FEARS OF PRICE INSTABILITY IN A PRICE STABLE WORLD

September 11, 2020

BY PHILIPP CARLSSON-SZLEZAK AND PAUL SWARTZ

The Covid-19 crisis has stressed price stability in both directions fueling a debate about the future of price stability. In this summary of our detailed inflation primer (slide deck available here), we lay out the structural and cyclical foundations of price stability, the deflationary and inflationary risks from the coronavirus shock, as well as what it would take for the anchored inflation regime to break.

Price stability is a structural phenomenon that requires regular cyclical defenses to safeguard against the two-sided risk of price growth moving too low or too high. Our current regime of price stability — a 30-year stretch of falling, low, and stable price growth that we call the "Volcker inheritance" — is well-anchored and backstopped by a culture of active policy management. The bar for a regime break is high.

This year, policy moved fast and with force to safeguard against deflationary risks that did manifest at the start of the crisis. Though a deflationary spiral was averted, those fears remain in the minds of many. Meanwhile, aggressive money growth is fueling inflationary fears also, but we don't see a redemption of the monetarists anytime soon. Even though today money growth translates into credit growth more than it did in 2008, a monetarist path to inflation still faces hurdles: credit growth needs to translate to actual spending and that spending needs to be met by a tight labor market capable of generating inflationary pressures.

That said, inflation regimes can and do break — as happened in the 1960s in the U.S. As we paraphrase throughout, inflation is everywhere and always a policy error, more so than a "monetary phenomenon." Deflation results from the policy inability or unwillingness to backstop spending and the banking system, inflation from policy inability or unwillingness to restrain the economy when it is tight. But to break a good regime requires a sustained policy error, not a one-off, and breaking the regime is a slow death, more like cancer than a heart attack.

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1. FEARS OF PRICE INSTABILITY IN A PRICE STABLE WORLD

Price stability has been the cornerstone of the "good macro" backdrop of the last 30 years. Asset valuations were elevated and economic policy capacity was enhanced by an inflation regime where cyclical tightness triggered little or no price growth. Now, with Covid-19 crippling aggregate demand and disrupting supplies, with policy makers spending and printing money at an unprecedented pace, a great inflation debate is unfolding – with forces marshalled to argue for both downside and upside risks to price stability.

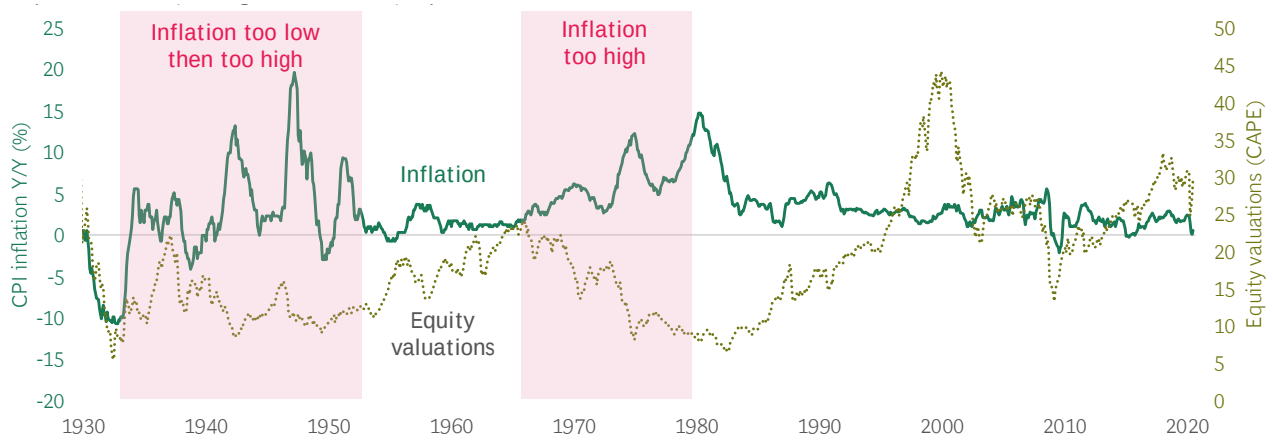
"Inflation" is somewhat of a misnomer here, for the risk to price stability is two-sided: at the start of the crisis significant deflationary pressures were recorded as demand evaporated. Many commentators feared a new Great Depression and deflation fears continue even as a strong policy response contained those downward pressures. As part of the policy response was to print money, monetarist fears of inflation also returned. Indeed, both camps had data to point at as the crisis produced the largest monthly price drop and increase in many decades.

Evidence of the growing debate is plentiful: client conversations, financial headlines, and a previously unseen dispersion in inflation forecasts highlight the worries of business leaders and investors alike. While we continue to believe that the bar for an inflation regime break is exceedingly high (see HBR: The U.S. is not headed towards a new Great Depression), it is important to be as thorough and comprehensive as possible on this topic. For much rides on getting the inflation call right: A true departure from price stability would undermine asset valuations, while crippling policy effectiveness – a "regime break" of immense cost.

To illustrate, most asset valuations (Exhibit 1 highlights equities) respond inversely to the inflation backdrop – a return to higher and volatile price growth would destroy trillions in asset value weakening balance sheets and creating a painful headwind to growth. On the policy side, price stability has allowed monetary policy makers to let the cycle run longer and enhanced public debt capacity, thus allowing fiscal policy to be accommodative. An inflation regime break would result in shorter expansions and more macroeconomic volatility.

To understand price stability and its risks, we need to look at its structural and cyclical foundations, the deflationary and inflationary risks from the Covid-19 crisis, as well as develop a view on what truly can break an anchored inflation regime. We do all this in the following sections. Most of our discussion is with respect to the U.S. economy and its experience with inflation but we stress that the dynamics we lay out here have broad, if not universal, application.

