

Overview of the Federal Statistical System

Good public policy demands good information. There may be disagreement about the wisdom of different Federal programs but there is little dispute over the need for adequate data to inform the debate. The information generated by the \$2 billion spent this year by Federal agencies on statistical programs is a key resource for government policy makers as well as for private investors, public interest groups, academic researchers, and labor organizations (table 1).¹ Government statistics play a key role in evaluating and implementing legislation and are often used as indexes in private contracts (see box A).² Table 1 does not include a large, hidden cost of national statistics: the time invested by the individuals and businesses that provide the basic data. These costs obviously must be carefully considered in reviewing any proposed changes in statistical efforts.

U.S. national statistics are acknowledged to be among the best in the world. But the U.S. economy is changing in ways that make documenting economic performance much more difficult. Business success today rests heavily on efficient management of new technologies and a grasp of the international marketplace. Competitiveness relies on quality, timeliness, and sensitivity to diverse markets. The most important inputs purchased by a business may be research and engineering information and the skills and education of its employees. Many of these factors are extremely difficult to measure.

The new dimensions of growth and change have also challenged traditional approaches to economic growth policy. Policies that may have effectively encouraged growth in an era of little international trade may be ineffective or even counterproductive in today's global economy. Economic policy will require the best possible measurement of the factors critical for growth and an awareness of areas where uncertainty prevails. Serving the new needs of policymakers in a time of change will require a coordinated response of the Nation's statistical

agencies. The present management of the statistical agencies makes such a response difficult.

The fault does not lie primarily in the management of individual statistical agencies. These organizations are painfully aware of the problems. The greatest problem appears to be the absence of any central place in government where basic questions about priorities in statistics are being asked, and the lack of effective coordination among statistical agencies.

ANSWERS TO BASIC QUESTIONS

The most basic questions of economic policy will endure, regardless of the transformations that affect the economy. We will always need to monitor changes in American living standards, determine whether access to the benefits of economic growth are more or less evenly shared, and estimate how the United States compares with other countries. But economic change has made it difficult to address even these fundamental questions with precision. This paper examines eight basic questions and our ability to answer them with currently available statistics:

- A. How rapidly is the U.S. economy growing?
- B. Which businesses are responsible for this growth, and has growth in the complexity of the networks connecting different kinds of businesses changed the interdependence of businesses?
- C. What is the impact of international trade on domestic producers, workers, and consumers?
- D. What capital and labor inputs are purchased by domestic producers?
- E. How productively do domestic producers use inputs?
- F. How does the way U.S. businesses are organized affect economic growth? (i.e., what are the relative contributions of different sized establishments and firms? what is the effect of mergers and acquisitions?)

¹ It should be noted that the budget for fiscal year 1989 is half-a-billion dollars larger than usual because of expenditures for the decennial census. See table 1.

² For example, in fiscal year 1984, 87 percent of all Federal grants-in-aid to State and local governments were distributed by formula using Federal statistics, compared with an estimated two-thirds in fiscal 1975. See U.S. Congress, General Accounting Office, *Grant Formulas A Catalog of Federal Aid to States and Localities*, GAO/HRD-87-28 (Washington, DC: U.S. Government Printing Office March 1987), p. 10. In terms of contracts, 2(X) billion to 300 billion dollars' worth of contracts are keyed to the Producer Price Index (PPI) through inflation adjustment clauses.

Table 1—Direct Funding for Major Statistical Programs Fiscal Year 1989 (estimate)

	Millions of dollars
Commerce	\$ 705.8
Census	646.2
Decennial	434.8
Other	211.4
Bureau of Economic Analysis	24.7
Other	34.9
HAS	290.5
Centers for Disease Control	129.0
National Cancer Institute	51.0
Other	110.5
Agriculture	242.3
Soil Conservation Service	83.1
National Agricultural Statistics service	64.1
Other	95.1
Labor	226.5
Bureau of Labor Statistics	190.4
Other	36.1
Interior	119.5
U.S. Geological Service	78.9
Other	40.6
Energy	90.8
Environmental Protection Agency	69.3
Education	36.1
Transportation	32.7
Justice	30.4
Treasury	28.2
HUD	14.1
Defense	8.3
Other agencies ^a	85.7
Total	\$1,979.8
Total without decennial census	\$1,545.0

^aAgency for International Development, Consumer Product Safety Commission, Equal Employment Opportunity Commission, Federal Emergency Management Agency, Federal Home Loan Bank Board, National Aeronautics and Space Administration, National Science Foundation, Small Business Administration, National Science Foundation.

