Volume Title: A New Architecture for the U.S. National Accounts

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Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-41084-6

Volume URL: http://www.nber.org/books/jorg06-1

Conference Date: April 16-17, 2004

Publication Date: May 2006

Title: Panel Remarks:

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URL: http://www.nber.org/chapters/c10210

Panel Remarks

Thomas L. Mesenbourg

It's a pleasure to have the opportunity to describe the Census Bureau initiatives to improve the National Accounts. We at the Census Bureau regard the BEA as our most important customer, and much of what we do to improve our programs is guided by the needs of the BEA. We like to say that about three-quarters of the source data the BEA uses to develop its quarterly GDP estimates depends directly or indirectly upon the data generated by the Census Bureau. That number points out that improvements in the National Accounts call for the BEA and the Census Bureau to move forward in lockstep.

Let me touch on our plans to improve our data in three broad areas—better and more timely services data, more detailed data to help BEA to develop its input-output table, and additional data on capital inputs. In the case of services, I'll describe some improvements that you probably heard about earlier in the conference. The point is that we are now doing what we promised we would do a year ago. We are now implementing the new initiatives we received funds for as part of the fiscal 2003 economic statistics initiatives.

We are now collecting data on selected service industries on a quarterly basis. Our first quarterly survey actually went into the field on March 31, 2004, with the initial focus on information, communications, and technology intensive industries. We're covering three sectors in the first year and selected industries within those sectors. We're starting by requesting data for the first quarter of 2004 and the fourth quarter of 2003. We will mail the

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second-quarter survey at the end of June. We are going to collect three quarters of data, making sure we have established consistent reporting arrangements with surveyed companies. This is a voluntary survey, and we will publish data in about mid-September 2004. The first release will cover the fourth quarter 2003 through the second quarter of 2004. After that, we will be releasing quarterly data no later than seventy-five days after the end of the referenced quarter.

With the funding we have on hand as part of the 2003 appropriation, we will expand the new quarterly survey next year to include hospitals, nursing and residential care facilities. The president's 2006 budget, which is pending, includes a request for additional funding to expand the quarterly survey to add coverage of eight additional service sectors.

I should add that the president's 2006 budget also includes an initiative to fund the expanded annual collection of industry data from about 117 additional service industries, adding coverage of some critical sectors that are now covered only in the economic census, once every five years. Namely, finance, insurance, real estate, utilities, and those transportation industries that we don't cover annually now. We had hoped to get funding in that this initiative in the 2004 or 2005 budgets. It didn't happen, but everybody, including the Office of Management and Budget (OMB) agreed that remedying this glaring shortcoming in our services data justified resubmitting the request to Congress in fiscal year (FY) 2006.

Turning back to improvement activities that we actually have underway, we have begun a phased-in expansion of the Services Annual Survey (SAS). Right now SAS covers 269 service industries. The content expansion includes first time product data from these service industries. The 2003 SAS showed product data for the information sector. Starting in survey year 2004, we began collecting annual information on the cost of purchased services and materials. This new collection includes data on what companies in the various service industries are spending on such things as purchased materials, contract labor, software, data processing, telecommunication services and management and consulting.

Greater detail on outputs and more detail on intermediate inputs will help BEA strengthen its estimates of value added service activity. Here again the president's 2006 budget includes funds to keep this momentum going and we hope to collect more product detail for retailers and wholesalers, about forty to fifty industries in those two sectors. As regards information on capital expenditures, the Census Bureau is mailing in mid-April 2004 an expanded version of our Annual Capital Expenditures Survey, which you just heard about in the last session.

For the first time, we are going to be able to provide annual, detailed information on business expenditures, both capitalized and expensed, on hardware, software and communication services. On an annual basis, starting with data year 2003, we will be collecting data on business purchases of

computers, communications equipment, and high-tech medical equipment. We will publish information by the industry categories we publish in ACES. We also will be providing data on software, capitalized and expensed by industry, we hope, and total software by the categories of prepackaged, custom, and developed in-house, though that data will not be available by industry. The first release of this new information is scheduled for May 2005.

I'm aware of the view that federal statistics give a fair picture of who makes capital investments but not such a good picture of where those capital goods are actually purchased. We think the expansion of the ACES survey will remedy that shortcoming.

