THE BROOKINGS INSTITUTION

MEASURING UP IN A CHANGING ECONOMY:

A LOOK AT NEW U.S. SERVICE SECTOR DATA AND

WHY IT MATTERS

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Keynote Address:

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Statistical Agency Presentations:

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Panel Discussion:

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P R O C E E D I N G S

MS. DYNAN: Welcome everyone. I'm Karen Dynan, Vice President and Co-Director of the Economics Studies Program here at Brookings and I'm happy to have you all here for this event. I appreciate everyone coming out. I know the weather is horrendous and I hear the traffic is also quite a challenge. So thank you for coming.

Let me offer a little background as to why we're here today. Just about 24 hours ago the Census Bureau issued its estimates of activity in key services industries for the fourth quarter 2009. These data are based on a quarterly survey of services firms, a relatively new survey by the standards of these things, having been introduced a little more than 5 years ago. And it's also an evolving survey. When it began it covered just a handful of services sectors, but it has expanded gradually over time to cover and more services industries. For example, yesterday's release was important because it was the first to include information about the finance and insurance sectors.

Why is this initiative so important? The services industry as you all know has grown to become a much more important part of our economy. There are lots of ways to illustrate this, but since you're all consumers, I'll pick one that should resonate on that level. Fifty years ago the average American spending on services was less than half of their total consumption, it was 47 percent, and today it's two-thirds of our total consumption. Yet despite this important trend, until this Census Bureau initiative, we just didn't have hard, nationally representative data about many services industries particularly on a quarterly basis. This has posed a challenge for the Bureau of Economic Analysis as it strived to publish national accounts to accurately capture what's going on in our economy from quarter to quarter, and it's been a problem for policymakers and

private-sector businesses as they try to make important decisions based upon economic developments in real time.

We have a terrific set of speakers today who are going to expand on all these points. Our first speaker is Deputy Secretary Dennis Hightower from the Commerce Department. He has more than 30 years of experience in global marketing, strategic planning and operations in international general management, having held leadership positions at a number of high-profile private-sector companies and serving on numerous boards. He is also a former Harvard Business School professor and a decorated Vietnam veteran. He was sworn in as Deputy Secretary in August 2009 and now he is applying his vast experience driving efficiency and effectiveness throughout the Commerce Department and we are honored to have him here today. Please join me in welcoming Deputy Secretary Hightower.

MR. HIGHTOWER: Good morning everyone and thanks to you for those of you who could get across the 14th Street Bridge because they had everything blocked off, in fact right at the Commerce Department with a very tragic accident there. I really want to thank the Brookings Institution for hosting us today and for all of you who are here.

Several years ago just before the calendar turned to 2000, the Department of Commerce did an informal internal survey to determine what really marked the department's greatest achievements of the 20th century. The list of possibilities included the Wright Brothers' patent, the first atomic clock, foster Public Television and strengthened weather prediction. We're still working on that part. But the winner was our development of the gross domestic product which Paul Volker at the time called, "Unmatched in the world."

The GDP has ranked as one of the three most influential measures that affect U.S. financial markets and the department has made exceptional efforts over the years to ensure that the GDP measure keeps up with the rapid changes in the U.S. economy and economic globalization. Since the GDP was first invented, the primary focus often has been on measuring goods-producing industries. Traditionally, sectors such as manufacturing and agriculture have been well measured largely due to their long-term role in the American economy and in part due to the relative ease of measuring their output.

Until recently, however, data on large portions of the services sector were only captured once every 5 years in the economic census, but in this new century, new measurement has to become an important part of how we go forward. In 1950 the economy was roughly split evenly between manufacturing and services or manufacturing services and goods, but today's services as Karen mentioned make up more than two-thirds of the private sector. They are not only the dominant sector; they are the primary driver of growth, prosperity and productivity.

I spent part of my career both in management in the services industry and on boards of directors of services-focused companies and it is truly a dynamic forum in which to work. The service industry has a source of employment for millions of Americans and service-providing industries are projected to generate some 14.5 million new wage and salary jobs by 2018. Especially in the current economic environment where government and business leaders need a precise measure of how quickly our economy is recovering, it is vitally important that GDP measures services industries as accurately as possible and our team at the Economics and Statistics Administration has really responded admirably to this challenge. I am pleased to report as Karen said that the department is expanding the coverage of the government's data on services, and

yesterday we did release that first quarterly report on the output of finance and insurance firms.

Expanded service industry coverage also includes transportation, warehousing, educational services, real estate and utilities. Other new products from ESA will include quarterly GDP by industry. President Obama requested that final piece of funding for this improvement in the 2011 budget. This new measure will have a positive effect on nearly every major statistical series produced by the Department of Commerce including national GDP accounts, industry GDP accounts and regional GDP accounts.

Overall, my experience is that business does a great job of providing the information requested and nearly two-thirds of businesses are voluntarily responding to quarterly surveys, and 80 percent of firms are responding to annual surveys, a fairly high return rate. This is extremely critical because as we all know, the quality of the data we can provide is directly related to the number of firms that do respond and respond accurately. This is more than just an academic exercise. As we all know, we make real decisions based on the quality of that data that's available.

Since we embarked on our efforts to better understand the services sector, we've gained exceptional new insights into the drivers of economic growth and that is going to help federal, state and local governments shape their policies to spur the all-important job creation that we take very seriously day in and day out at the department and certainly throughout the administration. It's also going to help business leaders with their long-term planning decisions.

But to get these measures right we're going to need your help as we always do. I've spent most of my career on the business side of the table in manufacturing and services and there was not one company that I either worked for or

that I led that really welcomed additional government paperwork. In this case, however, I know that news of yet another survey will not three everybody here, but again it's necessary. And at the end of the day at decision-making time, we always appreciated having the benefit of good, hard, really confident data to help us make those decisions. That is why these new surveys like the census be completed and mailed; I have to plug the census because we have to get the count so that money gets down to the people of the country properly. All of these new surveys will help your businesses and it will help get our country back on the economic footing to which we all aspire.

We will continue to welcome your comments, your feedback and look forward to working with you as we launch yet another service that hopefully will have the same impact that the goods sector has had for so many years. Thank you.

MS. DYNAN: The Deputy Secretary is on a very tight schedule today. He has time for just one question so I'm going to exploit my position as moderator to ask that one question.

I was struck by your remarks at the end where you mentioned that better services are going to help businesses with their long-term planning decisions particularly because you have so much experience in the private sector both with goods-producing and service-producing firms. I was wondering if based on your experiences you could reflect on what a difference having better data about services will make to your former colleagues.

