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Nobel Laureate
On James Buchanan's Contributions to Public Economics

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When the 1986 Nobel Prize in economic science was awarded to James Buchanan, there was the customary flurry of media attention. As usual, the news stories attempted to summarize the laureate's lifetime accomplishments in a single phrase. In Buchanan's case, it appeared that he had won the prize for figuring out that politicians are motivated by self-interest. As with the "people want to save for their retirement" characterization of Franco Modigliani's research the previous year, the bemusement of the commentators conveyed the impression that there must have been more to it than that.

What the Nobel committee recognized in making its award to Buchanan was his central role in the gradual transformation of the way economists and political scientists study governments and their relationship to the governed. This transformation is still in its early stages. The analytical approach it implies—often labelled "public choice," though I prefer the term "political economy"—is probably not yet the dominant mode even in public economics (and certainly not in political science).[1] But because it provides a logically compelling way to integrate economic and political processes, it has attracted growing attention.

In this essay, I will focus on Buchanan's contributions to public economics, especially his linking of economic and political concerns. Although these topics are

[1]Even in relatively new fields, doctrinal distinctions emerge. "Public choice," as I intend to use the phrase, refers primarily to the "Virginia school" approach, especially that of Buchanan and of Gordon Tullock. "Political economy" (in this context) draws on this approach, but leans somewhat more heavily on insights from social choice and game theory. It is also more mathematically oriented in its modelling style. For an entertaining and informative account of some of the varieties of public choice, see Mitchell (1988).

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Table 1

Works by James M. Buchanan cited in this essay, listed in chronological order.

[1] "The Pure Theory of Government Finance," *Journal of Political Economy*, 1949, *57*, 496–505.
[2] "Federalism and Fiscal Equity," *American Economic Review*, September 1950, *40*, 583–99.
[3] "Federal Grants and Resource Allocation," *Journal of Political Economy*, June 1952, *60*, 208–17.
[4] "Social Choice, Democracy, and Free Markets," *Journal of Political Economy*, 1954, *62*, 114–23.
[5] "Positive Economics, Welfare Economics, and Political Economy," *Journal of Law and Economics*, 1959, *2*, 124–38.
[6] *Fiscal Theory and Political Economy*, Chapel Hill: University of North Carolina Press, 1960.
[7] "Simple Majority Voting, Game Theory, and Resource Use," *Canadian Journal of Economics and Political Science*, August 1961, 337–48.
[8] *The Calculus of Consent* (with Gordon Tullock), Ann Arbor: University of Michigan Press, 1962.
[9] "The Economics of Earmarked Taxes," *Journal of Political Economy*, October 1963, *71*, 457–69.
[10] "What Should Economists Do?" *Southern Economic Journal*, January 1964, *30*, 213–22.
[11] "An Economic Theory of Clubs," *Economica*, February 1965, 1–14.
[12] *Public Finance in Democratic Process*, Chapel Hill: University of North Carolina Press, 1967.
[13] "Efficiency Limits of Fiscal Mobility: An Assessment of the Tiebout Model" (with Charles J. Goetz), *Journal of Public Economics*, 1972, *1*, 25–43.
[14] "Political Constraints on Contractual Redistribution" (with Winston C. Bush), *American Economic Review*, May 1974, *64*, 153–57.
[15] "Public Finance and Public Choice", *National Tax Journal*, December 1975, *28*, 383–94.
[16] "Taxation in Fiscal Exchange," *Journal of Public Economics*, July-August 1976, *6*, 17–29.
[17] "Towards a Tax Constitution for Leviathan" (with Geoffrey Brennan), *Journal of Public Economics*, December 1977, *8*, 255–73.
[18] "Tax Instruments as Constraints on the Disposition of Public Revenues" (with Geoffrey Brennan), *Journal of Public Economics*, June 1978, *9*, 301–18.
[19] *Liberty, Market, and State*, New York: New York University Press, 1985.
[20] "The Constitution of Economic Policy," *American Economic Review*, June 1987, *77*, 243–51.
[21] "Tax Reform as Political Choice," *Journal of Economic Perspectives*, Summer 1987, *1*, 29–35.

generally considered to be the area of Buchanan's major contributions, he has also done considerable work on the theory of opportunity cost and has written extensively on philosophical issues, especially ethics.[2] Within the topics of public economics, I have made a personal, but I think not too idiosyncratic selection. Table 1 lists the works by James Buchanan cited in this essay, presented in chronological order. Throughout the paper I will refer to these articles by number, while all other references will follow the customary author (date) system.

