

# **An Economist's View of The Statistical State of the Nation**

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Testimony Before the  
Joint Economic Committee

July 24, 2002

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I am delighted to have the opportunity to discuss some of the important questions regarding the state of federal economic statistics in our rapidly evolving economy. Improving our nation's statistical infrastructure is an important goal. The emergence of new technologies and the growing importance of technologically advanced service industries have created new data-collection and measurement challenges for our statistical agencies. I will review some of the major issues and make a handful of recommendations for improvements.

I might begin with a word of background on my interest in economic statistics. For most of the last decade, I served on the National Academy of Science's Committee on National Statistics. This body is charged "to select and study statistical topics to improve the effectiveness of the federal statistical system." Its reports have reviewed such issues as the definition of poverty, the American Community Survey, better measures of the cost of living, and augmented accounting.

I am also currently chair of the Advisory Committee of the Bureau of Economic Analysis (BEA). This Committee works with the BEA to review priorities and make suggestions on technical issues to improve economic statistics. Recently, the BEA Advisory Committee held a “brainstorming session” of leading academic and business economists to consider improvements in the national economic accounts.<sup>1</sup>

Most recently, I have worked with the leadership of the American Economic Association to explore whether the AEA should have a standing committee in the area of economic statistics. The AEA decided that question in the affirmative and has just established the AEA Committee on Economic Statistics, of which I am the chair. The Committee is currently setting its agenda, but I am sure that it will be delighted to help the Joint Economic Committee and other committees of the Congress should they wish to call upon the AEA Committee for advice of matters of economic statistics.<sup>2</sup>

I emphasize that the remarks that I am making today are my own and in no way implicate any of the organizations just listed. I will, however, attempt to convey the broad consensus of professional economists on the importance of high-quality and timely statistics.

Good economic statistics are important because they are critical inputs into the decisions of public and private decision makers. Without good economic statistics, the Congress cannot make budgetary decisions informed by economic trends and the long-term outlook for surpluses or deficits; companies cannot plan their investments without

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<sup>1</sup> Bureau of Economic Analysis, *Survey of Current Business*, May 2002, “BEA's Strategic Plan for 2001-2005,” with discussion by the BEA Advisory Committee and others.

<sup>2</sup> The report of the AEA Advisory Committee on Economic Statistics along with the actions of the AEA Executive Committee are included in *American Economic Review*, May 2002.

good data on prices and quantities in their own markets; state and local governments cannot plan for roads, hospitals, and environmental quality without up-to-date demographic data; and households cannot make sound financial decisions without reliable information on the earnings of companies and the yields on alternative investments.

Conducting the fiscal affairs of state without good statistics is like flying blind.

The general condition of the federal statistical system is sound. But an evolving economy requires constantly improving our source data and sharpening our statistical tools. I will discuss give areas for improvement.

### **A. Maintain and Improve the Core National Income and Product Accounts (NIPA)**

The current “core accounts” of the National Income and Product Accounts (NIPA) are an essential ingredient for analyzing U.S. economic conditions and trends. They illuminate trends in national saving and investment, per capita output and income, the return to capital, inflation, productivity, the shares of income going to different factors of production, international linkages, and the sources of economic growth. They are critical ingredients in budget projections of the Congressional Budget Office. When the core accounts go astray, so do budget projections and plans of the public and private sectors.

A recent report from the National Academy of Sciences summarized the central economic role of the national accounts:

The modern national income and product accounts are among the great inventions of the twentieth century. Among other things, they are used to judge economic performance over time, to compare the economies of different nations, to measure a nation's saving and investment, and to track the business cycle. Much as satellites in space can show the weather across an entire continent, the national accounts can give an overall picture of the state of the economy.<sup>3</sup>

Continuing to develop and improve the core accounts should clearly be the top priority for BEA. The BEA strategic plan contains many worthwhile elements for improving the core accounts.<sup>4</sup> Among the most important items on the agenda are the following: development of a full set of integrated income and wealth accounts (discussed below); more timely publication of the input-output data; continuing the development of the industry accounts with a full set of comparable historical data; improvement of source data with particular attention to the income side of the accounts and particularly to compensation; and improved measurement of real output in those sectors where price indexes are deficient (discussed below).

