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**ABSTRACT**

This report on the statistical programs and activities of the Federal Government covers some 70 Federal agencies or separate departmental units budgeting at least \$500,000 in any of fiscal years 1985-87. The budgets of agencies whose sole mission is statistical represent less than half the \$1.6 billion that the Federal Government will spend on statistics in 1987. Chapter 1 presents a table of Federal agencies' obligations for statistical activities in 1985, 1986, and 1987, and tables of budget trends 1978-87 in current dollars and constant dollars. Current developments in statistics on natural resources and environment, the economy, and demographic and social areas are considered. Results are presented from an Office of Management and Budget study of response rates in business surveys conducted by Federal agencies. The redesign of the National Health Interview Survey is also described. The flow of funding is charted, and chapter 2 reports on the role of the private sector in Federal statistics. Chapter 3 (by Ron Heller, U.S. International Trade Commission) describes a new customs classification, the Harmonized Commodity Description and Coding System, and an associated statistical classification, the Standard International Trade Classification, Revision 3. (Author/LPG)

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ED285883

*A Special Report on the  
Statistical Programs and Activities  
of the United States Government  
Fiscal Year 1987*

**FEDERAL STATISTICS**

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Statistical Policy Office  
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AUGUST 1986

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## INTRODUCTION

As a part of carrying out its statistical policy and coordination responsibilities under the Paperwork Reduction Act, the Office of Management and Budget (OMB) each year prepares and publishes a special report on the statistical programs and activities of the Federal Government. Its purpose is to inform government officials and the interested public of major current developments in Federal statistics and statistical programs, particularly as they relate to the Budget of the United States Government for the forthcoming fiscal year.

The report covers the statistical activities of some 70 Federal agencies or separate departmental units. These include agencies whose sole mission is to compile and publish statistics for government and public use: the National Agricultural Statistics Service (NASS), the Bureau of the Census, the Bureau of Economic Analysis (BEA), the Center for Statistics in the Department of Education, the Energy Information Administration (EIA), the National Center for Health Statistics (NCHS), the Bureau of Justice Statistics (BJS), and the Bureau of Labor Statistics (BLS). They also include a much larger number of other agencies and units that publish statistics or do statistical studies as part of or in support of other, nonstatistical missions. The budgets of statistical agencies represent less than half the approximately \$1.6 billion that the Federal government will spend on statistics in 1987. Of the 11 agencies whose 1987 statistical budgets equal or exceed \$50 million, five (Census, BLS, NASS, EIA, and NCHS) are statistical agencies. The others (the Geological Survey, the National Oceanic and Atmospheric Administration (NOAA), the National Institutes of Health, the Environmental Protection Agency (EPA), the Soil Conservation Service, and the National Science Foundation (NSF)) are agencies whose statistical activities are part of broader research activities or support administrative or program functions.

The agencies and departmental units included in this report are all Federal agencies that reported to OMB at least \$500,000 in budget obligations for statistical activities in any of fiscal years 1985, 1986, or 1987. Agencies such as the Federal Reserve Board, whose budgets are not reviewed by OMB, and agencies such as the Central Intelligence Agency, whose budgets do not appear in the Budget of the United States Government, do not report their statistical activities to OMB and are not included in the report.

The "statistical activities" covered by the report are defined to include the design of statistical surveys and studies; training of statisticians, interviewers, and data processing personnel; collection, processing, and tabulation of data for publication; publication and dissemination of data and studies; methodological testing and statistical research; data analysis; forecasts and

projections that are published or otherwise made available for Government-wide or public use; statistical manipulation, dissemination, or publication of data collected by others; construction of secondary data series or development of models that are an integral part of generating statistical series or forecasts; management and coordination of statistical operations; and statistical consulting and training services.

This definition includes activities that directly support and result in products such as tabulations, charts, maps, indicators, projections, forecasts, analyses, and reports. It excludes methodological research and development that do not support specific products. Thus, methodological research and development in such agencies as the Bureau of the Census and the NASS are included, but the statistical research and development activities of the National Bureau of Standards are not.

The first chapter of the report presents data on the statistical budgets of Federal agencies and describes the major program changes provided for in the President's budget for 1987. The chapter includes sections that analyze current developments in statistics on natural resources and the environment, statistics on the economy, and demographic and social statistics. In addition to the discussion of budget and program changes, the section about statistics on the economy includes a presentation of results from an OMB study of response rates in business surveys conducted by Federal agencies. The section on demographic and social statistics includes a subsection on the National Center for Health Statistics' recently completed redesign of the National Health Interview Survey. The last section of Chapter I provides information on the flows of funding -- between Federal agencies, between Federal agencies and States, and between Federal agencies and the private sector -- that support Federal statistical programs and activities.

Chapters II reports on the role of the private sector in Federal statistics. This year for the first time, Federal agencies provided a sufficiently complete and detailed reporting of the statistical services they purchase in the private sector to make such a summary possible.

Chapter III is a special analysis of the development and implementation of the Harmonized System of Commodity Description and Coding System, a new customs classification developed by the Customs Cooperation Council, and an associated statistical classification, the Standard International Trade Classification, Revision 3, both of which are scheduled to go into effect on January 1, 1988. This chapter was written by Ron Heller, a member of the staff of the United States International Trade Commission, while working on special assignment in OMB.

A Glossary of the abbreviations of agency names used in the report is included at the end of the report.

All references to years in the report are to fiscal years.



## CHAPTER I

## CURRENT DEVELOPMENTS IN FEDERAL STATISTICS

The Statistical Budgets of Federal Agencies

Table 1 shows Federal agencies' obligations for statistical activities in 1985, 1986, and 1987. The 1985 figures are actual obligations. The 1986 figures are the levels provided for in agency budgets for that year after the reductions mandated by the Balanced Budget and Emergency Deficit Control (Gramm-Rudman-Hollings) Act of 1985. The 1987 levels are those provided for in the President's budget for 1987.

The totals shown in Table 1 are comparable from year to year and include nearly all the major statistical activities of the Federal Government; however, they do not represent the entire statistical budget of the Federal Government. Some agencies not included in the table have statistical activities that do not meet the \$500,000 reporting threshold. Moreover, as indicated in the Introduction, some agencies that may meet the threshold do not report their statistical activities to OMB.

It is also important to bear in mind when reading Table 1 that many of the year-to-year changes in agency statistical budgets do not reflect program changes, but rather the cycles of multi-year programs and activities. The total Federal "statistical budget" is heavily weighted by the Census Bureau's large periodic programs: the decennial census of population and housing and the quinquennial economic censuses, and year-to-year changes in the total tend to be dominated by the funding cycles of these programs. The sections of this chapter that deal with statistical activities grouped by subject matter describe the program changes that lie behind the 1985-87 budget figures.

Tables 2 and 3 show statistical agency budget trends over the 10-year period, 1978-87, Table 2 presenting obligations in current dollars by agency and Table 3, constant-dollar indexes by department and broad groupings of statistical programs. To interpret these tables correctly, it is essential to refer to the accompanying Notes, which indicate when and where there have been program changes that affect the comparability of figures from year to year. In general, there has been consistent reporting of statistical budgets since 1982, such that, with the few exceptions noted, agency and group totals are comparable from year to year. Except for the major statistical agencies, reporting was far less even prior to 1982.

TABLE 1  
 STATISTICAL EXPENDITURES 1985-1987  
 Obligations for Statistical Programs and Activities  
 (in millions of dollars)

| Department  | Agency    | 1985<br>actual | 1986<br>estimate | 1987<br>estimate |
|-------------|-----------|----------------|------------------|------------------|
| =====       |           |                |                  |                  |
| TOTAL       |           | 1544.6         | 1513.1           | 1605.7           |
| -----       |           |                |                  |                  |
| AGRICULTURE |           |                |                  |                  |
|             | ERS       | 46.4           | 44.9             | 45.5             |
|             | NASS      | 58.1           | 56.2             | 59.7             |
|             | FAS       | 17.3           | 16.9             | 17.2             |
|             | HNIS/ARS  | 1.5            | 6.0              | 0.0              |
|             | F&NS      | 12.1           | 14.0             | 15.0             |
|             | FS        | 8.5            | 8.2              | 7.8              |
|             | SCS       | 73.9           | 71.7             | 64.3             |
|             | AgOther   | 16.1           | 15.4             | 12.3             |
| -----       |           |                |                  |                  |
| COMMERCE    |           |                |                  |                  |
|             | Census    | 174.0          | 197.7            | 277.3            |
|             | current   | 84.8           | 86.5             | 91.7             |
|             | periodic  | 89.2           | 111.2            | 185.6            |
|             | BEA       | 21.8           | 21.3             | 23.5             |
|             | ITA       | 2.5            | 2.5              | 2.4              |
|             | OBA       | 2.2            | 2.1              | 2.2              |
|             | NOAA      | 87.1           | 72.6             | 73.7             |
|             | NMFS      | 9.4            | 8.9              | 5.9              |
| -----       |           |                |                  |                  |
| DEFENSE     |           |                |                  |                  |
|             | Corps Eng | 3.2            | 2.8              | 3.0              |
|             | DMDC      | 2.1            | 2.4              | 2.6              |
|             | ASD/Admin | 1.7            | 1.8              | 1.3              |
|             | DefOther  | 12.5           | 19.2             | 17.7             |
| -----       |           |                |                  |                  |
| EDUCATION   |           |                |                  |                  |
|             | CtrStat   | 14.1           | 14.7             | 24.7             |
|             | EdOther   | 5.7            | 4.5              | 7.3              |

| Department | Agency       | 1985<br>actual | 1986<br>estimate | 1987<br>estimate |
|------------|--------------|----------------|------------------|------------------|
| =====      |              |                |                  |                  |
| ENERGY     |              |                |                  |                  |
|            | EIA          | 60.9           | 57.7             | 59.7             |
|            | FERC         | 4.7            | 4.7              | 4.7              |
|            | EnergyResrch | 17.3           | 16.7             | 17.8             |
|            | EnOther      | 14.1           | 13.5             | 14.2             |
| -----      |              |                |                  |                  |
| HHS        |              |                |                  |                  |
|            | ADAMHA       | 6.4            | 6.8              | 9.4              |
|            | CDC          | 2.8            | 2.9              | 3.2              |
|            | NCHS         | 42.8           | 44.7             | 50.0             |
|            | HRSA         | 7.3            | 6.2              | 4.3              |
|            | NCHSR        | 16.5           | 15.7             | 18.8             |
|            | NIH          | 74.4           | 71.4             | 73.4             |
|            | NCI          | 42.0           | 43.2             | 44.0             |
|            | NHLBI        | 12.3           | 8.0              | 10.4             |
|            | NINCDS       | 3.7            | 3.9              | 2.9              |
|            | OthNIH       | 16.4           | 16.3             | 16.1             |
|            | OASPE        | 11.5           | 9.9              | 9.2              |
|            | OHDS         | 1.8            | 0.6              | 0.5              |
|            | HCFA/S&RS    | 1.2            | 2.5              | 2.7              |
|            | SSA          | 8.1            | 8.5              | 8.5              |
| -----      |              |                |                  |                  |
| HUD        |              |                |                  |                  |
|            | Housing      | 0.9            | 0.9              | 0.9              |
|            | PD&R         | 12.3           | 11.1             | 11.6             |
| -----      |              |                |                  |                  |
| INTERIOR   |              |                |                  |                  |
|            | BoM          | 29.5           | 27.7             | 26.6             |
|            | F&WS         | 5.6            | 9.2              | 5.3              |
|            | USGS/MMS     | 106.0          | 104.8            | 104.3            |
|            | IntOther     | 2.0            | 1.9              | 2.0              |
| -----      |              |                |                  |                  |
| JUSTICE    |              |                |                  |                  |
|            | BJS          | 19.7           | 19.7             | 21.7             |
|            | DEA          | 0.6            | 0.9              | 0.8              |
|            | FBI          | 3.4            | 3.5              | 3.8              |
|            | I&NS         | 1.7            | 1.7              | 1.9              |

| Department            | Agency    | 1985<br>actual | 1986<br>estimate | 1987<br>estimate |
|-----------------------|-----------|----------------|------------------|------------------|
| <b>LABOR</b>          |           |                |                  |                  |
|                       | BLS       | 170.6          | 187.2            | 195.9            |
|                       | ETA       | 13.1           | 14.3             | 13.3             |
|                       | ESA       | 2.9            | 2.7              | 3.0              |
|                       | MSHA      | 2.8            | 2.9              | 3.0              |
|                       | OSHA      | 20.9           | 17.2             | 18.6             |
| <b>TRANSPORTATION</b> |           |                |                  |                  |
|                       | OS/RSPA   | 2.5            | 2.6              | 1.6              |
|                       | FHWA      | 8.4            | 8.8              | 8.9              |
|                       | NHTSA     | 16.7           | 16.0             | 16.9             |
|                       | UMTA      | 1.6            | 1.3              | 1.6              |
| <b>TREASURY</b>       |           |                |                  |                  |
|                       | Customs   | 4.7            | 4.7              | 5.1              |
|                       | IRS       | 34.9           | 28.7             | 30.1             |
| <b>OTHER AGENCIES</b> |           |                |                  |                  |
|                       | AID       | 22.7           | 11.3             | 11.9             |
|                       | CAB       | 0.9            | 0.0              | 0.0              |
|                       | CPSC      | 1.8            | 1.6              | 1.4              |
|                       | EEOC      | 1.4            | 1.3              | 1.3              |
|                       | EPA       | 67.1           | 82.5             | 73.8             |
|                       | FEMA/NBFP | 9.4            | 7.9              | 6.6              |
|                       | FHLBB     | 2.0            | 2.2              | 2.4              |
|                       | NASA      | 18.9           | 18.4             | 18.2             |
|                       | NSF       | 51.9           | 50.5             | 53.7             |
|                       | SBA       | 1.7            | 1.8              | 1.8              |
|                       | VA        | 66.3           | 22.4             | 17.9             |

Table 2  
 STATISTICAL EXPENDITURES, 1978-1987  
 (obligations in millions of dollars)

| Department  | Agency       | 1978  | 1979  | 1980  | 1981  | 1982  | 1983  | 1984  | 1985  | est.<br>1986 | est.<br>1987 |
|-------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|--------------|
| AGRICULTURE | ERS          |       |       |       |       | 39.3  | 38.8  | 43.7  | 46.4  | 44.9         | 45.5         |
|             | NASS         | 77.1  | 78.9  | 90.2  | 93.0  | 51.2  | 51.7  | 54.4  | 58.1  | 56.2         | 59.7         |
|             | FAS          | 0.5   | 0.7   | 17.4  | 18.0  | 18.7  | 20.0  | 24.4  | 17.3  | 16.9         | 17.2         |
|             | HNIS/ARS     | 3.5   | 4.2   | 4.2   | 4.2   | 1.9   | 1.7   | 3.6   | 1.5   | 6.0          | 0.0          |
|             | F&NS         |       |       |       |       | 7.3   | 14.6  | 15.0  | 12.1  | 14.0         | 15.0         |
|             | FS           |       |       | 9.0   | 8.6   | 8.4   | 7.8   | 7.5   | 8.5   | 8.2          | 7.8          |
|             | SCS          |       |       | 67.6  | 77.3  | 75.5  | 75.5  | 72.2  | 73.9  | 71.7         | 64.3         |
|             | AgOther      |       |       | 17.1  | 14.4  | 13.3  | 12.6  | 12.2  | 16.1  | 15.4         | 12.3         |
| TOTAL       |              | 81.1  | 83.8  | 205.5 | 215.5 | 215.6 | 222.7 | 233.0 | 233.9 | 233.3        | 221.8        |
| COMMERCE    | Census       | 121.0 | 211.1 | 754.6 | 249.6 | 147.1 | 165.2 | 166.8 | 174.0 | 197.7        | 277.3        |
|             | current      | 48.0  | 51.0  | 52.5  | 56.9  | 59.2  | 69.1  | 77.7  | 84.8  | 86.5         | 91.7         |
|             | periodic     | 73.0  | 160.1 | 702.1 | 192.7 | 87.9  | 96.1  | 89.1  | 89.2  | 111.2        | 185.6        |
|             | economic     | 16.5  | 13.5  | 9.8   | 8.0   | 9.6   | 22.8  | 19.0  | 15.9  | 10.7         | 13.2         |
|             | government   | 1.8   | 1.1   | 0.8   | 0.9   | 4.2   | 2.6   | 1.8   | 1.0   | 0.9          | 5.4          |
|             | agriculture  | 11.6  | 22.5  | 10.6  | 8.2   | 11.4  | 22.2  | 9.9   | 6.9   | 7.6          | 11.6         |
|             | decenn       | 25.5  | 115.7 | 673.3 | 157.4 | 50.6  | 33.8  | 27.0  | 35.1  | 49.4         | 78.9         |
|             | intercenn    | 9.2   | 3.4   | 2.7   | 10.4  | 3.3   | 3.2   | 4.1   | 2.6   | 2.2          | 2.6          |
|             | geogsupp     | 3.3   | 3.1   | 2.3   | 4.9   | 3.7   | 4.3   | 11.2  | 16.1  | 20.9         | 16.1         |
|             | ADP/GA       | 5.1   | 0.8   | 2.6   | 2.9   | 5.1   | 7.2   | 16.2  | 11.6  | 19.5         | 57.2         |
|             | other        |       |       |       |       |       |       |       |       |              | 0.6          |
|             | BEA          | 14.0  | 14.6  | 15.8  | 17.1  | 18.0  | 19.1  | 21.0  | 21.8  | 21.3         | 23.5         |
|             | ITA          | 1.4   | 1.4   | 1.8   | 2.0   | 1.1   | 1.7   | 2.6   | 2.5   | 2.5          | 2.4          |
|             | BIE          |       |       | 4.3   | 6.8   | 8.5   | 8.8   |       |       |              |              |
|             | EDA          | 1.4   | 1.1   | 0.5   | 1.7   |       |       |       |       |              |              |
| OBA         |              |       |       |       |       |       |       | 2.2   | 2.1   | 2.2          |              |
| NOAA        |              | 5.2   | 46.7  | 52.1  | 48.1  | 61.4  | 72.8  | 87.1  | 72.6  | 73.7         |              |
| NMFS        | 4.7          | 4.5   | 6.3   | 7.1   | 8.8   | 8.8   | 8.9   | 9.4   | 8.9   | 5.9          |              |
| TOTAL       |              | 142.5 | 237.9 | 830.0 | 336.4 | 231.6 | 265.0 | 272.2 | 297.0 | 305.2        | 385.0        |
| DEFENSE     | Corps Eng    | 2.0   | 2.6   | 2.9   | 3.2   | 3.2   | 3.2   | 3.1   | 3.2   | 2.8          | 3.0          |
|             | DMDC         |       |       |       |       | 5.1   | 4.7   | 2.4   | 2.1   | 2.4          | 2.6          |
|             | ASD/Admin    |       |       |       |       |       |       |       | 1.7   | 1.8          | 1.3          |
|             | DefOther     |       |       | 8.7   | 9.4   | 10.4  | 10.7  | 12.5  | 12.5  | 19.2         | 17.7         |
| TOTAL       |              | 2.0   | 2.6   | 11.6  | 12.6  | 18.7  | 18.6  | 18.0  | 19.5  | 26.2         | 24.6         |
| EDUCATION   | CtrStat/NCES | 13.9  | 13.0  | 9.9   | 8.4   | 8.5   | 8.6   | 14.1  | 14.1  | 14.7         | 24.7         |
|             | EdOther      | 2.0   | 0.5   |       | 9.9   | 7.7   | 4.3   | 5.9   | 5.7   | 4.5          | 7.3          |
| TOTAL       |              | 15.9  | 13.5  | 9.9   | 18.3  | 16.2  | 12.9  | 20.0  | 19.8  | 19.2         | 32.0         |

