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Devolution or Convolution? The Changing Relationship Between Federal, State and Local Governments

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1. Introduction

What are we to make of the current shift in federal-state-local relationships away from centralized, categorical control to the administratively simpler block-grant or devolved approach to funding state and local government programs and activities? The term "devolution" has been used, and maybe abused, to describe this process (Deller 1998). Welfare reforms instigated at the federal level by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 are perhaps the most emblematic of the current round of program initiatives. These efforts are the most recent of others dating back to federal reorganizations and reforms implemented during the Nixon administration where many of the federal-to-state/local relationships were clarified and much of the grants-in-aid process was defined and implemented.

Every administration puts its own touches on federalism. The next round of significant changes in intergovernmental functional and fiscal relations after the Nixon administration occurred during the Reagan years, beginning right off the bat with the passage of the Omnibus Budget and Reconciliation Act of 1981. The federal intention was straightforward: states were to be given the resources and latitude to fund and administer federally mandated programs via block grants instead of through more cumbersome, categorical, federally-administered programs. The changes were supposed to streamline federal administration and federal direct costs and to maximize effectiveness at the state and local levels. While state and local governments where to be

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held harmless financially over the years, states and local governments learned quickly to view federal reforms with a jaundiced eye. New federalism yielded decrementalism – federal effort and effectiveness in leading and providing real funding for program development and implementation at the state and local levels waned.

The financial and functional changes were pitched as opportunities for states to develop innovative approaches to solving their problems. "Cooperative federalism" indicative of much of New Deal programming and "creative federalism" as expressed through many of the Great Society reforms in the mid 1960s (Kincaid 1991; Inman and Rubenfield 1997) gave way ultimately to "fend-for-yourself-federalism." In light of prolonged economic stress among many of the states and the perceived abandonment of state and local needs and domestic issues in favor of massive spending shifts to defense and payments to individuals. These most recent changes, according to Musgrave (1997), marked the end of "a half-century of fiscal activism and federal leadership." At least, that was the appearance.

In this article we review of the trends in federal-state-local relationships and the dependence of state and local governments on intergovernmental aids. While these aids can and do flow from the state to local governments, a particular focus of this analysis will be the changing flow of funds from the federal level. The research presented here will also investigate several sets of factors that contributed to real changes in state government per capita operations spending comparing fiscal 1992 and 1997:

(1) broad measures of income, employment, and population changes in the states,
(2) changes or shifts in categories of federal aid per capita among the states, and
(3) shifts in state own-source revenue collections.

The years that are analyzed for the federal and state data represent two different and distinct political and economic periods. The fiscal 1992 federal and state budgets were enacted and in place during the last year of the senior Bush administration and leading up to the election of that year. The senior Bush administration represented the tail-end of a prolonged conservative period, and a period that some have argued systematically ignored domestic affairs and federalism relationships, but which actively engaged in a "peace dividend" debate on re-allocating federal dollars in light of reduced international tensions. The fiscal 1997 data represent the first year of the second term of the Clinton administration. The Clinton administration represented a shift towards more domestic spending and investment. We have two different federal situations to contrast: a Republican executive and a Democratically controlled U.S

House and Senate in 1992 versus a Democratic executive and a Republican controlled U.S. House and Senate in fiscal 1997. We also have two different economies. The economy of fiscal 1991-1992 was just coming out of a downturn, the economy and the state and federal budgets of fiscal 1997 all benefited from sustained job and income growth that was nationally wide-spread.

2. Historical Trends: The Long View

As documented in Figure 1 total revenues for state and local governments increased in nominal dollars from $21 billion in 1948 to $1.8 trillion in 1996, or an increase of 8,300 percent. Much of this increase can be attributed to inflation, adjusting all figures to 1999 dollars results in an increase of $146 billion in 1948 to $1.9 trillion in 1996, or a real increase of 1,189 percent. This increase can be explained in part to increases in population, but more importantly a significant increase in the demands we place of state and local governments for services. In general, as we become wealthier as a nation, we expect more in terms of transportation services, protective services such as police and fire protection, and increasingly environmental protection. In addition, the raise of entitlement programs has placed significant pressures on state and local governments who are charged with administering many such programs.

Prior to 1972, however, there was relative stability in the flow of revenues going to state and local governments. Starting with the first oil crisis of the early 1970s followed by the recession of the late 1970s and early 1980s, the stability of revenue streams to support public goods and services became questionable. It could also be argued that with the beginning of the implementation of the Great Society programs of the Democratic administrations and the attempts by the Nixon Republican Administration to remove greater responsibilities from the federal to state and local governments altered the “rules of the game” by which state and local governments functioned. These institutional shifts have in essence introduced a certain level of uncertainty at the state and local levels with respect to revenue flows and expectations.

This change in relationships and the introduction of uncertainty can perhaps be best documented by examining the flow of intergovernmental revenues (Figures 2 & 3). While the data reported here do not separate the source of intergovernmental revenue, they reveal a nearly identical pattern to trends in overall revenues. From 1948 to 1996, intergovernmental revenues increased in nominal terms from $4.7 billion to $492 billion, an increase of 10,305 percent. After adjusting for inflation, the increase remains impressive going from $33 billion in 1948 to $522 billion in 1996, a real increase of 1,497 percent. Perhaps more important than the overall growth in intergovernmental revenues is the level of depend-

ence that state and local governments have on these revenues (Figure 3). In 1948, intergovernmental revenues accounted for 14.4 percent of all state revenues and 29.7 percent of all local revenues. Combined, 22.4 percent of state and local revenues came in the form of transfers from other forms of government. For state and local governments combined intergovernmental revenues peaked as a percent of all revenues in 1975 at 31.7 percent. But for state governments, the peak occurred earlier in 1973 at a lower level of dependency at 25.2 percent. Local governments, however, had a much higher level of dependency at 39.7 percent in 1980. In 1996 state governments are dependent on intergovernmental transfers for 22.9 percent of all revenues while local governments are dependent on 33.7 percent.

Perhaps the more important observation to make centers on the relative instability, hence uncertainty, of the flow of intergovernmental funds. It is common when one government transfers funds to another there are certain expectations on how those funds are to be used. For example, highway aids cannot be used to rebuild or expand a community swimming pool. Only General Revenue Sharing programs, such as the Federal GRS program started under the Nixon Administration and terminated during the Reagan Administration, had "no strings attached." Because of this nature of intergovernmental revenues, the flow of funds is often integrated into base budgets (Deller and Walzer 1995). While there is a wealth of literature describing how the form of the transfer influences the level and means of integration into the base budget, these funds often become an integral part of the budgeting process at fixed levels. This is particularly true for local governments. Indeed, a commonly referenced reason for fiscal stress at the local level is the decline and instability in the purchasing power of intergovernmental aid (Walzer and Chicoine 1989).

Much of the growth, and resulting instability and uncertainty, in intergovernmental revenues have been in the form of federal grants-in-aid to state and local governments. Between 1960 and 1999, there was a real increase in federal intergovernmental revenues of 565 percent going from $39 billion to $262 billion (Figures 4 & 5). In 1960, federal revenues accounted for 41.9 percent of all intergovernmental revenues and in 1999 the share increased to 46.3 percent. By examining just the end points of this time series, however, one may be left with the impression that there has been modest real relative growth in intergovernmental revenues from the federal level. There have been significant shifts in absolute and relative levels of federal grant and aid dollars. Throughout the 1960s and most of the 1970s, the level and share of intergovernmental monies coming from the federal government steadily increase, save for the two oil recession years in the early 1970s. Starting with the end of the Carter Administration and accelerating throughout the Reagan Administration,

federal funds transferred to state and local governments declined or stagnated. Under the Clinton Administration, there appears to be a return of the importance of federal transfers.

