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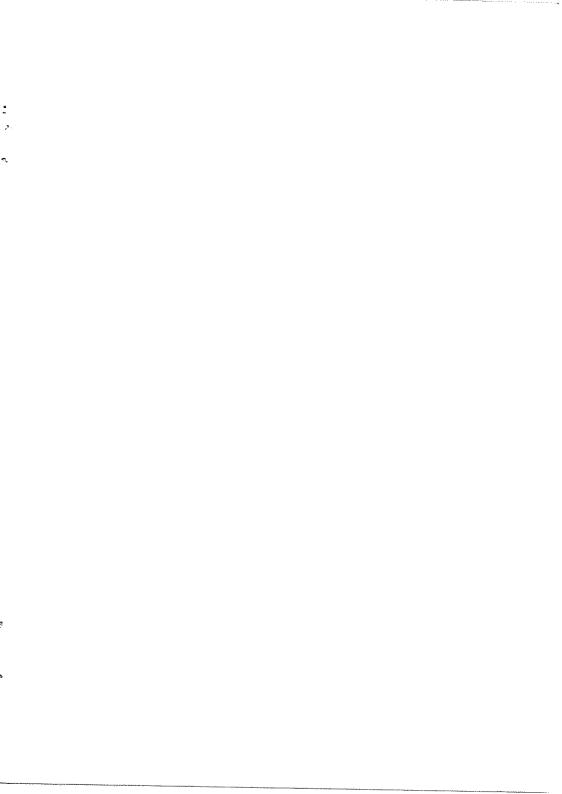
ALLOCATIVE AND STABILISATION ASPECTS OF BUDGETARY AND FINANCIAL POLICY

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Discussion Paper No. 2

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BUDGETARY AND FINANCIAL POLICY

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Allocative and Stabilisation Aspects of
Budgetary and Financial Policy

ABSTRACT

The paper deals with the principles that should govern the design
of budgetary and financial policy. The analytical divorce be-
tween stabilisation policy, which concerns deviations from full
employment (or full information) equilibrium and allocative
policy which concerns the full employment (or full information)
equilibrium configuration itself is rejected.

The detailed composition of a public spending programme on goods
and services is as relevant as its overall size.

Financial policy (the financing of a given spending programme on
goods and services) matters because of capital market
imperfections (including the non-existence of many contingent
forward markets). There are no intellectually respectable models
(Keynesian, monetarist or classical) that generate the conclusion
that a continuously balanced budget is desirable, let alone
optimal. The sustainability of a fiscal and financial programme
can be evaluated by constructing the comprehensive balance sheet
of the public sector or its permanent income. The UK government
appears to be consuming less than its permanent income,
generating an unsustainable "permanent surplus".

JEL classification : 133, 310, 320

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Allocative and Stabilisation Aspects of Budgetary
and Financial Policy

The paper deals with the principles that should govern the
design of budgetary and financial (including monetary) policy.
The academic study of the subject is split into two virtually
non-communicating subdisciplines: the neoclassical analysis of
public finance issues, which deals with allocative efficiency,
incentives and distribution in a world of continuous full employment
and perfect capital markets and the neo-Keynesian analysis of
fiscal and financial stabilization policy which tends to ignore
considerations of allocative efficiency, incentives, incidence and
distribution. Neither approach advances our understanding of the
real world. Stabilization policy, which aims to influence deviations
from full employment (or full information) equilibrium, allocative
policy which aims to influence the full employment (or full information)
equilibrium configuration and distribution policy are inextricably
intertwined.

The presentation of public spending in the Financial Statement
and Budget Report in the U.K. is almost completely uninformative.
No distinction is made between "exhaustive" spending on goods and
services, transfer payments and the cost of servicing the national debt.
Neither is a breakdown given of the exhaustive spending total into
current or consumption spending and capital formation. In Britain,
General Government capital formation has declined dramatically since
1973. The obsolete, crumbling and to a large extent Victorian infrastructure

depresses the quality of life and is likely to be a serious obstacle to sustained high economic growth. Cyclical and allocative considerations both suggest the need for a major expansion of infrastructure investment programmes.

As regards the financing of a given programme of spending on goods and services, there exists no coherent set of economic arguments that leads to the conclusion that a continuously balanced budget is desirable, let alone optimal. Governments can do things private agents either cannot do or do not find in their perceived best interest to do, for two reasons. First, the institution of government is longer lived than most private agents and second, government has the power to tax. This permits the authorities to redistribute income and risk between individuals at a point in time and over time. Governments can act as a superior financial inter-mediary, changing the composition of private sector portfolios over time and altering private disposable income flows. Governments have a "comparative advantage" in borrowing to smooth out private income streams and facilitate risk sharing. Departures from budget balance are required if the government is to exploit its position as the natural borrower or borrower of first resort.

A further reason for departures from budget balance is the desirability of smoothing tax rates over time in order to minimize the total excess burden or dead weight loss imposed on the economy by taxes that are inevitably distortionary.

While capital market imperfections are the *sine qua non* of active financial policy, the combination of labour market and output market disequilibrium with capital market imperfections creates the widest scope for and the largest potential gains from active financial stabilization policy. Absent real resource scarcities, financial crowding out is always avoidable. Its occurrence is simply evidence of incompetent financial and monetary policy design. The Keynesian intuition for countercyclical deficits is sound, but more care must be taken to trigger supply side-friendly fiscal and financial responses to demand or supply shocks.

To evaluate the sustainability of the fiscal stand (i.e. the consistency of current and future spending-taxation plans, monetary targets and debt burden constraints) the concepts of the comprehensive public sector balance sheet and the permanent income of the public sector are developed. Current consumption spending in excess of permanent income (a "permanent deficit") is unsustainable. Some back-of-the-envelope calculations for the U.K. suggest an unsustainable "permanent surplus" in 1982.

No model-free measures exist of fiscal and financial policy impact on aggregate demand, output, employment or any other variable of interest. The conventional public sector financial deficit, the PSBR and the "full employment deficit" are uninformative and potentially misleading as indicators of fiscal impact, crowding out pressure, eventual monetization, etc.

Fiscal and financial policy since 1979 has contributed significantly to the depth and duration of the depression. While there has been some relaxation recently in the degree of tightness of fiscal policy, there is little hope of fiscal and financial policy contributing to creating the conditions for sustained recovery and growth so long as the myopic obsession with the PSBR persists and public spending on infrastructure investment retains its low priority rating.

1. INTRODUCTION

The subject matter of this lecture is the principles that should govern the design of budgetary and financial policy. While some of what I shall be saying will have a faint tinge of originality, much of it will be - - - or should be - - - familiar. My excuse for restating the obvious and for kicking down some wide-open doors is a growing concern about the low level of public and political debate on the vital subject matter of fiscal and financial policy design, both in this country and in the rest of the industrial world, and about the failure of academic economists to make much of a contribution to this debate. This lecture is therefore not aimed only (or even primarily) at my academic colleagues but also at a wider audience ... those responsible for shaping and influencing informed public opinion, civil servants and others engaged in the task of formulating and implementing policy and those ultimately responsible for the political choices about economic policy.

One would expect the public debate about fiscal and financial policy to focus on the subjects outlined e.g. in the well-known textbook on public finance by Atkinson and Stiglitz [Atkinson and Stiglitz (1980, p.8)]. Among the most important are 1) the distribution of wealth and income; 2) the supply of and demand for public goods; 3) "merit wants" and the legitimacy and limits of government paternalism; 4) externalities in production and

consumption; 5) appropriate responses to departures from the
textbook ideal of perfect competition; 6) policy responses to
incomplete futures and insurance markets and 7) the failure of
markets (especially the labour market) to clear.

The trivialisation of the public debate about budgetary and
financial policy can be witnessed at the international level in
the rather depressing sight of the Managing Director of the
International Monetary Fund lecturing finance ministers and heads
of central banks on the theme that (increases in) public sector
deficits are bad always and everywhere, regardless of
circumstances and that discretionary spending cuts and/or tax
increases should be implemented to reduce these deficits always
and everywhere regardless of circumstances. The messages emanating
from the Commission of the European Communities in Brussels and
from the Secretariat of the OECD in Paris are only slightly less
unqualified.

Tighter budgetary policy to reduce the public sector budget
deficit certainly makes sense for a number of countries. The most
important example is the U.S.A. where policies to reduce the
structural deficit in the medium term are desirable, provided the
fiscal contraction is accompanied by an aggregate demand
maintaining relaxation of the stance of monetary policy. In many
other countries, recommendations for further fiscal tightening to
reduce the budget deficit make no sense whatsoever. Britain is
the most obvious country in this category. At the world level,
the IMF's unqualified call for the pursuit of so-called fiscal
responsibility and sound money adds up to a cyclically undesirable
global fiscal contraction.

