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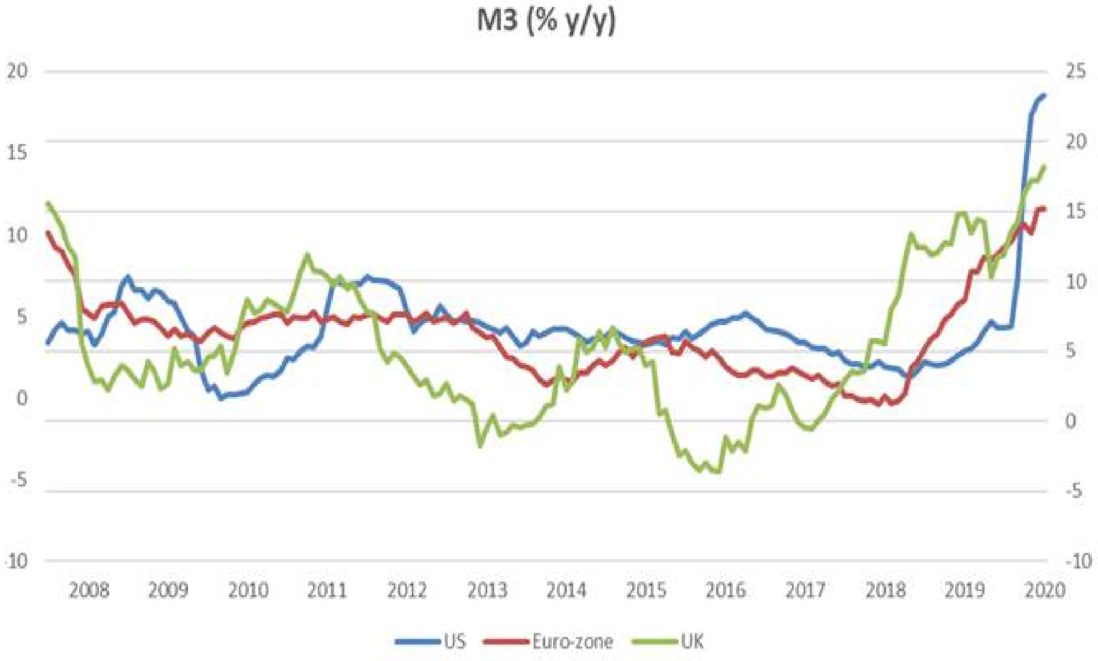
Rapid Money Supply Growth / Possible Inflation Implications

October 19, 2020

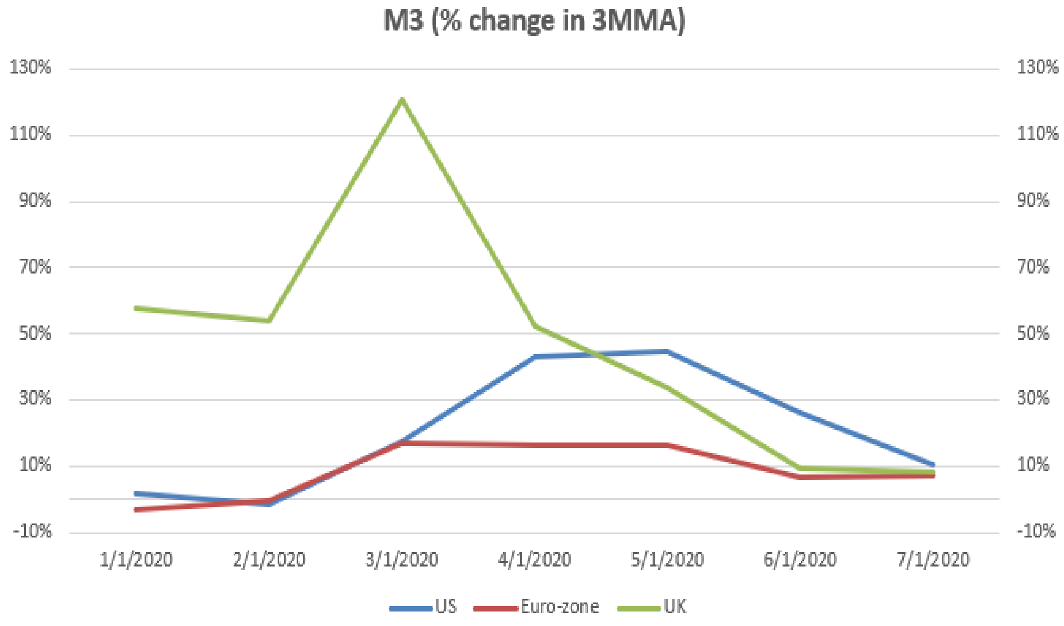
Money Supply Surge[1]

- Monetary growth vs. year ago has been explosive in major Developed Markets (DM), particularly in US thus far in 2020[2]
- US money growth >20%, Euro zone ~18%, UK ~15%



Source: Bloomberg, SECOR

- Three-month moving average, however, shows rate of growth has decelerated since earlier in year
- Latest growth money still roughly 10% but considerably below recent peaks



Source: Bloomberg, SECOR

1. Charts based on M2 for US and M3 for the UK and Euro area which are representative measures of broad monetary aggregates in respective countries/area.
2. Data plotted thru 7/31/20.

