CHAPTER 1
GENERAL REVIEW AND POLICY ANALYSIS

Part I of this chapter analyses policy, past and future. Part II provides detailed assessments of economic structure on which the analysis depends.

PART I POLICY ANALYSIS

The most important conclusions of our analysis are as follows:

1. The UK economy must from now on achieve a growth rate of at least 5% a year for the next ten years in order to reduce unemployment well below 1 million, so that benefits of North Sea oil (which will ultimately be exhausted) are used to provide the industrial base necessary for long-term prosperity and full employment. The 3% growth rate which was considered normal in the 1960s is now entirely inadequate; it would result in unemployment of well over 2 millions in the mid-1980s during the peak period of North Sea production. There is no prospect of a sufficient acceleration of the growth rate under conventional policies of the kind which have been followed in the past. To attempt to accelerate growth by means of depreciations of sterling would be risky and very probably ineffective. The only known strategy for securing an adequate expansion of the economy is restriction of imports, whether by means of tariffs or quotas, on a long-term basis.

2. The large public sector deficits of recent years were entirely necessary to prevent even worse inflation and recession; substantial deficits will continue to be needed in future until such time as the rate of inflation has fallen to a low level. The fashion for fiscal and monetary restriction, including cuts in public expenditure, taken up by governments of other industrial countries, the IMF and most commentators has been the cause of continuing world recession. The proposition that cutting public sector deficits or the money supply will reduce inflation will not usually be true in practice.

3. The government should now prepare to reflate the economy and restrict imports as soon as they start to rise too fast. On this basis it should immediately reduce income tax and taxes on consumption by £2 billion or more, both to prevent further industrial recession and to reduce inflation by helping wage and salary earners who have suffered cuts in real earnings under the last two rounds of incomes policy because of the fall in sterling. Many groups will need higher money settlements after July to correct distortions caused by incomes policy; the rate of inflation cannot be reduced on any permant basis until after these have been overcome.

The following sections start with an examination of the impact of world events and government policies in recent years, followed by a statement of the principles by which policy ought to be conducted. The main alternative strategies for the period up to 1985 are then set out, leading to conclusions about policies which should be adopted, both medium-term and short-term.

1. Analysis of the period 1972-1976

The performance of the economy during the past three years is illustrated in Table I-1, which also gives figures for 1963 to emphasise the departure from trends of the previous decade.

Table I-1 Recent and previous performance of the economy

	Average real earnings after tax	Unemployment	Increase in consumer prices	Real income from property and self-employment after tax	Total fixed investment	Public current expenditure on goods and services and on benefits
Reference No.[a]	305	211	311	416	101	402+415[b]
	£1975 per week	thousands	% per year		£1975 billion	
1963	31·9	560 average for decade	5·6 average for decade	17·3	12·6	22·3
1973	40·1			27·3	21·0	29·5
1974	41·0	606	15·4	22·1	20·5	30·5
1975	41·8	930	22·8	20·9	20·5	31·9
1976	40·8	1274	15·5	22·4	19·6	33·2

[a]See Statistical Appendix for definition of series indicated by reference numbers and for the method of calculation of data at 1975 prices and values.
[b]Adjusted for direct taxes on benefits.

Table I-2 Inflation: world events and domestic responses (increase on previous year, %)

	Reference No.	1971	1972	1973	1974	1975	1976
World price of oil and raw materials relative to world price of manufactures	102[a]	−0.5	3·8	**22·7**	**20·3**	−15·1	5·5
Average money earnings	303	11·9	12·2	12·5	**20·7**	**30·4**	14·8
UK import costs	308	3·8	1·5	**21·4**	**41·2**	12·1	**19·0**
Unit labour costs	306	7·0	8·2	9·5	**17·7**	**26·1**	12·0
Output prices	310	9·6	8·4	11·4	**18·4**	**23·9**	15·2
Effect of net taxes on consumer prices[b]	...	−1·2	−0·9	0	**−2·6**	−0·9	0·3
Consumer prices	311	8·3	7·4	11·3	**15·4**	**22·8**	15·5
Average real earnings after tax	305	3·4	5·3	0·3	2·2	2·0	**−2·4**
Real national income	413	1·6	3·3	4·8	**−4·6**	**−0·1**	1·3
Total wages and salaries after tax as a share of national income	414/413	0·2	1·8	−2·1	**7·6**	1·7	**−4·7**

Notes: See Statistical Appendix for definition of series indicated by reference numbers.
[a] Reciprocal.
[b] Ratio of consumer prices to output prices.

As Table I-1 shows, average earnings after tax rose by about one quarter in real terms between 1963 and 1973, but have since scarcely risen at all. Consumer price inflation averaged less than 6% a year between 1963 and 1973 (although tending to accelerate) and has since averaged 18% a year. Profits, rents and other income from property after tax rose by one half in real terms from 1963 to 1973 and have since fallen almost 20%. Fixed investment grew by two-thirds up to 1973 and has since fallen back 7%. The only income or expenditure series to maintain a steady real increase since 1973 was public expenditure on services and benefits. Unemployment, which increased little before 1973, apart from the short 1971 recession, averaged 1·3 million during 1976.

The deepening recession was accompanied by a persistent if diminishing deficit in our current balance of payments, implying an abiding structural weakness in the UK economy.

Before undertaking a critique of government policy since 1972 we first describe the particular sequence of events and the main causal factors involved. In our view the recent problems of the UK have been due neither to monetary mismanagement, nor to bloody-mindedness on the part of wage bargainers.

The sequence of events

At the beginning of 1972 the balance of payments was in surplus, but unemployment was unusually high by previous postwar standards and it is now clear[1] that export and import propensities were such that (without protection or substantial devaluation) there would have been a large trade deficit at full employment. The underlying trends of these propensities were deteriorating. Notwithstanding this structural weakness the government adopted in 1972 and 1973 a policy of fiscal and monetary expansion on a large scale.

Subsequent to the decision to reflate, the huge rise in world commodity prices (including oil) and the response to this by other industrial countries greatly altered the course of events and profoundly influences any retrospective assessment of the conduct of policy by the UK government since 1972.

Consider first the effect of world events on inflation. Some of the main information is set out in Table I-2.

The first line of Table I-2 shows a change in raw material prices relative to world prices of manufactures of nearly 50% between 1972 and 1974. This was unquestionably the primary agent of the greatly accelerated inflation of prices in the UK. But the domestic spiral was far worse here than elsewhere, not in the main because of fiscal and monetary policy, but simply because the 'threshold' scheme in effect made mandatory an almost universal response of money wages to prices which was not only comprehensive but nearly instantaneous and therefore began to feed on itself before the scheme came to an end. As the table shows, average money earnings rose 57% between 1973 and 1975. It is true that during 1974 and 1975 UK import prices rose rapidly relative to world prices, mainly because sterling depreciated against other currencies; this part of the rise in import prices was, accordingly, a consequence (as well as a cause) of wage inflation.

Between 1973 and 1974, when the institutionalised price–wage–exchange-rate spiral was in full swing, the government made some attempt to check the process by increasing subsidies, which in 1974-75 cut 3½% off the increase in consumer prices – a gesture which was partly reversed during the course of last year. Despite subsidies and the unprecedented rise in money earnings since 1973, real take-home pay rose on average much less than usual, mainly because there were not the real resources to go round; the real national income was about 3% lower in 1976 than three years earlier. Such rise in real wages as occurred (in 1974 and 1975) was at the expense of a fall in real property income.

In an attempt to break the spiral the government introduced a new incomes policy in August 1975. Up to now this policy has been successful in reducing the wage component of inflation. In 1976 the rise in (money) take home pay was significantly smaller than the rise in prices caused by earlier cost increases and by the rise in import prices during the course of the year, so that real take home pay fell 2½%.

[1]Not that the matter was so unclear at the time: cf. Cripps and Godley, writing in *December* 1971: 'The huge payments surplus this year would hardly exist in a year of normal unemployment because of much higher imports. Moreover export prices seem already to have risen to a level which is incompatible with an adequate growth of export earnings over the next few years' (*The Times*, 9 December 1971, p. 21).

Table I-3 Factors influencing output and unemployment

	Reference No.	1971	1972	1973	1974	1975	1976
Public sector financial deficit (% of national income)	420/411	1·7	**3·9**	**5·0**	**7·4**	**8·9**	**8·2**
Value of UK terms of trade relative to 1975 (£1975 billion)	411	4·0	4·3	2·4	**−2·3**	0	0·4
Increase in volume of world trade (% of level in previous year)	516	7·0	8·4	12·1	8·5	**−5·0**	8·2
Increase in volume of exports (% of level in previous year)	407	7·0	2·1	11·6	6·9	**−3·9**	6·9
Import penetration (% increase in ratio of volume of imports to GDP)	409/204	3·1	6·6	5·4	0	−5·1	4·2
Private sector surplus (% of national income)	419/411	3·6	4·1	4·0	3·3	**7·2**	**7·0**
Growth of GDP at factor cost (% of level in prevoius year)	204	1·7	2·6	5·6	**0**	**−1·8**	1·3
Unemployment (thousands)	211	776	855	611	606	**930**	**1274**

Notes: See Statistical Appendix for definition of series indicated by reference numbers.

Table I-3 shows some of the main series which have influenced output (and therefore unemployment) so far this decade. In 1972 and 1973 there was a large fiscal expansion which succeeded in raising the growth of output and substantially reducing unemployment, albeit at the cost of a sharp deterioration in the balance of payments. The rise in the price of imported raw materials between 1972 and 1974, the effect of which on domestic inflation has already been discussed, caused a deterioration in the terms of trade equivalent to 25% of total exports of goods and services or 6% of national income. This had a demand deflationary effect on domestic spending equivalent to a tax increase of £6½ billion at 1975 prices. Thus, notwithstanding a further increase in the public sector deficit (to 7½% of national income in 1974), the growth of output stopped in its tracks.

The terms of trade loss in 1974 was followed in 1975 by an unprecedented 5% fall in the volume of world trade (a shortfall of about 14% compared with its normal trend increase), which occurred because other major countries, unlike Britain, did not in 1974 have fast-increasing budget deficits to offset the effect of oil and raw material prices. Collectively the Western countries failed to absorb any large part of the OPEC surplus with deficits of their own; instead they allowed the terms of trade loss to deflate their economies to a much greater extent than the UK, and a high proportion of the unavoidable non-OPEC deficit was therefore passed on to developing countries.

The slump in world trade in 1975 caused the volume of UK exports to fall 4% (roughly a 10% shortfall on normal growth). In addition there emerged a new disinflationary factor, whose scale was not anticipated by ourselves nor, so far as we know, by anyone else who made explicit forecasts. This was the very large rise in personal savings notwithstanding a sluggish movement of real disposable income; private consumption, and also investment and stockbuilding, fell sharply relative to income. So, although the public sector deficit rose yet again to nearly 9% of national income in 1975, total output fell absolutely and unemployment rose rapidly, reaching 1·2 million by the end of that year.

In 1976 world trade increased (while remaining well below its long-run trend), but the recovery of UK exports was small, despite the fact that depreciation of sterling had been large enough to keep UK unit costs significantly lower in foreign currency terms relative to world prices than their 1971-72 level. There was also a perceptible tightening of fiscal policy; the *ex post* public sector deficit fell only slightly, but if the pressure of demand had been constant it would have fallen by about 1½% of national income.

Apart from movements in world trade and commodity prices, another notable feature of recent experience has been the size and volatility of external capital flows and of changes in the exchange rate for sterling. Here these are considered in relation to fiscal and monetary policy.

Table I-4 presents some key indicators. A first striking characteristic of the pattern of capital outflows is the lack of any relationship between these and the balance of payments on current account. In 1974 there was a current account deficit of £4 billion (at 1975 values) together with a capital *inflow* of over £2 billion. By contrast in 1976 the current account deficit had fallen to £1¼ billion and there was a capital *outflow* of £1¾ billion, implying that the government spent about £3 billion of foreign currency in support of sterling. It was this outflow which was mainly responsible for the depreciation of sterling well in excess of what would have been needed to maintain the UK's cost competitiveness (though unfortunately not, as we shall argue, nearly enough to generate sufficient net export growth over the next few years).

There was no close relationship between growth of the money supply and balance-of-payments capital flows. In the three years 1972-74 when the money supply remained high relative to national income,

Table I-4 Fiscal policy, the exchange rate, capital flows and the money supply

	Reference No.	1971	1972	1973	1974	1975	1976
Public sector financial deficit (% of national income)	420/413	1·7	3·9	5·0	**7·4**	**8·9**	**8·2**
Change in sterling exchange rate (% of level in previous year)	522	−0·2	−3·4	**−10·5**	−4·2	**−9·2**	**−17·3**
UK costs in foreign currency relative to world price of manufactures (1970 = 100)	521	106·6	109·5	101·5	**93·8**	97·6	**92·3**
Balance of payments on current account (£1975 billion)	421	1·9	0·2	−1·1	**−4·2**	−1·7	−1·3
Net capital inflow excluding official financing (£1975 billion)	511 − 512 − 514	3·6	**−2·3**	−0·1	2·1	0·2	**−1·8**
Official support for sterling (£1975 billion)	515[a]	−5·5	**2·0**	1·2	**2·1**	1·5	**3·1**
Public sector borrowing from the banking system and increased currency in circulation (% of money supply at start of year)	....	**10·4**	−2·5	5·5	1·0	**10·3**	3·3
Ratio of end-year money supply (M3) to national income (per cent)[b]	....	36·8	**41·2**	**45·8**	**45·6**	39·5	38·5

Notes: See Statistical Appendix for definition of series indicated by reference numbers.
[a] with sign reversed.
[b] ratio of series 104 to series 413 at current prices.

there was first a large outflow in 1972, followed by rough balance on capital account in 1973, and a large inflow in 1974. In 1976, when the money supply had been reduced to a normal level relative to national income, there was a large outflow.

The high money supply in 1972-74 was clearly not a direct result of the rising PSBR and the way it was financed. For in these three years the public sector relied little on bank borrowing and increases in currency in circulation as a source of finance, which averaged as little as 1½% a year of total money supply. Only in 1975, when the money supply fell sharply relative to income, did the government 'print money' to any significant extent; a step which had become necessary to inject reserves into the banking system at a time of widespread insolvency.

The speculative run on sterling in 1976 was probably due to inflation, to the evident long-term weakness of the UK balance of trade, and to the lack of international support for the UK government. In the gilt-edged market it caused expectations of high interest rates which were bound to be employed as a last-resort defence for sterling, leading speculators to desist temporarily from holding government securities whose prices would fall when interest rates went up. Once an international agreement had been reached, speculation both in the foreign exchange market and in the market for government securities was rapidly reversed, raising the value of sterling and bringing interest rates down.

