

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: The Growth of Public Expenditure in the United Kingdom

Volume Author/Editor: Alan T. Peacock, and Jack Wiseman

Volume Publisher: UMI

Volume ISBN: 0-87014-071-X

Volume URL: <http://www.nber.org/books/peac61-1>

Publication Date: 1961

Chapter Title: Scope and Method

Chapter Author: Alan T. Peacock, Jack Wiseman

Chapter URL: <http://www.nber.org/chapters/c2303>

Chapter pages in book: (p. 1 - 11)

THE GROWTH OF PUBLIC EXPENDITURE  
IN THE UNITED KINGDOM



## CHAPTER 1

### Scope and Method

THIS book has three related but distinguishable aims. First, it is intended to fill a gap in the available statistical information about the British economy; the statistics of British government expenditure for the period since 1890 have not previously been made available in a single convenient source and in a form suitable for interpretation by economists. Second, it is an attempt to relate these statistics in a general way to the economic history of the period; we believe that our method of approach contributes to the understanding of the economic development of Britain during the first half of the century. Third, we have tried, by relating the time pattern of government expenditure statistics and the facts of British history, to evolve hypotheses that may help to explain the evolution of government expenditure in other countries and at other times. In this respect, we do not profess to have discovered "laws" of government expenditure, and we are not particularly impressed with the "laws" of this kind that have been suggested by other writers. We also present, in the final chapter, some conjectures about the trends of British government expenditure in the near future, but we intend this to be treated rather as an adventure in speculation than as the result of an impeccable analysis. We do not pretend that we can forecast wars or earthquakes, and (in our view at least) he who would forecast the future of government expenditure would have to face such tasks.

None of these aims can be satisfactorily pursued without some discussion of techniques and background. The compilation and presentation of the statistics give rise to important problems of technique and interpretation. A proper understanding of the economic history of Britain since 1890 requires some knowledge of previous periods. And the hypotheses tested call for some initial explanation and for comparison with existing theories and propositions about government expenditure. These distracting but essential preliminaries are the subject of this chapter, which is devoted to discussion of the statistical techniques and methods used. The following chapter is a discussion of some theories of government expenditure growth, including those tested in this study.

#### *Conceptual Problems*

A study of this kind inevitably encounters statistical problems set by the nonavailability or noncomparability of data. We regard the collection and presentation of a continuous series of government expenditure statistics since 1890 as an end in itself. Other difficulties arise in making use of the data for our wider purposes; while concerned with the use of statistics, they are conceptual and interpretative in character. They

## SCOPE AND METHOD

would have to be solved even if all the requisite material were available in a suitable form. The conceptual problems are therefore considered at the outset.

These conceptual problems arise because no general statistical measures can be expected to give unambiguous answers to all the kinds of questions we wish to ask. In the main, our concern is with the relations between the size and character of government expenditure and of its components on the one hand and such magnitudes as the total community output and its composition on the other. But particular methods of demonstrating such relations statistically, which may be valuable in offering support for an individual argument, can be seriously misleading if taken outside the immediate context, and indeed often require careful interpretation even within that context.

The difficulties can be explained more concretely by considering a statistical comparison fundamental to our study—the relationship between the growth of total government expenditure over time and the growth of aggregate community output. At first glance, a comparison of this kind might be thought to give a clear general indication of changes in the influence of the government in the community's economic life. But a closer look suggests that great caution is required, not only in interpreting the results, but also in giving a precise meaning to such terms as government and output when compiling the actual statistics to be compared. Thus, the influence to be measured is not unambiguous. For example, a given aggregate level of government spending is compatible with a wide range of different effects on the free choices of individual citizens, the actual effects being determined by the composition of public expenditure, the distribution of control over spending between different levels and organs of government, and so on.<sup>1</sup> If our interest were in the effect of government expenditure on individual choice, therefore, we would need to interpret the results of such a general comparison with care and to supplement them with other information. To take another instance, it is of direct relevance to our study that total government expenditure includes both expenditure on goods and services and on transfers and subsidies. Transfers and subsidies are not components of national income, so that if we express total government expenditure (including such transfers) as a proportion of national income the result gives an exaggerated impression of the share of total community output

