The classic Tiebout model, first proposed over 50 years ago, remains the benchmark framework for thinking about the provision of local public goods and the allocation of responsibilities across levels of government. Despite continued widespread use of the Tiebout model, the empirical evidence to support its main predictions is mixed. In this paper, we review empirical patterns over time in fiscal federalism and consider whether these patterns can be reconciled with the benchmark Tiebout framework. We then discuss the theory and evidence on five assumptions in the original Tiebout model (perfect mobility, competition for residents in the tax price of public goods, adequate jurisdictional choice and aggregation of preferences, absence of interjurisdictional spillovers, and perfect information) along with other fiscal constraints. 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 this framework and are not easily explained by patterns of violations in the underlying assumptions.
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 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. Note that the Tiebout model focuses on efficient allocation of public goods and does not consider distributional issues. In the strict Tiebout model, redistribution at the local level will not be feasible, since individuals will undo any effort at redistribution through their mobility decisions. 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.

There is an ongoing debate about whether the Tiebout model should be interpreted primarily as an elegant solution to the Samuelson (1954) mechanism design problem for reaching the optimal level of public goods provision or whether it can also be viewed as a model of local public finance that has implications for optimal fiscal decentralization (Oates 2006,
Musgrave 2007).\(^1\) Certainly several of the core features of the model, such as household mobility and fiscal competition across jurisdictions, have been enormously influential in the subsequent fiscal federalism literature.

In this paper, we examine fiscal federalism in the United States during the post-war period through the lens of the Tiebout model. We take as our starting point the view of fiscal federalism implied by the Tiebout framework, taking its strong assumptions as given. We emphasize that Tiebout’s original work focuses on the local jurisdiction as the relevant unit of analysis; it does not directly address the role of multiple levels of local government or national governments. Nevertheless, the framework does suggest natural 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. Local governments would raise revenue through a benefits tax, which they could implement in practice through a head tax or by linking a property tax with zoning restrictions to assure relatively equal property values. National governments could finance national public goods through a national head tax and achieve redistribution through the implementation of an optimal federal income tax.

Despite continued widespread use of the Tiebout model, the empirical evidence to support its main predictions is mixed, and the actions of governments often appear to depart from

\(^1\) Oates (1999) and Boadway and Tremblay (2010) provide excellent reviews of the various lines of literature that have followed from the original Tiebout paper.
the predictions of the 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 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 a Tiebout-motivated model of optimal fiscal federalism? We begin by reviewing empirical
patterns over time in local, state, and federal finances and consider whether these patterns can be
reconciled with the benchmark Tiebout framework. We then discuss the theory and evidence on
five assumptions in the original Tiebout model: perfect mobility, finance through a head tax,
“enough” jurisdictions, absence of spillovers and intergovernmental interactions, and perfect
information. Note that there are vast literatures on many of these issues to which we cannot do
justice; rather, we cite illustrative examples and refer readers to more comprehensive reviews.

We argue that some of the patterns and trends 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. However, there are also some well-documented
facts that appear to be inconsistent with the benchmark framework and are not easily explained
by patterns of violations in the underlying assumptions. In the concluding paper of this volume,
Boadway and Tremblay (2010) complement our approach by considering the implications of these and other issues for alternative models of fiscal federalism.

II. EMPIRICAL TRENDS – IN LINE OR AT ODDS WITH TIEBOUT?

IIA. Patterns and Trends in Federalism

We begin with an examination of how the financing of public programs has evolved over 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 major trends in spending and revenues as well as stable patterns that may also be surprising if the barriers to Tiebout sorting are changing over time.

**Aggregate Levels of Revenue and Expenditure**

In the post-war period, total government spending has grown from 25% of GDP in 1950 to 36% in 2006, with most of this growth occurring before the 1970s (Figure 1). Revenues have, by and large, followed a similar pattern. Note that the Tiebout model has implications for neither 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 public goods with spillovers and/or economies of scale in production. Higher levels of government should also handle redistributive programs, 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 and the programs on which they are spent may have shifted. We therefore turn to an examination of the composition of government budgets along these dimensions.

**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 (Figure 2). The size of state government in particular has grown, with state spending rising from 16% of total government spending in 1950 to almost 24% in 2006. Local spending rose from 25% of total government spending to 29% over the same period. We have seen a similar devolution on the revenue side of the budget, with state-raised revenues growing from 18% of total revenues in 1950 to 29% 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.

**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 (Figure 3). 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 cash welfare programs. In contrast, local spending patterns have remained largely stable, with education being the single largest component of local budgets.

The mechanisms for financing this spending have also changed. 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) – although this increase is from a very small base: in 1950, state-levied income taxes comprised 0.3% of GDP, while in 2006 they comprised 1.9% (Figure 4). States 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, although local sales taxes have risen from 0.2% of GDP in 1967 to 0.6% of GDP in 2006. While still small, localities are also beginning to use income taxes more substantially.

Perhaps more dramatic has been the increased role of intergovernmental revenues: in 1950 states got 17.4% of their revenues from intergovernmental (primarily federal) grants, while in 2006 that share had risen to 23.6% (Figure 5). During this period, federal grants to states and localities rose from 0.8% of GDP to 3.3% of GDP. This growth is substantially faster than the growth of federal spending overall, which increased from 14.8% to 17.0% as a share of GDP over the same window. The largest component of this increase in intergovernmental transfers has been income security, including Medicaid.
**Heterogeneity of State and Local Spending**

In the Tiebout framework, we would expect variation in the size and composition of expenditure across jurisdictions to reflect variation in preferences of local residents. If sorting has improved over time, then we might expect to see increases in variation across areas.

However, observed shifts in the total quantity, composition, and financing of government spending have been associated with little apparent change in the variation of spending on particular public goods across jurisdictions, at least at the state level. To explore such changes we constructed coefficients of variation (CVs) across states in the total spending within each state (including spending by both state and local governments) on various public goods.\(^2\) We present these CVs in Table 1. The only clear patterns are the increase in variation in Health and Hospital spending (which excludes spending through state Medicaid programs) and the decrease in variation in Public Welfare spending (which is how the Census of Governments categorizes Medicaid). These patterns may largely result from shifts in the financing of health care for the poor from direct hospital subsidies towards financing through Medicaid: there has been essentially no change in the CV for the sum of Public Welfare and Health and Hospital spending across states.

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\(^2\) A lower-level geographic division may seem more appropriate for examining variation in public goods provision across localities. Unfortunately, the division of responsibility for such expenditures between state and local governments differs significantly across states and has shifted significantly over time. Consequently, variation in direct expenditures at the county-level provides a misleading picture of variation in actual service provision across counties. Welfare programs in large states like California and New York, for example, were financed by local governments around mid-century, giving the appearance of significant differences in welfare spending across counties. As responsibility for such expenditures shifted towards state governments, the county-level data suggest a reduction in cross-county variation in welfare spending that is not related to changes in total welfare spending within each state. Unfortunately the data from the Census of Governments do not make it possible to cleanly allocate direct expenditures by state governments to the individual counties within each state.
IIB. Interpreting the Facts through the Tiebout Framework

Allocation of Responsibilities in the Federal System

The broad allocation of responsibilities across levels of government is consistent with “Tiebout” federalism 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.

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. 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 (particularly from income taxes) and expenditures (particularly on redistributive programs like welfare and Medicaid) 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 evaluating the extent to which observed patterns constitute a shift towards or away from optimally implemented fiscal federalism: it would be difficult to tell a story implying the desirability of expanding the role of state-level government relative to both federal and local government. While multiple forces 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.

*Programs in the Budget versus Programs on the Ground*

There are at least two important caveats when interpreting the budgetary figures in the context of the Tiebout model. First, it is possible that some observed patterns are in fact suboptimal departures from Tiebout that are (at least partially) undone in practice by individuals or 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 fully reflected in pre-tax wages. Local governments may also attempt to undo policies set by state governments: the large body of literature on school finance equalization programs 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 offsetting changes in local budgets (or even state spending, when the equalizations are court-imposed).³

Second, observed patterns in state and local balance sheets may mask the true incidence of responsibility if some of that activity is required by higher levels of government. If the federal government requires all states to spend funds on low-income transfer programs, for example, then the observation that states are engaging in this type of redistribution is not inconsistent with Tiebout, since it cannot be undone through mobility. We return to a discussion of the evolving role of intergovernmental mandates and regulations below.