EXHIBIT **1** | INFLATION IS INVERSELY RELATED TO MOST ASSET VALUATIONS (EQUITIES SHOWN HERE)



Source: BLS, Shiller/Yale, BCG Center for Macroeconomics analysis

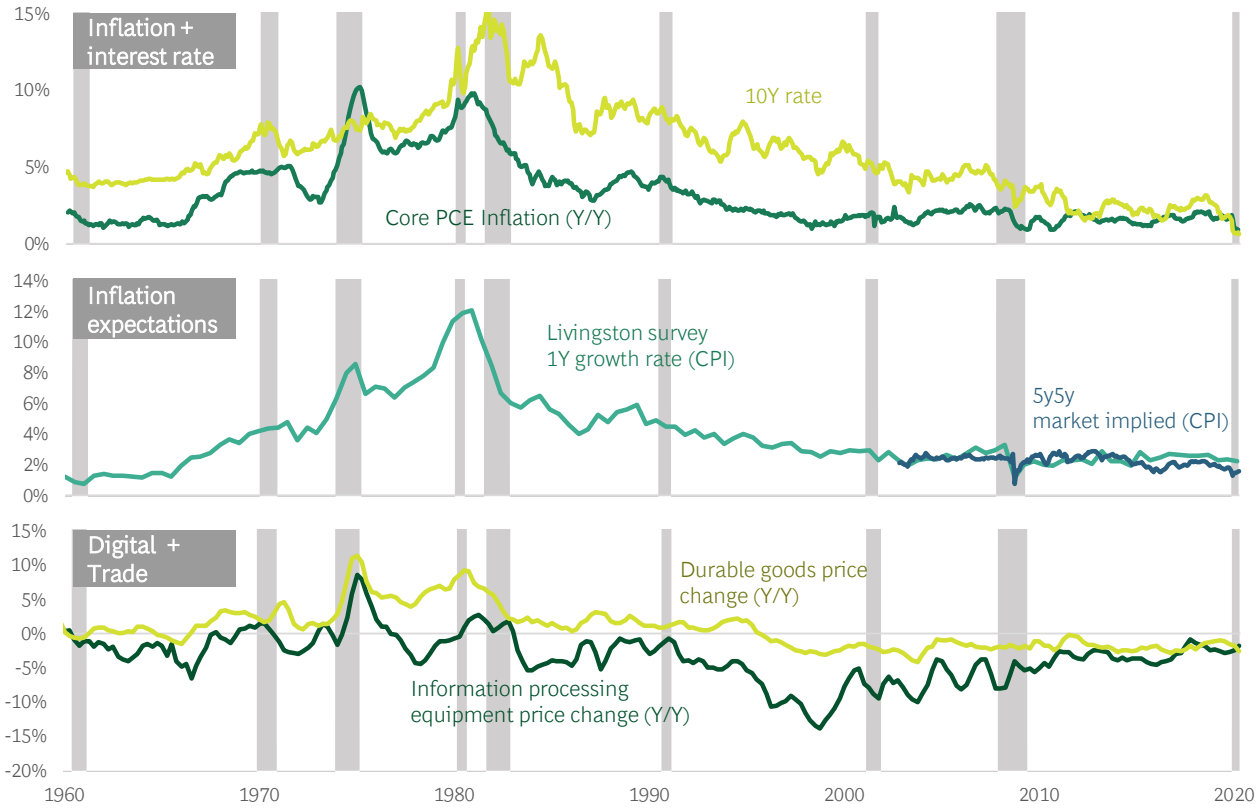
2. PRICE STABILITY IS A STRUCTURAL PHENOMENON, DEFENDED CYCLICALLY

Price stability is best thought of as a structural condition which has to be defended cyclically by policy to prevent structural breaks to the downside (deflation) and upside (inflation). We can illustrate that by looking at what makes up our current "good" inflation regime, how cyclical policy decisions protect or risk the structural regime, and how inflation behaves in a good vs. bad regime.

We're in a structurally anchored inflation regime ("Volcker inheritance")

Over the last few decades we have enjoyed low and stable inflation, the type of price stability that supports asset valuations and policy effectiveness alike. We like to call it the "Volcker inheritance" for it wasn't always like that. Paul Volcker as Fed Chair used aggressive policy to end a structurally bad inflation regime in the 1970s and 80s and set inflation on a decades-long downtrend, allowing interest rates to fall alongside (first panel). Importantly, inflation expectations, a key driver of realized inflation, have become firmly anchored (second panel). Two additional secular drivers have reinforced the good inflation environment: global trade has provided a long-running deflationary impulse in the physical economy, while digital business models have had a similar effect on services over the last few decades (last panel).

EXHIBIT **2** | CURRENT INFLATION REGIME AND ITS DRIVERS ("VOLCKER INHERITANCE")



Source: NBER, BEA, Federal Reserve Bank of Philadelphia, Federal Reserve Board, BCG Center for Macroeconomics analysis

