FISCAL FEDERALISM IN THE UNITED STATES

Katherine Baicker
Harvard University and NBER

Monica Singhal
Harvard University and NBER

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I. INTRODUCTION

The classic Tiebout model, first proposed over 50 years ago, remains the benchmark framework for thinking about the optimal provision of public goods in a federal system. In this model, different jurisdictions provide differing levels of public goods and individuals sort themselves into jurisdictions based on their preferences (Tiebout 1956). In a world with preference heterogeneity, decentralization solves the preference revelation problem normally faced when attempting to find the optimal level of public goods: individuals can only obtain higher levels of public goods by locating in a jurisdiction that provides them and paying the higher associated levels of taxation. Decentralization also solves the preference aggregation problem, since, in the extreme, individuals sort themselves into homogenous preference jurisdictions.

The Tiebout model suggests clear divisions of responsibility across levels of government. As noted by Oates (1999), "provision of public services should be located at the lowest level of government encompassing, in a spatial sense, the relevant benefits and costs." This has generally been taken to imply that local and state governments should be responsible for the provision of local public goods. The role of the national government is then restricted to stabilizing the macroeconomy, providing national public goods, structuring intergovernmental grants to correct inter-state externalities, and redistributing income across a mobile population.

Despite continued widespread use of the Tiebout model, the empirical evidence to support its main predictions is mixed (Dowding, et al. 1994). One strand of literature examines whether local public goods, amenities, and taxes are capitalized into house prices. Beginning with Oates (1969), a number of studies have documented the existence

of capitalization, but estimates of the extent of capitalization vary widely (Dowding et al. 1994). A second strand of literature tests some of the direct predictions of the model. Perhaps the most basic test is the question of whether or not people appear to "vote with their feet," moving to the jurisdiction that provides the optimal bundle of goods for them. Evidence on whether the elderly move as we would expect upon retirement and whether individuals move in response to changes in amenities, such as environmental quality, is mixed.[1] In addition, some of the expected consequences of "voting with your feet" do not appear to be supported by the data. In the model, declines in mobility costs should be associated with increased heterogeneity in preferences and policies across local communities, as individuals sort into communities that more closely match their preferences. Rhode and Strumpf (2003) show that large declines in mobility costs since 1850 have instead been accompanied by decreases in heterogeneity in a wide range of measures of preference proxies and policy outcomes.

In addition, the actions of governments often appear to depart from the predictions of the Tiebout model. Many states and localities have progressive taxes, with income taxes comprising an increasing share of state revenues. The past half-century has also seen dramatic changes in the structure and financing of U.S. government programs. Government spending has grown as a share of GDP, and the composition of that spending has shifted substantially away from defense and towards social insurance programs including health and welfare. These aggregate changes have been accompanied by significant changes in program financing and in the allocation of responsibilities across different levels of government. The growing role of state governments (both as a

[1] See, for example, Graves and Waldman (1991) and Farnham and Sevak (2006) for discussions of elderly migration and Greenstone and Gallagher (2008) and Banzhaf and Walsh (2008) for discussions of responses to changes in air quality and Superfund cleanup programs, respectively.

share of GDP and as a share of government spending) and the increasing importance of intergovernmental grants are particularly pronounced.

These observations raise an important question: can the patterns we observe be reconciled with models of optimal fiscal federalism? We begin by providing an overview of the landscape of public revenues and spending in the United States since World War II. In particular, we examine changes in overall levels of spending and decentralization as well as changes in the mix of taxes and spending both within and across different levels of government. We then compare these patterns to the predictions of the Tiebout model. We argue that while some of the patterns and trends over time are consistent with the predictions of the benchmark model, especially when interpreted in light of the effect of constraints placed on lower levels of government by those above, there are still some facts that do not appear to be consistent with the benchmark framework. We then examine several assumptions underpinning the model that may be violated in practice, and briefly review evidence on such violations as well as their implications. We conclude by suggesting avenues for potential refinements and extensions of the basic model.

II. FISCAL FEDERALISM IN THE POSTWAR PERIOD

In the last half century there have been some marked changes in the roles played by federal, state, and local governments, but many fundamental facts have changed little. In this section we highlight the big trends in spending and revenues, but also the stable patterns that may or may not be consistent with the Tiebout framework. The absence of a change in these enduring patterns may be just as surprising if the barriers to Tiebout sorting are changing over time.

II.A. Aggregate Levels of Revenue and Expenditure

In the post-war period, total government spending has grown from 25 percent of GDP in 1950 to 36 percent in 2006, although most of this growth occurred before the 1970s. Revenues have by and large followed a similar pattern. Note that the Tiebout model makes predictions not about the total size of government budgets nor the types of programs on which those funds should be spent. Rather, it suggests that local governments should be responsible for the provision of local public goods without inter-jurisdictional spillovers, while higher levels of government should be responsible for redistribution, both through social insurance spending and through progressive taxation.

The fairly steady pattern of government growth masks two ways in which the composition of spending and revenues may have changed. First, the levels of government responsible for taxing and spending may have shifted. Second, the mechanisms through which funds are raised or the programs on which they are spent may have shifted. We thus turn to an examination of the composition of government budgets along these dimensions.

II.B. The Size of Federal, State, and Local Governments

Over the last 50 years, there has been some devolution of spending from the federal government to states and localities. The size of state government in particular has grown, with state spending rising from 16 percent of government spending in 1950 to almost 24 percent in 2006. Local spending rose from 25 percent of total government spending to 29 percent over the same period. We have seen a similar devolution on the revenue side of the budget, with state-raised revenues growing from 18 percent of total

revenues in 1950 to 29 percent in 2006. However, much of this devolution occurred during the 1950s and 1960s; the share of government budgets – both revenues and expenditures – controlled by the federal, state, and local governments has remained remarkably stable over the last 30 years.

II.C. The Composition of Federal, State, and Local Government Budgets

While the share of spending and revenues generated by each level of government has not changed dramatically over the last few decades, the mechanisms through which those funds are raised and the programs on which they are spent have changed substantially. There have also been some changes in responsibilities for program design and administration across levels of government.

