Global Markets Daily: Rise in Inflation More Cyclical Than Structural (Cole)

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- A key question on the recent pick-up in traded inflation is whether the expected future rise in inflation will be *cyclical* or *structural*, and in particular whether we will continue to understand inflation as a pro-cyclical variable.
- Over recent decades, the observed strengthening in the correlation between inflation and output has coincided with a significant decline in the inflation risk premium and the term premium in nominal bonds.
- Similarly, we show that since the early 2000s demand shocks have dominated supply and inflation shocks in G10 economies, which points to a higher "hedge value" for bonds, helping to explain why rates have remained low and yield curves have remained flat.
- Will this regime persist? We expect a cyclical repricing of inflation higher, but that inflation will continue to behave – and trade – as a "risky" asset. As a result, we expect inflation risks to remain skewed to the downside and that the normalisation of inflation risk premium will be only gradual and modest.

Focus: Rise in Inflation More Cyclical Than Structural

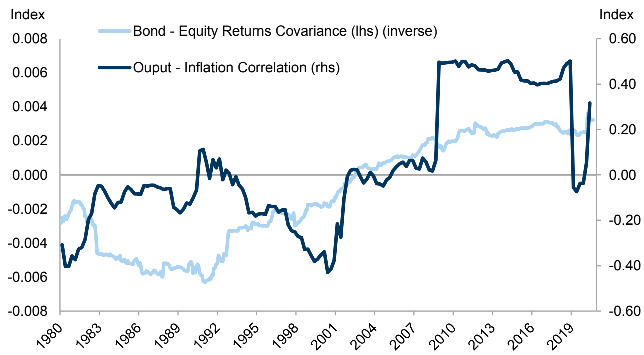
A key question on the recent pick-up in traded inflation is whether the expected future rise in inflation will be *cyclical* or *structural* – namely, will inflation simply track higher along the recovery path, or will inflation rise irrespective of cyclical conditions? We argue that what will matter for asset pricing is not just whether inflation rises (e.g., by more than the recent past), but whether the *behaviour* of inflation as a pro-cyclical variable itself changes. In our view, the repricing of inflation higher will be cyclical rather than structural, which implies the skew of inflation risk will remain to the downside for now.

Over the last decade, markets have acclimatised to realised inflation as a pro-cyclical variable, and to market-based inflation as a "risky asset".[1] Unlike the stagflation episodes of the 1970s and the vanquishing of inflation in the 1980s, in which growth and inflation were strongly negatively correlated, the last decade has been characterised by a *positive* correlation between growth and inflation (Exhibit 1). This correlation strengthened in the 2008 financial crisis and (seemingly) again in the

[1] See Chen et al. "Has the inflation risk premium fallen? Is it now negative?", FEDS Notes, April 4, 2016, and George Cole "EUR Inflation Swaps - Stuck Between Low and Lower", Global Markets Analyst, 7 March 2019.

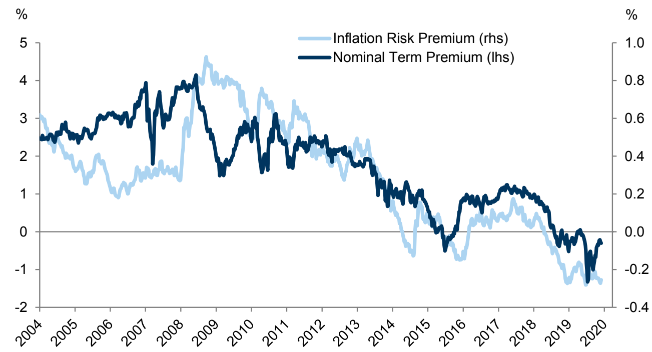
current COVID recession. In these recessions, negative demand shocks dominate supply effects, and are thus disinflationary or deflationary in nature.