In Britain, the Medium Term Financial Strategy (MTFS), while
deficient in concept in a number of respects, did possess a number
of positive features. A major flaw was the unconditionality or
inflexibility of its presentation: target trajectories were
announced for certain fiscal and financial aggregates without any
indication as to how these target paths were to be revised in
response to unforeseen changes in circumstances. Sensible and
credible, let alone optimal, policies are "news" - or
innovation-contingent. Open-loop, unconditional or non-contingent
policy rules are harmful to economic performance to the extent
that governments try to stick to them and thus fail to respond
flexibly to unforeseen dangers or opportunities. To the extent
that private agents correctly perceive that there are likely to be
departures by the authorities from their previously announced
unconditional policies, unnecessary and avoidable uncertainty is
added to the private agents' decision problems by not specifying
in advance the nature of the authorities' response to new
developments.

The signal positive feature of the original concept of the MTFS
was its attempt to put forward a longer-term integrated plan for
financial (including monetary) and budgetary policy. The four
year plan revealed in the MTFS in March 1980 was rudimentary: a
four year declining target path or target range for a broad
monetary aggregate, Sterling M3, a "supporting" declining path for
the public sector borrowing requirement (PSBR) as a proportion of
GDP and a four year declining target path for public spending as a
proportion of GDP. In addition to its unconditionality, the MTFS
had the infuriating feature of lumping together public spending on

goods and services (or "exhaustive" public spending) and transfer payments in a single undifferentiated total. Further essential breakdowns of the projected spending totals (e.g. the shares of consumption and capital formation in exhaustive public spending) were also sadly lacking. Even this modest attempt at a multi-period "general equilibrium" approach to fiscal and financial policy design has by now been abandoned in favour of regular and almost ritualistic sacrifices at the totem pole of that confusing and indeed rather uninformative statistic, the PSBR. Little is heard of the size and composition of public sector consumption or capital formation programmes, the structure of taxation, subsidies and transfer payment and the role of public sector pricing and charges.

In view of the adversarial nature of the political game here in Britain it is probably inevitable that reasoned argumentation and the systematic marshalling of evidence should tend to give way before proof by repeated assertion. Even minimally intelligent public debate is rendered less likely by the fact that by recent historical standards, the ideological divide between government and opposition is unusually wide. The lack of focus and sense in the disputations about the design and conduct of budgetary and financial policy is such, however, that one is forced to look for additional explanations. At least five contributing factors come to mind.

First, there is a long bi-partisan tradition of a lack not merely of economic sophistication but even of elementary economic knowledge and insight among our political leaders. Note that I am not decrying a general absence of any formal training in

economics. Such, unfortunately, is neither necessary nor
sufficient to achieve the capacity for thinking sensibly about
economic issues. The economics of the budget and of monetary and
financial policy is about simultaneity, interdependence and
feedback; about impact effects, medium term effects and long run
effects that can differ in magnitude and even in direction; it is
about the current behaviour of the economy being dependent on past
and present expectations of future policy actions and about
trade-offs and policy choices in the presence of both exogenous
and strategic uncertainty. In brief, it requires one to be
capable, intellectually speaking, of keeping more than one ball in
the air simultaneously. This talent has always been scarce and is
so again today; monocausal and unidirectional "explanations" of
economic phenomena rule the roost. While the current government
is not the first to exhibit a solid lack of understanding of the
principles of budgetary and financial policy, two obstacles in the
rush to implement election manifesto rhetoric (which almost never
adds up to a feasible set of policy choices) that were operative
in the past have ceased to be so since 1979. They are the
presence of an effective opposition and the cautionary voice of
the professional civil service.

The absence of any effective opposition since the first Thatcher
government in 1979 has been very striking. The internal divisions
in the Labour party have been so bitter and have absorbed so much
of the time and attention of the major protagonists that effective
questioning of the government's policy, let alone serious thought
about and development of alternative economic strategies has
barely got off the ground. This is the second contributing
factor.

Qualified advisers, drawn from the civil service or from outside the apparatus of government, have traditionally compensated for the frequently uninformed enthusiasm of our elected representatives. My third contributing factor is the use made by the present government of its pool of full-time economic experts in the career civil service. The government could have used this talented group of people to scrutinize its plans and proposals, to take them apart and put them together again, to set them alongside alternatives and generally to conduct the kind of sensitivity analysis and robustness tests that are required to minimize the risk of serious mishaps or even disasters. Instead the present administration has tended to treat its Economic Service the way a sultan treats his palace eunuchs: they are charged with looking after the harem but are forbidden to interfere with it or even to display any initiative towards it and have been rendered incapable of any such action.

Fourth, among those who are not career civil servants who have acted as full-time advisers to the government, none have straddled with any distinction the two worlds of neoclassical public finance and macroeconomic stabilization policy.

Finally, the economics profession itself must bear a large share of the blame for the trivialisation of the debate about fiscal and financial policy. The academic study of fiscal and financial policy is split into two virtually non-communicating

sub-disciplines. Certain individual economists may work in both sub-disciplines, but even for them the compartmentalisation within their own research tends to be almost complete. The two sub-disciplines in question are the "microeconomic" theory of neoclassical public finance and the "macroeconomic", neo-Keynesian theory of stabilization policy.

Excellent standard textbooks such as Prest and Barr's Public Finance in Theory and Practice, (Prest and Barr [1979]) and Musgrave and Musgrave's Public Finance in Theory and Practice (Musgrave and Musgrave [1976]) cover fiscal stabilization policy in a relatively short and self-contained section without any attempt at integrating it with the main part of the book. The well-known book The Economics of Public Finance by Blinder, Solow et. al. has one hundred pages on fiscal and financial stabilization policy in which is heard not a discouraging word about distribution, incentives, incidence, dead-weight losses, excess burdens, externalities, natural monopolies, merit wants or public goods. This is followed by one hundred pages of discussion of incidence and economic effects of taxation which is predicated on an assumption of continuous full employment of resources. The recent leading text on neoclassical public finance, Lectures on Public Economics by Atkinson and Stiglitz, which has already been referred to, limits its consideration of stabilization and macroeconomic policy to the statement that "...., no attempt is made to cover stabilization and macroeconomic policy" (p.4). Macroeconomic approaches which almost invariably specify exhaustive public spending as consisting in digging holes in the ground and filling them again and which limit their perspective on

taxation to its impact on current disposable income and on the magnitude of a multiplier whose microfoundations tend to be implicit and therefore insecure, can no longer be taken seriously. Neoclassical analyses of public finance issues which are conditioned on an assumption of continuous full employment of resources and perfect capital markets (except for imperfections introduced by the government itself, e.g. through taxation) belong firmly to the realm of inapplicable economics. Unfortunately, the two half-truths don't together make a whole truth; one doesn't teach a person to walk using two legs by first teaching her to balance and hop along on the left leg only and then on the right leg only.

There are a few hopeful signs that this sorry state of affairs may be changing slowly. More tax, transfer and subsidy parameters are making an appearance in our classroom macroeconomic models. We now include in our teaching the effects of payroll taxes, value added taxes and other indirect taxes or subsidies on the notional demand for labour; direct taxes, transfers and subsidies and benefits are arguments in our notional labour supply functions; the distinction between before and after-tax interest rates and rates of return plays a role in investment, saving and portfolio allocation in some recent macroeconomics, etc. Most of this, however, amounts to no more than paying lip service to A-level supply side economics, with the greater realism of the tax-transfer-subsidy structue being purchased at the price of removing all interesting non-Walrasian or (competitive) market-clearing features from labour, output and capital markets.

Much the more interesting and promising work aimed at integrating the two worlds of budgetary and financial policy follows the considerably harder route of explictly building up a non-Walrasian equilibrium approach within which a role for stabilization policy (or its absence) can be derived from first principles instead of being imposed at a very late stage when its relationship to economic fundamentals has been lost completely in the semi-reduced form equations that make up all policy-oriented macroeconomic models.

Two distinct, but in my view potentially complementary approaches can be identified, one developing the asymmetric information paradigm, the other emphasizing imperfect competition. Examples of the second approach are Weitzman [1982] and Hart [1982a]. The former is exemplified by papers of Stiglitz and Weiss [1981, 1983] and Webb [1981, 1982]. They show how non-cooperative behaviour and asymmetric information can create the same problems of adverse selection and moral hazard in credit markets that were first observed and analysed formally in insurance markets. A prima-facie case for government intervention in the financial mechanism is thus shown to exist. At the same time applications of the asymmetric information paradigm to the labour market (Weiss[1981], Grossman and Hart [1981] and Hart [1982b]) have established the logical possibility of non-Walrasian and socially sub-optimal and inefficient equilibria, some of which may even look like "Keynesian" rationing equilibria, being generated as the outcome of optimizing, decentralized, non-cooperative behaviour.

