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The Growth of Public Expenditure in the EEC Countries 1960-1981 : Some Reflections

Douglas Todd *

Internal Paper

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ABSTRACT

This paper analyses the growth of the public sector in the European Community over the past twenty years.

Following a brief introduction, Section II provides an overview of the ways in which both public spending and taxation have evolved. Although tax burdens have tended to rise in Community countries, they have not matched the increase in government spending with the result that public deficits have grown. Within the total of spending the steady increase in the share of resources devoted to social transfers and the decline in the share of public investment is noted also.

Section III takes the analysis a stage further with a consideration of public expenditure growth in both real and nominal terms. Various price deflators are discussed and somecomparisons drawn. When "own price" deflators are used, the decline in public investment and rise in transfer spending becomes emphasised even more.

The role of some possible constraints and what might be called the public "acceptability" of government spending is treated in Section IV. Attention is drawn particularly to the operation of the tax burden overall together with the influence which both real personal disposable incomes and "privately financed" real consumption might have.

A small number of competing hypotheses concerned with why the size of government has increased so steadily are discussed in Section V. Attention is focused particularly on recent voting model and income distribution explanationsand also on the public goods - type of expenditure generating process. The final section draws together the various points discussed and attempts to set out a more general appraisal and some conclusions.

CONTENTS

The following key is used:-

B	Belgium
DK	Denmark
D	Federal Republic of Germany
GR	Greece
F	France
IRL	Ireland
I	Italy
L	Luxembourg
NL	Netherlands
UK	United Kingdom
USA	United States
JAP	Japan

I. INTRODUCTION

At the present time the scale and extent of the public sector has become an emotive issue in many countries. Typically it is taken to be an important, if not the most important, indicator of the size of government and its influence over the wider economy. From the "New Deal" and the spread of the standard Keynesian policy prescriptions, public spending in principle has been regarded as having the character of an inherent 'good'. More recently, however, the role of government spending, taxation and the consequences for public debt are being re-appraised. Whilst it is usual to look at the financing side of government and refer to the burden of taxation, the more extreme of the classical macroeconomics school now seem to want to describe public sector spending as a 'burden' also (1). A reduction in the scale of spending is interpreted as being synonymous with a reduction in the size of government itself which the proponents would regard as a desirable objective.

It is a common observation that governments have grown and grown. Moreover, this expansion, although uneven, has taken place against the background of an enormously wide range of influences irrespective of political party. Something which might be taken as an approximation to 'Wagners Law' (Wagner 1980) does, on the face of it, seem to offer a summary description of experience in most of the industrialised world. Across a wide range of countries, the elasticity of public expenditure with respect to GDP tends to exceed unity which implies that public spending is a 'luxury' activity (2). We are still located somewhere in the lower reaches of the Engel curve.

Over the very long period, the uneveness in growth has been explained in a variety of ways, one of the more popular and persuasive being the 'ratchet' or displacement effect, discussed and analysed in the major study by Peacock and Wiseman (1961).

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(1) See the comment by J. Tobin (1980) p. 50

(2) See, for example, R.E. Wagner and W.E. Weber (1977), also Beck (1976) and OECD (1978).

Within the total of public expenditure, increasing attention is being paid to changes in its composition. Some of this interest manifests itself in the form of attempts to draw a distinction between so-called 'productive' and other types of public spending. Occasionally this seems to spill over into an unsatisfactory statistical and accounting analogue where total expenditures are divided into current and capital outlays with the latter tending to be associated more with productive activities. Within the current spending category, the roll of social transfers has become a prime focus of interest.

On the financing side, the burden of taxation also has tended to rise steadily. In recent years, however, tax financing on average has not risen at the same rate as spending with the result that public sector deficits have grown as has the public debt in relation to GDP.

This exercise looks a little more closely at some aspects of those changes which have taken place in the growth of public spending within the European Community over the past two decades or so and offers some alternative interpretations. Those who have ventured into this area will know that it is one of the more treacherous of the many national accounting and statistical minefields. Problems of definition, coverage, time period, price basis and so on, abound to the extent that no one would go to the stake in support of a claim on accuracy. Further, in international comparisons of this sort, it is rarely possible, if at all, to use exactly the same time period for all countries in every instance. One important qualification is that the discussion here does not cover the public corporations. These are omitted in the analysis largely on the grounds that for many purposes they are a worthy subject for separate treatment. That said, unless stated otherwise, the data sources used throughout are those provided by the European Commission ESA system and the published OECD National Accounts. In a number of instances, experience relating to the United States and Japan is cited in order to broaden the basis for comparative analysis.

II. THE PUBLIC SECTOR IN EEC COUNTRIES: AN OVERVIEW

The share of total or General Government Expenditure in total resources available as measured by GDP for EEC countries is given in Table I. In eight out of the ten Community countries the rise in the share overall through the seven year period 1973-1981, exceeds that which took place over the longer period 1960-1973. This acceleration was most pronounced in Belgium, Luxembourg, and Greece with a slowing down occurring in the Netherlands and the U.K. Typically, however, the share of total expenditure in GDP measured in nominal terms over the twenty year period has risen from about 30 per cent to rather more than 50 per cent.

The relationship between the growth of both total public expenditure and GDP over the whole period is illustrated in Chart 1. It will be noted that all of the points plotted lie above the ray of unitary elasticity and on average the association is typified by an elasticity of around 1.3.

Turning to the financing side, Chart 2 shows over a slightly shorter period the way in which tax revenue receipts have evolved relative to the growth of GDP. In broad terms, the picture presented is one where the elasticity of tax receipts with respect to GDP is around 1.2 or below. In other words, taking the two trends together over the period as a whole, there has been a persistent tendency for government deficits to increase, a fact which now is well-documented.

This aspect is brought out in starker fashion if a more recent subperiod 1975/81 is considered. Chart 3, for example, shows a relation between the growth of public sector/GDP ratio and the growth of tax revenue receipts. The impression given is that, on average, something like two thirds of the growth in deficits has been covered by additional taxation. Those countries with the largest deficits, Belgium, Ireland and Denmark lie well above the simple regression line fitted for illustrative purposes (3).

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(3) For the longer period 1965-81, the tax revenue financing proportion is higher at around 80 per cent.

TABLE 1

TOTAL GENERAL GOVERNMENT EXPENDITURE
AS A SHARE OF GDP

(per cent)

	1960	1973	1981
Belgium	30.53	39.36	58.96
Denmark	26.40	42.73	59.65
Germany	32.40	40.34	49.31
Greece	23.77	28.90	39.82
France	34.49	38.46	48.92
Ireland	26.71	38.99	58.05
Italy	30.13	37.77	50.81
Luxembourg	29.32	35.66	59.64
Netherlands	33.20	49.35	59.29
U.K.	33.95	41.09	45.39
U.S.A.	27.72	31.33	33.86
Japan	18.09	22.31	35.29

CHART I

GROWTH OF TOTAL GOVERNMENT EXPENDITURE AND OF GDP

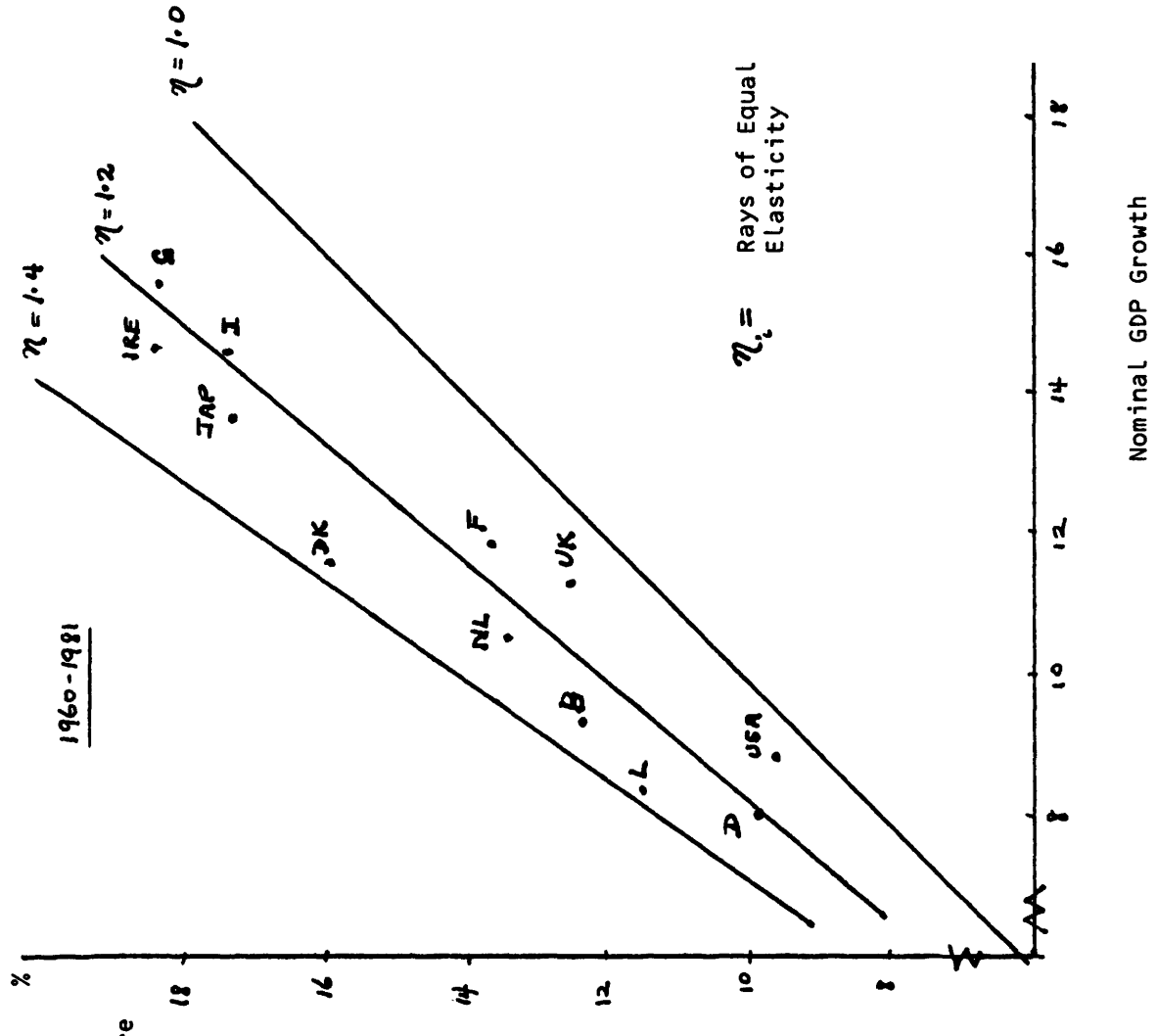
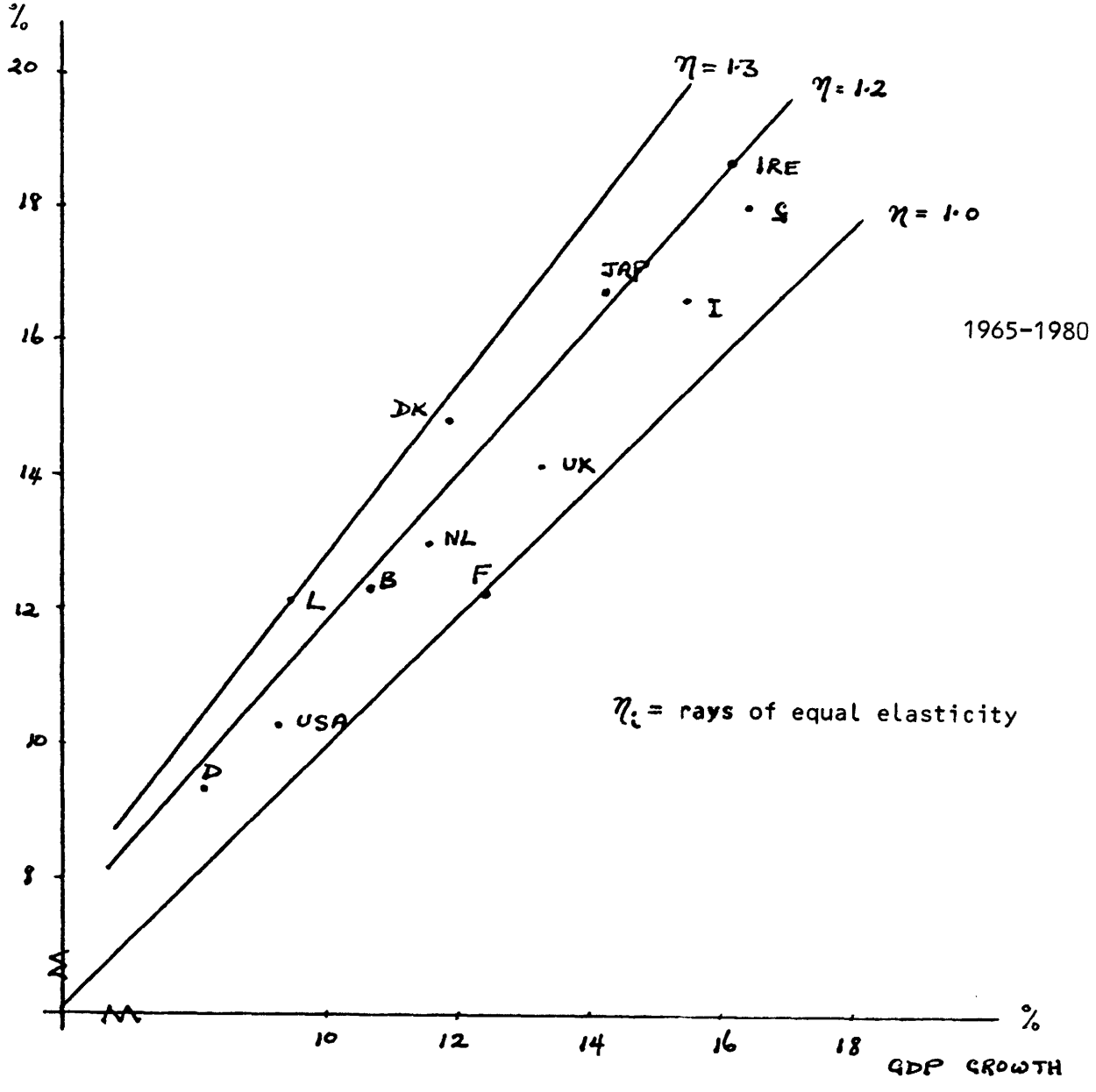


