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Report to the Ranking Minority Member, Committee on Banking and Financial Services, House of Representatives

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ECONOMIC STATISTICS

Status Report on the Initiative to Improve Economic Statistics

GAO/GGD-95-98

GAO

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The Honorable Henry B. Gonzalez
Ranking Minority Member
Committee on Banking and Financial Services
House of Representatives

Dear Mr. Gonzalez:

You requested that we describe actions taken by federal agencies to implement the Economics Statistics Initiative (ESI), a group of recommendations announced in 1990 and 1991 by the Council of Economic Advisers (CEA) to improve the quality of U.S. economic statistics. This report (1) identifies the recommendations that compose ESI and describes the context within which they were developed, (2) describes agency plans developed to implement ESI and the associated budget resources requested and received for fiscal years 1990 through 1994,[1] (3) describes agencies' actions through May 1994 to implement the ESI recommendations, (4) describes other major program improvements outside the ESI efforts that were completed or ongoing during this time, and (5) summarizes fiscal year 1995 budget resources requested and received for economic statistical improvements and the agencies' views on what is needed to make further improvements.[2] As agreed with your office, we have separately reported on examples of the effect of selected economic statistics on the federal budget and economic policymaking.[3]

Background

Economic statistics are used by both government and industry to understand current economic conditions and to predict future conditions. Such statistics are part of the process by which government policies and laws are developed, implemented, and evaluated; and substantial components of the federal budget are adjusted to reflect changes in various economic statistics, such as measures of price changes. Business and individual decisions on spending and investment are influenced by economic statistics. Economic statistics also feed into academic and other

[1]The federal agencies responsible for implementing the ESI recommendations were the U.S. Department of Commerce, including its Bureau of the Census and the Bureau of Economic Analysis (BEA); the U.S. Department of Labor's Bureau of Labor Statistics (BLS); the Board of Governors of the Federal Reserve System (Federal Reserve); the Office of Management and Budget (OMB); the National Science Foundation (NSF); and the Department of Agriculture's National Agricultural Statistics Service (NASS).

[2]The agencies ceased referring to the improvements as responding to ESI for fiscal year 1995.

[3]Economic Statistics: Measurement Problems Can Affect the Budget and Economic Policymaking (GAO/GGD-95-99, May 2, 1995).

research, which in turn often influences public policy debate and private sector decisionmaking.

Experts in both the public and private sector, including many government agency officials responsible for producing economic statistics, have long-standing concerns about the accuracy and adequacy of these statistics. Among the most common concerns are that the statistics inadequately reflect the increased importance of international transactions to the U.S. economy, that they do not provide sufficient data to explain the productivity of the economy, and that they poorly measure investment and saving.

In response to these concerns, in April 1989, the Chairperson of CEA chaired a working group, including both producers and users of economic statistics within the federal government, that was charged with assessing these concerns and proposing recommendations to address them. In January 1990 and February 1991, CEA issued the working group's two sets of recommendations for improvement. In releasing the recommendations, CEA noted that, although the recommendations addressed well-known problems with those statistics that most affected budget and monetary policymaking, the recommendations were limited to those that were most cost-effective and could be executed in the short term.

Results in Brief

We identified 38 recommendations in ESI that sought to address well-known problems in economic statistics. Because of budget and time constraints, the ESI working group did not intend these recommendations to be comprehensive but focused on actions that were feasible in the near term.

The federal agencies responsible for implementing the recommendations made plans to implement most of them. During fiscal years 1990 through 1994, the agencies requested more than $95 million and received about $50 million, slightly more than one-half of the funds they requested, to carry out their plans.[4] Agency officials told us that their plans to address the recommendations were in various phases of completion, with most of the plans still reported to be in progress as of May 1994. In some cases, agencies considered other efforts undertaken apart from ESI to be responsive to the ESI recommendations, and thus made no new plans.

[4]The Federal Reserve's funding is not included in this report since it does not receive appropriated funds from Congress.

Agencies generally cited budget limitations as reasons for not completing plans to implement the ESI recommendations.

Agency officials also said that they made other additional improvements during the 4 years with existing funding. According to these officials, further efforts were needed after fiscal year 1994 because ESI was never intended to address all the problems in economic statistics and because many of the plans for the ESI recommendations were not completed. The agencies requested $38 million for additional improvements in fiscal year 1995 and, as of December 31, 1994, $18 million in appropriations had been approved. Agency officials' comments varied on what they believed was needed to make further improvements in economic statistics.

Scope and Methodology

To accomplish our first objective of identifying the ESI recommendations and describing their impetus, we reviewed the two sets of ESI recommendations, hearing records, and pertinent literature on economic statistics and interviewed users and producers of economic statistics and economic statistics experts. Because the format and content of the two sets of ESI recommendations differed, we identified the full list of ESI recommendations as those made in either or both sets of recommendations. In some cases, this required our judgment that recommendations in the two sets of recommendations were sufficiently similar to be considered the same. Our combination of the ESI recommendations and the resulting listing of 38 recommendations are provided in appendix II.

We interviewed agency program and budget officials and reviewed agency planning and budget documents that they provided to accomplish our other objectives to describe the agencies' plans, funding,[5] actions to implement other improvements the agencies made to economic statistics, and fiscal year 1995 budget requests for additional economic statistical improvements. We did not assess whether the agencies' plans fully addressed all the elements of the ESI recommendations, nor did we independently verify the budget data or data provided by the agencies on the specific aspects of their actions. Because several agencies shared responsibility for implementing a number of recommendations (see app.

[5]We obtained budget documents to determine additional resources the agencies requested and received to implement the ESI recommendations for fiscal years 1990 through 1994. Because our objective was to determine and report new funding for economic statistics programs, we did not report any reprogrammed funding—resources that were shifted within an appropriated fund account for a purpose different than that contemplated at the time of appropriation. Several agencies' officials said they reprogrammed existing resources to fund ESI efforts.

II), our reporting that an agency had completed its planned work in response to an ESI recommendation does not necessarily mean that the recommendation is fully implemented. Also, the recommendations are not necessarily equal in terms of complexity and importance. Thus, an exact count of how many recommendations are completed or pending would not be meaningful and is not presented. We also interviewed senior policy officials at Census, BEA, BLS, the Federal Reserve, OMB, NSF, NASS, and CEA to obtain their views on ESI and other efforts to improve federal economic statistics.

We did our work in Washington, D.C., between July 1993 and February 1995 in accordance with generally accepted government auditing standards. We obtained comments on a draft of this report from the Department of Commerce, the Federal Reserve, OMB, CEA, BLS, NASS, and NSF. Written comments by BLS and NASS are discussed in the letter and presented in greater detail in appendixes XII and XIII. Comments by Commerce, OMB, CEA, the Federal Reserve, and NSF are discussed in the letter.

Identification and Context of ESI

We identified 38 recommendations in the 1990 and 1991 ESI announcements and categorized them into 7 areas: the national income and product accounts, service sector, price measurement, labor market, poverty and income, international transactions, and systemwide statistics recommendations. The working group that developed these recommendations included major federal producers and users of federal economic statistics and sought to address well-known problems in statistics that affected public policy. The most serious problem noted by the working group was in measuring output and quality improvements to goods and services in a rapidly changing economy. At the same time, the working group sought to focus the recommendations on areas that it considered feasible for short-term implementation. Because of budget and time constraints, the recommendations were not intended to be comprehensive. (See app. I for a description of the overall context in which the ESI recommendations were developed. Apps. III through IX also discuss context for each of the 38 ESI recommendations; the appendixes are based on our categories of the 38 recommendations.)

Agencies Made Plans and Requested and Received at Least Partial Funding for Most ESI Recommendations

The federal agencies responsible for implementing the ESI recommendations made plans to implement most of them. The agencies requested more than $95 million and received about $50 million, slightly more than one-half of the funding they requested, to carry out their plans. For example, Census officials said that Census planned to increase coverage of the service sector by beginning a new annual survey of communication services; Census requested about $7 million and received more than $1 million for its plan to address this recommendation. For a few recommendations, the agencies did not make plans because the agencies said they were already carrying out efforts they believed satisfied the intent of the recommendations. For example, BLS officials told us that BLS did not make a plan specifically intended to respond to an ESI recommendation—to reconcile and reduce discrepancies in estimates of employment from two different surveys—because this effort was integral to its overall efforts to improve the two surveys. BLS received $35 million (71 percent of the funds appropriated for ESI) for one systemwide, two-price measurement, and four labor market statistics recommendations.[6] (Apps. III through IX describe the agencies' plans to carry out each recommendation and the funding requested and received to carry out each recommendation from fiscal year 1990 to 1994.)

Agencies' Plans to Address ESI Recommendations Were Still in Progress

As of May 1994, the agencies' plans were in various phases of completion. The agencies' officials said that the majority of the agencies' plans for implementing the ESI recommendations were still in progress as of that date. For example, BLS officials said that partial funding limited actions on BLS' plan to improve coverage of service industries in price indexes. Agency officials said that a few actions they planned for the ESI recommendations were completed by May 1994. For example, Census officials said that Census completed its plan to undertake an annual investment survey. Agencies also reported no progress on a few of the plans. Officials of these agencies generally cited budgetary and other resource constraints as the reason for not taking or completing action. For example, Census officials told us that since they did not receive the $5 million they requested, they were not able to begin Census' plan to expand corporate financial data by collecting quarterly financial data for the service sector and by expanding coverage of small corporations. There were also instances where an agency completed its plan without receiving all the funding it requested. For example, Census officials said that they were able to complete the substance of Census' plans to increase coverage

[6]According to BLS officials, BLS would have needed more than $57 million for fiscal years 1990 through 1994 to fully implement the recommendations as originally envisioned.

of the service sector, although it received $1 million of the $7 million it requested. (Apps. III through IX describe the progress made on the plans for each recommendation as of May 1994.)

Agencies Made Other Improvements to Economic Statistics

While ESI enabled agencies to receive additional funding for specific improvements in economic statistics, agency officials reported that, as part of their regular ongoing efforts to adapt to changes in the economy and in source data, other improvements were made with existing funding. These improvements were made in addition to the ESI improvements from fiscal years 1990 through 1994. For example, officials at Census said that Census improved the quality of economic statistics by expanding existing surveys, creating new surveys, expanding data collection, increasing coordination efforts, and developing computer processing projects. (App. X describes other major improvements in federal statistics that agencies reported.)

Agencies Requested Funding for Further Improvements in Fiscal Year 1995

According to agency officials, because ESI was never intended to address all the problems in economic statistics and because many of the plans for the ESI recommendations were not completed, further efforts were needed to improve the quality of economic statistics. The agencies requested an additional $38 million for such improvements in fiscal year 1995. As of December 31, 1994, $18 million in appropriations had been approved for the fiscal year. (App. XI provides information on funding requested and received for planned fiscal year 1995 economic statistical improvements.)

Senior policy officials expressed their views of what is still needed to address problems in economic statistics. OMB officials said that the administration is committed to improving economic statistics and that the improvements proposed by BEA, Census, and BLS will result in overall improvements to their statistics. According to a BEA official, although there are further methodological improvements BEA can make, adequate funding will be required to fill gaps in source data. BLS officials said that additional resources are the number one requirement to improve BLS' statistics. According to the Commissioner, BLS needs to improve service sector data, provide more information on work practices, as well as be more user friendly in data collection and dissemination in the future. Census officials noted that the future of economic statistics is also dependent on effective leadership, not only to oversee current operations, but also to consider how the statistical system may need to change.

Agency Comments

The Department of Commerce, the Federal Reserve, OMB, CEA, BLS, NASS, and NSF provided comments on a draft of this report. Commerce's written comments incorporated comments from BEA and Census. All of Census' and most of BEA's comments were suggestions for technical clarifications and corrections, and we have incorporated these suggestions where appropriate. BEA said that our report was a useful overview of progress under ESI. BEA noted that the report reinforces the conclusion of BEA's recent mid-decade review of its economic accounts, which was that, despite recent progress, much work remains toward improving the economic accounts and economic statistics in general. In addition, BEA said that it made progress in virtually all the methodological issues addressed in ESI but was unable to make progress in areas where improvements were dependent on the development of new surveys or the modifications of existing surveys to fill gaps in coverage, if those improvements and modifications were not funded. BEA indicated several places in the report where it believed this point needed to be clarified. We have made several revisions to the report to explain that BEA reported it made progress in improving methodologies but was unable to develop or revise surveys due to lack of funding.

BLS, in its written comments, said that policymakers, other data users, and the statistical agencies themselves have identified many areas where improvements are needed in statistical programs. BLS also said that ESI had made significant progress in addressing some of these problem areas, given the resources made available to it. BLS said, however, that our draft report appeared to imply that the BLS initiatives as originally envisioned were nearly fully funded. According to BLS, constraints caused them to curtail planned improvements and thus BLS' subsequent budget requests were significantly lower than they would have been to fund the planned improvements. We have revised the report to explain that BLS received substantially less funding than it believed necessary to implement the ESI recommendations fully. Senior BLS officials also suggested technical corrections to the report that we have incorporated where appropriate. (See app. XII for comments from BLS.)

NASS' written comments stated that NASS had benefited from ESI, particularly from the recommendation that supported NASS' efforts to improve the coverage of its list of farm and farm business operators. NASS noted, however, that although the coverage of the list had improved, complete coverage of the farm operator universe would not be achieved until NASS and Census undertook a mutually cooperative list building effort. According to NASS, current laws prevented it from receiving the

mailing list used by Census for its Agricultural Census or the list of farms identified in the Census. NASS said that the Department of Agriculture strongly supported a draft legislative proposal to permit list sharing among federal statistical agencies for statistical purposes only. As we noted in the report, the development of data-sharing legislation was one of the ESI recommendations. OMB drafted a data-sharing proposal that was circulated among federal departments for comments; this proposal had not been introduced in Congress as of May 19, 1995. (See app. XIII for comments from NASS.)

The Chief Statistician and a senior economist in OMB's Office of Statstical Policy said they generally agreed with the information as presented. However, they said that, in discussing funding for ESI, the report should have noted those instances where agencies reprogrammed funds in order to implement an initiative. We did not discuss reprogramming in the report because our objective was to track new funds specifically appropriated for economic statistics improvements. We did add a footnote to the letter explaining that agencies did reprogram funds to implement some initiatives that did not receive new funding. The officials also offered suggestions for several technical changes, which we have incorporated where appropriate.

CEA provided oral comments on the draft report. A senior economist at CEA said that the report should have noted BEA's strategic review of the National Income and Product Account (NIPA), known as the mid-decade review. This review is intended to evaluate and to develop a plan to maintain and improve the performance of BEA's economic accounts. The official said that this review was a good example of an agency working with its data users to develop a framework for continuous efforts aimed at improving economic statistics. We acknowledge that this BEA effort is a significant data improvement initiative. However, we did not include it in our discussion of agency initiatives because it was released after we had completed our review of the ESI recommendations in May 1994.

Officials at the Federal Reserve and NSF said that they had no substantive comments on the information presented in the draft report. The Federal Reserve's Assistant Director of the Research and Statistics Division offered suggestions for technical clarifications, which we have incorporated where appropriate. The Director of NSF's Methodology, Measurement and Statistics Program indicated that NSF agreed with the information presented in the draft report concerning the Center for Survey Methods.

We are sending copies of this report to interested congressional committees, the Secretary of Commerce as well as the Directors of BEA and Census, the Secretary of Labor and the Commissioner of BLS, the Chairman of the Board of Governors of the Federal Reserve System, the Acting Chair of CEA, the Director of OMB, the Chairperson of NSF, the Secretary of Agriculture, the Director of NASS, and other interested parties. Copies will also be made available to others on request.

Major contributors to this report are listed in appendix XIV. If you have any questions about this report, please contact me on (202) 512-7824.

Sincerely yours,

L. Nye Stevens
Director, Federal Management
and Workforce Issues

Contents

Abbreviations

ACES	annual capital expenditure survey
ACS	Automated Commercial System
AEA	American Economic Association
BEA	Bureau of Economic Analysis
BEL	Business Establishment List
BLS	Bureau of Labor Statistics
CATI	computer-assisted telephone interview
CEA	Council of Economic Advisers
CES	current employment statistics
CNSTAT	Committee on National Statistics of the National Research Council
CPI	consumer price index
CPS	current population survey
ECI	employment cost index
ECPC	Economic Classification Policy Committee
ESI	Economics Statistics Initiative
GDP	gross domestic product
GNP	gross national product
IMF	International Monetary Fund
IRS	Internal Revenue Service
IPP	international price program
NABE	National Association of Business Economists
NAICS	North American Industry Classification System
NAS	National Academy of Sciences
NASS	National Agricultural Statistics Service
NBER	National Bureau of Economic Research
NIPA	National Income and Product Accounts
NSF	National Science Foundation
NTDB	National Trade Data Bank
OMB	Office of Management and Budget
OTA	Office of Technology Assessment
PPI	producer price index
QFR	Quarterly Financial Report
SIC	standard industrial classification
SIPP	survey of income and program participation
SNA	system of national accounts
SSA	Social Security Administration

Background on the Economics Statistics Initiative

In recognition of the long-standing problems with federal economic statistics, the Bush administration in 1989 began a multiyear effort to improve the nation's most important economic statistics. A working group, chaired by the Chairperson of the Council of Economic Advisers (CEA), released two sets of recommendations in 1990 and 1991 that were aimed at improving the statistics that had the greatest importance to policymaking as well as the greatest problems. Even though the efforts consisted of two sets of recommendations and spanned multiple years, these efforts are referred to collectively as the Economics Statistics Initiative (ESI).

Experts Noted Problems With Federal Economic Statistics

Many public and private sector experts have noted problems with federal economic statistics. Problems have been attributed to underfunding, changes in program philosophy, or poor management that occurred during the 1980s. Janet Norwood, a senior fellow of the Urban Institute and the former Commissioner of the Department of Labor's Bureau of Labor Statistics (BLS), for example, observed that budget cutbacks in federal statistics were tantamount to mortgaging the future.

The former Executive Director of the Council of Professional Associations on Federal Statistics, now the Chief of the Office of Management and Budget's (OMB) Office of Statistical Policy, said that a fundamental philosophical shift that emphasized reducing business' reporting burdens and the extent of data collected occurred along with reduced government spending on data collection during most of the 1980s. The budget cuts in the 1980s had the effect of curtailing government efforts to improve economic statistics when their role and importance were greater than ever.

In a frequently cited assessment of the federal statistical system, the Office of Technology Assessment (OTA)[1] concluded that in 1988 the decentralized federal statistical system lacked a coherent strategy and leadership from OMB.[2] As a result of these and other problems, key questions about the U.S. economy, such as how fast it grew or how its growth affected incomes and their distribution, were very difficult to answer.

[1]Statistical Needs for a Changing U.S. Economy, Background Paper, U.S. Office of Technology Assessment (Sept. 1989).

[2]The federal statistical system is a designation of government agencies that collect, process, analyze, and use quantitative data. More than 70 agencies are classified by OMB as conducting statistical activities because they have annual budgets of at least $500,000 for such activities.

In the private sector, organizations representing individuals, businesses, and other organizations that rely upon federal statistics also have noted problems with economic statistics. The American Economic Association (AEA), the National Bureau of Economic Research (NBER), and the National Association of Business Economists (NABE) have sponsored studies that concluded that the federal statistical system critically needed improvement. The Chairperson of AEA's Committee on the Quality of Economic Statistics wrote in 1988 that federal statistics were not adequate to inform decisionmakers for understanding and choosing among policies and, without improvement, would become increasingly inadequate to meet future policy needs.[3] He cited examples of problems such as decisionmakers' inability to understand factors affecting national productivity, outdated U.S. international statistics that may fail to reflect global economics, and serious deficiencies in savings and investment data. Similarly, NBER's 1989 Conference on Research on Income and Wealth focused on problems with economic statistics, particularly problems with measuring international transactions.[4] Noting a decline in federal budget support for data collection and maintenance and a growing concern among professional economists about economic statistics, NBER authors concluded that international economic statistics were in need of critical assessment and, in some cases, significant overhaul. Finally, NABE's special committee on statistics raised similar concerns.[5] The committee reported in 1988 and testified in congressional hearings in 1990 that the government was investing insufficient resources to improve and maintain the quality of economic statistics to enable policymakers to develop appropriate public policy based on accurate and timely economic statistics and for businesses to plan adequately for the future.

[3]The State of U.S. Economic Statistics: Current and Prospective Quality, Policy Needs, and Resources. F. Thomas Juster, Chairperson, AEA Committee on the Quality of Economic Statistics. Paper prepared for the May 1988 Conference on Research on Income and Wealth, pp. 2, 3-5.

[4]International Economic Transactions: Issues in Measurement and Empirical Research, proceedings from the November 1989 Conference on Research on Income and Wealth. Edited by Peter Hooper and J. David Richardson, University of Chicago Press, 1989, p. 1.

[5]Improving the Quality of Economic Statistics, statement by James F. Smith, President of the National Association of Business Economics, before the U.S. Congress, Joint Economic Committee, Mar. 29, 1990.

Bush Administration Assessed Problems in Federal Economic Statistics

Responding to these concerns, President Bush, as a supplement to his first State of the Union message in February 1989, proposed an increase of $16 million in federal spending to improve the quality and accuracy of business and economic statistics. He specifically noted the need to improve service sector and foreign trade statistics.

To that end, a working group was established in April 1989 to assess problems within the federal economic statistical system and recommend needed improvements. This group, chaired by the CEA Chairperson Michael J. Boskin, included representatives of the major federal government producers and users of federal economic statistics.[6]

To accomplish its mission, the working group surveyed statistical agencies' existing plans and priorities; gathered suggestions for further improvements from the agencies and community of users in the administration, Congress, and private sector; and developed recommendations for improvements. These recommendations concentrated in three agencies—BEA, BLS, and Census.[7] The working group acknowledged that due to budget and time constraints, the multiyear recommendations were interim and not comprehensive. In addition, it noted that, while the recommendations addressed well-known problems in areas that affected public policy, it kept its recommended improvements to those that were most cost-effective and could be executed in the short term. For example, the recommendations did not address organizational issues or the long-run needs of the system.

On January 25, 1990, CEA publicly released the working group's first set of recommendations. These recommendations were discussed in congressional hearings later that year. The recommendations were organized into three areas of economic statistics: (1) productivity, output, and prices; (2) investment, saving, and national wealth; and (3) employment, income, and poverty.

In February 1991, CEA released the working group's second set of recommendations and announced that the Bush administration would

[6]The members of the working group included officials from the following agencies: the U.S. Trade Representative, OMB, the President's Office of Policy Development, the U.S. Department of the Treasury; the U.S. Department of Commerce, including its Bureau of Economic Analysis (BEA) and the Bureau of the Census; the U.S. Department of Labor, BLS; the Board of Governors of the Federal Reserve System (Federal Reserve); the Department of Housing and Urban Development; the Department of Agriculture; and CEA.

[7]Other responsible agencies were the Federal Reserve, OMB, the National Science Foundation (NSF), and the National Agricultural Statistics Service (NASS), within the U.S. Department of Agriculture.

seek an increase of $230 million from fiscal years 1992 through 1996. This figure represented the amount of additional funding the agencies believed they would need to implement the recommendations. Also, in this announcement the working group officially named its efforts ESI.[8] As time passed, and budget constraints had an impact on this proposal, this amount decreased as parts of the original ESI proposal were never implemented due to lack of funding.

The second set of recommendations was organized by the working group into seven, rather than three, areas. These seven areas are (1) improving the national and international economic accounts, (2) increasing the coverage of the service sector, (3) separating quality and inflation changes in price data, (4) improving establishment payroll and household surveys, (5) tracking changes across industries, (6) preparing for future statistical workforce needs, and (7) sharing of statistical data.[9]

[8]The initiative is also referred to as the "Boskin Initiative."

[9]These 7 areas are different from the 7 areas we used to categorize the 38 ESI recommendations.

