ECONOMICS OF FEDERALISM

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Abstract

This article provides an overview of the political economy of federalism. The core of the article focuses on the classic Tiebout framework and its support for a decentralized federal system. However, the article goes beyond the Tiebout world in suggesting a framework that is expanded to take into account bargaining among governmental units. The article also describes political models of legislative and executive branch decision making that suggest the potential benefits and costs associated with centralized government. Ultimately, the choice of an "optimal" level of decentralization depends on the relative importance one places upon economic efficiency and the potentially competing values of political participation, economic fairness, and personal rights and liberties.

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I. Introduction

The economic theory of federalism has become the starting point for most scholarly and policy discussions as to how best to organize the federal state. The goal is to correct market failures through government action, and its guiding principle is to assign policy responsibility to the smallest level of government that can accomplish the task. The principle has been formalized by Oates (1972) as the *decentralization theorem* and with respect to the European Community as the principle of *subsidiarity*.

The economics of federalism views the primary task of government as solving the failures of private markets to satisfy the demands of citizens for goods and services. These failures arise whenever cooperative action is needed to ensure the provision of goods or services at the lowest cost. Examples include all goods where sharing a fixed resource is efficient, as with the theory of public goods (Samuelson (1954)), or where one person's actions generates external benefits or imposes costs on others. What is needed in both cases is a means of discovering citizens' willingness to pay for each publicly provided good and service and a means to collect sufficient payments to cover production costs.

The economic task for federalism is to provide a means to solve these market failures. For goods and services for which congestion becomes evident within relatively small populations, and where the spatial reach of any externalities is modest, economic federalism recommends using small local governments. Likely local services are K-12 education, police and fire protection, trash pickup and street sanitation, libraries, parks and recreation, and local roadways. However, for those goods and services shared by large populations and for those instances in which externalities are substantial, economic federalism emphasizes production and distribution by a more centralized governmental unit. With a nation state, candidate services might be higher education and research, national defense, courts and jails, protecting property rights and market competition, and providing air and water quality, regional and national highways, and airports and airways.

From the perspective of economic efficiency, determining which level of government is best suited to manage governmental functions requires balancing the benefits and costs of decentralized and centralized political structures.[1] We begin by defining governments as "decentralized" (or local) or "centralized" (or national) according to the combination of three constitutional decisions. First, the *partition decision* divides the single national citizenry into states and/or localities. Second, a national government may be established with elected representation from each of the state or local governments as well. If so, the *representation decision*, defines how each state or local government will be so represented. The constitution may allow for only a single, nationally elected representative, or president, or it may allow each local government or state its own elected representative to a national assembly, or legislature.[2] Third, and of particular interest to US Courts, the *assignment decision* allocates the final political responsibility for policy choices to either the president or legislature of the central government or to the individual local governments alone.

Together, these three constitutional decisions define the essential federalist structure of the government. We offer three alternatives for consideration: economic federalism, cooperative federalism, and democratic federalism. In this essay we review the efficiency arguments for each. Not surprisingly, no one form of governance is clearly dominant in its ability to efficiently allocate national resources. Further, there are other values that must be weighed in the balance too: political participation and democracy, economic fairness, and the protection of personal rights and liberties. Which federal constitution is finally chosen will reflect a balance of economic concerns and these possibly competing values.

II. Economic Federalism

1. The Pros and Cons of Institutional Decentralization

In a federal system there are two important dimensions to economic efficiency. *Inter*-jurisdictional efficiency involves the appropriate allocation of individuals and other resources *among* different jurisdictions. Inter-jurisdictional efficiency is achieved when the public activities of these interacting governments satisfy the collective demands of individuals at minimum cost. The cost of public provision includes the production costs of producing public services plus the transactions costs of selecting legislators, the decision-making costs of setting policies, and the monitoring costs of ensuring that policies are put in place.[3] *Intra*-jurisdictional efficiency requires a choice of public activities which satisfies the collective demand *within* a given jurisdiction, measured as the willingness to pay for those activities for all individuals within that jurisdiction.

In federal systems, inter-jurisdictional inefficiencies arise when the decisions and actions of individuals within one jurisdiction have effects on individuals located in other jurisdictions that are not accurately reflected in the marketplace. Intra-jurisdictional inefficiencies arise when the political process generates outcomes within a jurisdiction which do not maximize the wellbeing of all residents. Ultimately, the choice of the appropriate jurisdiction to be responsible for a government activity involves a trade-off - the larger the jurisdiction the less likely that there will be inter-jurisdictional inefficiencies, but the more likely that the political process will lead to intra-jurisdictional inefficiencies.

The analysis of the economics of federalism begins with an evaluation of the arguments for a decentralized system. The linchpin is the "Tiebout Model" first proposed by Charles Tiebout (1956) as a description of fiscal competition between many independent local governments. The important constitutional decision that defines the Tiebout economy is the *partition decision* that divides the national population into many political jurisdictions in such a way that each jurisdiction is a low cost provider of public services within its boundaries.

The Tiebout model is formally analogous to the purely competitive market model with complete information. The assumptions needed to ensure that governmental competition is fully analogous to efficient private market competition are strong and may not hold in practice. In the section that follows we describe how the decentralized system of economic federalism is likely to work.[4] The decentralized structure of strict economic federalism may be economically inefficient, however, for reasons we note below. If so, we must look to additional institutions – intergovernmental bargaining and centralized government decision-making – to see if they might yield improved efficiency performance for the public sector.

2. The Tiebout Economy

From the Tiebout perspective, the world of decentralized, competitive governments will allow for a marketplace in which individuals move among local jurisdictions to select the public good, public service combination that they most desire. Just as a private market place creates an incentive for suppliers to produce their goods at the lowest cost and to provide the goods most desired by consumers, so too will the pressure of households shopping, through exit and relocation, force competitive governments to be efficient in the provision of publicly supplied goods and services.

According to this view, public activities should be decentralized, except when there are significant economies of scale or economic spillovers from one jurisdiction to its neighbors. When there are spillovers, decentralized governments are likely to ignore economic costs or benefits which will lead them to over- or underprovide the activity. In both cases it is natural, then, to look for a more centralized solution. Here economic federalism will turn to a strong, nationally elected president.

The Tiebout framework assumes that each household and business is highly mobile and resides or does business within the jurisdiction that offers the tax-expenditure-regulation package that it most prefers. As typically specified, the competitive Tiebout public economy is defined by five conditions:

1. Publicly provided goods, services, and regulatory activities are provided at minimum average cost and the scale of population required to reach this minimum is a relatively small share of the national population. When this assumption holds, many small (i.e., “local”) governments can provide the public services. If so, these governments can compete for residents and firms by offering preferred packages of public services at low tax rates. A failure to match the performance of its neighbors will mean that the inefficient government will lose residents and firms. Goods which can be allocated by the Tiebout competitive process are *congested* goods, where more users reduce, proportionally, the benefits enjoyed by current users, and congestion occurs at small populations. Existing evidence suggests that this constraint can be met for many government services.[5] Examples include elementary and secondary education, local roadways, curative health care, police and fire protection, recreation, and cultural activities.

