

WHAT IS MISSED IF WE LEAVE OUT COLLECTIVE CHOICE IN THE ANALYSIS OF TAXATION

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Abstract - *Omission of collective choice prevents the analyst from understanding the central role of political equilibrium. To create a framework that places tax policies in a broader equilibrium context, we must model the underlying collective allocation mechanism and use it as a starting point, whether we do empirical work explaining observed features of tax systems or whether we engage in research on tax efficiency. A broader perspective of this nature also forces us to re-examine well-known concepts, such as tax expenditures, flat taxation, and the marginal efficiency cost of public funds, and to question and reinterpret some of the conclusions that have been reached in the literature related to these concepts.*

INTRODUCTION

Omission of collective choice analysis causes us to miss a concept that is

fundamental to the understanding of taxation, namely, political equilibrium. Outcomes in the public sector are a consequence of the balancing of political forces taking place in the context of resource use in both the private and the public economy. If this is acknowledged, we must create an explicit link between collective choice mechanisms describing political equilibrium and the determination of tax policies.

We show in this paper how the perspective on tax research is changed if such a broader approach is adopted. We start by considering collective allocation mechanisms that can serve as a basis for positive tax analysis. This is followed by a discussion of how an explicit acknowledgment of political equilibrium affects the normative evaluation of tax systems and tax policy proposals. At various points in the paper, we draw out the implications for the use of several major policy concepts or issues, such as tax expenditures, the flat tax, and the marginal efficiency cost of a tax source.

In keeping with the purpose of the symposium, references to the literature are kept to a minimum and are intended to be illustrative in nature.¹

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ALLOCATION MECHANISMS AND THE ANALYSIS OF EQUILIBRIUM IN THE PUBLIC SECTOR

The concept of an allocation mechanism plays a crucial role in economics. Markets provide the most familiar example. Buyers and sellers transact with each other according to a given set of rules. Outcomes depend on the motivation of the participants, on their numbers, and on the framework of rules, as well as on available information. Depending on the number of those acting as sellers and/or buyers, and on the nature of interaction, we get different market structures and quite different prices and quantities in equilibrium.

Economists approach the analysis of allocation mechanisms, such as markets, by asking four basic questions: (1) How does the mechanism work? (2) Does it result in an equilibrium allocation and what are the values of the major variables in equilibrium? (3) Is the equilibrium allocation stable? (4) Is it efficient? ²

In the public sector, the role of markets is assumed by voting mechanisms of various sorts. While the resulting decisions are collective rather than purely individual, they nevertheless serve the same overall purpose, namely, to determine output levels and, by implication, factor use for the production of public output. Collective choices also determine who pays for the provision of public output and who receives the benefits.

Because voting mechanisms serve a purpose analogous to that provided by markets, it is appropriate to ask similar questions for both. Such questions are at the heart of analyzing the use of scarce resources and, therefore, must

have relevance to both sectors. In the same way that it is necessary to understand the functioning of markets in the private economy, it is necessary to understand the operation of voting mechanisms in the public sector. Different collective choice arrangements lead to different outcomes, have different stability properties, and have different implications for the normative assessment of public policy.

Modeling Collective Choices

An analysis, be it positive or normative, that disregards public choice, nevertheless, must posit a decision-making framework to describe the behavior of politicians and public servants. This may involve someone who chooses policies to maximize the welfare of a mythical representative citizen or a planner who maximizes a welfare function determined outside of the model. As has been pointed out by other writers, such an approach imputes motives to public decision makers that differ radically from those specified for their private counterparts, who are assumed to maximize their own utility. It also disregards the essential nature of the public decision mechanism, which has as a primary role the aggregation of diverse and generally conflicting objectives of different citizens into an overall outcome.

Brennan and Buchanan (1980) and others have drawn attention to the importance of the motivation of public officials in the analysis of taxation. Prescriptions for tax policy formulated for a neutral planner may have unforeseen consequences, for example, if they are implemented by a government that attempts to maximize revenue from the private sector rather than to maximize welfare. Optimal tax rules that allow revenues to be increased while sup-

pressing economic activity as little as possible can become rules for exploiting citizens and for enlarging the public sector (Brennan and Buchanan 1980: 80–82).

On the other hand, it is important to note that not all collective choice models give a full description of the implied allocation mechanism. While the Leviathan model has served the useful function of drawing attention to the appetite of public decision makers for private resources, it does not model a process where citizens participate in a meaningful manner and where public decision makers are constrained by voters. Nor is it clear whether the dictatorial elite in a Leviathan world would be stable and whether a unique equilibrium would exist if entry and exit into the government elite were allowed.

This suggests that the question in the title of the paper should be extended somewhat. We may not only want to ask what is missed if public choice is disregarded, but also what may be missed if we allow for collective choice but choose a model that is too restrictive to give a full description of the allocation mechanism that actually applies.

