

## I. Introduction to Fiscal Federalism

### A. Thus far in the course, we have analyzed:

- i. the positive properties of a single tax or expenditure program in isolation
- ii. the normative properties of such taxes and expenditures
- iii. the normative or "economic" case for government services and regulation: externalities and public goods problems
- iv. the politics that underlie the main (large and well known) tax and expenditure programs selected by elected governments.
- v. the effects of interest groups in well-functioning democracies
- vi. All these analyses were grounded in relatively simple and general models of rational decision making that we developed in the first few lectures of this course.

### B. Next we'll use the same models to analyze settings in which governments are not monolithic unitary organizations, but rather decentralized, federal, or confederal governments.

- i. Decentralized policy making structures are common features of most national governments.
  - a. Most governments have regional and local governments, as well as central (national or federal) governments.
  - b. However, the extent of policy making authority accorded to state and local governments varies widely.
  - c. Some countries have local and regional governments that have little control over taxation and expenditures, while others have local and regional governments that exercise considerable control over taxes, expenditures, and regulations.
    - ◆ For example, the state and local governments of Spain and France tend to have relatively little authority over public policies.
    - ◆ Whereas, the state governments of the United States, Switzerland, Australia, and Canada have a good deal of authority over budgets and regulations.
    - ◆ In between are the state and local governments of Germany, the United Kingdom and Sweden.
- ii. In cases in which the various state and local governments are independently elected--rather than appointed by the central government--policy making at the various levels of government are substantially independent of one another--and thus our model of

governments operating alone remains useful for thinking about state and local governments as well as national ones.

- iii. However, there are important features of federal systems of government that need to be taken into account.
    - a. First, state governments compete with each other in a variety of ways. Local governments compete with each other for residents, business, and for grants from state and national governments.
    - b. These competitive aspects affect the kinds of policies that local and state governments "can" adopt.
    - c. For example, grants from higher level governments to lower levels of government often affect the relative cost of government services--much as subsidies do for individuals--and so affect local public policies.
    - d. Competition for residents implies that a state has to please its residents to "keep them," or attract new residents.
  - iv. All these effects can be analyzed using rational choice models. Examples include taxes, public services, local fiscal and regulatory policy.
  - v. The result of a decentralized, "polycentric" system of governance is a patchwork of policies that vary among state and local governments, but which generally pleases a majority of their residents.
- ### C. In federal systems of governance, the central government is formally sovereign, rather than the "member" states, but the states often have independent formal legal (constitutional) status.
- i. Federal states include a hierarchy of governments with more or less overlapping jurisdictions, but more or less independent policy making procedures.
  - ii. Some federal systems are more decentralized than others, because their local governments are less independent and/or have less authority than in others.
    - a. In some cases a subset of local officials are appointed by higher levels of government.
    - b. In some countries, local governments have relatively little ability to make tax, expenditure, or regulatory decisions.
  - iii. The parliaments of constitutionally federal governments include a chamber that represents state (provincial, lander, etc.) interests.
    - Some political scientists insist that a truly federal government always have a chamber in the national legislature that represents state interests.

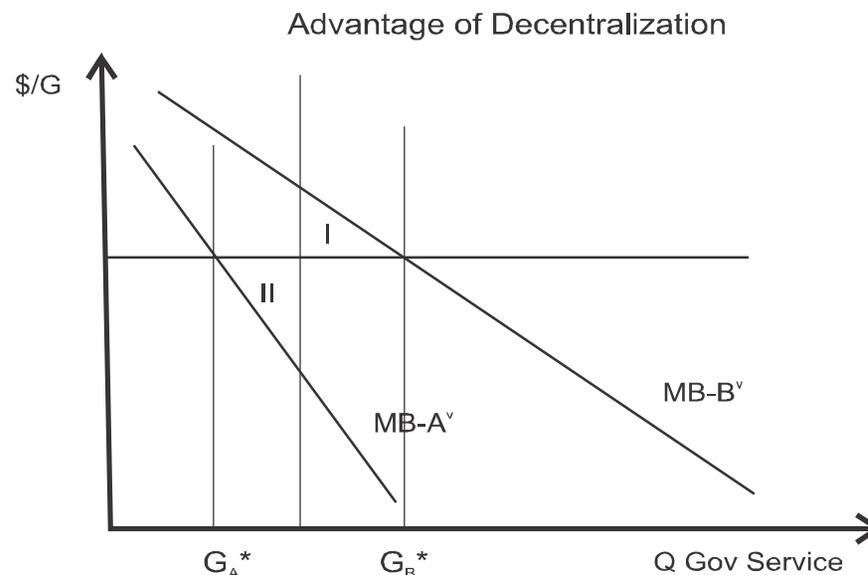
- However, such a structure is not necessary for what economists refer to as “fiscal federalism.”
- What is required for fiscal federalism is simply some local independence and some authority to make fiscal (tax and/or spending) decisions.

