STATISTICAL APPENDIX

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Contents

Introduction

This Appendix presents the details of alternative conditional forecasts for the U.K. economy up to 1978. The methodology and specific assumptions of these forecasts are described below. Summary tables give the results of each forecast. The main tables give comparative figures on each component aspect of the forecasting system, comparing past data for 1960-74 with the forecasts. The notes and definitions for each table explain precisely how the figures are derived.

Methodology and assumptions

The method of medium-term analysis which is employed here, and which has been employed in previous similar exercises by the Cambridge Economic Policy Group, essentially involves the attempt to extract and project underlying trends in the development of the economy. Over a medium-term horizon of four years, the prospects for the economy in terms of feasible actual movements of GDP, unemployment, the balance of payments and private consumption are in the first instance dominated by trend movements in productivity and U.K. selling power in world markets. It is assumed, therefore, that the actual pattern of economic events which we observe consists of short-term deviations about longer-term trends. In order to project these trends and make inferences about the future prospects for the economy, it is necessary to correct observed past series for deviations from trend in their determining variables and thus extract the underlying trends. As will be clear from the notes which accompany the tables below, employment, unemployment, private investment, stock-building and import volumes are all corrected for variations in the pressure of demand — or in our term-

inology, for deviations of actual GDP from par (this concept is discussed further below). Export and import prices, and export volumes, are corrected for deviations of world trade, inflation and U.K. relative costs (adjusted for exchange-rate movements) from their respective trends. Having attempted to adjust these variables for the most important known causes of short-term fluctuations about trends, our criterion of success is the extent to which the resultant series is sufficiently smooth to represent the underlying trend which we wish to extract. Any large discontinuity in such an adjusted series is interpreted either as due to a shift in the trend (which we would attempt to explain) or as the effect of some cause of abnormal deviations which has not been allowed for in the adjustment process. The most obvious example of this is the speculative element in the recent commodity price boom, only a part of which could be attributed to the systematic effect of the high level of world trade.

Extrapolations of past trends into the future frequently require two types of correction. First it is necessary to make a judgement on the likely continuance of abnormal factors, such as the speculative element in commodity prices, which cannot be explained by analytic relationships. Further the trend must be altered to allow for known future influences, such as the development of the North Sea.

As an example of the extraction and projection of trends, consider the volume of imports of semi-finished manufactures (SF in Table 6). As indicated by equation 5.4, this series is adjusted for deviations of GDP from par by means of a marginal import coefficient to give a trend series:

	Actual	**Adjustment** $0.1 \times (GDP^*-GDP)$	**Trend**	
1960	1376	−168	1208	
1961	1336	−148	1188	
1962	1340	−78	1262	
1963	1476	−98	1378	
1964	1761	−184	1577	
1965	1721	−171	1550	Actual + Adjustment
1966	1783	−116	1667	= Trend
1967	1950	−66	1884	
1968	2266	−93	2173	
1969	2354	−28	2326	
1970	2500	15	2515	
1971	2642	66	2708	
1972	3029	69	3098	
1973	3421	−48	3373	
1974	3814	64	3878	
1975	3843	206	4049	
1976	4253	195	4448	Forecast Actual
1977	4790	96	4886	= Trend − Adjustment
1978	5367	1	5368	

The trend series, which is our estimate of what the volume of imports of semi-finished manufactures would have been at a constant pressure of demand, is projected up to 1978 by fitting a logarithmic time trend to the adjusted series between the years 1966 and 1972 inclusive, and extrapolating this trend into the future. The short-term component is then reintroduced by making the same adjustment to reintroduce the actual pressure of demand assumed for a particular conditional forecast (in the table above, our 'reflation forecast').

In previous exercises we have extensively used the concept of "par" in the analysis. This concept, originally developed with the specific aim of assessing the medium-term impact of the Government's public expenditure plans, is defined as describing how the economy would have appeared, and would appear in the future, if a constant pressure of demand were maintained and if the U.K. were sufficiently competitive in world markets to meet specified targets for the balance of trade. However, under current circumstances of extreme imbalance, there is little prospect in the reasonably near future of the U.K. achieving a trade performance that could justify the description of a satisfactory target. Furthermore, in order to carry out the trending and detrending operations described above it is strictly necessary only to construct par GDP, i.e. that output path corresponding to 2½% unemployment. (The construction of this series is described under Table 1 below). This is because the trend balance of trade does not correspond to par trade performance (indeed the trend movement has been one of substantial deterioration), and so in order to construct the par balance of trade and its components further adjustments to the trend balance would be necessary. For these reasons we do not now consider the par economy as such as a viable or realistic path for the economy in the future; in the notes to the tables below par refers *only* to the pressure of demand, and only appears where necessary to adjust particular series for this source of fluctuation.

To summarise, the process of obtaining actual projections has three stages:

(1)   Firstly, the extraction of underlying trends from their short-term components by the application of a precise set of rules to past actual data. At this stage we have obtained a picture of how the economy might have looked in the past if a pressure of demand equivalent to a 2½% rate of unemployment had been sustained throughout, and if world trade and U.K. costs, both in absolute terms and relative to our major competitors, had followed their respective trend paths.

(2)   The trend economy obtained in (1) is then projected into the future, making allowances where necessary (for example in the case of import prices) for abnormal behaviour in relation to trend and for where the past trend may be expected to shift in the future.

(3)   For any given set of assumptions about the future movements of actual exogenous variables — such as GDP, world trade and relative competitiveness — adjustments are made to the trend series which effectively reintroduce their short-term components. It is then possible to investigate the division of total claims on resources between the various categories of expenditure. Given a projected future path of actual GDP together with forecasts of private investment (including stockbuilding), exports and imports which are conditional on that path it is possible to infer the volume of resources (in terms of expenditure measured at constant prices) which is available for public expenditure plus private consumption. Estimates of the future growth of public expenditure then permit projections of the resources available for private consumption. As is explained in detail below under Table 8, this residual projection of consumption is used to generate projections of inflation so that we have a consistent relationship between real demands on resources and their inflationary implications.

An additional feature of the analysis is the detailed treatment of the North Sea as an economy in its own right. The adjustments described above are carried out, where relevant, on a North Sea exclusive basis, in that items attributable to the North Sea (such as that part of imports of finished manufactures which are imports of capital equipment for the North Sea) are removed prior to the adjustment, and then added back subsequently. The adjustments to the national accounts which are necessary to exclude the North Sea are described elsewhere [1].

Alternative Projections

Five variant projections have been analysed in detail, and the results of these projections are presented selectively in the tables which follow.

All the forecasts assume low overall growth of world trade, at 5% per year, from 1974-78. This involves zero growth of world trade in 1974-75, followed by a steady acceleration to an 11% increase in 1977-78. All forecasts except the 'devaluation' case assume that the sterling exchange rate is allowed to depreciate to offset excess inflation in the U.K. and hold the rise in relative costs down to its long-run average increase of 1% per year.

A)   Deflation: this projection investigates the consequences of permitting a continuing decline in the pressure of demand such that GDP grows at an average rate of less than 2% per annum and unemployment rises to about 1.2 million by the end of 1978. On this basis the deficit on current account at 1974 values improves to £2.4 billion in the terminal year.

B)   Reflation: here the economy grows at an average rate of 3.6% per annum between 1974 and 1978, which reduces unemployment to 625,000 by the end of 1978. No additional action is taken to improve the balance of payments, and as a result the current deficit deteriorates to £5 billion at 1974 values by 1978. The remaining projections thus explore possible alternative ways of achieving tolerable payments deficits whilst protecting employment.

C)   Devaluation: the other projections assume a 1% per annum deterioration in U.K. relative costs; in this projection a 15% improvement in 1975 is superimposed on this path. The current deficit at 1974 values recovers to £1.8 billion in 1978, but at the cost of a substantially greater rate of inflation than in the other projections.

D)   Import restriction: measures are assumed to be taken to restrict the rate of growth of finished manufactures to about 10% per annum less than would otherwise be the case. On this projection the current balance

at 1974 values improves to £2.7 billion by the end of the period.

E)   Import restriction and low inflation: the same as D), except that the amount of wage increases in excess of compensation for past price increases is assumed to be less than in the other projections. At 1974 values, the outcome for the current balance is as much as in D), but the projected rate of inflation is lower.

TABLE A   Historical summary 1960–74

			1960	1961	1962
A.	Unemployment (th.)	U	349	374	524
	Relative costs (ind)	RC	0.942	0.967	0.975
B.	**Expenditure on GDP** (£1970m)				
	Private consumption	C	25146	25734	26279
	Public consumption	CG	7379	7647	7889
	Fixed investment	I	5743	6380	6344
	Stockbuilding	S	767	369	12
	Exports of goods and services	X	7014	7225	7345
	Imports of goods and services	M	7399	7346	7487
	Adjustment to factor cost	A	6104	6203	6209
	GDP at factor cost	Q	32904	33764	34152
C.	**Real wages and inflation**				
	Total real personal post-tax income (£1970m)	PDI	27039	28117	28329
	Real average post-tax earnings (£1970)	WD	1132	1169	1176
	Real average pre-tax earnings (£1970)	W	1306	1364	1386
	Inflation of pre-tax earnings (%)	W'	6.8	7.5	5.6
	Inflation of consumer prices (%)	PC	1.1	3.0	3.9
D.	**Balance of payments**				
	Resource balance (£1970m)	X-M	−385	−121	−142
	Terms of trade (ind)	TT	0.978	0.990	1.001
	Balance on goods and services at 1974 export values (£1974m)	$\overline{BT}$	−838	−299	−204
	Current balance at 1974 export values (£1974m)	CB	−525	12	246
	Oil deficit (£1974m)	OD	0	0	0
E.	Real national income (£1970m)	Y	39008	40097	40675
	Domestic expenditure (£1970m)	DE	39035	40130	40524
	Current balance in real terms (£1970m)	$\overline{CB}$	−385	9	173