There are several available frameworks in the public choice literature that can be used to analyze taxation and other public sector choices. Because of space constraints, we shall mention only three here. The most familiar one is the median voter model. In addition, there is work based on the concept of structure-induced equilibrium and analysis based on probabilistic voting. All these approaches imply somewhat different answers to the four basic questions posed above and result in different predicted outcomes.

The difficulties raised by the median voter approach relate primarily to the

stability of outcomes. As is well-known, outcomes in a median voter framework are stable only under very restrictive conditions—choices can occur only in one dimension and preferences of voters must be single peaked. These conditions rarely apply in the real world. Tax choices made by legislators, for example, are inherently multidimensional, since budgetary procedures generally involve adjustments of a multitude of revenue instruments. Analysts who use this framework are forced to place severe restrictions on the process of choice—decisions on different tax parameters must be made sequentially and be independent in the minds of those involved. In addition, it must be assumed that there is no agenda setting that restricts the alternatives over which voting is allowed. Otherwise, the median voter's most preferred outcome will not be the winner.

Work based on structure-induced equilibrium analysis introduces specific institutional features of legislatures and committees ("the structure") to explain how the choices facing elected officials are limited, and shows why such institutional arrangements result in an equilibrium rather than vote cycling in a multidimensional issue space.³ This approach thus extends the median voter model by placing it in a more realistic institutional context. It opens the possibility of studying the influence on equilibrium tax choices of committee structure and other specific features of congressional or parliamentary systems of government. One should note, however, that the institutional framework itself is not explained and that the deeper question of why there is no cycling over institutional features is not addressed directly.

Probabilistic voting starts from somewhat different premises. Parties are

unsure about how voters will cast their vote in the next election. They view all voters as potential supporters, with each having a different probability of voting for the party. Parties structure their platforms and policy mix so as to maximize expected support and keep adjusting policies continually toward this goal. Voters, in turn, evaluate different policies according to the utility that they will derive from them and cast their vote accordingly. The framework predicts stable equilibrium outcomes for choices in multiple dimensions. On the other hand, it lacks specific institutional features and specific references to actual governing arrangements.

The brief review of models indicates that analysis of public sector outcomes raises many interesting methodological questions, which require the attention of economists in the field. If we disregard collective choice, we miss the understanding of how allocation mechanisms influence public and private outcomes. But beyond that, we also fail to address the more specific questions of how to model equilibrium allocation in some detail and how to link it to observed institutional features.

Implications for the Positive Analysis of Taxation

The broader way of looking at the public sector puts a direct focus on equilibrium. Political equilibrium is as important as the balance of forces in the marketplace. In addition, we become more aware of the substitution of policies—governments can achieve the same aim by using different means. If their main aim is re-election, they will use all available policy instruments to pursue this goal, and there will be political as well as economic trade-offs in the use of instruments. This will apply,

for example, to the joint use of various taxes. Since each tax has a different political cost function associated with it, reflecting factors such as the costs of organizing political opposition and the economic adjustments to taxation associated with a particular base, governments will aim for a tax mix that equalizes the marginal political costs of raising another dollar of revenues from various sources.⁴ They will readjust this mix if outside factors change that affect particular political cost functions. For this reason, we may expect frequent changes in tax laws. Often, these changes will be presented as tax reform, yet they may not arise from any normative concerns, as the term "reform" seems to imply. Governments merely readjust revenue mix in order to respond to different economic or political realities.

Furthermore, policy instruments themselves may arise as a consequence of the pursuit of political objectives. Hettich and Winer (1988, 1998) and Warskett et al. (1998) argue that tax bases, rate structures, and special provisions can be explained in this manner. Governments group related activities into composite tax bases to lower transaction costs for themselves—the costs of becoming informed about taxpayers, of designing tax structures, and of enforcing tax laws. In a similar manner, they combine taxpayers into rate bands, rather than taxing each individual at a unique rate. However, such grouping creates a loss in expected support, since differentiated treatment of heterogeneous taxpayers would maximize expected political support in a frictionless world.⁵ Governments must balance this loss against the gain in support from spending fewer resources for administrative activities and more resources for the provision of public goods.

By extension, similar arguments can also be used to explain the existence of special provisions. If there is a group that offers effective opposition to the inclusion of a specific economic activity in a particular base, it may be cheaper to placate it with a special provision, rather than with the creation of a separate base for the disputed item. Thus, capital gains may become part of a fairly broadly defined income tax, while being taxed at a rate that differs from the rate applied to other types of income.

The focus on the equilibrium mix of policies has important implications for tax analysis. To take an example, it casts doubt on the separate treatment of tariffs in a context where they are a significant source of revenues. This was the case at earlier stages of economic development for both Canada and the United States and may still be true today for some developing countries. In 19th century Canada, for example, tariffs were the major source of revenue, together with borrowing in foreign capital markets and excises on commodities such as tobacco and liquor. Setting of tariffs therefore involved a trade-off among these three revenue sources, as well as questions of protection for domestic production.

