

Our techniques for measuring economic performance are obsolete. So we reach improper conclusions about the state of the economy.

The economic recovery is probably more robust than we realize. It is possible that the standard of living for many members of the middle class is improving while their incomes shrink. Many economists, policy makers, and politicians think otherwise, because they are using 20th-century methods to analyze our 21st-century economy.

The problem is caused by the fact that we live in two worlds, physical and virtual.

The physical economy is anemic, struggling, biased toward inflation, and shrinking in many developed countries. Almost everything we do in the physical economy is paid for with money. We use dollars to measure most of the activity. If more dollars are spent or earned, we conclude that the economy is growing.

The virtual economy is robust, biased toward deflation, and growing at staggering rates, everywhere. A lot of the services provided to us in the virtual economy are free. If we paid dollars for those services, they would be counted as part of the GDP and would add to economic growth. But we don't so they are not counted.

Using the virtual economy in place of the physical economy enables consumers to save lots of money. For example, consumers can substitute Google News for their newspaper. The cost of a USA Today subscription is \$275. His earnings will look the same, but he has more money at his disposal and more or less the same consumption. Essentially, he is earning more, but neither his income nor GDP will show it.

For a very long time, economists have realized, understood, and debated this measurement problem. Nobel Prize winner Joseph Stiglitz has advocated an overhaul of our economic statistics. Others have advocated the use of a human development index to compensate for some of the problems associated with the use of GDP.

For numerous reasons, government scorekeepers have chosen to ignore many of the issues associated with free goods and declining costs. They are difficult to measure. Even more importantly, in the past, they did not appear to have an important effect so they could be safely disregarded. This is no longer the case.

The big change is the virtual economy. It has become very large and is having a broad impact. We must take it into account. Failure to do so will cause us to reach wrong conclusions, make policy errors, and feel unduly pessimistic about the state of things.

The current measurement systems ignore our virtual salaries. We earn these salaries by selling our privacy and attention for zero and spending hours deleting targeted emails. Using those salaries, we purchase services that are worth billions—searches on Google, residences on social networks, free email, information storage on Dropbox, phone calls

on Skype, free text messages on WhatsApp, free music, reviews on Yelp, and free movies and viewing of TV series.

If advertisers paid us directly for the sale of our privacy and attention and we turned around and spent the money to purchase Google searches, music, and phone calls, the government would count both our pay as income and the sale of the services as part of the GDP.

There are no accurate numbers for the aggregate value of those services but a proxy for them would be the money advertisers spend to invade our privacy and capture our attention. Sales of digital ads are projected to be \$114 billion in 2014, about twice what Americans spend on pets.

The forecasted GDP growth in 2014 is 2.8 percent and the annual historical growth rate of middle quintile incomes has averaged around 0.4 percent for the past 40 years. So if the government counted our virtual salaries based on the sale of our privacy and attention, it would have a big effect on the numbers.

The typical middle class family spends about four percent of their income on entertainment and publications or about \$2,500 per year. If the consumer opts to entertain himself using free movies, YouTube videos, get his music from streaming services like Pandora, and get his news from Google, he can probably save half that expenditure—\$1,250—or about two percent of his income.

Frequently the virtual world intersects with the physical one. At those intersections, the cost of obtaining physical services often times drops precipitously. The sharing economy is one of those intersections. Consumers, for example, can achieve great economies by car- and ride-sharing.

The annual cost of a Honda Civic used for, say, 7,500 miles per year, is around \$6,500 per year, or 85 cents per mile. Using a Zipcar for 500 hours a year, approximately the same amount of driving, would cost only \$4,250, a saving of \$2500—equal to about 4 percent of a middle class families' income.

While Zipcar only affects a small portion of the economy, the next turn of the screw, the self-driving car will undoubtedly have far-reaching effects. It has been estimated that an “instant” on demand driving service, more convenient than Zipcar, will carry consumers a mile for only 50 cents. At that rate, many city dwellers will decide to give up a car and many two-car families will be able to get by with one automobile.

These are just a few of many examples but they amount to real savings for many Americans.

It is important to realize, the effects of the virtual economy do not fall evenly across the economic spectrum. The lower your income, the more likely it is that you are paying a greater portion of your salary for essentials such as food and healthcare in the physical

economy. The cost of these items has been rising. Unfortunately, the average incomes of the least-well-off have been falling fastest. According to Pew Research the incomes for the highest quintile of the middle class fell by 2 percent from 2007 to 2012, the middle quintile by 8 percent.

But even though the effects of the virtual economy may not be evenly distributed, they are nevertheless too large to be ignored. Forecasts about our ability to pay entitlement benefits and deal with the national debt are based on obsolete measurement techniques. We have to figure out how to incorporate the impact of the virtual economy in our economic models. We have to start making policy decisions based on the new metrics. Failure to do so will lead to many serious mistakes.