JAG CAPITAL MANAGEMENT LLC

QUARTERLY COMMENTS
2nd Quarter 2017

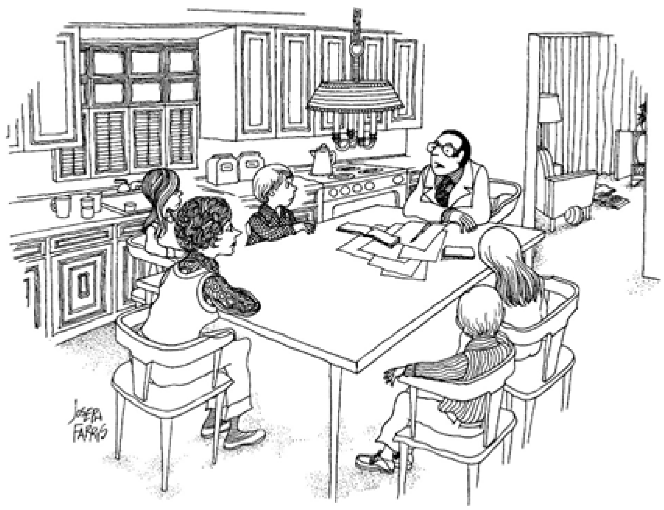
2nd Quarter 2017: The Fed's Inflation Conundrum

Norm Conley | CEO & CIO

What the heck is going on with inflation? In the 1970's and 1980's, rampantly rising prices were the bane of our economy (the cartoon to the right was published in 1974). But today, despite years of intensive stimulus from central bankers around the world, inflation is nowhere in sight. For those who follow economic and market history, this is a strange development.

Generally speaking, when central bankers perceive that their economies are growing too slowly, they provide monetary stimulus by lowering overnight interest rates. Lower rates encourage households and businesses to borrow and spend more money. Eventually, the volume of stuff that consumers and corporations want to buy begins to outstrip the ability of the economy's capacity to produce goods and services. This causes wages and prices to rise, which generates inflation. In the aftermath of the 2008-2009 financial crisis, central banks around the world lowered rates to zero in an attempt to stabilize the financial system and boost economic activity. And yet – after nine years of "easy" monetary policy – inflation remains well below the Fed's 2% target.

The absence of inflation has perplexed some of the smartest economic minds in the world, including Federal Reserve Bank of Chicago President Charles Evans, a PhD economist who has taught at several elite universities. As quoted in a July 9, 2017 article in the



"I've called the family together to announce that, because of inflation, I'm going to have to let two of you go."

Wall Street Journal (Central Banks Looking to Reduce Stimulus Face Quandary of Falling Inflation), Evans said, "I sometimes wonder if there isn't something more global, more technological that's taking place that we don't quite have our arms around very well." In a June 20, 2017 interview with CNBC, he stated: "In a world of global competition and new technology, I think competition is coming from new places. New partners are choosing to merge and sort of changing the marketplace and [bringing] more competitive pressures on price margins."

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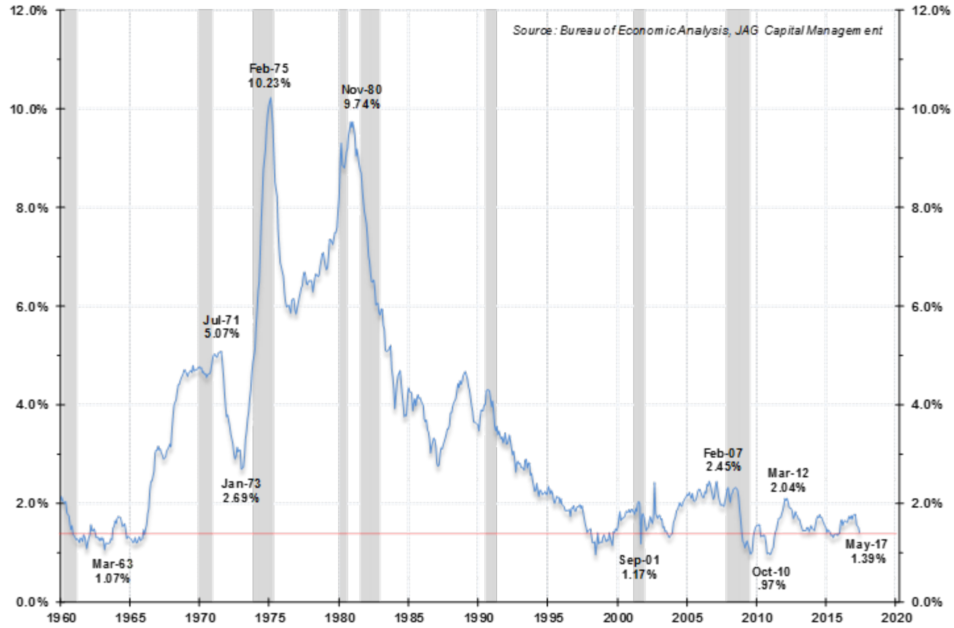
- Charles Evans, PhD | Federal Reserve Bank of Chicago President

