

ECONOMIC DEVELOPMENT AND POLICY

Trends in State and Local Finances: 1960 to 2015

This report examines longer-term trends in state and local government fiscal conditions and highlights the changes in spending and revenues over a 50-plus year period.

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A number of organizations and researchers regularly and irregularly monitor and report on the fiscal condition of state and local governments. The most likely reason for such attentiveness to these matters is the sheer size of the state and local government sector, its impact on the aggregate economy, and its role in providing and producing necessary public services. For the most part, the reports focus on the immediate past, current and short-run future conditions of this vital sector. In contrast, this report examines longer-term trends in state and local government fiscal conditions and highlights the changes in spending and revenues over a 50-plus year period.

Perhaps the most salient finding is that, in the aggregate, the composition of state and local government spending, by type, has changed dramatically over this time frame. For example, spending for *net* investment as a proportion of all spending by state and local governments has declined considerably while spending for health and social welfare benefits has increased dramatically. The change in the composition of spending type is reflected in the change in the functional breakdown of spending. Spending for health and social welfare benefits, including Medicaid, has outstripped the growth on spending for transportation, education, and general public functions.

To a significant extent, the increased spending for health and social welfare benefits reflects the demographic changes taking place—an aging population requiring more services which may be "crowding out" infrastructure investment, spending on education, and other public services. The need to care for an aging population, the need to repair and replace the aging infrastructure, the need to fund employee retirement and other post-retirement benefits, and the perpetual need to improve education to keep the nation competitive may severely strain the resources of state and local governments in the future.

As with changes in the type and functional breakdown of expenditures, there have been major changes in the way state and local governments raise revenues. For example, taxes, as a proportion of revenues from their own sources, have declined, while charges for services provided and other types of exactions have seen a rapid rise in their relative importance. In the tax arena, individual income taxes and general sales taxes have experienced growth in their relative importance while all other forms of taxes have decreased in relative importance.

Introduction

There are, of course, numerous reasons for the attention paid to the fiscal health of state and local governments. First and foremost is the sheer size of the state and local government sector. In 2015, state and local governments, in the aggregate, spent slightly more than \$3.0 trillion (National Income and Products Accounts basis)—somewhat less than \$25,000 per U.S. household—and, as of December 2014, employed more than 19 million persons—both full-time and part-time and approximately 16 million full-time equivalent employees.¹

State and local governments contribute directly to economic output when they provide services to the public and when they invest in capital. State and local government compensation of employees, purchases of intermediate goods and services, and other purchases directly affect gross domestic product (GDP), the broadest measure of economic output. The most obvious examples of government investment are roads, bridges, tunnels, water supply and sewerage systems, and public buildings. In addition, computer software developed by these governments is also considered as investment. In 2015, the latest complete year available, state and local expenditures on consumption and gross investment accounted for 13.4 percent of U.S. GDP.²

State and local governments also contribute indirectly to economic output by providing social benefits to households, such as employee retirement, medical assistance, and income support. Governments also

affect the economy through taxes and by providing incentives for various business activities. In addition, governments affect the economy through their collective saving, the difference between their revenue and spending. Similarly, state and local tax revenues were slightly more than 10 percent of net domestic product.³ Government consumption and gross investment expenditures show the direct effect of state and local government fiscal activities on the total economy, and tax revenues illustrate the relative level of resources extracted from the private sector by state and local governments.

In addition to the direct economic influence of the total of state and local government spending and taxing, state and local governments affect the allocation of the nation's resources. Three prominent economic scholars: Yilmaz, Vaillancourt and Dafflon, state that a major reason for studying state and local government fiscal conditions in depth has to do with the efficient allocation of the nation's resources: "[I]f a society is to achieve an efficient allocation of its scarce resources, then not only is there a clear case for public sector provision of goods and services, but also, to achieve efficiency, the system of government should be decentralized—that is, economic efficiency requires state and local fiscal autonomy."⁴

While there can be vigorous debate regarding the optimal size and scope of government activity, it is obvious that some government functions are necessary to provide for infrastructure and other public goods and services. Yilmaz, Vaillancourt and Dafflon state that in nations with wide variations in demand for public services versus private goods and services, and wide variations in the costs of producing public goods, a federal system with fiscally autonomous regions can meet the different demands for government services at the lowest cost.

The purpose of this article is to provide a retrospective on state and local government fiscal activity over the past 50-plus years. That is, the article examines changes in the level and composition of spending by type and by function and changes in the level and composition of revenues by type. This article treats state and local governments as if they were a single entity. In reality, there are almost 90,000 local government units—both general purpose and special purpose governments.⁵

Although these local government units have varying degrees of fiscal autonomy, the state and local governments are financially intertwined. In fiscal year 2011, approximately one-third of local general government revenues came from state governments.⁶

The second section, which is next, presents a snapshot of current economic conditions of the states as measured by changes in the coincident indicators published by the Federal Reserve Bank of Philadelphia. The third section contains a description of the major sources of data and the adjustments made to those data. The fourth section presents data on state and local government expenditures per household, relative

to the size of the entire economy, by type and by function. The fifth section presents data on revenue trends—revenues in relation to the size of the economy and by major source. The sixth section will present differing views on the current fiscal conditions of state and local governments, as well as some projections. The last section will contain a summary and conclusion. The bulk of the data comes from the National Income and Products Accounts (NIPA) published by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA).

Current Economic Conditions

The fiscal conditions of state and local governments are imperfectly correlated with changes, past and projected, in the economic conditions of the states. A number of organizations and researchers regularly and irregularly monitor and report on the fiscal and economic conditions of state and local governments. For example, the Urban Institute publishes a quarterly State Economic Monitor which contains state-by-state data on earnings, employment, taxes, and other indicators.⁷ The Rockefeller Institute of Government reports on changes in state tax revenues as well as changes in economic conditions. At the time of writing, the Institute reports a slowing in the rate of growth of state taxes which the authors attribute to uncertainty arising from Brexit and our presidential elections.⁸

Another source of information on state economic conditions is the Federal Reserve Bank of Philadelphia's Index of Coincident Indicators. The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its GDP, so long-term growth in the state's index matches long-term growth in its GDP.

A dynamic single-factor model is used to create the state indexes. The method involves a system of five major equations: one equation for each input variable and one equation for an underlying (latent) factor that is reflected in each of the indicator (input) variables. The underlying factor represents the state coincident index. The model and the input variables are consistent across the 50 states, so the state indexes are comparable to one another.⁹ Exhibit 1 shows the six month percentage change in the state coincident indicators from November 2015 to May 2016. The greater the percentage change in the coincident indicator is related to greater improvement in economic conditions.

Five states (Alaska, Louisiana, Oklahoma, North Dakota and Wyoming) experienced a decline in coincident indicators between November 2015 and May 2016. These states are heavily dependent on oil and gas extraction and the recent declines in the prices of oil and natural gas and the decline in production are responsible for the decline in the indicators for these states. The Rockefeller Institute reports that the states most heavily dependent on oil and gas production also experienced a sharp decline in tax revenues.¹⁰ The Federal Reserve Bank of Philadelphia projects a slowdown in economic activity for most states with the exception of Florida, Kansas, Kentucky, Nebraska, North Dakota and South Carolina (see Exhibit 2).

The next section provides information on how the type and functional composition of state and local government expenditures have changed over the last 50-plus years.

Source of Data

The reasons for choosing the NIPA as the primary source of data for this article are: (1) the ease of obtaining the data through the Department of Commerce website;¹¹ (2) the ability to scale, if necessary, the size of the state and local government sector to the size of the overall economy as represented by GDP; and (3) the data are presented on a calendar-year basis. The major drawbacks to using NIPA are: (1) they are presented on a net basis so that much detail for both expenditures and revenues are lost and (2) state and/or local level detail is usually not available. However, for the purposes of this article, the aggregate data are sufficient.

Most readers, whether or not they are familiar with the NIPA, will most likely understand the terminology used in this article. There are at least two exceptions to this generalization—consumption expenditures and surplus of government enterprises.

Perhaps the most basic element of state and local expenditures is consumption. On the surface it would appear that this term would not need a detailed explanation. This, however, is not the case because aggregates are presented on a net basis. The value of the output of private sector firms can be measured by the market price of that output. Because the output of government is usually not sold, therefore, they are not priced as in the private market. The value of government output is measured by the resources consumed by the public sector. Government consumption expenditures are measured by the value added, or costs to the government, which consist of compensation of general government employees, consumption of fixed capital (depreciation),¹² and intermediate purchases of goods and services. Sales of

goods and services to individuals, businesses, the federal government, and own-account production of structures and software are subtracted.¹³

In the NIPA, government consumption is recorded on a net basis—expenditures less sales. The reason for excluding sales is to avoid double counting in the construction of GDP. For example, services produced in the public sector that are purchased by households are recorded as personal consumption expenditures.¹⁴ However, this article is not concerned with constructing GDP accounts but is concerned solely with the state and local government sector, sales to other sectors are excluded from consumption expenditures but included with state and local revenues. This is similar to the treatment of government finances by the Census Bureau.

