{ BY GREGORY TAGGART }

Fig. 15

What Goes Up?

Fig. 5

{ PHOTOGRAPHY BY BRADLEY SLADE }

Understanding Inflation

Fig. 14

Comedian Steven Wright claims to have a full-size map of the United States—where one map mile equals one real mile. "I spent last summer folding it," he quips.

Barry Ritholtz uses that joke to illustrate that it's virtually impossible to tell what the actual inflation rate is, because the models that are supposed to tell us don't depict reality. They can't. Unless the model is as comprehensive as Wright's map, there will always be variances from reality—sometimes significant ones.

"All models are imperfect," says Ritholtz, chief market strategist at Ritholtz Research and a fund manager at a New York–based hedge fund. "So when you attempt to depict reality by looking at only a handful of specific data points, you are going to somehow be off a little bit. It's that way with our job figures. It's that way with inflation."

Ritholtz argues that the map the Bureau of Labor Statistics (BLS) uses to divine the current rate of inflation is not only off, but it's wildly off, which can lead to incorrect policy decisions by the government, the Federal Reserve, and the general public. Lock yourself into a thirty-year Treasury bond at 4.91 percent only to discover that the real rate of inflation is 6 percent, and you'll understand one of those ramifications.

"Fortunately, the great thing about the BLS is that they're not hiding anything," Ritholtz says. "They put all the data out

there. You just have to put on your green visor and sift through it."

Inflation's Ingredients

But first, a little background. As anyone who has taken Econ 110 knows, inflation is too much money chasing too few goods. Or as Brian Boyer, a Marriott School assistant professor of finance, puts it, "Inflation is the general increase in price levels. The primary cause is an excess supply of money."

Unfortunately, those straightforward definitions barely scratch the surface of the root of inflation, how it affects us, and whether we can control or even predict it. One thing is for sure: "Its impact is pretty significant," Ritholtz says. "The top 10 percent of income earners are pretty immune; they don't care if it costs $50 or $75 to fill up an SUV, but people who don't have a ton of discretionary income care a lot."

In fact, what most of us know about inflation we know because we buy things—gas, groceries, cars, homes. Consequently, we have experienced its effects up close and personally. And we intuitively sense that the inflation figure we hear on the news is not the one in effect where we shop. "We're not running 9 or 10 percent," Ritholtz says, "but at the same time this 2 percent nonsense we hear reported has not been true for the past several years."

The Consumer Price Index, or CPI, tracks the movement of retail prices and is the inflation measure most often reported by the media (see chart 1). In fact, the Bureau of Labor Statistics reports two basic Consumer Prices Indexes, each reflecting the buying habits of different, but overlapping, groups. The CPI-U tracks the spending habits of all urban consumers, including professionals, the self-employed, the poor, the unemployed, the retired, urban wage earners, and clerical workers.

