THE THEORY OF THE PUBLIC ECONOMY

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1. Welfare Economics and Public Finance

(a) Current discussion of welfare economics has been concerned with the validity of various criteria suggested by a number of economists which will enable us to compare and rank different economic states. It is assumed in this analysis that the compensation theory and its variants, together with some of the criticisms levelled against it, are sufficiently well-known. This paper is concerned with the extension of this analysis to cover the important case where community choices cannot be reflected in the competitive market system as postulated in welfare economics. In other words it is concerned with the rationale of the public economy and of the system of public finance.

(b) It has always been recognized in modern welfare economics that the divergences could arise between marginal private and marginal social cost, for the individual’s marginal activity may involve undesirable effects on the rest of the community. The Pigovian smoke case is the classic example. Various measures have been suggested in order to equate the two, some of which have direct relevance to a system of Public finance involving subsidies and taxes. Also the problem of decreasing cost industries has been extensively studied, and the measures suggested have also required a system of taxes and subsidies with or without public operation of monopolies. But neither of these deviations

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3 A. P. Lerner: *Economics of Control.*

from the competitive norm requires that the State acquires goods and services as a collective consumer other than those required to administer the compensation schemes. Thus the rationale of collective consumption as distinct from collective compensation by a system of transfers must be justified on other grounds. The facts regarding Government demand for goods and services in the modern State suggest either that welfare economics has little relation to policy or that these cases are more important than welfare economics suggests.

(c) The one exception to the above statement is Baumol’s book. Baumol, in considering the deviations from the competitive norm specifically mentions and analyses the case where there is the possibility of a group demand for the same product, or put in an other way, the case where the benefits derived from the commodity in question cannot be divided up and allocated to specific individuals. Hence voluntary arrangements for the satisfaction of group demand may not work. In appraising the literature over the last century which has considered this problem as one of public finance, Baumol concentrates on evidence in earlier writing which justifies intervention, but in my opinion, does not sufficiently consider the more subtle problem of the magnitude of these operations in terms of the level of Public expenditure to be contemplated by any community and the distribution of expenses among its members.

(d) The problem of the level of public expenditure and the distribution of the burden of taxes can thus be considered as a special problem of the deviation from the competitive norm in modern welfare economics. This is not to say that the problem is one which has only recently been recognized. The discussion of the ‘correct’ level of expenditure and the ‘best’ distribution of taxes is as old as the systematic discussion of public finance itself, and before the growth of the literature on stabilization it was considered the central problem in the theory of public finance. However the precise formulations of the theory of welfare economics help to put the problem in its proper context. We are therefore concerned with the following question. In what sense, if any, can we talk about an ‘optimum’ level of public expenditure when voluntary arrangements for the provision of public goods may prove impossible? Let us consider the problem in more detail and then some of the answers.

2. The Problem Stated

(a) The essence of the theory of the market economy is that products can be supplied in divisible amounts and that individuals can assess the benefit they will derive at the margin from commodities

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in terms of what they will receive and they are prepared to spend. The market can solve all problems where the individual benefits directly through his own purchases, by his estimation. But another mechanism has to be adopted in order to satisfy community wants if the benefits derived from the commodity cannot be directly allocated to individuals. Following Baumol we can illustrate the problem with the technique of rain-making. In manufacturing rain by dropping carbon-dioxide into some types of cloud, there appears to be no method of confining the rainfall to a small predetermined area. An experiment of this sort can only be conducted voluntarily if the costs can be met by some form of agreement among the beneficiaries i.e., the farmers. By contributing voluntarily the individual farmer benefits others as well as himself. But if he does not contribute at all or very little, he would gain just as much. He is not obliged to state his true preferences in order to benefit from the service provided. We have no reasons to suppose that it will be likely that one individual will think it worth his while to foot the whole bill. This case is far from being an isolated one.