<sup>1</sup> To form a balanced view, we would also need to know what other government influences on choice were in operation, e.g., whether the armed forces were recruited by conscription and whether or not any rationing schemes were in existence. For a further discussion of this point in relation to the growth of government employment, see M. Abramovitz and V. Eliasberg, "The Trend of Public Employment in Great Britain and the United States," *American Economic Review, Papers and Proceedings*, May 1953, pp. 203–215; with comment by Ronald Coase, pp. 224–236.

## SCOPE AND METHOD

taken by the government.<sup>2</sup> On the other hand, a similar ratio omitting transfers and subsidies would be without any general significance as a rough indicator of changes in the government's overall influence in the community over time, since transfers and subsidies also have to be financed and are clearly of importance in many economic contexts (e.g., in the use of government expenditure as an indicator of the tax burden implied by the activities of government).

We cannot do without a general comparison of this kind, then, but we need to be careful how we use it. No economist would deny that the relation between the size of total government expenditure and the size of an aggregate such as national product may tell us a great deal about the nature and consequences of government intervention or participation in the economic system. An increasing volume of government expenditure, arising from such causes as a growing demand for the employment of resources to satisfy collective needs, indicates important changes in the structure of the economy. The most satisfactory solution, therefore, and the one we have adopted, is to accept this relation as our fundamental indicator of the importance of the government in the community, but to do so in the knowledge of its shortcomings and to supplement the information it provides with other statistical series and indicators specifically directed to the elucidation of particular issues. It is our hope that the series of ancillary statistics built up in this way around the general indicator will provide an adequate justification for the method.<sup>3</sup>

It now becomes necessary to look more closely at the components of the general indicator itself. What, for example, is to be understood by the term "British Government" for our purposes? There are certain difficulties in defining the geographical region Britain in a fashion that enables compilation of comparable statistics for the whole period from 1890; these are explained in the Appendix. There is also a need to decide which of the community's economic activities should be treated as the activities of the government, once defined. For our purposes, it is most important, conceptually at least, to distinguish those activities of the government which arise out of a collective demand for goods and services

<sup>2</sup> For further discussion of this issue with particular reference to the neglect of the distinction in the British literature on public finance, see A. R. Prest, "Government Revenue and the National Income," *Public Finance*, VI, No. 3, 1951; and R. L. Marris, "A Note on Measuring the Share of the Public Sector" *Review of Economic Studies*, 1954-55, XXII, No. 3, p. 214.

<sup>3</sup> A potentially more precise (but also more cumbersome) procedure might be to eschew any general indicator, but to express expenditures on goods and services as a proportion of national income (though this does not avoid the problem of measurement of real income discussed below), transfer expenditures as a proportion of personal income before or after tax, subsidies as a proportion of (say) consumption expenditure at market prices, and other types of government expenditure as proportions of similar "ideal" economic magnitudes.

## SCOPE AND METHOD

(e.g., health services) and those which are a part of the ordinary productive activities of the community (e.g., rail transport) although carried on or controlled by government agencies. Expenditures of the latter type must be much more affected by market criteria than other public expenditures are, and generalizations about the behavior of other government expenditure are therefore likely to be of dubious relevance to developments in the "public production" sector. The tendency in social accounting is to treat such government activity as part of the general productive activities of the community, or at least to separate it from the other functions of government. This has obvious advantages from our point of view; our general indicator would be less rather than more meaningful were total government expenditure defined to include expenditures by nationalized industries.

The most satisfactory procedure, then, would be to exclude production expenditure from our definition of government for purposes of general discussion, but to provide statistics of such activities, to be taken into account when the context makes them relevant. Unfortunately, this is quite impossible in practice, and a compromise has to be made. Statistics of government expenditure are not recorded with such conceptual distinctions in mind, and many activities of government are not easily allocated to the government or to the production sector, but appear to belong in different degrees to both. At the same time, the production activities of government have so changed in size and character over the period that comparable expenditure data simply cannot be obtained. In addition to the shifts from private to public control brought about by the post-1945 nationalizations, there have been important changes within the public production sector—notably, transfers of control over such activities from local authorities to other public bodies.