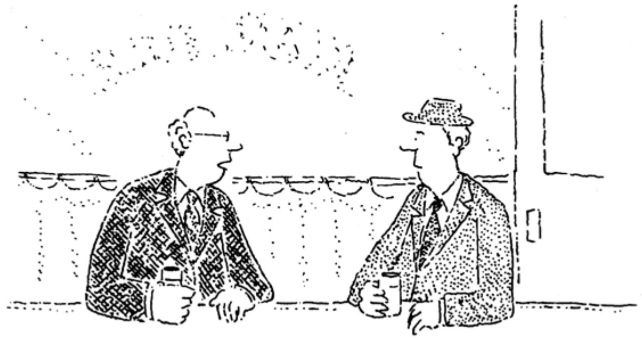
PCE Price Index Excluding Food & Energy: Year-Over-Year Percentage Change



Known as "Core PCE" for short, this data series is the Fed's preferred measure of inflation, (it measures personal consumption less food and energy).

Although we are not trained economists, we appreciate Dr. Evans' allusion to the deflationary effects of technology. As we discussed at length in our **1st Quarter 2015 Quarterly Commentary**, we are living in an era of "Unexpected Abundance." For most of our history, humans have waged a constant battle against scarcity – especially with regards to food and energy resources. At various points of time, experts have anticipated that we would run short of vital food and energy resources. In 1798, British Economist Thomas Malthus predicted that the world's population growth would soon outstrip global food production capacity. Much more recently, beginning in the 1950's and continuing into the 2000's, a slew of smart and well-informed energy experts expected that global oil production had maxed out and would soon enter terminal decline. In both of these cases, technological innovation came to the rescue. Advances in agriculture and animal husbandry have resulted in global food production that has vastly surpassed anything Malthus could have imagined. Thanks largely to hydraulic fracturing ("fracking") drilling methods that have been perfected over the last decade in the U.S., the world is so awash in oil that prices have fallen more than 50% in the past several years. The ability of human beings to innovate their way out of seemingly insurmountable supply and demand challenges should never be underestimated. This built-in tendency towards innovation is in and of itself deflationary, as it converts scarcity into abundance.

On June 16, only a few days before Dr. Evans sat for his interview with CNBC, Amazon announced its pending acquisition of Whole Foods. The news of this merger caused sharp declines in the stock prices of most food retailers, and there has been broad media



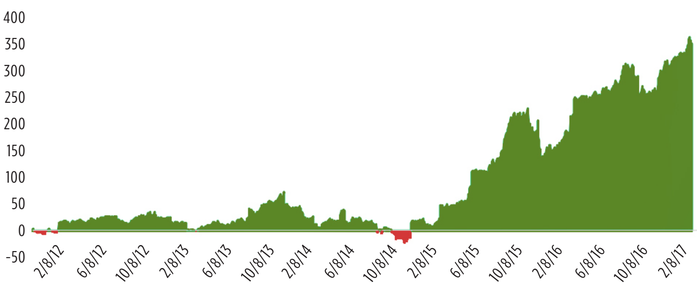
"I've hedged against inflation and I've hedged against deflation, but price stability could knock me for a loop."

coverage of the potential for Amazon to disrupt the huge U.S. grocery industry. Although he did not mention any specific companies during his interview, we think this merger was on Evans' mind when he discussed "competitive pressure on price margins."

