

# Surveying for Dollars: The Role of the American Community Survey in the Geographic Distribution of Federal Funds

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“In FY2008, 184 federal domestic assistance programs used ACS-related datasets to help guide the distribution of \$416 billion, 29 percent of all federal assistance.”

## Findings

An analysis of federal domestic assistance program expenditures distributed on the basis of American Community Survey-related data indicates that:

- **The accuracy of the American Community Survey (ACS) will determine the geographic distribution of a substantial proportion of federal assistance, particularly in the form of grants.** In FY2008, 184 federal domestic assistance programs used ACS-related datasets to help guide the distribution of \$416 billion, 29 percent of all federal assistance. ACS-guided grants accounted for \$389.2 billion, 69 percent of all federal grant funding.
- **The bulk of ACS-guided federal assistance goes to state governments through a handful of large formula grant programs to aid low-income households and support highway infrastructure.** Medicaid alone accounts for 63 percent of ACS-guided funding. In general, ACS-guided funding is highly concentrated in a small number of programs, recipients (states), departments, and budget functions.
- **State per capita ACS-guided funding is positively related to income inequality (high annual pay, high poverty), Medicaid income limits, and the percent of the population that is rural.** The higher any of these measures, the higher per capita funding tends to be.
- **The ACS facilitates the distribution of federal assistance largely by serving as the basis for six other federal datasets. Most important of these are the Bureau of Economic Analysis' per capita income series and the Census Bureau's population estimates.** The ACS itself is directly used to guide the distribution of about a fifth of the \$416 billion in assistance.

This report's analysis of the distribution of federal funds on the basis of ACS-related data has significant implications for federal, state, and local stakeholders. The nation receives a very substantial return on its investment in ACS-related datasets. Through improved understanding of individual federal program reliance on ACS-related data, the Census Bureau will be better able to provide data and indicators that fit program needs. Advocates for communities and lower-income households now have a dollar-specific rationale for encouraging households to participate in the ACS. State governments have much to gain financially from a more accurate and reliable ACS.

## I. Introduction

The American Community Survey (ACS) is a Census Bureau program that provides annually updated information on demographic, social, economic, and housing characteristics of U.S. households at every level of geography, from the nation to the neighborhood. ACS data are used by public and business decision-makers to more clearly identify issues and opportunities and more effectively allocate scarce resources to address them.

While the ACS is a relatively new program (full implementation began in 2005), it is the most recent iteration of a long-standing federal tradition of using the decennial census to collect socioeconomic data (that is, data other than traditional demographic data of age, sex, race, and ethnicity) to inform public policy.<sup>1</sup> From 1850 to 2000, such data were collected once a decade, most recently through the decennial census “long form.” However, in times of rapid change, the value of these data decline significantly as the decade progresses. Consequently, the Clinton and Bush administrations requested, and Congress approved, funds for the Census Bureau to continuously collect and annually publish data on socioeconomic and demographic characteristics through the ACS, as part of a “reengineered” decennial census.

In the postwar period, population and housing data collected through the decennial census program have been used by the federal government to guide the equitable geographic distribution of domestic assistance to state and local governments, nonprofit organizations, businesses, and individuals. However, a rigorous, complete analysis of federal assistance program reliance on the ACS has not been carried out. The purpose of this report is to provide the findings of such an analysis—including the amount of ACS-guided funding for the nation, each state, and larger metropolitan (“metro”) areas and counties—as well as a full listing of ACS-guided federal assistance programs.

The report will be useful in three ways:

- It will more clearly inform the administration and Congress about an important dimension of the return on the nation’s investment in the ACS.
- By helping the Census Bureau better understand how the ACS is used to guide the distribution of federal assistance, the report will help the bureau prepare datasets that better meet congressional and federal agency needs and train federal agencies to appropriately use the data.
- The report will provide a dollar-specific rationale for local support of and participation in the ACS.

The next section offers additional background on the ACS. The sections following discuss terms and methodology, findings, and implications for action. Funding tables by geography, as well as a program-specific reference document, are provided on the project’s website ([www.brookings.edu/metro/SurveyingforDollars](http://www.brookings.edu/metro/SurveyingforDollars)).<sup>2</sup>

## II. Background

### ***Pre-History and History of the ACS***

While the constitutionally-mandated purpose of the decennial census is to count the population for the purposes of apportionment, from the very first census the federal government has used it to serve other public policy purposes. In the 1790 census, age categories were used to tell Congress the number of military-age men. Beginning with the 1810 census, detailed data were collected on manufacturing activity.<sup>3</sup> In 1977, Congressional Budget Office Director Alice Rivlin noted in testimony that “The primary rationale for the collection of additional census data, beyond the constitutional requirement of a decennial enumeration of the population, is to provide the federal government with the information it needs to make and implement public policy.”<sup>4</sup>

The federal government has been collecting data on socioeconomic characteristics through the decennial census for 160 years, from the 1850 census to the ACS. In each census between 1850 and 1930, such information was collected on every person living in the U.S. Interestingly, every socioeconomic question asked in 1850 is asked in the ACS today (occupation, place of birth, student status, educational attainment, disability, housing value, and married within the last year).<sup>5</sup>

The role of the decennial census in collecting socioeconomic data changed significantly in 1940 with the introduction of sampling and the housing census. In the economically desperate 1930s, the

federal government recognized the need for detailed socioeconomic data in order to design public policies that might ameliorate difficult conditions. Census Bureau staff, Congress, and Roosevelt Administration policymakers explored alternative approaches to collecting such data. Asking a long list of questions for every person was not feasible; the methodological solution hit upon, innovative for its time, was asking supplementary questions of a residential sample.<sup>6</sup> The 1940 population census included core household questions similar to those asked in earlier years and a new set of supplementary ones. The Census Bureau also created a new census of housing, which asked every household questions of the sort now found on the ACS regarding housing characteristics. The approach to the 1940 census was deemed a success; it was continued in 1950, with some core questions shifted to the supplemental sample.<sup>7</sup>

For the 1960 census, the supplementary questions and a good number of the core population and housing questions were organized into a “long form” that was asked of one-fourth of the nation’s households. The “long form” sample was reduced to 20 percent in 1970 and cut once more to 16.67 percent in 2000.

Recognition of the insufficiency of the once-a-decade collection of demographic and socioeconomic data and efforts to collect them more frequently also has a noteworthy history. As early as 1967, the House Subcommittee on Census and Statistics reported that “Based on hearings held over the past several years. . . and discussions inside and outside the federal government there appears to be a broad consensus that changes in our nation are so great that we need measures more frequently than once every 10 years.”<sup>8</sup> In 1976, Congress authorized a mid-decade census, beginning in 1985. On signing the bill, President Ford made a succinct statement regarding the needs for more current population data.<sup>9</sup> Congress, however, never appropriated the funds for the mid-decade census due to concerns about cost.