SOURCE: Office of Management and Budget, "Statistical Programs of the United States Government," 1999.

G. How does growth affect incomes and income distribution?

H. How does growth translate into real improvements in living standards such as better health, an increase in real choice and quality of products, or rewarding employment opportunities?

Part II of this report examines the data and the statistical apparatus that is in place to answer these questions endpoints out a number of deficiencies. The last question is not addressed as a separate topic but is touched on throughout. A proper way to

address this question remains a major challenge for all statistical work.

The material that follows reviews some of the administrative problems that have contributed to the problem. In many cases, of course, the statistical agencies recognize the problems but there are no easy answers (it is much easier for a report like this one to identify faults than to suggest concrete remedies). Better management can not guarantee improvements but can make the search for solutions more productive, and make better use of existing resources.

It is OTA's hope that this report can provide guidelines for pursuing important improvements in statistical data gathering and analysis, providing a better understanding of the American economy.

STATISTICS FOR A CHANGING ECONOMY

While the decentralized system of statistical collection and analysis in the Federal Government has many strengths, the system suffers from the absence of any central organization able to develop a coherent strategy for adjusting to the challenges presented by today's economy. The Office of Information and Regulatory Affairs of the Office of Management and Budget was charged with establishing statistical policy and coordinating statistical efforts in the United States in the 1980 Paperwork Reduction Act.³ It has not performed this role effectively.⁴ While individual statistical agencies have made efforts to work together and solicit the opinions of data users, the absence of effective OMB leadership has left critical gaps. There is no national, systematic effort to articulate priorities in statistics and match budgets to these priorities, to anticipate future needs, to translate the complex and often conflicting objectives of data consumers into a practical set of tasks, or to ensure that the work of individual statistical agencies is adequately coordinated.

In particular:

There is a pressing need for an organization where fundamental statistical priorities are

³Public Law 96-511.

⁴A number of other reviews have examined deficiencies in OMB's management of the statistical agencies. See, for example, *The Federal Statistical System: 1980 to 1985*, a report prepared by the Baseline Data Corp. for the Congressional Research Service, November 1984, pp. 46-67.

Box A—The Impact of One Economic Statistic: The CPI

The Consumer Price Index (CPI) measures the increase or decrease in the total price of a set of goods and services (a “market basket”) representative of a consumer’s purchases. Constructed as an indicator of inflation, the CPI has a direct effect on nearly every citizen in the United States. At least 8.5 million workers are covered by collective bargaining contracts that link wage rates to changes in the CPI. The payments made to 38 million Social Security beneficiaries, 3.5 million retired military and civil service employees and survivors, 20 million food stamp recipients, and 23 million children who eat lunch at school are also linked to the CPI by law. The Economic Recovery Tax Act of 1981 uses the CPI to prevent inflation-induced tax rate increases (bracket creep).¹ All told, the Bureau of Labor Statistics estimates that an increase of one percentage point in the CPI could add nearly \$5 billion to the Federal budget.²

¹U.S. Department of Labor, Bureau of Labor Statics, BLS Handbook of Methods, Bulletin 2134-2, April 1964, pp. 5-6.

²Calculated by the Office of Management and Budget for fiscal year 1986. See testimony of the Honorable Janet Norwood before the Subcommittee on Government Information and Regulation, Committee on Governmental Affairs, U.S. Senate, June 12, 1969, p. 2.

periodically reexamined in light of the new needs of public and business analysts. The continuing underemphasis on service industries is a clear symptom of this problem. Hard pressed by the demands of mandated publication schedules, the statistical agencies have little time and few resources to do basic research or ask hard questions about priorities. This problem has been exacerbated by budget cuts. While it has a mandate to perform this task, OMB has not given it much priority and has dedicated few resources to the effort.

- *An effort is needed to evaluate whether statistical efforts match the significance of the problem.* For historical reasons, the U.S. Department of Agriculture spends 6.7 times more on statistics than the U.S. Department of Education. It seems unlikely that this is the right ratio

given the transformation underway in the economy. Even worse, no organization in either the executive branch or the Congress has assumed responsibility for asking whether it is the right ratio.