This somewhat roller-coaster ride of the flow of intergovernmental money has altered the way in which state, and in particular local governments, treat these monies. Deller and Walzer (1995), for example, maintain that during periods of growth and stability of intergovernmental funds officials treated aid, particularly federal aid, as a permanent source of revenue on which they became dependent. Because of the aid's perceived level of permanence these funds served as a form of local tax relief substituting part of these funds for own source funds. The real declines in the 1980s and the instability of the 1990s caused state and local officials to change the manner in which they treated these monies. Specifically, state and local officials began to treat intergovernmental revenues with less certainty viewing it as transitory rather than permanent.

If devolution means less federal government, then government has devolved somewhat. Over the past decade, federal civilian employment has declined by more than eight percent. Federal expenditures as a share of gross domestic product has also declined over the past decade. But the demand for services has remained and indeed grown to a certain extent. State and local governments are now asked to assume a greater share of this responsibility. The question is whether state and local governments can adequately plan for and carry through this change.

3. A Discussion of Federalism

The period measured for the analysis portion of this study represents only the most recent shift in the practice and rhetoric of federalism in the United States. Political scientists, economists, and public administrators periodically revisit this subject with vigor. A thoughtful symposium on the subject in 1997 gave us both economists' and political scientists' views on this newest version of federal behavior to the states and their local governments (Inman and Rubinfeld 1997; Musgrave 1997; Donahue 1997; Qian and Weingast 1997).

Underlying much of the change in federal-state relationships and the evolution of appropriate roles was neither specific economic nor political theory, though we are sure that both disciplines would disagree strongly: changes in relationships between the federal government and state and local government were, we maintain, merely and simply the increments of learning, necessity, and politics that the period was capable of socially, morally, and financially.

At times it is necessary for the federal government (legislatively or, more often than not, through the courts) to step in and equalize an un-

equal allocation of resources, opportunities, or privileges. Over time, sometimes, the necessity of action wanes. At other times historic commitments, no matter their current validity, are abandoned. Are we "at the start of a quiet revolution" (Inman and Rubinfeld, p 55) led by the Clinton Administration's welfare reform efforts? Or, are we, as Musgrave believes, in a situation where the current move to shift social program spending to the states (via federal block grants) will result in cuts that are "unlikely to be replaced at the state level (p 68)?" Are we in a situation where distributional fairness is to be abandoned, or at least diluted, in the name of illusive, at best, inter-jurisdictional efficiencies?

Much of how the federal government orders its priorities is reflected in its outlays by category and in recent changes in outlays by category. Annually governments make declarations of their goals and objectives, and their budgets are the quantitative measure of those factors. How the state governments order their objectives is similarly discoverable by analyzing their budgets. In our analysis, dollars equal impact regardless of the rhetoric attached, and shifts in spending amounts represent shifts in intentions.

We would expect that federal spending on the states from state to state is ostensibly neutral because of the nature of budget deliberations, although the actual flow of federal funds can reflect shifting state priorities, federal initiatives, particular economic factors, and political payoffs. From year to year, given the incremental nature of most change, we would expect budgetary relationships between the states and the federal government to remain relatively stable. We would also expect that among the states there are similar responses to the demands of their citizens, the overall economy, and the evolving requirements of federalism. There are, of course, differences in the tone, tenor, and type of responses to these factors. These differences are analyzable, too. Some states are low tax and low service states. Others provide a more rich mix of public goods and services.

Federalism is not a one-way street beginning with the U.S. government, via the 10th Amendment, to the states and on, via Dillon's dictum, to local governments. Governments have not only evolved, with ebbs and flows towards and away from central control, governments have matured, as well. Social, moral, and environmental factors caused our governments to increase the scope and the depth of their attention to the public welfare, as now measured by myriad factors, not just income security. Much of the battle over "federalism" is an honest to goodness debate over the willingness or not of states to assure the health and well being of their citizenry in light of national standards of fairness. States almost always balk at a major change. It takes federal action or the courts to compel performance and to assure, for example, substantive due process.

Society's needs evolve, too. Issues unheard of or believed irredeemable a decade or two ago are of genuine concern now and actively engaged in federal, state, and local policy discussions. A good example is the ever-changing environmental health area. The institutions and institutional responses to these emerging issues reflect growth in intellect, technology, and human capacity. Some states are more and some are less able or willing to meet these challenges. The federalism debate underscores the evolving role of government as a public goods-producing and rights-assuring component of society as opposed to the alternative view of government as a disruptive force to be minimized lest it become a leviathan. Sometimes the federal government must mandate performance. Sometimes the issues rise from the bottom up and the federal government is required to own up to and financially assume its responsibilities to its states, schools, cities, and counties, not to forget society at large. In these regards, federalism is definitely a two-way street and a busy byway at that.

4. The Basic Research

The research here is intended to isolate, via broad budgetary figures, the general pattern of federal program spending on the states and shifts in that spending during the last decade. The first and most basic kind of analysis involves identifying and investigating the kinds of spending changes at the federal level to isolate categorical changes in the allocation of resources and to see if they vary by state income, employment, and population changes among the states. We use a shift-share analysis to identify states that either gained or lost in terms of overall real funding per capita. This basic type of comparative analysis helps to isolate who among the states are the major "winners" and "losers" in regards to federal spending shifts.

The next stage of the analysis investigates the possible effects on state revenue collections attributable to federal spending changes. We also include broad income, employment, and population change measures in that analysis. Increased federal spending can have one of several impacts: it can be used to replace state funding, it can simply be added to ongoing spending, or, as has sometimes been the case, the funds can stimulate complementary amounts of state spending (this done historically through the requirement of a local match). Broad changes in state government revenue-raising characteristics are isolated and described. Shift-share analysis is again employed to isolate states where gains or losses in a particular revenue category per capita were noteworthy.

Finally, very broad state operations spending patterns are assessed. State spending and spending priorities change over the years. Though many states had instituted early initiatives at welfare reform, Wisconsin

and Iowa, for example, the national push (or shove) was just beginning in fiscal 1997. Federal aid to states for health care delivery is another category of federal spending fraught with experimentation, usually in the form of case management, utilization review, and capitation payment systems for medicines and therapies. There are other big changes of late. Many states have invested heavily in corrections, the administration of justice, and in education over the past decade. The effects of broad categories of federal assistance and the shifts in allocations are measured relative to state spending category changes. Shift-share methods are used to identify whether there is a measurable and unique effect of federal funding shifts relative to state spending shifts. It is important to note that we are only measuring current direct operational spending in this section and that this excludes analysis by category of construction, capital, and intergovernmental spending by state government.