In a more modern context, differences in the size and nature of available tax sources, as well as in the tastes of, and constraints faced by different groups in the electorate can help to explain the considerable variation in fiscal policies observed among states in the United States (Chernick 1997; Hettich and Winer, 1998) and among provinces in Canada, as well as variations in national policies among developed countries, such as the members of OECD (Goodspeed, 1997). In such empirical research, it is important to consider the

choice of the collective allocation mechanism and to forge an explicit link to the voting framework that the researcher uses as a basis for his work.

The possibility of an endogenous explanation for special provisions also has implications for the understanding of other policies. In particular, it throws doubt on the concept of tax expenditures, which has been widely used in recent years. From this perspective, special provisions are seen as a rational response by governments who compete with opposition parties in future elections. They cannot be interpreted as deviations from some ideal tax base designed to satisfy particular normative criteria, which may have limited or little support among voters. Nor are they introduced primarily as a hidden substitute for direct subsidies, as is so often argued in the tax expenditure literature. Special tax provisions would exist even in a world where no attempt is made to give direct subsidies to encourage particular activities. We shall return to this point below, where the use of the tax expenditure concept in normative analysis is considered.

One should also note that calculations of tax expenditures become quite suspect. Although those who refer to such figures often are aware of the limitations that arise because the economic consequences of removing the provisions are not taken into account, they rarely, if ever, point out that the existing size of the budget represents a political equilibrium. It is hard to imagine that the balancing of political forces would ever allow a government to raise the "revenues foregone" that are determined in such calculations. In fact, one may suspect that abolition of all so-called loopholes would result in a lower overall budget, since removal of available policy instruments increases the political costs

of raising a particular budget.⁶ A meaningful discussion of alternatives must thus consider political as well as economic equilibrium.

A final application concerns the flat tax. Those who have followed the discussion of recent proposals that are labeled with this name will realize that the term is applied loosely in public discussion, since the comprehensiveness of the proposed tax bases varies widely. Nevertheless, it is possible to comment on the topic in general. If special provisions are indeed a means of making the tax system politically more efficient, it will be unlikely that a policy can succeed that removes this type of policy instrument completely. We may expect democratic tax systems to be complex tax systems. While "reforms" can occur that lower complexity to some extent, if this becomes a politically popular aim, the result will probably be a tax system that retains a considerable amount of complexity.

In addition, one should note the implications for the use of other policy instruments. If the personal income tax, for example, were made into a "flat" levy, governments may well react by introducing more special provisions into other tax instruments. Furthermore, substitution may also be possible with other, somewhat less directly related policies, such as regulation. Special interest groups that lose favored tax treatment may succeed in obtaining relief through new regulatory measures. Forced simplicity in one policy area may thus lead to greater complexity elsewhere.

NORMATIVE ANALYSIS WHEN TAX STRUCTURE IS AN INTEGRAL PART OF A POLITICAL EQUILIBRIUM

The fourth question relating to an allocation mechanism concerns economic efficiency. It takes us into

normative analysis, where we judge equilibrium outcomes according to some predefined standard. Such analysis for allocation mechanisms operating in the private sector usually refers to the concept of Pareto optimality, and the demonstration that one mechanism—the competitive market—yields an equilibrium allocation that is optimal in this sense plays a key role. Normative analysis for the public sector can be carried out in the same general manner. We can evaluate the nature of political outcomes, as that of private markets, in relation to Pareto efficiency, and we can inquire into the conditions under which a political equilibrium is efficient.

Because of the wide use of the median voter model, some analysts feel that allocations representing a political equilibrium cannot be optimal except under highly unrealistic conditions. While it is true that the preferred choice of the median voter is rarely Pareto efficient (see, for example, Bergstrom (1979)), the same conclusion does not hold for the outcomes of all collective allocation mechanisms.

In addition to assessing the nature of a political equilibrium in a manner similar to that used in private sector analysis, we can evaluate the impact of specific policy proposals. However, an additional question must be answered in this context, namely, whether our recommendations are consistent with the operation of the collective choice mechanism.

The most widely used type of formal normative analysis, the theory of optimal taxation (see, for example, Mirrlees (1976)), disregards collective choice and postulates a planner who maximizes a social welfare function. While this work is theoretically sophisticated, it suffers from a serious short-

coming that we have already hinted at: It remains unclear why evaluations flowing from this approach should be consistent with the democratic approach to solving public sector problems that society has chosen.⁷

In the remainder of this section, we shall illustrate some of the implications for normative tax analysis when the nature of equilibrium in both public and private sectors counts. A more general discussion doing justice to all the available literature would take more space than is available for this article. The discussion presented below draws mainly on our own work making use of the probabilistic voting model.