Economics Statistics Initiative Recommendations

Dollars in Thousands

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94 Requested	Funding for FY 1990-94 Received
National Income and Product Accounts statistics recommendations	Indirect estimation methods	Explore alternative methods for estimating constant dollar output.	Use indirect estimation methods to close data gaps; methods include price measurement of high-tech goods, measurement of certain services, and improved deflation of purchases by state and local governments.	BEA	$3,200[d]	$1,700[d]
	Input-output tables	Expedite the compilation of input-output data.	Reduce by 2 years the lag in benchmark and annual input-output tables.	BEA	[d]	[d]
	Construction-methodology	Complete ongoing methodological and data collection improvements and incorporate these in the 1990 GNP.		BEA	[d]	[d]
	System of national accounts	Revise the U.S. national income and product accounts to be consistent with the major components of the United Nations system of national accounts, which are used by most of the major industrialized nations of the world.	Develop modernized and extended national economic accounts that follow the United Nations revised system of national accounts. Features are to include (1) an integrated set of current and capital accounts that include both financial and nonfinancial transactions and (2) satellite accounts.	BEA	5,700	1,200
	Inflation adjustments	Add supplementary series to the national income and product accounts that separate the real and inflation components of the return to capital. Currently this is done only with the corporate profits series.		BEA	0	0

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94	
					Requested	Received
	Purchased services	Accelerate and rearrange timetable for service sector improvements.	Provide data for improved assessment of the sources of economic growth and structural change by industry.	Census	3,492	0
	Corporate financial data	Accelerate and rearrange timetable for service sector improvements.	Provide greater precision in estimates by industry and more comprehensive data by asset size.	Census	4,970	0
Price measurement statistics recommendations	Service prices	Accelerate the BLS programs to expand and improve producer, consumer, and international price indexes to measure service prices more accurately.	Conduct research to develop measures of output for the service sector.	BLS	7,241	5,685
	Separation of quality and inflation changes		Separate quality and inflation changes in price data.	BLS	3,479	2,309
Labor market statistics recommendations	Employment cost index	Expand and seasonally adjust the employment cost index.		BLS	1,700	1,700
	Coverage of payroll employment estimates	Continue BLS and Census efforts to improve and modernize the current population survey and the current employment statistics program.	Add 110 service producing industries to the payroll survey.	BLS	8,948	7,458
	Accuracy of payroll employment estimates	Continue BLS and Census efforts to improve and modernize the current population survey and the current employment statistics program.	Improve accuracy of estimates of payroll employment.	BLS	13,294	13,794

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94 Requested	Received
	Business establishment data - Census and BEA	Explore ways for Census to share its establishment data with BEA, for use in improving the national accounts.		Census	400	0
				BEA	0	0
	Construction-coverage		Improve coverage and accuracy of construction statistics.	Census	3,900	0
	Investment and saving	Accelerate work to improve measures of investment and saving and to the extent possible reconcile differences between the various measures of saving.		Federal Reserve	[e]	[e]
				BEA	0	0
				Census	900	638
	Flow of funds	Improve the collection, coverage, and processing procedures for the financial flow data in the Federal Reserve Board flow of funds accounts.		Federal Reserve	[e]	[e]
	Annual investment survey	Undertake the proposed annual investment survey at the Census Bureau.		Census	2,000	2,000
	Data gaps		Use administrative records, support new surveys, support extensions to existing surveys, and conduct research to close data gaps.	BEA	4,700	0
Service sector statistics recommendations	Service sector surveys	Accelerate and rearrange timetable for service sector improvements.	Increase detail and coverage of service sector in Census' annual survey of services and periodic census of service industries.	Census	7,116	1,400

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94	
					Requested	Received
	Automated data collection for current population survey	Continue BLS and Census efforts to improve and modernize the current population survey and the current employment statistics program.	Incorporate automated data collection techniques to improve the current population survey.	BLS	5,000	3,510
	Reconciliation of employment estimates	Continue BLS efforts to reconcile and reduce discrepancies between the employment series arising from the household and the establishment surveys.		BLS	0	0
Income and poverty statistics recommendations	Poverty thresholds	Begin research on developing a new benchmark estimate of poverty appropriate to prices, consumption patterns, and family composition in the 1990s.		Census	0	0
	Experimental estimates of income and poverty	Continue publication of the experimental estimates of real family income and poverty.		Census	0	0

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94	
					Requested	Received
International transactions statistics recommendations	Trade in services	Accelerate improvements in estimates of trade in services.	Undertake surveys of bank and nonbank financial institutions' noninterest service income and improve BEA's survey of international trade in other services.	BEA	7,600[f]	3,100[f]
	International investment and capital flows	Estimate direct investment using market values or replacement cost rather than historical cost and address problems with the measurement of international portfolio investment and other capital flows.	Improve coverage of capital flows and investment income and reduce the large statistical discrepancy in the international payments accounts.	BEA	[f]	[f]
	Reconciliation of import and export data	Extend efforts to reconcile import and export data to Mexico, the European Community, South Korea, and Japan.		Census	1,400[g]	0[g]
	Automation of export and import data	Continue work to increase automation of export and import data collection.		Census	[g]	[g]
	Merchandise exports model		Develop a model to adjust for understatements of exports and other improvements in the measurement of exports.	Census	[g]	[g]
	Access to trade data	Increase the ease of access to trade data.		Census	[g]	[g]

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94	
					Requested	Received
	International guidelines for economic accounts		Develop modernized and extended international economic accounts that follow the International Monetary Fund guidelines. Features are to include (1) an integrated set of current and capital accounts, including balance sheets and (2) new detail in several significant areas.	BEA	1,000	0

(Continued)

GAO's 7 Areas	38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94 Requested	Funding for FY 1990-94 Received
Systemwide statistics recommendations	Survey of Income and Program Participation	Explore the possibility of carefully linking the data from the Survey of Income and Program Participation to administrative records, while taking great care to safeguard confidentiality.		Census	0	0
	Standard industrial classification		Ensure that the standard industrial classification system can keep track of emerging industries and develop methods to keep up with rapid changes occurring across all industries.	BEA	0	0
				Census	100	100
	Farm lists		Develop a more complete and accurate farm list for the 1992 Census of Agriculture.	NASS	4,800	2,250
	Business establishment lists - Census and BLS		Improve business establishment lists by reconciling BLS and Census lists of business establishments.	BLS	1,900	500
				Census	0	0
	Cooperation	Increase cooperation between the statistical establishment and academic researchers.		BEA	0	0
				BLS	0	0
				Census	0	0
	Mandatory v. voluntary surveys	Consider the efficacy of mandatory versus voluntary surveys.		Census	0	0
	Data duplication	Continue work toward the goal of eliminating unnecessary duplication, but avoid the loss of unique and important alternative data.	Prepare legislation to provide a standardized mechanism for limited sharing of confidential information solely for statistical purposes.	OMB	0	0

GAO's 7 Areas		38 ESI Recommendations	1990 Recommendations[a]	1991 Recommendations[b]	Responsible agency[c]	Funding for FY 1990-94 Requested	Funding for FY 1990-94 Received
		Center for survey methods		Create a center for survey methods to improve the talents and skills of the existing federal statistical workforce and attract highly qualified entrants.	NSF	2,100	2,100
TOTAL	7	38				$94,940[h]	$49,444

Note: GAO's 7 areas and the 38 ESI recommendations are our categorizations of the Economics Statistics Initiative recommendations that were in the 1990 and 1991 CEA releases.

[a]The 1990 recommendations are quoted directly from a prepared statement for Michael J. Boskin, Chairperson of the Council of Economic Advisers at a hearing before the Joint Economic Committee, U.S. Congress, March 1, 1990.

[b]The 1991 recommendations are paraphrased by GAO from a February 14, 1991, Council of Economic Advisers announcement.

[c]Information is recorded for each responsible agency for recommendations with multiple responsible agencies.

[d]BEA combined these three recommendations into one budget request to increase funding to stop the deterioration in the quality of the national economic accounts.

[e]Federal Reserve funds are not included here since it does not receive appropriated funds from Congress.

[f]BEA combined these two recommendations into one budget request to improve balance of payments and international investment data.

[g]Census combined these four recommendations into one budget request to improve foreign trade statistics.

[h]Total request includes $14,047,000 in reinstated requests, which means an agency requested funding more than once when the funding was not received in prior years.

The National Income and Product Accounts Statistics Recommendations

The National Income and Product Accounts (NIPA) are a detailed description of the overall U.S. economy. NIPA depicts in dollar terms the volume, composition, and use of the nation's output of goods and services. These core national economic statistical measures are used to analyze past and current economic performance and also to forecast economic developments.

In recommending areas for improvement, the working group gave priority to statistical measures they viewed as having the greatest policy importance and recommended reallocating and focusing resources on core national economic statistical measures, which are used in determining fiscal and monetary policies. NIPA statistics recommendations were, in most part, designed to address weaknesses in the core statistical measures used to quantify the economic position of the United States. Emphasis was also placed on modernizing NIPA to follow the System of National Accounts (SNA), a set of international guidelines for economic accounts. SNA could serve as a framework for modernizing the U.S. accounts, provide information in a more integrated format than policymakers have now, and make the U.S. accounts more comparable with the accounts of other countries.

Indirect Estimation Methods

Indirect estimation methods are procedures used to construct a statistical measure from data that are not direct observations of the activity being measured, or when data needed to implement the conceptually correct, or preferred, measure are not available.[1]

Impetus for Recommendation

To construct NIPA statistical measures, the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) often relies upon data that have been collected by other government agencies for other purposes. As a result of data limitations, BEA must sometimes use indirect methods of estimation. For example, in some industries, output (the statistical measure of what an industry produces) is estimated by measures of labor inputs (total hours used by an industry to produce its goods and services). In other industries, especially those with rapid introduction of goods and services, output is estimated by dividing net sales by a price index. In the 1990

[1]For example, the preferred method for adjusting an industry's gross output, or value-added, for inflation is the double deflation method. With double deflation, an industry's gross output and its intermediate inputs are deflated separately and constant-dollar gross product is derived as the difference between deflated gross output and deflated intermediate inputs. However, industry specific data are sometimes not available to estimate real gross product by double deflation, and output must be estimated indirectly using physical indicators. See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

Economic Report of the President, CEA said that price indexes that appropriately adjust for quality changes can be quite important in measuring output. However, CEA noted the difficulty in separating pure price increases from those arising from improvements in product quality or service for industries with rapid rates of innovation.[2]

According to BEA, appropriate methods to adjust output for inflation have not been developed for all industries.[3] BEA reports that long-term research on the definition of output of several industries, most notably financial services, is required to improve estimation methods.

Working Group's Recommendations

In 1990, the working group recommended the exploration of alternative methods for estimating constant-dollar output. In 1991, the working group specifically recommended that BEA use indirect estimation methods to close data gaps. These methods were to address price measurement of high tech goods and certain services such as banking and improve deflation of purchases by state and local governments.[4]

Agency Plans

BEA planned to develop improved measures of constant-dollar, or real, output—especially of service industries. Current procedures would be either replaced with direct estimates of output via double deflation or modified to incorporate allowances for productivity change developed from indirect evidence. BEA also planned to develop improved measures of constant- and current-dollar estimates for various components of gross domestic product (GDP),[5] including high tech goods, banking services, state and local government purchases, services, and the nonprofit sector.

[2]Council of Economic Advisers, Economic Report of the President (Washington, D.C.: U.S. Government Printing Office, 1990) pp. 281-285.

[3]Frank de Leeuw, Michael Mohr, and Robert P. Parker, "Gross Product by Industry, 1977-88: A Progress Report on Improving the Estimates," Survey of Current Business, Vol. 71 (January 1991), pp. 23-37.

[4]According to a BEA official who was at CEA at that time, the working group was also concerned with measures of constant-dollar output in other specific industries where double deflation, the preferred measure of output, was not used. It was in the context of these concerns and budgetary restrictions that the working group recommended methodological corrections using indirect estimation methods to fix these and other data problems and gaps in NIPA.

[5]In December 1991, the Department of Commerce began to use GDP as the primary measure of economic performance. While gross national product (GNP) measures output of U.S. labor and property regardless of location, GDP measures output of all labor and property located in the United States. According to the Department of Commerce, for the United States, there is little difference between the dollar levels of GDP and GNP. Since the change occurred between the two sets of Economics Statistics Initiative (ESI) recommendations, we use both GNP and GDP in this report.

Funding Requested and Received

For all three of the recommendations designed to stop the deterioration in the quality of NIPA, which included the indirect estimation methods, input-output tables, and construction-methodology recommendations, BEA requested more than $3 million and actually received nearly $2 million total for fiscal years 1990 through 1994.[6]

Progress Reported

BEA officials noted that BEA completed an overhaul of the methodology used to estimate annual GDP by industry and presented revised estimates. The double deflation estimation method was extended from 25 to 51 of the 64 industries in GDP. They said that extensive improvements were made in the weighting of detailed prices and in the selection of suitable price indexes for deflation of inputs and gross output to constant dollars.

BEA also introduced several alternative price indexes and quantity (constant-dollar) indexes that can be used to determine quarterly constant-dollar estimates of GDP. These indexes also allow the construction of several alternative measures of constant-dollar output, which allow for changes over time in relative prices, such as those developed for computers. The alternative measures provide an improved basis for analyzing long-term growth and business cycles.

BEA officials noted progress in several other areas using existing data and alternative or new estimation methods. BEA reworked and improved measures of consumer expenditures on several services and on output of service industries. Improved estimates of consumer expenditures on child care, brokerage commissions, and motor vehicle leasing were incorporated in the comprehensive 1991 GNP revision.

BEA conducted further research on developing an improved definition of banking services that was presented to professional groups for review and discussion.[7] Several improvements were introduced in the price indexes for computers, including a separate index for imports. BEA initiated research on prices for medical imaging technology, dynamic access memory chips, semiconductors, and aircraft. Work was begun on a nonprofit-institution sector account that produced research papers. The form and direction of BEA's research work was discussed in the early 1990s at a joint BEA-National Academy of Sciences conference.

[6]BEA officials provided combined budget information for the three recommendations.

[7]This was an effort for which funding was requested under the data gaps recommendation.

Input-Output Tables

Input-output tables are the basic source of information about the interrelationships between industries. These tables show what each of 537 industries purchases from other industries. The tables trace the flow of goods and services among industries in the production process and show the value added by each industry and the detailed commodity composition of national output.

Impetus for Recommendation

According to the National Association of Business Economists' (NABE) Statistics Committee,[8] input-output tables are very important in determining productivity and in measuring the interrelationships between various industries in the United States. Requiring large amounts of data for numerous industries, these tables are very difficult and time-consuming to calculate and produce. At the time of the NABE report in March 1991, the 1977 input-output tables were published 7 years after the economic census year; 1982 input-output tables were published 9 years after the census year. Since the economic censuses are conducted every 5 years, this means that the data in benchmark tables could be as much as 12 to 15 years old by the time the new benchmark tables were issued.

Working Group's Recommendations

In 1990, the working group recommended the expedited compilation of input-output data. In 1991, the working group specifically recommended a 2-year reduction in the time to produce the benchmark and annual input-output tables.

Agency Plans

BEA set out a long-term goal to produce its benchmark input-output tables within 5 years of the economic census, rather than the 7 to 9 years it had previously taken, and reduce from 5 to 3 years the time to produce its less detailed annual input-output tables. For example, to produce its tables in these shorter time frames and reduce the size of annual GNP revisions, BEA devised a set of procedures that would capture the most important parts of the 1987 Economic Census data. These procedures would shorten the normal time-consuming process of assembling a wide variety of other data for developing components not based on economic census data. To shorten the preparation time for the 1987 input-output tables, BEA planned to distribute the total economic census construction output among 5

[8]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of NABE's Statistics Committee.

industries rather than analyzing and separately estimating approximately 50 construction industries.

Funding Requested and Received

For all three of the recommendations designed to stop the deterioration in the quality of NIPA, which included the input-output tables, indirect estimation methods, and the construction-methodology recommendations, BEA requested more than $3 million and actually received nearly $2 million total for fiscal years 1990 through 1994.[9]

Progress Reported

BEA officials said that the 1987 benchmark input-output tables were released in April 1994, and that they have begun planning for work on the 1992 benchmark input-output tables. BEA hopes to achieve the long-term goal of making the input-output tables available within 5 years of the economic census year and within 1 year of the release of all economic census data. The 1987 input-output tables were available within 7 years of the economic census year, 2 years earlier than the release of the 1982 input-output tables. Officials said that BEA has developed abbreviated procedures to produce the 1992 input-output tables. With the assistance of Census to expedite the availability of the 1992 Economic Census data, BEA hopes to have the 1992 input-output tables available within 5 years of the economic census year.

Construction - Methodology

Construction methodology refers to the procedures used to measure the economic activity on construction of residential and nonresidential structures.

Impetus for Recommendation

According to the NABE Statistics Committee, serious problems in the measurement of construction have resulted in data that are inconsistent from one survey to another. NABE also reported that special studies of the industry by Census indicated substantial differences in construction spending from those reported in NIPA. These data are used to measure productivity in the construction industry.

Working Group's Recommendations

In 1990, the working group recommended the completion of ongoing methodological and data collection improvements; these were to be incorporated in the upcoming GNP revision.

[9]BEA officials provided combined budget information for the three recommendations.

Agency Plans

BEA planned a major effort to eliminate shortfalls in nonresidential construction estimates by measuring nonresidential construction prices directly with a statistical survey conducted by Census. The initial plan called for research to establish the most feasible method to obtain data on construction prices and to prepare a price index suitable for the deflation of current-dollar construction expenditures into constant-dollar estimates for GDP. In addition to improvements in the constant-dollar estimates, BEA planned to improve the current-dollar estimates by filling a gap in measuring the value of additions, alterations, and repairs in the private nonresidential and state and local government construction estimates as part of BEA's 1991 GNP revision. These current-dollar improvements for construction expenditures were to begin retroactively with 1973 estimates and were to be incorporated into the input-output tables.

BEA also planned to provide a basis for improving its estimates of U.S. construction prices by exploring alternative methodologies. One method was to utilize Census survey data on multifamily housing construction prices. Another method was to combine information on the U.S. economy with a nonresidential price index prepared by Statistics Canada.[10] These efforts were to provide improved price indexes for making constant-dollar estimates for use in the 1991 GNP revision.

Funding Requested and Received

For all three of the recommendations designed to stop the deterioration in the quality of NIPA, which included the construction-methodology, indirect estimation methods, and input-output tables recommendations, BEA requested more than $3 million and actually received nearly $2 million total for fiscal years 1990 through 1994.[11]

Progress Reported

According to BEA officials, funding was not sufficient to support the most important construction improvements: the research, design, and implementation of a new direct survey of construction prices by Census. Working within the funding provided, BEA was able, mainly through methodological innovations and "fixes" that used existing data, to develop a new procedure for benchmarking construction expenditures that was incorporated as planned in the 1991 GNP revision. BEA officials noted that the new procedure improved the estimates of nonresidential construction and raised them by nearly 25 percent. In addition, BEA officials noted that a

[10]Statistics Canada is the single government agency that collects, analyzes, and publishes Canadian statistical information on population, commerce, and a broad range of other activities.

[11]BEA officials provided combined budget information for the three recommendations.

new index of multifamily housing construction prices was developed and implemented in the 1991 GNP revision. This index accounts for quality changes by adjusting for the characteristics of housing units. BEA officials said, however, that limited funding curtailed the methodological efforts in estimating U.S. construction prices, and the 1991 GNP revision target was not met. BEA and Census studied the use of Canadian data on nonresidential prices in preparing a price index for the U.S. economy. BEA also initiated work with Census to develop a direct survey as the basis for a nonresidential construction price index, but the project was never completed because BEA and Census lacked the funding to conduct the direct survey.

System of National Accounts

SNA is the international standard for the compilation of a nation's economic accounts and statistical measures. The revised SNA adopted by the United Nations in 1993 followed a decade-long revision that updated the 1968 SNA, clarified the standard, and harmonized it more completely with other sets of international guidelines. The revised SNA envisions a comprehensive recording of the stocks and the flows in the U.S. economy. For each sector that makes up the economy (business, government, and households), SNA calls for an opening balance sheet and a closing balance sheet—the stocks of assets and liabilities of the economy. And for each sector, current and capital accounts are designed to record all the transactions and other changes that explain the differences between the balance sheets—the flows of the economy that measure national income and production.

Impetus for Recommendation

According to BEA officials, the SNA revision provided an opportunity for the United States to modernize and extend its national accounts and to meet the needs for domestic and cross-country analysis and policy formulation. The adoption of SNA would also allow the United States to take advantage of the substantial body of expertise vested in the revised SNA, which is based on a worldwide review of 20 years of progress in economic accounting by more than 65 national accounts experts. Such a move to an internationally oriented economic accounting system would allow comparisons that cannot be made with the system presently used in the United States. For example, if the United States used SNA, the U.S. savings rates, inflation, and economic growth could be compared with those of other countries; government capital expenditures could be broken out to provide information for fiscal policymaking; and satellite accounts in areas

such as health, education, and the environment, would supplement the traditional NIPA.

Working Group's Recommendations

The working group viewed the measurement of national investment and saving in NIPA as conceptually flawed, inaccurate, and internationally inconsistent. In making the recommendation in 1990 to revise NIPA to be consistent with the major components of SNA, the working group said that the adoption of SNA would provide a better analytical base for budget, trade, tax, and regulatory policies. Modernizing and extending NIPA to follow SNA was again recommended by the working group in 1991 with two specific features: (1) an integrated set of current and capital accounts that include both financial and nonfinancial transactions and (2) satellite accounts.

Agency Plans

To adopt SNA's standard in the United States by the mid-1990s, BEA developed a multistage plan to

- evaluate SNA's standard and develop general strategies for its adoption;
- familiarize the staff and users of the economic accounts with SNA;
- develop satellite accounts and make them available as they are developed;
- develop provisional integrated current and capital accounts, including balance sheets for each sector and the nation; and
- carry out the move to SNA in the mid-1990s through a comprehensive revision of the U.S. accounts.

Funding Requested and Received

BEA requested nearly $6 million and actually received slightly more than $1 million total for fiscal years 1990 through 1994 to implement the SNA recommendation.

Progress Reported

BEA officials noted that this recommendation received significantly less than full funding. They said that without such funding, the adoption of the SNA standard by the mid-1990s would be impossible. BEA officials noted that with the funding provided, BEA modified its plan toward an incremental approach by developing provisional integrated current and capital accounts one sector at a time and reducing the number of satellite accounts under preparation. However, BEA made progress toward revising its NIPA to be consistent with SNA.

- A special SNA staff was assembled and evaluation was begun on how to apply SNA within the context of the U.S. economy and statistical system.
- Training of BEA staff in the national economic accounting and in the specifics of SNA was started. BEA began consultations with users, such as NABE, and data suppliers, such as Census and the Energy Information Administration.
- BEA published its satellite accounting framework for natural resources and prototype estimates for mineral resources in the April 1994 issue of Survey of Current Business.
- BEA changed its treatment of several types of transactions in the comprehensive NIPA revision released at the end of 1991 that made the NIPA more consistent with SNA. These changes included the featuring of GDP instead of GNP, the classification of receipts for certain services as government sales instead of personal nontaxes, the classification of bad debt losses as financial transactions, and the recognition of capital gains distributions of regulated investment companies as dividends.
- BEA published its research and development satellite account in the November 1994 issue of Survey of Current Business.
- The development of a government sector account has proceeded. The Committee on National Statistics held a workshop in November 1993, sponsored by BEA and Census, which discussed the issues involved in modernizing NIPA government sector account and developing an SNA-based government sector account. In addition, BEA and the Federal Reserve presented a prototype government sector account at the International Association for Research in Income and Wealth Conference in August 1994.

Inflation Adjustments

Inflation adjustments are procedures that are used to capture the pure increase in prices apart from increases due to changes in quality and quantity. BEA officials said that this inflation adjustments recommendation specifically referred to the removal of nominal capital gains from income originating from property.

Impetus for Recommendation

BEA officials said that BEA makes adjustment to profits by excluding from operating profits the portion of companies' reported profits associated with holding gains on inventories and the understatement of depreciation costs by historical cost accounting. According to a BEA official who was at CEA at the time of the development of ESI, CEA Chairperson Michael Boskin essentially wanted BEA to develop a procedure to separate the inflation component from the real component for other types of property income,

such as interest, rent, and dividends. Further, the former CEA official said academic researchers and tax analysts had attempted to make such adjustments, using various estimates of anticipated inflation, with little agreement or success.

According to the NABE Statistics Committee, NIPA treats physical and financial assets differently in determining their value over time. While various sources of income are adjusted for various accounting abnormalities, methodologies have not been developed for some income sources, such as rental and interest income.

Working Group's Recommendations

The working group said in 1990 that NIPA should report real, as well as nominal, incomes. Noting that current statistical measures of interest, rents, and saving in both the government and private sectors did not adjust appropriately for inflation, the working group recommended the addition of a supplementary series to NIPA that would separate the real and inflation components of the return to capital. Such an adjustment would make the income calculations comparable with the corporate profits series in NIPA.

Agency Plans

BEA officials said that there had not been a great deal of success in this area by other researchers. In addition, they said that BEA's efforts to move toward SNA should result in improvements in inflation adjustments. As a result, they did not feel BEA should devote its resources to this recommendation, except for those inflation adjustments that had already been made for profits.

Funding Requested and Received

No funds were requested for this recommendation.

Progress Reported

BEA officials said no improvements were made.

Business Establishment Data - Census and BEA

Statistical agencies survey business establishments to obtain data about their business practices and results. The agencies use business establishment lists, which are directories of business establishments, to select business establishments to be surveyed.

Impetus for Recommendation

Several statistical agencies compile lists of businesses for specific uses. Since these lists originate for different purposes, these lists may capture

different private entities, or classify the same entities differently. For instance, a group classified as a "business" by one agency may be classified as a group of self-employed individuals by another statistical agency. Coverage of the business population can be more comprehensive and consistent if the various statistical agencies share their business lists and the data from the establishments on the lists. A law that authorizes such data sharing is the Foreign Direct Investment and International Financial Data Improvements Act of 1990 (P.L. 101-533), which permits sharing between BEA and Census and between BEA and BLS of data needed for improving statistics on foreign direct investment. However, confidentiality restrictions limit how certain business lists and data can be shared among agencies. One example of a confidentiality restriction involves data provided by the Internal Revenue Service (IRS). Although Census and BEA may each request tax return information from IRS, the Internal Revenue Code prohibits these agencies from then sharing with each other the data they receive if it identifies a particular taxpayer.

