

**IMPROVED MEASUREMENT OF THE SERVICES SECTOR BY  
THE  
U.S. CENSUS BUREAU – AN UPDATE FOR 2004**

**19<sup>th</sup> Voorburg Group Meeting on Service Statistics**

**Mark E. Wallace  
Chief, Service Sector Statistics Division  
U.S. Census Bureau**

**October 1, 2004**

**Ottawa, Canada**

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**I. Background**

*The purpose of this paper is to provide an update to the Voorburg Group on Service Statistics with the U.S. Census Bureau's experiences and plans with respect to developing improved service sector statistics. It builds upon the paper presented on this subject in Tokyo, Japan in 2003.*

Service data are, today as they have been in the past, far less available in terms of industry and geographic detail and frequency of collection than are those for the goods-producing sector of the economy. This imbalance has its origins from a period when goods production was the larger and more rapidly growing part of the non-farm economy. The greater cyclicity of goods production, the rapid pace of technological change in manufacturing, and the importance of merchandise trade in international transactions prolonged this bias.

The last fifty years, however, have witnessed profound changes in the U.S. economy. Following World War II, manufacturing accounted for about 27 percent of GDP. Today that number is about 16 percent. Services, including retail and wholesale trade, then were approximately 40 percent of GDP and are now about 60 percent. Financial, business, scientific and professional services have more than doubled in the last 50 years while computer related services nearly doubled between 1994 and 2000. When one adds Government services to the total, almost 80 percent of GDP and employment are in services. On the trade side, exports of services in 2000 neared \$300 billion, and accounted for a \$90 billion trade surplus.

The growth of services is, of course, not endemic to the U.S. economy. Generally, as economies advance, service production as a proportion of output increases and the significance of knowledge and the information content of service activity grows. The externalization of routine services by manufacturers and the development of new high value-added business services have fueled this transition and increased each sector's dependence on the other.

## **II. Strategy for Addressing Service Data Gaps**

To address deficiencies in service sector statistics in the United States<sup>1</sup>, the Census Bureau called together an interagency group of top level officials from five major U.S. federal statistical agencies, which met for several weeks in early 2002 to develop a detailed plan for improving service sector statistics. The group included officials from the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Federal Reserve Board, the Economics Statistics Administration, and the Census Bureau. The plan's first phase included a multi-component FY 2003 budget request for improving the measurement of services. Congress ultimately approved funding for this request in February 2003. The 2003 funding was used to conduct a Quarterly Services Survey (QSS), covering key industries in technology-intensive areas like those in the \$1 trillion Information Sector. The QSS is the first economic indicator to be introduced by the Census Bureau in over 40 years and the first by any U.S. Federal agency in 30 years. Funding also has been used to provide annual data on the product composition of service industry output, and to improve source data required for computing value added for services.

The second phase of the plan includes activities covered by a FY 2005 initiative<sup>2</sup>, now before Congress, that would expand annual coverage of services industries in the SAS, expand industry coverage of the new Quarterly Services Survey, and provide annual product data for the retail and wholesale trade sectors of the economy. Serving as part of a multi-year expansion plan for improving the measurement of services, the 2005 request thus builds upon the foundation laid by new surveys and improved source data made possible by the FY 2003 funding. However, at the time of the Voorburg Group Meeting in the fall of 2004, we are not optimistic of receiving Congressional funding for implementing this initiative. Consequently, we are exploring other options for implementing selected pieces of this expansion plan.

At this juncture, it should be noted that calling together several agencies to address the gaps in service data proved to be an effective strategy for obtaining the FY 2003 funding. Together, the agencies identified specific program enhancements that truly responded to the needs of the statistical community, will significantly improve GDP and the national accounts, and will make economic data more useful to policymakers and businesses. Moreover, the agencies' collective endorsement of the U.S. Census Bureau's initiatives built a strong case for why Congress should approve the funding. Accordingly, we plan to work with the Bureau of Economic Analysis, the Bureau of Labor Statistics, and other agencies as we explore various strategies for continuing to improve the measurement of services statistics, even if we do not receive the requested Congressional funding. This then, we hope, will continue to build the case for why additional funding is needed, and would be well used, in improving measures of services.