Critique of recent policy

The structural weakness of the UK economy which existed before 1973 was that UK producers had too low a share in the growth of home and world markets, making it impossible to sustain a full employment level of demand and output without balance-of-payments deficits. The main criticism of government policy in the past few years must be that not nearly enough has been done to correct this situation – especially since the rise in world commodity prices and the recession in world trade in manufactures made the problem far worse. The abnormal inflation of prices, stagnation of output and rise in unemployment since 1973, although initiated by world events, could have been less in 1974-75 and could by now have been largely reversed, if the propensity to export had been raised or the propensity to import reduced.

Successive governments ruled out restriction of imports as a possible remedy. Given this, the depreciation of sterling relative to domestic inflation was not large or early enough. It is true that by the end of last year there had been a large improvement in cost competitiveness compared with 1972 (when, however, the over-valuation of sterling was at a maximum). But this was too late to prevent prolonged recession in UK industries and even now the cost advantage is by no means secure; it involves cuts in real wages and a large transfer of income to profits, which may yet be reversed by increases in money wage costs.

Larger and earlier depreciation of sterling would have made the problem of inflation even worse. If this could not be accepted, and if therefore a sufficient cost advantage could not be achieved, the government should have introduced import restrictions. The problem which had to be solved was in part due to the particularly weak competitive position of UK industry and in part to the failure of other industrial countries to prevent recession in world trade after the rise in oil prices, by means of expansionary fiscal policies. On both counts trade restrictions were justified. Nor need such restrictions have reduced the UK's contribution to world trade (total purchases of imports and exports); their sole purpose would have been to raise

the internal level of real demand and output without increasing imports to a level which could not be financed.

Given the decision not to restrict imports, but to adopt instead a half-hearted policy of devaluation, the second main criticism of government actions since 1972 concerns incomes policy. The need to depreciate sterling combined with the rise in world commodity prices made the UK economy exceptionally vulnerable to inflation. In attempting to intervene, the government made an extremely serious mistake in the autumn of 1973, which, as things turned out, made inflation in 1974 and subsequently much worse than it need have been. By providing for threshold cost-of-living payments it introduced a short-circuit into the inflation spiral, adding about 10% to the rate of inflation; the direct and indirect after-effects continued well into 1976, although the process has been interrupted by the new incomes policy which started in August 1975. The first two rounds of this latter policy have been very successful in reducing the wage component of inflation up to now. But this success is bound in part to have been temporary because, quite apart from the fall in the real value of *average* take home pay, the rules of the policy involved large absolute and relative reductions in real take home pay for those groups which settle near the beginning of each pay round and for higher-paid workers, as well as distorting the make-up of earnings (e.g. overtime rates were not supposed to increase at all) and largely suspending the normal process of reorganising pay systems and structures. A large increase in money earnings must be expected and is necessary, if anomalies are to be put right, in the next pay round.

Fiscal policy considered *ex post* appears to have secured about the right public sector financial deficit (and PSBR) *largely by mistake*. Had there been no exceptional rise in world commodity prices, the budgetary policy of the Conservative government in 1972-73 would have turned out absurdly over-expansionary. As it happened, the policy was modified at the end of 1973, and a useful cushion of about the right size was provided against the demand deflationary impact of the rise in oil and raw material prices in 1974.

Likewise the Budget deficits of the Labour government in 1974-76 now look to have been appropriate, mainly because the rise in personal savings and large-scale destocking provided an unexpectedly large deflationary impulse which the budget deficits served to offset.

Note however that in 1974/5 the deficit was nearly £5 billion larger than the government planned in its Budget and that in 1976/7 it is now expected to be some £2 billion lower than initially planned. It is only fair to point out here that since 1974 we have continuously underestimated the size of the private sector surplus, and that our criticism of the size of the 1976 Budget deficit was exaggerated, although the Budget deficit as initially estimated by the government would have been too large.

Although the public sector *deficit* was appropriate viewed *ex post*, the management of public expenditure was extremely disorderly. The fast growth of expenditure up to 1976 followed by cuts has been inefficient and damaging from the point of view of the people and industries affected (e.g. the construction industry), as well as for the administration of public services, especially for local government.

The view that the large public sector deficits of 1975 and 1976 were entirely necessary and, as will appear below, that cuts in public expenditure for 1977 and 1978 which were decided at the end of 1976 are not required from the point of view of fiscal balance is contrary to the opinion widely held (e.g. in the editorial columns of *The Times*) that cuts of £3 billion were necessary to take effect in 1977. And, unless the case can now be made out that further cuts of £2 billion or more in the budget deficit are still required, *The Times*' view must be regarded as having been incorrect. It is, *a fortiori*, incorrect and on an even larger scale, if there is now a valid case for fiscal relaxation.

In condoning the broad conduct of fiscal policy, we are by implication disputing that deficit financing was responsible for the continuation of high rates of inflation. Our view about the genesis of inflation is confirmed by the material presented earlier in this chapter and also by the analysis in Chapter 5.

It is therefore particularly serious that the government was forced by other countries at the end of last year into further deflationary measures because of a speculative outflow from sterling. Whether or not the speculation was itself impelled by a belief that the public sector deficit was far too large, the fact is that the IMF and foreign governments made cuts in public expenditure and restrictive fiscal and monetary targets a condition of assistance to stabilize the exchange rate.

Present international arrangements for providing governments with credits to counter speculation are damaging to good economic management. Since governments can only obtain credits to counteract unstable foreign exchange speculation on condition that they make demand deflationary adjustments to their domestic policies, and several major countries periodically suffer from the rotating focus of speculative pessimism, it is only too likely that these arrangements will perpetuate world recession. The size of each country's 'basic' balance-of-payments deficit or surplus (i.e. the balance on current account and structural capital flows) is a reasonable matter for international concern. But since non-OPEC countries collectively cannot avoid a deficit, while the UK's small basic deficit in 1976 was easily covered by medium-term official borrowing, the deflationary conditions attached to international assistance were entirely unwarranted.

2. Principles for economic management

The above review of events and policies in the last few years contains *ex post* judgements about policy which conform in most respects with the analysis we presented during this period in annual assessments since January 1972, except that since 1974 we have underestimated the scale of the public sector deficit required. Our analysis for the future depends in part on an assessment of economic conditions (based on a fully specified and internally consistent model of the economy) the main features of which are summarised in the next section and presented very fully in Part II of this chapter. The analysis of future policy also depends on principles (most of which are implicitly incorporated in the model of the economy) by which it is assumed that policy should be conducted. In view of

the extent of present disagreement between various schools of thought, it is necessary to set out explicitly what we consider to be the main principles involved as a preliminary to discussion of the strategic choices now facing the UK. The following paragraphs enunciate these principles without supporting argument.[1]

(*a*) The central medium-term task is to secure, by some means or other, sufficient net exports to restore and maintain full employment. The amount of net exports required depends on what sources of external finance are available; normally it will be necessary at least to maintain an approximately zero 'basic' balance for the sum of the current account and structural capital flows. Since there is only minor scope in the long run for increasing net inflows of capital and transfers, the main burden of adjustment falls on net exports, which will only be sufficient at a full employment level of demand if UK producers have a high enough share of world and home markets. The only macroeconomic instruments[2] for satisfying this objective are: (*i*) depreciation of the exchange rate by more than the excess of inflation in the UK over inflation in other major industrial countries, and (*ii*) restriction of imports, whether by means of tariffs or quotas.

(*b*) Given external conditions and trade policy in the above sense, the public sector's financial deficit (i.e. the net balance of public expenditure and taxation) has to be set so as to achieve the target 'basic' balance of payments, at least on average, regardless of the consequences for output and unemployment.

(*c*) The rate of inflation depends in part on external conditions (world prices of raw materials relative to manufactures) and on the average level of wage settlements in real terms. It also depends in a significant and relatively predictable manner on trade policy (i.e. the speed and extent of effective devaluation) and on taxation. It is beyond the power of the government to control the average level of wage settlements on a permanent basis. An incomes policy which does this short-term can, if badly constructed, make inflation worse by causing a 'backlash' of high money settlements to remove anomalies and distortions resulting from the policy.

(*d*) Even if fiscal policy is set to achieve a zero basic balance of payments (or such deficit as can be financed by medium-term official borrowing), speculation in the foreign exchange market can still force a fall[3] in the exchange rate the size and timing of which is contrary to the government's policy. In our view international assistance ought to be forthcoming in such circumstances, subject only to an undertaking to keep deficits on the basic balance within a set limit and to pay interest on overseas balances at least at a prescribed minimum rate. In particular, international assistance ought not to be conditional on restrictive domestic policies or to involve monetary targets which assume that the rate of inflation can be brought down to any set figure. Under present arrangements the government may have to sacrifice some policy objective – either seeking to avert the risk of adverse speculation by maintaining very high interest rates and/or a surplus on the basic balance, or allowing speculation to determine the exchange rate, or accepting restrictive terms as the price of external assistance, or blocking external balances.

(*e*) The operational instruments of monetary policy are open-market operations in government securities and controls over the banking system such as Special Deposits and the 'corset' (which is a control on domestic bank deposits). These instruments permit the government to regulate the level of interest rates, bank liquidity, and the availability of bank advances.[4] Interest rates and the availability of credit have some effect on the fiscal requirement discussed above (higher interest rates and tighter credit increase the private sector financial surplus for a given level and rate of change of income and therefore require the public sector financial deficit to be slightly larger). But monetary instruments cannot be a substitute for taxation on any large scale.[5] Fiscal and monetary policy should not be governed by predetermined targets for the money supply or domestic credit expansion (DCE). A large public sector deficit may be necessary to maintain appropriate interest rates and credit conditions. This will imply a certain growth of money supply and a certain domestic credit expansion, which may or may not conform to *a priori* targets.[6]

3. Strategies for economic management, 1977-85

The context of economic policy in the next decade includes some key facts which are relatively certain: these are rising benefits from North Sea oil (which will, however, not last indefinitely), a rising labour supply and an initial situation of exceptionally high unemployment and low industrial capacity. Other key factors are relatively uncertain – namely, the growth of world trade, movements of world prices of raw materials, and the level of wage settlements.

Within this uncertain context government policies can, as is argued below, make a very large difference, not so much to the outcome in the next few years as to the eventual result a decade from now. The choice of economic strategy will be all the more crucial because during the next fifteen years the UK will be cashing in its valuable but exhaustible reserves of offshore oil and gas. The main theme of our analysis is the question of how the economy can be managed so that these reserves are used to lay the foundations for long-term prosperity and full employment.

First we present predicted outcomes under different strategies to show the character of likely future developments. The requirement for growth of production, and the problems of fulfilling it, are then

[1] Most of the relevant empirical arguments have been set out extensively in published articles and previous issues of this *Review*. Chapters 4 and 5 of this issue discuss the supposed influence of the money supply on inflation and the proper role of monetary policy, which we had not hitherto examined in any detail.

[2] Here for the sake of brevity, we ignore hidden or explicit export subsidies. These are however discussed elsewhere (see Chapter 2 of this *Review* and T. F. Cripps and W. A. H. Godley, 'A Formal analysis of the Cambridge Economic Policy Group Model', *Economica*, November 1976, Vol. 43, No. 172, pp. 335-348).

[3] An undesired rise in the exchange rate can relatively easily be prevented by absorbing speculative inflows into official reserves.

[4] But not all independently of one another.

[5] Note that higher interest rates cause a progressive increase in the interest charge on the public sector debt and will after a time mean that taxes have to be higher, not lower, than otherwise.

[6] It would be valid to adopt restrictive money supply or DCE targets if, and only if, small public sector deficits or high interest rates and tight credit served reliably to reduce the rate of inflation to a very low level. The reality is that the rate of inflation cannot be controlled in this manner, nor indeed is it reliably controllable within wide limits by any means.

Table I-5 Prospective performance of the economy under different strategies

	Average real earnings after tax	Unemployment	Increase in consumer prices (average since previous year year shown)	Real income from property and self-employment after tax	Total fixed investment	Public current expenditure on goods and services and on benefits
Reference No.	305	211	311	416	101	402+415[a]
	£1975 per week	thousands	% per year		£1975 billion	
1976	40·81	1274	....	22·4	19·6	33·2
1981						
Conventional policies	46·87	1563	11·2	31·7	22·7	36·8
Devaluation	46·27	1445	12·7	34·0	24·8	36·1
Restriction of imports	47·37	1200[b]	11·2	34·2	25·2	36·3
1985						
Conventional policies	52·38	1939	9·8	34·0	25·7	41·0
Devaluation	52·97	851[c]	13·7	51·0	34·9	38·0
Restriction of imports	53·88	800[b]	8·5	42·7	33·3	39·6

Notes: For assumptions and definitions of each strategy see Part II of this chapter and Statistical Appendix.
See Statistical Appendix for definition of series indicated by reference numbers and for method of calculation of data at 1975 prices or values.
[a] adjusted for direct taxes on benefits.
[b] targets.
[c] differs from figure under 'Restriction of imports' only on account of lags in adjustment of employment.

examined in detail. Finally short-term prospects and policies are considered in relation to longer-term objectives.

Prospective outcomes under different trade policies

Under the principles set out above, the medium-term outcome in any given context depends essentially on the success of trade policy, to which fiscal policy must then be adapted. Table I-5 summarises outcomes under three different trade policies, predicted on common assumptions about external conditions and internal relationships: The policies are: (*i*) 'conventional' – taken to mean depreciation of sterling only by the amount necessary to keep UK costs in line with world prices; (*ii*) 'devaluation' – additional depreciation of sterling in future years by whatever amount is required to restore full employment eventually, the timing of depreciation being chosen with some regard for its effects on inflation; (*iii*) 'restriction of imports' – direct limitation of imports of manufactures so as to secure a steady reduction in unemployment (see Part II for a full description). All three policies show broadly similar results up to 1981 – an increase compared with 1976 of around 50% in real profits, dividends, rents, etc., a rise of the order of 20% in fixed investment, and an improvement of about 15% in average real earnings after tax, but with unemployment remaining near the present level, public expenditure on services and benefits not much higher than now and inflation having averaged over 10% a year. Further ahead the outcomes under different trade policies diverge in regard to unemployment, inflation, investment and real property income, but all involve a roughly similar further increase in real earnings for those in employment.

Of the uncertainties which might substantially alter the predicted outcome, a different level of wage settlements in real terms would have much the same effect under each strategy causing, if higher than assumed, a faster rate of inflation and some gain to average earnings at the expense of profits. A different development of world markets would, however, alter the results of each strategy in a different manner in each case. Less favourable world conditions would have relatively little effect under import restrictions (apart from requiring that the degree of restriction be intensified); under conventional policies they would mean higher unemployment and lower profits and investment, under a devaluation strategy they would imply faster inflation and a still higher level of profits relative to wages.

