

John Williams'  
**Shadow Government Statistics**  
*Analysis Behind and Beyond Government Economic Reporting*

**No. 515—PUBLIC COMMENT ON INFLATION MEASUREMENT  
AND THE CHAINED-CPI (C-CPI)**

**April 8, 2013**

Click Here for Link to: [SPECIAL SUPPLEMENT—CHAINED-CPI](#)

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**Consumer Price Index Has Been Reconfigured Since Early-1980s  
So As to Understate Inflation versus Common Experience**

- **CPI no longer measures the cost of maintaining a constant standard of living.**
- **CPI no longer measures full inflation for out-of-pocket expenditures.**
- **With the misused cover of academic theory, politicians forced significant underreporting of official inflation, so as to cut annual cost-of-living adjustments to Social Security, etc.**
- **Politicians look to expand further the concept of artificially-suppressed cost-of-living adjustments in current budget-deficit negotiations, through the use of the Chained-CPI (see *Special C-CPI Supplement* at end of this document).**
- **Use of the CPI to adjust retirement benefits, private income or to set investment goals impairs the ability of retirees, income earners and investors to stay ahead of inflation.**
- **Understated inflation used in estimating inflation-adjusted growth has created the illusion of recovery in reported GDP.**

## **PROBLEMS WITH INFLATION ESTIMATION**

*This public comment updates No. 438—Public Comment on Inflation of May 15, 2012, reviewing the nature of inflation understatement by the U.S. government's statistical agencies and the rationale and approach used by ShadowStats.com in compiling the ShadowStats Alternate Consumer Inflation measures. While the following text includes new material, the concepts all have been explored in earlier writings. Most of the prior Comment has been repeated, including some material from the September 2008 [Response to BLS Article on CPI Misperceptions](#). -- John Williams*

### **Real-World Experience and Public Perceptions versus Academic Theories and Political Gimmicks**

In the last 30 years, a growing gap has been obvious between government reporting of inflation, as measured by the consumer price index (CPI), and the perceptions of actual inflation held by the general public. Anecdotal evidence and occasional surveys have indicated that the general public believes inflation is running well above official reporting, and that public perceptions tend to mirror the inflation experience that once was reflected in the government's formal CPI reporting.

The growing difference in perception versus reality primarily is due to changes made over decades as to how the CPI is calculated and defined by the government. Specifically, changes made to the definition of the CPI and related methodology in recent decades have reflected theoretical constructs offered by academia that have little relevance to the real-world use of the CPI by the general public. Importantly, the public usually has not been aware of or understood these changes.

### **What the Public Looks for in an Inflation Measure**

Individual need for and use of a CPI measure generally is tied to personal financial decisions or planning, in terms of wage or income growth/adjustments, contract or benefit price adjustments and/or in terms of targeting financial returns that would stay ahead of inflation.

Accordingly, individuals look to the government's CPI as a measure of the cost of living of maintaining a constant standard of living, as well as measuring that cost of living in terms of out-of-pocket expenses. Without meeting those parameters, an inflation measure has limited, if any, use for an individual.

Where the CPI at one time met those parameters desired by the public, government efforts turned the CPI away from measuring the price changes in a fixed-weight basket of goods and services, to a quasi-substitution-based basket of goods, which destroyed the concept of the CPI as a measure of the cost of living of maintaining a constant standard of living.

Separately, the use of hedonic quality modeling in adjusting the prices of goods and services destroyed the concept of the CPI as a measure of out-of-pocket expenses. Estimated by computer models, hedonic adjustments alter inflation accounting for nebulous quality changes that cannot otherwise be measured directly and that commonly are not recognized by consumers.

### **The Way It Was**

Measurement of consumer inflation traditionally reflected assessing the cost of maintaining a constant standard of living, as measured by a fixed-basket of goods. Maintaining a constant standard of living, however, is a concept not popular in current economic literature, and certainly not within the thinking or the lexicon of the Bureau of Labor Statistics (BLS), the government’s statistical agency that estimates and reports on consumer inflation.

The changing costs of maintaining a constant standard of living were measured by pricing out a fixed-basket of goods and services—same components, same weighting—period after period. Whatever the percentage change was in the cost of that basket of goods, that is how much income would have to rise in order for someone to maintain a fixed- or constant-standard of living over the given period. At least it was a reasonably consistent approximation of same.

Tracking changes in the cost of a fixed-basket of goods was the approach to estimating inflation, going back to at least the 1700s,<sup>i</sup> and prior to 1945, the fixed-basket CPI tracked by the U.S. government actually was known as the Cost of Living Index.<sup>ii</sup>

In the first half of the 20th century, though, the concept of a “constant level of satisfaction” evolved in academia, as a “true cost of living” concept. The general argument was that changing relative costs of goods would result in consumer substitution of less-expensive goods for more-expensive goods. Allowing for a substitution of goods within the formerly fixed-basket, the maximization of the “utility” of money held by consumers would allow attainment of “constant level of satisfaction” for the consumer. This type of inflation-measure is more appropriate for the GDP concept—where it is used today—measuring shifting weightings with actual consumption, rather than with the fixed weightings needed to assess the costs of maintaining a constant standard of living.

Where the substitution-based approach was viewed as impractical for a consumer price index, the fixed-basket approach remained the preferred inflation measure.<sup>iii</sup> The academic thinking in this area remains divided, even today.<sup>iv</sup>

The constant-level-of-satisfaction approach was contrary to the concept of measuring the cost of maintaining a constant-standard-of-living. In the extreme current circumstance, where the average household cannot stay ahead of even official CPI inflation, consider that shifting household preferences from more-expensive to less-expensive products is forced by limited income, or having to shift consumption patterns just to cover necessities. Maintaining a constant-standard-of-living means being able to consume the same goods in the same quantity, without having to trade-off living quality versus price, being able to buy needed gasoline, for example, without having to cut back on food quality.

While the average consumer may not be able to maintain his or her current standard of living, at the moment, it still is of significant value to know what is needed in income growth in order to offset the decline in the standard of living due to actual inflation.

### The Way the Politicians Wanted It

In the early-1990s, political Washington moved to change the nature of the CPI. The contention was that the CPI overstated inflation (it did not allow substitution of less-expensive hamburger for more-expensive steak). Both sides of the aisle and the financial media touted the benefits of a “more-accurate” CPI, one that would allow the substitution of goods and services.