Units: (th) thousands, (ind) index 1970=1.000, (£1970m) £ million 1970 prices, (£1970) £ per

1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
483	363	339	455	578	573	583	618	874	788	518	662
0.986	1.020	1.044	1.063	1.059	0.961	0.979	1.000	1.041	1.053	0.970	1.010
27427	28283	28717	29269	29852	30564	30649	31387	32241	34179	35759	35666
8014	8138	8357	8595	9075	9103	8960	9095	9366	9745	10109	10300
6471	7529	7827	8021	8605	9020	9069	9237	9319	9543	10004	9932
215	934	615	411	361	505	445	438	84	−39	674	200
7649	7951	8336	8679	8786	9811	10726	11260	12068	12380	13494	14348
7761	8480	8561	8780	9371	10058	10355	10872	11395	12530	13904	14153
6465	6771	6798	6918	7115	7278	7252	7533	7865	8519	9019	8913
35485	37506	38582	39270	40044	41636	42367	43012	43614	44732	47055	47229
29575	30681	31403	32092	32549	33082	33228	34309	35249	37625	39609	40301
1226	1273	1277	1291	1324	1345	1351	1409	1469	1566	1610	1640
1441	1505	1541	1576	1623	1674	1697	1801	1872	1979	2053	2144
6.0	7.9	7.4	6.4	6.0	8.2	7.1	12.3	12.5	12.8	12.6	19.5
1.9	3.4	4.9	4.0	2.9	4.9	5.7	5.8	8.2	6.7	8.6	14.4
−112	−529	−225	−101	−585	−247	371	388	673	−150	−410	195
0.991	0.971	0.982	0.997	1.003	0.983	0.983	1.000	1.006	1.002	0.928	0.816
−273	−1182	−576	−188	−843	−642	293	587	1127	−197	−2258	−4544
247	−750	−94	156	−574	−471	739	1069	1577	160	−1475	−3730
0	0	0	0	0	0	0	0	0	0	−326	−3119
42233	44297	45543	46391	47374	48845	49730	50864	51811	53499	55553	53413
42127	44884	45516	46296	47893	49192	49123	50157	51010	53428	56546	56098
171	−509	−62	102	−370	−316	480	707	1005	97	−931	−2534

person per year at 1970 prices, (%) % increase per year, (£1974m) £ million 1974 prices.

TABLE B   Summary of Deflation Forecast

			1974	1975	1976	1977	1978
A.	Unemployment (th)	U	662	1000	1007	1073	1157
	Relative costs (ind)	RC	1.010	1.020	1.030	1.040	1.051
B.	**Expenditure on GDP** (£1970m.)						
	Private consumption	C	35666	36391	37450	38568	39502
	Public consumption	CG	10300	10600	10900	11200	11550
	Fixed investment	I	9932	9588	9715	10059	10236
	Stockbuilding	S	200	−279	328	446	427
	Exports of goods and services	X	14348	14500	14813	15461	16481
	Imports of goods and services	M	14153	14281	15178	16015	16948
	Adjustment to factor cost	A	8913	9168	9477	9842	10150
	GDP at factor cost	Q	47229	47219	48405	49717	50924
C.	**Real wages and inflation**						
	Total real personal post-tax income (£1970m.)	PDI	40301	40439	42016	43280	44380
	Real average post-tax earnings (£1970)	WD	1640	1686	1772	1830	1887
	Real average pre-tax earnings (£1970)	W	2144	2242	2388	2497	2599
	Inflation of pre-tax earnings (%)	W′	19.5	25.2	24.5	25.0	28.7
	Inflation of consumer prices (%)	PC	14.4	19.8	16.8	19.5	23.6
D.	**Balance of payments**						
	Resource balance (£1970m.)	X-M	195	219	−365	−554	−466
	Terms of trade (ind)	TT	0.816	0.849	0.937	0.985	0.995
	Balance on goods and services at 1974 export values (£1974m)	$\overline{BT}$	−4544	−3511	−2083	−1205	−827
	Current balance at 1974 export values (£1974m.)	CB	−3730	−3549	−2601	−2308	−2386
	Oil deficit (£1974m.)	OD	−3119	−3132	−2883	−2091	−1396
E.	Real national income (£1970m.)	Y	53413	53883	56611	58724	60182
	Domestic expenditure (£1970m.)	DE	56098	56300	58393	60273	61715
	Current balance in real terms (£1970m.)	$\overline{CB}$	−2534	−2285	−1636	−1389	−1359

Units: see Table A.

For assumptions, see page 64

TABLE C   Summary of Reflation Forecast

			1974	1975	1976	1977	1978
A.	Unemployment (th.)	U	662	1000	925	762	625
	Relative costs (ind.)	RC	1.010	1.020	1.030	1.040	1.051
B.	**Expenditure on GDP (£1970m)**						
	Private consumption	C	35666	36170	37677	41183	45449
	Public consumption	CG	10300	10600	10900	11200	11550
	Fixed investment	I	9932	9732	10107	10815	11489
	Stockbuilding	S	200	−279	468	922	1040
	Exports of goods and services	X	14348	14500	14813	15461	16481
	Imports of goods and services	M	14153	14281	15429	17166	19313
	Adjustment to factor cost	A	8913	9091	9524	10659	12148
	GDP at factor cost	Q	47229	47219	48865	51597	54374
C.	**Real wages and inflation**						
	Total real personal post-tax income (£1970m.)	PDI	40301	40130	42421	46827	51712
	Real average post-tax earnings (£1970)	WD	1640	1672	1781	1947	2125
	Real average pre-tax earnings (£1970)	W	2144	2226	2403	2645	2893
	Inflation of pre-tax earnings (%)	W$'$	19.5	26.5	24.2	14.0	4.7
	Inflation of consumer prices (%)	PC	14.4	21.9	15.1	3.5	−4.2
D.	**Balance of payments**						
	Resource balance (£1970m.)	X-M	195	219	−616	−1705	−2831
	Terms of trade (ind)	TT	0.816	0.848	0.938	0.994	1.011
	Balance on goods and services at 1974 export values (£1974m.)	$\overline{BT}$	−4544	−3539	−2471	−2739	−3954
	Current balance at 1974 export values (£1974m.)	CB	−3730	−3588	−2972	−3649	−5163
	Oil deficit (£1974m.)	OD	−3119	−3141	−2930	−2244	−1698
E.	Real national income (£1970m.)	Y	53413	53803	57124	61573	65891
	Domestic expenditure (£1970m.)	DE	56098	56223	59152	64120	69528
	Current balance in real terms (£1970m.)	$\overline{CB}$	−2534	−2288	−1882	−2387	−3463

Units: see Table A

For assumptions, see page 64

Table D   Summary of Devaluation Forecast

			1974	1975	1976	1977	1978
A.	Unemployment (th)	U	662	928	864	771	624
	Relative costs (ind)	RC	1.010	0.887	0.896	0.905	0.914
B.	**Expenditure on GDP (£1970m)**						
	Private consumption	C	35666	35397	35872	37785	40861
	Public consumption	CG	10300	10600	10900	11200	11550
	Fixed investment	I	9932	9786	10218	10835	11449
	Stockbuilding	S	200	−157	508	799	1001
	Exports of goods and services	X	14348	15376	16415	17705	19359
	Imports of goods and services	M	14153	14482	15657	17166	19313
	Adjustment to factor cost	A	8913	8770	8837	9399	10359
	GDP at factor cost	Q	47229	47619	49274	51597	54374
C.	**Real wages and inflation**						
	Total real personal post-tax income (£1970m)	PDI	40301	39048	40197	42693	46446
	Real average post-tax earnings (£1970)	WD	1640	1622	1679	1773	1909
	Real average pre-tax earnings (£1970)	W	2144	2165	2283	2441	2649
	Inflation of pre-tax earnings (%)	W	19.5	31.9	37.9	35.3	27.9
	Inflation of consumer prices (%)	PC	14.4	30.7	30.8	26.5	17.9
D.	**Balance of payments**						
	Resource balance (£1970m)	X-M	195	894	758	539	47
	Terms of trade (ind)	TT	0.816	0.824	0.909	0.958	0.974
	Balance on goods and services at 1974 export values (£1974m)	$\overline{BT}$	−4544	−3316	−1228	−322	−699
	Current balance at 1974 export values (£1974m)	CB	−3730	−3117	−1581	−1147	−1765
	Oil deficit (£1974m)	OD	−3119	−3508	−3266	−2508	−1913
E.	Real national income (£1970m)	Y	53413	53477	56358	59744	63580
	Domestic expenditure (£1970m)	DE	56098	55626	57498	60617	64861
	Current balance in real terms (£1970m)	$\overline{CB}$	−2534	−2018	−996	−712	−1107