I've been describing steps we are taking in our current economic statistics programs to help the BEA improve the National Accounts. I should also mention that we built improvements into the 2002 Economic Census aimed at helping BEA. On March 29, 2004, we released the first of the 1,700 data reports that will flow out of the 2002 Economic Census. That was the advanced summary statistics for the United States. The data release schedule for the 2002 Economic Census has been accelerated to support BEA's efforts to improve the timeliness of the I-O tables.

For the first time the Economic Census will publish an industry series for both the goods-producing and the non-goods-producing sectors of the economy. Between now and the end of December 2004, we will produce 651 individual industry series reports. This accelerated schedule will provide BEA with the manufacturing and mining data four months earlier than five years ago; the manufacturing product class information, eleven months earlier; and the retail and wholesale trade commodity line information, about twenty months earlier than five years ago.

Let me conclude by mentioning one other improvement activity. We have expanded our 2003 Annual Survey of Wholesale Trade to cover sales branches and sales offices of domestic manufacturers. We refer to them as nonmerchant wholesalers. Measures of economic performance for those firms have been covered only once every five years in the economic census. Now we'll start providing these data annually. In March 2004, we started collecting data on these nonmerchant wholesalers and plan to release data in April 2005. The big payoff from this collection will be in terms of better inventory data.

For a long time the BEA has wanted to have better data on what amounts to about $50 billion in wholesale inventories held by manufacturers' sales offices and branches. And given how inventory swings can affect GDP estimates, improvements in this area should certainly be welcome.

To sum up, we recognize the vital importance of the macro measures of our economy and we craft our improvement efforts in close collaboration with BEA and BLS and the Federal Reserve Board, I might add. At the Census Bureau, our job is to gather data—and that, as a task, is not get-

ting any easier. Indeed, it's becoming more and more of a challenge. But as we wrestle with these challenges, I can guarantee you that we will be keeping your needs in mind.

Kathleen Utgoff

The first thing that I want to do is affirm the eagerness of those of us at the BLS to work with BEA to improve our contributions to the National Accounts and to reconcile and coordinate the measures that are produced by both the BEA and BLS. As you know, the National Accounts are among the most important and most closely watched measures in the U.S. statistical system. BLS provides much of the information used by BEA in constructing its accounts and we use BEA information for productivity measures. As a result, close cooperation between our agencies is absolutely essential.

Let me just briefly talk about some of the things that we are doing that are related to the National Accounts. You heard about one of these efforts this morning at a session that discussed the integration of BEA and BLS production accounts. That paper compared a theoretical set of consistent measures with those that are produced now. And the last part of the paper begins the enormous task of comparing the many detailed industry output measures prepared by the two agencies.

Steve Landefeld really deserves an enormous amount of credit for this effort. And I know that both the BEA and BLS are committed to further progress. We're also working with BEA to compare the CPI-U and the PCE chain weight index. I think that, undoubtedly, this work will lead to better, more transparent measures. We're now engaged in other efforts that should improve the National Accounts. Our payroll survey, which is called the CES, or the 790, will be modified to produce better measures of personal income. The earnings measure as well as the hours measure will be broadened to include all employees, rather than just production and nonsupervisory workers. The BEA needs were very important in the consideration to make this change. But I have to say another impetus was that in an economy where there is declining manufacturing and increasing service sector activity, it's becoming increasingly more difficult to distinguish between non-production workers and non-supervisory workers and other workers. Respondents tell us that this is a significant problem. So we want to move in another direction.

Another change to the payroll survey is the addition of a total wage series. That will include non-wage cash payments, such as bonuses. We expect the publication for both of these changes to begin early in 2006. We're also working on improvements to both the consumer price index and the

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producer price index. In the consumer price index we're increasing the frequency of outlet rotation and then we're resampling within outlets to keep our sample more current. And we're continuing with many of the additional initiatives that we had including refining our hedonic models to measure quality change.

Improvements in the PPI include coverage expansions. The PPI was expanded to include half the industries in retail trade, completing PPI coverage for that sector. The PPI measures the change in margin for this sector, which is consistent with the treatment in the input-output accounts. This coverage expansion will continue. Indexes will be added for additional industries in the service sector and for non-residential construction.

