



## Four Deflationary Forces Keeping a Lid on Inflation

Excerpt from Edward Yardeni's  
[\*Fed Watching for Fun & Profit\*](#)

In my opinion, the central bankers, with their ultra-easy monetary policies, are fighting four very powerful forces of deflation: Détente, Disruption, Demography, and Debt. I call them the deflationary "4Ds." Let me explain:

- **Détente.** Détente occurs following wars. Such periods of peacetime lead to globalization with freer trade, which means more competitive global markets for labor, capital, goods, and services. The latest period of détente started when the Cold War ended during 1989. There have been many previous periods of détente following wars. The resulting globalization resulted in deflation, along with growing and proliferating prosperity. History shows that prices tend to rise rapidly during wartimes and then fall during peacetimes. War is inflationary; peace is deflationary.

We can clearly see this phenomenon in the CPI for the US, which is available since 1800 on an annual basis. ... It spiked sharply during the War of 1812, the Civil War, World War I, and World War II through the end of the Cold War. During peacetimes, prices fell sharply for many years following all the wars listed above, except for the peace so far since the end of the Cold War. Prices still are rising in the United States, though at a significantly slower pace than when the Cold War was most intense. (Of course, there have been local wars since then, and all too many terrorist attacks, but none that has substantially disrupted global commerce.)

Wars, in effect, are trade barriers that restrict global competition. During wars, countries don't trade with their enemies. Wars disrupt commerce among allies facing military obstacles to trading with one another. Markets are fragmented. During wars, power shifts from markets to governments as economic activity is focused on military victory. The economy's resources are marshaled for the war effort. Commodity prices tend to soar as the combatants scramble to obtain raw materials. There is a shortage of workers, as a significant portion of the labor force is drafted to fight in the trenches. Material and industrial resources shift to the defense industries. Entrepreneurs, engineers, and scientists are recruited by the government to win the war by designing more effective and lethal weapons. As a result, there are shortages of consumer goods. The upward pressure on labor costs and prices often is met with government- imposed wage and price controls that rarely work.

Peacetimes tend to be deflationary because freer trade in an expanding global marketplace increases competition among producers. Domestic producers no longer are protected by wartime restrictions on both domestic and foreign competitors. There are fewer geographic limits to trade and no serious military

impediments. Power shifts back from the government to global markets. Economists mostly agree that the fewer restrictions on trade and the bigger the market, the lower the prices paid by consumers and the better the quality of the goods and services offered by producers. These beneficial results occur thanks to the powerful forces unleashed by global competition during peacetimes.

As more consumers become accessible around the world, more producers around the world seek them out by offering them competitively priced goods and services of better and better quality. Entrepreneurs have a greater incentive to research and develop new technologies in big markets than in small ones. The engineers and scientists who were employed in the war industry are hired by companies scrambling to meet the demand of peacetime economies around the world. Big markets permit a greater division of labor and more specialization, which is conducive to technological innovation and productivity. My war-and-peace model of inflation simply globalizes the model of perfect competition found in the microeconomic textbooks. At the market's equilibrium price, aggregate demand equals total supply. Both consumers and producers are "price takers." No one has enough clout in the market to dictate the price that everyone must pay or receive. No one firm or group of firms can set the price.

In competitive markets, there are no barriers to entry. Anyone with the right resources can start a business in any industry. In addition, there's no protection from failure. Unprofitable firms restructure their operations, get sold, or go out of business. There are few if any zombies (i.e., living-dead firms that continue to produce even though they are bleeding cash). They should go out of business and be buried. These firms can only survive if they are kept on life support by government subsidies, usually because of political cronyism.

An increase in demand would raise the market price, stimulating more production among current competitors and attracting new market entrants. If demand drops such that losses are incurred, competitors will cut production, with some possibly shutting down if the decline in demand is permanent. New entrants certainly won't be attracted.

Profits are reduced to the lowest level that provides just enough incentive for enough suppliers to stay in business to satisfy demand at the going market price. Consumer welfare is maximized. Obviously, there can't be excessive returns to producers in a competitive market. If there are, those returns will be eliminated as new firms flood into the excessively profitable market. Firms that try to increase their profits by raising prices simply will lose market share to firms that adhere to the market price. That's a good way to go out of business.

Competition is inherently deflationary. No one can raise their price in a competitive market because it is capped by the intersection of aggregate supply and demand. However, anyone can lower their price if they can cut their costs by boosting productivity.

- **Disruption.** The best way to cut costs and boost productivity is with technological innovations. Companies that can innovate on a regular basis ahead of their competitors can cut their prices, gain market share, and be sustainably more profitable than their competitors. Firms that do so gain a competitive advantage that allows them to have a higher profit margin for a while. That's especially true if

their advantage is sufficiently significant to put competitors out of business. However, some of their competitors undoubtedly will innovate as well, and there always seem to be new entrants arriving on the scene with innovations that pose unexpected challenges to the established players. In other words, technology is inherently disruptive and deflationary since there is a tremendous incentive to use it to lower costs across a wide range of businesses.

