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Principles and Practices for Making Statistics Relevant for Economic Decision Making

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Abstract

One of the most important goals of agencies producing economic statistics is that those statistics be relevant and regularly used by public and private decision makers. Achieving this goal requires several elements including accuracy, timeliness, and sound concepts and methods. However, perhaps most important, in a world of constrained resources, it requires focusing on those statistics that are most important to decision makers in the public and private sector. And this may be the most difficult challenge. Statisticians are by nature perfectionists and most are data producers rather than data users. The result is a tendency to focus on a level of accuracy, conceptual consistency, or statistical integration that is too high relative the quality of the underlying source data or the needs of the users. A jewel-like set of integrated accounts that comes out so late as to be irrelevant to decision makers, or that is not benchmarked to comprehensive information, is of limited value. This short paper will discuss these and other issues important to developing and maintaining a set of economic statistics that are relevant to economic decision making. The focus will be on the U.S. experience and lessons that can be learned -- positive and negative -- from that experience.

Importance of U.S. Economic Data to Businesses, Households, and Government

In addition to the real-time information available from financial markets – interest rates, stock indexes, and volumes – the most important data to financial markets are the economic data provided by the Federal Government: the gross domestic product, inflation, unemployment, and trade reports, as well as the various monthly economic indicators of construction activity, retail sales and other sectoral reports. These reports are carried by all the major news media as soon as they are released and have a major impact on U.S. financial markets and financial markets around the world. The impact on exchange and interest rates and on stock market values have a ripple effect on business and households through their impact on new and variable rate loans, stock portfolios, and business and consumer spending plans and expectations.

The data also have a large impact on government. The real gross domestic product (GDP) estimates and inflation rate, for example, are one of the most important variables used in calculating Federal tax and spending plans. According to the Office of Management and Budget, a sustained 1-percent decrease in real GDP growth could lower the projected surplus over the usual five-year planning horizon (2001-2005) by as much as $518 billion, from $965 billion to $447 billion. Similarly, a 1-percent decrease in long-term real GDP growth could raise the long-term Social Security deficit (in 2025) by two-thirds (table 1). The GDP and the other national accounts data are also central to the conduct of monetary policy.

The economic data also have an important impact on State and local governments throughout the nation. The Bureau of Economic Analysis' (BEA) regional estimates are used to allocate over $120 billion in funds for programs ranging from Medicaid to Appalachian Development Assistance to State and local governments. Seventeen large States that account for almost half the U.S. population are required by statute or State constitution to use BEA's regional income and product data in establishing limits for tax receipts and expenditures. In addition to the mandatory use of BEA data by these States, almost all the States use BEA data in their tax projections, infrastructure planning, and allocation of funds to counties.

These data are widely used and trusted by businesses, households, and government for several reasons. First, most of the data is available on a timely enough basis so that they are relevant to understanding current trends in growth and inflation, central bank decision-making, interest rates, and incomes. Second, they provide accurate information that the public can trust in some of their most important decisions ranging from investments and home purchases to tax and

monetary policies.

Timeliness:

The U.S. economic data are among the most timely data available. Real GDP estimates are available within 30 days of the end of a quarter and most monthly series, such as the consumer price index and unemployment, are available within one to two weeks of the end of a month. The timeliness of these estimates is due to the use of sampling for major components of series and estimation for other components. Using a regularly updated sample frame, it is possible to obtain quite accurate universe estimates on a timely basis at a relatively low cost (both in terms of the cost to statistical agencies and the cost to businesses and households responding to the survey). It is also possible to extrapolate estimates for certain components where current survey results are not available with a reasonable degree of accuracy.

For example, BEA has data for all three months of the quarter from the retail trade survey on final sales of goods and estimates final sales of services by extrapolating from the latest monthly (or in some cases annual) survey results using a variety of indicators and trends. These included use of heating/cooling degree days and average utility charges to estimate consumer spending on utilities, or use of the number of stock market transactions and average brokerage charges to estimate payments to stock brokers.

Over time, as more complete and revised source data become available, the estimates are revised. Each set of quarterly GDP estimates is revised:

- Twice in the two months following the initial estimate as newly available and revised monthly source data become available;

- Once each year when the results of more comprehensive (better coverage and more detail) become available; and

- Once every 5 years when the results of the Economic Censuses become available.

Accuracy:

Although this sounds like a lot of revision and perhaps confusion for users, the overall picture of economic activity is little changed by these revisions. As can be seen from Table 2, the picture presented by the first monthly estimate of real GDP is fairly close to the estimate of real GDP growth presented when the final estimate is complete. As we regularly try and warn our users – through publication of tables of ranges of average revisions and revision studies – although any point estimate will be revised. In general, BEA's GDP estimates do a good job of telling users:

- If real GDP during a given quarter is expanding or contracting;

- If real GDP is accelerating or decelerating;

- If real GDP growth is high or low relative to trend ;

- What components are contributing to growth; and

- Trends in key variables such as saving, inflation, real incomes per capita, investment, and government.