The plan was to reduce cost of living adjustments for government payments to Social Security recipients, etc. The cuts in reported inflation were an effort to reduce the federal deficit without anyone in Congress having to do the politically impossible: to vote against Social Security. The inflation-calculation changes had the further benefit to government fiscal conditions of pushing taxpayers artificially into higher tax brackets, thus increasing tax revenues. The changes afoot were publicized, albeit under the cover of academic theories. Few in the public paid any attention.

Katharine G. Abraham, then commissioner of the Bureau of Labor Statistics, laid out her recollections in an August 1996 paper:

“Back in the early winter of 1995, Federal Reserve Board Chairman Alan Greenspan testified before the Congress that he thought the CPI substantially overstated the rate of growth in the cost of living. His testimony generated a considerable amount of discussion. Soon afterwards, Speaker of the House Newt Gingrich, at a town meeting in Kennesaw, Georgia, was asked about the CPI and responded by saying, ‘We have a handful of bureaucrats who, all professional economists agree, have an error in their calculations. If they can’t get it right in the next 30 days or so, we zero them out, we transfer the responsibility to either the Federal Reserve or the Treasury and tell them to get it right.’”<sup>v</sup>

A further comment was noted in a 2008 *San Francisco Chronicle* article, “In the 1990s, for example, Republicans wanted to make changes in calculating inflation along the lines recommended by a special commission, including more use of quality adjustments. By lowering the official inflation rate, such changes promised to reduce the annual cost-of-living adjustments for Social Security and other federal programs.

“[Katherine] Abraham, the Clinton bureau [of Labor Statistics] commissioner, remembers sitting in Republican House Speaker Newt Gingrich’s office:

“ ‘He said to me, *If you could see your way clear to doing these things, we might have more money for BLS programs.*’ ”<sup>vi</sup>

Federal Reserve Chairman Alan Greenspan and Michael Boskin, then chairman of the Council of Economic Advisors, were very clear as to how changing or “correcting” the CPI calculations would help to reduce the deficit. As described at the time by Robert Hershey of the *New York Times*, “Speaker Newt Gingrich, Republican of Georgia, suggested this week that fixing the [CPI] index, with its implications for lower spending [Social Security, etc.] and higher revenue [tax bracket adjustments], would provide maneuvering room for budget negotiators ...”<sup>vii</sup>

“Alan Greenspan, chairman of the Federal Reserve, is among the other Government officials who have spoken optimistically about financial benefits of a more accurate [CPI] index ...”<sup>viii</sup>

“[E]conomists believe one of the most important [CPI upside biases] is when consumers shift their buying patterns in response to changing prices, substituting one product for another. The [CPI] index is based on a fixed market basket of goods and services. But, for example, if the price on an item like steak gets too expensive, consumers may switch to hamburger.”<sup>ix</sup>

*The Boskin Commission Report*, December 4, 1996, actually used steak and chicken for its substitution example. The examples used in arguing for changing the CPI clearly were tied to prices rising and resulting consumer demand shifting to a lower-quality product. Simply put, that was the destruction of the cost-of-maintaining-a-constant-standard-of-living concept and was the primary consideration of those seeking to change the CPI, although other issues would come into play. The drive here was as to get a lower inflation reading, irrespective of whether the data were “more-accurate.”

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### **Summary of Real-World Needs versus Theoretical Constructs of Academia**

While the 1990s saw the push to reduce official inflation reporting, by shifting from a fixed-weight to at least a quasi-substitution-based CPI, less-publicized actions were taken to reduce CPI reporting through the introduction of hedonic quality adjustments, starting in the 1980s.

#### **Maintaining Constant Standard of Living (Fixed-Basket Inflation) versus Substitution in CPI**

- Since the 1700s, consumer inflation has been estimated by measuring price changes in a fixed-weight basket of goods, effectively measuring the cost of living of maintaining a constant standard of living.
- Allowing substitution of lower-priced and lower-quality goods in the basket (i.e. more hamburger when steak prices rise) lowers the reported rate of inflation versus the fixed-basket measure.
- BLS introduced: Geometric weighting—a purely a mathematical gimmick that automatically reduces the weightings of goods rising in price, and vice versa—it has no demonstrated relationship to consumer substitution of goods based on price changes. It was explained as a surrogate for a substitution measure.
- BLS introduced: More frequent re-weightings of the CPI index from every ten years to every two years, which moved the CPI closer to a substitution-based index, but the change was not considered a change in methodology.
- BLS introduced: Ongoing re-weightings of sales outlets (discount/mass-merchandisers versus Main Street shops), also moving closer to a substitution-based index and creating other constant-standard-of-living issues.

### **Out-of-Pocket Expenses versus Nebulous Quality (Hedonic) Adjustments**

- Traditionally, what a consumer paid out-of-pocket for goods and services reflected adjustments for quality changes that could be directly quantified in a monetary sense.
  - Quality adjustments that can be measured directly in price are legitimate, such as measuring the price differential of an eight-ounce candy bar that is reduced in size to six-ounces but remains priced and packaged in the same sized box as the eight-ounce version.
- The BLS expanded quality adjustments to include the concept of “hedonic” quality adjustments, altering the pricing of goods and services for nebulous quality changes that often were not viewed or recognized by consumers as desired improvements.
- Where the effect here on the pricing of goods and services could not be quantified directly from a pricing standpoint, the pricing impact was estimated by computer statistical modeling—hedonic adjustment modeling—that had little if any relevance to real-world experience.
- Where the quality of the product was deemed by the government to have improved (the usual circumstance), prices in the CPI calculations were adjusted lower to offset the higher quality.
- Usually, though, the purchasing consumer only had the option of paying out-of-pocket the full price for the product, again with little or no concept of the quality improvement being acquired and/or having no chance to opt out of paying for the improvements.
  - In an early example, the government mandated the use of a gasoline formulation that purportedly would improve auto emissions. That added ten cents per gallon to gasoline costs, but that cost was excluded from CPI calculations. The person filling his or her gas tank, however, suffered the actual out-of-pocket expense.
  - The government later abandoned excluding government-mandated “quality” improvements, such as gasoline additives, from inflation calculations, but the principles here were exactly the same for industry-generated “quality” improvements that were not optional to consumers.
  - Text books, for example were modeled, where one pricing factor in the hedonic quality model was whether or not there were color pictures in a book. Unless the student was an art student, the concern usually was not over colored pictures, but rather along the lines of “What is my out-of-pocket cost for textbooks this semester?”
  - New computer features usually were deemed quality improvements, with downside price adjustments made in the CPI for the changes, even though a consumer may not have wanted or used the features.
  - The consumer still had to buy those features and pay full cost out-of-pocket, irrespective of what the government determined those products were generating in purported hedonic quality benefits that the consumer was not considering or using.

