



MONDAY, OCTOBER 25, 2021

This special feature follows up on the inaugural [edition](#) (refer to [Global Financial Stability Note](#)), and documents the latest trends in AE nominal yields across various components (inflation breakevens vs real yields; risk premia vs risk-adjusted yields). Analysis provided here expands on previous work and deep dives into yield decomposition for Euro area—highlighting potentially divergent trends between US and Euro Area. Novel spillover analysis (detailed in Section D) reveals that shocks to US real yields and inflation breakevens were significantly contributing to moves in corresponding Euro area measures till around October 2020. Shifts in growth and inflation expectations in 2021 have, however, been predominantly governed by domestic factors in the two regions—reflecting increased economic and policy divergence.

Global near- and longer-term nominal yields gyrated considerably over the last six months (*since the [previous edition of this thematic special feature](#)*). Yields followed a general downward trajectory through much of the summer, driven by declining real rates—reflecting investor concerns around impact of the delta variant on global growth outlook—while inflation breakeven rates held fairly steady (Charts 1 and 2). However, the recent surge in energy and commodities prices, as well as lingering supply disruptions, have translated into a steep rise in breakeven inflation, especially since early September (Chart 2). In reflecting increasing investor concerns that price pressures may turn out to be more persistent than initially anticipated, this rise in breakevens has pushed yields higher, largely reversing their earlier trend. Upward pressure on breakevens is evident across regions, with the most pronounced moves witnessed in Euro area (EA henceforth) and the UK (Charts 3 and 4), potentially reflecting the ongoing energy crisis in the European economies.

Analysis of term premia in the US and EA reveals differing dynamics between the two regions. Term premia declined sharply in the US post-June FOMC, before picking up slightly more recently (Chart 5). In contrast, term premia in the EA continued to climb higher since December 2020, though has dipped slightly more recently (Chart 6). Differences in term premia dynamics reflect the contrasting roles of policy uncertainty, and uncertainty around economic outlook more generally, as well as potential supply and demand effects of bond holdings. Much of the compression in US term premia witnessed after April 2021 may be attributed to increased holdings of treasuries by foreign and domestic investors. On the other hand, concerns around inflation have fueled expectations that central banks may need to tighten earlier than anticipated. As a result, the risk-neutral yield in the US has been rising steadily since the June FOMC, although the policy rate path is expected to be shallow (as discussed in the recent GFSR). In the case of the EA, the risk-neutral yield remained stable for much of the year but has also increased quite sharply in the last few months.

Term premia reflects the sum of risk premia specific to both breakevens and real yields. Understanding the role played by these premia can further highlight contrasting factors responsible for shifts yields (refer: [Goel and Malik, 2021](#)). Decomposing inflation breakevens into constituent inflation expectations and inflation risk premium (IRP) components shows that inflation expectations (on a risk-adjusted basis) have indeed increased meaningfully, *year-to-date*, particularly for the near-term (5yr horizon). The IRP component – which reflects compensation investors require for bearing inflation uncertainty risk –appears to have been a key driver for shifts in US and EA longer-term (5yr5yr horizon) breakevens (Chart 7). But in contrast to the US, IRP appears to have been a relatively more significant driver of near-term EA breakevens, *year-to-date*.

Turning to real yields: these can be decomposed into risk-adjusted real yields—which reflect the average expected short-term real rate, considered a market-based proxy for expected growth—and real term premia. The latter reflects investor uncertainty around growth outlook, as well as future path of monetary policy and fiscal stance.¹ *Year-to-date*, whereas US near-term risk-adjusted real yields have increased, the EA has seen general decline (Chart 8). Importantly, the upward move in risk-adjusted yield in the US appears to have been counteracted almost equally by a decline in real term premium—which may, in part, be a consequence of safe-haven flows into US treasuries.