³ Hoxby (2001) shows the diversity of incentives created by School Finance Equalization measures across states, while Cullen and Loeb (2001) and Baicker and Gordon (2005) show different mechanisms used by localities to “undo” the changes forced by those equalizations.
III. THEORY AND EVIDENCE ON THE TIEBOUT ASSUMPTIONS

The implications of the Tiebout model rely on a number of strong assumptions. In this section, we examine whether violations in these assumptions could help to explain the observed empirical patterns and departures from the Tiebout predictions. Note that many of the issues we consider here are discussed in more detail in other papers in this volume.

IIIA. Mobility

Assumption: “Consumer-voters are fully mobile and will move to that community where their preference patterns, which are set, are best satisfied.” (Tiebout 1956)

The assumption of costless mobility plays a key role in the Tiebout model. Mobility is the mechanism through which preferences are revealed and the efficient level of public goods provision achieved. Mobility also limits the ability of state and local governments to engage in redistribution.4 In this section, we examine the empirical evidence on mobility and discuss the implications of limits to mobility in the context of the Tiebout framework.

Empirical Evidence on Mobility

While transportation and communication costs declined substantially during the last half century (Rhode and Strumpf 2003),5 the evidence on changes in mobility itself is more mixed. Data from the decadal Census and the annual Current Population Survey (CPS) make it possible

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4 See Epple and Romer (1991) for a discussion of the potential for local redistribution when residents are mobile but taxes and transfers are done primarily at the local level.
5 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.
to track two complementary mobility concepts: the fraction of individuals living in their state of birth, and the fraction that have moved in recent years.

When we examine lifetime interstate mobility (the share not still residing in their state-of-birth), we find that mobility has increased in the post-war period, although the increases are fairly modest (Table 2a). Census data imply, for example, that 63.2% of households resided in the household head’s state of birth in 1960, while this number had fallen to 60.1% by 2000.6 These increases appear to be driven by the highly educated (college / college plus); mobility for those with lower levels of education actually declined by this measure.

Interestingly, the fraction of people who have moved in recent years has fallen over this time period. Census data show that the fraction of households having moved in the previous five years declined from 47.8% in 1960 to 44.1% in 2000 (Table 2b).7 CPS data allow us to examine both the share moving in the last year and more detail on how far they have moved (Table 2c). Within-county moves declined substantially (from 13% to 7% of households), while out-of-county moves declined much less (from 2.9% to 2.7% for same-state different-county moves, and from 2.7% to 2.5% for out-of-state moves). The small decline in out-of-state moves masks considerable heterogeneity across the population, with such moves declining significantly among households headed by persons aged 25-45 (the most frequently moving subset of the population) and among the elderly, but increasing substantially among those headed by persons aged 45-65. Unsurprisingly, out-of-state moves are relatively common among those living in small states while within-state moves are relatively common among those in large states. The general decline in recent moves (primarily those within-county) is seen across a variety of demographic

6 This is consistent with Rhode and Strumpf (2003), who report increases in this mobility measure between 1940 and 1960.
7 This fact is unaffected by the exclusion of immigrant-headed households who, like native-headed households, were less likely to have moved recently in 2000 than in 1960.
groups, including all age groups, education groups, and those above and below median household income. Perhaps more salient is the fact that out-of-state moves are relatively rare for all groups over age 35.

The simple fact that many households do not move is not necessarily evidence against the Tiebout model: the threat of mobility can drive government actions that make actual moves unnecessary. However, if individuals are not perfectly sorted into the communities that best match their preferences, we would expect declines in mobility costs (all else equal) to allow greater Tiebout-style sorting across communities. The absence of a clear increase in mobility suggests that declining mobility costs have not unlocked a pent up desire for sorting on the basis of preferences for local public goods. On the other hand, declines in transportation costs may have been offset by increases in other constraints on mobility. For example, the Census Bureau reports that the home-ownership rate rose from 63% in 1965 to a high of around 69% in 2005,\(^8\) potentially making moving more costly for many households. Similarly, to the extent that job match quality has become more location-specific over time, workers may have become less inclined to change communities. We have also seen an increasing frequency of dual earner households, who may be more constrained in their location decisions.\(^9\)

Perhaps a more direct test of the Tiebout mechanism is whether we observe households moving in response to fiscal incentives. Farnham and Sevak (2006), for example, show that empty-nest movers do move to localities in which they face declines in property tax liability relative to non-movers and non-empty nest movers, but they also note that mobility is limited by factors such as job constraints. The Feldstein and Wrobel finding that state income taxes are fully

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\(^8\) See Table 14: [http://www.census.gov/hhes/www/housing/hvs/historic/index.html](http://www.census.gov/hhes/www/housing/hvs/historic/index.html)

\(^9\) The Census Bureau reports that as a fraction of married couples, dual-earning households rose from 49.9% in 1986 (the earliest year reported) to 54.7% in 2009 (see Table MC-1: [http://www.census.gov/population/www/socdemo/hh-fam.html](http://www.census.gov/population/www/socdemo/hh-fam.html))
reflected in wages presumably arises through a mobility mechanism; however, recent work on
the imposition of a “millionaire tax” in New Jersey finds essentially no outmigration response
(Young and Varner 2010, although evidence from other states’ experiences may be less clear).
There is also some evidence of policy-induced mobility in response to other types of programs:
Cullen et al. (2010) find that the “10 percent” rule in Texas that guaranteed admission to state
universities to students in the top 10% of their class induced strategic migration in the expected
direction, with students moving to lower-performing schools to improve their chances of being
above that threshold.

Further indirect evidence on Tiebout-motivated mobility comes from evidence on the
response of localities to the policies of their neighbors. For example, the 1996 devolution of the
welfare program Aid to Families with Dependent Children into block grants prompted concern
by policymakers and researchers alike that states would lower their welfare benefits in a “race to
the bottom” (although some might argue that this was in fact an implicit goal of the policy).
Many states enacted rules to limit benefits to new residents out of concern for such immigra-
Several studies explore the effect of one state’s spending on its neighbors, often in the context of
welfare reform, and find significant spillovers – especially among states with the greatest
interstate migration – consistent with models of mobility-induced competition.¹⁰

Overall, the empirical evidence does indicate that Tiebout mobility may be occurring, at
least in certain cases. However, the low levels and absence of a strong increase in aggregate
mobility, as well as the apparent lack of mobility in response to certain strong fiscal incentives,

¹⁰ See Wildasin (1988) for a model of competition comparing competition in price (taxes) versus quantity (services).
Hoyt (1993) shows that the results of this model are sensitive to the degree of mobility. Brueckner (1998) reviews
the mixed evidence on interstate competition. See Case, Hines, and Rosen (1993) for an example of empirical
evidence of spillovers, which Baicker (2005) uses to show that interstate mobility is the best predictor of state
“neighborliness.”
suggest that mobility is far from costless: households appear to face significant barriers to moving.

**Implications of Limits to Mobility in the Tiebout Framework**

If individuals face moving costs, then we would expect to see within-jurisdiction heterogeneity in equilibrium. When a jurisdiction is heterogeneous, the ideal tax is theoretically a Lindahl tax, charging people based on the value of the benefits they receive. As mobility costs decline and each household’s ability to exit its community increases, heterogeneous communities should experience greater pressure to charge for public goods on the basis of willingness to pay.

Therefore, in order to truly test the predictions of the Tiebout framework with limits to mobility, we need to consider the incidence of both taxes and benefits based on willingness to pay or observable correlates such as income. In some cases, the tax-benefit link is built directly into the structure of the program. User fees, for example, are a small-scale example of this kind of linkage, although the non-excludability of fully public goods limits explicit user fees. There has indeed been a substantial increase in the use of general charges at both the state and local level, consistent with an increase in pressure towards financing public goods on the basis of willingness to pay. However, we have also seen increasing state and local use of progressive income taxes. This would only be consistent with a tax-benefit link if the distribution of financed benefits has also shifted toward goods that benefit higher income households. The aggregate pattern of expenditure if anything suggests the reverse (at least at the state level): the fastest growing component of state expenditure is welfare and other transfer programs.

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11 For example, general charges accounted for 11% of local own source revenues in 1952 and were up to 21% in 2006. The sum of general charges, miscellaneous revenues, utility charges, and liquor store revenues went from 31% in 1952 to 42% in 2006.
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 could not effectively offer such programs to their residents. However, if mobility is limited, individuals will value (and will be willing to pay for) state-financed 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 – for example if building social networks means that moving costs rise over time. In this setting, offering generous social insurance 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 results in Table 2 provide suggestive evidence consistent with this hypothesis: the fraction of individuals who have moved within the last year declines with age for all types of moves.

