were of a whole dwelling and 228 were of a share in a dwelling. Only 4 included a share in a dwelling as well as a whole dwelling and 19 included money from an executors' sale as well as a whole dwelling or share in a dwelling. There is no significant problem therefore in aggregating the number of inheritances of whole dwellings, share in dwellings and the proceeds of executors' sales under the heading of 'house property'.

The distribution of the amounts inherited was very highly skewed. At 1990 prices, 61 per cent of inheritances with a stated value were less than £10,000 in value, indeed 44 per cent were less than £5,000. At the other extreme, 3 per cent were more £100,000. Only 5 respondents reported inheritances of half a million pounds or more, at 1990 prices. Few of the inheritances that contained either the whole dwelling or part of a dwelling were valued less than £10,000, whereas half of inheritances deriving from an executor's sale were so valued and three quarters of inheritances containing money or shares. This contrast between the size of inheritances of the whole or part of a dwelling and inheritances of the proceeds of an executor's sale is no doubt due to the latter being divided among more beneficiaries.

Table 2. First Type of Property received by Second Type of Property Received

First type of property received	Second type of property received					Total
	No second type	Share in dwelling	Money from executors	Other money, shares sale of dwelling	Any- thing else	
Whole dwelling	91	4	11	102	18	226
Share in dwelling	111		8	96	13	228
Money from executor's sale	429			163	42	634
Other money, share	1197				152	1349
Anything else	74					74
Total	1902	4	19	361	225	2511

Table 3. Value of Inheritances at 1990 Prices by the First Type of Property

Value at 1990 prices	First type of property received					
	Dwell-ing	Share in dwell-ing	Money from executors sale	Other money, shares	Any-thing else	All inheri-tance
	(Percentage)					
£1,000-£4,999	0	6	31	59	76	44
£5,000-£9,999	4	2	22	18	14	17
£10,000-£19,999	10	22	22	12	4	15
£20,000-£49,999	38	49	10	8	4	16
£50,000-£99,999	31	15	4	2	1	5
£100,000 or more	18	6	2	1	0	3
Total	100	100	100	100	100	100
Sample size	177	174	617	1332	70	2370
Mean Value	£68,974	£38,155	£16,878	£10,363	£5,152	£18,323

Who Inherits: Age and Relationship

The effects of inheritance of house property and of financial assets will depend on the whether inheritors tend to be young at inheritance and at the beginning of their housing careers or whether they are older and already well established in their housing. The survey shows that over half of inheritances were from parents and almost 70 per cent from relatives of the parents' generation. Only 15 per cent were from the grand parents' generation. The median age at inheritance was 47. With 75 per cent of those inheriting from parents being over 38 years old at the time of inheritance and 90 per cent being over 30, most inheritances by sons and daughters from parents go to men and women already well established in their housing careers.

The mean amount inherited showed considerable variation according to the relationship. These are shown in Table 5 along with the percentage distribution of the amounts inherited. By value two-thirds of all inheritances passed from parents to children. In all four-fifths passed to the next generation. Less than one tenth skipped a generation. Since the information collected in the survey was about inheritances not estates, there is no way of knowing how far generation-skipping occurred where there was no surviving intermediate generation, or alternatively how many testators with large estates made legacies to grandchildren as well as to their children.

Table 4. Age at Inheritance by Relationship

Whom in-herited from	Age at Inheritance						Total
	Under 18	18-29	30-44	45-59	60 or over	Un-known	
	(Percentages)						
Grandp. Great Uncle or Aunt	71	55	13	2	1	10	15
Parent	20	29	62	67	38	59	53
Aunt/Uncle	1	9	17	18	18	15	16
Brother/sister	1	1	0	2	22	7	5
Other relative	4	3	4	6	11	2	6
Unrelated	3	4	4	5	11	5	6
Total	100	100	100	100	100	100	100
Sample size (=100%)	108	372	678	872	400	41	2511
(Distribution)(*)	(4.4)	(15.1)	(27.4)	(35.3)	(18.8)		(100.0)

Note: (*) Percentages calculated from total excluding not stated.

Table 5. Amounts Inherited According to Relationship

	Mean amount (£, 1990 prices)	Proportion of total inherited (percent)	Amount inherited 1989 (£ billion)
Grandparents, great	10,714	9	1.1
Parents	23,780	67	7.5
Aunts and uncles	13,824	12	1.4
Brothers and sisters	19,793	5	0.6
Other relatives	9,859	3	0.4
Unrelated	10,901	3	0.4
Total	18,323	100	11.3

As would be expected from the association between age and relationship, and size of inheritance and relationship, the inheritances received by younger inheritors were on average smaller. The average amount received by inheritors aged under 30 was only three-fifths as great as that received by those aged 30 and over at the time they inherited. About 65 per cent of the inheritances received at ages under 30 were less than £5,000. Only to a very limited extent, on this evidence, could inheritances received by men and women at the beginning of their housing careers make a significant difference to the housing choices open to them.

The higher average value of inheritance received from parents was due mainly to the type of property inherited. Table 3 above shows how the average size of inheritances varies according to composition. Table 6 shows the type of property inherited according to relationship.

The distribution of inheritances by the inheritors' age and type of property is shown in Table 7.

Table 6. Whom inherited from by First type of Property Received

	First type of property received					
	Whole dwell.	Share of Dwel- -ling	Money from exec. sale	Other money, shares	Any- thing else	All types of Property
	(Percentage)					
Grandp. Great Uncle or Aunt	4	9	14	19	22	15
Parent	73	77	49	46	53	53
Aunt/Uncle	10	5	20	17	10	16
Brother/Sister	8	3	5	5	0	5
Other	3	3	7	6	5	6
Unrelated	2	3	5	7	10	6
Total	100	100	100	100	100	100
Sample size (=100)	226	228	634	1349	74	2511
						Sample size (=100%)
Grandp. Great Aunt or Uncle	2	5	24	65	4	387
Parent	13	13	24	47	3	1318
Aunt/Uncle	6	3	32	58	2	394
Brother/sister	15	5	23	57	0	128
Other relative	5	4	32	60	3	143
Unrelated	4	5	21	66	5	140
Total	9	9	25	54	3	2511

