THIRD WAY

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The Context and the Case for Chained CPI

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When the president included a previously obscure inflation index in his 2014 budget proposal, he reignited the controversy over Chained CPI. The president argues Chained CPI is a reasonable way to reduce the deficit, if included in the right package. Some liberals counter that Chained CPI would cut benefits for seniors and veterans, so it must be avoided at all costs.

Chained CPI is not a radical change. It is a legitimate technical improvement consistent with the history of changes to the Consumer Price Index (CPI). In this memo we explain what Chained CPI is, why it exists, and what it would mean—for Social Security beneficiaries, taxpayers, and the federal budget.

What is Chained CPI?

Consider the following scenario. Shoppers like chicken about the same as they like turkey, and they buy equal amounts of each. Then the price of chicken rises. As a result, some consumers buy more turkey and less chicken. Because they like chicken and turkey equally, consumers aren't worse off. But the way the government currently measures inflation, consumers are judged to be worse off. That's because they are assumed to keep buying the same amount of chicken in spite of its higher price.

Chained CPI is the measure of inflation that best accounts for the reality that consumers constantly respond to price changes. The Bureau of Labor Statistics (BLS) has calculated and published Chained CPI since 2002, and the index is considered the most technically advanced and accurate of BLS's major cost-of-living indexes. But the federal government does not use Chained CPI to adjust any tax rules or programs for inflation. Congress must authorize the use of Chained CPI, but it has yet to do so. As a result, the price

indexes most used by the government are the older CPI-U, for adjusting tax brackets, and CPI-W, for calculating Social Security COLAs.

How has CPI changed in the past?

BLS created the first national CPI for the same reason it created Chained CPI: existing price measures were overstating inflation. During World War I, BLS used a price index consisting almost entirely of food products, which were growing more expensive at a faster rate than other goods. When, during the war, the Shipbuilding Labor Adjustment Board decided to escalate wages by a price index, it drew attention to the need for a price index that measured a representative basket of consumer expenditures. In response, the BLS added new products and geographic areas to its survey of prices, giving birth to the first national cost-of-living index in 1919. [1]

Examples of Methodological Changes to the CPI [2]

1940: Updated product weights based on a 1934-36 study of consumer expenditures

1951: Adjusted rent index to remove a bias caused by rent control; added new items to the list of covered items, including frozen foods and television

1953: Added a sample of medium and small cities; updated covered items to include restaurant meals

1964: Added single-person households to population survey; extended pricing to the suburbs of sampled metropolitan areas

1978: Introduced more sophisticated sampling methods at all stages of CPI surveys

1981: Began choosing retail outlets in proportion with consumer spending; began rotating outlet and item

samples every five years

***1987**: Redesigned the CPI housing survey*

***1999**: Began using a new formula for most basic indexes to adjust for simple substitution such as shifts in the types of apples purchased*

***2002**: Added the Chained Consumer Price Index for All Urban Consumers (C-CPI-U)*

***2007**: Began publishing indexes to three decimal places*

Since it created the first comprehensive CPI in 1919, BLS has regularly updated its methods in response to advances in statistics and economics. *There have been dozens of changes to the CPI methodology, stemming mostly from six major reviews*. Each of those reviews, except for one, identified more problems leading to overstatement of inflation than understatement. [3]

One such review was the Stigler Commission, formed in 1961. A major focus of that review was a problem referred to as *quality change*. That occurs when goods are improved in a way that makes measuring inflation tricky. Say a new model air conditioner can put out 10% more cold air without an increased use of electricity. A commensurate increase in the price of the air conditioner, then, should not be considered inflation. The consumer is getting more cooling capacity for the higher price. When inflation measures fail to recognize quality changes like this, they will overstate inflation. Following the Stigler report, BLS increased their use of quality adjustments in the CPI. For example, the CPI began to account for quality improvements in vehicles when new car models were sold.

What did the last CPI review conclude?