At the time Buchanan began his professional career, positive analysis of the public sector consisted almost entirely of the study of tax incidence. Indeed, Alfred Marshall viewed incidence analysis as a perfect vehicle for teaching much of microeconomics, through the investigation of the impacts of exogenous fiscal variables.[3] (Incidence analysis, with technical advances that permit sophisticated general equilibrium computations, continues to form the bulk of published work in public finance.)

[2] Borcherding (forthcoming) and Rowley (forthcoming) discuss these works.

[3] Buchanan [15] makes this point in his discussion of the connections between public choice and public finance.

Normative public finance was based on the (often tacit) assumption that the society is ruled by a benevolent despot. In choosing policies, this ruler acts in "the public interest," correcting market failures, adopting tax structures that minimize deadweight losses, and engaging in appropriate redistribution. Much normative analysis in public economics is still characterized by this view of government.

Buchanan set out to challenge both the positive and normative aspects of the traditional analysis. He did not reject the relevance of positive incidence analysis, but he argued that it was incumbent on economists to study government as an integral part of the economy [6, p. 3]: "Governmental decisions are no more exogenous than are those made by the private economy. ... Any approach to a complete or satisfactory treatment of the public sector must examine as a central feature the way in which collective decisions are made." Since the government is part of the economy, in Buchanan's view, it must not be sectioned off as some exogenous cause of economic events.

Bringing collective decision-making to the forefront of the study of the public sector also requires a shift of normative focus. "The government" is no longer viewed as a machine that computes optimal solutions to social welfare maximands. Instead, in Buchanan's analysis, governments are part of the complex web of institutional arrangements whereby individuals seek to satisfy individual wants. The central normative question is how well the institutional structures perform in doing this.

In this view, the study of the public sector must be conducted within the same analytical framework that economists bring to the study of the private economy. Buchanan insisted on carrying out the positive analysis of government by applying methodological individualism (basing the analysis on individual constraints and incentives) to collective decisions, just as modern economics was doing in the study of markets. Institutions such as "markets" and "governments" do not have objective functions. Rather, institutions emerge through the attempts by individuals or groups of individuals to attain certain goals. In turn, of course, institutional arrangements create opportunities for and impose constraints on individuals.

Early Work

Buchanan's work has displayed a remarkable consistency of theme and outlook over his career. The emphasis on the individualistic view of the state, the focus on government as an exchange nexus, the concern over constitutional rules and their practical outcomes, the influence of the work of Knut Wicksell—these are all present from his earliest writings.

In one of his first publications, Buchanan [1] argued that the government is part of an exchange nexus. Individuals pay taxes and consume government goods and services. More broadly, individuals also rely on the public sector to define the constitutional framework under which commitments and obligations operate. Applying his argument to the study of fiscal incidence, Buchanan pointed out that the then almost exclusive concern with tax incidence tended to obscure the role of government in the exchange process. He stressed the need to look at the total impact of government on an individual by examining the incidence of both taxes and expenditures, rather than that of taxes alone.[4]

A 1950 paper [2] applied the notion of fiscal exchange to the question of horizontal equity in a federal system. Buchanan argued that the norm of "equal treatment of equals" means that, for a given individual, the net effect of tax and expenditure decisions of all levels of government taken together should be independent of the person's geographical location. To accomplish this, he proposed a system of intergovernmental fiscal adjustment. This plan would require geographically discriminatory federal taxes, because equalization would be across individuals rather than among governmental units. Buchanan recognizes that in the United States such discrimination would face major constitutional hurdles, whereas geographically discriminatory federal expenditures are not generally unconstitutional. He considers the legal asymmetry to be due in large part to "doctrinal errors made in economic and fiscal theory which have caused the expenditure side to be treated as a less important area of study than the tax side." We have here an early indication of concern that inappropriate ways of looking at the role of government (in this case, not linking taxing and spending) lead to unsatisfactory rules (asymmetric legal treatment of taxation and expenditure).