Table 7. First type of Property Received by Age at Inheritance

First type of property	Age at inheritance					
	Under 18	18-29	30-44	45-59	60 plus	All ages
	(Percentage)					
Dwelling	1	2	9	12	11	9
Share of Dwelling	8	7	10	11	5	9
Money from exec. sale	19	22	27	26	25	25
Other money	67	63	50	49	59	54
Anything else	6	6	4	2	1	3
Total	100	100	100	100	100	100
Sample size(=100%)	108	372	678	872	440	2511

The evidence of the survey confirms that what may be termed the three generation model of inheritance of house property predominates. In this model there is an 'old' generation, from which come last-time sales of dwellings on death. Their sons and daughters comprise the 'middle' generation and their grandchildren the 'young' generation. In a system where inheritances pass to the next generation and the median age at death of widows and widowers is over 80, wealth is transferred to a generation already well established in their housing. They can sell the houses bequeathed to them and invest or spend the proceeds as they wish. The houses are purchased by the 'young' generation which finances its purchases primarily with borrowed money. So the proceeds of last time sales which pass to the 'middle' generation and increase its holding of financial assets come from the debt-financed purchases of the 'young' generation. This finding is extremely important for the effects of inheritance on the distribution of wealth.

Circumstances of inheritors: Income and Financial Assets

The effects of inheritance depend not only on the circumstances of inheritors, but whether they differ from the whole population. Of particular interest here are income and asset ownership. Were inheritances received primarily by people with higher than average incomes and substantial holdings of financial assets or were inheritances more widely distributed? The distribution in the 1980's will not necessarily be followed in subsequent decades when ageing of owner-occupiers increases the proportion of estates that include house property. Indeed, one of the central elements of the 'nation of inheritors' hypothesis is that, thanks to house purchase by the older generation, sums that have never been available before now will be inherited by people of modest means. The distribution of inheritances in the 1980's was studied from the survey to provide a base-line. The changes in prospect in the future are discussed in the report, but are too complex a subject to summarise here.

Table 8. Total Incomes (Gross) and Investment Income of Inheritors and Whole Population

Great Britain 1989-91

	(percentages)		
	Inheritors	Whole population	Inheritors Ratio
Gross income			
Under £5,000	32	47	68
£5,000-£9,999	22	23	94
£10,000-£14,999	20	15	134
£15,000-£19,999	11	8	138
£20,000-£29,999	10	5	204
£30,000 or more	5	2	233
Total	100	100	100
Investment incomes			
Nil	13	39	34
Positive, less than £1,000	54	51	106
£1,000-£4,999	24	8	305
£5,000-£4,999	6	1	438
£10,000 or over	3	1	371
Total	100	100	100

Income, and separately investment income as a proxy for financial assets, could only be ascertained as at the date of interview. Income at the time of inheritance could well have been different, in real terms as well as money terms. Clearly there is a risk of bias through income in total, and investment income specifically, being augmented by the proceeds of investing the inheritance. The information in the survey about the size of inheritance, shows however that only in a few instances could income from investing the inheritance substantially affect the inheritor's investment income and income in total. The distribution of total income of inheritors and of the whole GHS sample are compared in Table 8. That inheritances went disproportionately to people in the higher ranges of income is evident. The skewed distribution is even more pronounced in terms of investment income.

The low proportion of inheritors with no investment income at all can be explained by many of them investing their inheritance. That the proportion of inheritors with an investment income of £5,000 a year or more is four times as great as in the whole population, however, can only be explained by inheritances being received disproportionately by people who already have substantial financial assets. Such people are, however, few in proportion to the whole population. That two thirds of inheritances went to people with investment incomes of less than £1,000 a year merits note.

Inheritances of house property

Inheritances of dwellings, either whole dwellings or shares in dwellings are different from inheritances of money from an executor's sale or money from other sources. Inheritors of unoccupied dwellings have the choice of selling, renting out the dwelling, or of living there themselves. Some inheritors already live in the dwelling inherited, the resident inheritors, whilst some become landlords through inheritance as the dwelling is already let. There is interest in how many chose to rent the dwelling out, for there is here a potential source of additions to the stock of rented dwellings.

In the sample there were 454 inheritances of 485 dwellings. In Table 9 the dwelling is the counting unit. A person who inherits more than one dwelling is counted more than once. The table shows the numbers of dwellings in the survey vacant at inheritance, let to a sitting tenant and with resident inheritor.

Resident inheritors are often thought of in terms of a middle aged spinster who lives with her parents and ultimately inherits when the widowed parent dies. Some resident inheritors included in the survey did fit this description, but they were only 30 per cent of all resident inheritors. 44 per cent were men and the remainder young women or inheritors from someone other than a parent.

At interview 61 per cent were still resident at the property, and a further 4 per cent had moved elsewhere but still owned the dwelling. The remainder had sold. Little over one fifth had sold the property within two years of inheriting, and hardly any had let the property. However in terms of the effect that bequests of house property have on the housing market, dwellings inherited by someone already resident must be treated differently to dwellings which are vacant or have a sitting tenant at inheritance. The inheritor may indeed sell but the move is of the same type as moves by any owner occupier.

More than half of inherited dwellings were vacant at inheritance, and 80 per cent were sold within two years. A few inheritors (6 per cent) went to live in the property, but of these more than half were already owner occupiers so they were able to sell their previous dwelling and encash the inheritance in that way. Of the 29 tenants who inherited a vacant dwelling, one fifth went to live there. The small sample numbers show that this is an infrequent route from renting to owner occupation.

Of the 276 dwellings vacant at inheritance, 31 (11 per cent) had been rented out since inheritance, but at the date of interview, 13 were no longer let and of these 12 had been sold. In a third of rentings, the person allowed to live at the inherited property was a relative. It appears that few inheritors of vacant property took the opportunity to become private landlords. However a larger proportion of vacant properties inherited since 1986 had been rented out than in previous periods. This change may have been due to the depressed housing market but numbers are too small to be conclusive. In general, inheritors of vacant dwellings sold them as quickly as they could.