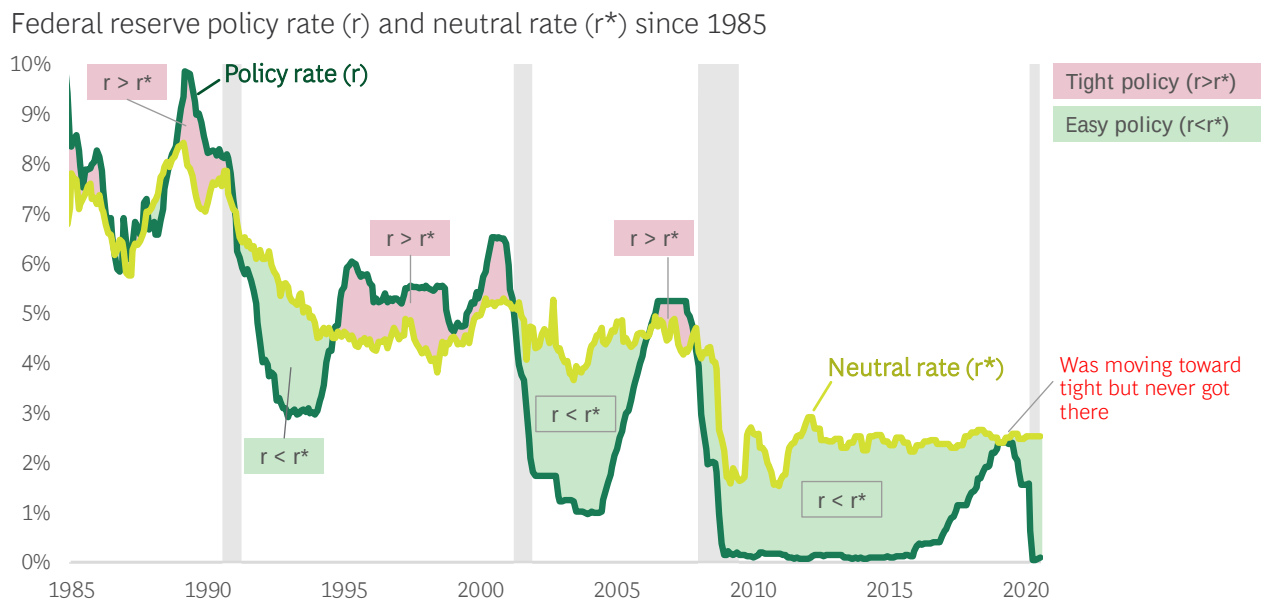
Cyclically, policy must defend the inflation regime ongoingly

Just as Volcker's policies were critical in breaking high and persistent inflation, policy has been responsible for protecting the inflation regime ever since and will be in future. It could be said that '*inflation is always and everywhere a policy problem*' (to paraphrase a famous quip on inflation[1]).

[1] A rephrasing of Milton Friedman famous diagnosis that "inflation is always and everywhere a monetary phenomenon" (Friedman, Milton. 1970. *Counter-Revolution in Monetary Theory*. Institute of Economic Affairs Occasional paper, no 33)

The post-Volcker endurance of the good inflation regime owes to successive generations of central bankers managing the two-sided risk of inflation: This means accommodating when the economy is slumping and tightening when the economy is running hot. In technical terms, policy makers raise the policy rate, r, above their estimation of the neutral rate, r*, when the economy heats up and thereby push back on inflationary pressures. Conversely, when demand collapses, they push r below r* and thereby stimulate aggregate demand. Exhibit 3 demonstrates the history and culture of this cyclical guardianship of the anchored inflation regime. In recent years as the policy rate has been near its lower bound, policy has extended into asset purchases (quantitative easing) as a means of protecting the regime from too sluggish inflation.

EXHIBIT 3 | THE POLICY CULTURE OF DEFENDING THE INFLATION REGIME POST-VOLCKER



Note: r* = HLW natural rate + realized inflation until inflation target in place, then the inflation target.
Source: NBER, Federal Reserve Bank of New York, Federal Reserve Board, BEA, BCG Center for Macroeconomics

Of course, the central bank's policy rate is not the only policy angle. Fiscal policy also has a role to play in defending the inflation regime. Since fiscal policy's remit is far broader than cycle management — it is also about the provision of goods and services — those political origins make it less likely to provide cyclical restraint and more likely to push on a tight economy. But if fiscal policy is not particularly helpful at defending against upside inflationary risks it is crucial for defending against downside deflationary risks. For it can do things monetary policy can't do, including moving income to the real economy in severe downturns and providing capital to the banking system in financial crises. This role takes on an increased importance in defending the regime when monetary policy is weakened by very low interest rates.

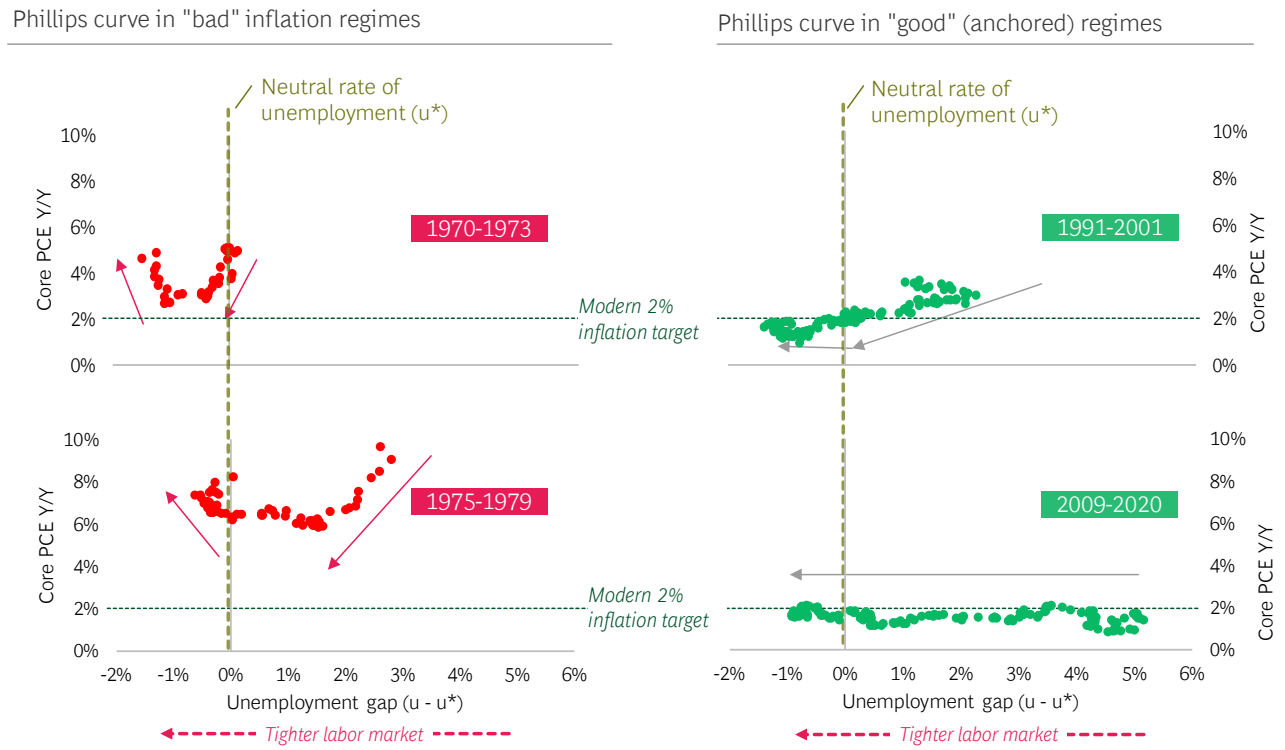
The shape of the Phillips Curve is determined by the inflation regime (good/bad)

