Measuring Inflation:
How Government has Changed the Yardstick

The government has made significant changes to how it calculates inflation over the last 30 years. Many believe that these changes have led to an understatement in the current inflation data. If this is true, we believe investors can maintain the purchasing power of their dollars by staying diversified, shortening their bond duration, and investing to benefit from a falling dollar through increased exposure to hard assets such as real estate, commodities, and managed futures.

Is current inflation data understated?

Over the last few years we have heard a lot about the Federal Reserve as the markets have anticipated its decisions on key interest rates, and scrutinized every word of their meeting minutes. Within every discussion about the Federal Reserve are two words we always seem to hear: inflation and deflation. Over the last few years, some people have predicted that inflation is going to roar back sooner than we think, while others predicted we were headed into a deflationary tailspin that would lead us to become the next Japan.

One reason measuring inflation is so important is because if and when it returns, it will affect the purchasing power of your dollars. We can see inflation is already here in many areas. For retirees, because social security and other government expenses are tied to measured inflation rates, if the measured rate does not track the true standard of living, retirees counting on those benefits are losing purchasing power.

The most common inflation measurement talked about is the Consumer Price Index ("CPI"). CPI is the weighted-average of prices of a basket of consumer goods and services, such as transportation, food and medical care. The CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them. The goods are weighted according to their importance. Changes in CPI are used to assess price changes associated with the cost of living. It is determined by the Bureau of Statistics in the Department of Labor and measures over 50,000 items per month. The CPI categories and weightings as of 12/31/10 were as follows:

CPI Category	Weight
Housing	42%
Transportation	17%
Food and beverage	15%
Medical care	7%
Recreation	6%
Education and communication	6%
Apparel	4%
Other goods and services	3%

Source: US Bureau of Labor Statistics

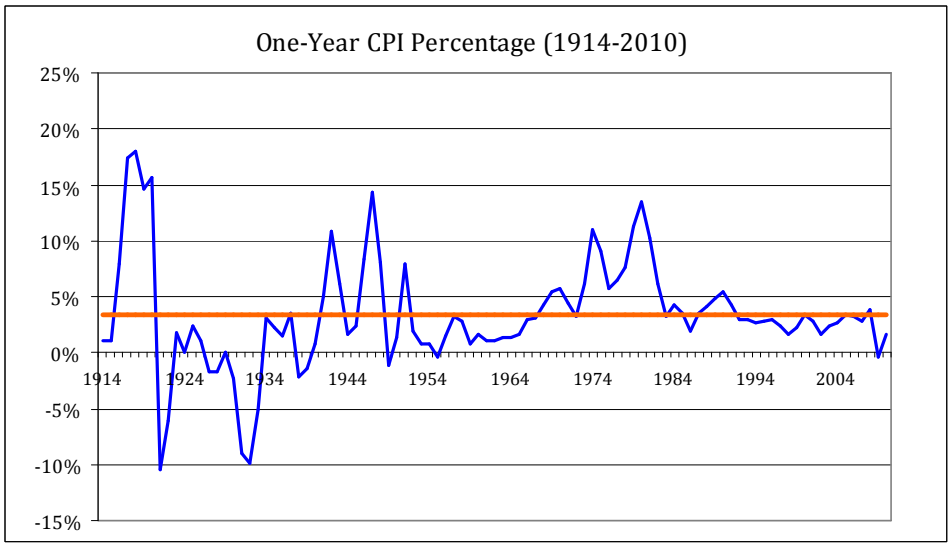
Three significant changes to CPI

Starting in 1983, the government significantly changed the way it calculates CPI. It has also made a few major changes since that time that would lead many to wonder if current inflation data is understated. John Williams at Shadow Government Statistics estimates that if we calculated inflation today the same way we did during Carter's administration, CPI would be closer to 10% rather than the 1.5% calculated as of 12/31/10 by the government.

It's also important to be aware that the government is not conflict-free in this issue. Major budget items such as Social Security benefits and pensions are tied to the CPI index. The three changes are:

1. In 1983, housing prices were removed and "owner's equivalent rent" was used instead.
2. In 1998, Hedonics was introduced to estimate a product's value as technology advances.
3. In 1999, the idea of product substitutions was introduced to the index.