2. There is a perfectly elastic supply of these local political jurisdictions, each capable of replicating all attractive economic features of its competitors. This ensures that

there are a sufficient number of alternative locations for households to choose among. Competition is provided by politicians (mayors, members of city councils, etc.) who run against, and sometimes defeat, inefficient incumbents. Alternatively, public sector entrepreneurs may be enterprising real estate developers who build new jurisdictions analogous to "new entrants" in a private market - to draw away dissatisfied residents from inefficient governments.[6]

3. Mobility of households and businesses among jurisdictions is (almost) costless.

4. Households and businesses are fully informed about the fiscal and regulatory policies of each jurisdiction.

Assumptions 3 and 4 ensure that when possible inefficiencies arise, households and businesses can move to otherwise similar jurisdictions without those inefficiencies. Finally,

5. There are no inter-jurisdictional externalities or spillovers. This assumption ensures that all public regulatory activities can be provided within these efficient jurisdictions - larger governments or intergovernmental cooperation is not required.

In the end, a political economy satisfying assumptions 1 to 5, and organized as a fully decentralized network of competing jurisdictions, will maximize economic efficiency. As in any market economy, citizens and businesses can consume their preferred levels of the public goods and regulatory activities with a minimum expenditure of production and transactions costs. And as stressed by Justice Brandeis with his famous plea for "states as laboratories," "yardstick competition" between local governments for residents and firms will encourage policy and productive innovations.[7]

3. The Performance of the Tiebout Economy

While a useful starting point, the Tiebout model does not provide a complete theory of federalism. The five assumptions may arguably apply to local goods and services, where communities provide a wide range of alternative bundles. However, the assumptions are less likely to hold for more centralized activities, where choices are more limited and moving is more costly.

If assumptions 1 through 5 do not hold, we must move beyond complete decentralization as the specification for a federal constitution. The model of perfectly competitive *private* markets has long been an appealing paradigm for economists, in part because some real world markets do actually seem to operate in that manner, and in part because if they do, the efficiency consequences seem clear. However, neither of these reasons applies without qualification to the Tiebout framework for competitive *governments*.

Assumption 1 is an assumption about the technology of public goods and services. While there are many services where relatively small populations are sufficient for the efficient provision of the service, there are other important government services, often called "pure" public goods, where the required technological assumption does not hold. Examples include national defense, foreign affairs, telecommunication networks and the distribution of television and radio, ports and airports, interstate highways, public health, scientific research, free trade and competition policy, and ensuring full employment. Because of economies of scale, these services can only be efficiently provided to large populations. If so, there can only be a few efficient providers, perhaps only one, and Tiebout competition cannot guarantee the efficient allocation of the service.

Consider assumption 2 – a perfectly elastic supply of jurisdictions. The model of perfectly competitive markets yields an efficient allocation of resources in part because firms are free to make the efficient choices of inputs and outputs, and in part because entry into and exit from an industry are free. In the Tiebout model, competitive governments fill the role of firms. But governments may be constrained by internal politics when making their input and output choices, and free entry of new governments, say because of land scarcity, is by no means assured in actual public goods economies. (See generally, Epple and Zelenitz (1981), arguing that limited entry permits competitive governments to maximize public "monopoly profits" from the provision of public goods and public regulations where the level and allocation of those profits will be determined politically within the jurisdiction.)

If assumption 2 does not hold, there are four potentially adverse consequences for economic efficiency. First, with a limited supply of jurisdictions, each government is likely to contain citizens with different views of what constitutes the government's best policy. If so, local politics becomes important. If local decisions are made by majority rule, the outcome will not necessarily be economically efficient (see Bergstrom et al., 1988). Second, when the economy can no longer replicate attractive local jurisdictions, there will be economic rents. The presence of these publicly created rents associated with the desirability of some locations over others can in turn create a tension between the fiscal entrepreneurs who wish to develop new communities and the owners of the desirable locations. As a result, there is no guarantee that the market for land and for other scarce resources will operate efficiently.

Third, when private sector job opportunities are not identical in all locations, productive private sector employment may be sacrificed as labor is attracted to less efficient locations for fiscal reasons. The consequence is a less efficient private economy.[8]

Fourth, once the supply of jurisdictions is fixed, the analogy of the decentralized model of federalism to anonymous free market competition is no longer valid. Each local government may be aware of the potential effect of its action on other jurisdictions. It will then act strategically in making its decisions on the basis of its best guess as to how other jurisdictions will respond. In this framework the actions of each local jurisdiction, even if small, can have a substantial effect on the welfare of the rest of the decentralized world. In essence, a self-interested decision by those in power in one jurisdiction can result in a series of distortions that arise throughout the effected network of other jurisdictions. For example, a decision by one jurisdiction to offer a tax break to attract new business could lead to competition in which many jurisdictions offer a variety of tax or business benefits.

While it is difficult to predict the exact consequence of the rather complex behavioral patterns that can arise when these strategic interactions are taken into account, inefficiency seems likely. States may, for example, underprovide welfare services, or more generally underprovide public services in which they have particular production advantages and therefore should provide in abundance.[9] This could occur because a state realizes that by providing a high level of welfare benefits it is likely to attract new low-income residents from nearby states, thus adding substantially to its cost of providing such benefits. States might also provide substantial tax benefits to attract business, or at least to avoid losing business to other competing states, and in the process undertax business capital and overtax the residential base.[10]

An equivalent phenomenon can occur with respect to regulatory policies. States might relax their environmental controls to encourage business migration, or simply to forestall the loss of business because other states had or were about to relax their environmental regulations. This argument was developed by Cumberland (1981) and more generally, by Oates and Schwab (1986). Note that the competitive process which leads to a uniformity of regulation among states is not consistent with the advantages of the diversity associated with the Tiebout model, nor is it likely to be efficient. The result could be a "race to the bottom" resulting in an equilibrium in which environmental regulations are "undersupplied."[11]

Assumption 3, that citizens and businesses are costlessly mobile between political jurisdictions, is also problematic. The assumption applies best to suburban jurisdictions among which individuals and firms have a good deal of mobility. When the number of cities and towns within a metropolitan area is substantial, families and firms have significant choices with respect to public goods and public regulations. Empirical evidence supporting the Tiebout hypothesis has focused entirely on this local public sector. With respect to household relocation, Gramlich and Rubinfeld (1982) analyzed survey data for Michigan, concluding that their results were "reasonably consistent with a Tiebout interpretation: in large metropolitan areas there is quite extensive grouping; in smaller areas, there is some grouping."[12] Oates (1972) studied the metropolitan New Jersey region, using tests of the capitalization of public goods differentials into property values, and concluded that public goods preferences could explain migration among neighboring cities and towns.[13] Activities of local governments in metropolitan areas - save those with significant spillovers - are likely to meet the competitive test (see Courant and Rubinfeld, 1981).