- Significant feature changes should be treated as a new product introduction, or otherwise ignored.
- If the use of the hedonic process were legitimate here, it would be applied to all goods and services, but a CPI, so based, soon would become meaningless to the public (as already has happened with the CPI-U).
  - For example, there has been no pricing adjustment (upside in this case) to the costs of air travel for the destruction of travel convenience with the advent of the TSA, or from the downward spiral in U.S. air traveler comfort and convenience resulting from the effects of mergers and acquisitions, and from increasing flight delays due to economizing on aircraft maintenance.
- Consumer concerns are for his or her out-of-pocket expenses. What am I paying for my textbooks this semester; what am I paying out-of-pocket to fly from New York to Chicago; or what am I paying out-of-pocket for a computer, even if I am looking just to use limited functions but have no choice but to buy unwanted features?

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### What The Changes Did to Inflation

The following chart shows the detail of two CPI series and the impact that various methodological changes have made on reported series. Beyond the “Year” column, the first column is the annual average index level for the CPI-U-RS series, which is an experimental series published by the Bureau of Labor Statistics that goes back in time, estimating the annual inflation rate as if all the methodological changes made to the CPI during the last 35 years had been in place since day one. The second column (1) is the annual inflation indicated by the CPI-U-RS series. The third column is the headline CPI-U series as published the BLS, the fourth column (2) is the annual inflation indicated by the CPI-U series.

The fifth column [(1)-(2)], is the difference that the methodological changes made in the given year, versus the annual headline CPI-U number, and the sixth column is the cumulative annual shortfall in the CPI-U created by the various methodological changes. The cumulative number flattens out after 1999, because all the significant methodological changes counted in the CPU-I-RS were in place by then. Nonetheless, there were additional changes, although they were not deemed to be methodological by the BLS, as discussed in the next section.

**Net Reduction in CPI-U inflation from Changes in Methodology  
As Reflected in the CPI-U-RS versus CPI-U Series (1980 to 2011)**

Table Described in Text following, Sources: ShadowStats, BLS

Year	Average CPI-U-RS Dec 97=100	(1) CPI-U-RS Yr/Yr	Average CPI-U '82-4=100	(2) CPI-U Yr/Yr	(1)-(2) Change in Annual Inflation*	Cumulative Annual Inflation Shortfall
1980	127.1		82.4			0
1981	139.2	9.5%	90.9	10.3%	-0.8%	-0.8%
1982	147.6	6.0%	96.5	6.2%	-0.1%	-0.9%
1983	153.9	4.3%	99.6	3.2%	1.1%	0.1%
1984	160.2	4.1%	103.9	4.3%	-0.2%	-0.1%
1985	165.7	3.4%	107.6	3.6%	-0.1%	-0.2%
1986	168.7	1.8%	109.6	1.9%	0.0%	-0.3%
1987	174.4	3.4%	113.6	3.6%	-0.3%	-0.5%
1988	180.8	3.7%	118.3	4.1%	-0.5%	-1.0%
1989	188.6	4.3%	124.0	4.8%	-0.5%	-1.5%
1990	198.0	5.0%	130.7	5.4%	-0.4%	-1.9%
1991	205.1	3.6%	136.2	4.2%	-0.6%	-2.5%
1992	210.3	2.5%	140.3	3.0%	-0.5%	-3.0%
1993	215.5	2.5%	144.5	3.0%	-0.5%	-3.5%
1994	220.1	2.1%	148.2	2.6%	-0.4%	-4.0%
1995	225.4	2.4%	152.4	2.8%	-0.4%	-4.4%
1996	231.4	2.7%	156.9	3.0%	-0.3%	-4.7%
1997	236.4	2.2%	160.5	2.3%	-0.1%	-4.8%
1998	239.7	1.4%	163.0	1.6%	-0.2%	-5.0%
1999	244.7	2.1%	166.6	2.2%	-0.1%	-5.1%
2000	252.9	3.4%	172.2	3.4%	0.0%	-5.1%
2001	260.0	2.8%	177.1	2.8%	0.0%	-5.2%
2002	264.2	1.6%	179.9	1.6%	0.0%	-5.1%
2003	270.1	2.2%	184.0	2.3%	0.0%	-5.2%
2004	277.4	2.7%	188.9	2.7%	0.0%	-5.1%
2005	286.7	3.4%	195.3	3.4%	0.0%	-5.2%
2006	296.1	3.3%	201.6	3.2%	0.1%	-5.1%
2007	304.5	2.8%	207.3	2.8%	0.0%	-5.1%
2008	316.2	3.8%	215.3	3.8%	0.0%	-5.1%
2009	315.0	-0.4%	214.5	-0.4%	0.0%	-5.1%
2010	320.2	1.7%	218.1	1.6%	0.0%	-5.1%
2011	330.3	3.2%	224.9	3.2%	0.0%	-5.1%
Aggregate Methodological CPI-U Reduction					-5.1%	

\* Totals vary due to rounding.



The substitution-related alterations to inflation methodologies were made beginning in the mid-1990s. The introduction of major hedonic concepts began in the 1980s. The aggregate impact of the reporting changes since 1980 has been to reduce the reported level of annual CPI inflation by roughly seven percentage points, where 5.1 percentage points come from the BLS's published estimates of the effects of the individual methodological changes on inflation, shown in the preceding table. The balance comes from ShadowStats estimates of the changes not formally estimated by the BLS. The effects are cumulative going forward in time.

With the support of academic expertise affirming the correctness of the new methodologies, the effects of the reduction in the pace of reported inflation and in the related spiking of reported inflation-adjusted economic growth, have been discussed openly at different times. Consider examples from the 1999 *Economic Report of the President Report (Report)*.<sup>x</sup>

“A final reason for the slowing of reported price indexes has been methodological changes to both the CPI and the indexes used in the national income accounts. In general, these changes have reduced the measured rate of inflation. For the CPI, methodological changes made from 1995 through 1998 reduced the rate of inflation by about 0.44 percentage point. Changes to be introduced in 1999 and 2000 will reduce it by an additional 0.24 percentage point.” Again, these are cumulative changes going forward.