Working Group's Recommendations

In 1990, the working group recognized that concerns about confidentiality prevented statistical agencies from sharing business establishment lists. Nonetheless, it noted that BLS was moving to make its list available to other agencies. As an interim measure, the working group said that Census should explore ways to share its establishment data with BEA for use in improving NIPA.

Agency Plans

According to BEA officials, neither BEA nor Census made plans for a broad sharing of data under this recommendation. BEA officials said they and Census, however, made plans to share Census' establishment data and BEA's enterprise data on foreign-owned firms; and Census planned to provide BEA with establishment lists of firms engaged in international services transactions. In addition, BEA and BLS made plans to link BEA enterprise data to BLS' establishment data from its business list. The sharing of these data was authorized by the Foreign Direct Investment and International Financial Data Improvements Act.

Census officials said that, in addition to linking Census and BEA data, Census planned to improve its coding of new business establishments. Census planned to obtain standard industrial classification codes from the Social Security Administration (SSA) for new establishments entering SSA's data system.

Funding Requested and Received

Census requested $400,000 total for fiscal years 1990 through 1994 for this recommendation, but received no funding.[12]

Progress Reported

BEA officials said that BEA, BLS, and Census successfully completed the "link" projects covering 1987 data for Census and 1989 and 1990 data for BLS with the results being published in the summer of 1992. BLS subsequently linked this establishment-level file to establishments in its occupational employment statistics survey to develop estimates of employment in foreign-owned U.S. establishments. These results were published in October 1993. Results from linking BEA's 1991 enterprise file to BLS' establishment file were published in 1994. Building on experience gained in the initial project, BEA and Census then linked their respective enterprise and establishment data for the years 1988 through 1991. The results, published in 1993 and 1994, presented a greatly expanded level of detail for manufacturing industries. The data link projects were to provide more detailed and precise information about the industrial activities of U.S. affiliates than was previously available. Census officials said the lack of funding prevented them from obtaining codes from SSA.[13]

Construction - Coverage

Coverage measures a survey's ability to obtain information from all units in a specific population. Undercoverage occurs when a survey fails to represent all units in the survey. Construction coverage is the ability of a survey to obtain information about residential and nonresidential structures in a survey.

Impetus for Recommendation

According to the NABE Statistics Committee, surveys missed substantial portions of construction activity in residential remodeling and nonresidential reconstruction. According to Census officials, construction activity resists easy measurement. The industry is characterized by a heterogeneous product, producers who are widespread and small-scale,

[12]According to BEA officials, BEA (and Census through reimbursable agreements) received ESI funding to share Census' establishment data and BEA's enterprise data on foreign-owned firms. Census under another reimbursable agreement also provided BEA with establishment lists of firms engaged in international service transactions. These projects were authorized by the Foreign Direct Investment and International Financial Data Improvements Act of 1990. According to BLS officials, BLS received funds for its foreign direct investment program beginning in fiscal year 1991; these funds were not ESI funds. See also the business establishment lists - Census and BEA recommendation under the international investment and capital flows recommendation (app. VIII).

[13]Commerce officials said they broadened the scope of the working group's recommendation and that Census participated in planning efforts that included sharing business establishment data. BEA and BLS officials said that BEA, BLS, and Census were active participants with Congress in designing and drafting the Foreign Direct Investment and International Financial Data Improvements Act of 1990, a major piece of data-sharing legislation. (See app. IX.)

and complex financial and working arrangements. In particular, the coverage of nonresidential improvements and alterations (reconstruction) and construction done at industrial sites is incomplete. The development of nonresidential price indexes, needed for the measurement of real investment and productivity, is difficult since each new project is unique in some way. Census officials said that nonresidential price indexes have been recognized as inadequate for 30 years.

Working Group's Recommendations

In 1991, the working group noted that private nonresidential construction activity was understated by as much as 25 percent a year, primarily in the areas of construction of industrial plants and commercial reconstruction, such as renovation and improvement of existing structures. The working group recommended the improvement of the coverage and accuracy of construction statistical measures.

Agency Plans

Census planned to improve its data on the values of nonresidential construction and industrial construction, and develop a nonresidential price index.

Funding Requested and Received

Census requested about $4 million total for fiscal years 1990 through 1994 for this recommendation, but received no funding.

Progress Reported

Census officials said that Census developed new methods to improve nonresidential construction coverage and price indexes, but implementation of those methods requires future funding.[14]

Investment and Saving

According to The MIT Dictionary of Modern Economics,[15] investment is a term "used to describe the flow of expenditures devoted to increasing or maintaining the real capital stock [the sum of goods which are used as inputs for further production]... Investment is the flow of expenditures devoted to projects producing goods which are not intended for

[14]According to BEA officials, the methodological fixes BEA used to attempt to eliminate the shortfalls in nonresidential construction on the 1991 GNP revision do not alleviate the need for improved survey coverage of both prices and current-dollar spending.

[15]David W. Pearce, ed., The MIT Dictionary of Modern Economics, 3rd ed. (Great Britain: The Macmillan Press, 1986), pp. 51, 55, 216, and 378. Note that these are conceptual definitions, and the recommendation addresses the issue of how these terms are to be defined in statistical practice.

immediate consumption. These investment projects may take the form of adding to physical and human capital as well as inventories."[16]

According to the Encyclopedia of Economics,[17] "saving is the process of withholding current income for future use and results in the accumulation of tangible and financial assets. The amounts so accumulated over past periods are referred to as savings....On a net basis, individuals save when personal income after taxes exceeds personal outlays, businesses save through retained profits, and governments save when current receipts exceed current expenditures. Gross saving includes...depreciation allowances covering the wear and tear on real assets for future replacement....The channels through which gross saving flows into gross investment, including financial intermediaries are traced in the flow-of-funds accounts."

Impetus for Recommendation

According to the NABE Statistics Committee, statistical measures of investment and saving in the United States do not allow policymakers to address the question as to whether there is enough saving to support the type of investment the nation needs to improve America's competitiveness. Estimates of saving and investment are not internationally comparable and may be misleading. For example, the NABE Statistics Committee stated that statistical measures of household saving come from two sources. In NIPA as published by BEA, saving is calculated by subtracting spending from income (a current accounting convention method). In the flow-of-funds estimates as published by the Federal Reserve, saving is calculated from changes in household assets and liabilities (a capital accounting convention method). At the 1987 National Bureau of Economic Research's Conference on the Measurement of Saving, Investment, and Wealth, the differences between the measurement of saving in NIPA and the flow-of-funds estimates were examined.[18] Possible measurement errors were noted for both methods.

Working Group's Recommendations

In 1990, the working group noted the significant differences researchers found in statistical measures of saving and investment, especially between

[16]The MIT Dictionary of Modern Economics also defines capital stock as the sum of goods that are used as inputs for further production.

[17]Sally S. Ronk, "Saving," in Encyclopedia of Economics, Douglas Greenwald, ed., (New York: McGraw-Hill, 1982), p. 837.

[18]Robert E. Lipsey and Helen Stone Tice, eds., The Measurement of Saving, Investment, and Wealth, Vol. 52 (Chicago: The University of Chicago Press, 1989), pp. 1-3, 11-12.

NIPA and the flow-of-funds statistical measures. It said that the Federal Reserve and the statistical agencies should work to improve the measures and, to the extent possible, reconcile the differences between the various measures of saving.

Agency Plans

The Federal Reserve began its data improvement effort for the flow of funds in 1991 and expanded the program in 1992. All told, 17 specific data improvement projects were planned:

- household sector improvements;
- state and local government sector improvements;
- noncorporate business sector improvements;
- pension sector benchmarks;
- property/casualty insurance sector improvements;
- finance company sector improvements, including review of the treatment of mortgage companies;
- credit union sector improvements;
- expansion of the sector for issuers of asset-backed securities;
- detailed accounting of closed-end funds;
- review of treatment of mortgage transactions;
- review of treatment of commercial paper transactions;
- review of treatment of corporate equity estimates;
- review of treatment of repurchase agreements;
- review of treatment of foreign transactions;
- improvements to the methodology for the monthly debt aggregate;
- balance sheet enhancements; and
- exploration of moving toward market valuation of assets and liabilities.

In addition, the Federal Reserve planned to begin work on a public-use source manual to document sources and methods.

BEA and Federal Reserve officials said that the best way to reconcile the measures of investment and saving would be to improve underlying investment and saving data. BEA officials said that they interpreted this recommendation to be the plans for improvements they made for NIPA (for an example, see the construction-methodology recommendation above) and its international accounts (for an example, see the international investment and capital flows recommendation in app. VIII). BEA officials also said that as BEA moved to the SNA concept of investment and saving and SNA fully integrated flows and stocks, BEA's saving and investment data

would both be consistent with other countries and reconciled to changes in stocks (see the SNA recommendation above).

Census, the agency that collects some of the underlying data for the measurement of saving and investment, planned to improve its coverage of the manufacturers shipments, inventories, and orders survey. Monthly estimates of the shipments of goods from manufacturers are the bases of BEA's current quarterly estimates of business investment in producers' durable equipment. Monthly estimates of manufacturers' inventories are the bases of BEA's current quarterly estimates of the manufacturing component of the change in the business inventory component of gross private domestic investment.[19]

No plans were made to reconcile directly the differences between the various measures of investment and saving because the agencies wanted to improve the underlying data used in the measurements.

Funding Requested and Received

Census requested $900,000 and actually received $638,000 total for fiscal years 1990 through 1994 for this recommendation.

Since Congress does not appropriate funds for the Federal Reserve, we did not request specific funding information about what the Federal Reserve spent on this recommendation. The Federal Reserve's Board of Governors funded all improvements for this recommendation. Officials said additional staff were hired and funds were made available to acquire additional data and to conduct research.

Progress Reported

Federal Reserve officials said 11 of the 17 data improvement projects have been completed:

- pension sector benchmarks;
- property/casualty insurance sector;
- finance company sector improvements, including review of the treatment of mortgage companies;
- credit union sector improvements;
- issuers of asset-backed securities;
- closed-end funds;
- mortgage transactions;

[19]BEA officials noted that in terms of source data, Census' Annual Capital Expenditures Survey (ACES) is the most important improvement related to investment estimates.

- commercial paper transactions;
- corporate equity estimates;
- foreign transactions; and
- monthly debt aggregate methodology changes.

The remaining improvement projects are ongoing. The Federal Reserve also documented the differences in concepts of personal saving between its flow-of-funds estimates and NIPA.[20]

BEA officials said that progress on this recommendation is reported under NIPA and the international transactions statistics categories of recommendations. For example, BEA officials said that under the construction-methodology recommendation a 25 percent upward revision was made in nonresidential construction, which resulted in an improvement in the measure of investment. Another example cited by BEA was an improvement in international data that improved the Federal Reserve's financial measures of investment and saving that is reported under the international investment and capital flows recommendation (see app. VIII).

Census officials said Census improved the measurement of investment by improving coverage of the manufacturers shipments, inventories, and orders survey.

Flow of Funds

Flow-of-funds accounts, also referred to as the capital finance accounts of the United States, show the role of financial institutions and instruments in transforming saving into investment and the changes in assets and liabilities that result from this transformation. The Federal Reserve prepares and publishes flow-of-funds accounts data. The flow-of-funds accounts detail how the current investment in tangible and financial assets contribute to a buildup of a stock of assets for each sector of the economy and to the creation of national wealth. The flow-of-funds accounts can be viewed as combining data on the flows of saving and tangible investment published in NIPA with additional details on borrowing and lending for specific economic sectors.

Impetus for Recommendation

As of the late 1980s, detailed information about the construction of the flow-of-funds accounts was not available in a form that was accessible to

[20]Board of Governors of the Federal Reserve System, Guide to the Flow of Funds Accounts (Washington, D.C.: Federal Reserve System, 1993).

users outside the Federal Reserve. This problem was noted by CEA Chairperson Michael Boskin in a letter sent to the Federal Reserve prior to release of ESI. The Federal Reserve had previously planned to upgrade its documentation and subsequently incorporated that work into its broader initiative to improve its flow-of-funds accounts.

Working Group's Recommendations

The working group, in 1990, recommended improvement in the collection, coverage, and processing procedures for the financial data in the Federal Reserve's flow-of-funds accounts.

Agency Plans

As part of its overall data improvement program for the flow of funds as discussed under the investment and saving recommendation, the Federal Reserve planned to publish detailed documentation of how the flow of funds is estimated—the total sources of funds flowing to the economic sector and the sector's uses of funds. This would enable researchers to identify where and how the estimates were derived. The Federal Reserve also planned to improve its internal processing by upgrading its software and seasonal adjustment procedures.

Funding Requested and Received

Because Congress does not appropriate funds for the Federal Reserve, we did not request specific funding information about what the Federal Reserve spent on this recommendation. The Federal Reserve's Board of Governors funded all improvements for this recommendation. Officials said additional staff were hired and funds were made available to acquire additional data and to conduct necessary research.

Progress Reported

The Guide to the Flow of Funds Accounts, the documentation of how the flow of funds is estimated, was published in June 1993. Federal Reserve officials said that improvements in internal processing were implemented also.

Annual Investment Survey

According to the NABE Statistics Committee, an annual investment survey would be a program that integrated, consolidated, and developed quarterly, annual, and periodic investment surveys. The survey program would provide detailed information by type of asset that is needed for the nonresidential fixed investment component of NIPA. The program would improve the consistency of capital expenditure estimates across all

investment data collection programs and would consolidate the capital expenditure questions from several different periodic surveys.

Impetus for Recommendation

According to the NABE Statistics Committee, the data used to estimate business investment expenditures have been inconsistent and incomplete. For example, estimates of equipment investment were constructed from producers' shipments, rather than measures of investors' purchases. A new annual survey program was recognized as a way to consolidate questions contained in several periodic surveys, improve the consistency of capital expenditure estimates across all investment data collection programs, and provide more detail by type of asset than was being collected.

Working Group's Recommendations

In 1990, the working group recommended the redirection of funds from an outdated plant and equipment survey to undertake an annual investment survey that had been proposed by Census. The plant and equipment survey was incomplete in coverage, subject to nonresponse bias, and was no longer used in NIPA.

Agency Plans

Census planned three phases to institute its new annual capital expenditure survey (ACES). Census first planned to consult with Statistics Canada and other experts at a conference on the planned survey, and then conduct a pilot survey. Next, Census planned to send its survey to 4,400 companies with 5 or more employees. Early respondents were to be contacted to identify problems in completing the survey. Also, in this second phase, survey forms were to be mailed to 11,000 firms and these data were to be aggregated and published. The third phase was to fully implement ACES with 45,000 firms.

Funding Requested and Received

Census requested and actually received $2 million total for fiscal years 1990 through 1994 for this recommendation.[21]

[21]Census officials said that as of May 1994 the plant and equipment survey was still being conducted on a limited scope because Census found it necessary to continue the survey until ACES is fully implemented. Therefore, the funds for the plant and equipment survey had not been redirected to ACES. In subsequent comments, Census officials said that the plant and equipment survey was conducted on a limited scope until December 1994. Effective January 1995, funds for the plant and equipment survey were redirected to ACES.

Progress Reported

Census said it held a 1-day conference of experts and consulted with Statistics Canada. Based on these consultations, Census developed a pilot survey for 1992 and conducted personal and telephone interviews with companies to discuss their ability to report. The surveys were mailed to 4,400 companies in 1992 and to 11,000 companies in 1993. In the surveys, companies reported investment in industries in which they operate. Census aggregated the data from the latest mailing that had an 81-percent response rate. These data, which were released in July 1994, were used to estimate total capital expenditures and expenditures for each industry.

Census found that collecting equipment investment information from large companies imposed extensive burden on those companies. Therefore, Census will collect detailed information annually on types of equipment and structures on a rotating basis once every 5 years to reduce the burden on any particular company.

Data Gaps

Data gaps refer to a situation where insufficient information is available to derive an accurate observation of evidence based on data. Data gaps may result from a lack of up-to-date estimates, or revised data, or a data source may not be available that would provide more conclusive information.

Impetus for Recommendation

Although BEA publishes NIPA and the international economic accounts, it does not directly collect most of the data used to produce the accounts. BEA obtains statistical measures with data relevant to the accounts from other statistical agencies. According to a BEA official, much of the data are not in the form needed by BEA. Some of the data are not collected, thereby creating data gaps in the raw source data BEA uses to produce NIPA and the international economic accounts.

Working Group's Recommendations

In 1991, the working group recommended a central integrating role for economic accounts by providing BEA with funds to support selected improvements in the source data it obtains from other agencies. The funds were to be used to secure additional information from administrative records held by government agencies, to support new statistical surveys, or extensions to existing surveys, and to carry out research to determine feasible and cost-effective ways of closing gaps in source data.

Agency Plans

BEA officials said they planned to improve data in 17 categories by reducing data gaps for

- retirement and other benefit payments, which result from changes in payroll and income tax rules;
- corporate expenses and income, which result from changes in tax law that no longer require separation of this information on tax returns;
- foreign income of U.S. corporations, which result from rapid growth in size of these corporations and an increase in diversity of their income and expense items;
- unregulated activities, which result from industries not supplying statistical or administrative data because they are no longer regulated;
- nonprofit institutions, which result from a lack of source data from industries such as health and education;
- merchandise trade and international trade in services, which result from missing source data;
- health services, which result from infrequent data collection;
- manufacturing, which result from a lack of data on shipments by detailed product classifications across all manufacturing industries;
- no-employee firms, which result from undercoverage of firms without employees;
- direct investment firms, which result from a lack of cross-checking between sources of information and the changing universes of U.S. affiliates of foreign parent firms and foreign affiliates of U.S. parent firms;
- transactions involving the U.S. government, which result from slow data reporting and lack of data on grants-in-aid and military transactions;
- economic classifications, which result from emerging industries not being tracked because they are not separately identified by the standard industrial classification (SIC) system;
- bank output, which result from changes in the quality of services provided to bank customers;
- international portfolio investment, which result from the increased volume of security transactions flowing outside of traditional financial channels;
- international trade in services, which result from the increased number of firms becoming international corporations;
- unilateral transfers, which result from the increase in personal remittances paid to foreign residents by U.S. residents; and
- data exchange and reconciliations, which result from the desire to improve the accuracy and speed of reporting between major trading partners.

Funding Requested and Received

BEA requested about $5 million total for fiscal years 1990 through 1994 for this recommendation, but received no funding.[22]

Progress Reported

BEA officials said they made no progress implementing 11 of the 17 categories of data gaps because they received no funding. For six categories, however, BEA requested and received funds under other ESI recommendations. Progress for the economic classifications data gap is reported under the SIC recommendation (see app. IX); bank output is reported under the indirect estimation recommendation (see elsewhere in this app.); and international trade in services is reported under the trade in services recommendation (see app. VIII). Progress for the international portfolio investment, unilateral transfers, and data exchange and reconciliations categories of data gaps are reported in the international investment and capital flows recommendation (see app. VIII).

Summary

A summary of the funding requested and actually received by the statistical agencies for the working group's 11 NIPA statistics recommendations is shown in table III.1. Census and BEA requested nearly $21 million total for 10 recommendations for fiscal years 1990 through 1994.[23] They received nearly $6 million for 6 of the NIPA statistics recommendations in fiscal years 1990 through 1994.

[22]BEA officials said they also included a request for funding for the SIC recommendation under this request for the data gaps recommendation.

[23]The Federal Reserve provided funding for two recommendations. Congress does not appropriate funds for the Federal Reserve; therefore, the funds used for these initiatives are not included in table III.1.

Table III.1: Funding for the NIPA Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
Recommendation	**Requested**	**Actual**	**Requested**	**Actual**
Indirect estimation methods[a]	0	0	$1,900	$ 400
Input-output tables[a]				
Construction methodology[a]				
System of national accounts	0	0	1,600	700
Inflation adjustments	0	0	0	0
Business establishment data Census and BEA	0	0	0	0
Construction coverage	0	0	0	0
Investment and saving[b]	0	0	900	638
Flow of funds[b]				
Annual investment survey	0	0	2,000	2,000
Data gaps	0	0	0	0
Total	**0**	**0**	**$6,400**	**$3,738**

1992		1993		1994		1990-94	
Requested	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**
$ 1,300	$ 1,300	0	0	0	0	$ 3,200	$1,700
1,700	500	1,200	0	1,200	0	5,700	1,200
0	0	0	0	0	0	0	0
200	0	200	0	0	0	400	0
1,300	0	1,300	0	1,300	0	3,900	0
0	0	0	0	0	0	900	638
0	0	0	0	0	0	2,000	2,000
0	0	3,900	0	800	0	4,700	0
$4,500	**$1,800**	**$6,600**	**0**	**$3,300**	**0**	**$20,800[c]**	**$5,538**

[a]BEA combined these three recommendations into one budget request to increase funding to stop the deterioration in the quality of the national economic accounts.

[b]Federal Reserve budget information on this recommendation was not included because the Federal Reserve does not receive any funds from Congress and internally funded the recommendation.

[c]Total request includes $5,200,000 in reinstated requests, that is, funding that was not received in prior years.

Sources: BEA, Census.

Service Sector Statistics Recommendations

The service sector—the part of the economy that produces products with an intangible component, like assistance or information—has grown in the last three decades. The service sector in 1960 accounted for more than three-fifths of all employment and about two-fifths of the gross domestic product (GDP); in 1990, it accounted for three-fourths of employment and one-half of GDP. In the view of the ESI working group and other statistics users, the statistical measures used to track this growth are outdated.

The working group was concerned about the inability of the statistical agencies to keep up with the changing nature of the economy. Because of this concern, the working group created a subgroup on service sector statistics to develop a comprehensive work plan to improve service sector statistics. The work plan included the expansion of basic data collection as well as other recommendations that we have classified in other appendixes. The working group's recommendations added to and provided direction for improvement efforts that had been identified by various agencies in 1984. The working group's recommendations also called for an acceleration of the implementation of these 1984 service sector improvement efforts.

Service Sector Surveys

Service sector surveys are detailed studies that collect information from the part of the economy that produces intangible products, like assistance or information. All sectors, except those classified as agriculture, construction, manufacturing, and mining, are included in these surveys.[1]

Impetus for Recommendation

The Committee on National Statistics of the National Research Council (CNSTAT) reported that because of the deregulation of industries such as transportation, the collection and publication of data by the agencies regulating these industries generally has been reduced or discontinued.[2] Notably, CNSTAT reported that the data needed to measure the effects of deregulation were being affected. For example, the series on financial data for radio and television stations was discontinued by the Federal Communications Commission. In addition, businesses entered the formerly regulated markets, and in some instances, businesses expanded

[1]See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

[2]Sol D. Helfand, Vito Natrella, and Alan E. Pisarski, Statistics for Transportation, Communication, and Finance and Insurance: Data Availability and Needs, Committee on National Statistics, Commission on Behavioral and Social Sciences and Education, National Research Council, report of the National Academy of Sciences (Washington, D.C.: 1984), pp. xi, 3.

their range of offered services as regulations were lifted or reduced. For example, banking institutions now offer mutual funds.

Working Group's Recommendations

In 1990, the working group stated that better statistical measures for the service sector ultimately required better raw data. In addition, the working group recommended that the statistical agencies accelerate their plans for long-term improvements so that industries whose measurement problems were the most significant would be addressed sooner. In 1991, the working group recommended that Census specifically increase the detail and coverage of the service sector in its service annual survey and the periodic census of service industries. These improvements would permit more complete coverage of the service sector and provide a more detailed picture of the composition of the service industries.

Agency Plans

Following the improvement effort of various agencies that was developed in 1984, Census had introduced in fiscal year 1986 an annual survey coverage of the for-hire trucking and public warehousing industries; it planned to begin a new annual survey of communication services. Census also planned to draw additional samples from the 1987 Economic Censuses. On the basis of the 1987 Standard Industrial Classification (SIC) system—a federally designed system classifying establishments by industry—samples of the financial, insurance, and real estate industries were to be used to expand the service annual survey.

Funding Requested and Received

Census requested about $7 million and actually received more than $1 million total for fiscal years 1990 through 1994.

Progress Reported

Census began reporting information from its annual survey of communication services of telephone communications, telegraph and other message communications, radio and television broadcasting stations and networks, cable and other pay television services, and other communication services, such as radar station operations. The first set of survey data was published in March 1992. Census increased the sample size for the 1991 Service Annual Survey from 20,000 to 30,000 firms. This increase allowed Census to publish data on industries and organizations in personal, business, amusements and recreation, social, health, and other professional services that were previously covered only in the economic censuses. The number of service industries whose data were published in the 1991 Service Annual Survey increased from 90 in 1990 to over 130.

Census also expanded service sector data by providing expense data in addition to revenue data for tax-exempt firms in selected service industries and detailed information on receipts for six published industry groups.

