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Economic Letter

Health Care Services Depress Recent PCE Inflation Readings

by Jim Dolmas

ABSTRACT: Health care services, which historically helped push core measures of inflation higher, have restrained recent readings. Among them is the personal consumption expenditures price index, favored by Federal Reserve policymakers deliberating interest rate changes.

The growth rate of health care services prices has slowed dramatically, from around 4 percent per year in 2004 to a low of about 0.5 percent in 2015. The rate has since moved slightly higher, to just less than 1.2 percent on a 12-month basis in 2016 (*Chart 1*).[1]

At the same time, overall consumer price inflation has been persistently low following the 2007–09 Great Recession. Inflation as measured by the all-items price index for personal consumption expenditures (PCE) and its core variants—PCE excluding food and energy, and the Federal Reserve Bank of Dallas' Trimmed Mean PCE inflation rate—has been below 2 percent since 2012.[2]

Has the slowing in health care services inflation contributed substantially to the low rates of PCE inflation since the Great Recession? The evidence indicates that health care services prices have been a significant drag on core PCE inflation since 2012. However, their impact on all-items, or headline, PCE inflation has been less noticeable against a backdrop of volatile energy price movements.

The inflation rate for PCE excluding food and energy is running, on a 12-month basis, at roughly 0.4 percentage points below its longer-term, prerecession average. By comparison, the inflation rate for PCE ex food, energy and health care services is running about 0.1 percentage points above its average.[3]

The difference for the trimmed mean inflation rate with and without health care services is similar, if slightly larger. Headline PCE inflation, weighed down by falling energy prices since 2014, would be well below its longer-run average whether health care services are excluded or not.

Unprecedented Deceleration

For most of the past 50 years, inflation in health care services has outstripped the overall rate of U.S. consumer price inflation, typically by a wide margin. Exceptions have been brief and rare, until recently.

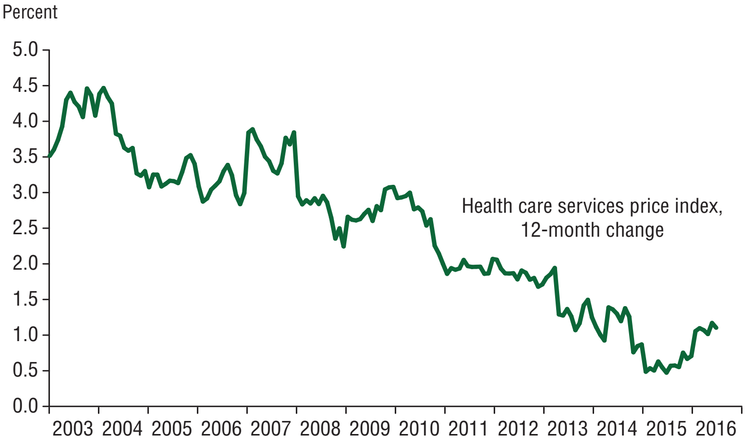
From January 1959 to January 2009, the price of health care services in the PCE rose at a 5.8 percent average annual rate, well above the 3.5 percent average rate in the all-items PCE price index. Health care services inflation has run at times closer to overall inflation—and at times much higher. The 1980s saw the biggest gap between the two, with health care services prices rising at a nearly 9 percent annualized rate and headline PCE inflation averaging just below 5 percent (*Table 1*).

Averaged over decades, health care services inflation prior to the 2010s was always at least a full percentage point higher than the overall PCE inflation rate.

In the 2010s, however, both overall inflation and health care services inflation

Chart 1

Growth in Price of Health Care Services Slows



SOURCES: Bureau of Economic Analysis; author's calculations.

Table 1

Health Care Services Inflation Versus All-Items Inflation

	Average annualized rates		
	Health care services (Percent)	All items (Percent)	Difference (Percentage points)
1960s	4.5	2.3	2.2
1970s	7.8	6.6	1.2
1980s	8.7	4.7	4.0
1990s	4.3	2.3	2.1
2000s	3.2	2.1	1.1
2010s	1.4	1.4	0.0

SOURCES: Bureau of Economic Analysis; author's calculations.

decelerated to average around 1.4 percent per year. For the first time, health care services prices were increasing on a sustained basis at about the same rate as prices in general.