Limits to mobility also mean that state and local governments could 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.
If the large observed decreases in mobility costs (documented by Rhode and Strumpf) had been accompanied by significant increases in observed mobility, we would expect deviations from Tiebout predictions to decline over time. The fact that we have not observed large increases in mobility makes the apparent persistence of departures from Tiebout predictions less surprising.

IIIB. Financing of Local Public Goods and Interjurisdictional Competition

Assumption: “Just as the consumer may be visualized as walking to a private market place to buy his goods, the prices of which are set, we place him in the position of walking to a community where the prices (taxes) of community services are set.” (Tiebout 1956)

Strictly speaking, this statement is not one of the explicit assumptions laid out in the Tiebout framework; rather it is the mechanism, combined with mobility, through which the efficient allocation of public goods is achieved. Tiebout is not specific about what form these taxes should take, although the notion of the tax as a “price” for public services has generally been taken to suggest a head tax at the local level (with redistribution possible only at the federal level). However, this is obviously not a realistic depiction of the way in which governments raise revenue in practice.

In this section, we briefly discuss some of the tax instruments used by governments and the resulting implications in the context of the Tiebout framework. The literature on property taxes, zoning, capitalization, and residential sorting is vast and we do not attempt to provide a comprehensive treatment here. Rather, we focus on two specific questions. First, can the way in which jurisdictions actually finance public goods be reconciled with the mechanism envisioned by Tiebout? Second, can violations of this assumption help to explain the deviations from the Tiebout predictions observed in the data?
Taxation of Households and Capitalization

Consistent with the Tiebout model, we do not observe great use of redistributive income taxes at the local level (although use at the state level is on the rise). As seen in Figure 4, the property tax is by far the largest component of own source revenue for local governments. Finance through a property tax creates a potential challenge for Tiebout, since households would have incentives to purchase small, low value houses relative to the community average, thereby paying lower taxes for a given bundle of public goods than other residents. In an influential paper, Hamilton (1975) showed that property taxes could in theory replicate head taxes if communities created a lower bound on housing value through zoning laws. In a more general model, he allowed for heterogeneous housing: as long as the housing stock is fixed, fiscal differentials will be fully capitalized into house values (Hamilton 1976). In this case, the property tax is a benefits tax and is analogous to the “price” required by Tiebout.

There is an ongoing debate on both the theory and the empirical evidence on capitalization as it relates to the Tiebout model. Some have argued that there should be no capitalization in a strict Tiebout equilibrium, since community boundaries and policies will adjust in the long run, while others have noted that communities are likely to be fairly fixed in practice, leading to full capitalization.12 A large literature explores empirical evidence of capitalization (see Fischel 2001). Beginning with Oates (1969), a number of studies have documented the existence of capitalization. However, estimates of the extent of capitalization vary widely (Dowding et al. 1994).

There is also a debate about whether the property tax can be viewed as a benefits tax at all: the “new view” of the property tax argues that this tax is in fact a distortionary tax borne by

12 Please see Ross and Yinger (1999), Fischel (2001), and Oates (2006) for further discussion.
capital owners.\textsuperscript{13} In this framework, the rate of return to capital will fall by the “average” rate of taxation, and tax differentials across communities will result in distortions to housing prices, wages, and land rents. Importantly, the new view implies that having high relative property taxes will drive out mobile capital, likely resulting in an underprovision of local public services.

\textit{Taxation of Firms and Fiscal Competition}

The focus of the Tiebout model is the consumer-voter. The model does not explicitly consider firms as a source of revenue, although the paper somewhat intriguingly (but vaguely) notes that communities could “try to attract manufacturing industries by setting up certain facilities and getting an optimum number of firms to move into the industrially zoned area” (p. 419-420). Many of the issues discussed above for households are equally relevant for firms. White (1975), for example, argues that firms will only locate in jurisdictions in which their tax payments are commensurate with their value of the public services provided. As in the household case, this result relies on the assumption of perfect zoning. Under the distortionary tax view, localities will be under pressure to compete for mobile capital.

A number of localities engage in just such tax competition for firms through a variety of policies. Tax competition may be particularly pronounced if firms provide spillover benefits to the local economy. Greenstone and Moretti (2003), for example, find that localities that “bid” for new industrial plants in the form of tax subsidies do benefit economically, and that many of these benefits are reflected in increases in housing prices. Especially in a more realistic model of local production, this kind of competition should be bounded only by the net economic benefit of the

\textsuperscript{13} Please see Mieszkowski and Zodrow (1989) for an excellent discussion of the new view, including its consequences for efficiency, distribution, and capitalization, as well as a review of the empirical literature attempting to distinguish between the classical view and the new view
economic activity that can be attracted – analogous to the fact that it is rarely worthwhile for localities to compete for individuals by subsidizing their move in.

**Implications for “Tiebout” Federalism**

What are the implications of housing and property tax finance for the Tiebout equilibrium and allocation of responsibilities across levels of government? First, under the new view, the welfare effects of decentralization are unclear: there is a tension between the benefits discussed by Tiebout and the negative effects of tax competition (Brueckner 2004). Property taxation and the resulting tax competition can result in an underprovision of public services at the local level. This may help to explain the observed intervention of higher levels of government in the provision of public goods, both directly and in the form of intergovernmental grants.\(^\text{14}\)

Second, the fact that individuals are trying to match their preferences for housing in addition to their preference for public goods and other amenities puts greater strains on perfect Tiebout sorting. Past work has explored the effects of analogous increases in the dimensionality of preferences, all of which strain Tiebout’s “number of communities” assumption. Bayer et al. (2005), for example, show that desire to sort by race then limits the ability to maximize over preferences for other goods, while Calabrese et al. (2006) show further limitations imposed by peer effects.\(^\text{15}\) Limitations on perfect sorting have a number of implications for fiscal federalism. Jurisdictions will be heterogeneous (in preferences for public goods as well as on other characteristics) in equilibrium, and individuals may not be able to move to jurisdictions similar to their own. Thus, many of the consequences to limits to mobility outlined in Section IIIA are

\(^{14}\) Please see Gordon (1983) for a formal model of decentralized taxation and a discussion of other federal remedies to the inefficiencies arising from such decentralized decision-making.

\(^{15}\) It is difficult to discern empirically, however, how well people are able to sort on demand for public goods given that demand is unlikely to be perfectly correlated with observable characteristics. See Epple et. al (2001) for a methodological approach to this problem.
also applicable to the case of limits on sorting. In addition, as we discuss in the next section, the process through which heterogeneous preferences are aggregated will become important.

**IIIC. Jurisdictional Choice and Preference Aggregation in a Federal System**

*Assumption: “There are a large number of communities in which the consumer-voter may choose to live.” (Tiebout 1956)*

In the extreme version of the Tiebout model, voters sort themselves into jurisdictions in which all residents have homogenous preferences over public goods spending. In this framework, preference aggregation is not an issue: all voters in the jurisdiction would vote for the same level of all types of public goods. However, if there are limits to the number of jurisdictions, individuals will not necessarily be able to find a jurisdiction that perfectly matches their preferences on all dimensions. Like the limits to mobility discussed above, this will result in within-jurisdiction preference heterogeneity. In the presence of such heterogeneity, the political process through which preferences are aggregated becomes relevant. Much analysis thus focuses on the preference of the median voter in determining local public good provision.

In a federal system, tension between different levels of governments can emerge if the median voter at different jurisdictional levels is different. For example, if voters in one locality prefer to have little public education but the median voter at the state or federal level has strong preferences for universal availability of a higher floor level of public education, then that higher level of government may impose an education spending requirement on localities. This type of mandate may arise independent of interjurisdictional spillovers if there are altruistic preferences that vary by area. In this case, if we could observe the preferences of the median voter in each local jurisdiction we might expect to see substantial heterogeneity that would not be captured in the preferences of the median voter in an election at a more aggregated level.
An exploration of these mechanisms would ideally involve the measurement of preferences of voters across jurisdictions and for elections at different levels of aggregation, but these preferences are clearly difficult to observe. Here we focus on an (admittedly weak) proxy, namely the demographic characteristics of voters in different types of elections, which falls short on two fronts. First, these characteristics may not correlate highly with underlying preferences. Second, we are unable to examine heterogeneity within local elections, but rather settle for an examination of differences across levels of elections. We thus examine the level and composition of voter turnout over time and across levels of government, and discuss whether these patterns can potentially help to explain some of the deviations from Tiebout documented in Section II.