The *Report* continued, describing the benefits of reduced inflation rate reporting in adding to reported GDP growth, “The BEA [Bureau of Economic Analysis] has also recently switched [1997] from using the CPI to using the producer price index (PPI) to deflate physicians' services and the services of government and for-profit hospitals. ... Because the PPI measures of these prices have been increasing less than the comparable CPIs, the changes reduce the rate of increase of the chain-weighted price index for GDP and raise real [inflation-adjusted] GDP growth. These changes, in addition to those passed through from the CPI, will have cumulated to raise the annual growth rate of real GDP by 0.29 percentage point by 2000.”

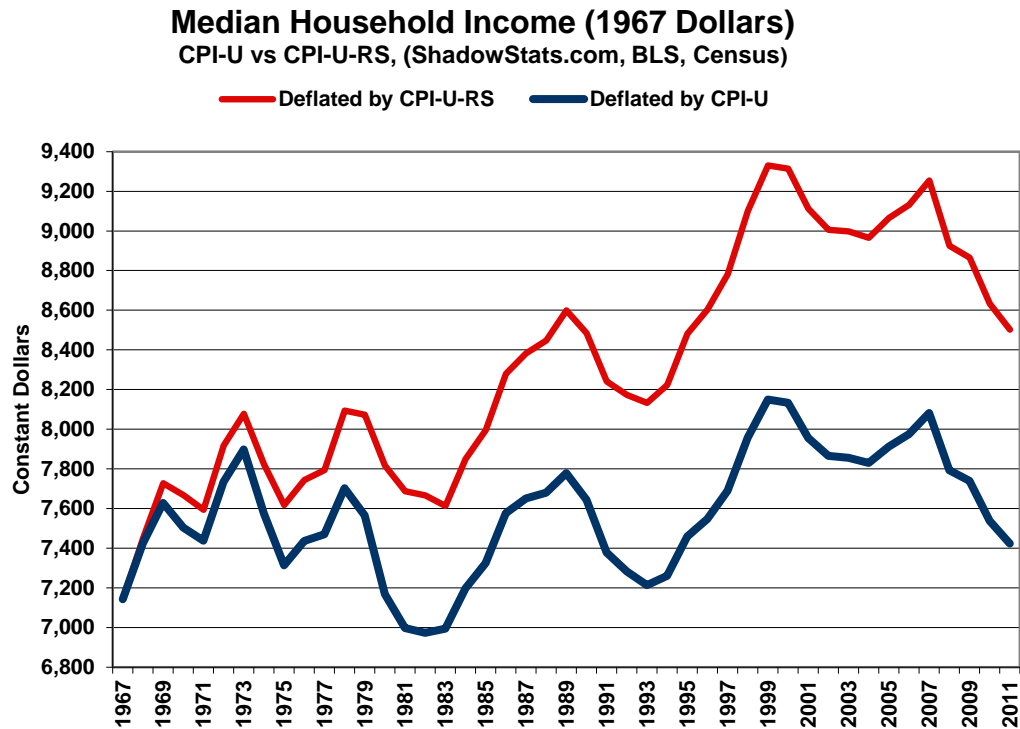
That cumulative pace of new boosts to the GDP growth for those several years really should have been 0.54 percentage point, accounting for new hedonic adjustments.<sup>xi</sup>

Keep in mind that the CPI changes of 0.68% were an aggregate for those years and had to be carried forward—added back in—on a cumulative basis if one wanted to remove the effects of the methodological changes from future data. Against the aggregated 0.68% reduction in the reported inflation, the BLS's related CPI-U-RS series showed an aggregated reduction in the reported inflation of 0.7%, as discussed in the next two sections.

### **Measuring the Methodological Impacts Going Backward and Forward in Time**

The BLS has created what they call the CPI-U-RS (RS stands for research series), designed to restate inflation history as if all the current substitution and hedonic adjustment methodological changes always had been in place. Limited effects of the artificially lowered historical inflation rate can be seen with the following graph.

The narrow red line shows median household income, deflated by the CPI-U-RS, as having been much stronger than the series shown by the thicker blue line, which was deflated by the higher inflation in the traditional CPI-U. The CPI-U versus the CPI-U-RS is detailed in the table.



While the differences in recent patterns (post-1999), may appear to be fixed, that is because the CPI-U since 1999 already included the bulk of the changes in the RS series, so the CPI-U-RS and CPI-U largely are identical in terms of year-to-year change in the post-1999 period. In the earlier years, the changes average less than half of a percent, but those changes reflect the incremental decline in annual inflation triggered by the various methodological changes.

Reverse-engineering the CPI-U-RS so as to reconstruct the CPI-U, as if the various changes had not been made, requires carrying forward the effects of the changes on a cumulative basis. The cumulative effect is seen in the last column of the earlier table.

### ShadowStats-Alternate Consumer Inflation Measures

The ShadowStats-Alternate Consumer Inflation Measures were created by reverse-engineering the CPI-U-RS series, and adding in estimates of the inflation effects of factors not otherwise estimated by the BLS, such as more-frequent (two-years versus ten-years) reweighting of the CPI series.

The two ShadowStats series are based on the methodologies in place as of 1980, and separately as of 1990. The estimated lost inflation is added back in, over time, as described in the methodology (1980-based) published each month in the *Commentary* that covers the CPI reporting:

*The ShadowStats-Alternate Consumer Inflation Measure adjusts on an additive basis for the cumulative impact on the annual inflation rate of various methodological changes made by the BLS (the series is not*

recalculated). Over the decades, the BLS has altered the meaning of the CPI from being a measure of the cost of living needed to maintain a constant standard of living, to something that neither reflects the constant-standard-of-living concept nor measures adequately most of what consumers view as out-of-pocket expenditures. Roughly five percentage points of the additive ShadowStats adjustment reflect the BLS's formal estimates of the annual impact of methodological changes; roughly two percentage points reflect changes by the BLS, where ShadowStats has estimated the impact from changes not otherwise published by the BLS.

### **The Differences Are Large**

The approach here is simple, and some argue that the inflation differential since 1980—suggested by the BLS's own estimates—is too large to be realistic. The numbers are what they are, and refinement to the approach certainly is possible. Keep in mind, though, that the differences here are in weighting and in quality adjustments, not in the underlying surveying of raw prices. While some might argue the magnitude of the inflation-understatement, resulting from the historical changes, there is no question as to the understatement of inflation.