One area of continuing importance for the national statistical system is to produce data that will improve our understanding and therefore aid our managing of business cycles. When the Congress or the Federal Reserve weigh programs to deal with recessions, they need timely and reliable data on the state of the economy.

Aside from the improvements in the BEA strategic plan, I have one additional personal suggestion, which is the development of an experimental index of monthly GDP data.

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<sup>3</sup> *Nature's Numbers: Expanding the National Economic Accounts to Include the Environment*, National Academy Press, Washington, D.C., 2000.

<sup>4</sup> See "BEA's Preliminary Strategic Plan for 2001-2005," *Survey of Current Business*, December 2001.

BEA prepares estimates for the major output and income series averaged on a quarterly and annual basis. I would recommend that BEA consider developing the major income and product accounts on a monthly basis. Indeed, at present many components of the accounts (incomes, production, and prices) are already available on a monthly basis. Consumption, government spending, inventory changes, foreign trade, labor market data, and virtually all major income measures except profits are available on a monthly basis. It would appear relatively straightforward to develop procedures for estimating or interpolating the missing variables on a monthly basis.

It should be emphasized that the only current monthly output measure, the Federal Reserve's monthly industrial production index, is unrepresentative of the economy in that it covers less than 20 percent of GDP and omits the entire service and trade sectors.

There are many reasons for developing monthly GDP, but one important reason is that it will provide more timely and useful information on the pattern of business-cycle movements. The business cycle of 2001 provides a useful illustration. Most economic data indicated that the economy was slowing from early 2001 and that the trauma of 9/11 had accelerated the downturn. Forecasts in late September and October 2001 were extremely gloomy. Data on sensitive sectors, such as travel and finance, tended to reinforce the gloom.

Because of the peculiar shape and timing of the 9/11 aftermath, the quarterly GDP data were unhelpful for forecasters and policymakers. The sharpest economic reaction to 9/11 probably came in late September and early October 2001, but this would have affected only one-sixth of the data for the third quarter. The major impact on GDP, if there were one, would be seen in the fourth quarter, whose advance and incomplete estimates were not available until January 30, 2002. Indeed, it was not until

the preliminary estimates became available on February 28, 2002 that it became clear that real economic growth for the fourth quarter of 2002 was safely in the positive range. The growth rate for the second half of 2001 was actually positive, and the 2001 recession appears to be the mildest in post-war history.

Without the actual monthly GDP data, we cannot know how the pattern of output in late 2001 would have looked. But it is surely possible that by November 2001 discerning eyes would have suspected that the downturn was very mild and that the recession had essentially come to an end.

This discussion provides just one example of why it would be useful to develop monthly GDP statistics on an experimental basis.

The recommendations in this area are the following:

**Recommendation 1. The first priority for the BEA should be to improve the coverage, detail, quality, and timeliness of the core accounts. The BEA strategic plan contains many elements that are essential for continued improvements in the NIPAs.**

**Recommendation 2. BEA should work to develop an experimental monthly GDP series.**

## **B. Strengthen Source Data for Our Statistical System**

Federal statistical agencies produce a wealth of statistics each month on output, productivity, incomes, foreign trade, inflation, the labor market, and many other facets of our economic life. These summary statistics give a misleading impression about how easy it is to produce reliable, comprehensive, and timely data.

But the fact is that the numbers we read about each month – the GDP, the inflation rate, or the balance of trade – are just the visible tips of the statistical icebergs. Below the surface lie vast volumes of source data from all corners of the economy. Much of this source data is collected by the Census Bureau through regular or special surveys of households and firms, but other parts are collected by BEA, by BLS, by the Federal Reserve, and by other federal agencies. Our national accounts depend crucially on accurate, timely, and comprehensive source data.