The technology industry is itself prone to deflationary pressures because it is so competitive. Tech companies spend enormous sums of money on research and development, so they must sell as many units of their new products as possible before the next “new, new thing” inevitably comes along. The industry is so competitive that it must eat its young to survive. The result is that tech companies tend to offer more fire power at lower prices with the introduction of each new generation of their offerings. In other words, the technology industry provides the perfect example of what economist Joseph Schumpeter called “creative destruction.”

The Fed hasn’t paid enough attention to the impact of technology on the economy. Until 2019, I don’t recall seeing any significant studies by the Fed’s staff on this important subject. That may be changing, finally. The Federal Reserve Bank of Dallas hosted a conference on May 22–23, 2019, on “Technology-Enabled Disruption: Implications for Business, Labor Markets and Monetary Policy.” The topics covered all the obvious bases, focusing on how technological innovation is disrupting business models, keeping a lid on price inflation, impacting the labor market, and stimulating merger-and-acquisition activity. The overview description of the conference succinctly summarized the disinflationary impact of technology as follows: Technology-enabled disruption means that workers are increasingly being replaced by technology. It also means that existing business models are being supplanted by new models, often technology-enabled, that bring more efficiency to the sale or distribution of goods and services. As part of this phenomenon, consumers are increasingly able to use technology to shop for goods and services at lower prices with greater convenience—which has the impact of reducing the pricing power of businesses. This reduced pricing power, in turn, causes businesses to further intensify their focus on creating greater operational efficiencies. These trends appear to be accelerating.

• **Demography.** One of the greatest success stories in the history of technological innovation has been in agriculture. Thomas Robert Malthus never saw it coming. Between 1798 and 1826, he published six editions of his widely read treatise *An Essay on the Principle of Population*. He rejected the notions about mankind’s future advancements that were popular at the time, believing instead that poverty cannot be eradicated but is a permanent fixture in the economic firmament. He explained this supposed principle by arguing that population growth generally expanded too fast in times and regions of plenty, until the size of the population relative to the primary resources, particularly food, caused distress. Famines and diseases were nature’s way of keeping population growth from outpacing the food supply:

That the increase of population is necessarily limited by the means of subsistence, that population does invariably increase when the means of subsistence increase, and, that the superior power of population is repressed, and the actual population kept equal to the means of subsistence, by misery and vice.

Malthus was the original “dismal scientist.” His pessimistic outlook was probably the most spectacularly wrong economic forecast of all times, and a classic for contrarian thinkers. Grain production soared during the 1800s thanks to new technologies, more acreage, and rising yields. During the first half of the century, chemical fertilizers revived the fertility of European soil, and the milling process was automated using steam engines. During the second half of the century, vast new farmlands were opened in the United States under the Homestead Act of 1862, and agriculture’s productivity soared with the proliferation of mechanical sowers, reapers, and threshers. Tremendous progress in agriculture continued during the 20th century, particularly during the Green Revolution of the 1950s and 1960s.

The huge productivity gains in agriculture forced farm workers to move to the cities to find work. The resulting urbanization of populations around the world led to a sharp drop in fertility rates. In recent years, they have dropped below population replacement everywhere but in India and Africa. As a result of widespread urbanization, children no longer provide the benefit of labor in rural economies. Instead, they are a significant cost in urban settings. Malthus never saw that coming either.

Demographic profiles are turning increasingly geriatric around the world. People are living longer. They are having fewer children. Economies with aging demographic trends are likely to grow more slowly and have less inflation.

Older people tend to be more frugal than younger ones. That’s partly because they know that they are likely to live longer than previous generations, but don’t know how much longer. Old people tend to downsize. Younger people today tend to be minimalists compared to the Baby Boom generation. Many of them are burdened with student debt. Many prefer to rent apartments in cities and use ride-sharing services rather than buy cars. They are getting married later in life, if at all, and having fewer children. These demographic trends suggest slow growth in consumption and add to deflationary pressures.

China’s one-child policy from 1979 to 2015 exacerbated the plunge in the country’s fertility rate below the population replacement level. The policy reflected the government’s Malthusian fear that without such a policy, population growth would outstrip the food supply, resulting in widespread famine. By some estimates, the often-brutal policy prevented 300 million to 500 million births. As a result, China is rapidly turning into the world’s largest nursing home. Young adults who are only children must support their elderly parents financially in a country without a comprehensive, nationwide social security system. A young married couple with no siblings has four senior parents to support. That financial burden alone is discouraging couples from having more than one child even though the government now is encouraging them to do so.

• **Debt.** Aging demographic trends are causing governments to spend more on social security and health care. Since the elderly dependency ratios (i.e., the number of working-age adults to the numbers of seniors) are falling globally, governments are forced to borrow more to support more seniors; tax revenues alone can’t keep up with seniors’ needs. Debt accumulated for this purpose is likely to weigh on economic growth rather than to stimulate it.

The forces of deflation that had been mounting since the end of the Cold War were held back by rapid credit expansion around the world. Central banks were lulled by the decline in inflation and the proliferation of prosperity following the end of the Cold War into believing that they had moderated the business cycle. Indeed, they attributed this achievement to their policies rather than to globalization, and they dubbed it the “Great Moderation”—which presumably started during the mid-1980s but ended abruptly with the Great Recession. Along the way, and especially after the Great Recession, they kept the punch bowl full, providing lots of cheap credit, enabling lots of borrowing by households, businesses, and governments.