We document three systematic patterns in the data. First, there is large variation in voter turnout across types of elections (national vs. local, for example). Second, there are some demographic groups that are over-represented relative to population share while others are under-represented. Third, and somewhat surprisingly, voter demographic composition appears to be quite similar across types of elections, despite the large differences in total turnout. Overall, the findings suggest that differential turnout is unlikely to be a significant factor in explaining deviations in government policy from the Tiebout predictions.

Voter Turnout across Elections and Jurisdictions

We first examine self-reports of voting behavior from published Census Bureau tables derived from the November supplements to the CPS.16 Two unsurprising patterns emerge from the data (seen in Figure 6a, also consistent with official vote counts). First, turnout is far from

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one hundred percent, even in closely contested presidential elections. Second, turnout is systematically lower in even-numbered, non-presidential election years. We next examine voter turnout at the state and local level, focusing on California as a case study. We observe the same pattern in total turnout as we did on the federal level: elections held during presidential years have substantially higher turnout than those held at other times (Figure 6b). Last, we examine turnout in city elections. We choose a non-federal election year and focus on elections for mayor, an important city-wide office. Table 3 shows turnout for all mayoral elections in Los Angeles County in the year 2005. In all cases, the voter turnout is below state-level turnout in state special elections and in some cases falls below 15%.17

_Voter Characteristics_

These results indicate that differential turnout may be important in explaining observed patterns of federalism: voters are likely a non-random sample of the population, and turnout is lower for lower levels of government.

We next evaluate whether voter characteristics as well as overall turnout vary across elections at those levels. We examine voter characteristics in federal and local elections using data from the CPS and the General Social Survey.

Table 4 presents various demographic groups as a share of actual voters and as a share of potential voters in presidential and non-presidential election years from the CPS. We find, for example, that younger residents, men and minorities are under-represented, while the elderly and white residents are over-represented. One of the most striking patterns involves turnout by

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17 According to the 2005 American Community Survey, 53.2% of the population of Los Angeles County was eligible to vote based on age and citizenship. We therefore adjust the city population figures to reflect the share that are voting eligible, assuming that the county-wide average applies for each city.
education: voter turnout rates are highest among the highly educated.\textsuperscript{18} While it is not obvious which particular policies this group would favor, their preferences seem likely to be over-represented relative to their share of the population. In general, these gaps are slightly exaggerated in years during which there is no presidential election.

We next examine how voter characteristics vary across local and federal elections. To the best of our knowledge, there is no comprehensive data source on voting in local elections linked to individual demographics. We use data from the 1987 General Social Survey (GSS), which asks respondents about voting in presidential elections as well as voting in local elections in 1980 and 1984. As with the CPS data, these analyses rely on self-reports of voting.\textsuperscript{19} We define two binary variables: voting in presidential elections equals one if the respondent reports having voted in both the 1980 and 1984 elections, and voting in local elections equals one if the respondent reports “vot[ing] in all” local elections. We restrict the sample to those 25 and over to ensure that all respondents were of voting age in the 1980 election. Using these measures, 68\% of the eligible population (those who are citizens) voted regularly in Presidential elections, while 40\% of the eligible population voted regularly in local elections (Table 5).\textsuperscript{20} Since we are primarily interested in understanding whether the composition of voters varies across national

\textsuperscript{18} Self-reported voting data can be problematic in that survey respondents may either forget having voted in an election or report voting when, in fact, they did not. This could invalidate our conclusions about differences in voting across demographic groups if there are significant differences in voting mis-reports across groups. Following Milligan et al (2004), we use data from the American National Election Survey (ANES), which provides a unique instance of self-reported voting data matched with administrative records for the same sample of individuals. Over-reporting and under-reporting rates are fairly similar across a variety of demographic groups. If anything, the evidence on mis-reporting across educational groups suggests that more highly educated groups are more over-represented than implied by the self-reports.

\textsuperscript{19} There are differences in the breakdown of the "actual voters" in Presidential elections between the GSS and the CPS. For example, the "married with spouse" group represents 68\% of voters in the GSS sample but only 62\% and 60\% of the voters in the Presidential elections for which we report CPS data. This is probably due primarily to the fact that the GSS numbers are a) from the 1980s and b) for people aged 25+, keeping the numbers from being directly comparable.

\textsuperscript{20} We should note that voting tends to be overstated in the GSS relative to the CPS. For example, in the GSS sample the implied turnout rate in the 1984 Presidential election would have been 75\% among citizens aged 25+. CPS data imply turnout of 69\% for an equivalently defined population.
and local elections, we report the share of the total voting population comprised by a given
demographic category. For example, married individuals comprise 68.3% of all voters in
national elections and 70.7% of all voters in local elections.

The composition of voters is strikingly similar across national and local elections. The
only exception to this pattern is age: younger voters form a smaller share of all voters in local
elections (relative to national), and the elderly form a larger share. Although these data are
imperfect,\footnote{There are at least two caveats when interpreting these results. Although the questions about national and local
voting were asked in different parts of the survey, we might expect a correlation in reporting bias across individuals’
self reports about voting in presidential and local elections. Another limitation of the data is that it does not specify
the jurisdiction that corresponds to “local.”} the results do not support the idea that the composition of the electorate or the
identity of the median voter differs dramatically across jurisdictions. King (1981) compares
presidential and local voters using data from a nationwide survey conducted in 1967 and finds
generally similar results.

\textit{Voter Turnout and Departures from Tiebout}

These results indicate that the turnout margin is important when thinking about
preference aggregation. Observed policies may therefore be skewed towards the preferences of
those demographic groups with disproportionately high turnout. However, we generally see only
small differences in the composition of the electorate across different types of elections, whether
they be congressional versus Presidential or national versus local. This suggests that while
policies enacted may represent the preferences of a median voter who is quite different from the
median resident, differences in turnout at different levels of government are unlikely to explain
observed patterns of federalism that are inconsistent with Tiebout.

However, imperfect voter turn-out may exacerbate the inefficiencies introduced by lack
of perfect sorting (such as might be driven by mobility costs). 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 potential rationale for state intervention, although it is not clear that such interventions can successfully change the allocation of resources.

IIID. Intergovernmental Interactions

Assumption: “The public services supplied exhibit no external economies or diseconomies between jurisdictions.” (Tiebout 1956)

The Tiebout world is one comprised of many competing local jurisdictions; the model largely abstracts from the existence of multiple levels of government and the possibility of interactions across levels of government. As discussed above, intergovernmental interactions are quite important in practice. In this section, we first review the implications of allowing economies or diseconomies of scale in production or inter-jurisdictional spillovers in the Tiebout framework. These extensions suggest natural ways in which state or federal governments might act to improve the efficiency of public goods provision, and their implications for optimal fiscal federalism are fairly straightforward.

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22 Note that this divergence in interest may not always hold. For example, if individuals move only when they are young, then the preferences of the young will determine house prices. In this case, capitalization may give the elderly an incentive to vote for school funding, even if they do not benefit directly from better schooling. We thank Roger Gordon for highlighting this point to us.

23 Gordon (2004) found no significant medium- to long-run 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.
However, the policies we see in reality suggest much more complex intergovernmental interactions: federal and state governments act in a variety of ways to dictate or incentivize certain types of spending at lower jurisdictional levels. This is important from a Tiebout perspective, since spending or revenues may appear at one level of government even though they are in fact controlled by a higher level of government. For example, state spending on redistributive programs that are in fact mandated by federal policy can be thought of as redistribution at the federal level, rather than at the state level. We therefore provide evidence on the ways in which the regulatory environment can affect the policies pursued by governments and discuss whether this can help to reconcile the observed facts within the Tiebout framework.

**Production Process of Public Goods**

The Tiebout model abstracts from the public goods production process. However, the optimal level of government at which public goods are produced is dictated in part by the nature of 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. Importantly, however, it does not explain variation in program generosity across jurisdictions: these would still be undone to an extent determined by mobility.
Correction of Inter-jurisdictional Externalities

The Tiebout framework can also be extended to take inter-jurisdictional spillovers into account. If some of the benefits of the 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 2003). 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 for which the model’s considerations would delegate full responsibility to 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 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.
Non-budgetary Allocation of Authority/Responsibility: Regulations and Mandates

Budgetary accounting may not adequately capture the real distribution of responsibility for spending – just as who nominally pays a tax doesn’t necessarily align with who bears the incidence. Higher levels of government may enact laws or impose regulations that force lower levels to spend more or differently than they would have otherwise. These may show up on the balance sheet of the lower level of government but not represent the expression of local preferences – making observed changes over time in spending patterns across levels of government an imperfect proxy for changing roles and responsibilities. When the federal government requires state governments to maintain a certain level of spending on welfare, for example, the distributional implications may be the same as if the federal government financed the program itself even though the spending and associated revenues appear in state budgets.