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| Department   | Agency                  | 1978  | 1979  | 1980  | 1981  | 1982  | 1983  | 1984  | 1985  | est.<br>1986 | est.<br>1987 |
|--------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------------|--------------|
| ENERGY       | EIA                     | 50.7  | 65.6  | 88.2  | 89.8  | 77.8  | 58.1  | 55.6  | 60.9  | 57.7         | 59.7         |
|              | FERC                    |       |       |       |       |       |       | 4.2   | 4.7   | 4.7          | 4.7          |
|              | UranResource            | 64.8  | 69.0  | 62.1  | 38.0  | 9.0   | 7.8   | 4.2   |       |              |              |
|              | EnergyResrch            |       |       |       |       | 18.2  | 15.2  | 17.7  | 17.3  | 16.7         | 17.8         |
|              | EnvSafHealth<br>EnOther | 0.6   | 0.5   | 10.8  | 12.2  | 13.5  | 9.1   | 13.8  | 14.1  | 13.5         | 14.2         |
| <b>TOTAL</b> |                         | 116.1 | 135.1 | 161.1 | 140.0 | 119.9 | 90.7  | 95.9  | 97.1  | 92.6         | 96.3         |
| HHS          | ADAMHA                  | 9.6   | 12.7  | 7.7   | 8.6   | 6.9   | 6.2   | 8.4   | 6.4   | 6.8          | 9.4          |
|              | CDC                     | 3.8   | 4.0   | 6.5   | 6.2   | 5.3   | 2.9   | 2.5   | 2.8   | 2.9          | 3.2          |
|              | FDA                     | 2.1   | 2.1   | 2.3   | 2.3   |       |       |       |       |              |              |
|              | NCHS                    | 37.3  | 38.9  | 43.3  | 33.7  | 37.7  | 40.8  | 46.0  | 42.8  | 44.7         | 50.0         |
|              | HRSA                    | 5.8   | 6.4   | 6.8   | 6.4   | 4.9   | 5.0   | 5.1   | 7.3   | 6.2          | 4.3          |
|              | NCHSR                   | 6.7   | 2.1   | 1.6   | 2.1   | 16.1  | 16.3  | 17.6  | 16.5  | 15.7         | 18.8         |
|              | NIH                     | 36.4  | 40.9  | 45.9  | 54.9  | 51.6  | 63.5  | 60.4  | 74.4  | 71.4         | 73.4         |
|              | NCI                     | 23.2  | 24.8  | 29.7  | 34.4  | 31.5  | 33.4  | 40.1  | 42.0  | 43.2         | 44.0         |
|              | NHLBI                   | 5.5   | 6.6   | 7.1   | 8.2   | 7.1   | 15.0  | 3.4   | 12.3  | 8.0          | 10.4         |
|              | NINCDS                  | 4.6   | 5.7   | 4.7   | 4.1   | 4.1   | 3.4   | 3.8   | 3.7   | 3.9          | 2.9          |
|              | OthNIH                  | 3.1   | 3.8   | 4.4   | 8.2   | 8.9   | 11.7  | 13.1  | 16.4  | 16.3         | 16.1         |
|              | OASPE                   | 8.4   | 7.1   | 7.4   | 8.8   | 16.0  | 19.2  | 15.5  | 11.5  | 9.9          | 9.2          |
|              | OHDS                    | 4.1   | 3.2   | 1.2   | 1.6   | 3.7   | 3.9   | 4.5   | 1.8   | 0.6          | 0.5          |
|              | HCFA/S&RS               | 7.9   | 16.0  | 17.2  | 10.6  | 3.6   | 1.2   | 0.3   | 1.2   | 2.5          | 2.7          |
| SSA          | 17.5                    | 12.4  | 22.9  | 22.6  | 17.2  | 9.0   | 8.7   | 8.1   | 8.5   | 8.5          |              |
| <b>TOTAL</b> |                         | 139.6 | 145.8 | 162.8 | 157.8 | 163.0 | 168.0 | 169.0 | 172.8 | 169.2        | 180.0        |
| HUD          | CP&D                    | 1.5   | 2.1   | 2.4   | 0.9   | 0.8   |       |       |       |              |              |
|              | Housing                 | 1.8   | 2.2   | 2.5   | 4.5   | 5.1   | 4.6   | 1.2   | 0.9   | 0.9          | 0.9          |
|              | PD&R                    | 13.2  | 10.1  | 9.1   | 15.1  | 13.7  | 14.2  | 9.6   | 12.3  | 11.1         | 11.6         |
| <b>TOTAL</b> |                         | 16.5  | 14.4  | 14.0  | 20.5  | 19.6  | 18.8  | 10.8  | 13.2  | 12.0         | 12.5         |
| INTERIOR     | BoM                     | 13.4  | 14.5  | 16.1  | 19.1  | 27.6  | 26.1  | 28.7  | 29.5  | 27.7         | 26.6         |
|              | F&WS                    | 9.3   | 9.6   | 7.7   | 8.2   | 3.6   | 3.3   | 3.6   | 5.6   | 9.2          | 5.3          |
|              | USGS/MMS                | 11.1  | 7.7   | 7.9   | 8.8   | 103.7 | 101.4 | 108.4 | 106.0 | 104.8        | 104.3        |
|              | IntOther                |       |       | 5.4   | 6.5   | 5.2   | 3.4   | 3.1   | 2.0   | 1.9          | 2.0          |
| <b>TOTAL</b> |                         | 33.8  | 31.8  | 37.1  | 42.6  | 140.1 | 134.2 | 143.8 | 143.1 | 143.7        | 138.2        |
| JUSTICE      | BJS/LEAA                | 29.4  | 28.1  | 17.8  | 12.3  | 17.7  | 17.1  | 18.6  | 19.7  | 19.7         | 21.7         |
|              | DEA                     |       |       |       |       |       |       | 0.8   | 0.6   | 0.9          | 0.8          |
|              | FBI                     | 1.3   | 1.2   | 1.4   | 2.0   | 3.6   | 3.6   | 3.3   | 3.4   | 3.5          | 3.8          |
|              | I&NS                    |       |       |       |       | 1.8   | 1.4   | 1.6   | 1.7   | 1.7          | 1.9          |
| <b>TOTAL</b> |                         | 30.7  | 29.3  | 19.2  | 14.3  | 23.1  | 22.1  | 24.3  | 25.4  | 25.8         | 28.2         |

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| Department      | Agency    | 1978  | 1979  | 1980   | 1981   | 1982   | 1983   | 1984   | 1985   | est.<br>1986 | est.<br>1987 |
|-----------------|-----------|-------|-------|--------|--------|--------|--------|--------|--------|--------------|--------------|
| LABOR           | BLS       | 83.8  | 94.9  | 102.9  | 109.9  | 111.6  | 121.3  | 136.3  | 170.6  | 187.2        | 195.9        |
|                 | ETA       | 24.7  | 24.7  | 17.5   | 18.4   | 23.9   | 17.6   | 36.8   | 13.1   | 14.3         | 13.3         |
|                 | ESA       | 0.6   | 0.6   | 0.6    | 0.5    | 2.3    | 2.6    | 2.9    | 2.9    | 2.7          | 3.0          |
|                 | MSHA/MESA | 2.2   | 2.4   | 2.6    | 3.0    | 3.2    | 3.1    | 2.8    | 2.8    | 2.9          | 3.0          |
|                 | OSHA      | 6.7   | 6.4   | 7.1    | 6.5    | 9.3    | 11.1   | 16.2   | 20.9   | 17.2         | 18.6         |
| TOTAL           |           | 118.0 | 129.3 | 130.7  | 138.9  | 151.9  | 156.2  | 194.9  | 210.2  | 224.2        | 233.8        |
| TRANSPORTATION  | OS/RSPA   | 1.1   | 0.3   | 1.1    | 1.3    | 0.4    | 1.2    | 1.6    | 2.5    | 2.6          | 1.6          |
|                 | FHWA      | 4.6   | 4.1   | 4.4    | 5.7    | 5.8    | 5.8    | 6.8    | 8.4    | 8.8          | 8.9          |
|                 | FRA       | 0.8   | 0.8   | 0.8    | 0.9    | 0.7    | 0.4    |        |        |              |              |
|                 | NHTSA     | 13.0  | 12.3  | 14.8   | 17.4   | 17.4   | 16.2   | 17.8   | 16.7   | 16.0         | 16.9         |
|                 | UMTA      | 0.9   | 0.3   |        | 0.8    | 2.0    | 1.9    | 1.3    | 1.6    | 1.3          | 1.6          |
| TOTAL           |           | 20.4  | 17.8  | 21.1   | 26.1   | 26.3   | 25.5   | 27.5   | 29.1   | 28.7         | 29.0         |
| TREASURY        | OS/IA     | 0.7   |       | 1.4    | 1.1    | 1.1    |        |        |        |              |              |
|                 | Customs   | 3.5   | 3.4   | 3.4    | 4.1    | 3.9    | 4.4    | 4.6    | 4.7    | 4.7          | 5.1          |
|                 | IRS       | 13.8  | 14.2  | 14.6   | 14.6   | 16.4   | 14.7   | 25.4   | 34.9   | 28.7         | 30.1         |
| TOTAL           |           | 18.0  | 17.6  | 19.4   | 19.8   | 21.4   | 19.1   | 30.0   | 39.6   | 33.4         | 35.1         |
| OTHER AGENCIES  | AID       |       |       |        |        | 15.0   | 15.1   | 17.3   | 22.7   | 11.3         | 11.9         |
|                 | CAB       | 5.0   | 4.1   | 3.1    | 4.0    | 3.6    | 4.3    | 3.5    | 0.9    |              |              |
|                 | CPSC      |       |       |        | 6.4    | 4.8    | 4.8    | 4.9    | 1.8    | 1.6          | 1.4          |
|                 | EEOC      |       |       |        |        |        | 1.4    | 1.5    | 1.4    | 1.3          | 1.3          |
|                 | EPA       | 20.4  | 29.2  | 43.0   | 35.3   | 31.1   | 26.0   | 24.2   | 67.1   | 82.5         | 73.8         |
|                 | FEMA/NBFP | 1.7   | 2.9   |        |        | 1.4    | 10.3   | 10.7   | 9.4    | 7.9          | 6.6          |
|                 | FHLBB     | 3.1   | 3.0   | 3.7    | 3.6    | 1.6    | 1.7    | 1.9    | 2.0    | 2.2          | 2.4          |
|                 | FTC       | 1.3   | 1.8   | 2.0    | 2.3    | 1.7    |        |        |        |              |              |
|                 | ICC       | 1.7   | 1.5   | 1.4    | 1.4    |        |        |        |        |              |              |
|                 | NASA      |       |       | 27.7   | 30.9   | 31.9   | 33.6   | 25.6   | 18.9   | 18.4         | 18.2         |
|                 | NSF       | 2.5   | 3.1   | 26.8   | 35.2   | 34.7   | 41.0   | 41.5   | 51.9   | 50.5         | 53.7         |
|                 | SBA       |       |       | 1.1    | 2.0    | 1.6    | 0.8    | 1.0    | 1.7    | 1.8          | 1.8          |
|                 | SEC       | 1.6   | 1.3   | 1.5    | 0.4    |        |        |        |        |              |              |
| VA              | 8.8       | 1.4   | 13.6  | 21.7   | 22.2   | 26.2   | 73.7   | 66.3   | 22.4   | 17.5         |              |
| TOTAL           |           | 780.7 | 906.9 | 1746.3 | 1285.4 | 1295.4 | 1318.5 | 1445.2 | 1544.6 | 1513.1       | 1605.7       |
| GenPurpose      |           | 273.6 | 292.8 | 320.8  | 329.7  | 344.6  | 366.9  | 407.8  | 454.0  | 468.5        | 492.8        |
| Just&Ed Stat    |           | 46.6  | 42.8  | 29.1   | 32.6   | 37.5   | 33.6   | 42.7   | 43.5   | 43.3         | 58.3         |
| Energy Stat     |           | 115.5 | 134.6 | 150.3  | 127.8  | 86.8   | 65.9   | 64.0   | 65.6   | 62.4         | 64.3         |
| Nat.Res.&Envir. |           | 43.3  | 54.8  | 278.4  | 298.9  | 379.4  | 385.8  | 397.4  | 463.7  | 467.9        | 447.3        |
| OthProg Stat.   |           | 228.7 | 221.8 | 265.6  | 303.7  | 359.2  | 370.2  | 444.1  | 428.7  | 359.8        | 357.4        |

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## NOTES TO TABLE 2

GENERAL - Programs are grouped according to government organization as of 1985. Units affected by reorganizations are placed together in the table to facilitate comparisons. Unless otherwise indicated, blank cells represent amounts below the reporting threshold (\$300,000 through 1981, \$500,000 thereafter). Abbreviations refer to reporting units identified in the first section of this report and the notes below.

Most natural resource programs were added to the report between 1980 and 1982. The National Climate Program (NASA, NSF, NOAA, and 'Other' categories in Agriculture, Defense, Energy, and Interior) was added following publication of the 1980 NCP Plan.

- AGRI 1 ESCS/ESS (including ERS) appears on the NASS line for 1978-81. Partial amounts reported by ERS in 1981-8 have been replaced by total net obligations for comparability. Amounts originally reported were 3.2, and 33.2, respectively.
- 2 Before 1979, the Foreign Agricultural Service reported only the program of the General Sales Manager.
- 3 Before 1979, HNIS (then HNIC) was reported as Agricultural Research Service.
- 4 F&NS did not report before 1982.
- COMM 5 Census current amounts for 1983 are direct rather than net obligations. Net figures were significantly distorted by accounting transactions required to close the Bureau's trust fund. About \$80 million of advance Federal reimbursements floated in that account had to be currently obligated in 1983-84.
- 6 The new BIE reported for the first time in 1980 and is split between ITA and OBA beginning in 1984.
- 7 NOAA did not report before 1979, and in 1979 reported only environmental assessment activities.
- 8 The National Bureau of Fire Prevention (1978-79) is included on the FEMA line.
- DEF 9 Defense Manpower Data Center did not report before 1982.
- 10 ASD/Admin did not report before 1985.



- EDUC 11 Other includes the Office of Education, 1978-79. The Student Aid Survey is included in EdOther in 1987. Missing reports coincide with organizational shifts. NCES amounts do not include S&E prior to 1984. The NCES in 1986 changed its name to the Center for Statistics.
- ENERGY 12 FERC support by EIA is split out as reimbursed in 1984-87.
- 13 Other 'ERDA' programs reappear on the Energy Research, Environment, Safety, Health; and Other lines in 1978, 1980, and 1982.
- HHS 14 ADAMHA includes pre-1982 amounts for DEA (Justice) & Special Action Office for Drug Abuse Prevention.
- 15 Health Services and Health Resources Administrations reported separately before 1982. The entire NCHSR program is reported beginning in 1982.
- INT 16 USGS/MMS includes only energy activities until 1982, when water and mapping programs were added.
- JUST 17 The BJS line shows the larger LEAA program before 1980. Totals have been corrected to include S&E.
- 18 DEA started reporting in 1984.
- LAB 19 BLS totals include periodic programs reported separately in 1978-79.
- 20 Labor force statistics previously funded by ETA were refinanced through trust funds managed by BLS beginning in 1985 and 1986. Comparable amounts for 1984 are included on the ETA line.
- 21 Mining Enforcement and Safety Administration (Interior) became MSHA (Labor) in 1978.
- 22 The OSHA obligations for 1984-87 include information collected to monitor compliance with OSHA regulations. These funds were not previously reported.
- TREAS 23 All of IRS Research Division is reported beginning in 1984. Field resources are added in 1985-87. Prior to 1982 part of these activities is included in IRS totals.
- AID 24 AID did not report before 1982. The 1982-85 amounts include funds for the UN Fund for Population Activities, not available for 1986-87.

- CAB 25 Agency dissolved as of January 1, 1985.
- CPSC 26 CPSC did not report for 1978-80.
- EPA 27 Coverage of EPA reports varies substantially prior to 1982.
- FEMA 28 The 1982 FEMA report did not include estimates of ADP support - see also note 8 above.
- FTC 29 The Quarterly Financial Report was transferred to the Census Bureau in 1983.
- SBA 30 1980 was the first report on SBA's new small business data base program.
- VA 31 The small VA totals in some years exclude medical activities.

## SUBTOTALS:

GenPurpose is the sum of ERS, NASS, Census current, BEA, NCHS, BOM, and BLS.

Just&Ed Stat is the sum of BJS/LEAA, DEA, FBI, CtrStat/NCES, and EdOther.

Energy Stat is the sum of EIA/FERC and Uranium Resource Assessment.

Nat. Res.&Envir. is the sum of FS, SCS, NOAA, EPA, NASA, NSF, DOI except BOM, and Other in Ag., Def., & Energy.

OthProg Stat. is the sum of all other programs except Census periodic.

TABLE 3  
 STATISTICAL BUDGET CONSTANT DOLLAR INDEX  
 (FY 1982=100)

| Department        | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | est.<br>1986 | est.<br>1987 |
|-------------------|------|------|------|------|------|------|------|------|--------------|--------------|
| AGRICULTURE       | 51   | 49   | 112  | 107  | 100  | 99   | 100  | 98   | 95           | 88           |
| COMMERCE          | 83   | 130  | 420  | 155  | 100  | 109  | 109  | 115  | 116          | 142          |
| DEFENSE           | 14   | 18   | 73   | 72   | 100  | 95   | 89   | 94   | 123          | 112          |
| EDUCATION         | 132  | 105  | 72   | 120  | 100  | 76   | 114  | 110  | 104          | 168          |
| ENERGY            | 130  | 142  | 157  | 124  | 100  | 72   | 74   | 73   | 68           | 68           |
| HHS               | 115  | 113  | 117  | 103  | 100  | 98   | 96   | 95   | 91           | 94           |
| HUD               | 113  | 93   | 84   | 111  | 100  | 92   | 51   | 61   | 54           | 54           |
| INTERIOR          | 32   | 29   | 31   | 32   | 100  | 91   | 95   | 92   | 90           | 84           |
| JUSTICE           | 179  | 160  | 97   | 66   | 100  | 91   | 97   | 99   | 98           | 104          |
| LABOR             | 106  | 109  | 102  | 98   | 100  | 99   | 120  | 126  | 131          | 133          |
| TRANSPORTATION    | 104  | 86   | 94   | 106  | 100  | 93   | 97   | 99   | 96           | 94           |
| TREASURY          | 113  | 104  | 106  | 99   | 100  | 85   | 130  | 166  | 137          | 140          |
| OTHER AGENCIES    | 42   | 41   | 97   | 102  | 100  | 105  | 127  | 147  | 118          | 108          |
| TOTAL             | 81   | 89   | 158  | 106  | 100  | 97   | 103  | 107  | 103          | 106          |
| Current programs: |      |      |      |      |      |      |      |      |              |              |
| GenPurpose        | 107  | 107  | 109  | 102  | 100  | 102  | 110  | 118  | 120          | 122          |
| Just&Ed Stat      | 167  | 144  | 91   | 93   | 100  | 86   | 105  | 104  | 102          | 133          |
| Energy Stat       | 179  | 196  | 203  | 157  | 100  | 72   | 68   | 68   | 63           | 63           |
| Nat.Res.&Envir.   | 15   | 18   | 86   | 84   | 100  | 97   | 97   | 110  | 109          | 100          |
| OthProg Stat.     | 86   | 78   | 87   | 90   | 100  | 98   | 114  | 107  | 88           | 85           |
| Periodic programs | 112  | 230  | 935  | 234  | 100  | 104  | 94   | 91   | 111          | 180          |

NOTE: The deflators for past years are based upon the BEA indices for Federal non-defense nonpay purchases and Federal civilian pay. The indices are combined and weighted according to the overall Federal non-defense split between nonpay purchases and pay in FY85. Since these calculations assume the government-wide proportions of pay and nonpay purchases, the recent real growth of pay-dominant agencies will be overstated and the real growth of purchase-dominated agencies understated. The entries differ slightly from those published in previous reports because of revisions in the price indices.

TABLE 4

## STATISTICS ON NATURAL RESOURCES AND THE ENVIRONMENT, 1983-87

Obligations  
(in millions of dollars)

|  | 1983<br>actual | 1984<br>actual | 1985<br>actual | 1986<br>estimate | 1987<br>estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| Natural resources and the environment, total | 430.3          | 432.5          | 460.7          | 464.3            | 446.2            |
| Natural resources, total                     | 212.4          | 213.7          | 230.9          | 225.2            | 210.4            |
| General natural resources                    | 52.5           | 52.8           | 76.1           | 68.0             | 58.9             |
| Water resources                              | 81.5           | 87.6           | 87.6           | 84.4             | 82.2             |
| Energy & mineral resources                   | 22.2           | 15.8           | 6.5            | 7.6              | 8.2              |
| Soil, forest, fish, wildlife                 | 56.2           | 57.5           | 60.8           | 65.3             | 61.0             |
| Environment, total                           | 217.9          | 218.8          | 229.8          | 239.1            | 235.8            |
| General environment                          | 78.9           | 75.4           | 82.4           | 95.0             | 86.3             |
| National Climate Program                     | 139.0          | 143.4          | 147.4          | 144.1            | 149.4            |

General natural resources: the multi-resource inventories of the Forest Service and Soil Conservation Service, direct LANDSAT funding, Geological Survey mapping, and Economic Research Service (USDA) studies of production resources.