Inheritors of dwellings which were already rented out were landlords from necessity not choice. The proportion of tenanted dwellings sold within a year of inheritance was only half the proportion of vacant dwellings sold within a year. Tenanted dwellings are more difficult to sell and indeed some inheritors may have chosen to wait

Table 9. Type of inherited dwelling by whether still owned

	Total	Still Owned	Sold in year inherited	Sold in Next two years	Sold there after
Numbers of dwellings					
Resident inheritor	92	60	15	9	7
Vacant	276	66	156	37	9
With sitting tenant	107	52	30	12	11
Percentages					
Resident inheritor	100	65	16	10	8
Vacant	100	24	57	13	3
With sitting tenant	100	49	28	11	10

for the tenant to leave so that the dwelling could be sold vacant. In the long run, however, three fifths of dwellings inherited with a sitting tenant were sold.

For inheritors of dwellings to have the same freedom of action as inheritors of other types of asset about the use of their inheritance, a dwelling must be sold. The higher the proportion of dwellings sold the more closely will inheritances of dwellings resemble inheritances of other assets. The analysis shows that with varying lags, most dwellings that were vacant were sold as were three fifths of those with sitting tenants. With not very large exceptions, therefore, house property can be considered like other inherited assets when discussing the effects of inheritance.

Uses of inheritances

The effects of inheritances on the structure of asset ownership and the distribution of wealth depend on the uses to which inheritances are put, as well as on the number of inheritors and the amounts they receive. The survey collected information about the uses made of any money inherited and where a dwelling had been sold, the uses made of the proceeds. Respondents were asked to identify their main use if more than one was given.

The commonest use was to invest or save the inheritance, irrespective of when the inheritance was received. In just under a quarter of instances, the main use was for housing purposes. What individuals do with their inheritance is likely to depend in part on the amounts involved. Table 10 shows the percentage distribution of the uses of inheritance for different amounts inherited. The values are uprated to 1990 prices. Where more than one use was given, the main use is tabulated.

The split between saving and spending was 4:3 for small inheritances but for the largest inheritances was 6:1. This is not altogether surprising as for the larger inheritances the options are greater. A quarter of inheritors of small amounts used the money for housing purposes, primarily home improvements. By contrast 28 per cent of inheritances of large amounts over £20,000 were used for housing purposes but were twice as likely to be used to buy a house than for improving the present home.

As would be expected, using the inheritance to buy a house or flat was commonest at the younger ages. From age 30, improving property was more common than purchase. The proportion of inheritances where the main use was housing related declined with age above 45. At these ages, saving or investing was much more common. The use of inheritance are clearly related to the stages in the housing careers of inheritors. Table 11 underlines this by comparing the uses of inheritance for owner occupiers and for others. The amounts used for housing are very similar. Owner occupiers are, however, more likely to save or invest than to spend their inheritance.

To analyze the uses made of inheritance in value terms, regard must be had to subsidiary uses as well as to the main use. Almost a third of respondents gave more than one use. 'Spend on something else' and 'Improve own house' were proportionally more common as subsidiary uses than as main uses. 'Buy a house or flat' and 'Save or invest' proportionately less. Where more than one use was given respondents were not asked about the money amounts for each use because too few were thought likely to be able to give a figure. However an estimated distribution of the values is presented in the report. The assumptions taken are a division of those inheritances with more than one use in proportions 55:45 between the main use

Table 10. Use of inheritance by value of inheritance Value of inheritance at 1990 prices

	Values of inheritance at 1990 prices					Mean (£)
	Less than £5,000	£5,000 - £9,999	£10,000- £19,999	£20,000 or more	All values inc. unknown	
	Percentages					
Paying off mortgage	1	2	4	2	2	16,808
Buying house or flat	4	6	9	15	8	31,005
Helping others Buy or improve	1	3	3	3	2	15,687
Improving own house	19	16	14	9	15	11,833
Investing or saving	41	51	56	59	48	18,796
Spent on something	30	22	14	10	21	9,322
Did not spend	5	2	2	1	3	7,267
Unknown	1	-	-	-	1	5958
Total	100	100	100	100	100	
Sample total excl inheritances with unsold dwellings (= 100%)	1,039	400	335	467	,337	16,090
No of Inheritances with unsold dwelling	3	4	14	108	174	57,107

Table 11. Main Uses by Tenure at Time of Inheritance:

	(Percentages)	
	Owner-Occupiers	Others
Pay off existing mortgage	2	-
Buy house or flat	3	19
Helping others to buy or improve	2	1
Improve own accommodation	19	7
(Housing: Sub-total)	(27)	(27)
Invested or saved	53	39
Spent on Something else	19	28
Did not spend	2	5
Total incl. unknown	100	100

and the second use; and a division in proportions 75:25. The results are given in Table 12, together with the distribution of amounts as indicated by the main use.

In the event the assumption about the split between main and secondary use of inheritance where more than one use was mentioned makes little difference, apart from offsetting differences in the proportions used for house purchase and for improving. There is also a shift from saving or investing to spending. The division between amounts used for housing consumer expenditure and saved or invested remains unchanged. The total value of inheritances at the end of the 1980's is put at about £10.8 billion annually excluding unsold rented property and dwellings still the inheritor's main home. Table 12 implies that about £3 billion was used for housing purposes; £1.5 billion was spent on consumer goods and services; and £6 billion saved or invested.

The estimated number of inheritances used for housing purposes are shown in Table 13. The category termed 'helping other buy or improve' refers mainly to helping other buy. Information was not

collected on who they were, but the age analysis is consistent with parents assisting sons or daughters, as three quarters of those giving this use were aged 45 and over. If this is true, the significant point is that at around 20,000 a year, such instances are not enough to qualify the three generational model described in paragraph 15. In the main, the 'middle' generation does not use its inheritances to help the 'young' to buy houses.

Table 13. Uses of Inheritances of Housing Purposes

	Main	Subsidiary (thousands)	Total
Pay off existing mortgage	11	6	17
Buy house or flat	45	5	50
Help others to buy or improve	12	10	22
Improve own accommodation	90	53	143

The inheritors who used their inheritance to buy or help to buy a house or flat for themselves were either trading up or buying for the first time. Of the estimated 50,000 who used their inheritance to buy property, 30,000 were thought to be first time buyers. That is equal to about 7 per cent of the number of first time buyers (excluding Right to Buy purchasers) in a normal year. Adding the purchasers that were assisted by parents and others from inheritances brings the proportion to about 10 per cent. Only to a very limited extent does the first time purchase segment of the market depend on inheritance.