Next, focusing on dynamics *since September 1*—the sub-period coinciding with an upward trajectory of energy and commodity prices—suggests that nominal yields have primarily been driven by rising breakevens (as highlighted in Charts 2 and 4 previously). Decompositions reveal that upward moves in near-term US and EA breakevens have essentially reflected higher expected inflation; with a largely negligible role played by IRP (Chart 9). This may be interpreted as investors becoming increasingly more convinced that the impact of recent energy and commodity price shocks will deliver a significant and persistent effect on inflation dynamics going forward. While some upward pressure on longer-term US breakevens is also evident over this recent period, most of the move can be attributed to higher IRP.

Furthermore, evidence suggests that elevated uncertainty around economic outlook, as reflected in higher real term premia, has been a relevant driver in the case of US near- and longer-term real yields (Chart 10). For EA, while upward pressure on longer-term real yields can be attributed in part to higher premia, an almost equal magnitude of increase is seen in risk-adjusted real yields. Tentatively, this may reflect expectations of EA growth gaining traction, albeit accompanied with a fair degree of uncertainty.

Evidence from quarterly inflation forecast surveys suggest that very near-term (1yr) to medium-term (5yr) expectations have seen upward pressure, with one year-ahead measures increasing most steeply (Chart 11). While US medium-term expectations have trended upwards, the comparable EA measure has displayed a less pronounced upward move. Based on data from the Survey of Professional Forecasters, recent medium-term EA expectations remain well below historical norms (Chart 12). This, in part, resonates with the earlier finding that increase in EA breakevens may be attributed to some degree to higher uncertainty around inflation outlook, as opposed to signals of significantly higher expected inflation per se. On the other hand, most recent US forecasts are located within upper percentiles of the respective historical distribution. This coincides with the earlier finding of expected inflation being the primary contributor to the rise in US breakevens. Upside risk to US inflation outlook is reflected in robust flows into US inflation protected (TIPS) funds (Chart 13), as well as evidence from inflation options (Chart 14). Compared to the US, risks are less skewed towards higher inflation outcomes for the EA.

We conclude this feature by analyzing spillovers between US and Euro Area—noting the significant divergence between the two regions since late last year. Specifically, we employ the Diebold and Yilmaz (2014) methodology to understand the spillovers between US and EA, across the different yield components (i.e., real yields and inflation breakevens).² Since the start of the pandemic, till around October 2020, the US had been a net-propagator of shocks to the EA. In other words, inflation breakeven shocks and/or real yield shocks were contributing to a significant proportion of the variation in corresponding EA measures, as indicated by a significant, positive index reading (see: Charts 15–18). Evidence of US spillovers has been less compelling year-to-date, essentially reflecting the predominant role of domestic factors governing inflation and rate expectations in the regions. This can be seen with net-spillovers between US and EA dropping to around zero (statistically) around October 2020.

¹ Term premia contained in a nominal yield is the sum of inflation risk premia and real term premia.

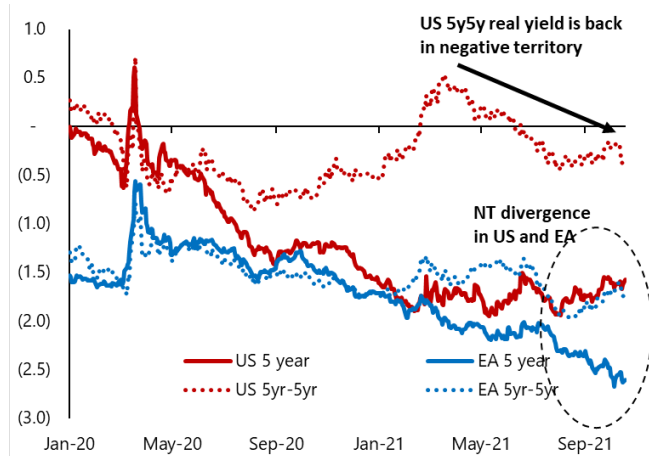
² More details available in Goel and Malik (forthcoming).