Water resources: the Geological Survey's National Water Data System.

Energy and mineral resources: Geological Survey's energy hydrology and mineral studies, the Minerals Management Service's statistical activities, and the Uranium Resource Assessment, Department of Energy (1983-1985). Excludes about \$15 million of comparable activity in the Bureau of Mines and the Energy Information Administration--these agencies are covered in Statistics on the Economy.

Soil, forest, fish and wildlife: includes soil surveys, other forest statistics, and the statistical activities of the United States Fish & Wildlife Service.

General environment: statistical activities of the EPA and NOAA's Environmental Data and Information Service (except for National Climate Program support). EPA program total now includes the \$35 million portion of state Air Quality Program Grants that is estimated to support the nationwide monitoring system. This estimate was included in previous reports as a footnote item.

National Climate Program: includes all NCP activities (overlapping activities have been excluded from other categories).

## Statistics on Natural Resources and the Environment

Advances in technology have had a profound effect on the collection, analysis, and interpretation of natural resources and environmental statistics. Other statistical programs have made use of computers with techniques ranging from computer-assisted telephone interviewing to computer-based analytical modeling, but these contributions are modest compared to the influx of high technology into the processes of observing and analyzing the natural environment. This is due in large part to the role of hard science in determining natural resource and environmental policy. Since these decisions rely on measurement of physical as well as behavioral phenomena, there is much greater scope for measurement technology. Thus one of the oldest statistical activities -- describing and accounting for the "wealth" provided by nature -- is undergoing numerous changes to make use of space age technology. While some programs will continue to rely on efficient conventional methods, others are shifting progressively to new technologies.

### Changes in General Natural Resource Programs

The Federal role in broad scale natural resource data collection and analysis will reflect the changes initiated in recent years (see Table 4). The labor-intensive resource inventory sponsored by the Soil Conservation Service is being phased out with the completion of the 1982 National Resources Inventory. This survey used nearly 350,000 sampling units and nearly one million sampling points following a design developed by the Iowa State University Statistical Laboratory. The methodology developed and refined in the last iteration will be put on the shelf in case it is needed for future benchmark surveys. SCS will shift its attention to sophisticated remote sensing technologies to meet its needs for current monitoring.

The Forest Service's resource inventory is still the dominant statistical activity in that agency. It uses a rotating sampling scheme to control data collection costs. All States, territories, and possessions are surveyed once in each 10-year rotation period. For forest and rangeland, the inventory covers many of the same variables formerly surveyed twice each decade by SCS.

NOAA's core funding for LANDSAT will continue at the level required to operate existing ground stations. Other agencies will meet their needs for LANDSAT data through private contracts. The Department of Agriculture will complete its consolidation of natural resource economics programs in the Economic Research Service. This change has produced a shift to more direct and less reimbursable financing for these activities and more integrated program priorities.

Digital cartography programs received a boost from OMB guidance renewing the mandate of the Federal Interagency Coordinating

Committee on Digital Cartography under the leadership of the Geological Survey. This action supports the strategy of developing a national digital data base using priorities established by current program needs. Thus, one of the first projects will be the development of digitized maps with a scale and content suitable for use in the 1990 Census. A Memorandum of Understanding has been executed between the Bureau of the Census and the Geological Survey to complete this work for the coterminous United States by mid-1987. These data will also be available for use by the Federal Highway Administration, the Federal Emergency Management Agency (FEMA), the Nuclear Regulatory Commission, the Department of Defense, and the Bureau of Land Management. Reimbursements from these agencies and the private sector will supplement increased appropriations for this program.

Traditional and digital cartography provides an inexpensive yet powerful tool for integrating natural resource data in a variety of policy contexts. Recent examples include:

|   |   |
|---|---|
| NOAA and EPA  | Digital data used to study pollution sources in U.S. coastal areas.   |
| Fish and Wildlife Service and Minerals Management Service       | LANDSAT-derived land cover map used in Environmental Impact Study of Arctic National Wildlife Refuge, Alaska, prior to geologic exploration.  |
| Soil Conservation Service                                       | Maps used by district conservationists in acquiring county base data for the National Resources Inventory. Data also to be used in the periodic Resources Conservation Act appraisal. |
| Economic Research Service,<br>U.S. Department of<br>Agriculture | Maps and statistical summaries used in 5-year assessments of trends and changes in land-use patterns in the United States.  |
| Nuclear Regulatory Commission                                   | Maps and statistics applied to siting analysis and disaster planning.   |
| Bureau of Land Management                                       | Land-use and land-cover data provided for National Petroleum Reserve in Alaska; used for land resource assessment and management purposes.  |

Other Interior/Geological  
Survey

Assessment of lands suitable for mineral development and in acid rain related studies.

Non-Federal

Data for building site selection, utility corridor studies, development potential surveys, terrain simulations, and many other land-related activities are used by engineering and consulting firms, utility companies, and land development companies.

Water Resources

The National Water Resources Research and Information System funded jointly by the Geological Survey and the States will change little in 1986 and 1987. Funding for cooperative programs will dip slightly in 1986 and increase in 1987. Federal program funding will decrease somewhat as the Nuclear Waste Hydrology project is completed (in time to support statutory deadlines for siting decisions) and the planned expansion of some projects is postponed. Toxic substances hydrology, the acid rain program, and a new (1986) national water quality assessment will continue to support environmental analysis and decisionmaking.

Energy and Mineral Resources

After several years of retrenchment Federal spending on energy and mineral resource data will grow in 1986 and 1987. Energy programs have stabilized and now Federal efforts are enjoying the benefits of secondary use of data developed by the private sector. Two computer systems have been established to use these data for resource assessment studies. The first focuses on areal data -- the size of oil and gas pools and fields and their production history. This is augmented by a second system based on point-source data -- records of individual wells maintained by industry and provided to USGS.

Radiation data collected by aerial surveys to support the National Uranium Resource Evaluation in the 1970's is now finding new uses in assessing environmental risks due to natural radon. The NURE data base, transferred to the Geological Survey when the Department of Energy completed its program, is now available to both Federal and State environmental agencies.

Program growth will occur in the minerals area. Investigations of the U.S. Exclusive Economic Zone (EEZ) will collect data on the type and location of off-shore mineral deposits, their physical and chemical properties, and the terrain and geologic properties of their ocean environment. This information will be stored in computer-based files for both mapping and periodic assessment of energy and mineral resources of the EEZ.

### Soil, Forests, Fish and Wildlife

Soil surveys are conducted by the Soil Conservation Service (SCS) in cooperation with other Federal agencies, land-grant colleges, and State and local agencies. Current emphasis is on data systems to improve analysis and interpretation of soil data -- to facilitate comparisons and uniform classification of soils within various geographic regions.

The Forest Service also receives both dollar contributions and contributions in kind from other agencies and the private sector for its statistical program. Since their resource inventory focuses on a few States each year, detailed surveys of forest industry activity in the same selected States provide a link between the resource base and associated economic activity.

The 1986 budget will provide the peak funding for the National Survey of Hunting, Fishing, and Wildlife Associated Recreation sponsored by the United States Fish and Wildlife Service (F&WS). This survey, conducted for F&WS by the Census Bureau every 5 years, was subjected to a very thorough review since it claims such a large portion of the agency's statistical budget.

### Environmental Data Collection and Analysis

The environmental data base, maintained by NOAA, supply data to over 100,000 "customers" each year. The information is acquired from NOAA's own programs and from other foreign and domestic sources after its primary uses have been satisfied. Clients served by NOAA'S Environmental Data and Information Service (EDIS) include AID, EPA, NASA, NSF, and the Departments of Agriculture, Commerce, Defense, Energy, Interior, State, and Transportation, as well as universities, private industry, and private individuals. User charges not only supplement appropriated funds but also provide a means for determining user demand and priorities. In addition to this clearinghouse function, EDIS also provides analytical products tailored to the needs of particular clients.

The EPA conducts a multi-faceted program of environmental data collection and research. The major statistical activities involved are air quality monitoring, the integrated air cancer project, impact analysis for solid waste programs, acid deposition ("acid rain"), and health effects/environmental assessment. Funds for acid rain research and the risk assessment activity will remain high in 1987 as well.

EPA's overall improvement in statistical performance now includes two showcase studies: the Leaking Underground Storage Tank survey in 1985, and a study of pesticides in wells planned for 1986. These studies combine sophisticated statistical design with advanced measurement techniques to solve difficult problems of estimation.



Improvements have not been limited to new activities, however. After 3 years of study EPA is developing procedures to correct a long-standing statistical error in its groundwater monitoring regulation for controlling waste disposal facilities. A blue ribbon internal review committee found that the invalid statistical procedure, first identified by OMB's Statistical Policy Office, would impose unnecessary regulatory cost (independently estimated at over \$90 million per year) and compromise the environmental benefits of the program.

### National Climate Program

Combined funding for the National Climate Program continues on a higher curve than projected in the original program plan. This reflects the success of several "seed" projects and the value now attached to them in the sponsoring agencies. NASA investments in remote sensing technology and associated analysis have not phased down as anticipated in the 1978 plan. These programs entail sophisticated cross-calibration of new instruments against the data holdings generated by existing instruments. This analysis is necessary to preserve the value of data already collected and to provide researchers with data that can be meaningfully compared for different periods of time. NASA's continued support for those activities reduces the costs to data user agencies that were assumed in the original plan. NASA's detailed knowledge of these measurement technologies makes this a more optimum division of labor. NASA's role also permits the application of consistent high standards of data quality. NASA's climate project plans were determined prior to the current suspension of shuttle flights. Though many of the necessary satellites are already in orbit, some new instruments, including a device to improve measurements of stratospheric ozone, were scheduled for launch in 1986.

The Department of Defense continues to expand its information system for managing and reporting climate data. This activity now accounts for about 10 percent of the funding for the National Climate Program. Its pragmatic objectives complement the much larger research and data gathering expenditures by NASA, NSF, and NOAA. NOAA continues to provide similar services for the general public while NSF continues to allocate a large block of funds for climate research grants.

Direct "walking" surveys of the Western snow pack will be eliminated by the SCS as planned. The "SNOTEL" network of automatic monitors will be completed and maintained, however. This telemetry data can be accessed by computer modem through a dial-up telecommunications system and will be jointly published by SCS and NOAA's National Weather Service.

The overall emphasis in the National Climate Program will be on maintaining and improving existing projects rather than on new starts.

TABLE 5

## STATISTICS ON THE ECONOMY, 1983-87

Obligations  
(in millions of dollars)

|  | 1983<br>actual | 1984<br>actual | 1985<br>actual | 1986<br>estimate | 1987<br>estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| Statistics on the economy, total                   | 514.7          | 525.5          | 554.5          | 548.3            | 573.0            |
| Economic censuses and the census<br>of agriculture | 45.0           | 28.8           | 22.8           | 18.3             | 24.8             |
| General economic statistics, current               | 245.7          | 260.7          | 282.3          | 292.3            | 308.2            |
| Statistics on agriculture, current                 | 100.3          | 108.0          | 103.2          | 99.8             | 104.1            |
| Statistics on energy and minerals                  | 84.2           | 88.5           | 95.2           | 90.1             | 90.9             |
| Statistics on transportation                       | 16.8           | 16.3           | 16.5           | 15.5             | 15.1             |
| Other economic statistics                          | 22.7           | 23.1           | 34.6           | 32.4             | 30.0             |

General economic statistics, current: the BLS and the labor force statistics activities financed from the Employment and Training Administration's state unemployment insurance and employment services operations (1983-1985); the Census Bureau's current business statistics, construction statistics, manufacturing statistics, general economic statistics, foreign trade statistics, and housing statistics programs; the BEA; the Statistics of Income Division of the IRS; and the statistical activities of the Department of Housing and Urban Development, the U.S. Customs Service, and the Federal Home Loan Bank Board.

Statistics on agriculture, current: the NASS, the Economic Research Service's domestic agriculture and international trade activities, the Foreign Agricultural Service, and the Census Bureau's current agriculture statistics.

Statistics on energy and minerals: the EIA, including EIA statistical activities reimbursed by the Federal Energy Regulatory Commission, and the statistical activities of the Bureau of Mines.

Statistics on transportation: the statistical activities of the Department of Transportation, excluding the National Highway Traffic Safety Administration; the Army Corps of Engineer's waterborne commerce program; and the statistical activities of the Civil Aeronautics Board (1983-1985).

Other economic statistics: the Research Division (1984-1987) and the Research Initiative (1985-1987) programs of the IRS, and the statistical activities of the National Marine Fisheries Service, the Employment Standards Administration, the International Trade Administration, the Office of Business Analysis (1985-1987), the Small Business Administration, and the Bureau of Industrial Economics (1983).

## Statistics on the Economy

With the exception of 1986, the total net obligations of Federal agencies devoted to statistics on the economy increase steadily between 1983 and 1987 (see Table 5). The decrease of about 1 percent from 1985 to 1986 has two principal sources - the across the board budget reductions mandated by the Gramm-Rudman-Hollings deficit reduction legislation and the decreases in the periodic economic censuses and census of agriculture which are in the trough of their 6-year funding cycles. For current programs alone, the 1986 decrease is about three-tenths of 1 percent. However, this masks the fact that the current categories of statistics on the economy displayed in the table will all have 1986 decreases ranging from about 1 to 6 percent with the exception of the category for general economic statistics, which is estimated to increase over 3 percent.

The widespread 1986 decrease reverses dramatically, however, when 1986 budget levels are compared with those proposed in the President's 1987 budget. All categories, with the exception of statistics on transportation and "other economic statistics," are estimated to show an increase, with the total rising over 4 percent with the periodic censuses and over 3 percent without them. Of the current categories, only statistics on transportation shows a decrease from 1983 to 1987.

### Economic Censuses

The economic censuses provide statistics on production, trade, and other characteristics for manufactures, mineral industries, retail and wholesale trade, service industries, transportation, and other businesses. The 1987 budget provides for a variety of planning and preparatory activities including forms design, questionnaire printing, preparations for mailing, and procurement of administrative records. It includes a request to expand coverage of the service sector including hospitals and selected transportation services.

### Census of Agriculture

The census of agriculture is designed to provide basic information about the agricultural sector such as the number of farms, farm acreage, selected expenditures, value of farmland, amount of cropland harvested, production statistics for crops and livestock, inventories of livestock and equipment, and farm practices such as use of pesticides, fertilizers, petroleum, and other forms of energy. The 1987 budget reflects the elimination of the Farm and Ranch Identification Survey made possible by cooperation between the Census Bureau and the NASS in developing both the mailing list to be used in the 1987 Census of Agriculture and an area sample to supplement mailing list coverage.

### Current General Economic Statistics

Only two of the seven components of the current general economic statistics category show increases from 1985 to 1986. However, all seven components increase from 1986 to 1987 resulting in a greater than 5 percent increase in the total. The category total increases from 1985 to 1986 in large part because of the completion of a Department of Labor plan to centralize in the BLS control of trust funds used to support BLS programs that were formerly managed by the Employment and Training Administration. The additional 1986 transfer amounted to over \$14 million.

The BLS produces general-purpose statistics on employment and unemployment; prices and living conditions; consumer expenditures; wages and employee benefits; industrial relations activities; productivity and technological change in U.S. industries; projections of economic growth, the labor force, and employment by industry and occupation; and occupational injuries and illnesses. The 1987 BLS budget anticipates coverage reductions in the Occupational Employment Statistics, Economic Growth and Employment Projections, and Current Employment Statistics programs and the elimination of the Permanent Mass Layoffs and Plant Closings program. The budget provides for additional resources to expand the Survey of Professional, Administrative, Technical, and Clerical Pay for use in setting Federal white-collar salary levels; to improve the Universe Maintenance System to permit more efficient data base management and the development of a new longitudinal data base to provide a better understanding of the reasons for and success of job creation activities; and to strengthen security measures to protect the Consumer Price Index from premature release, now that futures contracts based on the index are being traded in the commodity futures market.

The Bureau of the Census' programs in the current general economic statistics category are designed to provide annual general-purpose economic statistics on business, construction, manufacturing, foreign trade, and housing as well as provide support for conducting the surveys in these programs. The four major program changes reflected in the 1987 Census Bureau budget are all contained in this category. The budget anticipates decreases in the Standard Statistical Establishment List program since the multiagency benefits and associated cost savings on which the program is predicated have not materialized. The QFR will be maintained at the 1984 funding level. The budget contains funding to expand the Service Annual Survey to cover additional personal and business services including residential care, employment agencies, temporary help supply, and child day care. The budget also reflects a program increase to provide for the improvement, maintenance, and extension of the expanded Harmonized System for the classification of imports, exports, and outputs.

The BEA prepares, develops, and interprets the national income and product accounts, the wealth accounts, the input-output accounts, personal income and related economic series by geographic area, the U.S. balance of payments accounts and associated foreign investment accounts, and measures relating to environmental changes within the framework of the national economic accounts. The 1987 budget for BEA provides funds to reimburse the IRS for improvements in the annual tabulations of corporate tax return data that are used for BEA's preparation of the GNP estimates.

The Statistics of Income (SOI) Division of the IRS compiles and publishes annual statistical data on income, finances, and taxes from the principal tax returns as well as periodic detailed data from supplemental schedules and other tax returns. These data are used for monitoring the operations of the tax laws, for assessing the effects of the tax laws, and for benchmarking the National Income and Product Accounts. The Treasury Department's decision to seek reimbursements for SOI Division's statistical services that serve the missions of other agencies has led to a decrease in SOI direct obligations. However, other agencies, such as BEA, are beginning to reimburse SOI Division for services that meet their needs.

The statistical activities of the Department of Housing and Urban Development are concentrated in its Offices of Housing; Policy Development and Research; and Public and Indian Housing. These programs develop and maintain data series on national, regional, and local economic and housing market conditions by providing monthly, quarterly, annual, or biannual data on the production and marketing of housing and on the status of the housing inventory, as well as statistics on property improvement loans and housing insured or rehabilitated under HUD programs. The decline in funding for this subcategory from 1985 to 1987 reflects a decrease in the frequency of the national American Housing Survey which is now conducted every 2 years instead of annually.

The Customs Service statistical activity provides tariff and trade data to the Census Bureau which tabulates and analyzes them to produce statistics on exports and imports. The 1987 budget shows an increase in this activity that reflects the increasing role that foreign trade is playing in the U.S. economy.

The Federal Home Loan Bank Board's statistical programs provide data on the activities and condition of savings institutions, on the interest rates and other characteristics of conventional one-family nonfarm mortgage loans, and on consumer protection programs. The 1987 budget provides for increases in all three areas ranging from 5 to 10 percent with most resources being applied to produce data on the condition of savings institutions.

### Statistics on Agriculture

Obligations for the current statistics on agriculture category have fluctuated around \$100 million from 1983 to 1987 showing a greater than 3 percent increase overall. From 1985 to 1987 two of the four components have decreased, while the remaining two have increased more than enough to compensate for the declines in the others. From 1986 to 1987 the budgets for all of the components are proposed for increases.

The NASS in the Department of Agriculture collects and publishes current national and State crop and livestock estimates and conducts research to improve the statistical methods and techniques used to produce agricultural statistics. The cooperative State offices of NASS will now be called the State Agricultural Statistics Service; for example, in Iowa it will be the Iowa Agricultural Statistics Service. NASS devotes over 10 percent of its budget to research. These investments have paid dividends as evidenced by the improved quality of NASS programs while operating within tight budget constraints. The 1987 budget anticipates a greater than 6 percent increase which is intended to support continued consolidation and quality improvement in NASS programs.

The domestic agriculture and international trade activities of the USDA's Economic Research Service support a broad-based program of research and analysis on U.S. and international food and agriculture by providing research and forecasts of major agricultural economic indicators. The 1987 budget proposes a continuation of the current activities.

The Foreign Agricultural Service (FAS) analyzes worldwide agricultural information to assess foreign supply and demand conditions in order to provide estimates of the current situation and to forecast the export potential for specific U.S. agricultural commodities. The funding of the acquisition of remote sensing satellite data has been placed largely on a reimbursable basis with the Commodity Credit Corporation so that recent decreases in the FAS direct budget should not be interpreted as a diminished priority but rather as an alternative way to fund data acquisition. The 1987 budget contemplates a 2 percent increase for FAS over 1986 funding.