Yet when economic activity occurs at the level of large governments, assumption

3 is unlikely to hold. Studies of migration show that most household moves are within metropolitan areas, not between states. Those who do move between states are typically job motivated, and are not primarily seeking a more attractive public service/public regulation environment (Easterbrook, 1983).[14] If assumption 3 does not apply, then the model cannot guarantee overall (that is, market plus public sector) efficiency.

Assumption 4, that households and businesses are fully informed, presents another problem for the Tiebout argument. Households and firms must have reasonably accurate information about the tax, spending, and regulatory policies of the communities in which they will reside. Yet, it is often difficult for individuals and firms to ascertain the implications of regulations within their own jurisdiction, let alone make a reasonable judgment about the public activities that will exist in other jurisdictions at a future point in time after which they have relocated. As Stigler (1971, p. 130) has argued, "(t)he voter's expenditure to learn the merits of individual policy proposals and to express his preferences ... are determined by expected costs and returns" and that, in the case of regulatory policy, this cost-benefit calculus dissuades voters from discovering very much. When we view the location decision as involving a choice of public sector packages, and we take into account the fact that other jurisdictions are likely to be changing those packages over time, the informational demands that must be satisfied for the competitive system of governments to work effectively seem very great. The difficulty faced by citizens in evaluating the costs and benefits of government fiscal packages is no more evident than when local governments keep taxes low by using local debt or pension underfunding to finance current government services.

When assumption 4 no longer holds, there is incomplete information about the costs and levels of governmental activity and an important principal-agent problem is created. Households and firms have two options: go it alone and risk being exploited by better informed fiscal entrepreneurs and local factors of production, or hire an agent to protect household and firm interests. Complications arise when information about agent performance is costly and some deceitful agents survive, or when the expertise provided by agents to households and firms cannot itself be kept private. To the extent the market for "agents" works perfectly - all inefficient or exploitive providers are exposed, and only truthful agents survive - the final outcome will be efficient, but some fiscal surplus will be allocated to the agents as payment for services performed. Such payments can be made as a contingent fee conditional on the performance of the agent in managing the purchase of the public good, or as a competitively determined lump-sum payment to a previously identified - by reputation or certification - "truthful" agent. When information about agent performance or abilities is available at no cost, then agent efforts can be fully monitored (avoiding all problems of moral hazard) and agent abilities will be fully known (avoiding all problems of adverse selection). The agent market can then work perfectly. When information about agents is costly, however, there is no guarantee that the efficient agent market will arise.[15] Similarly, when the information provided by the agents to households cannot be kept private, then there will be externality-caused inefficiency in the information market.[16]

The final assumption 5, requiring no spillovers, is an important real world violation of the Tiebout framework that may require central government intervention. The spillover literature has been critically reviewed and extended by Pauly (1970) among others.[17] When a spillover offers a positive benefit to a neighboring community, for example, through the regulation of socially damaging air pollution emitted by a locally valuable firm, local governments may provide too little of the activity. The converse case provides a different example. Here a socially productive firm produces only local pollution, for example, a garbage or nuclear waste site. The incentive is for the local community to impose stringent (Not In My Backyard, or NIMBY) regulations on such a firm so as to force its relocation to a neighboring community, with the result being a negative regulatory spillover. If the neighboring communities respond with similar regulations, the firm may have no place to go, even though it is in the interests of all jurisdictions to locate the firm somewhere. With negative spillovers, there may be too much state and local activity.[18] In these circumstances, a uniform national standard may be preferred by all. Uniform national regulation not only can take advantage of economies of scale in administration, it can also produce scale economies in production and distribution for firms, while at the same time reducing location costs.[19] Augmentation of national standards by states or localities can be allowed, but only if the additional regulations do not generate spillovers by benefiting local households and businesses at the expenses of nonresidents. The general point is clear: when assumption 5 is violated, there is no guarantee that decentralized competition will produce an efficient allocation of public and private resources.

Our review of the assumptions and evidence for Tiebout competition leads us to conclude that while many local governments can be an important element in the efficient federal constitution, this institutional structure alone will not be sufficient to ensure full economic efficiency.[20] The central weakness is a failure to adequately allocate public goods and services with significant economies of scale – thus losing assumption 1 – or to internalize the consequences of wide reaching positive or negative spillovers – thus losing assumption 5. In these two instances, additional governmental structures will be required for economic efficiency. Economic federalism looks to a strong president elected by all citizens as a solution.

4. Presidential Governance

Economic federalism adopts as its *representation decision* a single representative elected by all citizens to make economic policy at the level of the national government – the president. If the institution of presidential governance is to have a chance at efficient performance, five assumptions must hold:[21]

1: *Open Elections and Voting*: Any citizen may choose to run for office. There are no restrictions on the ability of individuals to vote for the candidate of their choice.

2: *All Candidates Have Equal Abilities to Deliver on Their Promised Policies*: Information regarding the likely success of a policy is common knowledge among all candidates. The executive adopts the best available incentive mechanism for the execution of the policy.[22]

3: *Voters are Informed of Candidate Preferences for Policies*: Newspapers, radio, and television coverage of candidates and campaign advertising and debates are also important sources of information about candidates' preferences. A free and competitive press, policy debates, and campaign advertising can all contribute to economic efficiency.[23]

4: *Policy Commitment*: To ensure that dynamically efficient policies will be adopted, the executive must be able to commit to the continuation of an efficient policy, even after she has left office. Institutional checks and balances provide commitment devices for current presidents. Examples include independent courts, independent monetary authorities, and independent administrative agencies. The current president appoints the judges, bankers, and bureaucrats whose long-run preferences tend to agree with his or her own. If the executive abolishes or ignores such agencies, the ability to use these institutions to ensure favored long-run policies will be compromised.[24]

5: *Majority Rule Selects the President in Two Candidate Elections*: Presidents will be elected in majority rule elections. There will be no third candidate, since no voter will risk switching their vote unilaterally to a third candidate, thereby enhancing the chances that his second choice becomes a winner.

Together these assumptions describe a world of "citizen candidates" where anyone can run for president, seek campaign financing, present her case to voters, and if achieving a majority of votes, serve as president. Once elected, executives can implement their policies. In a pair of important papers, Besley and Coate (1997, 1998) prove that such open two candidate elections with informed voters will elect a president whose policies are efficient in the sense that no other feasible candidate is preferred by another majority of citizens. Clearly, this result is one of only "constrained efficiency" because the incentive of citizens to participate needs to be respected and because majority rule may leave some citizens worse off.