The federal government has substantially increased its spending (both as a share of total spending and as a share of GDP) on social insurance programs, particularly after the introduction of Medicare and Medicaid in 1965. This increase has been accompanied by a decline in defense spending. At the same time, states have increased their spending on social insurance and income maintenance, which includes their share of the jointly financed Medicaid and welfare programs. In contrast, local spending patterns have remained largely stable, with education being the single largest component of local budgets.

The way in which this spending is financed has also changed. States are raising an increasing share of their revenues through income taxes, although this increase is from a very small base: in 1950, state-levied income taxes comprised 0.3 percent of GDP, while in 2006 they comprised 1.9 percent. They are also increasing their use of miscellaneous and general charges, which have risen from 0.4% of GDP (or 9.6% of state

own-source revenues) in 1955 to 2.0% of GDP (or 18.8% of own source revenues) in 2006. Federal and local revenue sources, by contrast, have been more stable. Local revenue sources have also been relatively stable, although local sales taxes have risen from 0.2% of GDP in 1967 to 0.6% of GDP in 2006.

Perhaps more dramatic has been the increased role of intergovernmental revenues: in 1950 states got 17.4 percent of their revenues from intergovernmental (primarily federal) grants, while in 2006 that share had risen to 23.6 percent. During this period, federal grants to states and localities rose from 0.8 percent of GDP to 3.3 percent of GDP. This growth is substantially faster than the growth of federal spending overall, which increased from 14.8 percent to 17.0 percent over the same window. The largest component of this increase in intergovernmental transfers has been income security, including Medicaid.

II.D. Allocation of Authority/Responsibility

In addition to taxing and spending, the federal government has the authority to mandate and regulate, introducing indirect policy levers. Changes in the use of these levers is more difficult to quantify, even though the effects may be quite similar. For example, when the federal government requires state governments to maintain a certain level of spending on welfare, the distributional implications may be the same as if the federal government financed the program itself even though the spending and associated revenues appear on state budget sheets. To the extent that higher levels of government are attempting to correct interjurisdictional spillovers we might expect to see joint financing of social programs through Pigouvian taxes or matching grants. This also

raises the question, discussed in more detail below, of whether it appears that the interests of these different levels of government are aligned.

There has certainly been a marked change in nominal responsibilities for public programs, including the devolution of welfare (from the matching-grant AFDC to the block-grant TANF) to the rise of state school finance equalization measures. Responsibilities can include not just financing, but determination of eligibility, generosity of benefits, program administration, etc. How these nominal changes translate to changes in real resources, given the compensating measures that the targeted level of government may take in response, is the subject of active research.

III. Relationship between the Facts and the Tiebout Framework

III.A. Predictions of the Benchmark Tiebout Model

The benchmark Tiebout model predicts that individuals will sort themselves into jurisdictions in which all residents agree on the level of public goods to be provided and have the same willingness to pay for these goods. This assumption does not necessarily imply that all individuals should have the same level of income, but it does imply that all individuals should pay the same level of tax. Otherwise, those within a jurisdiction paying higher levels of taxes for a given bundle of public goods would have an incentive to separate and move to a jurisdiction with others like them. This relies on there being "enough" jurisdictions to achieve perfect sorting, an assumption to which we return below.

As outlined above, the Tiebout model therefore predicts that local governments should be responsible for provision of public goods, with heterogeneity across jurisdictions reflecting the varying preferences across these jurisdictions, while the

national government provides redistribution. If individuals did sort into completely homogeneous jurisdictions, local governments should raise revenue through a benefits tax, which in practice could be implemented through a poll tax or through a property tax with zoning to assure relatively equal property values. National governments could finance national public goods through a national poll tax and achieve redistribution through the implementation of an optimal federal income tax.

In the remainder of this section, we discuss the empirical evidence in the context of the model, and highlight the empirical regularities that appear immediately consistent with the Tiebout predictions and those that seem more surprising. We then discuss several reasons why apparent departures from Tiebout may not represent true departures from Tiebout; in other words, factors which may help to reconcile the observed facts even under the strict Tiebout assumptions. This leaves a number of surprising patterns – either persistent departures or increasing incongruity with the predictions of the Tiebout framework. In the next section, we outline several possible violations of the Tiebout assumptions and explore whether those violations can help to explain the remaining empirical puzzles.

III.B How Do the Observed Patterns Compare to Tiebout Predictions?

Consistent Patterns

The broad allocation of responsibilities across levels of government is generally consistent with the Tiebout predictions in many respects. Individual and corporate income taxes are levied primarily at the federal level, while property taxes form the largest component of own source revenue for local governments. The federal government takes responsibility for national public goods, such as defense, while state

and local governments fund local public goods, such as education, transportation, and public safety.

Surprising Patterns

We observe other patterns, however, that are harder to reconcile with the benchmark model. The federal government does spend funds on goods such as health, education, and infrastructure, both directly and through intergovernmental grants, and we observe states and localities engaging in policies that appear redistributive, both on the revenue and expenditure side.

Government budgets have also evolved over time. There appears to be an increasing concentration of responsibility at the state level: all levels of government have experienced growth as a share of GDP, but state revenues and expenditures have grown relatively faster. Some, but not all, of this growth can be attributed to increased transfers from the federal government to state governments. In contrast, the composition of local revenues and expenditure has remained fairly stable over time. This contrast is particularly important for the evaluation of how the observed patterns comport with the predictions of the Tiebout model: it is difficult to tell a story about increasing importance of the state level relative to both the federal level and the local level. While having multiple forces at work pushing in different directions could certainly produce this result, most simple stories about changes in mobility costs or production technologies would suggest either decentralization towards states and localities or centralization towards states and the federal government.

The composition of revenues and expenditures at the state level has also changed over time. Sales tax revenue has declined as a share of total tax revenue, while individual

income tax revenue has increased, and state spending on public welfare and income redistribution programs (including Medicaid) has increased dramatically. State governments are relying less on sales taxes (generally thought to be regressive) and more on individual income taxes (more likely to be proportional or progressive). While still small, localities are beginning to use income taxes much more substantially.