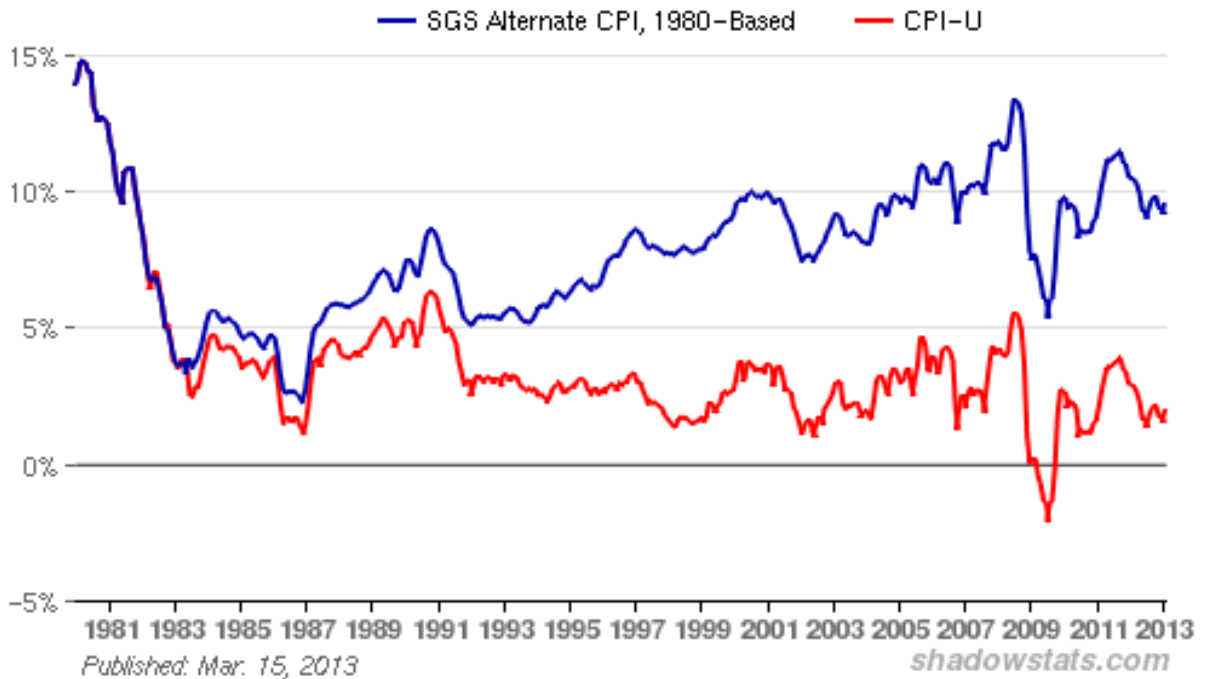
If the methodological changes did not reduce CPI inflation reporting meaningfully, the politicians would not have pushed the changes of recent decades, and they would not be pushing now for a “new” fully-substitution-based and weaker C-CPI in current budget negotiations. In contrast to the highly touted fully-substitution-based C-CPI, the existing CPI is only quasi-substitution based (see the *Special Supplement—C-CPI*). The earlier changes had the impact desired by the politicians. Without them, Social Security checks would be more than double what they are today.

***Homeowners' Equivalent Rent, or Hedonic Adjustments to Imaginary Numbers.*** On the weighting front, it is worth considering that fully 24.0% of the total current CPI-U inflation reporting reflects the category of “homeowners' equivalent rent of residences.” Instead of reflecting some measure of home prices, as was the case before 1983, the BLS estimates the cost of housing based on what homeowners theoretically would pay to themselves in order to rent their own homes from themselves. The BLS then estimates how much homeowners raise the rent on themselves each month. Starting in 1989, the BLS “improved” these estimates by beginning to adjust that imaginary series for hedonic quality adjustments.

***ShadowStats Alternate CPI Measures.*** The following graphs show the respective alternate CPI-U series as estimated on both 1980-based and 1990-based methodologies. The latest versions of these graphs always are available on the [Alternate Data](#) tab on [www.shadowstats.com](http://www.shadowstats.com).

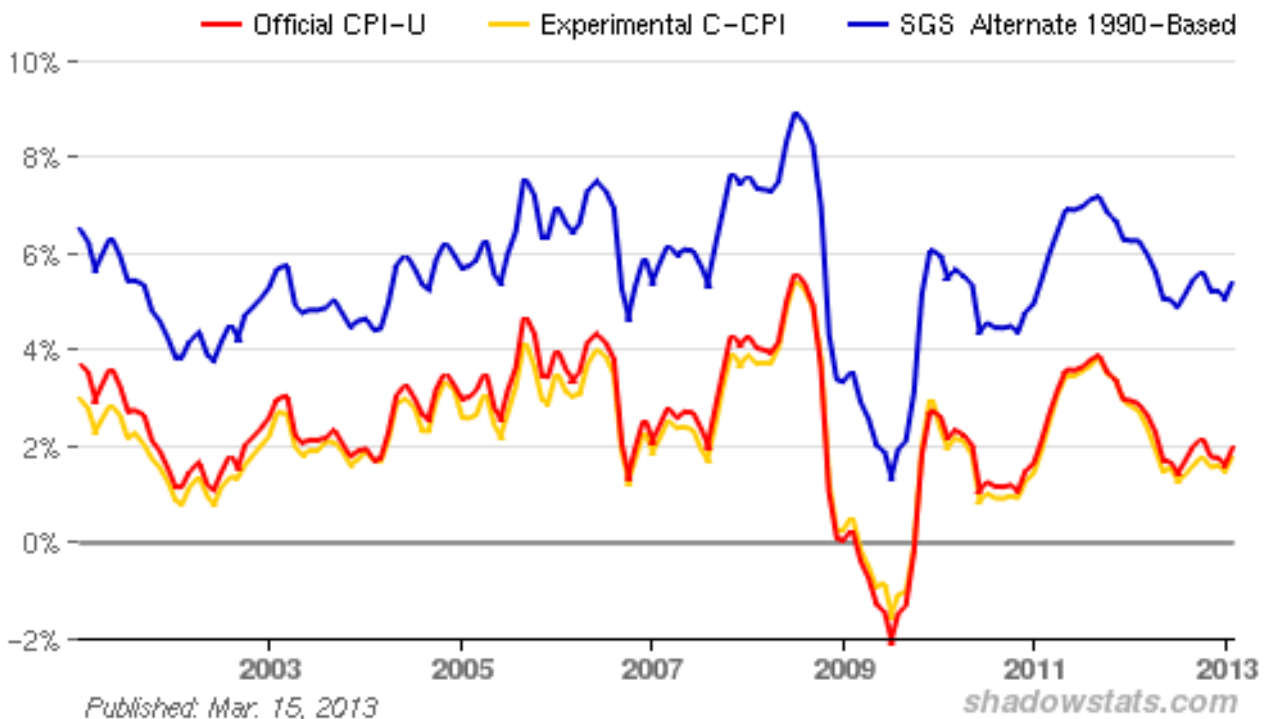
### Consumer Inflation - Official vs ShadowStats (1980-Based) Alternate