Units: see Table A

For assumptions, see page 64

Table E   Summary of Import Restriction Forecast

			1974	1975	1976	1977	1978
A.	Unemployment (th)	U	662	928	864	771	624
	Relative costs (ind)	RC	1.010	1.020	1.030	1.040	1.051
B.	**Expenditure on GDP (£1970m)**						
	Private consumption	C	35666	36374	37235	39141	41751
	Public consumption	CG	10300	10600	10900	11200	11550
	Fixed investment	I	9932	9786	10218	10833	11449
	Stockbuilding	S	200	−157	508	799	1001
	Exports of goods and services	X	14348	14500	14813	15461	16481
	Imports of goods and services	M	14153	14239	14961	15845	17091
	Adjustment to factor cost	A	8913	9114	9294	9832	10593
	GDP at factor cost	Q	47229	47619	49274	51597	54374
C.	**Real wages and inflation**						
	Total real personal post-tax income (£1970m)	PDI	40301	40416	41722	44164	47281
	Real average post-tax earnings (£1970)	WD	1640	1678	1743	1834	1943
	Real average pre-tax earnings (£1970)	W	2144	2234	2354	2506	2676
	Inflation of pre-tax earnings (%)	W$'$	19.5	25.9	27.6	26.1	22.7
	Inflation of consumer prices (%)	PC	14.4	20.9	21.1	18.5	14.9
D.	**Balance of payments**						
	Resource balance (£1970m)	X-M	195	261	−148	−384	−610
	Terms of trade (ind)	TT	0.816	0.846	0.930	0.977	0.988
	Balance on goods and services at 1974 export values (£1974m)	$\overline{BT}$	−4544	−3518	−1922	−1154	−1242
	Current balance at 1974 export values (£1974m)	CB	−3730	−3561	−2486	−2229	−2657
	Oil deficit (£1974m)	OD	−3119	−3178	−2999	−2307	−1773
E.	Real national income (£1970m)	Y	53413	54189	57185	60470	63998
	Domestic expenditure (£1970m)	DE	56098	56603	58861	61973	65751
	Current balance in real terms (£1970m)	$\overline{CB}$	−2534	−2282	−1530	−1343	−1579

Units: see Table A

For assumptions, see page 64

Table F   Summary of Import Restriction Forecast with Low Inflation

			1974	1975	1976	1977	1978
A.	Unemployment (th)	U	662	928	864	771	624
	Relative costs (ind)	RC	1.010	1.020	1.030	1.040	1.051
B.	**Expenditure on GDP (£1970m)**						
	Private consumption	C	35666	36374	37235	39141	41751
	Public consumption	CG	10300	10600	10900	11200	11550
	Fixed investment	I	9932	9786	10218	10833	11449
	Stockbuilding	S	200	−157	508	799	1001
	Exports of goods and services	X	14348	14500	14813	15461	16481
	Imports of goods and services	M	14153	14239	14961	15845	17091
	Adjustment to factor cost	A	8913	9114	9294	9832	10593
	GDP at factor cost	Q	47229	47619	49274	51597	54374
C.	**Real wages and inflation**						
	Total real personal post-tax income (£1970m)	PDI	40301	40416	41722	44164	47281
	Real average post-tax earnings (£1970)	WD	1640	1678	1743	1834	1943
	Real average pre-tax earnings (£1970)	W	2144	2227	2340	2483	2644
	Inflation of pre-tax earnings (%)	W$'$	19.5	20.3	19.8	16.2	11.0
	Inflation of consumer prices (%)	PC	14.4	15.9	14.0	9.5	4.3
D.	**Balance of payments**						
	Resource balance (£1970m)	X−M	195	261	−148	−384	−610
	Terms of trade (ind)	TT	0.816	0.850	0.937	0.985	0.997
	Balance on goods and services at 1974 export values (£1974m)	$\overline{BT}$	−4544	−3396	−1751	−943	−990
	Current balance at 1974 export values (£1974m)	CB	−3730	−3414	−2234	−1876	−2197
	Oil deficit (£1974m)	OD	−3119	−3094	−2946	−2256	−1725
E.	Real national income (£1970m)	Y	53413	54263	57324	60667	64250
	Domestic expenditure (£1970m)	DE	56098	56603	58861	61973	65751
	Current balance in real terms (£1970m)	$\overline{CB}$	−2534	−2208	−1391	−1146	−1327

Units: see Table A

For assumptions, see page 64

Table 1 G.D.P., Employment and Unemployment

G.D.P. in this table is defined to exclude the North Sea (see notes for further explanation).

Year	GDP	U	U'	E	E'	E*	GDP*	P*
1960	32904	349	361	24983	24925	24250	31226	1.288
1961	33764	374	371	25028	25022	24423	32282	1.322
1962	34152	524	505	25111	25101	24598	33373	1.357
1963	35485	483	488	25367	25335	24774	34501	1.393
1964	37506	363	378	25681	25642	24951	35668	1.430
1965	38582	339	342	25869	25846	25130	36874	1.467
1966	39270	455	441	25644	25672	25138	38109	1.516
1967	40042	578	563	25411	25440	25146	39385	1.566
1968	41629	573	574	25353	25360	25153	40704	1.618
1969	42350	583	582	25269	25280	25161	42067	1.672
1970	42974	618	614	25082	25105	25187	43127	1.712
1971	43551	874	842	24625	24682	25214	44214	1.754
1972	44640	788	799	25113	25052	25240	45329	1.796
1973	46955	518	552	25516	25466	25266	46471	1.839
1974	47112	662	644	25227	25263	25292	47752	1.888

Growth rates								
1960-5	3.2	...	...	0.7	0.7	0.7	3.4	2.6
1965-9	2.4	...	...	−0.6	−0.6	0.0	3.4	3.3
1969-74	2.2	...	...	0.0	0.0	0.1	2.6	2.5

Deflation						**Par growth**		
1975	47075	1000	958	24442	24540	25350	49130	1.938
1976	48158	1007	1006	24500	24493	25419	50567	1.989
1977	49266	1073	1065	24445	24452	25520	52115	2.042
1978	50308	1157	1147	24377	24385	25649	53766	2.096

Growth rate								
1974-8	1.6	...	...	−0.8	−0.9	0.4	3.0	2.6

Reflation					
1975	47075	1000	958	24442	24540
1976	48618	925	935	24703	24671
1977	51146	762	783	25223	25158
1978	53758	625	642	25706	25646

Growth rate					
1974-8	3.4	...	...	0.5	0.4

Table 2   Public Expenditure

Year	CG	IDG	IKG	IG	G
1960	7379	393	2077	2470	9849
1961	7647	411	2267	2678	10325
1962	7889	466	2306	2772	10661
1963	8014	479	2390	2869	10883
1964	8138	630	2710	3340	11478
1965	8357	663	2813	3476	11833
1966	8595	750	2972	3722	12317
1967	9075	848	3368	4216	13291
1968	9103	894	3332	4226	13329
1969	8960	900	3110	4010	12970
1970	9095	801	3299	4100	13195
1971	9366	730	3321	4051	13417
1972	9745	698	3204	3902	13647
1973	10109	683	3234	3917	14026
1974	10300	750	3250	4000	14300
Growth rates					
1960-5	2.5	11.0	6.2	7.1	3.7
1965-9	1.8	7.9	2.5	3.6	2.3
1969-74	2.8	−3.6	0.9	0.0	2.0
Assumed in deflation projection					
1975	10600	750	3300	4050	14650
1976	10900	700	3278	3978	14878
1977	11200	700	3261	3961	15161
1978	11550	700	3201	3901	15451
Growth rate					
1974-8	2.9	−1.7	−0.4	−0.6	2.0
Assumed in other projections					
1975	10600	750	3300	4050	14650
1976	10900	700	3328	4028	14928
1977	11200	700	3361	4061	15261
1978	11550	700	3351	4051	15591
Growth rate					
1974-8	2.9	−1.7	0.8	0.3	2.2

Table 3   Gross Fixed Capital Formation

Year	IG	IDP	IKP	I	Q	IDP*	IKP*	I*	Q*
1960	2470	679	2594	5743	32904	697	2423	5589	31226
1961	2678	689	3013	6380	33764	683	2613	5974	32282
1962	2772	678	2894	6344	34152	776	2745	6293	33373
1963	2869	696	2906	6471	35485	725	2808	6402	34501
1964	3340	836	3353	7529	37506	773	3042	7155	35668
1965	3476	841	3510	7827	38582	793	3117	7386	36874
1966	3722	789	3510	8021	39270	775	3293	7790	38109
1967	4216	829	3560	8605	40044	853	3475	8544	39386
1968	4226	871	3923	9020	41636	745	3819	8790	40711
1969	4010	769	4290	9069	42367	868	4186	9064	42084
1970	4100	700	4437	9237	43012	852	4509	9461	43165
1971	4051	829	4439	9319	43614	825	4578	9454	44277
1972	3902	981	4660	9543	44732	852	4831	9585	45420
1973	3917	1056	5031	10004	47055	966	4997	9880	46571
1974	4000	782	5150	9932	47229	975	5102	10077	47869

Growth rates

1960-5	7.1	4.4	6.2	6.4	3.2	2.6	5.2	5.7	3.4
1965-9	3.6	−2.2	5.1	3.8	2.4	2.3	7.7	5.3	3.4
1969-74	0.0	0.3	3.7	1.8	2.2	2.4	4.0	2.1	2.6

Deflation						Par growth			
1975	4050	625	4913	9588	47219	975	5473	10498	49274
1976	3978	700	5037	9715	48405	1003	5869	10900	50814
1977	3961	775	5323	10059	49717	1030	6182	11273	52566
1978	3901	850	5485	10236	50924	1060	6544	11655	54382

Growth rate									
1974-8	−0.6	2.1	1.6	0.8	1.9	2.1	6.4	3.7	3.2

Reflation					
1975	4050	625	5057	9732	47219
1976	4028	700	5379	10107	48865
1977	4061	775	5979	10815	51597
1978	4051	850	6598	11499	54374

