

# WORKING PAPER

## *Executive Summary*

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## PRICE DEFLATORS, THE TRUST FUND FORECAST AND SOCIAL SECURITY SOLVENCY

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Pure price inflation has only a small long-run effect on the solvency of the Social Security system. At the beginning of each year, the taxable wage ceiling, existing benefits, and the parameters of new benefit awards are all adjusted on the basis of the prior year's change in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).<sup>1</sup> Assuming that higher inflation affects wages and consumer prices equally, it initially raises contributions into the trust fund, and after a one-year lag it raises benefit payments by a similar proportionate amount. The net effect depends on the relative magnitudes of contributions and benefit payments, but it is generally small.

However, the trustees' projections of Social Security finances incorporate two measures of inflation. The estimates of future economic growth are based on assumptions about future economy-wide gains in productivity and labor compensation. Those projections are drawn from data in the U.S. national accounts and they are constructed using the GDP price deflator, the broadest and most-commonly used measure of price change at the level of the total economy. However, because the annual adjustments to the Social Security system are indexed to changes in the CPI-W, projections of the system's future solvency depend to some extent on the relationship between these two indicators of price change. If the CPI-W rises faster than the GDP deflator, it increases the projected cost of the system relative to tax revenues.

In the current projections of the Social Security trustees, the CPI-W is projected to rise 0.4 percent faster than the GDP deflator each year. The difference in the two price measures reflects both differences in the composition of the aggregate of products purchased by consumers compared to the composition of total GDP, and the different methods of computing average rates of price change in the national accounts and the CPI-W. The relative importance of these two factors can be highlighted by first comparing the GDP and consumption price indexes within the national accounts where the methodology is identical, and then contrasting the consumption price index with the CPI-W.

First, within the national accounts, the price deflators for total GDP and consumer expenditures are based on a common superior methodology that incorporates up-to-date weights. Since consumer expenditures account for more than two-thirds of GDP, the two price indexes have much in common. The largest potential differences derive from the inclusion of imported goods in consumption whereas GDP is

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<sup>1</sup> More specifically, the adjustment of December benefits (paid in January) is based on the year-over-year rate of change in the average of CPI-W in the third quarter of the calendar year.

limited to domestic production. The analysis of past trends in the two indexes suggests that the price indexes for GDP and consumer expenditures have increased at nearly identical rates over the past half century. Because energy is a more significant component of consumption than GDP, energy price variations create the greatest potential for differences in the two measures of price change.

However, the CPI-W incorporates a significantly different methodology than that of the national accounts. There is, as a result, a greater potential for the rate of change in the CPI-W to deviate from the change in the national account's price indexes. In this regard, it is critical to note that the methodology that underlies the CPI has been changed on several occasions in ways that bring it closer to the methods utilized in the national accounts, but the published index is not revised on a retrospective basis to incorporate those changes. Instead, the BLS publishes an alternative version of the CPI—the research series—that approximates the historical price changes using the latest methodology. This study uses the research series of the CPI for comparison with the national accounts deflators.

After incorporating the methodological improvements, the CPI-W differs from the national accounts price deflators in three respects. First, the continued use of a base period Laspeyres price formula, albeit with only a short lag, results in a consistent upward bias in the measure of price inflation of about 0.2 percent annually.

Second, the national accounts and the CPI differ in their source of information on the expenditure weights. The information on the composition of consumers' expenditures in the national accounts is largely drawn from business surveys. In contrast, the weights in the CPI are obtained from the Consumer Expenditure Survey. The CES appears to encounter severe problems of under-reporting of many categories of expenditures, relative to the estimates in the national accounts. While some of the discrepancies may result from problems with the allocation of expenditures in the national accounts, various consistency checks limit the magnitude of those errors and suggest the discrepancies are largely reflective of recall errors in the household survey. The discrepancies are small for the major items such as housing, but because nearly everything else is under-reported, the weights in the CPI-W differ substantially from those of the national accounts. For example, housing has twice the expenditure weight in the CPI-W compared to the consumption price deflator of the national accounts. Over the recent past, the weight differences have added about 0.5 percentage points to the annual rate of increase in the CPI, largely due to the greater weight assigned to housing and energy costs.

Third, the CPI and consumption price deflator differ significantly in their scope because the CPI only includes out-of-pocket costs for health care, whereas third-party payments are included as part of consumer expenditures. There are also a range of lesser differences, such as the exclusion of most purchases of financial services from the CPI. The exclusion of these items, whose prices have been rapidly increasing, reduces the estimated growth in the CPI by about 0.5 percent per year. As a result, the weight and scope effects have offset each other over the past decade for which the data are available. However, the large estimates for the individual components indicate a greater potential for future divergences since there is no reason to assume that the weight and scope differences will continue to be offsetting.

The study concludes that there is no strong basis for believing that the rate of consumer price inflation will consistently depart from that of the overall economy as measured by the GDP price deflator. The similarity is most evident in the comparison of the consumer expenditure price deflator and the GDP price deflator where they are both based on identical methodologies; but it is also apparent in the comparison of

the CPI-W and the national accounts price indexes when the CPI-W is computed with a consistent up-to-date methodology. However, the differential between the rate of change of the CPI-W and the GDP deflator can be expected to average about 0.2 percent per year because of the continuing formula difference. This conclusion is similar to the finding of the 2007 Technical Panel on Assumptions and Method, which also suggested that the Trustees' report should use an intermediate estimate of 0.2 percent per year.

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