The government finance data analyzed in this study were obtained from the U.S. Department of Commerce, Governments Division. They represent state government revenues and expenditures for fiscal years 1992 and 1997. The fiscal data, for the most part, are displayed on a real per capita basis (amounts are in 1997 constant dollars). Because we are working to identify significant categorical shifts in the receipt of federal aid, state revenue items, and state spending, real per capita changes are more meaningful than changes in gross receipts or outlays.[1]

The analysis of the changes in relative federal receipts, by category, along with analysis of state revenue collections and state expenditures using shift-share techniques produces a relatively straightforward distribution of changes. All of the net shifts in categories of federal aid, char-

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[1] It has already been indicated that we translate the real per capita changes in federal receipts, state tax collections, and state expenditures into their relevant components using traditional shift-share techniques (Bendavid-Val 1991, on typical and non-typical shift-share applications). These methods are normally applied to employment changes, but they are also useful in isolating changes and shifts in public finance items (Swenson 1996 and 1998). Accordingly, we identify the components of the actual per capita receipts in categories of federal aid by the states as to the amounts attributable to (1) overall federal spending changes, (2) inter-categorical shifts in aid due to changed budgetary priorities, and (3) comparative share changes (or net shifts in the locus of the variable measured) for each of the categories of aid and for total aid received by the states. The sum of components 1 through 3 will yield the actual change per capita in the categories that we are measuring. If the shifts of shares per capita (step 3) are multiplied by the respective state population and then summed to the national level, they will equal zero. The third category, shifts in comparative shares, is focused on in this report. The first two components have meaningful interpretation at the individual state level, but such an analysis for each would overwhelm this report with minutiae. There are several elements of comparison: (1) the national growth component is the real per capita change in federal aid to states (or of state revenues or state spending); (2) the categorical change component isolates national average changes in a particular category of aid (or state revenues or spending) and compares them to the average change in the overall change (item 1) in the particular class of variables measured; finally (3) the change or shift in shares component isolates the net growth in each state's category of spending compared to the national average in the same category. Item 3 isolates expected growth in a category from actual. The difference represents a net shift in government resources or spending (or effort) per capita.

acteristics of state revenues, and overall general operations spending by the states are compiled as actual deviations about the weighted national average change in each category. Plusses are gains, negatives are losses when compared against the U.S. norm in the categories measured. By reporting the changes on a real, per capita basis, we also standardize the measures in a manner that accounts for inflationary changes, real per person shifts in state and federal revenues, and in the personal value of services delivered by our state governments.

5. Federal Aid Received by the States 1992-1997

The information presented in Table 1 shows that in 1999 federal aid received by state governments was $708.31 per capita (in 1997 dollars) and grew to $808.06 per capita by fiscal 1997. Real growth amounted to nearly $100 per person or 14.1 percent over a five year period. Florida, Nevada, and Virginia were on the bottom of receipts in fiscal 1992, each receiving about $456 per capita. That same year, Alaska and Wyoming received the most per capita ($1,497 and $1,594, respectively) followed at a distant third and fourth by New York and Rhode Island at $1,076 and $1,052 per capita, respectively. As is evident, the gross deviation from the weighted federal average is substantial, and while sparse population and the sum of federal lands may explain the high payments to Alaska and Wyoming, they do not lead us to understand why at third and fourth highest Rhode Island and New York received roughly the same aid and why Florida, Nevada, and Virginia received half as much.

Table 1. Real (1997 Dollars) Federal Aid Per Capita to State Governments and Changes, 1992 to 1997.

	Education	Health & Hospitals	Public Welfare	High-ways	All Other	All Federal to State
Fiscal 1992	$115.18	$30.39	$405.62	$63.98	$93.14	$708.31
Fiscal 1997	$126.03	$43.71	$461.47	$72.44	$104.42	$808.06
Change Per Capita	$10.85	$13.32	$55.85	$8.46	$11.27	$99.75
Change Percentage 92-97	9.4%	43.8%	13.8%	13.2%	12.1%	14.1%
Minimum	-21.5%	-23.6%	-20.9%	-82.1%	-25.7%	-3.7%
Maximum	28.8%	352.9%	67.8%	79.3%	75.8%	37.8%
Percentage of Total Change	10.9%	13.4%	56.0%	8.5%	11.3%	100.0%

In fiscal 1997, Nevada and Virginia both received the least federal aid followed closely by Florida. Though the sparsely populated states of Wyoming and Alaska received the most federal aid per capita, eleven others (New York and Rhode Island among them) were receiving more

than $1,000 per capita. By way of winners and losers, New Mexico, Oregon, and New York made strong gains over the two fiscal periods (more than $250 per capita) and eleven states gained less than $50 per capita (New Hampshire actually posted a real decline per capita).

The substance of changes is contained in the federal spending categories. By looking at the programmatic outlays per capita, we get an idea of the relative shift in federal emphasis over the two periods measured. Overall real federal aid to state government per capita increased by 14.1 percent. Education aid lagged at 9.4 percent; highways and the all other category grew slightly less than the overall average, as well. Federal spending on public welfare actually did not increase by as much as the average either, but federal spending on health and hospitals increased by over 3 times the average rate. The minimum and maximums contained in the table also indicate that the range of variance among the states is quite strong. In comparing actual outlays, however, if we look at the composition of change, we see that 56 percent of the growth came from federal welfare spending, followed by 13.4 percent for health and hospitals, with the remainder accounted for in order by all other, education, and highways.

Federal health and hospital aid per capita is comparatively small, but it is the fastest growing major federal aid category. These funds are comprised mainly of direct payments for hospitals and health delivery (Title V, Maternal and Child Health Block Grant), public health service funds, family planning, health reporting and disease prevention, and substance abuse and mental health administration funding. Only eleven states posted net real gains in shares amounting to five percent or more of their 1992 health and hospital funding receipts. Real declines of more than five percent were realized in thirty-six states, however. The few comparative gainers in light of the massive losers indicate that the shifts in funding were both policy and institution specific and that the recipient states were radically increasing their payments for health care or the scope of services that they were providing.

Real gains in federal welfare assistance per capita occurred in seventeen states. This is by far the largest category of federal spending to the states and the numerically-greatest category of growth in federal spending nationally. Welfare type payments would include payments under the Temporary Assistance to Needy Families block grant (which replaced the historic Aid to Families with Dependent Children grant) along with all medical assistance covered under Medicaid (Title XIX), the social services block grant (Title X), grants for children and family services, foster care and adoption assistance, energy assistance, the community services block grant, refugee assistance, and job opportunities and basic skills assistance. Overall, the health care financing/Medicaid portion of this spending amounts to roughly 80 percent of the total; family

support payments under the guise of TANF account for just eight percent of the total.[2] Given past changes and anticipated future changes in health care financing and reimbursement formulas, which heavily favor urban providers, and in light of the heavy dominance of this category by Medicaid spending, we might anticipate significant shifting of real spending from more rural areas to more urban ones in the future.

The second largest category of federal transfers to the states is aid to education. A shift in comparative shares amounting to five percent or more of 1992 receipts happened among twelve states. Federal education spending consists of education assistance for the disadvantaged, services for the disabled, rehabilitation assistance, vocational education, and a handful of other school assistance or improvement funds.

Most highway aid is distributed on a formula basis, but there are discretionary transfers, as well. This category includes general support payments, community development, airport/aviation assistance, and environmental aid, along with an undefined all other grouping. Strong gains are found in thirteen states. Real losses were found in twenty-three states.

Table 2 contains the bi-variate correlations of these categories of federal aid with measures of change in per capita income, transfer payments per capita, population change, and nonfarm employment growth. It is quite apparent that these broad categories of state change are not related strongly to shifts in federal receipts. The only state category of change that correlates moderately with federal spending differences is real change in per capita transfer payments. We would expect this variable to be related to the welfare category (keeping in mind, however, that payments to needy families account for only eight percent of welfare transfers, and that welfare transfers are only a very small portion of all transfer payments). The negative correlation of transfer payments with health and hospital aid is counter-intuitive. The negative correlation with highway aid may be indicative of the tendency of transportation planners and transportation assistance to target growth centers; therefore, areas with lower than average poverty and dependency rates. The

[2] Food Stamp payments, Supplemental Security Income (SSI), Housing Assistance (to include disaster relief), and earned income credits are reported by the federal government as payments to individuals and not to states. It is important to remember, however, that a large fraction of SSI recipients (individual payees) also receive Medicaid –Title XIX in addition to Medicare; indeed, the SSI population accounts for a substantially bigger portion of Title XIX spending than the TANF population. In light of an expanding economy, lower unemployment rates, and overall high participation rates, most of the net growth in spending for Medicaid has been a result of SSI population demand and not the TANF population.

degree of association of federal spending shifts with these variables is, on the whole, minute.