Knowing the inflation regime – good or bad – provides useful information about how inflation is likely to behave. This is best shown in terms of the Phillips Curve, which tries to capture the relationship between labor market tightness (x-axis) and inflation (y-axis). Though much maligned in recent years (flat, dead,…), the concept is insightful if we allow for the state of the inflation regime in which a cycle plays out.

In Exhibit 4 we show two U.S. cycles in a bad inflation regime (left) and two in the anchored regime (right). The x-axes in these panels mark the "unemployment gap" which is a measure of labor market tightness. At 0%, (where u=u*) the labor market is neither tight nor slack, but as the cycle progresses, the unemployment rate u drops below u* and tightness exerts inflationary pressures (moving from right to left along the x-axis).

We think the four Phillips curves demonstrate the dynamics quite well: in a bad inflation regime, inflation picks up rapidly as the cycle grows tight, i.e. moves to the left of u* (left panels). But in an anchored regime, the Phillips curve is essentially flat: cycles are long and end without meaningful pickup in inflation (right panels). It's also worth pointing out that in the bad regime both cycles play out meaningfully above the 2% inflation line (the modern inflation target), whereas in the anchored regime the curves are shifted down.

EXHIBIT **4** | IN ANCHORED INFLATION REGIME PHILLIP'S CURVE IS PINNED TO THE FLOOR, NOT SO IN BAD REGIME



Source: CBO, BLS, BEA, BCG Center for Macroeconomics analysis

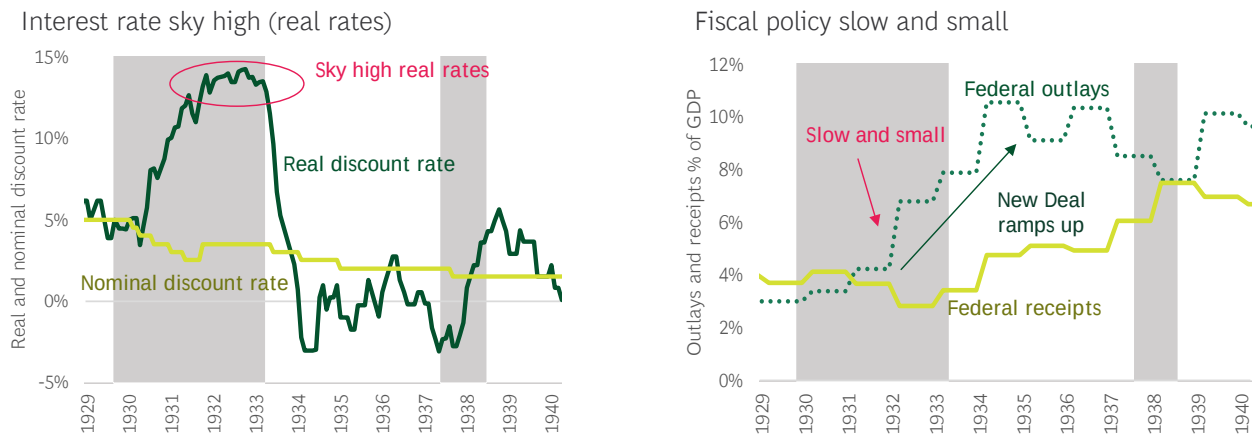
3. COVID-19 AND DEFLATION FEARS – A DEFLATIONARY DEPRESSION IS A VERY HIGH BAR

Early in the Covid crisis, commentators frequently predicted that Covid-19 could be the next Great Depression – i.e. a deflationary depression – a pernicious economic spiral where falling price levels transfer wealth from debtor to creditor, raising real interest rates and debt burdens, leading to more defaults and more credit contraction, which fuels more price falls. We did not think that was plausible (see HBR: The U.S. is Not Headed Towards a New Great Depression). Here we detail how it can happen, why it has not happened so far, and why it is unlikely to happen in the Covid-19 crisis.

Understanding deflationary regime breaks

The Great Depression is an instructive case study of deflationary policy failure – and it's quite the opposite of the Covid-19 policy response. Exhibit 5 summarizes how both monetary and fiscal policy failed to live up to the challenge of the 1930s. Monetary policy moved nominal rates only modest lower as real rates surged higher and the banking system collapsed, while fiscal policy took years to engage in a meaningful way as it required a political revolution (the New Deal came very late).