One of the noteworthy additions is the anticipated publication next year of indexes for the banking industry. This project has been conducted with the close cooperation of BEA. The intent was to make the price changes measure consistent with the output measure. The methodology that is currently being tested is the user cost approach.

The last upcoming event that I want to talk about is the publication of the first estimates from the American Time Use Survey in summer 2005. The survey produces a wealth of information from a sample of 1,800 households a month that are exiting from the Current Population Survey. This survey will provide important data for nonmarket national accounting, and it will also be invaluable in understanding and assessing available hours data for measuring productivity. Micro data will be available from the ATUS as well. I should point out that I think the Time Use Survey is a major advance, and Katharine Abraham deserves all the credit for getting that done. It was a wonderful project to get started and a great job.

Larry Slifman

Tom Mesenbourg and Kathleen Utgoff have just stated what their institutions are doing, and plan to do, to help further the integration of the national accounts. Although I am the Federal Reserve's representative on this panel, I do not want to repeat what Al Teplin and his co-authors have already said about the Federal Reserve's efforts (chap. 11 in this volume). Consequently, I will offer more general comments on some of the issues raised at this conference regarding the integration of the accounts.

Three types of integration. It seems to me that at this conference the word "integration" has been used in three ways. The first way, as exemplified by the SNA, is integration as providing a unified accounting framework. The second way is what I would call process consistency, which involves such things as making sure that the various statistical agencies use consistent

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definitions of sectors, sector boundaries, and transactions. The papers by Teplin et al. (chap. 11 in this volume) and by Fraumeni and her co-authors (chap. 9 in this volume) are examples of this type of integration. The third way, and one that received a good deal of discussion in this conference, is the elimination of statistical discrepancies.

The benefits of integration. As with most things, each type of integration of the national accounts has both benefits and costs. Let me start with some of the benefits. With regard to the unified accounting framework, one benefit is obvious: Integrated accounts are more consistent with economic and accounting theory. In addition, full integration makes the accounts seamless, which makes it easier for researchers to trace out a greater variety of relationships.

Process consistency is clearly critical for the implementation of a unified accounting framework. Unless the statistical agencies agree about exactly where to draw sector boundaries or exactly how to define specific transactions, fully integrating the accounts will be impossible. Such work is very time consuming and detailed, but it is also very important. One behind-the-scenes benefit of this conference has been the progress made by the BEA and the Federal Reserve in identifying inconsistencies of treatment between the NIPAs and the Flow of Funds Accounts and in resolving many of those inconsistencies. I know that we at the Federal Reserve look forward to continuing our collaboration with the BEA and to making further progress in achieving process consistency.

Finally, what are the benefits of eliminating statistical discrepancies? As best I can tell, the primary benefit is that doing so removes confusion (or, at least, reduces it) for less sophisticated users. That, in my opinion, is not an inconsequential benefit.

The costs of integration. But integration also comes with costs. For example, achieving complete process consistency may involve appreciable resource costs for the statistical agencies, and we must keep these costs in mind when we are thinking about new architectures and integration. But I don't think that there are any significant analytical costs to moving forward with achieving complete process consistency.

The same cannot be said for eliminating statistical discrepancies. I like the way Jack Triplett put it: Discrepancies tell us that there is something mushy in the data. Knowing that something is mushy in the data is valuable information, and throwing it away, I believe, comes at a significant cost. Let me give you one example of the potential cost. During the mid-1990s, the contemporaneous data for the income side of the national accounts began to capture the acceleration in productivity considerably sooner than the product side.[1] Had the BEA been using methods at that time that elimi-

1. See, for example, L. Slifman and C. Corrado, "Decomposition of Productivity and Unit Costs," November 18, 1996, available at http://www.federalreserve.gov/pubs/oss/oss1/oss1.doc.html.

nated the statistical discrepancy, the information would have been unavailable to analysts and government officials, and important policy errors might have occurred.

Recommendations. What are my recommendations? First, process consistency is something that is good for its own sake. The more the statistical agencies can harmonize the accounts and make them seamless, the better off all of us are. To the extent that resources allow, the agencies should be moving forward vigorously with their efforts at process consistency.