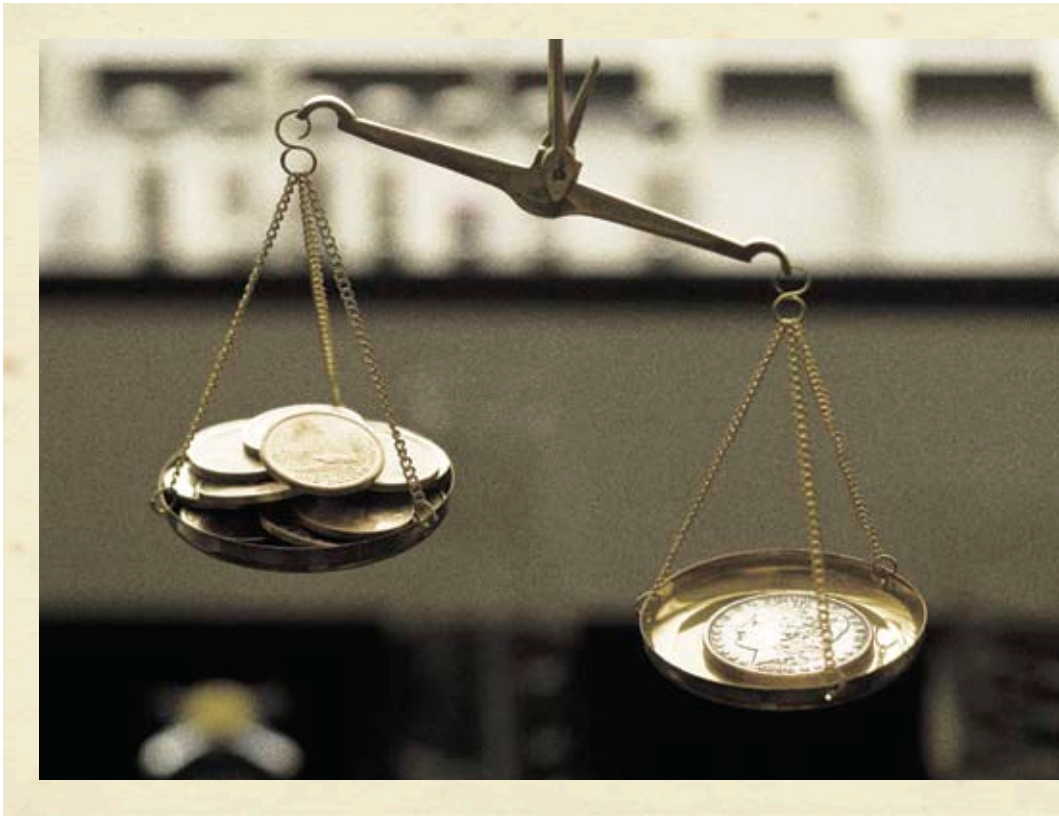
The CPI-W tracks the expenditures of households that meet the CPI-U definition; however, more than "one-half of the household's income must come from clerical or wage occupations, and at least one of the household's earners must have been employed for at least thirty-seven weeks during the previous twelve months."

Neither of the groups includes people from rural areas, farmers, or people in the armed forces or in prison. According to the BLS, when the media report an increase in the CPI, they are generally reporting on the CPI-U, probably because it represents the spending habits of around 87 percent of the U.S. population—still 13 percent smaller than Steven Wright's map. In August 2007 that index reported a price decrease of 0.2 percent from the month before and a 2.0 percent increase from the previous August. The annualized, seasonally adjusted rate of inflation for the first eight months of 2007 was 3.7 percent.

"Inflation is lower than it was a year or two years ago, but it is still somewhat elevated," Ritholtz continues.

Inflation by the Numbers

How elevated, many argue, is anybody's guess. It's that map thing again. The BLS derives CPI-U by measuring the change in prices from month to month and year to year in a so-called basket of goods. For example, if uncooked beefsteaks cost $3.99 per pound last year and $4.29 per pound this year, we know that there was inflation, at least in that part of the basket. The same goes for chicken, gasoline, and indoor plants and flowers, each of which makes up a part of the current basket of goods.



However, there are a couple of problems with the basket. For one, the CPI is supposedly a fixed-weight index, according to Boyer. "You have a basket of goods, and the proportion that each good makes up in the basket stays fixed over a period of time." Kind of. In fact, in December 2006, meats, poultry, and fish made up 2.013 percent of the basket, and uncooked beefsteaks were .239 percent. The year before, those percentages were slightly higher: 2.044 and .245 respectively.

And the weighting in 1986? You're out of luck. Instead of one category labeled uncooked beefsteaks, you'll find two: round steak and sirloin steak. The same issue applies to fish and poultry. Where each has two subcategories today, there were three in 1986.

According to consulting economist John

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Fig. 9

Williams, those differences are the result of a change in the late 1980s from arithmetic-fixed weighting to geometrically fixed weighting. Geometric weighting has the effect of lowering the reported rate of inflation, because items that go up in price get a lower weighting, while items that go down in price get a higher weighting.

"It's a way of mimicking the substitution-based CPI that Alan Greenspan had been advocating," says Williams, who analyzes government statistics on his web site www.shadowstats.com. "His theory was that when the cost of steak goes up, people tend to purchase less—substituting hamburger, chicken, or something else—so the CPI was overstating the cost of living."