Sales of goods and services to individuals, businesses and the federal government were \$450.4 billion in 2015. Health and hospital charges of \$209.1 billion and tuition and education charges of \$99.5 billion were 46.4 and 22.1 percent respectively of sales to other sectors. The definition of consumption expenditures excludes current transactions of government enterprises, interest paid or received by government, and subsidies.¹⁵

Government enterprises are agencies that cover a substantial portion of their operating costs by selling goods and services to the public and that maintain their own separate accounts.¹⁶ The net revenues less costs are classified as current receipts in the NIPA despite the fact that, in the aggregate, costs have exceeded revenues since 1978. The major enterprises include water and sewerage, gas and electricity, toll facilities, liquor stores, air and water terminals, housing and urban renewal, public transit, lotteries, gaming administered by Native American tribal governments, off-track betting, local parking, and miscellaneous activities. With the exceptions of public transportation and housing and urban renewal enterprises, state and locally run enterprises generated small surpluses in 2012.

Expenditures

The most salient finding is that the methods by which state and local governments provide services and the functional composition of the expenditures have changed dramatically during the last 50-plus years. In the early years, a significant portion of state and local government spending was for the purpose of expanding infrastructure—highways, bridges, tunnels, sewerage, health facilities, and public buildings. In contrast, in the aggregate, spending for *net* investment as a proportion of all spending by state and local governments has fallen to a small proportion of total spending. Conversely, spending for social welfare benefits, especially expenditures for health has increased considerably.

The reason for focusing on capital spending is that it underpins spending on the nation's infrastructure. According to the American Society of Civil Engineers (ASCE), the nation faces a funding gap for infrastructure between 2016 and 2025 of \$1.44 trillion (in 2015 dollars), and a projected lost GDP between 2016 and 2025 of nearly \$4.0 trillion.¹⁷ Although state and local governments are not solely responsible for the estimated gap in infrastructure spending, the long-term decline in capital spending by these governments surely has been a contributor to this gap. Other groups or individuals may have different estimates of infrastructure funding gaps but the probability is that the gap is substantial. This will be presented in a subsequent section.

Size of state and local government sector: expenditures per household

Perhaps the simplest way to measure the relative size of any economic aggregate is to compare that aggregate to a measure of population. Exhibit 3 shows total state and local expenditures and total expenditures per U.S. household. During the 54 years covered, spending per household has risen from slightly more than \$1,000 in 1960 to \$23,603 in 2010. Since 2010, in the aftermath of the Great Recession, state and local expenditures per household have risen erratically to \$24,618. Overall, per household spending has risen by about 6 percent per year from 1960 to 2015. Total spending during this period has risen from \$56 billion in 1960 to slightly more than \$3.0 trillion in 2015—approximately 7.5 percent per year during this period.

However, there was a break in the expenditure trends beginning in 2010. Neither total expenditures nor expenditures per household were above the long-term trend since 2010. Average annual growth rates of total expenditures and per household from 1960 to 2010 were 8.12 percent and 6.40 percent respectively. Between 2010 and 2015, the average annual growth rates were 1.63 percent and 0.85 percent, respectively. Between 1974 and 1975, total expenditures rose by 14.3 percent and 12.3 percent per household—the largest year-to-year change. The smallest year-to-year change occurred between 2010 and 2011, 0.04 percent for total expenditures and negative 1.95 percent per household.

Size of the state and local government sector: expenditures to GDP

Although there are a number of valid ways with which to measure the size of the state and local government sector, we will use fiscal measures—spending and revenues to portray this sector of the economy. Possibly the simplest and most direct measure of the size of the state and local government sector is to compare a portion of state and local spending—the sum of gross output and gross investment—to GDP. This ratio,

expenditures for consumption and investment relative to GDP, measures the direct economic impact of the state and local government sector on the aggregate economy.¹⁸

Gross output is the sum of employee compensation, capital consumption allowances and the cost of intermediate goods purchased. The other components of government consumption—sales to other sectors and own-account investment—have been included in revenues and gross investment respectively.

There was a significant expansion of the state and local government sector relative to GDP between 1960 and 1975 (see Exhibit 4). In current dollars, state and local expenditures on gross output and investment relative to GDP rose from 9.6 percent in 1960 to approximately 14 percent in 1975. The ratio of expenditures to GDP fell from 14 percent in 1975 to slightly more than 12 percent in 1984. Since 1984, state and local expenditures have generally grown more rapidly than GDP. In 2009, state and local expenditures were slightly less than 16 percent of GDP. As a result of the spending restraint caused by the Great Recession, state and local spending declined to 13.3 percent of GDP in 2015.

The generally upward trend in the ratio of state and local consumption and gross investment to GDP was explained by Professor William Baumol in his seminal article on this topic. Professor Baumol posited that the economy could be divided into sectors in which productivity growth was fairly rapid—manufacturing, for example—and sectors in which productivity growth was slow or non-existent—services, in general, and government in particular. There would be varying degrees of productivity growth in the remaining sectors.

Professor Baumol further assumed that labor compensation would rise in the sectors in which labor productivity growth was relatively rapid, and that compensation in sectors with relatively slow productivity growth would also rise. In some sectors, the rising costs would result in a decline in the relative size of the sector, and, in others, the rising costs would result in an increase in the relative size of the sector, e.g., state and local governments.¹⁹

Deflating both expenditures for gross output, gross investment and GDP by their respective price deflators we get a picture of the relative size of the state and local government sector when price changes have been removed. We use price indexes and price deflators rather than the chain price indexes because the chained-dollar values for components of GDP usually do not sum to the chained value of GDP.²⁰

When state and local expenditures and GDP are measured in 2009 dollars (the solid orange line in Exhibit 4), we find that the trend in the ratio of state and local expenditures relative to GDP is similar to the trend in the ratio of expenditures to GDP when measured in current dollars for the 24-year span from 1960 to 1984.

The ratio of state and local expenditures to GDP rose from approximately 17 percent in 1960 to about 20 percent in 1975, and fell rapidly to 16.7 percent in 1984.

After 1984, the trends in the ratio of state and local expenditures to GDP in constant 2009 dollars and current dollars diverged. While state and local expenditures grew faster than GDP from 1984 to 2009, constant dollar GDP grew faster than constant dollar state and local expenditures. During the 25-year period from 1984 to 2009, the ratio of state and local expenditures to GDP in constant 2009 dollars fell from 16.7 percent to 15.5 percent in 2009. In 2015, that ratio had fallen further to 13.0 percent.

There are four distinct phases in the relative size of the state and local government sector during the period under discussion. Between 1960 and 1975, an increasing share of the nation's output was absorbed by the state and local government sector, and from 1975 to 1984 the reverse was true. Between 1984 and 2009, the share of the nation's output devoted to the state and local government sector, measured in constant dollars, has fallen although the reverse is true when measured in current dollars. As a result of the Great Recession, the relative impact of the state and local government sector on the aggregate has declined since 2009.

Thus, "Baumol's Disease"—rising costs in the public sectors relative to the general economy—resulted in the generally upward trend in the cost of providing public services while the real level of public services, relative to the overall economy, fell.²¹ Bates and Santerre, using multiple regression analyses, found that Professor Baumol's original hypothesis is supported by empirical evidence—the differing rates of productivity growth in the state and local government sector and the general economy are responsible for some of the rising costs in this sector.²²

One should exercise a note of caution when interpreting these results. Public sector outputs are valued by the cost of the inputs used to provide public services; therefore, it is very difficult to measure productivity changes, if any, in the public sector. Furthermore, quality improvements, if any, in public services would reduce the cost of providing public services relative to the output of private goods and services, i.e., the slopes of ratio of state and local government consumption and gross investment to GDP, in both current and constant 2009 dollars, would be flatter.

Exhibits 5 and 6 break out gross investment and adjusted consumption, as a percentage of GDP, in both current and 2009 dollars, respectively. Gross investment as a percentage of GDP declined from the peak in 1967, from 3.0 percent when measured in current dollars and 3.9 percent in constant 2009 dollars, to the trough in 1983, when the ratio of gross investment to GDP was 1.9 percent in current dollars and 2.1

percent in 2009 dollars. Between 1983 and 2002, the ratio of gross investment to GDP rose to 2.4 percent in current dollars and 2.8 percent in constant 2009 dollars. The trends for these ratios diverged between 2002 and 2009, when both were 2.5 percent. Both ratios declined to approximately 1.9 percent in 2014 and 2015. Interestingly, in the 1967 to 1983 period, which had a large drop in the ratio of gross investment to GDP, the level of current dollar gross investment did not decline. However, gross investment fell from \$363.0 billion in 2009 to \$331.3 billion in 2014 and rose to \$347.4 billion in 2015.

Exhibit 6 presents the trends of the ratio of state and local government consumption of goods and services to GDP, in both current and constant 2009 dollars. Because consumption expenditures are much greater than gross investment expenditures, the trends shown in Exhibit 6 are quite similar to the trends shown in Exhibit 4. The effects of "Baumol's Disease" are apparent here—basically upwardly rising costs in providing public services in current dollars, but the trend in the ratio of real services, per dollar of GDP, are declining.