One way of seeing this dramatic shift is to look at the real price of health care services—that is, the price of health care services divided by the overall PCE price index (*Chart 2*). Apart from a couple of short-lived dips in the 1970s, the real price of health care services rose steadily from 1959 to the mid-1990s. Increases began to slow around the mid-1990s, and the real price has been essentially constant since around 2009.

Characterizing PCE Impact

The impact on PCE inflation of any sizable shift in the growth rate of health care services prices is potentially large, given their hefty weight in the PCE price index. Health care services and health insurance together amount to roughly 18 percent of PCE, about the same share as spending on housing and utilities.

The PCE price index—a byproduct of adding up the consumption portion of GDP—uses weights based on what households consume, regardless of who pays for that consumption. Hence, the weights of the PCE's health care components are based not just on households' out-of-pocket expenses, but also on payments made by those households' employers and the government.[4]

To characterize the impact of health care services prices on PCE inflation, one can make calculations with and without health care services. Care must be exercised in interpreting the result. For example, even without doing the calculations, we know that removing health care services from PCE ex food and energy will produce a higher current inflation rate. Why? The current ex-food-and-energy inflation rate is (roughly) the average of the growth rates of all its components; removing a component growing slower than the average will automatically produce a higher average. Comparing those two averages is not particularly informative.

More informative are comparisons between current inflation for a particular measure and that measure's longer-run average inflation rate. Excluding health care services will affect both the current inflation rate and the longer-run average. With health care included, current inflation rates for all PCE-based measures are below their corresponding longer-run averages to varying degrees. Is this still the case if health care is excluded?

Leaving Out Health Care

Excluding health care services prices from either the all-items PCE price index or the index for PCE ex food and energy is straightforward; excluding them from the trimmed mean is less so.

For the PCE indexes , one can simply use underlying detail data from the U.S. Bureau of Economic Analysis to construct price indexes for all items apart from health care services and for ex food and energy apart from health care services.

For the trimmed mean, it is necessary to consider optimal trimming proportions—the fraction of items (by expenditure weight) excluded each month because of their extreme price movements. Those fractions—24 percent off the bottom of the monthly price change distribution and 31 percent off the top—were chosen based on historical data to give the best fit between the trimmed mean rate and proxies for the true, but unobserved, core PCE rate.[5]

If one were to construct a trimmed mean inflation rate for all components less health care services with the aim of capturing the underlying trend in PCE inflation ex health care services, the 24 and 31 percent trims might not be optimal. While this is true in principle, in practice it turns out that excluding health care services does not change the optimal trimming proportions.[6]

Assessing the Results

Excluding health care services prices from headline PCE inflation makes little difference in the deviation between current inflation and longer-term average inflation, which is calculated as the average annualized rate from January 1992 to December 2007. Pulled down by the roughly 30 percent decline in the prices of energy goods and services between June 2014 and February 2016, headline PCE inflation is about a percentage point below its longer-term average, whether health care services are included or not (*Chart 3*).

Headline PCE inflation over the most recent 12 months has been 0.88 percent with health care services and 0.83 percent without; over 1992–2007, it averaged 2.12 percent with health care services and 1.88 percent without.

The impact of health care services on the deviation between current core inflation rates and their longer-term averages is much more substantial. For both the ex-food-and-energy index and the trimmed mean, excluding health care services raises current inflation while lowering the longer-term average. For these two measures, current inflation excluding health care services is hovering around longer-term average inflation. With health care services included, current inflation rates for both core measures remain significantly below their longer-term averages.