In the late 1980s and early 1990s, the Census Bureau and Congress again expressed interest in setting up a program to collect population data more than once a decade. Carrying out research requested by Congress, the Census Bureau chose another methodologically innovative path—a continuous rolling sampling of a relatively small number of households and people in group quarters rather than a large-scale data collection effort attached to the population count at the beginning of each decade. “Continuous measurement” was seen as having the benefits of more current data, greater efficiencies and cost savings, and improved planning and coverage.<sup>10</sup>

In 1994, the Census Bureau began planning for what has become known as the ACS, under the general authorization provided the Commerce secretary to conduct special surveys as part of the decennial census.<sup>11</sup> Test versions of the ACS were conducted in 31 pilot counties over the 1996-1999 period; a demonstration phase was carried out in 1,239 counties between 2000 and 2004. In late 2000, on the basis of the demonstration effort, the Census Bureau announced plans for a “reengineered 2010 Census” in which it would replace the “long form” with the ACS.<sup>12</sup> Nationwide ACS implementation took place in 2005 and 2006.<sup>13</sup>

The ACS, then, represents the fourth phase of a long-standing federal effort to gather socioeconomic data to inform public policy.<sup>14</sup> Earlier phases include socioeconomic questions asked of each person in the decennial census (1850-1930); some socioeconomic questions asked of each person, others asked of a sample (1940-1950); and nearly all socioeconomic questions asked of a sample through the decennial “long form” (1960-2000). Each phase incorporated statistical innovation; two of these, sampling and continuous measurement, have been recognized as contributing to major advancements in the field.<sup>15</sup>

### ***The Nature and Uses of the ACS***

At present, the ACS is an updated version of the “long form” used in Census 2000, with topics including demographic, housing, social, and economic characteristics. (See box for ACS basics.) Every question on the ACS must have a federal purpose; the Census Bureau provides an overview of the federal uses of each question in a report to Congress.<sup>16</sup> It periodically carries out a “content test” to determine the desirability and feasibility of adding, changing, and deleting questions.<sup>17</sup>

Currently, the annual ACS sample equals 2.1 percent of the U.S. population. The Census Bureau publishes single-year estimates for areas of 65,000 or more in population and multi-year averages for smaller areas (by aggregating the sample over several years). In late 2010, the first ACS data for

### ACS Basics<sup>18</sup>

- Topics covered in 2010:
  - Demographic characteristics—age, sex, race, ethnicity, relationship
  - Housing characteristics—tenure, characteristics and age of the structure, value, financing, monthly costs, insurance, appliances, utility costs, taxes, move-in date
  - Social characteristics—marital status, fertility, place of birth, citizenship, year of entry, ancestry, language, education, school enrollment, residence one year ago, veteran status, disability
  - Economic characteristics—labor force status, income, industry, occupation, class of worker, receipt of public assistance or food stamps, place of work, journey to work, vehicles available, health insurance coverage
- Candidate topics for future coverage: parental place of birth (first asked in the 1870 census), computer and Internet access and usage
- Sample size: Approximately 2.9 million housing units (2.1 percent of all households)
- Survey returns: For the 2008 ACS, approximately 1.9 million housing units completed the survey<sup>19</sup>
- Frequency of collection: Monthly
- Frequency of data publication: Annually in the fall of each calendar year
- Geographic coverage: All of the United States and Puerto Rico, with estimates for every jurisdiction including states, counties, cities and towns, tribal areas, and congressional districts, as well as for statistical areas such as metropolitan and micropolitan statistical areas, census tracts, and block groups
- Annual data products:
  - One-year estimates for areas with population of 65,000 or more
  - Three-year estimates for areas of 20,000 or more
  - Five-year estimates for all areas

### The Value of the ACS to the Nation

#### Public Policy

- ACS data guide the equitable flow of hundreds of billions of dollars in federal domestic assistance across the nation.
- ACS data provide key benchmarks for federal enforcement of civil rights and antidiscrimination laws and court decisions.
- Federal agencies use ACS data to inform the design, implementation, and evaluation of programs and policies in every government realm, such as education, health, housing, transportation, small business development, human services, and environmental protection.
- State and local governments rely on ACS data to make on-the-ground investment decisions across all policy domains.

#### Economy

- Businesses of all types and sizes use ACS data to identify markets, select business locations, make investment decisions in plant, equipment, and new product development, determine goods and services to be offered, and assess labor markets.
- Nonprofit organizations such as hospitals and community service organizations rely on ACS data to better understand and serve the needs of their constituencies.
- ACS data are essential to efforts by state and local governments, chambers of commerce, and public-private partnerships to promote business attraction, expansions, and startups that lead to job creation and a larger tax base.

areas with less than 20,000 people, including census tracts, will be published as five-year averages (2005-2009). With the publication of these data, the replacement of the “long form” will have been completed.

While the original purpose of the socioeconomic characteristic questions on the decennial census was to inform federal policy, in recent decades improved electronic dissemination methods have allowed state and local governments and businesses to use aggregated census data to better understand issues and opportunities and make better decisions to address them. An industry of demographic data firms has developed to translate ACS-type data into formats more conducive to such decision-making. As was the case with its “long form” predecessor, today the ACS is essential to the proper functioning of the nation’s governments and economy. (See box.)

In sum, the ACS is an important federal tool in overcoming “information market failure,” the market’s inability to provide public and private decision-makers with objective, detailed data on household and housing characteristics for small areas, consistent over space and time.<sup>20</sup> The publication of current, accurate ACS data results in more appropriate, effective public and private decision-making and so more efficient markets.

### III. Terms and Methods

#### ***The Uses of ACS-Related Data to Distribute Federal Domestic Assistance—An Overview***

**Categories of federal domestic assistance using ACS-related data.**<sup>21</sup> A major function of the federal government is redistributing tax dollars (and borrowed funds) for a variety of public purposes, including providing assistance to low-income households and individuals, building physical infrastructure, and encouraging business development.

The *Catalog of Federal Domestic Assistance* (CFDA) indicates that four categories of federal domestic assistance programs use ACS statistics to distribute funds. These include grants (formula grants, project grants, and cooperative agreements), direct loans, loan guarantees and insurance, and direct payments.<sup>22</sup>

The Census Bureau’s *Consolidated Federal Funds Report* (CFFR) estimates annual federal obligations or expenditures for all forms of federal financial activity, e.g., the four assistance categories above, retirement and disability, procurement (contracts), and salaries and wages. According to the CFFR, in FY2008 (the latest year available), the federal government made \$1.43 trillion in federal assistance awards from programs listed in the CFDA, including:

- Grants—\$562.2 billion
- Direct loans—\$37.8 billion
- Guaranteed/insured loans—\$312.7 billion
- Direct payments—\$520.7 billion<sup>23</sup>

**Uses of ACS-related data.** A federal assistance program may use data related to the ACS in any of four ways to guide the distribution of assistance funds, including in

- **eligibility criteria** that identify which organizations or individuals can receive funds
- **allocation formulas** that distribute funds among eligible recipients across the nation
- **selection preferences** to score project applications
- determination of **interest rates** for federal loan programs

As can be seen in the reference document on the report website, allocation formulas often are complex. Two illustrations are in the box on the following page.