## II. Advantages of Federal and Polycentric Systems of Government

- A.** Most large governments are “polycentric” in the sense that they include many agencies that can make more or less independent policy decisions that are binding on the nation as a whole, regions of a nation, or other parts of the government. In many cases, this is simply a matter of bureaucratic organization that attempts to take account of advantages of specialization and local management of particular areas of policy. Local circumstances and problems are often best assessed “on the ground,” meaning by persons in the area to be regulated or in which services are to be produced and distributed.
- B.** In many cases, the sub-units of government are products of historical agreements as when several smaller governments band together to create a larger governing agency. These include both confederal and federal governments. In such cases the member states or provinces are older than the central government and, one way or another, created it.
- C.** In federal governments, the central government is supreme in a subset of policy areas and the state or provincial governments are supreme in others. And, there may be a few policy areas in which both levels of government share responsibilities.
- D.** In confederal governments, the states have greater authority than in federal systems, which in many cases, include significant veto power over the central governments policies. (Policy making of the European Union resembles that of a confederation, and in the EU, unanimous agreement among the member states is necessary for major policy decisions.)
- E.** In areas of policy in which the states can make independent policy decisions, those decisions tend to reflect state level rather than national politics.
- Insofar as the state governments are elected, their policies can be modeled as the policies preferred by state level median voters.

- If state level median voters have different interests, have different incomes, or face different prices for government services, they will tend to have different “ideal” points with respect to public policy.
- A consequence, state or provincial level policies tend to vary and do so in a manner that tends to advance state level median voter interests, which will, of course, be favored by majorities of a state’s voters for reasons that we developed a few lectures back.

### F. Illustration of the Oates’ Decentralization Theorem



- In the figure above, the marginal benefits of the median voters of two different states or communities are depicted. (To simplify the comparison, it is assumed that the marginal costs curves in each state or community are the same, as would be the case if they purchased the service from a company that provided it in both states. However, the conclusions do not depend on that.)
- Note, that the median voters of the two communities disagree about the ideal level of this service.
- Note also that these service levels ( $G_A$  and  $G_B$ ) would be preferred by a majority of the voters in their respective states—although not all voters.
- Note as well that a single uniform output between the ideal service levels of the two states imposes losses on each median voter. The

median voter of community A loses area II and the median voter of community B loses area I.

- v. Thus, the service levels chosen by each state (or local government) provides larger net benefits than any single service level provided by the national government can.
- vi. This is the essential geometry of what Wallace Oates called the decentralization theorem.

**G.** In general, the decentralization theorem implies that services should be provided at the lowest level of government able to realize all (or most) economies of scale involved in producing the service. Variety, in this case, makes a super majority of voters better off over any uniform level of service.

**H.** Unless there are substantial economies of scale that cannot be realized by local or state governments or significant inter-state externalities exist, the pattern of state policies associated with federal governments tends to advance broader voter interests than any single centralized policy can.

### III. Intergovernmental Competition: the Tiebout Model

**A.** Another normatively attractive feature of federalism is that states tend to compete with each other for residents which encourages them to provide their services at least cost.

**B.** The analysis of “perfect” competition between state or local governments was pioneered by an economist named Charles Tiebout (pronounced Tee boo).

**C.** Charles **Tiebout** (1954) pointed out that competition between local governments can have properties that are similar to those of perfect competition between firms in competitive markets if voters are mobile.

- Instead of competing for consumer dollars, local governments can be thought of as competing for residents and tax base.
- To attract new residents they have to provide services at a “reasonable” tax cost or else people would move to other communities where the “tax prices” were more reasonable.
- When competition among governments for residents and tax bases are “perfect,” competition can generate patterns of local public services and

taxes that are economically efficient in the same sense that competitive markets can.

- (However, as we will see, the assumptions required for this ideal limiting case to occur are even more demanding (less likely) than those required for competitive markets. Nonetheless, competition should move local policies in the direction described by Tiebout.)
  - i. Tiebout uses migration and changes in local tax bases to characterize a **perfectly competitive** environment for local and state governments.
    - a. He assumes that **moving** from one community to another is **costless** and motivated entirely by differences in local public services and taxes.
    - b. He also assumes that competition for residents produces a wide range of fiscal packages to choose from.
    - c. Potential residents “vote with their feet” and locate in the jurisdiction that has the best combination of taxes and services, given their tastes and income.
    - d. Residents, thus, locate in communities where they get the services they want at least cost.
  - ii. In the limit, “voting with one's feet” produces a competitive equilibrium among communities in which:
    - a. Each community provides its bundle of public services at least cost.
    - b. Every community is ideally sized to produce its bundle of services.
    - c. Each community's residents are “homogeneous” in their demand for local public services.
    - d. Each voter-resident pays the marginal cost of his or her services.
  - iii. Such tax and service combinations meet the Lindahl conditions for efficient provision of public services (as well as the Samuelsonian ones).
  - iv. Note that **this process does not require an effective political system** to achieve Pareto efficient results, only very mobile tax payers who can take their part of the tax base with them.
    - ◆ In order to tax mobile resources, communities (towns, states, and countries) have to provide services commensurate with their tax costs.
    - ◆ Otherwise “public consumers” will **vote with their feet** and move to other places that provide better value for their tax dollars (taking “their tax bases” with them).
- D.** Tiebout's analysis provides one of the strongest arguments in favor of decentralized governance. It induces the efficient provision of government services and also encourage governments to innovate.

- i. Decentralizing the provision of local services potentially allows voters to get just what they want from government--no more and no less.
- ii. The tax system in place tends to resemble a Lindahl tax system and thus (in the limit) every resident is content with the services provided given their own tax cost..
- iii. All services are provided efficiently, at least cost.

**E.** Intergovernmental competition does not always work as well as Tiebout suggests, but this idea has informed a good deal of discussion about the desirability of decentralizing the provision of services.

- i. For example, it along with Oate's decentralization theorem provide the main justifications for the "subsidiarity principle," the rule that responsibility for a government service or regulation should be assigned to the lowest level of government capable of providing the service.