(b) The problem in terms of welfare economics is that of trying to determine in what sense, if any, the community will be better off or worse off for the introduction of the indivisible service. The essence of the expression of choices through the market system is that there is freedom of choice. What does freedom of choice mean in a situation where the commodity collectively in demand is indivisible? One possible solution would be a situation where everyone collectively agreed to the charges to be imposed for the service. We shall see that some writers try to produce a solution which approximates to this. The other would be to devise rules regarding individual and community welfare which would tell us unequivocally whether one system of charge would be in some sense preferable to another based on some conception of benefit or sacrifice which accords with the observations of psychology and sociology. The utilitarian theory of sacrifice, an aspect of which we shall examine, is an example of this approach.

(c) In the analysis which follows, except where otherwise stated, we adopt the usual assumptions of welfare economics, the most important of which are (a) a given income distribution and (b) full employment of resources.

3. Earlier Solutions

(a) The earlier solutions both of which have a long history are associated with the benefit and sacrifice theories. They are generally regarded as theories of taxation. But they are really theories of public economy in which the functions of the State are rather narrowly defined.

Thus the ‘best’ level of public expenditure is the minimum to ensure law and order and defence from external aggression. The benefit theory attempts to solve the problem of cost allocation, given Government expenditure as minimised by attempting to assign the benefits arbitrarily by some criterion of ‘benefits’. Thus what is being bought is protection and benefits from protection can be allocated (or so it has been held) according to the distribution of income and property. Hence the support for proportional direct taxes beginning with Smith and argued cogently in De Viti de Marco. In the sacrifice theory there is no attempt to allocate burdens but to minimise ‘sacrifice’. The discussion centres on the meaning of sacrifice and on the development of a psychology which will enable us to determine how it can be minimised.

(b) In the earlier formulations of the theory, it is clear enough that the solutions are regarded as normative. The appeal is to what is acceptable to ‘all reasonable men’. The political philosophy is explicit enough. The main question is not what all persons will accept voluntarily but what they ought to accept. This is particularly noticeable in the sacrifice theory. In the benefit theory there is at least some connection traced between payment and services given, in the sacrifice theory there is no relation expressed between payment and benefit at all and thus no method of determining the total level of expenditure.

4. The Analogical Solution

(a) This solution is based on the analogy between the State and the individual in regard to the disbursement of income. Its main proponents in recent years have been Pigou and Dalton but the analogy is commonly found in German literature on public finance. We shall concentrate on the exposition of Pigou.

(b) ‘If a community were literally a unitary being with the Government as its brain, expenditure should be pushed in all directions up to the point at which satisfaction obtained from the last shilling expended is equal to the satisfaction lost in respect of the last shilling called up in Government service’. This is the initial proposition. The second proposition is that marginal sacrifice involved in raising up shillings from a given number of individuals will be less, the greater is the national income i.e., the income—elasticity of demand for public service should be positive. The third proposition is that the Government ‘may properly engage in larger expenditure (1) the less even is the distribution of income ... and (2) the more progressive is the revenue —raising scheme that it decides to employ ..., given the national income

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1 De Viti de Marco: First Principles of Public Finance.
2 A. C. Pigou: A Study in Public Finance (3rd Edition), para 1, Chapter 5.
and the population. This last proposition obviously assumes the validity of the law of diminishing marginal utility of income.

(c) Although there is a certain amount of semantic confusion in these propositions it is clear enough that Pigou is stating welfare propositions and not analysing what actually takes place or would take place if the Government were a unitary being. But in order to produce meaningful results we have to know who or what this unitary being is. Pigou admits that the analogy is really an expository device and that ultimately public expenditure depends on coercion of those individuals who will not contribute because of the indivisibility problem. But he leaves us completely in the dark about the way preferences are to be stated which will allow us to determine the nature and extent of marginal benefits or sacrifice. He is perilously near an organic view of the State.

(d) Even granted the existence of the unitary being e.g., a dictator, the assumption that the income-elasticity of demand for public services should be positive is arbitrary, even given the assumption of decreasing marginal utility of income. It assumes that the marginal benefit from extra Government service is positive. This will depend on the shape of the curve of expansion denoting the choice at different income levels of the allocation of resources between public and private uses.