This paper, together with a follow-up [3], also anticipates the fiscal equilization debates of the 1960s and later,[5] and makes several important points about the distinction between grant-in-aid programs for specific public services (for example, to assure minimum education standards) and intergovernmental transfers that equalize individual opportunities across governmental units. Interarea transfers are justified not as "subsidization of poor areas," but through the application of horizontal equity among persons, taking into account both tax and expenditure effects.

As Buchanan has written many times, the most powerful influence on his thinking about the analysis of the public sector was the work of Knut Wicksell (see, for example, the Nobel lecture, published in [20]).[6] Wicksell's insistence that attention to the political process be kept part of the study of public finance was to inform all of Buchanan's research in public economics. Buchanan spent the decade of the 1950s in assimilating and elaborating the Wicksellian approach, both in print and through his influence in building a group of scholars at the University of Virginia.

[4] In a later look at incidence analysis [6, ch. 7], Buchanan compares direct and indirect taxes, and shows that relative incidence depends in an important way on what assumptions one makes about the use to which the government puts the tax revenues.

[5] For the most part, these debates have focused on the disparities in the abilities of local governments within a state to finance public services (especially education) from local tax bases. The design of a system of grants from higher to lower governments to help offset these disparities has spawned a large literature.

[6] Buchanan's translation of part of Wicksell's 1896 *Finanztheoretische Untersuchungen* is published as "A New Principle of Just Taxation" in Musgrave and Peacock (1958). Although he is not the only modern public finance scholar to note Wicksell's contribution (Musgrave had written an early critique of the voluntary exchange model and recognized Wicksell as a leading light), Buchanan is certainly the person who most thoroughly incorporated Wicksell's approach to the study of public economics.

James M. Buchanan

The publication of Arrow's seminal book on social choice theory (1951) prompted Buchanan to examine the basis of majoritarian decision rules from the Wicksellian perspective. In commenting on Arrow's Possibility Theorem, he argued [4] that the pervasive instability of majority rule—the strong likelihood of voting cycles—is precisely what makes majority rule viable in a heterogeneous democracy. The possibility that, in general, majority coalitions are unstable guarantees that majorities on any particular issue will be temporary. By reducing the probability that any one coalition will dominate for long, this instability can strengthen the willingness of diverse individuals to accept majority rule as a way of making collective decisions. Buchanan was writing two decades before the literature on agenda control, so it is not surprising that his argument does not address the broad scope for manipulation that the instability of majority rule makes possible. Nonetheless, his central point is original and important. Normative evaluation of collective decision rules must be focused not narrowly on the results of the rules, but on how the rules perform in the larger framework in which rules themselves are endogenous. The paper's main message is the need to keep clearly in mind the distinction between the operation of majority voting or any other collective decision rule and the decision about the choice of the rules. This message underlies nearly all of Buchanan's writings from this point on.

The Calculus of Consent

A much more complete elaboration of this theme is provided in *The Calculus of Consent* [8], written with Gordon Tullock. This book is widely considered to be among the most influential publications in modern political economy. Its scope is broad, its goals ambitious. Addressed as much to the political science audience as to economists, it begins with an aggressive development of the validity of methodological individualism applied to collective choice. The tone is combative, and the reader knows early on that the authors are looking for a good fight. They reject the then standard assumption in which the analysis of collective choice was grounded—that agents gather to find some "public interest" or "common good." They write [8, p. 20]:

> No one seems to have explored carefully the implicit assumption that the individual must somehow shift his psychological and moral gears when he moves between the private and social aspects of life. We are, therefore, placed in the somewhat singular position of having to defend the simple assumption that the *same* individual participates in both processes against the almost certain onslaught of the moralists.

