

Economic Trends

September 2, 2015

FEDERAL RESERVE BANK
of CLEVELAND

Healthcare Inflation and the Core Inflation Gap

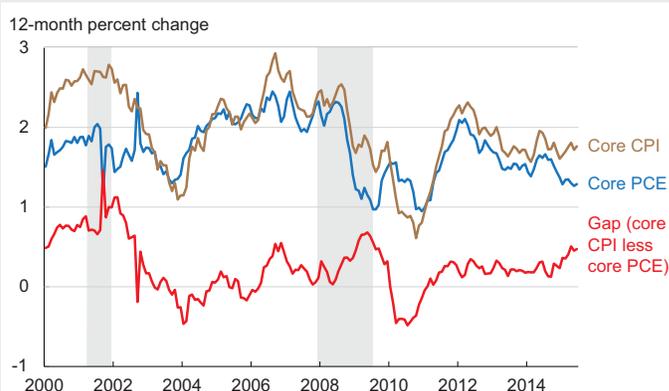
Randal Verbrugge and Christian Garciga

The gap between two well-known measures of inflation—the year-over-year percent change in the core Consumer Price Index (CPI) and the core Personal Consumption Expenditures (PCE) price index—has widened recently to a level not seen since the last recession.

One potential explanation for this widening spread between the core indexes is low healthcare inflation and the fact that healthcare is treated differently in each index. Each core index can be roughly thought of as a weighted average of the price growth of components in a basket of goods and services. Healthcare receives the largest weight of all the basket components in the calculation of core PCE inflation (about 25 percent) but is weighted at just 10 percent in the core CPI. This is because the CPI only takes out-of-pocket consumer healthcare expenditures into account, while the PCE augments these with purchases that have been made on behalf of consumers by employer-provided insurance, Medicare, and Medicaid. Given this significant weight differential, it is conceivable that low healthcare inflation could be pushing year-over-year core PCE growth well below the rate of core CPI growth.

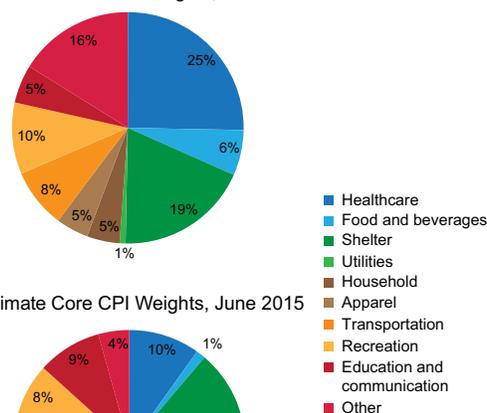
To investigate this possibility, we construct a composite price index that we can use to measure overall healthcare inflation. We calculate this index in the same way as the core PCE index, but use only the medical goods and services components of the core PCE basket (see Dolmas 2005 for more details). This healthcare index shows that since 2012, and especially since mid-2014, healthcare inflation has been approximately the same as core PCE inflation. Prior to then, healthcare inflation consistently exceeded core PCE inflation.

Change in Core CPI and Core PCE Indexes

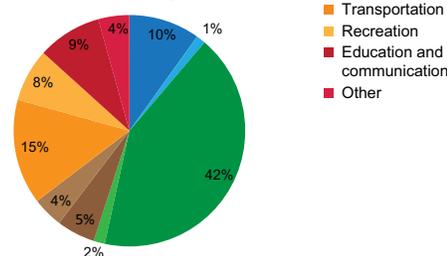


Note: Shaded bars indicate recessions. Last observation: June 2015.
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors' calculations.

Approximate Core PCE Weights, June 2015



Approximate Core CPI Weights, June 2015



Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors' calculations.

Next, we construct a second index by stripping health-care goods and services from the core PCE index. Comparing the year-over-year growth in this index to core PCE allows us to see the contribution of health-care inflation to core PCE inflation over time. Health-care inflation pushed up core PCE inflation an average of 40 basis points from 2000 to 2007. However, it has had a relatively neutral effect following the shock of the Great Recession, contributing an average of zero basis points to core PCE inflation from 2011 onwards.