**F.** Although Tiebout's idealized equilibrium may be a reasonable first approximation for competition between local governments (and condo associations) within a metropolitan area, **there are limits to its applicability**--just as there are limits to the applicability of his theory of perfect competition in ordinary markets.

- i. For example, the cost of moving between governments is not trivial, and tends to vary with the level of government.
- ii. There also tend to be more local governments to choose from than state of national governments.
- iii. Both these factors imply that "Tiebout competition" is likely to be more intense at local than at state or national levels.
- iv. Just as the "law of one price" for markets varies with information and transactions costs, Tiebout's "homogeneous demand for services" result varies with the cost of moving. The lower this cost is--other things being equal--the more uniform will be the demands for services within a community or jurisdiction.
  - This partially explains why rural demands for services tend to systematically differ from urban demands for services.
  - People move toward or away from cities according to their demands for and willingness to pay for services.
  - (Note that this effect shows up on US post-election maps in that republicans tend to demand low services and tend to live in rural areas.)

v. **Another theoretical (and practical) problem is that economies of scale** in producing important government services may reduce the number of competing "town-firms" that can be sustained in a "Tiebout world" in a manner that economies of scale can reduce the range of choice available to consumers in markets..

- ◆ Economies of scale imply that menu of government services that voter-taxpayer-consumers can choose from may be more limited than the Tiebout model implies.
- ◆ In such cases, residency choice is still partly determined by the net benefits associated with the fiscal package available.
- ◆ However, local politics be a more important determinant of services and citizen welfare than implied by the Tiebout model. and residents no longer get exactly what they want from their governments.

vi. The existence of intergovernmental **externalities** may also imply that some services are under provided locally and others are over provided relative to the levels that maximize social net benefits.

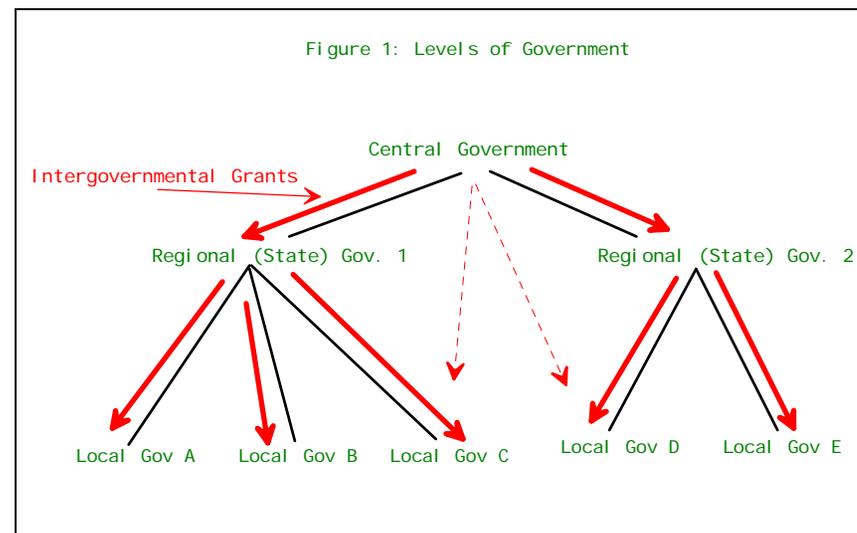
- a. The logic closely parallels our earlier analysis of externalities between individuals and/or firms.
  - ◆ NIMBY problems may also emerge.
  - ◆ Transfer programs may be underprovided.
- b. Solving externality and public goods problems may require "treaties-Coasian contracts" or "interventions" by higher levels of government.

**G.** The existence of economies of scale and externalities provide **an economic rationale for federal systems** with several "levels" of government with responsibilities for providing services in different sized jurisdictions.

- ◆ If Tiebout worked perfectly, it would imply that an efficient federal government would be composed largely of local governments with a very small central government with the sole task of guaranteeing citizen mobility among communities.
- ◆ (Explain why)
- ◆ Economies of scale and externality problems imply that other levels of government are necessary to provide government services efficiently (and/or to maximize social net benefits).
- ◆ (Explain why)
- ◆ However, overall, the Oates and Tiebout arguments suggest that decentralization and intergovernmental competition tend to systematically generate benefits for their citizens even in cases in which Tiebout's perfect competition is absent.

#### IV. Decentralization varies among federal governments

- A.** In cases in which several of the “levels” of government have independent taxing and/or spending authority, a country or nation state can be said to exhibit **fiscal federalism** (Oates 1972, 1977, 1999; see also Mueller in Congleton and Swedenborg 2006).
- i. Fiscal federalism does not require political federalism, but it does require “polycentric” governance (Ostrom 1972, McGinnis 1999, Hooghe and Marks 2003).
    - a. Within the US, individual state, county and town governments (local voters) can usually control local taxes and expenditures.
    - b. Similar decentralized control over taxes and expenditures also exist in Canada, Australia and Switzerland which are **federal nation states** and within Scandinavian nation states, **which are not**.
- B.** The greater is the independence of local governments and the broader is their fiscal and regulatory authority, **the more decentralized** is a federal (or other polycentric) government.
- i. In other less decentralized federal systems, control over many local taxes and expenditures is exercised by higher levels of governments.
    - a. Independent state and local governments exist, but they are not able to set many (or any) local tax rates or may have very limited control over local expenditures.
    - b. Fiscal federalism exists in such countries as well, if local governments can make some independent fiscal decisions.
  - ii. Within "unified" governments, local governments may also be more or less independent and more or less free to determine taxes, expenditures, borrowing, and regulations.
    - Such states may be considered to be "federal" in the fiscal sense because taxing and/or spending authority is distributed between national, state, and local governments.)