The United States has made major investments in improved source data, and these investments have paid off in more timely and reliable statistics. But at present there are major gaps. Among the most important needs are improvements in income data, more timely and reliable data on international trade and inventories, and more timely input-output data. Additionally, we need improved measures of nominal output and prices in many service sectors, particularly for technologically advanced business services like software and hard-to-measure areas such as medical care. In the next section, I will provide two other important areas where improvements in source data are necessary in the area of productivity statistics.

One final example of improved source data is the American Community Survey (ACS). This is an on-going survey that can replace the long form in the Decennial Census. It will provide demographic, housing, social, and economic data updated

every year that can be compared across states, communities, and population groups; it will be much more useful than the infrequent and quickly out-of-date information from the Decennial Census. The ACS will help governments at all levels track the size and characteristics of the population in a more timely and accurate way and thereby aid better and more efficient program design.

I will briefly mention the Administration's data sharing proposal that was announced earlier this month. This proposal is a step to solving some of the difficulties that arise from our decentralized federal statistical system. The proposal combines two elements: First, it allows BEA, Census, and BLS to share business data for statistical purposes. Second, it clarifies and strengthens safeguards on confidentiality of information provided to government agencies.

I will address only the first element, the guidelines on data sharing. It has long been recognized that the decentralized nature of the federal statistical system contains hurdles to the most efficient use of the statistical information that the government collects. Data sharing among the three agencies will provide the opportunity to get both more timely and more accurate data on production, sales, employment, and industry. For example, data sharing will allow BEA to derive more accurate quarterly data on shipments and other variables at a detailed industry level. It is an excellent way to improve the quality of federal statistics with little, no, or even negative cost.

I recognize that statistical programs are not free. The federal government currently invests substantial sums in its statistical programs. I believe, however, that on the whole these additional investments would have great value to the nation. To take just one example, consider the value of more timely and reliable data on real GDP and inflation. These data provide early "economic storm warnings" in the same way that improved hurricane forecasting does. By allowing the Federal Reserve and the

Congress to act sooner and more appropriately to combat business cycles, high-quality economic statistics can have a payoff in the billions and billions of dollars.

**Recommendation 3. Reliable statistics on the economy depend upon improvements in the source data that underlie the statistics.**

**Recommendation 4. Enhanced data sharing among statistical agencies will improve the timeliness and accuracy of federal economic statistics.**

### **C. Productivity Statistics**

The previous section discussed the need for improved source data in general, and this can be illustrated for the important area of productivity. Productivity growth is quite correctly one of the most closely watched of important economic statistics. As one economist put it, “In the long run, productivity isn’t everything. But it’s almost everything.”

Figure 1 shows the trend in labor productivity for the business sector through the first quarter of 2002. It is clear that there was a major productivity upsurge in the middle 1990s. The growth in productivity per hour since 1996 has been 2.8 percent per year, which is slightly higher than the average for the entire postwar period (1948:1-2002:1) of 2.5 percent per year.

This all looks so simple. But productivity statistics are in fact a very complicated business. Productivity data are again but the tip of a very large statistical and methodological iceberg. They involve a variety of different source and analytical data

and sophisticated techniques for combining the data. They are a joint product of BLS, BEA, Census, the Federal Reserve, and other agencies. The last decade has seen major improvements in both the source data for calculating productivity as well as use of better techniques. But, as in most things, we can do better.

I would point to two areas where improvements are both needed and underway: better hours data and better price data.

### *Hours*

One of the most important components of productivity statistics is hours worked. These data are collected in different surveys, but the underlying data are probably unreliable. One problem is that relatively little effort is devoted to collecting hours data. Another problem is that we have only the scantiest data on the hours of salaried workers (as compared to those paid by the hour). As we have moved to a service economy, more and more workers are salaried. We hear complaints about “the overworked American” and the “time crunch” of professional workers, but these remain primarily anecdotes.