Inheritances are even less important as sources of finance for trading up to more expensive housing. Including resident inheritors buying a fresh house, the number of such purchases is estimated to be at 15-20,000 a year. This amounts to only 2-3 per cent of all purchases by moving owner occupiers and 4 per cent of trading up. Many more owner occupiers use money they inherit to finance improvements to their homes. Out of a total of 570,000 inheritances (other than unsold dwellings) about 140,000 were used in whole or part to finance improvements.

Table 12. Distribution of Amount Inherited Between Uses

	Amounts				
	Estimated from Main Uses only	Main and Secondary 55/45	Main and Secondary 75/25	Main and Secondary 55/45	Main and Secondary 75/25
		(Percentages)		(£b)	(£b)
Pay off existing mortgage	2	2	2	0.2	0.2
Buy house for self	15	13	14	1.4	1.5
Help other to buy or improve	2	3	2	0.3	0.2
Improve own accommodation	11	13	12	1.4	1.3
Invested or saved	57	54	55	5.8	5.9
Spent on something else	12	4	13	1.5	1.4
Did not spend	1	2	2	0.2	0.2
Total inc unknown	100	100	100	10.8	10.8

The long term effects.

The report (to be published shortly by the Department of the Environment) uses the findings of the survey, estimates of the distribution of owner-occupied house property, and projected further deaths of non-married men and women to forecast the growth between 1991 and 2011 in inheritances of house property, and its effect on the distribution of financial wealth. The number of deaths of non-married (i.e. single, widowed, and divorced) men and women aged 45 and over is projected to increase by about 9 per cent, and the number of deaths of non-married owner-occupiers by between 45 and 50 per cent. A further increase is in prospect beyond 2011. In 1991 the five year age range where the proportion of owner-occupiers was highest was 45-49. Not until 2026 will this group reach the present median age at death of widows and widowers.

With use of the survey information about the size of inheritances and the uses to which they are put, the extent to which the growth of inheritances of house property will alter the distribution of financial wealth can be estimated. Future house values necessarily introduce uncertainty, but about average amounts, not the number of inheritances. The conclusion reached is that the effect of inheritance on the distribution of ownership of financial wealth in the two decades to 2011 will be far from negligible, but will not amount to

a transformation. Substantial holdings of financial assets will still be the prerogative of a minority of households, even though a larger minority than now.

An important reason is that bequest and inheritance are inherently a very gradual process, and inheritances are shown by the survey to go disproportionately to households with substantial assets already (see Table 6). As mentioned earlier in this article, the total amount inherited in any one year is less than 1 per cent of the total marketable wealth belonging to households. The same point can be made by looking at the number of men and women who receive inheritances in a year. The total number was put at 600,000, which is only 1.3 per cent of the adult population. Even allowing for the expected increase in the number of inheritances, this low proportion receiving inheritances indicates a gradual effect on the distribution of assets and wealth.

References

- (1) Office of Population Censuses and Surveys, *General Household Survey 1990*, HMSO 1992
- (2) Office of Population Censuses and Surveys, *General Household Survey 1991*, HMSO 1993
- (3) *Inland Revenue Statistics 1992*, Table 11.2

A SURVEY OF EXPENDITURE IN RESIDENTIAL AND NURSING HOMES

By Richard Clare and Paul West - Central Statistical Office

As part of a package of measures to improve the quality of the UK National Accounts, announced by the Chancellor in November 1991, the Central Statistical Office (CSO) commissioned a UK survey of expenditure by people living in residential and nursing homes. The survey, funded by EUROSTAT, was carried out by Gallup, who completed the fieldwork in June 1993. The results have provided a much firmer basis for estimates of expenditure in residential and nursing homes. This article explains the background to the project, describes how the survey was carried out, some of the problems encountered, and summarises the results.

BACKGROUND

One of the most important data sources used by the CSO for estimating consumers' expenditure is the Family Expenditure Survey (FES). This survey, however, covers only households, and people living in communal establishments are not included. There are a number of different categories of communal establishment, but residential and nursing homes constitute the most important in terms of consumers' expenditure. As the main results of the Gallup survey show (Table 6), the annual expenditure of those living in such homes exceeded £5 billion in 1992.

In the past, estimates of total fee expenditure were based on the average fees per resident derived from Department of Social Security payments of income support (enhanced to allow for other state benefits), multiplied by an estimate of the population in such homes, obtained from the Department of Health. For several reasons, however, this methodology was insufficiently robust.

Residents have other expenditure in addition to fees; much of this is already covered in consumers' expenditure, for example through data sources such as the Retailing Inquiry, which embraces expenditure by those living in households or communal establishments. Non-fee expenditure is not covered, however, where use is made only of household data sources. This is the case for most services for which the FES is the main source, and for food, where estimates of consumers' expenditure are based on the National Food Survey (NFS).

Previously, this residual non-fee expenditure was allowed for by grossing up the FES and NFS results of household expenditure to the total population, including communal establishments. This methodology was not satisfactory, because people living in communal establishments often have different expenditure patterns from those living in households. It was therefore decided that the survey should cover certain non-fee expenditure, in addition to fees.

SCOPE OF THE PROJECT

The coverage of the survey required careful consideration. Expenditure by local authorities and by district health authorities in support of the fees of people receiving residential and nursing care is already included in the National Accounts as final expenditure by

government. To avoid double-counting it was therefore necessary to exclude the following two categories of expenditure:

- a) All fee expenditure in local authority homes and NHS establishments. The survey was therefore limited to homes in the private and voluntary sectors.
- b) Any sponsorship of residents' fees by local authorities and district health authorities for people living in residential and nursing homes, in the private and voluntary sectors.

Day residents were excluded, as were holiday homes, since most such residents would normally be living within households; their expenditure would therefore usually be covered by the FES.

The survey covered the whole of the UK.