The problem indicated by the predicted outcomes shown in Table I-5 is that under conventional policies unemployment will rise continuously up to 1985 – in other words, that so far from any progress being made in creating conditions for full employment in the long term the period from now to the peak of the oil boom will be one in which the productive structure of the economy becomes increasingly inadequate. With unusually high profits and real wages rising steadily, this underlying weakness may not be readily apparent except to those unable to obtain employment. Only when the economic benefits provided by the North Sea begin to decline will the full extent of the opportunity missed under conventional policies, and the consequences of

missing it, become generally evident.

Required growth of production and the prospect for growth under conventional policies

Until recently it has generally been possible to assume that growth of GDP by about 3% a year would be sufficient in the UK to achieve full employment. This assumption must now be radically changed, not only because the initial level of unemployment is so high (and would have been higher but for temporary job creation schemes), but also because the potential labour supply will be rising by about 150,000 a year as a consequence of high birthrates throughout most of the 1960s. To reduce unemployment well below one million by the mid-1980s will require a GDP growth rate from now on of 5% a year or more maintained for a decade (see Part II, section 1, for details of the assessment). Such a growth rate would be *twice* the average actually achieved over the past twenty years.

If such a high growth rate is to be secured, the performance of UK industries will have to be very different from hitherto. Not only will supply capacity have to increase enormously, but also net exports of manufactures will have to be maintained in competition with foreign suppliers (at least in overseas markets) at a level consistent with balance-of-payments requirements, while the home market (and hence, presumptively, imports) expands much faster than in the past.

Following the long and deep recession of the past three years, industrial capacity is probably less adequate in relation to the needs of future expansion than at any previous time. In Part II, section 2, it is suggested that supply constraints are likely to be abnormally tight in 1979, even if demand grows at a moderate rate and unemployment continues to rise. Under any fast growth strategy supply bottlenecks could be expected to persist for several years after 1979.

The determining factor under conventional policies is whether exports can be relied on to grow fast enough relative to imports. The competitive position of UK industry *vis-a-vis* foreign producers should now be more favourable than in the past, because depreciation of sterling has reduced UK costs in foreign currency terms to the lowest ever level relative to world prices of manufactures. Also the balance-of-payments contribution of North Sea oil and gas will for several years be helping to reduce the required level of non-oil exports relative to imports by an amount equivalent to 1½% a year of extra export growth (see Part II, section 3). But, as against this, the target for exports must be higher than before because balance-of-payments deficits cannot safely be allowed to continue and net flows of profits and long-term capital from abroad will probably turn negative (Part II, section 5). Finally, by far the most important consideration is that, with a faster growth of GDP, imports would tend to grow more rapidly than in the past, especially if there are domestic supply bottlenecks; to maintain the balance of exports less imports UK producers would then have to do much better than before in the world market or in holding off import penetration of the home market.

Our overall assessment (of which details are given in Part II, section 6) is that balance-of-payments prospects are now good enough under conventional policies to provide growth of 4% a year up to 1979, consistent with elimination of the present deficit on the basic balance by that year. Thereafter the onset of supply constraints and, after 1981, the levelling off of North Sea benefits will mean that the growth rate will have to slow down gradually for balance-of-payments requirements to be fulfilled.

In other words the supply capacity and competitiveness of UK industry are not adequate to sustain a GDP growth rate of 5% a year in the medium term. Given this, conventional policies for economic management can only result in rising unemployment, no matter how well they are calculated and timed.

The magnitude of devaluation or restriction of imports required to achieve full employment

Table I-6 provides estimates of the volume and pattern of trade in 1981 and 1985 under conventional policies, compared with those under strategies of devaluation and restriction of imports (see Part II, sections 5 and 6). Up to 1981 the differences are not large, because we estimate that conventional policies will provide net exports on a sufficient scale to permit expansion of demand for the 'business' sector (defined as all industries and services other than North Sea oil and gas and public services) at 4% a year, a rate of growth which appears to be near the maximum which is possible without running into severe supply constraints. The extremely tentative estimates of output capacity presented in Part II, section 2, indicate that output growth of 5¼% a year in the business sector would mean peak capacity utilisation (in 1982) some 7-8% higher than at past cyclical peaks (1960, 1964 and 1973). We tentatively take this as the maximum feasible growth rate up to then, as well as assuming that, at any level of capacity utilisation distinctly higher than at past cyclical peaks, there will be quite a significant loss of exports and abnormal additional imports.

It follows from the above that neither devaluation nor restriction of imports can add very much to the level of output or employment up to 1981. The inflationary risks of devaluation would be intensified by abnormal supply bottlenecks and it would have to be used with great caution in this period.

After 1982 supply capacity can be expected to catch up with demand, while, under conventional policies, growth of demand may be harder to sustain because the rate of increase in North Sea benefits will slow down markedly (see Part II, section 3). The gains compared with conventional policies which can be achieved by faster growth of demand *via* devaluation or restriction of imports therefore increase rapidly from 1982 up to 1985.

Ex post the level of imports under a strategy of restriction of imports will be almost exactly the same as under conventional policies, except to the extent that exports are diverted when supply constraints are tight or that exports are reduced by foreign retaliation (assumed negligible in Table I-6). The main effect of restrictions will be to hold down the increase in the ratio of imports to GDP, involving a cut in imports of manufactures (compared with what would otherwise be expected at the same level of demand) rising to about 20% in 1985. The degree of restriction needed then would be lower than this to the extent that there had been dynamic effects on the competitiveness of

Table I-6 Prospective balance of payments under different strategies

	Reference No.	1976	1981			1985		
			Conventional policies	Devaluation	Restriction of imports	Conventional policies	Devaluation	Restriction of imports
(£1975 billion) Volume of exports excluding fuels	502	27·0	39·3	41·6	38·6	51·1	66·7	51·1
Net exports of fuels	501-504	−3·4	1·1	1·0	0·7	2·0	0·5	0·5
less Volume of imports excluding fuels	409-504	−25·5	−38·9	−40·7	−37·9	−50·9	−63·5	−49·6
Terms of trade effect, income from abroad and capital flows[a]	....	0·4	−1·5	−2·0	−1·5	−1·6	−2·9	−1·4
Basic balance[b]	513	−1·6	0·0	0·0	0·0	0·6	0·8[c]	0·6
Ratio of non-fuel imports to GDP at factor cost (%)		27·3	34·0	34·9	31·5	39·5	43·2	33·7
GDP at factor cost (£1975 billion)	204	93·4	114·6	116·5	120·0	128·7	147·1[d]	147·1[d]

Notes: [a] 411+412+511+512, i.e. excluding short-term capital flows.
[b] Figures for 1981 and 1985 are targets.
[c] Equal in terms of foreign currency to figure for other two strategies.
[d] Targets.

industry for which no allowance is made in these estimates.

A devaluation strategy will achieve fast output growth by accelerating the growth of exports and making imported manufactures less competitive in the home market in terms of price. But *ex post* the ratio of imports to GDP will be higher than under conventional policies, because of the high income-elasticity of demand for imports and because the market for intermediate and capital goods will be larger relative to GDP. The amount of effective devaluation required to reach the target for GDP in 1985 depends on its timing. Assuming a small step devaluation in 1979 and a larger one in 1982 (see Part II, section 6), the total effective devaluation needed as compared with January 1977 (measured in terms of UK costs relative to world prices) is estimated to be about 25%.

The choice of strategies

The problems of introducing restriction of imports are not macro-economic, but rather administrative and political. But effective devaluation has direct inflationary side-effects which make it a difficult policy to use. Whether these side-effects are tolerable depends not only on the scale of devaluation, but also on the pre-existing rate of inflation and on the rate of growth of real wages which happens to be possible. From both viewpoints immediate devaluation must be ruled out. But by 1979 it may be that two years of quite fast growth of GDP, including North Sea oil production, combined with very little growth of public expenditure, will provide a favourable moment for devaluation, since real wages will then be rising fast and the pressure of wage settlements may have been accommodated. If a devaluation in 1979 were successful, a further and even better opportunity might be created two or three years later, with supply constraints beginning to ease while the benefits of North Sea oil and the first devaluation would be reaching a maximum.

The above suggests that devaluation might conceivably provide an effective method for accelerating GDP growth between 1979 and 1985, largely because of the unusual additions to real wages made possible by North Sea oil. This is not to say that it is a reliable strategy. As indicated at the outset, assumptions about future wage settlements are extremely uncertain. Our predictions for a devaluation strategy have been made on assumptions favourable to its success, which, in three important respects, may easily not be fulfilled: wage settlements are assumed to continue at normal levels in real terms, despite an unprecedentedly high level of real profits; devaluations are assumed to be accompanied by simultaneous tax *reductions* designed entirely to benefit real wages; and world prices of raw materials are assumed to do nothing, throughout the entire period up to 1985, which could cause a worsening of domestic inflation.

It seems to us that to do nothing until 1979 in the hope that a small devaluation would then be possible, and to wait until 1982 before taking really effective action, is not justifiable, because of the considerable chance that things might not go well in the interim and that even at such a late stage large-scale effective devaluation might still be impracticable. Earlier action on a large scale can be ruled out because, first, of the very precarious inflationary situation likely to persist for the next two years and second, the supply con-

straints which are likely to exist for several years from then on.

We are still therefore left with only one reasonably secure macro-economic strategy for accelerating the rate of growth of the economy in a sustainable manner, namely, restriction of imports. North Sea oil helps to make the degree of restriction needed relatively small and slow-increasing. This makes the strategy easier to introduce, and should not be taken as a reason for delay.

Immediate prospects and policies

Recent events have damaged industrial capacity and created the risk of an acceleration of inflation after the present round of incomes policy comes to an end. The most urgent task of macro-economic policy is therefore to raise demand to prevent further loss of supply capacity, and to alleviate the rate of price inflation and cuts in real wages.

The government's apparent half-hearted welcome for most, if not all, of last year's effective devaluation (which went with the failure to restrict imports) may prove to have been a costly mistake, because it kept inflation going at over 15% a year. But, since the fall in sterling has already done most of its damage to prospects for the next round of wage settlements, there is not much point in trying to reverse it now.

The only instrument which could still have a major effect in time for the next wage round is fiscal policy in the form of quick-acting tax cuts, or subsidies on consumer prices, and/or reductions in tax on earned income. The main question is whether such tax reductions are possible within the limits of an appropriate figure for the public sector's financial deficit.

A large public sector deficit will be needed this year mainly because of last year's devaluation. This is likely to result in an exceptional financial surplus of the private sector, because of a large increase in profits which will not immediately be spent, and because of inflation. This does not create any presumption of dangerously large deficits in future, since the deficit will fall next year as North Sea revenues increase and public expenditure cuts continue to take effect. For the calendar year 1977 our judgment is that the public sector financial deficit ought to be of about the same magnitude as in 1976; this judgment depends on our view that the balance of payments need not yet be in surplus. Tax reductions of £2-3 billions should be possible within this figure, mainly because planned cuts in public expenditure will be taking effect while most taxes, including local authority rates, will, before adjustment, take a constant or rising share of total money income.

In choosing the size of tax reductions the government has to weigh the risks of giving too little help to wage-earners against the risks of giving too much stimulus to demand for imports or of triggering a speculative outflow simply by being seen to have abandoned restrictive financial targets.

So far as imports are concerned, when there is a fast increase (as there will be next year, if not this year), the introduction of restrictions should be delayed no longer.

To counter speculative risks, the government should be ready to use monetary (but *not* fiscal) instruments, such as a sharp rise in interest rates.

There is virtually no distinction this year between an ultimately futile attempt at launching into sustained growth *via* fiscal reflation, and the first stage of a sustainable fast growth strategy, because it so happens that this year, and to a smaller extent next, the prospective growth of exports relative to imports is unusually favourable, with North Sea production rising and exports benefiting from at least three years of favourable cost competitiveness.

The difference between unsustainable reflation and a sustainable growth strategy will become clear at the moment when imports rise too fast – certainly by 1979, when supply constraints are likely to intervene. If the government has not already by then introduced measures to restrict imports on a sufficient scale, the usual reversal of fiscal policy will be unavoidable.

Part II ECONOMIC STRUCTURE

The following sections give an account of the main features of the economic assessment underlying the discussion in Part I. Estimates for the future are the outcome of internally consistent predictions which include a precise specification of the policy instruments required and take full account of all direct and indirect effects identified in CEPG's model. The assumptions and uncertainties involved are described below after an outline of our main conclusions, in which figures in brackets give a rough indication of likely margins of error.

Outline

Section 1 examines growth of labour supply and productivity and suggests that growth of GDP averaging $5\frac{1}{2}(\pm\frac{1}{2})\%$ a year from 1977 right through to 1985 will be necessary to reduce unemployment to a level of about 800,000. The slower growth rate expected under 'conventional policies' (defined below) will result in unemployment of about $2(\pm 0{\cdot}5)$ million by 1985.

Section 2 examines growth of productive capacity in terms of the levels of output planned by firms and concludes that abnormally tight supply conditions are likely to prevail between 1979 and about 1982.

Section 3 gives forecasts of the economic effects of North Sea oil and gas production and shows that the direct balance-of-payments contribution on current and capital account will be worth, net, the equivalent of an addition of $1\frac{1}{2}\%$ a year to the growth of total exports of goods and services between 1976 and 1981. Thereafter the net contribution is expected to remain roughly constant relative to total exports up to 1985.

Section 4 considers the growth of national income and resources available for consumption under different economic strategies (defined below), after allowing for investment, stockbuilding and the balance-of-payments targets assumed for each strategy. It shows that under all strategies considered the growth of consumption will after 1978 be more rapid than in the past two decades.

Section 5 examines balance-of-payments financing in order to establish what volume of net exports of goods and services may be necessary in the future and concludes that, even after North Sea benefits have been taken into account, the volume of non-oil exports must be at least as high, relative to non-oil imports, as they were in 1976.

Section 6 considers the likely growth of exports and imports under alternative strategies and shows how the necessary volume of net exports will be achieved in each case. Under 'conventional policies' the growth of GDP will have to average no more than about 4(±1)% a year in order to avoid excessive growth of imports; the alternatives to this are that net exports will be made to grow more rapidly by further devaluation or that the volume of imports will be restricted by tariffs or direct controls. To achieve 5½% average growth of GDP up to 1985 by means of devaluation, UK producers will have to be given an additional cost advantage relative to the world price of manufactures of about 25(±10)% compared with the position in January 1977. Alternatively, if no further cost advantage is given, the volume of imports will have to be restricted by an amount rising to about 15% of the (very high) total level of imports which would have been expected without restrictions at the same level of domestic demand.

Section 7 estimates the financial deficit of the public sector which would be consistent with alternative strategies under different inflation assumptions, and shows that relative to present tax rates and allowances adjusted for future inflation and to existing plans for public expenditure, there will be scope under all strategies considered for discretionary tax reductions or increases in expenditure amounting to over £2 billion in 1977 and much larger figures in later years. This is over and above a net tax reduction of approaching £1 billion needed in the 1977 Budget for revalorisation this year.