Fortunately, the U.S. is about to undertake a fundamentally new and important survey to obtain better data on hours worked. The BLS will be fielding the American Time Use Survey starting next year.<sup>5</sup> It will not only provide much better data on hours

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<sup>5</sup> The major components can be found at <http://www.bls.gov/tus/home.htm>. This project was endorsed by participants in a recent National Academy of Sciences workshop; see *Measurement of and Research on Time Use: Report of a Workshop*, Shelly van Ploeg, Julie DaVanzo, William Nordhaus, Frank Samaniego, Joseph Altonji, and Norman Bradburn, eds., National Academy of Science Press, 2000. Available at <http://www.nap.edu/catalog/9866.html>.

worked for the productivity statistics, but it will also provide a wealth of data on how the population spends its most precious resource – its time.

I hope the Committee will review the new time-use survey. I believe that this is the single most important statistical initiative of the Federal government currently underway.

#### *Improved price indexes*

Another area where improvements are needed is the construction of improved price indexes. High quality price indexes are critical to many areas. The Congress knows that, because the tax and social security systems are indexed to the CPI, measurement errors in the CPI cast a long fiscal shadow.

But accurate price indexes are also critical for measuring real output. It is not generally recognized that BEA never actually measures “real output” or “real GDP.” Rather, BEA takes dollar measures and deflates them by price indexes. The quality of the real output measures, which are the numerators of productivity measures, are likely to be defective if the price indexes used to construct them are inaccurate.

The price statistics for our productivity measures, as well as for most other series, are designed and collected by the Bureau of Labor Statistics (BLS). While the BLS has come under serious criticism for its price statistics, it has taken significant strides to improve both its methodologies and its underlying price data over the last decade. These steps include moving away from fixed-weight price indexes, updating the basket of goods more frequently, and undertaking more detailed studies (including hedonic techniques) for capturing quality change.

I believe the BLS has been moving in the right direction, but it may have been overly cautious in both the pace and direction of introducing new techniques. Among the potential activities, I would recommend that BLS and BEA continue to develop realistic price indexes for those areas of the accounts where input-type measures are used (such as in financial services, business services, and health care). Additionally, BLS should continue to move ahead in improving measures of quality change and in including new products, particularly with the introduction of hedonic techniques where appropriate.<sup>6</sup> Finally, BLS has been hamstrung in its use of some techniques because it does not revise its core measures. I would recommend that BLS develop new experimental approaches for price indexes and consider revision of both experimental and core measures.

**Recommendation 5. The new American Time Use Survey (ATUS) of the BLS will fill a critical statistical gap by providing more accurate data on hours worked as well as a broad perspective on how the population spends its time. This survey deserves strong Congressional and public support.**

**Recommendation 6. BLS and BEA should continue their efforts to improve the price data underlying the consumer price index, the producer price index, and the national accounts. Special efforts should be made to capture in price indexes the full range of new and improved goods and services.**

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<sup>6</sup> A useful recent review of issues and potential improvements in constructing price indexes is contained in Charles Schultze and Christopher Mackie, eds., *At What Price?: Conceptualizing and Measuring Cost-of-Living and Price Indexes*, National Academy Press, Washington, D.C., 2001.

## **D. National Savings and Investment**

We routinely hear that the nation is investing too little and that the personal savings rate is woefully low. For example, BEA reports that the personal saving rate for 2001 was only 1½ percent of disposable income. For 2000, net domestic investment was only 8½ percent of net domestic product. These are thought to be too low for our economic health.

Or are they? The customary definitions of net saving and investment rely on extremely narrow definitions of these entities. The definitions are appropriate for their context, which is the core national income and product accounts. But they are definitely misleading for measuring total social saving and investment. To get the true picture, we need a more complete accounting system.