Three Steps in Welfare Analysis

An examination of the foundations of normative theory in economics points to three analytical steps needed to construct an appropriate framework in the presence of collective choice. To begin, an analysis is required that plays the role of the first theorem of welfare economics (the "invisible hand" theorem) in the context of political economy. Put differently, a set of ideal conditions must be formulated that serves as a counterfactual, and a proof must be provided that, under these conditions, equilibrium tax policies will be efficient. The second necessary step is development of an analogue to the analysis of private market failure. Cases where the basic theorem does not hold must be identified and an examination of such cases developed to give guidance to policy analysts. Third, measurement is required to make the analysis complete. It is necessary to formulate ways of assessing the consequences for welfare, or other specified social objectives, of any suggested policy changes, so that comparisons across alternative proposals become feasible.

We shall offer brief comments on steps 1 and 2, and then turn to a more extensive examination of issues associated with step 3, which thus far has received the least attention in the literature. As a way of illustrating some of the issues that arise in taking the third step, we focus on work evaluating the marginal efficiency costs of different tax sources and on the concepts of tax expenditures and broadly based taxation.

The standard of reference and the analysis of political market failure

It can be shown that, under certain conditions (including the concavity conditions required for existence of an equilibrium), the resulting allocation in a probabilistic voting model is Pareto efficient. The intuition is the following: Assuming that voters cast their ballots strictly on the basis of how policy outcomes affect their utility, adoption of a fiscal platform that makes some voters better-off without making any other voter worse-off must increase overall expected support. Competition for office ensures that, in a political equilibrium, no such Pareto-superior policy platforms remain to be adopted. This result, which is sketched somewhat more fully below, has been shown formally by Coughlin and Nitzan (1981), Ledyard (1984), and others. We shall label the tax structure that emerges in such a perfectly functioning representative democracy an optimal representative tax (ORT) system.

Many applied tax policy analyses (for example, Jorgenson and Yun (1991)) use an equal yield, lump sum tax system as their point of departure for judging proposed policies. As a way of linking our discussion to current methods of tax policy evaluation, it is of interest to ask how an ORT system compares to this often used standard of reference.⁸

In a normative public choice analysis, lump sum taxation cannot serve as the standard of reference since it cannot be assumed that such taxation represents the outcome of a competitive political process. As explained above, tax structure represents a compromise between attempts to discriminate among voters in order to increase support and attempts to save on transaction costs. The resulting tax system is likely to be complex and to include arrangements that result in some separation of spending and taxing in the minds of citizens, even when the political system is perfectly competitive. Such separation will arise whenever individuals are not able to link marginal adjustments in the level of public goods to marginal changes in the taxes that they pay. Allocation under an ORT standard thus will differ from allocation in a system with lump sum taxes of equal yield. In fact, we may expect an ORT system, even though it represents an ideal standard, to show positive welfare costs if it is compared to a system of lump sum taxation.

Of course many things can go wrong with collective choice processes, and actual political equilibria may not be Pareto efficient. Consideration of these problems takes us to the second step in welfare analysis, one that has received much attention in the public choice literature. While a concern with imperfections of the political marketplace will be evident in our discussion below, we shall limit ourselves to only two points here. First, in order to link the existing literature on government failure to tax analysis, it is necessary to make specific connections between principal-agent problems, rent seeking by interest groups, and other problems that may prevent the attainment of an efficient equilibrium, on the one hand, and specific features of a tax structure, on

the other. With some exceptions, this link is generally missing in the literature.⁹

Second, to provide a basis for normative prescription, the analysis of political market failure must be conducted within a framework where the standard of reference used to define "failure" can be shown to be an equilibrium outcome of a collective choice process. When this is not done, an analysis based on identification of political market failures is not persuasive, a point we illustrate in the next section.

Policy evaluation and measurement

The marginal efficiency costs of alternative tax sources: Measures of the welfare costs associated with alternative tax sources are often used as a basis for the design of tax reform. It is argued that a tax system should be designed so as to equalize the marginal excess burden of taxation per unit change in revenue across tax sources, because, only in this case, will the total unweighted sum of excess burdens for a budget of given size be minimized.

An example is given by the work of Jorgenson and Yun (1991), who calculate the change in excess burden per dollar change in revenue, or marginal efficiency cost (MEC), associated with each major part of the U.S. tax system.¹⁰ They do this by using a general equilibrium model to compute the reduction in the unweighted sum of excess burdens across individuals that would occur if each distorting tax were lowered and the lost revenue replaced with a nondistorting, lump sum tax. Jorgenson and Yun conclude that the U.S. system could be improved by reducing reliance on income taxes, which have a relatively high MEC, and by increasing reliance on sales and property taxes, where the MECs are lower.

As already noted, one problem with such studies is their use of an equal yield, lump sum tax system as the basis for comparison. Two further problems arise when tax policy is regarded as part of a political equilibrium. The first of these is the following:

In a representative democracy in which political influence differs across voters, a political equilibrium will exhibit MECs (as usually calculated) which vary across tax sources, and this situation may be consistent with Pareto efficiency. Thus, a proposal to equalize MECs will generally be inconsistent with political equilibrium in a representative democracy, and may not involve a Pareto improvement.