While rejecting the notion that the collectivity is the decision unit, Buchanan and Tullock are sensitive to the fact that private and public choice environments are quite different, especially in their informational and incentive aspects. Because of these differences, we may expect individuals to make different exchanges in private than in collective choice.

If collective choice is to be viewed as part of the exchange nexus in which individuals participate, then what is to be kept in the private sector and what should be subject to collective decision? For public allocation, what should be the decision rule? These are the two major questions that Buchanan and Tullock begin to answer. For them, the key to both lies in viewing the economy as a set of institutions whose structure is determined in part through the voluntary participation of individuals. The "contract theory of the state" developed in *The Calculus of Consent* moves Wicksell's analysis of taxation into the realm of constitutional choice. In his Nobel lecture [20], Buchanan noted that he thought this was the book's major contribution. In this formulation, individuals make a "constitutional" decision about how to draw the line between collective action and private action. Individuals recognize that some mutually beneficial exchanges cannot occur if all action is restricted to purely private transactions, and thus set up a constitution to provide political markets (for collectively provided goods) as a way to try to attain such outcomes.

The central problem for individuals at the stage of considering various constitutions is that any collective decision rule other than unanimity will have coercive aspects. How should an essentially voluntaristic model of politics deal with this problem? The answer for Buchanan and Tullock lies in viewing the formulation of a constitution as occurring in an idealized setting, where the following *Gedanken* experiment is performed.[7]

Imagine a group of persons gathered to enact rules to govern future collective decisions. They may foresee that different rules will have different distributional consequences, and so there will be conflicting interests about what rules to adopt. But suppose that they recognize that the rules they are selecting are to apply far into the

[7]At about the same time, the philosopher John Rawls (1971) was independently developing a theory of justice using a formulation of the constitutional environment quite similar to that of Buchanan and Tullock.

future—sufficiently so that everyone's expectations about future positions are essentially the same. Or alternately, just assume directly that people at this stage make decisions under a "veil of ignorance" about their own future positions. Then it is more likely that there will be consensus on general rules for collective choice. Indeed, Buchanan and Tullock argue that unanimity over rules may well emerge. In such a setting, they write [8, p. 77], "[A]greement seems more likely on general rules for collective choice than on the later choices to be made within the confines of agreed-on rules." This unanimity argument allows Buchanan and Tullock to sidestep the infinite regress problem of "what rule should be used to decide how to choose the rules," and so on.

In deciding what activities to undertake through collective organization, the main concern of individuals considering possible constitutions is to minimize what Buchanan and Tullock call "costs of social interdependence." These consist of direct external costs and the costs of organizing to mitigate the externalities. In some cases, private organization through voluntary exchange will suffice.[8] In others (such as pure public goods provision), collective organization is needed. In assigning some role to collective action, a decision must also be made as to the voting rule required for collective decisions.

If collective decisions require approval by only a relatively small minority, organization or decision costs are kept low. Such a rule, however, implies a high probability that external costs are borne by the majority who are on the losing side. At the other extreme, under unanimity, external costs are fully internalized (since unanimous consent cannot be achieved without compensation), but decision costs can be very high. Weighing these typically opposing costs is the essence of the constitutional calculus facing each participant.

Where the potential externality costs are likely to be high relative to the decision costs, such as in the definition of basic property rights, the constitutional choice is likely to favor a near-unanimity rule. For other issues, less stringent rules will suffice. If we assume that rules emerge in this way, the Buchanan-Tullock approach becomes the basis for a positive theory of institutional structure.