Growth rate					
1974-8	0.3	2.1	6.4	3.7	3.6

Table 4   Stockbuilding

Year	S	H	H/Y	S*	H*	H*/Y*
1960	767	13572	41.2	403	12129	38.8
1961	369	13941	41.3	415	12545	38.9
1962	12	13953	40.9	429	12974	38.9
1963	215	14168	39.9	444	13418	38.9
1964	934	15102	40.3	459	13878	38.9
1965	615	15717	40.7	475	14353	38.9
1966	411	16128	41.1	487	14840	38.9
1967	361	16489	41.2	503	15343	39.0
1968	505	16994	40.8	520	15864	39.0
1969	445	17439	41.2	538	16402	39.0
1970	438	17877	41.6	420	16822	39.0
1971	84	17961	41.2	431	17253	39.0
1972	−39	17922	40.2	442	17695	39.0
1973	674	18596	39.6	454	18149	39.0
1974	200	18796	39.9	508	18657	39.1
Growth rates						
1960-5	...	3.0	−0.2	3.3	3.4	0.04
1965-9	...	2.6	0.3	3.2	3.4	0.04
1969-74	...	1.5	−0.6	−1.2	2.6	0.04
Deflation				**Par growth**		
1975	−279	18517	39.3	546	19203	39.1
1976	328	18844	39.1	570	19773	39.1
1977	446	19290	39.2	614	20387	39.1
1978	427	19718	39.2	654	21042	39.1
Growth rate						
1974-8	...	1.2	−0.4	6.5	3.0	0.0
Reflation						
1975	−279	18517	39.3			
1976	468	18984	39.0			
1977	922	19907	38.9			
1978	1040	20947	39.0			
Growth rate						
1974-8	...	2.8	−0.6			

Table 5   **Actual Balance of Trade, 1960-74**

Year	X	M	PX	PM	TT	X′	M′	BT
1960	7014	7399	0.734	0.751	0.978	5147	5554	−407
1961	7225	7346	0.743	0.751	0.990	5368	5515	−147
1962	7345	7487	0.749	0.748	1.001	5503	5604	−101
1963	7649	7761	0.759	0.766	0.991	5809	5946	−137
1964	7951	8480	0.770	0.793	0.971	6119	6721	−602
1965	8336	8561	0.787	0.801	0.982	6561	6861	−300
1966	8679	8780	0.811	0.814	0.997	7043	7144	−101
1967	8786	9371	0.825	0.823	1.003	7248	7708	−460
1968	9811	10058	0.898	0.913	0.983	8806	9187	−381
1969	10726	10355	0.919	0.935	0.983	9856	9678	178
1970	11260	10872	1.000	1.000	1.000	11260	10872	388
1971	12068	11395	1.048	1.041	1.006	12645	11864	781
1972	12380	12530	1.074	1.072	1.002	13298	13438	−140
1973	13494	13904	1.224	1.320	0.928	16519	18347	−1828
1974	14348	14153	1.512	1.854	0.816	21691	26235	−4544
Growth rates								
1960-5	3.5	3.0	1.4	1.3	0.1	5.0	4.3	. . .
1965-9	6.5	4.9	3.9	3.9	0.0	10.7	9.0	. . .
1969-74	6.0	6.4	10.5	14.7	−3.7	17.1	22.1	. . .

Table 6   Disaggregated Imports — Actual 1960-74

Year	FDT	PFDT	FU	PFU	BM	PBM	SF	PSF
1960	1969	0.782	449	1.069	1325	0.815	1376	0.730
1961	1969	0.754	468	1.030	1238	0.815	1336	0.730
1962	2047	0.766	524	1.017	1189	0.778	1340	0.713
1963	2008	0.835	557	1.002	1251	0.791	1476	0.711
1964	2047	0.865	599	0.975	1337	0.837	1761	0.752
1965	2008	0.851	655	0.930	1325	0.837	1721	0.797
1966	1969	0.869	720	0.868	1263	0.840	1783	0.830
1967	2047	0.861	772	0.944	1251	0.809	1950	0.820
1968	2106	0.902	819	1.101	1374	0.878	2266	0.935
1969	2028	0.952	879	1.032	1337	0.937	2354	0.978
1970	2047	1.000	945	1.000	1362	1.000	2500	1.000
1971	2047	1.063	1030	1.211	1239	1.025	2642	0.974
1972	2088	1.130	1030	1.208	1267	1.046	3029	0.981
1973	2108	1.457	1058	1.633	1416	1.390	3421	1.252
1974	2068	1.848	1019	4.572	1281	2.023	3814	1.679
Growth rates								
1960-5	0.4	1.7	7.8	−2.8	0.0	0.5	4.6	1.8
1965-9	0.2	2.8	7.6	2.6	0.2	2.9	8.1	5.3
1969-74	0.4	14.2	3.0	34.7	−0.8	16.6	10.1	11.4

	FM	PFM	SV	PSV	AC	PAC	M	PM
1960	674	0.767	1606	0.580	0	. . .	7399	0.751
1961	714	0.779	1621	0.622	0	. . .	7346	0.751
1962	771	0.780	1616	0.632	0	. . .	7487	0.748
1963	820	0.795	1649	0.619	0	. . .	7761	0.766
1964	1026	0.816	1708	0.635	2	1.000	8480	0.793
1965	1087	0.811	1755	0.667	10	1.200	8561	0.801
1966	1209	0.819	1803	0.686	33	1.242	8780	0.814
1967	1432	0.839	1838	0.711	81	1.210	9371	0.823
1968	1567	0.962	1826	0.790	100	1.090	10058	0.913
1969	1704	0.967	1996	0.790	57	1.070	10355	0.935
1970	2062	1.000	1946	1.000	10	1.000	10872	1.000
1971	2382	1.018	2050	1.058	5	1.000	11395	1.041
1972	2960	1.056	2151	1.119	5	1.000	12530	1.072
1973	3848	1.204	2053	1.297	0	. . .	13904	1.320
1974	3871	1.433	2100	1.529	0	. . .	14153	1.854
Growth rates								
1960-5	10.0	1.1	1.8	2.8	. . .	. . . .	3.0	1.3
1965-9	11.9	4.5	3.3	4.3	. . .	. . .	4.9	3.9
1969-74	17.8	8.2	1.0	14.1	. . .	. . .	6.4	14.7

Table 7A   Balance of Payments: Deflation

		1974	1975	1976	1977	1978
Relative costs (unadj.)	RD	1.181	1.354	1.543	1.768	2.084
Relative exchange rate	RX	0.855	0.753	0.667	0.588	0.504
Relative costs (adj.)	RC	1.010	1.020	1.030	1.040	1.051
Exports of goods and services (volume)	X	14348	14500	14813	15461	16481
Imports of goods and services (volume)	M	14153	14281	15178	16015	16948
Export prices	PX	1.512	1.726	1.979	2.277	2.676
Import prices	PM	1.854	2.034	2.111	2.311	2.689
Terms of trade	TT	0.816	0.849	0.937	0.985	0.995
Exports of goods and services (value)	X'	21691	25033	29319	35200	44106
Imports of goods and services (value)	M'	26235	29041	32044	37014	45569
Balance on goods and services	BT	−4544	−4008	−2726	−1814	−1463
(a) Balance on goods and services	$\overline{BT}$	−4544	−3511	−2083	−1205	−827
Interest, profits and dividends	IPD	1200	510	121	−357	−724
Transfers	T	−386	−547	−640	−746	−836
Current balance	CB	−3730	−3549	−2602	−2308	−2386
Long-term capital	LTC	1320	938	976	1047	1165
Net trade credit	NTC	−616	−385	−461	−523	−642
Basic balance	BB	−3106	−2995	−2087	−1783	−1863

(a) This item, and all below it, are expressed in 1974 export values.

Table 7B   Balance of Payments: Reflation

		1974	1975	1976	1977	1978
Relative costs (unadj.)	RD	1.181	1.368	1.556	1.625	1.559
Relative exchange rate	RX	0.855	0.745	0.662	0.640	0.674
Relative costs (adj.)	RC	1.010	1.020	1.030	1.040	1.051
Exports of goods and services (volume)	X	14348	14500	14813	15461	16481
Imports of goods and services (volume)	M	14153	14281	15429	17166	19313
Export prices	PX	1.512	1.739	1.997	2.147	2.119
Import prices	PM	1.854	2.051	2.128	2.160	2.096
Terms of trade	TT	0.816	0.848	0.938	0.994	1.011
Exports of goods and services (value)	X'	21691	25222	29575	33192	34932
Imports of goods and services (value)	M'	26235	29291	32838	37081	40473
Balance on goods and services	BT	−4544	−4070	−3263	−3889	−5542
(a) Balance on goods and services	$\overline{BT}$	−4544	−3539	−2471	−2739	−3954
Interest, profits and dividends	IPD	1200	499	138	−183	−420
Transfers	T	−386	−549	−640	−728	−789
Current balance	CB	−3730	−3589	−2972	−3649	−5163
Long-term capital	LTC	1320	940	974	1021	1100
Net trade credit	NTC	−616	−403	−442	−261	−16
Basic balance	BB	−3106	−3051	−2440	−2890	−4079

(a) See note to Table 7A

Table 7C   Balance of Payments: Devaluation

		1974	1975	1976	1977	1978
Relative costs (unadj.)	RD	1.181	1.427	1.802	2.234	2.618
Relative exchange rate	RX	0.855	0.621	0.497	0.405	0.349
Relative costs (adj.)	RC	1.010	0.887	0.896	0.905	0.914
Exports of goods and services (volume)	X	14348	15376	16415	17705	19359
Imports of goods and services (volume)	M	14153	14482	15657	17166	19313
Export prices	PX	1.512	1.893	2.422	3.035	3.632
Import prices	PM	1.854	2.297	2.665	3.167	3.728
Terms of trade	TT	0.816	0.824	0.909	0.958	0.974
Exports of goods and services (value)	X′	21691	29108	39751	53726	70311
Imports of goods and services (value)	M′	26235	33261	41718	54372	71992
Balance on goods and services	BT	−4544	−4152	−1967	−646	−1680
[a] Balance on goods and services	$\overline{BT}$	−4544	−3316	−1228	−322	−699
Interest, profits and dividends	IPD	1200	788	330	−33	−200
Transfers	T	−386	−589	−683	−793	−865
Current balance	CB	−3730	−3118	−1581	−1147	−1764
Long-term capital	LTC	1320	734	744	789	856
Net trade credit	NTC	−616	−813	−966	−953	−850
Basic balance	BB	−3106	−3197	−1802	−1311	−1758