We have adopted the definitions used by the Central Statistical Office as the basis for our distinction between general government expenditure and the other (production) activities of the government and its agencies.<sup>4</sup> Quite apart from the practical difficulties of any alternative procedure, this method facilitates the preparation of the general statistical series on a comparable basis over time, which is one of our primary aims. But the definition that guides the official classification emphasizes the degree of autonomy enjoyed by the various public authorities, rather than the economic characteristics of their activities. As a result, the transactions of all agencies whose finances are administered through the general accounts of the public authorities are included in general government

<sup>4</sup> For complete details, see Central Statistical Office, *National Income Statistics, Sources and Methods*, London, H.M.S.O., 1956 (hereafter cited as C.S.O., *Sources and Methods*). A list of nationalized industries is given in Chapter 7 of this book, and details of statistical procedure in the Appendix.

## SCOPE AND METHOD

expenditure, while the transactions of other public enterprises, not so financed, are excluded from the government sector and appear in the official statistics as a special section of the Companies' Account. In following this official convention we have had to depart to some extent from the conceptual distinction that we desire our data to reflect. History rather than logic has decreed that the financing of the General Post Office and local authority housing, for example, are treated with government, while other public enterprises whose functions are not markedly different in economic character are not. These other enterprises are the ones examined separately in Chapter 7. Such compromises are unavoidable, and this one is not seriously misleading for our present purposes, though it would need to be borne in mind if the figures were being used as a basis for international comparisons of government expenditure growth.

Having determined what is meant by government expenditure, it becomes necessary to decide what measure of community output (i.e., what national income concept) that magnitude might most usefully be related to. We have used gross national product at factor cost. Once again, this is to some extent a compromise. If our wish is to relate the total creation of economic wealth by the community and the consumption of that wealth by government, then *net* national product might be more suitable. The calculation of depreciation presents such problems, however, that even if broadly comparable series for net product were provided, they would be unlikely to give more reliable information than the gross product measure.<sup>5</sup> It might also be argued that gross national product at market prices would be a more suitable magnitude for purposes of general comparison; government purchases (and hence total government expenditure) may have an indirect tax content, and such taxes should, therefore, be reflected also in our measure of total product. This issue could be debated on technical grounds, but its practical significance is not large enough to make such a discussion worth while. In 1950, government current expenditure at market prices was £2,067 million, of which approximately £50 million represented taxes on expenditure. Since national product at factor cost is otherwise our most satisfactory measure of output, the "watering" of government expenditure by such a small amount will not invalidate its use for comparative purposes, particularly since the amount of watering is presumably fairly constant from one year to another.

Two final conceptual questions remain, those arising out of changes over time in the level of prices and in the size and composition of the population. It is clearly desirable that the general measure of the influence

<sup>5</sup> To illustrate the difficulties, how should the "depreciation" of government capital investment be defined, much less calculated?