CHART 2

Growth of
total tax revenue %

GROWTH OF TOTAL TAX REVENUE AND GDP

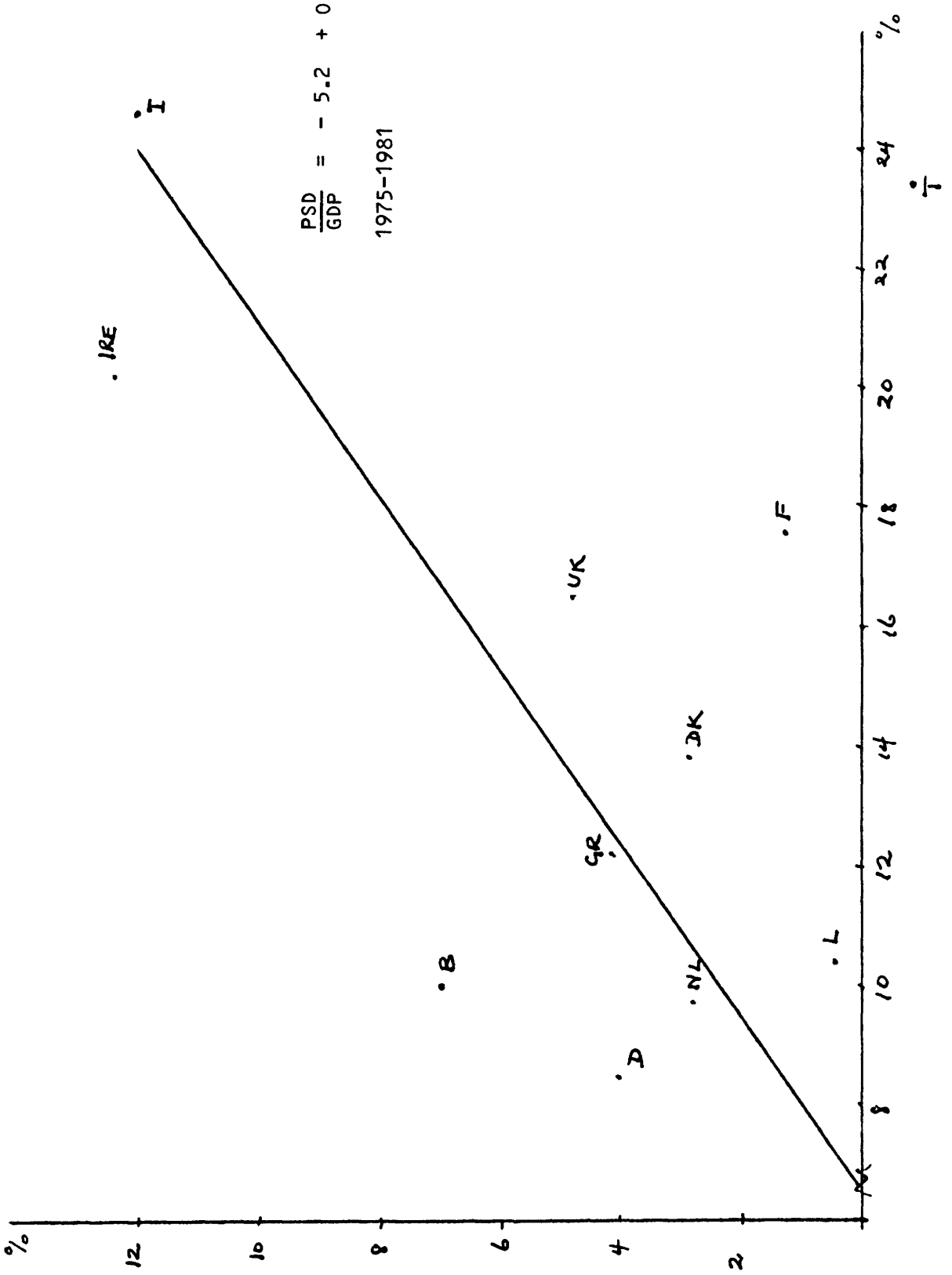


1965–1980

η_i = rays of equal elasticity

CHART 3

GROWTH OF GOVERNMENT DEFICIT/GDP RATIO (PSD/GDP)
AND TOTAL TAXATION (T)



Whilst shares of total public expenditure and of total taxation have fluctuated over the sample periods examined here, the growing gap between expenditures and receipts in part is reflected now in rising shares of public debt outstanding in GDP of most countries (4). The point here is that additional expenditures must be paid for sooner or later and, in this respect, the ability to raise public revenue provides the ultimate constraint on public borrowing. The fact that historically the public debt/GDP ratio has fluctuated widely over time in many countries does not alter the strength of this observation.

It is interesting to turn to a consideration of some changes which have occurred within the totality of public spending in the Community.

Table 2 sets out the shares in nominal terms of what some might regard as polar cases within the existing public public sector accounting conventions. Public sector gross fixed capital formation, for example, is a broad category which, in principle, at least, is closest to the notion of self-financing expenditure. A classical justification for net new borrowing by government is when the purpose is to finance a capital project, the costs of which occur early with the expected benefits stretching into the future. We know, of course, that actual recorded public sector investment falls a long way short of this particular view of productive expenditure hence the national accounting analogue is by no means precise.

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(4) Within EEC countries over the period 1973-79 only the UK has experienced a fall in the Debt/GDP ratio (see European Economy, November 1982, Chapter 2).

(3)

TABLE 2

GENERAL GOVERNMENT EXPENDITURE ON GROSS FIXED CAPITAL FORMATION AND CURRENT TRANSFERS AS A SHARE OF GDP

	1960			1973			1981		
	Public consumption	Gross fixed capital	Current transfers	Public consumption	Gross fixed capital	Current transfers	Public consumption	Gross fixed capital	Current transfers
Belgium	12.77	1.93	12.71	14.83	3.32	17.65	19.44	3.7	26.57
Denmark	12.66	3.3	7.93	21.85	3.67	15.3	27.96	2.85	22.53
Germany	13.46	3.21	13.55	18.15	3.83	15.87	20.72	3.43	21.29
Greece	11.19	6.05	6.26	11.45	7.78	8.67	17.76	4.39	14.73
France	13.0	2.94	16.45	13.17	3.43	20.77	15.80	2.98	27.81
Ireland	11.26	2.82	9.49	15.66	4.00	15.10	21.86	7.36	19.22
Italy	12.75	3.63	11.91	15.50	2.85	16.37	18.08	3.73	20.59
Luxembourg	9.72	4.74	13.68	10.55	5.60	18.06	17.37	8.62	30.55
Netherlands	13.44	4.04	11.91	16.33	3.84	24.45	17.92	3.22	31.36
U.K.	16.52	3.31	9.18	18.39	5.08	12.13	22.21	1.87	15.74
U.S.A.	8.88	2.53	6.26	8.30	2.10	9.80	10.19	1.72	11.08
Japan	17.36	4.51	4.28	17.68	6.39	6.44	20.32	8.02	12.69

At the other extreme, social transfers are sometimes thought of as being the so-called "unproductive" element in public spending. Again this is far too naive in that it neglects not only the economic effects of raising the finance but also, on the other side, any income generating effects on the part of the recipients. Whilst it would be hard to argue that social transfers have a self-financing dimension in the same way as might an investment programme, the issue is not simply a trade-off issue between equity and efficiency. Hochman and Rodgers (1969) for example, argue persuasively that governments are much more than "legalised Robin Hoods" who transfer from rich to poor and thus impose a simple deadweight loss. In somewhat more formal terms, if individual evaluations of welfare changes are not independent, that is to say, utility functions are interdependent, one can envisage easily, cases where everyone benefits from a social transfer. This possibility they refer to as "efficient redistribution" (5).

With these important qualifications in mind, what Table 2 illustrates is the steady increase in social transfer spending as a share of GDP, particularly since 1973. Further, the share of total resources allocated to public sector fixed capital formation since 1973 has fallen in six out of the ten member countries. This decline has been most pronounced in the UK, where the drop exceeded 3 percentage points. Ireland, on the other hand, a country which has done much in the way of providing generous tax and other incentives to encourage the inflow of private foreign capital in order to expand the productive base, has in the public sector also generated a pronounced rise in the share of fixed capital formation.

Public consumption, which in the above terms might be regarded as an intermediate spending category, follows a growth pattern which is close to the evolution of public spending in total. The growth of this component relative to GDP accelerated in the later period to raise the share in Community countries from around 12 per cent on average in 1960 to roughly 20 per cent by 1981. In both Denmark and Ireland, over this

(5) The argument can be extended to non-transfer expenditures also. The so-called "merit goods", if supplied at less than cost would be a relevant category in this context.

period, the share of public consumption in GDP doubled, whereas in France, on the other hand, it increased hardly at all.

As we indicated already, rough divisions such as those used to support more or less a priori views about the worth of public outlays are hardly sustainable. Similar remarks are relevant when attempts are made to identify current and capital expenditures with unproductive and productive activities. In terms of economic criteria it would be difficult to argue that investment in school buildings for example is inherently productive, whereas payment of teachers' salaries, a current outlay, is not. Moreover, in any standard project appraisal, attention is focused on cash flows which effectively abolishes the distinction between current and capital outlays. The reference point is the expected rate of return relative to the appropriate public sector discount rate.