Consumption and investment are a subset of all state and local spending. In the next sections we examine how state and local government expenditures are divided by type of expenditure and by function.

Expenditures by type

In order to produce and provide their wide array of services, state and local governments hire workers; purchase supplies and services from vendors; invest in computer software, equipment and structures; and pay interest on debt for prior purchases. Included in spending by type are capital consumption allowances which provide a measure of the capital used to provide and produce public services. These allowances are subtracted from gross investment to avoid double counting. In addition to providing public services, state and local governments provide social benefits to persons in the form of direct payments and payments to vendors who provide benefits to persons. This type of spending has been the fastest growing part of state and local spending during the period covered.

Exhibit 7 presents the changing composition of state and local government expenditures, by type, 1960 to 2015. Adjusted consumption expenditures (gross output less own-account investment) has been the most consistent form of expenditure—ranging from a low of 67.7 percent of total expenditures in 1960, to nearly three-fourths of all expenditures in 1982 (not shown). Social benefit payments to persons, primarily Medicaid and other types of medical assistance but also including aid to families, and education assistance grew by an average of 9.4 percent annually from 1960 to 2015, rising from 8.1 percent of expenditures in 1960 to more than one-fifth of all state and local expenditures in 2015.

Conversely, net investment (gross investment plus net purchases on non-produced assets less consumption of fixed capital) grew by an average annual rate of 4.3 percent. Total expenditures and gross output, for example, grew by 7.7 percent per year on average during this time period. In 1963, net investment was \$13.59 billion, or nearly one-fifth of total expenditures. In 2013 (the lowest proportion of expenditures) net investment of \$94.0 billion amounted to only 3.3 percent of all state and local expenditures.

Expenditures by function

The preceding section examined state and local expenditures in terms of *how* those governments spent the money—compensation of workers, purchases of goods and services from private vendors, investment, social benefits and interest payments. In this section expenditures are classified by the purposes of that spending. For the ease of exposition, only six categories of spending are examined: (1) education; (2) health and income security; (3) economic affairs, housing and community services, and recreation and culture; (4) public order and safety; (5) general public services; and (6) interest payments.

Expenditures for education include elementary, secondary and higher education. Expenditures for economic affairs include highways, transit, railroads, other transportation, agriculture, energy, natural resources, publicly owned liquor stores, state administered lotteries, pari-mutuels and other commercial activities. Expenditures for housing and community services include expenditures for sanitation. Medicaid expenditures account for the bulk of health expenditures. Sales to other sectors were excluded from consumption spending for these functional categories for the sake of consistency with the measure of expenditures in the previous section.

Expenditures by the six major functions are presented in Exhibit 8. Education expenditures (elementary, secondary, higher education and libraries) averaged slightly less than one-third of all state and local spending from 1960 to 2014, exhibiting a very modest downward trend from the late 1960s.²³ Conversely, health and income security expenditures—primarily Medicaid—rose from approximately 15 percent of state and local expenditures in 1960 to nearly 30 percent of all spending in 2014. Expenditures for economic affairs—transportation, agriculture, natural resources, and commercial activities—housing and community services, and recreation and culture, accounted for nearly one-third of all state and local expenditures in 1960. In 2014, these expenditures accounted for 17.4 percent of all state and local spending. Public order and safety expenditures, including corrections, as a percentage of all state and local spending rose fairly steadily from 7.8 percent in 1960 to 10.7 percent in 2000 but has slowed somewhat since then.

Exhibit 9 shows gross investment as a percentage of selected expenditures by function for selected years 1960 to 2014. Net interest payments are excluded because there are no capital expenditures associated with this function. Gross investment accounted for a smaller share of these selected functional categories of spending in the latter part of the period than in the earlier years. The decline in gross investment for health is due to the rise of vendor payments under Medicaid rather than state and local governments constructing and maintaining their own hospitals and clinics.

Gross investment as a proportion of spending for economic affairs—transportation, agriculture, natural resources, and commercial activities—and housing and community services and recreation and culture—the most capital intensive functional categories of spending—also declined during the period studied. In the beginning of the period, capital spending accounted for nearly one-half of the spending for these functions; capital spending has accounted for less than 40 percent of total spending for the past 30 years. Gross investment was more than 10 percent of all spending in 2014. In contrast, gross investment accounted for nearly one-fourth of all spending in 1960.

Exhibit 10 presents the distribution of gross investment by function for selected years 1960 to 2014. For example, slightly less than 91 percent of all gross investment went for economic affairs and education in 1960; in 2014 that ratio had declined to approximately 82.6 percent. Health and income security was the only functional grouping of expenditures to have received a fairly constant increase in the share of gross investment.

Revenues

Most analysts of state and local fiscal affairs focus most of their attention on taxes and/or grants-in-aid from the federal government when analyzing trends in state and local revenues. Indeed, these sources do constitute the major share of state and local government revenues. In addition to these revenue streams, there are other significant revenue sources used by state and local governments: business receipts, income receipts on assets,²⁴ transfers from individuals and businesses,²⁵ and social insurance revenues. In this article, business receipts consist of sales to other sectors as described in the section on expenditures by type and the current surplus of government enterprises: water and sewerage, gas and electricity, toll facilities, liquor stores, air and water terminals, housing and urban renewal, public transit, lotteries, gaming administered by Native American tribal governments, off-track betting, local parking and miscellaneous activities.²⁶

In 1960, business receipts totaled \$5.1 billion, or 10.0 percent of state and local revenues and 11.4 percent of state and local government revenues from their own sources.²⁷ In 2015, business receipts were \$432.7 billion—15.3 percent of state and local government revenues and 19.3 percent of state and local government revenues from their own sources. Other non-tax receipts accounted for about 4.0 percent of state and local own-source revenues in 1960 and slightly less than 14.0 percent in the late 1980s. In 2015, the other non-tax revenues other than business receipts were approximately \$220 billion, or slightly more than 10 percent of state and local government revenues from their own sources.

One measure of the resources extracted by state and local governments is shown in Exhibit 11—the ratios of taxes and revenues from own sources to Net Domestic Product (NDP) from 1960 to 2015.²⁸ Both taxes and own-source revenues, as a percent of NDP, rose sharply between 1960 and 1972, but especially rapidly between 1967 and 1972. Taxes rose from about 8.6 percent of NDP in 1967 to 10.8 percent in 1972. The corresponding rise for own-source revenue was from 11.2 percent in 1967 to 13.4 percent in 1972.

Between 1979 and 1991, tax revenues as a percent of NDP rose modestly from 9.5 percent to 10.5 percent. Conversely, own-source revenues, as a percent of NDP rose fairly sharply—from 13.0 percent to 15.4 percent during the same period. The ratios of tax revenues and own-source revenues to NDP were fairly constant from 1992 to the "bump" between 2007 when both taxes and own-source revenues peaked at 10.9 percent and 15.9 percent respectively. Since 2007, taxes as a percent of NDP have fallen to 10.4 percent and own-source revenues have fallen to 15.2 percent.

The Rockefeller Institute attributes the recent relative decline in tax revenues to slow wage growth and lagging employment in many states, as well as weak capital gains. Sales tax revenues have also slowed as consumer durable purchases have declined, and corporate income tax revenues have also declined. The slow growth in state tax revenues has been offset to some extent by rising property tax revenues.²⁹

The next parts of this section will examine the trends in the composition of all state and local government revenues between 1960 and 2015, trends in own-source revenues, and tax revenues.

All revenues

When taking an extremely broad view of state and local government finances, it is clear that the sources of revenue of state and local governments have changed significantly over the period studied (see Exhibit 12). In 1960, tax revenues plus contributions to government social insurance accounted for 74.2 percent of state and local government revenues. Since 1992, tax revenues plus contributions to government social

insurance have provided less than 60 percent of all state and local government revenues. Conversely, non-tax revenues, excluding federal grants-in-aid, accounted for less than 13 percent of all state and local revenues in 1960. In 1997, these revenues had nearly doubled in relative importance for state and local governments—providing over one-fourth of state and local government revenues. Since 1997, this ratio has dropped slightly, providing somewhat more than 23 percent of all state and local government revenues.

Business receipts (sales to other sectors plus the surplus of government enterprises) accounts for the bulk of non-tax revenues, excluding federal grants-in-aid. As noted previously, sales to other sectors consist primarily of hospital room charges and tuition and other charges at state and local institutions of higher learning. These revenues have become increasingly important for state and local governments.

In 2012 and 2013, these revenues accounted for slightly less than 16 percent of state and local government revenues from all sources and about 80 percent of non-tax revenues, excluding federal grants-in-aid. Conversely, these revenues provided between 10 and 12 percent of all state and local revenues from 1960 to 1985. The relative importance of income receipts on assets (interest and miscellaneous receipts and dividends) plus net transfers from businesses and individuals grew from 3.4 percent of revenues in 1960 to about 11.0 percent in 1986 and 1987. In 2015, these receipts accounted for less than 8 percent of state and local government revenues.

