

# DO WE NEED A PRICE INDEX FOR THE ELDERLY?

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## Introduction

As announced recently, Social Security will not provide a cost-of-living adjustment (COLA) in 2016. This news will prompt some to argue that using a more appropriate index of inflation for the elderly would have shown an increase in prices. These critics contend that the Consumer Price Index (CPI-W) currently used for the Social Security COLA does not reflect the spending patterns of older Americans and therefore understates inflation. They urge the adoption of a special price index designed to reflect the spending patterns of Social Security beneficiaries – a CPI-E.

This *brief* explores the relationship between the CPI-W and the experimental CPI-E. While historically the CPI-E has risen faster than the CPI-W, despite a big gap in 2015, the average for the two indexes over 2002-2015 has been virtually identical. The questions are: What was driving the historical relationship? And why has the pattern changed?

The discussion proceeds as follows. The first section describes the calculation of the Social Security COLA. The second section introduces the CPI-E as a potential alternative index for determining the COLA. The third section reports the relationship between the CPI-W and the CPI-E since 1983 and shows how that

relationship has changed in recent years. The fourth section finds that the two indexes, on average, have been virtually identical since 2002 primarily because of slower growth in medical care costs, on which the elderly spend relatively more. The final section concludes that, if medical cost inflation continues to be held in check, the two indexes may remain quite similar. But if medical costs start surging again, it may be time to use an index designed specifically for older Americans.

## Social Security COLA

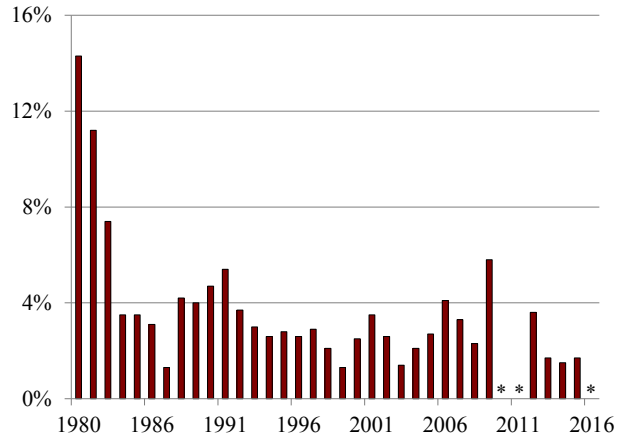
Social Security benefits are subject each year to a COLA,<sup>1</sup> which is based on the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).<sup>2</sup> Since the COLA first affects benefits paid after January 1, Social Security needs to have figures available before the end of the year. Specifically, any adjustment for January 1, 2016 is based on the increase in the CPI for the third quarter of 2015 over the third quarter of 2014. Since the CPI-W was below its level from the previous year, the Social Security Adminis-

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tration cannot provide any COLA for 2016. This event would only be the third time, since the automatic provisions were introduced, that no COLA would be paid (see Figure 1).

FIGURE 1. SOCIAL SECURITY COST-OF-LIVING ADJUSTMENT, 1980-2016



Note: Asterisk for 2010, 2011, and 2016 indicates no COLA. Sources: U.S. Social Security Administration (2015a and b).

## Is the CPI-W the Best Index?

The absence of a COLA in 2016 is likely to reignite the debate over whether the government is using the most appropriate index to adjust Social Security benefits. For a long time, critics have contended that the CPI-W understates inflation for the elderly because it does not reflect their spending patterns. In 1987, Congress directed the Bureau of Labor Statistics to calculate a separate price index for persons 62 and older. This index, called the CPI-E, has been extended back to December 1982.<sup>3</sup>

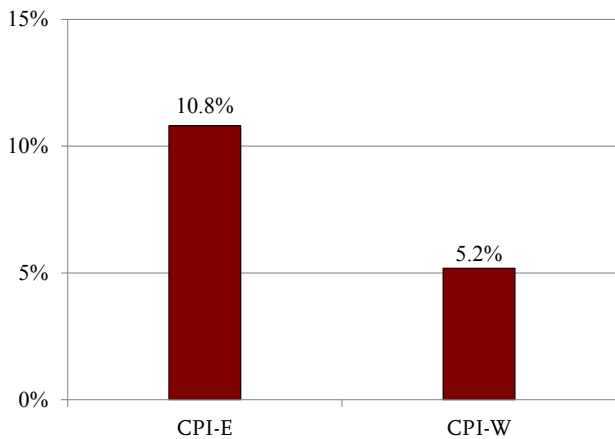
Because the CPI-E is not constructed from scratch but rather is derived from an index for the broader population, it has a number of limitations.<sup>4</sup> First, expenditure patterns are based on relatively few households, so the weights are subject to much greater sampling error than those in the broad index. Second, prices may not be representative of the location and types of stores frequented by the older population. Third, the items sampled may not be the same as those bought by the elderly. Fourth, the availability

of senior-citizen discounts is likely understated. So the experimental index is far from perfect. But it does provide some sense of whether or not the elderly face very different rates of inflation.