Table 2: Correlations -- Shifts in Federal Aid with State Income, Population and Employment Change

	Real Shifts in Federal Aid to States					
	Health & Hospitals	Welfare	Education	Highways	All Other	Total
Real Per Capita Income Change (1991-1996) (%)	-0.104	-0.012	-0.071	0.021	-0.042	-0.053
Real Per Capita Transfer Payment Change (1991 – 1996) (%)	-0.289	0.501	0.122	-0.233	0.145	0.420
Population Change 1991 - 1996 (%)	-0.041	0.214	-0.142	0.027	-0.344	0.076
Nonfarm Employment Change 1991 – 1996 (%)	-0.099	0.037	-0.093	0.130	-0.297	-0.053

6. State Government Revenue Patterns

Real state government general revenues per capita grew by $339 between 1992 and 1997, according to the figures displayed in Table 3. Federal aid amounted to $100 of that shift (29 percent). Real state tax increases grew by nearly twice as much as real federal aid increases. Real taxes per capita increased $185 and accounted for 55 percent of the growth. Real growth rates in general revenues were 12.5 percent between 1992 and 1997. Charges and fees grew slightly faster at 14.8 percent, and miscellaneous revenues grew much slower at 4.6 percent. The real rate of federal aid outpaced the real rate of growth in state taxes, however; federal aid grew by 14.1 percent, and taxes grew by 12.5 percent.

Alaska, Hawaii, Connecticut, Delaware, New Jersey, and New York had the overall highest tax collections per capita in 1992. By 1997, Michigan, Minnesota, and Massachusetts all had higher tax collections per capita than New Jersey and New York. Overall, lowest collections per capita were realized in South Dakota, Texas, New Hampshire, Georgia, and Mississippi in 1992. In 1997, New Hampshire, Texas, and South Dakota were left at the bottom, and Georgia and Mississippi tax collections advanced in the direction of the national average.

Table 3. Real (1997 Dollars) State Government General Revenues Per Capita and Changes, 1992 to 1997

	Intergovernmental		Own Sources			
	Federal Aid	Other Aid	All Taxes	Charges and Fees	Miscellaneous	All General Revenues
Fiscal 1992	708.31	48.36	1,474.70	235.74	243.82	2,710.93
Fiscal 1997	808.06	56.23	1,659.76	270.69	255.14	3,049.89
Change Per Capita	99.75	7.87	185.06	34.95	11.33	338.96
Change Percentage 92-97	14.1%	16.3%	12.5%	14.8%	4.6%	12.5%
Minimum	-21.5%	-81.1%	-21.9%	-21.5%	-44.2%	-21.5%
Maximum	37.8%	469.2%	50.6%	45.8%	163.3%	37.8%
Percentage of Total Change	29.4%	2.3%	54.6%	10.3%	3.3%	100.0%

State governments generate most of their taxes from individual and corporation income taxes, sales and use taxes, and a host of minor taxes like inheritance, licenses, and mineral severance taxes.[3] Nine states posted real gains of shares in tax collections in excess of five percent of their 1992 values. Sixteen states declined more than five percent.

The next category is state government charges and fees. States collect significant revenues from recreation charges, payments made for higher education, and other service charges. States will often address anti-tax sentiment by shifting general funding away from taxes towards user fees – this is especially true of local governments, but state governments employ user charges to enhance revenues when tax increases are not possible. If the consumers of the goods feel gouged, or there are perceptions of inequity in access to state-supplied public goods because of fees, then states may shift back to general tax funding.[4] Even though charges and fees represent only about 8.4 percent of general revenues, eighteen states posted gains in this category of spending in excess of five percent when compared to the rest of the nation and their 1992 collections. Declines in excess of five percent were discovered in eleven states.

[3] Though not reported in specific, net gains in sales taxes amounted to $67 of the gain in state taxes (36 percent of the total) and personal income taxes were $74 (40 percent) of per capita tax gains. Taxes on corporate incomes rose, too, by $17 per capita or 9 percent of the total gains. The roughly equal pace of growth between sales and personal income taxes is typical of revenue gains in recent years among the states as they struggle to flatten earnings tax incidences in order to appear accommodating to the middle or upper classes. In recent years many states have moved to exempt gift and death (inheritance) taxes and to reduce or eliminate taxes on pensions (and disability payments in some cases) in order to further promote their ostensible tax friendliness.

[4] Iowa, in the late 1980s, tried to impose user fees on its state parks and recreation facilities. Visitorship plummeted and the fees were repealed the following year.

States also generate revenue from miscellaneous sources. Miscellaneous receipts include interests earned on investments, proceeds from the sale of state property, donations, fines and forfeitures, rents, and royalties. Nine states posted strong increases in this category, and thirty-one posted declines in excess of 5 percent of their real 1992 collections per capita. There seems to be broad-based reductions in reliance on this form of revenue.[5]

The last category involves shifts in real state government general revenues per capita. General revenues include all of the aforementioned intergovernmental aid, taxes, charges, and miscellaneous revenues. They exclude enterprise revenues from, for example, liquor sales, or other franchise revenues, and they exclude revenues generated as part of employment trust and agency accounts (worker compensation, unemployment, or state employee retirement accounts, for example). Seven states realized net gains in excess of five percent comparing 1992 with 1997, and seventeen realized net declines in shares per capita in excess of five percent.

Correlation coefficients comparing state population, employment, and income changes along with categories of federal aid shifts to the different categories of state general revenue shifts are provided in Table 4. Real tax shifts were more strongly associated with real per capita income growth and only had a minor association with overall nonfarm employment change. Only federal aid to education showed a modest correlation with taxes, and the sign on that value was positive. The overall shift in the receipt of federal aid did not translate into a net shift in tax collections.

Charges demonstrated virtually no correlation with population and income variables. A minor negative correlation was identified with federal welfare spending, and a small positive correlation was found with highway spending. Miscellaneous revenues are negatively correlated with real per capita income growth, federal education aid, and federal highway aid. All shifts in own source revenues had only a minor correlation (.337) with real per capita income growth. None of the federal aid categories appears to account for either decreases in state own source revenue effort or an increase. There appears to be no evidence that shifts

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[5] Much of the earnings in this category traditionally came from the interest earned on unspent tax collections and other general revenues. During the 1980s, this was the fastest growing revenue category for state and local governments. Federal tax reforms of 1982 and 1986 serious limited the ability of state and local governments to engage in speculation and arbitrage by exploiting their tax exempt status to secure lower than market rate loans and then reinvesting the loans at higher rates of return. The investment debacle involving Orange County, California, also chilled government investment and sparked a host of state laws specifying allowable investment types and risks to which unspent government funds may be subject.

in the receipt of federal aid comparing 1992 with 1997 account for any of the real shifts identified in state own source revenue collections. State revenue collections appear to be changing among the states independently of federal aid transfers.

Table 4: Correlations: State Population, Employment Income, Federal Aid Shifts, & State General Revenues Shifts

	Taxes	Charges	Miscellaneous	All Own Source Revenues
Real Per Capita Income Change (%)	0.547	0.182	-0.308	0.337
Real Per Capita Transfer Payment Change (%)	-0.177	-0.029	0.055	-0.152
Population Change (%)	-0.060	0.060	0.075	0.010
Nonfarm Employment Change (%)	0.239	0.094	-0.076	0.192
Federal Aid:				
Education	0.334	0.190	-0.229	0.176
Health & Hospitals	0.020	-0.045	0.131	0.151
Welfare	-0.068	-0.246	0.173	0.038
Highways	0.170	0.339	-0.208	0.054
All Other	0.026	-0.107	-0.122	-0.159
Total	0.042	-0.144	0.054	0.068

7. State Government Expenditure Changes

State governments are receiving nearly $100 more per capita from federal sources and $240 more per capita in overall own source revenues, most of which comes in the form of increased real tax receipts. Table 5 lists current operations expenditures for state governments for fiscal 1992 and 1997. Current operations represent direct program spending on state government programs and do not include equipment, capital, or construction. These data also do not include state aid to local governments. Consequently, they only measure general governmental activity at the state level in several traditional state government areas but still do not account for a large fraction of state government spending.