This “indirect” spending can take several forms. The now-defunct Advisory Commission on Intergovernmental Relations (ACIR) outlines the many ways in which federal actions dictate state spending (ACIR 1994): statutory “direct order” mandates that require specific spending (such as requiring states to make all voting places accessible to the disabled); requirements that states must meet in order to receive federal aid – including both requirements for matching spending (as in Medicaid) or other conditions (such as having a drinking age of 21 to qualify for federal highway funds); statutory preemption of state rights to regulation or action (which may impose indirect costs or preclude revenue sources); other provisions such as restrictions on bonds or taxes, imperfect enforcement of law, or creation of liability exposure. States can impose costs on localities as well, of course, such as law enforcement requirements or employment

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24 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.
provisions.

Unfortunately there is limited systematic evidence on the magnitude of this indirect spending generated by federal (or state) choices. A series of reports issued by the ACIR examined costs imposed by the federal government, but with inconsistent coverage and methodological consistency that is hard to evaluate. It identified 12 mandates enacted in the 1960s, 22 in the 1970s and 27 in the 1980s (Figure 7; ACIR 1992). The rate of enactment of federal preemption statutes increased at a similar pace. The increase in mandate costs seems to have outstripped the increase in federal grants (Figure 8). The costs imposed vary widely but can be substantial. EPA estimated, for example, that environmental mandates imposed costs of $26.5 billion (in 1996 dollars) in 1972 and $147.9 billion in 2000 (Committee on Governmental Affairs 1995).

Amid mounting discontent over the burden that unfunded federal mandates were imposing on state budgets, Congress enacted the Unfunded Mandate Reform Act (UMRA) in 1995 as part of the Contract With America (Anderson and Constantine 2005). UMRA requires, in part, that CBO evaluate the cost imposed on lower levels of government by proposed legislation and creates procedural hurdles to passing such bills if the costs exceed $50 million (1996 dollars) in any of the first 5 years (CBO 2009). From 1996-2005, CBO examined 700 intergovernmental mandates and determined that 64 imposed costs in excess of the threshold, 5 of which were subsequently enacted (CBO 2006). The cost accounting under UMRA is far from comprehensive, however, and enforcement is patchy (CBO 2009).

Beyond mandated activities, a number of social insurance and transfer policies observed on state budgets are heavily incentivized by the federal government. While each state has its own unemployment insurance program, for example, the system exists in large part because of
pressure applied by the federal government in the 1930s. There has also been a general decline in broad block grants relative to restricted categorical grants (Table 6). Much of the observed devolution of responsibility for public programs in the post-war period appears most prominently in budget categories such as welfare and health care, where states and localities are not mandated to take certain actions, but where federal matching rates are so high (and are potentially conditional on program features) that they induce much greater state spending than one would otherwise expect. For example, during the late 1980s and early 1990s there was a substantial increase in the income-based eligibility floors for Medicaid, in particular for children. Some states had voluntarily extended Medicaid eligibility up the income distribution, so the increase in the federal floor was differentially binding and would, all else equal, reduce heterogeneity. Even though these expansions are an equalizing force in eligibility, that may not translate consistently to increases in enrollment, as states have some control over out-reach, hurdles to enrollment, etc. that substantially affect take-up conditional on eligibility (Card and Shore-Sheppard 2004).

School finance equalization measures are another interesting hybrid: while some equalizations result in local funds passing through the state budget en route to other districts, and would thus show up in budget accounting as intergovernmental expenditures, other equalizations mandate spending above a certain level or make spending by a district expensive enough (in terms of the share of local revenues raised that would be redistributed to other districts) that they reduce their spending overall – neither of which would show up in state budgets (Hoxby 2001).

Although it is not obvious how to apportion spending into that which is purely voluntary and that which is compelled or driven by outside policies, it is clear that there are large categories of state and local spending that are heavily influenced by provisions at higher levels of government. In particular, the existence and growth of redistributive programs at the state level
may be at least partially explained by federal rules and incentives. However, 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.

IIIE. Informational and Agency Problems

*Assumption: “Consumer-voters are assumed to have full knowledge of differences among revenue and expenditure patterns and to react to these differences.”* (Tiebout 1956)

The Tiebout framework assumes that all individuals are fully aware of the relevant features of each jurisdiction when they are making their jurisdictional choice. Interpreted slightly more broadly, this assumption also suggests that there should be no agency problems between voters and governments, since individuals are fully informed about the feasible set of policies as well as the actions taken by government agents. The Tiebout framework also abstracts from other types of informational problems, such as uncertainties in the public goods production process.

If voters are not fully informed, this could affect the Tiebout framework in the same way as limits to mobility or to the number of jurisdictions: individuals may not locate in the jurisdiction which is the best match for them, resulting in within-jurisdiction preference heterogeneity in equilibrium. Lack of information may also allow suboptimal deviations from Tiebout to persist. Feldstein and Wrobel (1998), for example, argue that state systems of redistribution do not actually achieve redistribution but may continue to exist as a result of fiscal illusion on the part of voters, politicians, or both.

If politicians are self-interested, constraints on voter information can also result in agency problems. 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. Competition between jurisdictions may provide a way for voters to evaluate local efficiency that might otherwise be difficult to observe. Besley and Case (1995) and Besley et al., (2010) find evidence of this “yardstick competition,” with greater political competition leading to better local economic outcomes (and lower taxes). Voters may therefore prefer a system with greater decentralization than they otherwise would. However, it is not immediately obvious why this would predict the increased concentration of responsibility at the state level but not at the local level observed in the data. In addition, we might have expected the need for “excess” decentralization to diminish over time with the advent of technologies that have improved access to information and transparency.

It is also possible that agency problems (or voters’ perceptions of agency problems) may differ at different levels of government and over time. Survey results from the American National Elections Studies show that while 50% of people reported that they had the most confidence in the federal government in 1968, that share had declined to 30% in 1996 (Farnsworth 1999). This shift came mainly from those placing the greatest confidence in state government (which increased from 20% to 37%), while those with the greatest faith in local governments remained relatively constant at around 30%. Interestingly, these reported changes do seem to correlate (though not perfectly) with changes in allocation of total government expenditure across different levels of government over this period.

Finally, individuals and governments might not have perfect information on the public goods production process. 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 substantial components of the Massachusetts reform adopted in the recent federal health reform. 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.

IV. CONCLUSION

Tiebout’s model has been a key conceptual framework through which economists have analyzed fiscal federalism for half a century. While the broad allocation of responsibilities across levels of government appears consistent with Tiebout, the empirical evidence also suggests a number of persistent departures from the predictions of the benchmark model. For example, states and localities appear to be increasingly involved in redistribution, both through taxes and redistributive expenditures, and there has been an overall movement towards more concentration of responsibility at the state level, partially driven by large increases in intergovernmental grants.

These findings naturally beg the question: can observed departures from Tiebout be explained by violations in the Tiebout assumptions? The two assumptions that generally receive the most attention are that mobility is costless and there are “enough” jurisdictions to allow
individuals to sort into a jurisdiction that matches their preferences. It is clear that these assumptions do not hold literally. It is less clear, however, that violations in these assumptions alone would generate the patterns we observe in the data.

