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Three inflation cycles, a persistent challenge for central banks

The pandemic has catapulted the global economy into a world of labor shortages after the world had gotten used to basking under the glow of the greatest ever positive labor shock that lasted more than three decades. Such a global, supply-driven approach to understanding inflation has been particularly useful precisely because we have seen inflation in economies that have seen dramatic monetary and fiscal easing (the US, in particular, among the advanced economies) and in economies that had very little of either or even both (emerging economies). In our March 2020 VoxEU column and the postscript of our book "The Great Demographic Reversal," Charles Goodhart and I argued that this sudden reversal could generate inflation of the order of "5%, even 10%."

Now that we have neared those heights, both markets and central banks are remarkably comfortable with a return of inflation to within touching distance of the inflation targets.

This confidence is very likely to be misplaced.

There are three inflation cycles playing out beneath the surge in inflation that the world has been going through.

First, the obvious mismatch between demand that has more than normalized, and supply that has not been able to keep up thanks to successive waves of the pandemic. The war in Ukraine has since created an outright supply shock. The result has been a surge in food, energy and housing costs, exactly the kind of goods that affect the poor disproportionately. The political consequences are universal.

Second, the end of a demographic sweet spot has been pushing the global economy out of the disinflation over the last three decades or so, into a more inflationary regime. That turn in itself should be enough to destabilize the properties of cyclical inflation that we have all gotten used to.

How does demography (a real variable) create inflation (a nominal phenomenon)? Two transmission channels, one specifically related to the political economy of indebtedness, and the other an intergenerational friction between the young and the old, will do the trick.

An inflation revival of this nature would have been five, perhaps ten, years into the future. The pandemic, however, has changed that timeline dramatically. The structural transition to an aging society has coincided with a deep, episodic supply shock that will fast-track inflation. It already has.

Third, the love-child of structural and pandemic-driven forces, the Phillips curve has been resurrected. The Phillips curve has been so universally acknowledged to have flattened that very few, if anyone, have given it another look. There is every reason to believe that it had flattened and been put into a coma by China. The waning of China's influence and the shock of the pandemic have revived the Phillips curve.

1 The demographic sweet spot is turning sour

1.1 The rise of China and the global demographic sweet spot

The single most important economic development over the years from 1990 to 2018 was the rise of China and its integration into the global trading economy. The integration of China into the global manufacturing complex by itself

more than doubled the available labor supply for the production of tradeable products among the advanced economies. The rise of China, as well as the return of Eastern Europe to the world trading system, provided an enormous positive supply shock to the available labor force in the world's trading system.

The global supply of labor was further boosted by two other demographic features, both domestic in origin in the advanced economies. The first of these demographic features is the continuing decrease in the dependency ratio during these years, i.e. a rise in the number of workers, defined as those aged 15 to 64, relative to dependents. And the second is the rise in the proportion of women in the working age group taking paid jobs.

The combination of all of these factors meant that the effective labor supply force for the world's advanced economy trading system more than doubled over these 27 years, i.e. from 1991 to 2018.

These deflationary forces have been so aggressive that they have caused inflation to remain at, or more recently below, central bank targets, mostly set at about 2% over the decades from 1990 onward. Even massively expansionary monetary policies and fiscal policies which have resulted in the largest and most persistent rise in public-sector debt ratios ever during periods of general peacetime had little success in reflating the global economy.

But the future will not be like the past. Indeed, in many crucial respects there will be a major reversal of past trends.

1.2 The sweet spot is turning sour

Over the next three or four decades, the steady decline in birth rates, starting in the 1950s in many advanced economies, notably in Europe, to below the rate at which the population is self-sustaining, will bring about a sharp reduction in the growth of the labor force in many countries. There will be an absolute decline in the labor force in several countries – in the key economies of Japan, China and most of North Asia as well as in several countries in continental Europe, such as Germany, Italy, Spain and Poland. Meanwhile, rising life-expectancy, combined with improvements in morbidity and mortality rates, will lead to a rapid increase in the number of retirees over 65.

2 From demography to inflation: channels of transmission

The arguments around demography and its historic impact are unlikely to be controversial, but how these real variables will create a sustained nominal effect remains a point to debate.

There are two channels through which this transformation will take place. First, through the political economy of debt, and second, through intergenerational friction caused by the consumption and production mismatches between the working population and older persons.

2.1 The political economy of financing aging-related debt

If the demographic profile of our aging societies is a worry, then the political economy of caring for the growing ranks of older people in our populations is going to be outright frightening.

The pandemic has already shown us that caring for older persons is not a process that can be ignored by society and the body politic. Even though the pandemic disproportionately affected older persons, the interactive sectors in our economies were closed down until vaccines became available, and rightly so.

That same ethical prerogative will propel our governments to ensure care

for an aging population. The Congressional Budget Office of the US estimates (CBO, July 2022) that U.S. debt held by the public will nearly double as a share of the economy by 2052, rising from the current level of 98% to 185% of GDP. Estimates in other aging economies, especially in the advanced economies that have been able to borrow without impediment in the past, face similar trajectories.

How is this debt to be financed?

Higher growth would do the trick, but Economics 101 tells us that raising growth when the labor force is shrinking means that productivity growth has risen faster than the slowdown in labor supply. Now, productivity growth is likely to rise structurally, but the advanced economies would do very well to match the output per worker that Japan showed over the last couple of decades. Even that, unfortunately, will not be enough to raise overall growth substantially.