That said, presidential governance holds the promise of improved economic performance through an *assignment decision* that allocates responsibilities for congestible public goods to the many local governments of the Tiebout Economy and the task of providing pure public goods and local services with significant inter-jurisdictional spillovers to the nationally elected president. How might the president do? The evidence is supportive of improved economic efficiency. Persson and Tabellini (2003, 2004) find in cross-country samples that countries with presidential democracies tend to adopt more efficient public budgets and as a result enjoy higher rates of economic growth than do parliamentary democracies. Further, presidential democracies are less likely to run large fiscal deficits over many years, consistent with more efficient intertemporal fiscal policies. In their study of the U.S. historical record, Inman and Fitts (1990) find institutionally "strong" presidents – as evaluated by historians – outperform "weak" presidents in the management of domestic fiscal policies. They do so through the use of their administrative powers to fashion majority coalitions valuing aggregate economic efficiency over narrow special interests.[25] As a result, domestic spending is reduced, and the savings are returned to citizens in the form of reduced taxation. The resulting public budget is more efficient. The economic successes of Presidents Theodore Roosevelt, Wilson, Franklin Roosevelt, Eisenhower, Johnson, and Reagan attest to the potential efficiency advantages of strong presidential governance.

But with presidential governance, there is no guarantee that all citizens will benefit from improved national economic performance. The president needs only a majority for her re-election. Political minorities may be asked to contribute more in taxes than the national public goods provide in benefits, or made to bear the burden of adverse national spillovers, say by the location of the nation's nuclear waste site. Fairness aside, the favored president's majority will be subsidized by the disfavored minority, leading to too much of the national public good or an oversupply of that local goods that produce negative externalities. We look therefore for an alternative form of governance - cooperative federalism - which protects minorities and has the potential to ensure a more efficient overall allocation of public resources.

III. Cooperative Federalism

Cooperative federalism begins, as did economic federalism, with the *partition decision* of the Tiebout economy creating many local governments for the allocation of congestible public goods. But as under economic federalism, we must provide a governance structure that might solve the problems of pure public goods and inter-jurisdictional spillovers. Cooperative federalism provides for a bargaining environment that encourages all local jurisdictions, or subsets of these jurisdictions, to come together to collectively provide public goods with significant economies or to draft agreements that internalize the economic consequences of spillovers. Under the rules of this federal constitution, the *representation decision* grants the citizens of each local jurisdiction full representation in any cooperative agreement – called a "Coasian (1960) Bargain" – to provide public goods or control spillovers. Minorities can be excluded from an agreement, but that will only occur when the benefits of participating are less than the costs. Minorities cannot be forced to contribute without their consent. The *assignment decision* allocates all public services to local governments.

Successful Coasian bargains require five assumptions to be met:

1. There are no, or very small, resource costs associated with the bargaining process;

2. Preferences over bargaining outcomes and the resources of households are common knowledge;

3. Bargaining agents perfectly represent the economic interests of their constituents;

4. All bargaining agreements are easy to enforce; and,

5. The parties can agree to a division of the bargaining surplus.

Only when assumptions 1 through 5 hold will inter-jurisdictional efficiency be achieved. How likely are these assumptions to be valid?

On its face, assumption 1 seems defensible. The institutions for bargaining - elected local officials - are already in place, and the incremental costs of applying these institutions to an additional political agreement appear to be small. However, local agendas are limited, and at some point it simply does not pay to bring additional policies for consideration. One hopes that excluded policies are likely to be marginal, having only a small effect on the economic well-being of voters.

Even if 1 holds, assumptions 2 to 5 may fail. If the preferences of the participants to the bargain are not common knowledge (2 no longer holds), there may be a strategic advantage to concealing costs and benefits, demanding greater compensation from the agreement for the "winning" jurisdiction and expecting less for one of the "losing" localities. If both parties choose to "conceal" their strategic positions, no agreement may be forthcoming.

In choosing a bargaining strategy, a jurisdiction must assess the threat points of the other parties - the minimum offer the other party is willing to accept in order to consummate the bargain. In addition, a party will try to estimate the extent to which the other party will be willing to make concessions prior to reaching its threat point. If each party makes a poor estimate of the other's threat point, or miscalculate the chances that the other party will accept a compromise, the bargaining process could break down. Clearly, Coasian bargainers are not immune to such possibilities.[26] Indeed, attempts at free-riding are likely to undo bargains when preferences are not common knowledge and the number of jurisdictions with affected consumers is large.[27]

Even if consumer preferences and firm profits are common knowledge, there is no guarantee that elected local officials will choose to make the constituents affected by the Coasian bargain better off (3 will no longer hold). In some cases, favored industries might be well represented, but consumers may not be so fortunate. In contrast to private market agreements, the affected parties are heard only if elected representatives choose to make their case.

Assumption 4 is perhaps the least problematic of the five Coase assumptions. *If* jurisdictions do reach an agreement and sign a compact, the agreement will typically be legally enforceable. Ellickson (1979) discusses the idea of creating a series of public property rights and duties to encourage bargaining solutions to spillovers. Note that monitoring costs, a serious problem with respect to many contracts, are not likely to problem here. For example, jurisdictions which have agreed to curtail a negative spillover will know if they have been paid compensation. Previously harmed jurisdictions which pay compensation will be able to observe if the "polluting" jurisdiction has curtailed its damaging activity.[28] Enforcement problems arise when important contingencies which might affect the agreement cannot be foreseen in advance. For example, if a future event occurs which alters the benefits and costs of a particular policy, the jurisdiction choosing the activity may decide to break the previous agreement.

Arguably the most important and perhaps least appreciated source of bargaining failure is the loss of assumption 5. Even if 1 through 4 hold, the parties may not be able to agree as to how the economic surplus generated by the bargaining process can be divided. Each bargain does two things: it establishes an efficient exchange thereby creating economic surplus *and* it distributes that surplus among the bargaining parties. Proponents of Coase emphasize the first outcome, but tend to ignore the important difficulties of the second.[29] Yet, the division of any economic pie is a bargaining problem which may have no solution. Whether such redistribution games have equilibrium outcomes has been hotly debated.[30] For example, in "divide-the-pie" games bargaining often breaks down because the proposed division is not seen as fair by one or all of the negotiating parties. In such situations, one party rejects an economically beneficial offer from another because the proposed offer violates the first jurisdiction's, possibly politically motivated, sense of economic fairness.