[a] See note to Table 7A

Table 7D   Balance of Payments: Import restriction

		1974	1975	1976	1977	1978
Relative costs (unadj.)	RD	1.181	1.362	1.591	1.839	2.067
Relative exchange rate	RX	0.855	0.749	0.647	0.566	0.508
Relative costs (adj.)	RC	1.010	1.020	1.030	1.040	1.051
Exports of goods and services (volume)	X	14348	14500	14813	15461	16481
Import of goods and services (volume)	M	14153	14239	14961	15845	17091
Export prices	PX	1.512	1.733	2.026	2.363	2.690
Import prices	PM	1.854	2.048	2.179	2.419	2.723
Terms of trade	TT	0.816	0.846	0.930	0.977	0.988
Exports of goods and services (value)	X′	21691	25132	30017	36528	44338
Imports of goods and services (value)	M′	26235	29164	32593	38331	46547
Balance on goods and services	BT	−4544	−4032	−2576	−1803	−2209
[a] Balance on goods and services	$\overline{BT}$	−4544	−3518	−1922	−1154	−1242
Interest, profits and dividends	IPD	1200	504	80	−327	−591
Transfers	T	−386	−548	−644	−748	−824
Current balance	CB	−3730	−3561	−2486	−2228	−2657
Long-term capital	LTC	1320	940	982	1050	1149
Net trade credit	NTC	−616	−394	−522	−553	−524
Basic balance	BB	−3106	−3016	−2025	−1731	−2032

[a] See note to Table 7A

Table 8A   Real Wages and Inflation

Year	PDI	YW	EE	W	W*	%PC	W'	t	WD	UC
1960	27039	19547	17267	1306	1292	1.1	879	.133	1132	.639
1961	28117	20303	17369	1364	1365	3.0	945	.143	1169	.668
1962	28329	20408	17346	1386	1392	3.9	998	.151	1176	.687
1963	29575	21098	17203	1441	1431	1.9	1058	.149	1226	.708
1964	30681	21989	17273	1505	1510	3.4	1142	.154	1273	.745
1965	31403	22186	17362	1541	1559	4.9	1227	.171	1277	.771
1966	32092	22550	17462	1576	1584	4.0	1305	.181	1291	.793
1967	32549	22714	17149	1623	1619	2.9	1383	.184	1324	.812
1968	33082	22779	16940	1674	1690	4.9	1497	.197	1345	.862
1969	33228	22810	16879	1697	1717	5.7	1604	.204	1351	.914
1970	34309	23673	16803	1801	1823	5.8	1801	.218	1409	1.000
1971	35249	24274	16524	1872	1917	8.2	2026	.216	1469	1.093
1972	37625	25694	16401	1979	2012	6.7	2286	.209	1566	1.187
1973	39609	26825	16659	2053	2106	8.6	2575	.216	1610	1.287
1974	40301	27204	16589	2144	2227	14.4	3077	.235	1640	1.494
Growth rates										
1960-5	3.0	2.6	0.1	3.4	3.8	...	6.9	5.2	2.4	3.8
1965-9	1.4	0.7	−0.7	2.4	2.5	...	6.9	4.5	1.4	4.3
1969-74	3.9	3.6	−0.3	4.8	5.4	...	13.9	2.9	4.0	10.3

PDI	Real personal disposable income
YW	Real disposable income from employment
EE	Equivalent full-time adult male employment
W	Actual real average pre-tax earnings
W*	Negotiated average real pre-tax earnings
%PC	Increase in consumer prices
W'	Average pre-tax earnings in money terms
t	Average tax rate on income from employment
WD	Real average earnings post-tax
UC	Index of unit labour costs

Table 8B   Real wages and inflation.   **Import Restriction Forecasts with high and low inflation.**

Year	PDI	YW	EE	W	W*	%PC	W'	t	WD	UC
High inflation										
1974	40301	27204	16589	2144	2227	14.4	3077	0.235	1640	1.494
1975	40416	27195	16202	2234	2372	20.9	3874	0.248	1678	1.826
1976	41722	28035	16084	2354	2502	21.1	4945	0.260	1743	2.263
1977	44164	29738	16214	2506	2640	18.5	6237	0.268	1834	2.771
1978	47281	31935	16436	2676	2785	14.9	7653	0.274	1943	3.301
Growth rate										
1974-8	4.1	4.1	−0.2	5.7	5.8	...	25.6	3.9	4.3	21.9
Low inflation										
1974	40301	27204	16589	2144	2227	14.4	3077	0.235	1640	1.494
1975	40416	27195	16202	2227	2325	15.9	3703	0.246	1678	1.745
1976	41722	28035	16084	2340	2427	14.0	4435	0.255	1743	2.030
1977	44164	29738	16214	2483	2534	9.5	5152	0.261	1834	2.289
1978	47281	31935	16436	2644	2646	4.3	5720	0.265	1943	2.467
Growth rate										
1974-8	4.1	4.1	−0.2	5.4	4.4	...	16.8	3.1	4.3	13.4

PDI   Real personal disposable income
YW   Real disposable income from employment
EE   Equivalent full-time adult male employment
W   Actual real average pre-tax earnings
W*   Negotiated average real pre-tax earnings
%PC   Increase in consumer prices
W'   Average pre-tax earnings in money terms
t   Average tax rate on income from employment
WD   Real average earnings post-tax
UC   Index of unit labour costs.

Table 9A   Real National Income

Year	GDP	QNS	TTE	NFY	A	Y £1970m	Y index	DE	$\overline{CB}$
1960	32904	0	−229	229	6104	39008	76.7	39035	−385
1961	33764	0	−94	224	6203	40097	78.8	40130	9
1962	34152	0	−1	315	6209	40675	80.0	40524	173
1963	35485	0	−77	360	6465	42233	83.0	42127	171
1964	37506	0	−273	293	6771	44297	87.1	44884	−509
1965	38582	0	−156	319	6798	45543	89.5	45516	−62
1966	39270	0	−22	225	6918	46391	91.2	46296	102
1967	40042	2	41	174	7115	47374	93.1	47893	−370
1968	41629	17	−183	114	7278	48845	96.0	49192	−316
1969	42350	17	−181	292	7252	49730	97.8	49123	480
1970	42974	38	0	319	7533	50864	100.0	50157	707
1971	43551	63	45	287	7865	51811	101.9	51010	1005
1972	44640	92	31	217	8519	53499	105.2	53428	97
1973	46955	100	−1015	494	9019	55553	109.2	56546	−931
1974	47112	117	−3282	553	8913	53413	105.0	56098	−2534
Growth rates									
1960-5	3.2	...	...	6.9	2.2	3.1	3.1	3.1	....
1965-9	2.4	...	...	−2.2	1.6	2.2	2.2	1.9	...
1969-74	2.2	...	...	13.6	4.2	1.4	1.4	2.7	...

GDP	Gross domestic product at factor cost excluding North Sea output
QNS	North Sea output at factor cost
TTE	Terms of trade effect
NFY	Net foreign income and transfers from abroad
A	Adjustment to factor cost
Y	Real National Income
DE	Domestic expenditure
$\overline{CB}$	Current balance deflated by price of domestic expenditure.

Table 9B   Real National Income: Alternative Forecasts

Year	GDP	QNS	TTE	NFY	A	Y £1970m.	Y index	DE	$\overline{\overline{CB}}$
Deflation forecast									
1974	47112	117	−3282	553	8913	53413	105.0	56098	−2534
1975	47075	144	−2480	−24	9168	53883	105.9	56300	−2285
1976	48158	247	−945	−326	9477	56611	111.3	58393	−1636
1977	49266	451	−170	−665	9842	58724	115.5	60273	−1389
1978	50308	616	−3	−889	10150	60182	118.3	61715	−1359
Growth rate									
1974-8	1.6	...	...	...	3.3	3.0	3.0	2.4	...
Import restriction forecast									
1974	47112	117	−3282	553	8913	53413	105.0	56098	−2534
1975	47475	144	−2515	−29	9114	54189	106.5	56603	−2282
1976	49027	247	−1036	−347	9294	57185	112.4	58861	−1530
1977	51146	451	−311	−648	9832	60470	118.9	61973	−1343
1978	53758	616	−127	−842	10593	63998	125.8	65751	−1579
Growth rate									
1974-8	3.4	...	...	...	4.4	4.6	4.6	4.0	...

GDP	Gross domestic product at factor excluding North Sea output
QNS	North Sea output at factor cost
TTE	Terms of trade effect
NFY	Net foreign income and transfers from abroad
A	Adjustment to factor cost
Y	Real national income
DE	Domestic expenditure
$\overline{\overline{CB}}$	Current balance deflated by price of domestic expenditure

Table 10   The North Sea Economy

		1971	1972	1973	1974	1975	1976	1977	1978
Volume at 1970 prices									
Exports	NX	79	115	125	147	179	301	546	743
Operating imports	NM	16	23	25	30	35	54	95	127
Investment	NI	73	105	95	142	268	340	309	295
1974 values									
Exports	NX	108	147	153	161	301	823	1893	2766
Operating imports	NM$'$	23	33	39	50	59	92	164	224
Gross trading profits	GTP	85	114	114	111	242	731	1729	2542
Total revenue	NTAX	14	19	19	20	38	112	494	1215
Net trading profits	NTP	71	95	95	91	204	619	1235	1327
IPD to UK	IUK	22	30	30	28	76	279	569	424
IPD abroad	IA	49	65	65	65	128	340	666	903
Investment	NI$'$	110	161	178	345	650	832	772	756

Notes and definitions

The following notes explain how the figures in the tables have been calculated. The definition and unit of measurement of each variable is given in the notes on the table in which it appears.

