

Why is GDP Underreported?

Technology, Economic Statistics, and How They Impact Markets

Overview

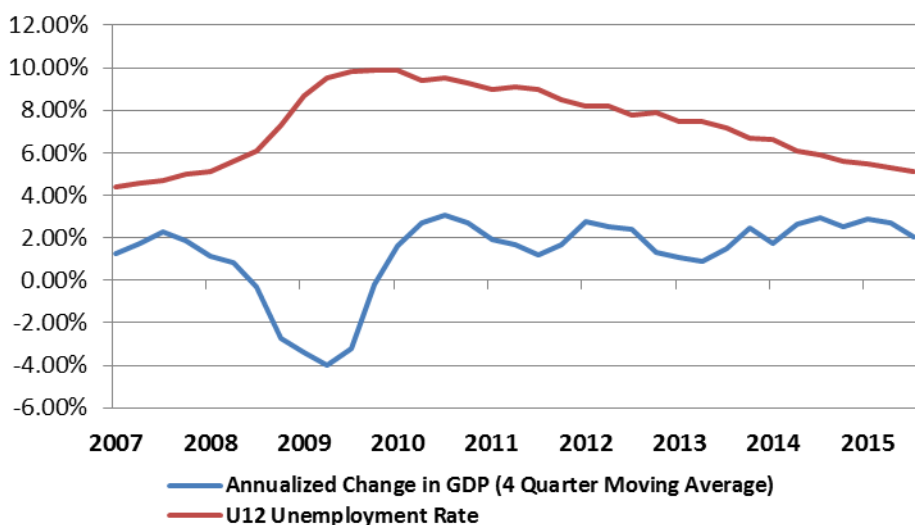
Technology has transformed our country in many ways. Over the past 25 years, advances in electronics, computing, and communications have fundamentally altered all sectors of the national economy. The creation and mass adoption of tools such as the Internet, smartphones, and e-mail have impacted nearly all personal and professional lives on a scale not seen since the Industrial Revolution. Undoubtedly, these changes also made us more efficient and productive.

Paradoxically, the traditional statistics measuring the economy's well-being indicate that economic growth, as measured by Gross Domestic Product (GDP), productivity, and inflation, have been disappointing. For example, GDP growth and unemployment have historically shown a common-sense inverse relationship: unemployment tends to spike when GDP growth slows or contracts, and vice versa. However, the post-crisis unemployment rate has steadily trended downward while annualized GDP growth has stayed range-bound at close to 2%.

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Source: Bloomberg

This has important policy and investment implications, as the Federal Reserve factors this data into its views on the economy and monetary policy. The post-crisis economy's disappointing pace of recovery has provided the basis for the Fed to continue its ultra-accommodative monetary policy. If, however, the Fed adjusted its GDP measurement tools, it could result in a more immediate normalization of monetary policy.

Information and Communications Technology Have Changed the Economy

In this golden age of progress, rapid improvements in technology have helped the economy grow more productive. Innovation and competition have led to broad adoption of technological advances that add value and punish inefficient businesses. As a result, our economy now produces more with less, operating in a more vibrant yet cost efficient and accessible manner. A few examples:

- In 2005, Blockbuster employed 60,000 and generated almost \$6 billion in revenue from a traditional video rental business model. Today, Netflix has less than 2,500 employees and generates \$5.5 billion in revenue from flat rate monthly memberships. Moreover, instead of simply renting videos and DVDs, Netflix instantly delivers streaming media, with the ability to watch on almost any device.
- Instead of going to specialty stores like the now-defunct Circuit City and Borders, Amazon shoppers can immediately compare prices, quality of goods, evaluate substitutes, and make purchases anywhere at any time. Additionally, substantial cost savings from centralized warehousing, data-driven inventory management, and lack of brick-and-mortar retail locations are passed on to consumers through lower prices.
- Traditional travel agencies have been replaced with online travel search engines including Travelocity, Expedia and Kayak, which let consumers easily book vast combinations of travel and hotel arrangements at a fraction of the costs.

Similar anecdotal evidence is abundant in virtually all aspects of our personal and professional lives. All of this has resulted from the transformation into a more connected, data-driven world.

Perception vs. Data

A puzzle arises when comparing these observations with major economic statistics. The logical expectation would be that GDP growth would reflect the effects of new technology leading to accelerating business activity. However, the data do not bear this out: since 2010, annualized GDP growth has averaged just 2.1%, lukewarm at best when compared to GDP growth during previous recoveries.

GDP growth is not the only measure with a puzzling disconnect from common observation. The most frequently referenced measure of the American economy’s efficiency, the change in labor productivity, has noticeably slowed over the past decade (implying that Americans haven’t become much more efficient). In particular, over the past 5 years this dataset suggests productivity growth has been exceptionally low. The year-over-year percentage change from 2011 to today has averaged 0.46%, down from an average 3.45% from 1998 to 2004.