The result, he says, is that the CPI reported today is about 3 percentage points lower than it would be if it were reported the way it was before geometrically fixed weighting. "And if you go back to 1980 when they made some unusual changes in the housing components of the CPI, the difference would be a full 7 percentage points, meaning that—as of October 2007—inflation is currently running at around 10 percent."

That may be true; however, it's also true that the basket of goods people are using today is different from the one they were using in 1980. Onboard GPS devices, 60″ HDTV flat-panel televisions, and other Star Trek–worthy gadgets were not available in 1980. Cars are better built and consume less fuel, and Amazon.com is selling books at a 30 percent discount.

"I don't know the proper way to account for changes in the basket, but it's clear that you have to change the composition of the basket," says Robert Crawford, a Marriott School associate professor of managerial economics. "Even if the price of things doesn't change, things happen that change people's buying behavior. Moreover, how is the change in the price of an automobile divided between an 'inflation' component and a 'quality' component? It's a difficult problem to decompose the CPI or even interpret it."

That's not all. People are also changing where they buy things—Wal-Mart instead of the local hardware store, Amazon.com rather than the friendly bookstore. Consequently, whether because of so-called substitution bias, quality bias, or outlet bias, "most economists believe the CPI is not a true measure of inflation," Boyer adds.

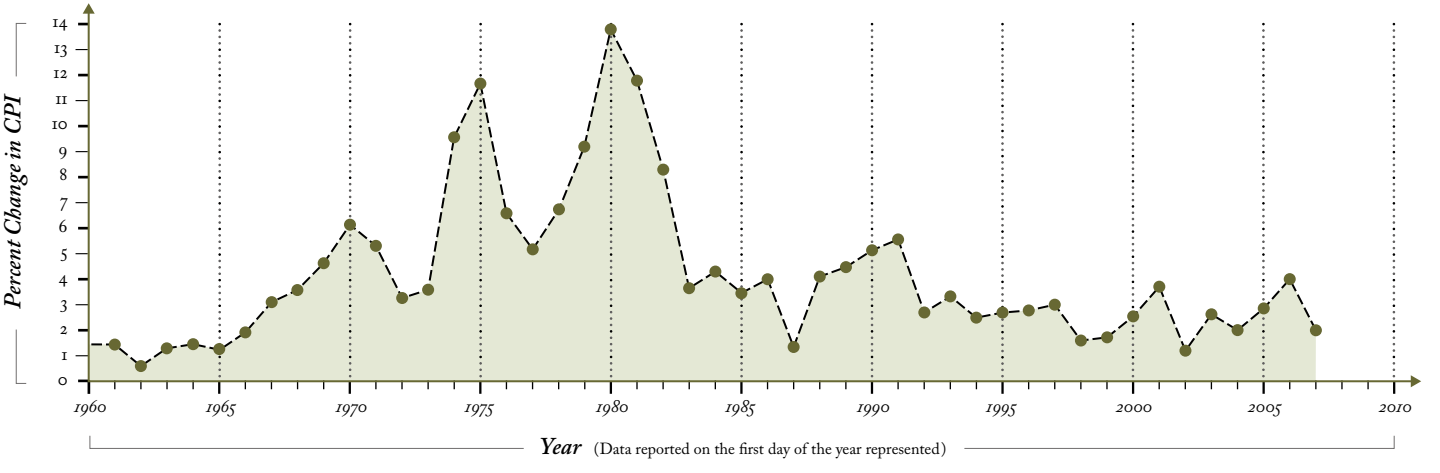
Inflation's Impact

All this is important because of the impact inflation can have on you, your neighbor, your banker, and anyone else who buys and sells goods or lends money to those who do. Though in theory inflation is an essential part of an economy as it grows—prices need to increase at some level to match output—it can be a problem if it's increasing too quickly or when there are unexpected "shocks" to inflation.

"Hyperinflation—the sort they had in South America in the 1980s and in Germany after WWI—is bad," says Keith Vorkink, a Marriott School associate professor of finance. "And unexpected inflation always ends up hurting creditors, because they can rarely rewrite their contracts to keep up with it."