(e) A general difficulty of the utilitarian approach is also evidenced in these propositions. If policy is to be decided by collective preferences, why should the stated preferences conform with the acceptance of the marginal utility of income proposition? In the last resort the utilitarian has to argue that non-acceptance implies ‘irrational’ behaviour. A voluntary solution can only be arrived at by depriving non-utilitarians of the vote.

(f) The most valuable feature of the Pigovian approach is the use of marginal analysis. We can in very broad terms explain the consequences of particular distribution of public expenditures in terms of marginal social benefits. But in the determination of Optimum level of expenditure the theory raises more problems than it solves.

5. The ‘Positive’ or Neutral Solution

(a) This approach tries to produce a ‘positive’ or, ‘ethically neutral’ solution and is associated with the names of Sax1, Wicksell, Lindahl2 Einaudi and Benham3. It examines the mode of political

1 E. Sax: Grundle gung der Theoretischen Staatswirtschaft, Part I, paras 29-32.
agreement necessary to effect public expenditure in terms of economic analysis, apart from the outcome of the decisions of the political sovereign. It has an obvious parallel in political philosophy with the theory of the social contract. We shall concentrate on Lindahl’s solution. The important presupposition of this theory is that the ‘correct’ distribution of income has already been instituted by either fiscal or non-fiscal means.

(b) Consider two individuals A and B who demand an indivisible public service, for instance, defence. The individuals may represent political parties. The problem is that of deciding on the amount of the service to be consumed and the division of its cost. The analogy with the situation found in bilateral monopoly cases suggests itself. It is reasonable to suppose that A will derive a greater amount of the service, the smaller the proportion of total cost he has to pay, and that B will sanction a greater amount of the service the greater the proportion of expenditure borne by A. Agreement will be reached when the sum of the contributions of each party will equal the total cost of a given amount of the service. With ‘equal strength’ equilibrium is reached at the intersection of the curves because marginal utility and price are equated for both the parties.

(c) I cannot deal in any detail with some of the practical problems raised by this method of solution. As public expenditure is not generally a homogeneous quantity but an aggregate of expenditures on individual items presumably as Wicksell suggests, the procedure ‘illustrated has to be repeated for every individual case.’ We have to have precise knowledge of the incidence of taxes and of their effects. If a given income distribution is not optimal to begin with, we should have to know what the distribution of income would be like in the absence of the existing fiscal system before being able to lay down what ‘socio-political’ taxation should precede ‘fiscal taxation’.

(d) Once we consider the assumption of the analysis we find that the approximation to a competitive solution is reached because of very special circumstances. First of all there is a greater inducement to contribute towards the provision of a service the fewer are the participants because then, the institution of the service depends on any one individual’s contribution. Thus Lindahl avoids the difficulty found where a large number of persons is involved. Quite apart from the divergence of opinions possible in these circumstances there is the fact that an individual may understate his preferences if he knows that he will benefit whether he contributes or not given that others contribute;

1 There is an excellent summary and criticism in English of Lindahl’s theory in Richard Musgrave’s ‘The Voluntary Exchange Theory of the Public Economy’, Quarterly Journal of Economics, November 1939.
because the level of expenditure is not dependent on any individual's contribution. Hence, if there is escape for one there is escape for all, and compulsion is the only method of ensuring that the service in question will be instituted. It is to be noted that this conclusion holds independently of the assumption of 'Equal bargaining strength' which we may define as equal income distribution. Some writers have tried to argue however, that those who refuse to pay are pathological assuming presumably that given equal income distribution taxes should be similar.

(e) Granted that decisions regarding the level of expenditure may not be unanimous, and thus, ultimately compulsion may be necessary to enforce decisions, then the assumption of equal bargaining strength becomes a very special one. Conventions such as voting systems are required in order to give decision the force of law; hence the acceptance of say majority rule. Once this occurs this price (the amount of tax) is not equated to marginal cost for all and a perfectly competitive system is not possible except in the very special case of a unanimous decision. Thus the distribution of costs among members of the community can be determined by vote, but there is no reason to suppose that a predetermined principle for the distribution of costs will accord with the individual evaluation of the marginal utility of public expenditure.

