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Changing Inflation Won't Solve Budget Woes

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With the debt ceiling deadline fast approaching, suggestions as to how to resolve the budget deadlock in the US are being offered at a frenzied pace. One such suggestion has been to alter the index that determines cost-of-living adjustments for entitlement programs such as social security and Medicare as well as the rates at which tax brackets are adjusted.¹ Desperation is rarely a setting through which good policy can be achieved. In this note, we argue that **proposals to address the near-term budgetary woes by changing the way inflation is measured are misguided:**

- Inflation measured by any index will inevitably differ from an individual consumer's experience. Further, consumers' experiences vary along demographic and socioeconomic lines.
- Therefore it is important to consider potential redistributive consequences associated with any proposed change. These are complex issues that researchers have been grappling with for years. They won't be solved in time for the August 2, 2011 debt ceiling deadline.
- Sure, changing a base index might appear to "solve" the problem without resorting to specific budget cuts or tax increases but it is a tactic that is intended to obfuscate at a time when transparency is needed more than ever.

[This Discussion is Not New](#)

Economists have long discussed the measurement of inflation and there has been substantial research on the merits and shortcomings of various versions of the Consumer Price Index. While most seem to agree that there are imperfections, there is little consensus as to how to improve measurement. There is not even agreement as to whether the main index (CPI-U) over- or under-states "true" inflation, an issue that for the purposes of this note we can remain agnostic about. Part of the difficulty in assessing the accuracy of the CPI-U is that this single index has a myriad of uses, as documented on the Bureau of Labor Statistics' website (www.bls.gov/cpi/).

In addition, there is substantial evidence that the inflation we experience varies along demographic and socio-economic lines.

"For example, if you or your family spends a larger-than-average share of your budget on medical expenses, and medical care costs are increasing more rapidly than the cost of other items in the CPI market basket, your personal rate of inflation may exceed the increase in the CPI. Conversely, if you heat your home with solar energy, and fuel prices are rising more rapidly than other items, you may experience less inflation than the general population does. A national average reflects all the ups and downs of millions of individual price experiences. It seldom mirrors a particular consumer's experience."²

¹ Pear, Robert, "Democrats Oppose Talk of Cuts to Social Security," *New York Times*, July 7, 2011, available at <http://www.nytimes.com/2011/07/08/us/politics/08inflate.html>, accessed July 20, 2011.

² <http://www.bls.gov/cpi/cpiadd.htm>, accessed 7/18/11.

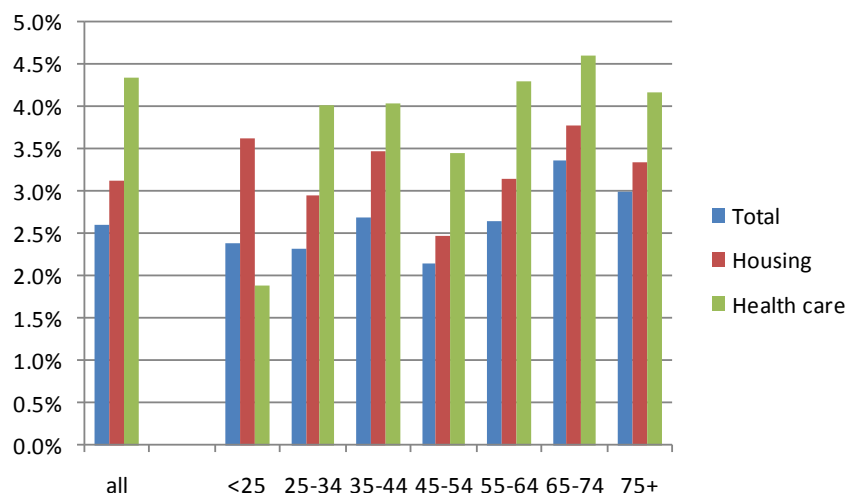


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Figure 1 illustrates this point using data from the Consumer Expenditure Survey (CES). During the period 1999 to 2009, overall expenses rose an average of 2.6% annually, while expenditures on housing and healthcare rose 3.1% and 4.3%, respectively (left three bars in the graph, above “all”). Clearly if you require more medical care than the average American, you experienced higher inflation. Yet the figure also demonstrates that the increase in expenditures varied by age group; the average annual rise in health care expenditures was less than 2% for those under age 25. In addition, over the same time period, the CPI-U rose an average of 2.3% annually. While there are also known imperfections with the CES measurement, a simple analysis such as this shows how easily one can argue that CPI-U either overstates inflation (for 45-54 year-olds) or understates it (for the rest of the population).