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<sup>1</sup> See Improved Measurement of the Services Sector by the U.S. Census Bureau, by Mark E. Wallace (2003), for a summary of U.S. improvement efforts in the last 20 years, as well as a description of today's services program and existing data gaps in the measurement of service industries.

<sup>2</sup> This request for Congressional funding initially was submitted as a FY 2004 initiative. However, as the FY 2004 request was denied, it has been rolled over into the U. S. Census Bureau's request for additional funding for FY 2005.

### **III. Multi-year Expansion Plan for Implementing Improved Measures of Services**

#### **A. General**

In 2003 work began in earnest on the Quarterly Services Survey, the development of NAPCS product data for the Service Annual Survey (SAS), the SAS value added initiative, and other initiatives for improving the measurement of services.

Data collection began this year for the QSS and the expanded SAS. Despite receiving funding for FY 2003 five months after the beginning of the fiscal year, we were able to quickly assemble and train the necessary staff, which enabled us to start data collection activities according to our original schedule. The original schedule to which we adhered is provided below:

- The **Quarterly Services Survey** collected data for both 4Q2003 and 1Q2004 in April 2004. This is a new voluntary economic indicator survey so we collected three quarters of data before we published the first results in September 2004.
- We collected new product and purchased services data in the **2003 Service Annual Survey**, mailed in February 2004, targeting the three sectors included in the QSS.
- The **2003 Annual Trade Survey**, mailed in February 2004, was expanded to include manufacturers' sales branches and offices.

The following provides a detailed program chronology of our specific multi-year expansion plans for each component of the overall initiative to improve the measurement of services. **This initiative has been updated to reflect our survey achievements and experiences as well as the new (more harsh) budget reality under which we are operating as we attempt to move forward with our expansion plans.** Attachment A, Services Statistics, Expanding Annual Coverage and Product Detail, is an illustration of the plans we outline below.

#### **B. Quarterly Services Survey (QSS)**

##### **1. Implementation Activities, Using Approved Funding for FY 2003**

###### *1<sup>st</sup> Quarter of 2004:*

The QSS initially covered the following sectors:

- Information (sector 51)
- Professional, Scientific, and Technical Services (sector 54)
- Administrative and Support and Waste Management and Remediation Services (sector 56)

The survey produces estimates of total operating revenue and revenue by class of customer (residential, business, and government). It will be used by the Bureau of Economic Analysis to significantly improve their quarterly GDP and GDP by industry estimates, enabling them to provide the Federal Reserve Board and Council of Economic Advisers with timely information to assess current economic performance. Other government and private stakeholders also will benefit from a better understanding of important cyclical components of the economy.

The survey was mailed at the end of March 2004 and produced estimates for the 4<sup>th</sup> Quarter 2003 and 1<sup>st</sup> Quarter 2004. We did not begin releasing data, however, until September of 2004. At that time, we released estimates for the 4<sup>th</sup> Quarter 2003 and the first two quarters of 2004. This delayed release schedule enabled us to “prove in” concepts and to stabilize processing before

disseminating data to the public. We will release estimates no later than 75 days after the end of the quarter for each quarter thereafter. See Attachment B for information pertaining to our experience to date in introducing the QSS.

1<sup>st</sup> Quarter of 2005:

We will expand the quarterly survey to cover Hospitals and Nursing and Residential Care Facilities (NAICS 622 and 623 respectively) in the second year of the survey.

Because Hospitals and Nursing and Residential Care Facilities include a significant non-profit component, we also will collect total expenses from these firms. Total expenses are often a better measure of output than total revenue for tax-exempt organizations and will be collected for all industries where these firms are significant. We also will pretest the collection of total discharges and in-patient days for hospitals. The Centers for Medicare and Medicaid Services (CMS) and the Medicare Advisory Payment Committee (MEDPAC), an independent federal body established to advise the Congress on issues affecting the Medicare program, requested these data. Both view these data as critical elements in understanding current health trends in health-related costs. We will collect 4<sup>th</sup> Quarter 2004 and 1<sup>st</sup> Quarter 2005 data for these firms.