For explanation of items in the summary tables, reference should be made to notes on the relevant main table.

Table 1 GDP, Employment and Unemployment

The figures for gross domestic product and productivity in this table are on a North Sea exclusive basis. Gross domestic product of the North Sea economy is defined as exports from the North Sea to the UK and the rest of the world minus all operating imports to the North Sea, and for each year this sum is subtracted from the Blue Book definition of GDP to give the series shown. Past movements in GDP, employment, unemployment and productivity are then analysed as described below in order to construct par series for those variables, i.e. how they might have behaved if a constant pressure of demand (defined as a 2½% rate of unemployment) had been maintained throughout. The par figures for the future are constructed using estimates of changes in the labour force and an assumption about trend growth of productivity. Forecasts of actual employment and unemployment depend on the assumed

actual path of GDP. Blue Book basis figures for GDP shown in other tables are obtained by adding back projections of North Sea exports net of operating imports (measured at constant prices).

GDP   Gross domestic product at 1970 factor cost, excluding the North Sea: compromise index linked to 1970 expenditure estimate, less exports from the North Sea net of operating imports to the North Sea (see Table 10). (£1970m)

U   Unemployment: arithmetic mean of UK fourth-quarter seasonally unadjusted monthly figures (excluding school-leavers and adult students) (thousands).

E   Employment: employees in employment plus HM forces plus employers and self-employed; seasonally adjusted UK December figure (thousands).

Actual employment, E, and unemployment, U, are adjusted for their lagged response to changes in output to obtain the equilibrium levels of employment and unemployment which could be sustained, with a given labour force, if the existing demand pressure persisted. These equilibrium levels of employment and unemployment are estimated as simple weighted averages of

current and lagged actual values:

$$E'_t = 0.875E_t + 0.125E_{t-1} \qquad 1.1$$

$$U'_t = 0.875U_t + 0.125U_{t-1} \qquad 1.2$$

Par series for GDP, unemployment, employment and productivity, GDP*, U*, E* and P*, are then obtained for the past from relationships between their respective deviations from par [1]:

$$\frac{E'}{E^*} = \left(\frac{GDP}{GDP^*}\right)^\beta \qquad 1.3$$

$$U' - U^* = 0.4\,(E^* - E') \qquad 1.4$$

$$U^* = 0.025E^* \qquad 1.5$$

where β increases smoothly from 0.52 in 1960 to 0.76 in 1972, and is assumed to remain constant thereafter, implying increased responsiveness of employment, and thus also unemployment, to fluctuations in GDP.

Par productivity (£ thousand, 1970 prices) is defined by

$$P^* = GDP^*/E^* \qquad 1.6$$

1.1 to 1.6 are solved to obtain values of E*, GDP* and P* for 1961, 1965, 1969 and 1973; other past values are obtained by interpolation or extrapolation. E* is projected to 1978 taking account of labour force projections in the Department of Employment Gazette, April 1974 and P* is assumed to grow at an annual rate of 2.65% from 1973 onwards. 1.6 is then used to obtain future par GDP, so that, given an assumption for the future path of actual GDP, 1.1 to 1.5 can then be solved for future equilibrium and actual employment and unemployment.

Table 2 Public Expenditure

(£1970m)

CG	Public authorities' current expenditure on goods and services
IDG	Public sector gross fixed capital formation in dwellings
IKG.	Other public sector gross fixed capital formation
IG	Total public sector gross fixed capital formation IG = IDG+IKG
G	Total public sector expenditure on goods and services (excluding public sector stockbuilding) G=IG+CG

No adjustments for the pressure of demand, etc. are made to the series for public expenditure, since the volume of resources absorbed by the public sector in the categories defined above is assumed to be the same under par as under actual conditions. For 1975 onwards alternative projections are made for IKG, on the

(1)   For 1974 a special adjustment was made to take account of the effects of the three-day week in depressing output for a temporary period early in the year.

assumption that, in view of the recent sluggish behaviour of private investment during expansionary phases, any success in reflating the economy by 1978 will entail increased government investment. The forecasts for public expenditure are based on the White Paper published in January 1975 (Cmnd. 5879).

Table 3 Gross Fixed Capital Formation

Estimates of par GDP from Table 1 are used to construct and project par series for various components of capital formation: given these par projections, actual series are then projected to correspond with the alternative projections of GDP shown in Table 1.

(£1970m)

IDP	Private gross fixed capital formation in dwellings
IKP	Other private gross fixed capital formation
IG	Public sector gross fixed capital formation (see Table 2)
I	Total public and private gross fixed capital formation I=IDP+IKP+IG
Q	GDP at factor cost (Blue Book definition, i.e. inclusive of North Sea)
Q*	Par GDP at factor cost (Blue Book definition). Hence Q* − Q = GDP* − GDP since no adjustments for demand pressure are made to North Sea data.

Par series for past years are calculated by:

$$IDP^* = IDP + 0.37\,(MI^* - MI)_{-1} - 112.0\,(MIR^* - MIR)_{-1} \qquad 3.1$$

$$IKP^* = IKP + 0.136\,(GDP^* - GDP) + 0.140\,(GDP^* - GDP)_{-1} - 0.098\,(GDP^* - GDP)_{-2} \qquad 3.2$$

where

MI = annual net inflows of funds to building societies (£1970m)

MIR = current borrowing rate on new mortgages (% p.a.)

MI* = par net inflow, i.e. that inflow received by the building societies when the ratio of their deposit rate to Bank Rate/Minimum Lending Rate is equal to unity.

MIR* = trend value of MIR

For projections, IDP* is assumed to grow at about 2.8% per annum from 1976 to 1978, after remaining flat in 1975. Future IDP is then obtained from 3.1 with a projection for the combined effect of the two financial terms. The equation used for IKP* is:

$$IKP^* = -3454 + 0.136\,GDP^* + 0.140\,GDP^*_{-1} - 0.098\,GDP^*_{-2} + PS + NI \qquad 3.3$$

where PS is private investment in the steel industry and NI is investment in the North Sea (both treated as exogenous). This equation underpredicts IKP* in 1974 by some £200 million, which reflects the recent sluggishness of private investment in response to increases in

output. The projections given by equation 3.3 have therefore been adjusted so as to assume that the depression of private investment is progressively eliminated by 1978 (except in the deflation forecast where private investment is assumed to remain abnormally depressed). Alternative forecasts of IKP conditional on different GDP assumptions are solved from equation 3.2.

Table 4 Stockbuilding

(£1970m)

S   value of physical increase in stocks and work in progress

H   end-year value of stocks and work in progress
$H = H_{-1} + S$

A preliminary series for par stocks is given by

$$H^* = H + 0.3045\,(GDP^* - GDP) + 0.0951$$
$$(GDP^* - GDP)_{-1} \qquad\qquad 4.1$$

A logarithmic trend is fitted through the par stock-output ratio series for 1962-74 implied by 4.1, and extrapolated backwards to 1960 and forward to 1978; this trend series is used to obtain a final series for par stocks, from which par stockbuilding is inferred by taking first differences. 4.1 is then used to obtain future actual stock levels, and thence actual stockbuilding, conditional on the projection of actual GDP.

Tables 5, 6, 7 Trade and payments

These tables show historical series and projections for the main components of the current and long-term capital accounts of the U.K. balance of payments.

A Balance of trade

Tables 5 and 6 show actual past series for the balance of trade in goods and services.

X   Exports of goods and services at 1970 prices (£1970m)

M   Imports of goods and services at 1970 prices (£1970m)

X' Exports of goods and services at current prices (£m)

M' Imports of goods and services at current prices (£m)

PX   Price deflator for exports (1970 = 1.000)
$PX = X'/X$

PM   Price deflator for imports (1970 = 1,000)
$PM = M'/M$

TT   Terms of trade (1970 = 1.000)
$TT = PX/PM$

BT   Balance of trade on goods and services at current prices (£m)

Table 6 shows volume series (£1970m) and deflators (1970 = 1.000) resulting from the disaggregation of total imports into seven categories:

FDT   Food, drink and tobacco

FU   Fuels

BM   Basic materials

SF   Semi-finished manufactures

FM   Finished manufactures

AC   U.S. aircraft

SV   Other (mainly services)

Corresponding deflators are shown with prefix P.

The first stage in the analysis of the balance of trade is to estimate the trend balance of trade for the past by adjusting export and import volumes and deflators for deviations from trend in GDP, world trade and relative costs. This involves the following exogenous variables:

WT   World trade (not shown): the sum of the exports of goods and services at 1970 sterling values (£ million) of the UK and six major exporters — Canada, France, West Germany, Italy, Japan, U.S.A. (£1970m)

UC   (see Table 8) UK unit labour costs in manufacturing (average hourly earnings divided by trend productivity) including adjustment for the effect of indirect taxes and subsidies on exports (1970 = 1.000)

RD   UK relative costs in domestic currencies, i.e. UC relative to a geometric index of the unit costs (expressed in their own currencies) of the other six countries named above, using weights obtained from each country's share in WT in 1970 (1970 = 1.000)

RX   UK exchange rate (U.S. dollars per pound sterling, 1970 = 1) relative to a geometric index (constructed similarly to RD, using the same weights) of the exchange rates of the other six countries (1970=1.000)

RC   UK relative costs corrected for exchange rate changes (1970 = 1.000)
$RC = RD.RX$

Trend series for these exogenous variables are logarithmic trends fitted through actual data for 1966-72, and then extrapolated forwards and back. Trend series for export and import volumes and deflators are obtained by correcting actual series for deviations from trend (trend series are denoted by a circumflex).