Notably, the last decades have seen increasingly complex maneuvering between federal, state, and local governments as higher level governments attempt to influence the distribution of resources across localities through subsidies, taxation, and regulation. Looking at the budget figures alone may therefore give a misleading picture of the true Tiebout incentives at work. Further research into these increasingly important mechanisms could significantly improve our understanding of the determinants of the distribution of local and national resources.
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FIGURES

Figure 1: Aggregate Spending and Revenues

Note: These figures are based on the authors’ calculations using data from multiple sources. Data on state and local government revenues and expenditures come from the Census of Governments (COG). The figures only use data from the full COG years (i.e., those ending in 2 and 7). Data on federal revenues and expenditures, as well as gross domestic product, come from the Office of Management and Budget (OMB). Expenditures for each level of government reflect direct expenditures only (i.e., expenditures net of intergovernmental expenditures). Similarly, revenues for each level of government reflect own-source revenues only (i.e., revenues net of intergovernmental revenues).
Figure 2: Spending by Level of Government

Direct Spending as Share of GDP

Direct Spending on Education as Share of GDP

Direct Spending on Health and Welfare as Share of GDP

Note: These figures are based on the authors’ calculations using data from multiple sources. Data on state and local government revenues and expenditures come from the Census of Governments (COG). The figures only use data from the full COG years (i.e., those ending in 2 and 7). Data on federal revenues and expenditures, as well as gross domestic product, come from the Office of Management and Budget (OMB). Expenditures for each level of government reflect direct expenditures only (i.e., expenditures net of intergovernmental expenditures).
Figure 3: Spending by Category

Federal Direct Spending as Share of GDP

State Direct Spending as Share of GDP

Local Direct Spending as Share of GDP

Note: These figures are based on the authors’ calculations using data from multiple sources. Data on state and local government expenditures come from the Census of Governments (COG). The figures only use data from the full COG years (i.e., those ending in 2 and 7). Data on federal revenues and expenditures, as well as gross domestic product, come from the Office of Management and Budget (OMB). Direct spending refers to expenditures net of intergovernmental expenditures.
Figure 4: Revenue Sources

Note: These figures are based on the authors’ calculations using data from multiple sources. Data on state and local government revenues come from the Census of Governments (COG). The figures only use data from the full COG years (i.e., those ending in 2 and 7). Data on federal revenues and expenditures, as well as gross domestic product, come from the Office of Management and Budget (OMB). Revenues for each level of government reflect own-source revenues only (i.e., revenues net of intergovernmental revenues).
Figure 5: Federal Intergovernmental Grants

Fed Grants to States and Localities as Share of GDP

Note: These figures are based on the authors’ calculations using data from the Office of Management and Budget (OMB). Note that the federal OMB data categorize Medicaid as a Health program rather than as an Income Security program. This contrasts with the data presented in Figure 1. There all data represented direct expenditures. Consequently Medicaid was categorized as Income Security, which is how it is treated in the state and local government data compiled in the Census of Governments (COG).
Figure 6a

![Turnout in Federal Elections](image)

Note: The reported figures are tabulations provided by the Census Bureau that are based on data from the November voting supplements to the Current Population Survey: [http://www.census.gov/hhes/www/socdemo/voting/publications/historical/index.html](http://www.census.gov/hhes/www/socdemo/voting/publications/historical/index.html).

Figure 6b

![Turnout in Statewide General Elections (California)](image)

Figure 7: Growth of regulation and pre-emption (reproduced from ACIR)

Panel A: Federal Statutory Preemption of State and Local Authority

Panel B: Federally-Induced Costs Affecting State and Local Governments

Note: These figures reproduce data from reports by the Advisory Council on Intergovernmental Relations (ACIR). Panel A comes from ACIR Report A-121 (1992, 7) and Panel B comes from ACIR Report M-193 (1994, 1).
Figure 8: Increase in grants and mandates (reproduced from ACIR)

Note: This figure reproduces data from Report A-126 by the Advisory Council on Intergovernmental Relations (ACIR) (1993, 68).
### Table 1

**Coefficients of Variation by Category of Spending**  
*(Calculated Across States for the Sum of State and Local Government Spending within the State)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Expenditure</th>
<th>Direct Expenditure</th>
<th>Transport.</th>
<th>Environment and Housing</th>
<th>Public Safety</th>
<th>Education</th>
<th>Health and Hospitals</th>
<th>Public Welfare</th>
<th>Health and Welfare</th>
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<tr>
<td>1957</td>
<td>0.156</td>
<td>0.156</td>
<td>0.339</td>
<td>0.348</td>
<td>0.238</td>
<td>0.204</td>
<td>0.255</td>
<td>0.439</td>
<td>0.268</td>
</tr>
<tr>
<td>1962</td>
<td>0.150</td>
<td>0.150</td>
<td>0.359</td>
<td>0.335</td>
<td>0.276</td>
<td>0.196</td>
<td>0.300</td>
<td>0.403</td>
<td>0.271</td>
</tr>
<tr>
<td>1967</td>
<td>0.201</td>
<td>0.201</td>
<td>0.526</td>
<td>0.281</td>
<td>0.342</td>
<td>0.224</td>
<td>0.299</td>
<td>0.366</td>
<td>0.258</td>
</tr>
<tr>
<td>1972</td>
<td>0.199</td>
<td>0.199</td>
<td>0.452</td>
<td>0.304</td>
<td>0.397</td>
<td>0.178</td>
<td>0.379</td>
<td>0.323</td>
<td>0.281</td>
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<tr>
<td>1977</td>
<td>0.178</td>
<td>0.178</td>
<td>0.414</td>
<td>0.288</td>
<td>0.418</td>
<td>0.147</td>
<td>0.290</td>
<td>0.343</td>
<td>0.234</td>
</tr>
<tr>
<td>1982</td>
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<td>0.255</td>
<td>0.424</td>
<td>0.506</td>
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<td>0.206</td>
<td>0.347</td>
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</tr>
<tr>
<td>1987</td>
<td>0.303</td>
<td>0.303</td>
<td>0.487</td>
<td>0.376</td>
<td>0.429</td>
<td>0.240</td>
<td>0.424</td>
<td>0.331</td>
<td>0.270</td>
</tr>
<tr>
<td>1992</td>
<td>0.215</td>
<td>0.212</td>
<td>0.437</td>
<td>0.339</td>
<td>0.350</td>
<td>0.181</td>
<td>0.417</td>
<td>0.273</td>
<td>0.236</td>
</tr>
<tr>
<td>1997</td>
<td>0.200</td>
<td>0.197</td>
<td>0.406</td>
<td>0.342</td>
<td>0.280</td>
<td>0.178</td>
<td>0.415</td>
<td>0.274</td>
<td>0.245</td>
</tr>
<tr>
<td>2002</td>
<td>0.179</td>
<td>0.179</td>
<td>0.414</td>
<td>0.273</td>
<td>0.229</td>
<td>0.151</td>
<td>0.432</td>
<td>0.283</td>
<td>0.255</td>
</tr>
</tbody>
</table>

Note: Authors’ calculations using data from the Census of Governments (COG). Coefficients of variation (across states in each year) were calculated for the sum of all state and local government spending within each state. This measure was chosen because it is the most consistent measure of the total quantity of each public good produced within each state over time. Data taken individually for either state governments or for local governments have the problem that direct spending in some state-category cells has shifted over time from local governments to the state government or from the state government to local governments. This could generate changes, for example, in the coefficient of variation for state government spending on education without any actual change in the variation of total education spending by all governments within each of the states.
### Table 2a

**Census Mobility by Demographic Characteristics: (Percent of Households Who No Longer Live in Their State of Birth)**

<table>
<thead>
<tr>
<th></th>
<th>1960 Census</th>
<th>2000 Census</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age 25-35</td>
<td>Age 35-45</td>
</tr>
<tr>
<td>Total Mobility</td>
<td>35.7</td>
<td>37.4</td>
</tr>
<tr>
<td></td>
<td>Age 45-55</td>
<td>Age 55-65</td>
</tr>
<tr>
<td>Above Median Income</td>
<td>36.5</td>
<td>39.7</td>
</tr>
<tr>
<td>Below Median Income</td>
<td>34.5</td>
<td>32.8</td>
</tr>
<tr>
<td>College Plus</td>
<td>47.8</td>
<td>51.3</td>
</tr>
<tr>
<td>Some College</td>
<td>40.1</td>
<td>45.4</td>
</tr>
<tr>
<td>High School</td>
<td>32.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Dropout</td>
<td>33.1</td>
<td>33.5</td>
</tr>
<tr>
<td>Married with Spouse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>34.6</td>
<td>36.6</td>
</tr>
<tr>
<td>No Spouse Present</td>
<td>43.1</td>
<td>42.2</td>
</tr>
</tbody>
</table>