Section 8 estimates the rise in consumer prices and average earnings under 'moderate' and 'backlash' assumptions about wage settlements after July this year, allowing also for the effects of exchange rate and tax changes under different strategies. It concludes that the rate of inflation of consumer prices is likely to fall below 15% in 1977, but then accelerate again in 1978, and that the rate of inflation is more likely to fall in the long run under the import restriction strategy than under other policies.

Finally, section 9 assesses targets for DCE agreed between the government and the IMF for 1977-8 and 1978-9 and concludes that it is unlikely the target for the latter year can be achieved.

Assumptions

Historical figures for 1960-76 are derived mainly from official statistics: data for 1976 are provisional, being based on the incomplete information available up to 4 February 1977. Figures for 1977-85 are derived from solutions of CEPG's model and are therefore conditional on the behavioural assumptions about the UK economy embodied in the model. The alternative predictions shown all involve the same exogenous assumptions (apart from variants with higher wage settlements in sections 7 and 8): the most important of these are growth of world trade at the historical average rate of 9% a year, constant world prices for oil and primary commodities relative to manufactures, wage settlements after July this year at a much higher level (after allowance for past changes in taxation and consumer prices) than in the last two rounds, and 'modest' targets for repayment of external debt.

Predicted figures illustrate the effects of three main sets of assumptions about policy instruments, chosen to represent the main strategic alternatives which can be analysed within CEPG's model.

The strategies have in common existing plans for public expenditure (so far as they can be ascertained), and existing tax rates and allowances (adjusted for inflation), except for higher public fixed investment under fast growth strategies and variations in income tax allowances and VAT, which are assumed to form the instrument for discretionary tax adjustments. Apart from the 'devaluation' strategy, they all assume that the exchange rate is varied so as to maintain the cost advantage of UK producers *vis-à-vis* the world price of manufactures at its January 1977 level and, apart from the 'no policy change' strategy, they all assume the same targets in each year for the basic balance of payments (current account plus structural capital flows).

The strategies are defined as follows:

Strategy 0: 'No policy change'. This is used only as an indication of the *ex ante* short-term prospect for 1977-78. It assumes no discretionary tax changes apart from tax revalorisation and accepts whatever balance-of-payments consequences result (as it happens, a very large surplus on current account by 1978).

Strategy 1: 'Conventional policies'. This assumes that taxation is adjusted so that balance-of-payments targets are met and that nothing else is done to accelerate the growth of GDP.

Strategy 2: 'Devaluation'. This strategy and the next are calculated so as to achieve a 5½% average rate of growth of GDP up to 1985 with upward revision of planned public fixed investment. Here the exchange rate is adjusted to secure and maintain step increases in the cost advantage of UK producers in 1979 and in 1982 (years which appear most appropriate in relation to inflation and supply constraints). This does not make it possible to achieve pre-specified year-by-year targets for output in unemployment, but the devaluations have at least been calculated so as to reach precisely the same terminal figure for GDP in 1985 as under strategy 3.

Strategy 3: 'Restriction of imports'. Imports of manufactures are restricted from 1978 on so as to meet unemployment targets in each year which fall to 1·2 million in 1981 and 0·8 million in 1985 (implying the same average growth of GDP up to 1985 as under strategy 2). It is formally assumed that direct controls are employed; no additional tariff revenues are credited, import prices are assumed to be unaffected by restrictions and no allowance is made for retaliation against UK exports (to the extent that this occurred, imports would have to be held down *pari passu* to a lower level than indicated).

The Statistical Appendix contains annual tables for strategies 1-3 which specify values for policy instruments and gives details of the predicted outcome. In interpreting the figures it should be borne in mind

that they are derived from an annual model which cannot represent the timing of interactions as precisely as a quarterly model, and that growth rates and percentage increases represent year-on-year changes.

Uncertainties

The main exogenous uncertainties relate to world conditions, balance-of-payments financing and the level of future wage settlements. A new world recession or commodity crisis would substantially worsen the prospects and reinforce the need for devaluation or restriction of imports to sustain domestic output and employment. The principal balance-of-payments risk is that, even if the target assumed for the current account and structural capital flows is adhered to, short-term capital outflows could force the government either to accept an unwanted or ill-timed depreciation of sterling or to make further restrictive agreements with the IMF and foreign governments, as a condition for financial assistance needed to bring the exchange rate back under control. This risk and possible responses have been discussed above. Uncertainties with regard to wage settlements are discussed below (section 8); however important for inflation and short-term balance-of-payments flows, the uncertainty about wage settlements makes little difference to our conclusions about output and unemployment.

In addition to exogenous uncertainty, outcomes predicted under specified policy assumptions involve margins of error in the model which are not easy to judge, although some guidance is given by the experience of errors in five previous annual exercises which used primitive versions of the present model. The post-mortem in Chapter 10 contains details of *ex post* errors in conditional predictions made since 1972 of imports, exports, the terms of trade, private investment and unemployment. These suggest rough margins of $\pm\frac{1}{2}\%$ a year in terms of GDP growth over a medium-term horizon for the terminal level of unemployment conditional on GDP and margins equivalent to $\pm 10\%$ of total exports in medium-term forecasts of the balance of payments conditional on GDP, cost competitiveness, world trade and world commodity prices. The margins of error for private investment have been large ($\pm 10\%$), but are less significant in absolute magnitude for the overall outcome, because private investment is only 10% of total domestic expenditure. The other main set of behavioural relationships, those concerning wage settlements, is open to very wide medium-term uncertainty; short-term forecasts of inflation (which are not so sensitive to future uncertainty about wage settlements) seem to have been quite accurate.

The following sections will not repeat warnings about uncertainty and margins of error. The degree of precision is, we hope, sufficient for the qualitative conclusions to be taken seriously; quantitative results should be regarded only as illustrative of orders of magnitude.

1. Labour supply, productivity and growth of GDP

Given the trends of productivity and potential labour supply, there is some average rate of growth of GDP from its present level which in the medium or long term is both *feasible,* in the sense that it should not be prevented by prolonged and unavoidable shortages of labour, and *desirable*, in the sense that it will secure an appropriately low level of unemployment and provide a high level of national income. If actual growth of GDP falls short of this rate, national income will be lower and unemployment higher: achievement of a sufficiently rapid average growth of GDP must therefore be a primary objective of economic management.

Future trends of productivity may change slowly in response to economic circumstances and policies and the potential labour supply may be diminished by emigration and changes in custom (such as a reduction in the age of retirement). But the underlying trends are stable enough to predict the relationship between growth of GDP and future levels of unemployment with reasonable confidence for several years ahead and to establish presumptions, at least, as far ahead as 1985. We start from a position of very high unemployment, which would be significantly higher, given output, but for the TES and other job creation schemes. In addition, the labour supply, which between 1963 and 1973 was virtually constant, will now be rising by over $\frac{1}{2}\%$ (150,000 people) each year. Furthermore, employment in public services, which rose $2\frac{1}{2}\%$ a year for a long period, is now being cut. For all these reasons the 3% a year GDP growth rate which used to be consistent with *constant* unemployment is now not nearly enough. The average growth of GDP over the whole period from now to 1985 which appears feasible and desirable in relation to labour supply (i.e. to reduce unemployment well below one million) is over 5% a year; the average growth rate necessary merely to stabilise unemployment at its present level is about $4\frac{1}{2}\%$ a year. Since these growth rates are much higher than has been achieved in either of the past two decades, they imply a need for much more ambitious economic strategies than the UK has been accustomed to up to now.

This assessment depends on factors displayed in Tables II-1 and II-2, which indicate what happened in the decade 1963-73 and in the past three years, as well as giving estimates for 1976-81 and 1981-85 of the effects of fast growth of GDP (assumed to be secured by means of import restrictions) and of the lower growth rate which is predicted under conventional policies.

The potential labour supply has accelerated recently and will increase in future by over $\frac{1}{2}\%$ a year, because of high birthrates in the late 1950s and throughout most of the 1960s.

The past trend growth of output per employee was 3% a year; this, combined with a slight increase in labour supply, meant that GDP had to grow just over 3% a year to hold unemployment constant. It may be assumed that much the same trend growth of output per employee will persist in the future—implying under normal circumstances that GDP growth must average slightly over $3\frac{1}{2}\%$ a year to maintain a constant level of unemployment.

But since 1973 circumstances have not been normal. The level of GDP has actually fallen slightly (excluding North Sea oil and gas production), output per employee has not increased at all, and unemployment has risen sharply. What this means for the future depends on whether the abnormal factors are con-

Table II-1 Labour supply, unemployment and output

	Potential labour supply *LS*	Non-participants *V*	Registered unemployment *U*	Employment *EE*	Output per employee *EP*	GDP at factor cost, excluding North Sea *QQ*
	millions				£1975	£1975 billion
Historical						
1963	24·00	0·53	0·54	22·93	3,036	69·6
1973	24·21	0·57	0·61	23·02	4,071	93·7
1976	25·03	0·94	1·27	22·82	4,070	92·9
Growth rates						
1963-73	0·1	—	—	0.0	3·0	3·0
1973-76	1·1	—	—	–0·3	0·0	–0·3
Strategy 1: Conventional policies						
1981	25·78	1·07	1·56	23·15	4,781	110·7
1985	26·72	1·22	1·94	23·57	5,244	123·6
Growth rates						
1976-81	0·6	—	—	0·3	3·3	3·6
1981-85	0·9	—	—	0·4	2·3	2·8
Strategy 2: Devaluation						
1981	25·78	1·01	1·45	23·32	4,825	112·5
1985	26·72	0·72	0·85	25·15	5,645	142·0
Growth rates						
1976-81	0·6	—	—	0·4	3·5	3·9
1981-85	0·9	—	—	1·9	4·0	6·0
Strategy 3: Restriction of imports						
1981	25·78	0·90	1·20	23·68	4,900	116·0
1985	26·72	0·69	0·80	25·23	5,626	142·0
Growth rates						
1976-81	0·6	—	—	0·7	3.8	4.6
1981-85	0·9	—	—	1·6	3·5	5·2

Notes: Series which are defined in the Statistical Appendix are indicated by their reference numbers.
For the general method of calculation of series expressed at 1975 prices and values, see Statistical Appendix,
$EE+U+V=LS$ (210+211+212=213)
$EE.EP/1000=QQ$ (QQ is 202 plus 203)
V is a non-linear function of U
See Table II-2 for factors influencing *EP*.

sidered to mark exogenous changes of trend in productivity and willingness to seek employment, or whether they are considered to be reversible.

We can find no evidence to show that the rise in registered unemployment is not reversible. Also, the absence of any increase in productivity since 1973 can be entirely explained by short-term factors which would be fully reversed in an economic recovery.

These factors, displayed in Table II-2, include:

(*i*) the lag in adjustment of actual employment to levels desired by employers (which reversed itself between 1973 when desired employment was increasing and 1976 when it was falling);

(*ii*) the fall in the pressure of demand, which (as demonstrated by extensive historical evidence for the UK and other industrial countries) causes a reduction in the level of aggregate productivity by a little under ½% for each 1% shortfall in output relative to productive potential;

(*iii*) a reduction in productivity due to job protection schemes and various unidentified residual factors, which in the past have always proved entirely temporary.

If there is a recovery of demand in the next five years these three factors will be fully reversed, adding over ½% a year to the growth of average output per person compared with the underlying trend. In addition the abnormally low planned growth of public services (for most of which, by statistical convention, productivity growth is zero) implies a composition effect on productivity of nearly ½% a year. When North Sea oil and gas production (not shown in the tables) is added, and taking account of

Table II-2 Factors affecting productive growth

	Trend output per employee	Multiplicative factors				Actual output per employee
		Lag in adjustment of employment	Pressure of demand	Composition of output	Job creation and residuals	
	$\overline{EP}$	M_1	M_2	M_3	M_4	EP
	£1975	No effect =1·00	1969=1·00	1969=1·00	1962-74 av =1·00	£1975
Historical						
1963	2,988	0·998	1·009	0·982	1·027	3,036
1973	3,985	1·009	0·985	1·012	1·016	4,071
1976	4,344	0.993	0·948	1·012	0·984	4,070
Growth rates						
1963-73	2·9	0·1	–0·2	0·3	–0·1	3·0
1973-76	2·9	–0·5	–1·2	0·0	–1·1	0·0
Strategy 1: Conventional policies						
1981	5,016	0·999	0·931	1·026	0·999	4,781
1985	5,628	0·994	0·911	1·029	1·000	5,244
Growth rates						
1976-81	2·9	0·1	–0·4	0·3	0·3	3·3
1981-85	2·9	–0·1	–0·6	0·1	0·0	2·3
Strategy 2: Devaluation						
1981	5,016	1·001	0·936	1·027	0·999	4,825
1985	5,628	1·007	0·952	1·047	1·000	5,645
Growth rates						
1976-81	2·9	0·2	–0·3	0·3	0·3	3·5
1981-85	2·9	0·1	0·4	0·5	0·0	4·0
Strategy 3: Restriction of imports						
1981	5,016	1·004	0·946	1·030	0·999	4,900
1985	5,628	1·003	0·952	1·047	1·000	5,626
Growth rates						
1976-81	2·9	0·2	–0·1	0·4	0·3	3·8
1981-85	2·9	0·0	0·2	0·4	0·0	3·5

Notes: $EP = M_1.M_2.M_3.M_4.\overline{EP}$
$M_1 \ldots M_4$ are calculated using CEPG's disaggregated model.
EP, $\overline{EP}$ exclude North Sea.

the increase in potential labour supply GDP growth will have to average about 5% a year up to 1981 simply to hold unemployment constant. Once special factors have been worked out, the growth of GDP needed to hold unemployment constant may slow down. To reduce unemployment substantially a growth rate of at least 5% must be sustained for some years after 1981.

Whether such a high growth rate is in fact achieved will depend among other things on the choice of economic strategy and involves the whole range of issues discussed in later sections below. The predicted outcome under conventional policies is growth of GDP averaging only 3·9% a year. If this does indeed come about, the growth of output per person will be less for reasons analagous to those given above, but unemployment may still rise steadily to 1·6 million in 1981 and in the region of 2 million in 1985. Such an outcome, at the height of the North Sea oil boom, must be judged entirely unacceptable.