The most recent CPI review came in the mid-1990s. After Federal Reserve Chairman Alan Greenspan remarked in testimony that there was upward bias in the CPI, the Senate Finance Committee appointed an "Advisory Commission to Study the Consumer Price Index." The panel was chaired by economist Michael Boskin, who previously headed President George H.W. Bush's Council of Economic Advisors.

The Boskin Commission found that the CPI was overstating inflation for several reasons, one of which is *substitution bias*. There are two major types of substitution bias: lower-level and upper-level. Lower-level substitution bias occurs when price changes cause consumers to shift between products *within* a category—such as between different kinds of apples. Upper-level substitution bias occurs when price changes cause consumers to shift *between* product categories, such as between turkey and chicken. [4]

The Boskin Commission presented BLS with multiple recommendations, including ideas to address both types of substitution bias. To address lower-level substitution, BLS developed a new formula for existing indexes, including CPI-U and CPI-W. As a result, annual Social Security COLAs and the adjustment of tax parameters have accounted for lower-level substitution for over a decade. To address upper-level substitution, BLS created a new index, Chained CPI. The new index incorporates "chaining"—the use of consumer expenditure surveys to change product category weights from month to month. Because chaining exists only in the new index, Social Security cost of living adjustments (COLAs) and tax brackets do not currently account for upper-level substitution.

Why must Congress legislate Chained CPI?

History shows a clear pattern for how CPI changes are typically made. First, Congress or the president appoints a commission of experts. Second, the commission evaluates the CPI and presents recommendations. And third, BLS makes changes at its discretion. For Chained CPI, those three

steps have already occurred, but Congress must complete an additional fourth step: legislation.

The reason legislation is needed stems from the fact that "chaining"—the method unique to Chained CPI—depends on data that comes with a time lag. A chained index must first compute a month's inflation estimate with provisional data. That estimate is then subject to revision for up to two years. Some uses of the CPI depend on immediate and final month-to-month data. Simply "chaining" the CPI-U or CPI-W would pose a problem for those uses. So BLS decided that chain-weighting must exist in a completely separate index, published alongside CPI-U and CPI-W. The new index accounts for upper-level substitution bias and offers the benefit of greater accuracy, for those uses which do not depend on immediate, month-to-month data. [5] The fact that Chained CPI is a new index, rather than a new formula for an existing index, is why legislation is needed.

Social Security, which uses the CPI only for an annual COLA calculation, is well suited to switch to Chained CPI. But because Social Security law stipulates CPI-W is the index to use for the COLA adjustment, Congress must change Social Security law, to require the use of Chained CPI. This year's Social Security COLA already reflects the majority of changes recommended by the Boskin Commission. Only chaining, because it requires the creation of a new index, is yet to be incorporated.

BLS has now had ten years to improve and refine Chained CPI, but it is yet to be used by any government programs to measure inflation. Only when Congress legislates the change will federal programs and the tax code be able to benefit from this most up-to-date and accurate measure of inflation.

How would Chained CPI affect program beneficiaries?

Chained CPI would not affect the initial benefit amount of any veteran, retiree, disabled worker, or survivor, because initial benefit amounts are pegged to wage growth, not inflation.

Chained CPI would, however, cause an individual's benefit amount to rise more slowly than it would otherwise. For example, a married couple with two average wage earners—w retired at age 65 in 2010—received an initial monthly Social Security benefit of $2,983. Under Chained CPI, that couple's benefit in 2011 would have risen to $3,025, instead of $3,034 —a difference of $9. After ten years, the couple's monthly benefit under Chained CPI would be $107 less than it would be under CPI-W. [6] This assumes the difference between Chained CPI and CPI-W averages 0.3%, which is a high-end estimate.

Beneficiaries like this couple can afford a small, downward adjustment in the growth of benefits. To protect veterans, the low-income elderly, and the very elderly, President Obama's proposal would exempt or compensate those groups, following the recommendations of the deficit commissions Simpson-Bowles and Domenici-Rivlin.