MR. HIGHTOWER: I think it's fair to say that because of the sheer amount of data that had been collected over the years in the manufacturing sector, when we had to make decisions whether on siting of a plant, a distribution center or a retail store, how we were going to even determine where concentrations of potential employees and all of the other logistics that go into keeping the business going or

building emerging new markets, it narrowed the variability of the risk associated with taking on new aspects of that business because there was so much data. In so many cases, I often had a staff that culled through to make sure we got the salient data that focused on that specific decision or that series of decisions because there so much out there.

On the services side, it was a totally different setting. When I was involved with services businesses, most of the time I only knew about 60 percent of what I thought I should know before I had to make that decision. What happened is that you got to see very quickly what that other 40 percent really represented and that's what you often got paid for handsomely if you were right, and that was judgment. So the extent to which we can bring the services data up to the same level of quality and availability as we've had on the product side or the goods side, then again I think we will be able to narrow that range of variability, take more prudent risks and have a better chance of determining what the outcomes will be, whether it's jobs, whether it's new markets, whether it's new service delivery models or whatever. Anything that can be done particularly given the fact that there has been this separation now in terms of relative growth at 68 percent and growing faster than goods at this time, then it's really incumbent upon us to get more of that to you so that again we can enjoy the same success that we had in the goods industries that now we would expect to have on the services side.

MS. DYNAN: Thank you very much, and thanks for coming to Brookings today.

MR. HIGHTOWER: Sorry that I have to eat and run, but hopefully I can get to National and get out for my next meeting. Thank you and have a wonderful conference. This is a wonderful idea and we're going to look forward to having more and

more opportunities to engage on this level because this really is an important part of what lies ahead. Thank you so much.

MS. DYNAN: We're going to get set up for the next part of our program. In the mean time, there are a handful of sets up front if those of you who came in late want to come up.

We're going to turn now to representatives from the statistical agencies. Our first speaker is going to be Harvey Monk who is Associate Director for Economic Programs at the U.S. Census Bureau. He is here to offer details about the Census Bureau's initiative to expand their surveys of services. Steve Landefeld will be the second speaker. He is the Director of the Bureau of Economic Analysis at Commerce and he will speak about how BEA plans to use the new information and is using the new information to improve their estimates of the national accounts. Each is going to present some remarks and then we'll have a few minutes for questions. Harvey, we're going to start with you.

MR. MONK: Thank you, Karen. Good morning. I get a better response from my staff. Good morning. All right.

It's a pleasure to speak to you on the improvements that we have made or in the process of making in the measurement of services statistics. Before I begin I want to thank Karen and Andy of Brookings for making this event possible today, and to Mark Wallace, Chief of our Service Sector Statistics Division for his assistance. Further, I want to thank the staff of the Service Sector Statistics Division for all their hard work. In particular I'd like to acknowledge, or in the words of the day give a shout out, to Mark Wallace, Chief, Service Sector Statistics Division and Donna Hambrick. I don't know if Donna is in the house or not. And Lisa Donaldson. These are the primary leaders in the Service Sector Statistics Division who have made all this work possible.

About a year ago yesterday, on March 11, 2009, we received our budget for fiscal year 2009. The budget included funding for expanded annual and quarterly surveys on services industries. This was a very significant event because the last time we received funding to improve the measurement of services was in FY 2003 and that funding laid the foundation for improvements including the introduction of quarterly services surveys or QSS in 2004. The introduction of the QSS covered important on the services sector, professional scientific and technical services and administrative waste management and remediation services. In the second year, 2005, the survey was expanded to include hospitals, nursing and residential care facilities. At this point, our quarterly data on the services sector covered only 17 percent of GDP, and our annual data on the services sector covered only 30 percent of GDP. So we had a long ways to go to reach our full coverage of the services sector which is 55 percent of GDP for these surveys. To address that statistical deficiency we continued to submit budget initiatives year after year to receive funding we needed to build on the foundation laid by the QSS and to expand the services annual survey to fill the gap on a rapidly growing and changing sector of the economy. SASS which is a major sector which made up about 25 percent of our national economy, we have taken it up from 30 percent to 55 percent. In other words, there are important sectors making up one-quarter of the national economy that are only covered once every 5 years as a part of the economic census. These sectors include financial services, insurance, real estate, public utilities, education and the transportation industry.

We have seen the effect of deregulation compounded by a new openness into market entry, technological change, organization restructuring and globalization of our economy so that filling the gap that existed in these dynamic services industries was our top priority and it was the top priority of the federal statistical agencies,

many of which are represented here today. Working with you in an attempt to obtain funding was finally successful a year ago, March 11 of last year. I can assure you since then we have been equally energetic and persistent in working to expand the services annual surveys and ultimately the quarterly services surveys to uncover the entire sector and the whole 55 percent of GDP covered by the economic census.

I know that you know about the important work that we do and both public and private data users have voiced strong support for expanding quarterly and annual information on services. For example, policymakers responding to the financial crisis have no quarterly or annual data on financial services, real estate and insurance or the utilities industries. Upon receipt of the funding we moved quickly on a number of different fronts to aggressively implement and the expansion worked.

In the few minutes I have left let me talk about what we've done since we got the money. These quarterly and annual industry measures were designated as providing BA, the Federal Reserve Board and the Council of Economic Advisers with timely information to track the current economic performance, to indicate key turning points and better assess future developments. For example, data on the health sector provided the Center for Medicare and Medicaid Services information critical to the analysis of hospital spending and studies on hospital regulation and Medicare policy procedures and trends. If you look at the handout or you look at the screen, you can see our -- industries and the original timeline and the expedited timeline. We received the money on March 11 last year, and just 18 days after our budget was approved, we mailed the ambulatory health care services and social assistance, collecting data for fourth quarter 2008 and first quarter 2009 and these data were published the first time in September. Then we worked to complete the transportation carrier services which was mailed June 30 and published the first, second and third quarters December 2009. I

challenged Mark and his staff because you can see the original time schedule for banking which was supposed to be published in September 2011 and so I challenged the staff because of changes in the economy to reorder and to speed up development of the sample and the mailing. Ruth is sitting over there and she had great consternation about us making this big change and I said we've got to do it because government policymakers and the private sector really need this information and we need it sooner than later. So they rose to that challenge and they were able to reorder their priorities and develop the sample so that we could mail to these sectors in September 2009. We have a great staff and we're looking to finish the combination of all our work by March 2011 in which we meet the challenge of reaching 55 percent of GDP.