2. Possible supply constraints

The previous section has shown that GDP growth which is abnormally fast by historical standards will be possible from the point of view of potential labour supply. This raises the question whether, especially after a prolonged recession, other forms of supply constraint might not limit the response of output and employment to increased demand to an unusual degree if demand expands at anything like the rate which appears to be warranted from the point of view of labour supply. The issue is examined here on assumptions about the way in which businesses adjust their output capacity, a matter for which, unfortu-

Table II-3 Actual output and estimated full capacity output of domestic production sectors excluding North Sea and Public Services

	Actual output at factor cost	Estimated full capacity output at factor cost	Implied capacity utilisation
	QQ'	KQ	QQ'/KQ
	£1975 billion		(per cent)
1964	62·0	62·5	99
1971	73·2	80·2	91
1973	79·8	81·4	98
1976	77·5	88·4	88
Growth rates			
1964-73	2·8	3·0	–0·1
1973-76	–1·0	2·8	–3·6
Strategy 1: Conventional policies			
1979	87·6	86·8	101
1982	98·1	96·6	102
1985	106·2	116·2	91
Growth rate			
1976-82	4·0	1·5	2·5
Strategy 2: Devaluation			
1979	87·6	86·8	101
1982	101·2	97·2	104
1985	125·1	124·0	101
Growth rate			
1976-82	4·5	1·6	2·8
Strategy 3: Restriction of imports			
1979	90·2	86·9	104
1982	105·8	100·3	106
1985	125·1	130·7	96
Growth rate			
1976-82	5·3	2·1	3·1

Notes: QQ': 202 plus 203
KQ: see text

nately, no direct macro-economic evidence exists. The best, although somewhat arbitrary, indicator we have managed to construct suggests that supply constraints will very likely be more effective than in the past for a period of several years starting from 1979. This leads us to modify assumptions about imports and exports in those years (see section 6).

The range of possible supply constraints is wide. Even in the presence of high unemployment, labour shortages may be a bottleneck in the short term if training has previously been run down and skilled and experienced employees laid off. More generally, although to a varying degree in different types of production activity, a variety of factors, from plant and equipment to the organisation of supplies, production and delivery, may inhibit the response of output to demand. In the past such supply constraints could be assumed to be relatively unimportant since demand grew, averaging out cycles, at a reasonably steady rate which producers should have been able to anticipate. Moreover there was no strong empirical evidence in import and export functions, where it might have been expected for significant diversion effects even at cyclical peaks.

To assess the abnormal situation which may now arise as a result of the duration and depth of recession since 1973, particularly if there is a fast recovery of demand, we have calculated (see Table II-3) a provisional indicator for full capacity output (excluding the North Sea and public services), based on three assumptions about business planning:

(*i*) that in each year the trend level of output two years ahead is predicted by an extrapolation of the trend over the previous two business cycles (i.e. the past eight years);
(*ii*) that a 5% margin is allowed to cope with above-trend demand;
(*iii*) that the indicated full capacity level of output assessed in this way becomes operational by the time the year in question is reached.

Table II-4 Economic effects of North Sea activities, 1976-81 and 1985

(£ billion in 1975 values)

	1976	1977	1978	1979	1980	1981	1985
Direct contribution to UK balance of payments							
Sales of oil and gas	0·89	2·11	3·59	4·78	5·73	6·36	8·10
less Imports for North Sea and post-tax profits due abroad	–1·34	–0·98	–1·27	–1·58	–2·05	–2·58	–2·16
Contribution to current account	–0·45	1·13	2·33	3·20	3·68	3·78	5·93
(as % of total exports of goods and services)	(–1·5)	(3·4)	(6·2)	(7·8)	(8·2)	(7·8)	(9·6)
plus Net capital inflow from abroad associated with North Sea activity	1·51	0·50	–0·04	–0·22	0·03	0·47	–0·63
Contribution to basic balance	1·06	1·63	2·29	2·98	3·71	4·25	5·30
(as % of total exports of goods and services)	(3·6)	(4·9)	(6·1)	(7·3)	(8·3)	(8·8)	(8·6)
Direct contribution to national income							
Sales of oil and gas	0·89	2·11	3·59	4·78	5·73	6·36	8·10
less Production costs and post-tax profits due abroad	–0·38	–0·56	–1·22	–1·62	–2·10	–2·72	–2·78
Tax revenue and profits retained in UK	0·51	1·56	2·38	3·16	3·63	3·63	5·31
(as % of total national income)	(0·5)	(1·4)	(2·1)	(2·7)	(3·0)	(2·8)	(3·7)
less Post-tax profits due to UK private sector	–0·39	–1·27	–1·73	–1·98	–1·99	–1·59	–1·80
Contribution to public sector revenue	0·12	0·28	0·65	1·18	1·63	2·04	3·51
(as % of total revenue)	(0·3)	(0·8)	(1·7)	(2·9)	(3·9)	(4·5)	(6·4)
Depreciation due abroad	0·04	0·48	0·67	0·90	0·78	0·35	0·72
Post-tax profits due to UK private sector (adjusted) (a)	0·35	0·79	1·06	1·08	1·21	1·24	1·08

Notes: Figures are those predicted under Strategy 1: Conventional policies.
(a) See text.
For more detailed tables and explanation of North Sea accounts, see Chapter 9.

These are crude assumptions but applied to the past they make reasonable sense: actual output is implied to have risen to within 1% of full capacity in 1960-61 and 1964-65 and to within 2% of full capacity in 1973. At troughs of the business cycle, capacity utilisation is implied to have fallen to 91% in 1967 and 1971, and to 88% in 1975-76.

There is no presumption that output could not on average rise above full capacity in the sense we have defined it, for there are few sectors where capacity limits are rigid and some where they are very elastic. What we hope to indicate by use of this measure is whether the pressure of demand on capacity may plausibly be assumed to be no tighter than in the past (an index of less than 100), or whether an abnormal situation may develop (an index of over 100) for which there is no past precedent. In the latter case the possibility of diversion of exports, or of additional imports, must be seriously considered.

Under all strategies considered (see above) such an abnormal situation does indeed develop from 1979 onwards, both because of the length and depth of the recent recession and because growth of demand for business output between now and 1979 under any of the strategies will be not much less (and possibly rather more) than in previous upturns. Even under 'conventional policies', capacity utilisation peaks at 103 in 1981 and does not fall below 100 until 1983.

Under the most ambitious strategy, restriction of imports, capacity utilisation peaks at 106 in 1982 and only falls below 100 in 1984.

A disturbing aspect is that with the slower growth implied by conventional policies, the index of capacity utilisation reaches 100 in 1979 when unemployment is almost 1½ million. This serves to illustrate the possibility that, as a result of the recent recession at a time when potential labour supply is expanding, the employment capacity of the economy in terms of plants and business organisation may fall to a level so low as to make further increases in unemployment almost unavoidable in the short term.

The projected levels of capacity utilisation also serve as a warning about predictions of the way in which increases in demand are met. We have introduced formula adjustments to predicted levels of imports and exports to take some account of the likely excess of demand in relation to capacity from 1979 on. These adjustments are described in section 6 below.

3. Economic effects of North Sea activities

The two previous sections have indicated the growth of production which may be feasible and desirable in sectors other than North Sea oil and gas. The importance of the latter is not only that it directly adds to the total value of UK output and (apart from profits due abroad) to national income, but also that since North Sea oil and gas can either be exported or used as a substitute for imported oil, it helps to ease the balance-of-payments constraint on the growth of the UK economy. This section assesses the magnitude of these benefits in the period up to 1985. It must be remembered that they are temporary; at some point after 1985 the flow of oil and gas will decline because of the exhaustion of accessible reserves.

Based on assumptions and estimates described in Chapter 9, between 1976 and 1981 North Sea activities will add about ½% a year to the growth of national income and the equivalent of 1½% a year to the growth of total UK exports. Thereafter the benefits will rise in absolute magnitude up to 1984-85 at roughly the same rate as total UK exports after which time the peak may have been passed. These results depend on assumptions about activity in the North Sea which are increasingly uncertain after 1980-81, as well as on assumptions about future inflation, exchange rates and the world price of oil. But the latter, although it has a large effect on accounts for the North Sea and the rest of the UK taken separately, is not very important for the UK as a whole, because the North Sea implies approximate national self-sufficiency in fuels, at least from 1980 to 1985.

Table II-4 shows estimates of relevant North Sea transactions deflated to 1975 values. The figure for sales of oil and gas underestimates their value as an import substitute, perhaps by as much as £1 billion, because gas from the southern basin is sold at a very low price, little in excess of production costs—a gain largely passed on to consumers. Imports of goods and services to the North Sea from abroad, which offset the net foreign exchange benefit due to oil and gas sales, have been high in the last two years while production platform and other facilities were being installed in the first group of large oilfields. A second wave of development expenditure may be expected in 1980-82, but by then the bulk of supplies should come from within the UK rather than from overseas. The second offset to foreign exchange benefits on current account is profits and interest due abroad, shown here on national accounting definitions net of UK tax and net of depreciation due to foreign companies. The latter is counted instead as a capital flow; the bunching of depreciation in the first two years of production from each field under PRT and Corporation Tax rules explains why the net capital flow is expected to turn negative in 1979.

The foreign exchange benefit provided by North Sea activities is in our view their single most important consequence. If the foreign exchange is used to finance faster growth of imports (rather than to accumulate reserves and maintain a high exchange rate for sterling) it will permit faster expansion of non-North Sea domestic output under conventional policies by nearly 1% a year between 1977 and 1981; the value of this extra output would be at least as great as the value of North Sea production itself.

The second part of Table II-4 shows the direct contribution of North Sea production to national income and the allocation of this income between government revenue and private sector profits. The figure on national accounting definitions for profits after tax due to the UK private sector is misleading, because it includes depreciation due to foreign companies; an adjusted figure is shown at the bottom of the table. The direct benefit to national income and government revenue, although large enough to be a major factor in medium-term prospects, is not so important as the indirect benefit noted above, if the extra foreign exchange made available by North Sea activities is used to support a faster expansion of other domestic production sectors. The potential combined direct and indirect gain to national income, rising from 2% in 1976 to 6½% in 1981, represents a major gain, which could more or less offset the loss which the UK has suffered on account of the rise in world commodity prices relative to manufactures since 1972. It helps management of the economy in three main ways: first, as noted above, by alleviating the balance-of-payments constraint on growth of GDP; second, by providing revenue to the government which, given public expenditure, can be used to finance lower taxation of wages and consumption, thereby alleviating inflation; and third, by providing favourable markets, investment opportunities and profits to UK business. All three effects are embodied in the detailed calculations underlying results shown in the following sections.

4. Availability of resources

This section examines resource availability as a preliminary to the consideration of balance-of-payments and trade targets in sections 5 and 6. The analysis is inter-related, in the sense that results here depend on conclusions reached there. But it is useful to look at resource availability first, because this helps, in conjunction with labour supply prospects set out in section 1 above, to establish the urgency with which the difficult problems associated with trade and the balance of payments must be regarded.

First consider the prospects shown in Table II-5 under strategy 3, where import restrictions are used

Table II-5 Availability of resources for domestic expenditure

(£1975 billion)

	GDP at market prices	Terms of trade gain rel. 1975	Net income from abroad	National income	*less resources for* current balance	stock-building	Resources for domestic expenditure	Fixed investment	Public consumption	Private consumption
	Q	*TT*	*−YF*	*Y*	*−B*	*−S*	*DXF*	*I*	*CG*	*C*
1963	76·9	2·4	0·7	80·0	−0·3	−0·2	79·5	12·6	17·5	49·4
1973	104·0	2·4	1·4	107·8	1·1	−2·6	106·3	21·0	21·4	63·8
1976	103·6	0·4	0·3	104·2	1·3	1·6	107·1	19·6	23·7	63·7
Growth rates										
1963-73	3·1	—	—	3·0	—	—	2·9	5·2	2·0	2·6
1973-76	−0·2	—	—	−1·1	—	—	0·3	−2·3	3·5	−0·1
Strategy 1: Conventional policies										
1977	108·0	0·1	−0·1	108·0	0·1	0·1	108·2	18·9	23·6	65·6
1978	113·7	0·2	−0·7	113·3	−0·4	−1·9	111·0	19·7	23·5	67·7
1981	129·4	0·5	−2·2	127·8	0·1	−2·2	125·7	22·7	24·5	78·5
1985	146·1	0·8	−1·9	145·0	−1·1	−1·2	142·7	25·7	26·6	90·4
Growth rates										
1976-81	4·6	—	—	4·2	—	—	3·3	3·0	0·7	4·3
1981-85	3·1	—	—	3·2	—	—	3·2	3·2	2·1	3·6
Strategy 2: Devaluation										
1977	108·0	0·1	−0·1	108·0	0·1	0·1	108·2	18·9	23·6	65·6
1978	113·7	0·2	−0·7	113·2	−0·4	−1·9	110·9	20·1	23·5	67·3
1981	131·5	0·3	−2·1	129·7	−0·1	−2·8	126·7	24·8	24·4	77·5
1985	167·4	0·4	−2·5	165·3	−1·6	−4·9	158·8	34·9	26·1	97·8
Growth rates										
1976-81	4·9	—	—	4·5	—	—	3·4	4·8	0·6	4·0
1981-85	6·2	—	—	6·3	—	—	5·8	8·9	1·7	6·0
Strategy 3: Restriction of imports										
1977	108·0	0·1	−0·1	108·0	0·1	0·1	108·2	18·9	23·6	65·6
1978	114·5	0·2	−0·7	114·0	−0·4	−2·2	111·4	20·2	23·5	67·7
1981	134·9	0·5	−2·4	133·0	0·4	−3·3	130·1	25·2	24·3	80·6
1985	165·3	1·0	−2·9	163·4	−0·1	−4·0	159·3	33·3	26·1	99·9
Growth rates										
1976-81	5·4	—	—	5·0	—	—	4·0	5·2	0·5	4·8
1981-85	5·2	—	—	5·3	—	—	5·2	7·2	1·8	5·5

Notes: $Q+YTT-YF=Y$ (410+411+412=413)
$Y-B-S=DXF$ (413–421–405=[406–405])
$DXF=C+CG+I$ ([406–405]=401+402+[403+404])
YTT, YF, S, I are predicted on behavioural assumptions.
B is determined by the target for the basic balance (see section 5).
C (and hence *Q*) is regulated by fiscal policy, given exchange rate assumptions, so as to fulfill targets for *B* or *U*.

to ensure that GDP targets are met from 1978 onwards—the GDP targets themselves being judged in relation to the level of unemployment and possible supply constraints (section 2), so as to represent a maximum feasible growth path, implying an average increase in business output (i.e. excluding the North Sea and public services) of about 5½% a year from 1977 to 1985. The average growth of GDP as a whole is well in excess of 5% a year measured at constant market prices inclusive of North Sea production. Growth of national income would be slightly lower than growth of GDP because of a rising outflow of profits due to foreign companies, not only in the North Sea, but also in fast-growing industrial sectors. Resources available for domestic expenditure would grow slower still up to 1981, because of the need for

stockbuilding and (section 5 below) the elimination of current account deficits on the balance of payments. Fixed investment also would take a rising share of resources. But, in the medium term at least, the combined total of public and private consumption could still grow by 4% a year—faster than in any previous period—and if cuts in public services were not reversed private consumption could rise by an unprecedented average rate of 5% a year. This must imply scope for large improvements in real wages and a reduction in the rate of inflation.