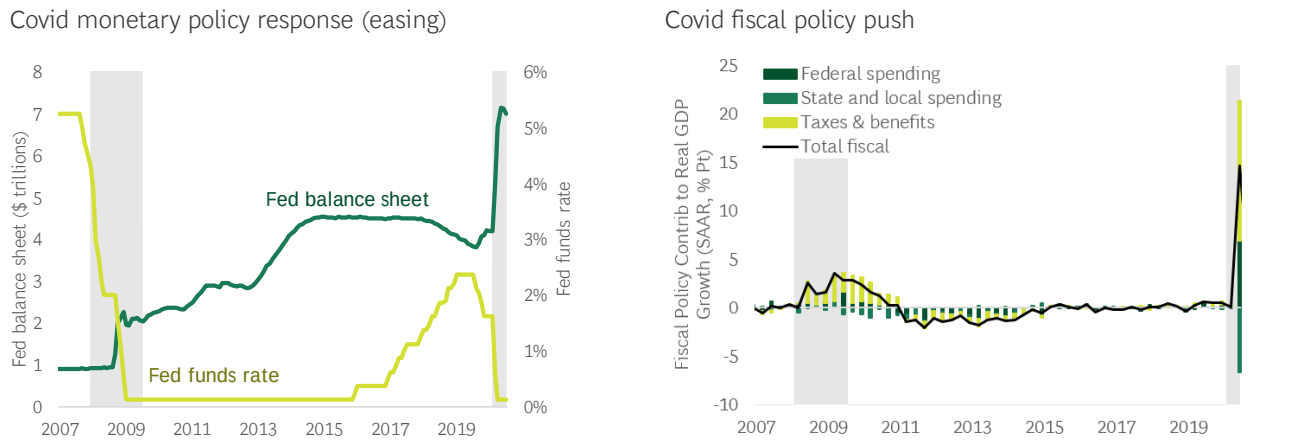
EXHIBIT 5 | THE MOTHER OF ALL POLICY ERRORS: GREAT DEPRESSION WAS ABOUT FAILURE OF POLICY



Source: OMB, Shiller/Yale, Federal Reserve Bank of St. Louis, NBER, BCG Center for Macroeconomics analysis

The modern Covid-19 response is the polar opposite of that textbook deflationary policy error. Inflation expectations did drop precipitously at the start of the Covid-19 crisis, highlighting the risks (even if polluted by strained liquidity). But the concerns about deflation owing to a systemic crisis have largely passed as both monetary and fiscal policy responded in a substantial and timely way, as seen in Exhibit 6, avoiding a systemic policy error. As long as aggressive policy remains in place to bridge the economic crisis and avoids transforming a recession into a financial/banking sector crisis, deflation risk will remain at bay (for the substitutability of economic and health policy see also HBR: Taking Stock of the Covid-19 recession).

EXHIBIT 6 | RAPID AND STRONG U.S. POLICY RESPONSE TO COVID-19 CRISIS UNDERCUT DEFLATIONARY PRESSURES



Source: Federal Reserve Board, NBER, Brookings, BCG Center for Macroeconomics analysis

The ghost of 1929 or of "Japanification"?

Commentary on deflation risks is prone to invoking 1929. Yet, looking at the risk profile of the inflation regime, the ghost of 1929 is less pertinent in our view than that of Japan. "Japanification," the shorthand for persistently and stubbornly too low inflation rooted in structural and policy challenges, is more realistic in the US and other advanced economies than a deflationary depression.

Chronic deflationary pressures may be more benign than a full-blown depression, but fighting the condition may be much harder. As we laid out, the policy errors leading into a deflationary spiral spawned a learning curve for policy makers, and those lessons were on full display during the start of the Covid-19 crisis. But persistently too low inflation is driven by a confluence of structurally disinflationary forces such as global value chains, digital business models, and demographics. As Japan demonstrates, getting a policy grip on this confluence is hard.

If persistent undershooting of the inflation target pulls down inflation expectations it will become increasingly difficult to raise inflation in the future. This leaves policy makers with less flexibility in cycle management because the nominal neutral rate will now be lower (i.e. less room to cut from neutral). Despite extraordinary monetary efforts, Japan has struggled to raise realized inflation and inflation expectations. U.S. monetary policy makers are aware of this risk and take it seriously, as most recently seen in the outcome of their monetary policy review[2] where average inflation targeting was adopted – a further shift to emphasize the desire to have inflation run above their target at least some of the time.[3]

4. COVID-19 AND INFLATION FEARS – MONETARIST REDEMPTION IS UNLIKELY

With the systemic risk of deflation contained by policy at this point, the debate has tilted in the opposite direction – the concern is increasingly that of too high inflation. These voices point to sharp monthly price increases and rapid money printing, reviving monetarist arguments that were common during and after the Global Financial Crisis – but have been given a bad reputation as money growth did little to stoke inflation over the last decade. As we show here, money growth itself is not enough to create inflation, and certainly not enough to break a healthy inflation regime. Inflation breaks require policy errors in the context of a tight economy, and while monetarist ideas are more relevant this time than in 2008, they still do not clear the hurdles for inflation. The Covid-19 recession won't provide monetarist redemption.