Purchased Services

Purchased services are assistance, information, and other intangible products that businesses and organizations buy from businesses and governments. Examples of purchased services include when a book publisher contracts with a cleaning service for janitorial work performed in its warehouses, or when a manufacturer contracts for computer services it needs, but formerly provided itself.

Impetus for Recommendation

According to the National Association of Business Economists' (NABE) Statistics Committee, weak industrial activity reported in the mid-1980s may have reflected in part the statistical agencies' inability to trace the new firms being formed.[3] Many services and functions that had previously been handled within one company were contracted out to new small service firms when manufacturing firms downsized. Employees who lost their jobs were often hired by the new service firms. In many cases the same employees continued to perform the same work. As a result, the proportion of employment classified in manufacturing was reduced. To maintain coverage of economic activity, a statistical system needs to quickly identify and track these new firms. Such tracking is a difficult and costly process because new firms are constantly opening and closing.

A Census official said that Census collects data every 5 years on purchased services. The official also said that Census needs data on an annual basis for developing value-added statistical measures on manufacturing industries. The official said that such measures may be overstated by as much as 30 percent because of limited data.

BEA officials said that one of the most serious problems in tracking new firms is the lack of an up-to-date list of firms with no paid employees. Small businesses are particularly difficult to track.

[3]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of the NABE's Statistics Committee.

Working Group's Recommendations

In 1991, the working group recognized that changing trends, which resulted from purchasing legal, accounting, and other services by manufacturing industries, were not accurately measured by existing economic surveys. To improve the tracking of the sources of economic growth and structural change by industry, the working group recommended the provision of needed statistical measures.

Agency Plans

To meet this recommendation, Census planned to improve the measurement of services purchased by manufacturing industries with an annual collection of data on purchased services, such as management consulting, engineering, and legal assistance. Census proposed a 3-year plan. In the first year of its plan, Census was to complete the sample design. In the second year of its plan, Census was to pretest questionnaires with manufacturing firms to determine the (1) most important purchased services and (2) best level to survey in a manufacturing firm to obtain data on purchased services. In the third year of its plan, Census was to introduce the data-collection instrument on purchased services as part of its annual survey of manufacturers.

Funding Requested and Received

Census requested more than $3 million total for fiscal years 1990 through 1994 for this recommendation, but received no funding.

Progress Reported

Census officials said they made no progress implementing the recommendation because they received no funding.[4]

Corporate Financial Data

Corporate financial data are the economic accounts of an institution that make up the balance sheet and income statement. Data in these reports include assets, liabilities, and stockholders' equity, income (or loss) from operations, and the breakdown of income before and after taxes.

Impetus for Recommendation

The Quarterly Financial Report (QFR) program is the primary source of information about the financial position of U.S. corporations. However, the QFR program does not cover corporations operating in the service sector and inadequately covers small corporations operating in retail and wholesale trade, manufacturing, and mining. According to Census

[4]Census officials noted that the 1992 Economic Censuses collected additional information on purchased services. We also reported in 1993 that more components of the service sector were included for the first time in the 1992 Economic Censuses. See Federal Data Collection: Status of 1992 Agriculture and Economic Censuses and Future Challenges (GAO/GGD-93-152BR, Sept. 1993).

officials, the GDP estimates and the flow-of-funds accounts would benefit significantly by expanding the scope of the QFR program to include services and small corporations.

Working Group's Recommendations

In 1991, the working group recognized that the comprehensive statistical measure of the financial performance of the service sector and the small business community was either deteriorating or nonexistent. It recommended greater precision in estimates by industry and more comprehensive balance sheet and financial ratio data by asset size.

Agency Plans

Census planned to expand corporate financial data by collecting quarterly financial data for the service sector and by expanding coverage of small corporations. These corporate financial data estimates, which are included in Census' Quarterly Financial Report Data, are used in the calculation of GDP and flow-of-funds accounts. Census already had collected corporate profit data for manufacturing, mining, and retail and wholesale trade industries but planned to expand data to service sector industry areas, such as business computer services and managerial consulting, because business services account for one-third of corporate profits in the service area.

Census proposed a 3-year plan to expand corporate profit data for service sector industries. In the first 2 years of its plan, Census was to complete the survey design, select samples of business services, and develop a questionnaire. In the third year of its plan, Census was to administer the questionnaire to business service sector firms.

Funding Requested and Received

Census requested nearly $5 million total for fiscal years 1990 through 1994 for this recommendation, but received no funding. Specifically, for the small corporations improvements, Census requested slightly more than $2 million. For the other corporate financial data improvements, Census requested slightly less than $3 million.

Progress Reported

Because of the lack of funding, Census officials said that they made no progress in implementing this recommendation.

Summary

A summary of the funding requested and actually received by Census for the working group's three service sector statistics recommendations is shown in table IV.1. Census requested more than $15 million total for the three recommendations for fiscal years 1990 through 1994. Census received more than $1 million for only the service sector surveys recommendation in fiscal years 1990 through 1994.

Table IV.1: Funding for Census' Service Sector Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
Recommendation	**Requested**	**Actual**	**Requested**	**Actual**
Service sector surveys	0	0	$1,050	0
Purchased services	0	0	523	0
Corporate financial data	0	0	868	0
Total	**0**	**0**	**$2,441**	**0**

1992		1993		1994		1990-94	
Requested	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**
$1,950	$1,400	$2,099	0	$2,017	0	$ 7,116	$1,400
1,023	0	1,023	0	923	0	3,492	0
1,668	0	1,626	0	808	0	4,971	0
$4,641	**$1,400**	**$4,748**	**0**	**$3,748**	**0**	**$15,579[a]**	**$1,400**

[a]Total request includes $6,547,000 in reinstated requests, that is, funding that was not received in prior years.

Source: Census.

Price Measurement Statistics Recommendations

Price measurements are indexes that trace the relative changes in the price of an individual good or service, or a market basket of goods and services over time. Price indexes are used to measure inflation.[1]

The working group initially focused on problems in measuring price changes in the service sector because the measure of real output and productivity is affected by statistical measures of inflation. For example, if the measured change in prices overstated actual inflation, then the statistical measure of productivity would be understated. In the next year, the working group recognized that the problems of separating quality changes from "pure" price changes were also difficult for physical goods and recommended additional research in nonservice price measures.

Service Prices

Service prices are measures of price changes in the service sector—the part of the economy composed of businesses that sell assistance and expertise rather than tangible goods. Because services are intangible, measuring their output and breaking down changes in spending on services into changes in output and changes in prices has been difficult. Service prices are measured in three price indexes.

- The Consumer Price Index (CPI) is a BLS program that measures average price change for two population groups—all urban consumers and urban wage earners and clerical workers—using a specified market basket representing all goods and services purchased for everyday living.
- The Producer Price Index (PPI) is a BLS program that measures average changes in prices received by domestic producers for their output (crude materials, semifinished goods, finished goods, and some services), relative to prices received in the base year. It is an industry-based survey that provides monthly price indexes for virtually all agriculture, mining, and manufacturing industries and selected service industries.
- The International Price Program (IPP) measures price changes of commodities traded between the United States and the rest of the world. IPP produces the U.S. Export Price Index and the U.S. Import Price Index. These indexes are intended to reflect price trends of foreign-produced goods entering the United States or domestic products leaving this country or its territories.

[1]See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

Impetus for Recommendation

The absence of reliable price indexes for services affects the basic measurements of inflation and productivity. According to the National Association of Business Economists' (NABE) Statistics Committee,[2] the impact on inflation of changes in the service sector is relatively unknown but is perceived to be large and not easily controlled by anti-inflation policies. Also, the lack of services price data limits the ability to develop reliable indexes of constant-dollar output of service sector industries. (See indirect estimation methods recommendation in app. III.) Since statistical measures of output are used to calculate productivity, the reliability of this measure is also questioned by NABE. Available statistical measures suggest that much of what appears to be a slowdown in U.S. productivity is attributed to relatively low productivity growth in service sector industries. But, because of measurement error, NABE concludes that the reasons for the slowdown are not clear.

According to BLS officials, IPP had no infrastructure to support service indexes until BLS received a small appropriation in the mid-1980s. BLS said that it had to devote a disproportionate amount of its resources to establishing staffs for sampling, estimation, and data processing, in addition to the staff for planning, data collection, and analysis. Following this initial funding for services, work was begun on developing a few indexes in the transportation area.

Working Group's Recommendations

In 1990, the subgroup on service sector statistics reported on BLS' major research initiative to improve quality adjustments in measuring price change over time. The subgroup said that BLS' initiative included accelerating research efforts on improving quality adjustments in the CPI; conducting experimental work and research on computers, semiconductors, hospitals, television, and retail trade for PPI; expanding coverage for real estate and beginning coverage of the health insurance industry for PPI; and developing indexes for water and air transportation, and electricity for IPP.

In 1990, the working group recommended that BLS accelerate its plans to expand and improve its CPI, PPI, and IPP to measure service prices more accurately. Later in 1991, the working group recommended that BLS conduct research to develop accurate, replicable, and standardized statistical measures of output for the service sector. These measures were

[2]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of the NABE's Statistics Committee.

to permit the introduction of new service sector price indexes into PPI and IPP.

Agency Plans

BLS planned to add health services and most of commercial real estate to its PPI. Also, for IPP, BLS planned to complete coverage that began in the mid-1980s of most transportation industries as well as telephone message services, both imported and exported. No plans were made for expanding or improving service prices in the CPI.

Funding Requested and Received

BLS requested more than $7 million and actually received less than $6 million total for fiscal years 1990 through 1994.[3] Specifically for PPI improvements, BLS requested about $4 million and received slightly more than $3 million. For IPP improvements, BLS requested more than $3 million and received less than $3 million. For CPI, BLS did not request or receive funding. BLS requested $100,000 for productivity research, which officials said was related to this recommendation.

Progress Reported

BLS expanded the coverage of its PPI by adding the hospitals index in January 1993 and doctors of medicine index in January 1994. BLS officials said that the medical laboratories index was published in August 1994; the nursing homes index will be published in 1995; and the operators of nonresidential buildings index and the real estate agents and managers index will be published in 1996. The additional planned service sector industries in medical services and commercial real estate were dropped because of subsequent budget reductions. BLS officials said that resources do exist, however, to develop a limited number of additional indexes for such industries as legal, accounting, and auditing services and insurance carriers.

According to BLS officials, a series of budget reductions following the recommendation's initial funding resulted in eliminating any development of additional new indexes in IPP. Publication of the service indexes in IPP is limited to existing coverage in transportation. This includes import indexes for air passenger, air freight, liner freight, oil tanker freight, and electrical energy. It also includes export indexes to air passenger services.

[3]According to BLS officials, their original funding request was reduced in fiscal years after 1992. They said that their subsequent budget requests were intended to fund implementation of the recommendation at this reduced level, rather than fund the recommendation as originally envisioned.

Separation of Quality and Inflation Changes

The accurate measurement of inflation depends on the characteristics of a good or service staying the same over time. According to BLS, measurement problems occur when the quality of the item and its price change at the same time, or when an item is discontinued. In these circumstances, the price increase reflects not only an increase in price but a change in the item's ability to meet the consumer's (or producer's) needs.

Impetus for Recommendation

BLS attempts to determine how a change in quality affects the price for a number of products and makes adjustments to capture such changes. But BLS reports these changes cannot be easily made and are especially difficult as more items appear in the marketplace. BLS also reports that substitutions for discontinued items are particularly difficult to make.

Working Group's Recommendations

In 1991, the working group recommended additional funding for BLS to conduct research to determine the best way to separate the quality change from the inflation component of price changes. The working group was concerned that measurement difficulties could result in an overstatement of the rate of inflation.

Agency Plans

For the CPI improvements, BLS planned to develop improved quality adjustment procedures in consumer electronics, shelter, and apparel. For PPI improvements, BLS planned to accelerate resampling, which is necessary to better maintain the currency of PPIs for industries that introduce products more rapidly, and to develop procedures for 10 rapidly changing producer goods. For PPI, BLS also planned to undertake a very limited effort to develop additional statistical methods of adjusting for quality change.

Funding Requested and Received

BLS requested more than $3 million and actually received more than $2 million total for fiscal years 1990 through 1994. For the CPI improvements, BLS requested $450,000, but received no funding. Specifically for the PPI improvements, BLS requested more than $3 million and received more than $2 million.

Progress Reported

No improvements were made in the CPI. BLS officials said that acceleration of resampling for PPI was completed by 1993 for approximately eight

industries. The resampling period for those industries was reduced from the average of every 7 years to every 2 years. BLS officials also said that the methods to statistically adjust PPI for quality changes were in place on a very limited basis.

Summary

A summary of the funding requested and actually received by BLS for the working group's two price measurement statistics recommendations is shown in table V.1. BLS requested nearly $11 million total and received nearly $8 million for the two recommendations for fiscal years 1990 through 1994.

Table V.1: Funding for BLS' Price Measurement Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
Recommendation	**Requested**	**Actual**	**Requested**	**Actual**
Service prices	0	0	$550	0
Separation of quality and inflation changes	0	0	0	0
Total	**0**	**0**	**$550**	**0**

1992		1993		1994		1990-94	
Requested	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**
$2,250	$2,198	$2,769	$1,815	$1,672	$1,672	$7,241	$5,685
1,790	871	970	719	719	719	3,479	2,309
$4,040	**$3,069**	**$3,739**	**$2,534**	**$2,391**	**$2,391**	**$10,720**	**$7,994**

Source: BLS.

Labor Market Statistics Recommendations

Labor market statistics are measures that provide information about persons in the population, their employment status (employed, unemployed, or not in the labor force), compensation received for employment, costs to employers, and other measures of employment by characteristics of the employed persons and their employers.

The issues addressed by the working group in the labor market statistics recommendations involved updating statistical measures to keep up with a changing economy. Many of these issues were identified in 1979 by the National Commission on Employment and Unemployment Statistics,[1] but due to budget constraints, BLS was not able to implement its plans to address these issues in the 1980s. In 1990, the working group gave priority to efforts to improve statistical measures in wage trends such as the Employment Cost Index (ECI) and to improve and modernize the Current Employment Statistics (CES) program—a nationwide monthly business establishment survey, which collects information on employment, workers' hours, and earnings from the payroll records of employers—and the Current Population Survey (CPS)—a nationwide monthly household survey, which collects information on labor force, employment, and unemployment experience of the nation's population. In 1991, the working group recommended that BLS complete specific recommendations to improve the coverage and accuracy of CES, automate data collection for CPS, and reconcile measurement differences between CPS and CES.

Employment Cost Index

ECI is a quarterly index measuring changes in total compensation—wages, salaries, and employers' costs for employee benefits. ECI tracks changes in labor costs that are free from influences of employment shifts among occupations and industries.[2]

Impetus for Recommendation

According to the National Association of Business Economists' (NABE) Statistics Committee,[3] some sectors, such as the federal government, agriculture, and private household, were not covered in ECI in the late 1980s. Neither was the index seasonally adjusted with statistical

[1]National Commission on Employment and Unemployment Statistics, Counting the Labor Force (Washington D.C.: U.S. Government Printing Office, 1979).

[2]See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

[3]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of NABE's Statistics Committee.

procedures to eliminate the effects of events and other practices that affect short-term trends in data. Also, NABE said that the lack of detail in ECI makes it difficult to estimate labor costs in important industries, such as health care.

Working Group's Recommendations

In 1990, the working group recommended that BLS expand its ECI to cover additional sectors of the economy and to provide special studies of important industries, such as health care. The working group also recommended that BLS seasonally adjust the index.

Agency Plans

BLS specifically planned to expand and publish separate statistical measures of change in employer labor costs for nursing and personal care facilities. BLS planned to seasonally adjust the index. BLS did not make plans for the special studies as recommended by the working group.

Funding Requested and Received

BLS requested and actually received less than $2 million total for fiscal years 1990 through 1994 for this recommendation.

Progress Reported

BLS expanded the sample for the nursing and personal care industry by about 200 facilities and began publishing the data in 1992. In January 1991, BLS began publishing seasonally adjusted ECI data.

Coverage of Payroll Employment Estimates

Payroll employment estimates, as measured by CES, represent the number and characteristics of employees on business payrolls for the pay period including the 12th of every month. These estimates are published at detailed geographic and industry levels. Coverage of payroll employment estimates is the current level of published industry detail that is available. Publication coverage is limited by the ability of the employment survey to develop sufficiently accurate estimates at detailed industry levels.

Impetus for Recommendation

Since it began in 1915, the CES program has focused on the employment and earnings trends of manufacturing industries. Despite the continuing growth of the service sector, the majority of detailed published data are for the manufacturing sector. As of 1990, only 25 percent of the country's private sector employment was in the manufacturing sector, yet detail for 55 percent of the industries in that sector was published. At the same time, while 75 percent of the private sector employment was in the service

sector, detail for only 32 percent of the industries in that sector was published.

Working Group's Recommendations

The working group recognized that, despite the shift from manufacturing industries to service sector industries, there was substantially more detailed coverage of employment, hours, and earnings in manufacturing industries than in service industries. In 1991, the working group recommended that BLS expand the publication of detailed industries in the service sector by adding 110 service sector industries to its payroll survey.

Agency Plans

BLS planned to increase the number of service sector industries published by 110 so that the proportion of industry detail published for the service sector was equal to the proportion published for the manufacturing sector. This included over 650 new employment, hours, and earnings monthly data series. BLS selected the new industries based on economic significance and included industries that had not experienced large measurement revisions in the past. This expansion represented a 50-percent increase in the published service sector detail available each month.

Funding Requested and Received

BLS requested nearly $9 million and actually received more than $7 million total for fiscal years 1990 through 1994.[4]

Progress Reported

According to BLS officials, because funding was reduced, BLS was only able to publish one-half of the intended number of additional service sector industries. BLS published 10 additional industries in 1991, 18 in 1992, 18 in 1993, and the final 9 in May 1994 for a total of 55 new industries and over 300 new employment, hours, and earnings data series.

Accuracy of Payroll Employment Estimates

Accuracy of payroll employment estimates is the ability of the "preliminary" monthly employment estimate, which is based on the initial returned sample reports, to be a precise and exact measure of the "final" estimate, which is produced 2 months later, after all sample reports have been received and processed.

[4]According to BLS officials, their original funding request was reduced in fiscal years after 1992. They said that their subsequent budget requests were intended to fund implementation of the recommendation at this reduced level, rather than fund the recommendation as originally envisioned.

Impetus for Recommendation

Payroll employment estimates, which BLS publishes from CES program data, are a major indicator of economic activity in the United States. According to BLS officials, sizeable differences between the preliminary and final estimates—revisions—were caused by the significant lag time under mail data collection, which resulted in the preliminary monthly estimates usually being based on only 50 percent of the sample. According to BLS officials, in recent years, revisions to payroll employment data of over 100,000 employed persons have proven unacceptable to users and clearly limited the usefulness of the data for policymaking purposes. Between 1981 and 1990, almost every year had more than 2 months revisions to payroll employment data greater than 100,000 employed persons.

Working Group's Recommendations

To improve the accuracy of BLS' preliminary monthly estimates of payroll employment, the working group focused on the adoption of automated data collection techniques. These techniques would reduce reporting time lags and thereby achieve substantial reductions in the size of the monthly revisions. The working group noted that policymakers could then be provided with timely and more accurate information on the direction of the economy.

Agency Plans

To decrease by two-thirds the number of monthly revisions to payroll employment data over 100,000 employed persons, BLS planned to introduce automated data collection techniques. To get the employment data faster, BLS planned to have all large employers with more than 50 employees and a sample of smaller employers provide information to BLS via a computer-assisted telephone interview (CATI) system and an automated Touch-Tone data entry system.

Funding Requested and Received

BLS requested slightly more than $13 million and actually received about $14 million total for fiscal years 1990 through 1994.

Progress Reported

In 1992, BLS created two new regional data collection centers to support automated data collection. BLS officials said that the conversion to automated data collection is progressing on schedule and will be fully implemented during fiscal year 1996. Due to fiscal year 1993 funding reductions, the scope of the program was temporarily reduced to a sample of only late-reporting employers with more than 50 employees, with no employers with fewer than 50 employees being included. This reduced by

nearly one-half the number of employers included in the effort from the planned 160,000 employers to 90,000. However, in fiscal year 1994, BLS received sufficient additional funding to return to the original full scope of the program.

According to BLS, this recommendation is proving highly successful with the size of monthly revisions in payroll employment currently being reduced by about 40 percent. In addition, between 1991 and May 1994, there was only one monthly revision of payroll employment that was greater than 100,000 employed persons—a 96-percent reduction compared to the average for the preceding 10-year period.

Automated Data Collection for Current Population Survey

Automated data collection for CPS involves interviewers gathering information with a computer, using an automated survey instrument rather than a printed questionnaire, as well as using improved data processing procedures.

Impetus for Recommendation

The CPS questionnaire had last been changed in 1967; since then rapid changes in the U.S. economy had generated demand for improved measures of labor force activity. Although the National Commission on Employment and Unemployment Statistics made recommendations in 1979 for improving statistical measures, no major changes were made immediately. Later, in 1986, Census and BLS convened an interagency group that developed an extensive plan to overhaul CPS during the 1990s, taking the above into account. Among other improvements, the plan included redesigning the questionnaire to take into account cognitive interview techniques and using automated collection procedures to reduce measurement error and to improve data quality.

Working Group's Recommendations

In 1991, the working group noted that CPS information was collected via printed questionnaires, and the working group recommended the use of automated data collection techniques. This recommendation aimed to improve employment estimates by permitting the administration of a more comprehensive questionnaire, introducing more efficient editing and data verification procedures during the interview, and reducing coding errors.

Agency Plans

BLS, along with Census, planned to redesign the CPS questionnaire for use by field staff on laptop and centralized computers and to better measure aspects of the population and improve the longitudinal capability of the

survey. BLS' plan included purchasing laptop computers, designing a central control system for the integrated computer-assisted interviewing network, and studying the effects of automated data collection.

Funding Requested and Received

BLS requested $5 million and actually received more than $3 million total for fiscal years 1990 through 1994.[5]

Progress Reported

Because of limited funding, BLS officials said they were only able to buy laptop computers and provide limited staff training. From July 1992 through December 1993, BLS and Census conducted a test of the new questionnaire on 12,000 households, with data collection via laptop computers. The test was conducted concurrently with the regular paper-and-pencil version of CPS to assess the differences between the two methodologies. BLS said in November 1993 that, based on the results of this test, the changes in the questionnaire and the use of automated data collection techniques may result in an increase of 0.5 percentage point in the unemployment rate from prior estimates. Beginning in January 1994, BLS began using the redesigned questionnaire as the basis for its estimates. Concurrently, it also began a test, which ran through May 1994, using printed questionnaires in 12,000 homes to continue monitoring the differences.

Reconciliation of Employment Estimates

Reconciliation of employment estimates is the process of making employment data as conceptually consistent as possible between CPS and CES.

Impetus for Recommendation

Data from CPS and CES differ from each other because of differences in definitions and coverage, sources of information, methods of collection, and estimating procedures. The two surveys supplement each other, with each survey providing significant types of labor force information that the other is not designed to supply. According to NABE, the magnitude of the differences and, occasionally, the direction of movement, have implied that the problems of reconciling differences in employment estimates extend beyond conceptual differences.

[5]According to BLS officials, their original funding request was reduced in fiscal years after 1992. They said that their subsequent budget requests were intended to fund implementation of the recommendation at this reduced level, rather than fund the recommendation as originally envisioned.

Working Group's Recommendations

The working group recommended that BLS continue its efforts to reconcile and reduce discrepancies between the employment series arising from the CPS and the CES surveys.

Agency Plans

BLS did not make specific plans for this recommendation. Officials did not regard this as a recommendation that required a separate plan, but said that it was integral to their overall efforts to improve CES and CPS.

Funding Requested and Received

BLS did not request funding for this recommendation.

Progress Reported

BLS officials said their efforts to improve CES and CPS should reduce the discrepancy in employment estimates between the two by about two-thirds. BLS officials said the discrepancy will be more fully understood as data become available from the redesigned CPS questionnaire.

Summary

A summary of the funding requested and actually received by BLS for the working group's five labor market statistics recommendations is shown in table VI.1. BLS requested about $29 million total for four recommendations for fiscal years 1990 through 1994. BLS received slightly more than $26 million for four of the labor market recommendations in fiscal years 1990 through 1994.

Table VI.1: Funding for BLS' Labor Market Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
Recommendation	**Requested**	**Actual**	**Requested**	**Actual**
Employment cost index	0	0	$350	$350
Coverage of payroll employment estimates	0	0	600	600
Accuracy of payroll employment estimates	0	0	500	500
Automated data collection for Current Population Survey	0	0	0	0
Reconciliation of employment estimates	0	0	0	0
Total	**0**	**0**	**$1,450**	**$1,450**

1992		1993		1994		1990-94	
Requested	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**
$450	$450	$450	$450	$450	$450	$1,700	$1,700
4,260	2,770	2,150	2,150	1,938	1,938	8,948	7,458
4,400	4,400	4,850	3,650	3,544	5,244	13,294	13,794
3,000	2,000	1,000	1,000	1,000	510	5,000	3,510
0	0	0	0	0	0	0	0
$12,110	**$9,620**	**$8,450**	**$7,250**	**$6,932**	**$8,142**	**$28,942**	**$26,462**

Source: BLS.