Exhibit 1: Recent history shows inflation is a "risky asset"
10y rolling correlation between qoq US growth and CPI vs covariance between qoq S&P 500 and 10y UST returns



Source: Haver Analytics, Goldman Sachs Global Investment Research

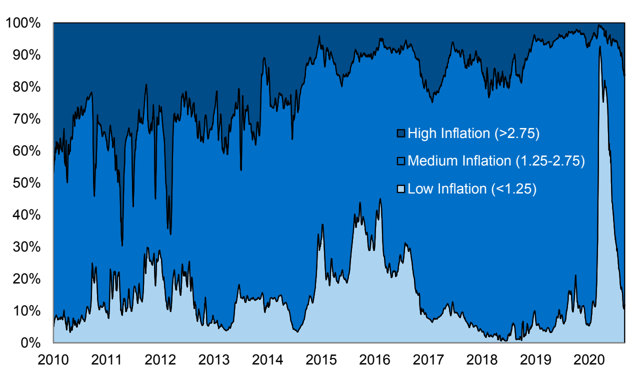
Exhibit 2: "Risky" behaviour of inflation implies a low risk premium
10y EUR inflation risk premium and 10y Euro area nominal term premium



Source: Haver Analytics, Bloomberg, Goldman Sachs Global Investment Research

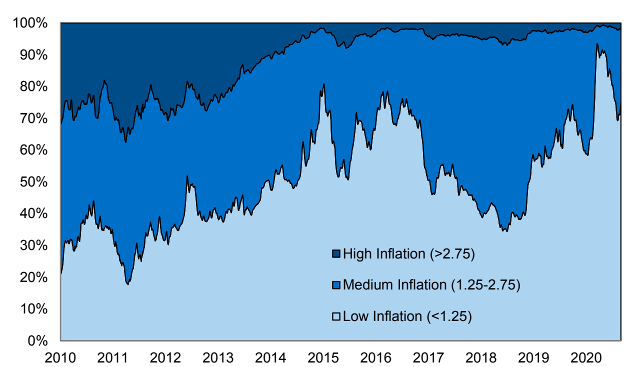
This is also consistent with the pricing of downside skew in inflation distributions (Exhibits 3 and 4), which reflects the "risky" nature of inflation, exacerbated by the constraints of monetary policy at the effective lower bound. The shift in the behaviour of inflation over recent decades is likely now embodied in expected future covariance between growth and inflation, which is in turn consistent with a decline in inflation risk premia or term premia. In portfolio terms, the market is willing to "over-pay" for downside inflation protection below the expected path for inflation given the broader risks of a disinflationary environment for a risk asset portfolio. Estimates of both the term premium and inflation risk premium (as measured by standard term-structure models) have gradually declined since the global financial crisis (Exhibit 2).

Exhibit 3: Modest repricing of the US inflation tails so far
Option-implied distribution of inflation based on 5y inflation caps / floors



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 4: European inflation skew to remain to the downside
Option-implied distribution of inflation based on 5y inflation caps / floors



Source: Bloomberg, Goldman Sachs Global Investment Research

Another way to see this is to consider the relative volatility of the macro risks priced by the market. We reprise an approach our colleagues used to assess the "hedge value" of bonds, which looks to categorise market moves into two flavours of shock:

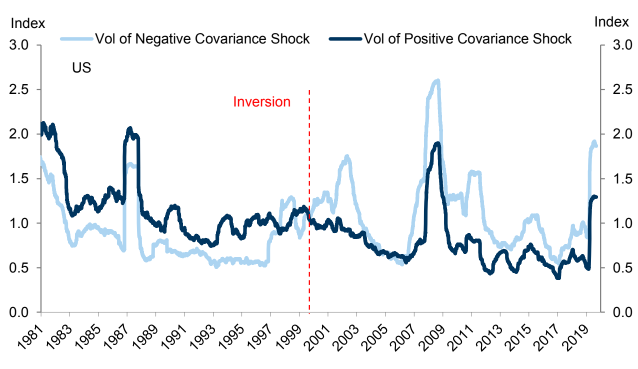
1. "negative covariance shocks", namely those that drive the price of stocks and bonds in

different directions, such as demand shocks.

2. "positive covariance shocks", or those that drive stocks and bond prices in the same direction, such as supply shocks, inflation shocks, or monetary policy shocks.