Federal grants-in-aid grew at an average annual rate of 8.3 percent between 1960 and 2015—significantly faster than all state and local government revenue (7.7 percent) and own-source revenues (7.6 percent) and tax revenues (7.3 percent). Between 1960 and 2015, federal grants-in-aid provided nearly 19 percent of all state and local government revenues, and were the largest source of revenue, in the aggregate, after taxes plus contributions for social insurance.³⁰ Grants-in-aid, as a percentage of state and local government revenue, rose rapidly between 1960 and 1971—from 13.2 percent of all revenues to 18.7 percent of all revenues.

With the adoption of the General Revenue Sharing program in 1972, the ratio of federal grants-in-aid to state and local government revenue rose even faster—reaching 23.3 percent of all state and local revenue in 1978. The program was cut back somewhat in 1979 and was ended in 1986. During the 14 years of the program's operation, a total of \$85 billion was distributed to states and local governments.³¹

Grants-in-aid provided less than 14 percent of state and local government revenue in 1989. Between 1992 and 2000, grants-in-aid accounted for approximately 17 percent of state and local government revenues; this proportion ranged from 18.0 to 20.0 percent during the recession in the early 2000s. Grants-in-aid as a proportion of state and local revenues peaked at 23.0 percent in 2010 because of enactment of the

American Recovery and Reinvestment Act which expanded many existing grants-in-aid programs as part of the overall stimulus package.

The composition and purpose of federal grants-in-aid has changed greatly during the time period studied (see Exhibit 13). For example, in 1960, 92 percent of federal grants were for economic affairs and housing and community development (45 percent) and health and income security (47 percent). In 1966, grants for economic affairs, housing and community development, and health and income security were 80 percent of all grants.

As a result of the enactment of the Elementary and Secondary Education Act (ESEA)—which offered new grants to districts serving low-income students, offered federal grants for text and library books, created special education centers, and created scholarships for low-income college students—total grants for education accounted for 19 percent of all grants in that year, up from 8.0 percent in the previous year.³² The sharp increase in grants for general public services in the early 1970s is due to the enactment of the general revenue sharing program. Since 1992, federal grants-in-aid for health and income security, as a proportion of all federal grants-in-aid, have ranged between 70 percent and 75 percent.

Own-source revenues

The exclusion of federal grants-in-aid from discussion of trends in state and local government revenues allows for a closer examination of trends in the means by which these governments raise revenues. Basically, the exclusion of grants-in-aid from total revenues significantly changes the trends in the sources of revenues for state and local governments.

For example, tax receipts, which accounted for nearly 85 percent of state and local government own-source revenues (SLOS) in 1960, were about 71 percent in 2015. Conversely, business receipts, which include sales to other sectors and the surplus of government enterprises, accounted for 11.4 of SLOS in 1960 but 19.3 percent of SLOS in 2015. Net transfers from the private sector which totaled \$500 million in 1960, accounting for approximately 1 percent of SLOS, were \$142 billion in 2015—more than 6 percent of SLOS. Exhibit 14 presents the composition of SLOS for selected years 1960 to 2015.

Tax revenues

As with own-source revenues, the composition of state and local tax revenues has changed dramatically over the last 55 years, as shown in Exhibit 15. For example, property taxes on real and tangible personal

property were more than 43 percent of all tax revenues in the early part of the period but accounted for about 30 percent of all tax revenues beginning in 1980. One possible explanation for the decline in the relative importance of property taxes in state and local finances is the adoption of property tax limitations by some state and local governments in the late 1970s. Similarly, the contributions to state and local tax receipts provided by selected excise taxes—such as tobacco and alcoholic beverage taxes, gasoline taxes, and amusement taxes—declined, as did the catch all category "all other taxes."

In contrast to the declining relative importance of other forms of taxation, general sales taxes and individual income taxes have increased significantly in relative importance during the period in question. For example, general sales taxes which accounted for 14 percent of all state and local tax revenue in 1960 comprised nearly one-fourth of all tax revenue in 2000. Since 2000, the relative importance of this revenue source has declined slightly.

The rise in the relative importance of general sales taxes during this period can be explained, in part, by the fact that since 1955, 12 states (Idaho, Kentucky, Massachusetts, Minnesota, Nebraska, Nevada, New Jersey, New York, Texas, Vermont, Virginia and Wisconsin) adopted this tax.³³ However, as noted by Professor William Fox, the tax base of the general sales tax has been shrinking since the mid 1990s. Professor Fox attributes the declining tax base to three factors: (1) legislative narrowing of the tax base, (2) growth in the consumption of services, and (3) the rise of remote commerce and the inability of states to apply their use tax to this form of commerce due to federal law and possibly administrative and political difficulties.³⁴

Professor Fox notes that legislatures have been increasing the tax rates in order to keep revenue losses tolerable; however, one possible outcome of the increases in tax rates is the increase in demand for lightly taxed or untaxed goods or services. David Merriman and Mark Skidmore found that about one-eighth of the increase in service sector receipts between 1982 and 1992 were the result of increases in sales tax rates.³⁵

Since 1955, 11 states (Connecticut, Illinois, Indiana, Maine, Michigan, Nebraska, New Jersey, Ohio, Pennsylvania, Rhode Island, and West Virginia) have either adopted or extended (Connecticut) individual income taxes, which explains part of the increase in the relative importance of this revenue source in state and local tax revenues.³⁶ Another source of growth of individual income tax revenues for state and local governments is the rise of pass-through business entities, e.g., limited liability partnerships (LLP), limited liability companies (LLC), and Subchapter S Corporations. The income of these entities is characterized as corporate profits although the income is taxed under the individual income tax in states that recognize this form of income.³⁷ Luna and Fox found that income from business entities that are classified as corporations

and whose income is taxed at the personal level can explain part of the relative decline in state corporate income taxes.³⁸

The preceding two sections examined trends in state and local spending and revenues respectively. The next section provides some insights into the future financial conditions of state and local governments.

Longer-Run Projections of State and Local Fiscal Conditions

While state and local government balance sheets may show improvement, the condition of the infrastructure in many states has not been adequately maintained, nor have there been any significant additions to the infrastructure in recent years. Despite the record low interest rates at which these governments could borrow, the aftermath of the Great Recession has induced policy makers to repay past obligations.³⁹ In addition, there is widespread concern regarding the ability of states to meet their pension obligations. Pension funding gaps (adjusted net pension liabilities as a percent of state revenues) in fiscal year 2012, as reported in *The Economist*, ranged from 7 percent in Nebraska to 241 percent in Illinois.⁴⁰

Researchers at the Federal Reserve Bank of Boston also predict that trend gaps for state and local governments are likely to grow in the future because of the probability of finding larger unfunded pension gaps, potentially large cuts in federal grants-in-aid to state and local governments, and below-trend growth in the economy resulting in higher-than-trend unemployment.⁴¹

While it is generally agreed that an aging population will put pressure on state and local government budgets as a result of increased health care costs and social service expenditures, there may be downward pressure on other types of spending. That could, to some extent, mitigate part of the fiscal stress of state and local governments, some of which has been noted previously. For example, as noted by Richard Dye, there will be relatively less need for major investments in education, transportation infrastructure, and prisons as a result of an aging population.⁴²

Perhaps the direst projections for the deteriorating fiscal conditions of state and local governments come from the U.S. Government Accountability Office (GAO) in their 2015 update.⁴³ The GAO simulations, which assume no changes in either expenditure or tax policies, show a deficit, measured by the negative net operating balance⁴⁴ relative to current expenditures, rising from approximately 4.54 percent of expenditures in 2005 to approximately 9.5 percent in 2015 and then falling to near balance in 2064 (see Exhibit 16).

According to the authors: "[A] primary driver of long-term fiscal challenges for the state and local government sector continues to be the growth in health-related costs. Specifically, state and local Medicaid expenditures and the cost of health care compensation for state and local government employees and retirees generally grow at a rate that exceeds GDP."⁴⁵

It should be noted that the long-term projections of the fiscal conditions of state and local governments as presented by the GAO simulations, the pension funding gaps as reported, or the widening trend gaps as reported by the researchers at the Federal Reserve Bank of Boston reflect possible outcomes based on current conditions and policies; they are not the only possible outcomes of future conditions.

Summary and Conclusion

The fiscal systems of state and local governments have undergone major changes over the past 55 years as a result of changing demographics, costs of providing certain services, and shifting priorities. The composition of state and local spending has changed dramatically, both in terms of the type and the functional breakdown during this period. The most noticeable change in the type of spending has been the growth of spending for social welfare benefits and health, which has far outstripped the growth in spending on infrastructure (measured by growth in net investment spending). Consumption spending (labor compensation, purchases of intermediate goods and services) has remained fairly constant as a proportion of total spending, and total spending on consumption and gross investment, in current dollars, has outstripped the growth of GDP.

However, when both state and local spending on consumption and GDP are deflated by their respective price deflators, a totally different picture emerges—state and local spending, as a share of real GDP, has generally fallen each year since 1975. Despite the falling share of GDP represented by constant dollar spending on consumption and gross investment, state and local spending accounts for about 15 percent of U.S. GDP. However, to some observers, the major change in the focus of state and local governments away from investment and toward social welfare benefits has resulted in inadequate roads, bridges, and water supply systems.