SECTION A: DECOMPOSITION OF ADVANCED ECONOMY NOMINAL YIELDS

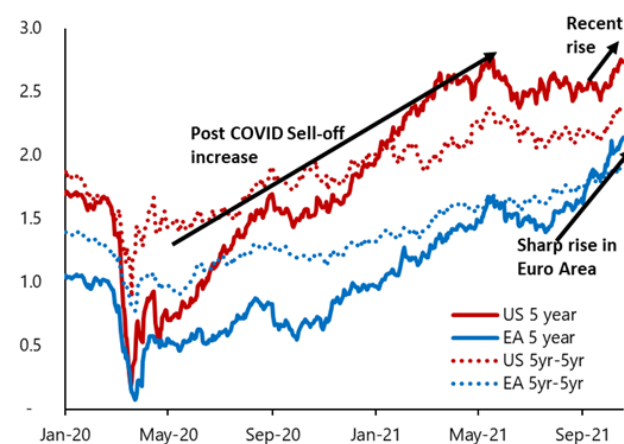
Real yields remain negative across the board, though there is some divergence between US and EA. *Inflation breakevens have come under pressure again recently after a stabilization in the last few months.*

Chart 1. Real Yields in US and EA

(Percent)

**Chart 2. Inflation Breakevens in US and EA**

(Percent)

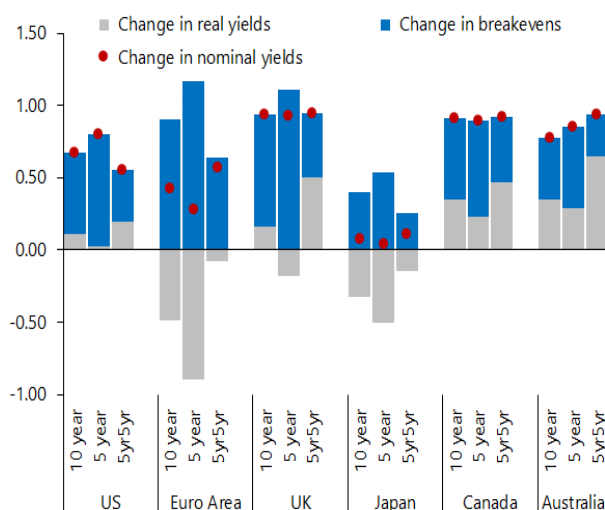


Inflation breakevens have been the dominant reason of the rise in nominal yields this year, on balance; with higher pressure on the near-term tenors.

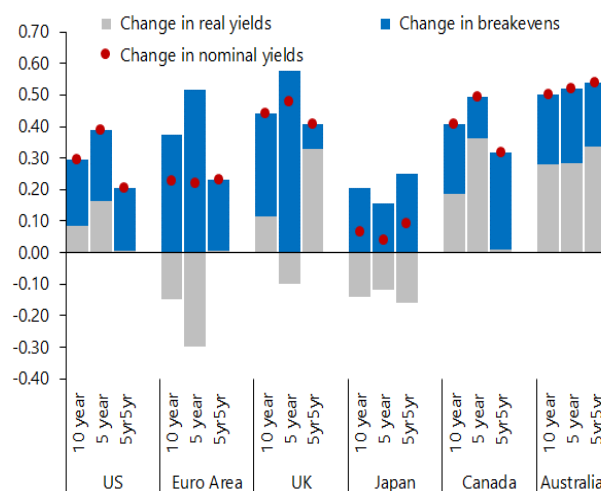
The last few months saw a similar trend with a significant rise in the inflation breakevens.

Chart 3. Breakdown of the Change in AE Nominal Yields into Inflation and Real Yield Components — YTD

(Ppts)

**Chart 4. Breakdown of the Change in AE Nominal Yields into Inflation and Real Yield Components — Since Sep 1**

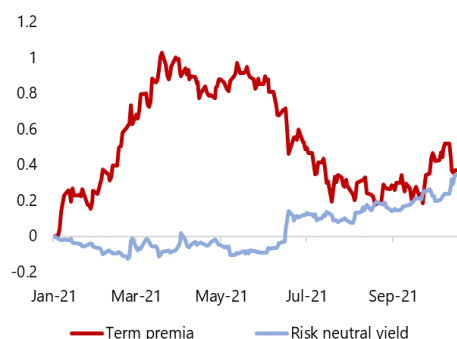
(Ppts)