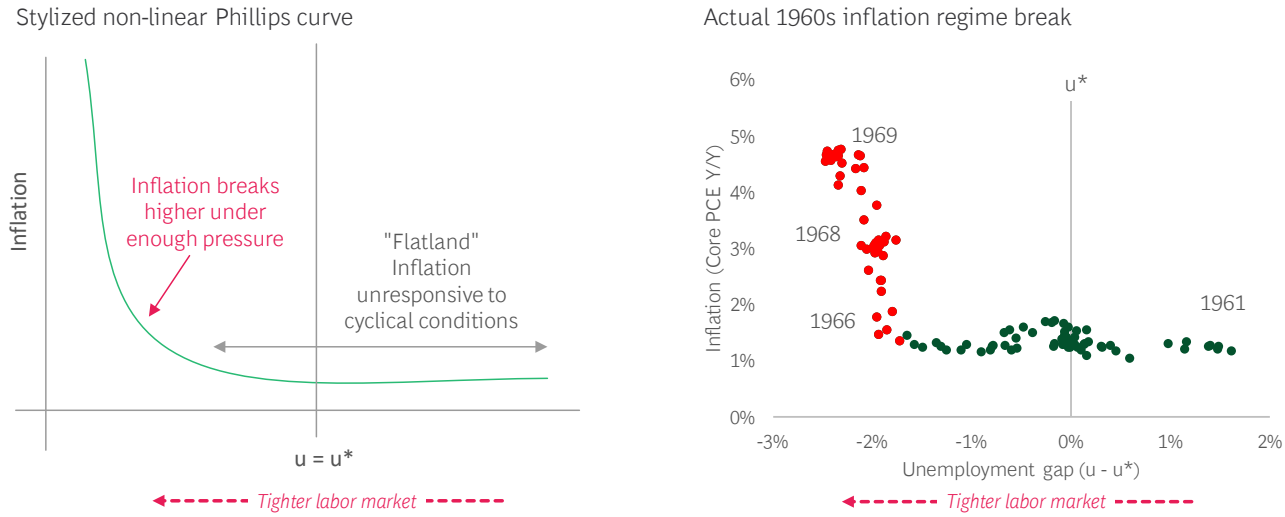
Understanding inflationary regime breaks

The 1960s are a powerful case study of policy errors allowing inflation to run away. As we outlined above, inflationary pressures begin with economic tightness as the economy (labor market) passes its potential and new spending pushes on strained capacity. Exhibit 7 stylizes a non-linear Phillips Curve in an anchored inflation regime: a tightening economy (moving to the left on the x-axis) generates little inflation – the curve is flat. But persistent policy errors – pushing growth with fiscal and/or monetary policy even as the economy is stretched – can "un-anchored" the regime. Once expectations are broken (pivot point), inflation would grow rapidly after that.

We stress that the non-linear Phillips curve is not just a stylized idea. In the same Exhibit, we include the experience of the 1960s expansion, which is the last time a good inflation regime was broken in the U.S. It started out in 1961 with well-anchored expectations – the Phillips curve is entirely flat over the next 5 years, even as the labor market tightens (u falls below u* in 1963 – if only estimated in hindsight). What pushes the economy through the pivot point is a combination of aggressive fiscal policy (at the time ongoing: Vietnam, Great Society programs) as well as political pressure on the Fed (under William McChesney Martin Jr.) which promptly cut rates even as the economy was tight.

[2] Powell, Jerome. *New Economic Challenges and the Fed's Monetary Policy Review*. August 27, 2020.
[3] See our inflation primer slide deck for additional analysis of the Fed's recently concluded Monetary Policy Review

EXHIBIT **7** | THE NON-LINEAR PHILLIPS CURVE: FLAT BUT IF PUSHED TOO MUCH, IT BECOMES "UN-ANCHORED"



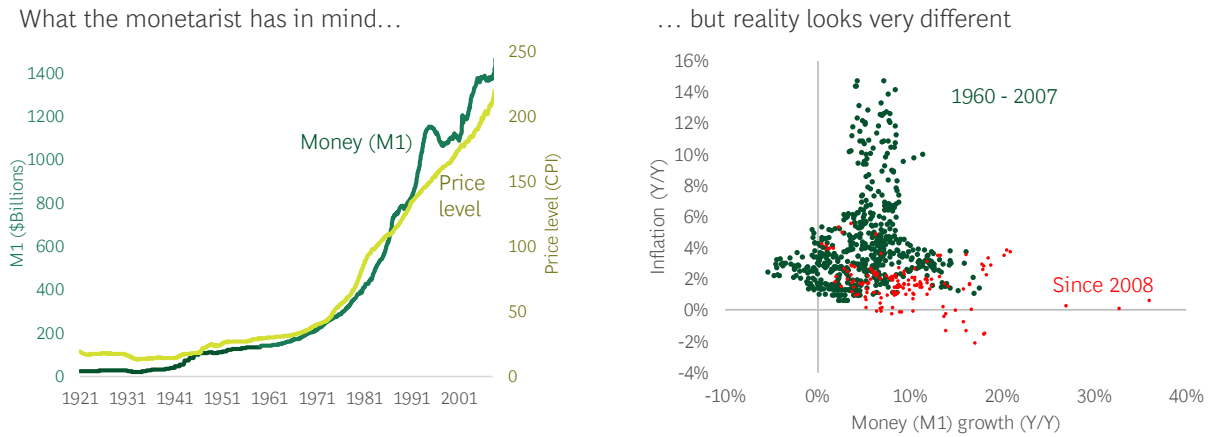
Source: CBO, NBER, BLS, BEA, BCG Center for Macroeconomics analysis

Can the Covid-19 recession redeem the monetarists?

In our view of inflation as outlined above inflation risks today are contained because unemployment is high. However, concerns about inflation have risen as money is growing rapidly. Monetarists, who place great emphasis on the idea that the money supply drives inflation, have started to raise the alarm. This is a re-run of the monetarist story that generated a great deal of concern after the Global Financial Crisis – yet inflation struggled to meet its 2% target over the subsequent decade. Is this time any different?