The most important change in the functional breakdown of state and local spending is the growth of spending on health care, primarily Medicaid. In 2015, health care spending constituted somewhat less than 24 percent of state and local spending; in contrast, health care spending constituted about 8 percent of spending in 1960. Conversely, spending for economic affairs—highways, airports, port facilities,

etc.--accounted for more than one-fifth of spending in 1960 but 11.6 percent in 2015. Expenditures for education (elementary, secondary, higher and libraries), as a proportion of all spending, varied, between less than 31 percent in 2015 to a high of 35.6 percent in 1970.

To some extent, the change in the distribution of state and local spending has been influenced by the changing distribution of federal grants-in-aid to state and local governments, assuming that state and local governments "follow the money." At the beginning of the time period studied, about 85 to 90 percent of federal aid to state and local governments was divided almost equally between grants for highway construction and grants for income support. By the last few years of the period studied, the composition of grants had changed significantly. Between 2009 and 2014, grants for health (primarily Medicaid), education, and income support comprised between 75 to 80 percent of federal grants to state and local governments. Grants for economic affairs comprised approximately 15 percent of grants.

As noted by researchers at the Federal Reserve Bank of Boston and the GAO, state and local governments will face severe fiscal challenges in the years ahead. To meet these challenges, states and localities are searching for new sources of revenue and attempt to provide those services that are valued by taxpayers more efficiently and cut those that are not so valued. In the words of the late Steven Gold, an eminent authority on state and local government finance: "A fiscal crisis is the ideal time for rethinking existing policies and undertaking new initiatives."⁴⁶

The fact that Gold's words were written 20 years ago underscores the reality that these crises are recurring and the steps taken by state and local governments, while helpful, will not eliminate cyclical fiscal stress. Furthermore, as noted by Dye, it is probably not politically possible for the share of GDP devoted to spending on Social Security, Medicare, Medicaid and social services to increase indefinitely.⁴⁷

Exhibit 1. Six Month Percent Change in Coincident Indicators at Annual Rates

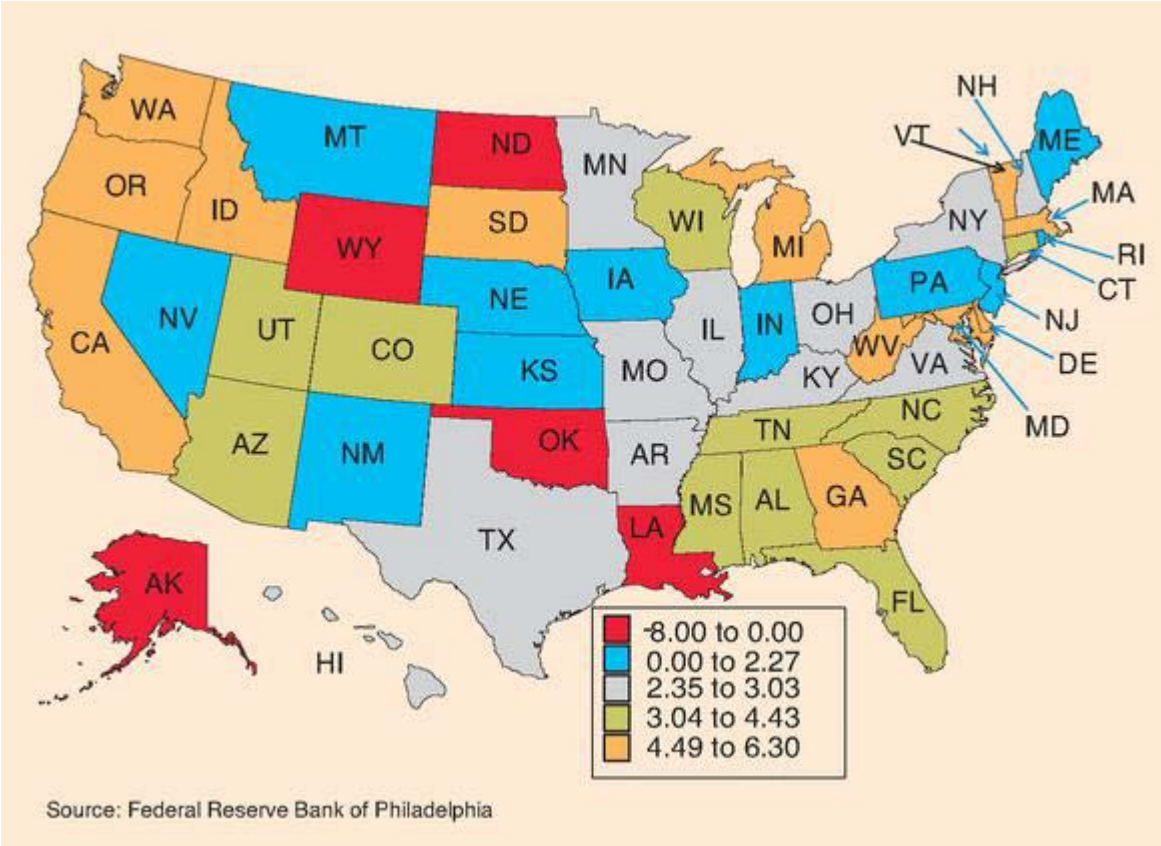


Exhibit 2. Projected Six Month Change in Coincident Indicators, May 2016

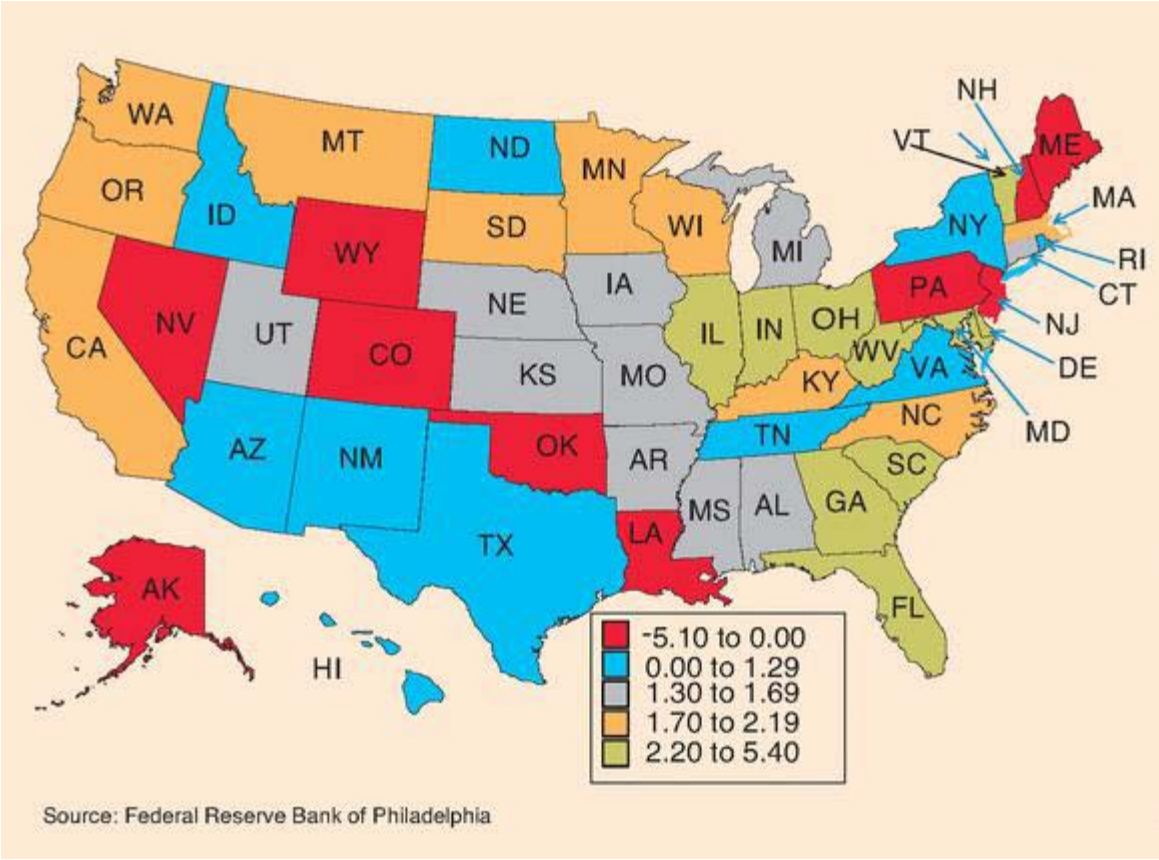


Exhibit 3. State and Local Expenditures Total (billions of dollars) and per Household, 1960 to 2015