Year to Year Change. Through Feb. 2013. (BLS, SGS)



### Consumer Inflation - Official vs ShadowStats (1990-Based) Alternate

CPI-U Year to Year Change. Not Seasonally Adjusted. to Feb. 2013 (BLS, SGS)

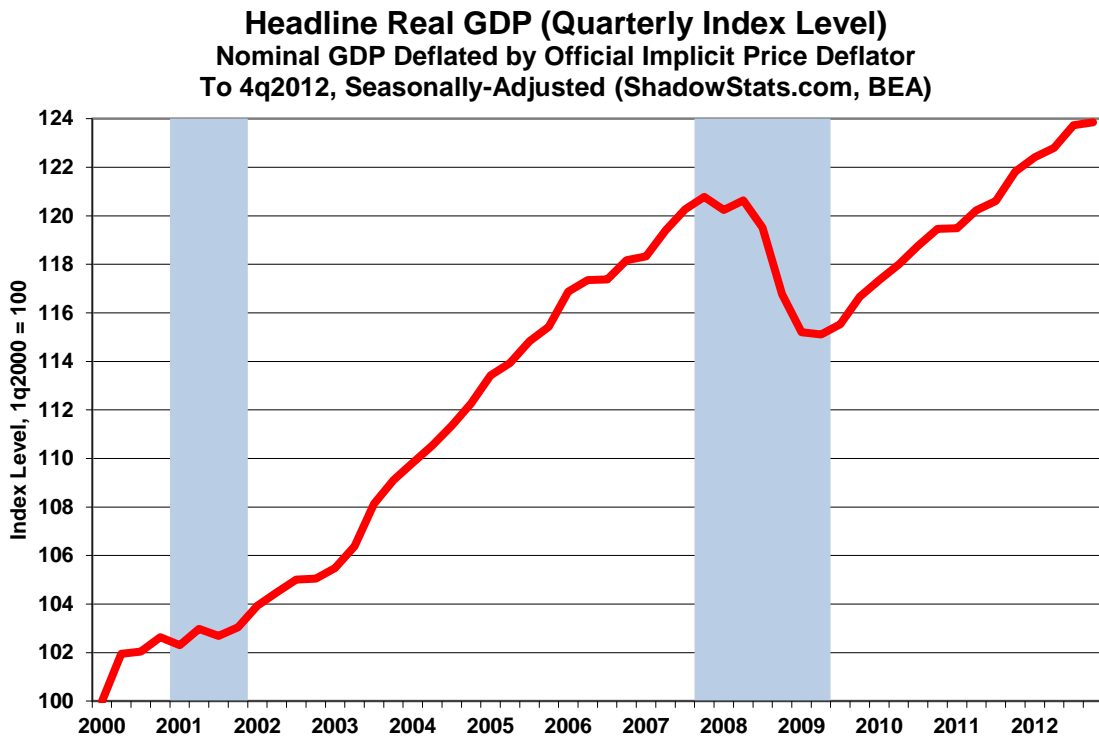


### Artificially-Low Inflation Estimates Have Created the Illusion of Recovery

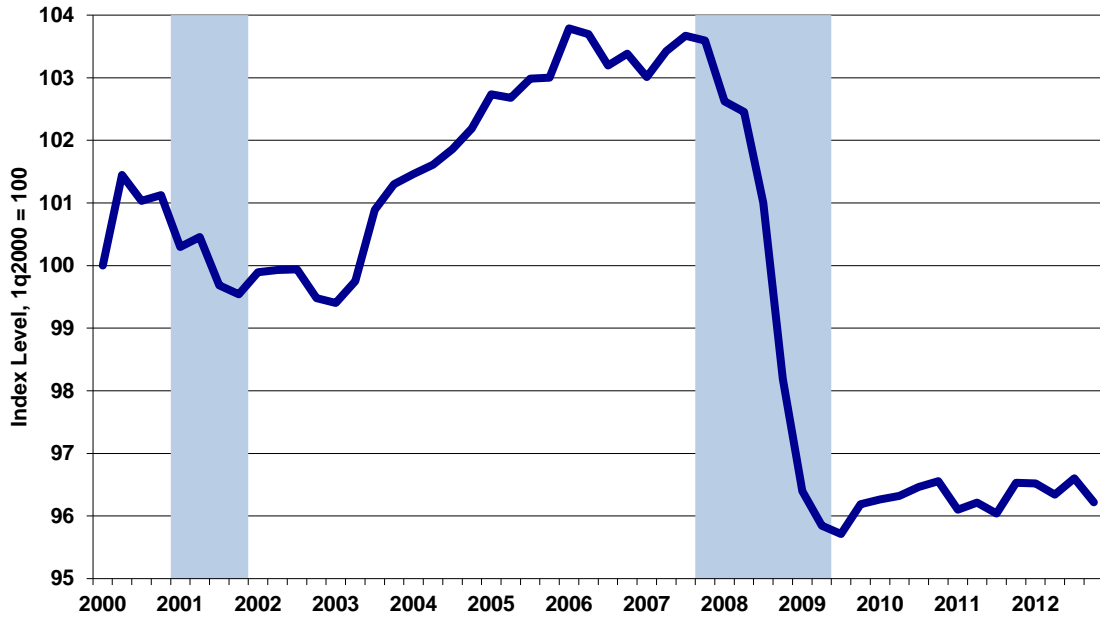
Separately, to varying degrees, artificially-depressed inflation rates have created misleading indications of economic growth in major economic series, including the GDP, industrial production and real retail sales, as deflated by the appropriate inflation measures. This is discussed in some detail in [Hyperinflation 2012](#), with assumptions discussed in Chapter 5, beginning on page 38.