Thus, in the late 1970s and early 1980s when inflation in the United States got as high as 13.5 percent, borrowers were paying their mortgages with dollars that were worth less and less each month, even as they watched the value of their homes increase—all because of inflation. "Debtors love inflation for those reasons," says Ray Nelson, a Marriott School

{ CHART I } INFLATION RATE



associate professor of finance. "In addition, wages typically increase with inflation, so their debt to income ratio decreases as well."

However, if you're one of those who methodically stuff money under the mattress or in a savings account, inflation is not so good. If Williams is right, and prices are increasing by as much as 10 percent per year, the 2 percent you're earning on your money market account doesn't look so good. In fact, it looks terrible. "Frugal savers absolutely get clobbered by inflation," Nelson says. "After the Soviet Union dissolved and the Russian government printed up a whole bunch of money, all those wonderful, loyal Russian savers absolutely got wiped out."

Inflation and the Fed

To prevent that from happening in the United States, the Federal Reserve pays close attention to the rate of inflation, particularly to what is called the core rate of inflation: the CPI-U minus food and energy. That's right. The map the Fed looks at doesn't include two of the most important things we buy every day. It's no surprise that for the first eight months of 2007 the core rate was a seasonally adjusted 2.3 percent, 1.7 percentage points lower than the rate with both items included.

The justification for the core rate is that the prices for food and energy are so volatile that they distort the true inflation picture. Williams takes a more cynical view. "Fed chairman Ben Bernanke said recently that one of the biggest problems with inflation is consumer expectations. So it's the Fed's job to keep expectations contained. What better way to contain expectations than to say there is no inflation? But nobody who buys products in the real world believes it."

According to Nelson, the Fed likes to see the core rate in the 2 percent range. To keep it within shouting distance of that range, the Fed has three tools at its disposal: the discount rate (the rate it charges banks to borrow from the Fed), the reserve requirement (the amount of actual deposits that by rule a bank must maintain), and the federal funds rate (the rate at which banks borrow from one another to manage their reserves).

The Fed rarely uses the first two—a recent exception was in early September 2007 when chairman Bernanke cut the discount rate half a percentage point. Shortly thereafter he cut the federal funds target rate as well. "I took that to mean that they are absolutely panicked about the subprime situation and the deteriorating economy," Nelson says.

The Fed does not set actual interest rates; that's done in the marketplace as banks lend to one another. However, the Fed influences the market-driven rate through the use of the federal funds target rate, the Fed's short-term rate objective. The more the Fed worries about inflation, the higher it sets the target rate.

As of September 2007, the target rate was 4.75 percent, down from 5.25 percent, the rate that had been in effect since June 2006, but still much higher than its 1 percent low in 2003 (see chart 2). "They have a sort of rule that they follow to set the target rate," Crawford explains. "They start with a base fed funds target rate (based on what they think the real rate of interest is plus the actual rate of inflation) and adjust it up or down, depending on whether the threat of inflation or the threat of a recession is greater."

But a target is useful only if you try to hit it. To do that, the Fed buys or sells securities to key banks if it sees the market-driven federal funds rate wander too far from its target. If the market rate is too high, it's probably because there is too little money in the system, so the Fed will buy securities, injecting more money into the system.

"Selling securities, on the other hand, shrinks the money supply by reducing reserves in the banking system, which slows down the rate of growth in the economy by increasing the cost of money to borrowers," Crawford says. "That will slow down the demand for big ticket items, like homes and cars, which are typically financed."

What the future holds for inflation is anybody's guess. Currently, the subprime lending crisis has the Fed in a bind. If the Fed lowers its target rate even further to stave off a credit crunch, inflation could soar even as the dollar weakens. In short, if there's a pickle in the CPI's basket of goods, it has the Fed's name on it.