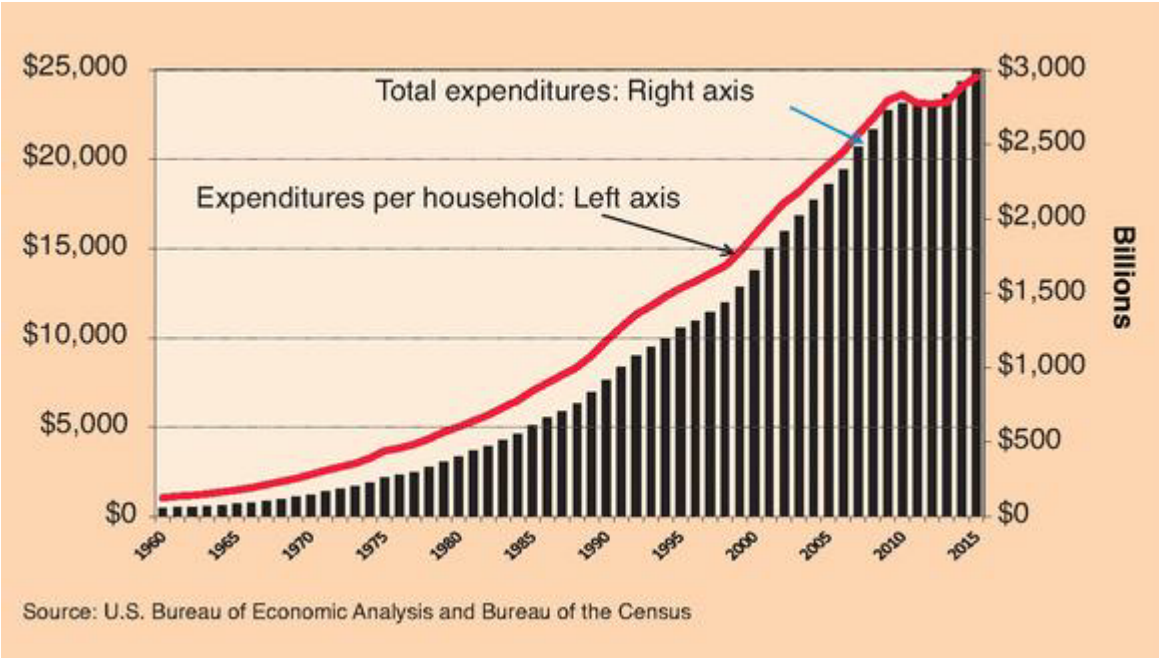


Exhibit 4. State and Local Expenditures for Consumption and Gross Investment as Percent of GDP, 1960 to 2015: Current and Constant 2009 Dollars

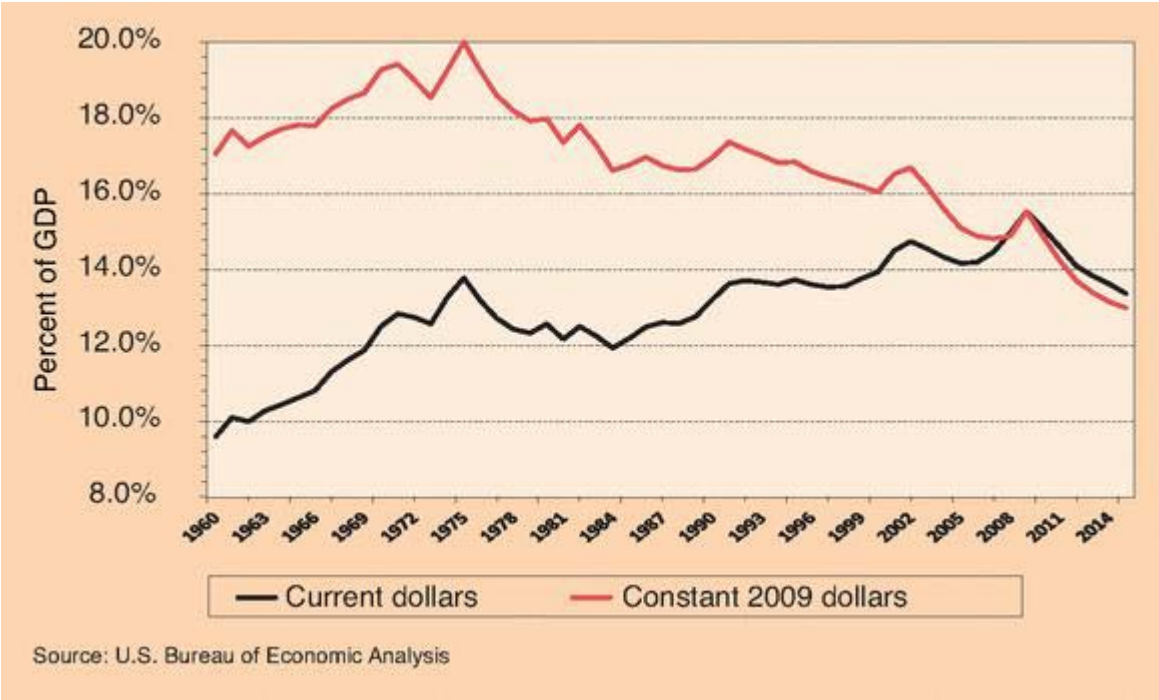


Exhibit 5. State and Local Expenditures for Gross Investment as Percent of GDP, 1960 to 2015: Current and Constant 2009 Dollars



Exhibit 6. State and Local Expenditures for Consumption as Percent of GDP, 1960 to 2015: Current and Constant 2009 Dollars



Exhibit 7. State and Local Government Expenditures by Type, Selected Years 1960 to 2015

Year	Total expenditures	Consumption ¹	Transfer payments ²	Interest plus subsidies	Net investment ³	Consumption ¹	Transfer payments ²	Interest plus subsidies	Net investment ³
	(billions)					Percent of total expenditures			
1960	\$56.1	\$38.0	\$4.6	\$3.0	\$10.5	67.7%	8.2%	5.3%	18.7%
1965	85.1	57.8	6.7	4.5	16.1	67.9	7.9	5.3	18.9
1970	148.5	105.2	16.1	7.7	19.5	70.8	10.8	5.2	13.1
1975	261.4	188.2	30.8	16.9	25.5	72.0	11.8	6.5	9.8
1980	406.0	294.0	51.2	26.0	34.8	72.4	12.6	6.4	8.6
1985	611.0	442.6	77.3	47.6	43.5	72.4	12.7	7.8	7.1
1990	918.8	657.7	127.7	62.2	71.2	71.6	13.9	6.8	7.7
1995	1,265.3	892.5	217.6	76.9	78.3	70.5	17.2	6.1	6.2
2000	1,650.2	1,200.9	271.4	52.6	125.3	72.8	16.4	3.2	7.6
2005	2,233.2	1,564.5	406.6	112.2	149.9	70.1	18.2	5.0	6.7
2010	2,774.4	1,907.1	523.8	193.7	149.8	68.7	18.9	7.0	5.4
2015	3,008.6	2,052.1	659.9	188.9	107.7	68.2	21.9	6.3	3.6

¹ Includes: compensation of general government employees; capital consumption allowances of general government; and purchases of intermediate goods and services less own-account investment.

² Includes: Temporary Disability Insurance; Workmen's Compensation; public assistance (primarily Medicaid); and other programs (see National Income and Product Accounts, Table 3.12).

³ Includes: gross investment (expenditures for structures and equipment; research and development); net purchases of non-produced assets; and capital transfers; less capital consumption allowances.

Source: U.S. Department of Commerce, Bureau of Economic Analysis

Exhibit 8. State and Local Government Expenditures by Major Function, Selected Years 1960 to 2014

Year	Total Expenditures	Education	Health and income security	Economic affairs, housing and community development, and recreation and culture	Public order and safety	General public service	Interest payments
	(billions)	(Percent of total)					
1960	\$59.7	32.8%	15.4%	32.7%	7.9%	6.2%	5.0%
1965	90.1	34.7	15.3	31.6	7.2	6.1	5.0
1970	158.6	35.9	18.9	26.2	7.4	6.8	4.9
1975	280.6	34.6	20.2	23.5	7.7	8.1	6.0
1980	436.8	32.8	21.6	23.8	8.0	7.9	5.9
1985	654.9	31.8	22.3	21.7	8.8	8.3	7.2
1990	980.3	32.2	23.8	20.2	9.6	7.9	6.3
1995	1,347.0	31.4	27.3	18.3	10.0	7.3	5.7
2000	1,757.9	33.3	26.2	19.1	10.7	7.8	3.0
2005	2,381.1	31.8	27.4	18.7	10.2	7.2	4.7
2010	2,975.9	31.4	27.7	17.9	9.9	6.7	6.5
2014	3,154.8	30.9	29.6	17.4	9.9	6.5	5.8

Source: U.S. Bureau of Economic Analysis

Exhibit 9. Gross Investment as a Percent of Selected Functions, 1960 to 2014

Year	All Functions	Education	Health and Income security	Public Order and Safety	General Public Services	Economic affairs, housing and community development, and recreation and culture
1960	23.6%	17.9%	4.4%	4.3%	13.5%	48.7%
1965	23.5	17.6	4.4	4.6	16.4	48.8
1970	18.5	13.4	4.0	5.1	12.0	45.0
1975	15.9	10.7	4.3	5.6	14.0	41.4
1980	15.0	8.7	3.6	6.0	11.5	42.0
1985	13.3	8.2	3.2	6.6	10.0	39.8
1990	13.5	9.7	3.1	8.8	13.0	38.8
1995	11.9	10.5	2.3	5.9	13.7	34.8
2000	13.3	12.1	2.2	5.2	16.9	35.4
2005	12.2	11.8	2.2	4.0	14.0	34.3
2010	11.8	10.9	2.5	3.7	11.7	36.8
2014	10.5	9.4	2.3	3.2	10.0	34.3