SECTION B: TERM PREMIA DIVERGENCE BETWEEN US AND EURO AREA

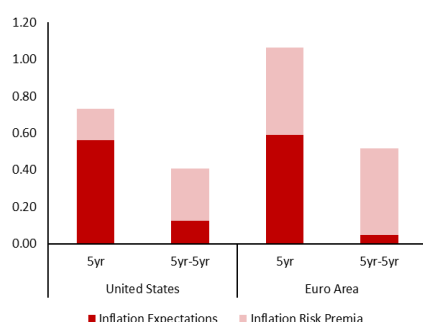
US term premia has declined steeply in the last few months, while risk neutral yield has trended upwards.

Chart 5. Cumulative Change in US 10YR Term Premia and Risk-Adjusted Yields (Percent)



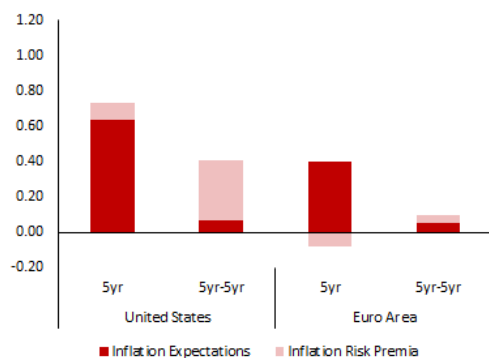
US – Inflation expectations have increased materially ytd, especially for the near-term; EA – Risk premia remains the major driver, especially over longer-term.

Chart 7. Drivers of US and EA Inflation Breakeven: Year-to-Date (Ppts)



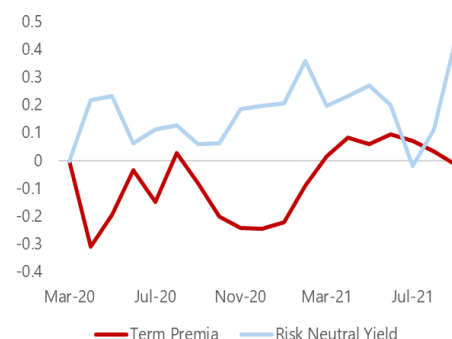
Since September 1, US and EA breakevens have reflected higher expected inflation.

Chart 9. Drivers of US and EA Breakevens: Sept 1 to Now (Ppts)



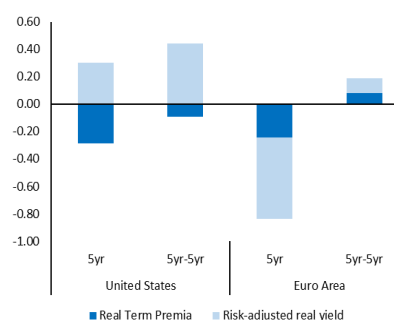
In contrast, term premia in EA has risen in the last few months, while risk neutral yield, after declining, has picked up sharply recently.

Chart 6. Cumulative Change in EA 10YR Term Premia and Risk-Adjusted Yields (Percent)



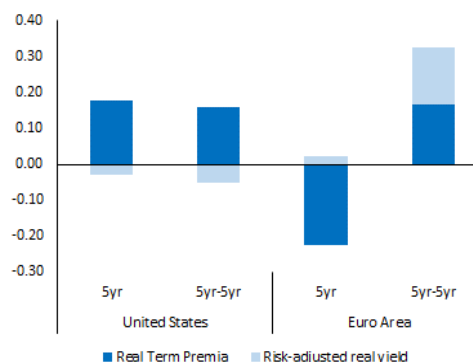
YTD trends show that near-term EA risk-adjusted real yields have declined materially, whereas the US has seen some increase.

Chart 8. Drivers of US and EA Real Yield: Year-to-Date (Ppts)



Real term premia appears to be driving real yields in the US since September 1, with risk-adjusted real yields showing some upward pressure in the case of longer-term EA yields.

