

Feature/Economics

Unethical statistics

Does the U.S. consumer price index provide a clear indication of the cost of living? The following articles present both sides of the argument.

By Ron Robins

The news media relentlessly publish the latest government statistics, and markets react to them, sometimes violently. Government payments and investment income can be significantly influenced by them. But are they valid?

Some economists and statisticians conclude there is obfuscation of these statistics and that they're subsequently misrepresented in the media, which usually have neither the time nor expertise to examine them.

Take the US consumer price index (CPI). These observers note that the current U.S. CPI incorporates numerous and continuous changes and weightings of components, rendering it a mostly theoretical exercise based on highly questionable hypotheses.

According to John Williams, a private New Jersey consulting economist who has specialized in government statistics for several decades, "The cost of living [is] being replaced by the cost of survival. The old system told you how much you had to increase your income in order to keep buying steak. The new system promise[s] you hamburger, and then dog food, perhaps, after that." The old system, Williams says, ended with the Clinton Administration.

On his website, at www.shadowstats.com, Williams says that inflation, as reported by the U.S. CPI, "is understated by roughly 2.7% per year due to recent redefinitions of the series as well as to flawed methodologies, particularly adjustments to price measures for quality changes."

Williams discusses the inclusion by government statisticians of a concept called hedonics to adjust values in the index. "Hedonics adjusts the prices of goods for the increased pleasure the consumer derives from them," he says. "That new washing machine you bought did not cost you 20% more than it would have cost you last year, because you got an offsetting 20% increase in the pleasure you derive from pushing its new electronic control buttons instead of turning that old noisy dial. When gasoline rises 10 cents per gallon because of a federally mandated gasoline additive, the increased gasoline cost does not contribute to inflation. Instead, the 10 cents is eliminated from the CPI because of the offsetting hedonic thrills the consumer gets from breathing cleaner air. The same principle applies to federally mandated safety features in automobiles. I have not attempted to quantify the effects of questionable quality adjustments to the CPI, but they are substantial."

The way U.S. housing costs are included is another oddity, keeping that component – at 32% of the CPI – low. Although two-thirds of the U.S. population live in their own homes, the statisticians use theorized imputed home rents as the basis for the housing statistic. Of course, rents have been virtually stagnant for years – even going down in many cities due to overbuilding – while home purchase prices, insurance and local taxes, etc., have been going through the roof.

Americans who depend on CPI adjustments to their welfare, social security or other government payments have had their payments significantly depressed. Williams says that U.S. government welfare and social security payments are now 70% lower than what they would have been had the old 1970s-style CPI, with its fixed basket of goods, been used.

Another statistician, Jim Willie, elaborates further on this point. In *Domino Distortions*, an article on his website at www.GoldenJackAss.com, he says, “In my view, the [U.S.] CPI has become little more than a measure intended to exploit the trend of falling imported finished product prices, in order to keep cost of living raises down in US Government pensions of various types. The CPI is kept low by ignoring numerous rising prices, such as property taxes, town usage fees (water, sewer, sanitation), professional services (doctor, dental, lawyer), home services (carpentry, plumbing, electrical, roofing), college tuition, restaurant meals, sports club fees, and more.”

The U.S. CPI affects both Americans and Canadians, as consumers and especially as investors. It influences interest rates, bond yields, and returns from many other investments.

It is worth remembering that the U.S. Bureau of Labor Statistics is headed by a political appointee, who just may have certain biases towards statistical methodologies as well as to giving information to the media.

So, is the U.S. CPI constructed and presented in an ethical manner? I am not inclined to think so.

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Ethical after all?

On the other hand, a Canadian Treasurer contributor argues, statistics are true and accurate.

By Bob Fisher

I read Mr. Robins' article on economic statistics with great interest. Having written a series of articles in the past on the interaction of economics and the financial markets, I'm always eager to read someone else's perspective (see *Marketnomics*, Canadian Treasurer, February-August, 2003). After reading Ron Robins's arguments, I find I must respectfully disagree with his premise.

The field of statistical analysis, by its very nature, is not exact. Statistics use estimates, correlation of variables and regression (among others) to try to mimic reality as closely as possible, but are never perfect. The essence of statistical analysis, however, is in continually working to improve the model in order to reduce the error factors. This is what the U.S. Bureau of Labor Statistics is doing.