Sufficient information on rates of return in the public sector is hard or impossible to obtain and in the absence of such knowledge a very rough re-classification of some government expenditures made so as to approximate a little more closely a 'productive' investment element is given in Table 3. Here all public expenditures on Education plus general government support for Research and Development are added to public sector gross fixed capital formation. The total is expressed as a share of total public expenditure.

Between 1970 and 1978 this share of what is called here the productive part of total outlays fell in all Community countries, with the exception of the Netherlands. The decline is marked particularly in France, Ireland and the UK.

In summary, the picture overall is one of a substantial expansion in the total of available resources absorbed by the public sector in the Community. Typically, the share of national output accounted for by general government activities exceeds 50 per cent but within this total, broad accounting analogues to the "productive" component indicate a decline over the past decade. Current transfers as a share on the other hand have risen steadily.

TABLE 3

General Government GFCF plus total public Expenditure on Education and R & D as share of Total Public Expenditure %

	1970	1975	1978
Belgium	27	25	22
Denmark	28	27	23
Germany	29	26	25
France	32	26	23
Ireland	32	28	25
Italy	25	23	23
Luxembourg	29	27	26
Netherlands	22	25	23
United Kingdom	33	32	27

Note: There are many qualifications to the above; in some cases figures for the same year are not available and isolation of capital expenditures is by no means homogeneous across Member countries.

III. GROWTH: NOMINAL AND REAL

All of the comparisons in the previous section are expressed in nominal terms. However, in the measurement and appraisal of movements in the share of public expenditure in total resources available, a troublesome problem arises when attempts are made to incorporate differential price effects. In several respects, the difficulties parallel closely, the kind of situation which arises in a more general inflation accounting context.

As is well known, the basic problem arises because over a wide range of typical government expenditure programmes there are no, or at best, extremely few, satisfactory measures of output. As a consequence it is a convention in National Accounts methodology to use input costs as a proxy measure of public output, which implies zero productivity growth in the public sector. The resulting price bias or "relative price effect" (RPE) creates a number of headaches when it comes to an evaluation of the public sector in real terms.

(i) If we start first of all with the question - what do we mean by inflation? - most would agree that the term is meaningful only in the sense of a sustained rise in the general price level. Alternatively, it can be thought of as a decline in the general purchasing power of money. Seen from this point of view, at the micro level, a firm for example, could be interpreted as a body of shareholders, the interests of whom rest primarily in the real value of distributed profits. Namely, what are these worth in terms of a basket of goods. At the macro level, a parallel in the public sector is that the shareholders here are the body of taxpayers. Since taxes are compulsory levies, the analogy is by no means exact. Nevertheless, the resources removed from the taxpayer/consumer represent in private opportunities foregone a loss of general purchasing power. In these circumstances, one could argue that an appropriate deflator for government expenditure is some form of consumers' price index. Changes in the real share of public expenditure will then reflect among other things differences between the consumers' price index and an appropriate index of GDP prices - the GDP deflator.

(ii) An alternative stance might be taken by the user of the resources involved. The managers and executives of a firm in the micro example will be interested particularly in changes in replacement costs of factor and material inputs. These are the prices which they recognise as affecting day-to-day decisions for internal control. Inventories typically are revalued in this sense. At the national level, government may prefer to evaluate expenditure in terms of the costs of providing them which as a current cost accounting notion would lend some support to the conventions adapted already.

(iii) Yet again, one can interpret public spending as an activity which makes claims on the general pool of national resources which should be valued in its own terms. That is to say, public spending claims are neutral vis-à-vis any other kind of spending. This is closer to a real national resource evaluation in terms of international worth or competitiveness; what collection of imports can a nation's resources purchase? In this instance, one might prefer to use the GDP deflator in order to attach a real significance to government expenditures. This latter dimension has a statistical basis in the following sense. Because, public expenditures in current prices by convention are approximated by cost valuations, an RPE adjustment is usually made and which represents what is in effect a ratio of these costs to other prices. These other prices are national resource prices; the GDP price index. What we have then is an adjustment which in practical terms is the same as deflating current price public expenditures by the GDP deflator. The share of publix expenditure in GDP then is simply the ratio of two current price variables with no differential price effects.

Turning to the major components of public programmes one or more of the above considerations can apply and it is by no means obvious as to which one the greatest significance should be attached. The approach suggested by (i) would yield comparisons dependent on the ratio between the consumer prices and GDP price index in each case. (iii) on the other hand would have no adjustments to the current price ratios.

The second variant, however, leads to a range of possibilities. One could for example deflate capital programmes by an investment goods price deflator, public consumption by an index of public consumption prices, social transfers by a consumer's price index, and so on. In each case, real growth as a share of GDP would embody a relative price effect given by the ratio of the programme price index to the GDP deflator.

The above examples represent what must be only one set from many possible alternatives and it is readily apparent that there is no answer which will produce a series of 'golden numbers' sufficient for all purposes. In any case, at a practical level, many of the issues which are raised are either closed or determined by what information can be made available.

Tables 4 and 5 set out for three selected years some relative price weighted shares in GDP of public expenditure and its major components. The unweighted shares taken from the earlier tables are reproduced again in order to facilitate comparisons.

In the weighted series produced here, current expenditure on public consumption has been deflated by the public consumption prices index. For expenditure on public sector gross fixed capital formation, the ordinary investment goods prices index is used as a proxy (6) measure. Both public expenditure overall and current transfers are weighted using the consumer prices index.

Considering the total of general government expenditure first of all, the figures in Table 4 show that the growth in share of GDP between 1960 and 1973 always looks greater in consumer price weighted terms than in the unweighted series. In the second sub-period, 1973-1981, however, this position is reversed with the weighted series growing less fast. In this particular instance, the United Kingdom is the single exception. Thus, seen from the point of view of the domestic taxpayer who gives up private consumption at the margin in order to finance an increment of

(6) There will be some differences between this and a true public sector index which would reflect differences in composition of assets between public and private sectors.

TABLE 4

TOTAL GENERAL GOVERNMENT EXPENDITURE

	Unweighted Share			Percentage Increase		Share CPI Weighted			Percentage Increase	
	1960	1973	1981			1960	1973	1981		
Belgium	30.53	39.36	58.96	28.92	49.79	29.11	39.36	55.86	35.21	41.92
Denmark	26.40	42.73	59.65	61.86	39.59	24.04	41.78	55.82	73.79	33.60
W.Germany	32.40	40.34	49.31	24.51	22.22	29.62	40.15	48.16	35.55	19.95
Greece	23.77	28.09	39.82	21.58	37.78	21.55	29.62	38.26	37.44	27.17
France	34.49	38.46	48.92	11.51	27.19	33.62	38.51	48.45	14.54	25.81
Ireland	26.71	38.99	58.05	45.97	48.90	25.02	41.51	56.76	65.90	36.74
Italy	30.13	37.77	50.81	25.36	34.52	28.56	38.63	51.27	35.26	32.72
Luxembourg	29.32	35.66	59.64	21.62	67.25	26.18	36.66	58.35	40.00	59.16
Netherlands	33.20	49.35	59.29	48.64	20.14	30.01	49.53	58.17	65.04	17.44
U.Kingdom	33.95	41.09	45.39	21.03	10.46	32.86	40.68	47.98	23.80	17.94
U.S.A.	27.72	31.33	33.86	13.02	8.08	26.50	31.33	33.69	18.23	7.53
Japan	18.09	22.31	35.29	23.32	58.18	19.85	23.02	31.91	15.97	38.62

PUBLIC CONSUMPTION

	Unweighted Share					Share PC Index Weighted				
Belgium	12.77	14.83	19.44	16.13	31.08	14.84	15.83	17.65	6.67	11.50
Denmark	12.66	21.85	27.96	72.59	27.96	18.87	23.50	27.53	24.54	17.15
W.Germany	13.46	18.15	20.72	34.84	14.16	18.36	18.86	19.94	2.72	5.73
Greece	11.19	11.45	17.76	2.32	55.11	14.14	12.36	16.19	-14.40	30.98
France	13.00	13.17	15.80	1.31	19.97	17.35	14.05	14.43	-23.49	2.70
Ireland	11.26	15.66	21.86	39.08	39.59	14.69	17.05	19.74	16.06	15.78
Italy	12.75	15.50	18.08	21.57	16.64	16.71	14.58	14.77	-14.61	1.30
Luxembourg	9.72	10.55	17.37	8.54	64.64	12.15	12.55	15.44	3.29	23.03
Netherlands	13.44	16.33	17.92	21.52	9.74	23.15	17.64	18.13	-31.24	2.72
U.Kingdom	16.52	18.39	22.21	11.32	20.77	21.96	20.20	21.92	-8.71	8.51
U.S.A.	17.36	17.68	20.32	1.84	14.93	21.00	17.66	17.80	-18.91	0.80
Japan	8.88	8.30	10.19	-6.98	12.28	16.68	9.24	9.52	-80.52	3.03

CPI - Consumer Price Index
PC - Public Consumption Price Index

TABLE 5

CURRENT TRANSFERS

	Unweighted Share			Percentage Increase		Share CPI Weighted			Percentage Increase	
	1960	1973	1981			1960	1973	1981		
Belgium	12.71	17.65	26.57	38.87	50.5	12.12	17.65	25.18	45.62	42.66
Denmark	7.93	15.30	22.53	92.94	47.25	7.22	14.96	21.08	107.20	40.91
W. Germany	13.55	15.87	21.29	17.12	34.15	12.39	15.79	20.80	27.44	31.73
Greece	6.26	8.67	14.73	38.49	69.89	5.67	8.88	14.15	56.61	59.35
France	16.45	20.77	27.81	26.26	33.89	16.04	20.80	27.55	29.68	32.45
Ireland	9.49	15.10	19.22	58.95	27.28	8.89	16.08	18.79	80.88	16.85
Italy	11.91	16.37	20.59	37.44	25.78	11.29	16.75	20.77	48.36	24.00
Luxembourg	13.68	18.06	30.55	32.02	69.16	12.22	18.56	29.90	51.88	61.11
Netherlands	11.91	24.45	31.36	105.29	28.26	10.77	24.54	30.81	127.86	25.55
U. Kingdom	9.18	12.13	15.74	32.13	29.76	8.88	12.01	16.64	35.24	38.55
U.S.A.	6.26	9.80	11.08	56.55	13.06	5.98	9.80	11.02	63.88	12.45
Japan	4.28	6.44	12.69	50.47	97.05	4.70	6.65	11.48	41.49	72.63

PUBLIC INVESTMENT

	Unweighted Share					Share Investment Price Weighted				
Belgium	1.93	3.32	3.70	72.02	11.44	2.15	3.39	3.72	57.67	9.73
Denmark	3.30	3.67	2.85	11.21	-28.77	3.13	3.90	2.82	24.60	-38.29
W. Germany	3.21	3.83	3.43	19.31	-11.66	3.17	3.70	3.25	16.72	-13.85
Greece	6.05	7.78	4.39	28.59	-77.22	6.89	7.92	3.84	14.95	-106.25
France	2.94	3.43	2.98	16.66	-15.10	2.83	3.55	3.01	25.44	-17.94
Ireland	2.82	4.00	7.36	41.84	84.00	2.84	4.48	7.06	57.75	57.58
Italy	3.63	2.85	3.73	-27.37	30.87	4.17	3.13	3.67	-33.23	17.25
Luxembourg	4.74	5.60	8.62	18.14	53.93	6.08	6.16	8.76	1.31	42.21
Netherlands	4.04	3.84	3.22	-5.21	-19.25	3.63	3.89	3.00	7.16	-29.66
U. Kingdom	3.31	5.08	1.87	53.47	-171.66	3.37	5.15	1.98	52.82	-160.10
U.S.A.	2.53	2.10	1.72	-20.47	-22.09	2.61	2.20	1.70	-18.36	-29.41
Japan	4.51	6.39	8.02	41.65	25.51	3.56	6.41	8.00	80.06	24.08

government spending, the rise in share over the last eight years in the Community appears just a little exaggerated if a nominal ratio is used. Seen from this standpoint, a crude interpretation would be that the opportunity cost of government spending has been falling over the recent past.