The formula for allocating funds under the Department of Housing and Urban Development's Community Development Block Grants/Entitlement Grants program (14.218) is the higher of:<sup>24</sup>

- the average of the ratios between:
  - the population of that city and the population of all metropolitan areas;
  - the extent of poverty in that city and the extent of poverty in all metropolitan areas; and
  - the extent of housing overcrowding in that city and the extent of housing overcrowding in all metropolitan areas, or
- the average of the ratios between:
  - the extent of growth lag in that city and the growth lag of all metropolitan areas;
  - the extent of poverty in that city and the extent of poverty in all metropolitan areas; and
  - the age of housing in that city and the age of housing in all metropolitan areas<sup>25</sup>

The rate at which the Medicaid Program (93.778) reimburses a state for providing medical financial assistance:

...shall be 100 per centum less the state percentage; and the state percentage shall be that percentage which bears the same ratio to 45 per centum as the square of the per capita income of such State bears to the square of the per capita income of the continental United States (including Alaska) and Hawaii; except that (1) the federal medical assistance percentage shall in no case be less than 50 per centum or more than 83 per centum, (2) the federal medical assistance percentage for Puerto Rico, the Virgin Islands, Guam, the Northern Mariana Islands, and American Samoa shall be 50 per centum.<sup>26</sup>

**ACS-related datasets.** As noted in "Counting for Dollars," 215 federal programs relied on eleven decennial census-related datasets to distribute \$446.7 billion in federal assistance in FY2008. The ACS is one of these datasets, as the foundation of its sampling frame is provided by the decennial census; the ACS, in turn, provides the basis for, in whole or part, six other datasets used to distribute federal funds (Figure 1).<sup>27</sup>

The ACS is the primary data source for three datasets—the Census Bureau's Small Area Income and Poverty Estimates (SAIPE), area median income (AMI), and fair market rents (FMR) prepared by the Department of Housing and Urban Development (HUD).<sup>28</sup>

The ACS also is one of several data sources for three other datasets:

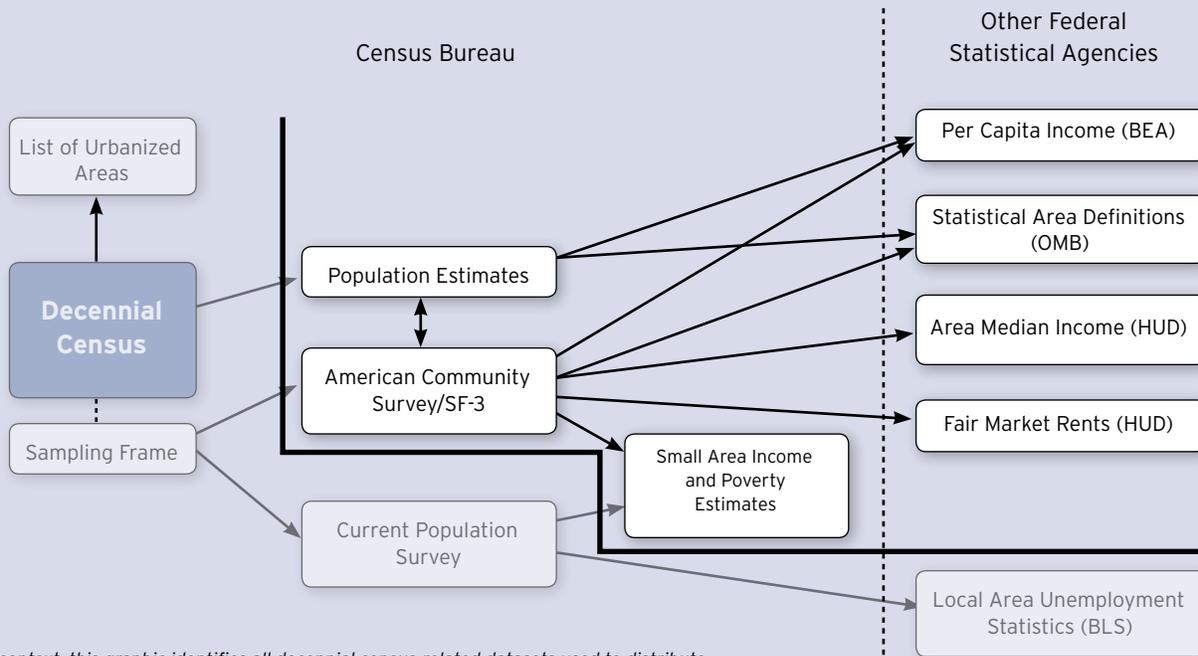
- Population Estimates, Census Bureau—the ACS provides data on international migration
- Per capita income (PCI), Bureau of Economic Analysis (BEA)—the ACS provides journey-to-work data that allows earnings by place of work to be translated into earnings by place of residence
- Statistical area definitions, Office of Management and Budget (OMB)—the ACS provides journey-to-work data that helps determine statistical area boundaries, such as for metropolitan areas

### **Methodology**

The analysis for this report fully relied on the database developed for the predecessor "Counting for Dollars" report.<sup>29</sup> In summary:

- The CFDA and a Census Bureau Governments Division's study were reviewed to identify those programs that distributed funds on the basis of decennial census statistics directly or indirectly (i.e., through one of the related datasets), in whole or in part.<sup>30</sup> Census-related data are used to determine eligibility, allocation formulas, selection preferences, and interest rates. Programs that used census-related data to distribute any part of expenditures were included.
- Detailed information was collected on each program.<sup>31</sup>
- To determine the amount of federal domestic assistance distributed by each program on the basis of census data, FY2008 CFFR program data by county, state, and the nation were downloaded into an Access database.<sup>32</sup> CFFR data for each program represent the total obligation or expenditure

**Figure 1. Datasets Related to the American Community Survey**



*Note: For context, this graphic identifies all decennial census-related datasets used to distribute federal funding. ACS-related datasets are in white boxes.*

for a particular geography.<sup>33</sup>

For the current report, the Counting for Dollars database was modified by removing all programs that did not rely on an ACS-related dataset (that is, the four programs in the shaded portion of Figure 1).

A number of ACS-guided programs provide grants to state governments, which then spend the funds within their respective states. While the Census Bureau estimates pass-through allocations for the largest state grant programs (e.g., Medicaid, Highway Planning and Construction, Special Education Grants to States), it does not determine pass-through allocations for smaller ones. Instead, funds for such programs are attributed to the county of the state capital. Consequently, figures for counties and metropolitan areas with a state capital include funds intended for pass-through from the state government to local governments or other in-state recipients.

A per capita expenditure estimate is provided to allow comparisons among states and areas. Population estimates for all states, counties, and metropolitan areas were imported into the Access database from the Census Bureau website. Per capita total ACS-guided program expenditures were determined by dividing the sum of total program distributions by the area's 2008 population estimate.

**Report Materials**

The Surveying for Dollars effort provides three sets of materials, available at [www.brookings.edu/metro/SurveyingforDollars](http://www.brookings.edu/metro/SurveyingforDollars).

First is this report describing and analyzing findings. Upcoming section topics include:

- Federal funds distribution on the basis of ACS-related data—total amount, largest programs, by budget function and department, by type of assistance (e.g., grants, direct payments), and factors that explain state differences
- The uses of ACS-related datasets for funds distribution—reliance by dataset, nature of use (e.g., eligibility criteria, allocation formulas), and level of geographic detail (e.g., state, census tract)
- Implications of findings for the ACS program

Second, tables that provide data on individual ACS-guided program expenditures are available for the nation and each of the 50 states and the District of Columbia, the 100 largest metropolitan areas,

and the 200 largest counties. Expenditures by program are available for the nation and each state; total expenditures are provided for each large metro area and county.