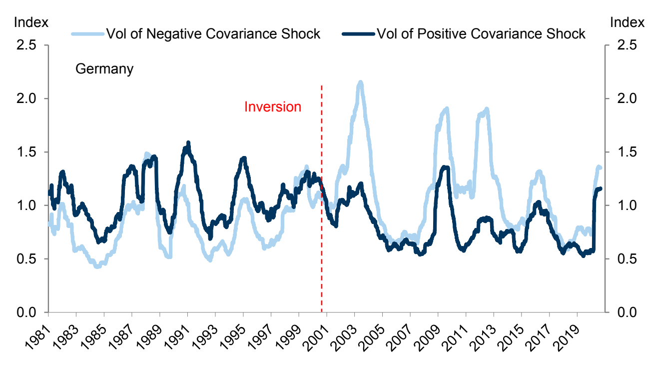
Formally, we construct a VAR of equity and bond returns, and use a sign restriction technique[2] to decompose the history of bond and equity returns into two types of orthogonal shocks, one that drives bond and equity returns in different directions (the negative covariance or "demand" shock), and one that pushes them in the same direction (the positive covariance or "supply / inflation" shock). This then allows us to ask which shocks have dominated – "demand" shocks or "supply / inflation" shocks. Exhibits 5 and 6 show that, in the past two decades, the volatility of negative covariance (demand) shocks has been larger than that for positive covariance shocks, both for the US and Germany. When demand shocks dominate, then the hedge value of bonds rises – again consistent with low levels of the term premium.

Exhibit 5: "Demand" shocks have dominated in recent decades
Volatility of positive vs negative covariance shocks based on decomposition of 10y UST and S&P 500 returns



Source: Goldman Sachs Global Investment Research

Exhibit 6: "Demand" shocks began to dominate in early 2000s
Volatility of positive vs negative covariance shocks based on decomposition of 10y Bund and Dax returns



Source: Goldman Sachs Global Investment Research

Moreover, in both cases we find a clear structural shift in the late 1990s/ early 2000s, when the volatility of negative covariance shocks rises above the volatility of positive shocks – i.e., when demand shocks deliver more volatility than inflation / supply shocks. In our view, this inversion was in part because of the regime changes among major central banks to incorporate inflation targeting or price stability into their mandate. This has likely limited the impact of supply (and other positive covariance) shocks on asset prices, as inflation targeting provides a credible nominal anchor and, as a result, supply shocks become transitory. This suggests that, as long as negative covariance (or demand) shocks dominate and growth remains *positively* correlated with inflation, it is more likely that interest rates will remain low, that yield curves will remain relatively flat, and the skew in inflation risks will remain to the downside – even for higher levels of inflation expectations. So a key question for the next decade is whether the regime of inflation as a "risky asset" will persist.

[2] See Troy Matheson and Emil Stavrev, "News and Monetary Shocks at a High Frequency: A Simple Approach", IMF Working Paper, September, 2014, and Jan Hatzius and Jari Stehn "The Market's View of Economic Growth", Global Economics Analyst, 9 February 2017.

In our view, the new policy regime from the Fed – which seeks to boost inflation expectations by softly committing to average inflation over the cycle, and may eventually be pursued in various forms by other G10 central banks – is unlikely to challenge the notion that inflation is a procyclical phenomenon. For this reason, we expect the repricing higher of inflation and nominal rates to be *cyclical* rather than *structural a*s economies recovery from the COVID shock. However, there are ways that inflation could return in a more structural way – for example, trade or immigration policies that produce significant negative labour or product supply shocks could generate more substantial negative covariance between growth and inflation, rebuilding term premia in risk-free curves. Similarly, a shift away from central bank independence to a regime in which a central bank's price stability objectives are subordinated to the fiscal authority could see a rebuilding of premium resulting from monetary shocks. But we think a wholesale shift away from the nominal anchor of inflation targeting is unlikely.

Of course, there are other factors that can influence term and inflation premia – including the distribution of inflation itself. Should the expected distribution of inflation outcomes become wider / less asymmetric (surely an objective of the Fed's recent shift), then this will likely contribute to a higher inflation premium.