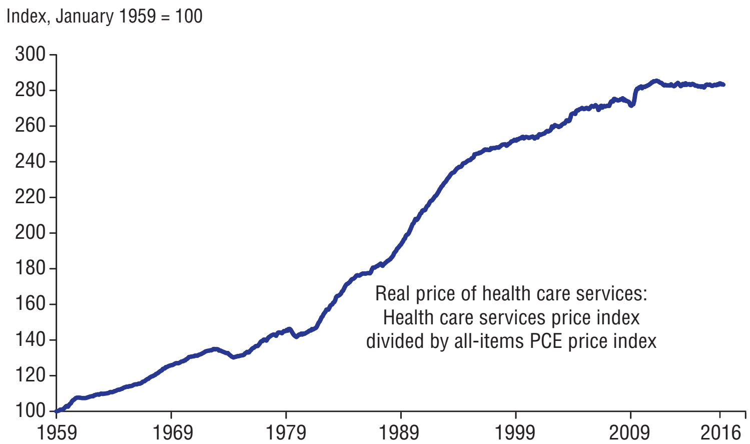
For the ex-food-and-energy index, excluding health care services raises current 12-month inflation to 1.69 percent from 1.57 while lowering longer-term average inflation to 1.61 percent from 1.94 percent. That means ex-food-and-energy inflation is 0.08 percentage points above its longer-term average rate rather than 0.37 percentage points below, the deviation when health care services are included (*Chart 4*).

For the trimmed mean, excluding health care services raises current 12-month inflation to 1.94 percent from 1.67 percent while lowering longer-term average inflation to 2.02 from 2.25 percent.[7] Excluding health care services reduces the trimmed mean's current inflation/longer-term inflation gap from –0.57 percentage points to –0.07 (*Chart 5*).

Higher Inflation Readings

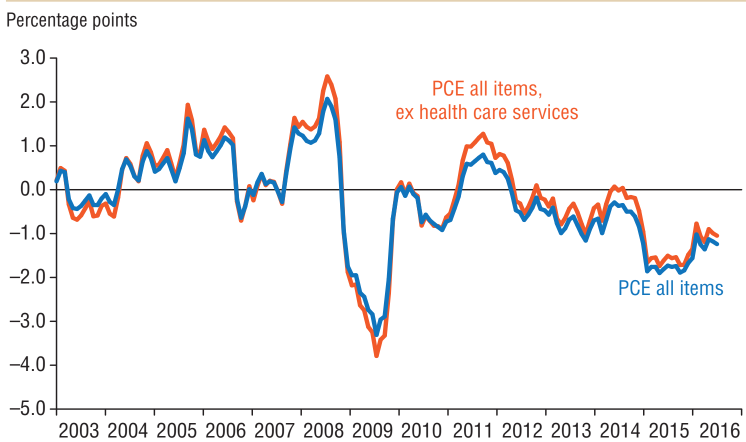
Given the unusual recent behavior of prices for health care services and their large weight in the price index favored by Federal Reserve policymakers, it's important to consider how the current inflation

Chart 2 Real Price of Health Care Services Flat Since 2009



SOURCES: Bureau of Economic Analysis; author's calculations

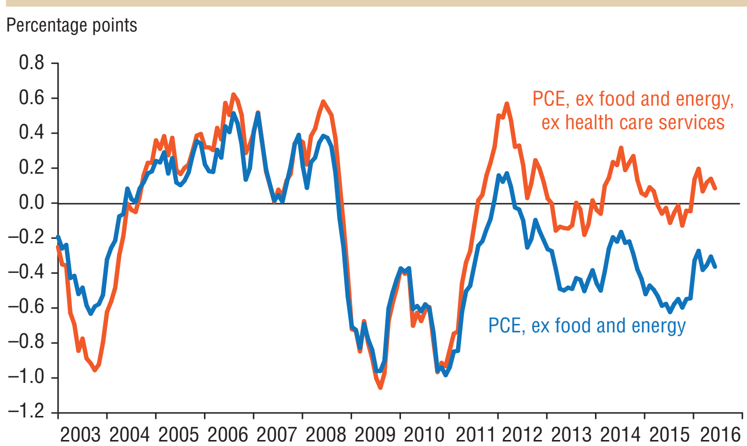
Chart 3 Health Care Services Minimally Affect Headline Inflation



NOTES: For each index, the series shown are 12-month inflation rates minus average inflation over the period 1992–2007.