But the short-term prospect, as indicated by figures for 1977 and 1978, is not quite so good. The turnround in the balance of payments, stockbuilding and fixed investment will absorb nearly all the additional resources available in those two years. Even with the planned standstill in public consumption, private consumption could only rise about 3% in each year. Also, since profits and other forms of property income will be gaining at the expense of wages (due to recent tax changes, the fall in sterling and growth of exports), the shortage of resources for real wages may continue to be acute. This argues for minimum balance-of-payments targets in the next two years, because of the strong inflationary pressure generated by a continued squeeze on living standards of wage and salary earners. It is however clear that in the medium or long term fast growth, such as that predicted under strategy 3, will provide resources on a scale which opens up a range of options for investment, public expenditure or accumulation of foreign exchange reserves in addition to growth of private consumption.

The bottom part of Table II-5 also shows the somewhat lower resource availability predicted under conventional policies (strategy 1), which achieve a lower growth rate for GDP because of the need to hold back imports (section 6), as well as under devaluation (strategy 2), where fast growth takes longer to achieve. After 1978 the resources available for growth of consumption will still be large by historical standards (owing in part to the effects of North Sea oil), and private consumption will have caught up with an extrapolation of the 1963-73 trend by 1981. Again there may eventually be 'free' resources to dispose of.

5. Balance-of-payments requirements

Apart from the possible supply constraints mentioned in section 2, the main determinant of growth in the medium term will be the balance of payments. This section considers financing, capital flows, net income from abroad and the terms of trade, in order to establish presumptions about the volume of net exports (i.e. exports less imports) which would be consistent with a viable balance-of-payments position. The next section will go on to consider the chances of achieving a sufficient volume of net exports under different assumptions about growth of GDP.

In the long run economic strategy must be planned in such a way that control over the exchange rate can be maintained without prejudice to the level of domestic activity. This involves two requirements:

(*i*) that the full-employment balance of payments on current account and structural capital flows (which we term the 'basic' balance) is either in surplus or in deficit by no more than the government can expect to finance by medium-term borrowing.

(*ii*) that short-term capital flows can be offset by accumulation or drawing down of exchange reserves and short-term lines of credit.

In each case government borrowing or drawing on lines of credit must obviously not involve terms which themselves require deflation of domestic output.

The first condition is ultimately a matter of achieving sufficient growth of exports relative to imports; here we establish presumptions about the basic balance, structural capital flows, etc., sufficient to determine targets for the volume of exports less imports. How these targets can be met is discussed in section 6.

The second condition raises issues discussed in Part I of this article. In this section it is assumed simply that, provided appropriate targets for the basic balance are met, short-term capital flows can be managed one way or another so as to achieve the exchange rate movements postulated under each of our macro-economic strategies.

The projections in Table II-6 assume a small continuing basic deficit in 1977 and 1978, when raising the level of domestic activity and provision of resources for real wages must have first priority. From 1979 to 1981 the table assumes a zero basic balance. After 1981 a small surplus may be desirable, as old debts fall due on quite a large scale and will need to be replaced by new borrowing.

As the table indicates, targets for the current account should be very similar to those for the basic balance. A net inflow of long-term capital, as foreign companies reinvest rising profits earned in the UK, will have to be offset by large increases in trade credit if exports are to rise at the fast rate necessary to support GDP growth.

Since net income from abroad will increasingly be negative, the volume of net exports will have to rise gradually in order to keep the current account in balance. By comparison with the previous five years, the turnround in the volume of net exports, measured at 1975 prices, will have to be very large indeed; on average, net exports need to be about £4½ billion higher (at 1975 prices) each year in the period 1977-81 than they were in 1972-76. Estimates projected further ahead still imply the need for a roughly zero balance on current account in 1985 and a surplus in the volume of net exports of about £2 billion (at 1975 prices).

The required level of net exports would be increased if a boom in world commodity prices brought a large fall in the UK terms of trade as in 1973-74. It will also have to be slightly higher, as the middle part of Table II-6 indicates, if devaluation is used to give UK producers a further cost advantage relative to the world price of manufactures. Assuming identical targets for the basic balance, devaluation involves a terms of trade loss, a gain on net income from abroad, a small increase in long-term capital outflows (on account of the higher sterling value of UK investment overseas) and a larger extension of trade credit, as compared with a situation in which trade targets are achieved either without any intervention or by means of restriction of imports.

Table II-6 Financing of the balance of trade (including North Sea)

	Volume of exports less imports *X-M*	Terms of trade gain rel. 1975 *YTT*	Net income from abroad *-YF*	Balance on current account *B*	Long-term capital *KF*	Trade credit *KTRC*	Basic balance *BB*
	(£ billion at 1975 prices)		(£ billion in 1975 values)				
1972	-4·5	4·3	0·5	0·3	-0·3	-0·3	-0·4
1973	-4·9	2·4	1·4	-1·1	0·1	-0·3	-1·3
1974	-3·1	-2·3	1·2	-4·2	1·3	-0·8	-3·6
1975	-2·2	0·0	0·5	-1·7	0·5	-0·4	-1·6
1976	-1·9	0·4	0·3	-1·3	0·2	-0·5	-1·6
Cumulative 1972-76	-16·6	4·8	3·8	-7·9	1·9	-2·4	-8·5
Strategy 1: Conventional policies							
1977	-0·1	0·1	-0·1	-0·1	0·6	-1·0	-0·4
1978	0·9	0·2	-0·7	0·4	0·3	-1·1	-0·4
1979	1·6	0·3	-1·0	0·9	0·2	-1·1	0
1980	1·6	0·4	-1·6	0·5	0·6	-1·1	0
1981	1·5	0·5	-2·2	-0·1	1·2	-1·1	0
Cumulative 1977-81	5·5	1·5	-5·5	1·5	2·9	-5·3	-0·8
Strategy 2: Devaluation							
1977	-0·1	0·1	-0·1	-0·1	0·6	-1·0	-0·4
1978	0·9	0·2	-0·7	0·4	0·3	-1·1	-0·4
1979	2·2	-0·1	-0·8	1·4	0·0	-1·4	0
1980	2·2	0·1	-1·4	0·9	0·6	-1·5	0
1981	2·0	0·3	-2·1	0·1	1·2	-1·4	0
Cumulative 1977-81	7·2	0·6	-5·1	2·7	2·7	-6·3	-0·8
Strategy 3: Restriction of imports							
1977	-0·1	0·1	-0·1	-0·1	0·6	-0·1	-0·4
1978	0·9	0·2	-0·7	0·4	0·3	-1·1	-0·4
1979	1·5	0·3	-1·1	0·7	0·3	-1·0	0
1980	1·6	0·4	-1·7	0·3	0·7	-1·1	0
1981	1·5	0·5	-2·4	-0·4	1·4	-1·1	0
Cumulative 1977-81	5·4	1·5	-5·9	1·0	3·4	-5·2	-0·8

Notes: $X-M+YTT-YF=B$ ([407–409]+411+412=421)
$B+KF+KTRC=BB$ (421+511+512=513)
KTRC depends on growth of exports and imports.
KF, YF depend on growth of domestic profits and on accumulated past deficits (*BB*).
YTT depends on the composition of imports and cost competitiveness.
BB is a target.

The target increase in net exports as compared with 1976 is large enough to absorb the whole of the saving of net imports of oil afforded by the North Sea. Thus in 1977-80 the volume of non-oil exports will have to be just as high, relative to non-oil imports, as in 1976. How this can be achieved is the subject of the next section.

6. **The volume of net exports**

The purpose of this section is to consider the implications of net export targets under each of the three strategies, 'conventional policies', 'devaluation' and 'restriction of imports', defined above.

Under conventional policies, balance-of-payments requirements are the main determinant of the growth of GDP which can be achieved in the medium term; the conclusion reached here is that, if net export targets defined in the previous section are to be met under conventional policies, the growth of GDP can

Table II-7 Ex ante growth of exports and of imports of manufactures

	Volume of exports excluding fuels			Volume of imports of manufactures				
	Before supply constraints	Diversion effect	After allowing for supply constraints	Before supply constraints		Diversion effect	After allowing for supply constraints	
				Level	Ratio to GDP		Level	Ratio to GDP
	$\overline{XX}$	d_1	XX	$\overline{MSM}$		d_2	$\hat{MSM}$	
	£1975 b	%	£1975 b	£1975 b	%	%	£1975 b	%
Historical								
1963	13·6	0	13·6	4·1	5·3	0	4·1	5·3
1973	24·6	0	24·6	12·8	12·3	0	12·8	12·3
1976	27·0	0	27·0	13·9	13·4	0	13·9	13·4
Growth rates								
1963-73	6·1	—	6·1	12·1	8·7	—	12·1	8·7
1973-76	3·2	—	3·2	2·9	3·0	—	2·9	3·0
Strategy 3: before allowing for restrictions on imports of manufactures*								
1977	29·5	0	29·5	15·0	13·9	0	15·0	13·9
1978	32·2	0	32·2	17·5	15·3	0	17·5	15·3
1979	34·7	–1·9	34·1	20·2	16·7	4·7	21·1	17·5
1980	37·3	–2·7	36·3	23·1	18·1	6·9	24·7	19·4
1981	39·8	–3·0	38·6	26·6	19·7	7·9	28·7	21·3
1985	51·1	0	51·1	45·2	27·3	0	45·2	27·3
Growth rates								
1976-81	8·1	—	7·4	13·9	8·0	—	15·6	9·7
1981-85	6·4	—	7·3	14·1	8·5	—	12·0	6·4

Notes: $XX=\overline{XX}(1+d_1)$

$\hat{MSM}=\overline{MSM}(1+d_2)$

d_1, d_2 predicted as functions of excess capacity utilisation (see Table II-3).

Reference numbers: XX, 502; MSM, 506 plus 507.

* This defines the *'ex ante'* position in the sense that it allows for supply constraints but not for the effect of import restrictions themselves: see text.

average only 4·2% a year up to 1981 and 2·9% between 1981 and 1985, which, as shown in section 1, would imply unemployment rising to 1·6 million in 1981 and 1·9 million in 1985.

Under the devaluation strategy the balance-of-payments requirement determines how large a cost advantage must be given to UK producers in order to reconcile targets for net exports with the 5½% a year average growth of GDP needed to reduce unemployment to 0·8 million by 1985. The size of this cost advantage determines the transfer of income from wages to profits and the stimulus to cost and price inflation associated with devaluation (see section 8 below). The conclusion here is that a further improvement in cost competitiveness of about 23% by 1982 as compared with the present position will be needed in order to meet the targets for 1985 (implications for inflation are examined in section 8).

Under a strategy of import restrictions it is estimated that, without retaliation, restrictions would be needed, rising steadily from a small figure in 1978 up to, by 1985, the equivalent of about 23% of imports of manufactures, or 16% of total imports, compared with what imports would otherwise have been at the same level of demand.

The plan of the section is to consider first the scale of the *ex ante* problem involved in reconciling targets for net exports and growth of GDP, and then to analyse adjustments to the pattern of trade predicted under each strategy.

The method used to indicate the *ex ante* problem in Tables II-7 and II-8 is to show the volume of exports and imports predicted under the import restriction strategy, with imports then adjusted to the level which would be predicted at the same level of demand in the absence of restrictions. Table II-7 indicates that the volume of exports (excluding fuels) is predicted to grow at an average of about 7½% a year—faster than the pre-1974 trend—because of the cost advantage secured by depreciation of sterling since 1972 (the above-trend rise in exports yet to come through is now estimated at 11%). Exports are assumed to be held back temporarily by supply constraints which come into effect between 1979 and 1983; the formula used postulates a reduction of export volume by ½% for each 1% by which

Table II-8 Ex ante shortfall of volume of net exports

(£1975 billion)

	Exports excluding fuels *XX*	Net imports of fuels *MXF*	Ex ante imports of manufactures *MSM*	Other imports *MABV*	Ex ante volume of net exports *X-M*	Required volume of net exports *X-M*	Shortfall of ex ante net exports *QR*
Historical							
1963	13·6	2·4	4·1	9·9	–2·7	—	—
1973	24·6	4·6	12·8	12·1	–4·9	—	—
1976	27·0	3·4	13·9	11·6	–1·9	—	—
Growth rates							
1963-73	6·1	—	12·1	2·0	—	—	—
1973-76	3·2	—	2·9	–1·3	—	—	—
Strategy 3: Restriction of imports							
1977	29·5	2·4	15·0	12·2	–0·1	–0·1	0·0
1978	32·2	1·5	17·5	12·6	0·5	0·9	0·4
1979	34·1	0·8	21·1	12·9	–0·7	1·5	2·3
1980	36·3	–0·1	24·7	13·1	–1·5	1·6	3·1
1981	38·6	–0·7	28·7	13·4	–2·9	1·5	4·3
1985	51·1	–0·5	45·2	14·6	–8·2	2·0	10·1
Growth rates							
1976-81	7·4	—	15·6	2·9	—	—	—
1981-85	7·3	—	12·0	2·1	—	—	—

Notes: $_{X-M}=XX-MXF-_{MSM}-MABV$
$_{X-M}+QR=X-M$
For *X–M* see Table II-6
Reference nos: *X*: 407 *XX*: 502 *M*: 409
MXF: 504 minus 501 *MABV*: 503 plus 505 plus 508
* This defines the *'ex ante'* position: see Table II-7 and text.

the index of capacity utilisation (see section 2 above) rises above 100.

Table II-7 also gives predictions of the growth of imports of manufactures, before and after allowing for domestic supply constraints, on the basis of levels of total final demand predicted under strategy 3, which is calculated to achieve a maximum plausible growth path for GDP.[1] The ratio of (unrestricted) imports of manufactures to GDP is predicted to rise, before allowing for supply constraints, at about the same rate as in 1963-73. This overall result compounds:

(*i*) the effect of an income elasticity higher than unity, which would tend to make the ratio of imports to GDP rise faster than in the past because of a higher rate of growth of final demand;

(*ii*) a fall in imports for North Sea development;

(*iii*) the adverse effect of recent falls in sterling on the competitive position of foreign suppliers in the UK market; and

(*iv*) the gradual onset of saturation effects as foreign suppliers come to acquire large shares of UK markets for particular commodities.

In the absence of supply constraints, sustained fast growth of demand, together with a continuing steady rise in importers' shares of the UK market, would have implied more-or-less continuous growth of imports of manufactures at about 14% a year. But, as in the case of exports, some allowance must be made for the likely effect of domestic supply constraints. The formula applied depends on the level of import penetration and the shares of semi- and finished manufactures and implies, overall, an increase of manufactured imports by about 1½% (over and above normal demand effects) for each 1% by which the index of capacity utilisation exceeds 100%.

Table II-8 combines predictions of non-fuel exports and imports of manufactures from Table II-7 with predictions for other items, to derive an *'ex ante'* figure for the volume of net exports. This can be compared with the figure required to meet financing targets (see section 5). Net trade in fuels turns rapidly in the next few years, as North Sea oil production builds up and the total of other imports (food, basic materials and services) rises only slowly, because these items have a low income elasticity.