Next, as I suggested previously, with regard to statistical discrepancies, the first rule should be: don't throw away any information. In practical terms, this rule means that the BEA should make available to researchers all the unpublished "atoms" used to construct the accounts before any algorithms are applied to eliminate statistical discrepancies. Doing so will enable sophisticated users to see for themselves whether there is something mushy in the data and draw their own conclusions.

Finally, I am not saying, however, that the BEA should necessarily abandon its plan to eliminate statistical discrepancies. But, before it makes a final decision on the method, the BEA needs to examine more options for the best way to eliminate discrepancies. These options should be systematic and reproducible, and they should be guided by economic theory, as Joe Beaulieu and Eric Bartelsman were in their chapter (chap. 8 in this volume), and by the principles of information theory for optimally combining alternative measures.[2]

Katharine G. Abraham

A major challenge in the integration of the national economic accounts or of economic statistics more generally is how to deal with discrepancies in the behavior of different but obviously related measures. Sometimes the fact that data collected from different perspectives tell a different story may be illuminating, though even in these cases, it often would be helpful to have more information about the reasons for the disagreement than typically is available. On the other hand, data inconsistencies that arise simply because different agencies have made different operational decisions—classifying businesses in different industries, using different deflators or deflation methods to produce real output estimates, and so on—seem, as a general rule, very unlikely to be useful to anyone. Although I recognize that it may be difficult to reach agreement on common approaches in such cases, I nonetheless would argue that we are doing data users a serious disservice if we fail to work toward that goal.

A good example of a case in which differences in related series seem

2. See Beaulieu and Bartelsman (this volume).

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likely to contain useful information can be found in the two measures of employment derived from the monthly establishment survey and the Current Population Survey. These two measures are designed to measure different things. The establishment survey measures the number of jobs, while the household survey measures the number of employed people; the establishment survey excludes jobs in agriculture and private households, while people employed in these sectors are included in the household survey; the establishment survey excludes the self-employed, who are included in the household survey; and so on. Having information about employment on both conceptual bases should enrich our understanding of labor market conditions. These conceptual differences are not, however, the only reason for the observed differences between the establishment and the household survey employment measures. Even after adjusting the household survey employment figures so that they align conceptually with the payroll survey employment figures, employment as measured by the household survey grew more slowly during most of the 1990s, and has grown more rapidly over the past several years. The fact that large discrepancies in measured employment growth remain even after adjusting for the difference in underlying concepts suggests that, despite the considerable efforts made to ensure both series' accuracy, at least one of them must be wrong! There is a clear need for research designed to shed light on this rather troubling discrepancy.[3]

To take another example, the Consumer Price Index (CPI) and the Personal Consumption Expenditure (PCE) deflator are related but not equivalent data series. Both relate to trends in the prices that consumers pay, but there are important scope and concept differences between the two series. These include the significantly broader coverage of the PCE deflator and the use of a chain-weighted Fisher formula rather than a fixed-weight Laspeyres formula in its calculation (see Fixler and Jaditz 2002 for further discussion). But scope and concept differences are not the whole story; the selective use of different component price indexes even where the CPI and the PCE deflator overlap also has caused the two series to behave differently. It may be that there are compelling conceptual or other reasons for these choices, but absent some compelling reason to do otherwise, it would make life simpler for the data user if CPI component price indexes were used where available in producing the PCE deflator.

Differences in the behavior of the Bureau of Economic Analysis (BEA) and Bureau of Labor Statistics (BLS) industry output measures, discussed in detail by Fraumeni, Harper, Powers, and Yuskavage (chap. 9 in this volume), provide another example of potentially confusing data discrepancies. The BEA and the BLS have made considerable progress in harmoniz-

3. See Nardone, Bowler, and Kropf (2003) for a discussion and exploration of possible explanations for the divergence between the two series during the 1990s.

ing their manufacturing industry output measures, largely by agreeing that they would use a common set of price deflators, but significant differences across alternative measures of nonmanufacturing industry output remain. As explained by Fraumeni et al., there are differences in the output concepts underlying the alternative series, but as an empirical matter these conceptual differences appear relatively unimportant. Considerably more important are differences in the source data used to produce the different nonmanufacturing measures and differences in the deflators and deflation methods adopted for their construction. The BEA and the BLS are committed to developing a better understanding of the sources of observed differences in their industry output measures and to working toward greater consistency "where appropriate." I applaud this commitment and hope that the two agencies will be aggressive in their pursuit of greater consistency, rather than being content to develop explanations for why their output measures differ and leave it at that.