THE FEASIBILITY STUDY

Before inviting tenders for the survey, the CSO commissioned the Office for Population Censuses and Surveys (OPCS) to conduct a small feasibility study; in October 1992, OPCS completed interviews at 25 homes. The aims of this study were:

- a) To test the wording of the various questions, and to find out which types of information would be more easily collected from officials in the home, and which from the residents (bearing in mind the frail condition of many residents). In particular, it was essential to determine whether the fees of individual residents were readily available.
- b) To gauge whether the level of response was likely to be acceptable.
- c) To establish whether it was feasible to ask residents to keep a diary of non-fee expenditure, or whether a schedule of questions involving retrospective recall would be a more workable method. The study also explored the extent to which officials in the home had knowledge of the residents' non-fee expenditure.

The feasibility study found that fee information could be collected from officials at the homes with little difficulty. The response rate from homes exceeded 70%. The diary method of collecting expenditure on items other than fees was found not to be practicable, but it did prove possible to collect this information, sometimes from residents, and sometimes from staff, using a schedule of questions with retrospective recall.

THE TENDER PROCEDURE

Invitations were sent out to seven organisations in the public and private sectors, who were thought to have appropriate experience in this or related areas of work. Following interviews with a shortlist of three, Gallup were selected to conduct the survey.

THE DATABASE

The first requirement was for a reliable and up to date listing of all residential and nursing homes in the private and voluntary sectors. Ideally, the frame would also need to contain information to stratify the sample. Such a listing is produced by Laing and Buisson, a firm of research consultants in the health care field. The CSO acquired a computer database version of their published directory. This proved to be a suitable and reliable sampling frame. In addition to the name and address, the database also identified the type of owner, the level of care offered, and the number of places available (capacity) in each home. Chart 1 illustrates the database distribution of homes and of places available, by type of owner and level of care; Table 1 shows the regional distribution of homes and of available places.

THE SAMPLE DESIGN

On the basis of the results of the OPCS feasibility study, it was decided to seek fee data from four residents in each of 500 homes, giving a sample of 2000 residents in total. The sample was then stratified according to:

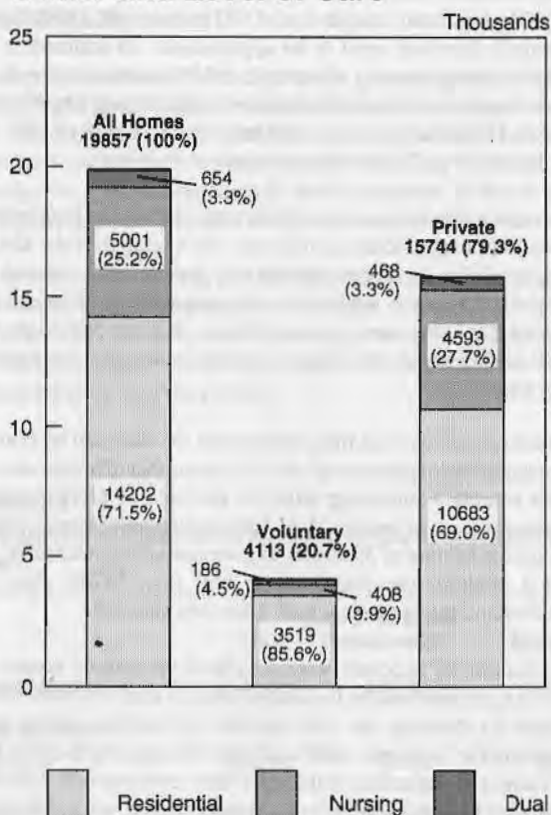
- Twelve standard regions;
- Within these, by the level of care offered by the homes (whether residential, nursing or a combination of both - ie. dual registered);
- and further within these, by the type of owner of the homes (whether private or voluntary).

TABLE 1
Distribution of Homes and Places Offered (Capacity) by Region

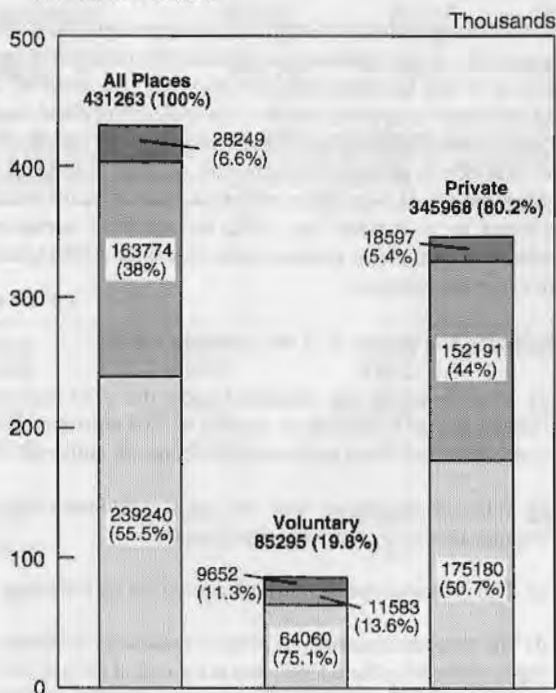
	No. of Homes	No. of Places Offered	Ave. No. of Places per Home
Scotland	1232	29573	24
%	6	7	
Wales	997	22102	22
%	5	5	
Northern Ireland	449	11374	25
%	2	3	
North of England	844	21154	25
%	4	5	
Yorkshire/Humberside	1582	37045	23
%	8	9	
North West	2517	62044	25
%	13	14	
East Midlands	1368	29738	22
%	7	7	
West Midlands	1592	33059	21
%	8	8	
South West	2977	57182	19
%	15	13	
South East	4308	87880	20
%	22	20	
London	1339	26844	20
%	7	6	
East of England	652	13268	20
%	3	3	
Total	19857	431263	22
%	100	100	

CHART 1

Distribution of Homes by Type of Owner and Level of Care



Distribution of Places Offered (Capacity) by Type of Owner and Level of Care



This created 72 cells within the sampling frame. The homes in each cell were then sorted in ascending order according to their capacity, i.e. the maximum number of places available in each home. The larger the home, the more likely it was to be selected.