Chart 10. Drivers of US and EA Real Yield: Sept 1 to Now (Ppts)



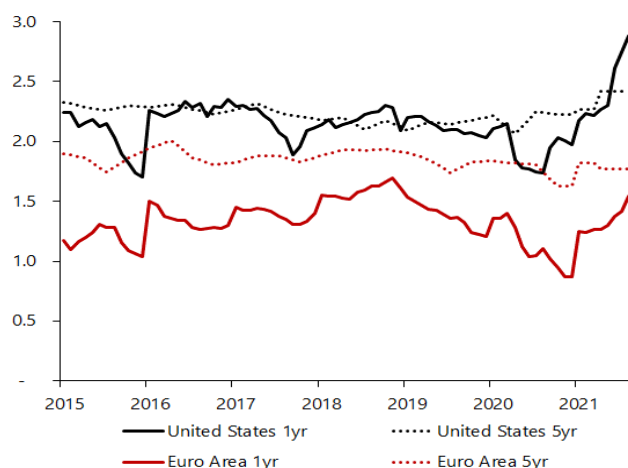
SECTION B: TERM PREMIA DIVERGENCE BETWEEN US AND EURO AREA

SECTION C: SURVEY-BASED INFLATION EXPECTATIONS

Medium term inflation expectations remain anchored and consistent with new CB framework, while very near-term (next year) has increased meaningfully.

Chart 11. Consensus Forecasts for Forward Inflation and the Latest Inflation Print

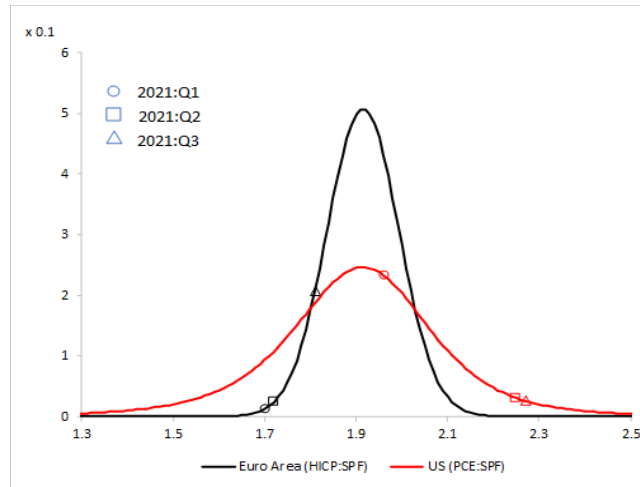
(Percent)



Despite a moderate rise in medium-term inflation expectations in EA, recent forecasts remain well below historical norms.

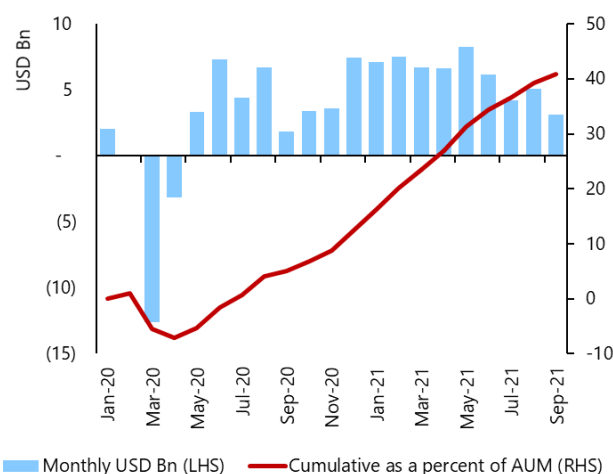
Chart 12. Kernel Density of 5-YR forward Inflation Expectations

(Survey of Professional Forecasters, percent)



Strong flows to US TIPS funds show an upside risk to inflation for the US.