Let me conclude my remarks by saying I want to thank all of you who are attending today. I know that the federal statistical community provides strong support to the improvements that are essential to better understand the high-quality estimate of economic growth, real output, price and productivity of our nation's economy. In addition, the private-sector organizations, businesses, academic researchers, trade associations and a broad spectrum of stakeholders will benefit from the use of this improved services data. I thank you again for your support and I thank you in advance for your future efforts to help us make these data more valuable that can be used by the public, private policyholders and decision makers. Thank you.

MR. LANDEFELD: Good morning. That was hear to hear my big boss, the Deputy Secretary, say all those kind words about GDP at the outset. I appreciate that. Thank you all for being here. I'm going to try and talk a little bit about the timeline, longer than Harvey's timeline perhaps, about improvement in services from a bit broader perspective, I'm going to talk about some of the specific improvements, but then I'm going to spend a fair amount of time talking about what the challenges are that remain so that

we don't quit this effort where we're almost over the top on it, and I think that's real important.

We've already heard how big the services sector is so I won't do that again. I'm going to hasten to add that in a very broad sense we are in a different world in terms of services statistics than we used to be, at least when I started working in this salt mine. This is due to the efforts, and Harvey just described a great one in the census, but when I started they were just adding the services component to the 5-year census. Back then we didn't have all of it, so this has been a very long and important effort in census giving us the nominal data that we need. Then I don't want to ignore BLS because the other side of course is producing real GDP and productivity counts is the price data. I remember standing on platforms with Katherine Abraham back at that time and it was a number less than 10 percent of services were covering the PPI index and there has just been a world of change in that. So a lot of other agencies were involved, and I don't want to ignore BEA because in our international services are we've also done a lot of expansion.

Why were these things so important? The first example which I was personally involved in and Brookings was involved in too was the effort to look at services measurement and begin to see how it fit in to very important policy questions like inflation and productivity. This whole thing got documented at Brookings but it got started by a bunch of policymakers, two in particular who I think of. One was the new acting director of BEA and BEA and BLS were called up to be examined by the chairman, Greenspan that is, to talk about why are statistics shown for many key services sectors flat or declining productivity growth when he know that just wasn't true. It was by construction, and he was right that it was very much by construction where pretty much from any of these industries you need inputs to extrapolate and estimate output, if the inputs and

outputs are growing at the same rate there's zero productivity growth. So we had a problem there and he challenged us to work on it.

Also my boss, Michael Boskin, when I was at CEA was very interested in statistics and in response to AEA concerns, National Association for Business Economics and the CEA's tradition of interest in this, he put together a statistical program for improving U.S. statistics. One essential pillar of that program was the improvements in services statistics. He was quite concerned about it. So here I stand 20 years later, that was about 1990 and here we are in 2010, very pleased with the kind of progress we've made. It didn't look too good at first but it's looking very good now.

What Bosworth and later CEA and a lot of people found was if you looked at the areas where the measurement occurred, now we were all of a sudden discovering productivity growth in those industries because we had price indices for the output. We were measuring appropriately. We had nominal extrapolators for it which helped us understand what was going on here in those important sectors and that changed our review of the world and the revival of productivity growth we saw in the mid-1990s so that we get better trend data out of those for things like productivity and growth. We also get much better early estimates than the GDP estimates because of these things like these new quarterly services surveys. As most of you in this room probably know, we extrapolate a fair amount of GDP and for a fair share in the services sector that was being extrapolated by employment and a bunch of indicators but ones that really tend to be what I called trend-based kinds of extrapolation. So by bringing in the new quarterly services data we've done from about 23 to about 13 percent of GDP using those trend-based extrapolators in the early estimates thereby improving the measures of the economy and particularly the momentum in the economy.

On a more techie level, in our input-output coefficients we've gotten a lot better data from the Census Bureau in terms of expenses and things to fit in and we're going to get better data in the 2011 traunch of the census data where we'll be getting more on business expenses, and those are really important for policy too. If you look at Hurricane Katrina, initially people thought the effect was going to be very large but the people at the Fed, CEA and others sat down and looked at RIO tables, national accounts and regional accounts and said, no, it's not as big as we thought. You can see this mentioned in this FOMC minutes at the time as being an important issue. Or more recently we've gotten a lot of use out of our data in trying to figure out the impact of public investments under the Recovery Act. That's all better because we have better services data.

Trade and offshoring. It seems to consume us at times in terms of the interest in and the measurement of it. We've gone a long way here too in terms of the breakdown of what's called affiliated party trade between parents and their subsidiaries. That data has become much better for analysis in such issues as services trade and offshoring. We've also had a large expansion in our level of detail. We went from I think 17 or countries that we used to do on a quarterly basis and we're up to 37 or 38 now. We used to lump a lot of Asian countries together. Now we've got China, we've got Korea and most of those nations are explicitly broken out and we have data on services and the totals for those components.

Let's go down to some of the areas and show you the types of improvements we've seen in the various sets of estimates. In the national accounts for example you can see that health care services is a huge number that we've now got covered in I think the last traunch of the QSS expansion, on transportation we're getting more and better data, rec services and more is coming. Harvey has mentioned the

financial which they just brought out that we will be bringing into our sets of accounts which will be used along with a wide range of other measures of that sector.

If you look at the aggregates the effects are quite big. You got 8 percent to 19 percent of GDP. We're talking about $1.4 trillion there. A lot of coverage is being picked up by these new surveys or PCE services. In the industry accounts there's different kind of information, a little less on the quarterly services information but the services annual survey information. Some of that is still coming and we're going to get a lot more detail which is very important to those annual input-output accounts in figuring out how the economy fits together. The QSS is important though because it helps us with our advance or early estimates of the GDP by industry and particularly as I speak later about being able to develop a quarterly set of GDP by industries it's absolutely essential. In the international accounts we've also been busy here paralleling the efforts census is making on the domestic side. We've converted a large number of our surveys from annual to quarterly data which meant a lot of the smoothness in the economy is coming out and we're seeing volatility and it looks a little messier but it's real data now. We've integrated our data collections of affiliated and unrelated party trade which was giving us concerns because of possible gaps or duplication of coverage and also for efficiency reasons we were able to put those together. We've worked with census and they've done some data matching with us which has helped us improve our mailing lists to make we are comprehensive and also consistent. And we're going to do a new credit card survey which is going to improve a lot of the data we get on international trade because the traveler's survey and recall isn't working too well and we think this will be a big advantage without a big burden because you're able to get this data on a consolidated basis.

