

his proxy to support only those public goods proposals under which his own contribution is zero.

Wicksell's pioneering contribution to the political theory of public goods was further developed by Lindahl, who takes a two-group bargaining model to epitomize the Wicksellian consensus ideal (43). With the aid of some further assumptions he then attempts in effect to demonstrate the Pareto optimality and determinacy of public goods supply in this particular model. As we have already seen, even a purely voluntaristic market-type system can reasonably be expected to produce some approach to Pareto optimality in the small-numbers case; and Lindahl's small-number Wicksellian model should presumably perform about equally well, the only difference here being that *nothing* can be provided without the explicit agreement of both parties. Relaxing his various assumptions one by one, Lindahl then proceeds to employ his basic model as a tool for analysing the effects of such real-world phenomena as large numbers, general-fund financing and majority voting (44). In his analysis of the large-number case, he envisages the effective factoring-down of the system into a set of intersecting small-number agreements: groups *A* and *B* bargain together and agree to confront *C* etc. (45). Without a suitable set of « generalised club goods » to hold the conceptual bargaining pyramid together, it seems, however, that such factoring-down is illegitimate. The classic dilemma remains that the basic voting unit is not motivated to do the signalling of his tastes needed to achieve a Pareto optimum.

2.3.2 Majority-Voting Models.

As the Wicksell-Lindahl ideal fails to overcome the preference-revelation problems of public goods supply, and since such systems are anyway almost unknown in practice, it may be interesting to consider finally the performance of a familiar system such as majority

(43) See the extracts in MUSGRAVE and PEACOCK, *op. cit.*, pp. 168-76, 214-32. Lindahl's extremely influential contribution is analysed in detail in my paper « Lindahl's Theory of the Budget », *Finanzarchiv*, 1963-64, pp. 421-54. See also MUSGRAVE, *op. cit.* (1959), pp. 74-80; and JOHANSEN, *op. cit.*

(44) It is interesting to observe that essentially the same approach is employed in the first modern book-length discussion of the theory of public goods. See BUCHANAN, *The Demand and Supply of Public Goods* (forthcoming).

(45) See LINDAHL, in MUSGRAVE and PEACOCK, *op. cit.*, p. 173.