Third is the reference document created for the Counting for Dollars study to describe each federal program that relies on census-related statistics to guide spending. In this document, each program that uses ACS-related statistics is described in terms of objective; ACS-related factors for eligibility, allocation, selection preferences, and interest rates; the ACS-related dataset used; and the legal basis for the factors, typically in the U.S. Code or the Code of Federal Regulations. Appropriate excerpts from the legal source are provided as well.

#### IV. Findings

##### **A. The accuracy of the American Community Survey will determine the geographic distribution of a substantial proportion of federal assistance, particularly in the form of grants.**

In FY2008, 184 federal domestic assistance programs, or 13.6 percent of all such programs, used ACS-

**Table 1. ACS-Guided Programs by Type of Federal Domestic Assistance, FY2008**

Type of Assistance	ACS-Guided Programs	% of CFFR Programs	Total Expenditures of ACS-Guided Programs	% of CFFR Expenditures
Grants	165	13.7%	\$389,190,450,671	69.2%
Direct loans	12	40.0%	\$4,847,957,342	12.8%
Guaranteed/insured loans	7	25.0%	\$10,401,572,793	3.3%
Direct payments	9	7.1%	\$11,566,933,309	2.2%
Total	184	13.6%	\$416,006,914,115	29.0%

*Note: Programs offering more than one type of assistance are counted in each relevant category. For such programs, expenditures are disaggregated by type of assistance.*

related datasets to help guide the distribution of \$416 billion. This funding accounted for 29.0 percent of spending by all assistance programs listed in the CFDA (Table 1).

The majority of ACS-guided programs (89.7 percent) make grants. In fact, 93.6 percent of funding by ACS-guided programs is in the form of grants.

ACS-guided grant programs account for 69.2 percent of all CFDA program grant funding. This means the accuracy of the ACS determines the fairness of the distribution of a substantial majority of federal grant funds. In contrast, use of ACS-related data to guide loan, guaranteed/insured loan, and direct payment efforts is relatively small.

Among the 165 ACS-guided grant programs, slightly more programs rely on project grants than on formula grants. (Use of cooperative grants is confined to just three programs). However, the flow of funds from formula grant programs is about five times greater than from project grant programs. As will be seen below, four of the five largest ACS-guided programs provide formula grants.

As noted in Section III, a program met the criteria for selection if it used ACS-related data to guide distribution of any part of its total funding. It is fair to ask: What portion of the \$416 billion provided by the 184 programs is actually distributed on the basis of ACS-related statistics? Analysis (provided in the appendix) indicates the answer is at least 90 percent, though an exact answer is not possible. In the absence of better data and with the knowledge that the gap between total funding and the true answer is relatively small, subsequent analysis relies on total program funding numbers.

##### **B. The bulk of ACS-guided federal assistance goes to state governments through a handful of large formula grant programs to aid low-income households and support highway infrastructure.**

In FY2008, the ten largest programs distributed 86.0 percent (\$357.8 billion) of ACS-guided funding (Table 2).

**Table 2. Ten Largest ACS-Guided Assistance Programs, FY2008**

CFDA	Program Name	Department	FY08 Expenditures	Type of Assistance and Recipient
93.778	Medical Assistance Program	Department of Health and Human Services	\$261,143,624,624	Formula grants to states
20.205	Highway Planning and Construction (Federal-Aid Highway Program)	Department of Transportation	\$36,795,552,695	Formula grants and project grants to states
14.871	Section 8 Housing Choice Vouchers	Department of Housing and Urban Development	\$15,340,853,794	Project grants to public housing agencies
84.027	Special Education Grants to States	Department of Education	\$10,786,318,120	Formula grants to states
84.010	Title I Grants to Local Educational Agencies	Department of Education	\$7,513,986,185	Formula grants to state educational agencies (local agencies are subgrantees)
10.410	Very Low to Moderate Income Housing Loans	Department of Agriculture	\$7,268,193,451	Direct loans and guaranteed/insured loans to very low-to moderate-income families and individuals
14.195	Section 8 Housing Assistance Payments Program (Project-based Section 8)	Department of Housing and Urban Development	\$6,002,587,454	Direct payments to public housing agencies
20.500	Federal Transit_Capital Investment Grants (Fixed Guideway Modernization Bus and Bus Facilities New Starts)	Department of Transportation	\$4,667,272,525	Formula grants and project grants to states
93.658	Foster Care_Title IV-E	Department of Health and Human Services	\$4,335,529,844	Formula grants and project grants to states
14.850	Public and Indian Housing	Department of Housing and Urban Development	\$3,972,858,506	Direct payments to public housing agencies

State governments received the bulk of the top ten share (\$325.2 billion) through readily recognizable formula grant programs. One state formula grant program alone, Medicaid (93.778), provided 62.8 percent of ACS-guided funding (\$261.1 billion).

While information on the exact proportion of ACS-guided funding that goes to state governments is not readily available, a look at the jurisdictional level of the ACS-related data used to distribute funds strongly indicates that state governments receive the large majority of funds. Table 3 shows that 90 programs use state-level data to distribute \$360.9 billion (86.8 percent of ACS-driven funds). Of these, 84 are grant programs using allocation formulas (\$350.3 billion).

ACS-guided funding is concentrated in another way—it focuses on aiding low-income households and supporting transportation infrastructure. Four budget functions (Table 4) accounted for 93.0 percent of FY2008 ACS-guided expenditures—health (e.g., Medicaid), transportation (e.g., Highway Planning and Construction), income security (e.g., Section 8 Housing Vouchers), and education, training, employment, and social services (e.g., Special Education Grants to States). Five departments accounted for 98.0 percent of all funding in FY2008, with the Department of Health and Human Services (HHS) being dominant, followed by the Department of Transportation (DOT) and HUD (Table 5).