As we all know, banks are quite important to the economy and we finally added them. We used to get them as benchmarks but we didn't get them in our regular data and I think that's going to quite important for our understanding of affiliated party trades between parent banks and their subsidiaries overseas. We've also done a lot of improvement for financial insurance and wholesale trade including adding things like unpriced financial services to explicit fee services which is quite important in today's economy. Then there's a bunch of special topics stuff we're been doing in services. Research and development is one. We received money which is part of a larger program we hope to initiate on innovation, but to do R&D, and you can see from some of those numbers up there that R&D is about 2-1/2 percent of the economy so that its contribution in terms of real output and productivity growth is quite large. Indeed, it appears to account for a fair amount of the rise we've seen in real GDP and productivity growth since the mid-1990s.

What are the remaining challenges, and there are quite a few. The first is to complete what we've started in this annual and quarterly coverage of services program. That is essential to what we have. Over on the price side as I said earlier, BLS and PPI, at least figures Katherine Abraham used to give me, was less than 10 percent and they've gone to well over 80-percent coverage of services. That is essential for what we do because everybody looks at real GDP and not the nominal estimates. So my thanks and equal billing here to BLS for the good work that they have done on that. Of course, we're never satisfied so we continued to be concerned about that missing 20 percent. I know how tight budgets are BLS, but I think it's important that we think about that.

Then we got the existing data where changes in the economy may be changing the ability of the data in the services sector and other sectors to appropriately

capture what's going on. One is work on bias which might be present in import prices and BLS is taking this quite seriously as are we because if we're not subtracting enough real import and real GDP and productivity domestic is too high. We don't think it's a large numerical problem, but it's a significant issue and I know BLS is looking at an input cost survey to try and begin to better measure these kinds of issues and we're looking at from a synthetic how can you estimate the likely magnitude of this issue.

Innovation. Carol Corrado is going to talk later and she will probably mention innovation and services. She and a number of her colleagues have put together estimates of what overall innovation in the economy looks like. R&D is very important, but it's only about one-fifth of what you might like to measure so that that is in our horizon and we hope to work with NSF and the Census Bureau and move forward with respect to that.

Of course, in the aftermath of what's happened in the last several years, we received some money to work on improving measurement of financial services. Remaining challenges also that came out of our conversation with the department including we got into the great recession why didn't you see this, what can you do better to help us out with respect to this kind of information. Some of them are things like develop measures of small because. The president announced yesterday and initiative on exports relating to small business. Virtually every initiative you here up on the Hill relates to small business. But the data we have on small business doesn't quite hang together real well and we'd like to do it within a consistent set of national accounts of course using existing data.

Another one is we've got this consumer-led decline in the economy. How is the consumer doing? We've got customer sentiment index around, but can't we do better with respect to that? We have a suite of indicators for the household sector that

we hope to develop which would help policymakers and it will also help I think a lot of households understand what their condition is. The secretary is interested in this because so many small businesses don't have access to the kinds of things that big corporations have so he really wants the federal statistical agencies within the context of our existing mission to put out better data on a regular and consistent basis that small business can use. That's part of the reason we're going down this route, and of course services is small businesses.

The deputy secretary mentioned quarterly GDP by industry measures. We've been looking at that for some time and we think that's quite important. Another current issue is to develop more detailed measures of energy services. If you look at 2008, these are from our experimental quarterly GDP by industry estimates, 2008 is nice number, you can see it coming down, but you lose a lot of the momentum of the economy relatively when you have a quarterly measure of what was gone for this services industry, transportation and warehousing so we think that number would be quite useful for people understanding the state of their industry.

Energy of course is one of the hot topics in how it relates to the environment, and like our current data which is used by EIA and all kinds of people in their work, electric power as one lump. What we hope to do is break it down into coal, natural gas, nuclear and hydroelectric which then you can use for many different purposes in getting a better idea of what's happening. That's a joint product with EIA.

Lastly, a current events topic, medical care services is one we're working on right now. We think we're making some good progress on that, but I think there's a lot of improvement that can be made in those sets of data. Finally, infrastructure issues for a decentralized statistical system. We're making good progress with BLS on doing multifactor combined with GDP. Indeed, we have a new section up on our website which

has that. We've made good progress with the Federal Reserve Board, integrating their flow of funds and balance sheets with our GDP sets of accounts and there's more work to be done. A lot of that can be done, but there is more basic statistics relating to consistent sample frames and classification of firms which require changes in legislation which allows BEA, BLS and Census to all share data. We're good at protecting confidentiality. We already have access to parts of the tax data. If we could get this, this might be the most important improvement you could have in data especially for small industries and services. Thank you and I look forward to your comments and suggestions particularly on what are challenges are if I've missed ones that are on your lists and your suggestions for implementation. Thank you.

MS. DYNAN: Thanks, Steve and Harvey. We have a few minutes for questions. I want to start off by commending you. When you talk about how quickly you got things implemented, Harvey, after you got the funding for this, I'm astonished. I think that's terrific. Steve, too, I'm impressed with everything you guys are moving forward on. I think I'm getting tired just listening to your list of remaining challenges.

I'm again going to take the moderator's prerogative and ask the first question. Also we'll have time for other questions. It's for Steve. You talked about how you're taking these data on board for your accounts but you weren't very specific about the timing and I presume the timing is very complicated. Yesterday we saw our first numbers on the finance and insurance industries, but I presume there's a lag with which you put them into the accounts if for no other reason than you need some sense of the quarterly patterns so as to understand the seasonality. I was wondering if you could talk a little more about how quickly these new data are being incorporated into the national accounts.

MR. LANDEFELD: I know they're being incorporated more quickly than staff is comfortable with largely because of the reason you suggested which is all of our data are seasonally adjusted and we're fitting them into a set of seasonally adjusted accounts. We've brought them in quite quickly without having any kind of time series on the new data. Brent Moulton and his staff have really done a great job in trying to use existing indicators to guesstimate how they might move with our old seasonal adjustments and then apply them to our new seasonally adjusted data. Much of the data we're seeing today is that chart I showed that Brent and his staff put together showing that we will be bringing in this summer many of those components without much time series at all. We're doing our best with it and we think it's a great new data source. We stewed for a while about should we wait a couple years and we decided, no, it was too important, Census had done such a great job putting it out quickly that we would as we do in many things go out on a little thin ice, but we thought overall that it was a good balance between accuracy and timeliness.

MS. DYNAN: Let me open it up to the floor. Are there others with questions for Steve or Harvey? If you could say your name and affiliation that would be great.

MR. PEARL: Mike Pearl. I'm an independent consultant. I used to be at the Fed.

For Steve I have a twofold question. How do you assess the degree of improvement you're achieving in GDP measurement by incorporating these new data sources? To the extent that you have implemented this kind of assessment, what have you found? What is your judgment about how much more precise your estimates are now?