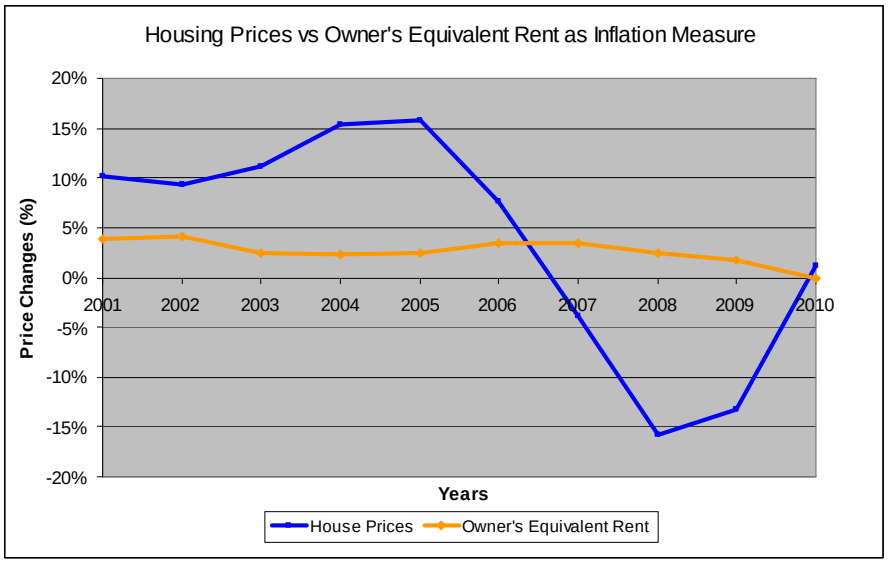
In the historical CPI annual data displayed below by the blue line, the difference in volatility before 1980 and after 1980 is obvious. All three changes mentioned have impacted and reduced the volatility and inflation rate calculated. The orange line represents the historical average of CPI, 3.38%, during this period.



Source: US Bureau of Labor website

Change #1 – Change to Owner's Equivalent Rent

As most Americans would agree, Housing is deservedly the largest weighting in the index at 42%. Before 1980, housing prices were used in the index. In 1983, the index changed the method of calculating inflation for the Housing weighting by instead using owner's equivalent rent. This is the amount of rent that could be paid to substitute a currently owned house for an equivalent rental property. The last seven years saw one of the largest increases in housing prices. Now we're hoping we've reached bottom. We know how volatile the housing market can be, and how much it affects our personal expenses. Which measure of Housing is more stable: housing prices, or rental prices? It's easy to understand that rental prices are much more stable than housing prices, as shown it the chart below which details the annual change in housing and rental prices for the period 2001-2010.



Source: US Bureau of Labor and Standard & Poor's websites

Focusing on 2005-2008, we notice that while growth in housing prices (blue line) began to slow, rental rates (orange line) actually increased. Subsequently, while housing prices turned negative during 2007, rental rates growth has yet to turn negative. The chart above would lead many to believe that CPI understated inflation during the housing bubble years, and understated deflation during the recession.

Change #2 – Hedonics

Hedonics is a term to describe the process of determining a product's value. It is used in many industries, and was introduced to CPI in 1998. The easiest way to explain Hedonics is by an example. Last night as you watched your favorite TV show, you realized that you are the only person on your street that still has a TV that is three feet deep and weighs 200 pounds. But you're happy with your TV and think the new ones cost too much. Even if you wanted to buy the same TV, you couldn't. No company makes them anymore. As you're watching your show, the TV blows up and you shed a few tears. The next day you go to buy a TV. You only see TVs that are Plasma, HD, 3D, and internet compatible. The simple TV you want, doesn't exist today. That TV that you bought for $150 over 20 years ago now costs at least $850.

Is that inflation? The government says no. Through Hedonics, the government calculates an adjusted price of the original TV ($150) that includes the quality enhancements (perhaps an additional $900), so the total calculated price would be $1,050. Many times, as in the case just illustrated, the price of the improved product as calculated is higher ($1,050) than the retail price you're paying ($850). Therefore in the government's eyes, the price is going down, not up, because the government says you're getting more for your money. You can see how this can be used in all aspects of life including cars, phones, computers, appliances, clothing, college education, and travel, and not always for our benefit.

Change #3 – Product Substitutions

In 1999, the CPI began using product substitutions as a part of the process. This simply means that as prices go up, consumers will substitute the originally desired product with an alternative. If your family loves steak, and the price of steak goes up, the government believes your family will stop purchasing steak and buy hamburger instead. So if the price of steak and hamburger both go up, steak can be removed from the index and replaced with hamburger. Even if hamburger now costs what the price of steak was before the increase, the index would show no change in inflation, since the product was substituted and your costs are unchanged potentially.

A review of the historical CPI chart reveals how inflation has been controlled to become more predictable over the last 30 years. And the government has good reason, since many of its largest expenses are tied to the CPI Index, including Social Security!!!! It's staggering that the website Shadowstats.com has estimated that the 2010 CPI Index currently calculated at 1.5% would show inflation of 4.8% and 8.9%, if we used the pre-1990 CPE method and the Pre-1983 method respectively.