How would Chained CPI affect the federal budget?

Chained CPI would significantly extend the solvency of Social Security. If implemented in 2014, Chained CPI would save the Social Security Trust Fund $127 billion over ten years. The government is slated to spend $11.1 trillion on Social Security over that period, so the change amounts to only a 1% cut. But because savings grow larger in future decades, Chained CPI would close one-fifth of Social Security's 75-year shortfall.

Savings would extend to other parts of the budget as well. Using Chained CPI for federal retirement COLAs and other programs would save an additional $89 billion in spending. And if Chained CPI were used to adjust thresholds in the tax code, federal revenue would rise by $124 billion over ten years. [7] Including interest savings, Chained CPI would reduce the unified budget deficit by a total of $390 billion over ten years.

Conclusion

Measuring price changes has never been easy, and no index will ever be perfect. But the history of CPI shows that Chained

CPI is a natural progression toward a better, more accurate measure of inflation. It is part and parcel of the changes BLS has made since CPI was created after World War I.

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END NOTES

1. Unless otherwise noted, for historical information in this article, see: Marshall Reinsdorf and Jack E. Triplett, "A Review of Reviews: Ninety Years of Professional Thinking About the Consumer Price Index," Price Index Concepts and Measurement, National Bureau of Economic Research, December 2009. Accessed December 21, 2012. Available at: http://www.nber.org/chapters/c5068.

2. United States, Bureau of Labor Statistics, "BLS Handbook of Methods; Chapter 17: The Consumer Price Index," Handbook Chapter, June 2007, pp. 8-11. Accessed April 9, 2013. Available at: http://www.bls.gov/opub/hom/homch17.htm.

3. The one exception came during World War II. The National War Labor Board, in 1942, permitted wage increases that matched the BLS Cost-of-Living Index, as it was still then called. But labor unions objected that the index failed to fully capture inflation. The Mitchell Committee, which President Roosevelt set up to investigate cost-of-living changes, disregarded some of the union claims. Still, the committee found that BLS measures understated inflation during the war, by 1.0 to 1.8 percentage points per year. The BLS responded with a number of changes, including the removal of unavailable consumer goods from its survey.

4. David S. Johnson, Stephen B. Reed, and Kenneth J. Stewart, "Price measurement in the United States: a decade after the Boskin Report," Journal Article, *Monthly Labor Review*, May 2006, pp. 10-19, Accessed December 21, 2012. Available at: http://www.bls.gov/opub/mlr/2006/05/contents.htm.

5. John S. Greenless, "The BLS Response to the Boskin Commission Report," Journal Article, *International Productivity Monitor*, Spring 2006, pp. 38-30. Accessed April 9, 2013. Available at: http://ideas.repec.org/a/sls/ipmsls/v12y20063.html.

6. Author's calculations. Assumes C-CPI-U calculates inflation at 0.3 percentage points lower than CPI-U. See: C. Eugene Steuerle and Caleb Quakenbush, "Social Security and Medicare Taxes and Benefits Over a Lifetime: 2012 Update," Report, Urban Institute, October 5, 2012, Accessed December 27, 2012. Available at: http://www.urban.org/retirement_policy/url.cfm?ID=412660. Also see: United States, Congressional Budget Office, "Baseline Economic Forecast-February 2013 Baseline Projections," Data, February 5, 2013. Accessed April 8, 2013. Available at: http://cbo.gov/publication/43902.

7. Marc Goldwein, Jason Peuquet, and Adam Rosenberg, "Measuring Up: The Case for the Chained CPI," Report, The Committee for a Responsible Federal Budget, March 19, 2013. Accessed April 9, 2013. Available at: http://crfb.org/document/measuring-case-chained-cpi. Also see: United States, Congressional Budget Office, "Budget Projections-February 2013 Baseline Projections," Data, February 5, 2013. Accessed April 8, 2013. Available at: http://www.cbo.gov/publication/43905.