Current operations spending grew by $145 per capita (in 1997 amounts) between 1992 and 1997. This is less than half of the total revenue growth listed in Table 3. Health and hospital spending accounted for 50 percent of this growth. Education increases captured 22.4 percent of the net growth, increasing by $32 per capita, and corrections spending accounted for another 15 percent, increasing by $22 per capita over the period. If we analyze growth rates and overall shifts in current operations spending per capita, we note that overall operations spending in-

creased by 9.4 percent and that health and hospital spending and administration of justice expenditures grew by more than 12 percent. Corrections, on the other hand, grew over three times as much as the general current total. Real per capita corrections spending increased 31 percent between fiscal 1992 and 1997. This shift is not surprising given the tendency to enact and enforce mandatory sentences.

When we noted the components of the flow of federal aid to the states in Table 1 we saw that increased outlays for welfare spending accounted for 56 percent of the real increase in federal aid. Per capital current spending for welfare among the states, notwithstanding the federal funds influx, did not change. In other words, while real general spending grew by 10 percent, and while the real increase in federal aid averaged $56 per capita, overall spending per capita remained constant with regard to inflation. In the aggregate it appears that in the case of welfare spending, federal aid is simply replacing state effort, thus liberating state resources for other categories of spending.

Table 5: Real State General Current Expenditures Per Capita and Changes, Fiscal 1992 – 1997

	Education	Health & Hospitals	Welfare	Administration of Justice	Corrections	All Other	Total
Fiscal 1992	$344.83	$590.53	$147.07	$47.61	$71.83	$311.96	$1,513.83
Fiscal 1997	$377.22	$662.86	$146.24	$53.54	$94.03	$324.85	$1,658.72
Change	$32.39	$72.33	($0.84)	$5.93	$22.20	$12.89	$144.89
Change % 92-97	9.4%	12.2%	-0.6%	12.4%	30.9%	4.1%	9.6%
Minimum	-11.5%	-25.1%	-31.0%	-16.8%	-6.5%	-52.2%	-12.7%
Maximum	37.8%	47.7%	168.7%	68.3%	102.5%	31.1%	27.7%
Percentage of Total Change	22.4%	49.9%	-0.6%	4.1%	15.3%	8.9%	100.0%

Among the states with the most rapid growth were Georgia, Mississippi, and Oregon each posting real spending growth per capita in excess of 25 percent. Real declines were posted in six states, with Rhode Island, New Jersey, and New Hampshire leading the group in cost cutting.

Real per capita spending for all education increased by more than five percent in thirteen states and it declined by more than five percent in fifteen. Twenty-one states posted stronger than five percent gains in health and hospital spending, and thirteen posted more than five percent reductions. Greater than five percent real shifts in per capita welfare spending were realized in twenty-two states, and fourteen declined by five percent or more. Real gains in justice expenditures in excess of five

percent were seen in nineteen states, and real declines were found in twenty-three.

Corrections represent the fastest growing category of state spending. States' efforts to curb drug use and the imposition of mandatory criminal sentencing has yielded strong corrections cost increases. On a net increase in shares basis, nineteen states had corrections increases that were five percent or greater per capita when compared with their 1992 outlays. Twenty-three states posted declines of five percent or more. The overall pattern of general operation spending changes among the states indicates that seventeen states posted strong gains in outlays, while ten posted strong declines.

The overall effects of income, employment, and population change, coupled with shifts in the receipt of federal, and state revenue collection changes as they may correlate with state spending on current operations are displayed in Table 6. In light of federal program changes from categorical or formula grants to block grant systems, and in light of a decided reduction in direct program delivery by the federal government, it was supposed that federal aid would stimulate state spending or replace state own source effort in a particular category.

Table 6: Correlations: State Population, Income, Federal Aid, State General Revenues, & State Spending

	State Spending on Current Operations						
	Education	**Health & Hospital**	**Welfare**	**Justice**	**Corrections**	**All Other**	**General Spending**
Real Per Capita Income Change (%)	0.401	-0.015	-0.041	0.412	0.319	0.278	0.316
Real Per Capita Transfer Payment Change (%)	-0.234	0.423	0.100	0.009	0.054	0.135	0.289
Population Change (%)	-0.054	0.051	0.161	-0.206	-0.102	0.118	0.092
Nonfarm Employment Change (%)	0.222	0.013	0.085	-0.059	0.142	0.239	0.238
Shifts in Federal Aid:							
Education	0.209	0.297	-0.070	-0.026	0.237	0.240	0.385
Health & Hospitals	0.029	-0.148	-0.098	0.140	-0.210	-0.078	-0.158
Welfare	-0.266	0.690	0.318	-0.162	-0.110	0.087	0.424
Highways	0.335	0.011	-0.345	0.140	0.201	0.333	0.259
All Other	-0.148	-0.073	-0.273	-0.025	0.039	0.425	0.115
Total	-0.158	0.675	-0.084	-0.096	-0.036	0.347	0.564
Shifts in State Revenue:							
Taxes	0.602	0.138	-0.243	0.372	0.542	0.325	0.474
Charges	0.608	-0.016	-0.135	0.154	0.437	0.221	0.321
Miscellaneous	-0.573	0.064	0.292	-0.201	-0.612	-0.230	-0.279
General Revenues	0.147	0.418	0.035	0.178	0.054	0.290	0.481

Expected potential relationships between federal aid and state spending categories are enclosed in a box. Federal aid to education was only mildly correlated with shifts in state spending for education (this does not include state transfers to local school districts). Per capita income had a greater influence on state education spending, and when we look at state revenue collections we notice that much stronger positive associations found with state tax collections and with charges (hiked tuition and fees, perhaps?).

Federal health and hospital aid shifts were negatively correlated with state hospital and health spending, though the association was very small. Federal welfare spending, however, was positively and strongly associated with state health and hospital spending. This indicates that much of the shift in federal welfare spending as measured by Title XIX receipts was eventually realized in this spending category in the form of direct health care delivery in state hospitals and institutions.

Federal shifts in welfare spending amount to a correlation of just .32 with state welfare spending (less than half the correlation with state health and hospital spending). If we recall Table 4, we know that nationwide, the amount spent on welfare by the states per capita has remained constant even though total receipts increased substantially per capita and real welfare aid per capita increased by $56. None of the state revenue variables correlated much, although the signs were negative for taxes and charges, which indicates, perhaps, a tendency for a countercyclical distribution of welfare receipts in light of reduced state revenue capacity.

Increased spending on law enforcement and on the administration of justice was one of the major programs of the Clinton Administration. We find that only real per capita income growth and overall growth in state tax collections correlate with this item. None of the federal variables (including the all other category) correlate directly with growth in spending in this category. Corrections spending represent a major shift in current governmental spending as well as in states' capital and construction accounts. State tax collections and charges shifts correlated only slightly with state spending shifts on corrections.

Shifts in all other state spending are correlated somewhat with all other federal aid and secondarily with highway spending. The amount of correlation among all of the federal variables with general operations spending was greater than the state revenue items. General operations spending by all state governments was influenced, in order, by all federal grants in aid to the states, overall state general revenue payments, state taxes, federal welfare payments, federal education payments, and state government charges. By amount of correlation, shifts in all federal aid exceeded the value of shifts in general revenues when explaining overall operations spending shifts among the states.