- *The work of the statistical agencies should be more closely coordinated.* Much of the output of statistical agencies depends on careful coordination of work in several different agencies. The Bureau of Economic Analysis (BEA), for example, takes price indices from the Bureau of Labor Statistics (BLS), and incorporates data from the Bureau of the Census to develop data about inflation that is, in turn, used by BLS to develop productivity series. Such networks must respond to new priorities in carefully coordinated ways. Budget reductions in one agency can have complex effects on the performance of the integrated system. A clear view of the integrated needs of the statistical agencies is essential if either OMB or the Congress is to make well-informed judgments about budget priorities. A coordinated approach to analysis of the burden statistics impose on users might also reveal ways to produce better data without increasing the burden on respondents.

Coordination also requires difficult judgments about how to handle confidential data. Opportunities for using available data without compromising confidentiality may be missed because clearances are not well managed. For example, the BEA staff is not cleared for access to confidential Census data. With adequate management it may be possible to develop tables that facilitate linking data series (e.g., by providing aggregate statistics about employment by establishment size classification) or provide for direct links that do not compromise confidentiality.

Many organizations collect statistics for specialized regulatory programs. They have no mandate to contribute to a coherent national statistical program. For example, elimination of Civil Aeronautics Board or the Interstate Commerce Commission data occurred without the realization that the data provided key

³Testimony of Courtenay Slater before the Joint Economic Committee, U.S. Congress, *The Quality of the Nation's Economic Statistics, Hearings* before the Joint Economic Committee, Mar. 17 and Apr. 17, 1986, p. 50; and U.S. Congress, General Accounting Office, *The Bureau of Economic Analysis Should Lead Efforts To Improve GNP Estimate*, GAO/GGD-83-1 (Washington, DC: U.S. Government Printing Office, Dec. 27, 1982), pp. 58-61.

information to BEA's income and product accounts.⁵ There is reason to suspect that these organizations and nonstatistical operations like OMB's own Office of Federal Contracts and Procurement, the General Services Administration (for data about Federal purchases), and the Internal Revenue Service (IRS) could provide valuable data at comparatively little incremental cost if some care were taken to achieve government-wide efficiencies.

The task of coordinating agency statistical work was also assigned to OMB by the 1980 Paperwork Reduction Act. Again, the task has not been given a high priority.

- *Improved management could make the production of data more efficient and faster.* A coordinated set of industrial codes, use of a common business list as a sampling frame (i.e., the Business Directory List), and more diligent efforts to use data improvements emanating from other agencies (e.g., BEA's use of BLS deflators in international trade and selected services industries) could improve data quality while possibly lowering costs.
- *There is no formal mechanism that ensures that the needs of consumers of national statistics are reflected in the priorities of the national statistical system taken as a whole.* Consumers of data frequently are often forced to work around deficiencies in statistics making heroic assumptions in order to satisfy the pressing demands for policy or business analysis. They may be forced to use data that are a decade out of date or rely on private databases that were not designed for sensitive policy work. The creation of an institutionalized feedback loop, connecting consumers to producers, would make the statistical agencies more aware of deficiencies in the data they produce. The report prepared for Economic Policy Council in 1987 by Wendy Gramm and Robert Ortner

suggested the creation of such a system but little has been accomplished.⁶

In its absence, the BEA, the Bureau of Census and other statistical agencies assemble advisory groups, but in many cases the complexity of the Federal statistical effort makes it difficult for data users to translate their needs into specific recommendations for individual agencies.⁷ The feasibility or the cost consequences of different priorities are not easily estimated. With budget constraints, a compromise must be struck between forcing policy analysts to use data that may be many years old or using data that is published comparatively rapidly but might not be as complete or detailed as other users would like.⁸ These and other trade-offs are difficult to address at the level of individual agencies. A government-wide perspective is needed.

- *Better use of modern computational and communication equipment would contribute to productivity.* The computational systems available to BEA, BLS, and other major statistical services appear to lag far behind the systems available to many of the business service industries that rely heavily on government data. Few Federal agencies have adequate distributed computer workstations or state-of-the-art local area networks. This is a major barrier to productivity (and perhaps to attracting people who expect to be able to use modem equipment).
- *The growing interdependence of economies around the world has increased the need for international cooperative efforts in statistical work.* Greater efforts are needed to coordinate U.S. and foreign data, and to identify areas where cooperative research projects in statistical methods would be beneficial. Cooperative efforts are most obviously needed in the statistics of international trade. The United

⁵Testimony of Courtenay Slater before the Joint Economic Committee, U.S. Congress, *The Quality of the Nation's Economic Statistics*, Hearings before the Joint Economic Committee, Mar. 17 and Apr. 17, 1986, p. 50; and U.S. Congress, General Accounting Office, *The Bureau of Economic Analysis Should Lead Efforts To Improve GNP Estimate*, GAO/GGD-83-1 (Washington, DC: U.S. Government Printing Office, Dec. 27, 1982), pp. 58-61.