Since the most interesting role and widest scope for stabilization

policy will be generated by the co-existence and interaction of significant imperfections in credit or capital markets and in the labour market, these developments are very exciting indeed. Rather than speculating on developments that may occur (or are likely to occur) I shall retreat to safer ground and discuss with some more confidence a few firmly established facts and a few controversial propositions.

Equity and efficiency should be the ultimate concerns of budgetary and financial policy, as of all policy. For our purposes we can think of equity as the distribution of income and wealth – between individuals, households or other groups, categories or classes in the same and/or different generations. Efficiency considerations can, following the traditional approach, be subdivided into allocative efficiency and stabilization efficiency. Stabilization policy is policy aimed at influencing (and, one hopes, minimizing) deviations from full employment equilibrium. Allocative policy aims to influence the full employment equilibrium configuration itself. According to this definition there can be no stabilization policy in the instantaneous equilibrium models of the New Classical School. It is possible to modify the definition by differentiating between a "full information" equilibrium, i.e. an equilibrium in which agents possess complete information on all relevant contemporaneous and past endogenous and exogenous variables, and an incomplete information equilibrium. Even in the hyperactive invisible-hand models of the New Classical School, alternative budgetary and financial policy rules can, in general, alter the information content of currently observed endogenous variables

systematic or complete coverage of the subject is made.

The presentation of public spending in the Financial Statement and Budget Report is almost completely uninformative. No distinction is made between exhaustive spending on goods and services, transfer payments and the cost of servicing the national debt. No distinction is made either between current or consumption spending and capital formation.[1] All of these belong to distinct functional categories. Lumping them together and specifying policy objectives in terms of the resulting aggregate is at best an example of incomplete policy design and in all likelihood represents a recipe for fiscal mismanagement.

The breakdown of total public spending on goods and serives into consumption and investment is essential but fraught with conceptual and practical difficulties. Much of what is conventionally classified as final public spending on goods and services doesn't in fact constitute value added or net national product at all,i.e. is neither consumption nor investment, but should properly be classified as production of intermediate services which are used up as inputs in the production of true

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[1] Note that the distinction between consumption and capital spending matters not because it is proper to borrow in order to finance the latter but not the former. There is nothing wrong in principle with borrowing for consumption today by private or by public agents, as long as one plans accordingly for a level of future consumption that is lower than it would otherwise have been by an amount sufficient to cover payment of interest and repayment of principal. In the neo-classical regions of our profession there is a flourishing literature on consumption loan models which deals precisely with this subject.

value added in both public and private sectors. Law and order and (on a favourable interpretation) defence fall into this category. Even though they may be essential intermediate inputs without which no value added could be created at all, they are not value added themselves and should be excised from the national income, expenditure and production accounts.

The official statistics on public sector consumption and investment contain many further ambiguities. Does "current" expenditure on education represent investment in human capital, the consumption of enjoyable education services, or both? Is "current" spending on health akin to depreciation, to net investment in human capital, to the provision of intermediate input services or to final consumption? If we ignore these deep issues and take the published data at face value, the following startling and worrying pictue emerges from Tables 1 and 2a, b.

Since the early 1970's general government consumption has grown roughly in line with national income, with its share in G.D.P. hovering just above 20 per cent. The Thatcher government has cut this rate of growth somewhat relative to that prevailing under the previous Labour administration, but has not reduced the level of spending. General government fixed capital formation has been in decline, as a proportion of G.D.P. and in volume terms, since its peak in 1973. Note that this policy of shifting resources from the future to the present has had bipartisan support. Between 1973 and 1979 general government gross fixed investment declined steadily by 41 per cent in volume terms.

Table 1

General government expenditure

% of GDP at market prices

	Goods and services	Current grants and subsidies	Debt interest
1973	25.1	11.2	3.7
1974	25.6	13.4	4.3
1975	26.3	13.6	4.0
1976	25.5	13.6	4.3
1977	24.2	13.5	4.4
1978	23.4	14.0	4.3
1979	23.2	14.1	4.6
1980	23.7	14.4	5.0
1981	24.5	15.5	5.3
1982	23.1	15.9	5.2

Sources: Economic Trends, Sept. 1983,
and Annual Supplement, 1983 edition.

Table 2a

Public sector consumption and gross domestic capital formation

	General government consumption		General government gross domestic fixed capital formation		Public corporations gross domestic fixed capital formation	
	at 1980 prices 1980 = 100	as a percentage of GDP at market prices	at 1980 prices 1980 = 100	as a percentage of GDP at market prices	at constant prices 1975 = 100	as a percentage of GDP at market prices
1973	88.4	20.0	197.9	5.1	93.3	2.9
1974	89.8	20.7	185.1	4.9	106.2	3.4
1975	94.6	21.8	170.24	4.5	116.7	3.7
1976	95.5	21.3	164.9	4.2	120.4	3.7
1977	94.5	20.8	137.0	3.4	110.2	3.3
1978	96.5	20.5	121.5	2.9	103.4	3.0
1979	98.3	20.4	116.7	2.8	102.1	2.9
1980	100.0	21.3	100.0	2.4	100.0	2.9
1981	99.8	22.6	74.6	1.9	93.8	2.9
1982	101.2	21.4	70.2	1.7	95.3	2.8

Source: Economic Trends, Sept. 1983.

Table 2b

Net domestic fixed capital formation at current prices by the public sector
£ million

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Dwellings										
Public corporations	101	141	244	308	257	186	193	195	129	79
Central government	26	35	30	25	23	17	10	11	2	2
Local authorities	593	885	1,158	1,363	1,267	1,249	1,232	1,219	511	897
Other fixed assets										
Public corporations	298	542	840	990	511	216	231	213	-111	-116
Central government	568	684	904	996	829	772	962	1,013	1,018	1,304
Local authorities	1,564	1,674	1,515	1,417	877	540	536	286	-277	-1,173

Source: National Income and Expenditure, 1983 edition.

Since 1979 a further 40 per cent reduction has taken place. Of
the 64.6 per cent reduction in real general government gross fixed
investment between 1973 and 1982 only 10.6 percentage points can
be attributed to the decline in public sector construction of
dwellings. The nationalized industries have suffered a decline in
gross domestic fixed capital formation since 1976, when the Labour
government chose the politically most convenient way of
implementing the expenditure cuts involved in the IMF package.
Between 1976 and 1981 there was a real decline of 22 per cent.
1981-82 saw the first swallow of hope with a small (1.6 per cent)
increase.

Capital consumption figures are notoriously imprecise. For what
they are worth, the official figures in Table 2b suggest that net
public sector fixed investment in assets other than dwellings was
insignificantly different from zero in 1982!

Few would argue that the U.K. is overendowed with social overhead
capital and infrastructure. The statistical evidence of
increasing underinvestment and indeed of decumulation of capital
documented in Tables 1 and 2 is reinforced by ample anecdotal and
impressionistic evidence of a country lumbered with an antiquated,
often obsolete and crumbling stock of social overhead capital.
Not only does it contribute to the prevailing drabness and
shabbiness of much of our living and working environment, it also
is bound to constitute a major obstacle to sustained recovery and
higher economic growth. Both cyclical and structural (or
stabilization and allocative) arguments favour a major expansion

of public sector investment in infrastructure.

Table 1 also documents some tendency towards trend growth in the share of transfer payments and subsidies in G.D.P. and the effect of the post-1979 depression. High interest rates and the slump have also boosted debt interest service as a proportion of G.D.P. With even a modest recovery and barring major reversals in the anticipated downward path of interest rates, the debt service-G.N.P. ratio is likely to decline again in years to come.

There is no single figure that summarizes adequately the many different facets of public sector size and the role and cost of public sector activity. Indeed, there is no sharp discontinuity separating public sector and private sector activity. The public sector is a very heterogeneous and multi-faceted collection of organizations, agencies and agents. Its boundaries with the private sector cover a very large grey area.

For certain purposes the volume of public sector exhaustive spending may be of interest. It measures public sector "absorption" of goods and services; in a fully employed economy public sector absorption must "crowd out" private absorption or increase the current account deficit. Efficient public spending policy involves the balancing at the margin of these private absorption losses against the benefits from public sector absorption. For other purposes public sector employment may be the relevant index of size. The total tax burden, or its

breakdown into various subtotals may be of interest. Efficiency
considerations suggest focussing attention on excess burdens and
dead-weight losses associated with non-lump sum tax-transfer and
subsidy schemes rather than on the share of taxes in national
income and similar measures. The political economy of the
budgetary process may well, however,.be centered more around the
total tax burden and the (actual or perceived) equity of its
distribution than around the academic economist's notions of
efficiency. Further information about the size of the public
sector is conveyed by measures of the public sector capital stock
and by other items in the public sector balance sheet.