Raising the retirement age would do the trick, but that is a political minefield. Every administration that has tried to substantially raise the retirement age has faced angry, often violent, protests. What is more, people are already working till much later in their lives. Participation rates for the over 65s have been rising for the last two decades, but the level of participation among the over-65s has varied proportionally to the generosity of the national pension system in each case. In the clearest example of this relationship, participation rates in the critical pre-retirement cohort (55-64 year-olds) rose strongly from 2004 onward as an instant response to the pension reforms of 2003 that transferred the burden from the state to the public. Put differently, raising the participation rate substantially will need an equally substantial cut in pension benefits, which would bring us right back to the political minefield.

Well, taxes then? If retirement is a political minefield, then raising taxes is political suicide. Carbon taxes, a levy that every economist on the planet would probably agree with, unleashed a fierce political storm in France.

That leaves us with what Milton Friedman called "taxation without legislation," inflation.

2.2 Intergenerational friction: a Stolper-Samuelson type transmission channel

Intergenerational friction generates inflation because the consumption/production profiles of workers and dependents differ markedly.

Dependents consume but do not produce. Unlike the young, the older persons do not have an opportunity to finance their consumption by going (back) into the labor force. In other words, dependents create net excess demand for goods and services, and are inflationary. Had the older generation saved enough in the past to finance their increased life-expectancy, we would be in the clear. But they have not, and neither have our institutions.

Workers consume and produce, and are disinflationary for two reasons. First, the overwhelming majority of workers are paid a wage that is less than their marginal product (there would not be any point in employing them otherwise). From the wage they receive, workers need to save for the future. That leaves an excess of production over the paid wage, and an excess of the paid wage over consumption on the table. The result is a net excess supply.

For the last three decades, workers have outstripped dependents, which means excess supply (created by workers) has outstripped excess demand (of

dependents) – the result has been disinflation. Over the next few decades, the opposite will happen. The growth in the number of dependents will outstrip the increase in workers, with the key thrust coming from older persons who will not re-enter the workforce. The net excess demand created by older persons will increasingly outstrip the supply impulse from a shrinking workforce – the result will be inflation!

Won't central banks simply control inflation? Don't they have full control over the long-term rate of inflation?

There are two dimensions to this critical question.

First, central banks may have less control over inflation than many believe. If enough of our narrative around demography and inflation is correct, then central banks have had less to do with the disinflation of the last few decades than is popularly believed. It also means that the demographic reversal of the next few decades will prevent central banks from having adequate control over inflation in the future.

Second, even if central banks have complete control over inflation in the long run, they may acquiesce to allowing inflation to remain high over the medium term. Why? The political economy of financing debt will create clear incentives for the central bank to tolerate higher inflation over the medium term. Fighting inflation would most likely result in a shortfall in both growth and (to a lesser degree) employment, and also worsen the fiscal position. Even if the central bank stuck with the long-term 2% target, it might be under steady (financial stability) pressure to allow inflation somewhat above target in order to support growth and to stabilize the real burden of debt at the same time. Particularly while growth remains weak and debt/GDP accelerates in our aging societies, the central bank will find restraining inflation a significant threat to financial stability.

3 The revival of the Phillips curve

Structural inflection points tend to generate surprises even at the cyclical horizon. Combined with some "help" from the pandemic, one such surprise is likely to be the revival of the Phillips curve.

The relationship between unemployment (or growth) and price inflation has undoubtedly weakened over the last couple of decades. Strong growth and low unemployment have not generated inflation. The response of inflation to unemployment has become weaker since the mid-1990s until it became so weak by the mid-2000s that the relationship can be said to have little, if any, forecasting power. In other words, the Phillips curve can be empirically shown to have flattened (Engemann, 2020).

However, the Phillips curve is almost always estimated as a "reduced form" model, i.e. there is no search in the data about where the inflation comes from.

A *structural* inquiry into the Phillips curve that examines the genesis of inflation might generate more interesting results.

The period over which the Phillips curve estimate shows a significant flattening broadly coincides with the integration of China's labor supply into the global workforce. It therefore stands to reason that the disinflation that followed this massive positive labor supply shock is what is reflected in the data. If China has helped push US inflation (and inflation in most other economies) relentlessly lower over the last three decades, then it must also mean that China's disinflationary footprint will have desentizied US inflation to local growth conditions.

In section 1, we argued that China's disinflationary global impulse is now more or less behind us. Its ability to sustainably keep global inflation low, and less sensitive to domestic conditions in the advanced economies, has dimmed. That argument by itself is enough to tell us that inflation in the advanced economies is far freer to respond to strong domestic growth in a way that it could not over the recent couple of decades.

The pandemic, however, has made matters even more extreme.

China is now one of the two big reasons that supply cannot keep up with demand, the other being the war in Ukraine. Not only are China's domestic supply chains under stress because of the national zero-COVID policy, but firms are rethinking the geography of global supply chains. Over the last year and change, India has been a huge recipient of foreign direct investment, and China's firms themselves have opened up manufacturing units in Vietnam and Mexico.

Put differently, China has gone from being a structural drag on global inflation to being one of two prime drivers behind the inflation surge. That is a change the global economy is simply not equipped to handle. What is more, given that both legs of China's impact on inflation are on the supply side. That means central banks are not really equipped to handle that change either.

In summary, the end of the demographic sweet spot spells an end to the anchor that did not let inflation rise much over the business cycle. As structural, cyclically and COVID-related forces push inflation higher, a very difficult future lies ahead. It is impossible to have a high degree of confidence about what that future will look like. One thing is sure, the future will be nothing like the past.

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