The Census Bureau's current agriculture statistics program provides data on cotton production and ginning by State and county. The 1987 budget proposes a small increase in this activity.

### Statistics on Energy and Minerals

All three components of the statistics on energy and minerals category show a decrease from 1985 to 1987 with the Bureau of Mines having the largest decline. However, overall, the category shows a nearly 8 percent increase from 1983 to 1987. The EIA

collects and analyzes data on energy supply sources, distribution, and use. The 1986 budget includes several program decreases in quality maintenance, modeling and analysis, petroleum marketing information, publication and responding to inquiries from the public. The 1987 budget proposal generally allows for the continuation of activities at the reduced 1986 level.

The statistical activities of the Bureau of Mines include the Minerals Information and Mineral Data Analysis programs. These programs collect, analyze, and disseminate national and international minerals information on reserves and production. The 1986 budget decreases will reduce the depth of coverage of some countries and commodities as well as the publication of summary statistics. In addition, studies on the mineral potential of Alaska and some western States will be stretched out over a longer period, and efforts to automate Mineral Land Assessment data will be at a minimum level. The proposed 1987 budget will continue these program reductions with additional decreases in the Mineral Surveys on Public Lands and Mineral Investigations elements of the Mineral Land Assessment program.

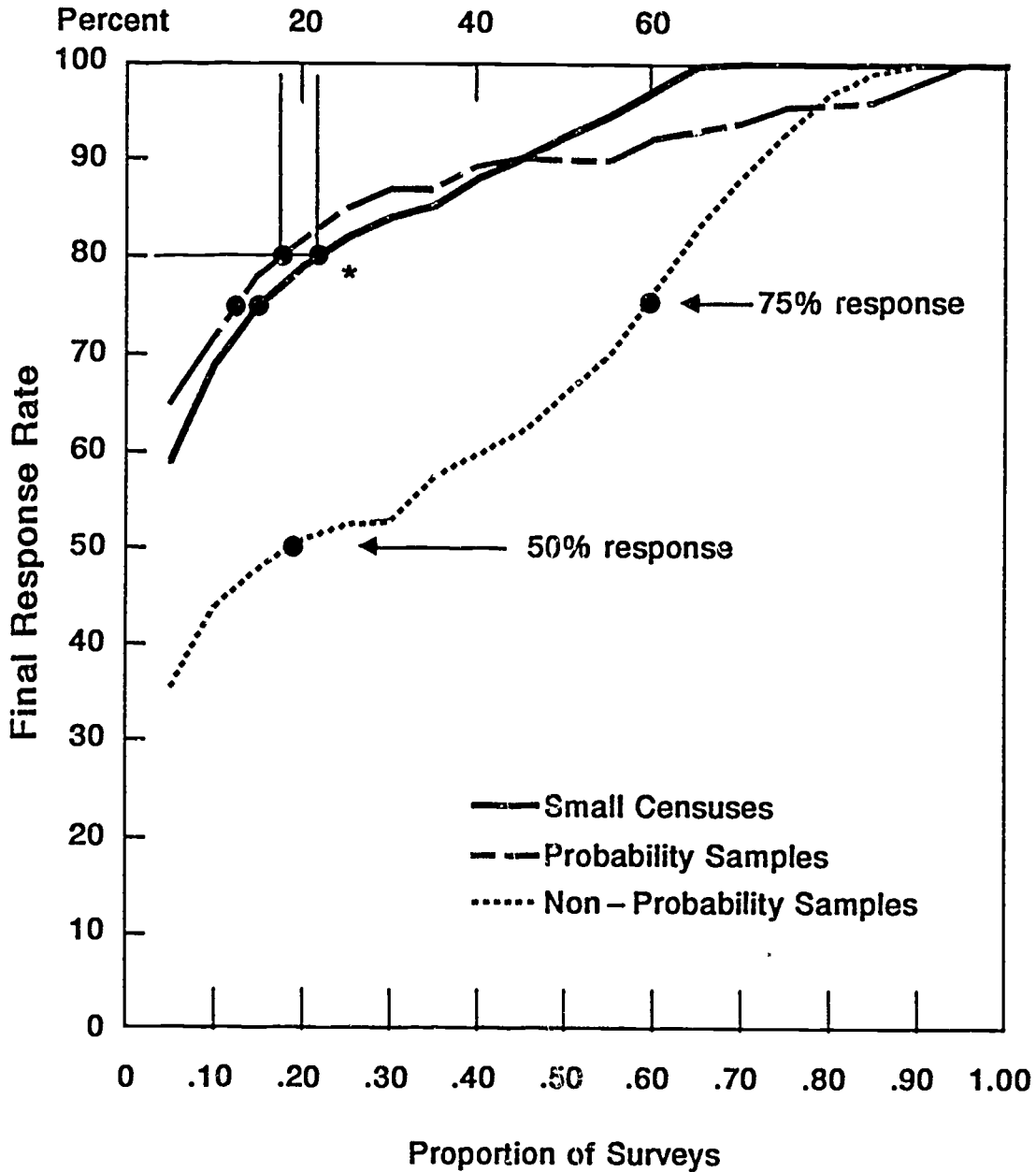
### Statistics on Transportation

The statistics on transportation category is the only current category to show a decline in funding from 1983 to 1987 with a decrease of 10 percent. From 1985 to 1987 all the components show a decrease or remain level with the exception of the Federal Highway Administration's (FHWA) statistical activities which are proposed to increase nearly 7 percent. The FHWA statistical activities constitute nearly 60 percent of the category's total. For 1987 the Office of the Secretary and the Research and Special Programs Administration in the Department of Transportation (DOT) will experience the largest percentage reductions. In the Office of the Secretary the decrease is attributable in large part to the completion of one-time programs and the termination of reimbursements to the Immigration and Naturalization Service for data on the entry and exit of citizens and noncitizens through U.S. ports and gateways. For RSPA, the decrease results from the continuing adjustment in the collection of air transportation data following the transfer of Civil Aeronautics Board (CAB) data collections to DOT after the CAB sunset at the end of 1985. The decrease in the Army Corps of Engineer's waterborne commerce program is largely attributable to efficiency gains from the consolidation of domestic waterborne commerce data collection in the Waterborne Commerce Statistics Center.

### Other Economic Statistics

The annual totals for the other economic statistics category are not directly comparable for all years because not all components are available for every year. The large increase from 1984 to 1985, for example, results from the addition of the Office of Business Analysis statistical activities and the Research

# Cumulative Distributions of Final Response Rates



\* 17% of Probability Samples and 23% of Censuses had final Response Rates less than 80%.



Initiative program of the IRS. For 1987, all components have proposed budget increases with the exception of a small decline for the International Trade Administration and a large decrease for the National Marine Fisheries Service (NMFS) which reflects the Administration's proposal to focus on high priority, current management needs and emphasize near-term data collection and analysis in support of current fishery management plans. Economic analyses related to the harvesting, processing, and marketing sections of the fishing industry will be reduced. The NMFS budget reduction is also designed to encourage greater participation in data collection and dissemination from the industries and individuals who directly benefit from the Federal fishery management program.

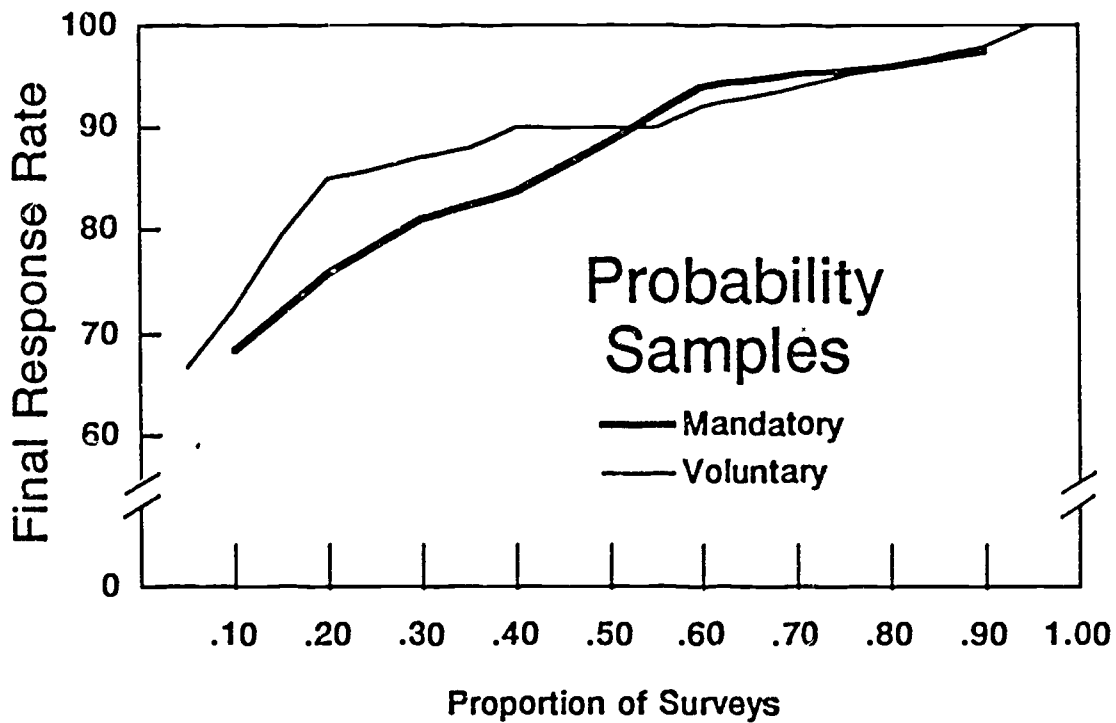
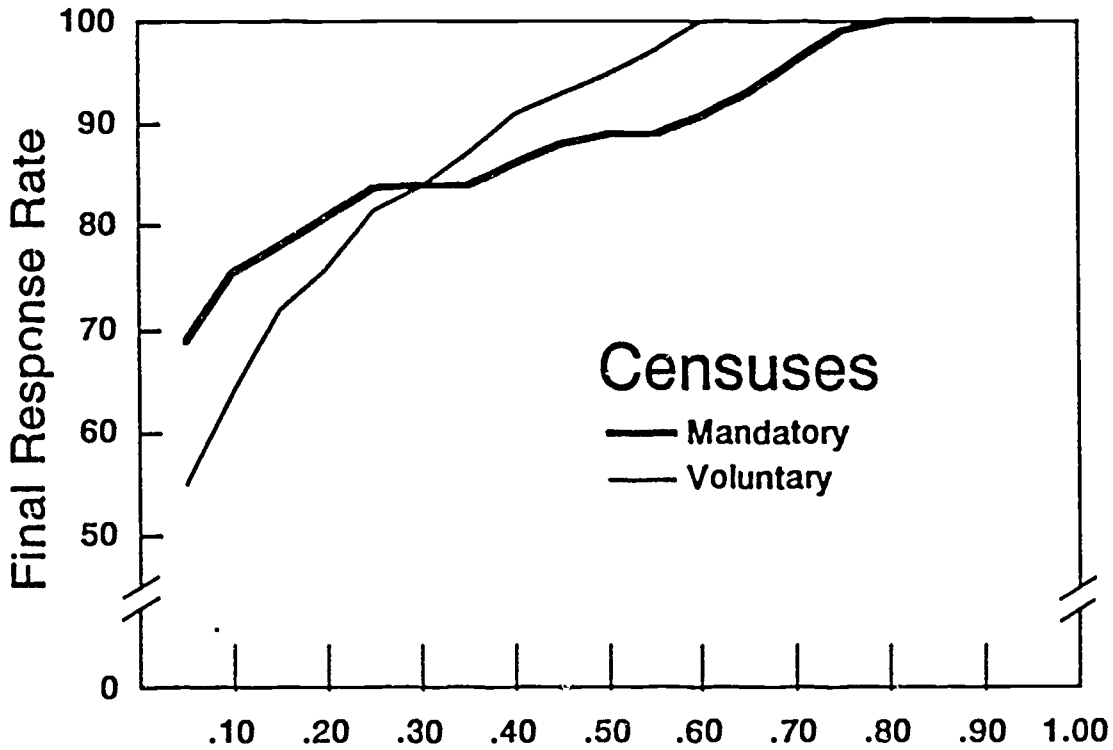
### OMB Study of Responses to Business Surveys

Persistent concerns about the quality of the economic data published by the Federal Government recently led OMB to undertake two major efforts to evaluate quality. In September, 1985, OMB issued a new Statistical Policy Directive No. 3, on the compilation, release, and evaluation of principal Federal economic indicators. "Principal Federal economic indicators" are the major data series that are widely used in current economic analysis and forecasting. They include the Commerce Department's quarterly GNP estimates; the Labor Department's monthly employment and unemployment estimates, and consumer, producer and foreign trade price indices; the Department of Agriculture's crop and livestock reports; and such monthly series as housing starts, retail sales, and manufacturers' shipments, orders, and inventories. Directive 3 contains a new requirement that the agencies that produce principal economic indicators evaluate each indicator every 3 years. The first 3-year evaluation cycle began in the spring of 1986.

Since both the accuracy and timeliness of economic indicators depend on the response achieved on the surveys on which the indicators are based, OMB also, in 1984, requested the assistance of seven Federal agencies (NASS, the Economic Research Service, BEA, Census, EIA, the Bureau of Mines, and BLS) in a study of business survey methods and response. In December, 1984, and early 1985, the agencies provided OMB with information about the design, data collection and follow-up practices, and response rates in over 600 surveys of farm and non-farm businesses. During the summer and fall of 1985, OMB processed the data and conducted its initial analysis. The information provided by the agencies constitutes a rich data base to explore various relationships between survey design, respondent burden, and quality of response. OMB's first analysis focused on differences in response rates in the surveys studied. Some of the preliminary results of this analysis, in the form of point estimates are included in the Statistical Policy section of OMB's 1986 annual report to Congress under the Paperwork Reduction Act. Figures 1, 2, and 3 in this section provide distributional information on the same basic set of performance measures.

Figure 2

# Cumulative Distributions



Final Response Rates. For analysts who use time series, the final response rate is the most important measure of respondent cooperation. The final response rate measures the degree to which a survey covers the actual target population, regardless of whether such coverage is achieved in a matter of days or months. Figure 1 displays the cumulative distribution of final response rates for three broad types of surveys -- censuses, probability samples, and all others. The censuses are complete enumerations of well-defined (usually small) segments of the economy. The probability samples are designs in which selection is based rigorously on probability theory. The other surveys are generally compromise designs with less rigorous selection processes.

Small censuses and probability samples performed very well, with a median response rate of approximately 90 percent -- in fact, four out of five surveys showed final response rates of 80 percent or better. Compromise designs on the other hand performed rather poorly, with a median response rate of about 65 percent. Estimated response was less reliable for these compromise designs, but the known errors tended to offset each other.

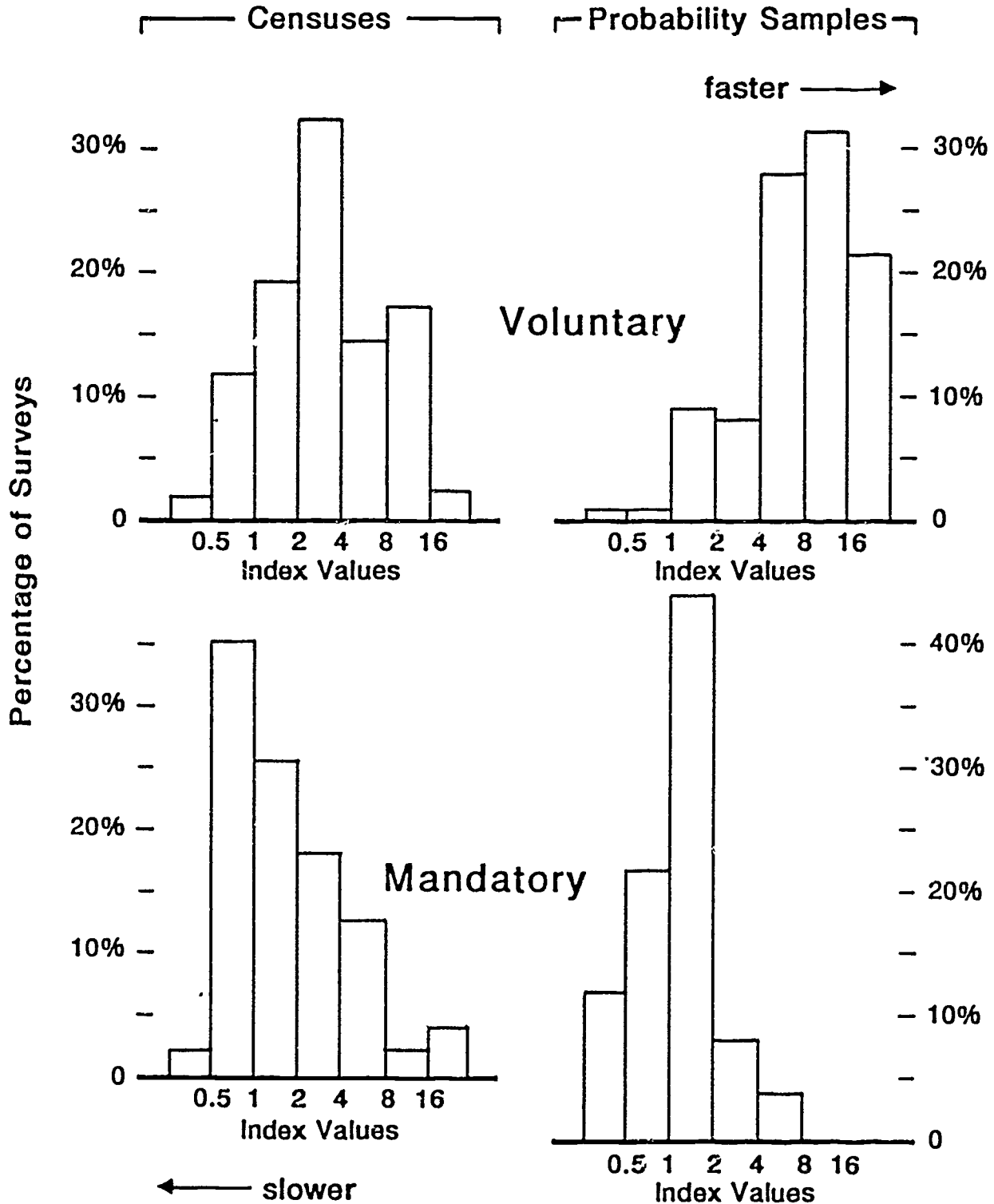
The significant advantage of the more rigorous designs is due in part to the more careful follow-up possible with small samples, but these designs also show higher response prior to follow-up. Thus it is likely that other features of these surveys also contribute to respondent cooperation.

One of the factors that was analyzed further was the nature of the respondent's obligation to report. Figure 2 separately displays the cumulative distribution of final response rates for mandatory and voluntary surveys. Surprisingly, there was very little difference in performance between voluntary and mandatory surveys -- the voluntary ones were slightly but not significantly better than those conducted under mandatory authority. The lower portion of the distributions for "censuses" may be less reliable than other data points plotted in the figure. This is because some surveys designed as censuses were ultimately reported in the "other" category when they failed to achieve adequate coverage. This classification judgment eliminates some low performance "censuses" from the distribution and inflates the lower end of the curve.

Even with this caveat, the curves are still remarkably similar. If the authority to require responses achieved the same results in statistical surveys as in regulatory programs, one would expect the distribution of response rates for mandatory surveys to lie substantially above the corresponding distribution for voluntary surveys. What one actually finds are overlapping curves for the two types of survey -- not only are the average response rates similar, but the proportions of better-than-average and worse-than-average results are similar for voluntary

Figure 3

# Promptness of Response as estimated by the Early Response Index



and mandatory surveys. In terms of final response rates, efforts to elicit voluntary cooperation achieve about the same results as the threat of penalties for nonresponse.

