The Collected Works of
James M. Buchanan

VOLUME 5

The Demand and Supply of Public Goods

James M. Buchanan, Charlottesville, Virginia, 1964

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Foreword

In the fifteen years immediately following World War II, unquestionably the most significant development in public economics was the emergence of "public expenditure theory." This development arose in the attempt to define a comprehensive theory of the state around the notion of "market failure." For public economics, this was a significant development because, until that time, analysis focused on the tax side of the budget. Most of public economics could aptly be called "public finance" because the central preoccupations revolved around how "best" to raise the revenue required for public activities—public activities whose rationale lay entirely outside economic scrutiny. There were, to be sure, hints of what such a rationale might look like, for example, Pigou's famous treatment of the "smokey factory." But these hints remained partial and disparate until Paul Samuelson, in what became a famous series of articles on "public goods," set out what purported to be a coherent and synthetic justification for governmental intervention in economic processes. Samuelson provided an account of what James M. Buchanan was later to refer to as the "productive state."[1] In the Samuelson formulation, the critical element in this justification is the market failure that public goods give rise to in an extreme form. In this sense, public goods are a kind of distillation of various possible barriers to the market's capacity to exploit all the possible gains from exchange—gains that might in principle be appropriated by the citizens who compose the relevant group-polity-nation. The 1950s and

1. Paul A. Samuelson, "The Pure Theory of Public Expenditure," *Review of Economics and Statistics* 36 (November 1954): 387–89; "Diagrammatic Exposition of a Theory of Public Expenditure," *Review of Economics and Statistics* 37 (November 1955): 350–56; and "Aspects of Public Expenditure Theories," *Review of Economics and Statistics* 40 (November 1958): 332–38. James M. Buchanan, *The Limits of Liberty: Between Anarchy and Leviathan* (Chicago: University of Chicago Press, 1975), volume 7 in the series.

1960s saw a huge burgeoning in the normative analysis of markets, most of it oriented toward showing some market failure, so understood, and often associated with a putative case for some form of governmental intervention.

It is now folklore that the normative thrust of public goods analysis was an important element in the birth of the public choice movement. One central ambition of public choice scholarship was to insist that "political success" needed to be demonstrated before the market failure in question could establish a preference for government activity—and to demonstrate that such political success might be more difficult to achieve than the public economics presumption might suggest. Put another way, market failure was itself assessed by reference to a benchmark that economists came to understand only by contemplation of market operation in other (private goods) arenas. Market failure on its own meant nothing: Politics would have to submit to the same test. This much is familiar. And Buchanan's work has been critical in making it so.

It is, however, important to note that the public choice tradition has never denied the logic of the market failure argument as such. Indeed, Buchanan himself made extremely significant contributions to the market failure–public goods literature. For example, what are almost certainly Buchanan's two most famous articles—"Externality," with W. C. Stubblebine, and "An Economic Theory of Clubs"—fall precisely into this area of inquiry. In fact, public goods theory constituted a major (perhaps the predominant) element in Buchanan's research agenda throughout the 1960s. *The Demand and Supply of Public Goods* is to be seen as an important part of that body of work and should be read alongside the articles in volume 15 in the Collected Works, *Externalities and Public Expenditure Theory*, as Buchanan's attempt to synthesize and focus his views on those "public goods" issues. *The Demand and Supply of Public Goods* should perhaps also be read alongside the earlier contributions of Samuelson and Richard A. Musgrave. John G. Head provides a survey of this literature contemporaneous with *The Demand and Supply of Public Goods* that includes an article-length review of Buchanan's book.[2]

2. James M. Buchanan and W. C. Stubblebine, "Externality," *Economica* 29 (November 1962): 371–84; James M. Buchanan, "An Economic Theory of Clubs," *Economica* 32 (February 1965): 1–14. Both papers are included in volume 15 in the series, *Externalities and*

It is interesting specifically to contrast Buchanan's approach with the earlier Samuelson exposition. Two features are notable. First, whereas Samuelson's central purpose is to establish "optimal conditions" for the supply of public goods, and to show thereby that the Pareto optimum could never be a market equilibrium, Buchanan seeks to derive that market equilibrium directly. Such derivation is necessary to Buchanan's broad purpose of explicitly comparing market performance with political performance: Buchanan has much less interest in conceptually possible but institutionally infeasible ideals. Second, and related, much of Buchanan's treatment reads like a purely positive account of institutional choice. The quest for mutual advantage through exchange—whether a two-person exchange as for ordinary private goods or a many-person exchange as in the public goods case—serves in *The Demand and Supply of Public Goods* as a motivator of action as well as a relevant normative test. Accordingly, *The Demand and Supply of Public Goods* is an important piece of Buchanan's contractarian theory of the "productive state" with the ambiguity between the positive and normative use of the contractarian approach deliberately allowed full rein.[3] The contrast with Samuelson's much more overt (if incomplete) normative treatment, with the independently derived "social welfare function" as an express articulation of the "ethical observer's optimum," is worth noting. In this respect, Buchanan is much more faithful to the Wicksellian approach than is Samuelson, although both Samuelson's and Buchanan's treatments of the public goods question derive ultimately from Wicksellian sources. (In Samuelson's case, the derivation is through Musgrave's paper on Erik Lindahl's version of Knut Wicksell's analysis.)[4]