## SCOPE AND METHOD

of government discussed so far should reflect changes in the real share taken by government of the real product of the community. But only money measures are available. How does this affect the validity of comparisons over periods when prices are changing? At first sight, the money value of government expenditure as a proportion of the money value of national product might seem to be a satisfactory indication of real changes, despite price movements: changes in the value of money will be reflected both in the size of (money) national product and in the size of (money) expenditures by government on goods and services. But there are two reasons why we cannot be content with this. First, we are interested in the absolute changes (i.e., the rate and character of growth) in government expenditure, as well as in changes in its share in total output. Money expenditures are an unsatisfactory measure of this over periods of changing prices; we need to deflate the money figures by an appropriate price index. Second, the money comparison will in any case provide a true reflection of real changes only to the extent that the prices of the things consumed by government change in exactly the same way as prices as a whole. It is common practice, for example, to deflate government expenditure and resource use as well as the gross national product by a common index such as the wholesale price index. While this may be a justifiable method for some purposes (e.g., it may give a reasonable impression of growth), it can also be misleading. There is no reason to suppose that the composition of government purchases will be the same as that of the purchases of the community as a whole. Indeed, the great importance of some kinds of government expenditure (e.g., on public employment of particular types of labor) is enough to suggest that such a coincidence is unlikely. We have tried to meet this difficulty by presenting the major statistical facts in two forms: in current prices, and also in figures deflated by price indexes constructed particularly for the magnitudes concerned. The construction of these indexes follows standard procedures.<sup>6</sup> Use of the selected indexes had little effect on our conclusions, though we are aware that a different approach (e.g., one which distinguished the prices of goods and services and of transfers) might have produced a somewhat different result. This the reader must judge for himself; the construction of any separate price index for government expenditure presents difficult statistical problems (discussed in the next section), and the computation and use of more than one such index would in our judgment have added more to complexity than to enlightenment.

For certain purposes, the usefulness of our general indicator of the growing importance of the government may be enhanced by expressing

<sup>6</sup> The construction and interpretation of index numbers presents particular difficulties which are not discussed in detail here.

## SCOPE AND METHOD

government expenditure or government resource use and gross national product as real or money amounts per head of population. A comparison between government resource use and GNP per head, for example, would illustrate changes in the average proportion of real income derived by individuals from public and private sources. However, a crude average derived by dividing total government expenditure, either in real or money terms by total population, may be misleading. Obviously, the extent to which different social or age groups benefit from government expenditure will differ over time or at any point in time, both with changes in public policies and in the composition of population. Further, the use of such an average implies that collective benefits can be assigned to individuals, which is doubtful when we consider such services as defense or the preservation of law and order. We have not found it possible to avoid these difficulties by more detailed statistical calculations, but have been content to draw attention to instances in which the relation between the composition of population and government expenditure may be important.<sup>7</sup> The reason for this lies partly in the difficulty of assigning benefits, just discussed, and partly in the difficulties encountered in attempting to allocate benefits among social groups, such as age groups, even were such benefits assignable to individuals.<sup>8</sup>

### *Statistical Problems*

The actual collection and collation of suitable statistics has been a matter of some difficulty. It will be appreciated from the earlier discussion that statistics following the classification conventions now generally accepted for the explanation of the place of government in the economic system were required. The first necessity, therefore, was to produce a consistent series of statistics of both government money expenditure and of gross national product. Official statistics classified in this way do not exist for years before 1938. For the period up to 1920, our source of statistical information about the central government has been the *Appropriation Accounts*, published annually. These adopt the conventional classification of expenditure by service, and also incorporate a good deal of double counting because of interdepartmental transfers. Consequently a detailed reclassification of the central government accounts for this period was carried out. A similar reclassification of the local government expenditure

<sup>7</sup> The statistical problems involved in breaking down the data to overcome the drawbacks of the crude per capita average are enormous if not insurmountable. Their general nature can be appreciated by a perusal of Chapter 8, since the projection we make there requires such a breakdown.

<sup>8</sup> For a short illustrative discussion of this point in relation to education expenditure, see Alan T. Peacock and Jack Wiseman, "The Finance of State Education in the United Kingdom," *Year Book of Education for 1956*, London, 1956.

## SCOPE AND METHOD

statistics as given in the *Local Taxation Returns* and, after 1934, in *Local Government Financial Statistics* was also necessary. It was not possible to do this for more than a few years before 1920. For the period from 1920 to 1938 we were able to use the reclassification of central government expenditure undertaken by J. E. G. Utting and Dorothy Cole in their detailed study of government income and expenditure, 1920–38, which the authors kindly made available to us.<sup>9</sup> Although these writers have also compiled separate estimates of local government expenditure, we found it more convenient to compile our own classification.