Amazon's mission statement is: "Our vision is to be earth's most customer-centric company; to build a place where people can come to find and discover anything they might want to buy online." Since its founding in 1997 by CEO Jeff Bezos, the company has doggedly pursued this strategy, and along the way it has thoroughly disrupted several industries - including book retailers, department stores, and cloud-based computing. Amazon's January 2017 entry into the auto parts retail space, which sparked 30%+ declines in the stock prices of Advance Auto Parts, AutoZone and O'Reilly Auto Parts, is an instructive example of their power to upend traditional retail business models.

Bespoke Investment Group, an independent research firm, recognized the calamitous competitive threat posed by Amazon long before most observers. In early 2012, Bespoke created a "Death by Amazon Index," which tracks the performance of 54 retailing stocks that compete with Amazon. Since its inception more than five years ago, this index's cumulative gain is less than 30%, compared to the S&P 500's 84% return and the four-fold gains delivered by Amazon.

Outperformance of AMZN vs. Bespoke "Death by Amazon" Equal-Weight Index



Source: Bespoke Investment Group, 5/16/17

The Whole Foods acquisition signals Amazon's full-scale invasion into the grocery business. Racking up a massive $800 billion in annual sales, the grocery industry has thus far been largely insulated from technological innovation. Supermarkets are bigger and shinier on average than they were decades ago, but the grocery shopping experience most of us endure today remains substantially similar to that of our grandparents in the middle of the last century. We sense that changes will now be afoot. With Whole Foods, Amazon will be acquiring 465 physical locations in some of the most-attractive zip codes in the United States. In addition to jump-starting their home grocery delivery initiatives, Amazon is also likely to broadly deploy their "Just Walk Out" technology (watch this video to learn more: **www.amazon.com/b?node=16008589011**), which promises to dramatically improve the experience of grocery shopping.

But why would a Federal Reserve official like Dr. Charles Evans care about any of this? One needs only to consider one of Jeff Bezos' most famous aphorisms: "Your margin is my opportunity." Bezos and Amazon – unlike the vast majority of their competitors – are indifferent to generating earnings in the short term. Instead, their laser-like focus is on delivering products to customers at the lowest possible prices. It is this willingness to eschew earnings that makes them such a threat to established grocery store chains by stripping out as much profit margin as possible before delivering their products to consumers. Dr. Evans recognizes that lower profit margins translate to lower prices. Hence the conundrum faced by the Fed. To the extent that innovation by Amazon and other technology-oriented companies succeed in lowering the prices consumers pay for goods and services, they will continue to dampen the growth rate of inflation. It is well above our pay grade to suggest how the Fed should address this issue in terms of monetary policy. That said, it is certainly possible that a continuation of below-target inflation would compel them to keep rates lower than they would otherwise. All else being equal, this sort of outcome would be negative for pensions, savers and retirees (because they would continue to suffer from abnormally low returns on their bank account savings, CD's, and bonds). By the same token, persistently low interest rates would tend to provide a tailwind for equity investors and the real estate markets. The old saying "you can't please everyone" applies in spades to our central bankers!

We have an announcement to make!

In June 2017, JAG Capital Management became a signatory to the United Nations-supported Principles for Responsible Investment (PRI). Recognized as the world's leading proponent of responsible investment, the PRI is a global network of asset managers, owners, and service providers working together to put responsible investment into practice. It works to understand the investment implications of environmental, social, and governance (ESG) factors and to support its international network of investor signatories in incorporating these factors into their investment decisions and ownership practices.

As active investors, we focus intently on identifying and implementing factors that will add value to our clients' portfolios. Along with extensive academic research, our own investment experience has taught us that ESG factors can potentially impact the financial performance of individual companies in which we invest. From our perspective, becoming a signatory of PRI reinforces our commitment to provide the best investment solutions we can to our clients.

Happy Summer to you and yours,

Norm Conley
CEO & CIO

Signatory of:
PRI Principles for Responsible Investment

Disclosures

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