## CPI-E vs. CPI-W: 1983-2015

From the third quarter of 1983 to the third quarter of 2015, the average annual increase for the CPI-E was 2.9 percent, compared to 2.7 percent for the CPI-W. This more rapid inflation for the elderly has been attributed primarily to the fact that the elderly spend more of their money on medical care and the cost of medical care has been rising rapidly. Indeed, in 2007 – the earliest year for which CPI-E weights were available – the elderly spent more than twice as much on medical care – relative to their total expenditures – than the population as a whole (see Figure 2).

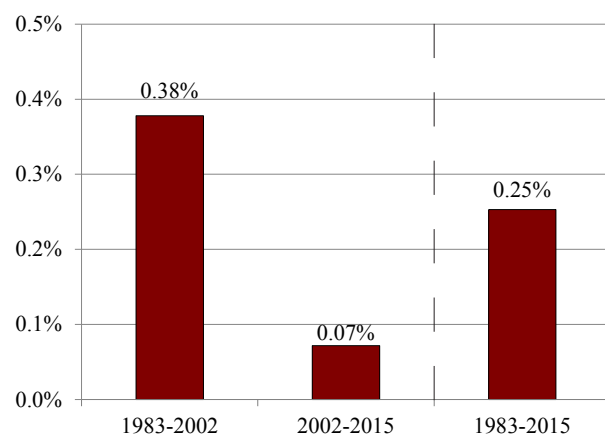
FIGURE 2. RELATIVE EXPENDITURE WEIGHTS FOR MEDICAL CARE, CPI-E AND CPI-W, 2007



Source: U.S. Bureau of Labor Statistics (2007a and b).

Interestingly, though, in the last decade the difference between the rate of increase in the CPI-E and CPI-W has nearly disappeared (see Figure 3 on the next page). While the CPI-E rose almost 0.4 percent per year faster than the CPI-W during 1983-2002, the two indexes showed virtually identical average annual increases during 2002-2015. Why did the pattern change?

FIGURE 3. AVERAGE RATE OF INFLATION DIFFERENTIAL BETWEEN CPI-E AND CPI-W, 1983-2015



Source: Authors' calculations using U.S. Bureau of Labor Statistics (1983-2015a and b).

## Explaining the Reversal

Determining the reason for the changing pattern involves calculating the difference in the weights for each category of expenditure between the two indexes and then multiplying those differences by the amount by which inflation in each category differs from the CPI-W average for each period. (The Box below describes the mechanics for those who are interested.) The calculation starts with the expenditure weights for the CPI-E and CPI-W and the average annual rate of inflation for each expenditure category.

Table 1 (on the next page) shows the relative weights for the major expenditure categories in the CPI-E and CPI-W.<sup>5</sup> The difference column shows the extent to which the elderly spend more on a particular category (medical care) or less (transportation) than the population as a whole.

### Box: The Mechanics

A hypothetical example might help (see Table). Assume that people spend money on only three items – housing, medical care, and recreation – and that prices for these items rise over some period at an average annual rate of 3 percent, 5 percent, and 1 percent, respectively. Applying the CPI-E and CPI-W weights to the inflation rates for each category yields overall inflation rates of 3.1 percent and 2.4 percent respectively – a difference of 0.7 percent. To determine why the CPI-E is higher involves: 1) calculating the difference between the weights in the two indexes and between each category and CPI-W inflation; and 2) multiplying those numbers together. The results for this example show that about 0.4 percent of the 0.7-percent difference between the CPI-E and CPI-W comes from medical care and the remainder from recreation.

TABLE. ILLUSTRATIVE IMPACT OF DIFFERENCES IN WEIGHTS AND INFLATION

Item	Inflation	Index weights		Difference between		Impact (4) x (5)
	(1)	CPI-E (2)	CPI-W (3)	CPI-E and CPI-W weights (4) = (2) – (3)	Category and overall CPI-W inflation (5) = (1) – 2.4%	
Housing	3%	55%	50%	5 %	0.6%	0.03 %
Medical care	5	25	10	15	2.6	0.39
Recreation	1	20	40	-20	-1.4	0.28
Overall inflation		3.1	2.4			
Difference between CPI-E and CPI-W			0.7			0.70

Source: Authors' calculations.