Further**,** what is seen as an exogenous norm of fairness in a one-time game may be a rational endogenously chosen strategy in a repeated political game. For example, a local official seeking re-election cannot appear "weak" when bargaining with another jurisdiction. If the money involved is modest relative to the overall local budget, then the political symbolism of the "share" from the divide-the-pie game may be far more important for re-election prospects than the actual dollars involved. If so, and if officials from both jurisdictions demand more than half, agreement will not be possible.[31] Strategic interplay becomes even more complicated and agreement less likely as the number of bargaining jurisdictions increases beyond two. This is true even if preferences are fully known and the free-rider problem is not at issue.[32]

Our analysis of local political institutions reveals strong pressures towards favoring narrow, geographically concentrated interests.[33] The hope that voluntary inter-jurisdictional compacts might control these inefficiencies is optimistic; the assumptions required for such Coasian agreements are demanding and unlikely to hold in practice. Difficulties are only compounded when local officials treat the division of proceeds from the bargain as a signal of their political "toughness."[34]

To sum up, when any one of the assumptions 1 to 5 fail to hold, Coasian agreements will not arise and locally created inefficiencies will remain. Cooperative federalism, while promising in theory, is not likely to be the needed institutional solution to the efficiency weaknesses of strict economic federalism. We turn now to a third alternative, democratic federalism.

IV. Democratic Federalism

Democratic federalism, like economic and cooperative federalism, begins with the *partition decision* of the Tiebout economy using many local governments for the provision of congestible public goods, but offers an institutional compromise for the *representation decision* between those of economic and cooperative federalism. Rather than a single elected president for deciding pure public goods or allowed spillovers as in economic federalism or total representation of all jurisdictions as in cooperative federalism, democratic federalism allows for partial representation of the citizens of local governments through multi-jurisdiction elections of representatives to the national government. Those representatives will then make decisions within a legislature by a majority (not unanimity) voting rule.

When elected representatives join together in a national legislature, they are free to form coalitions and set policies, subject to the constraint that decisions receive the approval of a majority of legislators. Majority-rule legislatures making decisions over multiple public policies must solve a fundamental structural problem: the propensity of the majority-rule process to cycle from one policy outcome to another. The possibility of cycling has been well recognized at least since the work of De Condorcet (1785): even though majority rule leads a legislature to vote for policy A over policy B, and for policy B over policy C, it is certainly possible, and often likely, that policy C will defeat policy A. Arrow (1963) has demonstrated that cycling is a symptom of a more fundamental problem with all democratic processes: there is no guarantee that such processes can find a best outcome or made immune to manipulation. Thus, the design of political institutions will almost inevitably be a search among the second-best.[35] When no winning coalition is capable of holding its majority against small policy variations offered by a losing minority, then either no decision will be made or final policy outcomes will be uncertain.

If legislatures are to reach decisions, additional institutions are needed in order to overcome the inherent instability of the majority-rule process. Two approaches are commonly used by legislatures. The first assigns agenda-setting powers to a small subset of members, say the speaker of the house or a key legislative committee. Other members in the legislature then simply vote yes or no on the items in the approved agenda. Most likely, policies will be approved by a bare majority - a minimal winning coalition - in this strong agenda-setter legislature.[36] There is an extensive literature which tests for the direct influence of agenda-setters - typically congressional committees, on policy outcomes.[37] A second strategy shares agenda-setting powers among all members, giving each legislator a right to select his most preferred policy in that policy area most germane to the legislator's constituents. This second approach to legislative decision making involves each legislator deferring to the preferred policies of all other legislators, provided the other legislators defer to the legislator's own policy requests. The guiding principle here is a norm of deference - "You scratch my back, I'll scratch yours" - and it typically results in legislative proposals which are approved unanimously. For this reason such legislatures are often called "universalistic."[38] Note, however, that a norm of deference is not an appropriate model for predicting how legislatures will decide *re*distributive policies such as welfare or progressive taxation, politics where one group of constituents must lose to another.[39]

Uncertain as to whether he will be one of the winners in the bare majority legislature, an individual legislator will typically favor the more open rules of the universalistic legislature. The universalistic legislature is preferred because under universalism activities that benefit the legislator's district are nearly certain to be chosen, and a substantial portion of the costs will be borne by other districts. If the benefits exceed average costs in a majority of districts - a likely case - then a legislature run by a norm of deference will be the preferred legislative institution.[40] The conclusion that legislators prefer universalism to bare-majority rule extends to this more general case.

Universalistic legislatures operating under a norm of deference run a significant risk that their activities will be economically inefficient, however. The problem is much like that faced by a large group of friends who go to lunch together. The efficient thing to do is to charge each diner the true costs of their meal, including an apportioned share of all appetizers and desserts. But that is complicated, time-consuming, and how do we know exactly who ate what? What typically happens is that all friends agree to share the check equally. If so, the incentive is for all diners to buy the largest and most expensive meal on the menu. They get the full benefit of the meal, but pay only a fraction of the costs. To not buy the expensive meal is to subsidize the consumption of all one's friends, without being subsidized in return. Everyone eats too much, and total spending on lunch is inefficiently too much. So too it will be for legislators. Each asks for largest possible project valued by their constituents, with the costs of the project shared by all other legislators. If each legislator's project benefits only her constituents, the result will be an inefficiently too large public budget. This temptation to overspend applies equally to the granting of tax favors and to government regulation.[41]

If so, how might we control such inefficiencies? One answer is to not allow legislators to eat lunch in big groups! More concretely, do not allow elected representatives to the national legislature to buy goods and services, grant tax favors, or regulate the economy when the benefits of those activities accrue only to narrow interest groups or to residents of each representative's jurisdiction alone. The agenda for the national legislature should be restricted to only those goods, services, and regulations that benefit residents in multiple jurisdictions, or ideally, the national as a whole.

Democratic federalism's *assignment decision* draws these lines. In the European Union, the guiding principle for assignment is called subsidiarity: Each government activity is to be assigned to that level of governance that most efficiently provides the service with the least economic spillovers, positive or negative, for its neighboring jurisdictions. In application, this means national defense, foreign affairs, telecommunication networks, ports and airports, interstate highways, public health, scientific research, free trade and competition policy, income redistribution, macroeconomic stabilization, and the taxation of mobile factors of production should be assigned to the national government. Alternatively, education, police and fire protection, health care, roads and transit, sanitation, recreation, cultural activities and the taxation of immobile factors of production should be assigned to smaller local jurisdictions. This assignment of policy responsibilities gives each level of government a chance to do what it does best. The problem, of course, is enforcing such assignments.[42]

We should look to non-constitutional protections against legislative inefficiencies too. Strong political parties capable of disciplining elected party members provide one possibility. Consider first the ability of strong political parties to control policy. Members who might be tempted to deviate from the party's platform can be disciplined. Government policy will therefore be the policy which is in the interests of the majority party. In this stylized framework, only those producers in legislative districts belonging to the majority party will be favored. And when proposing an activity for their constituents, representatives in the majority party will be required by the party to consider the effects of their proposed activity on constituents in all districts controlled by the party. From the perspective of the majority, therefore, an activity in one district will still provide benefits to party constituents, but will impose only a fraction of the total cost of the activity on party members.