Timeliness. For many purposes, a high response rate that takes several months to achieve can seriously compromise the value of statistical estimates to decisionmakers. Achieving the rapid turnaround needed for time-valued statistics requires both careful planning and a high degree of respondent cooperation. The "early response index," used in Figure 3, was devised to estimate this aspect of survey response. The index is calculated by dividing the response rate achieved prior to follow-up ("timely response rate") by the time required to achieve this rate. In this way, differences in survey schedules are normalized. A survey that requested response within 2 weeks (10 working days) and received 90 percent response within that period would be assigned an early response index of 9.0 (nine response points per working day). A survey that allowed 4 weeks for response and received only 50 percent of responses during that period would be given an index value of 2.5.

The index is sensitive to two factors: 1) the proportion of responses that are submitted during the reporting period specified by the sponsoring agency and 2) the length of that reporting period. Timely response reflects the level of cooperation achieved without the expense and delays entailed by follow-up efforts. Short reporting periods require additional effort from respondents that implies a higher degree of cooperation. Conversely, early cutoffs may truncate some response that might be achieved with a longer reporting period.

Figure 3 displays the values of this index for four categories of surveys. The scale in these bar charts has been compressed so that each successive bar reflects a doubling of the rate of incoming responses. Index values were highly skewed, ranging from less than 0.5 percent response per day when response was sluggish to over 20 percent response per day in some fast turnaround surveys. Survey milestones (used to determine which responses should be considered "timely") varied enormously among the hundreds of surveys in the study. The NASS typically set final cutoffs for receipt of data that were shorter than the follow-up dates in most agencies. In this case final response was equivalent to timely response, and index values were calculated accordingly.

Measured by the early response index, the differences between mandatory and voluntary surveys are quite substantial. Voluntary responses are much more rapid than responses required by law. The median index value for voluntary probability samples and censuses was 4.2 percent response per day while the median value for corresponding mandatory surveys was only 1.2 percent response per day. The voluntary surveys achieved a higher proportion of timely responses while maintaining much tighter data collection

## DEMOGRAPHIC AND SOCIAL STATISTICS, 1983-87

Obligations  
(in millions of dollars)

|  | 1983<br>actual | 1984<br>actual | 1985<br>actual | 1986<br>estimate | 1987<br>estimate |
|--|----------------|----------------|----------------|------------------|------------------|
| Demographic and social, total            | 351.9          | 423.7          | 430.9          | 395.0            | 452.9            |
| Excluding decennial census, total        | 318.1          | 396.7          | 395.8          | 345.6            | 374.0            |
| Population and general demographic       | 56.9           | 59.8           | 73.8           | 90.1             | 122.1            |
| Excluding decennial census               | 23.1           | 32.8           | 38.7           | 40.7             | 43.2             |
| Education                                | 12.9           | 20.1           | 19.8           | 19.2             | 32.0             |
| Health, total                            | 151.1          | 158.0          | 168.7          | 166.9            | 179.6            |
| National Center for Health<br>Statistics | 40.8           | 46.0           | 42.8           | 44.7             | 50.0             |
| Epidemiological & biomedical research    | 81.6           | 80.6           | 94.5           | 91.0             | 94.4             |
| Other health and medical care            | 28.7           | 31.4           | 31.4           | 31.2             | 35.2             |
| Crime and justice                        | 20.7           | 22.7           | 23.7           | 24.1             | 26.3             |
| Safety                                   | 35.7           | 42.1           | 42.1           | 37.6             | 39.9             |
| Other demographic and social             | 74.6           | 121.0          | 102.8          | 57.1             | 53.0             |

Population and general demographic statistics: the Decennial Census and intercensal population estimates, the Census Bureau's current demographic statistics programs (except housing statistics), the Economic Research Service's "Rural America" program, and the Immigration and Naturalization Service's statistical activities.

Statistics on education: Center for Statistics and other statistical activities of the Department of Education. The 1983 budget does not include salaries and expenses for NCES.

Epidemiological and biomedical research: the statistical activities of the Centers for Disease Control, the National Institutes of Health, and the Department of Energy's biological and environmental research program.

Other statistics on health and medical care: statistical activities of the Alcohol, Drug Abuse, and Mental Health Administration; the National Center for Health Services Research and Health Care Technology Assessment; the Health Resources and Services Administration; and the Health Care Financing Administration.

Statistics on crime and justice: the Bureau of Justice Statistics, the FBI's Uniform Crime Reports program, and the Drug Enforcement Administration's statistical activities for 1984-1987.

Statistics on safety: the statistical activities of the Consumer Product Safety Commission, the National Highway Traffic Safety Administration, the Occupational Safety and Health Administration, and the Mine Safety and Health Administration.

Other demographic and social statistics: the statistical activities of the Office of the Assistant Secretary for Planning and Evaluation, the Office of Human Development Services, and the Social Security Administration in the Department of Health and Human Services; the Human Nutrition Information Service and the Food and Nutrition Service in the Department of Agriculture; and the Veterans Administration.

schedules. Only 15 percent of mandatory surveys were able to achieve response as prompt as the average voluntary survey. Though the ultimate response rates achieved by voluntary and mandatory surveys are similar, compulsory collection appears to extract a high price in terms of timeliness.

### Demographic and Social Statistics

Except for a decrease in 1986, due to Gramm-Rudman-Hollings deficit reduction measures, funding for demographic and social statistics has increased fairly steadily during the period 1983-1987, with funding for health statistics, crime and justice statistics, and general demographic statistics (mainly for the Survey of Income and Program Participation) more than offsetting a drop in "other demographic and social" statistics, a category that includes statistical support for programs administered by the Department of Health and Human Service (other than health-care programs), the Department of Agriculture, and the Veterans Administration (see Table 6).

### Health Statistics

About 40 percent of total 1987 obligations for demographic and social statistics will be spent on health statistics. The principal producer of health statistics for general government and public use is the National Center for Health Statistics (NCHS), which collects and publishes statistics on the health status, illnesses, and disabilities of the population; the impact of illness and disability on the economy; the effects of environmental and other health hazards; the use of health care services and resources; health care costs and financing; family formation, growth, and dissolution; and vital events.

The surveys and data systems of NCHS fall into two categories: those that are operated on an annual or continuous basis and those that are conducted at periodic intervals. Budgets for the first category remain relatively stable from year to year. For periodic surveys, the budgets can fluctuate considerably depending on the particular phase of the surveys (e.g., data collection, analysis, etc.), but such fluctuations do not reflect changes in the NCHS program. The 1987 NCHS budget provides for the ongoing vital statistics program and the survey programs that cover household interview statistics, health examination statistics, and health care resources and utilization statistics.

The ongoing basic data collection of NCHS is its vital statistics program, operated in cooperation with the States, which is the source of national data on births, deaths, marriages, and divorces. In 1987, an increase of \$2.3 million over the 1986 level will permit NCHS to (1) maintain the percentage of Federal support to the States for vital statistics data collection at approximately the 1986 level; and (2) acquire linked prenatal birth and death records from all States to investigate the correlates of prenatal and infant death.

The budget for 1987 also provides funding for a supplement to the National Health Interview Survey (NHIS) on cancer risk factors and for the 1987 cycle of the National Survey of Family Growth (NSFG), a survey that provides data on fertility, family planning, and the reproductive health of women in their childbearing years. The 1987 NSFG is designed to meet specific data requirements of the National Institute of Child Health and Human Development and the Office of Population Affairs, both of which will collaborate in conducting the survey and provide funding for it. The 1987 NCHS budget also provides funds for planning the third National Health and Nutrition Examination Survey (NHANES III) and for analyzing data and releasing reports and data tapes from the Hispanic Health and Nutrition Examination Survey, for which data collection was completed in 1985.

### Health Care Resources and Utilization

While NCHS provides general-purpose data on health, the National Center for Health Services Research and Health Care Technology Assessment (NCHSR/HCTA) supports research and analysis on the quality and efficiency of health-care services.

The most significant effort in health services research and health care assessment in 1987 will be the National Medical Expenditure Survey (NMES), which will gather data on the use of and expenditures for health care services and health insurance coverage. This survey will include a sample of approximately 14,000 households, which will be designed to permit oversampling of such subgroups of the population as Blacks, Hispanics, low-income households, the elderly, and persons with functional limitations. The survey will also include a sample of about 13,000 persons in institutions -- nursing homes, facilities for the mentally retarded, and psychiatric hospitals. The survey will begin in January, 1987, with the first published reports expected in mid-1988. Public use data tapes will be rapidly made available to the research community. NCHSR/HCTA is the prime sponsor of NMES, with funding also provided by NCHS, the Health Care Financing Administration, the National Institute of Mental Health, and the Indian Health Service.

### Epidemiological and Biomedical Research

The largest share of the total budget for health statistics covers the epidemiological and biomedical research activities of the National Institutes of Health (NIH), the Centers for Disease Control (CDC), and the Department of Energy in its biological and environmental research program. Funding for these activities declines somewhat from 1985 to 1986 and rises again in 1987 to about the 1985 level.

The statistical activities of NIH are part of the research activities of the various Institutes, and funding for them reflects the kind of research NIH is sponsoring in a given year.



During 1987, NIH will be supporting expanded research aimed at the development of agents to treat and vaccines to prevent Acquired Immune Deficiency Syndrome (AIDS). NIH activities will also continue to focus on AIDS-related laboratory investigations, surveillance, and epidemiologic studies.

The budget for the CDC will provide continued support for the National Weekly Morbidity and Mortality Reporting System, the Occupational Health Statistical System that supports coal mine medical examination activities, and the National Occupational Health Survey of Mining. During 1987, CDC will continue the study for the Veterans Administration of the effects of exposure to Agent Orange on the health of Vietnam veterans. (VA's budget included \$54.0 million for this study in 1984, \$45.6 million in 1985 and \$2.2 million in 1986, and includes \$3.5 million in 1987.) Studies of the effects of exposure to radiation and hazardous substances will continue during 1987 under the Department of Energy's Biological and Environmental Research program.

### Redesign of the National Health Interview Survey

In 1985, NCHS put in place a new design of the National Health Interview Survey (NHIS), the major survey used to gather data on the health and physical well-being of the American population. The new design of the NHIS will make it possible for NCHS to link other surveys to the NHIS, thus making it a more powerful instrument for demographic and epidemiological research and, at the same time, reducing costs in NCHS's survey programs. This section describes the background, purpose, and potential for NCHS's new Integrated Survey Design.

The NHIS is a 48,000-household survey sponsored by NCHS. NCHS contracts with the Bureau of the Census to collect the data, which are analyzed and published by NCHS. Data from the NHIS have been published annually since 1957. The original NHIS design was an area sample; however, following the 1960 and 1970 Censuses of Population, new list samples were developed based on addresses from the censuses.

Following the 1980 census, a complete redesign of the NHIS was developed by NCHS after an in-depth evaluation of objectives and data requirements. The new sample design allows the NHIS to be used as a frame from which to draw samples for other population-based surveys. It also permits NCHS, rather than the Census Bureau, to derive the estimates from the NHIS.

To use the NHIS as the sampling frame for other surveys, NCHS needs the identifiers (addresses and, in some cases, telephone numbers) for all households in the NHIS sample. Prior to the 1980 NHIS redesign, NCHS did not have access to such identifying information because the addresses of households in the NHIS sampling frame were derived from the decennial censuses and, therefore, covered by the provisions of title 13, United States Code, which precludes disclosure of census data to other Federal

statistical agencies. In the 1980 redesign, NCHS specified to the Census Bureau that the NHIS should be based on an area frame, completely independent of the address list from the 1980 Census of Population. This feature permits NCHS to have access to the personal and geographic identifiers in the NHIS sample.

Over a 10-year period, an area sample costs about \$1-2 million more to construct and maintain than a list sample with the same precision requirements. This additional cost for the NHIS is justified because it is more than offset by savings in the cost of conducting other NCHS surveys that use the NHIS as a sampling frame.

The savings due to linkage can be especially substantial if the linked surveys require high screening rates and the NHIS frame is adequate to draw the full sample for the oversampled subdomains of interest. If the NHIS frame is inadequate to provide the required sample sizes in all of the subdomains for a given survey, an independent augmentation sample is required, and the savings will be less depending upon the proportion of the subdomains requiring augmentation.

For example, the 1987 NSFG (Cycle IV) is being designed to subsample the NHIS. The NSFG heavily oversamples Black women in the reproductive ages. If the specifications are such that the NHIS is adequate to provide the entire sample, savings approaching \$1 million will be realized. If the specifications work out so that the NHIS frame is not adequate, the savings will depend upon the degree of augmentation required.

Current design research indicates that Cycle IV of the NSFG will require an augmentation sample. The expected savings due to this partially linked, dual-frame design range from \$250,000 to \$750,000. Over the 10-year expected life of the design of the NHIS, the NSFG is scheduled to be conducted twice. The second time, the full \$1 million is expected to be saved through the linkage process.

Furthermore, during this design decade (1985-95), the third National Health and Nutrition Examination Survey (NHANES III) will be conducted. NCHS is investigating linking this survey to the NHIS in the largest metropolitan areas. Because NHANES III also requires oversampling, linkage to the NHIS may save \$1-2 million as compared with an independent area sample approach. This estimate will be confirmed when current research into the NHANES III sample design is complete.

In addition to linking the NSFG and the NHANES III to the NHIS during the current design decade, NCHS plans to conduct at least five follow-up surveys targeted at specific subpopulations identified through the NHIS. Each of these follow-up surveys will reinterview at least 5,000 respondents. The saving due to linkage to the NHIS for each of these is estimated to be at least \$200,000, for a total savings of \$1 million over the design decade.

Moreover, NCHS also plans to initiate in the current design decade at least five longitudinal studies with sample sizes of at least 5,000 each. The saving due to linkage to the NHIS for each of these surveys is also projected to be at least \$200,000. Thus, another \$1 million will be saved.

Over the NHIS design decade, total savings of between \$4.25 million and \$5.75 million are expected to accrue as the result of linkages with Cycle IV of the NSFG, NHANES III, and various follow-up surveys and longitudinal studies that are based on subsamples of the NHIS. Net of the \$1-2 million cost of the area design, savings to the government will be between \$2.25 million and \$4.75 million.

The Integrated Survey Design may also assist NCHS in conducting telephone surveys. Telephone numbers of NHIS sample units are recorded at the time of interviews and can be used to develop linked telephone surveys. NCHS is currently testing the methodology for linked telephone surveys, which would increase NCHS' ability to meet the demand for timely special-purpose data collections.

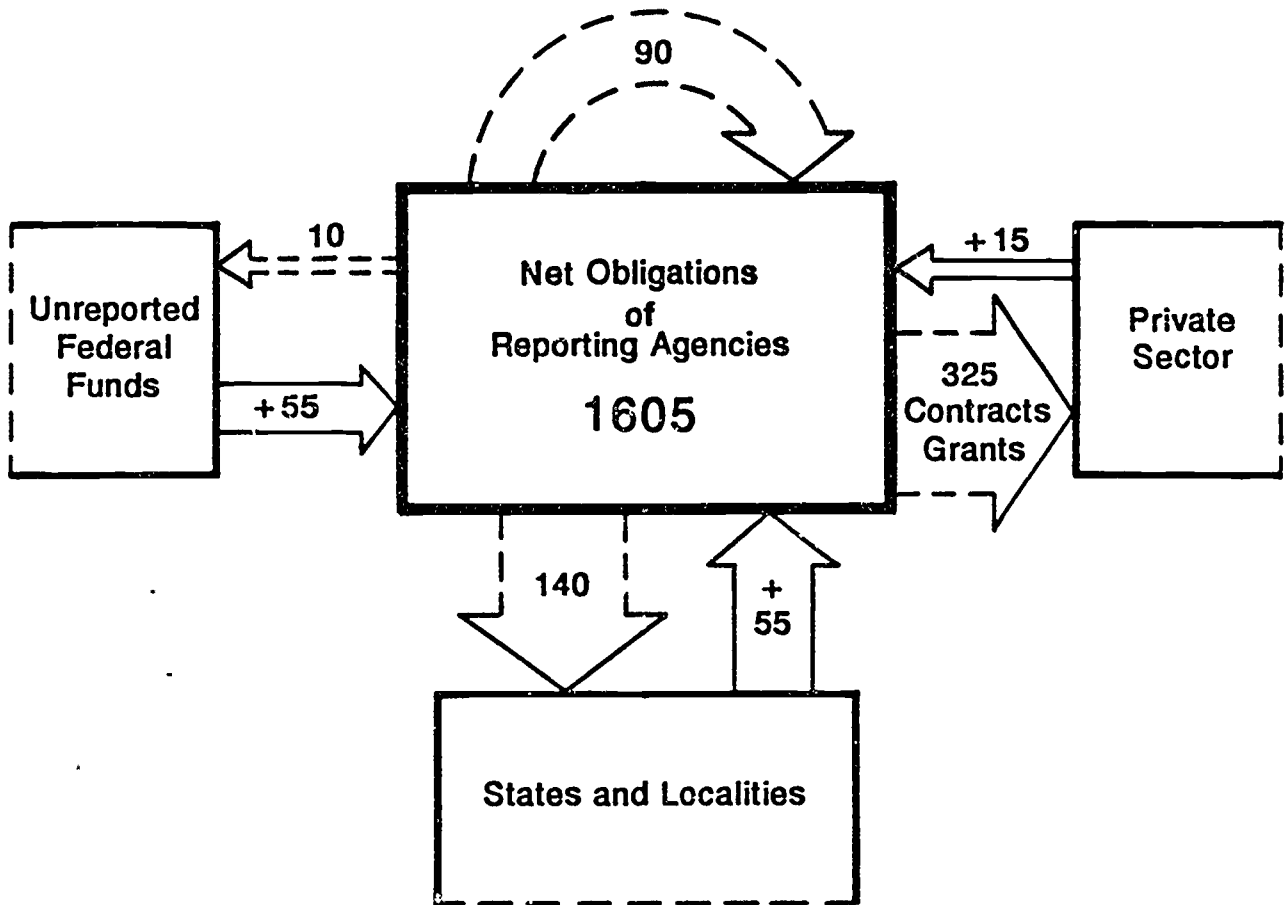
### Education Statistics

In October, 1985, the Department of Education reorganized its research and statistics activities, creating a Center for Statistics as the successor to the National Center for Education Statistics (NCES). The Center for Statistics will carry on all the functions of NCES, with the exception of certain information dissemination functions, and will be responsible for the National Assessment of Educational Progress, previously a program of the National Institute of Education (NIE).

The 1987 budget for the Center for Statistics includes funds previously allocated to NIE for the National Assessment of Educational Progress and other assessment activities, as well as funds for the redesign of surveys to collect data on characteristics of the teacher work force, redesign of the elementary/secondary data collection system, work on international education comparisons, and development of the secondary component of vocational education data collection system. In the area of postsecondary education statistics in 1987, the Center will implement the Integrated Postsecondary Education Data System, improve vocational education statistics, and implement a periodic survey (funded out of intradepartmental salaries and expenses rather than the statistics budget) to provide national data on how postsecondary students finance their education.

The 1987 budget request also includes funding for the base-year data collection for the new National Education Longitudinal Study of 1988, which will follow the eighth grade class of 1988 over a period of 6 years. This study will also, for the first time,

# Flow of Funds for Federal Statistical Activities



This figure presents the approximate 1987 flows (in millions of dollars) among the key players in the Federal statistical system. The central box represents the net obligations of the reporting agencies for statistical programs and activities. Solid arrows represent additional funds provided for these programs. Broken arrows indicate the way these funds are transferred or disbursed to acquire various services. Flows to and from "Unreported Federal Funds" are an artifact of the limited agency coverage of this report. Payments to nonreporting Federal agencies are predominantly for ADP services. The amount received from unreported Federal funds is the excess of reimbursements received by reporting agencies over the amounts reported by both sponsoring and receiving agencies (the curved arrow in the figure). This excess includes both intra- and inter departmental payments from nonstatistical accounts and payments from statistical units whose budgets are below the reporting threshold (\$500,000). The disbursements of contract and grant funds to the private sector are estimated based on reports of sponsoring agencies.

provide national data on high school dropouts, including their characteristics, rates of return to school, and subsequent occupations.

### Population and General Demographic Statistics

The 1987 budget will provide level funding of the Census Bureau's current demographic statistics program, which includes the Census Bureau's portion of funding for the Current Population Survey, the Survey of Income and Program Participation, and the Bureau's international statistics program. In addition, the Census Bureau will receive an increase in funding to begin work on the redesign of the major demographic surveys that is to follow the 1990 census.

Plans for the 1990 Census of Population and Housing are continuing to be developed, with the 1987 budget providing for procurement of ADP equipment, evaluation of the 1986 National Content Test and test censuses, development of further specialized tests in 1987, and preparation for the 1988 Dress Rehearsal.