MR. LANDEFELD: That's awfully difficult, Mike, because as you know, as soon as we fix one issue, we have another one. Also as you know, we don't have a standard error for GDP. All we can do is look at revisions and see what's happened with the revisions. I feel confident though that by bringing these "real data" in, in place of our trend extrapolators I think we're eliminating some of the false smoothness we had in the data. Indeed, next week I'll be here at Brookings panel, the Economic Activity Forum, talking about work by Jeremy Nalewaik about the income versus product side, and a lot of the concerns that are raised there in that paper relate to the degree of smoothness which used to be imparted to the industry by the services. But giving you a point estimate of the accuracy of that data, I think we would be very hard pressed to come with something.

MS. DYNAN: Are there other questions?

SPEAKER: But part of the answer to that question I think from Mike was that in all of this data that you're now seeing from Harvey, were there surprises there that forced you to adjust some of the trends that you were talking about before? Have they made you think about this differently? Where there things where you said it's not that big or it's doing something than what we had thought it would have been on a trend basis?

MR. LANDEFELD: I think our time series is so short on that that it's very hard to know at this point what it produced relative to our old extrapolators other than we know it's less smooth and those kinds of things.

SPEAKER: As you feed them in?

MR. LANDEFELD: Over time.

SPEAKER: Somebody is going to say oh my God somewhere.

MR. LANDEFELD: Right.

MR. MOULTON: Can I expand on that?

MR. LANDEFELD: This is Brent Moulton. He's Associate Director for National Accounts, Mister GDP.

MR. MOULTON: The first really big industry that we focused on was software. As many of you know, we first brought software in as an investment I believe in 1999 and the next couple of years we had very big revisions because we didn't have a good quarterly indicator. That was our first priority when the QSS started: to focus on the software industry and we've done much better since then. We haven't had any revisions with the annual data that have been nearly the magnitude that we had those first couple of years so that that's an example where the QSS has really paid off.

MS. DYNAN: Thanks, Brent. I think there was one more question at the back of the room on the right.

MS. AUDEN: My name is Barbara Auden from the International Trade Administration. I was wondering if you could address how you've been working with the credit card companies to improve the data on travel.

MR. LANDEFELD: Essentially we have been using what's called the in-flight survey from the International Trade Administration and we were worried about nonresponse in that survey. It's still very valuable to us and will remain valuable to us, but we felt that we wanted to use administrative data to get a different triangulation on that estimate to see what might have been forgotten in terms of recall and those kinds of things. It's also good because you can go to a very few credit card companies and get an awful lot of information without a large burden on them. It seemed like a very obvious piece of information and we hope to pair that as we often do with multiple layers of data in using that survey information along with that credit card information because obviously credit cards are going to miss your transactions so that there are a lot of things you can't

do with that. As always, we use multiple sources, but we hope that that credit card will be a very important supplement to the existing in-flight survey information.

MS. DYNAN: Thanks, Steve and Harvey. We're going to move on now to our panel of data users. You have their biographies, but as you'll see through their remarks, each of our panelists work on issues and in areas where having good data is so important. We're going to start now with David Lebow. David is Deputy Associate Director of the Division of Research and Statistics at the Federal Reserve Board where he oversees a staff that analyzes and forecasts economic developments for the Fed's monetary policy activities.

MR. LEBOW: Thanks, Karen. I guess my role here is to provide perspective of a policymaker or a central bank on the issues we're talking about today. These reason these data are important for us are really very simple. For policymaking it's important to have data that are as reliable and timely as possible and the lack of timely data on consumer spending on services has quite possibly been the largest hole in the national accounts over the years given what a large share of spending it represents and the QSS as we've heard is starting to play quite an important role in filling that hole. The importance of timely and reliable data is self-evidence, but I think it's especially important around business cycle turning points. Much of my thinking on this topic was crystallized by a paper that Karen Dynan and Doug Elmendorf wrote several years ago looking at the ability of the initial NIPA estimates to capture cyclical turning points. They found a systematic tendency for GDP to tend to be revised downward around the time of business cycle peaks, that is, as the economy is weakening the initial estimates tend to understate the degree of that weakening. PCE services was a noticeable GDP effect and the reason they argued is exactly the extrapolated judgmental trend issue that Steve Landefeld was talking about. An extrapolated trend is by nature backward looking. As

you're in an expansion the trend is going to assume that the expansion continues apace, but if the economy is moving into a downturn, the trend is not going to be able to capture that.

A similar result is found in this paper that Steve also mentioned by my colleague Jeremy Nalewaik which is going to be presented here at Brookings next week. Jeremy did a number of investigations into comparing GDP with GDI, gross domestic income, conceptually identical to GDP but measured by adding up the components of income rather than the components of spending. Among Jeremy's results is the finding that the initial estimates of GDP interestingly have tended to be slower in capturing the last few economic downturns than had the initial estimates of gross domestic income. Again, if this is true, one prime suspect would have been the lack of timely data on the services portion of consumption. So I can attest that policymakers trying to understand how the economy is unfolding in real time are hampered by a lack of timely data. At the Fed we following the incoming data on consumer spending closely and as the economy was weakening over the course of 2008, we were trying to figure out how bad is this going to be and we were having to make judgments about the degree to which consumer spending was slowing and we had to do that knowing perfectly well that all the data are imperfect, but in particular the information on services despite the improvements being made was still being influenced importantly by these judgmental trends.

Let me show you one chart to help illustrate what I'm talking about. It's a chart of real PCE for services excluding food services where the initial information does come from retail sales surveys. The red line shows how things looked prior to last summer's NIPA revisions. You see a fairly up trend over the course of 2008, maybe slightly flatter than we had seen in the past couple of years, but not a lot. Of course, spending on services is comparatively acyclical. One would not expect to see a sharp

drop like one would see from any categories of durable goods for example, but still is the continued up trend really the right signal? When the comprehensive revision came about and they brought in some preliminary information from the services annual survey of 2008, there was a noticeable downward revision that now spending looks to have flatted out during the downturn, and of course more revisions could still be coming. And it looks like a nontrivial chunk of that revision was in finance where of course as we know the QSS is now just starting to provide some timely information on. This is the reason why I'm so enthusiastic about the expansion of the QSS. It's been starting to fill an important part of the missing hole in PCE services in a way that ought to be important for policymakers.

Lest I come off now as too satisfied with the improvements that have already been made or are in train, let me mention a couple of further improvements that would be good to see. In this environment of tight budgets we should probably be grateful just to see a maintenance of the existing quality of the data let alone any improvements. The fact that improvements are happening really is testament to the agency's fine work. But that doesn't stop me from having a wish list, so let me mention a couple of things.