**Corrected Gross Domestic Product.** Consider, for example, gross domestic product (GDP)—the government’s broadest estimate of economic activity. Deflated by the GDP’s implicit price deflator, not the CPI-U, the full economic recovery indicated by the GDP remains an illusion. It is a statistical illusion created by using too-low a rate of inflation in deflating (removing inflation effects) from the GDP series. The following two graphs tell that story, through the final reporting of fourth-quarter 2012 GDP.

In the first graph, official real (inflation-adjusted) GDP activity has been reported above pre-2007 recession levels—in full recovery—since fourth-quarter 2011 and has shown sustained growth since. No other major economic series has shown a parallel pattern of full economic recovery and beyond. Either the GDP reporting is wrong, or all other major economic series are wrong. While the GDP is heavily modeled, imputed, theorized and gimmicked, it also encompasses reporting from those various major economic series and private surveys, which attempt to mirror real-world activity. In a related area, the 2001 recession has disappeared from GDP reporting, contrary to other major economic series. Flaws in the GDP inflation methodologies have created the “recovery” and erased the previous recession.



**Corrected Real GDP (Quarterly Index Level)**  
 Nominal GDP Deflated by Implicit Price Deflator Adjusted for  
 Two-Percentage Point Understatement of Annual Inflation  
 To 4q2012, Seasonally-Adjusted (ShadowStats.com, BEA)



The second graph plots the GDP corrected for the inflation understatement inherent the GDP deflator of roughly two-percentage points of annual inflation. That inflation understatement resulted from hedonic-quality adjustments, again, as discussed in [Hyperinflation 2012](#).

Note that the 2001 recession is back, and that the “2007” recession really started in 2006, consistent with the downturn in the housing market. The economy plunged through 2008 into 2009. Instead of rebounding to full recovery, as seen in the headline GDP, however, the corrected real GDP has been bottom-bouncing, stagnant at a low level of activity. It now is turning down again. The corrected version appears to be much closer to the reality of common experience.

## **SPECIAL SUPPLEMENT—CHAINED-CPI**

*PLEASE NOTE: The following material and comments have been extracted and re-edited from recent regular Commentaries on [www.ShadowStats.com](http://www.ShadowStats.com).*

### **An Opinion on the Renewed Push to Use the C-CPI for COLA, Inflation Indexing**

The Chained-CPI (C-CPI) is a fully-substitution-based version of the CPI-U, which is the primary inflation measure published by the U.S. government's Bureau of Labor Statistics. The C-CPI is designed to reduce the level of reported inflation that otherwise would be used by individuals to make decisions tied to their investments and income. As a vehicle for artificially reducing COLA adjustments for such programs as Social Security, its proposed use here appears to be a rare area of agreement between both sides in the current budget-deficit negotiations.

Those in the federal government who are honest and forthright with the American public—at least about the proposal to understate the official rate of inflation for purposes of budget reduction—have failed to drive a wooden stake through the heart of the C-CPI. Arising from its second, premature political burial, the C-CPI looks again like it has a strong chance of being used as a new federal parasite to drain consumer liquidity. Like a vampire bat that sucks only enough blood for self-nourishment—leaving its victims alive for further abuse—the use of the C-CPI as a cost-of-living adjustment (COLA) measure is designed to suck real disposable income from the limited cash-flow of Social Security recipients, for the benefit of politicians who do not have the guts to vote against Social Security.

Those receiving, or who will be receiving Social Security payments were forced to pay into the system for all of their working lives, and generally believed the U.S. government would treat them fairly and honestly. The bloodsuckers in Washington have hit their victims similarly, before, back in the 1980s with the introduction of hedonic-quality adjustments to inflation, and in the 1990s with the change of concept in the CPI to a quasi-substitution-based inflation measure. Previously, the CPI measured inflation for a fixed-weight basket of goods, which measured COLAs as an inflation adjustment needed to maintain a constant standard of living.

As noted earlier in this missive, these methodological changes have altered the CPI-U and its more narrowly defined variant, the CPI-W, so that they no longer measure those costs of maintaining a constant standard of living (substitution effects) and no longer measure out-of-pocket costs (hedonic-adjustment effects). Without the changes made to CPI calculations of the last several decades, Social Security payments would be more than double what they are today. Indeed, with the use of a substitution-based index (the C-CPI is fully substitution based), the resulting cost of living adjustments promise only a declining standard of living. Expanding the example that former Federal Reserve Chairman Alan Greenspan often used, where, as the price of steak rose, consumers would shift to hamburger, so too with higher hamburger costs have some cash-strapped retirees actually shifted consumption to dog food.

The President and Congress must address Social Security and other programs, such as Medicare, restructuring them so as make them solvent over the long haul, eliminating the horrendous levels of

unfunded liabilities that are deteriorating at an aggregate pace in excess of \$5 trillion per year on a net-present-value basis (see the [Hyperinflation Report](#)). With discussions instead focusing on using the outright deceit of implementing the C-CPI to cut COLA, those controlling the government appear to lack the political will to make needed changes in a straight-forward manner. Under those circumstances, there can be no meaningful budget deal structured by the negotiators in Washington.

The government must be honest with its citizens. If the government cannot afford to pay full COLAs, it is better to indicate that upfront, rather than to try to fool individuals as to the actual level of inflation they have to overcome in order to maintain their living standards. Cutting benefits by stealth and deceit may be politically expedient for the miscreants playing this game, but it is utterly unconscionable.

Beyond the damage caused by the C-CPI not reflecting out-of-pocket costs, and no longer measuring the cost of living of maintaining a constant standard of living, the C-CPI is not a practical measure for being used as a COLA or other benchmark inflation measure.

***No Fixed Index Level for Reliable Cost Escalations in Contracts.*** As a separate issue, beyond the C-CPI not reflecting the cost of living of maintaining a constant standard of living or of reflecting full out-of-pocket consumer expenses, it cannot be published on a timely-enough basis to make it feasible as an annual-COLA factor.