Much harder to quantify is the scope of government activity in the
economy through regulation, jaw-boning, red tape and other
administrative interventions. A government regulation that every
British worker should between 11 a.m. and 3 p.m. attend to her
duties while standing on her head, would not register in any of
the conventional indices of government size and scope but would
represent a major intervention indeed.

Paying atention to the details of the size and composition of the
government's spending programme on goods and services is essential
if we are to become serious about modelling what I have called
"direct crowding out" of private consumption and investment by
public spending (Buiter [1977]). Direct crowding out (or
"crowding in") refers to substitution or complementarity
relationships between public and private spending that occur not
through changes in prices, interest rates or required rates of

return engendered by changes in public sector activity, but
through public sector consumption being an argument in private
utility functions and through the public sector capital stock
being an argument in private sector production functions. Direct
substitution, in varying degrees, can be expected between e.g.
public and private education, and between free school lunches and
private lunches. Direct complementarity between public sector
capital formation (roads) and private investment (factories) is
likely to be important.

It is unfortunate that wide-ranging governmental cost-benefit
analyses of the whole range of public spending programmes
effectively have to be conducted in secret. Since resources are
scarce (or would be scarce given a sensible demand and supply
management policy) every appropriation and every programme should
be the subject of critical scrutiny as a matter of course and on a
regular basis, both as regards the appropriateness or degree of
priority attached to the objectives and as regards the efficiency
with which these objectives are pursued. Leaving transfer
payments and subsidies aside and focussing on public sector
resource absorption, we are still talking about 25 per cent of
G.D.P. It is deplorable that health and education have become
sacred cows of the left and defence and law and order sacred cows
of the right. It doesn't leave a lot of grazing room for the rest
of the cattle.

It is my belief that a critical reassessment of ends and means in
public spending will reveal the need and scope both for greatly

improved efficiency in the provision of public services, through
higher quality management and an attack on restrictive practices,
and for a steady and sizeable increase in public sector
consumption and capital formation, in real terms and as a
proportion of G.N.P. While there is a case for a significant
reallocation of resources within the public sector, there is an
equally strong case for a reallocation of resources towards the
public sector as a whole. Demographic developments such as the
greying of our population and new developments in medical care
e.g. argue for an increase in the share of total resources going
to health care. Both on equity and efficiency grounds the case
for the public sector supplying the health services and for
funding this operation out of general revenues is overwhelming.
With all its shortcomings, the National Health Service is the
outstanding contribution of Post-War Britain to the world's very
small stock of workable ideas for improving the quality of life in
an affordable manner.

Education, demographic trends notwithstanding, is another area
where there will have to be a significant increase in available
resources if Britain is to avoid becoming an industrial and
intellectual backwater. Again equity and efficiency
considerations suggest the public provision and financing of these
services. The vast majority of teenagers are educated badly,
whether one views education as a consumption good or as an
investment in skills and knowledge necessary for economic
survival, let alone prosperity.   The proportion of the late
teens-early twenties age group attending institutions of higher
learning has been lower in Britain than in any other

industrialized country. Recent cuts in higher education spending
have adversely affected both the quantity and quality of advanced
training and research. Adult education (full-time and part-time)
and retraining is seriously under-funded. The bill for such
myopic policies is of course not presented to the nation
immediately but it will surely have to be paid in due course.

Allocating additional resources to health and education, and to
public sector capital formation in the form of spending on roads,
bridges, tunnels, water supply, drains and sewers, railroads,
airports, hospitals, facilities for the infirm, handicapped and
aged, telecommunications etc. may not in all cases be a <u>sufficient</u>
condition for increasing and improving the effective supply of
these goods and services. "Throwing money" at these areas is,
however, in my judgement, a <u>necessary</u> condition for improved
performance in many cases.

A properly managed British economy could generate much of the
additional resources for increased public spending through growth
in productivity at a high level of resource utilization, without
any need for absolute reductions in the volume of private
absorption or for larger current account deficits. Given my own
priorities, I would favour an expansion of public spending on
goods and services which, once the slack created by the recent
Depression has been worked off, is likely to involve at least a
temporary real reduction in private absorption brought about
through a rise in the overall tax burden. It will require skilful
manipulation of the tax mechanism to achieve one's preferred

division of this reduction in private absorption between cuts in private consumption and in private investment.

An attractive by-product of this proposed increase in exhaustive public spending is its favourable implications for employment, both directly through the creation of public sector service jobs and indirectly through increased public sector procurement of private sector goods and services (e.g. construction). All indications are that future employment growth will be primarily in the services sector - private and public, market and non-market. This reality is not fully recognized by the government because of an ideological bias against "things public". It is not fully recognized by the Labour opposition because of its historical identification with traditional manufacturing and extractive industry and its resulting tendency to confuse the promotion of employment with the maintenance, even at very high costs, of existing jobs in industries embodying yesteryear's comparative advantage.

III.   Financing the public sector spending programme or when are
        debt and deficits good for you?

This section of the lecture deals with some of the issues that arise in connection with the optimal financing of a given programme of "exhaustive" public spending on goods and services. Government financial policy is about the management of the public

sector balance sheet, broadly defined. It includes the choice of taxation versus borrowing. It also concerns the composition or structure of taxes (lump-sum, direct, indirect, degree of progression, etc.) and the characteristics of the debt instruments issued by the government (interest-bearing or non-interest bearing, legal tender, maturity, degree of indexing, etc.). Monetary policy, exchange rate management and foreign exchange market intervention therefore belong to financial policy as much as open market operations or bond issues "to finance the deficit". It should be obvious that questions concerning the distribution of income and risk (intra-generational as well as intergenerational) are inevitably bound up with questions relating to the financing of a given real spending programme (see e.g. Stiglitz (1983a,b)). All the work I shall be discussing allows fully for the "government budget constraint" - the identity that public spending must be financed through taxes, through borrowing, by creating high-powered money or by running down official foreign exchange reserves. Most of it follows the recent conventional wisdom of assuming model-consistent or "rational" expectations.

Like any other kind of government intervention in the economy, government financial policy can be rationalised in one of two ways. The first is intervention for purely distributional reasons. While they are of major importance, I shall for reasons of time not pay any attention in what follows to the distributional objectives of the government. The distributional consequences of alternative financing rules will, however, be central. Indeed financial policy influences real economic variables largely by affecting the intertemporal and interpersonal

(including intergenerational) distribution of income, wealth and risk. The second justification for financial policy is the identification of instance(s) of market failure or, more generally, failure of decentralized private action, together with the attribution to the government of the ability to underake remedial welfare-improving actions that private agents either cannot undertake or do not find in their own perceived self-interest to undertake.

The market "imperfections" central to an appreciation of the potential welfare-improving role of financial policy are capital market or credit market imperfections. Included in this are any restrictions on the ability of private agents to effect intertemporal transfers of purchasing power in either direction at the social intertemporal terms of trade. In the theoretical domain of our profession, as exemplified by the overlapping generations model with finite lives and without operative intergenerational gifts and bequests, the incompleteness of the set of forward markets (or the absence of a full set of Arrow-Debreu securities) is due to the "technological" constraint that the dead cannot consume goods and services and the legal constraint that private agents cannot impose binding financial obligations on the unborn. In real life this non-existence of certain forward markets is augmented by a wide array of capital market imperfections. Private agents are constrained in their spending plans by the illiquidity and non-marketability of certain assets such as pension rights and human capital (including expected future income tax cuts). Collateral requirements limit access to credit, etc.

These cash flow constraints, liquidity constraints, lack of
suitable collateral, non-marketability of assets and a host of
similar capital market imperfections need not take the form of
strict credit rationing but may instead merely be reflected in a
market price of credit that is in excess of its shadow price.

My inability to borrow on the same terms as the U.K. government is
of course not in and of itself evidence of market failure. The
recent applications, already referred to, of the theory of market
equilibrium under asymmetric information to credit markets (see
e.g. Webb (1981), Stiglitz and Weiss (1981, 1983) and others)
however, have shown how adverse selection or moral hazard can
generate privately rational but socially inefficient equilibria
that may be characterized by credit rationing, excessive spreads
between lending and borrowing rates, etc.