III.C Reconciling the Facts within the Tiebout Framework

Some of these patterns that may not at first appear consistent with the Tiebout framework look more so when interpreted through a more nuanced lens. There are several possible reasons that apparent departures from Tiebout might not represent true departures.

Correction of inter-jurisdictional externalities

While the original Tiebout paper explicitly abstracted from the possibility of interjurisdictional spillovers, the framework can be naturally extended to take these into account. If some of the benefits of public goods provided in a particular jurisdiction have positive spillovers to other jurisdictions, then these public goods will be underprovided under a decentralized system relative to the social optimum. No state government, for example, has incentives to invest optimally in an inter-state highway system, since much of the benefit will be captured by other jurisdictions. Education and health may also be underprovided, since the productivity effects of these early investments may accrue to other jurisdictions if individuals move and work in other jurisdictions as adults.

To correct this underprovision, higher levels of government can engage in direct provision of the relevant goods. They can also set subsidies (or taxes) such that lower levels of government face a price that incorporates the positive (or negative) externalities

that its spending exerts on neighboring jurisdictions (Oates, 1999; Besley and Coate, manuscript). In practice, these subsidies can often take the form of matching grants.

Correction of inter-jurisdictional externalities may therefore provide a partial explanation for observing state and federal governments spending funds on goods which the model would suggest should be the sole responsibility of more local governments. A large share of intergovernmental grants from federal to state and local governments are comprised of goods for which we might expect there to be substantial inter-jurisdictional spillovers (health, education, transportation). The degree of these spillovers between localities may also be changing over time for some goods more than others. We might expect, for example, that jurisdictions are less able to capture the benefits of education spending as individuals become more mobile over time. The complex web of regulation and intergovernmental grants that we observe (and discuss below), however, does not seem entirely consistent with this kind of internalization of externalities.

Intergovernmental incentives

Another issue that is relevant when evaluating whether or not policies deviate from Tiebout predictions is whether or not the policies are truly the choice of local governments. Mandates may cause spending or revenues to appear at one level of government even though they are in fact controlled by a higher level of government. For example, state spending on redistribution programs that are in fact mandated by federal policy can be thought of as redistribution at the federal, rather than state, level. As discussed above in the context of interjurisdictional spillovers, federal policies could aim to change the marginal price of local spending on a particular public good, but federally-mandated floors could also act as de facto federal provision of that level of spending.

A number of social insurance and transfer policies observed on state budgets are in fact either mandated or heavily incentivized by the federal government. The adoption by states of unemployment insurance programs, for example, was largely driven by the imposition of a federal mandate: while each state has its own UI program, the system exists in large part because in the 1930s the federal government threatened to impose a tax on those states that did not create a UI program in order to overcome the externality imposed by businesses sorting across states based on tax rates. State welfare and Medicaid programs are also subject to federal eligibility guidelines. To the extent that state spending on such programs reflects federal requirements, the existence of these programs cannot be undone by Tiebout sorting. In many cases, these requirements have pushed all states in the direction of more generous programs over time.

The existence and growth of redistributive programs at the state and local level is therefore only a puzzle to the extent that these programs are more generous than the federal mandates. This explanation is less able to provide a rationale for observed dispersion in program generosity across jurisdictions or for the use of redistributive tax systems, which are generally not subject to federal oversight.

Programs on the budget vs. on the ground

It is also possible that observed patterns are in fact departures from Tiebout, but that they are, as the model would predict, suboptimal – resulting in efficient allocation of resources and perhaps unlikely to persist in equilibrium. Specifically, it may be the case that attempts by governments to depart from their responsibilities in the Tiebout framework are undone in practice by individuals or by other levels of government.

Under this hypothesis, government policies are captured in budget figures but are not reflected in the desired outcomes "on the ground."

Feldstein and Wrobel (1998), for example, argue that attempts by states to redistribute income through state income taxes are completely undone by mobility. There is also evidence from several realms of the inefficiencies generated when higher levels of government try to influence the level and distribution of resources across localities. School spending has traditionally been a local function, but in recent years school finance equalization measures have been adopted by many states (sometimes under court order, rather than voluntarily, however) as a means to redistribute resources towards students in poor school districts. There is a large body of research that explores how such equalizations changed the distribution of education spending, much of which suggests that while state-imposed equalization measures do have some effect on the level and distribution of local school resources, they are often at least partially undone by off-setting changes in local budgets (or even state spending, when the equalizations are court-imposed).[2] Cullen and Loeb (2001) found that school districts in Michigan recategorized maintenance spending in order to circumvent newly-imposed constraints.

A general concern with this hypothesis, however, is why these suboptimal deviations from Tiebout would persist over time. If in fact state taxes result only in efficiency loss and do not achieve redistribution of income, why should states continue to levy and even increase such taxes? Feldstein and Wrobel (1998) argue that such attempts must be the result of fiscal illusion on the part of voters, politicians, or both. Nevertheless, it seems puzzling that such fiscal illusion could persist over long periods of

[2] See Downes and Shah (1996), Fernandez and Rogerson (1999), and Hoxby (2001), Murray, Evans, and Schwab (1998), Card and Payne (2002), Fischel (1989), Cullen and Loeb (2001), Baicker and Gordon (2005), Gordon (2004)).

time. Similarly, it seems plausible that a state might keep a poorly functioning school finance equalization program in the short run, but we would expect such policies to be reformed in the long run. The persistence of such policies would suggest strongly that governments are willing to incur substantial efficiency loss for the sake of small changes in local allocations.