## **2. Plans Pending FY 2005 Budget Approval**

1<sup>st</sup> Quarter of 2006:

The QSS will be expanded to cover the following industries:

- Truck Transportation, Couriers and Messengers, and Warehousing (NAICS 484, 492, and 493)
- Securities and Commodity Contract Intermediation and Brokerage (NAICS 5231) and Other Financial Investment Activities (NAICS 5239)
- Rental and Leasing (NAICS 532)
- Remainder of Health Care and Social Assistance (NAICS 62, except Hospitals and Nursing and Residential Care Facilities to be introduced in the first quarter of 2005, as covered by the FY 2003 initiative)
- Arts, Entertainment and Recreation Services (NAICS 71)
- Other Services (NAICS 81)

We will collect revenue from all firms. We also will collect total expenses from all health care businesses and from firms in other industries that have a significant tax-exempt component (e.g., social assistance). We will explore the collection of class of customer data for all industries as well. For some (health services, and arts and entertainment), their collection probably will not be necessary.

Data will be collected for the 4<sup>th</sup> Quarter 2005 and the 1<sup>st</sup> quarter 2006. This will complete quarterly coverage of all industries now covered in the SAS.

1<sup>st</sup> Quarter of 2007:

If the 2005 initiative to expand the SAS also is approved (see SAS- Industry Expansion below), the following industries will be added to the QSS in the 1<sup>st</sup> quarter of 2007 (4<sup>th</sup> quarter 2006 data also will be collected).

- Utilities (NAICS 22)
- Transportation (NAICS 48 and 49), except rail, certificated air, and those transportation industries now covered in the SAS
- Finance and Insurance (NAICS 52), except those industries now covered in the SAS
- Real Estate (NAICS 531)
- Lessors of Nonfinancial Intangible Assets (NAICS 533)
- Selected Educational Services (NAICS 61)

## **C. SAS – NAPCS Product Data**

### **1. Implementation Activities Using Approved Funding for FY 2003**

#### **2003 Survey:**

NAPCS products were added for the following industries:

- Motion Picture and Sound Recording Industries (NAICS 512). This completed NAPCS product coverage for most of the Information Sector.

#### **2004 Survey:**

NAPCS products are being added for the following industries:

- Selected Professional, Scientific, and Technical Services (Selected NAICS 54)
- Selected Administrative and Support and Waste Management and Remediation Services (Selected NAICS 56)

**Along with NAPCS coverage of the Information Sector completed in 2003, this expansion will parallel the industries covered by the QSS.**

#### **2005 Survey:**

NAPCS products will be added for the following industries:

- Truck Transportation, Couriers and Messengers, and Warehousing (NAICS 484, 492, and 493)
- Hospitals and Nursing and Residential Care Facilities (NAICS 622 and 623)
- Arts, Entertainment and Recreation Services (NAICS 71)
- Other Services (NAICS 81)
- Balance of Professional, Scientific, and Technical Services (Balance of NAICS 54)
- Balance of Administrative Support and Waste Management and Remediation Services (Balance of NAICS 56)

The 2005 survey also will mark the introduction of the 2002 NAICS in SAS. Changes in the NAICS structure for the Information Sector will have the largest impact on SAS (especially Internet Publishing and Broadcasting – 2002 NAICS 516 and Internet Service Providers and Web Search Portals (2002 NAICS 5181). The NAPCS product data collected in the areas affected will be evaluated and questionnaire forms may be modified.

#### **2006 Survey:**

NAPCS products will be added for the following industries:

- Securities and Commodity Contracts Intermediation and Brokerage (NAICS 5231) and Other Financial Investment Activities (NAICS 5239)
- Rental and Leasing (NAICS 532)
- Balance of Health Care and Social Assistance (Balance of NAICS 62)
- Selected Other Services (Selected NAICS 81)

#### **2007 Survey:**

NAPCS products will be added for the following industries:

- Balance of Information Services (Balance of NAICS 51)
- Balance of Other Services (Balance of NAICS 81)

This will complete NAPCS product detail for all industries now covered by the SAS.