Another critical element for users is that the revisions be unbiased and the results be consistent with available data. In the United States there are a very large number of users of BEA and other economic data who devote a large amount of time and resources to predicting and analyzing the GDP and other estimates. Most major corporations and all Wall Street financial firms have entire units devoted to this task as does the U.S. Treasury, the Federal Reserve Board, academics, the business press, regional economists, and revenue estimators in the 50 States of the United States. As a result, while they all expect revisions, if the estimates and/or their revisions begin to look biased or do not "add-up" relative to the other source data they are tracking, BEA will hear about it quickly. Either through calls from Wall Street economists, business analysts, the Federal Reserve, or article published in the business pages of *The New York Times*, *Barrons*, *The Wall Street Journal*, or *Business Week*.

Public Disclosure of Sources, Methods, and Procedures:

The very high stakes associated with economic data inevitably raise questions about their accuracy. In the United States, this is especially evident during Presidential election years. The

incumbent's party will always hope that the economic data is as positive as possible, while the opposition will hope for mounting unemployment, higher inflation, and slowing growth. In the fall of 1992, the U.S. economy was beginning to show signs of recovery from a deep recession and just weeks before the election, BEA published its estimate of real GDP growth, which was a relatively strong 2.7 percent increase (which, after all the revisions were in, was revised up to 3.1 percent). The opposition mounted a campaign to discredit the estimate and some sympathetic columnists and sensationalistic newspapers printed articles questioning whether BEA was "cooking the books" to produce a favorable estimate for the incumbent as he entered the election. Certain members of Congress demanded an investigation by the General Accounting Office (GAO).

As it turned out, the Bureau weathered the incident rather well. None of the major newspapers or business press agreed to publish the allegations, the business and academic community gave no credence to the allegations, the opposition candidate (who went on to win the election) wisely never raised the issue, and the GAO report found "no evidence of manipulation" and praised BEA's independence. This result was in part due to the processes and procedures followed at the Bureau including:

- Publication of the source data, methods, and assumptions underpinning the GDP estimates so that outside analysts can better understand and replicate the estimates;

- A well-publicized (and monitored) set of release procedures that guard against pre-release access to (and use of) the data by policy officials and other interested parties. (These

procedures are outlined in the Office of Management and Budget's Policy Directive #3); and

C A set of personnel policies that provide a degree of independence from political interference including at BEA and other agencies an all-career professional staff, or at agencies like the Bureau of Labor Statistics, a career staff and a political appointee that is an economist of national repute and whose term is not coterminous with the President. (For further information see the U.S. National Academy of Sciences, "Principles and Practices for Statistical Agencies")

In addition to these policies and procedures, the Bureau has developed strong ties with the business and academic community and it routinely presents proposed changes in its source data, concepts, and methods to these groups and the public before making revisions. The Bureau does this through its publications, presentations at professional meetings, and special meetings held by the Bureau. Recently, the Bureau formed a permanent Advisory Committee of 13 of the most prominent economists in the nation to advise it on planned updates and revisions to the national, international, regional, and industry accounts.

Trade-Offs and Relevance:

The United States has often been described as not following the International Accounting Guidelines outlined in the System of National Accounts (SNA), yet in a 1999 "Milestone Assessment of the Implementation of the System of National Accounts, 1993 by Member States,"

the United States was one of the only two countries to receive a six out of six points contained on the rating scale (the other country was Canada). This somewhat surprising result occurred because the rating simply asked if the country had the following sets of core statistics: 1) GDP at current and constant (inflation-adjusted) prices, broken down by kind of economic activity and final expenditure; 2) Main macroeconomic aggregates for the national economy and complete accounts for the rest of the world; 3) production accounts; 4) income and capital accounts; 5) financial accounts; and 6) balance sheet information. The milestones did not focus on compliance with SNA terminology, inclusion or exclusion of detailed items, table formats, or degree of integration across the 6 components.

The United States is not an integrated statistical system and its statistical system's form and content largely reflect a pragmatic response to policy and business needs. As American's might say: it ain't pretty but it works. The United States took this same response in implementing the changes contained in the 1993 SNA and some remaining items from the old SNA , focusing not on form but substance and implementing those items that were -- in terms of relevance and quantitative impact -- most important. These include the use of chain, or Fisher, superlative indexes; the capitalization of computer software; the treatment of government capital expenditures as investment; and the symmetric treatment of government pensions with private pensions. One of the other quantitatively important changes in the SNA 93 -- the recognition of the checking, bookkeeping, security, and investment services that financial institution provide to households in GDP -- has been a feature of the U.S. GDP estimates for over 20 years.

This is not to say that there are not a large number of items--particularly better

integration--that the United States needs to move forward on, but with constrained resources, BEA will have to continue to move forward on those items of large, quantitative significance and of significant interest to economic decision makers. These include quality-adjusted price and real output indexes for high-tech goods and services (to better understand sources of growth and productivity in the "new" economy); better integration of BEA national account and capital stock estimates with the Federal Reserve Board's financial balance sheets (to better understand the impact of the stock market gains on personal saving and spending); and new measures of stock options and other newly emerging forms of compensation (to better assess the impact of these new forms of compensation on incomes, inflation, and productivity).