From the majority party's perspective, the preferred activity level in a party-controlled jurisdiction will be efficient - *party* marginal benefits will equal *party* marginal costs. Because the party preferred level internalizes the costs to party members, the inefficiency must be less than the inefficiency created by the universalistic legislature. Put simply, by internalizing at least half of the costs of government activity, strong political parties can improve the efficiency of national policy-making.[43] Moreover, there is a possibility for full efficiency if the political party controls all representatives in the legislature. All districts will have an incentive to elect a representative to the stable majority party, since this is their only way to join the controlling coalition and to receive constituent benefits. With a single stable majority party, therefore, there is strong pressure towards achieving economic efficiency.[44] *Extra*-legislative resources to hold party discipline in place – whether money or ideology – will be required, however. Lacking such resources, representatives will gravitate back to universalistic behavior.

Just as for economic federalism and cooperative federalism, democratic federalism cannot guarantee full economic efficiency. Legislative politics may encourage inefficient national governmental activities, but legislatures managed by strong political parties hold promise. In the end, democratic federalism may prove the most efficient of our possible forms of federal governance.

V. Choosing the Federal Constitution

While the economic performance of a federal constitution is important, it is not the only value that will matter when selecting the governance structure for the economy. Also important, and in the end perhaps decisive, will be the values of democratic participation, economic fairness, and the protection of personal rights and liberties. Both the empirical evidence and political theory suggest democratic participation will be enhanced by giving more weight to local governments in the assignment decision, thus favoring the decentralized institutions of economic or cooperative federalism.[45] The value of economic fairness pushes in the opposite direction, leading us to favor democratic federalism and to assign a number of activities to the central government, particularly redistributive policies. For the protection of personal rights and liberties, matters are less clear. On the one hand, what Berlin (1969) calls "negative rights" which cannot be transgressed, are perhaps best protected by local jurisdictions coupled with the free choice of citizens as to their place of residence.[46] For that choice to be meaningful, local governments will need to be assigned responsibility for providing important public services as well, particularly police protection. On the other hand, "positive rights" such as equal access to achieve one's full potential will be best protected within democratic federalism with a strong central government assigned responsibility for equal access to education, health care, and perhaps a safe physical environment.[47]

In the end, the choice of an "optimal" federal constitution depends upon the relative importance one places upon the potentially competing values of efficiency, democracy, fairness, and personal rights and liberties. Trade-offs seem inevitable.

References

Arrow, A. Kenneth (1963), *Social Choice and Individual Values*, New York, Wiley.

Bagnoli, Mark and McKee, Michael (1991), "Voluntary Contribution Games: Efficient Provision of Public Goods," **29** *Economic Inquiry,* 351-366.

Banzhaf, Spencer and Randall P. Walsh (2008), "Do People Vote with Their Feet? An Empirical Test of Tiebout's Mechanism," **98:3**, *American Economic Review*, 843-863.

Baron, David and Ferejohn, John (1989), "Bargaining in Legislatures," **83** *American Political Science Review,* 1182-1206.

Bartik, Timothy (1988), "The Effects of Environmental Regulation on Business Location in the United States," **19** *Growth and Change,* 22-44.

Bergstrom, Theodore, Rubinfeld, Daniel, Roberts, Judy and Shapiro, Perry (1988), "A Test for Efficiency in the Supply of Public Education, **35** *Journal of Public Economics,* 289-307.

Berlin, Isaiah (1969), *Four Essays on Liberty*, Oxford: Oxford University Press.

Besley, Timothy and Case, Anne (1995), "Incumbent Behavior: Vote-Seeking, Tax-setting, and Yardstick Competition," **85** *American Economic Review,* 25-45.

Besley, Timothy and Stephen Coate (1997), "An Economic Model of Representative Democracy" *Quarterly Journal of Economics*, Vol. 112 (February), 85-116.

Besley, Timothy and Stephen Coate (1998), Sources of Inefficiency in a Representative Democracy: A Dynamic Analysis," *American Economic Review*, Vol. 88 (March), 139-156.

Binmore, Kenneth, Rubinstein, Ariel and Wolinsky, Asher (1986), "The Nash Bargaining Solution in Economic Modelling," **17** *Rand Journal of Economics,* 176-188.

Boadway, Robin and Flatters, Frank (1982), "Efficiency and Equalization Payments in a Federal System of Government," **15** *Canadian Journal of Economics*, 613-633.

Break, George (1967), *Intergovernmental Fiscal Relations in the United States*, Washington, DC, Brookings Institute, 23-24.

Breton, Albert and Scott, Anthony (1978), *The Economic Constitution of Federal States,* Toronto, University of Toronto Press.

Buchanan, James M. and Charles Goetz (1972), "Efficiency Limits of Fiscal Mobility: An Assessment of the Tiebout Model," **1** *Journal of Public Economics,* 25-43.

Coase, Ronald (1960), "The Problem of Social Costs," *Journal of Law and Economics,* 1-44.

Coate, Stephen (2004), "Pareto-Improving Campaign Finance Policy," *American Economic Review,* Vol. 94 (June), 628-655.

Coates, Dennis and Munger, Michael (1995), "Strategizing in Small Group Decision-Making: Host State Identification for Radioactive Waste Disposal Among Eight Southern States," **82** *Public Choice,* 1-15.

Cooter, Robert (1982), "The Cost of Coase," **11** *Journal of Legal Studies,* 1-34.

Courant, Paul and Rubinfeld, Daniel (1981), "On the Welfare Effects of Tax Limitation," **16** *Journal of Public Economics,* 289-316.

Crawford, Vincent (1982), "A Theory of Disagreement in Bargaining," **50** *Econometrica,* 607-638.

Cumberland, John (1981), "Efficiency and Equity in Interregional Environmental Management," **2,** *Review of Regional Studies*, 1-9.

Dahl, Robert (1956), *A Preface to Democratic Theory*, Chicago, University of Chicago Press. Dahl, Robert and Tufte, Edward (1973), *Size and Democracy,* Stanford, CA, Stanford University Press.

David, Charles E. and Lester, James P. (1989), “Federalism and Environmental Policy”, in Lester, James P. (ed.), *Environmental Politics and Policy: Theories and Evidence,* NC, Duke University Press, 57-59.

De Condorcet, M. (1785), “Essai sur l”Application de L’Analyse à la Probabilité des Decisions Rendues à la Pluraliste des Voix”, Paris.

Dixit, Avanash (1996), *The Making of Economic Policy*, Cambridge, MA, MIT Press.

Easterbrook, Frank (1983), “Antitrust and the Economics of Federalism”, **26** *Journal of Law & Economics,* 23-50.

Ellickson, Robert (1979), “Public Property Rights: Vicarious Intergovernmental Rights and Liabilities as a Technique for Correcting Intergovernmental Spillovers”, in Daniel Rubinfeld (ed.), *Essays on the Law and Economics of Local Governments.*

Epple, Dennis and Zelenitz, Alan (1981), “The Implications of Competition Among Jurisdictions: Does Tiebout Need Politics?” **89** *Journal of Public Economics*, 1197-1217.