The criticism requires that we characterize the nature of political equilibria in a representative democracy. While there are several ways to accomplish this, we shall continue to rely on the probabilistic voting framework in our discussion. In this view, tax policy outcomes reflect a balancing of opposing forces, a feature shared with many other models of political pluralism. The argument below may thus carry over to other frameworks in which the equilibrium also represents a balancing of the interests of different parts of the electorate.

In a probabilistic voting model, as pointed out above, political competition tends to force parties to adopt Pareto-efficient policies. Otherwise the possibility remains that the opposition can propose a Pareto-improving policy platform and thereby increase its electoral support. This does not imply, however, that MECs will be equalized. Voters differ in their effective political influence as seen by the parties, even when the franchise is universal. Thus, in seeking to optimize political support from voters who care primarily about their own economic welfare, and in directing resources toward politically influential

voters, an incumbent will accept an increase in the MEC of a particular tax source (as usually calculated), above that of other taxes, if that is the price of maximizing the chances for re-election.

Some algebra is useful in clarifying this point. To simplify, we limit the discussion to a situation with two political parties, two tax bases, two tax rates, and one public good. To acknowledge tax administration and information costs implicitly, we assume that the number of tax rates is less than the number of voters and that taxation is proportional rather than lump sum. Indirect utility for voter h is $v_h(t_1, t_2, G)$, and, after substitution of the general equilibrium structure of the private economy, the government budget restraint can be written as

$$G = R_1(t_1, t_2, G) + R_2(t_1, t_2, G).$$

Each party chooses tax rates and the size of public expenditure to maximize its total expected vote. The probability that voter h supports the incumbent as perceived by the party (f_{hi}) depends on the difference in the voter's evaluation of her welfare under the incumbent's policies and those of the opposition (o):

$$f_{hi} = f_h(v_{hi} - v_{ho}).$$

The expected vote for the incumbent government then is

$$EV_i = \sum_h f_h(v_{hi} - v_{ho})$$

and the vote for the opposition may be defined analogously.¹¹ In addition, we assume that knowledge of the probability density functions describing voting behavior and of the structure of the private economy is common to the competing parties.

Given the platform of the opposition, first-order conditions for the choice of tax rates that maximize EV_i subject to the budget restraint are of the form

1

$$\frac{\sum_h \partial f_h / \partial v_h \cdot \partial v_h / \partial t_1}{\partial(R_1 + R_2) / \partial t_1} = \frac{\sum_h \partial f_h / \partial v_h \cdot \partial v_h / \partial t_2}{\partial(R_1 + R_2) / \partial t_2}$$

from which it can be seen that the platform chosen by the incumbent equalizes the marginal effect of tax policies on expected votes per dollar of revenue across tax sources.¹² Since the fiscal policies of the opposition are determined by essentially the same conditions, it is evident that party platforms will converge in an equilibrium, if one exists.¹³

After substitution of equilibrium values of the partial derivatives in equation 1, these conditions can also be used to characterize the tax system that emerges in a Nash equilibrium of the electoral game, and can be used to illustrate the result referred to earlier that the outcome in such a model may be Pareto efficient. Let θ_h be the particular values taken by the partial derivative $\partial f_h / \partial v_h$ at a Nash equilibrium of the electoral contest, assuming that one exists, and let the other partial derivatives also be evaluated at the same equilibrium. Then the first-order conditions for politically optimal (equilibrium) strategies take the form

2

$$\frac{\sum_h \theta_h \cdot \partial v_h / \partial t_1}{\partial(R_1 + R_2) / \partial t_1} = \frac{\sum_h \theta_h \cdot \partial v_h / \partial t_2}{\partial(R_1 + R_2) / \partial t_2}$$

To see that policy choices characterized by condition 2 are consistent with

Pareto efficiency, it suffices to note that this condition also represents a solution to the problem of choosing a fiscal system to maximize a political support function, $S = \sum_h \theta_h v_h$, subject to the government budget restraint.¹⁴ It is also useful to point out that, since this particular function is maximized, it makes sense to think of the weights θ_h appearing in it, which represent the perceived responsiveness of voting behavior to a change in individual welfare at a Nash equilibrium, as measures of the effective influence exerted by different voters on policy outcomes.

Using condition 2 as a representation of political equilibrium, we can proceed with the main argument about MECs. In the special case where the θ s for all voters are equal, we can substitute the definition $W_k = \sum_h \partial v_h / \partial t_k$ into condition 2, subtract 1 from each side, and simplify to get

3

$$\frac{W_1 - \partial(R_1 + R_2) / \partial t_1}{\partial(R_1 + R_2) / \partial t_1} = \frac{W_2 - \partial(R_1 + R_2) / \partial t_2}{\partial(R_1 + R_2) / \partial t_2}$$

where W_k is the sum of individual losses in utility due to an increase in tax k (measured, for example, as the unweighted sum of equivalent variations in income); the numerator on each side of the equation is the excess burden of the corresponding tax change; and the quotient on each side represents the marginal efficiency cost of each tax source.