This observation follows naturally from the behaviour of movements in the GDP deflator in Community countries relative to movements in the index of consumer prices. What we find is that between 1960 and 1973, the consumer prices index rose less rapidly than did the national output deflator. Over the second period this process reversed in almost every instance. But, when it comes to placing a behavioural interpretation on this change, for reasons discussed already, the outcome is not unambiguous. Someone who prefers to analyse these changes in more of a national resources context for example would rely on nominal ratios and arrive at a different conclusion.

Turning to expenditures on public consumption, what Table 4 suggests is that in both of the sub-periods considered, the relative price weighted shares, using the price index of public consumption relative to the GDP deflator, show smaller rates of increase than do the nominal ratios. In some instances, the comparisons yield sharply contrasting results - Italy, Netherlands and the United Kingdom for example.

Looking at the levels, for most countries, the nominal ratios are smaller than the weighted ratios for 1960 and 1973 reflecting the fact that the GDP deflator rose faster than the public consumption prices index. Between 1973 and 1981, however, the roles changed.

At this point, it is worth drawing some comparisons with another interesting study in this general area, namely that by Heller (1981). Using a similar justification for the use of relative price indices Heller covers the period 1950-77, for a wider range of countries but including seven Community members. The definition of total general government expenditure used in his analysis is rather narrower than that employed here insofar as it does not cover government expenditures on gross fixed capital formation. The exclusion of this component

reduces the share of public expenditure overall in GDP by roughly five percentage points (7).

Up to the year 1977, Heller and Beck find that weighted shares are lower than the simple nominal ratios, where price indices relative to the class of public expenditure are used. When a consumer price index is applied as a proxy for worth to the taxpayer, Heller finds that the share in GDP is much higher than either the nominal or 'cost' weighted ratios in Beck's earlier study. In many instances, the differences are considerable, being of the order of 10 - 20 percentage points greater than the 'cost' weighted figures for Community countries.

The figures calculated here for the three selected years show far less dramatic differences. Table 6 provides what is the clearest example for the case of public consumption. Where nominal public consumption price weighted and consumer price weighted shares are given. It can be seen that the differences are greatest in the base year 1960, where the 'cost' based ratio is larger than the 'taxpayer' based measure by around 4 percentage points or so on average. By 1973, the discrepancy remains at around this order of magnitude, but for 1981, the gap is very small and the measured difference is reversed in eight out of the ten countries.

Using Heller's terminology, this suggests now that because the public consumption price index is rising faster than the CPI, the

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(7) The reader's attention is drawn also to the paper by Beck (1979) and on which a part of Heller's observations and calculations are based. For total government expenditure, Beck constructs a price index based on shares in the total. This is not done here.

TABLE 6

REAL SHARES OF PUBLIC CONSUMPTION IN GDP - CONSUMER PRICE WEIGHTED AND PUBLIC CONSUMPTION PRICE WEIGHTED COMPARED

	1960		1973		1981	
	Public Consumption Weighted	Consumer Price Weighted	Public Consumption Weighted	Consumer Price Weighted	Public Consumption Weighted	Consumer Price Weighted
Belgium	14.84	12.17	15.83	14.83	17.65	18.42
Denmark	18.87	11.53	23.50	21.35	27.53	26.15
Germany	18.36	12.30	18.86	18.07	19.94	20.23
Greece	14.14	10.14	12.36	11.73	16.19	17.06
France	17.35	12.67	14.05	13.17	14.43	15.65
Ireland	14.69	10.55	17.05	16.67	19.74	21.36
Italy	16.71	12.08	14.58	15.80	14.77	18.26
Luxembourg	12.15	8.68	12.55	10.84	15.44	17.00
Netherlands	23.15	12.15	17.64	16.33	18.13	17.60
U.K.	21.96	16.00	20.20	18.20	21.92	23.50

terms of trade between public and private consumption is declining (8).

In the case of public investment, the decline in the post 1973 period always appears greater when the investment share is weighted by the investment goods price index relative to the GDP deflator. In the earlier period the comparisons produce a less clear picture. Thus, in the later years, the 'cost' view of public investment would suggest that too few of national resources have been channelled into this outlet.

Growth in the share of current transfers within the Community between 1960 and 1973 is always greater in the consumer price weighted comparison. In the later period, with the exceptions of the United Kingdom and Italy, this feature is reversed. Given the way in which the national output and private consumption price deflators have behaved over the recent past, this last observation is of interest. The trend implies that when measured in national resource taxpayer terms, the opportunity cost of transfers has been rising; the CPI has risen relative to the GDP deflator. One cannot conclude from this that re-distribution has gone too far but the trend is at least consistent with the more recent expressions of concern about the rising share of this component in total public outlays.

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(8) Heller op cit p. 65. There are some discrepancies however between the figures here and those used in the Beck/Heller papers. The OECD price deflators for public and private consumption do not appear to behave in the same way as those used in Beck's work. The ratio of the public to private indices for 1960 and 1973 is less than unity for all EEC countries, except Italy in 1973. By 1981, this ratio exceeds unity for all excepting Denmark and Netherlands. For the year 1977, six EEC countries show ratios which exceed unity, three less than unity (Denmark, Luxembourg and the UK) with W. Germany having a public/private price ratio equal to unity. The conclusion reached by Heller therefore as at the year 1977 would, on this basis, be by no means as clear cut; in 4 out of 10 EEC countries, his comparison would be reversed.

Summarising this part of the discussion, we indicated initially that in producing comparisons which purport to account for changes in real share, there is no cut and dried basis convenient for all requirements. Ultimately, choice of price deflator will depend on the purpose in hand and the point of view which one wishes to emphasise. If, for example, one feels that the European taxpayers' interest is represented in some way by a purchasing power indicator relative to the index of resource price in general, then the figures given in Table 6 will have a degree of meaning. An initial conclusion from 1973 onwards would be that general government expenditure as a share of total resources has not grown quite as fast as that indicated by the more usual and simpler nominal comparison. Again, from the private taxpayer standpoint, the rise in share is slightly less than that in "cost" terms. The decline in the share of public sector capital formation looks greater on a relative price weighted basis and thus underlines even more the weakening in this so-called more productive component. Finally, the somewhat contentious growth of transfers as a share of GDP looks a little less in relative price weighted terms. These admittedly crude calculations are not intended to convey the impression that standard accounting conventions should not be followed. However, given that there are other criteria involved, it is possible and reasonable to modify an interpretation on the more usually specified trend depending on what the precise policy question happens to be.

IV. CONSTRAINTS AND ACCEPTABILITY

The introduction noted that arguments concerning the role of public expenditure tend to raise somewhat emotive issues. Simplifying the matter greatly, one can identify two important ways by which conflicting pressures can arise. On the one hand, individuals may dislike the idea of paying for increments of expenditure to certain programmes, the benefits from which may be perceived only dimly. At the same time, however, these same individuals may well favour and support new programmes or additions to existing programmes. At one and the same time we see objections to cuts in expenditures on roads, health, education and so on, but observe people feeling threatened by the effects which such expenditures may have on their disposable incomes.

These and other similar reactions are just manifestations of some of the constraints which operate on the growth of government spending. The ultimate constraining factor is the growth of GDP itself, since in the long run this sets a limit to a nation's taxable capacity. Hence it is not surprising to observe that the kind of behaviour mentioned becomes most obvious in periods when growth performance and expectations for future growth are weak.

Whilst there are important issues concerned with how to identify and improve the efficiency of resource use in the public sector, there are other problems also associated with the perception and measurement of public sector expenditure benefits. The fact that public sector outputs conventionally approximated by input measures has been referred to already. This makes both public presentation and appraisal difficult. The mixture of programmes, some of which are targeted at particular groups, whereas others have more of a public goods character, again blurs the issues of worth or acceptability by the general public.

One could, in principle, try to approach this set of problems at an analytical level and then see what information might be brought to bear on some key parameters in the system. A preliminary but nevertheless highly perceptive attempt in this direction is that of Mirrlees (1978). First of all, expenditures and taxes are classified in terms of whether they are related to income or not. Then within a framework of optimal taxation theory with subsidies treated as negative taxes and for given assumptions about the share of public goods in GDP and the elasticity of substitution between work and leisure, it becomes possible to derive an "optimal" tax rate overall. When compared with the actual tax rate this provides one answer to the question - is the public sector too large or too small? In a recent application to the UK public sector for a few selected years, Mirrlees concludes that in the final year 1976 the degree of actual re-distribution could broadly be of the 'right' order of magnitude (9).

Quite apart from formal modelling, in order to produce such empirical analyses especially on a cross-country basis, a great deal of information and judgment is required since public sector accounts are not collected, ordered or classified on income and non-income related basis. Certainly, the OECD and ESA presentations do not satisfy this requirement and it is necessary to look for yet cruder and simpler approaches (10). Thus, at this stage, and in keeping with the descriptive approach followed so far, a small number of indicators are used.

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(9) Mirrlees' actual remarks are ..."I would take the view from this calculation that the actual degree of redistribution is a little too large but a reasonable man could well believe that it is just right or perhaps too little ..."

(10) Although the author is engaged currently on some experiments along the above lines as part of an extension of the material reported here, it should not pass unnoticed that the optimal taxation approach has its critics. See for example M. Ricketts (1981).

(i) The Tax Burden

A first and what is probably the most obvious indicator of public expenditure acceptability or pressure on the economy is that provided by changes in the tax burden. Charts 2 and 3 in Section 2 show how the growth of tax receipts has not matched the growth of public expenditure overall. Taking a trend view and concentrating less on individual years this could be interpreted as either governments unwillingness or inability to reduce personal disposable incomes by the amounts which would be needed to cover additional spending. Government deficits have tended to rise in most Community member countries and the implied taxation consequences for additional public expenditure are used frequently now as one means of exercising control over departmental budgets. Within this political approach, however, there is an implied view that public and private spending are not neutral and that the individual faces what is in effect an adverse terms of trade between private and publicly provided benefits. Whilst taxation is the oft quoted and used stick, there may be little in the way of a publicly advertised carrot so that poor perception of benefits by the individual and emphasis instead upon costs can be regarded in more cynical fashion as a convenient weakness for control purposes.

Although the taxation indicator of public acceptability has undoubted attractions, one cannot divorce its degree of meaning from the way in which the tax revenue is raised. Just as public outlays can be appropriated inefficiently, so taxes can be raised inefficiently also, hence tax structure becomes of importance. In other words, if there has been taxpayer resistence and an unwillingness to use the tax instrument by government, such resistence may be due in part to the way in which the incidence of taxation is perceived.

In recent years several major proposals for wholesale tax reform have been motivated largely by the unhappy mixture of tax reliefs, offsets, high marginal rates of tax in important areas of activity and the lack of any unifying practical principle of a single tax base (11). There is a trade-off between optimal Ramsey-type taxes which may indeed demand high marginal rates and administrative simplicity, which would favour a broad tax base with correspondingly lower marginal rates. In many countries at present there is little in the way of consistent administrative logic as to choice of tax base.

What might constitute limits to taxation or taxable capacity and hence to the growth of public expenditure is a contentious issue since the steady growth in the tax burden suggests that any such limits can be applicable only at a given moment. Further, what may be of more importance is the speed with which any such perceived limits in the shorter period is approached.