And it is worth emphasizing that Wicksell's original contribution repre-

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Public Expenditure Theory. James M. Buchanan, *The Demand and Supply of Public Goods* (Chicago: Rand-McNally, 1968), volume 5 in the series. Samuelson, "The Pure Theory," 387–89; "Diagrammatic Exposition," 350–56; and "Expenditure Theories," 332–38; Richard A. Musgrave, *The Theory of Public Finance* (New York: McGraw-Hill, 1959). John G. Head, *Public Goods and Public Welfare* (Durham: Duke University Press, 1974).

3. Buchanan, *Limits of Liberty,* 1975, volume 7 in the series.

4. Richard A. Musgrave, "The Voluntary Exchange Theory of Public Economy," *Quarterly Journal of Economics* 53 (February 1939): 213–37; Erik Lindahl, *Die Gerechtigkeit der Besteuerung* (Lund: Gleerupska Universitets-Bokhandeln, 1919); Knut Wicksell, *Finanztheoretische Untersuchungen* (Jena: Fischer, 1896).

sents the origin of public choice to politics as well as the point of departure for subsequent literature on public goods and market failure. It is therefore unsurprising that Buchanan, for whom the Wicksell influence is more explicit, should have made independent contributions in both areas and been a determined proponent of their inextricable connections.

The particular occasion for writing the first draft of *The Demand and Supply of Public Goods* was a series of lectures given at Cambridge University in 1961–62. The audience originally conceived for the book was therefore a group of relatively able undergraduate and graduate students. But little of the flavor of a textbook is detectable here—there is no dry pedagogy and surely no concession to the undergraduate concentration span. What Buchanan provides here is a clear statement of the contractarian approach to public goods problems, very much in the "voluntary exchange" tradition of Wicksell and Lindahl.

Geoffrey Brennan
Australian National University
1998

Preface

The title, "The Demand and Supply of Public Goods," has been selected to emphasize those features that set the book apart from orthodox public finance and at the same time tie it to neoclassical economics. Public finance, traditionally, has neither contained a theory of demand nor one of supply. Public goods and services have not been central to this subdiscipline. Public finance has been rather straightforward applied price theory, and its scientific content has been limited to predictions about the reactions of individuals and firms to fiscal institutions. The scholar from outer space, coming to earth in the post-Marshallian era, might have concluded on perusing the English-language literature that governments exist wholly apart from their citizens, that these units impose taxes on individuals and firms primarily to nourish the state; and he might have thought that positive public finance consists in predicting the effects of these taxes. Normative public finance, observed alongside the positive elements, consists in pronouncements about how taxes *should* be imposed.

Marshallian economics is essentially a theory of the demand for and the supply of private goods, and of the institutions (markets) through which exchange takes place. Traditional public finance has been applied Marshallian economics with a liberal side dosage of utilitarian nonsense. The linguistic provincialism of English-language scholars precluded familiarity with early continental attempts to extend economic theory to public as well as to private goods. The words of Sax, Pantaleoni, de Viti de Marco, Mazzola, Erik Lindahl, and, most importantly, Knut Wicksell remained almost wholly ignored in English and American writings before World War II.

Through the work of R. A. Musgrave, Howard Bowen, Paul Samuelson, J. G. Head and others, this deficiency has been overcome to an extent during the last quarter-century. A theory of the demand for and the supply of public goods and services has emerged, built on the foundations of the late-nineteenth-century continental efforts, and this theory is now beginning to find its place in the elementary public-finance textbooks, especially those that have been written since the mid-1950s. No independent and systematic exposition of the theory has appeared; this provides the motivation for the present book.

The analysis is necessarily different even if not difficult, and there need be no pretense that this is an elementary textbook of the standard sort. A degree of sophistication in economic analysis is required and some familiarity with the content of theoretical welfare economics should prove helpful. I have tried, where possible, to present the analysis carefully. Although no claims are made concerning new theory here, my own insight and arrangement of the theoretical structure differ from those of some other scholars in the field. To this extent, the treatment is uniquely mine, and no attempt is made to assume a position of methodological objectivity. No claims are made concerning absence of analytical error here. The theory has not yet become received doctrine. For this reason, it remains interesting, but, by the same token, the theorist is likely to blunder.