Production process of public goods

The Tiebout model abstracts from the public goods production process. The optimal level of production, rather than provision, of public goods is dictated in part by this process. National defense is best produced, well, nationally (Oates, 1972). Economies of scale may also shift responsibilities from local to state governments: it may not be efficient for each local government to incur the fixed costs needed to produce a given set of public goods. Other public goods may have (dis)economies of scale that emerge on closer analysis – for example, each state may be best able to design a welfare program that meets the needs of its own population. Mobile voters may therefore choose to allocate responsibilities for programs across level of governments in a different way than they would if there were no variation in the production technology across these levels. Note that this hypothesis provides a potential explanation for observing aggregate deviations from the Tiebout predictions but does not explain variation in program generosity across jurisdictions: these should still be undone by mobility.

In addition, governments might not have perfect information on the public goods production process. The way in which goods are best produced may be changing over time, such that we are not observing a steady state. Government entities may be experimenting and acquiring knowledge about how best to produce public goods – a

process fostered by decentralization. As Supreme Court justice Louis Brandeis noted in 1932, "It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."

Successful methods of public service delivery can then be replicated by other jurisdictions. In some cases, policy experimentation at the local level may lead the adoption of similar policies at the national level. Health care is a prime example of this state-level experimentation, with federal-level policy-makers now considering the adoption of a health insurance exchange following the lead of the Massachusetts Connector. As above, the strict Tiebout model only allows localities to vary the methods by which goods are provided; experimentation that leads to some localities providing greater redistribution than others should be undone by mobility, unless there are other limits to Tiebout sorting.

The Tiebout model also abstracts from the different modes of revenue collection available to different levels of government, and does not explicitly capture the differential mobility of different sources of revenue. National, state, and local governments are likely to have access to different tax instruments, and in practice, we observe a complex mix of taxes levied on a variety of tax bases. The Tiebout framework, for example, focuses on the residential choices of households. If corporations are mobile and do not receive benefits from local public goods, then local jurisdictions will be unable to levy effective corporate income taxes. The efficiency consequences and distributional properties of these various tax instruments are thus important considerations in the determination of optimal decentralization (see Gordon, 1983; Brueckner, 2004).

Finally, it may be that there are complementarities in the production process such that mobile individuals will optimally choose to locate in jurisdictions with others that are not like themselves. Production may, for example, require both high-skilled and low-skilled inputs, and high-skilled workers may therefore be willing to subsidize public services valued by low-skilled workers in order to keep them in the jurisdiction. This depends, of course, on whether people must live and work in the same jurisdiction.

IV. VIOLATIONS OF TIEBOUT ASSUMPTIONS

Some of the remaining hard-to-reconcile patterns may arise from violations of assumptions of the Tiebout model. In this section we outline three broad types of violations of the Tiebout assumptions that seem particularly likely, and trace out the patterns that we might expect such violations to generate. In particular, we focus on limits to mobility, limits to the number of available jurisdictions, and governmental agency problems. Many of these issues are explored in more depth in other chapters in this volume. In evaluating these explanations for apparent deviations, it is important to consider both the persistent patterns in the data (where we might have expected deviations to decrease over time) and the recent changes (where we might see no underlying reason for the model's predictions to have changed).

We stress that these explanations are not mutually exclusive. While some of these seem consistent with the observed budget patterns, there is no single violation that explains all of the trends in fiscal federalism that we see.

IV.A. Mobility Costs

A key assumption of the Tiebout model is the assumption of costless mobility, an assumption that clearly does not hold in practice. If individuals face moving costs, then we would expect to see within-jurisdiction heterogeneity in equilibrium. In this section, we outline some of the resulting consequences and their relation to the observed empirical patterns.

When a jurisdiction is heterogeneous, the theoretically ideal tax is a Lindahl tax, charging people based on the value of the benefits they receive. If preferences for additional spending are positively correlated with income (which would follow, for example, from public goods being a normal good and declining marginal utility of income), then we should observe higher income individuals being charged more for a given level of public goods. Limits to mobility also mean that state and local governments could also engage in direct redistribution, since individuals will exit the jurisdiction only when their gains from doing so exceed the costs of moving. If states have a different social welfare function than the federal government they might choose a tax and transfer system which re-allocates income across individuals within the jurisdiction. These factors could help to explain the use of sales taxes and individual income taxes by state and local governments.

Therefore, in order to truly test the predictions of the Tiebout framework with limits to mobility, we need to consider the distribution of both taxes and financed benefits. In some cases, the tax-benefit link is built directly into the structure of the program. User fees are a small-scale example of this kind of linkage (although the non-excludability of fully public goods limits explicit user fees). A pure tax-benefit link

explanation would suggest that this is consistent with Tiebout only if the distribution of financed benefits has also shifted toward goods that benefit higher income households. The aggregate pattern of expenditure actually suggests the reverse: the fastest growing component of state expenditure is welfare and other transfer programs. That said, there is a substantial increase in the use of general charges at both the state and the local level, consistent with a user-fee financing structure.

A lack of perfect sorting could also result in inefficient levels of public goods provision by local jurisdictions and create a rationale for intervention by higher levels of government. Under the strict Tiebout assumptions, the political process through which preference are aggregated is not relevant, since all individuals within a jurisdiction have the same preferences over public goods in equilibrium. This is no longer the case if the jurisdiction includes individuals with differing preferences.

A useful context in which to consider these issues is that of school finance. Households with and without children will, for example, have very different preferences over school spending. In a median voter framework, this could lead to inefficient outcomes with the majority exploiting the minority: a majority of parents could shift part of the costs of the schools to non-parents, or a majority of non-parents could undermine school funding. This generates a rationale for state intervention. [add more]

When mobility is limited, insurance programs at the state or local level can also be sustained in equilibrium. With perfect mobility, an individual could choose to locate in a jurisdiction with low insurance coverage and move to a jurisdiction with generous insurance coverage after experiencing a negative shock. As a result, states should not be able to offer such programs to their residents. However, if mobility is limited,

individuals will value and will be willing to pay for insurance in equilibrium. Note that progressive tax systems and transfer programs can also be thought of as a form of insurance in this context: individuals will be willing to be net payers because they know that they may one day become net beneficiaries.