## **2. Plans Pending FY 2005 Budget Approval for Expanding the SAS**

### 2006 Survey:

If the 2005 initiative to expand the SAS is approved, NAPCS products also will be added to the following industries:

- Transportation (NAICS 48 and 49), except rail, certificated air, and those transportation industries now covered in the SAS
- Finance and Insurance (NAICS 52), except those industries now covered in the SAS

### 2007 Survey:

If the 2005 initiative to expand the SAS is approved, NAPCS products will be added to the following industries:

- Utilities (NAICS 22)
- Real Estate Investment Trusts (NAICS 52593)
- Real Estate (NAICS 531)
- Lessors of Nonfinancial Intangible Assets (NAICS 533)
- Selected Educational Services (Selected NAICS 61)
- 

## **D. SAS – Value Added**

The value added initiative involves adding the following expenses and purchased service categories to the SAS:

- Cost of purchased materials and supplies other than for resale with breakouts for expensed computer related supplies (including hardware and packaged software); and other materials, parts and supplies
- Cost of contract labor
- Purchased communications services
- Purchased computer services with breakouts for custom-coded software (including the adaption of off-the-shelf software and systems design) and data processing services
- Purchased management, consulting, administrative services, and other professional services (including legal, accounting, auditing, and bookkeeping services)
- Purchased fuels (for heating, power, and generating electricity)
- Purchased electricity
- Lease and rental payments
- All other purchased services (e.g., advertising, repairs, transportation, janitorial, and security services)

These data will be used by the Bureau of Economic Analysis to improve the quality of intermediate inputs and value added estimates in their annual input-output and GDP by industry accounts. These annual data on purchased services and materials will be used as indicators to update Economic Census data collected in the Business Expenses Survey and will provide the Federal Reserve Board, the Council of Economic Advisers, and other government and private stakeholders with timely information to assess the economic performance of service industries.

## **1. Implementation Activities Using Approved Funding for FY 2003**

### 2003 Survey:

The above expense and purchased services categories will be added for the following industries:

- Information (sector 51)

- Securities and Commodity Contracts Intermediation and Brokerage (NAICS 5231) and Other Financial Investment Activities (NAICS 5239)
- Professional, Scientific, and Technical Services (sector 54)
- Administrative and Support and Waste Management and Remediation Services (sector 56)
- Hospitals and Nursing and Residential Care Facilities (NAICS 622 and 623)

2004 Survey:

The above expense and purchased services categories will be added for the following industries:

- Truck Transportation, Couriers and Messengers, and Warehousing (NAICS 484, 492, and 493)
- Rental and Leasing (NAICS 532)
- Health Care and Social Assistance (NAICS 62, except Hospitals and Nursing and Residential Care Facilities where data are added in the 2003 survey)
- Arts, Entertainment, and Recreation Services (NAICS 71)
- Other Services (NAICS 81)

This will complete the addition of these items for all industries now covered by the SAS.

See Attachment C for information pertaining to our experience to date in adding NAPCS product data and expenses and purchased service categories to the SAS.

## **2. Plans Pending FY 2005 Budget Approval for Expanding the SAS**

2006 Survey:

If the 2004 initiative to expand the SAS is approved, the above expense and purchased services categories will be added to the following industries:

- Transportation (NAICS 48 and 49), except rail, certificated air, and those transportation industries now covered in the SAS
- Finance and Insurance (NAICS 52), except those industries now covered in the SAS

2007 Survey:

If the 2004 initiative to expand the SAS is approved, the above expense and purchased services categories will be added to the following industries:

- Utilities (NAICS 22)
- Real Estate Investment Trusts (NAICS 52593)
- Real Estate (NAICS 531)
- Lessors of Nonfinancial Intangible Assets (NAICS 533)
- Selected Educational Services (Selected NAICS 61)

## **E. SAS – Industry Expansion (FY 2005 Budget Initiative Component ONLY)**

### **1. Plans Pending FY 2005 Budget Approval for Expanding the SAS**

2005 Survey:

117 industries will be added in the following sectors:

- Utilities (NAICS 22)
- Transportation (NAICS 48 and 49), except rail, certificated air, and those transportation industries now covered in the SAS
- Finance and Insurance (NAICS 52), except those industries now covered in the SAS
- Real Estate (NAICS 531)
- Lessors of Nonfinancial Intangible Assets (NAICS 533)
- Selected Educational Services (Selected NAICS 61)



Data content for the 2005 survey will be limited to total and e-commerce revenue. Products and purchased services data from the Value-Added initiative will be added for the 2006 and 2007 surveys (as described above).