### Crime and Justice Statistics

The Bureau of Justice Statistics (BJS) will receive an increase in funding of \$3 million in 1987 to implement a new incident-based Uniform Crime Reporting (UCR) system. The FBI will continue to be the collecting agency for the UCR, with BJS to have primary responsibility for analyzing the additional UCR data that will be available from the new incident-based program. The traditional UCR report provides summaries of criminal incidents in a police jurisdiction, while the new system will provide detail for each incident.

### Safety Statistics

The National Highway Transportation Safety Administration (NHTSA) and the Occupational Safety and Health Administration (OSHA) have the largest ongoing programs for collecting data to analyze causes of accidents and injuries. OSHA provides funds to BLS to collect and maintain data on occupational fatalities, injuries, and illnesses that are used to measure the effectiveness of activities conducted under the Occupational Safety and Health Act. BLS has contracted with the National Academy of Sciences to review statistical issues in the recordkeeping of occupational illnesses and injuries. NHTSA's statistical programs provide the foundation for establishing highway safety programs and standards, motor vehicle regulatory programs, and highway safety grants.

### Funding of Statistical Work in the U.S. Government

A significant portion of the total Federal statistical budget covers work done by one Federal agency for another under

TABLE 7

STATISTICAL FUNDS OF SELECTED FEDERAL AGENCIES, 1987  
(in millions of dollars)

| AGENCY  | TOTAL 1 | DIRECT FUNDING<br>(1987 Net<br>Obligations) | Funds to be Received from Others |        |         | Transfers to 2<br>Other Federal<br>Agencies |
|---------|---------|---|----------------------------------|--------|---------|---|
|         |         |   | Federal                          | States | Private |   |
| TOTAL   | 1729.1  | 1602.2                                      | 146.8                            | 56.3   | 14.7    | 91.1  |
| Census  | 376.8   | 277.3                                       | 87.1                             | 1.9    | 11.0    | 0.5   |
| BLS     | 176.9   | 195.9                                       | 9.1                              | 0      | 0.3     | 28.4  |
| USGS    | 153.0   | 104.3                                       | 0.3                              | 48.0   | 0.4     | 0   |
| EPA     | 73.8    | 73.8  | 0                                | 0      | 0       | 0   |
| NOAA    | 79.1    | 73.7  | 3.5                              | 0      | 1.9     | 0   |
| NIH     | 73.4    | 73.4  | 0                                | 0      | 0       | 0   |
| SCS     | 72.6    | 64.3  | 3.2                              | 5.1    | 0       | 0   |
| NASS    | 67.6    | 59.7  | 6.6                              | 1.1    | 0.2     | 0   |
| EIA     | 67.0    | 59.7  | 7.3                              | 0      | 0       | 0   |
| NSF     | 53.4    | 53.7  | 0.9                              | 0      | 0       | 1.2   |
| NCHS    | 48.5    | 50.0  | 4.1                              | 0      | 0       | 5.6   |
| ERS     | 42.1    | 45.5  | 0.9                              | 0      | 0       | 4.3   |
| IRS     | 31.9    | 30.1  | 1.9                              | 0.1    | 0.3     | 0.4   |
| BoM     | 28.1    | 26.6  | 1.5                              | 0      | 0       | 0   |
| CtrStat | 25.3    | 24.7  | 0.6                              | 0      | 0       | 0   |
| BEA     | 23.3    | 23.5  | 1.0                              | 0      | 0.4     | 1.6   |
| BJS     | 12.7    | 21.7  | 0                                | 0      | 0       | 9.0   |
| NCHSR   | 28.8    | 18.8  | 10.0                             | 0      | 0       | 0   |
| OSHA    | 8.9     | 18.6  | 0                                | 0      | 0       | 9.7   |
| NASA    | 18.0    | 18.2  | 0                                | 0      | 0       | 0.2   |
| Other   | 268.0   | 288.9                                       | 8.8                              | 0.2    | 0.4     | 30.3  |

1) TOTAL = FY1987 Net Obligations plus funds received from other sources, reduced by the amount of transfers to other reporting agencies.

2) Figures in this column reflect transfers reported by sponsoring agencies that were specifically earmarked for other reporting agencies. This adjustment is only approximate since amounts sponsored may differ from amounts estimated by the recipient agency and the appropriation year may not match the year in which funds are expended by the recipient agency.

interagency agreements or work done by States and the private sector under Federal contracts or grants. At the same time, several Federal agencies receive payments from States, local governments, and private organizations for statistical products and services. Figure 4 shows the flow of funds for Federal statistical activities in 1987.

Table 7 shows the total funding that supports the statistical activities of selected agencies and the sources of funding, including direct funding (net obligations in the agencies' budgets) and funds received from other Federal agencies, States, and the private sector, less transfers to other Federal agencies. The data in Table 7 provide a more complete picture of the resources available to these agencies and the relative sizes of their in-house statistical work than can be derived from agency budget figures alone.

#### Interagency Reimbursements

Interagency agreements are authorized by the Economy Act of 1932. Agencies with statutory responsibility for collecting and publishing statistics or that require statistical services for their programs can contract with other Federal agencies to collect data or provide other needed services.

Table 8 shows the estimated flow of reimbursements among Federal agencies for statistical services in 1987. The amounts in the table are those reported by the contractor (recipient) agencies. Interagency reimbursements amount to about 9 percent of the total (reported) Federal statistical budget for 1987. The Bureau of the Census is by far the largest single recipient of interagency reimbursements, receiving funds from other agencies to conduct four large continuous household surveys -- the Current Population Survey (for BLS), the American Housing Survey (for HUD), the National Crime Survey (for BJS), and the Health Interview Survey (for NCHS) -- as well as a number of other smaller surveys. Other statistical agencies (NASS, EIA, NCHS and BLS) receive most of their reimbursed funds for statistical services provided to other agencies within their own departments. The Census Bureau, NASS, ERS, BLS, NCHS, and BEA receive funds from AID to pay for statistical training and technical assistance to developing countries.

#### Payments by and to State and Local Governments

Federal agencies expect to pay a little over \$140 million to States in 1987 for statistical services and to receive \$56 million from States. Funds received from States are shown in Table 7. Payments to States are shown in Table 9.

TABLE 8  
 FLOWS OF FUNDS UNDER INTERAGENCY AGREEMENTS  
 FOR STATISTICAL SERVICES  
 1987  
 (in thousands of dollars)

| SPONSOR<br>Department/Agency | CONTRACTOR |             |       |          |        |       |        |       |        |          |          |       |       |         |
|------------------------------|------------|-------------|-------|----------|--------|-------|--------|-------|--------|----------|----------|-------|-------|---------|
|                              | TOTAL      | AGRICULTURE |       | COMMERCE |        |       | ENERGY | HHS   |        | LABOR    | TREASURY |       | Other |         |
|                              |            | NASS        | Other | BEA      | Census | NOAA  | EIA    | NCHS  | Other  | INTERIOR | BLS      | IRS   | NSF   | Federal |
| TOTAL                        | 146,778    | 6,613       | 7,649 | 1,001    | 87,125 | 3,504 | 7,316  | 4,134 | 14,520 | 1,808    | 9,088    | 1,940 | 900   | 1,173   |
| AGRICULTURE                  | 7,834      | 3,535       | 3,539 | 7        | 620    | 83    | --     | --    | --     | 50       | --       | --    | --    | --      |
| COMMERCE                     | 6,263      | 1,221       | --    | 381      | 1,515  | --    | 2      | --    | --     | 1,430    | --       | 1,650 | --    | 64      |
| DOD                          | 5,536      | --          | --    | 259      | 3,100  | 1,617 | 60     | --    | --     | 25       | 474      | --    | --    | 1       |
| EDUCATION                    | 1,156      | --          | --    | --       | 550    | --    | --     | --    | --     | --       | --       | --    | 300   | 300     |
| ENERGY                       | 7,420      | --          | --    | --       | 225    | 100   | 7,045  | --    | --     | --       | --       | --    | 50    | --      |
| HHS                          | 24,730     | --          | --    | 150      | 10,225 | --    | 105    | 3,655 | 10,295 | --       | --       | --    | 250   | 50      |
| HUD                          | 12,805     | --          | --    | --       | 12,760 | --    | --     | --    | --     | --       | --       | --    | --    | 45      |
| INTERIOR                     | 3,157      | 27          | 1,250 | --       | 1,500  | 117   | 10     | --    | --     | 153      | --       | --    | --    | 100     |
| JUSTICE                      | 10,593     | --          | --    | --       | 10,593 | --    | --     | --    | --     | --       | --       | --    | --    | --      |
| LABOR                        | 42,148     | --          | --    | 2        | 34,300 | --    | --     | --    | --     | --       | 7,538    | --    | --    | --      |
| TRANSPORTATION               | 728        | --          | --    | --       | 728    | --    | --     | --    | --     | --       | --       | --    | --    | 308     |
| TREASURY                     | 961        | --          | --    | 75       | 850    | --    | --     | 36    | --     | --       | --       | --    | --    | --      |
| AID                          | 8,656      | 1,785       | 700   | 30       | 4,950  | 970   | --     | 41    | --     | --       | 180      | --    | --    | --      |
| NSF                          | 1,546      | --          | --    | --       | 990    | --    | --     | 147   | --     | --       | 234      | --    | --    | 175     |
| VA                           | 4,308      | --          | --    | --       | 153    | --    | --     | 255   | 3,850  | --       | --       | 50    | --    | --      |
| Other Federal                | 9,820      | 45          | 2,160 | 97       | 4,066  | 617   | 94     | --    | 375    | 150      | 662      | 240   | 300   | 130     |

42

54

53



TABLE 9

FEDERAL FUNDS TO STATES  
FOR STATISTICAL SERVICES, 1987  
(in thousands of dollars)

| AGENCY         | Funds to<br>States |
|----------------|--------------------|
| <hr/>          |                    |
| TOTAL          | 141,006            |
| BLS            | 49,638             |
| EPA            | 35,000             |
| NSF            | 21,800             |
| NCHS           | 7,202              |
| FHWA           | 5,493              |
| BJS            | 5,311              |
| ETA            | 4,152              |
| NHTSA          | 3,323              |
| ERS            | 1,000              |
| Other Agencies | 8,087              |
| <hr/>          |                    |

The largest payments to State will be made by BLS, to support cooperative labor statistics programs, by EPA, in State Air Quality Program grants, and by NSF, to State universities for research under the National Climate Program. (Most of the amount shown for "Other Agencies" in Table 9 also represents funding for data collection and analysis under the National Climate Program.) Other amounts shown in Table 9 are NCHS payments to States for vital statistics data, FHWA grants to States to assist in the compilation of statistical data for highway planning, BJS grants to support State data collections and the Uniform Crime Reporting system, NHTSA grants to support its several accident reporting systems, ETA payments to obtain labor market data for job training programs, and ERS cooperative research agreements with State universities for research on agricultural issues.

The largest State payments to the Federal Government are for support of two cooperative natural resource statistics programs. States will contribute \$48 million to the Geological Survey's National Water-Use Information Program, for which the Federal Government and the States each provide half the funding to maintain continuous monitoring of surface and groundwater. State supports for Soil Conservation Service soil surveys and mapping will amount to \$5 million.

## CHAPTER II

## THE ROLE OF THE PRIVATE SECTOR IN FEDERAL STATISTICS

In its request for information about their statistical programs in 1987, OMB asked Federal agencies to report their estimated payments to the private sector and describe the services they expected to purchase in the private sector. This chapter is based on the information supplied by the agencies. It provides the first reasonably complete picture of the private sector's role in the statistical work of the Federal Government.

Payments to Private Organizations and Individuals

Estimated payments to the private sector for statistical services in 1987 are a little over \$325 million, about 20 percent of the total Federal statistical budget for 1987 reported in Table 1. Estimated payments by agency are shown in Table 10. The amounts in this table represent payments to nongovernment contractors and grantees for performing activities that fit the definition of "statistical activities" given in the Introduction to this report. They generally do not include major purchases of equipment but may include related services. The treatment of nonstatistical services, such as travel, that support in-house statistical activities varied among the reporting agencies. The figures in Table 10 do not in all cases represent obligations of the agency making the payments. In several cases, agencies are transferring funds from other agencies to private contractors. For example, the amount shown for NCHSR/HCTA includes funds to be transferred to NCHSR/HCTA by four other agencies to support the National Medical Expenditure Survey, which is to be carried out by a private contractor. Most of the amount shown in Table 10 for "Other agencies" represents estimated payments by the Departments of Defense and Energy to the private sector to support collection, processing, and analysis of climate data under the National Climate Program.

Statistical Services Provided by the Private Sector

The private sector provides a wide range of statistical services to support Federal programs. It appears to have the capacity to provide most of the kinds of services that Federal agencies require and to perform competitively most of the same kinds of statistical activities that Federal agencies themselves do in-house.

Epidemiological, Biomedical, and Environmental Research

It is estimated that a total of about \$125 million in the 1987 statistical budget will go to nongovernment contractors and grantees from NIH as part of the research programs of the various Institutes, from EPA for environmental data collection and analysis, from NOAA, NSF, and other agencies to support research under the National Climate Program, and from the Department of Energy for biological and environmental research.

TABLE 10

FEDERAL FUNDS TO THE PRIVATE SECTOR  
FOR STATISTICAL SERVICES, 1987  
(in millions of dollars)

| AGENCY         | Funds to the<br>Private Sector |
|----------------|--------------------------------|
| TOTAL          | 326.2                          |
| NIH            | 47.7                           |
| EIA            | 41.8                           |
| NASS           | 26.2                           |
| EPA            | 25.1                           |
| NCHSR          | 22.0                           |
| NSF            | 19.8                           |
| CtrStat        | 17.9                           |
| FNS            | 12.7                           |
| BLS            | 11.7                           |
| NHTSA          | 11.2                           |
| NOAA           | 10.4                           |
| OASPE          | 7.7                            |
| AID            | 7.7                            |
| ADAMHA         | 7.3                            |
| BJA            | 4.9                            |
| FAS            | 4.2                            |
| NCHS           | 3.5                            |
| IRS            | 2.9                            |
| ERS            | 2.5                            |
| HRSA           | 2.5                            |
| NASA           | 2.2                            |
| HCFA           | 2.1                            |
| VA             | 2.0                            |
| NMFS           | 1.8                            |
| UMTA           | 1.5                            |
| Census         | 1.4                            |
| USGS           | 1.4                            |
| FHWA           | 1.2                            |
| SBA            | 1.0                            |
| Other Agencies | 22.1                           |

## Services to Statistical Agencies

Statistical agencies -- agencies whose sole mission is to collect and publish statistics -- will spend nearly \$110 million in 1987 on services purchased in the private sector, including data collection, data processing, analysis, preparation and review of reports, data dissemination, and methodological research and development. Two statistical agencies, EIA and the Center for Statistics in the Department of Education, use most (about 70 percent) of their budgets to purchase statistical services from private contractors.

Most of the program budget of the Department of Education's Center for Statistics is used to procure private sector statistical services. The salaries and expenses portion of the Center's budget is used for coordinating and managing the data collections by the States and monitoring work done by the private sector. Virtually all education data not supplied directly to the Department of Education by State education agencies, local school districts, or schools are collected under contracts or grants. Data collections by private contractors include surveys for the elementary/secondary data series, the Integrated Postsecondary Education Data System, library surveys, public and private school surveys, and teacher workforce surveys. Surveys to collect data on the outcomes of the education process are or will be carried out by contractors. These include the National Assessment of Educational Progress (NAEP), the longitudinal surveys of the senior high school class of 1972 and the sophomore and senior classes of 1980, and the new survey of the eighth grade class of 1988.

Surveys using the Fast Response Survey System (FRSS) are generally performed under contract. The FRSS is used by the Center for Statistics to collect small quantities of data quickly and with a minimum of burden on respondents. Recently completed surveys using the FRSS collected data from public libraries on use of computers by library patrons and from schools of education on teacher preparation in the use of computers. The Center for Statistics currently has a contract with the Council of Chief State School Officers to improve the comparability of terms and definitions among the States.

The Energy Information Administration contracts for a variety of statistical services in support of its programs. These services include keypunching of data, data processing, and computer support services; data tabulations, analysis, and report preparation; computer-based model development and data base maintenance for the models; independent expert reviews of data systems and proposals; and handling of public inquiries about energy data.

The National Agricultural Statistics Service has an arrangement with the National Association of State Departments of Agriculture (NASDA) for the collection of agricultural statistics. NASDA,

through its organization of field supervisors in each State, hires enumerators to collect the data, performs the associated payrolling functions, and provides the Department of Agriculture with the completed questionnaires for tabulation. Agriculture provides the necessary training, materials, and quality control for the data collection. This has proved to be a satisfactory arrangement, since NASDA hires persons who are familiar with the agricultural sector and since the overhead charged to administer this arrangement is very low (about 2 percent).

The Bureau of Justice Statistics uses private sector services to support the development and analysis of data bases containing information about police services, Federal criminal justice processing, State and local crime, and persons who are released while awaiting trial. It also supports analytic studies conducted by private researchers and academic personnel on such topics as "career criminals," repeated victimization, and the deterrent effect of the criminal justice system. To handle the dissemination of its data, BJS sponsors the National Criminal Justice Data Archive at the Interuniversity Consortium for Political and Social Research at the University of Michigan. All BJS data tapes, as well as other data, are stored at the Archive and are disseminated via magnetic tapes compatible with the user's computing facility. The Archive also disseminates microfilmed National Crime Survey data.

BJS also has arrangements with professional associations to support its statistical programs. For example, BJS provides support to the Criminal Justice Statistics Association (CJSA), which is the national association of the Directors of the Statistical Analysis Centers (SAC). The SACs are State-level organizations that gather, analyze, interpret, and disseminate criminal justice statistical information. BJS support is used by CJSA to provide liaison among the SACs and between the SACs and BJS, and to conduct workshops and publish a periodic news bulletin. The Bureau of Justice Statistics has a cooperative agreement with the Committee on Law and Justice Statistics of the American Statistical Association for methodological reviews of its data series and peer reviews of its reports.

The National Center for Health Statistics is using or has used the data collection services of private sector organizations in the 1987 National Survey of Family Growth and in the 1985 NCHS National Nursing Home Survey. Also being done under contract are several projects to improve the methodology of the National Health Interview Survey (NHIS). These include the redesign of the NHIS, an evaluation of the NHIS as the sampling frame for periodic NCHS population-based surveys, and a series of laboratory investigations to examine the cognitive nature of recalling and reporting chronic conditions and impairments. An evaluation of the quality of NCHS national cause-of-death data is also being performed under contract.

BLS expects to spend about \$11 million in the private sector in 1987 for data entry and processing and computer services. The Statistics of Income Division of IRS contracts primarily for methodological work, on such issues as sample design and imputation. Of all the statistical agencies, the Bureau of the Census makes the least use of private sector statistical services. Its contracts also mainly cover methodological research, on such issues as nonsampling error, undercount, estimation of coverage error, and methods of adjusting for missing data.

### Program Evaluation

A number of agencies use contract studies to evaluate their programs. The Food and Nutrition Service in the Department of Agriculture uses private contractors to conduct most of its ongoing surveys and studies to evaluate the food stamp program, child nutrition programs, and other food assistance programs, with approximately 85 percent of the FNS statistical budget covering these services. The Human Nutrition Information Service's data collections, including the Nationwide Food Consumption Survey (to be conducted in 1987) and the Continuing Survey of Food Intakes by Individuals, are also conducted under contract.

During 1987, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) of HHS expects to fund several contractor studies of factors that influence retirement decisions. ASPE also has several contracted studies in the area of health care, including the National Health Insurance Experiment, which studies health care demand and quality under a variety of cost sharing arrangements.

Evaluations of the Health Care Financing Administration's (HCFA) medicare and medicaid programs are performed under contract. HCFA also uses private contractors to collect and analyze data on enrollment, claims, and providers, and to design a computer-based medicaid statistical reporting and analysis system containing comprehensive information about recipients and providers of medicaid services. The National Center for Health Services Research and Health Care Technology Assessment will be using a private contractor to conduct the National Medical Expenditure Survey, referred to in Chapter I of this report. The Veterans Administration during 1987 will use private sector organizations to conduct three surveys of the veteran population: The National Survey of Veterans - III (last conducted in 1979), the Survey of Disabled Veterans, and the Survey of Medical System Users, which will study and analyze 3,000 veterans who use VA medical centers or outpatient clinics.