Income and Poverty Statistics Recommendations

Income and poverty statistical measures are used together to measure the economic well-being of families. A family's total money income—the sum of money wages and salaries, net income from self-employment, and income other than earnings—is compared with poverty thresholds—income levels that signify that all members of the family are poor when the family's total money income equals or falls below these levels.

The working group said that statistical measures of real family income and poverty drive political debates and influence decisions about social and welfare policies. Yet, the poverty thresholds are based on data collected in the 1950s and 1960s. Although most major statistical data series are revised every 5 years to reflect current prices, consumption, and production patterns, the concept of the official poverty thresholds has not been significantly revised since its development in the mid-1960s. The working group also noted that the official statistical measures of real family income and poverty use a version of the Consumer Price Index (CPI), which does not use the rental equivalence approach to measuring shelter services for the years before 1983, when the CPI officially converted to this methodology. In 1990, the working group charged a subgroup on income and poverty measurement to develop a process and research agenda that would review current and alternative measures of income and poverty.

Poverty Thresholds

Poverty thresholds are income cutoff levels that vary by family characteristics, such as number of children, age of householder, and family size. For example, the poverty threshold was $11,631 for a three-person family with one child in 1993 and $11,642 for one adult with two children. Families with incomes equal to or lower than the thresholds, which are updated annually for inflation, are considered poor.[1]

Impetus for Recommendation

Poverty thresholds had their origins in 1955 when the average family spent one-third of its income on food. To determine poverty thresholds for families of three or more persons, the U.S. Department of Agriculture's lowest cost food plan was multiplied by three. Experts[2] view food consumption data that underlie the thresholds as outdated. According to

[1]See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

[2]Patricia Ruggles, Drawing the Line: Alternative Poverty Measures and Their Implications for Public Policy (Washington, D.C.: The Urban Institute Press, 1990), pp. 2-3.

Patricia Ruggles, other aspects, such as family size categories and price indexes used to annually update the thresholds, are also questionable.

Working Group's Recommendations

In 1990, the working group said that the statistical measures of poverty may not be well suited to measure poverty in the 1980s or 1990s. The working group recommended that research be initiated to develop a new benchmark estimate of poverty appropriate to prices, consumption patterns, and family composition in the 1990s.

Agency Plans

In response to the working group's 1990 recommendation, the subgroup on income and poverty measurement developed a plan to address this recommendation. It was presented to the ESI working group in 1990. The poverty thresholds recommendation, however, was not included among the working group's recommendations in 1991, and Census did not develop a plan to address the recommendation.

Funding Requested and Received

Census did not request funding for this recommendation. Census officials, however, said that the plan developed by the subgroup on poverty and income measurement would have cost over $10 million for fiscal years 1992 through 1995.[3]

Progress Reported

Census officials told us that no changes or improvements were made. They said, however, that Census staff have begun limited research studies on experimental poverty thresholds.

Experimental Estimates of Income and Poverty

Experimental estimates of income and poverty are statistical measures other than those officially used to determine poverty status. This recommendation specifically addresses the inclusion of noncash benefits—such as public housing, food stamps, and government-provided

[3]Funding of $600,000 was appropriated to BLS to fund a National Academy of Sciences (NAS) panel to study the measurement of poverty; $400,000 was then forwarded from BLS to Census who contracted with NAS to conduct the study. Census officials told us that the objectives of the NAS study panel were different from those outlined by the subgroup. The NAS panel was also tasked to assess the conceptualization and measurement issues to develop a methodology to determine standards for minimum welfare benefits, for which $400,000 was appropriated to the U.S. Department of Health and Human Services. The total contract was $800,000 for both studies on poverty measurement and the development of methodologies for standards for minimum welfare benefits. A report from the panel was due in 1994; it was released April 30, 1995. See Constance F. Citro and Robert T. Michael, eds., Measuring Poverty: A New Approach, Committee on National Statistics, National Research Council (Washington, D.C.: National Academy Press, 1995).

health care—as income, and annual adjustments of income and poverty levels with CPI-U-X1.[4]

Impetus for Recommendation

The determination of poverty is based solely on money income. Poverty determination does not reflect the fact that many low-income persons receive noncash benefits. And, until 1989, it did not adjust the thresholds with CPI-U-X1 for the years before CPI-U-X1's official use in 1983. According to the National Association of Business Economists' (NABE) Statistics Committee,[5] the absence of these adjustments, as well as other problems, make the measurement of poverty subject to significant error.

Working Group's Recommendations

In 1990, the working group recommended that experimental estimates of real family income and poverty, which use CPI-U-X1 consistently across all years, be published alongside the official estimates. These experimental estimates were to be published until the poverty thresholds were revised. (See poverty thresholds recommendation above.) The working group also recommended the continued publication of experimental estimates of real income and poverty that include noncash benefits. These were to be published in the same report as the official estimates.

Agency Plans

Census did not make any plans because it was already publishing the experimental estimates. In 1989, Census began publishing poverty estimates and trend data of estimates of family income that use CPI-U-X1. Census continues to publish these estimates of family income and poverty that are adjusted with CPI-U-X1. Also, Census is publishing income and poverty estimates with noncash benefits, as directed by the U.S. Senate in 1980.[6]

[4]CPI-U-X1 is an experimental CPI that BLS developed for researchers who wish to make historical comparisons with the current CPI, which uses the rental equivalence approach to measuring shelter services. Prior to 1983, the measurement of homeowner costs in CPI included changes in the asset value of homes. The rental equivalence approach isolates the consumption from the investment aspects of homeownership.

[5]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of NABE's Statistics Committee.

[6]Department of State, Justice, and Commerce, The Judiciary and Related Agencies Appropriation Bill, 1981. U.S. Senate, 96th Congress, 2nd Session. (Sept. 16, 1980), pp. 33-34.

Funding Requested and Received

Census did not request funds for this recommendation since it was already publishing experimental estimates of income and poverty.

Progress Reported

Census officials said that Census was publishing its experimental estimates before the working group made its recommendations. Although the experimental estimates of family income, which are adjusted with CPI-U-X1, have been published alongside the official family income estimates, the experimental family income and poverty estimates that include noncash benefits and the experimental poverty estimates that are adjusted with CPI-U-X1, have been published separately from the official estimates of poverty.

Summary

As shown in table VII.1, Census did not request funds for either the income or poverty statistics recommendations.

Table VII.1: Funding for Census' Income and Poverty Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
Recommendation	**Requested**	**Actual**	**Requested**	**Actual**
Poverty thresholds[a]	0	0	0	0
Experimental estimates of income and poverty	0	0	0	0
Total	**0**	**0**	**0**	**0**

1992		1993		1994		1990-94	
Requested	Actual	Requested	Actual	Requested	Actual	Requested	Actual
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**

[a]This recommendation was dropped following a working group meeting held after July 1990. A portion of the work envisioned by a subgroup on income and poverty was funded separately through a $600,000 appropriation to BLS. BLS then passed $400,00 to Census who then contracted with the National Academy of Sciences to organize a study panel on the measurement of poverty.

Source: Census.

International Transactions Statistics Recommendations

International transactions statistics are measures that provide information about the economic transactions between the residents of different nations. For example, the U.S. current account reports the transactions of goods, services, investment income, and unilateral transfers between residents of the United States and residents of the rest of the world during a particular period.

The working group placed the need for improving international transactions statistics in a similar context as improvements needed for service sector statistics and the National Income and Product Accounts (NIPA). The working group noted in 1990 that U.S. merchandise trade statistical measures had improved, and Census had resumed seasonal adjustment of its monthly trade data. According to the working group, however, additional information was required as international trade gained importance in the economy. The working group made several recommendations to address issues in the international economic accounts and to make improvements in import and export data.

Trade in Services

Trade in services refers to economic transactions in transportation, travel, and other business, personal, and government services between the residents of the United States and the residents of the rest of the world.

Impetus for Recommendation

According to F. Thomas Juster, Chairperson of the American Economic Association Committee on the Quality of Economic Statistics, data on international transactions in services were inadequate in 1988.[1] In 1989, the U.S. Office of Technology Assessment (OTA) reported that services produced by a firm's foreign subsidiaries are particularly difficult to value, especially as more firms conduct more of their business internationally.[2]

Working Group's Recommendations

In 1990, the working group noted the improvements that had been made in estimates of trade in services and recommended the acceleration of additional improvements. The working group stated that additional accuracy and detail on trade in services would be valuable for trade policy discussions. Following the work plan developed by the subgroup on

[1]F. Thomas Juster, "The State of U.S. Economic Statistics: Current and Prospective Quality, Policy Needs, and Resources," (Paper prepared for the 50th anniversary conference, Conference on Research in Income and Wealth, Washington, D.C.: May 12-14, 1988).

[2]Statistical Needs for a Changing U.S. Economy, Background Paper, U.S. Office of Technology Assessment, Pub. No. OTA-BP-E-58 (Sept. 1989), p. 20.

service-sector statistics, in 1991, the working group specifically recommended that the Bureau of Economic Analysis (BEA) undertake surveys of bank and nonbank financial institutions' noninterest service income and improve its survey of international trade in other services.

Agency Plans

BEA planned to (1) develop and conduct a new survey of financial services to estimate noninterest income for U.S. and foreign banks and nonbank financial institutions, (2) strengthen methodologies to estimate several types of services for which survey data are incomplete or not available, and (3) in conjunction with Census, develop monthly estimates of trade in goods and services.

Funding Requested and Received

For both of the recommendations to improve balance of payments and international investment data, which included the trade in services and international investment and capital flows recommendations, BEA requested more than $7 million and actually received slightly more than $3 million total for fiscal years 1990 through 1994.[3]

Progress Reported

BEA officials said that because they did not get the requested funding, BEA was unable to conduct a new survey of financial services to estimate noninterest income for U.S. and foreign banks and nonbank financial institutions. BEA noted, however, that a draft of a questionnaire for a financial services survey is under review by data users and financial services respondents. According to BEA officials, the only improvement BEA actually attempted in the area of noninterest income financial services was asking nonbank financial service firms to report information such as underwriting and commissions fees on existing surveys. BEA officials said this effort was not very successful.[4]

BEA, however, has made other methodological improvements for estimating some services. BEA reported that it

- began using Mexico's and Canada's data on travel payments and receipts,

[3]BEA officials provided combined budget information for the two recommendations.

[4]In subsequent comments, BEA officials said that the reprogramming of existing activities permitted BEA to develop a benchmark survey of financial services performed by bank and nonbank institutions. The survey covered receipts and payments in 10 separate types of financial services, the results of which will be incorporated into the accounts when they become available. The results will permit BEA to improve its estimates of noninterest income received and paid by bank and nonbank institutions. BEA is now in the process of designing an annual follow-on survey to the benchmark survey.

- introduced estimates for international cruise transactions in the North American market and for collecting information on interline settlements (i.e., the amounts foreign airlines pay to U.S. airlines when passengers purchasing tickets on foreign airlines must transfer to a U.S. airline to reach their final destination),
- improved its methodology for estimating U.S. rail carriers' revenues for transporting foreign-owned goods shipped in transit through the United States to be reexported to their final destination,
- showed the quarterly balance on goods and services as a separate line item, and
- added several international services categories to the annual services survey and increased the coverage of the annual and benchmark surveys of selected services transactions with unaffiliated foreigners by lowering the threshold for mandatory reporting.[5]

BEA also developed monthly estimates of international services that were included in a new BEA and Census monthly release on goods and services.

International Investment and Capital Flows

International investment is purchasing the ownership of assets—such as securities; businesses; titles to land, buildings, or equipment; and bank deposits—in a foreign country by a private individual, business, institution, or government. It also may be thought of as the export of capital from one country to another. International capital flows occur when residents in one country (the capital exporters) extend loans to, or purchase the title to assets from the residents of another country (the capital importers). Such flows of capital compose the U.S. capital account. The capital and current accounts together constitute the U.S. balance of payments, which is the statistical summary of all the country's international transactions.[6]

Impetus for Recommendation

According to the National Academy of Sciences (NAS), of all the U.S. international economic transactions, international investment and capital flows statistical measures are most subject to errors and gaps. NAS notes that although the United States collects much detailed information on its capital flows with the rest of the world, the "explosion in direct and

[5]For the agency plan for this improvement, see data gaps recommendation in appendix III.

[6]See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

portfolio investments[7] across U.S. national boundaries in the 1980s outpaced improvements in the statistical system that monitors them."[8]

According to the National Association of Business Economists' (NABE) Statistics Committee,[9] the system's inability to adequately measure the rapid pace of financial innovations and increasing integration of world capital markets has resulted in large discrepancies in the U.S. balance of payments. This discrepancy occurs when the balance of the current account is not offset by the balance of the capital account. For example, the NABE committee noted that the statistical discrepancy between the current and capital account was $50 billion for the first 6 months of 1990.

Working Group's Recommendations

In 1990, the working group recommended using market values or replacement cost rather than historical cost to estimate direct investments. As well as being an important conceptual improvement, the working group said that the change was necessary for consistency with other parts of the national accounts. The working group noted that efforts should be made to improve compliance with reporting requirements for BEA's direct investment survey. The working group also recommended that problems with the measurement of international portfolio investment and other capital flows be addressed.

In 1991, the working group again recognized the difficulty that the U.S. statistical system was having in keeping up with the volume of transactions in the integrated world capital markets. The working group recommended the improvement of coverage of capital flows and investment income. Such improvements would help reduce the large statistical discrepancy in the international payments accounts.[10]

[7]Portfolio investments are investments in financial markets; direct investments are investments in foreign businesses where the investor has a controlling interest. For more detailed definitions, see the glossary.

[8]Anne Y. Kester, ed., Behind the Numbers: U.S. Trade in the World Economy, Panel on Foreign Trade Statistics, Committee on National Statistics, National Research Council (Washington, D.C.: 1992), p. 156.

[9]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of NABE's Statistics Committee.

[10]Unlike the 1990 recommendations, the 1991 recommendations did not address the problems of direct investment valuation or compliance with the direct investment survey. However, BEA's plans for implementing the international investment and capital flows recommendation addressed both of these problems.

Agency Plans

BEA planned several improvements to the data on international investment and capital flows. BEA's plans included (1) expanding and improving the data collection system on foreign direct investment in the United States, which included efforts to link data with Census (see business establishment lists - Census and BEA recommendation in app. III); (2) improving methodologies for estimating direct investment capital flows from firms that do not report or are exempt from reporting; (3) changing from estimating direct investment on a historical-cost basis to a current replacement-cost and market value basis as part of its revision of the international economic accounts; (4) updating and improving its methodologies for estimating several types of capital-related income flows for portfolio investment; and (5) working with the Department of the Treasury to conduct a new benchmark survey of U.S. portfolio investment abroad.

Funding Requested and Received

For both of the recommendations to improve balance of payments and international investment data, which included the international investment and capital flows and trade in services recommendations, BEA requested more than $7 million and actually received slightly more than $3 million total for fiscal years 1990 through 1994.[11]

Progress Reported

Despite the lack of full funding, BEA officials said that they made numerous and significant improvements in areas where there were severe gaps in coverage. The following are the improvements BEA officials said the agency made in balance of payments and international investment data. BEA officials said that BEA

- improved coverage of U.S. holdings in foreign banks by using banking data from the United Kingdom, Canada, Netherlands, Germany, France, Italy, U.S.-owned banks in the Caribbean, and the Bank for International Settlements; [12]
- with funding to implement provisions specified in the Foreign Direct Investment and International Financial Data Improvements Act of 1990 (P.L. 101-533), linked its data on foreign-owned companies with Census and BLS data on U.S. plants and expanded the number of industries for foreign-owned companies from 135 to 800; (also, see business establishment lists - Census and BEA recommendation in app. III.)

[11]BEA officials provided combined budget information for the two recommendations.

[12]For the agency plan for this improvement, see data gaps recommendation in appendix III.

- introduced improved estimates of personal remittances by immigrants;[13]
- improved estimation methodologies for portfolio investment income;
- improved its procedures for following up on late respondents to the foreign direct investment surveys, which helped improve data quality by restoring the compliance rate for large firms to the previous levels after declines in 1987 and 1988;
- revalued the U.S. international investment position from a historical-cost to both a market-value and a replacement-cost basis;
- estimated earnings on a replacement-cost basis through the introduction of a capital consumption adjustment and removal of capital gains;
- improved estimates of portfolio capital flows to capture data on transactions between U.S. pension and mutual funds and foreign residents;
- provided funding for and assisted in the design of Treasury's benchmark survey of U.S. portfolio investment abroad for March 1994;[14]
- developed new methodologies for estimating some components of portfolio investment income, which corrected much of the underestimation of these components that previously existed; also, reported that until the outbound portfolio investment benchmark survey is completed, country and area investment position estimates will continue to contain significant errors;[15] and
- expedited the completion of Treasury's benchmark survey of foreign portfolio investment in the United States.

Reconciliation of Import and Export Data

Reconciliation of import and export data is the process of identifying and quantifying the reasons for discrepancies between the bilateral trade statistics published by the United States and its trading partners.

Impetus for Recommendation

According to Census officials, as a result of tariffs and quotas, import data are collected more carefully than export data. The officials noted, however, that the accuracy of import data may diminish as the United States moves toward free trade with other nations.

[13]For the agency plan for this improvement, see data gaps recommendation in appendix III.

[14]BEA officials said that the benchmark survey of portfolio investment abroad was not begun in 1993 because of the lack of funding and, in part, was delayed to comply with respondents' requests that it be conducted 3 months after the end of the year.

[15]For the agency plan for this improvement, see data gaps recommendation in appendix III.

Working Group's Recommendations

Recognizing the effort to reconcile Canadian import data with U.S. export data, which it found to yield cost savings and an improvement in accuracy, the working group recommended the extension of efforts to reconcile import and export data with Mexico, the European Community, South Korea, and Japan.

Agency Plans

On the basis of the success of reconciling international trade data with Canada, Census proposed doing similar reconciliations with other countries, including Mexico, the European Community, South Korea, Australia, and Japan.

Funding Requested and Received

For all four recommendations for improvements to foreign trade statistics, which included the reconciliation of import and export data, automation of import and export data, merchandise exports model, and access to trade data recommendations, Census requested more than $1 million total for fiscal years 1990 through 1994, but no funds were received.[16]

Progress Reported

Census officials said that they have completed reconciliations on 1989 and 1990 data with Japan, 1989 and 1991 data with South Korea, 1989 data with the European Community, and 1991 data with Australia. Census is still working on initial reconciliations with Mexico and China and is continuing its reconciliation efforts with Japan, Korea, Australia, and the European Union for 1992 data.

Automation of Export and Import Data

Automation of export and import data involves gathering data electronically, which allows flexibility for data users without an increase in respondent burden.

Impetus for Recommendation

The automation of import data began in 1983 when the U.S. Customs Service, Department of the Treasury, began the implementation of its Automated Commercial System (ACS). ACS allows importers to submit information, including statistical information, electronically to Customs. Census began receiving export data on magnetic tape from exporters in the early 1970s. By 1989, 70 percent of import transactions and 15 percent of export data were received electronically. Census believed that the automation of import and export transactions helped it process import

[16]Census officials provided combined budget information for the four recommendations.

and export data more efficiently. To further increase efficiency, Census wanted to increase the percentage of import and export transactions received electronically.

Working Group's Recommendations

In 1990, the working group noted that increased automation and other improvements reduced the monthly carryover of unprocessed data from 44 percent of imports in 1985 to less than 1 percent in 1988. This reduction allowed the resumption of seasonal adjustment of the trade data. The working group recommended the continuation of efforts to increase automation of export and import data collection.

Agency Plans

In 1990, plans were already in place for automating export and import data. Census had an ongoing automated program for export data, and Customs had an ongoing automated program for import data. Census continued to encourage and work with exporters to bring them into Census' Automated Export Reporting Program.

Funding Requested and Received

For all four recommendations for improvements to foreign trade statistics, which included the automation of export and import data, reconciliation of import and export data, merchandise exports model, and access to trade data recommendations, Census requested more than $1 million total for fiscal years 1990 through 1994,[17] but no funds were received.[18]

Progress Reported

Customs is currently developing, with Census participation, an automated export system which, if implemented, will replace Census' automated and manual collection systems.[19]

Merchandise Exports Model

The merchandise exports model is the design and manipulation of a mathematical representation that simulates the export of merchandise so

[17]Census officials provided combined budget information for the four recommendations.

[18]Funding for Customs' ongoing automated program is not included because Customs does not have a budget for statistical activities, and therefore did not request ESI funding for this recommendation.

[19]According to Census, over 95 percent of imports are now captured via direct automated submissions into Customs' Automated Commercial System. Over 55 percent of export transactions are collected through automated means; approximately 30 percent are collected through an automated data exchange with Canada, and another 25 percent are collected directly from large automated exporters and freight forwarders.

that the effect of various international changes can be studied and forecast.

Impetus for Recommendation

For years, U.S. exports to other countries were undercounted. In a 1988 study, the Federal Reserve Bank of St. Louis estimated that U.S. merchandise exports had been undercounted throughout the period 1960 through 1986.[20] Census officials said that, based on analyses of total international databases maintained by the United Nations and Statistics Canada, all exports appear to be understated to some extent. Census has attributed the undercount mainly to exporters failing to properly file export documents with Customs. Customs does not strictly enforce requirements that exporters submit documents accurately describing the type, value, and destination of the goods that are exported. Consequently, exporters have little incentive to report their shipments accurately, or at all.

Working Group's Recommendations

In 1991, the working group noted that reasonably good estimates of imports are available because of the revenue-generating aspect of merchandise imports. Merchandise exports, however, may have systematic understatement of value, in part, because exporters want to reduce import duties for their customers. The working group recommended the development of a model to adjust for such understatements of exports, as well as other improvements in the measurement of exports.

Agency Plans

According to a Census official, the plan for this recommendation had two aspects. The first was to develop a database of exporters that would allow Census to identify and contact exporters who consistently submitted inaccurate export declarations. Census would construct the database by matching the employer identification number that appears on the export declaration with the list of employers that Census uses for its economic censuses. Census officials said they thought the database could be used to sample and survey exporters in lieu of collecting information from export declarations, if a decision were to be made to switch to surveys for export data collection.

[20]Mack Ott, "Have U.S. Exports Been Larger Than Reported?" Federal Reserve Bank of St. Louis, (Sept./Oct. 1988), p. 3.

The second component of this plan was to continue to conduct a series of port audits that Census could use to estimate the extent of the export undercount as well as the undervaluation of exports. The audits would consist of checking a sample of export declarations against actual shipments. Census planned to do audits at seaports and land ports on the Mexican border.

Funding Requested and Received

For all four recommendations for improvements to foreign trade statistics, which included the merchandise exports model, reconciliation of import and export data, automation of import and export data, and access to trade recommendations, Census requested more than $1 million total for fiscal years 1990 through 1994, but no funds were received.[21]

Progress Reported

According to Census officials, the exporter database is completed; however, it needs to be updated periodically. A Census official said that exporters who had consistently submitted inaccurate data now have an average of 20 percent fewer mistakes on their declarations. The database has also allowed Census to produce more detailed breakouts of export data.

According to Census, no port audits were done after 1989 because of lack of funding.

Access to Trade Data

Access to trade data is providing to users a means to obtain information about the economic transactions between the residents of different nations.

Impetus for Recommendation

Congress established the National Trade Data Bank (NTDB) in the Omnibus Trade and Competitiveness Act of 1988. The impetus for the Act was in part a concern that trade and foreign economic data were available from many sources, but were not easily available to prospective users. NTDB was to be the focus of foreign economic and trade data held by the federal government. NTDB consolidates trade information from 15 agencies. The

[21]Census officials provided combined budget information for the four recommendations.

Office of Business Analysis, U.S. Department of Commerce, developed NTDB. It sells information from NTDB to businesses and trade analysts.[22]

Working Group's Recommendations

In 1990, the working group recommended increasing the ease of access to trade data.

Agency Plans

Census planned to continue its program of improving its data products, such as releasing data on CD-ROM.

Funding Requested and Received

For all four recommendations for improvements to foreign trade statistics, which included the access to trade data, reconciliation of import and export data, automation of import and export data, and merchandise exports model recommendations, Census requested more than $1 million total for fiscal years 1990 through 1994, but no funds were received.[23]

Progress Reported

Census expanded the availability of its data products on CD-ROM, which was introduced in 1989, and through electronic bulletin boards.

International Guidelines for Economic Accounts

International guidelines for economic accounts are standards developed by the International Monetary Fund (IMF) for balance of payments accounting.

Impetus for Recommendation

IMF planned to revise its manual for balance of payments accounts.[24] To maintain their consistency with the accounts of other nations, the U.S. balance of payments accounts needed to be revised to incorporate major changes included in the new IMF manual.

