Improving the Measurement of Gross Domestic Product

Major Revisions to Increase Accuracy of GDP and Reflect Changing U.S. Economy

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Introduction

Starting with data for the second quarter of 2013, the Bureau of Economic Analysis (BEA), the federal agency responsible for producing the Gross Domestic Product (GDP) statistics, will make a number of major revisions to the BEA's methodology of estimating GDP that have been long planned to improve the accuracy of the national income and product accounts (NIPAs). These revisions will be applied to data going back to 1929.

A recent article in *Financial Times* noted that these revisions will add roughly $500 billion to U.S. real GDP, an amount equivalent in size to Belgium's real GDP.[1] While these revisions will make U.S. GDP appear three percent larger than it would have been without the revisions, the revised GDP data should not be interpreted as an economic improvement, only a more finely calibrated and accurate estimate of U.S. GDP over time.

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Comprehensive Revision Breakdown

The comprehensive revision will affect not only national and state GDP, but also gross domestic income (GDI), gross national product (GNP), national income, personal consumption expenditure (PCE), gross private domestic investment, net operating surplus, consumption of fixed capital, proprietors' income, corporate profits, personal income, disposable personal income (DPI), personal saving, government saving, net saving, gross saving, as well as indirectly affecting the PCE price index, the inflation measure used by the Federal Reserve in calibrating monetary policy.

The major revisions in methodology are as follows:

(1) Expenditures on research and development by business, government, and nonprofit institutions serving households will be considered as fixed investment, rather than a cost of doing business.

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(2) Expenditures on the creation of entertainment, literary, and artistic originals by business and nonprofit institutions serving households will be considered as fixed investment.

(3) The ownership transfer costs of residential fixed assets that are recognized as fixed investment will be expanded, and the accuracy of asset values and service lives will be increased.

Defined benefit pension plans will be accounted on an accrual basis.

(4) Defined benefit pension plans will be accounted on an accrual basis by recognizing the costs of unfunded liabilities rather than a cash basis. Defined benefit pension plans will be shown as a subsector of the financial corporate sector.

(5) The treatment of wages and salaries will be harmonized by using accrual-based estimates consistently throughout the NIPAs.[2]

These methodological changes in estimating GDP come about along with the regular comprehensive revision that occurs every five years based on an economic census of almost 4 million businesses.[3] An additional revision will change the reference year for output and price measures from 2005 to 2009.

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The change in counting research and development (R&D) will add over 2 percent to real GDP. Creative works are expected to add a further 0.5 percent to real GDP, with a third each of that coming from movies; TV programs; and books, music and theatre, respectively. In short, the economy will appear larger because the previous methodology underestimated its true size. In reality, however, the true size of economy or its growth rate will not have changed significantly.

GDP Measurement Improvements

The BEA identified three primary reasons for the methodological revisions in estimating GDP:

(1) Changes in the economic environment required recognition of intellectual property in business and its contribution to output and productivity.

(2) The financial crisis and subsequent recession required exposure of vulnerabilities in the pension system and data gaps in financial services.

(3) Updated international guidelines from 2008 required adjustment of GDP accounts to remain up-to-date and comparable with other countries' GDP.

Prior to these revisions, not all forms of production were treated the same way; some forms were considered costs instead of investments. Recognition of intangible assets and R&D as fixed investments shifts the effect that these components have on GDP forward, because they are added to GDP much sooner than their previous categorization as the cost of doing business, which shows up much later in GDP in the form of sales of a good or service that resulted from the cost of creation.

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For example, when a manufacturing company invests in a long-term asset such as a new building, equipment, or software, the company contributes to GDP under the fixed investment category yielding a return over the course of many years as opposed to routine costs of doing business, such as the manufacture of goods that are sold. When a mobile application is developed or a book is written, it is expected that the creator will receive a long-term payout over a course of many years from the initial upfront cost to produce the application or the book, which is very similar to the long-term assets such as the building, equipment, or software in which the manufacturer invested. One drawback that remains, however, is the inability to distinguish the amount paid for activities such as R&D, or investment in a book, and the value of those activities.

Despite this, the research results that lead to new technology, entertainment, and medicine are now more accurately measured within GDP. As noted recently in the *Wall Street Journal*, “the revision reflects the economy’s quiet transformation from one based principally on industry to one decidedly based on knowledge and information.” The change adds intellectual capital to the traditional measures of productivity: land, labor and capital. Notably, the U.S. Patent and Trademark Office reported last year that at least 40 million U.S. jobs and nearly 35 percent of GDP result from “IP-intensive” industries.[4] As more of the economy revolves around the production and consumption of intangible goods, it is increasingly important that GDP accurately reflects this shift.

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The Revision and Public Policy

Some Americans may be concerned that the new revisions are some kind of gimmickry by the Obama administration, implying that the change was prompted by motives to mislead, exacerbate income disparities, or alter public policy response to the current tepid recovery. However, the change is actually the recognition of additional existing information that significantly affects GDP. While the overall size of GDP will numerically increase, the historical changes over time will remain more or less the same as before the revision.[5]

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2008, which sets an international standard of recommendations for how to compile measurements of economic activity. It is expected that the United States will set an example for other countries to incorporate intangible assets into their GDP as well. Europe and most other developed economies are expected to follow suit by 2014.[6] Plans for the revision began after the release of the SNA changes in 2008, and were announced in the August 2012 *Survey of Current Business*. It is the biggest revision since computer software was incorporated into GDP in 1999.[7]

In fact, the treatment of liability for underfunded plans could have severe implications for the state and federal governments going forward. The changes in methodology from a cash contribution basis (i.e., $10,000 deposited this year counts as $10,000 of spending on pension benefit contributions) to an accrual basis (i.e., promise of benefits based on the present value of $10,000), with an improved standard rule for calculating present value than governments generally use, will improve the transparency of underfunded pension plans by following the same series of discount rates used for private plans. As noted in a recent *Bloomberg* column, the result is a higher, but more accurate cost.[8] Such changes may motivate state and local governments to evaluate and improve their current pension fund systems.

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Conclusion

Limitations to measuring production in the U.S. economy will continue to exist even after these revisions, but the revisions will move GDP one step closer to accuracy. The change simply reflects that the economy is and has been bigger than previously thought. More broadly, government statistics still have long way to go to catch up with tracking modern-day components of the ever changing economy and increased globalization.

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