- C.** Federal systems of governance have both “vertical” and “horizontal” relationships among governments.
- i. With respect to “vertical” relationships: some state and local services and taxes may simply be mandated by higher levels of government.
    - a. Local governments are constrained in what they can do by state laws.
    - b. State governments are constrained in what they can do by national laws.
  - ii. In addition to mandates and prohibitions from higher levels of government, there are often subsidies from "upper" levels of governments to "lower" levels of governments that create new opportunities for local governments to provide services without having to raise local taxes.
  - iii. In the diagram above, the red arrows can be thought of as "mandates" placed on local governments or as grants (subsidies) paid to local governments.
- D.** The vertical relationships given most attention by economists are intergovernmental grants and political feedback(s).
- i. The existence of intergovernmental grants and targeted grants tend to induce local and state governments to lobby in favor of such programs.

- ii. One possible result is "Pork barrel politics" a.k.a. the "fiscal commons problem" (discussed below).
- iii. Another type of political feedback concerns how bargaining between levels of government affect the extent of centralization observed (Congleton, Bacarria, and Kyriacou 2003).
- iv. In addition to the vertical relationships, there are "horizontal" relationships that are of interest to economists. The most important of which were examined above.
  - a. For example, to the extent that "tax base" is mobile across local governmental jurisdictions, **intergovernmental competition** over taxes, expenditures, and regulation tends to emerge.
    - ◆ If community A has higher taxes than Community C, people from community A will tend to move to community C--unless the services in community B are noticeably better than those in community C.
    - ◆ (The effects of competition between government are discussed below.)
  - b. There are also regulatory externalities that may be associated with local governments.

**E.** Analyzing the economics and politics of fiscal relationships within federal systems allow us to understand federal governments operate and also provides some insights about how federal systems should be designed.

## V. The Effects of Intergovernmental Grants

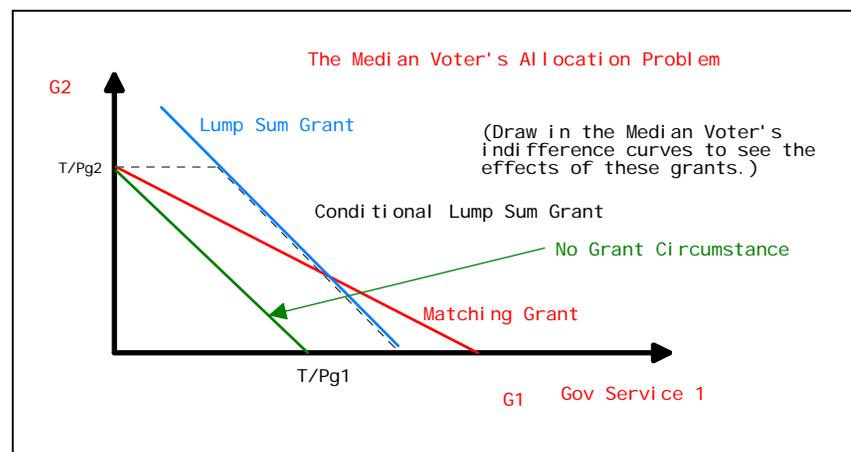
**A.** Modeling the effects of intergovernmental grants requires a model of local governmental decision making. We'll continue to use the median voter model for this purpose.

- i. The median voter model (or median legislator model and governor models) allows the decisions of government to be modeled as if they were made by a single person.
- ii. This, in turn, allows us to use diagrams from microeconomics and from the first part of the course on the effects of taxes and subsidies to represent the effects of conditional and unconditional grants on local governments and local governmental policies.

### **B. The median voter and intergovernmental grants.**

- i. As is the case for ordinary subsidies to individuals and firms, intergovernmental grants can be "lump sum" or "marginal" (block grants or matching grants).

- ii. As true of ordinary subsidies, grants may also be conditional or not.
- iii. Both conditional and unconditional matching grants affect relative prices of alternative government services faced by voters.



- iv. How intergovernmental grants change the public budget constraint is illustrated above.
- v. How such grants affect public policy require adding the indifference curves of the median voter or "pivotal policy maker."
  - a. For most of our purposes, the relevant indifference curves are those of the median voter (or directly elected city planner).
  - b. (Add indifference curves to diagrams like that above, and analyze how different kinds of grants tend to affect the level and distribution of government services within a community.)
- vi. For the most part, the empirical evidence on the effects of grants is consistent with the median voter model of government decision making.
- vii. There is however one puzzle, often termed the "**fly paper effect**" (Hamilton 1983, Bailey and Connolly 1998, Jacoby 2002).
  - a. Block grants, which resemble lump sum grants, increase government services by more than one would expect based on standard consumer models.
  - b. The grants "stick" to the programs they are aimed at, rather than inducing tax reductions that the median voter model seems to predict.
    - ◆ That is to say, in a community that spends 10% of its income on government services why aren't 90% of block grants used to reduce taxes?

- ◆ (There are several theories that can be used to explain this, but all require more complex models of governance than our simple median voter model, and not all are very convincing.)