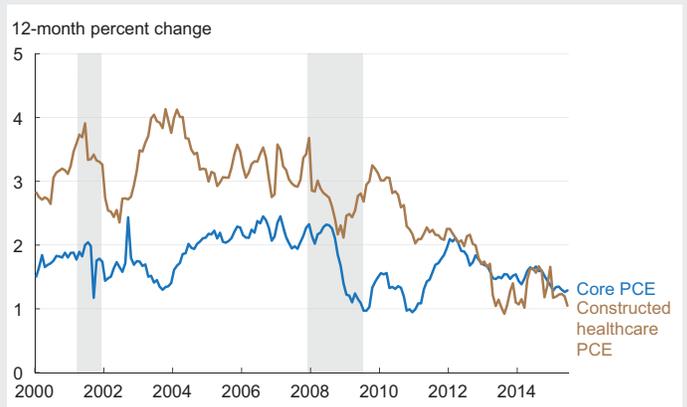
So, while healthcare inflation has not been pulling core PCE inflation down more than other components, it has also not played its historical role of pushing it higher. Given this, it is not surprising that the recent gap between core CPI and core PCE inflation is essentially unchanged by excluding healthcare from the core PCE. And, since higher healthcare inflation historically tended to pull core PCE inflation up closer to the level of core CPI inflation, one can argue that the current absence of significant healthcare inflation is a key determinant of the positive spread of core CPI over core PCE inflation.

To see if this trend is likely to continue, we look at inflation trends in the individual components of our composite healthcare price index. We condense these component indexes into six: Hospital services, physician services, other medical services, prescription drugs, other medical goods, and health insurance. We further group these into three broader categories: services, goods, and health insurance. Healthcare-services inflation has recently accounted for 75 percent of overall healthcare inflation, with goods and healthcare insurance taking the remaining 25 percent.

Turning first to services, we see a long-term decline in hospital-services inflation beginning in 2003 and a similar moderation in physician-services inflation beginning near the end of the last recession, with both experiencing sharp declines at the end of 2014 and into 2015. Other-medical-services inflation has also declined since the recession, though it appears to have stabilized, averaging just 1.35 percent since 2012.

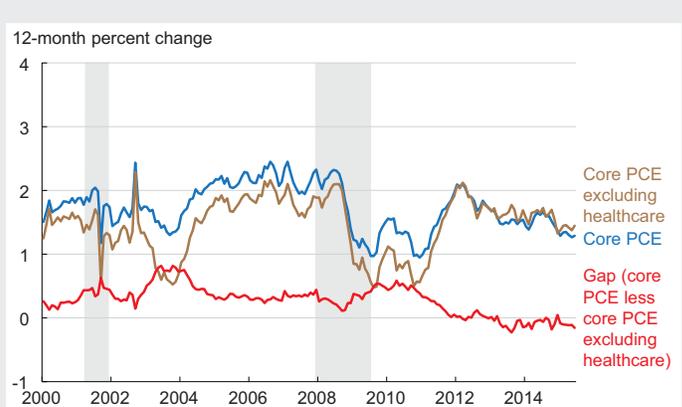
Turning next to goods and health insurance, we see other-medical-goods inflation has consistently trended well below overall healthcare inflation in the 2000s. Meanwhile, year-over-year prescription-drug-

Change in Core PCE and Constructed Healthcare PCE



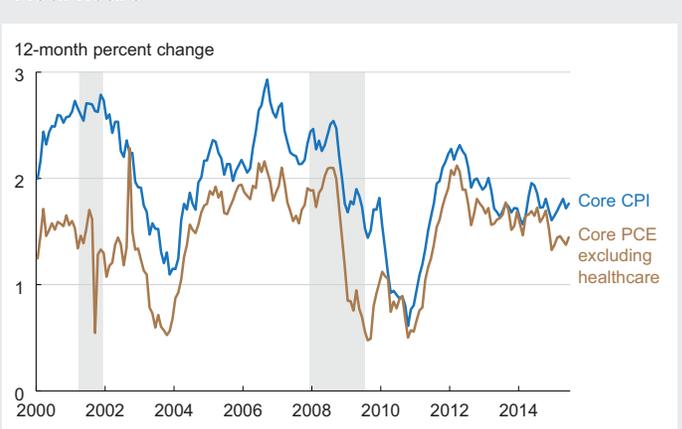
Note: Shaded bars indicate recessions. Last observation: June 2015.
Sources: Bureau of Economic Analysis, authors' calculations.