In *The Calculus of Consent*, several chapters are devoted to analyzing the allocative effects of majority rule.[9] (These chapters are based in part on [7].) A simple game-theoretic example demonstrates that in voting situations that, though abstract, do have some realism, the likely outcome is a relative "overprovision" of collectively supplied goods. From this perspective, it follows [8, p. 169]:

[8]Ronald Coase (1960) explored private arrangements for mitigating externalities. Coase was concerned primarily with small groups. His analysis dovetails with that of his Virginia colleagues Buchanan and Tullock, who focused on larger groups.

[9]The economic aspects of using voting as a way to allocate resources had been explored by Hotelling (1929) and Bowen (1943). Hotelling drew the analogy between locational equilibrium among competing firms and competition among political candidates. Also, competition between two political parties is the basis for much of the discussion in the pathbreaking work of Downs (1957). Bowen analyzed voting as a way to decide spending on a collectively provided good. Bowen noted that, for some special cases, voting could lead to a Pareto optimal allocation of the publicly provided good.

> There is nothing inherent in the operation of [a majority voting] rule that will produce "desirable" collective decisions, considered in terms of individuals' own evaluations of possible social alternatives. Instead, majority rule will tend to result in an overinvestment in the public sector when the investment projects provide differential benefits or are financed from differential taxation. There is nothing in the operation of majority rule to insure that public investment is more "productive" than alternative employments of resources.

This result is independent of the social choice properties of majority rule discussed by Arrow. Instead, it follows from the fact that the majority can shift some of the cost of provision onto a minority.[10] The private marginal cost of public provision to someone in the majority is less than the social marginal cost. (This cost shifting is one example of the sort of "external cost" that individuals may anticipate in the constitutional stage.) This, in turn, leads to "overprovision" of this particular good. Some of these effects may be mitigated if, through vote trading across issues, voters are effectively able to express intensity of preference as well as simple approval/disapproval.

It is also possible to construct examples where majority rule leads to underprovision of the public good. Although Buchanan and Tullock seem to view this outcome as less likely, one of the central messages of *The Calculus of Consent* is that, in any case, the usual Pareto criteria for evaluating allocations may not be the right way of looking at things. Indeed, for much of Buchanan's later work, it is the normative elaboration of the constitutional argument that has been most important. The normative argument advanced in *The Calculus of Consent* develops points made earlier in [1], [4], [5], and [7]. In a nutshell, the argument is that looking at the efficiency of allocations after they have arisen from the operation of particular rules may often be missing the point. One should look, instead, at the process that gave rise to the rules, and examine the rules themselves in light of that process.

After recognizing that majority rule is likely to lead to inefficient outcomes, for example, one should look back at the origins of the rule as a decision-making device. When they were considering their constitution, individuals may well have anticipated at least some of the costs of using majority rule, including the possible overextension of public relative to private provision. These costs would have been traded off against the costs of complete privatization as well as the costs of using some other, more restrictive, form of voting. From the perspective of those deciding on a constitution, the rule selected may have been the efficient choice—even though it may appear inefficient after being put into effect. Buchanan and Tullock write [8, p. 210], "To make normative statements concerning whether or not governments undertake 'too much' or 'too little' activity seems to be rather wasted effort unless one is prepared to suggest some possible [i.e., feasible] modifications in the organizational rules through which decisions are made..."

[10] This possibility may be limited by the ability of members of the minority to leave the polity.

In this normative setting, the performance of the public sector cannot be evaluated as if the economist were giving advice to a benevolent despot. Instead, one must bear in mind the complex process of political exchange from which collective decisions result. This does not make normative analysis vacuous, but it does make it more difficult. As Buchanan later explained [15, p. 391], it requires accepting a "paradigm of the political world ... that embodies the democratic-individualist standard that persons should get what they want so long as each person counts for one." So changes are in order if policies result from failures of representation or information that distort individual choices or votes.