## VI. Lobbying Higher Levels of Government: the Fiscal Commons Problem (aka the Pork Barrel Dilemma)

- A.** The existence of intergovernmental grants creates incentives for state and local governments (and state representatives and senators) to lobby for grants and other targeted programs that benefit their own states--even if they do not benefit the nation as a whole.
- i. A higher level of government may fund specific highway and water projects that benefit only a particular city or metropolitan area, but which are paid for by taxes imposed on everyone in the state or country.
- Other programs that have regional rather than national benefits include: flood insurance, hurricane relief, ports and harbor spending, railroad and airport subsidies. (These provide benefits mainly for persons living next to oceans, rivers, or major transportation hubs.)
  - Many national parks, libraries, monuments, and museums also mainly produce local benefits.
- ii. *Lower levels of government will lobby higher levels of government for targeted projects that generate benefits for them, but which they would not favor if they had to pay for them with local taxes, because their costs in that case would be greater than their benefits.*
- In such cases, the national funding of local projects induces a good deal more lobbying than would occur if the projects were funded at local levels, because local benefits are more likely to exceed local tax costs if taxpayers from other cities and states are paying most of the cost for local projects.*
  - The end result can be a quite inefficient distribution of grants and local projects--projects that overall generate negative net benefits.
  - This is the so-called fiscal commons problem or pork barrel dilemma.
- B.** Illustration of the Pork Barrel Dilemma
- i. Consider two programs with negative social net benefits, but majority support from two narrow coalitions.
- Each project has total costs that exceed its total benefits, but that regional benefits are greater than regional costs under central government financing, because of the use of general taxes.
  - For the purposes of illustration, assume:

- that a regional **highway costs** 10 billion dollars and provides 1 billion dollars of benefits to region A and 6 billion dollars of benefits to region B.
- Assume also that a regional **water project costs** 12 billion dollars and generates 8 billion dollars of benefits for region A, but only 2 billion dollars of benefits for region B.

- ii. The following game matrix can be used to illustrate this pork barrel dilemma.

the Pork Barrel Dilemma		
Region B	Build Road	Don't Build Road
Region A	A, B	A, B
Build W	(-2, -3)	(+2, -4)
Don't build W	(-4, +1)	(0, 0)

- a. The payoffs to the region B and region A coalitions consist of their own narrow benefits from their projects less half of the total cost of the projects adopted.
- If neither project is built, no benefits and no costs are realized.
  - If just the road is built, then region A gets  $(1 - 10/5) = -4$  in net benefits. Region B, on the other hand pays its share of the costs and receives only very small benefits  $(6 - 10/2) = +1$ .
  - If just the water project is built, then region A gets most of the benefits but pays only half the costs,  $(8 - 12/2) = +2$ . Region B gets its small benefit at the cost of half of the water project,  $(2 - 12/2) = -4$ .
  - If both projects are built, Region A gets  $(1-4) = -3$  and region B gets  $(2 - 4) = -2$  in net benefits.
- b. Each coalition has incentives to press for passage of their project, regardless of what the other coalition does.
- ◆ Notice that the payoffs in this case resemble those of a Prisoner's dilemma game.
  - ◆ Each group has a dominant strategy
- c. **As a consequence, each project is adopted at the Nash equilibrium of this game.**

- **However, both coalitions would be better off if neither of the projects were actually built!**

- iii. The fiscal commons problem arises because of fiscal externalities. One region's centrally funded programs impose costs on other regions, who have to pay for those projects even though they receive little if any benefit from those projects.
- iv. This problem can be avoided by (i) making the regions fund their own projects, (ii) by rigorously using cost benefit analysis, or (iii) by adopting a generality rule (see Buchanan and Congleton 1998).
- v. (Explain why these three solutions would all solve the dilemma.)
- vi. (Are there other solutions that would also avoid the PD outcome while allowing projects with positive net benefits to be built? For example, how might user fees or benefit taxes be applied?)

## VII. Externalities between Governments:

**A.** There are cases in which a government cannot adopt Pareto efficient regulations or service levels--even if it wants to--because part of the problem is generated by persons or companies outside their jurisdiction.

- i. In such cases, regulation itself can be an externality generating activity.
  - a. For example, a town's regulations on water pollution may impose externalities on towns further down stream.
  - b. Similarly, the environmental and trade regulations in one nation state may impose benefits or costs on resident of other adjacent countries.
- ii. Consequently, there may be unrealized gains to trade between governments regarding appropriate regulation.

**B.** There are two general methods for dealing with such **governmental externality problems**.

- i. First, the affected parties may attempt to negotiate a "Coasian" contract that "internalizes" the externality.
  - a. In a median voter model, the existence of externalities would provide the median voters of the communities of interest with an economic reason to coordinate their policy choices.
  - b. That is to say, it is possible that Coasian contracts (regional alliances or treaties) may be used to address interjurisdictional externality problems.

- State and local governments may negotiate with each other and sign agreements to coordinate policies or to create a "special use district" of the same "size" as the externality.
- (Examples include airport and transit authorities, as with those between NY, NJ and CN, or between VA, MD, and DC.