Figure 1. Expenditures Vary by Age (annual increases over 10-year period)



Source: author's calculations using Consumer Expenditure Survey 1999 and 2009 data, obtained from <http://www.bls.gov/cex/data.htm>

Yet There is Renewed Discussion

A number of stories have surfaced over the past few weeks suggesting a switch to a chain-weighted index to measure inflation. The distinction between chain-weighting and the current measure is explained in great detail on the BLS website³ but roughly speaking the former takes into account substitution changes in consumption patterns while the latter does not (e.g., if clothing prices increase, one might opt to purchase fewer clothes than before, or to make part of one's wardrobe, so that annual expenses on clothing remain unchanged). Which would be “better” is a debate worth having – and has been going on since long before the BLS introduced its chain-weighted CPI-U (C-CPI-U) in 1999.⁴ To be certain, as with the current measure, it “seldom mirrors a particular consumer's experience”. The extent to which it accurately represents one's own personal inflation depends on an individual's ability (and desire) to make the substitutions reflected in the chain-weighting.

³ <http://www.bls.gov/cpi/superlink.htm>. The BLS' Price and Index Number Research Group also has published extensively on aspects of CPI measurement (<http://www.bls.gov/pir/journal.htm>).

⁴ See The Boskin Commission Report, December 1996, available at <http://www.ssa.gov/history/reports/boskinrpt.html> (accessed 7/21/2011). For an excellent summary of the debate, see Johnson, David S., Stephen B. Reed, and Kenneth J. Stewart, “Price Measurement in the United States: A Decade After the Boskin Report,” *Monthly Labor Review* (May 2006) and references therein, available online at <http://www.bls.gov/opub/mlr/2006/05/art2abs.htm>, accessed 7/21/2011.



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This topic has found renewed energy in part because it was included in the National Commission on Fiscal Responsibility and Reform (aka Bowles-Simpson) Report.⁵ The proposal to switch to C-CPI-U is included in two paragraphs:

“RECOMMENDATION 5.7: ADOPT IMPROVED MEASURE OF CPI. Use the chained CPI, a more accurate measure of inflation, to calculate the Cost of Living Adjustment for Social Security beneficiaries.

RECOMMENDATION 6.1: SWITCH TO A MORE ACCURATE MEASURE OF INFLATION FOR INDEXED PROVISIONS. Rely on chained CPI to index all CPI-linked provisions across government.

The Commission recommends adopting the “chain-weighted” Consumer Price Index for Urban Consumers (C-CPI-U) for all federal programs and tax provisions that currently rely on the CPI-U and CPI-W. The C-CPI-U is an alternative measure developed by the Bureau of Labor and Statistics that uses a technical improvement to more appropriately adjust for upper level substitution bias – one factor in how consumers change purchase decisions as relative market prices change. For example, when one product in the market basket (apples) becomes more expensive, consumers will forego purchasing that item in favor of a cheaper alternative (oranges).”

Within two months of the report’s release, it was apparent that there was little agreement among committee members as to the recommendations, as seen by their individual statements (<http://www.fiscalcommission.gov/news/member-statements-final-commission-report>), although few addressed the question of chain-weighting directly.

As noted above, debates about the measurement of inflation are not in themselves bad. But in the current context, the proposal to switch to chain-weighting seems to be less about substance and more about saving nominal dollars – since altering the index so that it grows more slowly would reduce index-dependent outlays in a way that would suggest deficit reduction – even at the risk of a welfare decline in real terms. In principle, deflation could achieve the same thing, although much less palatably. Since by law the social security cost-of-living adjustment cannot be negative even if the underlying index declines, a deflationary episode is the one time that benefits increase in real terms, arguably making seniors better off.⁶ Yet when social security beneficiaries were threatened with no cost-of-living adjustment (as a result of a decline in the CPI-W, the index used to determine such adjustments), many called for it anyway, expecting the positive nominal increase to which they had become accustomed and failing to recognize that application of a cost-of-living adjustment actually would have reduced their benefits.