In focusing on the distinctions between optimality from the perspective of those designing the constitution and optimality from the perspective of those living under it, the constitutional criterion anticipated the work of theorists who began looking at the design of allocation mechanisms in the 1970s. That literature also stresses the importance of evaluating institutional arrangements by looking at how well they serve to facilitate exchange in the light of informational considerations and organization costs, rather than judging only by the efficiency of particular allocations that result from a particular institutional choice.[11]

Applying *The Calculus* to Public Finance

Earmarked and General Fund Taxes

The apparatus developed in *The Calculus of Consent* was applied by Buchanan to a wide variety of questions in public finance. A particularly interesting example is his analysis of the economics of earmarked taxes in [9] and chapter 6 of [12]. Earmarking ties the use of a particular tax to a specific type of expenditure; for example, federal taxes on the sale of gasoline are used to finance expenditure on highways. Traditional analyses of earmarking tended to decry the practice as making little budgetary sense, serving only to reduce the flexibility of administrators in their attempts to allocate revenues among functions.

Buchanan approached earmarking by considering how the method of financing government activities affects the demand for each activity. If individuals differ in their demands for government services, then they will also differ in their preferences over the method of financing. Thus, some groups will prefer that services be financed from general revenues, while others would like to see them "unbundled," with taxes earmarked for particular services. The political equilibrium depends on the distribution of preferences. In this view the tax structure becomes a matter of importance, because it will affect the level as well as the mix of expenditures.

Buchanan also argued that tax structures have important informational effects. As a close student of the Italian school of public finance[12]—the school whose

[11] An early statement can be found in Hurwicz (1960), but its fuller development occurred later. See especially Hurwicz (1972). For an exposition in the context of contract theory and mechanism design, see Holmstrom and Myerson (1983).
[12] See ch. 2 in [6].

adherents had developed the notion of fiscal illusion—he noted that efficient individual decision-making requires awareness of costs as well as benefits of public activity. Tax structures that are divorced from particular expenditures are more likely to foster ignorance of the connection between costs and benefits. Or as he put it [18, p. 317], "General-fund financing insures that fiscal choices are made under almost maximal uncertainty."

Clubs and Communities

It is often convenient to divide goods as being either purely private or purely public. But in his 1965 paper, "An Economic Theory of Clubs," Buchanan [11] began the investigation of the organization of exchange for goods that do not fall nicely at either extreme. Such goods have the property that, unlike pure private goods, some sharing may be desirable. Unlike pure public goods, however, consumption of these goods may be subject to congestion, so at some point exclusion may be desirable (crowding effects occur). Again Buchanan based his analysis on individual utility maximization. For the goods in question, utility depends not only on the individual's consumption, but also on the number of people sharing the good. He developed first-order conditions for efficient allocation of "club goods," and showed that optimal organization of "ownership-consumption" rights may be analyzed with the tools of neoclassical demand theory.[13]

One area where the theory of clubs has been applied is in the study of community formation and organization. Some of this work has been done in the context of trying to formalize the model suggested by Tiebout's influential article (1956) on the efficient provision of public goods. Tiebout suggested that since individuals can move between different local government jurisdictions, local governments can be considered as a market offering a greater or lesser range of local public goods at greater or lesser cost. Competition among jurisdictions would lead to efficient provision of local public goods.

In one of the first papers to investigate the efficiency properties of the Tiebout framework, Buchanan and Goetz [13] focused on the adjustment process inherent in "voting with one's feet." When public goods and services are locally provided, and communities are geographically defined, a person moving between communities imposes fiscal externalities on both the place he leaves and the one he enters. This is because, in making locational decisions, individuals compare only private costs and benefits. They do not consider the impact of their locational decisions on the tax prices of other residents.