- ii. Note that this same logic applies to international settings, insofar as governments may negotiate a treaty where the countries "trade regulations" with one another.
  - a. For example, in the various international environmental treaties, countries agree to strengthen various environmental regulations to deal with an international externality.
  - b. Examples include international water commissions (US and Canada, Sweden and Denmark) and international environmental treaties.
- iii. Second, local governments may "ask" higher levels of government to regulate the matter of concern.
  - a. Adjacent counties may ask states to regulate "county externalities," states may ask the federal government to regulate "inter state externalities."
    - ◆ In Europe the regulation of many international externalities is coordinated by the European Community.
  - b. Note that this solution is of limited value for international regulation and public good problems because there are no world or continental governments.
    - ◆ The results of Coasian contracts can be highly imperfect (relative to Pareto optimality) in international settings. Discuss some of these.
    - ◆ [We will analyze the demand for treaties and their effectiveness later in the course.]

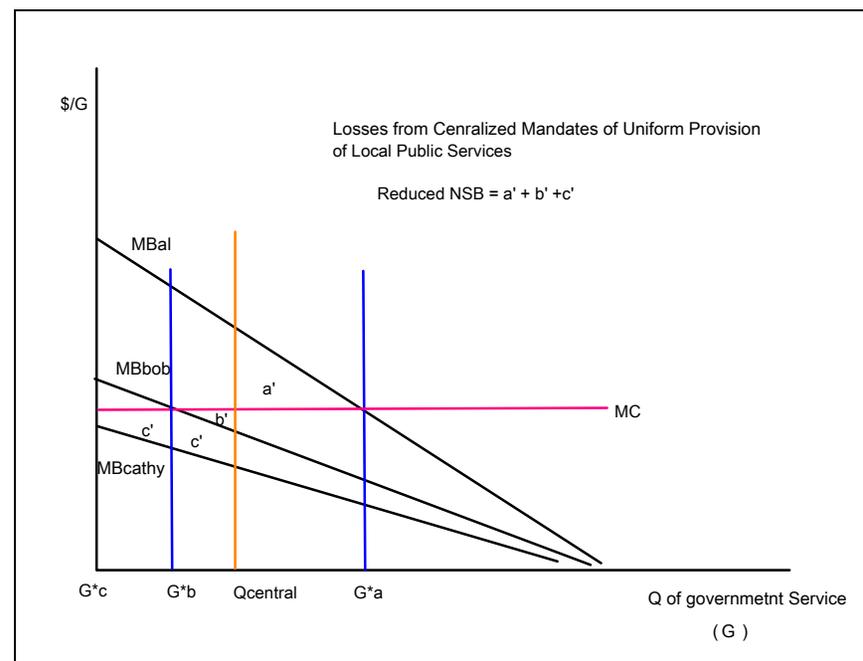
## VIII. Additional Analysis of the Optimal Assignment of Fiscal and Regulatory Responsibilities to Different Levels of Government

- A.** The Oates and Tiebout cases for decentralization implies that services should be provide by government's with the smallest jurisdictions (territories) sufficient to realize all economies of scale for the service of interest.
- a. Oates (1972) develops this point more formally with his decentralization theorem.
  - b. The EU adopts this idea with its "subsidiarity principle."

c. This last section of the material on federalism analyzes the normative case for decentralization in a bit more detail.

**B.** The Oates approach implies that the optimal level of government for providing particular services depends on the economies of scale in producing the services of interest.

- i. Services with nation-level economies of scale should be provided by the national government (national defense, macroeconomic policy, redistribution)
- ii. Services that require relatively large service areas or numbers of customers should be produced by state or regional governments. (regional highways, higher education, etc.)
- iii. And services that can be effectively provided in relatively small service areas or for relatively small customer bases should be provided by local governments. (police and fire protection, elementary education, local roads, sanitation services etc.)
- iv. Some “services” will be produced by several different levels of governments because the “services” are actually different goods produced through different processes (production functions).
  - a. Some forms of education, police services, and environmental regulation have only local effects--on their students or local residents.
  - b. However, other forms of the same general type of service may have greater economies of scale.
  - c. For example, grammar schools, high schools, and colleges all provide educational services, but the services provided are quite different from one another and have different production functions and economies of scale.
  - d. In such cases, the optimal district changes as the various services are provided.
  - e. Ideal school district sizes increase as one moves from elementary school to high school and from high school to college.
- v. Similarly, he argues that services that have regional effects as with commuter networks, some forms of air and water pollution, and some forms of police authority, should be provided regionally rather than locally, by states, or at national levels.
- vi. In general, Oates’ simple production-based arguments imply that particular services should be provided by only a single level of government. (Federalism should be a layer cake.)



**C.** The same can be applied to externality problems, both ordinary economic externalities and ones between governments--although other possible solutions exist for such problems as was demonstrated in the lectures on externalities as with Pigovian taxes and subsidies and Coasian agreements among the affected individuals and communities.

- i. The federalism solution to an inter-community or interstate externality problems is to shift responsibility for regulating such problems to the lowest level of government in which all the affected persons are voters for that level of government.
- ii. In such cases, voters may have an interest in fully addressing the problem--which for the purposes of this course is the level whose median voter would tend to “internalize” the externality in his or her policy analysis.
- iii. However, as shown in the public choice section of the course, such a voter would not necessarily adopt policies that maximize social net benefits.
- iv. In cases in which no level of government has a large enough jurisdiction to fully encompass the externality problem--as with international

externality problems--the only solution possible is through Coasian contracts or treaties of one kind or another.

- v. Oates reasoning also implies that large--but not national--externality problems, such as lake or river water pollution can be best addressed by state government or regional consortiums of states.
- vi. In a few cases, there are nationwide economies of scale, in which case, services should be provided nationally.
  - a. These include national defense and broad environmental problems.
  - b. Similarly, insofar as the advantages of free trade zones increase with size, so the national government should have responsibility for maintaining free trade within the nation.