In the report itself, there appears to be little analysis as to who exactly the proposed change to chain-weighting would affect. While a full accounting is beyond the scope of this note, some indication can be gleaned from the BLS website itself (<http://www.bls.gov/cpi/cpiovrw.htm>, last updated in 2001):⁷

⁵ <http://www.fiscalcommission.gov/news/moment-truth-report-national-commission-fiscal-responsibility-and-reform>

⁶ Assuming the underlying index is an accurate measure of inflation for this population.

⁷ Updated numbers corresponding to those in this paragraph are as follows (source): more than 54 million social security beneficiaries (www.ssa.gov), 2.2 million military retirees/survivors (actuary.defense.gov/statbook10.pdf), 2.3 million Federal Civil Service retirees and survivors (www.narfe.org/departments/guest/articles.cfm?ID=2129), and 41m food stamp



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“The index affects the income of almost 80 million people as a result of statutory action: 47.8 million Social Security beneficiaries, about 4.1 million military and Federal Civil Service retirees and survivors, and about 22.4 million food stamp recipients. Changes in the CPI also affect the cost of lunches for the 26.7 million children who eat lunch at school. Some private firms and individuals use the CPI to keep rents, royalties, alimony payments and child support payments in line with changing prices. Since 1985, the CPI has been used to adjust the Federal income tax structure to prevent inflation-induced increases in taxes.”

Proponents of chain-weighting-as-a-means-of-deficit-reduction argue that the chain-weighted index has historically been lower than the current CPI-U. “Historically” in this context means since 1999, the year the BLS began computing the alternative index. If this assertion (that the C-CPI-U would grow more slowly than the currently-used indices) is true, the implication of the above description is that more than 100 million individuals could be worse off as a result of their benefits growing more slowly. From a budgetary perspective, a move to the C-CPI-U could also slow the growth of income tax brackets, leading to more revenues in IRS’ coffers, although any increase could be more than offset by the dampening effect of resultant inflation-induced increases in taxes (as suggested by the above quote). **The net budgetary effect of a change to chain-weighting is far from clear and could very well unwind some of the progressivity built into both our social welfare programs and further derail stimulus attempts.**

In addition, the argument that chain-weighting is “more accurate” and therefore should be used for cost-of-living increases begs the question of why the BLS hasn’t already shifted to this measure. The BLS website notes that, “BLS has for some time used a cost-of-living framework in making practical decisions about questions that arise in constructing the CPI.”⁸ In fact, they have not taken a stand on the relative accuracy of chain-weighting versus their current methodology. Answering a resounding “No” to the question “Has the BLS selected the methodological changes to the CPI over the last 30 years with the intent of lowering the reported rate of inflation”, the BLS emphasizes that historically “The improvements chosen by the BLS...were, in fact, the result of analysis and recommendations made over a period of decades, and those changes are consistent with international standards for statistics.”⁹ **The proposal to shift to chain-weighting to alleviate budget woes is at odds with BLS standards of operation.**

Appearance or Accuracy?

There’s precedent for redefining one’s inflation index for the sake of appearance; the UK in 2003 changed the index it used for the purposes of its inflation-targeting (from its Retail Price Index – RPIX – to the Harmonized Consumer Price Index, now known as CPI), noting that the new index was more in line with the rest of Europe. The new index also involved a methodological change; by using a geometric average rather than the arithmetic average of the RPIX, the new index likely would be

recipients (www.bloomberg.com/news/2010-10-05/food-stamp-recipients-at-record-41-8-million-americans-in-july-u-s-says.html)

⁸ http://www.bls.gov/cpi/cpifaq.htm#Question_4, accessed 7/21/2011.

⁹ FAQ response to question “Has the BLS selected the methodological changes to the CPI over the last 30 years with the intent of lowering the reported rate of inflation?”, http://www.bls.gov/cpi/cpiqa.htm#Question_5, accessed 7/21/11.