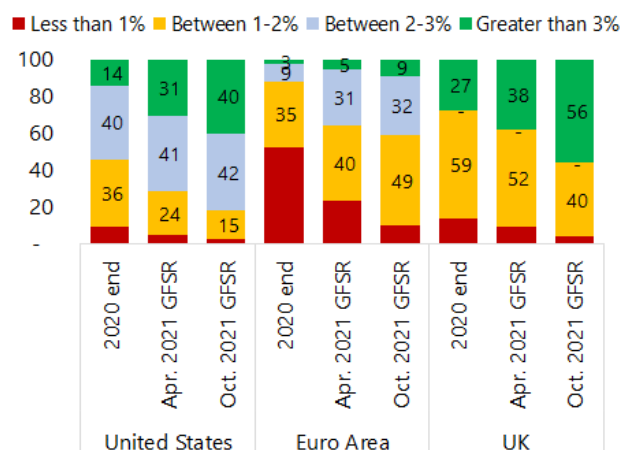
Chart 13. Fund Flows to US Inflation Protected Funds



Risks remain skewed to the upside for the US and UK, but comparatively less thus for EA.

Chart 14. Market Implied Probabilities of Inflation in various Regimes

(Percent)



SECTION D: NET-SPILLOVERS BETWEEN US AND EA

Spillovers from US to EA were very prominent from March 2020 to October 2020 but declined sharply thereafter.

Chart 15. Spillovers from US to EA (5Y Inflation Breakeven)
(Ppts)

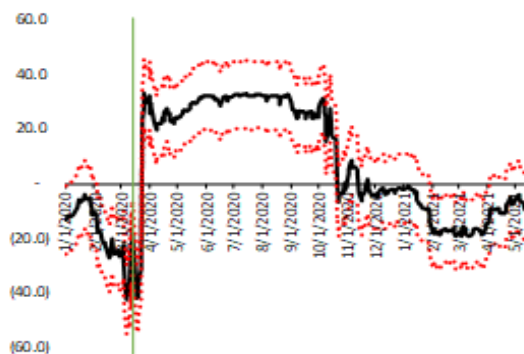


Chart 16. Spillovers from US to EA (5Y5Y Inflation Breakeven)
(Ppts)

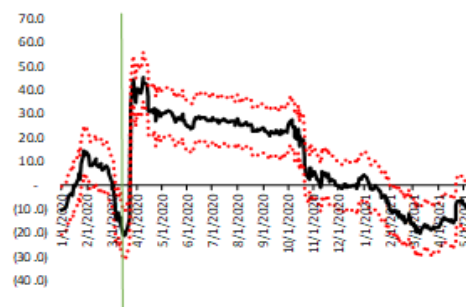


Chart 17. Spillovers from US to EA (5Y Real Yields)
(Ppts)

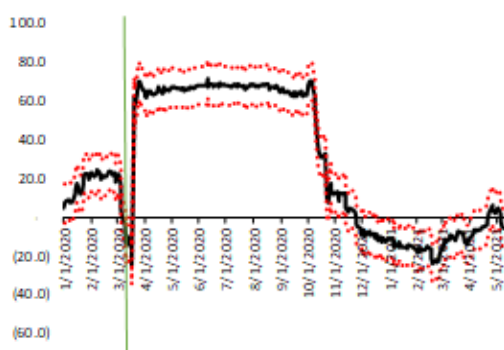
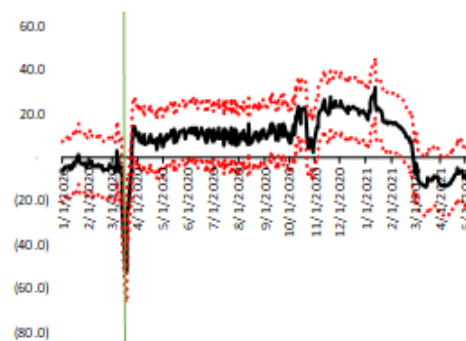


Chart 18. Spillovers from US to EA (5Y5Y Real Yields)
(Ppts)



Note: The black line corresponds to the net-spillover index. The red dotted lines refer to +/- 1.0 standard deviation error bounds around the index. In all charts, the vertical line corresponds to the COVID sell-off episode in March 2020.

Sources for all charts in the note: Bloomberg, Haver Analytics, Consensus surveys, IMF Staff Calculations

Disclaimer: Such special features highlight research in progress by the author(s) and are published to elicit comments and to encourage debate. The views are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.