8. Conclusions

This study indicates that real federal aid to states increased by nearly $100 per capita between fiscal 1992 and 1997 and that there was no systematic correlation of the net shifts in federal funds per capita among the states as they may have related meaningfully to broad measures of changes in incomes, changes in transfer payments (an indirect measure of dependency), growth in nonfarm employment, or population.

Real state tax collections per capita increased by nearly two-and-a-half times as much as increases in federal aid. This may be evidence that state programming and responsibility, at least as measured by output, are increasing independently of the federal government, even though federal transfers have grown. Clearly, as measured by real per capita spending, state governments have expanded their operations. By way of correlation, however, increases in per capita income were associated with growth in state own source revenues, but federal aid did not independently influence tax collections or other state receipts. Shifts in state general revenues are independent of shifts in the receipt of federal aid.

The influence of social, economic, and population variables in combination with changes in the receipt of federal aid and in characteristics of state tax collections were assessed next. It was found that, despite strong increases in welfare receipts per capita, the states were not spending any more per capita for welfare programs and that there was evidence that the increases in welfare payments made ostensibly as part of the TANF actually allowed for a redirection of aid into state funded and supported health care systems. This transfer indicates that the states, rather than short-changing the potentially employable poor, are perhaps more prone to expanding and extending services to other need groups -- the developmentally disabled, mentally retarded, the mentally ill, or those that just don't qualify for federal assistance – as opposed to eliminating programs and services all together. These are the populations often left out and left to the states to care for.

There seems neither a quiet revolution in federalism (Inman and Rubinfeld) nor of a systematic erosion of fairness as might be Musgrave's concern. The expansion of state authority and capacity to fund and supply public goods is partially attributable to shifts in overall federal aid and in real state tax growth. And federalism and state's rights issues aside, the big story is in overall state effort in program funding and program delivery. An important shift has been in the area of corrections, and the ability of states to continue this effort in light of all other responsibilities can be called into question.

Devolutionary forces have been in evidence for decades regarding the overall mix of program delivery by the federal government, the

states, and local government. Generally speaking, and in many broad areas, there has been both subtle and brutal shifting of program administrative and funding responsibility to the states and their governments. The strong shift in welfare spending to the states represents a major change in state federal fiscal relationships whose long-term impact remains to be seen. This shift is important because welfare spending represents just under 60 percent of all federal aid to states. It is important to remember, however, that, for the proportion of the traditional (or stereotypical) welfare recipients receiving aid, the amount of resources that they command is quite small compared to the total uses to which these funds are put. The effects of this shift, so far, on overall state spending, however, has been subtle at best, and in the direction of program enhancements in health and hospital care for the needy.

This study was intended to display a set of relatively simple tools for analyzing federal aid to the states, state revenue changes, and state spending changes. Further work is needed in assessing some of the other important characteristics of government operations and spending. The relationship between the states and local governments is an important dimension that needs to be assessed. During the 1980s in light of massive spending declines, many states were accused by their local governments of simply passing the cuts down (trickle down?) to them. Another is the issue of government investment in needed infrastructure and facilities. Careful scrutiny of the construction and capital spending of governments (by kind) might give us some insights into this area, too.

Note on Shift-Share Calculations

Shift-share analysis helps us to decompose elements of change. It is most often used to isolate changes in employment in particular industries or of the incidence of certain firms by industry. There are three parts:

1. Calculating the national growth component. For the subcategories assessed at each state (or smaller unit) we multiply the national growth rate times the base year value. If, for example, per capita federal health and hospital aid in Colorado in fiscal 1992 were $40.37 and the national growth rate for all federal aid to states was 14.1%, then the national growth component for that category would be $5.69 per capita ($40.37 * 14.1%=$5.69).
2. Calculating the categorical mix component. Each of the subcategories has a growth rate independent of the national rate. If we refer to table 1 we know that federal aid to education grew by 9.4%, Health & Hospitals by 43.8%, and so on. The unique change attributable to

categorical mix changes is the national categorical change minus the national growth rate. For Health & Hospital aid, the average national growth in aid was 43.8%. If we subtract the overall national growth rate (14.1%), the unique expected growth due to a change in the mix of federal funding for Colorado would be $40.37 * (43.8%-14.1%)=$12.01 per capita.

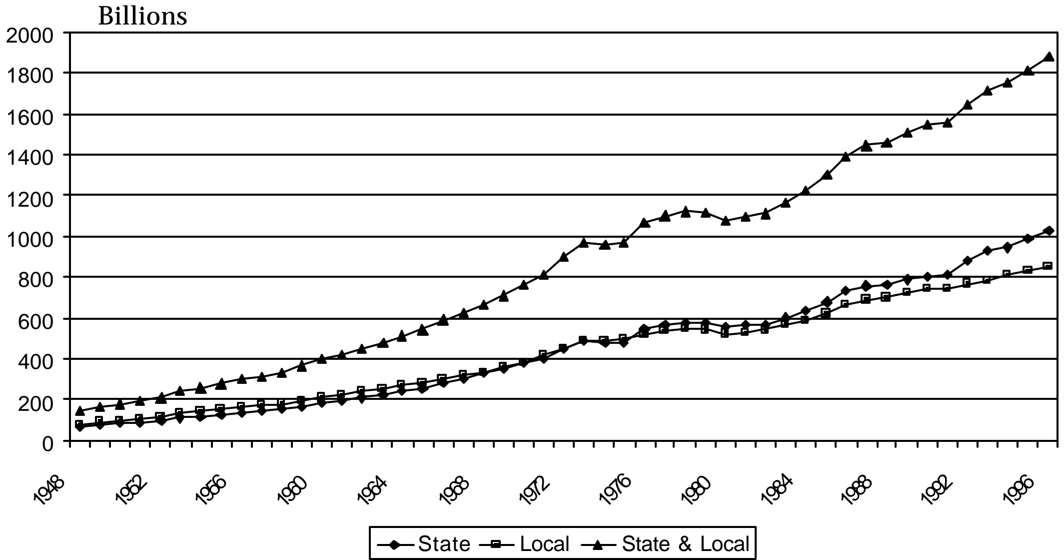
3. <u>Calculating the comparative (or competitive) share change</u>. Now we compare the state's actual change in receipts in a category with the national average. Health & Hospital aid by the federal government actually grew by 53.28% between 1992 and 1997. The difference between that and the national average times the base year values per capita gives us the net plus or minus shift in receipts. For Colorado this is $40.37 *(53.28%-43.8%)=$3.87 per capita.

We can check and decompose our changes because the sum of changes in items 1 through 3 equal the total real changes between 1992 and 1997 per capita. In Colorado health and hospital aid per capita in 1992 was $40.37 and in 1997 it was $61.88. The difference is $21.51*. Summing 1 through 3 we get $21.57.

	Health & Hospital	All Federal Aid
Federal growth component	5.69	86.12
Categorical mix component	12.01	2.74
Comparative share component	3.87	-38.25
Total	$21.57*	$50.61

**The 6 cents difference is due to rounding.*

We can do the same thing for each category of aid and for total federal aid. The total federal aid per capita for Colorado in 1992 was $611.52 and in 1997 $662.12. The difference is $50.61. The components of that change are displayed above. In terms of comparability regarding all federal aid, Colorado's receipts declined by $38.25 per capita.