**D.** Transfers among states or locality in the interest of fairness or equity

- i. In addition to the purely economic based assignment of problems to levels of government, there are also political and normative rationales that may be used.
- ii. For example, Tiebout competition implies that innovation may be greater if a service is provided at a lower level of government than a higher level of government. This suggests that Oates' analysis somewhat understates the case for decentralization.
- iii. Similarly, voters may regard decentralization to be a "good" in itself and favor it even when the costs of local services are somewhat higher than they would be with less decentralization.
- iv. Voters that have internalized "fairness" or "equity" norms may also favor redistributive grants (block grants) that provide additional resources to the governments of relatively poor regions so that services though to be "important" are adequately provided in that region, such as education and social insurance.

**E.** The economic production and externality-based economic arguments developed above neglect the advantages of variation in the services provided and also the **political costs** associated with larger regional governments with greater monopoly power.

- i. There are political costs associated with merging quite different areas into a single metropolitan area.
  - a. The community becomes more heterogeneous.
  - b. Monitoring costs tend to increase.

- c. Each voter has a smaller effect on service levels through his locational choice and voting behavior.
- d. Competition tends to fall as the number of government service packages diminishes.
  - (Indeed, come "community mergers" may be just cartelizing behavior by local politicians who attempt to escape from competitive pressures.)
- ii. Thus, it is often the case that greater decentralization is "optimal" than the level argued by Oates.
- iii. The best (utilitarian or contractarian) assignment of authority for providing services to specific levels of government (should) take account of both economic and political costs.

**IX. Optional Material Appears Below for Interested Students****X. Endogenous Decentralization and Asymmetric Forms of Federalism**

- A.** The above analysis assumes that the degree of centralization is fixed or decided by policy makers of higher levels of government. It also assumes that the authority of governments at a given level within a federal or confederal system of government is uniform.
- B.** Neither assumption is necessarily true. In the long run, the degree of decentralization in place tends to emerge from bargaining between higher and lower levels of government. And, that bargaining often generates patterns of decentralization in which some governments (large states and large cities) have greater authority than other governments at the same level in the federal system (smaller states and cities).
- C.** The degree of decentralization is normally not determined by the central government alone. It is partly determined by constitutional law and through negotiations within a federal system. In some cases, local governments will lobby for (and trade for) additional authority. In others, they will lobby higher levels of government to take over policy areas that currently are local or state matters rather than state or national matters.
- D.** The result of such negotiations can be asymmetric forms of federalism in which the state and local governments vary in their authority over taxation and public policy.
- E.** Most economic models of federalism implicitly assume that each government at a given level has the same authority to make fiscal and regulatory decisions.
- i. However, the assumption of uniform jurisdictional size and authority is rarely completely accurate.
  - ii. For example, we observe significant differences in physical size, population, income, and political representation for state and local governments.
    - a. In the United States, California is physically the third largest state with 11% of the citizens, whereas Wyoming, the sixth largest state includes less than 1% of the U. S. population.
    - b. Requejo (1996) notes that New South Wales includes 35% of the population of Australia, whereas Tasmania includes less than 3%. North Rhine Westfalia includes some 21% of the population of Germany, whereas Bremen includes less than 1% of the population.
    - c. Uttar Pradesh includes 16% of the population of India, whereas Sikkim includes less than a twentieth of one percent.
  - iii. That population and population densities vary so widely implies that demands for local services also tend to vary widely among these regional governments and, moreover, implies that political power within their respective democratic central governments is also likely to vary widely by state, lander, and province.
- F.** That regional interests and bargaining power vary has important effects on the degree of centralization of decentralization found in federal and other polycentric forms of government (in the long run).
- i. National constitutions do not fully specify the degree of decentralization within a nation at any single point in time or through time.
  - ii. Rather, the degree of decentralization is determined by a series of political bargains within and between national and regional legislatures in which both the details of policy and the powers to make policies are negotiated and renegotiated through time.
  - iii. Differences in the bargaining power and interests among participating governments affect the distribution of fiscal and regulatory authority adopted.
- G.** As a consequence, a good deal of asymmetry is observed within most federal and confederal systems.
- i. For example, in Spain, Navarra and the Basque communities have formal tax and expenditure powers beyond those of the other "autonomous communities."
    - ◆ Galicia and Catalonia have special authority over education, language, and culture.
    - ◆ In Canada, Quebec has special powers to encourage the use of the French language and protect the French-Canadian culture.
    - ◆ In the United Kingdom, the Scottish Parliament has significantly more policy-making authority than the Welsh Parliament.
    - ◆ In the United States, Indian reservations have their own specific taxing and regulatory authority that differ from those of ordinary state governments.