(f) The realisation of these difficulties has led various writers to accept legislative arrangements which will approximate to a voluntary solution. Thus Wicksteed argued for rights of veto of minority groups and for periodical elections as safeguards. In fact in his hands the theory of the public economy becomes a theory of democracy. Barone who called the 'voluntary solution' a major perversion of the theory of marginal utility agreed that infact the tyranny of majority defeats its own ends in public finance because an oppressed minority may seek relief in tax evasion, emigration of capital and persons and, in extreme cases, even in revolution. Another obvious method of getting over the difficulty is to accept interpersonal comparisons of utility and to argue that if a majority sanction a particular level of expenditure and its finance, then this must mean, improvement in welfare.

6. Some Further Problems

(a) Obviously a complete theory of the public economy must take into account other objectives suggested by welfare analysis which may be implemented through the system of public finance. An obvious case is that of stabilisation measures. The traditional theory

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1 Cf. F. Benham: loc. cit.
3 E. Barone: 'Studi di Economia Finanziaria', Giornale degli Economisti et Rivista di Statistica, April-May 1912.
assumes that public expenditure is in competition with private expenditure i.e., a given level of real income is assumed. But underemployment of resources may mean that the marginal cost to society of extra public expenditure may be zero, because the increase in the level of public expenditure may raise total income and thus private expenditure in real terms may be increased. Here problems of the short and long run are important. It is sufficient to mention here that there are other methods of stabilisation which may be as effective as alterations in public expenditure.

(b) While the competitive norm may not be possible to attain in the case of the provision of non-allocable goods and services, I can find little reference to a further deviation from the norm which may take place. There is the strong possibility that the State may become a monopolonist for certain goods and services as a consequence of decisions regarding the level of public expenditure. There is a parallel here with the public utility case. The marginal cost to society of paying the competitive rate is measured in terms of the extra taxation required, just as the marginal cost to society of allowing public utility to make losses in following the marginal rule is measured in terms of the effects of taxation required to make up the losses.

(c) Nothing in what has been said provides a rationale for collective demand for goods and services other than in the case where the benefits are indivisible, at least if one accepts the usual welfare criteria. In theory at least while there may be strong case for promoting the consumption of goods which provide external economies of consumption this is not necessarily an argument for collective provision of the services. Thus lowering the price of education or health by subsidies does not necessarily mean that these services have to be publicly operated. The justification of public provision must depend on other arguments.

7. Conclusion

(a) It has been stated by De Jouvenel that welfare economists have usurped the position of the older political philosophers largely because they made the discovery that collective welfare could be measured. It is true that the application of welfare economics to problems of public finance helps us to clarify assumptions and formulate propositions precisely, but the conclusion that in the last resort coercion is necessary in order to implement collective decisions is more than familiar to political philosophers! The problem of collective welfare is inseparable from the problem of deciding who shall exercise the powers of coercion.

(b) If we are prepared to accept the fact that in the end welfare postulates are arbitrary, then the economist who studies public finance can consider three courses of action. The first is to acknowledge and
to make explicit any personal judgments about the criteria of public policy before analysing how they can be technically realised. The second is to follow the procedure in other branches of economics and try to predict the behaviour of the political sovereign in order to be able to state what sort of fiscal structures will result from what sort of behaviour. This is probably an impossible task. We can reasonably assume that the ‘Firm’ or ‘Household’ is a person operating within a given environment, but not so the State. Economists would have to prove that they know more about group behaviour than other social scientists. The safest approach is to follow the procedure of the applied economist i.e., to take the objectives of policy as given and to examine their consistency. Much of the confusion in the literature of public finance arises from the failure to recognize these distinctions in procedure.