Working Group's Recommendations

In 1991, the working group recommended the modernization and extension of the international economic accounts to follow IMF's new guidelines, which were to be introduced in 1993 and 1994. The principal

[22]We reported in 1991 that NTDB provides considerable information to many users; however, we also recommended that access to trade data could be further improved by adding more databases to NTDB. See Trade and Economic Data: Many Federal Agencies Collect and Disseminate Information (GAO/NSIAD-91-173, May 1, 1991).

[23]Census officials provided combined budget information for the four recommendations.

[24]International Monetary Fund, Balance of Payments Manual, 5th ed. (Washington, D.C.: 1993).

features of the new IMF guidelines were (1) an integrated set of current and capital accounts, including balance sheets, and (2) new detail in several policy-oriented and analytically significant areas.

Agency Plans

BEA planned to move toward making U.S. balance of payments accounts consistent with the guidelines in IMF's recently published fifth edition of the balance of payments manual over the next several years. Initially, its work would involve evaluating the guidelines and then developing plans to adapt the guidelines to the U.S. international transactions system. To achieve consistency with the revised IMF manual, BEA's plan noted that the United States would need to introduce a fully integrated system of stocks and flows and a far more detailed set of accounts for travel, transportation, construction, insurance, finance, other business services, and other personal services.

Funding Requested and Received

BEA requested $1 million total for fiscal years 1990 through 1994 for this recommendation, but received no funding.

Progress Reported

Because BEA received no funding for this recommendation, it has not yet fully conformed the U.S. international economic accounts to the guidelines in the fifth edition of the IMF balance of payments manual issued in 1993. Even so, in June 1992, BEA implemented several methodological and presentational changes in its U.S. international economic accounts that were consistent with both the fourth and fifth editions of the IMF's manual. No progress was made on developing new source data needed to fully conform with the fifth edition of the IMF's manual. BEA removed capital gains and losses and restated various categories of services on a gross basis. According to BEA, these improvements increase consistency between the U.S. national and international accounts and between the U.S. international accounts and the accounts of other nations.

Summary

A summary of the funding requested and actually received by BEA and Census for the working group's seven international transactions statistics recommendations is shown in table VIII.1. These agencies requested $10 million total for the seven recommendations for fiscal years 1990 through 1994. BEA received slightly more than $3 million for the trade in services recommendation and the international investment and capital flows recommendation for fiscal years 1990 through 1994; Census received no funds.

Table VIII.1: Funding for International Transactions Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
	Requested	Actual	Requested	Actual
Trade in services[a]	0	0	$3,500	$2,600
International investment and capital flows[a]				
Reconciliation of import and export data[b]	0	0	500	0
Automation of import and export data[b]				
Merchandise exports model[b]				
Access to trade data[b]				
International guidelines for economic accounts	0	0	0	0
Total	**0**	**0**	**$4,000**	**$2,600**

1992		1993		1994		1990-94	
Requested	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**	**Requested**	**Actual**
$1,800	$500	$1,300	0	$1,000	0	$7,600	$3,100
400	0	500	0	0	0	1,400	0
500	0	500	0	0	0	1,000	0
$2,700	**$500**	**$2,300**	**0**	**$1,000**	**0**	**$10,000[c]**	**$3,100**

[a]BEA combined these two recommendations into one budget request to improve balance of payments and international investment data.

[b]Census combined these four recommendations into one budget request to improve foreign trade statistics.

[c]Total request includes $2,300,000 in reinstated requests, that is, funding that was not received in prior years.

Sources: BEA, Census.

Systemwide Statistics Recommendations

Not all statistical measurement problems can be solved solely by one statistical agency. Sharing and coordinating statistical data among statistical agencies is needed when many economic sectors are linked in an expanding economy. The systemwide statistics recommendations are improvements that require statistical agencies to seek cooperative solutions and reach outside their specific agencies.

Although some professional groups, such as the American Economic Association (AEA) and the National Association of Business Economists (NABE), as well as the U.S. Office of Technology Assessment (OTA), have identified problems associated with the decentralized U.S. statistical system, the working group did not directly address the organization of the current federal statistical system or the long-run future needs of the statistical system.[1] Instead, the working group identified areas that could be addressed by multiple agencies in a timely manner, including linking survey data with administrative data, eliminating data duplication, cooperating with academic researchers, and creating an academic program to train top quality professionals in the field.

Survey of Income and Program Participation

The Survey of Income and Program Participation (SIPP) provides data that can be used to study socioeconomic characteristics of the population. It also provides comprehensive information on the economic resources of the U.S. population and how public transfer and tax programs affect the financial circumstances of members of the population. SIPP is intended to provide policymakers with a means to measure the efficiency of government tax and transfer programs, for estimating future program costs and coverage, and for assessing the effects of proposed policy changes.[2]

Impetus for Recommendation

According to the NABE Statistics Committee,[3] administrative records could be used to increase SIPP's sampling efficiency, validate survey data, and supplement SIPP data with administrative data for items that are difficult to obtain through a survey.

[1]A subgroup was formed to examine alternative organizational structures for the federal statistical system. However, this issue was not included among the recommendations.

[2]See the glossary for definitions and descriptions of technical terms and phrases that are used throughout this appendix.

[3]Improving Federal Statistics: Hearings Before the Joint Economic Committee of Congress of the United States. 102nd Cong., 1st Sess., pp. 67-127 (1991) (statement by Martin Fleming, Chairperson of the National Association of Business Economists' Statistics Committee). The statement reflects the views of NABE's Statistics Committee.

Working Group's Recommendations

The working group recognized that microeconomic data needed to be supplemented with administrative data to develop a better understanding of the dynamics of the behavior of individuals. In 1990, the working group stated that the value of the research information in SIPP would be greatly increased if it were carefully linked with administrative records. Recognizing the importance of confidentiality, the working group recommended that all avenues be explored to provide such a linkage.

Agency Plans

Census did not make plans for this recommendation since this was an ongoing effort when it was announced in 1990.

Funding Requested and Received

No funds were requested since Census was already linking SIPP with administrative data.

Progress Reported

Census officials said that SIPP data is being linked with (1) IRS tax records, (2) food stamps administrative data, (3) Aid to Families with Dependent Children data, (4) BLS employment and wage data, (5) social security administrative data, (6) civil service retirement data, (7) Veteran's Administration data, and (8) Pell grant records. Another Census effort, known as the Milwaukee cognitive study, is an experimental survey to replicate SIPP. It links the experimental survey's responses with administrative data to assess the experimental survey's quality. Comparing the two sets of data has allowed Census to determine which survey provides the most accurate response.

Census officials said that they safeguard confidentiality through data sharing agreements. Documents of the agreements between Census and SSA indicate that administrative data are to be available only to persons allowed by Census to have access to confidential data.

Standard Industrial Classification

The standard industrial classification (SIC) system is a federally designed system classifying establishments by industry. Establishments are allocated into categories according to their principal economic activity.

Impetus for Recommendation

OTA reported that the output of emerging industries, which experience extraordinary growth, cannot be tracked because they are not separately

identified by the SIC system.[4] Instead, their growth is lumped into broad categories that obscure the source of the change. Even though the SIC system was revised in 1987, OTA reported that problems still exist. For example, one category combines all sizes of computers, from minicomputers to mainframes, while output of established industries such as footwear is broken down into several categories. Although attempts to retain consistency over time are important, OTA reported that additional detail for large and growing industries seems warranted.

Working Group's Recommendations

Recognizing rapid changes in industries and growth of new industries, in 1991, the working group recommended funding to ensure that the SIC system keeps track of emerging industries and to develop innovative classification methods to keep up with the rapid changes occurring across all industries.

Agency Plans

Census officials said that they planned to begin research on methods of identifying new industries, the reasons behind companies switching industry codes, and structural changes affecting the SIC system. Census also planned to hold an international conference to address the issue of a future SIC system.

BEA officials said that they, in conjunction with other federal agencies, made plans for this recommendation following Census' international conference, which served as the impetus for an OMB-directed mandate to restructure the SIC system. BEA, as the lead agency for OMB's Economic Classification Policy Committee (ECPC), which was chartered in 1993, planned with BLS and Census to develop and implement a new SIC system. The North American Industry Classification System (NAICS), which will provide a common production-oriented industry classification system for the United States, Canada, and Mexico, was planned to replace the current SIC system in the late-1990s.

Funding Requested and Received

Census requested and received $100,000 total for fiscal years 1990 through 1994 for this recommendation. BEA officials said that BEA requested funding for this recommendation under the data gaps recommendation (see app. III).

[4]Statistical Needs for a Changing U.S. Economy, Background Paper, U.S. Office of Technology Assessment, Pub. No. OTA-BP-E-58 (Sept. 1989), p. 13.

Progress Reported

Census began research on methods of identifying new industries, reasons behind companies switching industry codes, and structural changes affecting the SIC system. In fiscal year 1991, Census also held an international conference to address the issue of a future SIC system. Census officials said they conducted research on alternative classification systems and their use, continued with existing SIC system research, and implemented research results for the 1992 Economic Censuses.

BEA officials said that ECPC prepared and circulated issue papers on various aspects of economic classification systems. ECPC also carried out an independent evaluation of U.S. industries to assess whether industries in the current SIC system met the conditions for inclusion in the new NAICS. In July 1994, ECPC requested comments on various aspects of developing and implementing NAICS.

Farm Lists

The census of agriculture collects information on farms through mailed questionnaires. To conduct the census, a list of names and addresses of agricultural operations is compiled before the questionnaires are mailed.[5]

Impetus for Recommendation

Three agencies in different departments maintain lists of farming operations. The U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) maintains a farm list and an area agricultural sampling frame for the United States. According to NASS, the quality of a farm list can be measured in currency, completeness, lack of duplication, and coverage. In the early 1990s, NASS sampling frame covered 80 percent of all land in farms. Census also maintains a listing of farms in the United States. Census uses its list, NASS' list, and the list of farm tax filers from the U.S. Department of the Treasury's IRS to compile the list used to conduct Census' quinquennial census of agriculture.

Working Group's Recommendations

In 1991, the working group noted that only about 90 percent of actual farms are included in the census of agriculture; small farms are undercounted and other sizes are overcounted. The working group also noted that a large number of nonfarm establishments are also included in the census of agriculture. The working group recommended support to NASS for a more complete and accurate farm list for the 1992 Census of Agriculture.

[5]For more information on how the census of agriculture is conducted, see Federal Data Collection: Status of 1992 Agriculture and Economic Censuses and Future Challenges (GAO/GGD-93-152BR, Sept. 23, 1993).

Agency Plans

In fiscal year 1991, NASS planned to enhance its list of farm operators, including small farms, by improving the coverage and quality of its list for commodity estimating programs. In fiscal year 1992, NASS planned to update and improve its list and area agricultural frames to meet new data needs. These needs included environmental concerns relating to water quality and food safety, agricultural labor, and specialty commodities. NASS also planned to enhance its list for compilation of Census' farm list used in the census of agriculture. As part of a cyclical improvement plan, designed to match the 5-year census cycle, NASS planned in fiscal year 1993 to maximize coverage for cropland, livestock inventories, and specialty commodities. In fiscal year 1994, NASS planned to increase coverage for specific commodities by geographic area.

Funding Requested and Received

NASS requested about $5 million and actually received slightly more than $2 million total for fiscal years 1990 through 1994 for this recommendation.

Progress Reported

NASS officials said that their efforts improved its farm list by increasing coverage for the number of farm operations. Also, duplicate operations were removed from the list. The officials said that more complete and accurate lists increased sampling efficiency, which improves data quality and lowers survey costs. In the fall of 1991, NASS provided its improved farm list to Census for the development of the 1992 Census of Agriculture list. In the spring of 1992, NASS provided updates, additions, and deletions to the list previously provided to Census. NASS officials said that fiscal year 1993 efforts resulted in obtaining list information for large and specialized operations, which are expected to remain in business over the long term.

Business Establishment Lists-Census and BLS

Business establishment lists are directories of businesses maintained by statistical agencies, which are used when the agencies survey establishments to obtain information about their business practices.

Impetus for Recommendation

For their survey programs, Census and BLS maintain separate lists of business establishments. In 1987, the Working Group on the Quality of Economic Statistics to the Economic Policy Council recommended that legislation be submitted to permit Census to disclose business identification and classification information to specified statistical agencies. The 1987 working group also recommended that BLS serve as the

agency in charge of compiling a common business establishment list. The 1987 working group said that coverage of the lists, as well as the quality and comparability of statistics, would improve if legislative and administrative barriers to sharing lists were removed. In 1989, OTA reported that these efforts were stymied by a lack of legislation to amend the confidentiality law allowing BLS access to Census data. BLS officials said that the failure to establish a common list was not only due to a lack of legislation, but because Census determined it needed to maintain its own separate list. Census officials said that to move ahead with data-list sharing, legislative and regulatory changes affecting both Census and BLS, and IRS for tax data, are needed. In their view, sharing is a critical first step in developing a common list. This is because BLS and Census lists need to be compared and evaluated to determine their strengths and weaknesses relative to what may be different agency needs.

Working Group's Recommendations

Although the uses are not entirely identical, the working group noted that the maintenance of two separate establishment lists by Census and BLS results in substantial duplication of effort. According to the working group, the first step toward reconciling the two lists was to take place in 1991, when it recommended new research to expand these efforts to other sectors. The working group also recommended that the differences in the information requirements imposed by Census and BLS be addressed.

Agency Plans

Census officials said that while full data sharing would require a change in legislation, they pursued more opportunities for using BLS information.

BLS officials said they planned to improve its Business Establishment List (BEL). BLS officials said that an improved BEL would generally improve BLS' survey programs and thereby result in improved BLS data. For this recommendation, BLS planned to obtain better information on small employers and improve BLS' codes of business establishments. BLS' plan also called for conducting long-term longitudinal studies to track trends, such as comparison of employment growth rates for small and large employers.

Funding Requested and Received

BLS requested nearly $2 million total for fiscal years 1990 through 1994 for this recommendation, but received $500,000.[6]

[6]According to BLS officials, their original funding request was reduced in fiscal years after 1992. They said that their subsequent budget requests were intended to fund implementation of the recommendation at this reduced level, rather than fund the recommendation as originally envisioned.

Progress Reported

Census officials said that beginning in 1991 it began using BLS codes to classify previously unclassified and partially classified manufacturing records.[7] BLS officials said that it made selected technical improvements, which included improved coding of selected establishments, installation of exportable computer systems, and purchase of equipment.

Cooperation

With respect to improving the quality and relevance of statistical measures, this recommendation proposes the cooperation, or the action of statistical agencies—Census, BEA, and BLS—and academic users, to work together, and through joint efforts develop and expand upon concepts and definitions of statistical measures.

Impetus for Recommendation

According to F. Thomas Juster, Chairperson of the AEA Committee on the Quality of Economic Statistics,[8] the quality and relevance of statistical measures depends on an active research and development program. In lieu of funding such efforts in the statistical agencies, Juster reported that the development of strong linkages between the agencies and academic users could possibly be the most important factor in improving statistical measures.

Working Group's Recommendations

In 1990, the working group reported that better measurement concepts and definitions were potentially some of the most important improvements that could be made and recommended that Census, BEA, and BLS expand, accelerate, and coordinate their efforts in improving measurement concepts and definitions. To achieve this outcome, the working group recommended that statistical establishments increase cooperation with academic researchers.

Agency Plans

Census officials said they planned to continue to promote the availability of the Longitudinal Research Database (LRD) to qualified researchers through their Center for Economic Studies.[9]

[7]Census officials said that they participated in an interagency task force that recommended the removal of legal barriers to sharing business information. (See elsewhere in this app.)

[8]F. Thomas Juster, "The State of U.S. Economic Statistics: Current and Prospective Quality, Policy Needs, and Resources," (Paper prepared for the 50th anniversary conference, Conference on Research in Income and Wealth, Washington, D.C.: May 12-14, 1988).

[9]BLS officials said that they participated in an interagency task force that established a framework, which was not formally part of ESI, to take action to implement this recommendation. (See elsewhere in this app.)

Funding Requested and Received

No funds were requested for this recommendation.[10]

Progress Reported

In addition to promoting the availability of LRD, Census' Center for Economic Studies expanded the scope of LRD and developed plans for the Research Data Center (RDC). RDC, which opened in January 1994 at Census' Regional Office in Boston, provides access to Census' economic microdata to qualified researchers. In addition, researchers played an active role in the international conference on the SIC system and continue to be active participants in the Census Advisory Committee of Professional Associations.[11]

Mandatory Vs. Voluntary Surveys

In mandatory surveys, respondents are obligated or authoritatively ordered to complete a survey questionnaire. In voluntary surveys, respondents are not obligated to complete a survey questionnaire; they have a free choice to answer a survey or not.

Impetus for Recommendation

According to the NABE Statistics Committee, the tradition of a low response rate for voluntary surveys has resulted in the consideration of mandatory surveys. NABE said, however, that compliance costs may be high for businesses that do not have staff available to respond to mandatory surveys. According to Census officials, all of their censuses and virtually all annual surveys are mandatory, as well as a few of lesser frequency. However, none of the important monthly economic indicator series are mandatory. According to OMB officials, a large number of the federal surveys with the highest response rates are voluntary surveys, in part, because the voluntary nature forces the agency to be sensitive to the needs of the respondent and to allocate resources to advance notification and follow up with respondents.

Working Group's Recommendations

In 1990, the working group recommended, where necessary, mandatory surveys for service industries. The working group also reported that methods and technologies for reducing cost and respondent burden

[10]BEA officials said that this recommendation did not require funding.

[11]Officials from the statistical agencies and OMB noted the creation of the Joint Program in Survey Methodology at the University of Maryland meets some aspects of the cooperation recommendation in that cooperation with academic researchers traditionally occurs with such a program. (For progress reported, see center for survey methods recommendation below.) BEA officials stated that cooperation between BEA, BLS, and Census was increased in a number of ways that are reported elsewhere in this report. (For example, see trade in services recommendation in app. VIII.)

should be actively pursued; however, it recognized that the cost of collection and paperwork would increase. A comparison study of mandatory and voluntary surveys that examined accuracy and response rates was recommended. To increase compliance and quality of data, the significance and urgency of the current statistical problems were to be stressed to business leaders and to small business trade associations.

Agency Plans

In 1987 and 1988, Census planned and implemented activities to explore the effect of mandatory versus voluntary response conditions in censuses and surveys. Census activities included a study and focus-group discussions of placing a greater emphasis on the mandatory nature of census responses. Survey activities included nonresponse tests in selected annual and monthly manufacturing surveys.

Funding Requested and Received

No funds were requested for this recommendation.

Progress Reported

Although Census had already conducted a study when the recommendation was announced in 1990, Census officials said some progress was made. For example, according to Census officials, when the mandatory response requirement was highlighted on mailing envelopes and other materials for the 1992 Economic Censuses, the response rate rose to an historically high level (7 percentage points above the 1987 rate). Census officials also stated that initial tests in manufacturing surveys suggest that mandatory responses can substantially increase response rates, improve reported data quality, and minimize program costs.

Data Duplication

Data duplication involves the collection of the same information from one source, or respondent, by more than one statistical agency.

Impetus for Recommendation

In 1987, the Working Group on the Quality of Economic Statistics to the Economic Policy Council, a predecessor to the Economics Statistics Initiative Working Group, recommended that agencies share business establishment lists. OTA later reported that such efforts were stymied by a

lack of legislation that would allow one agency to access another agency's data.[12]

Working Group's Recommendations

In 1990 and 1991, the working group recommended eliminating unnecessary duplication, but avoiding the loss of unique and important alternative data. In 1991, they recommended the preparation of legislation that would provide a standardized mechanism for the limited sharing of confidential information solely for statistical purposes.

Agency Plans

With officials of the major statistical agencies, OMB planned to prepare a legislative proposal that coordinated policy governing the exchange of confidential data to be exclusively used for statistical purposes.

Funding Requested and Received

No funds were requested for this recommendation.

Progress Reported

OMB officials said that during the Bush administration legislation was prepared by OMB that promoted data sharing while maintaining confidentiality of respondents. That legislation, however, was not submitted to Congress. OMB continues to revise and formulate data-sharing legislation.

Center for Survey Methods

The center for survey methods (Center) was envisioned to be an institution that would provide training for persons pursuing graduate-level education in survey methods and statistical science.

Impetus for Recommendation

According to F. Thomas Juster, Chairperson of the AEA Committee on the Quality of Economic Statistics, the academic community has diminished

[12]As noted under the business establishment lists - Census and BLS recommendation, BLS officials said that the failure to establish a common business establishment list was not only due to a lack of legislation, but because Census determined it was necessary for it to maintain its own separate list. Census officials said that to move ahead with data-list sharing, legislative and regulatory changes affecting both Census and BLS, and IRS for tax data, are needed. In their view, sharing is a critical first step in developing a common list. This is because BLS and Census lists need to be compared and evaluated to determine their strengths and weaknesses relative to what may be different agency needs.

In Management Reform: GAO's Comments on the National Performance Review's Recommendations (GAO/OCG-94-1), we agreed with the need for better data sharing and cooperation among federal statistical agencies and endorsed the National Performance Review's recommendations that the administration propose legislation that would encourage better data sharing between statistical agencies and would bring about better data sharing of business data.

its ability to provide analysis to support improvements in government statistics and to provide appropriately trained staff to the government statistical system because of the academic community's deficient interest and involvement in empirically based public policy.

Working Group's Recommendations

In 1991, the working group reported that the federal statistical system had difficulty in recruiting and retaining sufficient numbers of high quality statisticians. The working group noted that the difficulty was due not only to the pay gap, which exists between the private and public sectors, but also because universities have tended to de-emphasize training in the field of survey statistics. In 1991, the working group recommended that a Center be created at a greater-Washington, D.C., area university to improve the talents and skills of the existing federal statistical workforce and attract highly qualified individuals into the field of specialization.

Agency Plans

The National Science Foundation (NSF) planned to award a contract for the establishment of the Center that would provide (1) advanced training and research in survey methods in the social, behavioral, economic, and statistical sciences and (2) graduate-level education and training for current and future employees of federal statistical agencies and for other individuals who will employ survey methods more effectively in survey practice and in the conduct of research at academic and other institutions.

Funding Requested and Received

NSF requested and received slightly more than $2 million total for fiscal years 1990 through 1994 for this recommendation.[13]

Progress Reported

NSF officials reported that the Joint Program in Survey Methodology was established in January 1993 on the campus of the University of Maryland.

Summary

A summary of funding requested and actually received by Census, BLS, NASS, NSF, and OMB for the working group's eight systemwide statistics recommendations is shown in table IX.1. The agencies requested about $9 million and received about $5 million total for fiscal years 1990 through 1994 for four of the recommendations. Funding was not requested for four of the recommendations.

[13]Following an open, competitive process, NSF awarded a 5-year, $4.1 million cooperative agreement, starting in fiscal year 1993, to a consortium including the University of Maryland at College Park; the University of Michigan; and Westat, Inc., a private survey organization in Rockville, MD.

Table IX.1: Funding for Systemwide Statistics Recommendations for Fiscal Years 1990-1994

Dollars in thousands

	1990		1991	
Recommendation	**Requested**	**Actual**	**Requested**	**Actual**
Survey of income and program participation	0	0	0	0
Standard industrial classification	0	0	375	375
Farm lists	0	0	2,400	1,200
Business establishment lists - Census and BLS	0	0	0	0
Cooperation	0	0	0	0
Mandatory vs. voluntary surveys	0	0	0	0
Data duplication	0	0	0	0
Center for survey methods[a]	0	0	0	0
Total	**0**	**0**	**$2,775**	**$1,575**

1992		1993		1994		1990-94	
Requested	Actual	Requested	Actual	Requested	Actual	Requested	Actual
0	0	0	0	0	0	0	0
(275)	(275)	0	0	0	0	100	100
2,400	1,195	0	(145)	0	0	4,800	2,250
1,400	500	500	0	0	0	1,900	500
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
400	400	700	700	1,000	1,000	2,100	2,100
$3,925	**$1,820**	**$1,200**	**$555**	**$1,000**	**$1,000**	**$8,900**	**$4,950**

[a]NSF provides funding to the Center through a cooperative agreement.

Sources: Census, BLS, NASS, OMB, NSF.

Other Improvements to Economic Statistics Made From 1990 Through 1994

In addition to the efforts carried out through ESI, Census, BEA, BLS, the Federal Reserve, and NASS made other improvements to their economic statistics programs with existing funding between 1990 and 1994. The following discussion of these efforts includes those that the agencies reported as ongoing, as well as those that the agencies reported as completed.

Census Focused on Developing New Surveys and Making Technical Improvements

Census officials said they had difficulty differentiating between activities that were a direct result of the working group recommendations versus activities previously envisioned. At the time of the working group's recommendations, Census had already turned its attention to improving the quality of economic statistics.

According to Census officials, during this time the agency focused on implementing a wide range of improvements, other than those of ESI, that directly improved the quality of economic statistics. These other improvements include expanding the economic censuses, creating new surveys, expanding data collection, increasing coordination efforts, and developing computer processing projects. For example, Census officials said these improvements allowed the expansion of the 1992 Economic Censuses to cover 98 percent of gross domestic product (GDP) and earlier release of economic censuses data.[1]

To expand the areas covered by Census' surveys, Census planned a number of new surveys, including three transportation surveys. In addition, Census implemented a new annual survey of the communication sector, a commodity flow survey that measures the transportation of goods (funded by the Department of Transportation), and new surveys on manufacturing technology.