Granted the existence of significant and persistent capital market
imperfections, does the "opportunity set" of the government differ
from and in certain respects dominate that of private agents? Can
the authorities do things private agents can't or won't do? In
the overlapping generations model already referred to, there are
two features that differentiate private and public possibility
sets. First, the institution of government is longer-lived than
the individual private agents. Frequently endowed with eternal
life, governments can in these models, enter into implicit or
explicit contracts that extend beyond the life-span of any given
generation. In this way governments can be a substitute for some
fo the non-existent forward markets. Second, the authorities have

the power to tax, i.e. the power to impose unrequited charges or payments on individuals. For good reasons, governments are exceedingly jealous of this power and discourage private agents from assuming this prerogative which is classified as theft when exercised on private initiative.

The power to tax enables the government to redistribute income between members of the same generation at a point in time, over time for an (a group of) individual(s) and between generations. This power to tax is also the reason why, in an uncertain world, governments can borrow on terms that are superior to those faced by private agents.[2] Total current and future national income is, subject to political constraints on the tax burden, the collateral for government borrowing. The risk of default through insolvency (but not of discretionary or dishonest default) is therefore less for government bonds than for private debt. Most governments also have the power to determine what shall be legal tender. Almost all have opted for a government monopoly of legal tender, thus adding directly to the attractiveness of those of their liabilities designated as legal tender (their monetary liabilities) and indirectly improving the quality of all public debt. Most of the other differences between private and public opportunity sets referred to in the literature derive from the greater longevity of the institution of government and the

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[2]Clearly I.B.M. borrows on better terms than the state of Grenada (before the U.S.A. invasion). The insertion of the word "most" before 'governments' and 'private agents' would, however, merely clutter up the text.

government's power to tax.[3] The view of government financial
policy I am advocating has governments acting as a (potentially)
superior financial intermediary, changing the composition of
private sector portfolios over time and altering private
disposable income flows. Well-designed policy interventions of
this kind exploit the government's "comparative advantage" in
borrowing to smooth out income streams and facilitate risk
sharing. By exploiting its position as the "natural borrower", or
borrower of first resort, governments can minimize the extent to
which disposable income, current cash flow and the portfolio of
liquid, marketable or realizeable assets become binding
constraints on private consumption, investment, production and
portfolio allocation decisions.

This view of financial policy is at the opposite end of the
spectrum from the ancient "debt neutrality" position as restated
by Barro (1974) (see also Buiter (1979, 1980a) and Carmichael
(1982)). Debt neutrality, i.e. invariance of the real solution
trajectories of the economy under changes in the borrowing-
taxation mix, prevails if financial policy cannot affect the
intertemporal (including the intergenerational) distribution of
income and of risk and the intertemporal terms of trade. With
infinite-lived households or, equivalently, finite-lived
households characterized by an operative chain of inter-
generational gift and bequest motives, with private access to

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[3]E.g. Webb (1981) shows how government financial policy will be
non-neutral in a world with asymmetric information, if it is less
costly for the government to extract taxes from reluctant
taxpayers than it is for private lenders to compel performance by
dishonest borrowers.

capital markets on the same terms as the government and with unrestricted lump-sum taxes and transfers, public sector financial policy is irrelevant. Relaxing any or all of these exceedingly restrictive assumptions causes this Modigliani-Miller theorem for the public sector to break down and a potential welfare-improving role for active financial policy to emerge.

Active financial policy is most easily defined a the orthogonal complement of passive financial policy. Passive financial policy I define as balanced budget financial policy, i.e. a continuous or period-by-period matching of receipts and expenditures.[4] Active financial policy permits, under specified conditions, systematic and predictable departures from budget balance.

Active financial policy, as just defined, has a wide range of functions and consequences, only a few of which can be considered here. By influencing the interpersonal, intertemporal and intergenerational distribution of income it will affect risk sharing, the extent to which households can smooth consumption

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[4] Weakly passive financial policy permits balanced budget redistribution; strictly passive financial policy compels taxes and taxes net of transfers and subsidies to be the same. It is well-known that, e.g. in the overlapping generations model of Diamond (1965), a balanced budget social security scheme implemented through lump sum taxes on the young and lump-sum transfer payments to the old will depress capital formation. Most balanced budget intertemporal or intergenerational redistribution schemes can be reproduced in terms of their effects on all real endogenous variables by unbalanced budget policies involving public sector borrowing or lending. E.g. the social security scheme just mentioned is isomorphic to government borrowing with debt service financed by new debt issues and by lump sum taxes on the young.

over the life cycle and capital formation. All this can occur and can be welfare improving in models in which goods and labour markets clear continuously and lump-sum taxes and transfers are possible.

Minimizing the excess burden of non-lump-sum taxes.

If lump sum taxes are not feasible, the timing of distortionary taxes will influence to total excess burden or dead weight loss imposed on the economy. The same will hold if tax collection costs in any given period are a more than linearly increasing function of the marginal or average tax rate in that period. Again this applies in labour and output market clearing models.

Recently Barro (1979, 1981) and Kydland and Prescott (1980) have applied a well known "uniform taxation" theorem in neoclassical public finance to the macroeconomic problem of optimal public sector debt and deficits in an economy with continuous full employment. In the absence of uncertainty and given suitable symmetry, homogeneity and separability assumptions, it is optimal to levy wage taxes at a constant proportional rate throughout an individual's lifetime. (See Sandmo (1974, 1976), Sadka (1977) and Atkinson and Stiglitz (1980)). The argument assumes the non-availability of lump sum taxes and subsidies. The original public finance literature on the subject was formulated in terms of the deadweight loss or excess burden of fiscal programs involving distortionary taxes. Barro's papers also consider the further

possibility of tax collection costs being an increasing and strictly convex function of the ratio of the net total tax take to the tax base. For a stochastic environment, Barro (1981) has argued that the deterministic constant planned tax rate solution translates approximately into a Martingale process for the tax rate τ , i.e. the expected future tax rate is equal to the current tax rate.

(1) $E(\tau_{t+i}|\Omega_t) = \tau_t$ $i \geq 0$

E is the conditional expectation and Ω_t the information set conditioning expectations formed at time t (assumed to include τ_t).

In spite of many theoretical and practical objections to the strict "uniform expected tax rates over time" proposition, the notion that it is optimal to smooth planned tax rates relative to planned exhaustive public spending because collection costs and/or excess burdens increase more than linearly with the tax rate, is likely to be robust. In the strict version of equation (1) the theory implies that a temporary increase in public spending unaccompanied by a matching increase in real output (the tax base) should be financed at least in part by borrowing. A transitory increase in real output will, given public spending, be associated with a budget surplus. The "countercyclical" behaviour of the deficit that will characterize the economy if the exogenous level of output follows a regular cyclical pattern and public spending is constant has nothing to do with Keynesian fiscal stabilization policy or the operation of the automatic stabilizers, however.

These are considered next.

In a world with persistent labour market and/or output market disequilibrium, the capital market imperfections that are the _sine qua non_ of financial policy spill over into the markets for output and labour. E.g. the existence of the multiplier, which is due to the inclusion of current disposable income as an argument in the private consumption function, over and above its contribution to permanent income (calculated using social discount rates), reflects a capital market imperfection - the difficulty of borrowing against the security of anticipated future labour income. In a fixed price model with demand-constrained output and employment the operation of the multiplier amplifies the effect of demand shocks on output and employment. Financial policy entailing temporary deficits may be the appropriate government response.[5] These Keynesian arguments for running larger deficits (smaller surpluses) when effective demand is depressed and smaller deficits (larger surpluses) when effective demand is buoyant are familiar and valid. Tax cuts in the face of negative demand shocks (or the "automatic" decline of taxes and rise in transfer payments when economic activity falls, that is written into most existing tax and benefit laws) help maintain disposable income. To the extent that disposable income rather than permanent income is the binding constraint on private demand, such active financial policy helps reduce fluctuations in output and employment. In Keynesian models, with workers off their notional labour supply

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[5]First best policy would eliminate the market imperfections. The discussion assumes that this has been pursued as far as is possible.

schedules and possibly also firms off their notional demand curves for labour, avoiding demand-induced swings in real activity is sensible policy.

By reducing taxes (net of transfers) and increasing borrowing during the downswing, exhaustive public spending during the downswing will be financed to a larger extent by private agents who are not constrained by current disposable income - the purchasers of the bonds. Total consumption demand will therefore decline by less than if taxes, which I assume to fall equally on disposable-income-constrained and permanent income-constrained private agents, had been kept constant during the downswing. When the economy recovers, the additional debt incurred during the downswing can be repaid out of higher than normal taxes. The demand effects of cyclical tax cuts during the downswing and tax increases during the upswing may not be symmetric if, as seems likely, more private agents are constrained in their spending by current disposable income during the downswing than during the upswing.