Thus, we see that, if the θ s are all equal, the tax system equalizes the MECs of all tax sources and minimizes the total excess burden of taxation, measured by the sum of unweighted

welfare losses. On the other hand, if political influence is distributed unequally as in condition 2, unweighted marginal welfare losses for different tax sources may vary significantly as parties trade off the welfare of and support from different voters, even though Pareto efficiency is being achieved. In that case, a proposal to equalize the MECs of the two tax sources (as usually measured) may lead only to a movement along the Pareto utility frontier, or, quite possibly, to a less efficient allocation.

To put this another way, in weighting welfare changes for different people equally, existing welfare analysis of the public sector imputes all observed inequality of MECs to the inefficiency of public policy. This is odd in view of the role that competition between parties for the support of self-interested voters plays in democratic countries. In the simple model outlined above, all of the inequality in MECs stems from inequalities in effective political influence, and no economic inefficiency is implied. However, one need not believe that actual political equilibria are fully efficient to agree that some part of the inequality in the unweighted sum of welfare changes may be due to reallocation that is conducted as costlessly as possible in the pursuit of political power.¹⁵

A normative analysis that uses weights from an ORT system to aggregate welfare changes would be of much interest, though determining what weights should be used is not an easy matter. Equality of the franchise is not the same thing as equality of effective influence, and it is far from clear that, in a perfectly competitive political system, all the θ_n in condition 2 must be equal. The problem of the choice of welfare weights has also been addressed in the

literature on benefit-cost analysis, where an attempt has been made to infer from choices across different projects a set of "distributional" weights that may be used in aggregating individual welfare gains. One should note, however, that such empirically derived weights do not only reflect ideas about equity, since the public projects used in calculating so-called distributional weights are in fact equilibrium outcomes of an existing political system. Thus, it may not be appropriate to use these distributional weights to aggregate welfare losses for the purpose of a normative evaluation.

In the absence of a suitable set of political weights, it may be reasonable for tax policy advisers to proceed on the assumption that the Hicks-Kaldor criterion based on equal weighting is appropriate for judging the direction of tax reform. When this is done, though, it is not clear what more can be said by the tax policy analyst when his proposal to equalize the MECs of tax sources is rejected. In particular, it cannot be argued on the basis of such a rejection alone that politics has corrupted tax policy.

Whatever weights are used to aggregate individual welfare changes, a further problem with the use of MECs arises when it is acknowledged that an evaluation based only on the excess burdens of alternative tax sources does not allow for the substitution of governing instruments that will occur in any political equilibrium:

The tax system is part of a broader set of equilibrium policy outcomes, and tax measures cannot be evaluated in isolation from related policies.

Changes in tax structure that are made in response to shocks in other policy fields cannot be judged independently

of what happens in those other areas, even if MECs associated with taxation become more unequal as a result. Such a change in MECs may in fact be Pareto improving if tax policy is compensating for the effects of policy in other areas.

As a case in point, it is interesting to consider the actions by the U.S. Congress in connection with recent minimum wage legislation. The increase in the minimum wage was passed together with a package of tax breaks designed to soften the impact on small business. If these tax breaks make MECs across tax sources less equal, can it be concluded that social welfare has been reduced as a result?

Broadly based taxation and tax expenditures: To complete the discussion of applied tax analysis, we consider normative assessments that rely on the concepts of broadly based taxation and tax expenditures.

The understanding of political equilibrium presented in earlier sections is unlikely to fit well with the arguments for broadly based taxation advanced by Simons (1938) and used by Surrey (1973) to support the tax expenditure concept. In a competitive political system, governments create special provisions as a way of taking differing economic and political responses to taxation into account, while economizing on administration costs. This suggests that those special provisions that were introduced to make the tax system administratively or politically more efficient should be preserved rather than eliminated.

Following Simons, one may argue that the political power to create special provisions can be misused and that limitations on this power are desirable. Simons, like some proponents of a

broadly based consumption tax (see, for example, the Meade Report, IFS 1978, 44), believed that broadly based taxation would minimize the inefficiency resulting from manipulation of tax breaks in the course of the democratic process.¹⁶

Since these analyses are not formally cognizant of how tax structure actually emerges in a democratic system, it is not clear on what basis the proposed reforms are being made. In a framework that accounts for transactions costs, it is necessary to trade off the welfare gains from special provisions introduced to increase efficiency against the losses from tax breaks that reflect the misuse of political power. It will not be clear what the appropriate trade-off should be until it is better understood how political market failure affects tax policy outcomes. In our view, it is unlikely that an analysis that trades off the good and bad aspects of special provisions in a fully specified model would suggest substantial limitations on the power to open and close special provisions in the course of the democratic process. In any event, the issue, like those discussed earlier, cannot be resolved without recourse to a normative analysis that explicitly acknowledges the existence of collective choice and that links specific political market failures to structural features of equilibrium tax systems.¹⁷

Concluding Remarks

A valuable part of a symposium of this nature is the opportunity to exchange views and to respond to the conclusions of other participants. Although Holcombe (1998) starts his analysis with the same basic questions, and although he takes a collective choice approach, his recommendations concerning the role of special provisions in the tax system differ markedly from ours. The

same applies to his treatment of the related topic of flat taxation as a policy option.