The predicted shortfall of net exports shown in the

[1]Note that these figures do not represent the level of imports which would be predicted on the (absurd) hypothesis that domestic demand was expanded by tax reductions to whatever level was necessary to achieve this growth path of GDP, regardless of import penetration and the trade deficit. They correspond, rather, to the level of demand which would be sufficient to achieve the GDP growth path provided net export targets were met (and more precisely, provided these targets were met with the predicted level of exports).

Table II-9 Implications of strategies for meeting balance-of-payments requirements

	1978	1979	1980	1981	1985
Strategy 1: Conventional policies					
Reduction in GDP (%)	0·7	2·2	3·0	4·5	12·5
Effect on unemployment (thousands)	42	153	239	363	1139
(£1975 billion)					
Increased exports	0	0·5	0·6	0·7	0
Reduced imports of manufactures	0·3	1·5	2·1	3·1	8·5
Other import savings	0·1	0·3	0·4	0·6	1·8
Net effect on terms of trade, income from abroad and capital flows	0	–0·1	0	–0·1	–0·2
Strategy 2: Devaluation					
Increased cost advantage (%)	0	7·7	7·7	7·7	23·2
Reduction in GDP (%)	0·7	2·2	2·0	2·9	0
Effect on unemployment (thousands)	45	153	179	245	51
(£1975 billion)					
Increased exports	0	1·1	2·2	3·0	15·6
Reduced imports of manufactures	0·3	1·5	1·2	1·5	–3·7
Other import savings	0·1	0·3	0·2	0·3	–0·1
Net effect on terms of trade, income from abroad and capital flows	0	–0·7	–0·6	–0·5	–1·7

Notes: all figures are differences from strategy 3 with unrestricted imports of manufactures and same level of final demand.
GDP is measured at factor cost.
Exports exclude fuels.

The degree of restriction of imports required under strategy 3 is as follows:

	1978	1979	1980	1981	1985
Reduction in imports of manufactures					
(as % of total imports)	1·1	6·0	7·3	9·3	15·5
(as % of imports of manufactures)	2·1	10·9	12·7	15·4	23·3
(£1975 billion)	0·4	2·3	3·1	4·3	10.1

last column of the table is by construction equal to the volume of imports of manufactures suppressed through restrictions under strategy 3. It is zero by definition in 1977, since for this year only the level of GDP is determined by the net export target rather than by an unemployment target. The predicted shortfall rises rapidly after 1978, when supply constraints come into effect, and more gradually after 1982, when they are predicted to ease off.

The remedy for this *ex ante* shortfall of net exports is under strategy 3 to cut imports to the extent necessary to meet the net export target in each year from 1978 on, without prejudice to targets for growth of GDP and falling unemployment.

The remedy under conventional policies is in principle almost as straightforward, although more complicated in its effect; the level of taxation is adjusted to hold final demand down to whatever level is necessary to meet the net export target, reducing imports and, in supply-constrained years, freeing capacity for exports. Table II-9, which gives a comparison between adjustments of trade under both strategies, shows that the level of imports is virtually the same under each except in supply-constrained years, and that the broad composition of imports, as between manufactures and other commodities, also differs little. Within manufactures there might well be large differences in the composition of imports under each strategy, since it is likely that restrictions would be concentrated on a sub-group of commodities judged to be inessential, in the sense that shortages would not cause serious domestic production bottlenecks.

The adjustments needed to meet net export requirements under a devaluation strategy are much more complicated, because the effect of changes in cost competitiveness on the volume of exports and imports comes through with lags of up to two or three years, and also because the stimulus which devaluation gives to domestic cost inflation implies that, if large and ill-timed, it could raise the rate of inflation to a very high level. A further consideration is that, since supply constraints will tend to reduce the effect of devaluation on the volume of exports and imports while doing nothing to mitigate its impact on inflation, the best moment for any large devaluation is likely to be after supply constraints have eased, rather than in the period before they become most

Table II-10 Public sector financial deficit

	Increase in money value of post-tax private income	Basic private surplus (excl. North Sea and before stock-building)	*less* stock-building	*less* North Sea deficit	Private surplus	*plus* Balance-of-payments deficit	Public sector deficit
	%YP[1]	*NAFAB*	*-SP*	*-NSD*	*NAFA*	*-B*	*PSFD*
	% per year			£1975 billion			
Historical							
1964-73 av.	9·0	3·9	–0·8	–0·1	3·0	–0·1	2·9
1974	12·5	5·0	–1·1	–0·5	3·4	4·2	7·6
1975	22·8	6·0	2·8	–1·4	7·4	1·7	9·1
1976	15·6	6·9	2·3	–2·0	7·3	1·3	8·5
Strategy 0: No policy change							
1977	16·9	8·6	0·5	–0·9	8·2	–0·9	7·3
1978	15·6	7·9	–0·7	–0·3	6·9	–2·1	4·8
Strategies 1-3: Conventional policies, devaluation, restriction of imports							
1977: 1-3	19·1	9·5	0·0	–0·9	8·6	0·0	8·6
1978: 1, 2	14·4	7·9	–1·4	–0·3	6·2	–0·4	5·8
3	14·9	8·1	–1·6	–0·3	6·2	–0·4	5·8
1981: 1	14·5	8·1	–1·7	–1·1	5·3	0·1	5·4
2	16·5	10·0	–2·1	–1·1	6·8	–0·1	6·6
3	16·1	9·0	–2·5	–1·1	5·4	0·4	5·8
Strategy 1: Conventional policies—wage backlash							
1978	16·5	8·7	–1·3	–0·3	7·1	–0·5	6·6
1981	18·4	10·1	–1·6	–1·1	7·4	–0·2	7·2

Notes: $NAFA = NAFAB - SP - NSD$
$PSFD = NAFA - B$ (420 = 419–421)
See section 8 for inflation assumptions: 'wage backlash' is a variant predicted on the assumption of a major reversal after July 1977 of the fall in the real post-tax value of settlements since 1975.
'North Sea deficit' is defined as private investment in the North Sea minus UK private equity finance and foreign oil companies' depreciation allowances.

severe. In the light of these considerations, the best pattern for a devaluation strategy seems (according to the assumptions of the model) to consist in maintaining the present cost advantage in 1977 and 1978 while the effects of last year's devaluation come through and inflationary pressures are absorbed; then undertaking only a minor devaluation in 1979 because of the onset of supply constraints; and finally undertaking a major devaluation in 1982 to secure fast growth of demand in later years, when supply capacity is predicted to grow fastest.

Whatever precise pattern of devaluation would be most appropriate is highly debatable and, given the margins of error, not worth arguing far in advance. Whether under the scheme outlined above, which is embodied in predictions for strategy 2, or under any other scheme, devaluation cannot effectively be used to meet year-by-year targets. In the meantime fiscal policy has to be operated as under strategy 1, with some regard to the level of net exports at the expense of short-run targets for GDP and unemployment. The middle part of table II-9 shows the predicted outcome, compared with the other two strategies, of organising devaluation and fiscal policy in this manner. The loss of GDP, as compared with the import restriction strategy, is quite large in the years 1979-1982 (of the same order of magnitude as the total contribution of the North Sea to national income in those years). The other important aspect of the comparison, effects on income distribution and inflation, is discussed in section 8 below.

7. Fiscal policy

To achieve given objectives for growth of GDP and the volume of net exports, the level of taxation must be adjusted so as to induce the private sector to buy a quantity of goods and services which is sufficient to absorb and does not exceed the intended level of supply. The purpose of this section is to assess the level of taxation required under each strategy discussed above. Any tax changes found necessary will affect the rate of inflation, discussed in the following section. Since the rate of inflation itself influences tax requirements, the conclusions of the two sections are interdependent; the figures presented here (which have been made consistent with results of the following section by simultaneous solution) are conditional on wage-bargaining assumptions described in section 8.

The conclusion reached here is that tax reductions costing, *ex ante,* £2 billion or more are possible and desirable this year over and above the net cost, approaching £1 billion, of full revalorisation of income tax allowances and specific duties.[1] Under existing public expenditure plans there will be scope for further tax reductions in most future years, amounting cumulatively to a total of at least £5 billion by 1981.

The first step in the analysis is to determine appropriate targets for the overall financial deficit of the public sector. These can then be set against forecast public expenditure and revenue, to measure the scope for discretionary changes in taxation or revisions to planned public expenditure.

(a) *Targets for the public sector deficit*

In terms of national financing, the public sector's financial deficit (PSFD) may be regarded as a residual. Assuming the effects of other instruments, such as the exchange rate policy, interest rates, import restrictions, incomes policy, etc., have all been correctly calculated in relation to targets for the balance of payments and growth of private income and expenditure, the PSFD must be planned to match the flow of funds provided by the overall financial surplus of the private sector plus the deficit (or minus the surplus) on the balance-of-payments current account.

Table II-10 provides an analysis of PSFD targets in this form, distinguishing three important components of the overall private sector surplus. The first is the excess of private savings over private fixed investment expenditure (excluding the North Sea); our hypothesis is that this is mainly determined by the rate of increase in money income of the private sector, thus rising with the rate of inflation. Since 1973 this basic surplus has been higher than in the past and the prediction is that it will remain high in the future on account of continuing inflation. The size of the surplus is also affected by the distribution of private income, since some forms of income (e.g. social security benefits) are likely to be spent more-or-less instantaneously, while others (e.g. corporate profits) are only allocated, distributed and spent with considerable delay, which can involve large additions to financial balances when money incomes are rising. The figures in this column are also influenced by the net flow of direct private investment to or from abroad, since under national accounting conventions these flows are counted as transactions in 'financial' assets and form part of the private sector's 'financial' surplus.

The third and fourth columns of Table II-10 show two factors which significantly alter year-by-year movements of the overall private surplus—stock-building, whose fluctuations are normally financed by changes in credit rather than out of past income, and North Sea investment financed by foreign capital or bank borrowing, which must be considered separately from normal private sector transactions because of the size and irregular timing of the capital inflows involved. For the past the table shows that the very high overall financial surplus of the private sector in 1975 and 1976 was mainly due to destocking, and that it would have been larger still but for a wave of North Sea development expenditure financed from overseas.

[1]Local authority rates have already been made to rise in line with inflation by cuts in the Rate Support Grant paid by central government.

The PSFD in the last column of the table is the sum of the overall private surplus and the deficit on the balance-of-payments current account, representing the total 'leakage' in the flow of funds which must be made good by deficit spending on the part of the government. It should be clearly understood that in our view the main direction of causality runs from inflation to the private sector surplus and hence (given the balance-of-payments target) to the size of the PSFD needed to prevent deflation of real demand—and not the other way round.

For 1977 and 1978 the table shows predictions of the PSFD on a 'no policy change' basis (see below for the precise fiscal assumptions), which imply a fast reduction in the PSFD, accompanied by a rapid shift to surplus in the balance of payments and (in 1977) continued destocking. This outcome would in our view be unnecessarily deflationary in its effects on GDP and unemployment.

The other predictions for 1977 and 1978 shown in Table II-10 imply the need for more gradual reduction in the PSFD, because the basic private surplus in column 2 is expected to be abnormally large, as a result, mainly, of very high profits on exports in the wake of last year's depreciation of sterling, which will not immediately be absorbed by higher private investment.

In the medium term the target PSFD depends mainly on the rate of inflation and the target balance of payments on current account. Assuming that the latter is roughly zero (see section 5), the appropriate PSFD may lie anywhere between £4 billion (in 1975 values), if inflation falls below 10%, and over £8 billion (in 1975 values), if inflation accelerates to 20% a year.

(b) *Implications for taxation*

Table II-11 gives predictions of the discretionary changes in taxation needed to achieve the PSFD targets described above. Figures for public expenditure and revenue before discretionary adjustments are based broadly on government plans and policies as at the beginning of February 1977. The figures for revenue after discretionary changes in taxation implied by the table are fully consistent with the predicted growth of private income and expenditure; figures for revenue before discretionary changes and for the size of discretionary changes themselves are on an '*ex ante*' basis (i.e. they ignore the effect of induced changes in private income and expenditure).

The cumulative effect of decisions taken by the government in the past two years to cut expenditure planned for the future is that total public expenditure can be expected to remain roughly constant in real terms (including the effect of relative price changes) between 1976 and 1978. Probably (although revised plans for 1979 onwards had not been published at the time of going to press) the total could be expected to rise again at an average of some 4% a year after 1978. Within the total, fixed investment will fall sharply in 1977 and 1978, while current expenditure and grants increase slightly (including relative price effects); public sector fixed investment in 1978 will be some 17% lower in volume than it was at its peak in 1974 and indeed lower than in any year since 1966. It seems necessary that (as assumed here under strategies

Table II-11 Public expenditure, revenue and discretionary tax reductions

(£1975 billion)

	Ex ante prediction of public sector revenue $\widehat{GY}$	Public sector financial deficit *PSFD*	*less* Total public expenditure $-GG$	Discretionary reduction in taxation $\widehat{DY}$
Historical				
1976	36·1	8·5	–44·7	0
Strategy 0: No policy changes				
1977	36·9	7·3	–44·2	0
1978	39·8	4·8	–44·5	0
Strategies 1-3: Conventional policies, devaluation, restriction of imports				
1977: 1-3	37·5	8·6	–44·5	1·7
1978: 1, 2	40·6	5·7	–45·1	1·2
3	40·8	5·8	–45·1	1·5
1979: 1	44·4	5·1	–46·3	3·2
2	44·0	6·1	–46·7	3·4
3	45·0	5·5	–47·0	3·5
1981: 1	50·2	5·4	–50·3	5·3
2	50·1	6·6	–51·3	5·5
3	52·0	5·8	–51·7	6·1
Strategy 1A: Conventional policies—wage backlash				
1978	40·8	6·6	–44·8	2·7
1979	44·6	6·5	–46·5	4·6
1981	50·2	7·2	–50·7	6·8

Notes: $\widehat{DY}=\widehat{GY}+PSFD-GG$
$\widehat{DY}=0$ by assumption for 1976 and for strategy 0.
See section 8 for 'wage backlash' assumptions.

Reference nos:
$\widehat{DY}$: 108
PSFD: 420

2 and 3) planned levels of public investment will very soon have to be revised upwards, if fast growth of GDP is to be achieved.

On the revenue side, figures in Table II-11 for revenue before discretionary tax changes assume the existing tax structure, subject to the effect of policy changes already announced, such as the child benefit scheme, with tax allowances and specific tax rates and duties adjusted each year in line with inflation, which may be termed 'full revalorisation'. The 'no policy change' predictions in Tables II-10 and II-11 are on this basis and discretionary tax changes under strategies 1-3 are measured relative to the revalorised tax structure.