A more complete accounting would look very different. The first point involves conceptual difficulties in measuring savings. The traditional product-account (or NIPA) measure of saving in the national income accounts is the difference between current income and consumption. The NIPA definition contrasts with the asset-account definition, which is the change in real net wealth. The difference between the production-account and the asset-account definitions became particularly large during the major stock-market boom of the 1980s and 1990s.

Figure 2, derived from data prepared by the BEA and the Federal Reserve, compares the narrow NIPA (production-account) measure of savings with a comprehensive (asset-account) measure of household saving. The comprehensive measure includes savings in pensions and capital gains on equities. The narrow measure showed a low rate, which declined from the 1980s to the 1990s. The comprehensive measure showed a very healthy savings rate of 25 percent for the 1990s.

The latter measure better corresponds to the flush of wealth that households actually experienced, and indeed it probably explains the decline in the narrowly defined savings rate.

While we have no comparable figures through early 2002, it is certain that the comprehensive savings rate has been quite negative over the last two years as \$7 trillion of paper wealth went up in the smoke of terrorism, recession, dot-com crashes, and phony earnings reports.

A second set of issues concerns the narrowness of current product-account measures of investment. It is not generally recognized that current measures of investment cover an extremely limited sphere, including only investment in some tangible capital (such as factories, equipment, inventories, and houses) along with software. Current concepts omit a wide variety of investment-type activities. Some important omissions are the acquisition of tangible capital such as consumer durables by households; development of land; expenditures for research and development; expenditures for education; the opportunity costs of students' time; the opportunity cost of training; and much of the nation's expenditures for health.

When I first penned these words, I added, "It must be hard to explain to a Secretary of Commerce why the purchase of a factory to produce a new drug is investment while the expenditure on research on that drug is not; or why building a new library is investment while purchasing new books for the shelves is not." I hope that Secretary Evans will agree that the current treatment is too narrow and will work to implement the recommendations on developing National Economic Accounts below.

We have only the sketchiest of estimates of how important the omission of intangible and nonmarket investments are, but estimates by Robert Eisner indicated that the standard definition might underestimate the true national investment rate by

as much as 500 percent. Recent studies of Dale Jorgenson and Barbara Fraumeni lead to similar conclusions.

These observations lead to a major recommendation for improving the nation's statistical system. We need to move beyond the National Income and Product Accounts to a set of National Economic Accounts. These would involve linked accounts that include not only production and income but also linked accounts that include assets, capital, accumulation, and wealth. The first step would be a complete set of wealth and asset accounts.

**Recommendation 7. BEA should work with the Federal Reserve to develop a full set of asset and wealth accounts.**

**Recommendation 8. BEA should develop a full set of linked National Economic Accounts that include production, income, consumption, accumulation, and wealth.**

## **E. Investment and Portfolio Allocation and Improved Private Information**

Given the current economic climate, it is important to spend a moment considering the importance of *private statistics*. Many of the most important indicators used by both government and the private sector rely upon statistics that are generated and published by the private sector. These include most measures for the corporate sector, and particularly those relating to the performance of publicly owned companies.

Private statistics are critical for the decisions of both the public and private sectors. Government revenue forecasts depend upon the quality of the data on compensation and profits. At present, our economic statistics cannot separate out wages and salaries from the gains on exercised stock options. Moreover, as many individuals and pension funds have learned over the last two years, their financial investments have been based on company data that have sometimes proved unreliable. More generally, one of the key ingredients of an efficient market economy is accurate information about the profitability of investments in different sectors.

Like many others, I am particularly concerned about the accuracy of company financial reports. Imagine that Olympic competitors were allowed to bring their own stopwatches or yardsticks to measure their performance. You would surely be skeptical about the results. Yet this is just the system we use to measure corporate earnings.