Over 60 percent of NHTSA's budget for statistical programs covers payments to private contractors for maintenance of the data bases that support the motor vehicle and highway safety programs and the National Driver Register program.

Likewise most of the statistical budget of the Agency for International Development covers contract research and other services. These include demographic and biomedical research and data analysis used in planning, management, and evaluation of family planning programs; processing, tabulating, analysis, and dissemination of population data; and support for workshops and seminars on various population topics.

#### Purchase of Statistical Data from Private Sources

Several Federal agencies purchase economic data and analysis from private sources. For example, the Office of Business Analysis in the Department of Commerce purchases industrial data and data on stocks and bonds and contracts for research on security prices and for econometric analysis. The Federal Home Loan Bank Board and the Small Business Administration also purchase economic data from private sector data bases.

## CHAPTER III

THE DEVELOPMENT AND IMPLEMENTATION OF  
THE HARMONIZED SYSTEM AND  
STANDARD INTERNATIONAL TRADE CLASSIFICATION, REV.3

On January 1, 1988 the United States expects to begin using a new international code as the basis for its import and export merchandise trade classification systems. The Harmonized Commodity Description and Coding System (Harmonized System), a new uniform structure for describing goods in commerce, was developed by the Customs Cooperation Council (CCC) in Brussels, Belgium. In generating a new commodity code, the CCC sought to establish a basic outline structure that could be applied to designing the detailed classification systems used by government and the private sector to levy customs and transportation tariffs, promulgate regulations, and collect and disseminate statistics.

At the same time, the United Nations Statistical Office will publish and begin to use a third revision of its Standard International Trade Classification, a widely-used coding system for the publication and analysis of data concerning goods in international trade. The purpose of this chapter is to discuss the origins of each of the new systems, reveal current plans for U.S. adoption of the new codes, and examine potential future uses.

Development of the Harmonized System

The well-organized tariff is a recent phenomenon. Early tariffs were at best alphabetical listings of goods with appropriate tariff rates. The United States, for example, did not have a systematically organized statutory basis for its tariff until the adoption of the Tariff Schedules of the United States (TSUS) in 1963; until then, the legal authority for tariffs derived from the Tariff Act of 1930, which included numbered paragraphs comprising enumerations of goods and rates in narrative form. The earliest example of a topically organized tariff classification was the Austria-Hungary tariff of 1892. This model of classification by general characteristic, subdivided into detailed listings, was used in future attempts to develop an international standard classification.

Also during the nineteenth century, the international statistical community had begun to show interest in the coordination of statistical and tariff nomenclatures. An international economic congress held in Brussels in 1853 had recognized the close linkage between statistical import trade nomenclatures and

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This chapter was prepared by Ron Heller, a member of the staff of the United States International Trade Commission.



relevant import duty classification systems, and had urged participants to work towards a uniform international tariff nomenclature as a first step towards a uniform international trade statistical system. The International Statistical Institute, founded in 1885, continued to seek such an international code.

By the end of the nineteenth century, the international statistical community was strongly in support of an international standard code for tariff purposes and a corresponding one for statistical uses. However, agreement in principle was substantially easier to achieve than agreement on any one text. The first international standard tariff code was the Convention adopted at the Second International Conference on Commercial Statistics in Brussels in 1913, which provided for an international statistical nomenclature that was eventually used for tariff purposes in about 30 countries.

In 1931, the League of Nations issued a "Draft Customs Nomenclature" (later referred to as the "Geneva Nomenclature"), consisting of 991 headings describing homogeneous groups of products. The headings were organized into 86 chapters, which were then combined into 21 sections. The individual headings were further subdivided to provide detailed coverage of smaller groupings, arranged in an hierarchical ("outline") format. Although these further subdivisions were considered optional, they were important because they demonstrated the principle of hierarchical arrangement, which simplified classification and promoted more uniformity in interpretation of nomenclatures. Unfortunately, use of the nomenclature was hampered by the general political weaknesses of the League itself, and although a few countries adopted the code, it was eventually lost as a legal instrument.

After World War II, the Geneva Nomenclature resurfaced in Europe as a means of standardizing customs procedures and statistics and thereby assisting in economic reconstruction. In 1947, the European Customs Union Study Group recommended that a Customs Committee be established to draft a common external tariff based on the Geneva Nomenclature. Although the development of a political basis for a European Communities tariff took nearly ten years, the Customs Committee's 1948 draft served as the basis for an international customs tariff nomenclature that was much wider in scope. In 1949, the ECU Study Group invited the international community to adopt a uniform commodity code based on their work to date. The enthusiastic response of other countries to the concept of international standards for customs operations led to the release of a revised version of the nomenclature, which came to be known as the Brussels Tariff Nomenclature (BTN). Also introduced at the same time was a code on principles of customs valuation of imports, and a new international agency, the "Customs Cooperation Council", to oversee the operation of the nomenclature and the valuation code. The nomenclature, valuation

code, and the new organization were formalized by three Conventions signed on December 15, 1950.<sup>1</sup>

The Conventions charged the new international organization with an extensive mandate to explore common issues facing national customs administrations and to make recommendations that would help members improve the operations of their customs services. The types of issues envisioned were technical aspects of customs operation, and an emphasis was placed on reaching agreement for uniformity in the application of many common practices, including the interpretation of rules of origin, customs warehousing, drawback, duty-free zones and public appeals to customs decisions. Another important function of the CCC was to provide mutual assistance to members in such sensitive areas as narcotics enforcement and illegal exportation of articles of national cultural heritage (such as art and antiques). Over the years, the CCC has produced Conventions and Recommendations on these and other topics, ranging from the common ("Customs facilities applicable to travelers", annex F.3. to the Kyoto Convention of 18 May 1973) to the esoteric ("Adoption of a lay-out key for the goods declaration [outwards]", Recommendation of 1 June 1956).

Most of the substantive negotiation and decisions of the CCC take place within the various committees. The Nomenclature Committee maintains the international tariff nomenclature (now known as the CCC Nomenclature or CCCN) and various supporting publications, and assists in the resolution of classification disputes among those administrations that have formally signed the Nomenclature Convention.

There are currently 52 "contracting parties", or signatories, to the Nomenclature Convention, although nearly 150 countries - representing 80% of world trade - base their import tariffs on the CCC Nomenclature. Within the industrialized free world, the United States and Canada are the only two countries not currently using the CCCN. As a significant "hold-out", the United States from time to time considered whether its import tariff should be reformulated in the mold of the CCCN. In the early 1970's, in response to a request by President Nixon, the United States Tariff Commission (now the United States International Trade Commission) prepared a draft conversion of the existing tariff-statistical nomenclature, the TSUSA, into the format of the existing BTN. In developing the draft, ITC found that despite a number of BTN revisions, the international nomenclature contained a number of anachronistic provisions. In a few areas, the BTN grouped products in patterns that were not representative of manufacturing, trading, or marketing distinctions found in the U.S. (and possibly the rest of the world). Aware that there were

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<sup>1</sup>The Nomenclature actually came into force on September 11, 1959, three months after the required number of countries had ratified the Nomenclature Convention.

similar objections to the BTN surfacing in other countries, the Administration decided to delay U.S. consideration of accession to the BTN until a substantial rewrite could be accomplished.

The late 1960's saw a growing awareness of the virtues of coding systems that integrated customs tariffs and statistical provisions within a single nomenclature. The United States had adopted such a nomenclature in 1963, and the European Communities had produced a statistical nomenclature ("NIMEXE") that was aligned with its Common External Tariff. Although the BTN had been modified a number of times in order to improve its alignment with the United Nation's Standard International Trade Classification (SITC) statistical nomenclature, sentiment began to grow for a single coding framework for traded goods that would be detailed enough to serve most statistical needs at the international level, yet legally sufficient to assure uniform customs interpretation. The CCC convened a Study Group, comprising representatives of the United States and 15 other countries, the EC and eight other intergovernmental organizations and customs unions, and the International Air Transport Association and 11 other non-governmental organizations. The resulting report served as the framework for the design and development of the Harmonized Commodity Description and Coding System. Of special interest to the U.S. were statements that:

- 1) New trading conditions demanded a new international nomenclature, and the CCC was an appropriate body for the development of such a nomenclature.
- 2) The new nomenclature could be derived from the existing BTN, but the drafting procedure must take into account the needs of the international statistical community currently using the U.N.'s SITC.
- 3) The drafting process must be flexible enough to incorporate useful elements of various statistical and tariff nomenclatures currently in use.
- 4) Representation of any interested association or government, regardless of CCC membership status, must be permitted throughout the drafting procedure.

The CCC established a Harmonized System Committee (HSC) to draft the new nomenclature, which would be cleared through the existing Nomenclature Committee. In practice, the Nomenclature Committee rarely refused to accept the HSC's drafts, because to do so would force the will of the minority (current BTN signatories) on prospective contracting parties and thereby jeopardize the spirit of cooperation that was sought. Indeed, in operation the HSC itself attempted wherever possible to adopt decisions by consensus rather than by vote. Although customs unions such as the EC often held pre-sessional conferences and therefore tended to vote together on issues that were important to them, the delegations were constantly aware that the resulting nomenclature

would have to meet the needs of the United States and Canada, the two industrialized trading powers that were not currently using the BTN (CCCN).

Virtually all of the work of the HSC was accomplished in working sessions during which any accredited country or organization could take the floor or exercise a vote. It is this latter working procedure that assured that the CCC would develop an international nomenclature capable of being applied by the broadest possible range of users. In all, over 80 national administrations and international organizations participated in the lengthy drafting process. Between 1973 and 1983, the Harmonized System Committee and its working party convened in Brussels, usually for three sessions of two to three weeks each year, to draft the HS (the legal text of the HS Convention) and a detailed set of Explanatory Notes (the CCC's official interpretation of the HS). The HSC received administrative support from its secretariat and technical support where appropriate from the CCC Chemists Committee. The CCC itself approved the new nomenclature during its June 1983 session, and officially opened for signature the International Convention on the Harmonized Commodity Description and Coding System.

#### U. S. Participation in the Harmonized System Committee

The primary players in the U.S. input to the HSC were the United States International Trade Commission (ITC), U.S. Customs Service, Census Bureau, and Department of Agriculture. The ITC's technical role as developer of U.S. positions on the structure and detail of the HS was mandated by section 608(c) of the Trade Act of 1974 (P.L.93-618). As delegate to the CCC, Customs headed the U.S. delegation to the HSC, and coordinated all inputs, on both policy and technical matters, through the Interagency Advisory Committee on Customs Cooperation Council Matters (IAC). The IAC provided an opportunity for other interested government agencies to keep informed on the development of the HS text, and a forum for discussion of issues. The U.S. government had for some time provided technical staff to the various committees of the CCC (at the CCC's expense); upon their return to the U.S. these people were able to provide substantial expertise that proved valuable in drafting our own tariff conversion in the structure of the HS.

In developing proposals for the IAC, the ITC solicited advice from the public and private sectors through formal Federal Register notices, public hearings, and informal contacts with producers, importers, exporters, and trade associations. During the ten years of development of the HS, U.S. public interest in the idea grew steadily, and when in 1983 the ITC released a draft conversion of the TSUS in the HS format, broad support for U.S. adoption of the HS was apparent.

### History of the Standard International Trade Classification

As mentioned earlier, the Second International Conference on Commercial Statistics in 1913 produced a Convention on uniform groupings of goods in international trade. In 1922, the International Bureau of Commercial Statistics published data on world trade according to the product classes in this Convention. Its successor nomenclature, the League of Nations' Geneva Convention, retained the same general form of product distinction. Because the Geneva Convention was designed primarily with customs tariffs in mind, the League of Nations set to work on a corresponding statistical nomenclature. In 1938 the League's Committee of Statistical Experts issued a "Minimum List of Commodities for International Trade Statistics", based on their 1937 revision of the Draft Customs Nomenclature.

After World War II, the United Nations saw itself as the logical international body for the maintenance of international statistical standards. At the direction of the U.N. Statistical Commission, and with the assistance of member administrations and a group of expert consultants, the U.N. Secretariat expanded and revised the "Minimum List" to produce the United Nations Standard International Trade Classification (SITC) in 1950. On July 12, 1950, the 386th plenary session of the U.N. Economic and Social Council approved a resolution of adoption urging member governments to use the SITC as a framework for statistical foreign trade publications.

In order to improve comparability between the SITC and the Brussels Tariff Nomenclature, the U.N. revised the SITC in 1961. For its part, the CCC developed 334 subdivisions for 113 of the BTN provisions, which would allow regrouping of BTN-based classes to yield SITC-based aggregates. To assist users of both systems, the CCC added an appendix to the BTN Explanatory Notes, covering definitions for the new optional subdivisions. Tables correlating the two classification systems were included in the published text of each nomenclature.

Amendments made to the BTN in 1965 and 1972 necessitated another approved adoption of the SITC. In 1975 the U.N. Economic and Social Council released the SITC Rev.2, which brought the SITC more closely into alignment with the BNT. The revision also included several changes designed to make the SITC's product coverage more up to date. Accordingly, the CCC revised the series of statistical subdivisions they had added to their nomenclature to accommodate the U.N.'s nomenclature.

The SITC Rev.2 consists of 1,573 detailed classes, aggregated successively into 786 subgroups, 233 groups, 63 divisions and 10 sections. By comparison, the 1978 BTN (CCCN) comprised 1,011 product group "headings", arranged in 99 chapters which were further sorted into 21 sections. 1,083 "optional" statistical subdivisions are distributed among 262 of the CCCN headings to assure comparability with the SITC Rev.2.

The U.N. has consistently viewed the SITC as a regrouping of CCCN provisions into categories that are more useful for statistical analysis. To this end, they considered it vital that the link between the tariff and statistical nomenclatures be maintained. Therefore, when the CCC embarked upon the development of the HS, the U.N. Statistical Office provided active representation to the meetings of the Harmonized System Committee. Of course, the emergence of the HS required a third revision to the SITC.

However, a number of other nomenclatures exerted an influence on the structure and detail of the SITC Rev.3. In addition to attaining comparability with the HS, the U.N. Statistical Office sought to accomplish SITC comparability with certain other U.N. nomenclatures, such as:

- (1) The International Standard Industrial Classification (a coding for industrial activity, analogous to the SIC used in the U.S.);
- (2) The Central Product Classification (an organized listing of product classes, each of which can be derived from SITC classes and also from ISIC codes. The CPC serves as a common level of comparability between the U.N.'s product trade nomenclature and its industrial activity nomenclature); and
- (3) The Integrated System of Classifications and Activities ("SINAP", an interim classification system developed jointly by the U.N. and E.C. statistical offices to serve as the basis for harmonization of major statistical nomenclatures world-wide).

Other factors taken into consideration in the third revision of the SITC were:

- "(a) The nature of the merchandise and the materials used in its production;
- (b) The processing stage;
- (c) Market practices and the uses of the product;
- (d) The importance of the commodity in terms of world trade; and
- (e) Technological changes."<sup>2</sup>

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<sup>2</sup>United Nations, Economic and Social Council, "Harmonization of international economic classifications: Report of the Secretary-General", U.N. Doc. E/CN.3/1985/7, New York, October 3, 1984.

Early in 1985, the U.N. Statistical Commission officially approved the draft SITC Rev.3, and sent to the Economic and Social Council a resolution calling for international use of the third revision. The resolution, which was adopted by the Economic and Social Council in May 1985, recommended:

"that Member States should report internationally data on external trade statistics according to the Standard International Trade Classification, Revision 3, as far and as soon as possible, it being understood that Member States may not wish to make the change until they<sup>3</sup>would in any case be reviewing their customs nomenclature;"

The text of the resolution also requested the U.N. Secretary-General:

- "(a) To publish SITC Revision 3, together with commodity indexes and correlation codes between SITC Revision 3, the Harmonized Commodity Description and Coding System and the Customs Co-operation Council Nomenclature and between SITC Revision 3 and the Classification by Broad Economic Categories;
- (b) To continue and complete, as a matter of priority, the development of the convertibility indexes between the first revision (SITC Revised) and the Standard Foreign Trade Classification (SFTC) used for external trade by States members of the Council for Mutual Economic Assistance, and to establish similar convertibility indexes in respect of SITC Revision 3 and the Standard Foreign Trade Classification;
- (c) To arrange that, beginning not later than with data for the full year 1988, the publication of SITC data by United Nations bodies should be, as far as possible, in the form of SITC Revision 3."<sup>4</sup>

U.S. Participation in the Third  
Revision of the SITC

The U.S. government assisted in the drafting of the SITC Rev.3 on both a policy level and technical level. The United States representative on the Statistical Commission provided representation on general issues. Members of the Census Bureau staff attended working sessions of an expert group that dealt with technical issues.

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<sup>3</sup>United Nations, Economic and Social Council, Statistical Commission, "Report on the Twenty-Third Session (25 February - 6 March, 1985)," U.N. Doc. E/CN.3/1985/23, New York, 1985.

<sup>4</sup>Ibid.

Understandably, private sector interest in the third revision was not so intense as with the development of the Harmonized System, which could potentially serve as the framework for administrative and regulatory schedules. The Office of Management and Budget and Census used informal means to solicit the views of the public and private sector during various stages of the revision process.

### Description of the HS and SITC Rev.3

The legal text of the Harmonized System consists of (in descending order of coverage) the Rules for the Interpretation of the Nomenclature; Section and Chapter Notes; and the actual headings and subheadings. The numbering scheme has significance at the 2,4,5, and 6 digit levels, as shown in the example in Figure 5.

The example contains both four-digit numbers and six-digit numbers. The four-digit numbers identify "headings", corresponding to the current CCCN headings, revised for HS purposes. The text that defines subdivisions of the headings is referred to as "structured nomenclature", and is the heart of the Harmonized System. Only the lowest level of detail is numbered in the structured nomenclature (e.g., "Lettuce" does not have its own code). However, the HS is strictly numbered so that one-dash subheadings imply a specific 5-digit code ("-Lettuce:" implies 0705.1). This system of numbering therefore imposes a limitation of 9 one-dash subheadings for each heading, and nine two-dash for each one-dash; zero is reserved for use in cases where there are no further subdivisions (see 0701.10 above). Thus in the last code in the above example, "07" locates the line in chapter 07, "05" places it in the fifth heading, and ".2" indicates that it is the second one-dash subdivision of the heading. In general, residual classes take the digit "9", as with 0705.29. In this example, the fifth digit is "2", not "9", because "Chicory" is an eo nomine provision (specification by name), rather than the more typical "Other" (0705.19).

Chapter and section titles are not a part of the legal text for classification purposes, although they are helpful in indicating the general organization of the HS. However, the legal notes at the front of most chapters and many sections are very important because they play a part in the interpretation of the heading and structured nomenclature language. The Interpretative Rules at the front of the HS spell out broad guidelines for use in the construction of the HS provisions, and the section/chapter notes often further refine them or provide exceptions to them. An example is Section XI rule 2(A), which provides that most textile blended fabrics are classified according to fiber of chief weight -- a refinement of I.R. 3(b), which establishes "essential character" as the criterion.



Figure 5

Example of the Legal Text of the Harmonized System

| Section II<br>Vegetable products  |  |   |   |   |   |   |
|---|--|---|---|---|---|---|
| *   | *  | * | * | * | * | * |
| Chapter 7<br>Edible vegetables and certain roots and tubers                                   |  |   |   |   |   |   |
| Notes.  |  |   |   |   |   |   |
| 1. This chapter does not cover forage products of heading 1214.                               |  |   |   |   |   |   |
| 2. In headings 0709, 0710, 0711 and 0712 the word "vegetables" includes edible mushrooms, ... |  |   |   |   |   |   |
| *   | *  | * | * | * | * | * |
| 0701  | Potatoes, fresh or chilled   |   |   |   |   |   |
| 0701.10   | -Seed  |   |   |   |   |   |
| 0701.90   | -Other   |   |   |   |   |   |
| 0702.00   | Tomatoes, fresh or chilled   |   |   |   |   |   |
| *   | *  | * | * | * | * | * |
| 0705  | Lettuce ( <i>Lactuca sativa</i> ) and chicory ( <i>Chicorium spp.</i> ), fresh or chilled. |   |   |   |   |   |
|   | -Lettuce:  |   |   |   |   |   |
| 0705.11   | --Cabbage lettuce (head lettuce)   |   |   |   |   |   |
| 0705.19   | --Other  |   |   |   |   |   |
|   | -Chicory:  |   |   |   |   |   |
| 0705.21   | --Witloof chicory ( <i>Cichorium intybus</i> var. <i>foliosum</i> ) 0705.29                |   |   |   |   |   |
|   | --Other  |   |   |   |   |   |
| *   | *  | * | * | * | * | * |

In all, the HS comprises 21 sections, 96 chapters,<sup>5</sup> 1,241 4-digit headings, 3,558 implied 5-digit (one-dash) subheadings and 5,019 6-digit lines.