The dimension of improvement that's been emphasized today is the expansion of industry coverage and that's great, but let me mention a couple of others. One is just the simple timeliness. Here we are in the middle of March and the estimates of the quarterly services survey for Q4 are just being published now. This is about 2 months after the retail sales information for the final month of the quarter has been published. If there is any way of speeding that up so that they can be brought into the national accounts, right now they're brought in with the third monthly estimate of the quarter, if they could be brought in with the second or even with the advanced estimate

even knowing even if those are going to partial data that are subject to maybe some important revision, still some information from a policymaking perspective is better than no information.

Really going out on a limb, let me mention another one because this is an issue much more difficult to make progress on, and that's getting some information about the composition of sales, and I'm not just talking about the QSS, I'm talking about also retail sales and also the annual surveys. They provide information about the overall establishment sales or overall establishment revenues with no information about the composition of sales meaning the specific products or services within an establishment being sold or about who the purchasers of these goods or services are. The purchasers matters because to the extent that these purchasers are businesses, BEA would view that as an intermediate input to production and not final demand and that would not factor into the GDP estimates. I've mentioned my wish list. Again I will emphasize that with tight budgets this is tough, it's important to set priorities, but I do think that comparing across the whole range of possible improvements to the economic statistics that continuing the trend to more and better data on consumer services really would be high on the priority list. Thank you.

MS. DYNAN: Thank you, David. We're going to roll on to the next panelist and save questions for the end. Our next speaker is Carol Corrado. She is Senior Adviser and Research Director in Economics at the Conference Board where she works largely on measuring intangibles and studying their role in the innovation process in economic growth.

MS. CORRADO: Thank you, Karen. I'm very happy to be here today. This is an important topic.

I will focus on the topics of productivity and innovation in the short time that I have here. I'm going to make just a couple points. One, I want to underscore what an achievement it has been for the Census Bureau to have essentially expanded its coverage of the services about as far as one might expect to go. As Steve alluded to, this has gone on he talked about 20 years, but in some sense it's been longer. The economic censuses were initially expanded to cover a large part of services, but even as of 1987 it may have been 70 percent, I can't remember the exact number, and it wasn't until 1992 that on a 5-year basis those folks who were making input-output estimates have comprehensive data to work with.

But guess what? When you think about productivity and particularly about innovation and trying to understand what the innovation process is in industry, we probably need even more data. I need to funnel this topic down so I'm going to talk in terms of the work that's going on in the statistical agencies that Steve alluded to in terms of refining the standard growth accounting empirics for multifactor productivity and then I'm going to move on and talk about the broader issue of measuring innovation.

I'm not so good with animation. I'm surprised that this didn't come up and look like a matrix. If you look at the top line, this is just a schematic of a lot of the things that you've already heard about. Moving from in this case right to left you see the course of the expansion of data that the Census Bureau has to grind through in order to do what it does starting with the economic censuses, moving to annual surveys, then the launch of the new indicator, and then I even have a separate column here for what David talked about which is maybe even knowing a little bit more about the composition of demand so that we know what consumption is as opposed to business services.

Then down the column on the list I'm listing two types of applications with a very gross simplification meaning let's about quarterly GDP given annual or benchmark

estimates and then look separately at annual or benchmark GDP. Again Steve went through this, but the point here is that for the standard MFP applications it's the latter and not necessarily the former that ends up being of first-order importance. What that means is that these new data are extremely important for quarterly GDP and you've heard that. Again to underscore, I'm not very good at animation. There should have been a tag on the annual industry output there for annual MFP meaning it's very important to pin down the annual output but, again, what the real achievement here is this quarterly indicator, the expansion of a quarterly indicator that could only occur once all the annual surveys were in place. They've been in place for a while and we have pretty annual estimates of output.

But when you think about productivity, here is where the rubber meets the road. The periodic nature of the data to benchmark what we estimate as intermediate goods or what we estimate as capital income is still a major data gap, and again I think Steve referred to this a little bit. Moving on, when we try to understand MFP and understand what's in that measure of our ignorance, over the past 10 years there has developed an approach that has sought to pinpoint the investments that firms make in the innovation process and call them investment and thereby tell us a little bit more about what's going on in that residual. When firms commit to innovation, the evidence of that commitment is an allocation of their resources to developing and implementing items shown in the table here. If you take the economic view of investment that was advocated in the work that I did with my colleagues, you find out that capitalizing these inputs to innovation as business investment is a pretty tough job and it reveals both the shortcomings and the strengths of our statistical system. The shortcomings, again I can't go into detail, but now that innovation has become in some sense routine in certain businesses, there are transactions associated with innovation. Designs are sold,

blueprints are sold or licensed, and these are not routinely tracked in our system. Also many innovative industries and firms don't fit the existing classifications. I could go into more detail here, but just think about the fact that Apple, Cisco, NVIDIA are classified as resellers of imported goods. That's not their business. By the way, the statistical system is moving to fix that, but there are some other issues.

What are the strengths? To tell you the truth, the work that I did with Chuck Holton and Dan Sickle could not have been done if Harvey and his crew hadn't already expanded the service annual survey for us. We used at least 12 series from that report to help develop our estimates of intangible investment, and in fact that move is what distinguished our work from the predecessor work in the area. I'll point out that this isn't small change, this is what we came up with and what you have is a picture of a rising rate of intangible investment over time relative to that for tangibles so that this is a correlate of the rise of the service sector that you have heard already.

The other strength of the system that I think this reveals, this is actually the flip side of the weakness that I just talked about, but the point is there is now a product list for services. There was no such thing before. This hasn't come out in the previous presentations because the focus has been on industry, but the Census Bureau has a dedicated staff of people detailed product lists and the data for certain annual surveys and certainly in the comprehensive surveys are collected on that basis. That means that there is a structure, there is an asset that one can build upon to develop the kinds of transactions that I think need to be there for us to track the transactions in innovation that do take place.

To conclude, I'm going to make what may seem like a weakness into a real strength and that's that this expansion of services data took a long time, longer than the 20 years that Steve talked about, and you must be thinking in the back of your mind if

they were doing all this, what did they forget about? The economy has changed in other ways. We've seen an IT revolution. We've seen this service process innovation revolution. Again, Harvey is never going to put it this way, he talked about he could do this because he got the budget authority for that and, yes, that is officially how things evolve. But they didn't work with much money. They got these little blips that were significant. What the Census Bureau did was reengineer itself over and over and over again so that it could expand its coverage of services. They needed more money to launch a quarterly survey, that's pretty obvious, but a lot of the other work was done through reengineering. The same it true for the PPI. This has been a very dedicated effort on the part of the statistical system. The point is that going forward, you're not done. You're never done. I take my analysis of intangibles very seriously, so the way I look at it is the statistical system constitutes a set of assets, a set of intangible assets, that needs constant new investment in order to have it keep up with the changing economy and it does appear as though the last 20 years were a testament to the ability of these agencies that they're up to this task. But nonetheless, one needs to think therefore in new ways about how to maintain or expand the existing data and I've just listed a couple possibilities here, not the least of which is at the top, somehow trying to make more use of administrative data. Thank you. That concludes my remarks.