⁶See the "Report on the Working Group on the Quality of Economic Statistics" to the Economic Policy Council chaired by Wendy Gramm and Robert Ortner, April 1987, p. 8.

⁷Sidney L. Jones, "Staying on Top of the Numbers," *The Brookings Review*, Spring 1988, p. 38.

⁸The issuing of preliminary data would in turn entail an ongoing revision process as additional data become available. Such an effort would involve an expansion of the current program's resources.

Nations has already taken a number of steps to coordinate statistical methods and categories. For example, a new U.N. group is working on international service sector statistics and the harmonized commodity classification system is being implemented. But more can be done. Many of the problems inherent in U.S. statistical agencies are faced by all advanced nations and much could be gained from joint research projects.

- *Efforts should be made to ease the reporting burden and increase the timeliness of the data by taking advantage of commercial computer and communication technologies.* It should be possible to improve techniques for electronic gathering of statistics, possibly by allowing companies to transfer data electronically from standard accounting software. For example, the IRS now has a pilot program that allows the electronic filing of tax returns, cutting the processing time by 2 or 3 weeks and reducing errors by a factor of 10.⁹ BLS is currently testing touch-tone and voice reporting of establishment data; current results show a significant improvement in the timeliness of the data. The installation of a similar system for industry-based surveys and censuses should reduce the reporting burden on the firms and streamline collection efforts at the statistical agencies. Efforts in this direction require long lead times, and extensive coordination with representatives of the firms that will be affected.

It should also be possible to make changes in the way data are delivered. (See OTA's report *Informing the Nation* for a more detailed discussion on information dissemination. *O) Steps have been taken—the Department of Commerce now has an electronic bulletin board and issues some of its data in a floppy-disk format, the U.S. Geological Survey issues some of its data on a compact-disk, and BLS and the Census Bureau make some data available on floppy disks—but more remains to be done. The proliferation of computers and powerful software has meant that not only has the medium for using data tilted towards an elec-

tronic format, but that the number and variety of users has grown. This shift needs to be weighed against the continued strong demand for printed statistical information.

- *Greater effort needs to be made in coordinating statistical work describing changes in the goods and services available to individual households with the rest of national economic accounting.* BEA does a heroic job in collecting and coordinating statistics from the many agencies with data relevant to the standard national accounting framework. But no group is asked to coordinate statistics in a way that provides an integrated look at the way economic change affects different types of households. Many statistics are available on changes in the quality of health care, access to transportation, and quality in education. The statistical system lacks an organization which is charged with ensuring that a complete and balanced picture is available from this data and that links can be drawn between changes in aggregate levels of spending, changes in household spending, and changes in the quality of such things as health care, education, and transportation available to households. Without such a coordinated effort, it proves very difficult to provide a balanced view of the way economic change has, and may, affect the welfare of different American households.
- *Coupled with this is the need for an organization capable of addressing many of the basic challenges presented by an economy in transition.* These challenges require a coordinated, patient, and systematic effort to match resources to new demands. They require an organization with the scope to translate emerging priorities into a practical plan for action and the power to ensure that this plan is enacted.

Better management of existing resources could undoubtedly improve the quality of and usefulness of U.S. statistics. But there is a limit to the efficiency gains possible—even with improvements in technology; data collection and compilation is an extremely labor-intensive task. *Given the challenges presented by the transformation underway in the*

⁹Judy Rosenfeld, "The Electronic Taxman," *PC World*, April 1987, p. 187.

¹⁰U.S. Congress, Office of Technology Assessment, *Informing the Nation Federal Information Dissemination in an Electronic Age*, OTA-CIT-396 (Washington, DC: U.S. Government Printing Office, October 1988).

*Nation's economy, more resources may well be **needed simply to maintain the quality of existing statistical series.*** Saving money by reducing statistical budgets can be shortsighted if inadequate data lead to poor management of public programs or private investments. Important opportunities for growth may be missed and important dangers

overlooked. The cost of a poorly run government program may be many times higher than the cost of improvements to statistical agencies. Unlike other government purchases that can be postponed, statistics cannot be turned off and on—once a gap is created it cannot be easily eliminated.