In some ways, this difference is more apparent than real. While we hold that some special provisions are an efficient response to the existence of transaction costs and to the need of self-interested political decision makers to differentiate effectively among taxpayers in a democratic system, we do not argue that all observed "tax breaks" are efficient or desirable. In our view, the challenge is to analyze particular provisions in relation to the operation of political markets in order to determine if they arise as a justified response, or whether they represent the result of imperfections in the operation of political markets.

Our conclusion flows from the methodological position underlying our approach. We believe that welfare analysis for the public sector should include the same basic steps that are used when such analysis is carried out for the private sector. We must define a standard or reference allocation of resources; conduct an examination of market failure in relation to this standard, and provide for the measurement of deviations from the optimum.

In an earlier part of the paper, we argue that the reference allocation has to be defined with regard to an allocation mechanism that represents collective choices explicitly and for which the existence and stability of equilibrium can be established. We use the probabilistic voting model, when there is effective competition among parties, to illustrate such a standard. Our approach differs from the constitutional literature, referred to by Holcombe, since work in that tradition does not show how ideal constitutions arise in the context of a

political mechanism for which existence and stability can be demonstrated.

Our approach in no way obviates the need for an analysis of political market failure. While we have not emphasized this step, we believe that it is an essential ingredient in the understanding of observed tax systems and in the evaluation of special provisions. To make an assessment of tax efficiency, it is necessary to link specific features of the tax system directly to the functioning (or malfunctioning) of political markets and the definition of political equilibrium. While there is some research on this topic, economists so far have not devoted sufficient attention to this task. As a result, the implications of imperfect political markets for tax structure and tax policy are not well understood.

One may perhaps object that such an analysis raises many difficulties that cannot easily be overcome. It should be realized, however, that the research questions that arise in this context are very similar to those in many areas of the private sector, once the existence of transaction costs is admitted. There is an extensive literature relating to industrial organization that asks whether particular aspects of firm or market organization represent an efficient response to transaction costs that are faced by participants, or whether we deal with phenomena that are noncompetitive and require public intervention. Once we adopt a parallel approach to efficiency in the public sector, it becomes clear that questions of this nature must also be answered with regard to policy structures and outcomes in the public economy (Hettich and Winer, 1995).

Although we have high regard for the work of the economists associated with the University of Chicago, who have made major contributions to the

literature on transaction costs and to the understanding of collective choice (Coase, 1960; Becker, 1983; Wittman, 1995), we do not believe that advocacy of the three basic steps of welfare economics in tax analysis qualifies us for inclusion in the so-called Chicago School, as Holcombe suggests. We rather feel that we occupy a part of the substantial middle ground between Chicago and Virginia. We make no claim that either the private or the public economy, as observed, is necessarily competitive or efficient in every instance, or even in most aspects. At the same time, we would argue that competition exists and is a viable force in both sectors.

In closing, we would like to return to the main emphasis in our paper. Omission of collective choice prevents the analyst from understanding the central role of political equilibrium in the analysis of taxation. This applies to work of a positive nature, as well as to the examination of tax efficiency.

To create a framework that places tax policies in a broader equilibrium context, we must model the underlying collective allocation mechanism and use it as a starting point, whether we do empirical work explaining observed features of tax systems or whether we engage in research with a normative emphasis. A broader perspective of this nature also forces us to re-examine well-known concepts in tax analysis, such as tax expenditures, flat taxation, and the marginal efficiency cost of public funds, and to question and reinterpret some of the conclusions that have been reached in the literature related to these concepts. Only in the context of political equilibrium can we gain a full understanding of how tax systems arise, function, and should be evaluated in democratic societies.

ENDNOTES

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- ¹ For comprehensive surveys, see, for example, Head (1997), and Hettich and Winer (1997, 1998).
 - ² A fifth question may relate to the distributional effects of the allocation mechanism.
 - ³ For an introduction to and application of the structure-induced equilibrium approach, see, for example, Shepsle and Weingast (1981), Inman and Fitts (1990), and Stewart (1991).
 - ⁴ In the context of this discussion, political costs represent the loss in electoral support for the government from levying taxation. Administration costs enter the framework as a wedge between the collection of tax revenues and the provision of public services, and affect the political costs associated with raising a given net amount of revenue (net of administration costs) from the various tax sources. To the extent that rent seeking affects the welfare of voters and thereby their voting behavior, its consequences also will be taken into account in the formulation of policy platforms.
 - ⁵ It should be noted that government is not allowed in this model to selectively punish taxpayers who are singled out by name—the rule of law applies, albeit implicitly. On the other hand, criteria related to the distribution of income are taken into account only to the extent that they further the government's objective.
 - ⁶ Imagine, for example, that a budget is raised from several tax bases and that reliance on each base has associated with it an increasing marginal political cost (or marginal loss of expected support) function. Moreover, assume that special provisions that reduce tax payments for people who engage in specific, favored activities are present in each base. Now, if special provisions are eliminated, raising the same revenue as before from each base will imply that the total and the marginal political cost associated with each base will rise, since the effective rate of tax on each base faced by at least some taxpayers must have increased. As a result, the total marginal political cost of taxation will now be greater than the marginal political benefit of another dollar of public services. To restore equality of total marginal political costs and benefits, the size of government must decline.
- One should note that this argument assumes that the marginal political benefit derived from public spending is not affected by the elimination of tax loopholes. It is possible that removal of some special provisions may result in an increase in the price of private substitutes for particular public services. A final judgment about the effect of eliminating particular special provisions on the size