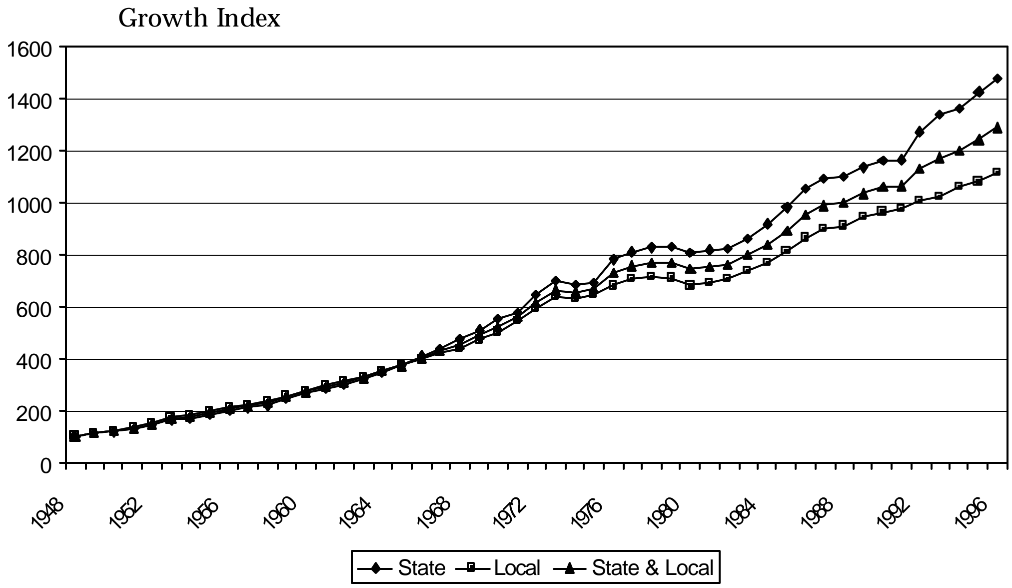
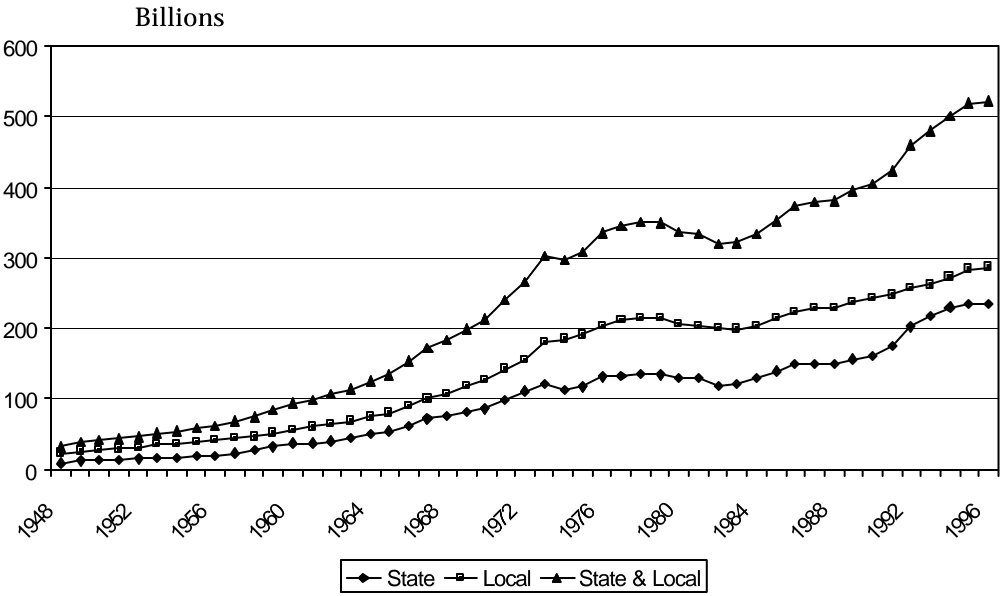


Figure 1: Real Growth in State and Local Revenues (1999 dollars)



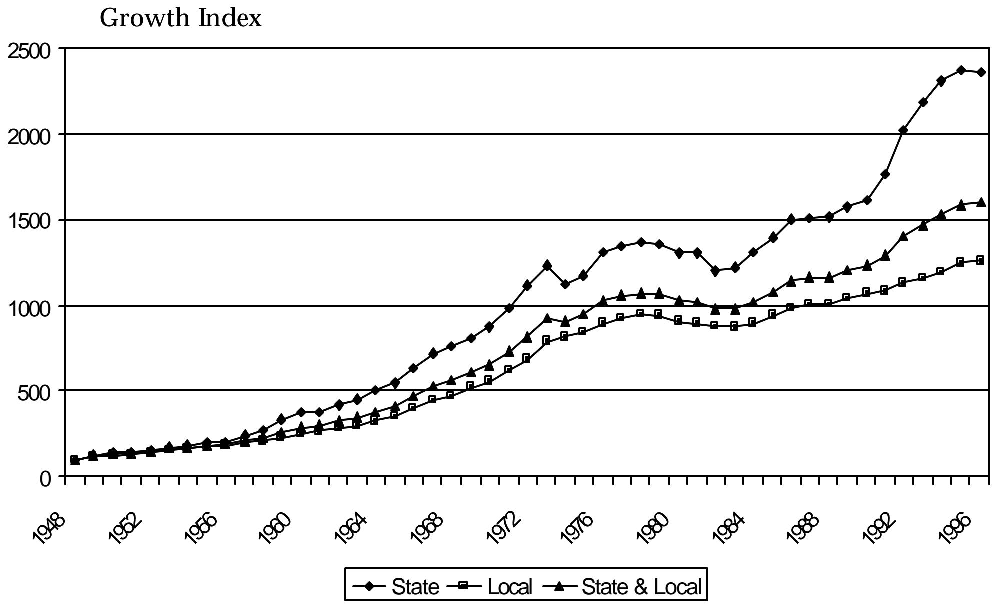


Figure 2: Real Growth in Intergovernmental State and Local Revenues (1999 dollars)

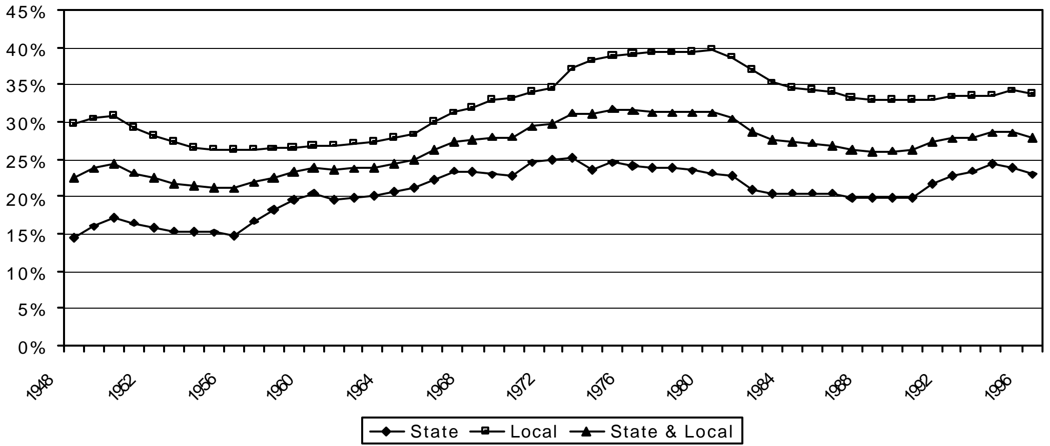


Figure 3: Intergovernmental Aid as a Percent of Total State and Local Revenues (1999 dollars)