TABLE 1. RELATIVE EXPENDITURE WEIGHTS FOR CPI-E AND CPI-W, 2007

Category	CPI-E	CPI-W	Difference
Food and beverages	12.3%	15.9%	-3.7%
Housing	48.6	40.0	8.6
Apparel	2.3	4.0	-1.7
Transportation	14.7	20.1	-5.3
Medical care	10.8	5.2	5.6
Recreation	4.8	5.3	-0.6
Tuition, etc.	0.7	2.2	-1.5
Other	5.9	7.3	-1.5
Total expenditures	100.0	100.0	0.0

Source: U.S. Bureau of Labor Statistics (2007a and b).

The effect on the two indexes depends not only on the relative weights, but also on the pattern of price changes over time (see Table 2). As noted, medical care prices have risen rapidly, but so too have the costs of “tuition, other school fees, and childcare.” On the other hand, the price of “recreation” has barely risen at all, namely because one third of the “recreation” weight is for “video and audio,” where prices have been declining over time.

TABLE 2. ANNUAL RATES OF INFLATION BY CATEGORY, 1983-2015

Category	1983-2002	2002-2015	1983-2015
Food and beverages	3.04%	2.63%	2.87%
Housing	3.01	2.24	2.69
Apparel	0.94	0.27	0.67
Transportation	2.23	2.17	2.21
Medical care	5.62	3.53	4.77
Recreation	0.21	0.52	0.34
Tuition, etc.	7.00	4.83	6.11
Other	3.65	2.39	3.14
Total	3.01	2.17	2.67
CPI-E total	3.39	2.24	2.92
Difference	0.38	0.07	0.25

Source: Authors’ calculations using U.S. Bureau of Labor Statistics, (1983-2015a and b).

The final step in the analysis is to multiply the difference in the weights by the deviations from the average rate of price increase.<sup>6</sup> The results are shown in Table 3, where positive numbers indicate categories that caused the CPI-E to increase faster than the CPI-W. The easiest place to start describing the results is identifying the items that systematically have helped and hurt the elderly in terms of their inflation experience. For example, over all periods, the elderly were hurt by “medical care” and “recreation,” although the stories differ. As noted above, the “medical care” story reflects the fact that the elderly spend substantially more of their budget on this category than the population as a whole and prices rose faster than those for other goods and services. In the case of “recreation,” the story is reversed; the elderly spend less than the rest of the population on this category and therefore did not benefit from the very slow rate of price increase for recreational goods and services. On the positive front, the elderly have consistently been helped by the fact that they spend relatively little on “tuition, other school fees, and childcare,” a category where prices have been rising more than twice as fast as the CPI-W.

TABLE 3. IMPACT OF DEVIATIONS IN WEIGHTS AND PRICES ON THE DIFFERENCE BETWEEN CPI-E AND CPI-W, 1983-2015

Category	1983-2002	2002-2015	1983-2015
Food and beverages	0.00%	-0.02%	-0.01%
Housing	0.00	0.01	0.00
Apparel	0.03	0.03	0.03
Transportation	0.04	0.00	0.02
Medical care	0.15	0.08	0.12
Recreation	0.02	0.01	0.01
Tuition, etc.	-0.06	-0.04	-0.05
Other	-0.01	0.00	-0.01
Total	0.17	0.06	0.13

Note: Estimates use 2007 weights.

Source: Authors’ calculations using U.S. Bureau of Labor Statistics (2007a and b and 1983-2015a and b).

So what changed after 2002? First, the rate of increase in the price of “medical care” slowed from 5.6 percent in 1983-2002 to 3.5 percent in 2002-2015. Given that older Americans spend so much of their budget on this item relative to the population as a whole, the slowdown in cost growth substantially reduced the inflation they faced (see Figure 4). Second, prices for “transportation” moved from rising slower than average in 1983-2002 to rising at the average rate in 2002-2015. Since older people spend relatively less on transportation, they were less affected than

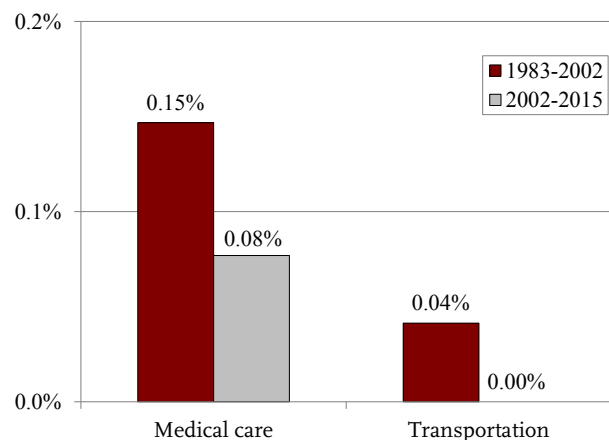
younger people when the relatively slower rate of increase in transportation costs disappeared. Other components moved up and down as well, but “medical care” and “transportation” are the main reasons that, since 2002, the average COLA calculated using the CPI-E would have been virtually identical to that based on the official index (see Appendix Table).