SOURCES: Bureau of Economic Analysis; author's calculations.

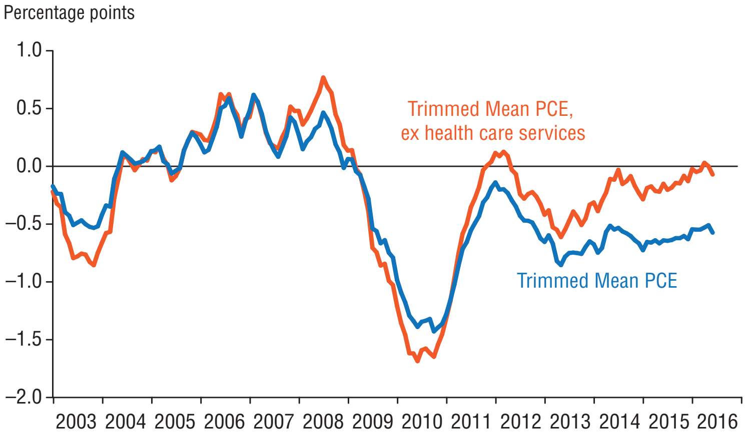
Chart 4 Health Care Services Notably Affect Core PCE Inflation



NOTES: For each index, the series shown are 12-month inflation rates minus average inflation over the period 1992–2007.

SOURCES: Bureau of Economic Analysis; author's calculations.

Chart 5 Trimmed Mean Inflation Reflects Impact of Health Costs



NOTES: For each index, the series shown are 12-month inflation rates minus average inflation over the period 1992–2007.

SOURCES: Bureau of Economic Analysis; author's calculations.

picture would differ if health care services weren't a factor.

At least for core measures of PCE inflation, that picture would be quite different: Current inflation, rather than being noticeably lower than normal, would be very close to longer-term average levels.

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Notes

[1] Health care services are outpatient services, hospital and nursing home services and net health insurance. The source for the underlying price data is "Table 2.4.4U. Price Indexes for Personal Consumption Expenditures by Type of Product," U.S. Bureau of Economic Analysis (BEA). For the purpose of calculating an aggregate health care services price index, including health insurance, nominal expenditures are drawn from "Table 2.4.5U. Personal Consumption Expenditures by Type of Product," BEA.

[2] The Trimmed Mean PCE inflation rate is an alternative measure of core inflation in the price index for personal consumption expenditures. It is calculated by staff at the Dallas Fed, using data from the BEA. Rather than excluding particular sets of items (like food or energy), the trimmed mean excludes those items that experienced the most extreme price movements in a given month.

[3] Current rates of inflation are calculated through June 2016.

[4] By comparison, in the Consumer Price Index, which focuses on consumers' out-of-pocket expenses, all health-related components—both services and commodities—have a weight of just 8.4 percent.

[5] For an accessible discussion of the construction of the Trimmed Mean PCE inflation rate, see "A Fitter, Trimmer Core Inflation Measure," by Jim Dolmas, Federal Reserve Bank of Dallas *Southwest Economy*, May/June 2005. The 24 percent and 31 percent trimming proportions have been used to calculate the trimmed mean since its last major revision in August 2009.

[6] This can be verified by calculating optimal trimming proportions for the set of PCE components excluding health care services, following the same methodology used in the most recent (2009) major revision to the Dallas Fed trimmed mean PCE inflation rate with the data as they were available at that time. The optimal proportions are chosen to give the best fit between the trimmed mean inflation rate excluding health care services, and measures of the underlying trend in PCE inflation excluding health care services.

[7] Notably, saying that those services are "included" here means simply that they are candidates for inclusion in the trimmed mean each month. Whether any of the particular components are included or trimmed in a particular month depends on the size of their price movements relative to the price movements in other components.

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