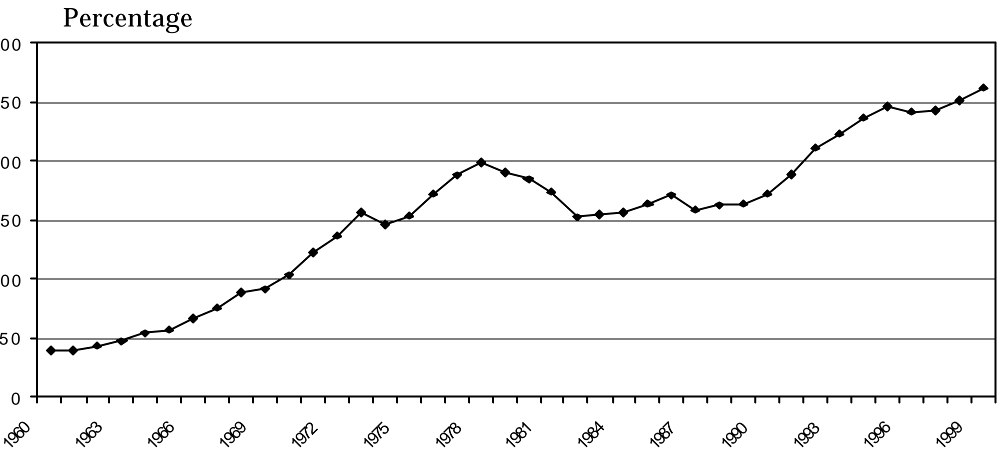


Figure 4: Intergovernmental Aid as a Percent of Total State and Local Revenues (1999 dollars)

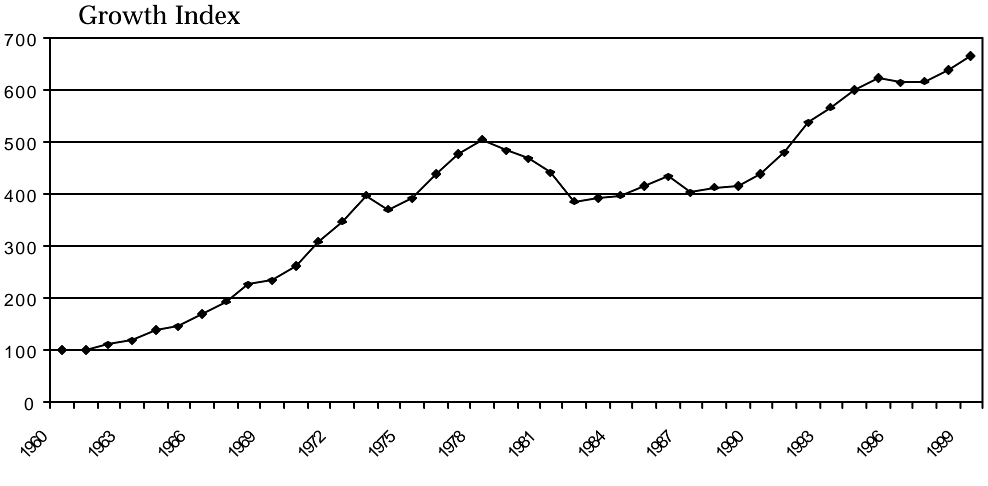


Figure 4: Continued

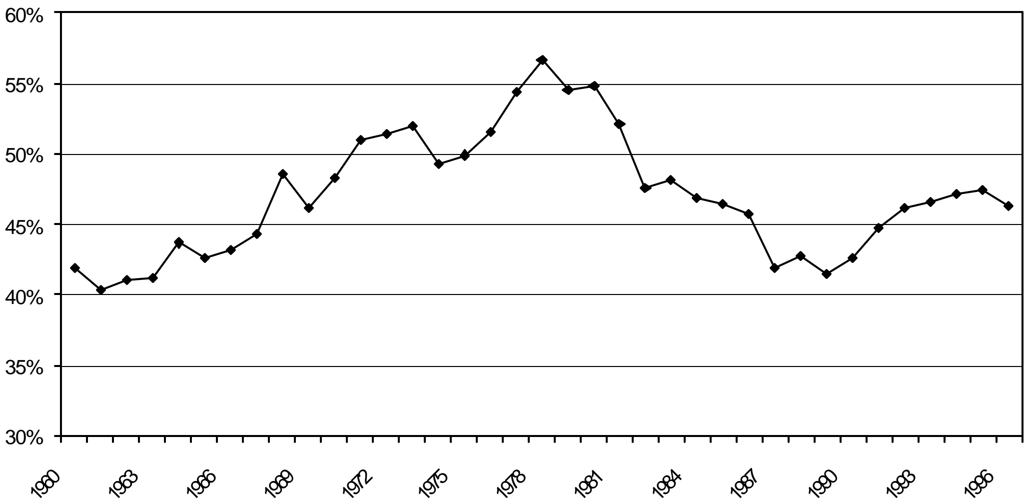


Figure 5: Federal Intergovernmental Aid as a Percent of Total Intergovernmental Aid (1999 dollars)

References

Advisory Commission on Intergovernmental Relations. 1989. *Readings in Federalism – Perspectives on a Decade of Change.*

BenDavid-Val, Avrom. 1991. *Regional and Local Economic Analysis for Practitioners* (4th ed). Westport, Conn: Praeger.

Bureau of the Census: Economics and Statistics Administration. *Federal Expenditures by State for Fiscal Year 1997.* U.S. Department of Commerce.

Bureau of the Census: Governments Division. *State Government Finances (1992 & 1997).* FTP files. U.S. Department of Commerce.

Bureau of Economic Analysis. *Regional Economic Information System, 1996.* U.S. Department of Commerce.

Deller, Steven C. 1998. Local Government Structure, Devolution and Privatization. *Review of Agricultural Economics.* 20(1):135-154.

Deller, Steven C. and Norman Walzer. 1995. Structural Shifts in the Treatment of Intergovernmental Aid: The Case of Rural Roads. *Journal of Agricultural and Applied Economics.* 27(2):522-535.

Donahue, John D. 1997. Tiebout? Or Not Tiebout? The Market Metaphor and America's Devolution Debate. *Journal of Economic Perspectives.* 11(4):73-82.

Gramlich, Edward M. 1981. *Benefit-Cost Analysis of Public Programs.* Englewood Cliffs, NJ. Prentis-Hall.

Gramlich, Edward M. 1987. Subnational Fiscal Policy. *Perspectives on Local Public Finance and Public Policy*. 3:3-27.

Inman, Robert P. and Daniel L. Rubinfeld. 1997. Rethinking Federalism. *Journal of Economic Perspectives.* 11(4):43-64.

Kinkaid, John K. 1991. The Competitive Challenge to Cooperative Federalism: A Theory of Federal Democracy. in *Competiton among State and Local Governments*, Daphne E. Kenyon and J.K. Kincaid (eds). Washington, D.C. Urban Institute.

Musgrave, Richard A. 1997. Devolution, Grants, and Fiscal Competition. *Journal of Economic Perspectives* 11(4):65-72.

Qian, Yingyi and Barry R. Weingast. 1997. Federalism as a Commitment to Preserving Market Incentives. *Journal of Economic Perspectives* 11(4):83-92.

Seskin, Eugene P. and Robert P. Parker. 1998. A Guide to the NIPAs. *Survey of Current Business*. U.S. BEA. (March).

Swenson, David. 1989. A Decade of Adjustment: Economic, Social, and Political Forces Influencing Iowa Government Policy in the 1980s. Iowa City, Iowa. Institute of Public Affairs, The University of Iowa.

Swenson David. 1996. Assessed and Taxable Valuation Change: Spatial and Categorical Shifts in Capital Wealth and Property Tax Capacity in Iowa. Rural Development Initiative, Iowa State University.

Swenson, David, Liesl Eathington, and Daniel Otto. 1998. Economic Growth, Property Valuation Change, and Transportation Investment. Crossroad 2000 papers and proceedings, Iowa Department of Transportation and Iowa State University.

Walzer, Norman and David Chicoine. 1989. *Rural Roads and Bridges: A Dilemma for Local Officials.* Washington, DC: Office of Transportation, US Department of Agriculture. (April).