The smoothing out of consumption over the cycle permitted by countercyclical financial policy would be desirable because of its intertemporal allocative effects even if product and factor markets cleared. Its virtues are enhanced by the initial demand-disturbance-amplifying presence of labour and output market disequilibrium. Without labour and output market imperfections, successful stabilization policy permits consumption plans that are constrained only by a given permanent income. With labour and output market disequilibria successful stabilization policy in

addition raises permanent income.

When used for cyclical stabilization, successful financial policy should not imply any trend increase in the real stock of debt or in the debt-output ratio. If long real interest rates are increasing functions of current and anticipated future deficits, the transitory and reversible deficits that are associated with countercyclical policy should have at most minor effects on long real interest rates. Short nominal and real interest rates can be controlled by temporary and reversible partial monetization of deficits. Thus, by raising the level of activity, countercyclical deficits absorb private saving in the short run without lowering the capital stock in the long run. If long real interest rate determination is more myopic, even short run and reversible increases in deficits and debt may lead to significant crowding out of interest-sensitive private spending. Again such crowding out can be avoided by monetizing part of the deficit. Provided this monetization is reversed (and is expected to be reversed) in proper countercyclical fashion during the upswing, it should have no effect on trend monetary growth and thus on inflationary expectations. Without real resource scarcities, financial crowding out is merely bad financial policy.

The balanced budget multiplier theorem would appear to suggest that any desired response to demand shocks can be achieved without deficits by varying both exhaustive public spending and taxes net of transfers. I would argue that, to a first order approximation, optimal budgetary stabilization policy of this kind would involve

varying taxes and transfers in response to demand shocks while leaving the path of public consumption and investment spending unchanged. The intuitive reasons for this are that if public sector consumption spending is worthwhile, it is worthwhile regardless of the aggregate demand shocks that afflict the economy and that the time profile of public sector capital formation is dictated within rather narrow limits by the time profile of future planned public sector production. The government's spending programme on goods and services should be designed to achieve the best feasible public-private consumption mix out of permanent national income. The tax-transfer-borrowing and money creation rules should be aimed at optimizing national permanent income, keeping private disposable income in line with private permanent income and ensuring an adequate share of disposable, realizable (financial) private wealth in total or comprehensive private wealth, which includes such illiquid assets as human capital.

The above applies to the optimal design of exhaustive spending policies and financing policies. If, as in the U.K. today, certain categories of public spending (especially public sector capital formation) have been cut to levels that are well below most reasonable notions of optimality and if at the same time a "Keynesian' fiscal boost to aggregate demand is desirable, both structural (or allocative) and stabilization purposes can be served by a larger volume of spending on goods and services.

Concern about debt and deficits on the part of the authorities
tends to derive from two alleged consequences of public sector
deficits.   First, to the extent that deficits are monetized they
are feared to lead to inflation.   Second, to the extent that they
are not monetized but financed by issuing interest-bearing debt,
they are feared to "crowd-out" interest-sensitive private
spending, especially private capital formation.   This "crowding
out" can occur either through upward pressure on real interest
rates caused by additional borrowing or by displacing private
capital formation at given real interest rates, as in Sargent
(1981) and Sargent and Wallace (1981) (see also Buiter (1982a,b;
1983a, b)).   I shall conclude this lecture by discussing the
"eventual monetization" implied by the government's fiscal and
financial plans and the long-term financial crowding out
implications of the government's budgetary and monetary policy.
The comprehensive net worth and permanent income of the public
sector are two central concepts in this analysis.   The analysis
is based on the comprehensive accounting framework developed in
Buiter (1983a) and the permanent cost of debt service approach of
Miller (Miller (1982), Miller and Babbs (1983)).   A detailed
exposition is contained in Buiter (1983b).   An important result of
our analysis is that the PSBR conveys little or no information on
the sustainability of the fiscal stance, i.e. on the consistency
of long-term budgetary spending-taxation plans, monetary targets
and financial crowding out objectives.   The level or change in the

current deficit are uninformative as to the <u>credibility</u> of the government's budgetary, debt and monetary policy.

The analysis starts by complementing the familiar public sector budget constraint given in equation (2) with the comprehensive public sector balance sheet in equation (3).

$$(2) \quad g + \dot{K} - \tau + i\,\frac{B}{p} + \frac{C}{p} - i^* \,\frac{\varepsilon F^*}{p} - \rho_K K - \rho_R R + p_R \dot{R} \equiv \frac{\dot{M} + \dot{B} + p_c \dot{C} - \varepsilon \dot{F}^*}{p} \equiv \text{P.S.B.R.}$$

$$(3) \quad W \equiv p_K K + p_R R + T + \Pi - \frac{(M + B + p_c C)}{p} + \frac{\varepsilon F^*}{p}$$

g is public sector consumption spending; K the public sector capital stock; τ taxes net of transfers, i the short nominal interest rate; B the stock of short nominal bonds; p the general price level; C the number of consols paying 1 £ each period; i^* the foreign nominal interest rate; F^* the net foreign currency denominated assets of the public sector; ε the foreign exchange rate; ρ_K the rental on public sector capital; ρ_R the return to a unit of publicly owned natural resource rights; R the stock of publicly owned natural resource property rights; p_R the price of R; M the nominal stock of high-powered money; p_c the money price of a consol; W real public sector wealth or net worth; p_K the value of a unit of public sector capital in the public sector; T the present discounted value of future expected taxes net of transfers τ ; Π the real capital value of the state's note issue monopoly and r the short real rate of interest.

On the liability side of the balance sheet we have the familiar tangible

financial liabilities: the stock of high powered money M ("money")
and the various interest-bearing liabilities B and C ("bonds").
Also on the liability side is the present discounted value of planned
or expected future transfer payments and subsidies. This "intangible"
liability is likely to dwarf the tangible liabilities. On the asset
side we have the government's holdings of gold and foreign exchange
reserves, the public sector capital stock (valued not at replacement
cost but as the present discounted value of future returns on the
assumption that it remains in the public sector), the public sector's
holdings of natural resource property rights (North Sea oil), the present
value of future planned or expected tax receipts and the capital value
of the public sector's note issue monopoly. Public sector comprehensive
net worth is the sum of these assets minus these liabilities.

We characterize a <u>sustainable</u> fiscal and financial plan either as one
which keeps the expected ratio of public sector net worth to trend
G.N.P. constant, or as one which is (ex-ante) consistent with a constant
share of public consumption in G.N.P. The first definition implies
that public sector consumption should equal the short real interest
rate, r, net of the trend rate of growth of real output, n, times
comprehensive public sector net worth, as given in equation (3)[6] i.e.

$$(4a) \qquad g(t) = \bar{r}(t)W(t) + (p_K(t) - 1)\dot{K}(t)$$

where

$$(4b) \qquad \bar{r} = r - n.$$

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6. The second term on the r.h.s. of (4a) correcting $\bar{r}W$ for discrepancies
   between the value of public sector capital in the public sector and
   outside it, is discussed in Buiter (1983b).

If public sector consumption were to exceed this value, public sector net worth would be falling (ex-ante) relative to trend G.N.P. Unless the authorities run down the public sector capital stock, sell public sector property rights, dispose of foreign exchange reserves or lower the present value of future taxes (net of transfers) and of future seigniorage, the decline in the public sector net worth-G.N.P. ratio will come about through an increase in the ratio of interest-bearing debt to G.N.P. In virtually all reasonable models (i.e. barring those exhibiting debt neutrality) such an increase in the debt burden causes financial crowding out.

The second definition requires that consumption equals the long real interest rate (net of the rate of growth of trend output), times comprehensive public sector net worth or

$$(5a) \qquad g(t) = \bar{R}(t) \, W(t) \qquad\qquad 7/$$

$$5(b) \qquad \bar{R}(t) = \left[\int_t^\infty e^{-\int_t^s [r(u,t) - n]\,du} \, ds \right]^{-1}$$

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7. $\bar{R}(t)$ is the coupon yield on an index-linked consol, when the instantaneous rate of return is $r - n$ and investors equate expected real rates of return. $r(u,t)$ is the value of r expected, at t, to prevail at u.