Total revenue before discretionary tax changes will rise rapidly after 1977: under conventional policies achieving 4% a year growth of GDP, the growth of total revenue is predicted to average 7½% a year in real terms up to 1981. This fast '*ex ante*' increase derives from North Sea revenues, increased profits of nationalised industries, and a rising average tax rate on earned income, because of the claw-back of child benefits and, later, because of increases in the real value of average earnings.

The *ex ante* increase in revenue is fast enough, under all three medium-term strategies considered, to meet targets for the PSFD with plenty to spare. As noted above, strategies 2 and 3 assume that part of the excess revenue is used to finance higher levels of public investment from 1978 onwards (it is already expected that public services will expand quite fast in real terms from 1979). The remaining *ex ante* surplus of revenue is predicated to raising income tax allowances and to cuts in net taxes on private consumption, since both these actions will improve the real post-tax value of average earnings and will, therefore, we believe, help to reduce the rate of inflation.

8. Inflation

The most uncertain assessment we have to make is that for medium-term prospects for inflation. The difficulty of the assessment arises in part because predictions of inflation depend on all the separate aspects of economic structure and policy discussed above, but also because of the exogenous uncertainty regarding world commodity prices and wage bargaining behaviour.

In the short term inflation can be predicted with reasonable confidence given increases in costs already in the pipeline, including the effects of the current round of pay settlements, which largely determines average earnings for some time to come. On this basis the rate of inflation, year-on-year, is predicted to fall to about 11% in 1977, implying a still lower within-year rate of increase in prices from now on.

Looking further ahead, it seems likely that the rate

Table II-12 Wage settlements, earnings and prices, 1976-79

(Year-on-Year increases, %)

	Level of basic rates negotiated in year	Average earnings before tax	Effect of changes in direct taxation	Average earnings after tax	Output prices	Effect of changes in indirect taxation	Consumer prices	Real value of average earnings after tax
	$\%WS'$	$\%W'$	t_1	$\%WD'$	$\%PQ$	t_2	$\%PC$	$\%WD$
Historical								
1976	10·1	14·8	–1·8	12·7	15·2	0·3	15·5	–2·4
Strategy 0: No policy change								
1977	10·7	12·8	–1·3	11·3	12·5	0·6	13·1	–1·6
1978	18·6	17·3	–1·3	15·8	13·4	0·3	13·7	1·8
1979	19·8	22·0	–1·4	20·3	16·3	0·1	16·5	3·3
Strategy 0: No policy change—wage backlash								
1978	25·7	21·8	–1·6	19·8	15·9	0·4	16·3	3·0
1979	26·4	29·6	–1·6	27·5	21·7	0·3	22·0	4·5
Strategy 1: Conventional policies								
1977	7·6	11·3	0·8	12·2	11·6	–0·3	11·2	0·8
1978	15·4	14·0	–1·2	12·6	11·1	0·1	11·3	1·2
1979	14·1	17·1	0·3	17·4	12·6	–0·6	11·9	4·9
Strategy 1: Conventional policies—wage backlash								
1978	20·3	16·9	–0·5	16·3	12·7	–0·2	12·5	3·4
1979	17·2	21·3	0·7	22·1	15·6	–0·7	14·8	6·4

Notes: $1+\%WD'=(1+\%W')\cdot(1+t_1)$ $1+\%PC=(1+\%PQ)\cdot(1+t_2)$ $1+\%WD=(1+WD')/(1+\%PC)$
Reference nos: WS': 301 WD': 304 PC: 311
W': 303 PQ: 310 WD: 305

Relationship between $\%W'$ and $\%WS'$ involves lags and wage drift.
Relationship between $\%PQ$ and $\%W'$ involves lags and effects of import prices.
See text for determinants of $\%WS'$.

of inflation will accelerate again as a result of higher money wage settlements in the next pay round. Beyond this, subject to wide margins of uncertainty on either side, our central prediction is that inflation will remain in the 10-15% range, depending on the choice of overall economic strategy.

In the long term, strategies to achieve sustained fast growth of GDP would afford rapid increases in real wages and this might be the basis for a permanent reduction in the rate of inflation. A comparison of the two strategies capable of achieving fast growth—devaluation and restriction of imports—implies that the former would sharply increase the rate of inflation in the short term (as compared with the latter) and would still involve slightly faster inflation in the long run, because it is more favourable to profits than to real wages.

The main factors in inflation, and the assumptions adopted, are as follows:

(*i*) world prices of primary commodities, which may (although with little certainty) be expected to remain roughly constant relative to the world price of manufactures, because of the cautious attitude of Western governments to reflation.

(*ii*) the exchange rate for sterling, which in the medium term must broadly adjust to compensate for differences between world and domestic inflation—apart from short-term speculative fluctuations discussed in Part I, and any more permanent devaluation (as assumed under strategy 2) needed to sustain growth of GDP by giving a cost advantage to UK producers.

(*iii*) tax rates (principally, taxes on consumption and direct taxes on wages and salaries), which must conform to the fiscal requirements of each strategy considered.

(*iv*) wage settlements, the exogenous component of which is measured here in real post-tax terms. It seems likely that from July onwards wage settlements will recover at least some of the ground lost under the last two pay rounds. In the past, periods of tight incomes policy have been followed by a wage 'backlash' (such as in 1970 and 1974-75); the main set of predictions shown assume that this will *not* happen to anything like the full extent in 1977-78 or thereafter, but variant predictions are also given to show the effects of a full recovery of settlements (post-tax in real terms) to the pre-1975 trend.

The above considerations imply that the main factors making for changes in the rate of inflation will be wage settlements (tending to cause an acceleration), tax changes (which in the light of section 7 should work to reduce inflation) and, under a devaluation strategy, import prices. A further minor but non-trivial factor is that prices of imported and domestic foodstuffs are due to rise in excess of other prices

Table II-13 Comparison of inflation under strategies of devaluation and restriction of imports

(Year-on-year increases, %)

	Normal unit labour costs	Other domestic costs	Import prices	Total unit costs	Effect of lag in adjustment of prices	Effect of changes in indirect taxation	Consumer prices
	%*ULC*	%*DC*	%*MC*	%*CC*	*a*	*t*	%*PC*
Strategy 2: Devaluations in 1979 and 1982							
1979	14·3	14·9	18·8	16·2	–1·0	–0·9	14·0
1980	12·0	15·3	13·9	13·5	0·7	–0·8	13·4
1981	11·7	13·4	11·5	12·2	0·4	0·0	12·7
1982	12·3	16·2	25·6	18·2	–1·3	–0·7	15·8
1983	9·9	16·2	16·9	14·3	1·0	–0·9	14·5
1984	10·6	13·0	12·4	12·3	0·6	–0·1	12·9
1985	11·4	12·6	11·1	11·8	0·2	–0·3	11·7
Strategy 3: Restriction of imports							
1979	13·1	13·4	12·8	13·0	–0·3	–0·9	11·7
1980	10·8	13·2	11·1	11·4	0·5	–0·6	11·4
1981	9·4	12·1	10·0	10·0	0·4	–0·4	10·1
1982	9·3	11·4	9·9	9·8	0·2	–0·1	9·9
1983	8·0	10·9	9·0	8·8	0·4	–0·6	8·5
1984	7·0	10·1	8·0	7·9	0·3	–0·2	8·0
1985	7·2	9·6	7·4	7·6	0·2	–0·2	7·6

Notes: *CC* is a current-weighted average of *ULC, DC* and *MC*

$1+\%PC=(1+t).(1+a).(1+\%CC)$

Both sets of predictions assume identical real post-tax values for wage settlements in each year.

Reference nos:

ULC: 306
DC: 307
MC: 308
CC: 309
PC: 311

during the remainder of the UK's period of accession to the EEC.

Any changes in the rate of inflation due to these factors take full effect with substantial lags, because costs take a few months to feed into consumer prices and wage settlements, which implicitly feed price rises back into costs, are normally concluded only about once a year: the full feedback between wages and prices following any initial disturbances is therefore only substantially completed after about two years. The ultimate effect, on our analysis, is to cause step changes in the rate of inflation, *not* (as it would be if the process was dominated by expectations, rather than reactions to past events) permanent accelerations or decelerations in the rate of inflation.

Table II-12 shows the analysis of earnings and prices in the next three years. For 1977 past cost increases imply a year-on-year rise in consumer prices of about 13% and a 1½% fall in average real earnings after tax, unless the Budget provides major tax reductions. The money value of settlements after July will depend both on the scale of any tax reductions and on the extent of wage 'backlash' after the squeeze since 1975; predictions in the table range from a 15½% year-on-year increase in 1978 under strategy 1 following large tax reductions, to a 25½% increase with wage backlash and no discretionary tax reductions (as defined in section 6 above). The prospect for both consumer prices and money earnings diverges still further in 1979 as feedback effects work through. The range of predictions indicates the potential importance of fiscal policy and of avoiding a strong backlash in settlements after July this year. It must be emphasised that restrictive fiscal policy as assumed in the 'no policy change' prediction is *much more inflationary* in its effects on prices and wage settlements than a policy of tax reductions (which would imply a larger PSFD and PSBR).

The most important medium-term issue is whether the devaluation strategy could be achieved without generating rapid inflation, and whether it will be much more inflationary than a strategy of import restrictions. Table II-13 presents comparative predictions for the two strategies from 1979 to 1985; the period in which devaluations are assumed to be implemented. Note that both sets of predictions involve identical levels of wage settlements each year in real post-tax terms. It will be seen that the minor (8%) effective devaluation in 1979 already adds 1% to the increase in unit labour costs and 2% to the increase in consumer prices in 1980. The larger (17%) devaluation required in 1982 in order to raise GDP to the same level in 1985 as achieved under import restrictions causes a wave of inflation in 1982-84, as higher import prices feed first into prices and then, via money wage settlements, into earnings. The implication is that, unless the rate of inflation has been brought well under control, devaluation will remain a risky strategy to attempt.

Table II-14 Money supply and domestic credit expansion

	Real national income	Domestic expenditure deflator	Change in ratio of end-year money supply to national income	Increase in money supply within year	Deficit on basic balance of payments	Other credit sources	Domestic credit expansion	
	$\%Y$	$\%PY$	m	$\%M3$	$-BB$	OCS	DCE	
	year-on-year increase, %			% of money supply at start of year				£ billion
Historical								
1973	4·8	9·8	11·1	27·9	3·4	1·6	32·9	8·6
1974	–4·6	18·4	–0·3	12·6	8·7	1·3	22·7	7·6
1975	–0·1	24·5	–13·5	7·6	4·2	0·7	12·6	4·8
1976	1·3	14·5	–2·5	13·1	4·5	2·1	19·7	8·0
Strategies 0, 1 and 1a: No policy change, conventional policies and wage backlash								
1977: 0	2·1	13·8	–1·7	14·2	–1·1	1·9	14·9	6·9
1	3·7	12·1	0·1	16·4	1·2	1·9	19·5	8·9
1a	3·7	12·2	0·2	16·6	1·2	1·9	19·7	9·0
1978: 0	3·6	13·8	–0·7	17·1	–3·0	1·6	15·6	8·2
1	4·8	11·3	–0·7	15·8	1·1	1·6	18·5	9·9
1a	4·7	12·8	–0·1	18·0	1·1	1·6	20·7	11·1

Notes: $1+\%M3=(1+\%Y).(1+\%PY).(1+m)$
$DCE=\%M3-BB+OCS$
Reference nos:
Y: 413 BB: 513
$M3$: 105 DCE: 104

9. Monetary targets

This section examines the possible constraint on policy imposed by the government's commitment to targets for domestic credit expansion (DCE) in its Letter of Intent to the IMF in December 1976. The risks if the targets are not met (or are not expected to be met) are that the IMF might not allow the UK to make further drawings on credits agreed last December and that, regardless of the IMF's attitude, foreign exchange speculators might regard an anticipated failure to meet the targets as the signal for a major sterling crisis. Our predictions imply that the target for 1977-8 may be met, but that the £6 billion target for 1978-9 (which is subject to revision) is not feasible and should be changed.

DCE comprises two main sources—growth of money supply (defined to include time deposits) and external financing of the basic balance of payments[1] (i.e. short-term inflows, official borrowing and drawings on reserves); other sources of credit (mainly, increases in bank capital) account for a small part of the total.

Table II-14 shows that in recent years growth of money supply has been the largest part of DCE, notably in 1973 when it rose much in excess of money national income. The deficit on the basic balance of payments added a relatively small amount, except in 1974. Other credit sources have been trivial.

The definitions imply that total DCE can only be kept down to a small percentage if either:

(*i*) the rise in money national income is a small percentage figure (i.e. there is very low inflation or a fall in real income); or

(*ii*) the money supply falls relative to money national income; or

(*iii*) there is a large surplus on the basic balance of payments.

In 1977 and 1978 there is likely to be a substantial rate of inflation (see section 8) and some growth of real income should be achieved. Moreover, as argued in section 5, it would be undesirable to aim policy at achieving a large surplus on the basic balance of payments in these years. Table II-14 shows the growth of money supply and DCE implied by various specific assumptions about fiscal policy and wage bargaining in 1977-78, supposing that the money supply remains roughly constant relative to money national income. In each case it appears that the £7·7 billion DCE target set for the financial year 1977-8 will more-or-less be met, but that the £6 billion target for 1978-9 will be exceeded, by an amount ranging from £2 billion under the deflationary 'no policy change' strategy to £5 billion if fiscal reflation (strategy 1) is accompanied by high wage settlements (see section 8).

There is little scope for meeting the 1978-9 target by

[1]The official definition implies a slightly different measure of the basic balance of payments from our own: the discrepancy is included in ' other credit sources ' in Table II-14.

fulfilling condition (*ii*) above, i.e. achieving a sharp fall in money supply relative to national income. The end-1976 ratio of money supply to national income (about 38½%) was entirely normal; since 1960 the ratio has remained between 36% and 40% in every year except for 1972-74 (when it rose to about 45% because control over the banking system was almost entirely suspended and banks were able to compete vigorously for deposits). The only effective method for cutting the money supply relative to national income is the penalty on excess growth of deposits (the 'corset'), which has already been put into operation; this has the disadvantage of forcing down short-term interest rates and cannot be used too vigorously for fear of driving short-term funds out of sterling (i.e. triggering off an outflow of 'hot money').

There may be a technical loophole in the definition of DCE which could be exploited to some extent[1] and there may be some scope for using the 'corset' to push short-term funds away from the banks into building societies or medium-term government securities (note that any rise in non-bank holdings of short-term public sector debt is specifically to be deducted from the limit set for DCE). But both techniques are limited in their likely effect and might in any case be seen as devices inconsistent with the spirit of the DCE target.

It follows that, if our assessment of inflation is correct, the DCE target for 1978-9 is too tight. It was almost certainly calculated on the assumption that inflation would continue to slow down in 1978, an assumption which now seems over-optimistic.

[1]Private non-bank borrowing from abroad is not counted as a source of domestic credit; if encouraged it might help to reduce official external borrowing, which is included in the DCE definition.