For these externalities to be internalized, Buchanan and Goetz pointed out, communities would have to adopt discriminatory tax and spending structures and entry rules that capture individual-specific locational rents. A system of "profit-max-

[13]Among other things, this analysis showed that the pattern of sharing arrangements will be related to such economic factors as income [11, p. 1]: "European hotels have more communally shared bathrooms than their American counterparts. Middle and low income communities organize swimming-bathing facilities; high income communities are observed to enjoy privately owned swimming pools."

imizing" towns could, in principle, accomplish this. However [13, p. 38], "the organization and operation of a fiscal sharing group on this basis violates the central notion of free migration, the notion upon which the models of Tiebout adjustment process are initially founded." Since the Buchanan-Goetz paper, a variety of other difficulties with the Tiebout claim have been identified; efficient allocations arise only in quite special cases.[14]

Redistribution

In the constitutional framework developed in *The Calculus of Consent*, the redistributional consequences of voting rules are incorporated as part (perhaps the major part) of the externality component of interdependence costs. The contractually derived institutions may incorporate explicit redistributive norms. These norms can reflect agreed-upon principles of justice that call for income or wealth transfers among individuals in the post-constitutional period.

In an insightful brief paper, Buchanan and Bush [14] pointed out the limitations that post-constitutional politics impose on the application of constitutionally derived redistributive rules. For example, suppose that the constitution embodies the Rawlsian difference principle. By this principle, differences in individual incomes are justified only to the extent that the income distribution that results permits a higher level of well-being for the worst-off individual than could be achieved under alternative distributions. Rawls (1971) argues for this principle by invoking the idea of a "veil of ignorance;" if people do not know what position they will hold in society, Rawls claims, they will take care to assure that the worst-off individual is as well off as possible. Implementation of this principle will typically require policies to redistribute income in post-constitutional periods.

But Buchanan and Bush point out that when the redistribution is actually scheduled to take place, people are no longer operating under the "veil of ignorance." At that time, all people know their own incomes and have some knowledge of how proposed transfers will affect them. Since the redistribution must occur through the political process, it must be acceptable to the constitutionally required majority. It is easy to show that, in many plausible cases, a democratic political process will not implement the constitutionally desired redistributive norm.

While recognizing such limits on the practicality of placing redistributive concerns in a constitutional setting, Buchanan has insisted on the normative message that the constitutional level is precisely where debate about redistribution belongs. Otherwise, the day-to-day operation of government becomes a struggle over redistribution, with more and more frequent instances of majorities exploiting minorities. The constructive vision of politics as an exchange process for mutually advantageous trades is, in this view, eroded by use of the public sector as a battleground for redistribution.

Of course, in practice, it will be very difficult to separate out all questions of distribution from those of allocation, and Buchanan does not provide unambiguous answers on how to do this. Rather, he emphasizes the importance of continually

[14]See Stiglitz (1977) and Bewley (1981).

scrutinizing the legitimacy of government action in the context of voluntary exchange. An extended quote is perhaps the best way to summarize the forcefulness and asperity with which Buchanan [16, p. 29] holds this view:

> The exchange framework tends to promote a constructive attitude toward governmental process, an attitude that accentuates the cooperative aspects, that underlines the prospects for mutuality of gain for all citizens. The alternative framework [advocating government as the agent of ongoing redistribution, for example, along the lines of the optimal income tax literature] may lead citizens and their political spokesmen to accentuate the profit-and-loss aspects of political competition, to promote a willingness on the part of a dominant coalition to impose its will on its minority opposition, and conversely, to generate in the minority an acceptance of a quasi-Marxist and exploitative view of governmental process. These public attitudes become more significant as the size of the public... sector grows relative to the national product. To this point in American history, the relatively limited scope of overt fiscal exploitation can, I think, largely be explained by a generalized and widely-shared sense of fiscal exchange which has informed public thinking about both constitutional and post-constitutional decision processes. To the extent that the fiscal process, and politics generally, comes increasingly to be viewed as a source for profit opportunities, unrestricted by constitutional precepts, we must predict decreasing fiscal equity along with further departures from efficiency, almost regardless of how these objectives are defined.

The Supply Side of the Public Sector

The framework developed in *The Calculus of Consent* brings politics into the purview of public economics. The view of politics is, however, entirely driven by the demands of individual citizens. There are no political agents or government bureaucracies. To the extent that representative government is discussed, the focus is on the appropriate degree of representation, taking into account gains in reducing decision costs as well as possible losses due to incomplete representation of individual preferences. The incentives of representatives and of suppliers of public services are absent from the picture.