## **F. Fallback Plans (If We Do Not Receive FY 2005 Budget Approval)**

As stated previously, at this time we are not optimistic of receiving Congressional funding for FY 2005 to expand industry coverage and data detail for the SAS or the QSS. If no funds are received in the 2005 budget to expand SAS or QSS, we will consider redirecting existing Bureau of the Census funds to accomplish part or all of the expansion over the next several years. To do this, we plan to work with the Bureau of Economic Analysis, the Bureau of Labor Statistics, and other agencies as we explore various strategies for continuing to improve the measurement of services statistics. The various agencies agree that the first priority is to expand SAS, followed by expansion of the QSS. Further expansion options within which we will work are described below.

### **1. SAS Expansion Options**

#### **SAS – Industry Coverage**

The U.S. Census Bureau has already obtained, from the Bureau of Economic Analysis, the following priority ranking of industries for SAS expansion:

1. Finance and Insurance (NAICS 52)
2. Transportation (NAICS 48-49)
3. Education (NAICS 61)
4. Utilities (NAICS 22)
5. Real Estate (NAICS 53)

#### **SAS – Data Detail**

The U.S. Census Bureau has also obtained, from the Bureau of Economic Analysis, the following priority ranking of data detail for covered industries:

1. Total revenue
2. Detailed expenses
3. NAPCS products

### **2. QSS Expansion Options**

Because of the critical nature of services and the importance of having estimates more frequently than once a year in order to improve the national accounts, we must also consider expanding industry coverage for the QSS.

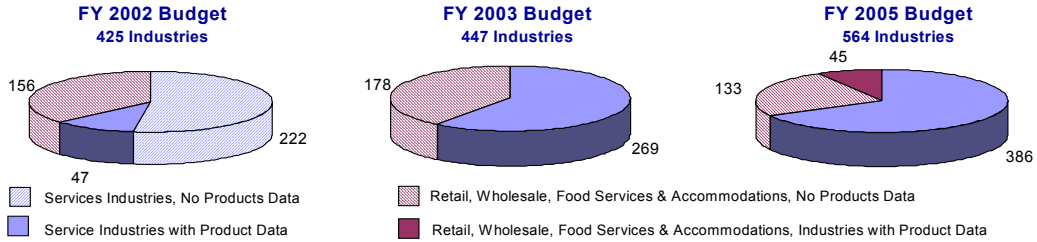
1. Arts, Entertainment, and Recreation Services (NAICS 71)
2. Other Services (NAICS 81)
3. Balance of industries to mirror the current collection of 250 industries in SAS, excluding the 117 additional industries

#### **IV. Conclusion**

Over the years as well as very recently, much has been done to improve the measurement of services in the U.S. economy. However, there is much left to do in this regard. Having received Congressional funding for FY 2003 to improve the measurement of services statistics, firm plans are in place to address longstanding data gaps. The next several years promise to bring exciting developments as the U.S. Census Bureau works with its various partner agencies to expand industry, product, and data content for the Service Annual Survey and to expand industry coverage for the Quarterly Services Survey.

Attachment A

Service Statistics  
Expanding Annual Coverage and Product Detail



FY 2002 Budget Base Program	FY 2003 Budget +\$5.5 Million	FY 2005 Budget \$4.0 Million
<b>Expanding Annual Industry Coverage</b>		
Covers 269 service industries annually but excludes 117 other industries, including finance, insurance, real estate and utilities	Covers 269 service industries annually but excludes 117 other industries	<b>Adds annual coverage of 117 service industries, including finance, insurance, real estate, and utilities</b>
Covers 69 wholesale industries annually but excludes agents, brokers, & manufactures' sales offices	<b>Covers all wholesalers, new data for 22 industries</b>	Covers all wholesalers in annual survey
Covers all 72 retail industries annually	Covers all 72 retail industries annually	Covers all 72 retail industries annually
<b>Expanding Annual Detail</b>		
Data on service products available annually for 47 service industries	<b>Product data available annually for 269 service industries</b>	<b>Product data available for an additional 117 service industries</b>
No product data for any retail or wholesale industries	No product data for any retail or wholesale industries	<b>Products data for selected retail &amp; wholesale industries selling diverse products</b>
Very limited data on merchandise & services purchased by service industries	<b>Purchased services data available for 269 service industries</b>	<b>Purchased services data available for 386 service industries</b>
Exported services data available for 19 service industries	Exported services data available for 19 industries	Exported services data available for 19 industries
<b>Increasing Frequency</b>		
No service data available more frequently than annually	<b>New quarterly services indicator covers 4 service sectors</b>	<b>Quarterly services indicator expanded to cover additional 6 service sectors</b>
Retail and wholesale estimates available monthly	Retail and wholesale estimates available monthly	Retail and wholesale estimates available monthly