How important is the “creative accounting” to the aggregate profit statistics? Figure 3 below – based on data from BEA, the Federal Reserve, and Standard and Poor’s – suggests that the aggregate numbers may have been affected by faulty accounts. This shows the ratio of financial earnings as reported by the S&P 500 to total corporate earnings as determined by the BEA. The ratio became unusually divergent in the last four years. The peak in S&P earnings lagged behind the peak in NIPA earnings in the late 1990s, probably because companies were “managing” their earnings (that is, preventing an accounting decline in earnings). The speedup of revenues or delay in expenses generally come out in the statistical wash, at a later time.

There are many approaches to providing better accounting data, but I would suggest that the primary need is for a uniform stopwatch and yardstick to measure corporate performance – one that uses a standardized set of rules for measuring income and expenses, along with clear definitions of capital and current accounts.

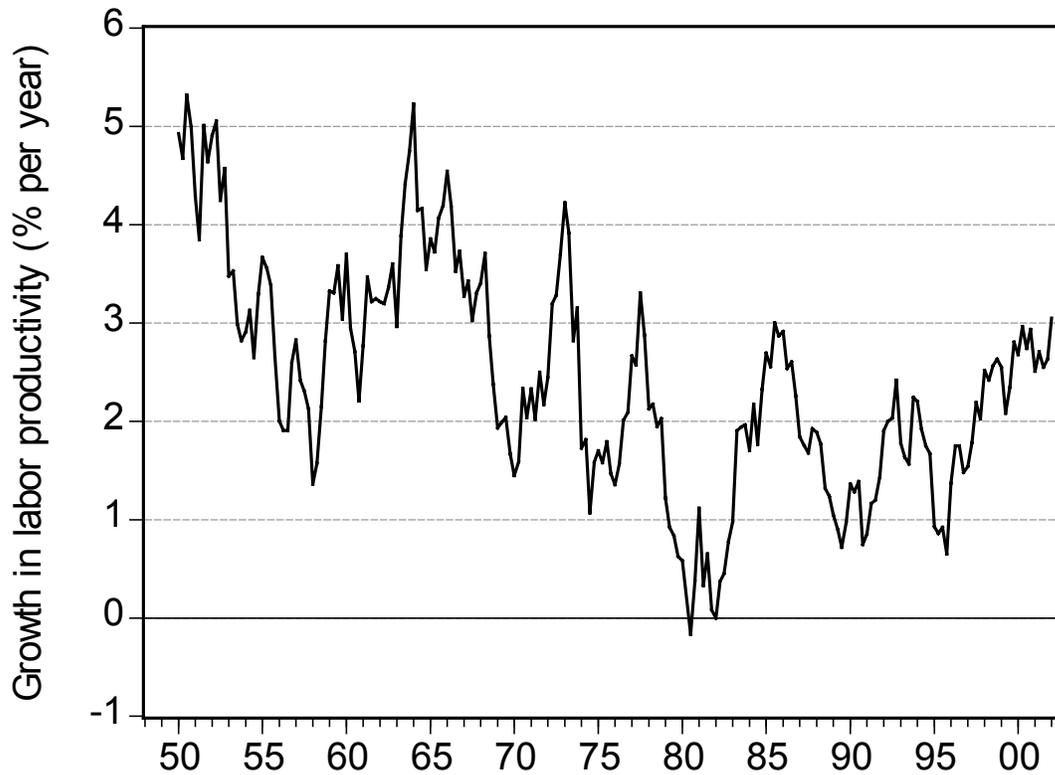
One simple and overlooked set of standardized accounts already exists. It is the U.S. corporation tax system. Under U.S. law and detailed IRS regulations, all U.S. companies are required to follow a uniform set of guidelines and definitions for every category of income and expense.

I would therefore recommend that companies publish their tax returns. Additionally, companies should reconcile their financial and tax accounts. By examining company tax returns, analysts can get measures of the different financial components of a firm's performance that follow a standard set of rules.