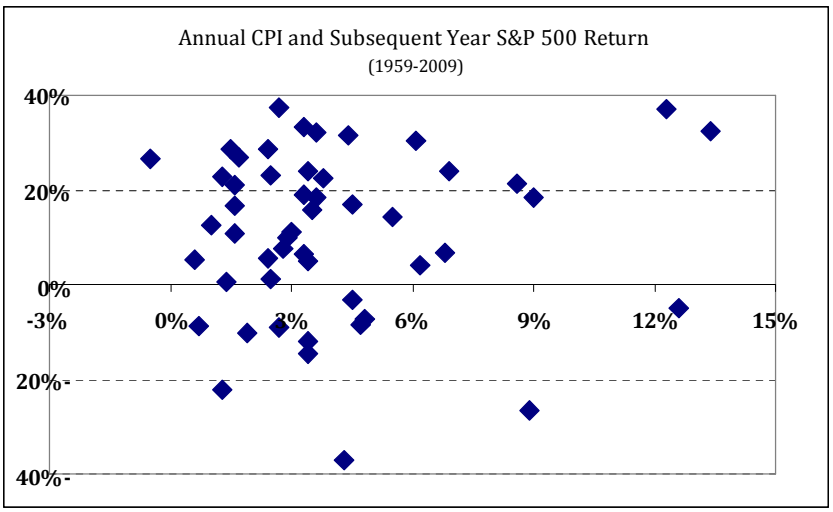
So where do you invest to keep up with true inflation?

If we simply try to keep up with inflation as measured by the CPI, we may not be keeping up with true inflation. With true inflation, the purchasing power of $1 decreases. Our $1 will buy less tomorrow. The CPI weightings only have 7% allocated to Medical Care. Most retirees would probably agree that more than 7% of their standard of living goes to medical care.

If we look at the historical data of different asset classes, we find there is no perfectly correlated asset class or investment to hedge inflation. Even many of the asset classes we hear about in the headlines and on the talk shows, such as oil, gold, a basket of commodities, or TIPS, are often more non-correlated to inflation. One good example is the S&P 500, or equities. As a reminder, 1% is perfectly correlated, 0% is non-correlated, and -1% means two asset classes are negatively correlated. Hence, if one goes up the other goes down by just as much.

The historical correlation of the S&P 500 to inflation is .05% (1). In other words, not correlated. The chart on the following page displays the annual CPI value (x axis) and the subsequent annual returns for the S&P 500 (y axis). If the stock market and inflation were positively or negatively correlated, the dots would form a pattern from one corner of the chart to the opposite diagonal corner. As you can see though, the dots are scattered randomly and there is no clear pattern, which reveals the stock market has a low correlation to inflation.

(1) Brandes Investments Partners, "Inflation and the Value Investor." 2010.



Source: Ibbotson as of 12/31/09

Gold only has a .08% correlation (1) to inflation historically, although radio and print ads imply otherwise. Many believe this is because gold is a non-interest bearing investment, and usually performs better as a flight to safety during times of serious financial concern. Even US TIPs aren't much better, at .11% (2), which tend to fluctuate more on demand/supply than inflation. Two of the more correlated asset classes are: (1) Floating-rate loans with .37% correlation (2); and (2) Commodities with .25% (2). Floating-rate loans, or bank loans, adjust to LIBOR rates usually every 90 days, so as interest rates trend upward, the bond coupon increases as well. This is a way to shorten your duration and exposure to rising rates. Many commodities are denominated in US dollars. The value of the dollar will fall during inflationary times. As the dollar falls, it takes more dollars to buy the commodity, therefore increasing the commodity's value. But neither asset class is a perfect hedge against inflation.

Three recommendations to keep up with inflation

#1 – Diversify - As always, we believe diversification is still one of the best ways to handle inflation. As we have illustrated, there are no investments perfectly correlated to inflation. But we believe inflation will not just be a one-year event. During that time, multiple asset classes can and will probably perform well at different times, depending on factors such as geopolitical events, fiscal issues, new regulations, weather events, etc. As shown in the chart, the stock market can perform well in certain inflationary years, and as we've seen over the last 24 months, gold, other precious metals, and agricultural can also do well. But each asset class can underperform or even drop drastically with inflation. Therefore, although we may recommend an over-allocation in certain areas, we still recommend exposure to a diversified portfolio of asset classes and managers.

#2 – Shorten bond duration - We are looking for bond managers who can shorten their bond duration. This will limit the exposure to long-term bonds as interest rates rise. As well, floating rate loans will allow the yield to trend with inflation without losing exposure to fixed-income. This is one asset class we have been researching very closely, and have begun to add to our portfolios.

#3 – Benefit from a falling US Dollar through commodities and hard assets exposure - The Fed has been printing money at an alarming rate. As the dollar falls, the values of commodities rise because they are mostly denominated in US dollars. We are seeing this with oil and other commodities currently. Other hard assets such as real estate can also perform well as foreign investors invest in the US when the dollar is cheap. At some point, the velocity of money will increase, inflation will rise, and the dollar's purchasing power will go down. By having a well diversified portfolio and an increased exposure to hard assets such as real estate, commodities and managed futures, we should be able to mitigate a decrease in purchasing power.

(1) Wall Street Journal. "What if It Isn't a Commodity After All?" August 21, 2010 based on research by Ibbotson.
(2) DWS Investments, "The phantom menace – Is the inflation threat hype – or real?" 2011.