To take another example, although they rely on essentially the same underlying source data, BEA and BLS capital stock measures embody different assumptions about how the services provided by different types of capital assets decline with the age of the asset. The BEA assumes that the efficiency of capital assets declines geometrically with age; the BLS, on the other hand, assumes a hyperbolic age-efficiency function (see Fraumeni 1997 and Dean and Harper 1998). The BLS also has not adopted the longer assumed service lives for residential structures implied by the depreciation rates that the BEA adopted in 1997 (U.S. Bureau of Labor Statistics 2003). As has been pointed out to me by both BEA and BLS staff members, the different assumptions made by the two agencies in this case generally lead to similar results in practice, which arguably means that the differences in methodology aren't worth worrying much about. Still, these methodological differences can be confusing to those who would like to understand how the two agencies' capital stock series relate to one another. Surely this is a case where at least in principle there is a right answer and we should be able to come to a mutual agreement about the assumption that most closely approximates that right answer.

The differences in the industry classification of business establishments on the BLS and Census Bureau business registers, something that came up in passing during discussion of the Lawson, Moyer, Okubo, and Planting paper (chap. 6 in this volume), highlight a case in which having one solution clearly would be preferable to having competing solutions. Given the applicable classification structure, there is in principle one and only one correct industry code for each business establishment. It may be that both the source data used by the BLS and the source data used by the Census Bureau can be helpful for determining the proper industry assignment, but maintaining two separate registers is difficult to defend on anything other than historical grounds. Differences in industry classification on the two

business registers cause real problems for data users who seek to combine industry information based on the two lists. The same comment applies to differences in geographic coding across the two lists. Joint work is underway at the BLS and Census Bureau to *understand* these differences, and I would commend the staff involved for the progress that has been made to date on this important project. Still, it seems clear that, from the data user perspective, *eliminating* the differences between the two lists rather than simply *understanding* them ought to be the ultimate goal.

Working toward the harmonization of different but related statistical series, especially those produced by different agencies, is of course easier said than done. Those responsible for producing any individual data series are, understandably enough, concerned primarily with getting that data series out the door. Moreover, the conscientious and well-qualified staff members who produce each of the separate data products understandably may be reluctant to give up the freedom to apply their own best professional judgment about exactly how their product should be constructed. Their reluctance may be heightened by the time and energy that negotiating common approaches unavoidably requires and skepticism that common solutions will in any way improve their own data products. Still, to the extent that coordination among the producers of related data products is neglected, the cumulative effect will be to make life unnecessarily difficult for users of the data.

What can be done about this situation? Given the opportunity to redesign the statistical system from scratch, I might make the Director of the Bureau of Economic Analysis the final arbiter regarding problematic differences in methodology across economic data programs, especially those that feed the national accounts. It is, after all, the work of the BEA for which these differences cause the most severe problems, as inconsistent data from different sources must somehow be reconciled. In one particularly important case—the differences in industry classification between the BLS and Census Bureau business registers—harmonization almost certainly will require changes in the law governing access to Internal Revenue Service records for statistical purposes. But even without making Steve Landefeld the economic data czar and even without the remaining changes in the law that governs statistical data sharing that we all have been awaiting, there is much that can be done. Given all of the day-to-day demands that are placed upon them, the senior management and the staffs of the BEA, the BLS, and the Census Bureau deserve our praise for the considerable progress made to date toward harmonizing their data products. I would inveigh all of them to continue to make this both a goal and a priority for our economic data programs.

J. Steven Landefeld

There are many ways that a statistical system can achieve integration and consistency among its various statistics. One option is to establish a central statistical agency and mandate that it use a single and consistent set of concepts, methods, and source data for each of its interrelated statistics. However, within the long-established decentralized U.S. statistical system, marginal change through increased coordination and data sharing is likely to be a more practical solution than attempting to change the myriad of laws and organizational structures necessary to merge the various U.S. statistical agencies. It also likely to be a solution that produces more accurate and relevant data than that produced by a monolithic central statistical agency since it preserves the innovation that can be sparked within a decentralized system.