Note: Tabulations were made using the 1% public use census samples (for 1960 and 2000) made available through the Minnesota Population Center’s IPUMS-USA project. Households were categorized as no longer residing in their state of birth if the household’s current residence was not reported as being in the same state as the household head’s state of birth. The tabulations utilize the relevant household weights for producing estimates representative of the US population.
<table>
<thead>
<tr>
<th>Age 25-35</th>
<th>Age 35-45</th>
<th>Age 45-55</th>
<th>Age 55-65</th>
<th>Age 65-75</th>
<th>Age 25-35</th>
<th>Age 35-45</th>
<th>Age 45-55</th>
<th>Age 55-65</th>
<th>Age 65-75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Mobility</td>
<td>78.9</td>
<td>52.9</td>
<td>38.0</td>
<td>30.0</td>
<td>25.8</td>
<td>77.4</td>
<td>50.4</td>
<td>34.3</td>
<td>26.9</td>
</tr>
<tr>
<td>Above Median Income</td>
<td>78.7</td>
<td>52.1</td>
<td>36.4</td>
<td>28.1</td>
<td>23.4</td>
<td>78.3</td>
<td>49.1</td>
<td>31.7</td>
<td>24.8</td>
</tr>
<tr>
<td>Below Median Income</td>
<td>79.1</td>
<td>54.4</td>
<td>40.3</td>
<td>31.7</td>
<td>26.3</td>
<td>76.4</td>
<td>52.6</td>
<td>38.9</td>
<td>29.5</td>
</tr>
<tr>
<td>College Plus</td>
<td>88.3</td>
<td>62.9</td>
<td>41.2</td>
<td>31.7</td>
<td>28.1</td>
<td>86.5</td>
<td>54.8</td>
<td>34.2</td>
<td>28.7</td>
</tr>
<tr>
<td>Some College</td>
<td>82.9</td>
<td>56.7</td>
<td>40.1</td>
<td>31.4</td>
<td>27.2</td>
<td>77.3</td>
<td>50.6</td>
<td>35.2</td>
<td>28.8</td>
</tr>
<tr>
<td>High School</td>
<td>77.4</td>
<td>49.7</td>
<td>36.7</td>
<td>31.6</td>
<td>27.0</td>
<td>69.5</td>
<td>45.7</td>
<td>32.1</td>
<td>24.0</td>
</tr>
<tr>
<td>Dropout</td>
<td>75.5</td>
<td>51.6</td>
<td>37.8</td>
<td>29.5</td>
<td>25.4</td>
<td>71.4</td>
<td>51.9</td>
<td>37.6</td>
<td>27.2</td>
</tr>
<tr>
<td>Married with Spouse Present</td>
<td>79.2</td>
<td>51.9</td>
<td>36.6</td>
<td>28.6</td>
<td>24.7</td>
<td>75.0</td>
<td>46.0</td>
<td>28.4</td>
<td>23.0</td>
</tr>
<tr>
<td>No Spouse Present</td>
<td>76.8</td>
<td>58.4</td>
<td>43.1</td>
<td>33.2</td>
<td>27.1</td>
<td>79.8</td>
<td>56.5</td>
<td>42.8</td>
<td>32.6</td>
</tr>
</tbody>
</table>

Note: Tabulations were made using the 1% public use census samples (for 1960 and 2000) made available through the Minnesota Population Center’s IPUMS-USA project. The tabulations utilize the relevant household weights for producing estimates representative of the US population.
|                  | 1964 CPS |        |        |        |        | Total | 2004 CPS |        |        |        |        |全 | Total |
|------------------|----------|--------|--------|--------|--------|-------|----------|--------|--------|--------|--------|    |-------|
|                  | Age 25-35| Age 35-45| Age 45-55| Age 55-65| Age 65-75|       | Age 25-35| Age 35-45| Age 45-55| Age 55-65| Age 65-75| |
| **Total**        |          |        |        |        |        |       |          |        |        |        |        |    |       |
| Moved within County | 22.1     | 12.8   | 8.5    | 6.7    | 5.3    | 13.0  | 15.0     | 8.0    | 4.8    | 3.3    | 2.5    | 7.7 |       |
| New County within State | 5.8  | 2.6    | 2.0    | 1.1    | 1.0    | 2.9   | 5.1      | 2.4    | 1.6    | 1.4    | 0.9    | 2.7 |       |
| Moved out of State | 5.9      | 2.7    | 1.2    | 1.1    | 1.0    | 2.7   | 4.7      | 2.4    | 1.9    | 1.7    | 0.8    | 2.5 |       |
| **Above Median Inc.** |          |        |        |        |        |       |          |        |        |        |        |    |       |
| Moved within County | 19.1     | 9.1    | 7.0    | 5.4    | 2.5    | 10.9  | 13.4     | 7.3    | 3.8    | 2.4    | 2.1    | 6.4 |       |
| New County within State | 5.4  | 2.2    | 1.8    | 1.0    | 0.6    | 2.8   | 5.0      | 2.3    | 1.6    | 1.5    | 0.5    | 2.6 |       |
| Moved out of State | 4.8       | 2.7    | 1.2    | 0.7    | 0.9    | 2.4   | 4.2      | 2.0    | 1.5    | 1.5    | 0.4    | 2.2 |       |
| **Below Median Inc.** |          |        |        |        |        |       |          |        |        |        |        |    |       |
| Moved within County | 27.2     | 20.4   | 10.9   | 7.9    | 5.8    | 15.0  | 16.7     | 9.0    | 6.5    | 4.3    | 2.8    | 9.0 |       |
| New County within State | 6.6  | 3.5    | 2.4    | 1.3    | 1.1    | 3.0   | 5.3      | 2.7    | 1.7    | 1.3    | 1.2    | 2.9 |       |
| Moved out of State | 7.8       | 2.8    | 1.2    | 1.4    | 1.0    | 2.9   | 5.3      | 2.8    | 2.6    | 1.8    | 0.9    | 2.9 |       |

Note: Tabulations were made using the Current Population Survey samples (for 1964 and 2004) made available through the Minnesota Population Center’s IPUMS-CPS project. The tabulations utilize the relevant household weights for producing estimates representative of the US population.
Table 3: Local voting

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
<th>VEP</th>
<th>Total Votes</th>
<th>Votes/Pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azusa (3/8/2005)</td>
<td>47,074</td>
<td>24,620</td>
<td>3957</td>
<td>16.1%</td>
</tr>
<tr>
<td>Carson (3/8/2005)</td>
<td>93,805</td>
<td>49,060</td>
<td>10825</td>
<td>22.1%</td>
</tr>
<tr>
<td>Gardena (3/8/2005)</td>
<td>59,733</td>
<td>31,240</td>
<td>6647</td>
<td>21.3%</td>
</tr>
<tr>
<td>La Verne (3/8/2005)</td>
<td>33,316</td>
<td>17,424</td>
<td>4168</td>
<td>23.9%</td>
</tr>
<tr>
<td>Los Angeles (3/8/2005)</td>
<td>3,849,378</td>
<td>2,013,225</td>
<td>411604</td>
<td>20.4%</td>
</tr>
<tr>
<td>Monrovia (3/8/2005)</td>
<td>38,006</td>
<td>19,877</td>
<td>3731</td>
<td>18.8%</td>
</tr>
<tr>
<td>Redondo Beach (3/8/2005)</td>
<td>67,346</td>
<td>35,222</td>
<td>9757</td>
<td>27.7%</td>
</tr>
<tr>
<td>San Dimas (3/8/2005)</td>
<td>35,714</td>
<td>18,678</td>
<td>2678</td>
<td>14.3%</td>
</tr>
<tr>
<td>Compton (4/19/2005)</td>
<td>95,701</td>
<td>50,052</td>
<td>6215</td>
<td>12.4%</td>
</tr>
<tr>
<td>Los Angeles (5/17/2005)(runoff)</td>
<td>3,849,378</td>
<td>2,013,225</td>
<td>493084</td>
<td>24.5%</td>
</tr>
<tr>
<td>Redondo Beach (5/17/2005)(runoff)</td>
<td>67,346</td>
<td>35,222</td>
<td>8823</td>
<td>25.0%</td>
</tr>
<tr>
<td>Baldwin Park (11/8/2005)</td>
<td>78,568</td>
<td>41,091</td>
<td>8649</td>
<td>21.0%</td>
</tr>
<tr>
<td>El Monte (11/8/2005)</td>
<td>123,162</td>
<td>64,414</td>
<td>10001</td>
<td>15.5%</td>
</tr>
<tr>
<td>Hawthorne (11/8/2005)</td>
<td>85,438</td>
<td>44,684</td>
<td>8057</td>
<td>18.0%</td>
</tr>
<tr>
<td>Palmdale (11/8/2005)</td>
<td>138,790</td>
<td>72,587</td>
<td>18157</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