MS. DYNAN: Thanks Carol. Our next speaker is another data user from the private sector. Julia Coronado is Director and Senior U.S. Economist at BNP Paribas. At BNP Paribas she focuses on the macro outlook and Federal Reserve policy. She's also an expert in financial data, particularly pension data. Julia?

MS. CORONADO: Thank you. Thank you all for coming and thank you, Karen, for the invitation. It's a welcome change from my usual daily duties to think long-term about the economy and data. My job is as a private-sector economist to translate

movements and data for the traders in my firm and for our clients who are the people amongst others who manage your retirement money. I an avid enthusiast of good data and data improvements and really appreciate the efforts being made by the Census Bureau currently.

As Karen mentioned, I'm going to talk specifically about the new data on the financial services and insurance industries mainly partly because I work in that industry, and partly also because my background is from the flow of funds at the Federal Reserve where I compiled data on financial activities and so have a long, long history working with financial data. I'm going to start by going out on a limb in saying that asserting that the financial services and insurance industries have had an outsized impact on the last two business cycles. Maybe that's controversial and maybe not.

We don't have one of my slides but I'll say what it shows which is that within the national income and product accounts, the financial services industry, the impact of that financial services industry, doesn't show up very clearly. For example, if we take this outsized impact on the economy and on the business cycles as given and we look for evidence in the national income and product accounts, it's hard to find. If you look at financial profit growth, it doesn't really show up in the last two cycles as being particularly sharp. If you look at the PCE spending, the personal consumption expenditures, spending on financial services, it was very strong in the 1990s maybe reflecting some of the stock market commissions that customers were paying, but it doesn't really show up in the last cycle as being particularly strong. Some of this owes to the fact that as Steve mentioned, a lot of the data has been trended and isn't based on timely estimates, and part of it is that financial services feed into the national income accounts in a diffuse way much as they feed into our lives in a diffuse way. For example, mortgages played a big role in the last cycle and that shows up in residential investment

for example through brokers' commissions rather than as personal consumption expenditures, so it spread through the accounts, therefore, looking at some of the GDP indicators you wouldn't have gotten the timely sense that this industry was really interacting with the economy in a powerful way.

If you look at the financial data, however, you do get a sense of the power of this industry. The left-hand side chart shows you total financial sector borrowing quarter on quarter annualized, just a flow, a flow of money, dollars. That's a pretty powerful chart and shows the boom and bust that we've gone through, the boom in the 1990s that then flattened out and then into something that one could not possibly imagine a few years ago. And now the bust that we're in and this is fresh, hot off the presses in addition to the wonderful services data that was released yesterday by the census, we also got the flow-of-funds accounts, that's through Q4, still massive, massive deleveraging in the economy. Then the right-hand side chart here shows household net worth as a percent of disposable income and it's lined up against the broad stock market index, and so there you get also a powerful sense of how the financial markets and the leverage created by the financial industry has fed into consumer balance sheets.

Then if you look at current data, it's undeniable that there is a relationship between financing and real economic outcomes. On the leveraging boom, for example, the left-hand side shows you total vehicle sales and then consumer credit. You can see consumer credit flowing very strongly fueling what we consider to be a normal level of purchases of vehicles that averaged about 16 million units a month annualized, and that norm has changed as has the norm in consumer credit. This is partly supply driven, this is partly demand driven, but nonetheless there is a clear relationship between the financing and the spending, so this is going to influence how we look at the economy going forward. How fast do we recover? Where are going to be the

sources of strength? For example, we saw a reasonably strong retail sales report for February and retail sales have been okay, but auto sales still haven't recovered to anything close to what we considered a norm. So anything that requires financing hasn't even gotten close to where we were before and may not for some time. That I think highlights the importance of capturing this industry. The right-hand side is an even broader measure. This is the debt service burden, something that Karen Dynan worked on developing years back. This measures how much households have to spend on servicing their debt relative to their incomes and this is the personal savings rate from the national income and product accounts. It's not a one-for-one relationship but there is a relationship there, and particularly recently what we see is that again it was the unprecedented deleveraging that's happening amongst households. You're getting a reduction in the debt service burden and that is accompanied by and reflected in a rise in the personal saving rate so that there is a relationship here. Households have less net worth, they're paying down debt, they're defaulting on debt as well and that is leading to slower spending growth with very, very key interactions. One of the things that I really like about the census approach is that it's based on revenues. In contrast to the diffuse way that financial services feed into the national income and product accounts, the census report provides us a consolidated and comprehensive look at the financial services industry which is something that I think is going to be quite valuable. It comes along with the NAKES (?) breakdown which is something that isn't present in the flow of funds accounts, so a useful addition, a useful snapshot.

When I looked at yesterday's release I learned two things. Even though it's a very short snippet of data and just a beginning of a longer project, I learned that the financial services and insurance industry is by far the single largest industry captured in the report really highlighting its influence and importance feeding through the economy.

The other thing I learned is that amongst the NAKES sectors, the Federal Reserve is outperforming everybody. If you think that Wall Street is recovered, you should what's happening to revenue at the Federal Reserve Board. It's soaring, and that was also an interesting indication of what's happening in the economy.

In terms of recommendations or wish lists, of course timeliness is always useful and to the degree we can achieve better timeliness or more frequency, maybe monthly some day, some day we'll get monthly data, that would be terrific. I would also encourage the staff of the census to work with the staff in the financial areas of the Federal Reserve Board who have been serving banks and financial service companies for a long time, are familiar with the pitfalls and also have data that could help for example when extrapolations do need to be made or inferences, the Federal Reserve Board's staff has been doing this for a while and there might be some good intelligence that can be gathered from working with them. From a Wall Street perspective, one final point. This is a trader's calendar for this month. I want to highlight that we economists used to work on the assumption that markets were rational, and what is actually the case is that markets are made up of people who rely on information and they rely on information to form their view of the world. What I've done here is take the trader's calendar and highlight in red everything that's related to housing, highlight in blue everything that's related to manufacturing and then highlight in green everything that's related to services. You can see that there is a real mismatch between the data that is released and drives the market and what's actually going on in the economy. It's a drum beat that I am constantly bringing to traders and clients, that manufacturing is a great indicator, housing is important, but really the broadest things are going to capture -- the consumer captures the services sector, the employment captures the services sector, those are the things that are really going to tell you the direction things are heading in

rather than a wiggle in the Philly fed survey for God's sakes. This will help me make that case, the more data the better, so I'll leave it there.