1. Export volumes are adjusted for world trade and UK relative costs:

$$\frac{\hat{X}}{\widehat{WT} - \hat{X}} = \frac{X}{WT - X} \left[\prod_{u=1960}^{t} \left(\frac{\widehat{RC}}{RC}\right)^{0.75^{t-u}} \right]^{-0.475} \left(\frac{\widehat{WT}}{WT}\right)^{-0.5} \qquad 5.1$$

2. The volumes of imports of fuels, basic materials and semi-finished manufactures are adjusted for deviations of GDP from par:

$$\widehat{FU} = FU + 0.02\,(GDP^* - GDP) \qquad\qquad 5.2$$
$$\widehat{BM} = BM + 0.04\,(GDP^* - GDP) \qquad\qquad 5.3$$
$$\widehat{SF} = SF + 0.1\,(GDP^* - GDP) \qquad\qquad 5.4$$

Finished manufactures are adjusted for the pressure of demand by:

$$\widehat{FM} = FM \left(\frac{GDP^*}{GDP}\right)^{4.0} \qquad\qquad 5.5$$

No adjustments for variations in GDP were made in the other three import categories — food, drink and tobacco, services and U.S. aircraft.

3. The deflators for exports and imports (excluding U.S. aircraft) are adjusted for domestic inflation, relative costs and world trade:

$$\hat{P}_i = P_i \left[\frac{\hat{UC}}{UC} \left(\frac{\widehat{RC}}{RC}\right)^{\alpha_2} \right]^{\alpha_1} \left[\frac{\hat{UC}_{-1}}{UC_{-1}} \left(\frac{\widehat{RC}_{-1}}{RC_{-1}}\right)^{\alpha_2} \right]^{(1-\alpha_1)} \left(\frac{\widehat{WT}}{WT}\right)^{\alpha_3} \qquad 5.6$$

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The coefficients used in 5.6 are

	α_1	α_2	α_3
PX	0.73	−0.52	0
PFDT	0.50	−0.65	1.0
PFU	1.0	−1.0	0
PBM	1.0	−0.47	1.3
PSF	1.0	−0.63	1.0
PFM	0.76	−0.80	0
PSV	0.80	−0.23	0

The next stage is the projection of the trend balance of trade by separate projections of its various components. Of the exogenous variables, projected par GDP is taken from Table 1, and $\widehat{WT}$, $\widehat{UC}$ and $\widehat{RC}$ for 1975-78 are extrapolated on their respective trends. In principle, we would normally project trend series for the endogenous variables (export and import volumes and deflators) by fitting trends to the adjusted past series obtained from 5.1 to 5.6 and extrapolating these trends into the future. However, events in the world economy in the last two years (such as the speculative boom in commodity prices and the increase in the price of oil) have caused substantial upward movements in import prices whose deviations from trend cannot be solely explained on the basis of off-trend movements in UK costs, relative costs and world trade. Moreover, the boom in commodity prices has effects not only on the price of direct imports of commodities, but also on the prices of UK exports and imports of finished manufactures which make substantial use of basic materials and semi-finished manufactures as inputs to production. In order to project trend series for all the deflators so affected it is necessary, therefore, to take a view as to the behaviour of these abnormal off-trend elements over the future period: the table below shows the percentage in 1974 by which the adjusted deflators for food, basic materials, semi-finished and finished manufactures, and exports obtained from 5.6 exceed the extrapolated value of a logarithmic trend fitted between 1966 and 1972 (the last year before the boom in commodity prices), together with the assumed time-path of this percentage up to 1978.

	FDT	BM	SF	FM	X
1974	36	53	36	5	13
1975	39	35	32	4	11
1976	23	2	13	2	8
1977	18	0	11	0	4
1978	16	0	11	0	1

The trend fuel deflator is projected on the assumption that the price of oil in real dollar terms is the same on average in 1978 as in 1974; the projection for fuel volume assumes that some degree of energy-saving is achieved, in the sense that total energy consumption will be less in relation to GDP than would be expected on the basis of past relationships.[1] Projected North Sea production of oil and gas is then subtracted from total energy requirements to obtain a projection for fuel imports.

Having constructed the trend balance of trade for both values and volumes, together with the trend exogenous series for costs and world trade, projections

(1)   See Chapter 4, Appendix 1.

for the actual balance of trade as shown in table 7 are then obtained by using 5.1 to 5.6 to incorporate the effects on exports and imports of assumed future deviations from trend of actual costs and world trade. The assumptions for world trade and costs are as follows:

1. World trade on our definition grows by ½% in 1975, and then by 3, 6½ and 11% in succeeding years up to 1978, by which time (since the past trend growth rate of world trade is 9.1%) actual world trade would be some 13% below trend.

2. Except in the devaluation projection, the UK's relative cost position (as measured by RC) deteriorates by 1% per annum between 1974 and 1978. In the devaluation projection, a 15% reduction in RC, maintained from 1975 to 1978, is superimposed on this path.

3. As can be seen from 5.1 to 5.5 above, the projected volumes of exports and imports depend only on future GDP, relative costs and world trade, and not on UK inflation per se. Given the exogenous assumptions for these three items to yield export and import volumes, together with the projections for public expenditure and capital formation shown in tables 2, 3 and 4, future consumption can be inferred as a residual. As explained under table 8 below, this consumption projection is used to obtain a projection for UK inflation, and in particular for unit labour costs, UC. It is then assumed that the exchange rate (RX) is always adjusted to yield the series for RC under (2) above. Having done this we can project current price series for the balance of trade which are mutually consistent with the inflationary implications of the overall resource balance — one determinant of which is the balance of trade in volume terms. Tables 7A, 7B, 7C and 7D show the main items of the actual trade balance for four alternative projections: import restriction is the outcome of measures designed to restrict the trend (i.e. unadjusted) growth of imports of finished manufactures to 8% per annum from 1974 onwards, compared with an unrestricted trend growth rate of 18½% which is used in the other projections.

To compare alternative projections allowing for the fact that they imply quite different future inflation rates, Table 7 also shows

$\overline{BT}$ Balance of trade on goods and services at 1974 export values (£1974m)

where

$$\overline{BT} = BT \, \frac{PX_{1974}}{PX} \qquad 5.7$$

The summary tables show the oil deficit (OD) for 1973 to 1978 inclusive: this is calculated as minus the difference between the actual value of fuel imports and what the value of fuel imports would be if the fuel deflator for 1973 onwards continued on its 1966-72 trend. This series is then converted to 1974 export values as in 5.7.

B Balance of payments: non-trade items

For each projection the lower half of table 7 shows those items which, in addition to the balance on goods and services obtained as described in (A) above, are necessary to project the current and basic balances. The series used for domestic costs (UC) and foreign costs in sterling terms (UC divided by RC) in making projections of the various items below are those which are

generated by our model of inflation (see table 8) as part of the overall outcome of each projection. Except where otherwise specified, all trends referred to in this section are fitted logarithmically to the period 1965-73. To facilitate comparability between the different projections, all the items in the lower half of the tables, after being obtained in current price terms as described below, are expressed in 1974 export values by multiplying each by the ratio of the current-year export deflator to the value of the deflator in 1974 (as in equation 5.7 above) in units of £1974m.

1. Interest, profits and dividends (IPD)

   (i) IPD credits: Past figures are converted into real terms, deflating by foreign costs, and the projected real trend for 1975-78 is converted back to current prices by multiplying by projected foreign costs.

   (ii) IPD debits (excluding IPD paid abroad from the North Sea): a real trend is projected and reflated as for credits, using domestic rather than foreign costs as deflator.

   (iii) IPD paid abroad from the North Sea: calculation of this item is described in the notes to table 10.

   (iv) Additional IPD debits to finance balance of payments deficits: this item covers interest payments on the debts incurred to finance the unusually large deficits which have occurred since 1973. A "normal" deficit in real terms on the basic balance (defined below) is calculated for 1973 onwards as the average of the actual basic balance (deflated by domestic costs) for 1965-74 inclusive: this deficit is then converted to current prices by projected domestic costs, and additional interest for any given year is charged on the cumulative sum since 1973 of the differences between the normal deficit and the actual deficit on the basic balance. Half of these financing debts incurred in any one year are assumed to be denominated in foreign currency: this half is converted to foreign currency terms by multiplying by RX and cumulated from 1973. Interest on this cumulated debt is charged at 8% and then reconverted to sterling. Devaluation thus has the effect of increasing the interest liability corresponding to a given pattern of deficits. The remaining half of the debt is assumed to be denominated in sterling. and interest is charged in each year at r% on the cumulated debt from 1973 according to the following formula:

$$r_t = 5 + 0.5 \left(\frac{PC_t}{PC_{t-1}} - 1 \right) \times 100 \qquad 5.8$$

where PC_t is the level of the consumer price index in year t.

2. Transfers (T)

   (i) Government transfers: foreign aid and net EEC contributions.

   (ii) Private transfers: real trends are projected separately for credits and debits, using domestic costs as deflator.

3. Current balance (CB)

The current balance is the sum of the balance on goods and services, interest, profits and dividends (net) and transfers (net):

$$CB = BT + IPD + T$$

4. Long-term capital (LTC)

   (i) Private credits (excluding North Sea): this item is projected to grow at 5% per annum in real terms from 1973, and reflated by domestic costs.

   (ii) Private debits (excluding Euroborrowing): a real trend is projected as for IPD credits, using foreign costs as deflator.

   (iii) Foreign investment in the North Sea: a projected series expressed in 1974 prices is converted to current price terms using a simple average of foreign and domestic costs as the appropriate deflator.

   (iv) Official long-term government capital: this is assumed to be £250 million per annum in 1974 prices, and is revalued by projected foreign costs.

   (v) Autonomous overseas investment in UK public sector: this is assumed to be £50 million per annum is constant prices from 1975 to 1978, and revalued by domestic costs.