Finifter, Ada W. (1970), “Dimensions of Political Alienation,” **30** *American Political Science Review*.

Fitts, Michael and Inman, Robert P. (1992), “Controlling Congress: Presidential Influence in Domestic Fiscal Policy,” **80** *Georgetown Law Journal,* 1737-1786.

Frug, Gerald (1980), “The City as a Legal Concept”, **93** *Harvard Law Review,* 1057-1154.

Gentzkow, Matthew and Shapiro, Jesse (2008), “Competition and Truth in Market for News,” *Journal of Economic Perspectives*, Vol. 22 (Spring), 133-154.

Gramlich, Edward M. and Laren, Deborah S. (1984), “Migration and Income Redistribution Responsibilities,” **19** *Journal of Human Resources,* 489-511.

Gramlich, Edward M. and Rubinfeld, Daniel L. (1982), “Micro Estimates of Public Spending Demand Functions and Tests of the Tiebout and Median Voter Hypotheses,” **90** *Journal of Political Economy,* 536-560.

Greenwood, Michael J. (1986), “The Factor Market Consequences of U.S. Immigration,” **24,** *Journal of Economic Literature,* 1738-1772.

Grossman, Sanford and Stiglitz, Joseph (1980), “On the Impossibility of Informationally Efficient Markets, **70**, *American Economic Review*, 393-408.

Haller, Hans (1986), “Noncooperative Bargaining of N 3 Players”, **22** *Economic Letters,* 11.

Hoffman, Elizabeth and Spitzer, Matthew L. (1982), “The Coase Theorem: Some Experimental Tests,” **25** *Journal of Law and Economics,* 73-98.

Holmstrom, Bengt (1985), "The Provision of Services in a Market Economy", in Inman, Robert (ed.), *Managing the Service Economy: Prospects and Problems,* Cambridge, MA, Cambridge University Press.

Inman, Robert (1987), "Markets, Government, and the New Political Economy," in Auerbach, Alan and Feldstein, Martin (eds), *Handbook of Public Economics*, Vol. II, Cambridge, MA, MIT Press.

Inman, Robert P. and Michael Fitts (1990), "Political Institutions and Fiscal Policy: Evidence from the U.S. Historical Record", **6** (Special Issue) *Journal of Law, Economics and Organization*, 79-132.

Inman, Robert P. and Daniel L. Rubinfeld (1996), "Designing Tax Policies in Federalist Economies: An Overview", **60** *Journal of Public Economics,* 307-334.

Inman, Robert P. and Daniel L. Rubinfeld (1997a), "Rethinking Federalism," *Journal of Economic Perspectives*, **11**, Fall, 43-64.

Inman, Robert P. and Daniel L. Rubinfeld (1997b), "The Political Economy of Federalism" in D. Mueller (ed.), *Perspectives on Public Choice*, Cambridge University Press, New York, 73-105.

Inman, Robert P. and Daniel L. Rubinfeld (1997c), "Making Sense of the Antitrust State Action Doctrine: Balancing Political Participation and Economic Efficiency in Regulatory Federalism," *Texas Law Review*, Vol. 75, May, 1203-1299.

Inman, Robert P. and Daniel L. Rubinfeld (2000), "Federalism," in *The Encyclopedia of Law and Economics,* Boudewijn Bouchaert and Gerrit DeGeest (eds.), Volume V, 661-691.

Kolstad, Charles and Wolak, Frank (1983), "Competition in Interregional Taxation: The Case of Western Coal," **91** *Journal of Political Economy,* 443-460.

Krehbiel, Keith (1992), *Information and Legislative Organization*, Ann Arbor, The University of Michigan Press.

Kreps, David and Wilson, Robert (1982), "Reputation and Imperfect Information," **28** *Journal of Economic Theory*, 253-279.

Ladd, Helen F. and Yinger, John (1989), *America's Ailing Cities,* Baltimore, Johns Hopkins University Press.

Levmore, Saul (1992), "Bicameralism: When Are Two Decisions Better than One," **12,** *International Review of Law and Economics,* 145-162.

Madison, James (1982), *The Federalist Papers by Alexander Hamilton, James Madison, and John Jay*, New York: Bantam Classic Edition.

McConnell, Kenneth and Schwab, Robert (1990), "The Impact of Environmental Regulation on Industry Location Decisions: The Motor Vehicle Industry," **66** *Land Economics,* 67-81.

Myles, Gareth D. (1995), *Public Economics*, Cambridge: Cambridge University Press.

Niou, Emerson M.S. and Peter C. Ordeshook (1985), "Universalism in Congress," **29** *American Journal of Political Science,* 246-258.

Oates, Wallace E. (1972), *Fiscal Federalism*, London, Harcourt Brace Jovanovich.

Oates, Wallace E. and Schwab, Robert M. (1986), "Economic Competition Among Jurisdictions: Efficiency Enhancing or Distortion Inducing?" **35** *Journal of Public Economics,* 333-354.

Oates, Wallace E. (2005), "The Many Faces of the Tiebout Model," in *The Tiebout Model at Fifty: Essays in Public Economics in Honor of Wallace Oates*, ed. William A. Fischel, Cambridge, MA: Lincoln Institute of Land Policy, 21-45.

Olsen, Mancur (1965), *The Logic of Collective Action,* Cambridge, MA, Harvard University Press.

Pateman, Carole (1970), *Participation and Democratic Theory,* Cambridge, Cambridge University Press.

Pauly, Mark (1970), "Optimality, "Public Goods and Local Governments: A General Theoretical Analysis," **78** *Journal of Political Economy,* 572-586.

Persson, Torsten and Guido Talellini (2003), *Economic Effects of Constitutions*, Cambridge, MA: MIT Press.

Persson, Torsten and Guido Tabellini (2004), "Constitutional Rules and Fiscal Policy Outcomes," *The American Economic Review*, Vol. 94, No. 1 (March), 25-45.

Polinsky, A. Mitchell (1980), "Resolving Nuisance Disputes: The Simple Economics of Injunctive and Damage Remedies," **32** *Stanford Law Review,* 1075-1112.

Rapacczynski, Andrzej (1985), "From Sovereignty to Process: The Jurisprudence of Federalism After Garcia," **1985**, *The Supreme Court Review*, 341-419.

Revesz, Richard (1992), "Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation," **67** *New York University Law Review*, 1210-1255.

Rose-Ackerman, Susan (1981), "Does Federalism Matter? Political Choice in a Federal Republic," 89 *Journal of Political Economy,* 152-165.

Rose-Ackerman, Susan (1994), "Environmental Policy and Federal Structure: A Comparison of the United States and Germany," **47** *Vanderbilt Law Review,* 1587-1622.

Roth, Alvin (1985), "Towards a Focal Point Theory of Bargaining", in Roth, A.E. (ed.), *Game Theoretic Models of Bargaining*, Cambridge and New York, Cambridge University Press

Rubinfeld, Daniel L. (1987), "The Economics of the Local Public Sector," in Auerbach, Alan and Feldstein, Martin (eds.), *Handbook of Public Economics,* Volume 2, Amsterdam, North-Holland, 571-645.