The simplest kind of economic analysis would suggest that high marginal rates and highly progressive tax systems will tend to create the biggest disincentives. Since many tax structures with these characteristics are associated with direct taxes on incomes of persons and companies, this suggests in turn that countries which rely most heavily on these will have the greatest difficulty in suppporting new government expenditures via revenue financing. The available data, however, on average, seems to indicate exactly the opposite. Countries such as Denmark, Netherlands, Belgium, Luxembourg and outside the Community, Sweden, which have above OECD average tax burdens, also rely heavily on relatively progressive direct taxes. These countries also support higher than EEC average public expenditure shares. Thus one could advance an opposing hypothesis, namely that high tax burdens are possible in progressive structures because they lead to greater equity. Electorates will, on average, tend to pay more if they

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(11) See J.E. Meade (1978) and U.S.A. Treasury (1977).

perceive greater equality in burden sharing - we return to this aspect later in a slightly different context.

Table 7 gives the ratio of total taxation to GDP expressed as a three-year moving average around some sample years. The pattern of development is uneven; Denmark, W. Germany, Nëtherlands and the United Kingdom show relatively little change when compared with, say, Belgium and France. It is difficult therefore to draw conclusions as simple as those suggested from the above.

One feature worth noting, however, is that much of the recent work in the area of optimal income taxation would tend to support the first argument. The fact that the evidence, at least at this level of aggregation, is suggestive of the contrary and implies that insufficient weight is being placed on equity considerations in the formal modelling (12).

Despite this apparently inconclusive position on the influence of tax burdens, the emergence of tax evasion and the growth of the informal or "black" economy as topical subjects for analysis should not pass unnoticed.

Many would wish to associate the existence of the "black" economy with the general rise in tax burdens. It is worth remembering however that in all European countries, real income growth has in the recent past been relatively depressed also as have income growth aspirations. Whilst the role of incomes is looked at in more detail in the following section, for the moment we can simply note that this matter of the black economy, whether it has growth significantly and wether it is a straightforward reaction to tax burdens alone, is itself not a clear cut issue (13).

(ii) Real Incomes and Consumption

Closely linked to changes in the tax burden are the effects of public spending on real incomes and personal consumption. Real post-tax incomes for example provides one popular focus of attention, and Table 8

(12) See M. Feldstein (1976)

(13) A useful survey of the literatue relating toe EEC is Smith (1981).

TABLE 7

RATIO OF TOTAL TAXATION TO GDP - THREE YEAR MOVING AVERAGE

	1966	1973	1979
Belgium	32.85	37.96	45.19
Denmark	31.82	43.16	44.58
Germany	32.0	35.75	37.52
Greece	23.03	23.92	27.38
France	34.96	35.76	41.06
Ireland	27.61	31.30	34.22
Italy	27.42	27.71	31.31
Luxembourg	30.57	35.47	46.63
Netherlands	36.84	43.53	45.28
U.K.	31.96	33.70	34.48
U.S.A.	27.15	29.85	30.74
Japan	17.52	22.07	25.04

TABLE 8

GROWTH OF REAL PERSONAL DISPOSABLE INCOMES (%)

	1981/1970	1981/1973
Belgium	3.60	2.62
Germany	3.36	2.95
France	3.81	2.88
Italy	3.13	2.36
Netherlands	3.42	3.17
U.K.	2.12	1.05

shows for six EEC countries how real personal disposable incomes have evolved through the past decade.

Comparing the two sub-periods, we see that from 1973 onwards, growth began to fall away and only the Netherlands maintained anything like a performance consistent with that of the whole decade. It is interesting also to contrast the growth of real disposable incomes in the Netherlands with that in the United Kingdom, both of which have experienced the benefits of substantial oil reserves.

Moving away from incomes and turning to consumption, again, there are alternatives from which to choose. Personal consumption which measures spending by persons from wages and salaries, self-employment income, profits, transfers and subsidies, when expressed in real terms is a widely used indicator.

One can, however, abstract from the current transfer and subsidy element in this definition to derive a somewhat different concept. This would correspond to that pool of resources which remains for consumption which is privately financed (14).

Any definition of this latter version of consumption is to some extent arbitrary since it will depend on exactly what expenditures are regarded as being publicly or privately financed.

Table 9 sets out the growth of real personal consumption for the two sub-periods. It also compares this with what is a rough calculation of privately financed consumption; that is personal consumption after current transfers have been deducted and expressed in real terms. In order to make the figures a little more realistic a somewhat arbitrary demand weight of 95 per cent has been attached to the transfer component. In other words, the remaining 5 per cent is a crude acknowledgement of any tax flowbacks and savings by recipients, e.g, out of debt interest.

(14) Use of the concept of "privately financed consumption" was made in a series of United Kingdom Public Expenditure White Papers, e.g, "Public Expenditure to 1976-77 Cmnd 5178, London, December 1972.

TABLE 9

GROWTH OF REAL PERSONAL CONSUMPTION (RPC)
AND OF"PRIVATELY FINANCED CONSUMPTION" (PFC) %

	1973/1960 RPC	1973/1960 PFC	1981/1973 RPC	1981/1973 PFC
Belgium	4.28	3.20	2.36	0.3
Denmark	4.16	3.21	1.12	0
Germany	4.92	3.45	2.32	1.75
Greece	7.04	6.60	3.30	2.22
France	5.61	4.77	3.47	1.89
Ireland	3.69	2.66	1.81	0.66
Italy	5.79	5.1	2.49	1.5
Luxembourg	4.48	3.30	3.05	0.67
Netherlands	5.43	2.87	2.81	0.64
U.K.	2.92	2.44	1.00	0.1

The figures in Table 9 show how severe the squeeze on resources to persons has been over the past few years. Expressed somewhat differently, once the available claims on total real resources have been met (private investment and the external account), the growth of general government spending has been such as to leave little room for spending by persons out of privately generated income flows.

Real personal consumption growth in almost every case has been heavily dependent on the growth of current transfers. When these are removed, we see that Belgium, Denmark, Ireland, Luxembourg, Netherlands and the United Kingdom have through 1973/81 experienced virtually zero growth. Prior to 1973, every member country generated at least 2.5 per cent annual average growth from 1960.

Thus from the standpoint of the spending authority, namely government itself, the use of privately financed consumption rests in its potential as an indicator of what the constraints on future spending growth might be. But to interpret the effect of public spending programmes in this light is admittedly only one form of presentation, and it is to be noted that the privately financed consumption concept is simply the mirror image of the general tax burden. Moreover, it has exactly the same weakness for these purposes insofar as it embodies the notion by implication, that public spending does not influence personal welfare. In addition, no account is taken of the benefits to those persons whose income is derived solely from transfers, e.g, pensioners.

V. Simple Anatomy

The previous sections have set out a few factual observations about the growth of the public sector from the standpoint of government and possible perception by the individual. This part of the essay tries to pull these various scraps of information together in more of an interpretative fashion.

There would appear to be no shortage of theories competing to explain why the public sector and government itself has grown in the ways observed. The Wagner and Peacock/Wiseman general approaches have been referred to briefly already with the ratchet or displacement explanations implying continuous if often uneven growth in concentration. From this stage in the reasoning, it is useful to identify two points of departure, both of which throw some light on what has been happening. The story however is far from complete and many gaps remain to be filled.

(i) Voting and Income Dispersion

Much of the analysis in this set of explanations of why the share of public expenditure has grown evolves from the role of equity considerations. More specifically, the concern is to try and model government behaviour on the basis of rules which might be expected to emerge from organised behaviour. Perhaps the most popular approach rests on the result that in a democratic majority voting situation, the role of the median voter is decisive or dominant (15). This immediately directs attention to the changing characteristics of income distributions, a topic about which little is known, at least on a systematic basis.

Several different hypotheses can be developed, two of which seem to contain a good deal of interest.

Meltzer and Richard (1981) suggest that what matters for the size of government is who finally chooses the tax rate (and hence the share of public spending). In an individual utility maximising framework, the preferred tax rate affects the work/leisure choice of all others. Increases in gross income raise tax revenue as the tax raise rises but net income falls proportionately. Leisure becomes more attractive at the margin and in the lower reaches of the distribution, transfers become more acceptable as a means of subsistence also. Using the median voter result, Meltzer and Richard conclude that the size of government in a

(15 A different but related strand places more emphasis on interest groups who are able to take advantage of lack of information or ignorance on the part of the wider electorate. This aspect is not pursued here.

'rational' world, is determined by the ratio of mean to median income. Thus, as mean post tax income rises relatively to the median so the desire for redistribution increases.

Peltzman in his paper cited above distinguishes between the effects of within - group and between - group transfers. In very simple terms, as inequality within groups of beneficiaries diminishes, so the demand for government spending increases. The argument is that "more similar interests in redistribution broaden the support for it" (16). On the other hand, a reduction of inequality between recipients of government transfers and the group of taxpayers who finance it will tend to act in the opposite direction. Given these two components of a spending programme it is not possible to say how income inequality as such will affect the scale of government spending. Peltzman carries out of necessity a highly fragmented but nevertheless extremely careful series of inter-country comparisons which relates shares of public spending to a variety of approximations to changes in inequality over long periods. His conclusion, albeit a tentative one, is that the observed growth of the mass of so-called middle class has contributed to the growth of government. At the same time, when inequality has increased, government has increased in scale also (17).

Over a period as short as twenty years, it is hardly possible to test formally or come to firm conclusions on any of the above. We do not know in any general sense, who the median voter is, or what his post-tax income happens to be. Further, in the short run, one might prefer to argue that it is the growth of transfers which reduces income inequality. The joint process of the electoral cycle and the public expenditure planning process are such that long series are needed if preferences are to be revealed. Charts 4 and 5 are based on calculations of the median/mean income ratio for Belgium and the United Kingdom and taken from Biette

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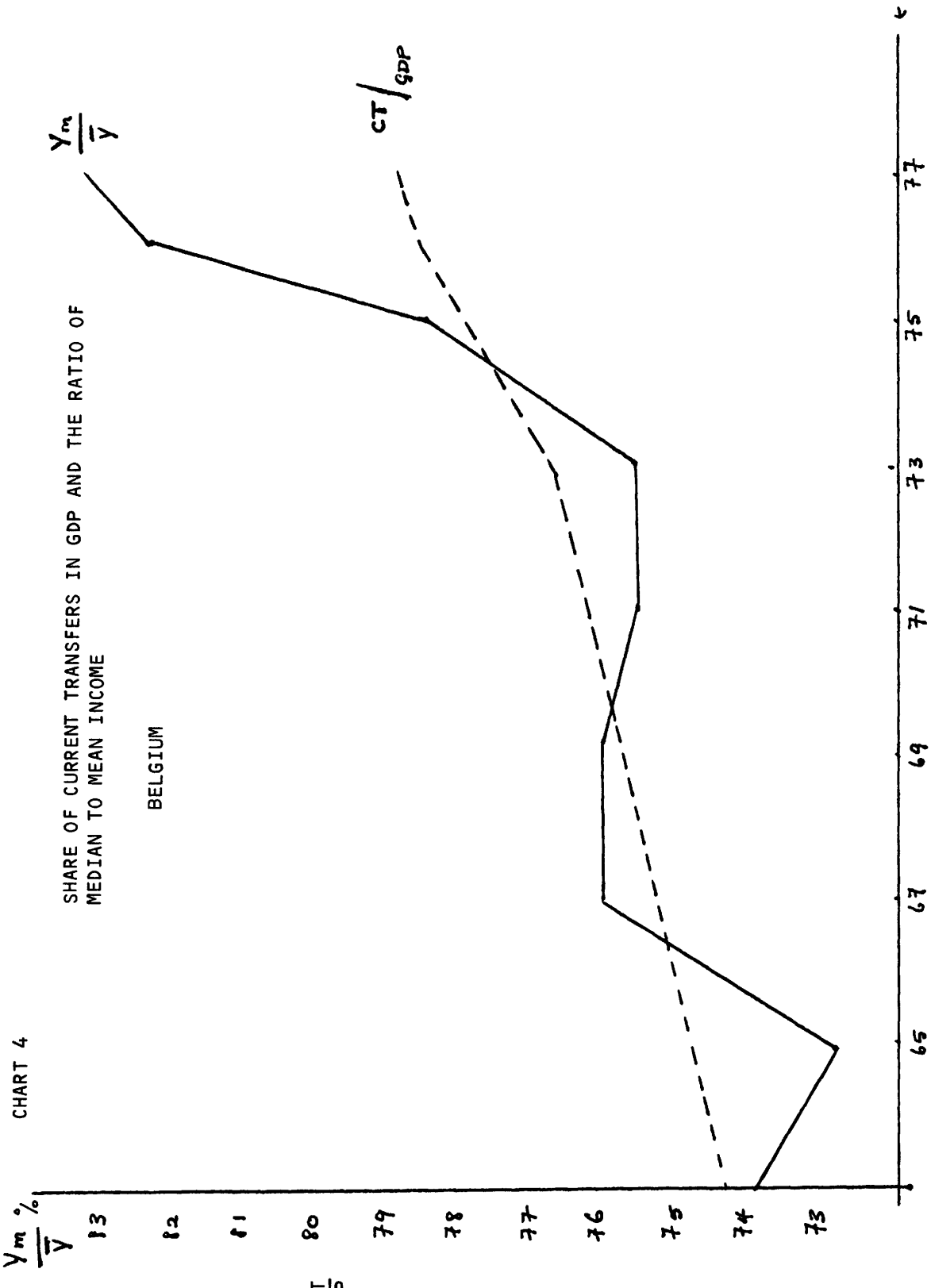
(16) Peltzman op cit p.232.