Change in Core PCE Excluding Healthcare and Core PCE



Note: Shaded bars indicate recessions. Last observation: June 2015.
Sources: Bureau of Economic Analysis, authors' calculations.

Change in Core CPI and Core PCE Excluding Healthcare



Note: Shaded bars indicate recessions. Last observation: June 2015.
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, and authors' calculations.

price growth hit a nadir of -0.2 percent in July 2013 before surging to a post-2000 peak of 6.4 percent in December 2014, although it has since fallen back to around 5 percent. However, the effect of the recent spike in prescription-drug prices is muted by the fact that prescription-drugs inflation is weighted 15 percent in the calculation of overall PCE healthcare inflation. Finally, year-over-year growth in the health-insurance price index has declined considerably since mid-2010, with growth falling steadily from a post-recession high of 4.7 percent in July 2010 to just under 0.5 percent in four of the first six months of 2015.

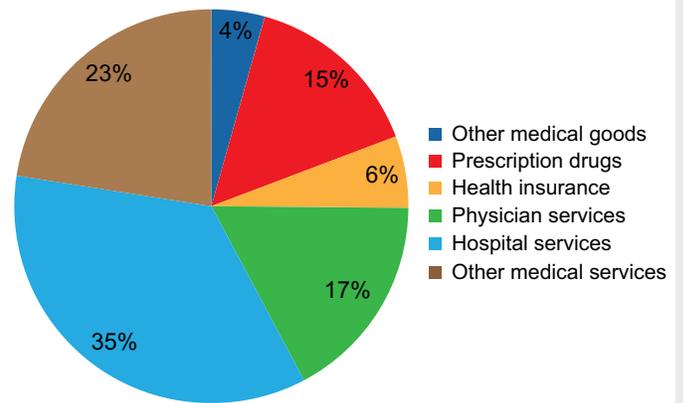
On the whole, the downward trend in healthcare inflation appears to be broad-based. Price growth in all subcategories (save prescription drugs, which has decelerated recently but remains particularly elevated) is low, with some subcategories continuing to tumble to new post-2000 lows while others appear to have leveled off.

Healthcare inflation is likely to remain subdued if current trends continue. However, some have argued that the slowdown is temporary and that the continued development and diffusion of high-cost treatments, procedures, and technology will drive healthcare inflation back up (Chandra, Holmes, and Skinner 2013).

Another possible risk to this outlook is year-over-year wage growth for healthcare-service workers (recall healthcare-services inflation represents 75 percent of overall healthcare inflation). Wages in the healthcare-services sector have increased strongly over the past year and could put upward pressure on healthcare-services inflation. Healthcare services remain very labor intensive and are difficult to standardize; all else equal, this makes productivity increases in healthcare more difficult to achieve. Since wage growth without commensurate gains in productivity tends to be inflationary, we might expect the effects of higher healthcare-services wages to show up as higher healthcare inflation with some lag.

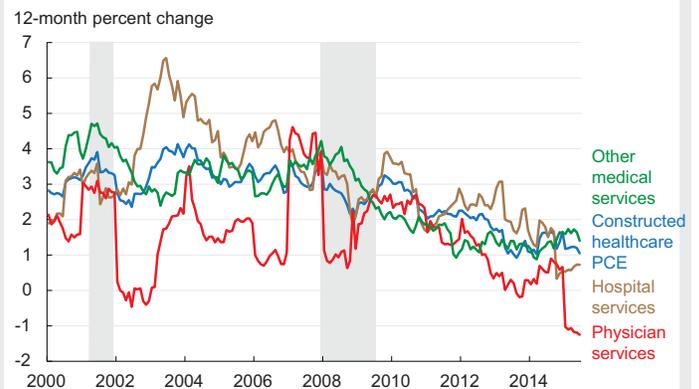
After falling steadily in the post-recession period from an average of 3.1 percent in 2010 to an average of 1.25 percent in 2014, year-over-year healthcare-services wage growth increased to 2.8 percent in May 2015, driven by strong, similarly timed jumps in hospital- and ambulatory-service wages, along with nursing and residential-care wage growth, which has gradually climbed back to just over 2 percent in 2015 after bottoming out in 2012. An acceleration in health-