The insurance value of transfer programs may be particularly pronounced if mobility declines with the time spent in a given location. This could be, for example, if moving involves non-tangible costs, such as the loss of social networks or location specific information. In this setting, offering attractive insurance and transfer programs may allow jurisdictions to attract forward looking individuals who know that they will be less likely to move after their initial location decision. The nature of the goods themselves may also have changed – for example, the increase in variability of health insurance costs may have changed the nature of public health insurance in terms of the mix of redistribution and true insurance represented by the spending.

While direct mobility costs (the monetary/time costs of moving) can potentially explain deviations from Tiebout at a point in time, they are hard to reconcile with the trends we observe over time. Rhode and Strumpf (2003) document large declines in mobility costs from 1850 until the present day. The Tiebout model predicts that this should result in increased heterogeneity in preferences and policies across communities. However, using three datasets (US municipalities, Boston municipalities, US counties), the authors find the opposite. Cross-community heterogeneity in measures of policy outcomes, such as local and school taxes per capita, electoral outcomes, and school spending, has declined significantly, as has heterogeneity in a number of preference proxies, such as age, education, and income.

However, there may be other offsetting changes in the true cost of mobility over time. For example, job match quality may have become more location specific over time. We have also seen an increasing frequency of dual earner households, who may be more constrained in their location decisions.

IV.B. Finite Choices and Multidimensional Preferences

The second core assumption of the model is that there are "enough" jurisdictions that individuals can move to a jurisdiction which matches their own preferences. In practice, perhaps because of economies of scale, the number of jurisdictions is finite and jurisdictions provide bundles of services. The jurisdiction that perfectly matches my preference for schooling, for example, may also provide a level of parks that does not suit me. In addition, there may be other jurisdiction specific amenities, such as weather, on which individuals sort. This will affect the degree to which preferences can be satiated given a finite number of localities and imperfect correlation of preferences across goods.

States and localities can potentially take advantage of this to enact redistributive programs. Suppose, for example, an individual has a strong preference for schools. A district that provides good schools could potentially also enact a progressive tax. In a world with infinite jurisdictions, a high income individual would instead choose a jurisdiction with good schools and without a progressive tax, but such a jurisdiction may not exist, and may not arise if not all jurisdictions are equally skilled at providing good schools.

It is not clear how the correlation of preferences across different public goods might have changed over time, but it is difficult to posit a pattern that would explain the observed changes in federalism.

IV.C. Agency Problems

A final broad class of explanations involves agency problems – between the government and residents, or among the different levels of government. The classic Leviathan model of government (Brennan and Buchanan, 1980) posits that government agents may seek to maximize their budgets rather than the utility of voters. Decentralization and the resulting competition between governments can help minimize this type of capture. The advent of the tax withholding mechanism could be seen as added leverage for the Leviathan, increasing the value of decentralization to taxpayer voter. However, in the absence of offsetting factors, this mechanism should have led to decentralization from the state to the local level as well, rather than the observed concentration at the state level over time.

The model also does not incorporate the kind of divergent interests across levels of government that seem to be evidenced by the gaming between levels of government observed in school finance, Medicaid spending, and the like. Gordon (2004) found no significant total impact of federal compensatory education grants on instructional spending (the category of spending mandated by the grants) because of off-setting changes in local behavior. Similarly, Baicker and Staiger (2005) find that when the federal government attempts to allocate additional resources to low-income hospitals, states intervene to recapture a significant share of those resources and divert them to other uses. This divergence may limit the role that competition can play in driving the efficient provision of public goods: while localities may be competing in just the way

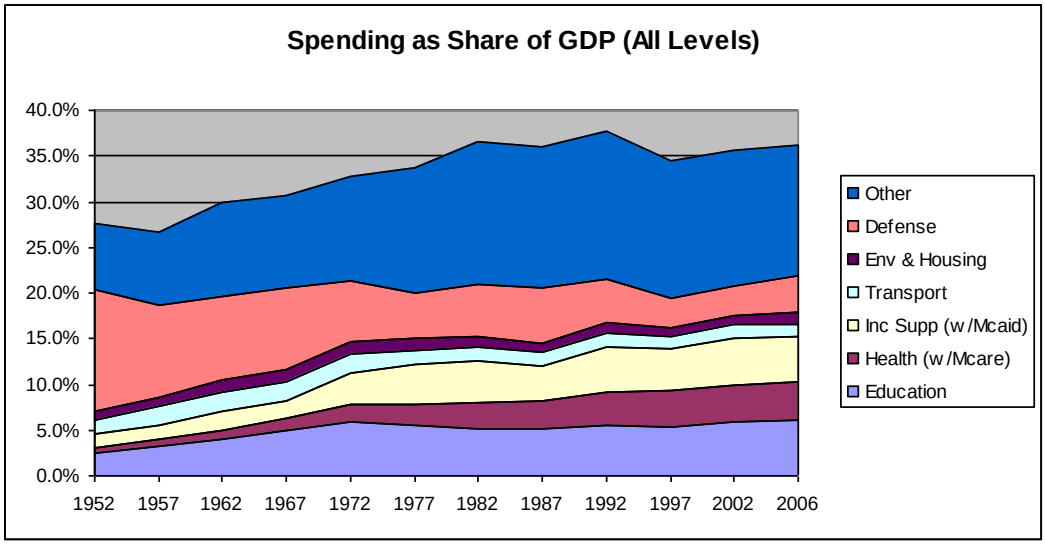
posited by the Tiebout framework, the forces shaping the behaviors of higher levels of government are likely to be quite different.