The central bankers simply ignored the implications of soaring debt. Their macroeconomic models didn’t give much, if any, weight to measures of debt. Predictably, their easy monetary policies reduced the burden of servicing previous debts, which could be refinanced at lower rates, allowing borrowers to borrow more. By declaring that they had moderated the business cycle, the central bankers encouraged both borrowers and lenders to be less cautious about the potential dangers of too much leverage.

Central banks have facilitated an extraordinary borrowing binge on a global basis for many years. Debt-to-GDP ratios, debt-to-income ratios, and debt-to-profits ratios all have soared the world over. Governments borrowed like there was no tomorrow. In the United States, buyers bought homes with no money down and “liar’s loans,” where credit was granted without a formal credit check. In the Eurozone, banks lent to borrowers in the so-called PIIGS—Portugal, Ireland, Italy, Greece, and Spain—as though they had the same credit ratings as German borrowers. That turned out to be a bad assumption. Some of these credit excesses hit the fan in 2008, and the consequences were clearly deflationary. The Great Moderation turned into the Great Recession. To avert another Great Depression, the central banks of the major industrial economies scrambled to flood the financial markets with even more credit. China’s debt binge has been unprecedented since the Great Financial Crisis. Emerging market economies likewise could borrow on favorable terms despite their often-spotty credit histories.

So far, the ultra-easy monetary policies of the central banks have succeeded in offsetting the natural, peacetime forces of deflation. Of course, central banks existed in the past when deflation prevailed, but monetary theory and operating procedures were primitive. Today’s central bankers claim that this all proves they are better than ever at managing the economy with monetary policy. I hope they’re right, but I have my doubts. Could it be that many borrowers are mostly maxed out on their lines of credit and credit cards, or have concluded on their own that they are tapped out? As an empirical observation, we can see that easy credit has lost its effectiveness in stimulating demand because it has been too easy for too long.

On the other hand, easy money may be boosting supply. In the past, an important barrier to entry in many industries was a lack of financing. Technology is especially dependent on venture capital. Low interest rates and booming stock markets around the world since the early 1990s provided plenty of cheap capital to fund new technologies that have been both disruptive and deflationary.

Furthermore, easy money has been propping up lots of unprofitable businesses that have lots of debt and are adding excess capacity. These zombies should be shut down, or at least restructured. Instead, they are contributing to deflationary forces.

The bottom line is that easy money isn't always inflationary and stimulative. It may be again in the future, but over the past few years since the Great Financial Crisis, other deflationary forces have come into play, and monetary policy may have contributed to them via its unexpected and unintended consequences. In other words, with all due respect to Milton Friedman, easy money can be deflationary!

The 4Ds combined tend to weigh on economic growth and are inherently deflationary. This explains why unconventional ultra-easy monetary policies have become conventional over the past 11 years. The central bankers are doing more of the same and getting the same disappointing result. As in the ancient Greek myth of Sisyphus, every time they push the boulder up the hill, it comes rolling back down.

Central bankers tend to be macroeconomists who were taught in graduate school that inflation is a monetary phenomenon. They were also taught to hate deflation as much as inflation. That's why the major central banks have all pegged 2.0% as their Goldilocks inflation target, not too hotly inflationary or frigidly deflationary. But surely, they must have learned over the past 11 years since the Great Financial Crisis that inflation isn't a monetary phenomenon after all. They must realize that the four powerful forces of deflation are microeconomic in nature. Occasionally, they acknowledge these forces, demonstrating that they aren't completely clueless. Nevertheless, they go blithely about their business, inexplicably confident in the power of their policy tools to overcome these poorly understood forces somehow or other. In a July 16, 2019 speech in Paris, Fed Chair Powell acknowledged in passing that inflation may not be solely a monetary phenomenon: "Many factors are contributing to these changes—well-anchored inflation expectations in the context of improved monetary policy, demographics, globalization, slower productivity growth, greater demand for safe assets, and weaker links between unemployment and inflation. And these factors seem likely to persist."<sup>238</sup> He also acknowledged that these factors collectively may continue to keep the "neutral rate of interest low" (i.e., too close to zero), which is the dreaded ELB. He concluded: "This proximity to the lower bound poses new complications for central banks and calls for new ideas."

The problem is that the central bankers have run out of new ideas (and policy tools), so they keep trying the same old ones. Their delusion is that doing more of the same (i.e., providing ultra-easy monetary conditions) should eventually boost inflation to 2.0%.

Where has all this liquidity been going? Arguably, some of it has averted outright deflation so far. Quite a bit of it seems to have flowed into global bond and stock markets, and real estate too. There has been inflation in asset prices rather than in the prices of goods and services. If the central bankers persist in the delusions that fuel their ultra-easy monetary policies, the outcome may continue to be asset-price inflation. That's fine, until it isn't, as I discuss in the next chapter on financial stability and instability.

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