Our second problem was to break down the total figures of government expenditure into suitable functional classifications. In this case official figures have been recorded only from 1950 onward. We have, however, been able to produce a classification that is consistent over time; the Central Statistical Office made available to us the official method of classification for both central and local government expenditure, and the same procedure was followed by J. E. G. Utting and Dorothy Cole in their statistics for the period 1920–38. We have departed from the official classification in some minor respects, and made adjustments in the official figures published since 1950 in order to make our classification consistent for the whole period. It must be pointed out, further, that the local government statistics for earlier years necessarily contain some guesswork. The years between 1939 and 1950, too, cannot be covered, although for 1946–49 the difficulty was lack of resources rather than lack of information. A full functional classification for those years would necessitate detailed examination of hundreds of pages of the *Appropriation Accounts*. We have preferred to direct our efforts to the improvement of the statistics for earlier years.

Finally, a major problem is presented by the need for separate price indexes for the deflation of government expenditure and of gross national product. The most illuminating indexes for this purpose would probably be one for government purchases of goods and services and another reflecting changes in the purchasing power of money for those who received government transfer payments. No price index of government purchases exists for the period covered by our study, and for good reasons. In the first place, the task of constructing such an index would be enormous.<sup>10</sup> In the second place, we know of no satisfactory means of constructing a suitable index by which to deflate expenditures on the services of

<sup>9</sup> To be published in the series of Studies in National Income and Expenditures, 1920–38, under the auspices of the National Institute of Economic and Social Research.

<sup>10</sup> Some idea of the labor involved can be obtained by consulting the detailed study of National Health Service purchases at constant prices made by R. M. Titmuss and Brian Abel-Smith. See their *Cost of the National Health Service in England and Wales*, National Institute of Economic and Social Research, Occasional Paper 18, Cambridge, Eng., 1956, especially pp. 62–66 and Appendix B.

## SCOPE AND METHOD

government servants, whose output is not sold on the market.<sup>11</sup> To follow standard official procedure here would require the valuation of such services by analogy with the valuation placed on similar services by private enterprise.<sup>12</sup> This would call for some arbitrary assumptions (e.g., about what constitutes a "comparable" service), and would also entail enough statistical labor and discussion for another treatise. An alternative possibility considered was to construct a crude index of "real" services by assuming that the productivity of government servants was constant. This might be statistically feasible, but the initial assumption is so arbitrary as to be positively misleading. In effect, we should merely be calculating an index of government employment and inferring from it that a rise in government employment reflected a concomitant rise, not only in government expenditure in real terms, but also in total national output.

We have, therefore, fallen back on what must be admitted to be very much a second best—although we regard our method as less misleading than the common one of deflating both government expenditure and national product by a single retail or wholesale price index, in that it does attempt to bring out at least some of the consequences of changing relative prices in the public and private sectors. Separate price indexes for current goods and services and for capital goods were compiled from a number of sources,<sup>13</sup> and these indexes were used to deflate the current and capital components of both government expenditure and national product. Accordingly, the difficulty associated with the change in composition of government expenditure compared with the composition of national output is to some extent overcome. The deflation of transfers and subsidies presents the further difficulty of identifying the recipients of such payments and their consequent purchases. The best available procedure seemed to be deflation of these items by the general price index of current goods and services. A final problem is presented by changes in stocks and the value of work in progress. We adopted the arbitrary procedure of using the indexes of current goods and services as a deflator; fortunately, this item is not an important component of government gross capital formation for most of our period.

<sup>11</sup> We leave aside the broader question of whether all such services can be said to constitute a part of community output at all (cf. Simon Kuznets, "Government Product and National Income," *Income and Wealth*, Series I, Cambridge, 1951, pp. 193-194). For our purposes, such expenditures clearly cannot be ignored and they do constitute a loss of factor services to other uses.

<sup>12</sup> This is the method used by the Central Statistical Office. See C.S.O., *Sources and Methods*, p. 38.

<sup>13</sup> For full details of the method of construction, see Appendix, section on price indexes.