" Enforcement Function " (are there not too many of these " functions " ?), which relates actuals to decisions even in the current period. I cannot see what one makes of the " function "; but the distinction is undoubtedly one that in general needs to be made.

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The Calculus of Consent: Logical Foundations of Constitutional Democracy. By J. M. BUCHANAN and G. TULLOCK. (Ann Arbor, Michigan: University of Michigan Press, 1962. Pp. x + 361. $6.95.)

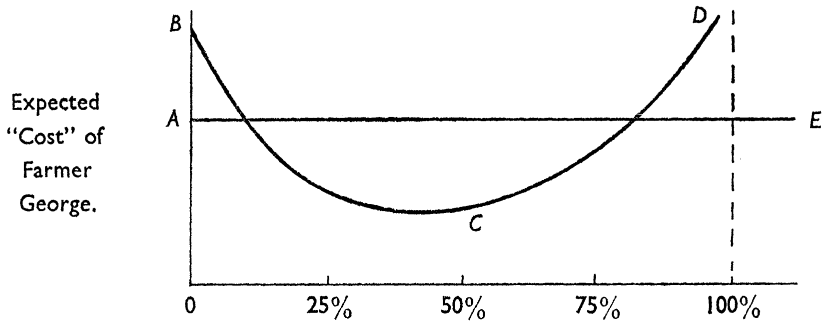
IN discussing external economies and diseconomies economists have been much too ready to call in the State as a *deus ex machina* to remove the imperfections of the *laissez-faire* market without examining the implications of this view for the political, as contrasted with the economic, behaviour of the individual citizen. Is it sensible to assume that citizens will act selfishly in the market-place but will nevertheless by a democratic process produce a Government which will intervene to secure the general good? Do we not in fact see democratic political mechanisms used to promote the interests of particular groups of citizens?

In this book a professor of economics and a professor of political science have come together in a most laudable attempt to close the gap by producing a first simple " model " of democratic political action based on the assumption that the individual citizen is wholly selfish in his behaviour in the voting booth and in the market-place. Their basic construction is as follows.

Let us consider some economic action in which there are large elements of external economy or diseconomy—for example, the repair of a system of local roads in an agricultural community. Each farmer will have a special interest in the repair of the roads nearest his own farm, but will also have some interest in the good repair of the roads nearest his neighbours. If there were no organisational difficulties (costs of decision, in our authors' terminology), all the farmers could get together and agree unanimously on a level of expenditure on each road which would be the best for all of them—a single joint decision would remove all external economies or diseconomies. Since this " ideal " arrangement is impossible, the position of any one of the farmers—Farmer George—will in fact be worse than this; and what he loses in comparison with this " ideal " arrangement we (following the authors) will call his " cost." The " cost " may arise either from too much or from too little road building.

In the following diagram Farmer George's expected " cost," in this sense, is measured up the vertical axis. Along the horizontal axis is measured the percentage of the farmers required to decide to spend money on the repair of a road. *OA* measures Farmer George's " cost " if road repair is left entirely to private enterprise. Since each farmer will have to incur the whole expense of repairing whatever roads he does repair but will enjoy only part of the benefit, too little will be spent on road repair. Farmer George will be *OA* worse off than under the " ideal " arrangement.

The curve *BCD* measures what Farmer George may expect his " cost " (still in the sense of loss of welfare as compared with the " ideal " arrange-



Percentage of Farmers required to vote a Road Repair.

ment) to be if road repair is transferred as a political activity to the State. The " cost " which Farmer George may now expect is dependent upon the voting rule which is agreed for expenditure on road repairs. If any single farmer can by his sole vote decide that money should be raised and spent on the roads near his farm, then he will enjoy the benefits while the tax costs are shared; road repair will be greatly overdone; and as a result any individual farmer such as our Farmer George will expect a very high " cost " (*OB* in our diagram). But as the percentage of votes required for decisions on road repairs is increased, this " cost " will fall because the greater the number of farmers involved in a decision, the less will be the risk of overdoing expenditure on road repairs. Indeed, if there were no counteracting influence at work the curve *BC* would go on falling until its height was zero when 100% unanimity was required for a decision (the " ideal " arrangement).

But, alas, there are in fact " costs " arising from decision making which will cause the curve to turn up and rise again before this point is reached. To take the extreme case, if there were many farmers in the district the requirement of unanimity for a decision would make Farmer George expect an insufficiency of decision making, an insufficiency of road building, and thus a very high " cost "; for the organisation of a decision would require that by some means or another he and his fellows must persuade everyone without exception to come into the scheme. Quite apart from the actual expenses of organising the necessary co-operation, some awkward neighbour might well stand out for much more than his fair share of the benefits. The larger the majority required, the higher will be these " costs " arising from difficulties in reaching a decision.