**Recommendation 9. In order to improve the quality of information about publicly held corporations, corporations should publish their tax returns and reconcile their financial reports with their tax returns.**

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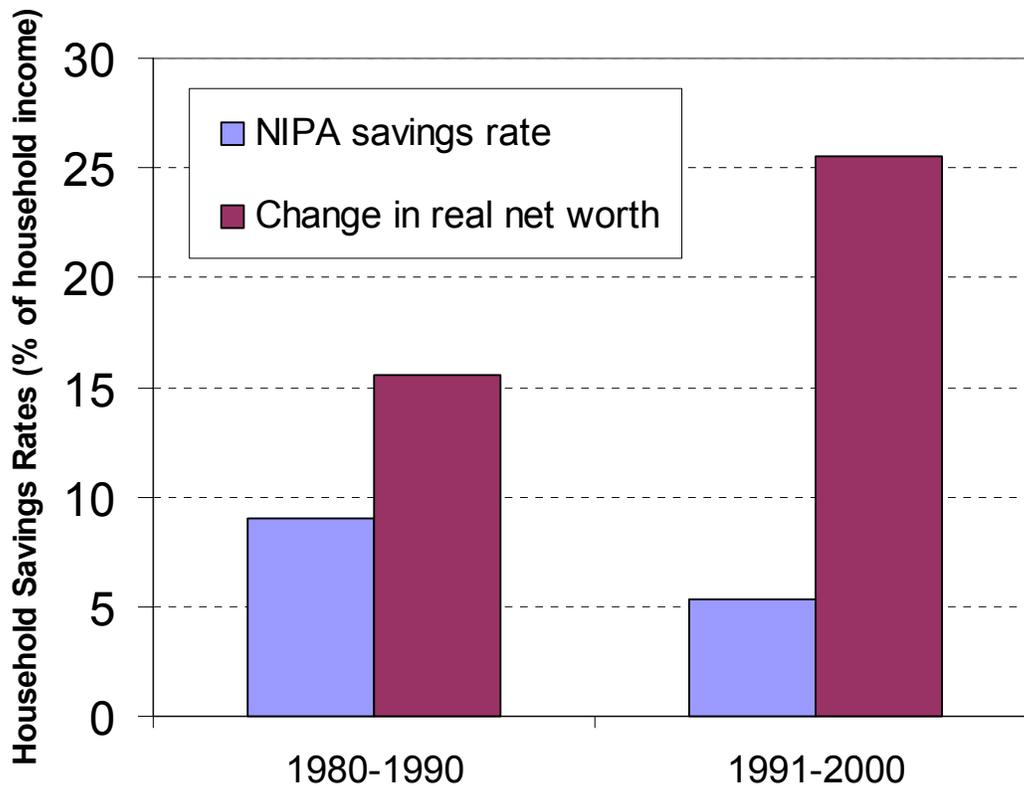
In closing, I welcome this occasion to review the state of federal statistics. The United States can be justifiably proud of its federal statistical system. It combines high quality statistics, good utilization of current best-practice statistical techniques, and professional management. But the system needs to adapt to the changing environment. I believe the recommendations laid out here will help improve the statistical basis for public and private decisions.



**Figure 1. Growth of Labor Productivity in the Business Sector**

The figure shows the 3-year moving average of the growth rate of labor productivity.