Gallup estimated that 65-70% of homes would respond, and to meet the CSO's stipulated sample size of 500 institutions, a minimum of 714 would therefore need to be approached. In addition, it is a standard Gallup practice to include a 10% over-selection in the sample in case the estimated response rate is not met. On this basis, a further 71 institutions were selected, making a total of 785. The selection of these 785 homes was made as follows:

The number of homes selected from each cell was in proportion to the population of residents in that cell. For example, of the 431,263 places available in homes nationwide, the database showed that 21,314 (or 5%) were associated with privately run homes in the South East offering nursing care. Hence, five per cent of the total sample of 785 homes consisted of private, residential homes in the South East.

A sampling interval was then determined for each cell by dividing the total number of places available by the number of homes required for the sample. Continuing with the example of private, nursing homes in the South East, the 21,314 places available were divided by the required sample of 39 homes to give a sampling interval of 547. From a random start point, every 'nth' (i.e., 547th) place was identified and the home in which it lay was selected.

The selection of residents within each of the sample homes was made on a random basis by the interviewers. A sampling interval was obtained by dividing the total number of residents in the home (excluding day residents, staff and their families) by the four to be interviewed; the selection of the individual residents was made from a random start point. For the non-fee information, where interviews with only two residents were required, two of the original four were selected at random. A smaller sample was used for non-fee expenditure because a lower degree of precision was needed for what was expected to be a relatively small level of expenditure.

QUESTIONNAIRE

The questionnaire drafted by Gallup was necessarily of some length and complexity. It was necessary to validate the information on the database as to the location, the type of owner, the level of care offered, the home's capacity, and the principal type of client catered for. It was also decided to collect data on fees, capacity and the actual number of residents at the end of each of the quarters of 1992, as well as for May/June 1993, when the survey took place. This information was needed to strengthen the 1992 estimates of consumers' expenditure. It would also provide some indication of the seasonal pattern of fee expenditure.

The following is a summary of the questions asked:

- a) How the home was registered under the 1984 Registered Homes Act (as a residential, nursing or dual registered home) and with which local authority/district health authority.
- b) Whether the home was run by a voluntary/charitable organisation or by a private organisation.
- c) The primary type of resident catered for by the home.
- d) The maximum number of places available in the home (i.e. capacity) in May/June 1993, and at the end of each of the four quarters of 1992.
- e) The number of residents in the home (i.e. occupancy) in

May/June 1993, and at the end of each of the four quarters of 1992.

f) The fees of four residents, in May/June 1993 selected at random from all residents (excluding day patients, resident staff and their families).

g) Whether all, or part, of these fees were recovered from a local authority/district health authority, and if so, to what value.

h) The fees paid by the four residents in each of the four quarters of 1992.

i) Certain non-fee expenditure for two of the four residents. Items not purchased with residents' own money were excluded, as were items already incorporated in their fees.

PILOT

Gallup tested the questionnaire on a sample of 20 homes in March 1993. This pilot identified two problems. First, the distinction between capacity and occupancy needed clarification; secondly, officials in the homes appeared to be rather hazy about the difference between local authority support, and income support paid by central government. Unlike payments in support of fees by local authorities and district health authorities, income support is not treated in the National Accounts as final expenditure, but as a transfer to the personal sector. Such transfer payments are considered to be part of the recipient's disposable income, out of which consumers' expenditure on fees (and other spending) is funded. As a result of these findings, the questionnaire was radically restructured, and additional briefing for interviewers was drafted. Apart from this the pilot demonstrated that the questionnaire was readily understood.

INTERVIEW METHODS

The selected homes were approached in the following way:-

- a) A letter from the CSO explaining the purpose of the survey and seeking co-operation.
- b) A phonecall by the interviewer seeking an appointment, and explaining what information would be required.

Each interview lasted about an hour; its confidentiality was stressed. It was initially with an official of the home who had knowledge of the accounts of the home. The official was asked questions about the home, including the fees of the four randomly selected residents. He or she was then asked whether they or the resident would be the better person to ask about non-fee expenditure; this was sought for just two of the four selected residents.

The feasibility study had indicated that it would not be productive to ask the residents themselves about their fees; many have their affairs managed by a relative, solicitor or bank, and do not necessarily know how much they are spending on fees. In the case of non-fee expenditure, however, the information was normally obtainable either from the official of the home, or from the resident themselves.

FIELDWORK AND RESPONSE

To allow for non-response, questionnaires were sent to 785 homes. Fieldwork took about six weeks, which was longer than had been expected. This was mainly because appointments were often difficult to make at short notice. By the end of June, 501 homes had been successfully approached. The overall level of response - at 64% - was slightly below what had been expected. The interviews ran smoothly, and there were few complaints about length or content.

Table 2 gives details of the response rates by region, type of owner, and level of care. In general, homes in the voluntary sector were slightly more willing to participate than those in the private sector. There was also a regional difference in response rate, with homes in the South West the least willing to participate, and those in the East of England the most willing.

TABLE 2
Response Rates

	No. of homes approached	No. of completed interviews	Response rate %
Total:	785	501	64
Region:			
East of England	23	18	78
North	38	29	76
North West	112	82	73
Yorkshire/Humberside	68	49	72
Scotland	54	38	70
Northern Ireland	21	13	62
East Midlands	54	33	61
Wales	41	25	61
South East	161	98	61
West Midlands	61	35	57
London	48	27	56
South West	104	54	52
Type of Owner:			
Voluntary	153	103	67
Private	632	398	63
Level of Care:			
Residential	438	271	62
Nursing	298	201	67
Dual	49	29	59

WEIGHTING AND GROSSING

The survey data were weighted and grossed-up to provide estimates of the population of residents in residential and nursing homes in the private and voluntary sectors.

The sample was designed to be representative of residents in such homes. For each cell (ie combination of region, type of owner and level of care) the selection process was based on the capacity of the homes as given in the Laing & Buisson database. The survey results were weighted taking account of the size of each home.