Source: U.S. Bureau of Economic Analysis

Exhibit 10. Distribution of Gross Investment by Function, Selected Years 1960 to 2014

Year	Total gross investment	Economic affairs	Education	Housing and community services	General public service	Health and income security	Public order and safety	Recreation and culture
	(billions)	Percent of total						
1960	\$14.1	50.35%	24.82%	15.60%	3.55%	2.84%	1.42%	1.42%
1965	21.2	49.06	25.94	15.09	4.25	2.83	1.42	1.42
1970	29.3	47.78	25.94	13.99	4.44	4.10	2.05	2.05
1975	44.6	41.93	23.32	16.37	7.17	5.16	2.69	2.91
1980	65.7	44.75	18.87	19.33	6.09	5.18	3.20	2.44
1985	87.3	46.05	19.59	16.27	6.19	5.38	4.35	2.29
1990	132.2	39.56	23.15	15.89	7.56	5.45	5.67	2.72
1995	160.0	38.00	27.69	13.25	8.38	5.19	5.00	2.44
2000	232.9	37.10	30.44	10.99	9.92	4.38	4.16	2.96
2005	290.8	36.80	30.81	13.14	8.29	4.95	3.34	2.68
2010	351.9	38.39	28.90	15.00	6.59	5.83	3.07	2.22
2014	331.3	41.87	27.62	13.13	6.13	6.34	3.05	1.90

Source: U.S. Bureau of Economic Analysis

Exhibit 11. State and Local Revenues from Own Sources and Tax Revenues as Percent of Net Domestic Product, 1960 to 2015



Exhibit 12. State and Local Government Revenues by Major Source, 1960 to 2015, Percent of Total Revenues

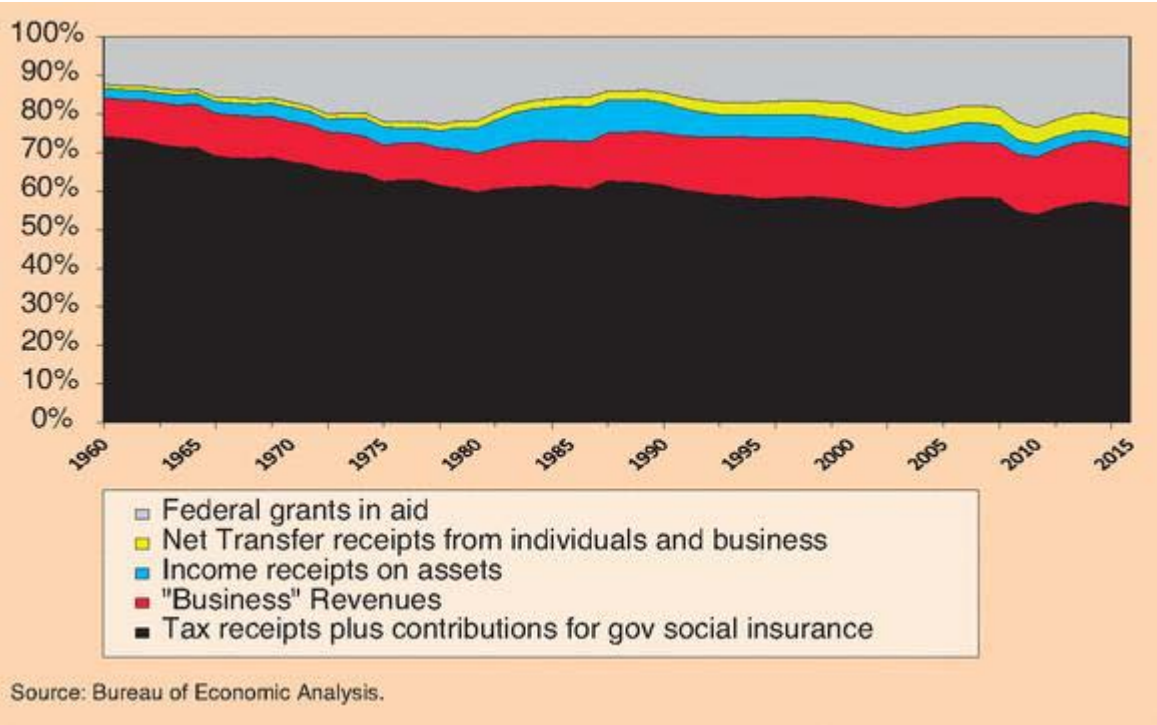


Exhibit 13. Federal Grants-in-Aid to State and Local Governments by Major Function, 1960 to 2014

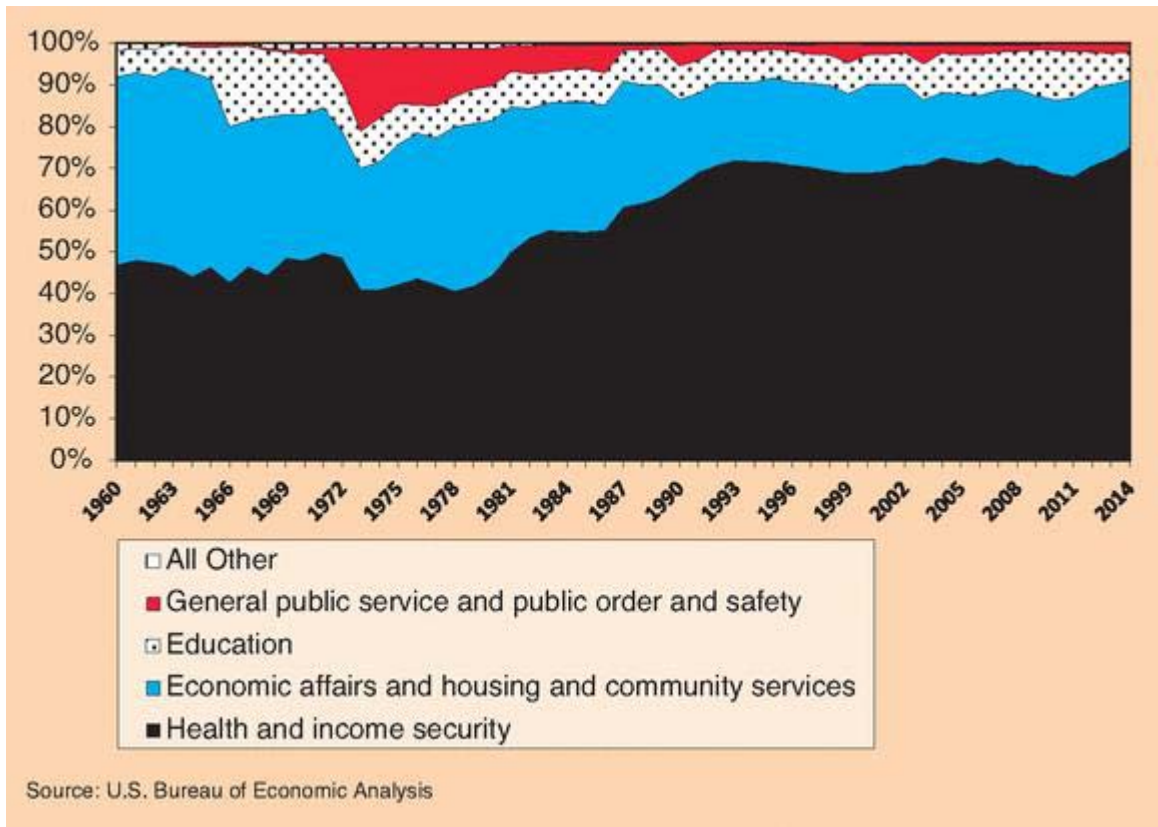


Exhibit 14. State and Local Revenues from Own Sources, Selected Years 1960 to 2015

Year	Revenues from own sources	Taxes ¹	Business receipts ²	Income receipts on assets	Current transfer receipts from businesses and individuals ³	Taxes ¹	Business receipts ²	Income receipts on assets	Current transfer receipts from businesses and individuals ³
	(billions)					(Percent of revenues from own sources)			
1960	\$44.9	\$38.0	\$5.1	\$1.3	\$0.5	84.63%	11.36%	2.90%	1.11%
1965	67.3	55.5	8.8	2.2	0.8	82.47	13.08	3.27	1.19
1970	114.9	93.5	14.4	5.2	1.8	81.38	12.53	4.53	1.57
1975	188.3	150.8	22.7	11.2	3.6	80.08	12.06	5.95	1.91
1980	309.2	235.9	39.8	26.3	7.2	76.29	12.87	8.51	2.33
1985	514.1	371.2	73.7	55.6	13.6	72.20	14.34	10.82	2.65
1990	741.0	533.3	117.2	68.5	22.0	71.97	15.82	9.24	2.97
1995	986.1	690.8	186.2	69.1	40.0	70.05	18.88	7.01	4.06
2000	1,309.2	911.5	237.2	93.9	66.6	69.62	18.12	7.17	5.09
2005	1,678.7	1,196.4	300.7	88.6	93.0	71.27	17.91	5.28	5.54
2010	1,886.3	1,328.1	369.0	82.6	106.6	70.41	19.56	4.38	5.65
2015	2,238.4	1,585.8	432.7	78.0	141.9	70.85	19.33	3.48	6.34

¹ Includes general taxes, estate and gift taxes, and contributions for government social insurance.