The book is based on materials that I have presented in a second-year graduate seminar at the University of Virginia from 1957 to 1968. These materials have been modified each year, I hope with gradual improvement. They were first written up in manuscript form in the fall of 1961, when eight lectures were delivered at Cambridge University, where I spent the 1961–62 academic year. The version presented here was actually written during the 1964–65 and 1965–66 academic years, and the summer of 1966. Final revisions were made in late 1966 and early 1967.

The weekly papers that I have required of students in the graduate seminar were essential building blocks in the analysis. My indebtedness to all who participated should be acknowledged, especially in view of the apparent stress on analytical trivia often suggested in the assigned topics. Among the many participants in this seminar over the decade, particular note should be made of Thomas Borcherding, Otto A. Davis, Emilio Giardina, Charles Goetz, Mark Pauly, Charles Plott, Craig Stubblebine, and Richard Wagner, almost all of whom made postdoctoral, postcritical comments on earlier drafts of the full manuscript. Helpful advice for revision also came from J. G. Head of Australian National University, Milton Kafoglis of the University of Florida, David

Davies of Duke University, and, at many stages, from Gordon Tullock of Rice University. Detailed and helpful comments for revision were also provided by Tibor Scitovsky, who provided the encouragement to get this book in published form. Mrs. Betty Tillman deserves far more than the usual acknowledgement of appreciation for secretarial assistance, from me especially, but also from all who participated in the community of scholarship that characterized Rouss Hall in the 1960s. Funds made available through a National Science Foundation grant supported my work during the summer of 1966. I should also acknowledge with appreciation the assistance of Subrata Ganguly in preparing the Index.

J. M. B.
Charlottesville
February, 1967

The Demand and Supply of Public Goods

1. A Methodological Introduction

People are observed to demand and to supply certain goods and services through market institutions. They are observed to demand and to supply other goods and services through political institutions. The first are called private goods; the second are called public goods.

Neoclassical economics provides a theory of the demand for and the supply of private goods. But what does "theory" mean in this context? This question can best be answered by examining the things that theory allows us to do. Explanation is the primary function of theory, here as everywhere else. For the private-goods world, economic theory enables us to take up the familiar questions: What goods and services shall be produced? How shall resources be organized to produce them? How shall final goods and services be distributed? Note, however, that theory here does not provide the basis for specific forecasts. Instead, it allows us to develop an explanation of the structure of the system, the inherent logical structure of the decision processes. With its help we understand and explain how such decisions get made, not what particular pattern of outcome is specifically chosen.

This process of explanation involves several stages. There is first a set of conjectural predictions, a set of basic behavioral hypotheses, or laws. These may be wholly conjectural, requiring the mental feat of constructing the pound of *ceteris paribus*. On occasion, hypotheses may be derived that involve empirically testable implications, and when data can be assembled properly evidence may be adduced in corroboration or refutation. This strictly positive content of economic theory has, perhaps, been somewhat overemphasized in recent years to the partial neglect of theory's more basic function. This is the development of the logical structure of an economy through the making of what may be called inferential predictions. The trained economist can predict the general shape or pattern which tends to emerge from the exchange or market process. These predictions are not of the conditional "if *A* then *B*" variety, at least not in any directly analogous sense. Instead, these generalized predictions take the form, "*A* tends to equal *B*." The distinction here between elementary conditional predictions and inferential predictions has not been fully appreciated, perhaps because both are present in the central body of economic theory.

Conditional predictions take the form: If price falls, quantity demanded increases; if price increases, quantity supplied increases. All such conditional predictions, whether empirically verifiable or not, are combined to generate a logical structure for the whole system of behavioral interactions that we call the economy. To the extent that the conditional predictions in the set are valid, inferences may be drawn concerning the general characteristics of the outcomes that will emerge. These inferences are also predictions, and they are essentially descriptive in nature. They provide information about the relationships among variables: Prices will equal costs; wage rates for similar workers will be equalized; factors of production will earn their marginal product.

A vital link in the logical chain between conditional and inferential prediction has been deliberately omitted in the above sketch. Assume that the conditional hypotheses of the economist are valid. That is to say, the predicted behavioral responses are correct. Individuals will buy more goods when prices fall; firms will supply more goods when prices rise, etc. It is impossible to move from this knowledge directly to the statement that "prices will tend to equal costs," until and unless we postulate something about the institutional-organizational structure within which individuals are allowed to make choices. Orthodox procedure in this respect has been that of explicitly or implicitly postulating competitive organization. Once this missing step is added, the inferences about results or outcomes follow logically from the set of conditional hypotheses. The descriptive characteristics of the results can be indicated.

In their most sophisticated form, these characteristics are presented as the familiar statements for the necessary marginal conditions for efficiency or optimality, the presumed domain of theoretical welfare economics. It is important to note that these conditions are inferential predictions and that they are positive in content, given that competition is postulated as the organizational structure. These conditions become conceptually refutable predictions