(17) The reader is referred to the series of exercises contained in the article cited for further details, coverage, methodology, etc.

CHART 4

SHARE OF CURRENT TRANSFERS IN GDP AND THE RATIO OF MEDIAN TO MEAN INCOME

BELGIUM

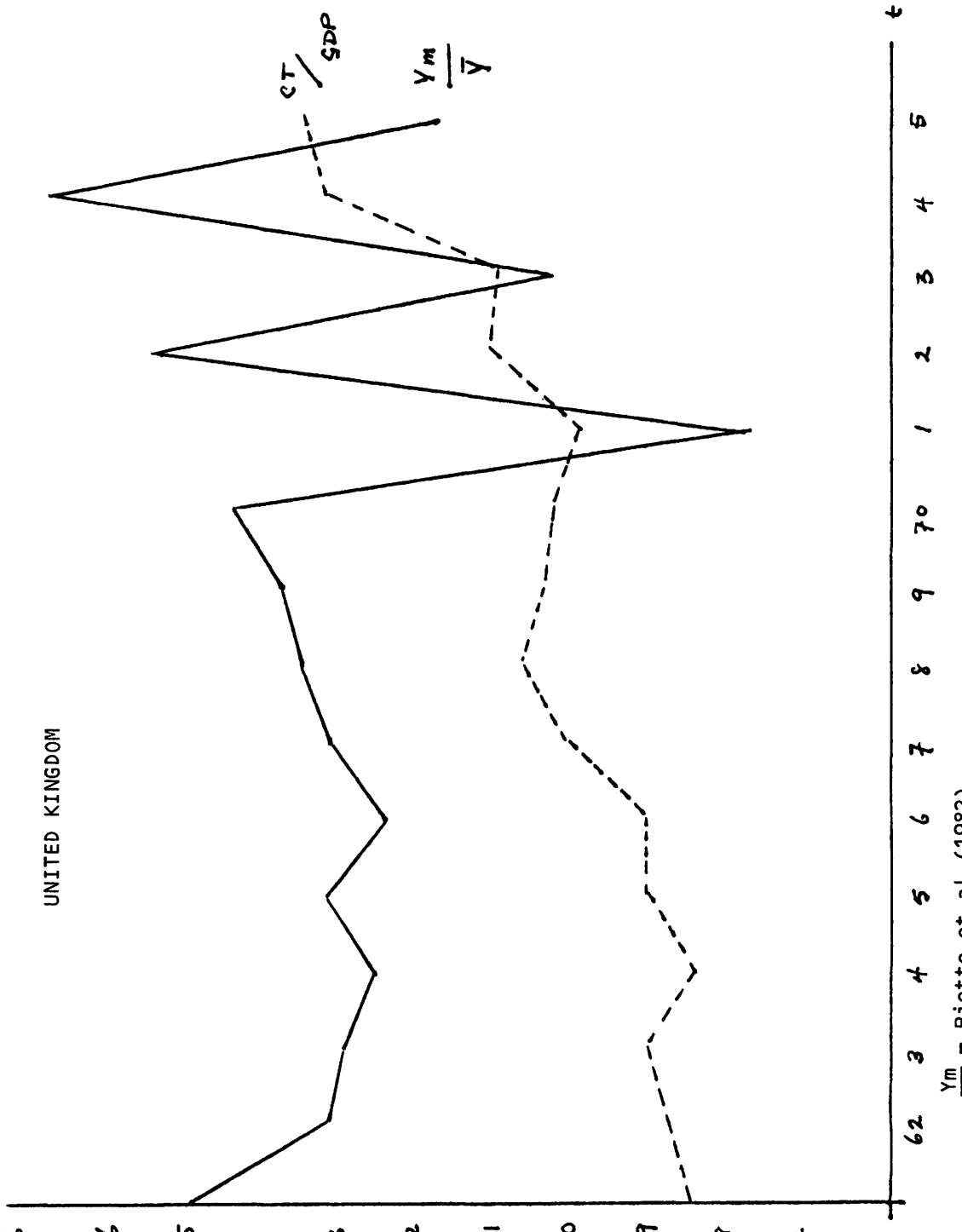


SOURCE: BIETTE et al (1982)
OECD

CHART 5

SHARE OF CURRENT TRANSFERS IN GDP AND THE RATIO OF MEDIAN TO MEAN INCOME

UNITED KINGDOM



SOURCE: $\frac{Ym}{Y}$ - Biette et al (1982)

CT - OECD

et al (1982). The movements of this ratio and the share of current transfers in GDP (18) do not in any sense constitute a test of the kinds of hypotheses suggested. Yet, for the United Kingdom, in particular, there is some suggestion of an association between the two variables, albeit a tentative one.

In the same vein, another piece of information runs along the following lines. Some work by van Praag et al (1980) which is based on EEC surveys of income and living conditions generates a set of estimates of the so-called poverty line in several Community countries. In addition, the authors provide calculations of the ratio of minimum (poverty line) income to mean income for a four person household (two adults plus two children) for the year 1976. Chart 6 is a scatter diagram which plots these particular estimates of dispersion against the current transfer/GDP ratio for all Community countries with the exception of Greece. Once again, the interpretation is not entirely unambiguous. The apparent negative association could be thought of in two ways.

Looked at in terms of what might be called the supply of spending, those countries with the lowest dispersion could require a lower current transfer GDP ratio. From a demand viewpoint, however, the greater the dispersion between poor and average, the greater the demand for transfer expenditure. Thus, whilst not cast in a median voter or median/average income mould, the latter interpretation would be closer to a Meltzer/ Richard and Peltzman explanation. The two 'outliers' Italy and Ireland, for example, which are normally regarded as being relatively poor in Community terms, appear to be remarkable similar in the sense as described. Denmark, W. Germany and the United Kingdom which are perhaps a fairly homogeneous sub-group have greater income dispersion than Italy and Ireland, but roughly similar current transfer/GDP ratios.

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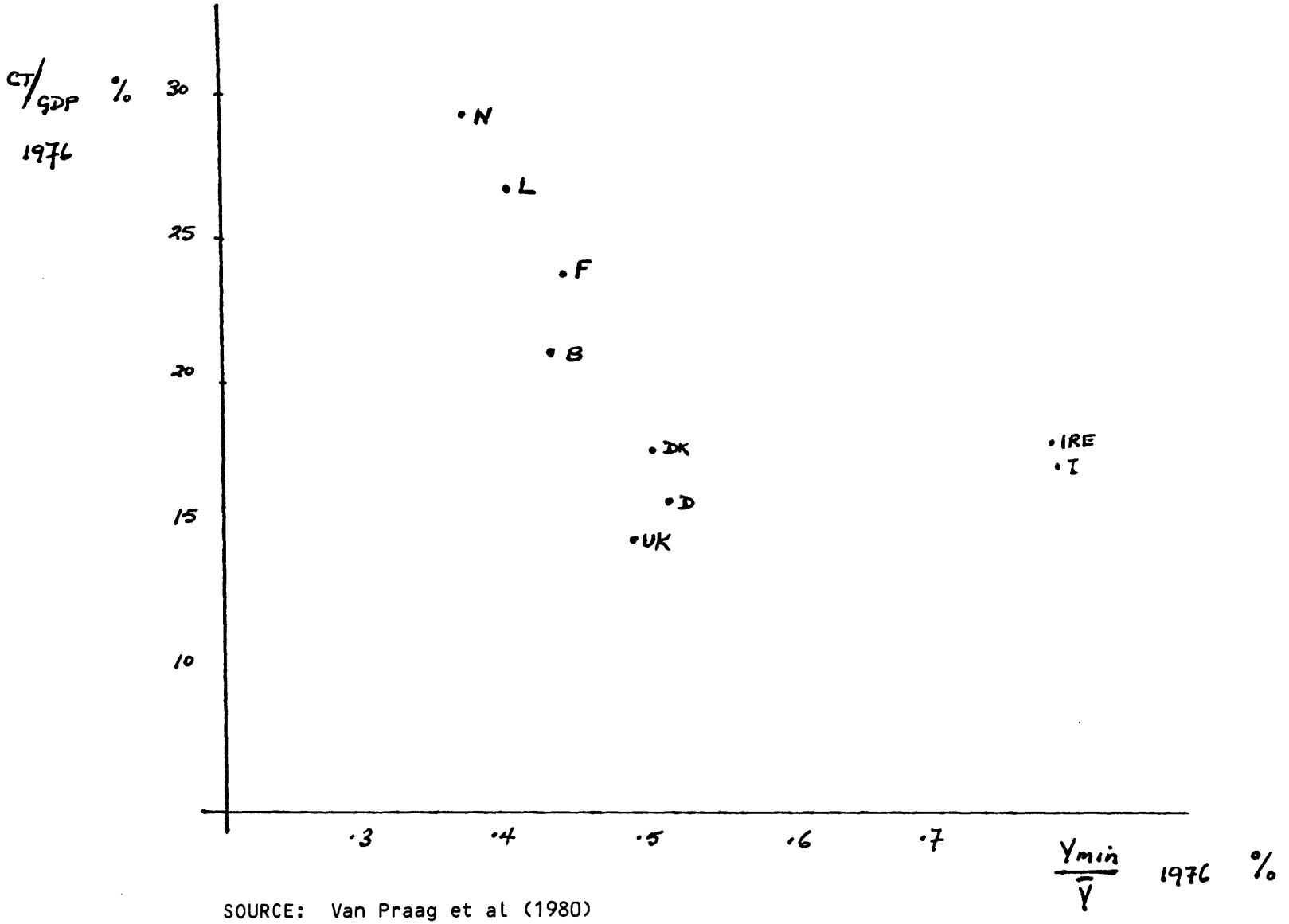
(18) The Meltzer-Richard and Peltzman formal models assume that taxation is to finance transfer spending only.

CHART 6

INCOME DISPERSION AND THE CURRENT TRANSFER/GDP RATIO



SOURCE: Van Praag et al (1980) and OECD

We have then an admittedly inconclusive position where this broad approach matters, but there remains a few features which are not inconsistent with the more interesting hypotheses suggested within the voting power framework.

(ii) Public Goods Interpretations

Turning now to a second approach, increasing concentration in government is seen as being an outcome of politicians, decision makers and bureaucrats discretionary behaviour. In the conventional form which most discretionary models take, spending and the size of budgets income arguments in administrators utility functions. Competition between spending departments of governments leads to ever-expanding state expenditures. The empirical support for this hypothesis is at best rather weak (19) and the approach does not take account of the fact that much of the increased concentration in government historically seems to have occurred as a result of discreet Peacock/Wiseman effects.