**C. State per capita ACS-guided funding is positively related to income inequality (high annual pay, high poverty), Medicaid income limits, and the percentage of the population that is rural.**

On a per capita basis, the amount of funds distributed by programs that rely on ACS statistics varies

**Table 3. Geographic Level of ACS-Related Data Used to Distribute Federal Funds, FY2008**

Geographic Level	Programs	Expenditures	% of Total
State	90	\$360,941,630,315	86.8%
Local area	66	\$72,105,377,687	17.3%
County	47	\$48,781,805,923	11.7%
MSA	45	\$49,445,382,829	11.9%
School district	7	\$10,379,706,538	2.5%
Census tract	7	\$76,214,360	0.0%

*Note: One program can use data for more than one geographic level.*

**Table 4. ACS-Guided Programs by Budget Function, FY2008**

Budget Function	Programs	Expenditures	% of Total
550 - Health	21	\$264,579,704,233	63.6%
600 - Income Security	26	\$48,574,753,479	11.7%
400 - Transportation	7	\$42,102,721,883	10.1%
500 - Education, Training, Employment, and Social Services	46	\$31,535,238,206	7.6%
450 - Community and Regional Development	32	\$10,539,249,646	2.5%
370 - Commerce and Housing Credit	12	\$9,547,372,483	2.3%
999 - Multiple Functions	8	\$5,617,150,998	1.4%
270 - Energy	3	\$2,301,662,352	0.6%
300 - Natural Resources and Environment	15	\$514,287,489	0.1%
750 - Administration of Justice	12	\$456,857,387	0.1%
800 - General Government	1	\$228,469,000	0.1%
050 - National Defense	1	\$9,446,959	0.0%
<b>Total</b>	<b>184</b>	<b>\$416,006,914,115</b>	

greatly from state to state, metro to metro, and county to county. (See [www.brookings.edu/metro/SurveyingforDollars](http://www.brookings.edu/metro/SurveyingforDollars) for tables.) The highest and lowest ranking, according to the CFFR:

- The District of Columbia received \$4,027 per capita in FY2008, compared with Nevada's \$658.
- Among the 100 largest metro areas, Albany, New York received \$4,829 per capita, compared with Bradenton, Florida's \$297.
- Among the 200 largest counties, Suffolk County, Massachusetts got \$5,557 per capita, while Collin County, Texas received \$178.

It is desirable, of course, to understand the reasons for the per capita differences across geographies. However, such an analysis for metropolitan areas and counties is not possible based on existing data. As discussed in Section III, the CFFR overstates the amount of funds going to state capitals and, conversely, understates the flows elsewhere. State governments are the single largest recipient of ACS-guided federal funds, which they further distribute, often according to their own rules, to sub-state recipients. While the Census Bureau does its best to determine the final destinations of "pass-through" funds for the larger programs, it is unable to accurately allocate funds geographically for many. Such funds are attributed to state capital areas and so their per capita numbers tend to be higher.<sup>34</sup>

**Table 5. ACS-Guided Programs by Federal Department, FY2008**

Department	Programs	Expenditures	% of Total
Department of Health and Human Services	44	\$281,904,116,463	67.8%
Department of Transportation	7	\$42,102,721,883	10.1%
Department of Housing and Urban Development	29	\$37,518,341,810	9.0%
Department of Education	22	\$27,092,635,488	6.5%
Department of Agriculture	32	\$19,119,263,427	4.6%
Department of Labor	5	\$3,848,964,742	0.9%
Department of Homeland Security	7	\$2,449,088,796	0.6%
Department of Justice	10	\$439,997,553	0.1%
Department of Commerce	6	\$362,910,860	0.1%
Department of the Interior	6	\$293,547,428	0.1%
Corporation for National and Community Service	1	\$236,777,250	0.1%
Environmental Protection Agency	6	\$227,443,720	0.1%
National Foundation on the Arts and Humanities	3	\$207,725,065	0.0%
Small Business Administration	1	\$86,441,643	0.0%
Appalachian Regional Commission	2	\$62,769,222	0.0%
Department of Energy	1	\$27,112,352	0.0%
Delta Regional Authority	1	\$17,609,454	0.0%
Department of Defense	1	\$9,446,959	0.0%
<b>Total</b>	<b>184</b>	<b>\$416,006,914,115</b>	

This problem is avoided in analyzing differences among states. As the bulk of federal funds are allocated on a state basis, such analysis is germane.

Regression analysis suggests that 72 percent of the per capita funding differences among the states can be explained by four positively correlated factors:

- 2008 average annual pay (correlation coefficient 0.44, R squared 0.19)<sup>35</sup>
- Percentage of children in poverty in 2005 (0.42, 0.18)
- 2008 Medicaid family income limits for children aged 6-19 (0.39, 0.15); and
- Percent rural population in 2008 (0.11, 0.01).

The explanatory power of the child poverty rate is logical given that a substantial number of large programs serve that population.<sup>36</sup>

Medicaid income eligibility limits vary widely among states. The higher a state's limit, the greater the number of people who qualify for Medicaid and the more money that HHS sends to the state.

Given Medicaid's dominance among ACS-guided programs, it is also logical that family income eligibility limits have explanatory power.<sup>37</sup>

Less obvious is the reason for the strong positive correlation with average annual wage. Why should average annual wage have a positive correlation, particularly as Medicaid, which accounts for over half of ACS-driven funding, is designed to have a negative correlation with a closely aligned variable, per capita income?<sup>38</sup>

As indicated by Table 6, the reason is wealthier states tend to have Medicaid programs with more generous eligibility levels. Higher eligibility levels mean greater federal reimbursements, even if the reimbursement rate itself is lower.

The 2005 child poverty rate and 2008 average annual pay together explains 40 percent of the variation in state per capita funding. In other words, states with relatively high numbers of poor children and good paychecks tend to receive more federal funds per capita.<sup>39</sup> When 2008 Medicaid family income limits for children is added to the equation, the explanatory power rises to 49 percent.

Per capita program funding has a slight positive relationship with the percent of a state's population living in rural areas in 2008.<sup>40</sup> This perhaps makes sense in light of the fact that the Senate is

**Table 6. Explanatory Variables for States with Highest and Lowest Per Capita ACS-Guided Funding**

			Income Eligibility as a % of Poverty	Federal Medical Assistance	Per Capita Federal Medicaid
	Per Capita ACS-Guided Funding	Average Annual Pay (2008)	Medicaid/CHIP Expansion Children (6-19) (2008)	Percentage (FMAP) (FY08)	Reimbursement
<b>Top 5 States</b>					
District of Columbia	\$4,027	\$76,518	300	70.00	\$1,862
Vermont	\$2,761	\$38,328	300	59.03	\$1,916
Alaska	\$2,396	\$45,805	175	52.48	\$1,010
New York	\$2,190	\$60,288	100	50.00	\$1,568
Massachusetts	\$1,990	\$56,746	150	50.00	\$1,393
			Income Eligibility as a % of Poverty	Federal Medical Assistance	Per Capita Federal Medicaid
	Per Capita ACS-Guided Funding	Average Annual Pay (2008)	Medicaid/CHIP Expansion Children (6-19) (2008)	Percentage (FMAP) (FY08)	Reimbursement
<b>Bottom 5 States</b>					
Utah	\$856	\$37,980	100	71.63	\$411
Florida	\$827	\$40,568	100	56.83	\$460
Virginia	\$802	\$47,241	133	50.00	\$372
Colorado	\$795	\$46,614	100	50.00	\$347
Nevada	\$658	\$42,984	100	52.64	\$287

dominated by rural interests; for some program authorizations and appropriations to pass, senators from rural states will want to know their states will benefit.

State per capita funding is sensitive to percent rural population when the three other independent variables are taken into account.<sup>41</sup> Together, the four variables explain 72 percent of the differences in state per capita federal funding.<sup>42</sup>

***D. The ACS facilitates the distribution of federal assistance largely by serving as the basis for six other federal datasets.***

As discussed earlier and illustrated in Figure 1, a variety of datasets based on the ACS are used to guide funds distribution by federal assistance programs. Table 7 indicates that BEA's per capita income figure is the most important in terms of driving funding, largely because it determines the Medicaid reimbursement rate, or FMAP (Federal Medical Assistance Percentages). The most frequently used dataset is the Census Bureau's population estimates, directly relied on by 132 programs. Five different datasets, including the ACS, were relied on by at least 25 programs each.