According to Census officials, Census also expanded the amount of data it was collecting, such as data on nonresidential construction, women-owned corporations, purchased services, and company-level information on types of health care plans currently offered for employees covered and total costs. Census also began publishing information from its Quarterly Financial Report program for four additional industry groups and created a historical country database, which provided access to bilateral trade information on a monthly basis from 1985 to the present.

[1]In September 1993, we reported on this expansion in Federal Data Collection: Status of 1992 Agriculture and Economic Censuses and Future Challenges (GAO/GGD-93-152BR, Sept. 23, 1993).

Census reported that it also (1) entered into a reimbursable agreement with BEA in order to speed up publication of the input-output tables; (2) sponsored the Exporter Education Program to reduce reporting errors; (3) increased interagency cooperation with the Customs Service, such as providing Census staff information for the development of the Automated Export System; (4) opened a Puerto Rican foreign statistics branch to improve the quality and coverage of U.S.-Puerto Rican trade statistics; (5) implemented a joint Census/BEA monthly trade release incorporating trade both in goods and services beginning with January 1994 statistics; (6) conducted a 1992 Affiliation Survey to provide updated industry codes for the 1992 service sector expansion; (7) replaced personally enumerated area samples with administrative record information; and (8) updated the 10-year-old sample for the building permits survey.

According to Census officials, the computer processing projects undertaken by Census included: improving its capability for electronic data collection through electronic data interchange; implementing a series of computer processing-related foreign trade statistics improvements; implementing the automation of the data collection operation for the value of new construction put-in-place series; and using telephone data entry instruments to collect data for the manufacturers' shipments, inventories, and orders survey from more than 1,000 companies.

Finally, Census officials reiterated that, for several of the ESI recommendations, they received either no or only partial funding. As a result, Census carried out these activities through a reprogramming of funds or through reimbursable financing. Among these activities were the creation of an exporter database for all exporters that operated during the 1987 Economic Censuses; the participation in a pilot of Custom's Automated Export System to automate and improve the quality of export data received by the Customs Service and Census; the introduction of three monthly import and export CD-ROM releases; the use of BLS classification codes for unclassified business establishments; work associated with developing a restructured economic classification system; and the reconciliation of trade data with major trading partners.

BEA Focused on Making Technical Improvements and Data Dissemination

BEA officials said that BEA focused on several low-cost, high-payoff technical improvements between 1990 and 1994 to improve the quality of its statistics. BEA officials noted that none of BEA's initiatives under ESI were fully funded in any given year and that they had difficulty in differentiating between activities carried out under ESI funding and those

carried out under normal funding. BEA introduced GDP as the featured measure of U.S. production (rather than GNP) to begin bringing U.S. accounts in line with international guidelines. In addition, BEA redefined net exports in both NIPA and the balance of payments accounts in order to identify international factor incomes separately from services transactions. BEA also noted that it undertook its ninth comprehensive (benchmark) revision of NIPA, making improvements in several areas, including interest paid by real estate partnerships, tax return misreporting adjustments, and imputed rental value of farm dwellings.

BEA officials also noted technical improvements in its regional accounts, including enhanced procedures that allowed BEA to publish data on wages and salaries and county employment 12 months after the close of the reference year (down from 16 months for total personal income), the comprehensive revision of state income as well as product estimates, and the introduction of improved methodologies for journey to work flows, and the incorporation of improved IRS data on partnerships and proprietors.

Officials from BEA reported that they are standardizing the time-series database management system used to prepare NIPA and introducing a modernized computer network system. These changes will improve the review, analysis, and final table preparation.

Finally, in the area of data dissemination, BEA officials noted that BEA pioneered the use of CD-ROMs for disseminating its large regional database, and it participated in both Census' and Commerce's Economic Statistics Administration's bulletin boards.

BLS Focused on Modifying Surveys and Making Technical Improvements

BLS officials said during this time BLS focused on modifying existing surveys to obtain better measures of occupations, wages, and benefits. BLS' efforts focused as well on several technical improvements that BLS officials believe will enhance the adequacy of BLS' data.

According to BLS officials, BLS combined its several wage surveys into the Occupational Compensation Survey Program in response to the Federal Pay Comparability Act of 1990. The new survey expands BLS' coverage of professional and administrative occupations and industries. BLS also is in the process of combining its Employment Cost Index (ECI) survey with its employee benefits program to obtain a better measure of employee benefits and the costs of these benefits. BLS also revised its annual survey

of occupational injuries and illnesses to better help employers learn how to avoid workplace accidents.

Technical improvements that BLS reported carrying out included (1) incorporating a population undercount from the 1990 Decennial Census into CPS; (2) correcting for an employment overcount as reported by businesses in BLS' Employment and Wages Program (known as the ES-202 program), as well as enhancing its level of detail by requiring businesses to report all their different work sites; and (3) developing a computer system that will decrease the labor resources required for the ES-202 program. BLS also automated its Current Employment Statistics (CES) program, as well as expanded the publication to include seasonally adjusted employment data at the state level to better serve its geographic data users. Finally, BLS has been sharing standard industrial classification (SIC) system codes with Census to improve the usefulness and accuracy of Census' economic censuses and surveys. BLS officials also noted that, under the auspices of the Foreign Direct Investment and International Financial Data Improvements Act, it undertook a project with BEA. BLS obtained access to BEA enterprise data on foreign direct investment in the United States. It then linked these data to establishment data from BLS' business list. BLS published its first link results—1989 data for all industry divisions—in the summer of 1992.

Federal Reserve Board Focused on Software Improvements

Officials from the Federal Reserve said that they are revamping the computer software for the flow-of-funds accounts. The modernization of this software will facilitate staff input into the production process, taking full advantage of the capabilities of the computer network system at the Federal Reserve and allowing for more flexibility and clarity in the published tables.

NASS Focused on Improving Farm Lists

NASS officials said during this period they focused on making additional improvements to their farm lists. However, they noted these activities were carried out under ESI funding as well as funding from the Department of Agriculture, and they could not differentiate between which activities were carried out under which type of funding. (For a discussion of NASS' activities under ESI, see the initiative on farm lists in app. IX.)

Cooperative Efforts Carried Out by the Agencies

According to Census officials, on June 3, 1993, Census, BEA, and BLS established a joint task force with the mutual goal of reducing respondent burden on the business community. Specifically, the task force, called the Statistics 2000 Task Force, sought to identify opportunities to (1) reduce the reporting burden on business, (2) eliminate or reduce duplicative data requests, (3) facilitate and simplify reporting by businesses, (4) reduce agency costs, and (5) improve the efficiency of federal business statistics. The task force identified 34 specific opportunities that focused on improving data sharing among agencies, improving business registers, expanding the use of administrative record information, and facilitating reporting and reducing respondent burden. Of these 34 opportunities, the task force determined that the enactment of broad-based data-sharing legislation was the single, most important activity required to implement many of the other opportunities identified by the task force. Data-sharing legislation was also recommended by the ESI working group. (The status of the data-sharing legislation is discussed in the ESI recommendation on data duplication in app. IX.)

To date, the task force has focused on 13 of the activities, specifically those that the task force believes offer initial benefits in fiscal years 1994 or 1995, or those that are already high priorities for one or more of the agencies.

Fiscal Year 1995 Funds Requested and Received for Economic Statistical Improvements

BEA, Census, BLS, and NASS requested more than $38 million and received more than $18 million in additional funding in fiscal year 1995 for economic statistical improvements.[1]

Department of Commerce Requested $16.7 Million and Received $1.3 Million

The Department of Commerce, in which both BEA and Census operate, requested a total of $16.7 million in budget increases for fiscal year 1995 to improve the coverage, timeliness, and accuracy of the statistics for which it is responsible. Several of the requested improvements are continuations of those included in ESI. Commerce received $1.3 million to continue the efforts begun under the SIC recommendation and to reengineer the data-gathering process.

BEA Requested $8.1 Million

With BEA's requested increase of $8.1 million, the Office of the Undersecretary for Economic Affairs proposed a plan it is calling the Economic Information Infrastructure Initiative (EI^3). This plan proposed to improve the nation's economic information infrastructure in four fundamental ways: (1) strengthen existing statistical programs by making statistics more accurate and dependable, (2) launch new initiatives that reflect new concerns, (3) reengineer the data-gathering process, and (4) make information a competitive asset. As shown in table XI.1, BEA has five initiatives that address the first three components of this plan. BEA did not request any funds to address the fourth component of the plan for fiscal year 1995.

[1]The Federal Reserve is not included here as it does not receive appropriated funds from Congress. In addition, NSF did not request additional funding for economic statistics improvements. For fiscal year 1995, the federal agencies ceased using the phrase "Economics Statistics Initiatives" in reference to their requests for additional funding to improve economic statistics.

Table XI.1: BEA's Fiscal Year 1995 Funding for Economic Statistical Improvements

Dollars in thousands

Fiscal year 1995 improvements	Amount requested	Amount received
Strengthen existing programs by making statistics more accurate and dependable		
Strengthen underlying source data	$400	$0
Expand coverage of international trade	800	0
Launch new initiatives that reflect new concerns		
Improve the international comparability of economic data	2,118	0
Incorporate environmental performance in economic measurements	1,471	0
Reengineer the data-gathering process		
Develop a BEA information system for the year 2000	3,272	334
Total	**$8,061**	**$334**

Source: BEA.

BEA's two initiatives, which address the first component of the plan, are designed to improve NIPA and the measurements of such areas as services and international trade. BEA officials said these initiatives include (1) speeding up the preparation of input-output tables, (2) obtaining a better understanding of the relationship between quality and price changes, (3) gathering an updated picture of U.S. investment abroad, and (4) filling gaps in the coverage of international trade in services, especially financial services. In addition, they said components of these two initiatives are related to what BEA wanted to do under ESI but was unable to as a result of limited funding. For a discussion of the input-output tables recommendation, see appendix III. For a discussion of the international investment and capital flows recommendation, see appendix VIII.

BEA's two initiatives for the second component of the plan reflect the growing interest in today's concerns, such as environmental accounting and international competitiveness. These initiatives include introducing the new international standards for the SNA and balance of payments accounts, revamping the reporting of international capital flows, and developing satellite accounts that bring environmental quality into economic measurements. BEA officials said the initiative to incorporate environmental performance in economic measurements expands the earlier progress made under ESI with satellite accounts. For a discussion of the SNA recommendation, which includes satellite accounts, see appendix III.

Finally, BEA had one initiative that addresses the third component of its plan. The new information system will reengineer the data collection process, which will move BEA's 1970's mainframe-oriented data processing system to an integrated microcomputer network.

The final initiative, which aims to make information a competitive asset by giving widespread access to data using electronic technologies, is planned in future years, but no funds were requested for this initiative in fiscal year 1995.

BEA Received $0.3 Million

BEA received $334,000 for its initiatives under EI[3]. BEA said that these funds will be applied to reengineer the data collection process initiative. BEA is also attempting to obtain additional departmental funding to support this initiative. Additional funds were appropriated to BEA for an independent study of developing satellite accounts that bring environmental quality into economic measurements; these funds cannot be used to support BEA's work in this area.

Census Requested $8.6 Million

With its request for $8.6 million, Census proposed a plan to improve and expand coverage of the service sector, construction, and the environment. One improvement also focuses on jointly restructuring the existing industry classification system with Canada and Mexico to create a North American Industry Classification System and establishing a common commodity classification system. As shown in table XI.2, there are four improvements in this plan.

Table XI.2: Census' Fiscal Year 1995 Funding for Economic Statistical Improvements

Dollars in thousands

Fiscal year 1995 improvements	Amount requested	Amount received
Improve and expand service statistics	$3,833	$0
Improve coverage and quality of construction data	1,332	0
Expand coverage of the Survey of Pollution Abatement to include environmental spending by selected nonmanufacturing businesses	1,056	0
Restructure the SIC system and create a commodity classification system for the United States	2,423	1,000
Total	**$8,644**	**$1,000**

Source: Census.

Census' first improvement for service statistics would (1) provide annual information on services purchased by manufacturers, (2) provide quarterly estimates of corporate income and profits for the service sector by expanding the scope of the Quarterly Financial Report program, and (3) expand coverage of annual service surveys to include more transportation industries and provide detailed annual measures of industry output and expenditures for business automotive rental and leasing, amusement and recreation, and health service industries. Census officials said that these initiatives build on prior efforts begun under ESI. For a discussion of the purchased services recommendation and the service sector surveys recommendation, see appendix IV.

Census' second improvement for the coverage and quality of construction data would improve the coverage of nonresidential additions and alterations, as well as the quality of industrial plant construction data. This improvement corrects serious deficiencies in the measurement of new construction and would provide for improved measures of nonresidential reconstruction. Again, Census officials said this initiative continues earlier efforts under ESI. For a discussion of the construction -coverage recommendation, see appendix III.

Census' third improvement would expand the Pollution Abatement Survey, which provides operations cost information, to include nonmanufacturing industries. This improvement would provide a more comprehensive measure of environmental spending by businesses.

Finally, Census' fourth improvement to restructure the SIC system and create a commodity classification system would provide for the development and implementation of a restructured industry classification system to serve the needs of the 21st century. A commodity classification system would be for use by all government agencies. Census officials said this improvement builds on efforts begun under ESI. For a discussion of the SIC recommendation, see appendix IX.

Census Received $1 Million

Census received $1 million to restructure the SIC system and create a commodity classification system. This will continue efforts begun under ESI.

BLS Received Nearly Full Funding

BLS requested more than $17 million and received nearly $17 million to carry out three of four improvements, which, according to BLS officials, are

the highest priorities of BLS as well as the Department of Labor for 1995. These improvements would address the overall quality of BLS' data and help BLS respond to the current needs of its users. BLS was appropriated funding for increasing the CPS sample size for two states, although it had not requested funding to do this. (See table XI.3.)

Table XI.3: BLS' Fiscal Year 1995 Funding for Economic Statistical Improvements

Dollars in thousands

Fiscal year 1995 improvements	Amount requested	Amount received
Revise the CPI	$5,140	$5,134
Improve the quality of ES-202 program data	4,977	4,977
Increase BLS' ability to provide timely data for emerging policy issues for CPS supplements	1,000	0
Provide for an increase to begin a new national longitudinal survey cohort of youth	6,036	6,036
Increase CPS sample size for two states	0	750
Total	**$17,153**	**$16,897**

Source: BLS.

BLS Requested $17.2 Million

As shown in table XI.3, BLS requested a little over $17 million for four improvements. According to BLS officials, the first improvement to revise the CPI is something BLS has been wanting to do for several years but was unable to accomplish because of funding constraints.[2] For this improvement, BLS plans to revise the market basket of goods and services used to calculate the CPI.

According to BLS officials, the second improvement aims to address the quality of the ES-202 program, which provides employment and wage data for workers covered by unemployment insurance laws. BLS officials said that, because the ES-202 program covers the universe of establishments from which it obtains its business establishment list and draws its survey samples, improving the ES-202 program will naturally improve the adequacy of its other surveys. Officials said the $5 million for this improvement includes about $3 million in additional funding to cover additional workload needs and about $2 million for further improvements to the ES-202 program's business establishment list. The business establishment list improvements were included in ESI; BLS was able to

[2]A recommendation to revise CPI was also included in the administration's recent report, From Red Tape to Results: Creating a Government That Works Better and Costs Less, report of the National Performance Review, Vice President Albert Gore, Sept. 7, 1993.

make some improvements in the list despite receiving limited additional funding for fiscal years 1990 through 1994. For a discussion of the business establishment lists - Census and BLS recommendation, see appendix IX.

The next two improvements—to increase BLS' ability to provide timely data for emerging policy issues for Current Population Survey (CPS) supplements and to begin a new national longitudinal survey cohort of youth—are related, according to BLS officials. They said that both improvements would help BLS better measure issues occurring in the economy.

BLS Received $17 Million

As shown in table XI.3, BLS received either full or nearly full funding for three of its four improvements. The improvement to provide timely data for emerging policy issues for the CPS supplement received no funding. However, BLS received $750,000 to increase CPS sample sizes for two states so that CPS data could be used directly, rather than through estimation methods, to determine employment and unemployment statistics for these states; BLS did not request this funding.

NASS Requested $4.4 Million but Did Not Receive Funding

As shown in table XI.4, NASS requested a total of $4.4 million and received no funding for two economic statistical improvements. NASS officials said they will continue to seek these funds and add them into the 1996 budget request.

Table XI.4: NASS' Fiscal Year 1995 Funding for Economic Statistical Improvements

Dollars in thousands

Fiscal year 1995 improvements	Amount requested	Amount received
Reduce mainframe processing costs	$1,100	$0
Expand coverage of chemical use and crops in pesticide data program	3,300	0
Total	**$4,400**	**$0**

Source: NASS.

NASS officials said these improvements continue the work they have been doing outside the ESI framework (see discussion in app. X). The first improvement would reduce mainframe processing costs by distributing NASS' farm list maintenance systems and survey processing systems to local area networks and state statistical offices. This improvement also

has the potential for substantial cost savings to the government and would make NASS' farm list frame system more responsive with the addition of a database system. This would also reduce respondent burden and improve data quality.

NASS' second improvement to expand the coverage of the Pesticide Data Program would help NASS build new lists and rebuild old lists of specialty commodity producers. For this improvement, NASS planned to add chemical use information for 13 additional states and 10 additional crops.

Comments From the Bureau of Labor Statistics

U. S. Department of Labor

Commissioner for
Bureau of Labor Statistics
Washington, D.C. 20212

MAY 19 1995

Mr. Charles I. Patton, Jr.
Associate Director
Federal Management Issues
General Accounting Office
Washington, D.C. 20548

Dear Mr. Patton:

Thank you for the opportunity to comment on your draft report, "ECONOMIC STATISTICS, Status Report on the Initiative To Improve Economic Statistics."

Policymakers, as well as other data users in and out of government, have cited many areas where improvements are needed in statistical programs. In many cases, the statistical agencies have led the way in identifying the need for such improvements. The Economics Statistics Initiative was designed to address some of these problem areas, and given the resources made available, significant progress has been made.

Our only comment concerning the report is that it appears to infer that the Economic Statistics Initiative, as originally envisioned, was nearly fully funded. However, due to funding constraints, a number of improvements were scaled back from the onset. Consequently, our subsequent budget requests were significantly lower than originally planned. This point should be clarified in the report.

Sincerely yours,

KATHARINE G. ABRAHAM
Commissioner

Comments From the National Agricultural Statistics Service

United States Department of Agriculture
National Agricultural Statistics Service
Washington, D.C. 20250-2000

May 11, 1995

Mr. Charles I. Patton, Jr.
Associate Director
Federal Management Issues
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Patton:

Statistical programs of the National Agricultural Statistics Service (NASS) of the Department of Agriculture benefitted from the support of the Boskin Initiative for Economic Statistics. This initiative was a first step across executive departments to improve overall quality of Federal statistics. In particular, the Boskin Initiative supported NASS efforts to improve the quality and coverage of its list of farm and agribusiness operators. Accuracy and scope of the agricultural statistics produced by NASS are directly related to the quality, currency, and coverage of its list.

The initiative provided funding to accelerate the NASS list building program, to improve coverage of specialty commodities (an area of recent growth in agriculture), and to develop an improved procedure for using administrative records of the Consolidated Farm Services Agency (CFSA) to improve list coverage. As a result, coverage of commercial and specialty farm operations improved significantly. Because NASS provides its list of farm operators to the Bureau of the Census prior to each quinquennial census, the enhanced NASS list improved the 1992 Census of Agriculture coverage and will subsequently improve the 1997 Census of Agriculture coverage.

Although the Boskin Initiative enabled NASS to improve list coverage, the current list does not approach complete coverage of the farm operator universe. This goal will not be met for either the Bureau of the Census or NASS list until a mutually cooperative list building effort can be undertaken. The Bureau of the Census receives the Internal Revenue Service and the Social Security Administration administrative lists for the two years prior to the quinquennial census. Prior to the census of agriculture, the Bureau of the Census links these administrative records, the mail list from the previous census, and the NASS list to create the current census mail list. Under current legislation NASS does not receive the census mail list or the list of farms identified in the census. If NASS were to receive the farm list after the census, it would be able to maintain and improve the coverage of the joint NASS/census list using records from the Department of Agriculture (in particular, the CFSA) and private organizations' agricultural lists to which it routinely is given access.

A legislative proposal to permit list sharing among Federal statistical agencies for statistical purposes only has been drafted and circulated among executive departments for comment. The Department of Agriculture strongly supports this proposal. The accuracy of current agricultural estimates and periodic census counts would improve due to the coverage increase that would result from a joint agricultural list building effort. Cost efficiencies would result from this proposal, since this would eliminate the only area of duplication between NASS and the Bureau of the Census.

We consider economic and agricultural statistics accuracy and completeness as critical for effective government at the Federal, State, and local levels and for market economy functioning. We are particularly supportive of collaborative initiatives to improve these statistics. We thank you for the opportunity to comment.

Sincerely,

DONALD M. BAY
Administrator

Major Contributors to This Report

Neil T. Asaba
Paul M. Aussendorf
Richard S. Krashevski
Edward J. Laughlin
Tamara A. Lumpkin
James M. McDermott
Victoria E. Miller
Patrick R. Mullen
Pamela R. Pavord
A. Elizabeth Powell
Lori Rectanus
Kathleen K. Scholl
Loren Yager

Glossary

	Readers interested in the exact authoritative definitions, which are often governed by internationally agreed upon guidelines, should consult documentation on concepts, data sources, and methods published by BEA, Census, BLS, the Federal Reserve, OMB, NSF, and NASS, as well as similar documents published by the United Nations, the Organization for Economic Cooperation and Development, IMF, the World Bank, and the Commission of the European Communities. These definitions, which are largely based on that documentation, are intended to provide assistance to the general reader.
Annual Survey of Communication Services	Survey of revenue and expenses for the communication services industries. Data are used in NIPA, input-output tables, and to develop other economic measures.
Annual Capital Expenditures Survey (ACES)	Collects broad-based data on business spending for new plants and equipment. The survey data serve as a benchmark for other capital expenditure statistics programs.
Area Agricultural Frames	Area-based sampling frame for agricultural commodities classified by land use, such as agricultural-urban or intensively cultivated. (See Sampling Frames.)
Asset-Backed Securities (ABS)	As used in the flow-of-funds accounts, a sector similar to federally related mortgage pools, in that the issuers are not a group of institutions but a set of contractual arrangements. ABS represent claims against loan assets that have been pooled to serve as collateral for issues of securities. The principal assets of ABS sector are mortgages and mortgage-backed securities, consumer credit (automobile and credit card), business loans, and trade receivables. (See Securitization.)
Automated Data Collection Techniques	Techniques, including the application of computer-assisted interviewing techniques, which allow for more effective interviewing, increased timeliness of reporting, and enhanced data analysis capabilities.
Automated Export Reporting Program	The process of electronically filing export data directly with Census.

