

INFO 7470/ILRLE 7400

The Federal Statistical Infrastructure

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January 25, 2011

Principal Statistical Agencies

- Office of Management and Budget
- Bureau of Economic Analysis (Commerce)
- Bureau of Justice Statistics (Justice)
- Bureau of Labor Statistics (Labor)
- Bureau of Transportation Statistics (Transportation)
- Census Bureau (Commerce)
- Economic Research Service (Agriculture)
- Energy Information Administration (Energy)
- Environmental Protection Agency (Independent)
- Internal Revenue Service, Statistics of Income (Treasury)
- National Agricultural Statistical Service (Agriculture)
- National Center for Education Statistics (Education)
- National Center for Health Statistics (Centers for Disease Control and Prevention, HHS)
- National Science Foundation, Science Resources Statistics (Independent)
- Social Security Administration, Office of Policy (Independent)

Role of OMB

- The Office of Management and Budget oversees the regulatory and budgeting environment
- Home of the Chief Statistician of the United States (currently Katherine Wallman)
- Budgets for all of the statistical agencies are reviewed by OMB
- Regulations for reporting of Race, Ethnicity, Industry, Geography

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Technical Statistical Terminology

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Basics

- Universes and Population
- Census
- Survey
- Administrative Record

Universe = Target Population

- Theoretical construct specifying every entity that satisfies a set of explicit qualifying conditions
- Example 1: “Human Population” All people, male and female, child and adult, living in a specified geographic area on a particular date.
- Example 2: “Establishment Population” A business, industrial, service, or governmental unit at a single location that distributes goods or performs services on a particular date (or during a given period).

Census

- An attempt to enumerate every entity in a specified universe (target population)

“Perhaps the earliest type of survey is the census, generally conducted by governments. Censuses are systematic efforts to count an entire population, often for purposes of taxation or political representation.” (Groves et al. Survey Methodology 2004, pp. 3-4.)

Legal v. Statistical Concepts

- In the United States, the decennial census of population must be conducted as an “enumeration”
- Department of Commerce v. U.S. House of Representatives (1999) defined enumeration so that “The Census Act prohibits the proposed uses of statistical sampling to determine the population for congressional apportionment purposes.”

Legal v. Statistical Concepts

- But Utah v. Evans (2002) allowed the use of “hot-deck imputation” to allocate individuals to vacant domiciles deemed inhabited on April 1, 2000. “Indeed, the Bureau's imputation method is similar in principle to other efforts used since 1800 to determine the number of missing persons, including asking heads of households, neighbors, landlords, postal workers, or other proxies about the number of inhabitants in a particular place.”

Science of the Controversy

- Assessing the accuracy of a census requires supplemental information
- The supplemental information is usually collected in the form of a coverage assessment survey
- Many statistical methods (covered later in the course) are used to compare the original census to the post-enumeration survey
- The assumptions inherent in these analyses are often difficult to test

Survey

- “... systematic method for gathering information from (a sample of) entities for the purposes of constructing quantitative descriptors of the attributes of the larger population of which the entities are members” (Groves et al. 2004, p. 2)
- Sampling (covered later) is optional in general, but in this course we will use “sample survey” and “survey” interchangeably, reserving “census” for any enumeration activity
- But, entities covered by the survey represent entities in the population

Censuses v. Surveys

- Decennial Census of Population and Housing (short form until 2010)
- The Economic Censuses (years ending in 2 and 7)
- Quarterly Census of Employment and Wages
- Long form (through 2000)
- American Community Survey (since 2005)
- Annual Survey of Manufactures, Monthly Survey of Construction
- Current Employment Statistics

Administrative Record

- Any information concerning specific entities in a designated population that is collected by a governmental agency for the purposes of enforcing a specific law.
- The legal distinction between administrative record and statistical information systems was made in the Confidential Information Protection and Statistical Efficiency Act of 2002 (CIPSEA)

CIPSEA

- For the Census Bureau, these protections are part of Title 13
- Many other agencies (e.g., BLS) had no statutory statistical agency status until CIPSEA
- Statistical use of administrative records under CIPSEA prohibits re-use of the statistically-enhanced records for the legal enforcement activities even when the statistical and administrative functions are performed inside the same agency
- Sharing of some administrative records for statistical purposes is explicitly authorized among agencies previously not authorized to do so (Census, BEA, BLS and IRS)
- Other sharing may occur when it is not explicitly prohibited
- Dense legal forest that we will hike later

Administrative v. Statistical Uses

- Tax information reporting to the tax collecting agency from a specific taxable entity (IRS)
- Determination of Unemployment Insurance benefits and eligibility from employer wage reports (state UI offices)
- Tables of household Adjusted Gross Income by geography and size (Statistics of Income Division)
- Quarterly job creations and destructions based on establishment reports (BLS-BED)
- Quarterly job creations and destructions based on job-level reports (Census-QEW)