It should be noted that the current annual cost of the seven annually updated ACS-related datasets used to determine federal funding flows is about \$220 million, or .05% of the amount of federal funds distribution guided by the ACS.<sup>43</sup> Come annual budget and appropriations time, the administration and Congress should recognize that relatively small investments in federal statistics will ensure the fair distribution of far greater sums of money.

As discussed previously, ACS-related data are used to guide funds distribution in four ways—eligibility, allocation formulas, selection preferences, and interest rate setting. Far and away, the primary use of ACS-related data is in allocation formulas (Table 8). Eligibility determination is the second most important use. A few programs use ACS-related data to implement selection preferences. Only one relies on ACS-related data to determine interest rates. Twenty-five programs rely on these data for more than one type of use.

**Table 7. ACS-Related Datasets Used to Distribute Federal Assistance Funds, FY2008**

Dataset	Programs	Expenditures	% of Total
Per Capita Income	25	\$275,598,022,408	66.2%
Population Estimates	132	\$93,360,164,495	22.4%
SF-3/ACS	43	\$78,838,009,420	19.0%
Area Median Income	38	\$45,489,438,197	10.9%
Fair Market Rents	6	\$23,549,013,042	5.7%
MSA	32	\$22,108,938,799	5.3%
SAIPE	7	\$10,379,706,538	2.5%

*Note: Certain programs rely on more than one ACS-related data set. Consequently, the table reflects the counting of these programs more than once.*

**Table 8. Assistance Program Uses of ACS-Related Data, FY2008**

Use	Programs	Expenditures	% of Total
All allocation	120	\$395,905,263,682	95.2%
Allocation only	99	\$349,298,513,978	84.0%
All eligibility	75	\$57,349,699,038	13.8%
Eligibility only	51	\$12,902,333,547	3.1%
All selection preferences	14	\$7,500,146,770	1.8%
Selection preferences only	9	\$70,41,237,284	1.7%
All interest rate	1	\$2,317,463,815	0.6%
Interest rate only	0	-	0.0%

*Note: Row titles with "all" include any program that uses ACS-related data for this purpose. A number of programs use the data for more than one purpose. Row titles with "only" include those programs that use ACS-related data only for this purpose.*

## V. Implications

This report's analysis of the distribution of federal funds on the basis of ACS-related data has significant implications for federal, state, and local stakeholders.

**First, Congress, OMB, and the Department of Commerce—the organizations responsible for funding the Census Bureau—should recognize that the nation receives a very substantial return on its investment in ACS-related datasets in the form of appropriate, equitable distribution of over \$400 billion in assistance.** As noted earlier, the annual cost of these datasets is about five-hundredths of one percent (0.05%) of the total annual ACS-guided funds distribution.

The value of the ACS in funds distribution is very much a function of its reliability. Consequently, it should be noted, the president's FY2011 budget includes a request to increase the annual sample size of the ACS from 2.9 million to 3.5 million addresses, at an additional annual cost of \$39 million. The Census Bureau indicates that the increased sample will improve the reliability of the ACS for use in the distribution of federal funds, particularly for areas with less than 20,000 people, such as small towns, rural areas, tribal lands, and census tracts.<sup>44</sup> Thus, a relatively small investment will yield more appropriate, equitable funds distribution. Such results are particularly important in light of expected tight future federal budgets.

**Second, through improved understanding of individual federal program reliance on ACS-related data, the Census Bureau will be better able to provide data and indicators that fit program needs.**

The report can aid the Census Bureau in producing ACS products that meet the needs of Congress and federal agencies in creating formulas that fairly determine the distribution of federal funds.

**Third, advocates for communities and lower-income households have a dollar-specific rationale for encouraging households to participate in the ACS.** The value of the ACS is very much a function of the willingness of U.S. households to provide complete, accurate information.<sup>45</sup> The report provides advocates with concrete evidence that community participation in the ACS will have a direct fiscal impact through the flow of federal funds. While efforts to promote 2010 Census participation are critical and laudable, ACS figures have a greater direct influence on funds distribution.

**Finally, state governments have the most to gain financially from a more accurate, reliable ACS.** Consequently, they have a particular stake in promoting both increased federal investment and greater community participation in the ACS.

The ACS plays a critical role in determining the distribution of a substantial portion of federal assistance funds, including the large majority of grants. It can most effectively serve this role if it has the active, knowledgeable support of the array of organizations with a stake in the appropriate, equitable distribution of these funds.

## Appendix. The Extent to Which ACS-Guided Programs Use ACS-Related Data to Determine Funding Distribution

**A**s noted in Section III, a program met the criteria for selection if it used ACS-related data to guide distribution of any percent of its total funding. It is a fair question to ask: How much of the \$416 billion provided by the 184 programs is actually distributed on the basis of ACS-related statistics?

The answer is at least 90 percent. Given the complexities of many federal programs and the limited resources available to this project, providing an exact figure is not possible. That said, a scan of the 184 programs indicates the following:

- 131 programs, with total FY2008 funding of \$356.0 billion (86 percent of \$416 billion), distributed 100 percent of their funds on the basis of ACS-related statistics
- 53 programs, with total funding of \$60.1 billion, distributed less than 100 percent of their funds on the basis of ACS-related statistics
  - 36 programs distributed \$20.3 billion of \$44.4 billion in total funding (46 percent)
  - for 17 programs, with total expenditures of \$15.7 billion, the proportion was not estimated (due to lack of information)

Among the 36 programs for which a partial portion could be estimated, the largest by far is the DOT Highway Planning and Construction Program (20.205)—40 percent of its \$36.8 billion uses ACS-related data for distribution.<sup>46</sup> This program accounts for \$22.1 billion of the \$24.1 billion gap between total program funding and ACS-directed funding in this group. If the highways program is removed from this group, then 74 percent of the funds for the remaining 35 programs is ACS-driven.

For the remaining 17 programs, uncertainty regarding percent reliance on ACS statistics can be attributed to several reasons. For most, ACS-related data are applied to sums remaining after certain indeterminate set-asides are distributed, e.g., HUD's HOME Investment Partnership (14.239). Other reasons include: ACS-based reimbursement is allowable only on certain costs and these are unknown ahead of time, e.g., HHS' Foster Care Title IV-E (93.658); an agency has flexibility regarding choice of allocation formulas, e.g., HUD's Mark to Market Program (14.197).

In sum, the analysis indicates that of the \$416 billion distributed in FY2008 by ACS-guided programs, between \$376.3 billion and \$392.0 billion (90.5 to 94.2 percent) was actually distributed on the basis of ACS-related statistics. Moreover, some portion of the \$1.8 billion distributed by assistance programs not in the CFDA likely relies on ACS-related data.