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lower.¹⁰ This has been the case in all years except 2009, when the CPI average was 20bps below the RPIX. In addition, in almost three-quarters of the months where the indexes have increased MoM, the RPIX has increased by more. But it also seems that which index is higher depends in part on whether it is increasing or decreasing. In the 12 years since 1999, there have been 31 months where MoM RPIX has been negative; in more than half of these months, CPI MoM was more negative. This calls into question whether the shift to a lower index would be as beneficial in a deflationary environment, as the lower index could magnify MoM declines.

At the time the UK's inflation-target was changed, there were assertions that benefits, pensions, and inflation-linked bonds would still be calculated based on their current indices. In 2010, however, the annual RPIX exceeded CPI by 150bps, and in April of this year, the UK extended its use of the CPI to index benefits, tax credits and public service pensions. The RPI continues to be used to index UK inflation-linked bonds. At the current time, the US discussion has similarly centered on cost-of-living adjustments to benefits and taxes only, without reference to a change in the index underlying its inflation-linked debt. But it could be a slippery slope – as the UK experience illustrates, one can never guarantee that a shift to a new index for one purpose won't lead to its use in other contexts.

The US Experience

Cumulatively over the past 11 years (from 2000-2010), CPI-U has increased 26.6% while its chain-weighted counterpart has increased 23.2%, a difference of 0.25% per annum. Similar differences between current and chain-weighted analogues have been observed for core (i.e., ex-food and energy) inflation (0.28% per annum). Yet over the same time period the growth of the current housing and medical care components were closer to their chain-weighted counterpart (growing at 0.19% and 0.13% per annum, respectively). While these differences could result in savings in Old-Age and Survivors Insurance (OASI) expenditures, the social security COLA also limits the extent to which Medicare Part B premiums are allowed to increase. Hence some of the savings from social security expenditures could be offset by ballooning health care expenditures.

Figure 2 compares the MoM and YoY fluctuations of the chain-weighted C-CPI-U index and the current CPI-U index. While generally speaking the chain-weighted index does appear to produce lower numbers than the current index, it is not always the case. Over the eleven years that the chain-weighted CPI has been computed it has always been lower than the current index, even in 2009 when the first deflationary year since 1954 would have been magnified had the chain-weighted index been in use (C-CPI-U declined -0.47% as compared with the -0.36% decline of the current index). Yet a comparison of MoM fluctuations reveals that CPI-U has been above the corresponding chain-weighted index only in about two-thirds of the months; the other times it has been lower. The same holds true when comparing analogous core (ex- food and energy) measures, housing components, and medical care components. And as with the UK indices, during most of the comparison period, CPI-U fluctuations have been positive (75% of the MoM fluctuations, 10 of 11 annual fluctuations). Limited evidence suggests

¹⁰ Office of National Statistics (2010). *Consumer Price Indices: A Brief Guide*. Accessed 7/14/11. Available at www.statistics.gov.uk/downloads/theme_economy/CPI-briefguide.pdf

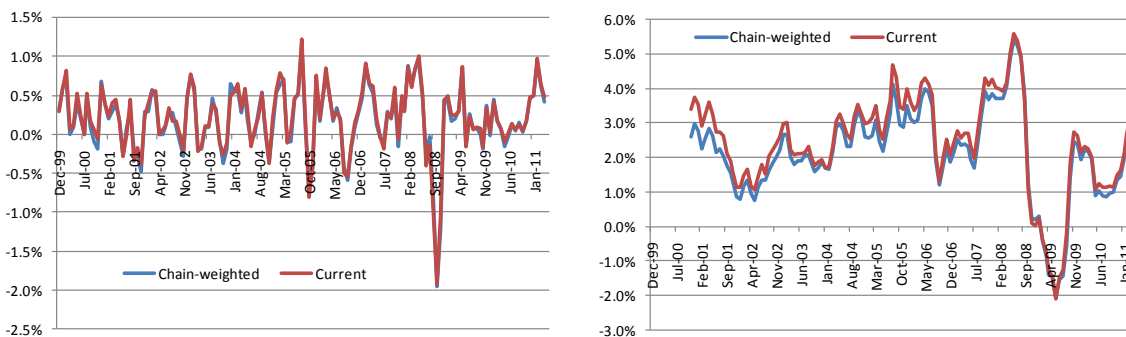


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that a switch to a more slowly-growing index may make deflationary periods appear more pronounced.¹¹

Figure 2. Comparison of Chain-weighted and Current CPI, MoM (left) and YoY (right) fluctuations



Source: author's calculations using Bureau of Labor Statistics data, obtained from <http://www.bls.gov/>

Need to Consider Policy Responses

In addition to considering the budgetary impact of a change in the inflation index, it is also important to consider whether such a change could affect policy reaction functions and market participants' perceptions, should the chain-weighted index prove to be a "preferred" measure of inflation.