Our definition of long-term capital (net) is the sum of items (i) to (v) (with appropriate signs). Solicited overseas investment in the UK public sector, which is mainly a financing item but included in the official definition of long-term capital, is omitted from our definition, and hence also omitted from our definition of the basic balance.

5. Net trade credit (NTC)

This is projected by the formula

$$NTC_t = (M'_t Q_{mt} - M'_{t-1} Q_{m,t-1}) - (X'_t Q_{xt} - X'_{t-1} Q_{x,t-1}) \qquad 5.10$$

where X'_t, M'_t are respectively exports and imports of goods and services at current prices in year t. The coefficients Q_{mt} and Q_{xt} are projections of a linear time trend fitted through the respective actual series for 1967-73 inclusive.

6. Capital transfers (not shown)

This item is worth $-£80$ million in 1974, and is assumed to be zero thereafter.

7. Basic balance (BB)

This is the sum of items 3, 4, 5 and 6 above, and thus on our definition excludes solicited overseas investment in the UK public sector:

$$BB = CB + LTC + NTC + \text{capital transfers} \qquad 5.11$$

Table 8 Real wages and inflation

The real resource implications of our analysis are here used to generate alternative projections of inflation. For each conditional forecast we have projections of GDP at factor cost (Tables 1 and 9), public expenditure (Table 2), fixed capital formation (Table 3), stockbuilding (Table 4) and the balance of trade on goods and services (Table 7).

C Consumers' expenditure (£1970m)

A Adjustment to factor cost (£1970m)

R Residual error (compromise less expenditure estimate of GDP) (£1970m)

AC Average indirect tax rate (net of subsidies) on consumers' expenditure.

Estimates for consumers' expenditure and the adjustment to factor cost are derived from the following relationships:

$$C + CG + I + S + X - M - A + R = Q \qquad 8.1$$

$$AC = -0.0177 + 0.2650 \, \frac{C}{Q} + 0.0004t \qquad 8.2$$

$$(1960 : t = 1)$$

$$A = AC.C + 0.0761 \, CG + 0.0761 \, I + 0.0416X \qquad 8.3$$

where R is extrapolated on a linear trend fitted to past values.

Thus forecast private consumption is derived as a residual use of resources. Implicitly it is assumed that fiscal policy is adjusted to ensure that the required level of consumption is in fact generated. This makes it possible, on further assumptions about direct taxation and the distribution of personal income, to infer real earnings and hence the required level of consumer prices relative to money earnings. Finally, given assumptions about pay settlements, the inflation of consumer prices and money earnings can be estimated for future years.

PDI Real personal disposable income (£1970m)

YW Real disposable income from employment (£1970m)

YG Real disposable income from grants (£1970m)

EE Equivalent full-time adult male employment (thousands)

WD Average real disposable earnings per person (£1970 p.a.)

Total personal income is solved from the consumption function

$$C - \hat{C} = 0.7143 \, (PDI - \widehat{PDI}) + 0.2 \, (PDL_1 - \widehat{PDL}_1) \quad 8.4$$

where $\hat{C}$ and $\widehat{PDI}$ are extrapolations of fitted logarithmic trends.

Income from grants is assumed to vary slightly relative to income from employment as a result of fluctuations in the rate of unemployment:

$$YG = (0.174 + 0.67 \, \overline{U}/\overline{E}) \, YW \qquad 8.5$$

where $\overline{U}$, $\overline{E}$ are estimates of the average levels of unemployment and employment in the year.

Other personal income (from self-employment, interest, profits and dividends, etc.) is assumed to maintain a fixed share in total disposable income as it has for a long period in the past. Thus:

$$YW + YG = 0.805 \, PDI \qquad 8.6$$

Equations 8.4 to 8.6 can be solved for YW. Average real disposable earnings per person is then given by:

$$WD = 1000. \, YW/EE \qquad 8.7$$

where EE is derived from projections of total employment, $\overline{E}$, adjusted for changes in demographic composition.

To estimate pre-tax earnings and derive the rate of inflation, assumptions must be made about fiscal drag and pay settlements.

t Average tax rate on gross income from employment (including employers' and employees' contributions)

W Average real pre-tax earnings per person (£1970 p.a.)

W′ Average pre-tax money earnings per person (£p.a.)

PC Price deflator for consumers' expenditure (1970=1.000)

It is assumed that in future fiscal drag will be partially offset to secure an effective marginal tax rate on average money earnings of 30%. Thus:

$$t = 0.30 - 0.20/W' \qquad 8.8$$

Then, using the identities

$$W(1-t) = WD \qquad 8.9$$

and

$$W' = W.PC \qquad 8.10$$

we derive the relationship between increases in consumer prices and money earnings necessary to ensure that post-tax real earnings, WD, match the assumed availability of resources. This relationship can be expressed in the form:

$$\frac{PC}{PC_{-1}} = \frac{(1 - t) \, W'}{(1 - t_{-1}) \, W'_{-1}} \; \frac{WD_{-1}}{WD} \qquad 8.11$$

Finally, an assumption must be made about money pay settlements which determine the increase in gross money earnings. We assume in effect that this will be determined by settlements aimed at compensation for past price increases plus some real increase, but that in any event even with falling consumer prices there would still be an effective minimum increase in money earnings of about 3% a year. This assumption is formalized in the relation

$$\frac{W'}{W'_{-1}} = 1.03 \left[0.5 \left(1 + \left[\frac{W^*}{W_{-1}} \left(\frac{PC}{PC_{-1}} \right)^{0.6} \right]^{0.02} \right)^{50} \right] \qquad 8.12$$

which is approximately equal either to

$$\frac{W'}{W'_{-1}} = 1.03 \text{ when } \frac{PC}{PC_{-1}} \leqslant 1$$

$$\frac{W'}{W'_{-1}} = 1.03 \, \frac{W^*}{W_{-1}} \left(\frac{PC}{PC_{-1}} \right)^{0.6} \text{ when } \frac{PC}{PC_{-1}} > 1$$

In this relation W* represents the average level of gross real earnings achieved at pay settlements (before it is eroded by subsequent inflation). Most of our forecasts assume that W* will grow at 5½% per year, in line with

its movement in 1970-74. The 'low inflation' forecast assumes W* will grow at 4½% per year.

Given values for W*, forecasts of consumer prices and money earnings are solved from equations 8.11 and 8.12. These forecasts are used to project unit labour costs, UC, for use in Table 7.

Table 9 Real National Income

Real national income is a measure of the total resources available for domestic expenditure (including consumption and investment, both public and private) given a constant balance of payments target on current account. It is measured in terms of the purchasing power of domestic output, and can be directly calculated as gross national product at current market prices divided by the deflator for domestic expenditure (PDE). Differences between real national income and gross national product in real terms are determined by relative movements in the domestic expenditure and GNP deflators — i.e. by movement in the terms of trade.

(£1970m)

Y   Real national income at market prices

DE   Domestic expenditure at market prices

CB   Current balance of payments divided by PDE

The right-hand side of Tables 9A and 9B shows the breakdown of real national income between these items: the discrepancy between their sum and the figure shown for Y corresponds to the residual error (R) between compromise and expenditure estimates of GDP. For future years the domestic expenditure deflator is assumed to grow at a rate ½% per annum faster than the consumer price index PC (see Table 8).

The left-hand side of the table breaks down the difference between gross domestic product at factor cost and real national income at market prices into its various components.

(£1970m)

GDP   Gross domestic product excluding the North Sea

QNS   North Sea output at factor cost

TTE   Terms of trade effect

NFY   Net foreign income and transfers from abroad: interest, profits and dividends (net) plus transfers (net) (see Table 7) deflated by PDE.

A   Adjustment to factor cost.

On our definitions,

$$Y = DE + \overline{CB} + R \qquad 9.1$$

$$= GDP + QNS + NFY + A + TTE \qquad 9.2$$

while

$$GDP + QNS = DE + X - M - A + R \qquad 9.3$$

and

$$\overline{CB} = \frac{X' - M'}{PDE} + NFY \qquad 9.4$$

From these relations it follows that we must measure the terms of trade effect as

$$TTE = X\left(\frac{PX}{PDE} - 1\right) - M\left(\frac{PM}{PDE} - 1\right) \qquad 9.5$$

Table 10 The North Sea economy

This table summarizes the main items in North Sea accounts for 1971-74, together with forecasts for 1975-78 conditional on the assumptions of the forecast for import restriction with low inflation.

(£1970m)

NX   Volume of North Sea deliveries of oil and gas

NM   Volume of North Sea operating costs

NI   Volume of fixed investment in the North Sea (including exploration and development costs)

Value figures are expressed at 1974 values by dividing current price estimates by the domestic expenditure deflator relative to 1974.

(£1974m)

NX'   Value of North Sea deliveries

NM'   Value of North Sea operating costs

NI'   Value of North Sea investment

GTP   Gross trading profits

NTAX   Total government revenue from the North Sea

NTP   Trading profits net of tax

IUK   Profits paid to UK net of tax

IA   Profits paid abroad net of tax

By definition,

$$GTP = NX' - NM' \qquad 10.1$$

$$NTP = GTP - NTAX \qquad 10.2$$

$$IUK + IA = NTP \qquad 10.3$$

The estimates assume no state participation in North Sea operations since the timing of this is uncertain (see Chapter 4).

Government revenue is assumed to comprise royalties at 12½% of the value of deliveries (NX') plus PRT and Corporation Tax at the following average rates, charged to trading profits net of royalties:

1975	0
1976	1.4%
1977	17.2%
1978	39.6%

Profits net of tax are assumed to be allocated between the UK and rest of the world in the following proportions:

(foreign share)

1975	53%
1976	55%
1977	54%
1978	68%