Note: These figures are based on mayoral-election voting data for cities in Los Angeles: [http://www.sos.ca.gov/elections/co_city_sch_elections/city_report_2005.pdf](http://www.sos.ca.gov/elections/co_city_sch_elections/city_report_2005.pdf). The column labeled “VEP” contains estimates of the voting eligible population (based on age and citizenship). These estimates scale the population figures (taken from the census bureau: [http://quickfacts.census.gov/qfd/states/](http://quickfacts.census.gov/qfd/states/)) by the common factor of 0.532, which is the appropriate factor for scaling from population to voting eligible population for Los Angeles County as a whole (derived from the 2005 American Community Survey).
<table>
<thead>
<tr>
<th>Variable</th>
<th>Year</th>
<th>18 to 24 years</th>
<th>25 to 44 years</th>
<th>45 to 64 years</th>
<th>65 to 74 years</th>
<th>75 years and over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of Actual Voters</td>
<td>2008</td>
<td>9.5%</td>
<td>32.3%</td>
<td>38.7%</td>
<td>10.8%</td>
<td>8.7%</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>5.7%</td>
<td>29.4%</td>
<td>42.4%</td>
<td>12.2%</td>
<td>10.4%</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>9.3%</td>
<td>34.1%</td>
<td>37.6%</td>
<td>10.3%</td>
<td>8.7%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>5.3%</td>
<td>31.5%</td>
<td>40.0%</td>
<td>12.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Share of Potential Voters</td>
<td>2008</td>
<td>12.5%</td>
<td>34.3%</td>
<td>35.6%</td>
<td>9.5%</td>
<td>8.1%</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>12.4%</td>
<td>35.2%</td>
<td>35.2%</td>
<td>9.1%</td>
<td>8.2%</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>12.6%</td>
<td>36.2%</td>
<td>34.1%</td>
<td>9.0%</td>
<td>8.1%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>12.6%</td>
<td>37.4%</td>
<td>32.8%</td>
<td>9.0%</td>
<td>8.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Year</th>
<th>Married with Spouse Present</th>
<th>Male</th>
<th>White alone</th>
<th>Black alone</th>
<th>Asian alone</th>
<th>Hispanic (of any race)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of Actual Voters</td>
<td>2008</td>
<td>59.5%</td>
<td>46.3%</td>
<td>83.2%</td>
<td>12.3%</td>
<td>2.6%</td>
<td>7.4%</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>64.4%</td>
<td>46.9%</td>
<td>85.7%</td>
<td>10.3%</td>
<td>2.2%</td>
<td>5.8%</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>61.9%</td>
<td>46.5%</td>
<td>84.8%</td>
<td>11.1%</td>
<td>2.2%</td>
<td>6.0%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>66.6%</td>
<td>47.0%</td>
<td>86.3%</td>
<td>10.9%</td>
<td>2.1%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Share of Potential Voters</td>
<td>2008</td>
<td>54.0%</td>
<td>48.0%</td>
<td>82.2%</td>
<td>12.1%</td>
<td>3.4%</td>
<td>9.5%</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>54.4%</td>
<td>47.8%</td>
<td>82.4%</td>
<td>12.0%</td>
<td>3.3%</td>
<td>8.6%</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>55.6%</td>
<td>47.8%</td>
<td>84.4%</td>
<td>11.3%</td>
<td>2.3%</td>
<td>6.6%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>55.9%</td>
<td>47.6%</td>
<td>85.7%</td>
<td>11.2%</td>
<td>2.4%</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Less than 9th grade</th>
<th>9th to 12th grade, no diploma</th>
<th>High school graduate</th>
<th>Some college or associate's degree</th>
<th>Bachelor's degree</th>
<th>Advanced degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of Actual Voters</td>
<td>2008</td>
<td>2.0%</td>
<td>4.9%</td>
<td>27.3%</td>
<td>31.6%</td>
<td>22.4%</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>2.2%</td>
<td>4.8%</td>
<td>27.4%</td>
<td>29.6%</td>
<td>23.0%</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>2.4%</td>
<td>5.7%</td>
<td>28.5%</td>
<td>31.0%</td>
<td>21.1%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>2.7%</td>
<td>5.5%</td>
<td>28.8%</td>
<td>29.5%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Share of Potential Voters</td>
<td>2008</td>
<td>3.3%</td>
<td>7.8%</td>
<td>31.7%</td>
<td>29.6%</td>
<td>18.5%</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>3.6%</td>
<td>8.5%</td>
<td>32.3%</td>
<td>28.6%</td>
<td>18.0%</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>3.9%</td>
<td>9.1%</td>
<td>32.3%</td>
<td>28.7%</td>
<td>17.4%</td>
</tr>
<tr>
<td></td>
<td>2002</td>
<td>4.2%</td>
<td>9.5%</td>
<td>33.5%</td>
<td>28.4%</td>
<td>16.4%</td>
</tr>
</tbody>
</table>

Note: These figures are authors’ calculations using tabulations of the November voting supplements to the Current Population Survey that are provided by the Census Bureau: http://www.census.gov/hhes/www/socdemo/voting/publications/p20/index.html
Table 5: Voters in National vs. Local Elections

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>68.33</td>
<td>70.67</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 to 44</td>
<td>45.38</td>
<td>38.11</td>
</tr>
<tr>
<td>45 to 64</td>
<td>30.55</td>
<td>32.61</td>
</tr>
<tr>
<td>65+</td>
<td>24.06</td>
<td>29.29</td>
</tr>
<tr>
<td>Have Children</td>
<td>40.57</td>
<td>40.94</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>84.45</td>
<td>85.5</td>
</tr>
<tr>
<td>Black</td>
<td>14.13</td>
<td>13.08</td>
</tr>
<tr>
<td>Other</td>
<td>1.42</td>
<td>1.42</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS Dropout</td>
<td>20.37</td>
<td>22.18</td>
</tr>
<tr>
<td>HS</td>
<td>31.48</td>
<td>32.61</td>
</tr>
<tr>
<td>Some College</td>
<td>21.92</td>
<td>20.22</td>
</tr>
<tr>
<td>College +</td>
<td>26.23</td>
<td>25</td>
</tr>
<tr>
<td>Male</td>
<td>43.58</td>
<td>45.28</td>
</tr>
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</table>

Source: The reported figures come from authors’ tabulations using the 1987 General Social Survey (GSS). The sample only includes individuals who a) gave a valid response to the question about voting in local voting (variable “locvote”), and b) responded either “yes” or “no” to both the question about voting in the 1980 Presidential election and the 1984 Presidential election. This excludes those who either refused to answer the questions or who reported being ineligible to vote in the Presidential elections. The numbers in the table are the answers to questions of the following form: what percent of the population regularly voting in national and local elections belongs to various demographic groups (e.g., is married)? An individual is coded as regularly voting in national elections if they reported that they voted in both the 1980 and 1984 Presidential elections. An individual is coded as regularly voting in local elections if they responded that they “vote in all” local elections. Since the sample only includes individuals who were eligible to vote in 1980, those less than 25 years of age in 1987 were effectively excluded. The sample was weighted using the product of a) the weights provided to account for the oversampling of blacks in the 1987 GSS and b) the number of adults in each household (as recommended by GSS to achieve individual-level population weights).
Table 6: Changes in Size and Type of Federal Grants

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Grants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Block Grant</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Categorical</td>
<td>422</td>
<td>492</td>
<td>534</td>
<td>392</td>
<td>422</td>
<td>478</td>
<td>543</td>
</tr>
<tr>
<td>Total</td>
<td>426</td>
<td>496</td>
<td>538</td>
<td>404</td>
<td>435</td>
<td>492</td>
<td>557</td>
</tr>
<tr>
<td><strong>Outlays ($billions)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gen Purp</td>
<td>7.0</td>
<td>9.6</td>
<td>6.8</td>
<td>6.8</td>
<td>2.1</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Broad-Based</td>
<td>4.6</td>
<td>11.5</td>
<td>10.0</td>
<td>13.0</td>
<td>13.1</td>
<td>12.7</td>
<td>14.5</td>
</tr>
<tr>
<td>Categorical</td>
<td>38.2</td>
<td>56.8</td>
<td>77.9</td>
<td>77.8</td>
<td>93.2</td>
<td>106.9</td>
<td>141.7</td>
</tr>
<tr>
<td>Total</td>
<td>49.8</td>
<td>77.9</td>
<td>94.7</td>
<td>97.6</td>
<td>108.4</td>
<td>122.0</td>
<td>158.6</td>
</tr>
</tbody>
</table>

This table reproduces a table from Report A-126 by the Advisory Commission on Intergovernmental Relations (1993, 52).