of government thus depends on the effect of these provisions on the relative, after-tax price of public and private goods.

- ⁷ Buchanan (1976) provides further discussion of this point.
- ⁸ It might be argued that it is possible to avoid the complexities of using a first best standard defined by a lump sum tax of equal yield or by an ORT system by comparing the status quo to an alternative tax blueprint. While this procedure is useful, it should be kept in mind that, without an ideal standard and the corresponding measure of the total loss of welfare relative to it, there is always the danger that a proposed policy will lead away from, rather than closer to, the first best.
- ⁹ For a recent contribution that explores the link between principal-agent problems and the structure of taxation, see Gordon and Wilson (1997).
- ¹⁰ The MEC is equal to the loss of consumer surplus from increasing reliance on a particular tax source less the additional tax revenue collected (the marginal excess burden of the tax), all divided by the change in tax revenue. If a tax does not generate an excess burden, its MEC is equal to 0. The marginal cost of funds associated with a tax source, another often used measure of the welfare loss due to taxation, is equal to 1 plus the MEC.
- ¹¹ If H is the number of voters, $EV_o = H - EV_f$.
- ¹² To derive condition 1, one may use the Lagrangian $L = EV_f - \lambda (R_1 + R_2 - G)$ to derive the separate first-order conditions for the optimal choices of t_1 , t_2 and G . For tax rates, these separate conditions are of the form $\Sigma_k (\partial f_k / \partial v_k \cdot \partial v_k / \partial t_k) - \lambda \cdot \{\partial (R_1 + R_2) / \partial t_k\} = 0$, $k = 1, 2$. In words, such conditions state that each tax instrument must be adjusted until the marginal loss of expected votes from a further tax increase is equal to the gain in votes from using the additional revenue to supply more public services. Condition 1 then follows as a result of manipulating the first-order conditions above so that only λ is on the right-hand side of each.
- ¹³ Recall that parties have common knowledge of probability densities describing voting behavior, as well as common knowledge of the economy. Enelow and Hinich (1989) discuss the conditions required for existence of the equilibrium in a probabilistic voting model and provide a formal proof of policy convergence. One may note that neither the existence of an equilibrium nor the convergence of platforms is guaranteed under all conditions. Usher (1994), for example, has shown that the equilibrium is unlikely to exist when preferences of the electorate are highly polarized.
- ¹⁴ To see this result, maximize the Lagrangian $L = S - \mu(R_1 + R_2 - G)$ with respect to t_1 , t_2 , and G while treating the weights in S (the θ_h 's, which are each set equal to $\partial f_h / \partial v_h$ at the equilibrium) as constants, and follow the same steps as described in note 12. Note that second-order conditions for

this "Representation Theorem" also apply. See Coughlin (1992) and Warskett et al. (1998) for further discussion.

- ¹⁵ For a complementary but different treatment of the meaning of efficiency in representative democracy, see Besley and Coate (1998).
- ¹⁶ Simons was also, and perhaps primarily, concerned with equity. One should also note that there are other arguments for a broad definition of tax bases, notably that a good tax should be neutral with respect to the incentives it creates for taxpayers to shift among activities. This is a rule of thumb for the application of the idea that MECs should be equalized across tax sources and, as such, is subject to the same problems.
- ¹⁷ At present, the literature does not provide analyses that can be used to illustrate the point. An interesting case to study is the treatment of income from capital gains. At the outset, the question arises as to why this type of income is usually treated as part of a personal income tax base rather than constituting a separate tax source. In a full welfare analysis of the sort we are suggesting, one would have to determine to what extent this treatment is a response to transactions costs, and whether it has anything to do with particular sources of political market failure.

As a first hypothesis, we would suggest that the absence of a separate base is due to transactions costs. Preferential treatment in some specific cases may more likely be due to political market failure. A case in point concerns the actions of the newly elected Conservative government in Canada in the mid 1980s, which introduced a five hundred thousand dollar lifetime exemption for income from capital gains shortly after being elected. The exemption was reduced after a few years to one hundred thousand dollars, and then abolished by the next government. This episode may be due to the lack of continual political pressure in a parliamentary democracy with periodic elections. In a perfectly competitive system, the government would be forced to continually adjust tax structure to maximize expected votes.

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