In this setting, the actual operation of the government may not be a social-welfare-maximizing machine, but it is still very much a black box. The level of public services (taxes, expenditures) is determined entirely by demand considerations, as aggregated through the constitutionally specified voting rules.[15] The supply side of the public sector delivers these services at the level demanded. However, a growing body of work in economics and political science had been looking at the behavior of legislators and bureaucracies. Particularly influential was the work of the "Rochester

[15]In public economics, this is most frequently seen in the by now standard application of "median voter" characterizations of political/economic interaction.

school" of political science on legislative politics (Mitchell, 1988), and books by Gordon Tullock (1965) and William Niskanen (1971) on bureaucracy.

Buchanan's published work pretty much ignored the supply side until about the mid-1970s. Prompted, I think, largely by the rapid growth of government spending in the late 1960s and early 1970s, he began to look at the problem of how supply side considerations should be brought into the constitutional choice framework.[16]

Key ingredients in this endeavor were his acceptance, at least at the analytical level, of Niskanen's view of government bureaucracies as seekers of ever larger budgets, subject to the constraints of the political process. Niskanen provided informational and structural reasons why these constraints were not likely to eliminate or perhaps even significantly curb the tendency toward the budget-maximization. In work with Geoffrey Brennan ([17] and [18]), Buchanan asked: Suppose that, when the constitution is being drawn up, individuals forecast that in post-constitutional periods, governments will act in a revenue-maximizing, rather than a purely demand-driven way. What constitutional rules might serve to mitigate this? (The analysis requires, of course, that the government will obey constitutional rules.)

The answer that emerges is to choose rules that limit the revenue-raising ability of government and constrain its freedom to choose the spending mix. One consequence of this view is that expanding the comprehensiveness of the tax base is not generally a good idea; it may facilitate wasteful increases in taxes. We also see a rationale for designing a structure of earmarking so that each type of government activity is financed by a tax on a base that is complementary to the activity. Earmarked taxes may result in efficiency costs when viewed from the time when the constitution is already in place, but from the standpoint of constitutional design, they serve the important purpose of constraining excessive spending. (In his article in the Summer 1987 issue of this journal, Buchanan [21] applies this approach in a critique of the 1986 Tax Reform Act.)

In his most recent work, Buchanan has focused largely on elaborations of these considerations, particularly with respect to the use of rules that mitigate prisoners' dilemma problems that arise from the rational, self-interested behavior of political entrepreneurs. Most prominent among these is his characterization of the tendency toward large budget deficits as a result of the incentives faced by legislators, and his advocacy of constitutional rules requiring balanced budgets.

Concluding Thoughts

In all of this, Buchanan has remained steadfastly controversial. Though his analytical work is based firmly on the calculus of individual choice, his discussion of political organization has always had a moral concern. He has inveighed against Keynesians for undermining what he believes was a social contract against routine deficit spending. He is equally harsh on the Reagan administration for further eroding

[16]Buchanan gives his own views on his change of focus over this period in ch. 2 of [19].

the moral consensus against burdening future generations with the excesses of today's deficits. He has taken mainstream economics to task for being driven by technique rather than substance, and has decried what he sees as the sterility of most theoretical work. He is no kinder to the bulk of empirical research, and as far as I know has never published an empirical paper. I suspect he even views much of the current work in political economy/public choice, as it becomes more fully integrated into the mainstream of economics or political science, with some dismay.

His message to economists in his Nobel lecture [20] is not much different from that in his 1964 Southern Economic Association presidential address [10]: In proffering policy advice, economists should focus on the underlying institutional structure, and keep the interaction of economics and politics firmly in mind. This is particularly good advice for students of public economics. The integration of politics and economics into a modern, coherent framework has barely begun. Throughout his work, Buchanan has championed the basic importance of this research and played a central role in defining its agenda.

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