## Attachment B. Our Experience, to Date, in Introducing the Quarterly Service Survey

### 1. Sampling Information – Sample Size

<u>NAICS Sector</u>	<u>No. of reporting units</u>
51 Information	1,458
54 Professional, Scientific, and Technical Services	2,357
56 Administrative and Support and Waste Management and Remediation Services (Except Landscaping Services)	1,158
Total	4,973

### 2. Response Information

#### First Quarter

1. 76% (unit response)
2. 81% (dollar response)

#### Second Quarter

1. 71% (unit response)
2. 80% (dollar response)

#### Response modes and rates (as a % of total unit response)

	<u>2<sup>nd</sup> Quarter</u>	<u>1<sup>st</sup> Quarter</u>
Mail	43.09	49.11
Internet	27.27	22.68
Fax	22.16	18.80
Telephone	7.48	9.41

**3. Seasonal Adjustment** – These data will not be seasonally adjusted until we have at least 16 quarters of data.

**4. Benchmarking** – We will benchmark yearly to the Service Annual Survey and every five years to the Economic Census.

#### **5. First Data Release** –

The first quarterly report is available at <http://www.census.gov/qss.html>

The Bureau of Economic Analysis' statement about the QSS is available at: [http://www.census.gov/Press-Release/www/releases/archives/BEA\\_on\\_qss.pdf](http://www.census.gov/Press-Release/www/releases/archives/BEA_on_qss.pdf)

## **Attachment C. Our Experience, to Date, in Adding NAPCS Product Data and Expenses and Purchased Service Categories to the Service Annual Survey (SAS)**

In the summer of 2003, the Current Services Branch of the U.S. Census Bureau conducted 52 company visits in five major cities to obtain feedback about the new expense items. In addition, we consulted with the Bureau of Economic Analysis and U.S. Census Bureau staff working on the Business Expense Survey (BES).

During our 52 company visits, we heard from company representatives who had provided these types of expenses for the 2002 BES. The company representatives were concerned with the duplication and additional burden these expenses incurred if they were asked in both programs. We assured them it was the Census Bureau's goal to eliminate duplication of data between programs wherever possible. In addition, we explained our organization's commitment to reducing and managing respondent burden for companies reporting in various surveys. Accordingly, the U.S. Census Bureau has determined that the Service Annual Survey will be the collection instrument for the detailed expenses for Service industries for 2007 instead of the BES.

Due to the burden already placed on companies receiving the SAS forms, we will create a common set of core expense items. SAS and other Census Bureau programs collecting annual expenses will use this set whether or not it is an economic census year. Our goal is to define the core set of expenses by the end of 2004. We will ask this new set of expenses for the first time on all of our 2005 SAS forms, mailed in January 2006, which starts the first year of our new sample.

SAS currently covers over 260 industries, including almost every 5- and 6-digit NAICS industry within each sector and subsector listed below. In addition, all industries collect total revenue and e-commerce revenue. All or a portion of these industries collect product lines, sources of revenue, total expenses, detailed expenses, exports, and inventories. The industries are within:

Truck Transportation (NAICS 484, 492, and 493)  
Information (NAICS 51)  
Securities and Commodity Contract Intermediation and Brokerage (NAICS 5231), and  
Other Financial Investment Activities (NAICS 5239)  
Rental and Leasing (NAICS 532)  
Professional, Scientific, and Technical Services (NAICS 54)  
Administrative and Support and Waste Management and Remediation Services (NAICS 56)  
Health Care and Social Assistance (NAICS 62)  
Arts, Entertainment, and Recreation Services (NAICS 71)  
Other Services (NAICS 81)

In the 2004 SAS, to be mailed in January 2005, we will collect product lines for specific industries in NAICS Sector 54 and NAICS Sector 56.