## Conclusion

How best to keep Social Security benefits up to date with inflation has been a controversial issue. Critics have argued for decades that the CPI-W understates the inflation of the elderly because it does not reflect how large a share of their budget goes for medical care, where prices have been rising rapidly. The elderly also tend to be hurt by the introduction of new consumer technology because they consume relatively less of these goods and do not benefit as much as the rest of the population from the initial declines in prices. The CPI-E for a long while regularly showed that the elderly saw more rapid rates of inflation.

That pattern changed, however, after the turn of the century. One major explanation is that the rate of increase in the price of medical care slowed; the other is the changing pattern of transportation costs. If the rate of medical inflation continues to be held in check, inflation of the elderly and non-elderly may look quite similar. On the other hand, if medical care costs start to rise more rapidly again, it may be time to construct and use an index designed specifically for older Americans.

FIGURE 4. IMPACT OF MEDICAL CARE AND TRANSPORTATION ON DIFFERENCE BETWEEN CPI-E AND CPI-W, 1983-2002 AND 2002-2015



Note: Estimates use 2007 weights.

Source: Authors' calculations using U.S. Bureau of Labor Statistics (2007a and b and 1983-2015a and b).

## Endnotes

1 In calculating workers' initial benefits, past earnings are indexed not to inflation but to past earnings in the economy so that Social Security benefits keep pace with wage growth over time and the replacement rate (benefits as a percentage of pre-retirement earnings) remains stable.

2 When the Social Security COLA was first introduced in 1972, the Bureau of Labor Statistics (BLS) had only one Consumer Price Index (CPI); it was for urban wage earners and clerical workers, which covers about 32 percent of the population. After the introduction of other versions, this original CPI was designated the CPI-W and is still used today to adjust Social Security benefits. As new uses were developed for the CPI, the need for a broader and more representative index became apparent. In 1978, the BLS expanded the sample to all urban residents and created the CPI-U, which covers about 87 percent of the population, including most retirees. The CPI-U is used to index the brackets and other parameters in the personal income tax.

3 The CPI-E is not designed to precisely track the inflation experience of Social Security beneficiaries, because some individuals age 62 and older are not receiving benefits and some beneficiaries are under 62.

4 Stewart (2008).

5 The subcategory "tuition, other school fees, and childcare" was taken out of "education and communication." The remainder was combined with "other," to highlight what is going on.

6 Although the totals do not line up perfectly with the differentials reported above because we use only 2007 weights rather than annual weight differentials, the results tell an interesting story. Relative expenditure weights do not vary much from year to year in the short run, but it is difficult to assess how they vary in the long run. For both the CPI-W and the CPI-E, the overall change in expenditure weights for each category was typically less than 1.0 percentage point between 2007 and 2014. The exceptions were the housing category in the CPI-E, which declined by 2.3 percentage points, and the transportation category in the CPI-W, which increased by 2.0 percentage points. For details on when new weights have been introduced into the CPI, see Table 2 on page 29 of U.S. Bureau of Labor Statistics (2015).

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# APPENDIX

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APPENDIX TABLE. SOCIAL SECURITY COLA  
CALCULATED USING THE CPI-E AND CPI-W, 2002-2016

Year	CPI-E	CPI-W	Difference
2002	3.0%	2.6%	0.4%
2003	1.8	1.4	0.4
2004	2.4	2.1	0.3
2005	3.1	2.7	0.4
2006	3.7	4.1	-0.4
2007	3.4	3.3	0.1
2008	2.6	2.3	0.3
2009	5.1	5.8	-0.7
2010	0.0	0.0	0.0
2011 <sup>a</sup>	0.0	0.0	0.0
2012 <sup>b</sup>	2.9	3.6	-0.7
2013	1.8	1.7	0.1
2014	1.6	1.5	0.1
2015	2.0	1.7	0.3
2016	0.6	0.0	0.6
2002-2016	2.2	2.1	0.1

<sup>a</sup> In the third quarter of 2010, the CPI-W stood at 214.1. Although this level exceeded the 2009 third-quarter average of 211.0, Social Security recipients did not receive a COLA in 2011. The reason is that, by law, the index must exceed the previous third-quarter peak for a COLA to be awarded, and the third quarter 2010 level of 214.1 did not exceed the 2008 peak of 215.5.

<sup>b</sup> When the average for the third quarter of 2011 exceeded the 2008 peak, a COLA was paid in 2012, with the COLA increase equaling the increase relative to the 2008 level. *Sources:* Authors' calculations using Sidor (2014); U.S. Bureau of Labor Statistics (2002-2015a and b); and U.S. Social Security Administration (2015b).



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