The fixed basket of goods has been known for years to be a flawed measure of consumer purchase patterns for many reasons. One key reason is that it ignores the substitution effect. The substitution effect says that, if the price of one good or service rises too high, consumers will switch to a comparable product or service that fits their price range. This is a perfectly valid and acknowledged aspect of consumer behaviour.

Another reason is that the fixed basket ignores new products or takes too long to incorporate a new product or service. In the typical product price cycle, a new product comes on the market at a high price, the price falls over time as the product is improved and becomes more readily available and more of a commodity, then tends to remain steady or even rise again as the product matures. Computers are a perfect example. By incorporating new products slowly, the fixed basket does not capture in the inflation measure much or any of the price drop in the early phase of the product lifecycle. The later steady or rising prices will be captured, which distorts the true measure of inflation. In the case of computers, the early, rapid price drops were not factored into the CPI because of the delay in putting computers into the basket.

The fixed basket also does not take into account changing lifestyles. Let's look at an example. Beef and milk are components of the CPI basket, but chicken and orange juice aren't. If consumer A eats beef and milk, then the fixed basket CPI measure will be relevant to him or her. If consumer A decides she no longer wants to eat beef but rather wants to eat chicken or become a vegetarian and drink orange juice, then the CPI will be irrelevant. An inflation measure that is only pertinent for a portion of the people is not a valid measure.

A far better measure of inflation is the chain-weighted calculation that is used today. Chain-weighted measurement takes into account all variables of consumer lifestyle, and the weights are adjusted regularly (every 2 years in the U.S.) to reflect changing consumer patterns. When the chain-weighted measurement was introduced, more emphasis was put on trying to account for quality changes in products and services. Quality changes had been taken into account for many years in some categories (e.g., autos) but not all. In particular, hedonics had been used for many years in measuring the price effect of apparel in the CPI.

The concept of hedonics has been around since the 1930s. In a very simple sense, as Ron Robins points out, it attempts to measure the increased enjoyment or pleasure a consumer derives from improvements in a particular product or service. Mr. Robins's article and the articles he cites postulate that hedonics is an entirely subjective measure. This is not accurate. Hedonics has both objective and subjective aspects. Take the example of a new washing machine on the market. This new washing machine uses 20% less electricity and 15% less water and does the job in 10% less time. These are all objectively quantifiable variables the impact of which can be built into an adjusted price of the washing machine. On the subjective side, if we look at a television with a screen that is 15% brighter with a 20% sharper image, the effect of these improvements will be a more enjoyable viewing experience but also likely less eyestrain and therefore less need for corrective eye glasses in the future.

How is this subjective variable taken into account? By looking at consumer behaviour patterns. Consumer buying patterns are constantly being analyzed to determine how consumers are reacting to the product choices available to them in the market. If these patterns show a switch from the old television to the new, indicating that consumers are prepared to pay the higher price, then by looking at the extent of the switch statisticians can, using regression analysis, estimate the value of the brighter, sharper screen and make an adjustment to the price of the television for these quality improvements. It is not done by someone in a back room at the BLS pulling a number out of the air.

Interestingly, hedonics is used in only seven of the 211 product and service categories measured in the CPI. Additionally, while Ron Robins and his sources imply that hedonics will always result in price decreases, in actual fact hedonics can contribute to higher as well as lower prices. In particular in the category of rent and owner-equivalent rent, hedonics has historically resulted in increased prices in this category because it accounts for factors such as wear and tear on buildings and the resulting lower quality of the product in successive years after the first. Since rent and owner-equivalent rent are weighted currently at 29% of the CPI, the rise in price in this area resulting from the use of hedonics can have a significant impact on the measure. The other six areas where hedonics is used account for less than 1% of the overall category weighting in the measure, so the impact of lowered prices is minimal.

I don't believe there is a systemic conspiracy within the U.S. government to defraud Social Security recipients and recipients of other entitlement programs whose payments are tied to inflation. Rather, the move to a chain-weighted measurement for CPI and the use of hedonics (as well as other measures of quality) are done to try to make the calculation of inflation and by extension other economic statistics as accurate as possible so that they reflect activity in the U.S. economy.