More persuasive and related to the basic character of publicly provided goods is the explanation suggested by Baumol in his influential paper (Baumol 1967). Assuming away measurement problems for the moment, the argument rests essentially on differences in the inherent production technology of private and public goods. The former can benefit from sustained increases in productivity per man hour which accommodate more rapid increases in real earnings. Public goods production, however, does not have these advantages to anything like the same extent. Using one of Baumol's examples, although significant innovations do occur in the teaching classroom, it is hard to envisage primary school classes rising significantly above, say, 50, without causing disquiet.

One may wish to argue against this by noting again as pointed out in Section I, that in practice we conventionally assume that

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(19) Peltzman (1980) contains a useful discussion on this point.

productivity growth in the greater part of the public sector is equal to zero. Quite apart from public enterprises where this clearly is not a legitimate assumption, there are other important areas where this weakness is exposed. Private sector service industries such as banking and insurance for example have enjoyed marked productivity gains in recent years and there is no continuing reason as to why similar activities in the public sector should not have experienced some gains also. Nevertheless, the Baumol thesis has some validity so long as one Sector remains technologically superior and to this extent the issue becomes an empirical one. In the face of difficult, if not wholly impossible, obstacles to the measurement of public sector outputs in many important spending areas, this issue is likely to remain unresolved; at least over the foreseeable future.

Thus, although there is much oversimplification in this as Baumol and others recognise full well, a tendency for real earnings in the technologically less progressive sectors to chase and keep up with those in the private sector will have implications for growth at the macro-economic level. Balanced growth can be achieved only if labour is transferred continuously to the less progressive (public) sector. In this situation where the outputs of the two sectors maintain a constant ratio, this will retard national growth (20). Thus costs per unit of output in the public sector have an almost natural tendency to rise relative to other costs. If the process continues, costs overall tend to rise also.

The various factors influencing growth of the public sector within the broad class of approaches noted at this stage can be described by a segment of the simple general relationship of the kind illustrated in Atkinson and Stiglitz (1980 page 326). We could, for example, write:

$$G = F\ (Y;\ D;\ N;\ RP) \qquad (1)$$

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(20) Baumol op cit pp. 418/419. The argument is discussed at length also in Baumol and Oates 1975 Chapter 16.

where G = real per capita government spending
D = a distribution of income variable
N = population
RP = relative price of public goods

The factor D having been discussed already, we can focus attention on the sub-set denoted by the arguments Y, N and RP. The first two are components in a possible explanation of a "Wagner-type" relationship, the second in a Baumol-type variant. Giving this more explicit expression, we could say

$$G = AY^{\alpha} N^{\beta} RP^{\gamma} \qquad (2)$$

with A as a constant, and in terms of an expenditure share

$$\log G - \log Y = \log A + (\alpha - 1) \log Y + \beta \log N + \gamma \log RP \qquad (3)$$

Thinking of a Community cross-sectional exercise, at the national level one has ten observations only which rules out a fully fledged statistical exercise. Adopting therefore what is very much an ad hoc stance and looking at the components individually, we can note the following.

Chart I in the Overview section 2 suggested, as we have seen, that over the past twenty years the growth of public expenditure with respect to GDP produces an elasticity of around 1.25. Next, a simple scatter diagram relating population growth to growth in the share of government spending in GDP for EEC countries 1960-81 produces no discernable trend. At this level of argumentation we can therefore assume $\beta = 0$.

The coefficient γ is more of a problem but something along the following lines seems to emerge. Table 10 sets out the growth in the ratio of the public consumption price deflator relative to the national output deflator for the whole and one sub-period (21).

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(21) The public consumption prices index here is used as a rough proxy for a general government expenditure price indicator.

Table 10

Growth of RPE %

	1960-81	1973-81
Belgium	1.3	2.1
Denmark	1.9	1.5
West Germany	1.8	1.0
Greece	1.7	2.5
France	1.9	2.2
Ireland	2.0	2.7
Italy	2.4	2.1
Luxembourg	2.5	3.8
Netherlands	2.7	0.9
United Kingdom	1.6	1.4

Relating these figures to the growth of log G - log Y in a simple two variable log linear regression over the whole period yields an elasticity of 0.4 but which is statistically insignificant. For the sub-period 1973-81, the estimated elasticity is 0.64 but this time is significant. The scatter diagram for the second of these is produced as Chart 7 (22).

With observations such as these, little can be said in any concrete sense. If, however, we indulge in a little 'speculative activity' and take as "guesstimates"",

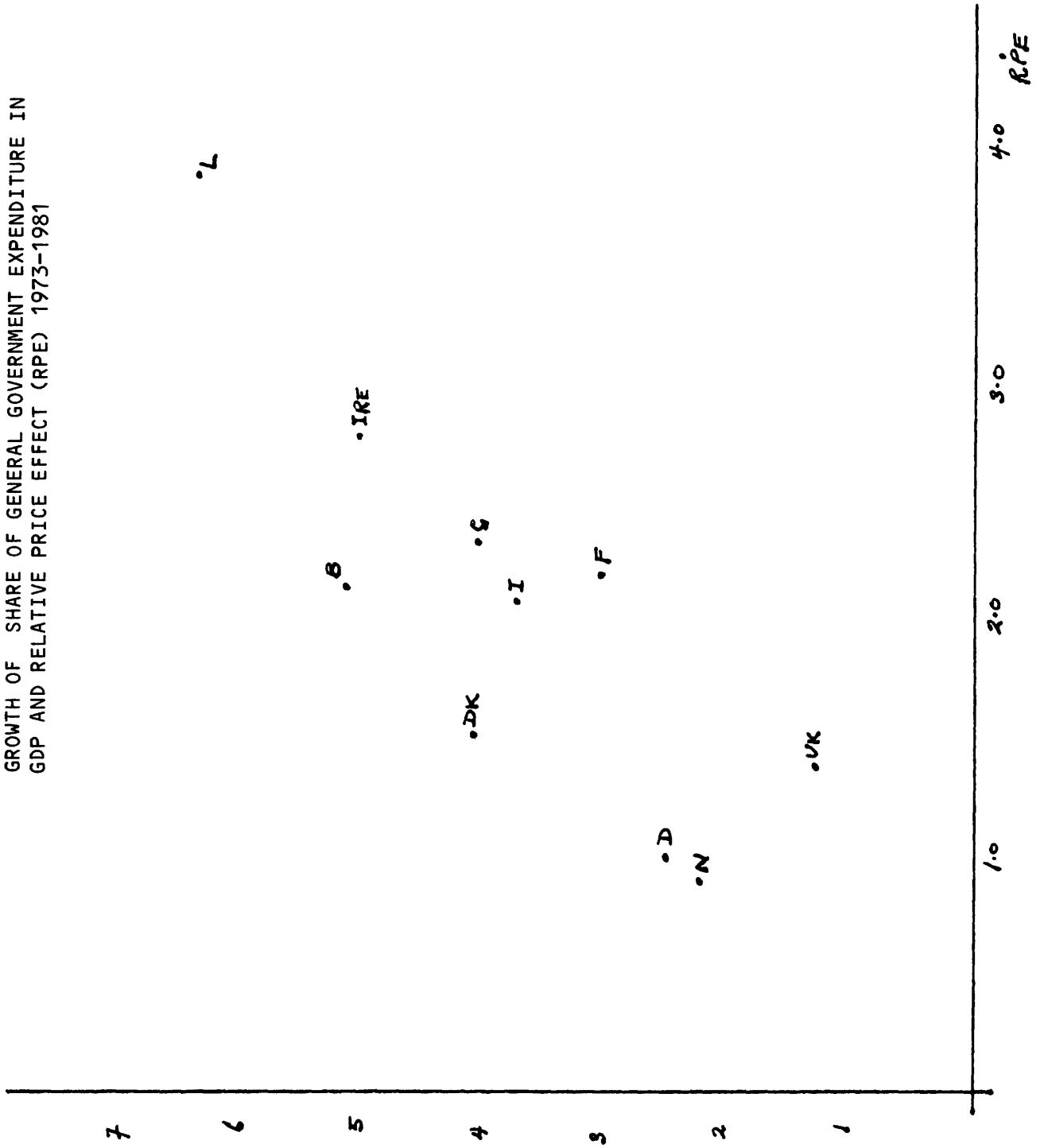
$$\alpha = 1.2$$
$$\gamma = 0.5$$

these imply for equation (3) that the share of general government expenditure in GDP has a more recent tendency to increase with a

(22) Using the share of public consumption in GDP as the dependent variable yields a statistically significant higher estimated elasticity of 0.78.

CHART 7

GROWTH OF SHARE OF GENERAL GOVERNMENT EXPENDITURE IN GDP AND RELATIVE PRICE EFFECT (RPE) 1973–1981



response rate of around 0.7 via a combination of Wagner income and Baumol relative price effects. If the GDP or income elasticity is unity we are still left with a positive response of 0.5 (23).

A related and, in some respects, more controversial issue is whether the 'Baumol-type' effects may have inhibited national economic growth. Chart 8 for the ten Community countries shows that in the two periods considered, there is a great deal of variability. Italy, France, West Germany and Belgium have experienced roughly similar rates of growth of per capita GDP. They have, however, experienced somewhat different relative price effects. Over the whole sample period on the other hand, Greece and Belgium with relatively higher per capita output growth have relatively lower public/private price differentials. In the cases of the Netherlands and Luxembourg, the reverse applies. The United Kingdom occupies what appears to be a somewhat contradictory position in both instances.

Over the total period 1960-81, Chart 8 suggests a broadly negative relationship between the growth of GDP per head, and growth in the relative price effect. Through the shorter sub-period 1973-81, this association is apparently reversed. It is possible that because a faster growth of national output is likely to result in faster productivity growth in the private sector, this will increase the relative price effect. It may be that this explanation could account for the scatter of points 1960-81, whereas the 'Baumol-type' effect would find greater support in the sub-period 1973-81 when output growth became more depressed.