TABLE 4
Number of residents, Number of Places Offered and Occupancy Rates

	March 1992	June 1992	Sept 1992	Dec 1992	May/June 1993
Total number of residents	405149	409191	413576	415954	412593
Average number per home	20.4	20.6	20.8	20.9	20.8
Total number of places offered (capacity)	445336	447857	449960	450668	454018
Average capacity per home	22.4	22.6	22.7	22.7	22.9
Occupancy rate (%)	91	91	92	92	91

Notes

1. The total number of residents and total number of places offered are grossed-up estimates from the Gallup survey of 501 homes.
2. For the purposes of calculating the expenditure of those living in residential and nursing homes, it is the number of residents rather than the capacity that is relevant.
3. The drop in the number of residents between December 1992 and May/June 1993 reflects a seasonal fall between December and March due to the higher incidence of mortality among the elderly in the winter months.

Due to the differential response rates between the twelve regions, between types of owner (private and voluntary) and between levels of care (residential, nursing and dual registered), the weighted data were grossed-up separately for each combination of region/type of owner/level of care.

THE RESULTS

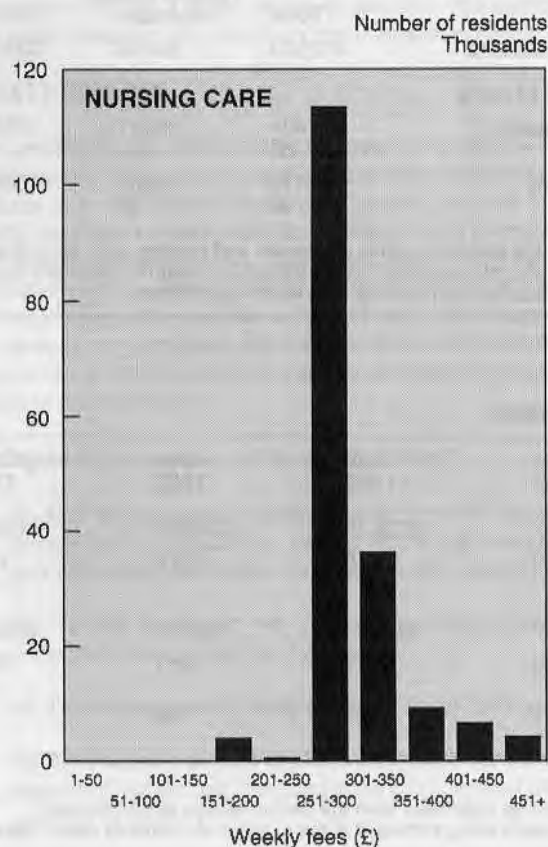
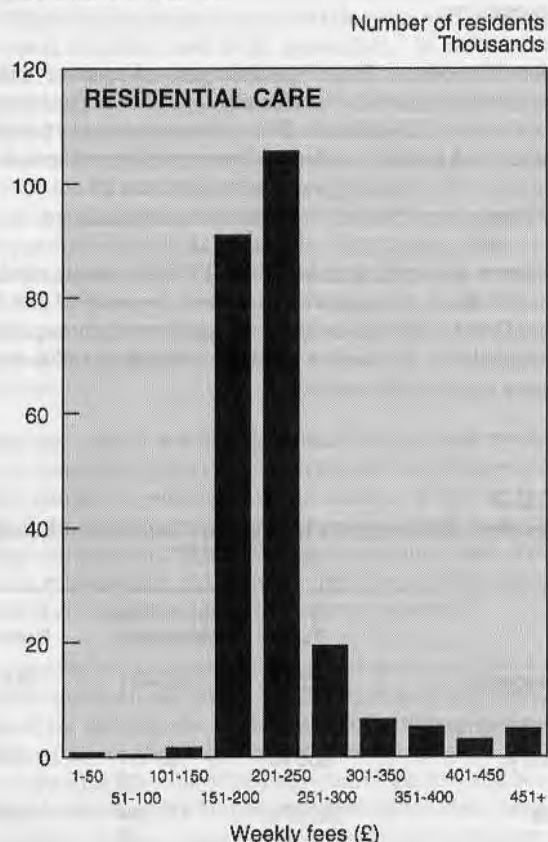
Numbers of residents. Table 3 gives the grossed-up survey results relating to the distribution of residents by type of owner and level of care. Out of every 100 residents, 80 are accommodated by privately run homes, with broadly similar numbers receiving residential and nursing care. The voluntary sector accommodates 20 out of every 100 residents, four-fifths of whom receive residential care.

In addition to data relating to May/June 1993, the survey obtained information about the number of residents for each of the four quarters of 1992. Table 4 gives the results together with corresponding information about the number of places offered, and also shows occupancy rates over the period.

TABLE 3
Distribution of Residents by Type of Owner and Level of Care

	Total	Level of Care Residential	Nursing
All residents	412593	237421	175172
Type of Owner:			
Voluntary	83018	66457	16561
%	20	28	9
Private	329576	170964	158611
%	80	72	91
	Total	Type of Owner Voluntary	Private
All residents	412593	83018	329576
Level of Care:			
Residential	237421	66457	170964
%	58	80	52
Nursing	175172	16561	158611
%	42	20	48

Note: the numbers under residential and nursing care include residents of dual registered homes; the survey asked for separate figures for residential and nursing care within dual homes.

CHART 2**Distribution of Weekly Fees by Level of Care**

Expenditure on fees. Average weekly fees by type of owner and level of care are shown in Table 5. At the time of the survey, the overall average weekly fee per resident was £266. Within this global figure, the average, as expected, is much higher for nursing care (£312) than for residential care (£232). Chart 2 illustrates the distribution of weekly fees separately for residential and for nursing homes. The average weekly fee in voluntary homes (£276) is a little higher than in privately run homes (£263). However, voluntary homes tend to cater for a wider range of resident, including the physically disabled and mentally ill; such residents often require more intensive care than the elderly, who comprise three quarters of the population of all homes.

TABLE 5**Average Weekly Fees by Type of Owner and Level of Care****£ per week per resident**

Type of Owner	Level of Care		
	Residential	Nursing	Total
Private	219	311	263
Voluntary	265	325	276
Total	232	312	266

Note: weekly fees for residents of dual registered homes are subsumed within the averages for residential and nursing care.