## Endnotes

1. In this report, “socioeconomic data” means data on social, economic, and housing characteristics.
2. The Surveying for Dollars report draws substantially from a recently released Brookings study, “Counting for Dollars: The Role of the Decennial Census in the Geographic Distribution of Federal Funds.” In particular, the current report uses the same database, models the report structure of the earlier report, and refers to the earlier report for a detailed explanation of terms and methods.
3. The 1820 census also collected manufacturing data. The data were not deemed accurate, so Congress stopped using the decennial census to collect business statistics until the 1870 census. See the Census Bureau history website at <http://www.census.gov/history/>.
4. Alice Rivlin, “CBO Testimony before the Subcommittee on Census and Population,” Committee on Post Office and Civil Service, U.S. House of Representatives, June 9, 1977.
5. A matrix of decennial census/ACS socioeconomic characteristic topics from 1850 through 2010 is available at [www.brookings.edu/metro/SurveyingforDollars](http://www.brookings.edu/metro/SurveyingforDollars). The list of questions for each decennial census, with facsimile questionnaires, is available at [http://www.census.gov/history/www/through\\_the\\_decades/](http://www.census.gov/history/www/through_the_decades/).
6. Margo Anderson, *The American Census: A Social History* (New Haven: Yale University Press, paper, 1990) and the Census Bureau webpage, “Developing Sampling Techniques” ([http://www.census.gov/history/www/innovations/data\\_collection/developing\\_sampling\\_techniques.html](http://www.census.gov/history/www/innovations/data_collection/developing_sampling_techniques.html)).
7. Examples of 1940 core questions changed to supplemental in 1950 include prior residence, annual income, and educational attainment. At the same time, the size of the sample for the supplemental questions increased from two in 40 residents in 1940 to one in five in 1950.
8. “Mid-Decade Census,” Hearings Before the Subcommittee on Census And Statistics of The Committee on Post Office and Civil Service, U.S. House Of Representatives, April 25 and 26, 1967.
9. “Passage of this bill provides us with a major opportunity to improve the statistical information which is often the basis for decisions on major issues of public policy. With better information available at 5-year intervals, we will no longer need to rely on data which are often obsolete. The historic method of counting the population every 10 years simply does not meet the Nation’s current needs. This legislation will also make it possible for us to update Federal statistical programs dealing with social statistics, since the mid-decade effort will provide for a periodic updating of significant national, social, and demographic characteristics. This is important because
  - \$39 billion are distributed annually using formulae which use population data.
  - Federal, State, and local planners depend heavily on current population data.
  - The need for a variety of expensive “ad hoc” surveys between censuses will be reduced.
  - We will be able to identify the needs of various groups in the American public.”
 –President Gerald Ford, “Statement on Signing the Bill Providing for a Mid-Decade Census of Population,” October 18, 1976.
10. Histories of the ACS can be found in Charles H. Alexander, “Still Rolling: Leslie Kish’s “Rolling Samples” and the American Community Survey, *Proceedings of Statistics Canada Symposium 2001: Achieving Data Quality in a Statistical Agency: A Methodological Perspective*,” Ottawa ON: Statistics Canada, 2001; Leonard M. Gaines, “Introduction to the special ACS issue of population research and policy review,” *Policy Research and Policy Review* (2006), vol. 25, pp. 197-199; and Census Bureau, “Design and Methodology: American Community Survey,” Technical Paper 67, April 2006.
11. U.S. General Accounting Office, “Legal Authority for American Community Survey,” B-289852, April 4, 2002.
12. Daniel L. Cork, Michael L. Cohen, and Benjamin F. King, Editors, *Reengineering the 2010 Census: Risks and Challenges*, Committee on National Statistics (CNSTAT), National Research Council (2004), p. 18. The ACS is operated out of the Census Bureau’s Decennial Census Directorate.
13. Full-scale implementation was supposed to occur in 2003 but was postponed due to budget constraints. Implementation in 2005 covered only residential households. Coverage of group quarters (e.g., dormitories, jails) began in 2006.
14. It offers the additional benefit of collecting demographic data more frequently.
15. See Anderson, op.cit, and Gaines, op.cit. The Census Bureau also has instituted technological and logistical innovations in the conduct of the decennial census. For an overview, see <http://www.census.gov/history/www/innovations/>.
16. “Historically, the content of sample questions included on the long form was constrained by only including questions for which:
  - There was a current federal law that explicitly called for the use of decennial census data for a particular federal program (mandatory).
  - It was unequivocally clear that a federal law (or implementing regulation) required the use of specific data and the decennial census was the historical or only source of data (required).
  - The data were necessary for Census Bureau operational needs (programmatic).”
 Census Bureau, “Design and Methodology: American Community Survey,” Technical Paper 67, April 2006, pp.

- 5-1, 5-2. See also Census Bureau, "Questions Planned for the 2010 Census and American Community Survey," March 2008. A description of federal uses and community benefits is regularly updated at <http://www.census.gov/acs/www/SBasics/SQuest/factsheet.htm>.
17. See, for instance, the impact of the 2006 ACS Content Test on the 2008 ACS questionnaire (<http://www.census.gov/acs/www/Products/2008/prodchanges.html#Improvements>) and the current 2010 ACS Content Test ([http://www.reginfo.gov/public/do/PRAViewDocument?ref\\_nbr=201001-0607-002](http://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=201001-0607-002)).
  18. Substantial detail on the ACS program can be found at <http://www.census.gov/acs/www/>.
  19. In 2008, 57 percent of sample households returned the ACS questionnaire by mail. Those that did not were contacted by telephone—55 percent of those contacted completed the form through that mode. A sample of the remaining nonrespondents were contacted for personal interview—95 percent provided answers. 2008 American Community Survey Sampling Series #ACS08-S-28, September 14, 2009.
  20. The presence of information market failure provides the rationale for a government role in data collection. In an optimally efficient economy, market players have access to full information. However, in the realm of household and housing characteristics, the private sector does not have the capacity or incentive to regularly collect and publish complete, objective, statistically sound information desired by the public and private sectors for every neighborhood in the nation. Moreover, because information is a public good (it can be used by an infinite number of people and retain its full utility), the nation significantly benefits from open access to detailed household and housing data, regardless of ability to pay.
  21. This subsection and the next summarize the more detailed discussion about terms and methods provided in "Counting for Dollars," the prior Brookings report on the use of census-related statistics to distribute federal funds, available at [www.brookings.edu/metro/CountingforDollars](http://www.brookings.edu/metro/CountingforDollars).
  22. The CFDA, published by the U.S. General Services Administration, describes about 2,000 federal domestic assistance programs that provide assistance to States or local governments, organizations, institutions, and individuals in the form of a transfer of money, services, or goods. The CFDA includes nine program types not relevant to this analysis, as they do not distribute federal funds, e.g., training, advisory services and counseling, and investigation of complaints.
  23. U.S. Census Bureau, *Consolidated Federal Funds Report for Fiscal Year 2008*, U.S. Government Printing Office, Washington, DC, 2009. Programs providing retirement and disability payments for individuals, e.g., Social Security retirement, disability, and survivors insurance, are excluded from this analysis. Such programs do not rely on ACS-related statistics. In FY2008, according to the CFFR, a total of \$1.558 trillion in awards was made in the four categories of grants, direct loans, guaranteed and insured loans, and direct payments. The figures in the text were determined by subtracting spending by all programs not listed in the CFDA, e.g., payments for excess earned income tax credits (\$42.5 billion), unemployment compensation (\$40.0 billion), and federal employee life/health insurance premiums (\$23.7 billion). In a small number of instances, the CFFR and the CFDA assigned a program to different categories; in all but two such cases, the CFFR category was used.
  24. The CFDA gives each program a two-digit-dot-three-digit identifying number. The first two digits indicate the federal department (e.g., HUD is 14); the second three digits provide the unique program identifier within that department.
  25. 42 U.S.C. 5306b(1)
  26. 42 U.S.C. 1396d(b)
  27. In FY2008, only ACS data for areas of 65,000 or more people were available. Programs that needed data for smaller areas continued to rely on Census 2000 "long form" data published in SF-3 and SF-4 summary files. When small area ACS data are published in late 2010, reliance on Census 2000 SF-3 and SF-4 will disappear. The ACS box in Figure 1 reflects the fact that in FY2008, it shared reliance with "long form" data. (The SF-4 disaggregated SF-3 data by race, ethnicity, and ancestry categories. Analysis indicates that only five federal programs rely on SF-4 type data. Consequently, for simplicity's sake, we will refer to the SF-3 alone in this report.)
  28. The SAIPE program shifted from the Current Population Survey to ACS as its underlying data source during FY2008. See David Powers, Wesley Basel, and Brett O'Hara, "SAIPE County Poverty Models Using Data from the American Community Survey," presented to the American Statistical Association, 2008.
  29. A detailed description of the methodology can be found on pp. 7-9 of the "Counting for Dollars" report, available at [http://www.brookings.edu/reports/2010/0309\\_census\\_dollars.aspx](http://www.brookings.edu/reports/2010/0309_census_dollars.aspx).
  30. Lisa M. Blumberman and Philip M. Vidal, "Uses of Population and Income Statistics in Federal Funds Distribution - With a Focus on Census Bureau Data," U.S. Census Bureau, Governments Division Report Series, Research Report #2009-1.
  31. Information included
    - FY2008 total spending
    - Objective
    - Type of assistance
    - Eligibility, allocation, selection preferences, and interest rate criteria
    - The census-related datasets used to implement these
    - The legal basis for their use
    - When possible, the portion of program funds distributed