If you'd like to try your hand at predicting inflation, compare the real yield on Treasury Inflation-Protected Securities, or TIPS, with the nominal yield on Treasury bonds or notes of similar maturities. With TIPS,

TARGET FEDERAL FUNDS RATE { CHART 2 }

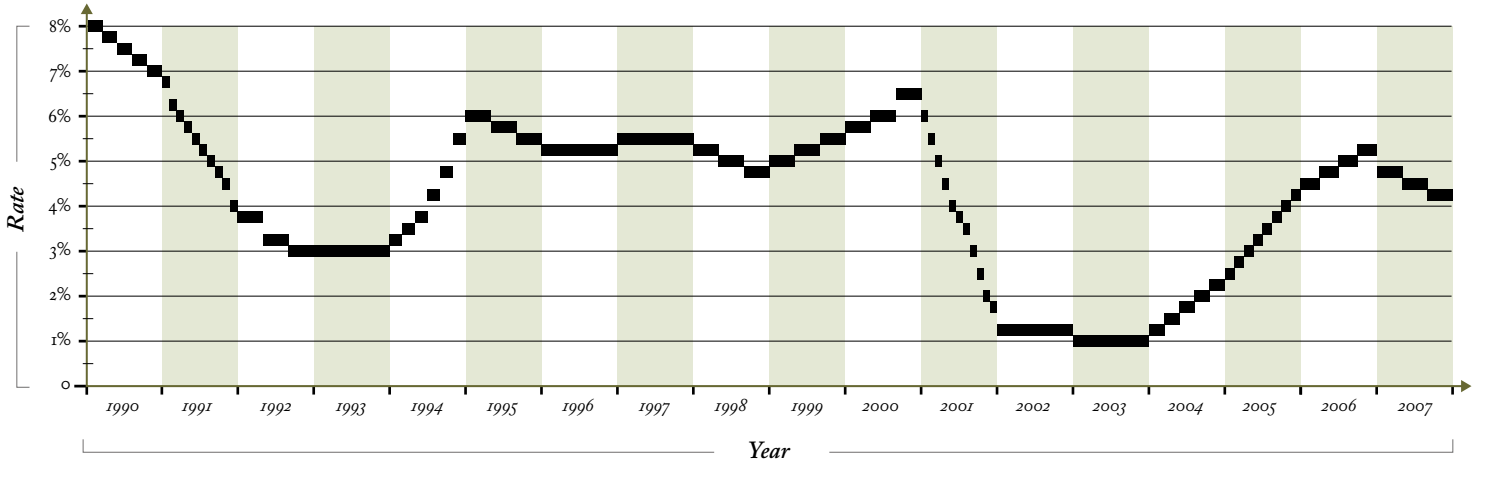


Fig. 16

both principal and interest payments are adjusted for inflation, whereas the nominal bond is not; consequently, the market price of nominal bonds and notes reflects an estimate of the potential adjustment in a TIPS yield. For example, the difference between a TIPS maturing on 15 January 2008 and a Treasury bond maturing about the same time was 3.057 percent.

"The argument is that the difference between the two yields is a good indicator of what the market expects inflation to be over the short term," Boyer explains.

In the end it's what inflation does to the pocketbook that matters. Savers get hurt. Debtors win big. And creditors? Well, who cares about the creditors, right? Wrong. Landlords, employees, annuitants—anyone can be hurt if they stand to receive a stream of payments over time that either doesn't reflect the reality of inflation in the first place or that is not easily adjusted for unexpected upticks in the rate of inflation later on.

"The great irony is that we're having this whole discussion as the economy is cooling," Ritholtz says. "And it's causing some reduction in the rate of inflation." In fact, he says, the rate has fallen from 5 to 6 percent to where it's probably in the 3 to 3.5 percent range. "You want to ballpark it?" he asks. "I think the CPI understates the real inflation rate by about 1 to 1.5 percent on average."

Could that ballpark be on Steven Wright's map? M

About the Author

A former attorney, Gregory Taggart has articles in various Bloomberg publications as well as in Fidelity Focus, Plus, *and Schwab's* On Investing *magazines, among others. He earned a* BS *in finance from* BYU *in 1976 and is a lecturer in* BYU*'s Honors 150 University Writing program.*