Our authors point out that it will be to Farmer George's advantage that the function of road repair should be transferred from the market-place to the polling booth if the curve *BCD* falls below the line *AE*, and that the voting majority (or minority) required for subsequent particular day-to-day political decisions on this issue should be that at which the curve *BCD* is at its lowest—it being a pure coincidence if this occurs at the point of simple majority decision.

Our authors call the decision on these issues—whether the function should be a political one and, if so, what the voting requirements should be—the " constitutional " decision. They argue that in principle it should be possible to achieve such " constitutional " decisions (as distinct from the day-to-day political decisions that we have considered earlier) by unanimous agreement, since Farmer George is typical of all the farmers and all will gain by establishing the best possible voting arrangement. Once the " constitutional " decision is taken, each individual farmer may sometimes gain and sometimes lose by the day-to-day political decisions; but on the average of particular decisions he will gain.

Such in its barest outline is the basic argument of this book. The argument is more sophisticated than this brief summary can indicate, and it is ingeniously developed to cover, or to start to cover, many further phenomena of democratic political life—representative as contrasted with direct democracy, the formation of parties, log-rolling, bicameral legislative bodies and so on. The book should prove at least a strong and stimulating gad-fly to goad others to join in the effort to build a political economy in which economic motives in political action are made as essentially a part of the whole as are economic motives in the market.

Nevertheless, in my view, the argument suffers from weaknesses which make the argument less complete than might appear from the presentation given in the book itself. I will mention only the two which seem to me to be the most serious.

First, the authors are too ready to take it for granted that the mere knowledge of a change which will make everyone better off is the same thing as to say that there will be a unanimous agreement to make that particular change. This neglects the bargaining element in reaching agreement. There may, for example, be two " constitutional " arrangements, A and B, the presence of either of which would make everyone better off than the absence of both. Yet A may confer most of the benefit on one group (say, property owners) and B on another group (say, unskilled workers). Can unanimous agreement be reached in the choice between constitutional arrangements of type A and B? Political decisions with economic implications are inevitably about the distribution of income and wealth as well as about the efficient use of resources. The book under review concentrates on the latter objective and in doing so slurs over many difficulties connected with the former.

Second, the apparatus elaborated in this book is applicable in its simplicity to only one class of political-economic decisions—namely those in which, while there may be important external economies or diseconomies, there will in fact be a whole series of continuing small expenditures in the future which can be constantly adjusted at the margin. But consider one large structural once-for-all decision like whether the United Kingdom should join the European Economic Community. Can the distinction between the unanimous constitutional and the subsequent day-to-day decisions (by minority or qualified majority votes) be sustained? Presumably the constitutional provision would have to take the form that for deciding treaties of this kind a certain vote (25%, 50%, 75%) was required. But suppose that the citizens were divided 60–40 on this issue. A 25% voting requirement would presumably mean that the United Kingdom was voted in one year, out the next and so on *ad infinitum*, whereas a 75% voting requirement would mean that the United Kingdom would stay out if she were out and in if she were in. In such cases surely there is some fundamental democratic value to be attached to simple majority voting. The authors' analysis does not cover this class of case.

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Growth, Wages, Money. The Marshall Lectures for 1960. By Sir Dennis Robertson. (London: Cambridge University Press, 1961. Pp. 64. 5*s*.)

Sir Dennis Robertson's Marshall Lectures were delivered in Cambridge in the autumn of 1960, and in the present printed form they have already become widely known. A chapter of mischances have prevented them from being noticed earlier in this Journal.

The three lectures give, in turn, Sir Dennis's views on the present state of opinion on the subjects named in the title.

On growth, we are taken at a smart pace from Mill, through Wicksell, Cassel and Marshall, up to the moderns, of whom Harrod, Fellner and Kaldor get the greatest share of attention (and hence teasing). Sir Dennis's treatment makes it all seem very clear, and, in a way, surprisingly easy. The truth may be well-hidden, and the hypotheses may be in head-on conflict; no doubt there are plenty of scholastic niceties that cannot be resolved; yet as Sir Dennis arrays the rival models, one feels that the great issues are clear enough to see, and that our kit-bag of tools for analysing them is not too inadequate. Or is it? Is the clarity of the models deceptive? Just as in the past Sir Dennis has expressed his distrust of undue formalisation in the theory of the firm, so here, as he stands back to look at the problem in a general way, his sense of reality is offended by the notion of a given rate