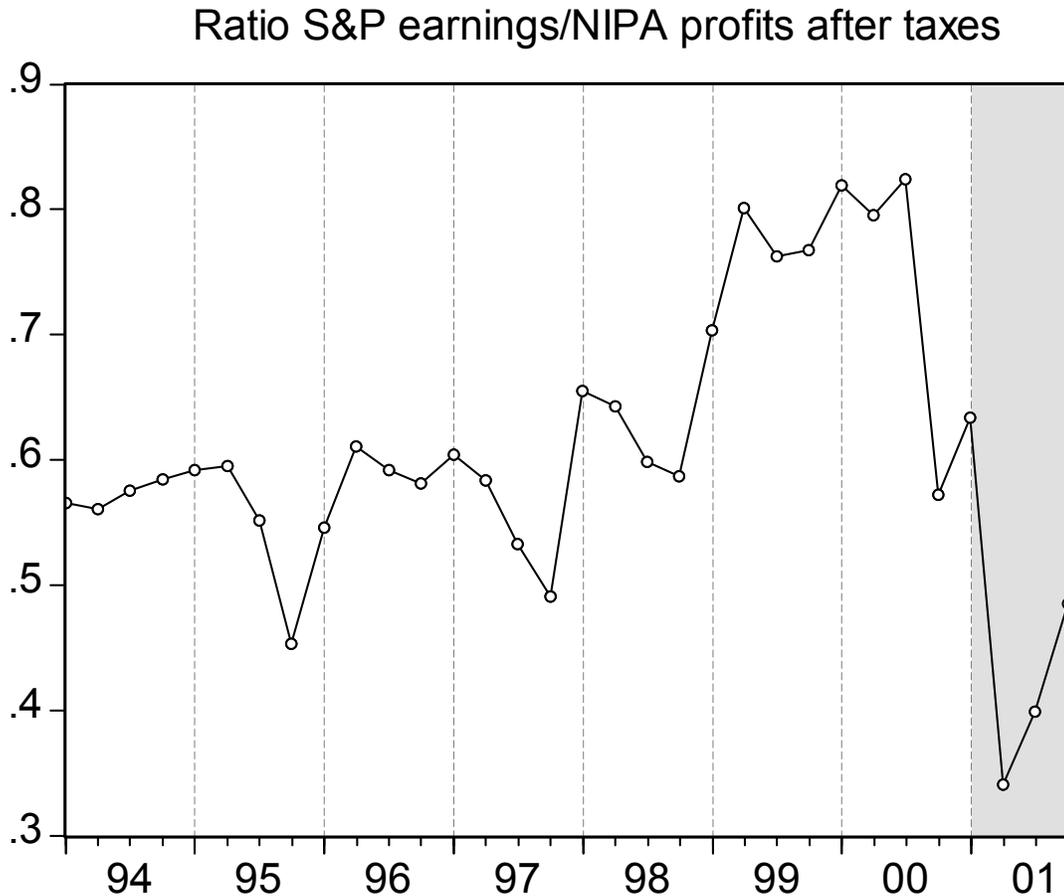
Source: Bureau of Labor Statistics based primarily on data from BLS and BEA.



**Figure 2. Alternative Measures of Household Saving**

The “NIPA definition” is the usual measure of the savings rate derived from the production accounts. The figures denoted “Change in real net worth” include all sources of household saving, including prominently capital gains on equities during the great bull market of the 1980s and 1990s.

Source: Data are primarily from the BEA and the Federal Reserve as published in Maria G. Perozek and Marshall B. Reinsdorf, “Alternative Measures of Personal Saving,” *Survey of Current Business*, April 2002, pp. 13-24, available at [www.bea.doc.gov/bea/ARTICLES/2002/04April/0402PersonalSaving.pdf](http://www.bea.doc.gov/bea/ARTICLES/2002/04April/0402PersonalSaving.pdf).



**Figure 3. Ratio of Reported Earnings of S&P 500 to NIPA Profits After Taxes for U.S. Corporations**

S&P profits averaged about 60 percent of total profits in the mid-1990s. In the late 1990s and early 2000s, the relationship became extremely erratic. The shaded region is the 2001 recession.

Source: William Nordhaus, "Output, Profits, and Financial Markets in the 2001 Recession," forthcoming, *Brookings Papers on Economic Activity*, 2002:1. Data are from the BEA, Standard and Poor's, and the Federal Reserve Board.

## Summary Table of Recommendations

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