² Includes sales to other sectors and surplus of government enterprises

³ Includes deposit insurance premium, net insurance settlements, donation, fines fees, certain penalty taxes, and excise taxes paid by non-profit institutions serving households

Source: U.S. Bureau of Economic Analysis

Exhibit 15. State and Local Tax Revenues by Major Source, Selected Years 1960 to 2015

Year	All taxes	Property taxes	General sales taxes	Individual income taxes	Selected excise taxes	Taxes on corporate income	All other ²
	(billions)	(Percent of total)					
1960	\$37.5	43.2%	14.1%	6.7%	18.1%	3.2%	14.7%
1965	54.7	42.4	15.7	8.0	17.6	3.7	12.6
1970	92.4	39.7	18.4	11.8	15.9	4.0	10.2
1975	149.0	35.8	20.4	15.1	14.3	4.9	9.5
1980	232.3	29.6	23.1	18.3	12.6	6.2	10.2
1985	366.3	29.3	24.0	19.7	11.8	5.5	9.7
1990	523.3	30.9	24.0	20.9	11.2	4.3	8.7
1995	677.2	29.9	24.3	20.9	11.6	4.7	8.6
2000	900.7	28.3	24.6	24.1	10.6	3.9	8.5
2005	1,171.8	30.0	23.5	21.5	10.8	4.7	9.5
2010	1,310.0	33.2	22.5	20.4	11.6	3.6	8.7
2015 ¹	1,567.0	29.5	23.0	24.0	11.4	3.8	8.2

¹ Estimated

² Includes personal license taxes (hunting, fishing, and motor vehicle), business motor vehicle licenses, other business licenses, special assessments, severance taxes, estate and gift taxes, and documentary and stamp taxes.

Source: U.S. Bureau of Economic Analysis

Exhibit 16. State and Local Government Operating Balance as Percent of State and Local Government Expenditures, Selected Years 2005 to 2064



¹ <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&903=88> and <http://www.bls.gov/web/empst/ceseeb1a.htm>.

² http://www.bea.gov/iTable/index_nipa.cfm

³ In general, net national product, or net domestic product is the most appropriate aggregate output measure for estimating the total burden of taxation. See *The Tax Burden in Relation to National Income and Product, Research Aid No. 4*, Tax Foundation, Inc., Washington, DC, September 1957, at 21.

⁴ Serdar Yilmaz, François Vaillancourt, and Bernard Dafflon, *State and Local Government Finance: Why It Matters*, The Oxford Handbook of State and Local Government Finance, 2012, Robert D. Ebel and John E. Petersen, editors, at 129.

⁵ <http://www.census.gov/govs/cog/GovOrgTab03ss.html>.

⁶ http://www2.census.gov/govs/local/summary_report.pdf.

⁷ <http://www.taxpolicycenter.org/search?filter=State+economic+monitor>.

⁸ Lucy Dadayan and Donald J. Boyd, *Slowing Growth in State Tax Revenues*, State Revenue Report, June 2016, No. 103, at 2.

⁹ <https://www.phil.frb.org/research-and-data/regional-economy/indexes/coincident>.

¹⁰ Dadayan and Boyd, *supra* note 8, at 4.

¹¹ <http://www.bea.gov/itable/>.

¹² Consumption of fixed capital is an estimate of the value of capital used to produce the output.

¹³ An example of own-account production of structures is government employees build an addition to a public building.

¹⁴ Bruce E. Baker and Pamela A. Kelly, *A Primer on BEA's Government Accounts*, Survey of Current Business, U.S. Bureau of Economic Analysis, March 2008, at 29.

¹⁵ <http://www.bea.gov/glossary/glossary.cfm?letter=G>.

¹⁶ *Id.*

¹⁷ American Society of Civil Engineers, *Failure to Act, Closing the Infrastructure Spending Gap for America's Economic Future*, 2016, at 11.

¹⁸ Government consumption and gross investment are components of GDP. See <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&903=6>.

¹⁹ William J. Baumol, *Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis*, *The American Economic Review*, Volume 57, No. 3, June 1967, at 515-526.

²⁰ Bureau of Economic Analysis, <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1>.

²¹ The differences in the relative rates of change in the cost of providing state and local government services relative to GDP may be approximated by the change in the relative price deflators. From 1960 to 2015, the GDP price deflator rose by an average annual rate of 3.4 percent. The average annual rate of change for the state and local price deflator for gross investment was 3.9 percent per year and 4.7 per year for adjusted consumption expenditures. See NIPA tables 3.10.4 and 1.14.

²² Laurie J. Bates and Rexford E. Santerre, *Does Baumol's Disease Account for Nonfederal Public Sector Cost Growth in the United States: A New Test for an Old Idea*, *Social Science Quarterly*, Vol. 96, March 2015, at 251-260.

²³ 2014 was the latest year available at the time of this writing.

²⁴ Interest receipts, dividends, rents and royalties.

²⁵ These receipts largely consist of deposit insurance premiums, net insurance settlements, donations, fines, fees, certain penalty taxes, and excise taxes paid by nonprofit institutions serving households.

²⁶ The NIPA treats this category as a measure of "profits" despite the fact that some enterprises, particularly mass transit and public housing, continually operate at a deficit.

²⁷ Total revenues less federal grants-in-aid.

²⁸ Tax Foundation, Inc., *supra* note 3, at 21.

²⁹ Dadayan and Boyd, *supra* note 8, at 11-16.

³⁰ Detailed information on federal grants to state and local government here are found in Table 3.15.5, Government Expenditures for Consumption and Gross Investment by Major Function. Therefore, there may be differences between state and local government revenues from the federal government, see <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&903=88>.

³¹ <http://www.britannica.com/EBchecked/topic/500387/revenue-sharing>.

³² <http://www.ed.gov/esea>.

³³ *Facts and Figures on Government Finance, 2005 Edition*, Tax Foundation, Inc., Washington, DC, at 215.

³⁴ William F. Fox, *Retail Sales and Use Taxation*, *The Oxford Handbook of State and Local Government Finance*, 2012, Robert D. Ebel and John E. Petersen, editors, at 408-410.

³⁵ David Merriman and Mark Skidmore, *Did Distortionary Sales Taxation Contribute to the Growth of the Service Sector?* *National Tax Journal*, Vol. 52, No. 1, March 2000, at 141.

³⁶ Tax Foundation, *supra* note 33.

³⁷ See, for example, William F. Fox and LeAnn Luna, *State Corporate Tax Revenue Trends: Causes and Possible Solutions*, National Tax Journal, Volume LV, No. 3, September 2002, at 491-509; and William F. Fox and LeAnn Luna, *Do Limited Liability Companies Explain Declining State Corporate Tax Revenues?* Public Finance Review, Vol. 33, No. 6, at 690-720.

³⁸ Fox and Luna, *supra* note 37.

³⁹ William Selway and Brian Chappatta, *Bridges Crumble as Muni Rates at Least Since '60s Ignored*, <http://www.businessweek.com/printer/articles/754001?type=bloomberg>.

⁴⁰ *Retirement Benefits: Who pays the Bill?* The Economist, Volume 408, Number 8846, July 27-August 2, 2013, at 24-26.

⁴¹ Bo Zhao and David Coyne, *Walking a Tightrope: Are U.S. State and Local Governments on a Fiscally Sustainable Path?* <http://www.bostonfed.org/economic/wp/wp2013/wp1318.htm>.

⁴² Richard Dye, *The Effect of Demographic Change on State and Local Government Budget*, Institute of Government and Public Affairs, Policy Forum, University of Illinois, Volume 20, Number 1, 2007.

⁴³ U.S. Government Accountability Office, *State and Local Governments' Fiscal Outlook, 2015 Update*, GAO-16-260Sp, April 2016.

⁴⁴ The simulated operating balance measure is all receipts, excluding funds used for long-term investments, minus current expenditures. To develop this measure, GAO subtracts funds used to finance longer-term projects-such as investments in buildings and roads-from receipts, since these funds would not be available to cover current expenses. Similarly, GAO excludes capital-related expenditures from spending. The measure used by the GAO is not synonymous with a negative budget balance.

⁴⁵ GAO, *supra* note 43, at 5.

⁴⁶ Steven D. Gold, *The Fiscal Agenda to the Year 2000*, *The Fiscal Crisis of the States: Lessons for the Future*, Steven D. Gold, editor, Georgetown University Press, Washington DC, 1995, at 392.

⁴⁷ Dye, *supra* note 42.