A share of public sector consumption in trend G.N.P. in excess of the
value given in (5a) is unsustainable because it would lower permanent
income, $\bar{R}W$. Given some further mild assumptions, this unsustainability
would ultimately show up through a steady rise in the real cost of
debt service as a proportion of GNP. Two useful indicators of the (un)
sustainability of the current fiscal stance are therefore the excess of
current government consumption over the value consistent with a constant
ratio of net worth to trend output or "constant net worth deficit"

$$(6) \quad D^W(t) \equiv g(t) - \bar{r}(t) W(t) + (1 - p_K(t)) \dot{K}(t)$$

and the excess of current consumption over "permanent income" (that
value of consumption consistent with a permanently constant share of
public consumption in trend output) or "permanent deficit".[8]

$$(7) \quad D^p(t) = g(t) - \bar{R}(t) W(t)$$

The two indices coincide when the real rate of return is expected to be
constant $(\bar{r}(t) = \bar{R}(t))$ and the public sector uses its capital with the
same degree of inefficiency as the private sector.

At this stage, a piecemeal approach to the calculation of D^W and D^p,
involving a series of "corrections" to the conventionally measured PSBR
seems convenient. The various steps required to go from the PSBR to the
permanent and constant net worth deficits are summarised in equations
(8a, b).

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8. This is by abuse of language, since this deficit can by construction
    not be permanent.

$$(8a) \quad D^P(t) = PSBR(t) - p_R(t)\,\hat{R}(t) - \check{K}(t) + [\bar{R}(t) - i(t)]\,\frac{B(t)}{p(t)}$$

$$+ \left[\bar{R}(t) - \frac{1}{p_c(t)}\right]\frac{p_c(t)\,C(t)}{p(t)} - (\bar{R}(t) - i^*(t))\,\frac{\varepsilon(t)F^*(t)}{p(t)}$$

$$- \left(\bar{R}(t) - \frac{\rho_K(t)}{p_K(t)}\right) p_K(t)\,K(t)$$

$$- \left(\bar{R}(t) - \frac{\rho_R(t)}{p_R(t)}\right) p_R(t)\,R(t) - (\bar{R}(t)\,T(t) - \tau(t)) - \bar{R}(t)\left(\pi(t) - \frac{M(t)}{p(t)}\right)^9$$

$$(8b) \quad D^W(t) = PSBR(t) - p_R(t)\,\hat{R}(t) - p_K\,\check{K} - \left(\frac{\hat{p}(t,t)}{p(t)} + n\right)\frac{B(t)}{p(t)}$$

$$+ \left(\bar{r}(t) - \frac{1}{p_c(t)}\right)\frac{p_c(t)C(t)}{p(t)} + \left(n + \frac{\hat{p}(t,t)}{p(t)} - \frac{\hat{\varepsilon}(t,t)}{\varepsilon(t)}\right)\frac{\varepsilon(t)F^*(t)}{p(t)}$$

$$- \left(\bar{r}(t) - \frac{\rho_K(t)}{p_K(t)}\right) p_K(t)\,K(t)$$

$$- \left(\bar{r}(t) - \frac{\rho_R(t)}{p_R(t)}\right) p_R(t)\,R(t) - (\bar{r}(t)\,T(t) - \tau(t)) - \bar{r}(t)\left(\pi(t) - \frac{M(t)}{p(t)}\right)$$

Since $D^P(t)$ is probably the more interesting of the two measures, we shall concentrate on it. Table 3 presents some back-of-the envelope calculations for the U.K. Taking the corrections to the PSBR in (8a) in turn:

$- p_R\hat{R}(t)$: This is a proxy for those net sales of existing public sector assets that should be added to the PSBR to get the public sector financial deficit (PSFD) on a national accounts basis.

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9. For any variable x, $\hat{x}(u,t)$ is the rate of change of x expected, at t, to prevail at u.

- $\mathring{K}$: $g(t)$ in (12 a,b) is public sector consumption spending.

Estimates of public sector net capital formation (at replacement cost) which should be subtracted from the PSBR and PSFD as one of the steps to get to D^p, are available in the U.K.

+ $(\bar{R} - i) \dfrac{B}{p} + (\bar{R} - \dfrac{1}{p_c}) \dfrac{p_c C}{p}$: this is not merely an inflation and real growth correction but also involves the permanent income smoothing reflected in the use of the long real interest rate.[10] (This last step is omitted in (8b).) In public sector permanent income, debt service on the bond debt should be evaluated by multiplying the real long run (consol) rate of interest net of the natural growth rate, $\bar{R}(t)$, into the market value of all bonds. Estimates for this correction for the U.K. and a discussion of its methodological foundations are given in Miller (1982) and in Miller and Babbs (1983). They are reproduced here in Table 3.

- $(\bar{R} - i^*) \dfrac{eF^*}{p}$: This corrects for changes in the domestic currency value of foreign currency denominated assets and liabilities as well as for domestic inflation, real growth and permanent income smoothing. It is very important for a number of LDC's which have borrowed externally in dollars or other hard curriencies. (See Buiter (1983a).) Its significance for the U.K. is likely to be quite minor.

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10. For conventional inflation corrections see Siegel (1979), Threadgold and Taylor (1979) and Cukierman and Mortensen (1983).

$- (\bar{R} - \dfrac{\rho_K}{p_K})\, p_K K$: It is difficult to assess the size and magnitude of the excess of current income from public capital over permanent income and I do not attempt to do so. It is likely to be strongly procyclical.

$- (\bar{R} - \dfrac{\rho_R}{p_R})\, p_R R$: North Sea oil revenues are currently at or near their expected peak value. While in the mid and late seventies current oil revenue fell short of its permanent value (as perceived at the time) this situation is now reversed. The figures in Table 3 are merely illustrative but are quite conservative, in the sense that they are more likely to understate permanent oil revenue.

$- (\bar{R}T - \tau)$: It should be clear that <u>current</u> taxes net of transfers $\tau(t)$ is likely to be a poor proxy for $\bar{R}(t)\, T(t)$. The most important "corrections" to $\tau(t)$ required to obtain a better approximation to $\bar{R}(t)\, T(t)$ are the following:

(a) "Cyclical" corrections to tax receipts and transfer payments. The yield from several major taxes (income taxes, national insurance contributions, VAT, corporation tax) varies inversely with cyclical deviations of economic activity from its full employment, trend or natural level. The opposite correlation holds for such transfer payments as unemployment benefits. Cyclical corrections to the conventionally measured deficit are, from this perspective, desirable not because they provide a better approximation to the short-run demand effect of the budget, but as one step towards the calculation of public sector permanent income or of the permanent deficit.

In Table 3 I use the IMF's estimates of the cyclical correction.
These are very conservative in that they do not assign a zero
cyclical correction to 1979 but instead assume the cyclically
corrected deficit to be 2.3% of GDP larger than the actual deficit
in 1979 and 1.4% of GDP in 1980.

This seems to indicate an expectation of a normal unemployment
rate in the U.K. of 8 or 9 per cent. The Institute of Fiscal
Studies,[12] on the other hand, while coming up with very similar
year-to-year changes in the cyclical correction, puts its level
2 to 2½ percentage points of GDP higher. What matters for the
sustainability calculation is that a reasonable proxy for the
expected average future levels of capacity utilization and
unemployment be used. These levels may well be functions of the
fiscal policies adopted by the authorities and need not be equal
to any "natural" or "full employment" values.

(b)   There may be planned, projected or expected changes in the scale
       and scope of certain tax and benefit programmes. E.g. under
       existing legislation governing contributions and benefits, the
       greying of the U.K. population implies a growing excess of pension
       payments over contributions. Similar concerns have been voiced
       in the U.S. While one could try to make some further rough
       structural or demographic corrections to the "cyclically corrected"
       tax and transfer total, I have not done so in Table 3.

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11.   IMF World Economic Outlook.
12.   John Kay (1983).

SOURCES:

- PSBR, PSFD : ET May 1983, 56

- $\dot{K}$: Blue Book 1982 ed. 1.7 for 1978-1981.

  1982 own estimate.

- Permanent Debt Service Correction: Miller and Babbs [1983].

- North Sea Oil Correction: Own calculations based on NIER, May 1983.

  P.J. Atkinson, S.J. Brook and S.G.F. Hall,

  "The Economic Effects of North Sea Oil", pp 38-44;

  IFS, John Kay ed., The Economy and the 1983 Budget;

  M.P. Devereux, "Changes in the Taxation of North Sea

  Oil", pp. 75-79.

- Cyclical Correction: IMF World Economic Outlook, 1982, Table 49, p.187.

- Permanent Seigniorage Correction: Monetary base x long-run real rate;

  Source: Miller & Babbs [1983]

Adopting the IFS cyclical correction instead of the one calculated
by the IMF would lower the permanent deficit by 2 to $2\frac{1}{2}$ per cent of
GDP compared to the figures in the last column of Table 3. Together
with a slightly more generous estimate of the permanent income from
North Sea oil this would generate a 5 or 6 per cent of GDP permanent
surplus in 1982. This would leave room for a sizeable sustainable
increase in the share of public consumption spending in trend GDP over
its current level and/or a cut in taxes or increase in transfer payments.
Alternatively the government could choose to indulge in a bout of
financial "crowding in", using its "permanent" surplus to reduce the
real stock of interest-bearing debt. The U.K. economy, unlike the USA,
would appear to have lots of fiscal elbow room.