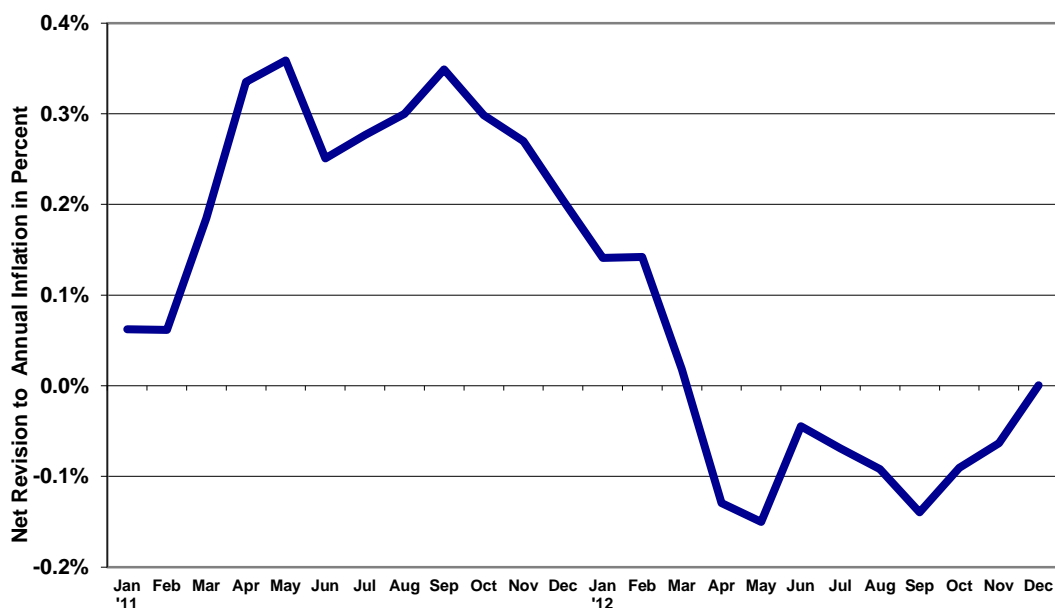
The following graph shows the regular net revisions to year-to-year inflation in the Chained-CPI, published February 21, 2013 for the years 2011 and 2012. In contrast, the CPI-U and CPI-W never are revised on a not-seasonally-adjusted basis (barring an outright error in calculation).

That feature enables the use of the CPI-U and CPI-W as inflation-adjustment and cost-of-living-adjustment (COLA) measures in contracts, COLA adjustments to Social Security, etc. Although designed as a consumer-damaging, budget-cutting replacement for the CPI-W in government COLA adjustments, the C-CPI reporting is unstable, since it goes through regular revisions every year, for the two prior years. As shown in the following graph, the latest revisions would have suggested an upside revision of about three-tenths of a percentage point to any COLA adjustment would have been made previously for 2011.

As discussed by the BLS in its February 21, 2013 press release: “Because the current expenditure data required for the calculation of the C-CPI-U are available only with a time lag, the index is issued first in preliminary form, using the latest available expenditure data at the time of publication, and is subject to two subsequent revisions. Therefore, C-CPI-U indexes for the 12 months of 2011 [now] are issued in final form – employing monthly expenditure weights from 2011. Values for the 12 months of 2012 are revised and issued as interim, using expenditure weights from the 2009-2010 period. Calculation of the initial value of the January 2013 C-CPI-U index, and all subsequent months in 2013, will also be based upon 2009-2010 expenditure weights.”



### Net Revisions to C-CPI-U Year-to-Year Inflation (ShadowStats, BLS)



### Notes on Different Measures of the Consumer Price Index

The Consumer Price Index (CPI) is the broadest inflation measure published by the U.S. Government, through the Bureau of Labor Statistics (BLS), Department of Labor:

The **CPI-U (Consumer Price Index for All Urban Consumers)** is the monthly headline inflation number (seasonally adjusted) and is the broadest in its coverage, representing the buying patterns of all urban consumers. Its standard measure is not seasonally adjusted, and it never is revised on that basis except for outright errors.

The **CPI-W (CPI for Urban Wage Earners and Clerical Workers)** covers the more-narrow universe of urban wage earners and clerical workers and is used in determining cost of living adjustments in government programs such as Social Security. Otherwise, its background is the same as the CPI-U.

The **C-CPI-U (Chain-Weighted CPI-U)** is an experimental measure, where the weighting of components is fully substitution based. It generally shows lower annual inflation rate than the CPI-U and CPI-W. The latter two measures once had fixed weightings—so as to measure the cost of living of maintaining a constant standard of living—but now are quasi-substitution-based. Since it is fully substitution based, the series tends to reflect lower inflation than the other CPI measures. Accordingly, the C-CPI-U is the “new inflation” measure being considered by Congress and the White House as a tool for reducing Social Security cost-of-living adjustments by stealth.

The **ShadowStats Alternative CPI-U Measures** are attempts at adjusting reported CPI-U inflation for the impact of methodological change of recent decades designed to move the concept of the CPI away from being a measure of the cost of living needed to maintain a constant standard of living. There are two measures, where the first is based on reporting methodologies in place as of 1980, and the second is based on reporting methodologies in place as of 1990.

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Notes:

- <sup>i</sup> Fixler, Dennis, Bureau of Labor Statistics, “The Consumer Price Index: underlying concepts and caveats,” *Monthly Labor Review*, December 1993.
- <sup>ii</sup> Schmidt, Mary Lynn, Bureau of Labor Statistics, “Comparing market basket changes and the CPI,” 1995.
- <sup>iii</sup> Ulmer, Melville T., “On the Theory of Cost of Living Index Numbers,” *Journal of the American Statistical Association*, Vol. 41, No. 236 (December 1946), pp. 530-542.
- <sup>iv</sup> National Research Council, *At What Price? Conceptualizing and Measuring Cost-of-Living and Price Indexes*, (2002).
- <sup>v</sup> Abraham, Katharine G., Bureau of Labor Statistics, “Statistics Under the Spotlight: Improving the Consumer Price Index: Statement,” Paper presented at a meeting of the American Statistical Association, Chicago, Illinois, August 6, 1996.
- <sup>vi</sup> Zuckerman, Sam, “Government’s economic data misleading, he says,” *San Francisco Chronicle*, May 25, 2008.
- <sup>vii</sup> Hershey, Robert D., Jr., “Panel Sees a Corrected Price Index as Deficit-Cutter,” *New York Times*, September 15, 1995.
- <sup>viii</sup> *Ibid.*
- <sup>ix</sup> *Ibid.*
- <sup>x</sup> “Inflation: Flat or Falling,” *Economic Report of the President 1999*, pp. 87-95.
- <sup>xi</sup> “Comparing growth in GDP and labour productivity: measurement issues,” OECD, December 2007.