We don't think so. While we don't think that monetarism should be entirely dismissed — the money supply retains analytical relevance particularly in the long run — we think money growth on its own offers very little of value in trying to understand where inflation goes next. Monetarists like to show price level and money level to emphasis that they have increased together over long periods of time, as done on the left of Exhibit 8. Yet that superficial relationship appeared much stronger than it actually was (even before the last ten years): on the right side of the same Exhibit we show the reality of money growth and price growth – there isn't the kind of correlation monetarists like to see.

EXHIBIT **8** | MONETARISM: IN REALITY, THE MONEY/PRICE CORRELATION WAS NEVER THAT STRONG



Note: The above visual correlations focus on M and P in the Quantity Theory of Money identity MV=PQ
Source: Historical Statistics of the United States, Federal Reserve Board, BLS, BCG Center for Macroeconomics analysis

Why is the money/price link relatively useless when trying to assess near term inflation risks? We think the journey from money creation to inflation is one that is covered with three main hurdles:

- The central bank may create money at will but it cannot, traditionally, directly influence the creation of credit
- Neither can the central bank ensure that credit, once created, is spent by households or firms
- And even if it is spent – that spending must occur in the context of a tight economy to generate inflation.

Interestingly, 2020 is more likely to clear these hurdles than 2008 was (but they are still too high): in 2008 money creation was occurring while non-financial credit and incomes were falling (unwind of housing credit binge and large unemployment), while today money creation happens as credit growth is strong and incomes are raising (both driven by enormous stimulus). Yet that income growth has translated into the highest saving rate on record rather than a spending boom – and as the economy still has large excess capacity the road to inflation in the short-run remains difficult, extraordinary money growth notwithstanding.

The ghost of Weimar

As with 1929 on the downside, Weimar Germany is the extreme often invoked to describe price stability risks to the upside. When discussing "money printing" monetarists often have Weimar on their minds, where excessive money creation drove a collapsing currency which spiraled into severe hyperinflation. However, there are extreme hurdles along the Weimar path – which itself took years to unfold in the context of a bad inflation regime, a tight labor market, and significant policy errors.

Unrelenting money creation to cover near all fiscal financing (as was the case in Weimar) would eventually break confidence in the currency, even in the U.S. But this would require a sustained policy error of easy monetary condition (particularly reserve creation) even as inflation moved rapidly higher. In Weimar, a variety of arguments helped facilitate this sustained error. For example, policy makers believed that raising interest rates would accelerate inflation because it would raise business cost of debt and that there wasn't any money printing because the real value of the currency was smaller. None of these errors seem plausible today.

Most importantly, the U.S. enjoys an exceptionally healthy inflation regime, in part backed up by its position as the provider of the dominant reserve currency. Even sustained weakness in the U.S. dollar would not quickly unwind the dollar's dominant position in reserve portfolios or the global trading system. Remember that the dollar remained dominant even after exiting the Bretton Woods monetary arrangement and experiencing high inflation through the 1970s and 1980s.

5. HOW TO BREAK AN ANCHORED INFLATION REGIME

If Covid-19 – the most extreme shock to economic activity in generations – will not end price stability, as argued above, then what could? A few times we've invoked Milton Friedman's famous quip about inflation, but with a twist: Inflation is always and everywhere a policy error, rather than a monetary phenomenon – i.e. deflationary problems are a failure to enact policy supporting the economy or banking system, while inflationary problems are a failure to use policy to restrain an economy or tackle issues of broken inflation expectations. But "a policy error" is not enough. Crippling an anchored inflation regime is a process, a series of errors that require intellectual or political persistence to sustain them.

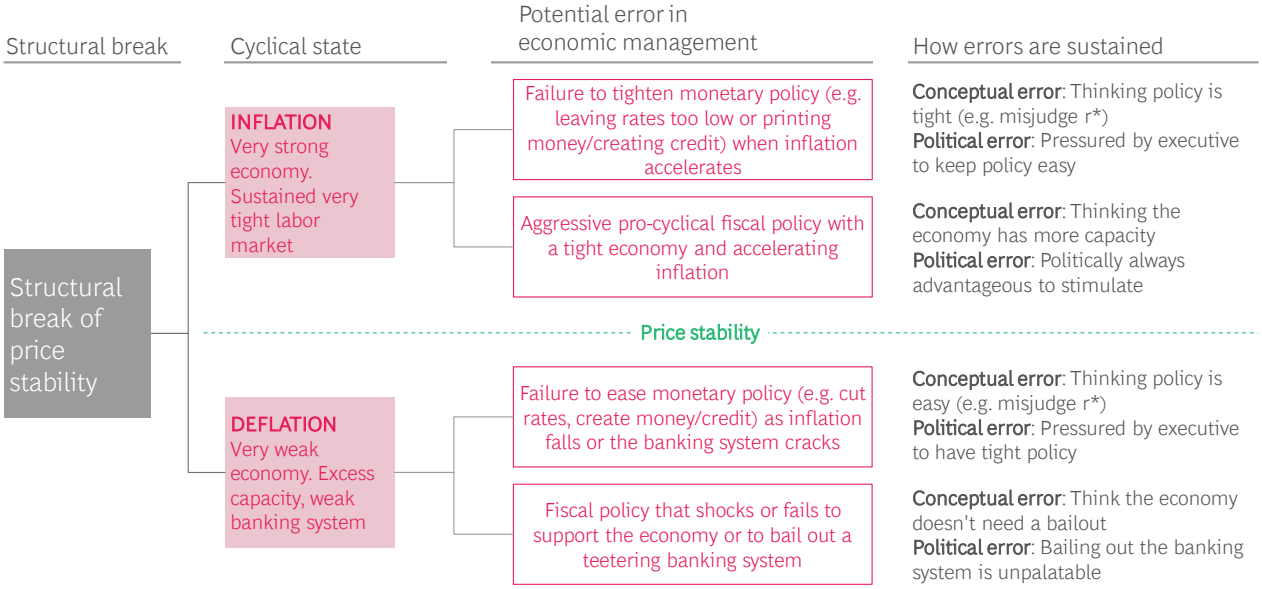
Inflation is always and everywhere a policy error

As our discussion of the structural and cyclical drivers of price stability emphasized above, it all comes down to policy. Policy is what facilitated the bad inflation regime of the Great Depression (deflationary). Policy is what broke the good inflation regime of the early 1960s. Policy is what fixed the bad inflation regime (too high inflation) in the 1980s. And since Paul Volcker's re-instatement of an anchored regime successive generations of central bankers have been disciplined stewards of price stability by using policy to support price stability in both directions (with risk tilted toward too high inflation in the 90s and tilted toward too low inflation today).