MS. DYNAN: Thank you, Julia. We have time for just a couple of questions from the floor, but before we go there I wanted to know if the folks from the statistical agencies want to respond at all on this issue of wish lists. I think there were a couple of good points made about the need for more timely data. Carol also threw out the fact that we don't track transactions associated with innovation and I think when you mentioned administrative data that may have been what you were talking about and I wanted to give Steve and Harvey and any of your colleagues time to respond on that front.

MR. LANDEFELD: I'm pleased as punch as you can tell from the quarterly stuff, but I think timeliness would be an important issue because it's the first GDP and early GDP estimate that everyone looks at. So if any way over time that timeliness could be moved up, that would be really important for a lot of folks. I'm not asking for monthly. And I think Carol was right about administrative -- standard data and all kinds of things and I think that's a great idea. That ones we got to be careful about with surveys whether Harvey does them or we do them, those are within the control of the statistical system, whereas you begin to rely on tax or other data, that's outside your control. It's collected for a different purpose so that I think you've got to take that into account in terms of our ability to move too far on that, but I think it is the wave of the future. Indeed, for some of the stuff that we're doing right now in health, that may be a very important way of getting at some of the cross-cutting things that are hard to get at through surveys.

MR. MONK: First of all, I want to thank Carol for her kind words, and for fear of dating myself, she is absolutely right that in 1972 when I came to the bureau to

work on the 1972 economic census we didn't cover utilities, finance, real estate, insurance in the economic census so that in 39 years we've come quite a long ways but we're not there yet.

We're always striving to figure out how to do things more timely. I think as we expand into and get more comfortable with the services sector, I hope we can improve the timeliness. I think one important aspect of the work that we've done in terms of expansion has to do with the fact that we are able to collect probably over 50 percent of all the data for these quarterly surveys electronically so that as we improve our collection methods and modes, it will bring about our ability to be a little more timely. Whether we can get the monthly data, I don't know. Probably not in my career, but maybe in Mark's remaining career.

MS. DYNAN: We have a question there in the third row.

SPEAKER: I wanted to give some kind remarks to Harvey for this. I thought it was very clever the way you have split out the sales to consumers and government and to business so that you differentiate between final demand and intermediate products and that's got to be so important to putting together the input-output accounts and also the GDP accounts because you make separate estimates of those. I didn't think that got as much attention today as I think it deserves. Thanks, Harvey.

MR. SCHULTZ: Charlie Schultz from Brookings. I had a question for Carol. Have you ever thought of the potential use for a community innovation survey like Eurostat carries now sporadically which I looked at for the first time not too long ago? I was reasonably impressed by the kind of information they got and the structure of it on the inputs to innovation, the outputs of innovation, the relations. Not so much for time series because these are sporadic, but for microeconomic analysis of the structure of

innovation and the kinds of things to look for statistically that might fit into that. Those surveys, I know how expensive they are, but they seem reasonably useful to me.

MS. CORRADO: I have studied them to a degree. They're very prevalent in Europe and I think the main message is they had a rocky road in their development and people have learned a lot over the years about making them more successful. They are a very top-down-driven survey meaning it's economists and statisticians thinking they're helping the policymakers and they write out all these things and the businesses look at it and go -- so that's a bit of a problem. Yes, I have thought about it, but I've thought about how it could be done in a more bottom-up way and that's one of the things that I'm working at the Conference Board, taking to business and trying to convince them to try to find out what information they would share and would find interesting to have on a wider basis. The Census Bureau has a bit of experience with something like an innovation survey. They tried to do something, and I'm not the expert, many years ago and they got the forms thrown back in their face and it was a big disaster. I think that is what has stopped the United States from joining what is really a worldwide consortium to collect information. That's all I can say there.

MS. DYNAN: I want to put one final question out there. I think it might be for Steve, but if the other panelists have thoughts on it I'd be interested too. As a researcher who studies tends of things over time and in fact studied what we used to call the great moderation which maybe or maybe not was a great moderation, as we change the underlying data that's feeding the national accounts that's going to change the dynamics of the data as you've been saying and there are some very good aspects of that, but do we worry about how that's going to distort the analyses that are looking at the properties of data over time and comparing them and drawing conclusions based on that?

MR. LANDEFELD: We worry about that all the time when we talk about quality adjustment in prices in that can we carry those back over time. We are the national accounts -- and we love historical time series and we try and take everything back to 1929. We'll do our best, but frankly, where there isn't data we'll do the best we can. I don't know how well we can do. Secondly, we do have to say to ourselves that it's more important that we have current data which is accurate than trying to absolutely maintain time series continuity. That's quite valid and the moderation will be a good example, but you might be able to try it in and out without those improved sectors to see whether you still see that moderation or not. I would imagine you would.

MS. DYNAN: Panelists, do you guys have any final thoughts? Carol?

MS. CORRADO: One of the things that's been on my wish list for service sector statistics and has nothing to do with productivity which is why I didn't mention it is something that might prove to be a leading indicator such as service contract awards or bookings in the case of certain industries. I don't think that this is something that could or should be explored across all of the industries that you're now covering in the quarterly indicator, but for business and professional services, what you're going to get there is something that would be more useful that I think once played a role in the manufacturing orders for computers is you're going to get the orders to the big firms that set up the IT systems for everybody else and then they are the ones who purchase the equipment. It just seems to me that that kind of process has been going on in the economy for some time and could usefully be exploited for the forecasters who want the timely data, and maybe that's the thing to do monthly as opposed to beating your respondents into reporting monthly.

MS. CORONADO: There is the nonmanufacturingism which has a new orders component.

MS. CORRADO: I'm asking the Census Bureau to do it so that it's well defined and we know what it is. There are bookings for hotels, there are bookings for travel and there are contract awards in professional businesses and if you take that along with the manufacturing orders you'd get a suite of indicators that might help you.

MS. DYNAN: We are out of time now. Let me do a few thank-yous. I want to thank all the speakers are coming. Your remarks were excellent. I want to thank Andy Reamer and the Metro Program here at Brookings who helped me set up the program, I want to thank D.J., Leah and Mike here at Brookings for doing so much of the heavy lifting on the logistics here, and then I also want to thank all of you for coming out today to hear our speakers speak about these very important issues.

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