Does the cyclical vs structural distinction matter for traded inflation? After all, we continue to expect a recovery in activity and so inflation has room to reprice higher in any case. But in light of the above, one feature of this cyclical repricing is that, as long as expectations of the procyclicality of inflation remain intact, the market should continue to reprice the skew of inflation risks to the downside for now. This is particularly true in Europe where the inflation outlook remains more challenging. As a result, the inflation premium is likely to rise only gradually and modestly, and inflation curves should remain flat.

The author would like to thank Stuart Jenkins for his contribution to this piece. Stuart is an intern in the Global Markets team.

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1. Stay long the iBoxx EUR Contingent Convertible Liquid Developed Market AT1 Index vs. the iBoxx EUR Liquid High Yield Index at a 1 to 1.25x notional ratio, opened on May 20, 2020 at 0%, with a revised target of 3% and a revised stop of -3%, currently trading at -0.730%.
2. Stay short USD/NOK, opened on May 31, 2020 at 9.72, with a revised target of 8.00 and a revised stop of 9.50, currently trading at 9.11.
3. Stay long an equally-weighted basket of HY sovereign credits (Egypt, Ukraine, Kenya, Côte d'Ivoire and Senegal) with an average duration of 3.8 years, opened on

June 3, 2020, with a revised total return target of 8% and a revised stop of 5.5%, currently trading at 6.27%.

4. Stay short USD/PLN, opened on June 14, 2020 at 3.95, with a revised target of 3.50 and a revised stop of 3.80, currently trading at 3.79.
5. Go long 10y Bunds vs 10y UST, opened on June 12, 2020 at 1.14%, with a target of 1.30% and a stop of 1.00%, currently trading at 1.21%.
6. Stay long the Bloomberg-Barclays non-agency CMBS (BNA1TRUU) index, rates hedged, vs. the CMBX 10 AAA index, at a 1:0.5x notional ratio, opened on June 12, 2020 at 0%, with a revised total return target of 2.5% and a revised stop of 0.5%, currently trading at 2.33%.
7. Buy Apr21 TIPS hedged with Mar21 RBOB, opened on June 26, 2020 at 0%, with a revised target of 1.20% and a revised stop of 0.40%, currently trading at 0.75%
8. Stay long a basket of inflation-linked vs nominal EM local bonds (ILS, KRW, PLN, THB) with an average duration of ~7.8 years, opened on July 8, 2020 at 0.62%, with a revised target of 1.10% and a revised stop of 0.95%, currently trading at 1.01%.
9. Stay long 7y SAGBs, USD-hedged, opened on July 8, 2020 at 7.9%, with a target of 6.5% and a stop of 9% currently trading at 7.25%, for a potential total return of 3.83%.
10. Stay long MXN vs USD, indexed to 100 on Jul 10, 2020, with a target of 108, and a revised stop of 100, currently trading at 103.92.
11. Stay long CMBX 6 BBB- and short CMBX 9 BBB- at a 1:1x nominal ratio, opened on July 13, 2020, with a target of 8%, and a stop of -8%, currently trading at 2.06%.
12. Stay in 5s10s US real yield curve steepeners, opened on July 17, 2020 at 0.23%, with a target of 0.6%, and a stop of 0%, currently trading at 0.32%.
13. Stay long the MEXBOL Index in USD-terms, opened on July 29, 2020 at 37,717, with a target of 42,000, and a stop of 35,750, currently trading at 36,071.
14. Buy 1.75 Dec24 USTs vs OIS, opened on Aug 7, 2020 at -0.15%, with a target of -0.09%, and a stop of -0.19%, currently trading at -0.145%.
15. Stay long EM banks (Brazil, Mexico, India, Russia, and South Africa) and short Consumer Staples, indexed to 100 on Aug 12, 2020, with a target of 115, and a stop of 92, currently trading at 98.164.
16. Stay long the iTraxx Xover index vs. the iTraxx Main index at a 1 to 4x notional ratio, opened on August 18, 2020 at 0%, with a target of 3% and a stop of -3%, currently trading at 0.56%.
17. Sell 2y2y USD payers, opened on August 28, 2020 at 0.33%, with a target of 0.41% and a stop of 0.23%, currently trading at 0.31%.

Disclosure Appendix

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