Automated Touch-Tone Data Entry	Technique for conducting surveys using a Touch-Tone telephone. Respondents follow voice prompts and enter their answers by pressing the telephone keypad.
Automation of Export and Import Data Collection	Gathering data electronically, which allows flexibility for respondents without an increase in respondent burden.
Balance of Payments (BOP)	In the international economic accounts, BOP reports the economic transactions of the residents of a nation with the residents of the rest of the world, during a particular point in time, highlighting international trade flows and the international payment mechanisms. BOP accounts for all of the wealth flowing in and out of a country.
Balance Sheet	Also referred to as a statement of condition or statement of financial position, a balance sheet is a statement that reports the type and amount of assets, liabilities, and owners' equity on a given date.
Balance Sheet Enhancements	A process or technique that improves a balance sheet. An improvement might be a more frequent account of information, such as a quarterly versus annually published statement. Another enhancement might be the incorporation of additional available information, or data that have been revised based on better information.
Benchmark	Anything that serves as a standard against which other things are compared and measured; a reference point.
Benchmark Process	The systematic method of deriving a benchmark. (See Benchmark.)
Business Establishment Lists	Directories of businesses maintained by statistical agencies that are used when the agencies survey establishments to obtain data about their business practices.
Capital Account	Measures the flow of capital that consist of changes in the U.S. assets abroad and foreign assets in the United States. Financial assets include international claims payable in money, such as loans, bank deposits, drafts, acceptances, notes, government and private debt and equity

	securities, and intercompany accounts. (For a more complete definition see The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures, U.S. Department of Commerce [DOC], BEA (Washington, D.C.: U.S. Government Printing Office [GPO], May 1990), p.6.)
Capital Asset	An asset needed to create a product (or service) normally acquired with the intention of being held at least 1 year rather than being resold. Generally, this includes fixed assets, such as land, buildings, and equipment.
Capital Expenditure	Outlay of money to acquire or improve capital assets such as buildings and machinery. (See Capital Asset.)
Capital Flows	The selling and purchasing of capital assets from one country to another. (See Balance of Payments.)
Capital Gains	Appreciation in the value of an asset. The amount by which the asset's selling price exceeds the asset's purchase price. For income tax purposes, a capital gain is the gain from the sale or exchange of a capital asset.
Capital Losses	Depreciation in the value of an asset. The amount by which the proceeds from the sale of a capital asset are less than the cost of acquiring it. For income tax purposes, a capital loss is the loss from the sale or exchange of a capital asset. (See Capital Gains.)
Capital Related Income Flows	With respect to U.S. direct investment abroad, consists of equity capital flows, reinvested earnings, and intercompany debt flows of U.S. direct investors to both their incorporated and unincorporated foreign affiliates. (For a more complete definition see The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures, DOC, BEA, (Washington, D.C.: GPO, May 1990), p. 90.) (See Direct Investment.)
Closed-End Funds	Type of fund that has a fixed number of shares, usually listed on a major stock exchange. It tends to have specialized portfolios of stocks, bonds,

	convertibles, or combinations thereof, and may be oriented toward income, capital gains, or a combination of these objectives.
Cognitive Interview Techniques	An intellectual process by which knowledge is gained about perceptions or ideas and used to improve questionnaire designs prior to their use in national surveys.
Commercial Paper	Short-term promissory notes used by businesses to obtain money, usually for a specific need.
Commodity Flow Survey	Survey of commodity movements within the United States. The data provide periodic detailed measures of commodity movements by establishments with paid employees and engaged in manufacturing, mining, wholesale trade, or selected retail and services industries. (For a more complete definition see Economic Data Programs, DOC, Economic and Statistics Administration, Census (Dec. 1993).)
Compensation	Cash (wages and salaries) and noncash (employee benefits) payments given to employees on the basis of the value of their work contributions and performance.
Computer-Assisted Telephone Interview (CATI)	A telephone interviewing technique for data collection. Responses to surveys are directly entered into the survey form on the computer.
Confidential	Respondent is assured that dissemination of data is prohibited that would allow public identification of the respondent or that would in any way be harmful to the respondent.
Constant Dollar	A dollar measured in terms of prices of a base period, currently 1987 for most purposes, to remove the influence of inflation. The resulting constant dollar is the value that would exist if prices had remained the same as in the base period. (See Current Dollar.)

Constant-Dollar Output	Output expressed in dollar amounts that remove the influence of inflation.
Consumer Price Index (CPI)	A program that measures average price change for two population groups—all urban consumers (CPI-U) and urban wage earners and clerical workers (CPI-W)—using a specified market basket representing all goods and services purchased for everyday living. The CPI measures the same basket relative to a designated base period. The CPI is used to adjust for inflation.
Corporate Equity Estimates	Estimates of the claims to share in the net income and the assets of a corporation, such as common stock.
Corporate Financial Data	The economic accounts of an institution that make up the balance sheet and income statement. Data in these reports include assets, liabilities, and stockholders' equity, income (or loss) from operations, and the breakdown of income before and after taxes.
Coverage	A survey's ability to obtain information from all representative units in a specific population. Undercoverage occurs when a survey fails to represent all units in the survey.
CPI-U-X1	An experimental CPI that BLS developed for researchers who wish to make historical comparisons with the current CPI, which uses the rental equivalence approach to measuring shelter services. Prior to 1983, the measurement of homeowner costs in the CPI included changes in the asset value of homes. The rental equivalence approach isolates the consumption from the investment aspects of homeownership.
Current Account	Measures transactions in goods, services, and unilateral transfers between countries. "Goods" include tangible and visible commodities, which may be raw materials or intermediate or final products. "Services" refers to an economic output of intangible commodities that may be produced, transferred, and consumed at the same time. Unilateral transfers measures transfers of real resources of financial assets to a country where the country receiving the resources does not expect a payment of any kind in return. (For a more complete definition see The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures, DOC, BEA, (Washington, D.C.: GPO, May 1990), p. 6.)

Current Cost Accounting	(See Inflation Accounting.)
Current Dollar	The dollar value of a good or service in terms of the period under consideration, which reflects the then-prevailing prices of the good or service. (See Constant Dollar.)
Current Employment Statistics (CES)	A monthly survey of 380,000 business establishments nationwide. It collects information on employment, workers' hours, and earnings from the payroll records of employers. This information is used to produce a range of economic statistics.
Current Population Survey (CPS)	A monthly survey of 60,000 households that provides a comprehensive body of information on labor force, employment, and unemployment experience of the nation's population, classified by age, sex, race, and a variety of other characteristics.
Data Duplication	The collection of the same information from one source, or respondent, by more than one statistical agency.
Deflate	To reduce a price level. For example, to adjust a current-dollar amount to its constant-dollar counterpart, or to remove the effects of inflation.
Direct Investment	Implies that a person in one country has a lasting interest in, and a degree of influence over, the management of a business enterprise in another country. Generally, this type of investment involves a long-term relationship and ownership of at least 10 percent of the voting stock of, or an equivalent interest in, a business enterprise located in another country. (For a more complete definition see The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures, DOC, BEA (Washington, D.C.: GPO, May 1990), p. 84.)
Double Deflation	A method for deriving the constant-dollar estimates of the "value added" or contribution an industry makes to the gross domestic product. It is the difference between constant-dollar gross output and constant-dollar intermediate inputs. It allows for changes over time in the relationships between gross output and inputs. Generally, it is a preferred method

among indirect estimation methods; however, it is not the preferred method for three industries—private households, federal general government, and state and local general governments. (For a more complete definition see Frank De Leeuw, Michael Mohr, and Robert Parker, "Gross Product by Industry, 1977-88: A Progress Report on Improving the Estimates," Survey of Current Business, Vol. 71, No. 1 (Jan. 1991), p. 30.)

Employment Cost Index (ECI)

A quarterly index measuring changes in total compensation—wages, salaries, and employers' costs for employee benefits. ECI tracks changes in labor costs that are free from influences of employment shifts among occupations and industries.

Employment and Wages Program

Commonly called the ES-202 program, this BLS program provides employment and wage data for workers covered by state unemployment insurance laws and for civilian workers covered by the unemployment compensation for federal employees program. The ES-202 program provides wage and employment data for a virtual census of nonagricultural employees and their wages. In addition, about one-half of all agricultural workers are included. The ES-202 program provides the universe for almost all BLS establishment survey samples.

Environmental Accounting

Monitoring and measuring the environmental conditions in a society with respect to the economic growth in that society to determine if there are associated costs. For example, if the benefits of increased income are associated with deteriorating health conditions, by what amount is the income offset by the cost of poorer health conditions?

Establishment

As defined under the Standard Industrial Classification (SIC) system, an economic unit that typically is based at a single physical location, where a business is operated or where services or industrial operations are conducted. A distinct economic activity is performed and information detailing the number of employees, their wages and salaries, business transactions, sales and receipts of the business, and other types of establishment data can be reported. Establishments are classified into a SIC industry on the basis of their principal product or service. (For a more complete definition see 1987 Standard Industrial Classification Manual, Executive Office of the President, OMB (Washington, D.C.: 1987), p. 12.)

Experimental Estimates	An approximate calculation or judgment regarding the value, amount, and size of an outcome derived from an experience-based study or test.
Family Income	The sum of money wage and salary income, net income from self-employment, and income other than earnings. Total family income is the sum of the income amounts received by all individuals in the family.
Farm	A farm is a place in which the land involved must be used for or connected with agricultural operations, and it must be operated under the day-to-day control of one individual or management (e.g., partnership or corporation). As defined in the 1987 Census of Agriculture, a farm is an operation that would normally have had $1,000 or more in total value of sales of agricultural products during the reference year.
Farm Lists	A mailing list of names and addresses of agricultural operations that is compiled before census or survey questionnaires are mailed. (See Farm.)
Financial Intermediaries	Commercial bank, savings and loan, mutual savings bank, credit union, or other institutions, such as a mutual fund or a life insurance company that balances out the flow of funds between savings-surplus units with those of savings-deficit units. These institutions redistribute savings into productive uses and at the same time provide diversification of risk and liquidity to the individual saver.
Flow of Funds	Also referred to as the capital finance accounts of the United States, accounts that show the role of financial institutions and instruments in transforming saving into investment and the changes in assets and liabilities, which result from this transformation. The flow-of-funds accounts detail how the current investment in tangible and financial assets contribute to a buildup of a stock of assets for each sector of the economy and to the creation of national wealth. The flow-of-funds accounts can be viewed as combining data on the flows of saving and tangible investment published in NIPA with additional details on borrowing and lending for specific economic sectors.

Government Sector	(1) Includes all levels of government—federal, state, and local. Income principally derives from direct and indirect taxes, and also sales of goods and services. (2) All economic activities—mostly services—that are carried out directly by government agencies largely for public benefit rather than for profit. (3) The value added to the economy by government agencies and other publicly owned bodies, consisting primarily of services performed by government employees.
Grant-in-Aid Transactions	The transfer, through the use of U.S. government financing, of real resources or financial assets to foreigners under programs enacted by Congress for the provision of military or nonmilitary foreign assistance (grants) for which no repayment is expected.
Gross	An overall total, with no deductions, such as taxes or expenses. (See Net.)
Gross Domestic Product (GDP)	The value of all final goods and services produced within the borders of the United States in a given period, whether produced by residents or nonresidents. (See Gross National Product.)
Gross National Product (GNP)	The total market value of all goods and services produced in a given period by labor and property supplied by residents of a country, regardless of where the labor and property are located. GNP differs from GDP primarily by including the excess of capital income that residents earn from investments abroad less capital income that nonresidents earn from domestic investment.
GNP Revisions	Periodic estimates of GNP released as more detailed information becomes available. The first estimate of GNP is published near the end of the second month after the end of a quarter. A revised estimate is released during the third month following the end of a quarter. The fourth quarter GNP estimate is delayed by an additional month. (For a more complete definition see "A Look at How BEA Presents the NIPA's," Survey of Current Business, Vol. 73, No. 2 (Feb. 1993), p. 30.)
Harmonized System	Adopted in the United States in 1989, it is an internationally recognized goods classification system used by both importers and exporters.

Household Sector	Individual households and nonprofit institutions, such as charitable organizations, private foundations, schools, churches, labor unions, and hospitals, whose financial assets and liabilities are reported on a combined basis in the flow-of-funds accounts.
Index	A statistical measure that places a current economic condition in the context of a base period.
Indirect Estimation Methods	Indirect estimation methods are procedures used to construct a statistical measure from data that are not direct observations of the activity being measured, or when data needed to implement the conceptually correct, or preferred, measure are not available.
Inflation	A sustained upward movement of the price of goods and services.
Inflation Accounting	Techniques used to deal with the impact of inflation on accounts and accounting procedures.
Inflation Adjustments	Procedures used to capture the pure increase in prices apart from changes in quality, discontinuation, and other changes in items available for purchase.
Input-Output Tables	The part of the national accounts that trace the flow of goods and services among industries in the production process and show the value added by each industry and the detailed commodity composition of national output.
International Capital Flows	Flows that occur when residents in one country (the capital exporters) extend loans to, or purchase the title to, assets from the residents of another country (the capital importers).
International Economic Accounts	(See Balance of Payments.)
International Guidelines for Economic Accounts	Standards developed by the International Monetary Fund for balance of payments accounting.

International Investment	(1) Purchase of the ownership of assets—such as securities; businesses; titles to land, buildings, or equipment; and bank deposits—in a foreign country by a U.S. private individual, business, institution, or government. (2) The export of capital from one country to another.
International Monetary Fund (IMF)	A financial institution established in 1946 that strives to stabilize worldwide currencies to maintain an orderly market in world trade. The establishment provides a framework in which governments can consult and cooperate in determining the structure and functioning of the international monetary system.
International Price Program (IPP)	Program that measures price changes of commodities traded between the United States and the rest of the world. The IPP produces the U.S. export and import price indexes. These indexes are intended to reflect price trends of foreign-produced goods entering the United States or domestic products leaving this country or its territories.
Investment	According to The MIT Dictionary of Modern Economics, investment is "used to describe the flow of expenditures devoted to increasing or maintaining the real capital stock [the sum of goods which are used as inputs for further production]... Investment is the flow of expenditures devoted to projects producing goods which are not intended for immediate consumption. These investment projects may take the form of adding to physical and human capital as well as inventories."[1]
Issuer	Legal entity that has the power to issue and distribute a security. Issuers include corporations, municipalities, foreign and domestic governments and their agencies, and investment trusts.
Labor Force	The number of noninstitutionalized persons over 16 years of age who are employed.

[1]David W. Pearce, ed., The MIT Dictionary of Modern Economics 3rd ed. (Great Britain: The Macmillan Press, 1986), pp. 51, 55, and 216. The MIT Dictionary of Modern Economics also defines capital stock as the sum of goods that are used as inputs for further production.

Longitudinal Research Database (LRD)	A longitudinal database that links establishment level data from several censuses and surveys of manufacturers. LRD contains data that identify individual establishments, and detail manufacturing inputs and manufactured products. The database is used for ongoing research on entrepreneurship, firms and product markets, labor markets, growth and technical change, international issues, and environmental regulation. (See Longitudinal Study.)
Longitudinal Study	A study or research observing the behavior or characteristics of a specific group, or age-cohort, extending over a long period. For example, in a longitudinal panel survey the same people are repeatedly interviewed over a period. Interviewing may be carried out once every few months, once a year, or once every 2 years over a time span as short as 36 months or over a much longer period, such as 20 years.
Mandatory Surveys	Survey respondents are obligated or authoritatively ordered to complete a survey questionnaire.
Manufacturing Technology Surveys	Data on the presence, use, and planned use of advanced technologies in the manufacturing sector.
Market Basket	A combination of goods and services used to track price changes in the CPI. The items in the market basket are statistically determined to capture the price changes of goods and services purchased by consumers.
Merchandise Exports Model	The design and manipulation of a mathematical representation that simulates the exportation of merchandise so the effect of various international changes can be studied and forecast.
Military Transactions	International transactions in which U.S. government military agencies participate.
Monthly Debt Aggregate	A measure of the total credit market debt of domestic nonfinancial sectors. A monitoring range has been established by the Federal Reserve's Open Market Committee for the debt aggregate. This range applies to

	growth, from the fourth quarter of the previous year to the fourth quarter of the current year, in the average amount of debt outstanding.
Mutual Funds	Investment companies that purchase financial assets, often with specific investment objectives such as providing income to the investor. The value of the individual investor's share in a mutual fund is determined by the market value of the underlying securities.
National Economic Accounts	Accounts that provide a coherent and comprehensive picture of the nation's economy. These accounts describe (1) the output of the economy, its size, composition, and use and (2) the economic process or mechanism by which this output is produced and distributed. The accounts include the national income and product accounts, capital finance and balance sheet accounting, and input-output accounting. Each account describes some aspects of the structure, workings, and performance of the economy.
National Income and Product Accounts (NIPA)	Detailed descriptions of the overall U.S. economy. The accounts depict in dollar terms the volume, composition, and use of the nation's output of goods and services. These core national economic statistical measures are used to analyze past and current economic performance and also to forecast economic developments.
Net	Generally, the figure remaining after all relevant deductions have been made from the gross amount. For example, net sales are equal to gross sales minus discounts, returns, and allowances; net profit is gross profit less operating (sales, general, and administrative) expenses; and net worth is assets (worth) less liabilities.
Noncash Benefits	Payments in a form other than money, which are received as public benefits and as employer- or union-provided benefits to employees. Examples of public benefits include food stamps, public housing, and government-provided health care. Examples of noncash benefits to employees include pension plans and group health insurance.
Noncorporate Business Sector	As used in the flow-of-funds accounts, nonfarm partnerships (businesses that file IRS form 1065); nonfarm sole proprietorships (businesses that file

	IRS schedule C); tax-exempt cooperatives such as rural electrification, rural telephone, and farmer marketing cooperatives; and individuals who receive rental income and report the income on IRS schedule E.
Noninterest Income	Activities generating fee income in the banking industry, such as mortgage servicing and refinancing fees, service charges on deposits and in securities trading gains, fiduciary activities, and foreign exchange gains and fees.
Nonresidential Structures	New construction (which includes hotels and motels, as well as mining exploration, shafts, and wells), brokers' commissions on sale of structures, and net purchases of used structures by business and nonprofit institutions from government. (For a more complete definition see National Income and Product Accounts of the United States, Vol. 2, 1959-88, D.C., Economics and Statistics Administration, BEA, (Washington, D.C., Sept. 1992), p. M-6.)
Occupational Compensation Survey Program	Survey resulting from BLS' restructure of its area wage survey program to provide the data needed under the Federal Employees Pay Comparability Act of 1990 (P.L. 101-509, Sec. 529). Implementation of this act requires surveying pay rates for nonfederal employees in various localities across the country. Detailed information is provided on salary levels and distributions for the types of private industry and state and local government jobs published in the survey.
Output	The amount of work done or the amount produced by persons or businesses over a specific period.
Payroll Statistics	Data taken from payroll records of establishments. These data provide the principal source of state and metropolitan-area labor statistics.
Pesticide Data Program	A program of the U.S. Department of Agriculture that collects objective, comprehensive data on chemical use and pesticide residues in fresh fruits and vegetables. The information allows the Environmental Protection Agency to more accurately assess the exposure of pesticides and dietary risks to consumers.

Portfolio Investment Income	Differs from direct investment wherein the latter involves management decisions and long-term interest in a business enterprise located in another country. Equity ownership of 10 percent or more is considered evidence that some amount of management influence exists. Whereas, portfolio investment offers the opportunity to obtain short-term income or capital gains in financial markets and the opportunity to shift funds between various types of financial market instruments or between countries. (For a more complete definition see The Balance of Payments of the United States: Concepts, Data Sources, and Estimating Procedures, DOC, BEA (Washington, D.C.: GPO, May 1990), pp. 64 and 84.)
Poverty Thresholds	Income cutoff levels that vary by family characteristics, such as number of children, age of householder, and family size. For example, the poverty threshold was $11,631 for a three-person family with one child in 1993; $11,642 for an adult with two children. Families with incomes equal to or lower than the thresholds, which are updated annually for inflation, are considered poor.
Price Index	Measurements that trace the relative changes in the price of an individual good or service, or a market basket of goods and services over time. A price index is used to measure the growth rate of the price level from one point in time to another, which is referred to as the inflation rate.
Producer Price Index (PPI)	Program that measures average changes in prices received by domestic producers for their output (crude materials and semifinished goods, finished goods, and some services), relative to prices received in the base year. It is an industry-based survey that provides monthly price indexes for virtually all agriculture, mining, and manufacturing industries, as well as selected service industries. PPI statistical measures are used by producers of commodities in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors for the purpose of identifying average price changes for specific goods over some period, generally monthly or annual. PPI was formerly known as a wholesale price index.
Purchased Services	Assistance, information, and other intangible products that businesses and organizations buy from businesses and governments. Examples include when a book publisher contracts with a cleaning service for janitorial

	work performed in its warehouses and when a manufacturer contracts for computer services it needs, but formerly provided itself.
Real	Refers to statistical measures that remove the influence of inflation when used as a modifier with statistical measures such as price, income, and output.
Reconciliation	The process of making data conceptually consistent between two or more surveys or data sets.
Rental Equivalence	The cost of shelter a home provides its owner. This approach is used in the CPI to measure the daily consumption value of a home's services, a place to fix meals, relax, entertain, garden, etc., rather than the investment value of the home as an asset. Basically, it is the amount of rent that the homeowner would pay if the home were leased.
Replacement Cost	As used in NIPA, the cost of replacing an asset with another that will render similar services. The depreciation, or the difference between the original cost and current replacement cost of a depreciable asset, is determined and accounted for.
Reprogramming	Shifting funds to use them for different purposes other than those contemplated at the time of appropriation.
Repurchase Agreement	Agreement between a seller and buyer, usually of U.S. government securities, whereby the seller agrees to repurchase the securities at an agreed upon price and usually at a stated time. Repos, also called RPs or buybacks, are widely used both as a money market investment vehicle and as an instrument of the Board of Governors of the Federal Reserve System's monetary policy.
Resampling	To repetitively sample to observe patterns and average outcomes. (See Sample.)

Response Rate	Quantity or amount of someone's reply or a group's reply or answers to a given set of questions.
Sample	A group or subgroup selected from a particular population in such a way that every member of that population has a known probability of falling into the sample.
Sampling Frames	A researcher's definition of the population for research purposes. This sampling frame is used to select a representative sample of the general population under study.
Satellite Accounts	A more detailed account of an economic field reported in the United Nations' System of National Accounts (SNA). Economic fields detailed in the accounts include housing, agriculture, health, research and development, natural resources, and social protection. (See System of National Accounts.)
Saving	According to the Encyclopedia of Economics,[2] "saving is the process of withholding current income for future use and results in the accumulation of tangible and financial assets. The amounts so accumulated over past periods are referred to as savings...On a net basis, individuals save when personal income after taxes exceeds personal outlays, business saves through retained profits, and governments save when current receipts exceed current expenditures. Gross saving includes...depreciation allowances covering the wear and tear on real assets for future replacement....The channels through which gross saving flows into gross investment, including financial intermediaries are traced in the flow-of-funds accounts."
Seasonal Adjustment	Statistical procedures used to eliminate the effects of weather conditions, industry production schedules, holiday buying periods, and other practices that are regularly occurring effects that may affect short-term trends in data. For example, weather changes may affect crop production during certain months of the year, and an increase in retail sales usually occurs during the holiday season. These statistical procedures are used to prevent

[2]Sally S. Ronk, "Saving," in Encyclopedia of Economics, Douglas Greenwald, ed., (New York: McGraw-Hill, 1982), p. 837.

	seasonal highs and lows during the year from being interpreted as basic changes in the course of the economy. (For a more complete definition see "A Look at How BEA Presents the NIPA's," Survey of Current Business, Vol. 73, No. 2 (Feb. 1993), p. 32.)
Sector	Institutional units grouped together based on their principal functions, behavior, and objectives. Generally, there are three main sectors—households, businesses (goods and services), and government. (For a more complete definition see System of National Accounts 1993, Inter-Secretariat Working Group on National Accounts (Washington D.C., 1993), p. 19.)
Securitization	The process of transforming otherwise illiquid (i.e., not readily convertible into cash) financial assets into marketable capital market instruments. Financial institutions can bundle together a portfolio of loans (such as mortgages), collect the interest and principal payments, and then pay them out to a third party. The claims to these interest and principal payments can thus be sold to a third party as a security, and the financial institution makes a profit by servicing the securitized loans (collecting the interest and principal payments and paying them out) and charging a fee.
Service Sector	The part of the economy that produces products with an intangible component, like assistance or information. It includes all industries except those classified as agriculture, construction, manufacturing, and mining.
Standard Industrial Classification (SIC)	A system designed for use to classify establishments by type of activity; to aid in the collection, tabulation, presentation, and analysis of data relating to establishments; and for encouraging consistency and comparability in statistical data collected by various agencies of the U.S. government, state agencies, trade associations, and private research organizations. (See Establishments.) (For a more complete definition see 1987 Standard Industrial Classification Manual Executive Office of the President, OMB, p. 11.)
Statistical Discrepancy	The entry necessary to balance recorded credits and debits. Discrepancies between credits and debits arise when data are collected from many different sources. Contributing factors offsetting a balance include

	inaccurate valuation, timing differences, incomplete reporting, and errors from estimating procedures. (For a more complete definition see National Income and Product Accounts of the United States, Vol. 2, 1959-88, DOC, Economics and Statistics Administration, BEA (Washington, D.C., Sept. 1992), p. M-8.)
Survey of Income and Program Participation (SIPP)	A survey that provides data used to study socioeconomic characteristics of the population. It also provides comprehensive information on the economic resources of the U.S. population and how public transfer and tax programs affect the financial circumstances of members of the population. SIPP is intended to provide policymakers with a means to measure the effectiveness and efficiency of government tax and transfer programs, for estimating future program costs and coverage, and for assessing the effects of proposed policy changes. The survey covers the civilian noninstitutionalized resident population, and respondents are interviewed every 4 months over a 2-1/2 year period.
Survey of Pollution Abatement Costs and Expenditures	Survey of pollution abatement capital expenditures, operating costs, and costs recovered by private industry.
System of National Accounts (SNA)	The international standard for the compilation of a nation's economic accounts and statistical measures. The revised SNA adopted by the United Nations in 1993 following a decade-long revision that updated the 1968 SNA, clarified the standard, and harmonized it more completely with other sets of international guidelines. The revised SNA envisions a comprehensive recording of the stocks and the flows in the economy. For each sector that makes up the economy (business, government, and households), SNA calls for an opening balance sheet and a closing balance sheet—the stocks of assets and liabilities of the economy. And for each sector, current and capital accounts are designed to record all the transactions and other changes that explain the differences between the balance sheets—the flows of the economy.
Transfer Programs	Government programs, such as the food stamps program, in which payments are made to individuals from whom no economic activity is required in return.

Voluntary Surveys	Survey respondents are not obligated to complete a survey questionnaire; they have a free choice to answer a survey or not.

Related GAO Products

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