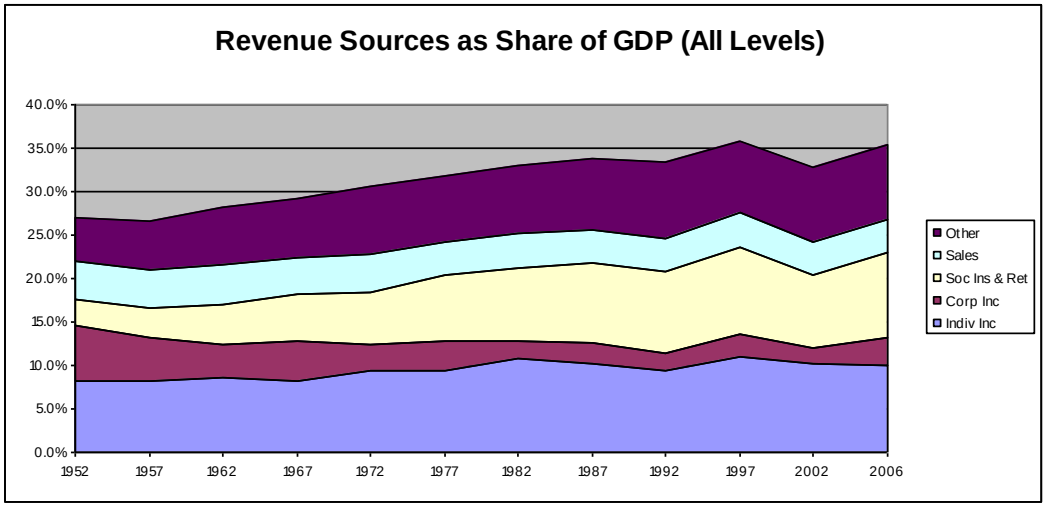
V. CONCLUSION

Tiebout's model has been the conceptual framework through which economists have analyzed fiscal federalism for half a century. Recent trends in the responsibilities of state and local governments, such as the devolution of social insurance spending and the increasing prominence of redistributive taxes at lower levels of government, seem to call into question the fundamental tenets of the model. A longer-run view of the data, however, suggests that some persistent patterns are just as incongruous, and perhaps are growing more so as some of the traditionally posited impediments to Tiebout competition, such as mobility costs, are likely on the decline. Potentially productive extensions of the model are suggested by the maneuvering seen between federal, state, and local governments as higher level governments attempt to influence the distribution of resources across localities through subsidies, taxation, and regulation.

FIGURES:

Figure 1: Aggregate Spending and Revenues





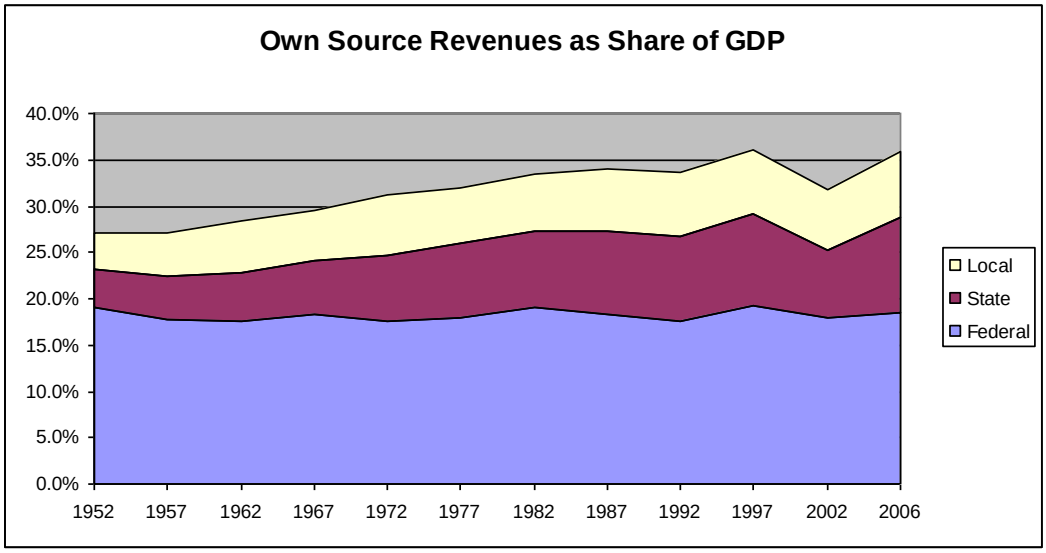


Figure 2: Revenue Sources

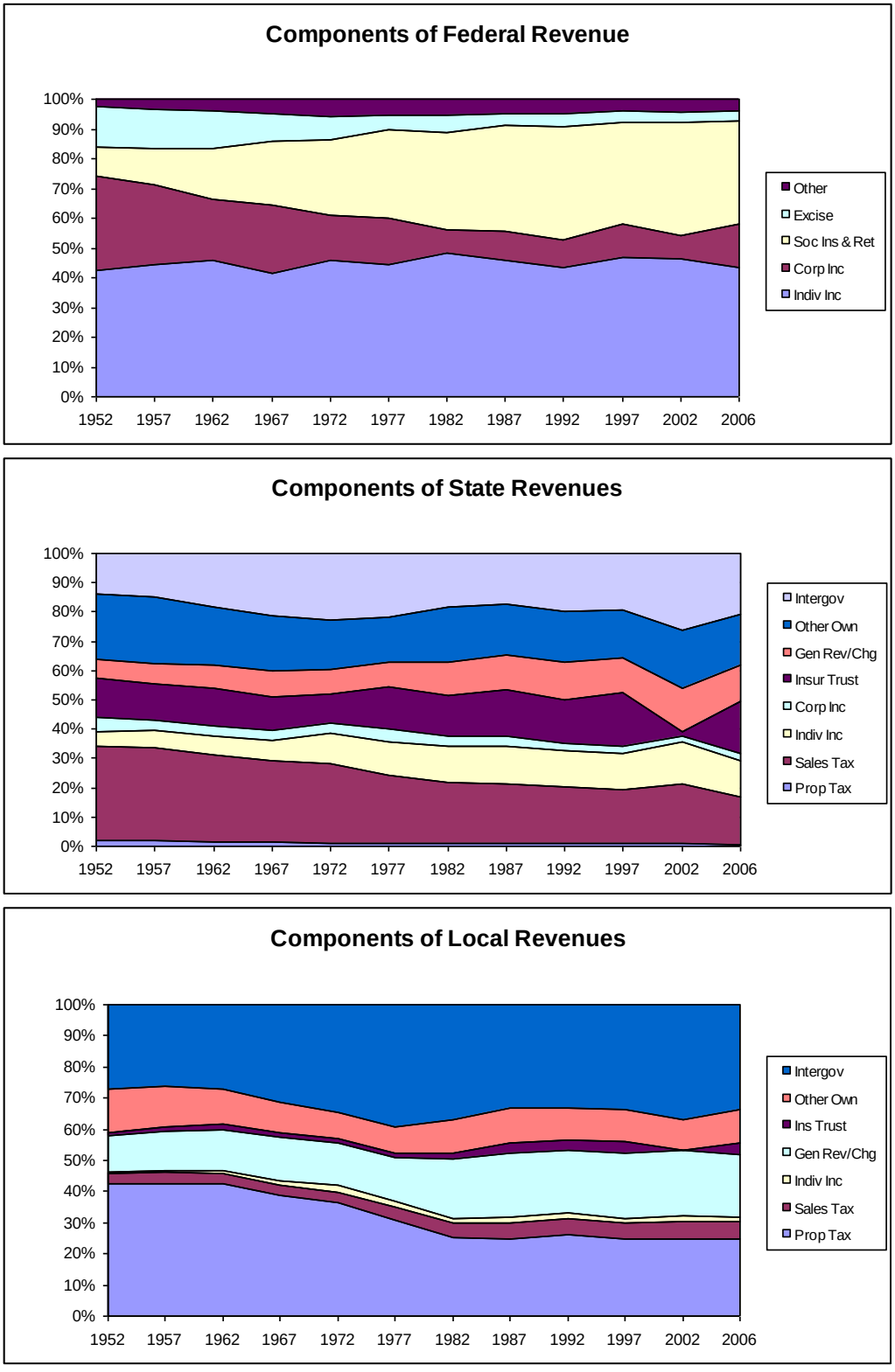


Figure 3: Spending by Level of Government

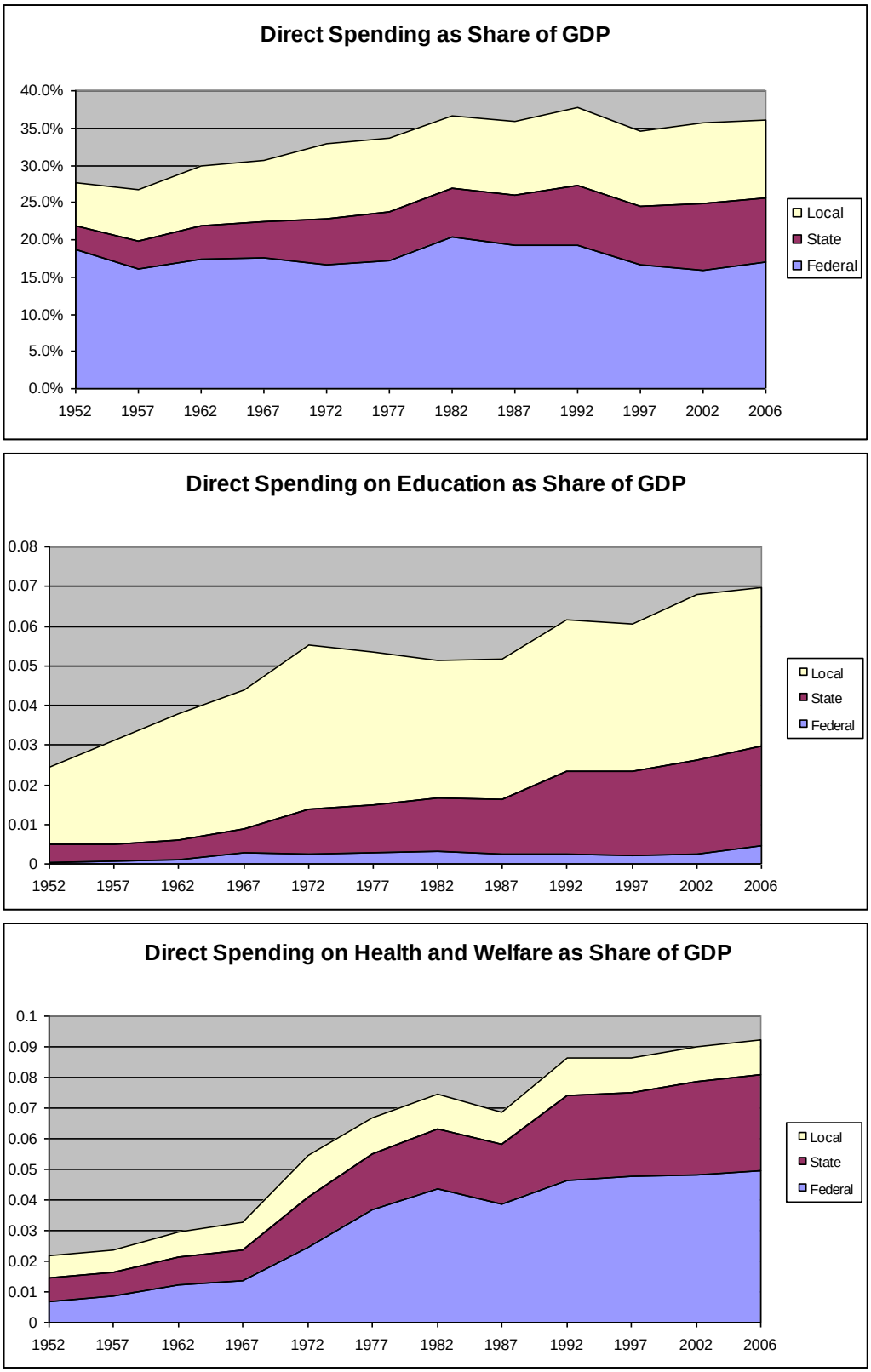


Figure 4: Spending by Category

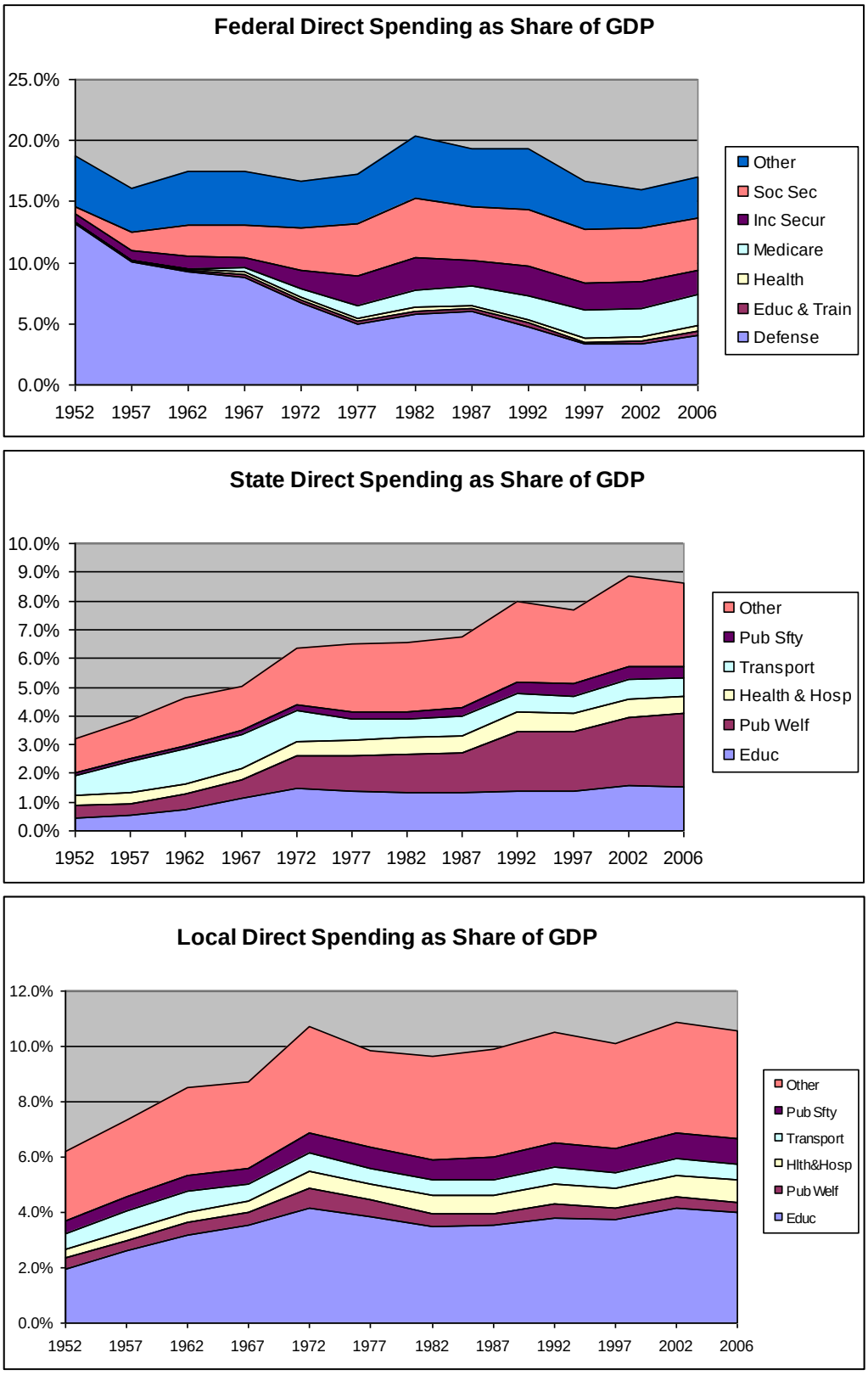