- using census-related data.
- Information sources included the CFDA, the U.S. Code, the Code of Federal Regulations, the CFFR, program websites, and, as necessary, program staff (via e-mail and telephone). The CFDA was found to be often incomplete and periodically inaccurate. Regarding type of assistance, when the CFDA and the CFFR differed, the CFFR categorization was used, with two exceptions for technical reasons.
32. A detailed discussion regarding the methodology used to collect data for the CFFR is available in U.S. Census Bureau, *Consolidated Federal Funds Report for Fiscal Year 2008*.
33. While the effort was made to determine the percentage of each program's total funding distributed on the basis of decennial census data, such information was not available in many cases. Moreover, a review of the allocation formulas made clear that percentage could vary quite significantly from place to place. Consequently, of necessity, the analysis was carried out on the basis of total program funding. (As will be seen in the appendix, available information indicates that at least 90 percent of the total funding across all identified programs is in fact distributed using ACS data.)
34. For discussion of CFFR substate distribution methodology, see U.S. Census Bureau, *Consolidated Federal Funds Report for Fiscal Year 2008*, pp. xv-xvi and Appendix F.
35. The correlation coefficient measures the extent to which there is a linear relationship between two variables, in this case, per capita funding (the dependent variable) and the average annual pay. The R squared is the square of the correlation coefficient and is a measure of the extent to which, in this case, differences in observations for the average annual pay can explain differences in per capita funding. In lay terms, state average annual pay can explain 19 percent of the variation in state per capita ACS-guided funding.
36. We use the 2005 poverty rate as a number of federal programs set allocation formulas in advance of the federal year. The total poverty rate was found to have less explanatory power (0.34, 0.11). The source of the child poverty rate data is the Annie E. Casey Foundation, "Kids Count Data Center."
37. The explanatory power of Medicaid income limits for children was greater than that for income limits for working adults. Data on Medicaid family income limits are from Kaiser Commission on Medicaid and the Uninsured, "Health Coverage for Children and Families in Medicaid and SCHIP: State Efforts Face New Hurdles (2008)." While the greatest share of federal Medicaid spending (43 percent in 2007) goes to blind and disabled persons, there does not appear to be a simple chart of state eligibility levels for this group. The second largest recipient group was age 65 and over (21 percent), followed by dependent children under 21 (19 percent), and adults in households with children (12 percent). *Center for Medicare and Medicaid Services, Data Compendium, 2009 edition*, Table II.4, available at <http://www.cms.hhs.gov/DataCompendium/>.
38. Correlation with 2008 per capita income also was positive, but slightly lower (0.41 0.17). Average annual pay data are from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2008.
39. A measure of state income inequality (the ratio of income received by the top-earning quintile of families divided income of bottom-earning quintile of families, published by the Center on Budget and Policy Priorities) is an excellent proxy for these two measures, with an R squared of 0.35. The explanatory power of the model increases slightly when child poverty rate and average annual pay are used instead of income inequality. The income inequality measure and the Medicaid eligibility level for children ages 6-19 together explain 45 percent of differences in per capita funding.
40. Source: Economic Research Service, State Fact Sheets, available at <http://www.ers.usda.gov/StateFacts/> (January 2010). Data are for 2008. (Latest previous year was 2000.)
41. This is largely because there are negative correlations between percent rural population and average annual pay (-0.67) and Medicaid family income limits (-0.04).
42. It should be noted that the Medicaid reimbursement rate for the District of Columbia is fixed by law at 70 percent. If the District's rate were based on per capita income, it would be 50 percent. Testing the regression equation after adjusting the District's per capita funding for a 50 percent rate yields an R squared of 0.68.
43. In FY2010, the appropriation for the ACS Program was \$200.5 million and for the Population Estimates Program, \$10.3 million. The costs of producing SAIPE, PCI, AML, and FMR and designating statistical areas are very small.
44. For discussion of the impacts of improved reliability, see Census Bureau, "U.S. Census Bureau's Budget Estimates, Fiscal Year 2011," February 2010, pp. CEN-155-158 (<http://www.osec.doc.gov/bmi/BUDGET/11CJ/Census%2011%20portrait%20final.pdf>). Key excerpts: "The FY 2011 proposed sample increase will improve the reliability of ACS estimates by about 9 percent. . . . Producing more reliable estimates will lead to a more equitable and efficient distribution of resources among communities and population subgroups." A detailed analysis of the impacts on larger sample size on the size of the coefficient of variation is available in Census Bureau, "American Community Survey: Analysis of Annual Sampling Rate and Sample Size Required to Achieve Specified Levels of Reliability," 2009 American Community Survey Research Memorandum Series #ACS09-R-1, March 16, 2010.
45. While law mandates household participation (13 U.S.C. 221-225), in practice the Census Bureau has been loathe to strongly enforce these provisions.

46. The program has 13 separate funding pools, an indication of the complexity of seeking to estimate the percent reliance on ACS-related data.

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