The SITC Rev.3 is organized in an analogous fashion. It contains 10 one-digit sections, further subdivided into: 67 two-digit divisions, 258 three-digit groups, 1,033 four-digit subgroups, and 3,118 five-digit items. In the SITC, trailing zeroes are typically dropped. Consequently, one will actually only find 2,805 five-digit numbers used; they are the subdivisions of 720 of the four-digit subgroups.

Consistent with the intent that the SITC be used for statistical purposes is the use of full texts wherever possible for the subdivisions. Although this principle results in lengthy descriptions, it allows for "stand-alone" use of the descriptions. Compare 071.12 in this example with HS 0701.10.

In the organization of the HS, the susceptibility to uniform legal interpretation clearly prevails over statistical needs, although the six-digit HS codes will undoubtedly serve as a framework for the detailed database used to collect statistics in countries that use the HS. In fact, the HS Convention actually stipulates (Art.3, sec.1(b)) that --

Each Contracting Party shall also make publicly available its import and export trade statistics in conformity with the six-digit codes of the Harmonized System, or, on the initiative of the Contracting Party, beyond that level, to the extent that publication is not precluded for exceptional reasons such as commercial confidentiality or national security;

Nevertheless, it is anticipated that the SITC will continue to predominate in the publication and analysis of trade data. Whereas the HS tends to be organized by product and by constituent material, the SITC has traditionally differentiated between goods at different stages of manufacture or processing. Consequently, aggregate levels of the HS (chapters and headings) are generally not as interesting for economic analysis as the SITC. Since the HS is a core system of classification, its six-digit structured nomenclature will be used as a jumping-off point for more detailed classes. In contrast, the 3,118 five-digit lines of the SITC Rev.3 will be the finest level of distinction

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<sup>5</sup>Chapter 77 is reserved for future use; 98-99 are reserved for individual countries' special provisions, such as tourist exemptions.

used in SITC-based trade data. As with the current SITC Rev.2, a substantial amount of published trade data and analysis will involve aggregate levels of distinction, which are formulated to yield statistically useful groupings of products.

### U.S. Adoption and Use of HS and SITC Rev.3

U.S. government agencies have devoted significant budgetary resources towards the development of the HS, and a considerably smaller amount to the third revision of the SITC. By the time the nomenclatures are in effect for the administration of import duties and foreign trade statistical programs, it is estimated that about \$16 million and 400 work-years will have been allocated to U.S. participation in the international development of the nomenclatures and domestic implementation of the new classifications.<sup>6</sup> Over 80% of the total is accounted for by the cost of developing and implementing an HS-based import tariff. Since import duties are the most obvious (and costly) use of the HS/SITC nomenclatures, this discussion will begin with the revision of the Tariff Schedules of the United States (TSUS).

#### Tariff Schedules of the United States

The current import tariff schedules have been in effect since 1963. Since the Constitution gives the legislative branch the power to levy duties, the TSUS derives its authority from statute, and a conversion of the TSUS into a new code based on the HS can only be accomplished by legislative action. Following a presidential request, the U.S. International Trade Commission drafted an HS-based TSUS, utilizing expertise developed during ten years as technical advisor to the U.S. delegation to the Harmonized System Committee, staff knowledge of international commodity flows and the structure of domestic industry, and input provided by the public during hearings and public comment periods. ITC delivered the draft conversion to the President in June 1983.

Since that date, the U.S. Trade Representative has made numerous modifications to the draft, in response to:

- 1) Interagency requests for change.
- 2) Input from government-sponsored private sector advisory groups.
- 3) Requests that emerged during USTR-led hearings and public comment periods.

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<sup>6</sup>This includes consequential changes to statistical systems for measuring and describing domestic industrial output (codes based on the Standard Industrial Classification).

In addition, USTR has begun to consider changes that would accommodate special duty programs, such as the Generalized System of Preferences and Caribbean Basin Economic Recovery Act rates, which were intentionally left out of the ITC draft. USTR is currently participating in negotiations that will settle any problems brought about by countries' HS tariff conversions. The negotiations, conducted under Article XXVIII of the General Agreement on Tariffs and Trade (GATT), began earlier this year.

While GATT negotiations take place in Geneva, USTR will be working in Washington towards legislative initiatives necessary for enactment of the TSUS/HS. USTR expects to submit legislation in spring 1987, with a view towards an effective date of January 1, 1988 -- the date agreed to by the U.S. and its major trading partners in a recent meeting of the GATT Tariff Concessions Committee.

The U.S. Customs Service, charged with responsibility for the administration of tariffs, will incur about twenty percent of the total HS/SITC implementation costs. These costs include changeover of records, adapting administrative and regulatory rulings, and training. Customs has developed training programs for its field staff and for import brokers, who need an understanding of the TSUS/HS well in advance of enactment.

Exporters will be introduced to the Harmonized System-based Schedule B (export schedule) through a series of training sessions to be given by the Commerce Department's Census Bureau in major port cities during the Fall of 1987.

ITC, publishers of the TSUS, plans to have the first edition of the new TSUS/HS available at the Government Printing Office well in advance of its effective date. Publication of the tariff is contingent upon (1) Congressional enactment of enabling legislation and (2) Presidential proclamations defining product coverage under the HS-based numbering system for Generalized System of Preferences and other special import programs. During the changeover from the current TSUS to the HS-based TSUS, ITC will continue to provide substantial technical support to USTR, Customs, and Census.

#### Import and Export Statistical Programs

As with the current tariff, the new tariff schedule will be "annotated" to include statistical subdivisions. This "TSUSA" will provide the detailed product codes used in the publication of a wide range of import statistical data. As now, most import data series published by the Census Bureau will show trade recoded to SITC-based classes. Nevertheless, the TSUSA-based statistical data will continue to serve as a detailed source of import data for research and for the administration of trade law -- which often requires extremely fine distinctions to be made concerning quota items and other specific problem areas.

Assuming that no change will be made in the statutory authority for the statistical annotation system, the statistical content of the TSUSA will be the responsibility of an interagency committee that includes Census and Customs and is chaired by ITC.

This "484(e) Committee"<sup>7</sup> will also continue to approve changes to the Export Statistical Schedule, Schedule B, published by the Census Bureau. The HS-based export nomenclature will serve a purpose for export data analogous to the TSUSA for imports. The two nomenclatures will contain the same product detail at least down to the six-digit HS level; ITC and Census are expending a considerable effort in attempt to align the two schedules as closely as possible, bearing in mind the limitations imposed by differences in the product mix of imports and exports, cost considerations, and differences involving the collection of data.

One major HS-related problem confronting the statistical community is continuity of time series. Both the CCC and the U.N. are developing concordances to enable users to bridge the changeovers in the SITC and HS, but neither concordance will provide allocations for situations where a current product class must be distributed to two or more new classes. U.S. government agencies have not decided the level of detail that will be provided to the public with regard to forward or backward concordances; the nature of the final products will depend largely upon perceived demand, availability of reliable allocation data, and budgetary exigencies. A similar uncertainty exists with respect to the published data itself; Census must decide whether or not to publish current (and/or retrospective) trade data in both formats during a transitional period of one or more years. A number of other agencies, including the Department of Agriculture's Economic Research and the Department of Labor's Bureau of Labor Statistics, Commerce's Bureau of Economic Analysis, and ITC's Office of Economic Research, publish various kinds of occasional or periodic foreign trade reports based on Census' import and export data. In general, these data users work with aggregate data, and may not incur substantial costs as the result of the changeover. However, costs could rise significantly if they have to develop their own concordances or bridge data.

### Transportation Programs

The transportation sector has traditionally been slow to adopt standardization of product coding. In industries where rate tariffs must be periodically filed with government agencies, individual enterprises are reluctant to cede ultimate classification authority to an outside organization. In the case of freight tariffs based on the structure of the HS,

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<sup>7</sup>The Committee for Statistical Annotation of Tariff Schedules; its nickname refers to its statutory mandate, sec. 484(e) of the Tariff Act of 1980.

classifications (and, therefore, rates) could be affected by Customs and/or CCC rulings.

Under current practice, if a particular carrier finds that its schedule of rates discriminates against a particular customer's product, the carrier can change the content of any product class in its next filing with government. A substantial part of the transportation sector bases its tariff schedules on the Standard Transportation Commodity Code ("STCC", a voluntary coding framework used by the rail carriers, most of the motor freight firms, and many of the air freight companies). The STCC is subject to revision from time to time for such purposes. Although the HS could also be changed, the process would be time-consuming and subject to the pressures of competing interests.

Nevertheless, it may be in the long-term interest of the transportation sector to align members' tariffs on the HS. With the increased use of automated data processing, persons facing transportation costs -- manufacturers, shippers, wholesalers, retailers -- will become increasingly sensitive of the relatively high cost of procedures such as coding, which must still be carried out by hand. A uniform structural classification base that is used at all stages of a product's transportation process would greatly simplify the coding procedure for individual products. As the above example illustrates, classification criteria tend to be more difficult to apply at higher levels (e.g., articles of base metals versus parts of machinery) than at more detailed level (e.g., spinning rings versus other parts of spinning machinery). Therefore, if a product's code has the same six-digit "root" in each classification system, coding under any particular tariff is a relatively fast procedure.

A further benefit of using the HS as a base for transportation tariffs is the instant SITC comparability it would yield. This would also yield substantial benefits to areas involved in market analysis and planning.

The transportation industry's current STCC is deliberately aligned with the Standard Industrial Classification (SIC), a government classification used for coding the entire range of domestic economic activities. Since the SIC is used in a number of government regulatory programs that affect shippers, adoption of the HS by the transportation sector would probably involve the drafting of an STCC which would be based on the HS but containing any added detail necessary to achieve comparability with the SIC.

Government agencies are moving towards electronic transmission of transportation tariff data. In developing its Automated Tariff Filing and Information System, the Federal Maritime Commission noted that most current rate filings use standardized U.S. nomenclatures for commodity coding, such as TSUSA, SITC, and Schedule B. The ocean freight industry may well be the first part of the transportation sector to consider standardizing its tariffs around the HS, because in 1988 the TSUSA, Schedule B, and SITC Rev.3 will all be HS-compatible.

### Regulatory Programs

It is expected that adoption of the HS as a basis for coding products in regulatory activities will be a lengthy process. As part of the drafting of import legislation, ITC and other agencies will assist USTR in searching existing administrative and statutory law for possible consequential changes in import-related provisions. However, there exist a number of commodity codings used in programs that are primarily oriented towards domestic industry, and the benefits of rewriting these codes to an HS-based coding system are somewhat less cost-effective, especially in the short and medium term. Nevertheless, the same pressures cited above with regard to transportation will eventually lead agencies that maintain these domestic-oriented product nomenclatures to consider the HS as a framework for their coding. Examples would be the Internal Revenue Service and the Bureau of Alcohol, Tobacco and Firearms, whose regulations could be revised to include HS numbers in provisions establishing taxes and standards of identity for alcoholic beverages and tobacco products.

Controls on the export of various goods are administered by the Departments of Commerce, State, and Defense pursuant to public laws which give the Secretaries of the respective departments broad authority to restrict the export of materials and articles that they determine to be in short supply, critical to national security, or meeting other criteria. Since the administration of these programs requires commodity coding systems that will be utilized with respect to potential exports, the HS would appear to be a ready-made vehicle for the codification of specific controls. Current nomenclatures are organized into broad categories of products, with each category subdivided into large numbers of paragraphs, each one describing specific products and the level of control applicable to each, usually by country of destination. Restating the lists in the format of the HS would organize them in a much more orderly fashion and benefit prospective exporters by increasing the certainty of control status to which their products are subject. Despite the substantial efforts expended by the respective agencies to speed up paperwork involved in administering the programs, obtaining an export license can be a time-consuming procedure. Much product marketing is extremely time-sensitive (e.g., computer software, high-technology computing, controlling, and measuring equipment). Since the exporter and foreign importer will already know the HS number of a product (they need to know it in order to estimate duties and other import constraints the product will be subject to at its destination), expressing the export controls in terms of the HS would place the exporter in a better negotiating position with foreign customers.

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<sup>8</sup> P.L. 96-72, P.L. 97-145 and, most recently, The Export Administration Act of 1985 (P.L. 99-64).

The Department of Commerce administers export controls pursuant to regulations contained in 15 CFR 368-399. The control list itself appears as Supplement 1 to section 399.1, and additional interpretative material is contained in Supplement 1 to section 399.2. Although the translation of this material into the HS would require substantial expenditure of time, the long-term benefits to the public could justify the effort. As a first step, Commerce may make changes necessary to establish comparability with the new export schedule without actually reorganizing the lists into HS order.

As with other regulatory uses of HS-based nomenclatures, there may be reluctance to use a coding system that is nominally subject to interpretation by an international authority. It is certainly conceivable that CCC interpretations of the HS could be entered into legal proceedings involving the application of regulatory codes that use the HS as a framework. However, the legal status of CCC interpretations -- especially those rendered after accession to the HS Convention -- is affected by domestic U.S. law and judicial interpretation. Even in the case of the import tariff, the HS does not limit the sovereign rights of signatory administrations to administer programs pursuant to domestic statutes and regulations (in the case of the tariff schedule: rates of duty, quota categories, etc.). It would be expected that administrative provisions establishing an HS-based Commodity Control List would empower the respective executive to make reasonable changes to the List to maintain the intended scope of the export control program.

### Summary and Conclusions

"Trade facilitation" has become a catch-word in discussions concerning the role of government in the arena of commerce. The HS and Sitc Rev.3 represent the culmination of a century of international effort to standardize the description of products and thereby reduce uncertainty and delay in getting goods to their markets. The government and private sector appear to be favorably disposed towards the U.S. adopting the HS as a framework for a future import and export coding schedule; revision of the statistical publication codes from SITC Rev.2 to the format of the SITC Rev.3 follows automatically. Use of the HS in other areas of administrative and regulatory programs is less certain, but pressure from the private sector and long-term fiscal considerations may lead many of these programs to move towards use of the HS. In view of current budgetary limitations, motion in the near future towards the HS may be limited to studies assessing costs and benefits of specific nomenclature conversions. In view of the substantial U.S. involvement in the development of the HS, concerned agencies will find a wealth of expertise available to them among the staff of agencies such as ITC, Customs, Agriculture, and Commerce.



## GLOSSARY OF ABBREVIATIONS OF AGENCY NAMES

|           |  |
|-----------|--|
| ADAMHA    | Alcohol, Drug Abuse, and Mental Health Administration (HHS)                  |
| AgOther   | Other activities in the Department of Agriculture (National Climate Program) |
| AID       | Agency for International Development   |
| ARS       | Agricultural Research Service (Agriculture)                                  |
| ASD/Admin | Assistant Secretary of Defense for Administration                            |
| BEA       | Bureau of Economic Analysis (Commerce)                                       |
| BIE       | Bureau of Industrial Economics (Commerce)                                    |
| BJS       | Bureau of Justice Statistics (Justice)                                       |
| BLS       | Bureau of Labor Statistics (Labor)   |
| BOM       | Bureau of Mines (Interior)   |
| CAB       | Civil Aeronautics Board  |
| Census    | Bureau of the Census (Commerce)  |
| CtrStat   | Center for Statistics (Education)  |
| CDC       | Centers for Disease Control (HHS)  |
| Corps Eng | Corps of Engineers (Defense)   |
| CP&D      | Community Planning & Development (HUD)                                       |
| CPSC      | Consumer Product Safety Commission   |
| Customs   | U.S. Customs Service (Treasury)  |
| DEA       | Drug Enforcement Administration (Justice)                                    |
| DefOther  | Other Activities in the Department of Defense (National Climate Program)     |
| DMDC      | Defense Manpower Data Center (Defense)                                       |
| EDA       | Economic Development Administration (Commerce)                               |
| EdOther   | Other Activities in the Department of Education                              |

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| EEOC         | Equal Employment Opportunity Commission                                |
| EIA          | Energy Information Administration (Energy)                             |
| EnergyResrch | Office of Energy Research (Energy)                                     |
| EnOther      | Other Activities in Department of Energy<br>(National Climate Program) |
| EnvSafHealth | Environmental Safety and Health (Energy)                               |
| EPA          | Environmental Protection Agency  |
| ERS          | Economic Research Service (Agriculture)                                |
| ESA          | Employment Standards Administration (Labor)                            |
| ETA          | Employment and Training Administration (Labor)                         |
| FAS          | Foreign Agricultural Service (Agriculture)                             |
| FBI          | Federal Bureau of Investigation (Justice)                              |
| FDA          | Food and Drug Administration (HHS)                                     |
| FEMA         | Federal Emergency Management Agency                                    |
| FERC         | Federal Energy Regulatory Commission (Energy)                          |
| FHLBB        | Federal Home Loan Bank Board   |
| FHWA         | Federal Highway Administration<br>(Transportation)                     |
| F&NS         | Food and Nutrition Service (Agriculture)                               |
| FRA          | Federal Railroad Administration (DOT)                                  |
| FS           | Forest Service (Agriculture)   |
| FTC          | Federal Trade Commission   |
| F&WS         | Fish and Wildlife Service (Interior)                                   |
| HCFA         | Health Care Financing Administration (HHS)                             |
| HHS          | Department of Health and Human Services                                |
| HNIS         | Human Nutrition Information Service<br>(Agriculture)                   |
| Housing      | Office of the Assistant Secretary for Housing<br>(HUD)                 |

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| HRSA       | Health Resources and Services Administration (HHS)  |
| HUD        | Department of Housing and Urban Development   |
| ICC        | Interstate Commerce Commission  |
| I&NS       | Immigration and Naturalization Service (Justice)  |
| IntOther   | Other activities in the Department of the Interior (National Climate Program)                   |
| IRS        | Internal Revenue Service (Treasury)   |
| ITA        | International Trade Administration (Commerce)   |
| MMS        | Minerals Management Service (Interior)  |
| MSHA       | Mine Safety and Health Administration (Labor)   |
| NASA       | National Aeronautics and Space Administration   |
| NASS       | National Agricultural Statistics Service (Agriculture) (formerly Statistical Reporting Service) |
| NCHS       | National Center for Health Statistics (HHS)   |
| NCHSR/HCTA | National Center for Health Services Research and Health Care Technology Assessment (HHS)        |
| NCI        | National Cancer Institute (HHS)   |
| NHLBI      | National Heart, Lung, and Blood Institute (HHS)   |
| NHTSA      | National Highway Traffic Safety Administration (Transportation)                                 |
| NIH        | National Institutes of Health (HHS)   |
| NINCDS     | National Institute of Neurological and Communicative Disorders and Stroke (HHS)                 |
| NMFS       | National Marine Fisheries Service (Commerce)  |
| NOAA       | National Oceanic and Atmospheric Administration (Commerce)                                      |
| NSF        | National Science Foundation   |
| OASPE      | Office of the Assistant Secretary for Planning and Evaluation (HHS)                             |

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|--------------|--|
| OBA          | Office of Business Analysis (Commerce)   |
| OHDS         | Office of Human Development Services (HHS)   |
| OSHA         | Occupational Safety and Health Administration<br>(Labor)                                 |
| OS/IA        | Office of the Secretary/International Affairs<br>(Treasury)                              |
| OS/RSPA      | Office of the Secretary/Research and Special<br>Programs Administration (Transportation) |
| OthNIH       | Other Activities in the National Institutes of<br>Health (HHS)                           |
| PD&R         | Office of the Assistant Secretary for Policy<br>Development and Research (HUD)           |
| SBA          | Small Business Administration  |
| SCS          | Soil Conservation Service (Agriculture)  |
| SEC          | Securities & Exchange Commission   |
| SSA          | Social Security Administration (HHS)   |
| SOI          | Statistics of Income Division (IRS)  |
| UMTA         | Urban Mass Transit Administration<br>(Transportation)                                    |
| UranResource | Uranium Resources (Energy)   |
| USGS         | U.S. Geological Survey (Interior)  |
| VA           | Veterans Administration  |

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