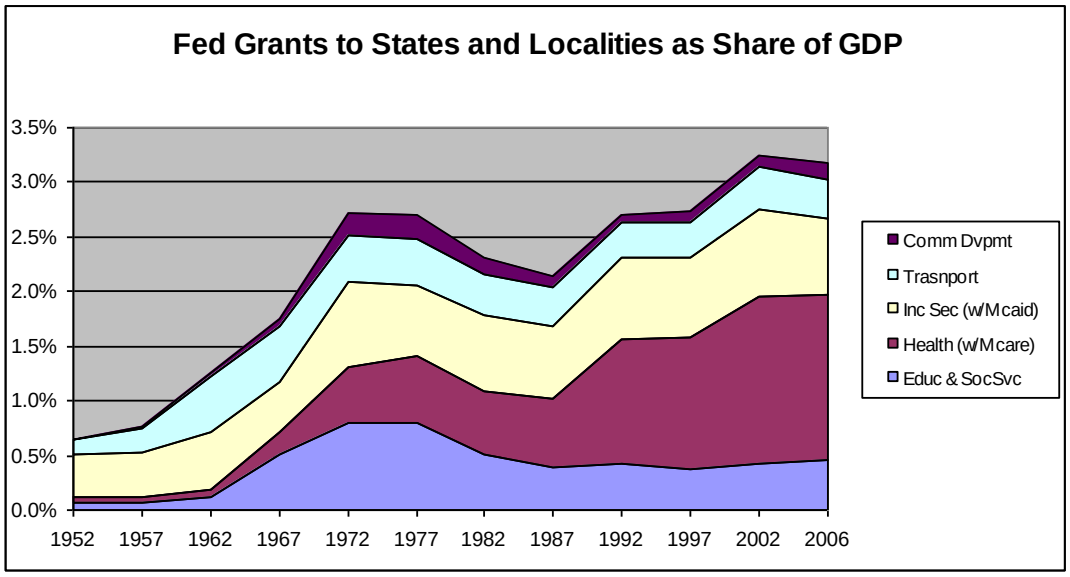


Figure 5: Federal Intergovernmental Grants



Note that state intergovernmental expenditures are between 28 and 35% of total state spending since 1977, but are not broken down by functional category.

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