Local authority sponsorship. The survey found that only some 7% of residents have their fees paid in part or in full by local authorities or district health authorities. As previously explained, it was necessary to identify and exclude such support in order to avoid double-

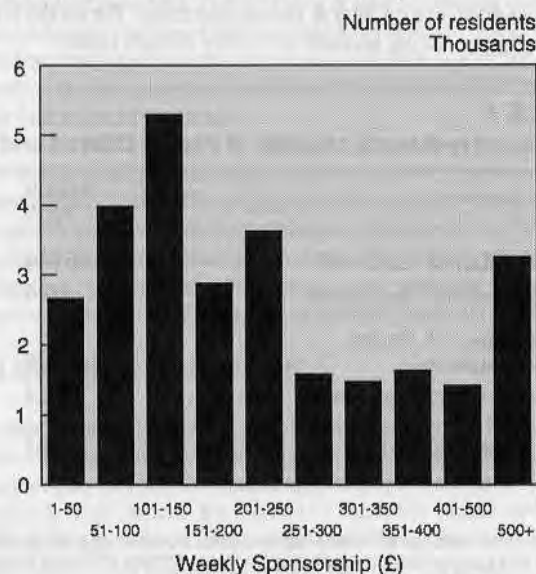
CHART 3**Distribution of Weekly Sponsorship of Fees by Local Authorities (and District Health Authorities)**

TABLE 6**Principal Results of the Survey of Residential and Nursing Homes in the Private and Voluntary Sectors**

	£ millions					May/June 1993 Annualised Total
	End March	End June	1992 End Sept.	End Dec.	1992 Annual Total	
Fees	1305	1365	1381	1394	5445	5718
Local Authority Sponsorship	91	95	96	97	379	398
Non-Fee Expenditure	30	32	32	32	126	133
Total Expenditure	1244	1302	1317	1329	5192	5453

Notes

1. Total Expenditure consists of fee expenditure (net of local authority sponsorship of fees) plus non-fee expenditure.
2. The non-fee expenditure relates only to certain items, mainly services and food; other non-fee items such as clothing and footwear were excluded from the survey because they are already covered by existing data sources.
3. Non-fee expenditure and local authority sponsorship figures for 1992 are estimates based on the proportion of such expenditure to fees in May/June 1993.

counting final government expenditure included in the National Accounts. In May/June 1993, the average weekly amount involved was £275 per sponsored resident. Chart 3 illustrates a very wide variation in the weekly amounts sponsored.

Non-fee expenditure. As indicated previously, the Gallup survey also collected information about certain items of non-fee expenditure, mainly services and food, which are not already covered by other data sources. The average weekly expenditure on these items in May/June 1993 was only £6 per resident.

Use of results for the National Accounts. Table 6 gives a summary of the main results of the survey. The following is a brief explanation of those results. The figures below in parentheses represent the 95% confidence intervals attaching to the annual expenditure estimates, expressed in percentage form.

At the time of the survey in May/June 1993, the average weekly fee in residential and nursing homes was £266. Translated into an annual figure and multiplied by the estimated population of 413,000 residents, in mid-1993 total expenditure amounted to some £5,700 million (+/- 3.8%).

The need, for National Accounts purposes, to net off fee sponsorship by local authorities and district health authorities has been explained above. At the time of the survey, their average weekly contribution towards fees was £275 per sponsored resident. Applying this to an estimated population of less than 28,000 sponsored residents, the corresponding annual expenditure is some £400 million (+/- 44%). As previously stated, the collection of non-fee expenditure was restricted to certain items. The average weekly expenditure of £6 per week in May/June 1993 translates into an estimated annual expenditure of about £130 million (+/- 12%).

The bottom line of Table 6 shows fee expenditure, net of local authority sponsorship, plus non-fee expenditure. In 1992 this sum amounted to nearly £5,200 million, in annual terms. This provided the figure needed for consumers' expenditure in the 1993 National Accounts Blue Book.

THE PROBLEM OF LOCAL AUTHORITY SPONSORSHIP

Once preliminary results from the survey had been received, they were subjected to validation procedures and comparisons with other sources. In particular, the CSO compared the incidence of local authority sponsorship with the results of a regular inquiry of local authorities conducted by the Department of Health. It became obvious that there was a significant discrepancy in the incidence of fee support by local authorities, between the survey results and

corresponding Department of Health findings. Gallup contacted a number of homes in an attempt to diagnose the source of the problem. It became clear that, despite the redesign of the questionnaire, there was still confusion between income support and local government support of fees.

Fortunately, it was possible, from study of the anonymised completed questionnaires, to correct the results of the survey. This could be done because limits of income support for different levels of care are known and fixed, and could be readily identified in those cases where income support had been incorrectly classified as a local authority payment.

Clearly, public awareness of the distinction between central and local government support is not high, and a fresh approach will be needed to overcome this problem in a future survey. This issue will become more prominent over time, because of the changes stemming from the new Community Care arrangements, which came into force from 1 April 1993. These arrangements, which apply to new residents, will increase the incidence of local authority support, and will also result in more cases where a resident's fees are supported by a mixture of local and central government payments.

UPDATING THE SURVEY RESULTS

The Gallup survey has substantially improved the basis of estimates of expenditure of those living in residential and nursing homes. Updating the survey results is likely to involve a periodic survey of fees and local authority sponsorship from a small number of homes; given the very small level of non-fee expenditure, it is not proposed to survey this again in the near future.

ACKNOWLEDGEMENTS

The CSO wishes to thank all those who contributed to the successful outcome of this survey. In particular, we are grateful to Gallup for carrying out the survey; to EUROSTAT for providing the funding; to OPCS for their assistance in the early stages of the project, and for their work on the feasibility study; to Laing and Buisson for providing the sampling frame; and to the Department of Health for their advice throughout the project. We particularly wish to thank Dr Bob Butcher of the Department of Health for his advice on sample design, grossing, and sampling errors. Last but not least, we are grateful to all those homes who participated in the survey.

ENQUIRIES

All enquiries about this survey, and requests for further information should be addressed to Paul West: Central Statistical Office, Room 70a/1, Government Offices, Great George Street, London SW1P 3AQ; Telephone 071 270 5937.