Constructed Healthcare PCE Index Weights, June 2015



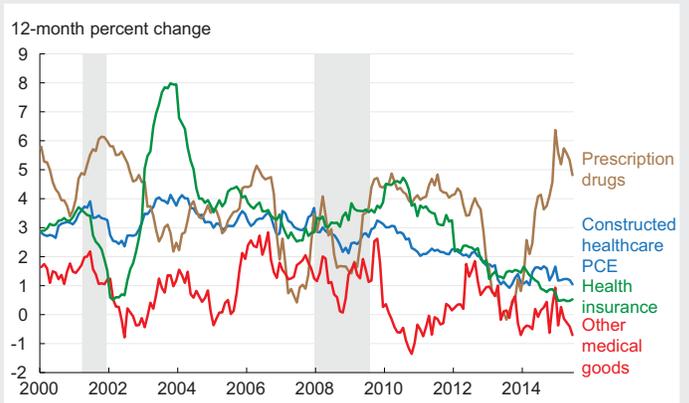
Sources: Bureau of Economic Analysis, authors' calculations.

Change in Healthcare Services Inflation



Note: Shaded bars indicate recessions. Last observation: June 2015.
Sources: Bureau of Economic Analysis, authors' calculations.

Change in Healthcare Goods and Insurance Inflation



Note: Shaded bars indicate recessions. Last observation: June 2015.
Sources: Bureau of Economic Analysis, authors' calculations.

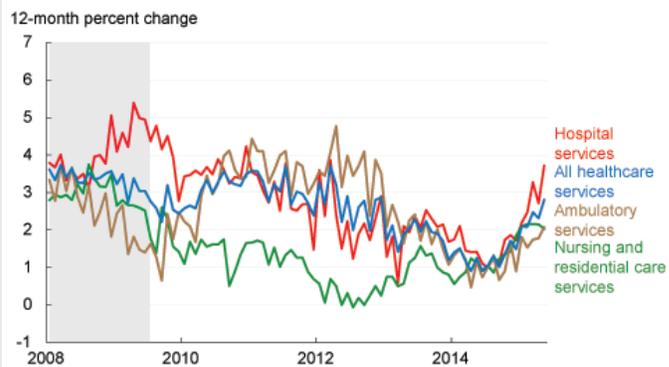
care prices would once again put upward pressure on core PCE inflation, as occurred during much of the period prior to the Great Recession, which would in turn contribute to the closing of the gap between the core indexes.

References

Chandra, Holmes, and Skinner (2013). "Is This Time Different? The Slow-down in Health Care Spending." *Brookings Papers on Economic Activity*.

Dolmas, Jim (2005). "Trimmed mean PCE inflation." Federal Reserve Bank of Dallas.

Change in Nominal Average Hourly Earnings for Healthcare Service Workers



Note: Shaded bar indicates a recession. Last observation: June 2015.
Sources: Bureau of Labor Statistics.



Randal Verbrugge is a senior research economist in the Research Department of the Federal Reserve Bank of Cleveland. His primary areas of research are inflation modeling and measurement, macroeconomics, and housing.

Christian Garciga is a research analyst in the Research Department of the Federal Reserve Bank of Cleveland. His primary interests include time series econometrics, Bayesian statistics, and macroeconomics.

Economic Trends is published by the Research Department of the Federal Reserve Bank of Cleveland.

Views stated in Economic Trends are those of individuals in the Research Department and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System. Materials may be reprinted provided that the source is credited.

If you'd like to subscribe to a free e-mail service that tells you when Trends is updated, please send an empty email message to econpubs-on@mail-list.com. No commands in either the subject header or message body are required.

ISSN 0748-2922