Rubinstein, Ariel (1982), "Perfect Equilibrium in a Bargaining Model," **50** *Econometrica,* 97-110.

Samuelson, Paul (1954), "The Pure Theory of Public Expenditure," **36** *Review of Economics and Statistics,* 386-389.

Sen, Amartya (1999), *Development as Freedom*, New York: Anchor Books.

Shepsle, Kenneth (1979), "Institutional Arrangements and Equilibrium in Multidimensional Voting Models," **28** *American Journal of Political Science,* 27-59.

Stigler, George (1971), "The Theory of Economic Regulation," **2** *Bell Journal of Economics and Management Science,* 3-21.

Tiebout, Charles (1956), "A Pure Theory of Local Expenditures," **64** *Journal of Political Economy*, 416-424.

Weingast, Barry (1979), "A Rational Choice Perspective on Congressional Norms," **23** *American Journal of Political Science,* 245-262.

Weingast, Barry R. and Marshall, William (1988), "The Industrial Organization of Congress," **96** *Journal of Political Economy,* 132-163.

Wildasin, David E. (1986), *Urban Public Finance*, Chicago, Academic Publishers, Harcourt Press.

Williamson (1985), *The Economic Institutions of Capitalism*, New York, The Free Press.

Wittman, Donald (1989), "Why Democracies Produce Efficient Results," **97** *Journal of Political Economy,* 1395-1424.

ENDNOTES

[1] This essay builds on our prior writings on the political economy of federalism; see Inman and Rubinfeld (1997a , 1997b, 1997c, 2000).

[2] Adding another legislative chamber or an executive veto has the potential to improve the

efficiency of the federal system. For an analysis of the effects of bicameral legislatures on government performance, see Levmore (1992). For an analysis of the effects of a president with veto powers on government performance, see Fitts and Inman (1992).

[3] Breton and Scott (1978).

[4] More a more complete discussion of the Tiebout Model, see Rubinfeld (1987).

[5] See, for example, Ladd and Yinger (1989), pp. 83, 85.

[6] See Epple and Zelenitz (1981).

[7] Research by Besley and Case (1995) suggests that residents do use the economic performance of neighboring states as a "yardstick" against which to measure the performance of their own local or state government.

[8] See Buchanan and Goetz (1972) for the initial presentation of this argument and the summaries in Boadway and Flatters (1982) and Wildasin (1986).

[9] See, for example, Gramlich and Laren (1984) on welfare competition among states.

[10] See, for example, Break (1967) pp. 23-24; Oates (1972) pp. 142-143; Inman and Rubinfeld (1996).

[11] For a more general argument that the regulatory actions of individual states may not result in an optimal federal system, given the incentives that determine political choice, see Rose-Ackerman (1981); see also Revesz (1992).

[12] pp. 554-555. For a more recent study, see Banzhaf and Walsh (2008).

[13] For evidence that businesses are also sensitive to local taxes and services when relocating within metropolitan areas, see Bartik (1988) and McConnell and Schwab (1990).

[14] See also the detailed evidence on interstate and interregional location of households reviewed in Greenwood (1986).

[15] See Holmstrom (1985).

[16] See Grossman and Stiglitz (1980).

[17] For a discussion of tax externalities see the survey in Inman and Rubinfeld (1996).

[18] For an illustration of this point with respect to the regulation of solid wastes, see David and Lester (1989).

[19] See, for example, Rose-Ackerman (1994).

[20] For a relatively recent review and update, see Oates (2005).

[21] This *political economy* approach to managing the central government differs from the usual *social welfare* or *mechanism design* approach of public finance. The political economy approach designs an election process that reveals the leader's preferences as in Besley and Coate (1997).

[22] For analyzes of the design of policies recognizing the incentives of policy recipients, see Myles (1995, Parts II and III) and for the literature on the design of incentives for public bureaucrats who provide policies, see Dixit (1996, particularly pp. 94-107).

[23] For a review of the role of media in promoting truthful information about candidates, see Gentzkow and Shapiro (2008). On the role of campaign financing in revealing each candidate's true ability to deliver efficient policies, see Coate (2004).

[24] Dixit (1996) provides an overview (pp. 62-85).

[25] See Fitts and Inman (1992).

[26] See Polinsky (1980) Crawford (1982) and Kreps and Wilson (1982).

[27] For the first treatment of the effects of group size on voluntary agreements see Olsen (1965). The effect of group size and other variables on bargaining has been studied extensively through the use of experiments (see, for example, Hoffman and Spitzer, 1982; also

Bagnoli and McKee, 1991).
[28] For a discussion of the importance of monitoring costs to contract enforcement, see Williamson (1985).
[29] For the first to stress this important point, see Cooter (1982).
[30] See, for example, Rubinstein (1982) and Binmore, Rubinstein and Wolinsky (1986).
[31] For evidence from the experimental literature that a sense of fairness is crucial to the ability of parties to reach agreement, see Roth (1985).
[32] See, for example, Haller (1986).
[33] For evidence that state regulations are politically motivated, and in particular, are more likely for geographically concentrated industries and occupations, see Stigler (1971).
[34] For evidence of the difficulties states have in fashioning Coasian agreements, even when the number of states is few, see Kolstad and Wolak (1983) and Coates and Munger (1995).
[35] For a survey of this literature in the context of the new political economy, see Inman (1987).
[36] For articulation of the general theory of how this process overcomes cycling, see Baron and Ferejohn (1989). For a careful description of what legislative institutions are used to assign agenda control, see Shepsle (1979).
[37] See Krehbiel (1992) for a critical but balanced review.
[38] The guiding theory can be found in Weingast (1979) and Niou and Ordeshook (1985).
[39] Details regarding the legislative institutions needed to enforce the norm of deference can be found in Weingast and Marshall (1988).
[40] Weingast (1979) and Niou and Ordeshook (1985) prove exactly when this outcome holds. See also Inman and Fitts (1990), which extends the analysis to legislative projects of variable size.
[41] See Inman and Rubinfeld (1996) and Inman and Rubinfeld (1997c).
[42] Inman and Rubinfeld (1997c) have proposed one such process for enforcing assignment in universalistic legislatures called a *F*ederalism *I*mpact *St*atement, or *FIST*, modeled after the use of regulatory impact statements to control excessive central government regulations.
[43] For empirical evidence that strong political parties may have controlled legislative inefficiencies, see Inman and Fitts (1990, pp. 111-115).
[44] Wittman (1989) makes this argument.
[45] See Dahl and Tufte (1973), Finifter (1970), Pateman (1970), and Frug (1980).
[46] See, for example Madison (1982, Federalist 51) and Rapaczynski (1985).
[47] See, for example, Sen (1999).