- ◆ California, the most populous state, has unique powers of environmental regulation.
  - ◆ In China, Hong Kong has been granted unique legal and political institutions: "one country, two systems."
- ii. Large cities in many countries often have powers of taxation and regulation that smaller cities lack or rarely use.
- ◆ New York City and Washington D. C. have their own income and sales taxes.
- iii. Asymmetries are also common among the members of large international organizations.
- ◆ In the European Union, some members retain more autonomy than others inasmuch as they have opted out of or delayed membership in the menu of treaties that define the responsibilities of affiliated countries.
  - ◆ The responsibilities of members of the United Nations with respect to military armaments, human rights, and environmental regulations are similarly defined through a series of treaties with quite different signatories.
  - ◆ Different nations formally retain different degrees of autonomy both within and without these very decentralized confederations.
- H.** As a consequence, service differences across communities may emerge in both decentralized and unified states, for other reasons than those analyzed above. That is to say, they may emerge because communities may have unequal authority to make particular kinds of policy decisions or different abilities to influence higher levels of government.
- i. For example, equal representation by population often implies unequal representation by regions or economic interests, and vice versa.
- ◆ In the US, some states have far more influence in the House than in the Senate, and these differences have been shown to influence the pattern of intergovernmental grants
- ii. Unequal influence within the central government implies that central government policies will often favor some regions or communities over others.
- ◆ Analysis of variation voting power has a long and distinguished history in the public choice literature. (See for example: Mueller, 1989.)
  - ◆ However, this form of asymmetry is not the same as that analyzed here in which regional governments acquire different degrees of local policy-making authority.
- I. Asymmetric federalism** exists whenever governments at the same level of geographic responsibility—towns, counties, cities, or states—have different regulatory and fiscal powers.
- ◆ Such differences in policy authorities create a "supply-side" source of variation in government services, regulations, and taxes in addition to the standard demand-side variation in local demand stressed in models of local fiscal competition.
- J.** Differences in authority can influence both the variation in services among regions and the path of economic development among regions.
- K.** For example, consider the case in which only a single city is granted authority to use eminent domain to produce "right of ways" for light rail transport services.
- i. Suppose that the favored city sells or rents the right of ways to private railroad companies.
- a. This provides the city with a unique source of revenue and also a unique economic advantage.
  - b. Both effects allow the more autonomous government to provide a more attractive fiscal and economic environment for its residents than possible for otherwise similar governments.
- ii. Light rail has the effect of reducing transport costs to city apartments, shops, and factories that operate in an otherwise competitive market.
- a. Individuals prefer to work for firms that are close to the rail lines, and consumers prefer to live and shop at stores near the rail lines—other things being equal—because the net of transport real wages are higher and net of transport prices are lower along the rail lines.
  - b. This increases net benefits and profits for consumers and firms located near the rail lines.
  - c. Moreover, rental revenue from the right of ways allows the favored city to reduce other tax rates within the city.
- iii. Given these economic advantages, persons and firms from within the favored city and throughout the country of interest will attempt to relocate near to the rail lines of the favored city.
- ◆ In principle, the favored city continues expanding its rail network and attracting tax base up to the point where the marginal increase in revenue and tax base generated by an extra kilometer of new right of way equals the marginal cost of the right of way less any loss in tax base generated by investor fears concerning the use of eminent domain—or until no private

firm is willing to expand its rail network because traffic densities are too low to recover its costs. The latter, of course, expands outward from the city center as immigration of capital and labor occurs.

- iv. Although there is a limit to the urban growth encouraged by this city's unique power of eminent domain, the favored city is likely to become an important commercial and cultural center well before this limit is reached. Its internal market and population expands.
    - ◆ Specialization increases; and wages and profits increase as productivity rise.
    - ◆ Other cities that have to rely entirely upon private provision of rail services falter, because holdout problems make assembling long right of ways very difficult—indeed intractable—for private firms acting alone.
    - ◆ The more autonomous city grows and prospers—while other similar cities that would have copied the strategy of the favored city are legally unable to do so.
  - v. Other local fiscal and regulatory "privileges" can have similar effects, insofar as the additional authority allows favored governments to provide a more attractive fiscal package than legally possible for other similar governments.
- L.** Asymmetric federalism may take a variety of institutional forms.
- i. Specific asymmetries may be created by a nation's constitution by assigning different areas of competency to various regions of the country.
  - ii. Alternatively, the constitution may allow the possibility of alternative internal arrangements that allow the formation of many levels and combinations of fiscal authority.
    - a. For example, a national constitution may simply allow states to organize themselves into various subnational organizations of states, cities, or counties.
    - b. An international treaty organization may allow a subset of member states to pursue their own interests within the terms of the treaty.
  - iii. This possibility allows a range of federal structures that is more complex than normally analyzed by economists. However, it is clear that many internal organizational structures tend to produce asymmetric forms of fiscal federalism.
    - a. The figure below illustrates one such internal structure.
    - b. If we interpret the inter-regional government as another level of centralized control, it is clear that local government 1 retains more autonomy than local

governments 2 and 3, because it is not bound by the decisions of the regional government, if the regional government is not granted exclusive areas of competency.

- M.** Surprisingly little research has been done asymmetric forms of federalism. Additional reading is provided in various articles published in economic journals.
- i. Tiebout, 1956, and Oates, 1972, pioneered the economic analysis of fiscal federalism and intergovernmental relationships.
    - a. Inman and Rubinfeld (1997) provide a survey of issues in subsequent literature.
    - b. Molander (2004) provide an international review of fiscal federalism in unitary states.
    - c. Qian and Weingast (1997) elaborate the role that federalism can play in solving various commitment and information problems.
  - ii. None of these papers or books includes any reference or comments on asymmetric forms of federalism.
    - a. Requejo (1996) analyses some general features of existing asymmetries within modern states.
    - b. Congleton, Bacarria, and Kyriacou (2003) analyze the political foundations of asymmetric distribution of authority within nation states and international organizations and the manner in which they tend to change through time..
    - c. Several handbooks of fiscal federalism now include chapters on asymmetric forms of federalism.