Change in Labor Productivity

% Change from Same Quarter in Previous Year

1998-2004 Average	3.45%
2005-2010 Average	2.00%
2011-2015 YTD Average	0.46%

Source: US Department of Labor, Bureau of Labor Statistics

The Problem with Standard Economic Models

The magnitude of the contradiction between the anecdotal and quantitative evidence is notable. We believe the discrepancy lies with how these statistics are being calculated. Traditional economic models have relied on the assumption that the amount of money exchanged for goods and services is a good proxy for measuring the total value being added to the economy. This method works well when measuring changes in the value of traditional goods and services that are produced and sold by traditional companies, such as how many jet engines GE delivers. However, it fails to capture the total value added by new technology-oriented companies with innovative business models. Today, there are many new types of businesses and products which clearly create value not fully reflected in their selling prices. For example:

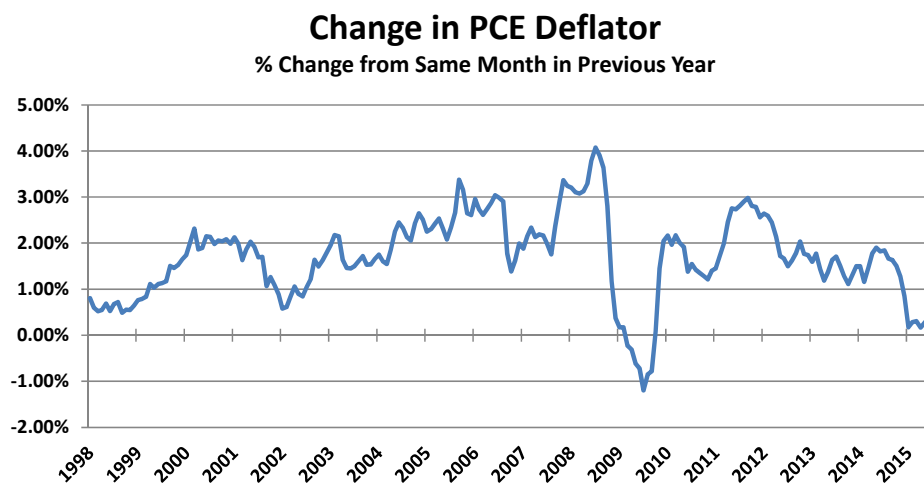
- Google and Apple Maps, which offer free navigation services on smartphones, has replaced many consumers’ need to buy a separate, dedicated GPS device.
- Low-cost or free internet video services such as Netflix, Hulu and Youtube have led to the rise of “cord-cutters,” who forego costlier cable and satellite TV subscriptions.
- E-mail allows us to instantaneously send documents to anyone around the world, for free. As a result, the United States Postal Service has seen the annual volume of first class mail fall from a peak of 103 billion pieces in 2000 to just 63 billion pieces in 2014.
- According to the Bureau of Labor Statistics, the inflation-adjusted price of a new car is just 17.75% higher than it was in 1990—an annual price increase of just 0.65%. Today, a new car’s amenities include rear-view cameras and automated parallel/perpendicular parking, with average fuel efficiency of 36 miles per gallon (nearly a 30% jump from 28 mpg in 1990).

This reality suggests we are systematically undercounting the GDP of our economy, leading to a lower official measure of labor productivity.

The Inflation Connection

By all accounts, persistently low GDP growth, productivity, and inflation indicate consumers are weakened and not generating significant demand. However, if the true level of value creation is being undercounted, these measures understate the true level of demand, the health of consumers, and the strength of GDP. As a result of technological progress, we may simply be getting more “bang for the buck” in modern goods and services, which leaves us better off but isn’t reflected in official numbers.

If this is true, the sustainable level of inflation – the level at which employment is maximized without uncomfortably high inflation— has likely decreased. The Fed judges the economy’s sustainable level of inflation to be 2% per year. Importantly, the Personal Consumption Expenditures (PCE) Deflator, one of the Federal Reserve’s preferred measures of inflation, has trended well below this level for the past couple of years.



Source: Federal Reserve Bank of St. Louis

When inflation runs consistently below 2% (as it has recently), the popular perception is that demand is weak and monetary policy ought to be accommodative. A permanent downward shift in the sustainable inflation rate could make these important, long-held beliefs no longer appropriate.

Investment Implications

This quandary has major implications for economic policy and, as a result, investment decisions.

The Fed has a dual mandate of promoting full employment and price stability through monetary policy. Unfortunately, traditional economic indicators have signaled a disappointing pace of growth. The seemingly feeble real economy's inability to drive inflation higher has provided the basis for the Fed's quantitative easing (QE) programs, as well as the ultra-accommodative monetary policy. These decisions affect all asset classes directly, with fixed income rates remaining near historic lows, savers penalized, and equity valuations somewhat supported by the low cost of funds.

In recent months, the Fed has gone to extraordinary lengths to communicate their projection for a very gradual pace of rate hikes in coming years. The market's view is that the actual path of tightening will be even slower than the Fed's forecast.

What, however, if the Fed comes to believe that new technology allows for structurally lower inflation and the economy is healthier than perceived? The likely result would be more aggressive moves toward normalizing monetary policy. If the Fed begins to communicate higher rates and a faster pace, markets will certainly be disrupted.

Conclusion

Technological change has fundamentally altered many aspects of our lives, jobs, and the economy. Advancements have been so dramatic and rapid, it's not surprising that outdated GDP productivity statistics used by the Fed need to be revamped.

Traditional measures such as GDP, productivity growth and inflation seemingly indicate a disappointing pace of economic growth, which is the basis for the Fed continuing to keep rates at historic lows. However, we believe there is compelling evidence that true economic growth is actually higher. Thanks to new technology, consumers now receive more value for each dollar spent on modern goods and services, which suggests the sustainable inflation rate is lower than in the past. This supports a more bullish view on the American economy, and we've reflected this in our positioning of client portfolios. However, should the Fed and markets begin to adopt this view, there would be significant implications for fixed income and equity valuations.

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