So what are policy errors and how are they sustained? We show a taxonomy in Exhibit 9 highlighting the paths to inflationary and deflationary breaks. While we think a break is unlikely, of the paths outlined the political failure to

support a weak economy, driven by political intransigence, perhaps in the context of an election, is the most plausible one for the U.S. in the near term.

EXHIBIT 9 | PRICE INSTABILITY IS ALWAYS AND EVERYWHERE A POLICY ERROR PROBLEM (TAXONOMY OF ERRORS)



Source: BCG Center for Macroeconomics analysis

The policy error has to be sustained

The concept of a policy error has the ring of a situational mistake or misjudgment, but in reality, a policy error leading to an inflation break has to be sustained – a series of errors that break the anchoring of the regime. That may sound implausible at first, but it is not if we consider what can drive such repeat errors:

- Conceptual errors: a misunderstanding of the economic situation and policy options that underpins repeated misjudgments. For example, in the Great Depression, policy makers believed policy to be easy, not tight, as they failed to grapple with the extent of deflationary pressures and fiscal policy viewed letting the system fail as the healthier option. In the 1960s there was a mistaken belief that the unemployment rate could be pushed as low as 2% (as it was in the prior decade) before the economy was tight and that even if inflation moved higher it would be worthwhile because of a long-run trade-off between low unemployment and inflation.
- Political errors: unwillingness to enact policy due to political rivalry or politicization of the issue – simply put when policy that operates pro-cyclically is advantageous for one political group or another. These range from the understandable unpopularity of bailing out the banking system (see 2008) to the less understandable political posturing of political transitions (e.g. the Hoover/Roosevelt transition).

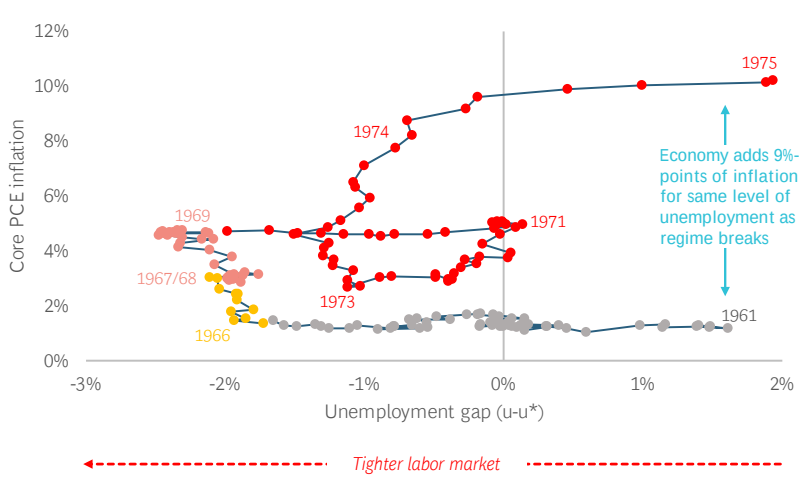
A third error motivation would be the inability of policy makers to act if constrained by the lack of their own currency or by market rejection – neither are relevant for the U.S. or a country with a healthy inflation regime.

The 1960s expansion is a powerful guide to regime breaks

To illustrate the requirement of a sustained policy error, consider the second half of the 1960s – the last time a good inflation regime was allowed to break. Exhibit 10 shows the timeline of events as a tight economy that had been pushed by easy fiscal and monetary policy lead to a sharp rise in inflation (in 1966 from around 1% to around 3%) – yet unemployment continued to fall, monetary policy actually eased and fiscal policy continued to push on the economy and inflation moved higher over the rest of the decade before a recession took hold in 1970. But even recessionary conditions didn't re-anchored the regime that was severely damaged by policy mistakes of

the prior few years, and when the oil embargo of 1973 shook the economy the regime collapsed leaving skyrocketing inflation and unemployment.

EXHIBIT 10 | REGIME BREAK REQUIRES SUSTAINED POLICY ERRORS – WHICH TAKES TIME



Collapse (1970-2/1975)
Even when the expansion ends inflation remains uncomfortably high and when the oil crisis begins in 1973 inflation soars. Despite economic weakness inflation never reaches lower levels

Crumble (1967-1969)
Despite inflation's high level policy continues to push the expansion and eventually inflation continues its move higher

Crack (1966)
Inflation moves sharply higher (from 1% to 3%) in 1966 – yet policy continues to push expansion and the economy tightens further

Flatland (1961 – 1965)
A long-lasting economic expansion generates a very tight labor market but without any signs of inflationary pressures.

Source: CBO, BLS, NBER, BEA, BCG Center for Macroeconomics analysis

AUTHORS

Philipp Carlsson-Szlezak, Ph.D. is a managing director and partner in BCG's New York office and chief economist of BCG. He can be reached at carlsson-szlezak.philipp@bcg.com

Paul Swartz is a director in BCG's New York office and a senior economist at the BCG Henderson institute. He can be reached at swartz.paul@bcg.com