Eventual Monetization

The apparatus developed here can be applied to the calculation of
the "long-run" monetary growth rate implied by the fiscal stance.

From the balance sheet and the constraint (assumed to hold with
strict equality) that the present value of future public consumption
spending should not exceed public sector net worth, we can calculate
the amount of revenue to be raised through current and future
money issues (in present value terms) <u>given</u> the spending programme
and the government's tangible and intangible non-monetary assets and
liabilities. Solving this for a constant rate of monetary growth
$\frac{\dot{M}}{M}$ and a given income velocity of circulation $V \equiv \frac{p\bar{y}}{M}$ yields

$$(9) \quad \frac{\dot{M}}{M} = V\bar{R}(t) \left[\frac{G(t) - T(t)}{\bar{y}(t)} - \left(\frac{p_K(t)K(t) + p_R(t)R(t)}{\bar{y}(t)} \right) \right.$$
$$\left. + \frac{B(t) + p_c(t)C(t) - \epsilon(t)F^*(t)}{p(t)\,\bar{y}(t)} \right]$$

where $G(t)$ is the present value of future public consumption spending.

If the long-run inflation rate is governed by the rate of growth of the money supply, say $\frac{\dot{p}}{p} = \frac{\dot{M}}{M} - n$, and if the inflation elasticity of velocity is less than unity, a higher monetary growth rate and a higher rate of inflation are implied by a higher present value of public spending relative to non-monetary assets and liabilities. Only if the public sector's consumption and tax programmes, together with its non-monetary assets and liabilities, imply a high value of $\frac{\dot{M}}{M}$ is a fiscal correction a necessary condition for achieving credibility for an anti-inflationary policy. If we consider only stationary long-run equilibria, (9) becomes

$$(9') \quad \frac{\dot{M}}{M} = V \left[\frac{g-\tau}{\bar{y}} - \bar{R} \left(\frac{p_K K + p_R R}{\bar{y}} - \frac{(B + p_c C - \epsilon F^*)}{p\bar{y}} \right) \right]$$

Eventual monetary growth is governed in steady state by the trend public sector current account (or consumption account) deficit, with debt service evaluated at the real interest rate net of the natural rate of growth. This deficit measure can differ dramatically from the conventionally measured public sector financial deficit or PSBR, which is often and

erroneously taken as an indicator to eventual monetization. (See Sargent (1981), Sargent and Wallace (1981) and Buiter (1982a,b) and Buiter (1983).)

V.   Conclusion

I shall conclude by restating and re-emphasizing the
grounds for a complete revaluation of conventional
attitudes towards public sector deficits.

First, from a wide variety of perspectives, ranging from
Keynesian to Classical, optimal or even merely sensible
budgetary policy is bound to be characterized by
systematic, predictable and sometimes persistent departures
from budget balance. Even in long-run equilibrium, zero is
not a uniquely interesting figure for the budget deficit. A
constant debt-output ratio _is_ a requirement of stationary
long-run equilibrium. The optimal value of this ratio is
unlikely to be zero.

Second, the conventionally measured public sector deficit
(level or change, at current prices, at constant prices or
as a proportion of GDP) has a very high noise-to-signal
ratio as an indicator of anything that might be of economic
interest. The same holds, however, also for the cyclically
corrected, full employment or high employment deficit. The
use made of these statistics is a symptom of the search for
the unattainable: a single-figure, model-free measure of
fiscal impact or of some other relevant aspect of budgetary
and financial policy.

Neither the "raw" deficit nor the cyclically corrected
deficit is a measure of the short-run impact on effective
demand of fiscal policy. Neither deficit construct is a
useful measure of (changes in) potential short-run,
medium-run or long-run financial crowding out pressure.
Indeed, in the absence of real resource scarcities,
financial crowding out is simply evidence of bad financial
policy. At full employment complete short run crowding out
of private spending by public spending is unavoidable, no
matter what the financial policy. Neither deficit
construct is an indicator of the sustainability of the
fiscal stance and of the consistency of spending, taxation,
crowding out and monetary objectives. Neither is an
informative indicator of the eventual monetization implied
by the fiscal stance.

The familiar point, emphasized in Blinder and Solow (1973)
that there are no "model-free" measures of short-run or
long-run fiscal policy impact is important. In a recent
paper on the behaviour of the U.K. economy since 1979 by
Marcus H. Miller and myself (Buiter and Miller (1983)) we
re-produce an attempt of the National Institute of Economic
and Social Research to calculate the impact effect on
demand of fiscal policy in the four years since 1979. The
figures are given in Table 4a. They suggest that the
demand effect of the government's spending and tax
programme changes was to remove almost 4% from demand in
the economy. This characterization of fiscal policy as
severely contractionary is consistent with the direct
evidence of a major increase in the tax burden, documented

TABLE 4 : (a) <u>Public Sector Financial Balance</u> (% market price GDP)

Financial Years	(1) Actual balance	(2) Year to year change	(3) Built-in stabilizers	(4) Cyclically-adjusted budget change (2) less (3)
1978/79	-4.9			
1979/80	-3.6	+1.3	0.1	1.2
1980/81	-4.7	-1.1	-3.1	2.0
1981/82	-2.4	+2.3	-1.9	4.2
1982/83	-2.7	-0.3	-0.7	0.9
Sum of changes	-	2.2	-5.6	7.8
(Sum of "weighted" changes)		(0.2)[a]	(-3.4)[b]	(3.7)[c]

Notes to Table 4(a) :Sources and Methods

Column 1:   PSFD/GDP @ market prices. Source: <u>Economic Trends.</u>

Column 2:   Change from previous year in column 1.

Column 3:   From <u>NIER</u> February 1983, p.8, Table 2, row 3 less row 1.

Column 4:   Column (2) less column (3)

Figures in parentheses: From <u>NIER</u> February 1983, p.8, Table 2
            [calculated as (a) sum of row 2; (b) sum of row 4
            less sum of row 2; (c) = (a) - (b).]

Table 4 (b) :   The tax burden since 1978

	(10) Average tax burden (%)	(2) Average tax rate of employee on average earnings** (%)	(3) Marginal tax rate of employee on average earnings*** (%)	Marginal direct tax rate of married couple in basic rate band**** (%)
1978	34.11	47.0	54.6	33.6
1979	34.93	48.0	55.1	30.1
1980	36.64	49.0	55.4	30.2
1981	38.83	51.5	56.9	31.0
1982	39.81	51.4	57.3	32.4
1983		51.2	57.5	33.2

*   Direct and indirect taxes, national insurance etc. contributions
        as a percentage of GDP at market prices, expenditure estimate.

**   Direct and indirect taxes, national insurance contributions, etc.
        as a percentage of gross income (including employers national
        insurance contribution). Source: A.W. Dilnot and C.N. Morris.
        "The Tax System and Distribution 1978-83" Fiscal Studies, Vol. 4,
        No. 2, May 1983, pp. 54-64., Table 3, p. 59.

***   Source: Same as **.

****   Marginal rate of income tax plus employees national insurance
        contributions for a married couple in the basic rate band.
        Source: same as above.

in Table 4b. The "demand-weighted" (i.e. marginal-
propensity-to-spend-on-domestic-output-adjusted),
cyclically corrected deficit shown in Table 4a (last line)
is the proper index of the short-run (first-round) demand
effect of fiscal policy only in a static, rather
old-Keynesian and expectations-innocent model. The first
best approach would be to simulate one's preferred model of
the economy under different values of fiscal and financial
policy parameters and to call the difference between the
solution trajectories (or the statistics describing them)
the meaure of fiscal impact. Such proper measures of
fiscal stance will therefore a) be model-specific, b) have
time subscripts attached to them and c) be functions of
when a particular fiscal or financial action (or rule
change) was first anticipated, of its anticipated degree of
permanence and of the degree of confidence with which these
expectations are held.

This may seem like a tall order and perfectionism is indeed
often the last refuge of those unwilling to stick their
necks out. To admit that progress towards a better
policy-oriented modelling of budgetary and financial policy
will be difficult is not, however, to condone the
continuation of the naive P.S.B.R. targetting that has been
the cause of so much avoidable distress in the British
economy.

Putting together these comments on the PSBR with my earlier
discussion of public spending, it will come as no surprise
that I consider a complete rethink of budgetary and

financial policy a precondition for a sustained recovery
and for a lasting improvement in the economic determinants
of the quality of life.

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