In the current environment where the Fed has held the Fed funds target at the 0-25bps range for a prolonged period, it's hard to remember back to 2003 when the Fed similarly had been on hold after a prolonged easing phase. Markets were jittery, and with signs that inflation was picking up, many accused the Fed of being "behind the curve". Even today, critics suggest that the Fed waited too long to begin the inevitable tightening cycle in order to keep inflation in check. But what if the signs that inflation was picking up had been even more muted? Would the Fed have waited even longer?

The Fed has long argued that CPI-U ("headline" inflation) is too volatile and that it often looks toward CPI ex food and energy ("core") to inform its rate decisions. During the 2003-4 period that the Fed was on hold at the bottom of its easing cycle and the 2006-7 period when the Fed had stopped tightening, both current headline and core YoY were well above their chain-weighted counterparts. And since the chain-weighted indices were already being published, arguably these measures could have informed the Fed's deliberations anyway. Indeed, when the Bank of England changed from RPI-X to UK-CPI, it lowered its target to adjust for the shift to the slower-growing index, so there's evidence that central banks aren't fooled so easily by such redefinitions. Yet the Bank of England only lowered its target by 50bps while in subsequent years the difference between the old and new indices has turned out to be 84bps. **In hindsight, this discrepancy means that the switch to a lower index has actually increased the Bank's tolerance for inflation.**¹²

¹¹ The proportion of negative MoM fluctuations where the chain-weighted C-CPI-U is larger in magnitude (i.e., lower than CPI-U and hence more negative) is greater than the proportion of positive MoM fluctuations where the chain-weighted index is lower than the current index.

¹² In addition, the difference has exceeded 50bps in 9 of the past eleven years.



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Conclusions

The question of how to measure inflation depends largely on the purpose of the measurement. And the accuracy of that measurement for the individual consumer depends on who you are, and how closely your expenditures match those that comprise the basket of goods in the underlying index. While current calls to change to a chain-weighted inflation index may in fact stem from an earnest belief that the current index overstates inflation, the timing of this discussion seems too conveniently associated with the debt ceiling deadline. But there is no doubt that a change now would not benefit everyone and could result in significant long-term implications.

Winners: The US deficit – reduced inflation means slower nominal growth of future liabilities, reducing present value calculations and generating a slower projected rise in the deficit.

Losers: Social security recipients and anyone else whose benefits include a cost-of-living adjustment that is based on an index that would shift to the C-CPI-U. This in turn could result in greater income disparity and additional challenges for those already in significant need.

Too early to tell: The US economy and any signs of recovery. A reduced deficit outlook could help stabilize the financial market outlook and encourage investment, particularly from abroad. However, reduced benefits at the low end of the income distribution (where social security comprises a more substantial proportion of retirement wealth relative to the upper end) combined with marginal tax brackets that take hold at lower levels could further increase income disparity.

The concept of chain-weighting has its merits. When prices fluctuate, people alter not only the basket of goods they consume but also the types/quality of those goods. But demand for some items in the basket, things like medicine, housing, and basic necessities, is much less sensitive to such changes than demand for other items, and not all age, demographic, and socio-economic groups are equally able to shift accordingly when prices change. Any change in the underlying index will need to consider the redistributive effects associated with that change.

In summary, there may be good reasons to change how CPI is measured. But not as part of the current budget debate; data distortion/manipulation is no way to clean up a budget situation.

Data sources:

UK RPIX: http://www.statistics.gov.uk/downloads/theme_economy/RPIX.pdf

UK CPI: http://www.statistics.gov.uk/downloads/theme_economy/CPI.pdf

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