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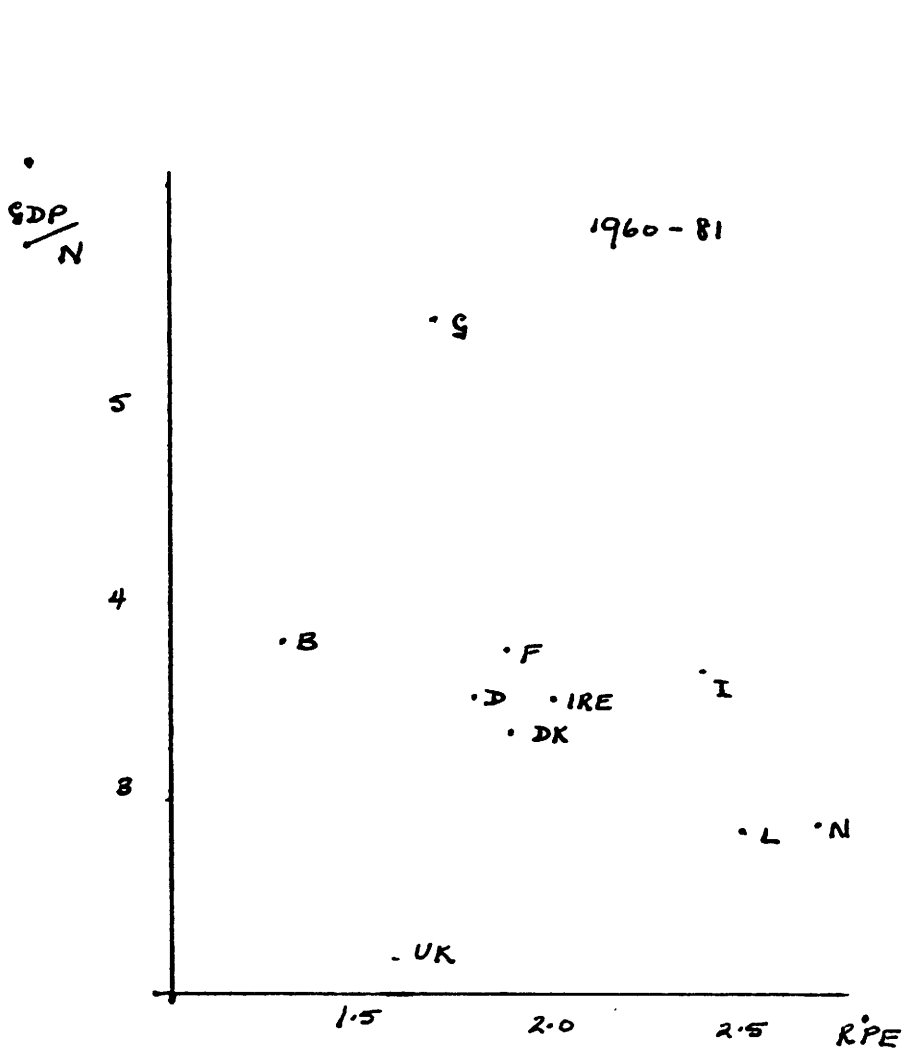
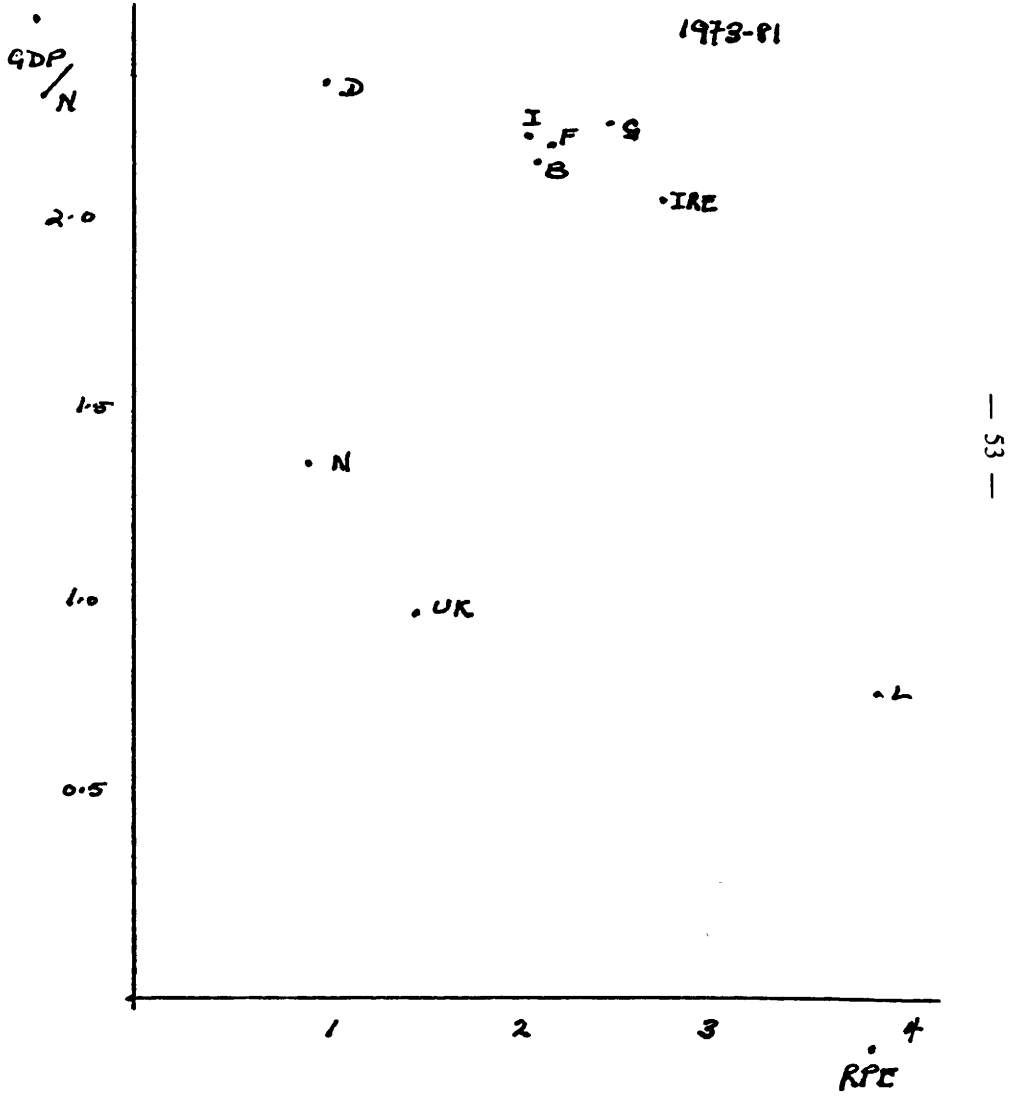
(23) Note this is not the result opinioned in Peltzman op cit whose view that log G - Log Y is a constant rests on a "Wagner" coefficient of significantly less than unity. Experience and evidence cited over the post-war years in European nations does, on the face of it, run counter to this view. Indeed, even if the Relative Price Effect is zero here, there remains a positive GDP response.

CHART 8

GROWTH OF REAL GDP PER CAPITA AND THE RELATIVE PRICE EFFECT (RPE)





Quite apart from the two sets of possible motives discussed above, there is no shortage of room for other reasons as to why the public sector has developed in size. The Peacock/Wiseman approach has been mentioned already and a variant on the could be developed along the following lines.

It is possible that both individuals and governments perception of underlying economic performance overall takes quite some time to adjust. The pressures which have built up and which manifest themselves now in a desire to reduce government spending are in part a product of aggregate economic performance through the past decade. One wonders whether such pressures would have emerged if the growth experience of the 1950s and 1960s had been broadly maintained. With the benefit of hindsight one can see now that it took a long time to realise that the 1973 oil price shock for example precipitated rather more than just a usual and up till then conventional adverse phase of the cycle. Thus, on the one hand, individuals discover or feel eventually that the benefits which they expect fail in some sense to match the costs as they perceive them. On the other, it takes government some time to appreciate that policy changes of a more structural nature may be necessary. Rather than there being a sudden displacement or Peacock/Wiseman "ratchet", what we may be seeing now is the result of perceptions on both sides changing where the lags in realisation have been long. In short, through the past decade the potential desire for change may have been increasing and this could be at the point of realisation at the present juncture. This does not rule out either the role of inequality or the public goods explanations as contributing factors. Either or both would be broadly consistent with such an explanation over the period considered here.

Summarising this part, what we have done is to make some suggestions as to what might have happened to the public expenditure share in GDP in behaviourial terms. Two broad classes of approach are identified and a few small and highly incomplete pieces of information in a fashion serve to illustrate the arguments. One must recognise that at best, the procedures adopted here are little more than attempts at some rather

rudimentary detective work, but they do highlight a few issues of some interest and possible importance. The role of inequality should not be dismissed entirely, neither should the strength of the relative price effect and the apparent tendency of government to increase in size with GDP growth.

VI. Appraisal and Concluding Comments

In the European Community, the composition of general government spending has changed a good deal over the past two decades. Of at least equal significance is the more or less continuous rise in the size of government at least as suggested by the share of public spending in GDP. Some attempts at statistical refinement to allow for alternative interpretations of inflation alter the compositional changes in some respects. In particular, the observed decline in capital spending could be a little understated, whereas the rise in current transfers could be somewhat overstated. However, there is no hard and fast rule and the stance adopted depends on what questions are being asked. A comparison made from the standpoint of the user of resources, namely government, might well look different from a comparison made from the standpoint of the supplier - the taxpayer.

An interesting and obviously important question is why the role of public spending has increased so steadily, such that a share in GDP of around 50 per cent is now typical for the Community. If preferences are truly revealed by what has actually happened, one might wish to argue that this is what public in general has desired and two indicators of what is called here, acceptability, are the rise in the tax burden in aggregate and the comparatively slow growth of real private consumption net of transfers (24). Both of these effects became more pronounced after 1973 as the tables and supporting material indicate. Yet, the tax burden has not kept pace with total spending, hence the rise in government debt in all but one member country.

(24) Certainly, the tax burden in all countries exceeds greatly the famous 25 per cent 'limit' expressed by Colin Clark.

In rather more behaviourial terms, two broad classes of explanation have been discussed. One sees the increase in government influence as being the rational response of a voting electorate where inequality is a motivating force, making for higher taxes and transfer spending. The other is set more in a public goods framework and stresses the potential importance of income and relative price effects. The various strands of information outlined here cannot provide wholly convincing support for either of these. But, they do not reject them either. It is not unreasonable to think that the rise in transfer spending has been related to a desire for more equality through the late 1960s and 1970s. Further, the strength of the observed relative price effects is on commonsense grounds likely to be related to the rise in share of total public spending. Whether this leads via a "Baumol-type" effect to a lower growth of real GDP is more problematic and it is doubtful whether the existing national accounting conventions will enable one to throw further light on the matter. The unhappy and, in some cases, unhelpful distinction between current and capital spending and the implications for the unproductive versus productive spending division have been noted.

One is entitled to ask: where does all this lead? It is easy to criticise individually each piece of the essentially illustrative material presented here, since the whole topic is bedevilled by the old problem of causality - the identification problem. Does public spending as such inhibit growth or is it those countries which grow who can support the more buoyant spending programmes? Perhaps one can venture an opinion on this by setting out a series of summary observations about the public sector in the EEC over the past decade. Countries vary in experience but what might be called a Kaldorian stylised parable would run as follows:-

(i) The share of public spending in GDP has risen steadily in all countries;

(ii) The share of taxes has risen less so

(iii) The share of public investment in both total spending and GDP has declined;

(iv) The shares of the non-financing part, current transfers have risen;

(v) The stock of debt outstanding as a share of GDP has increased over the past decade in all but one member country;

(vi) The share of debt interest payments in total spending is rising;

(vii) The structure of debt outstanding seems to be weighted more towards the shorter maturing claims;

(viii) The relative price effect has increased more or less steadily over the past twenty years;

(ix) National productivity growth has declined.

If any one country was characterised in part by just a sub-set of say four of the above, the matter would warrant some attention. There are quite reasonable grounds for believing that the European Community considered as an entity is characterised to a greater or lesser extent by all of them! When one adds the fact that in all countries profitability in the private sector has been and is low also, the underlying implications become clearer.

The productive base of the European Community has and is being weakened and it would appear that the evolving shape of the public sector has been one of the contributing factors. One cannot argue that it has been the major factor but some of the symptoms of poor economic performance can be seen through the public sector itself as the points above illustrate.

Undoubtedly there is a need which is becoming increasingly recognised to reverse some of these structural or compositional trends and the imbalance between public investment and transfers is a prominent example (25). In periods of poor growth or stagnation when economic aspirations are depressed, one can argue properly that all groups should bear a part of the burden. This view lies in part behind some of the calls for reduction in transfer spending. However, the scope for both transfers and for taxation is very much a function of growth in the resource base and this is a function of factor inputs. Thus it makes little sense in economic terms to forego for long periods the opportunity of expanding

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(25) See also "European Economy" No. 18 November 1983 for a restatement of this view.

the pool of national resources. This is in effect what cuts in capital programmes are doing in the current circumstances. Unlike one or two of the less developed nations one believes that insolvency in the industrialised community is a hypothetical state of affairs being a terminal point of no real significance. Of much more importance as a practical matter is the apparent fact that the path which a major part of the public sector is on is not a desirable one and if a new trajectory is preferred then some conscious policy adjustment is required sooner or later. The easiest thing to forego is jam tomorrow.

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