Despite the many working groups formed over the years to explore the creation of a central statistical agency, there has been little progress in moving toward such a system. Part of the problem is the many structures and laws that would have to be changed and the absence of a compelling argument for consolidation. What has developed in recent years is a series of changes in the various statistical agencies producing economic statistics that attempt to capture the benefits of both centralized and decentralized systems. These changes include

- increased coordination in filling gaps in source data, in updating classification systems, and in confronting and reconciling differences in the data produced by the separate agencies;
- changes in laws and regulations that permit limited sharing of microdata across the separate agencies with the ultimate goals of improving data consistency and accuracy and of reducing the burden on respondents from the separate agencies' economic surveys; and
- development of more easily accessible and consistent information on central databases available through common (www.fedstats.gov) and linked web sites (www.bea.gov, www.bls.gov, and www.census.gov).

The papers in this conference provide numerous examples of the efficacy of this approach to achieving the benefits of a centralized statistical system within a decentralized system. For example, the development of BEA GDP-by-industry and input-output accounts that are consistent with each other and ultimately with the BLS productivity estimates illustrate how improved coordination in filling data gaps along with coordination in developing consistent source data and methods can produce more consistent *and* more accurate data.

In developing more consistent GDP by industry and I-O value-added

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estimates, the BEA—on the advice of its advisory committee—decided against using a single methodology based on benchmarking to the I-O tables. Instead, it embarked on a two-pronged approach that involved (a) working with the Census Bureau and BLS to improve the accuracy and timeliness of the source data on services and intermediate inputs[4] while at the same time (b) developing a set of new and consistent estimates that essentially used a weighted average of two estimates for each industry, with each estimate depending on separate source data and methods. The weights are based on the assessment of the relative accuracy of the source data and methods for each of the components. With this approach no information is lost, and the resulting estimate—which uses all available data—is not only more consistent but more accurate.[5]

The BEA and BLS have also adopted a strategy of confronting and reconciling the differences in their gross output and value-added series with the goal of picking the best possible combination of source data and methods rather than simply adopting one of the agencies' estimates. In some cases, however, such as the definition of business product, the BEA has simply adopted the BLS definition in the interest of consistency, sacrificing the small marginal advantage of the BEA's definition for users of its accounts.

Data sharing offers the largest potential gains to integration. One of the most significant inconsistencies confronted in U.S. industry data is illustrated by the differences in the industry data from the Census Bureau and BLS used in the BEA's I-O accounts. The BEA uses Census industry and product data in measuring commodity and industry output, intermediate products, and final demand in the I-O accounts, but use BLS wage and salary and other data in measuring value added. The differences can be quite large and indirectly account for a large share of the inconsistencies in the industry account estimates.

For example, while the aggregate sum of compensation across industries is roughly the same whether BLS or Census data are used, the differences in individual industries can be quite large, with differences in levels as large as 15 percent and differences in growth rates that are nearly twice as large. As was found in an earlier microdata linkage of BEA-BLS-Census data authorized by the International Investment and Trade and Services Act, a large share of the differences in the industry data appear to be due to differences in the classification of individual firms to specific industries or differences in the treatment of auxiliary units.

4. See the panel remarks by Kathleen Utgoff and Thomas Mesenbourg for a complete catalogue of the improvements that BLS and Census have embarked upon in filing gaps in the data provided by the BEA, BLS, and Census.

5. For a further discussion of consistency versus accuracy and the need for a statistical technique—rather than forcing estimates to a single method and control total—see the accompanying panel remarks by Lawrence Slifman and Katherine Abraham.

While the papers presented at this conference point the way toward collaboration within a decentralized system, much work remains. Additional changes in rules and legislation are required for data sharing that extends beyond those limited kinds of sharing now permitted. Only with those changes can we achieve the larger benefits of data sharing envisioned by the initial data-sharing legislation. The statistical agencies, the Office of Management and Budget, and the Congress will need to build on their success in developing and funding cross-cutting initiatives that fill gaps, integrate, and update the nation's economic statistics. Despite major success in recent years, for example, large gaps remain in measures of services output and prices, international trade in services, and incomes. Progress over the next five years comparable to the last five should yield a set of U.S. economic statistics from this decentralized system that are even more consistent, more accurate, and more relevant than what is available today.

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