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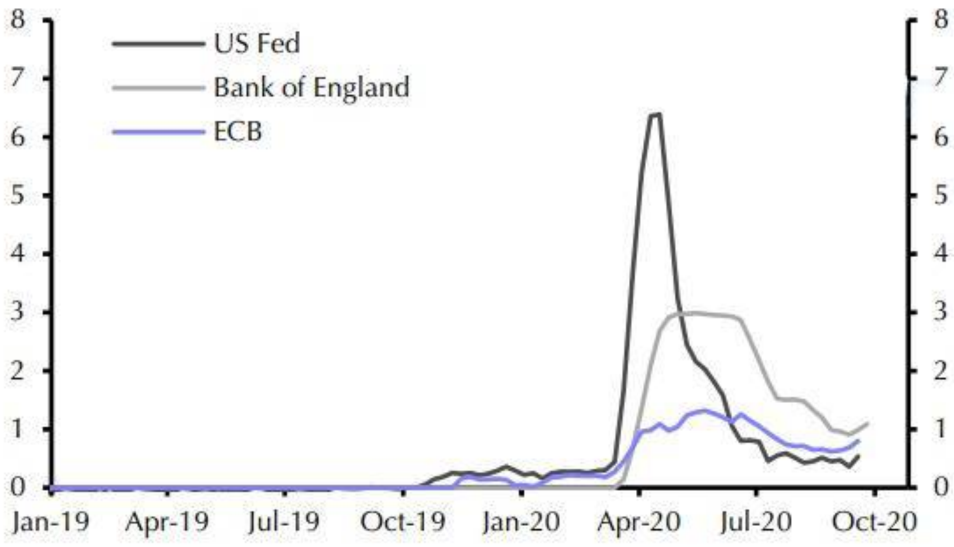
2020 Money Surge Seemingly Transitory/Not Necessarily Inflationary[1]

- Aggressive asset purchases by central banks, especially earlier in the year to supply:
  - Emergency liquidity, particularly for businesses[1]
- Central bank asset purchases have slowed with:
  - Lockdowns less stringent and economy recovering

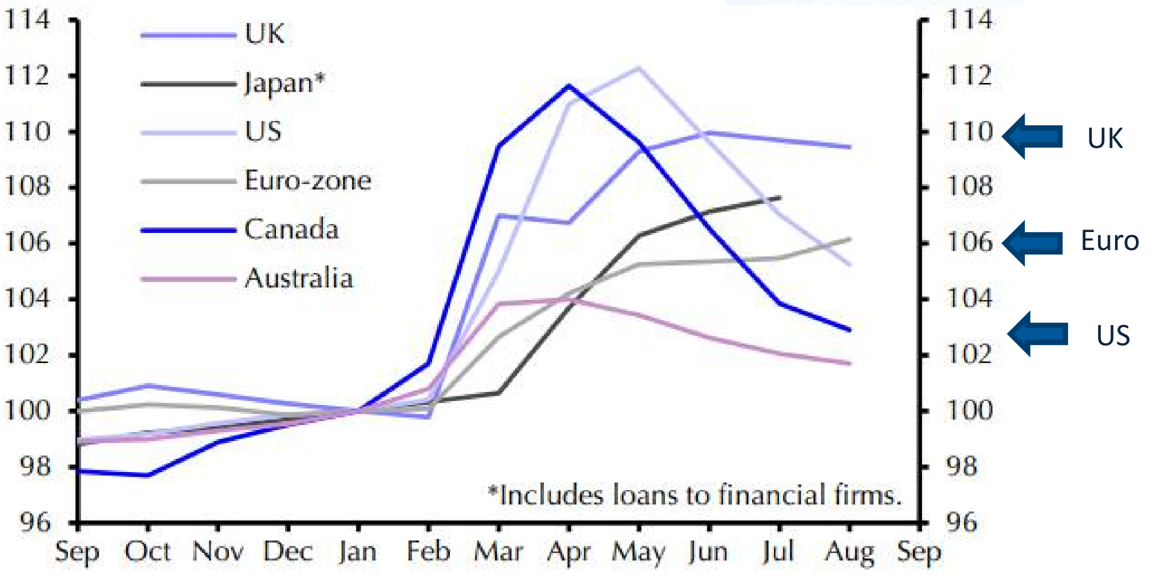
- Bank loans to businesses, in turn, increased sharply but slowing and/or expected to slow
- Currently significantly below peak in US
- Expected to slow in UK and Euro zone[2]

Central Bank Asset Purchases*



Source: Refinitiv, CE; *4- week sum % / GDP; ECB: European Central Bank

Bank Loans to Non – Financial Firms**



Source: Refinitiv, CE; **(Jan. 2020 = 100)

1. Emergency loans not translating into inflationary spending – personal savings at record levels and considerable slack in global economy.
2. Based on recent survey data, bank lending criteria are tightening in the US and Euro area and loosening at a slower pace in the UK.

Money Supply Growth/Inflation Relationship: Theoretical Backdrop

- **Based on History and Widely Quoted Definition / Statement: Rapid Money Growth Valid Concern**
  - Economists frequently define inflation as: "Too much money chasing too few goods"
  - Milton Freidman: "Substantial inflation is always and everywhere a monetary phenomenon…"[1]

- **Classic Quantity Theory of Money Equation Underpins Concern[2]**
  - **M** (money supply) x **V** (velocity) = **P** (price level) x **Q** (quantity of output)
  - If "**V"** and "**Q**" are relatively stable, reasonable assumptions for a fully employed economy[3]
    - There is a direct relationship between money growth and the price level or inflation

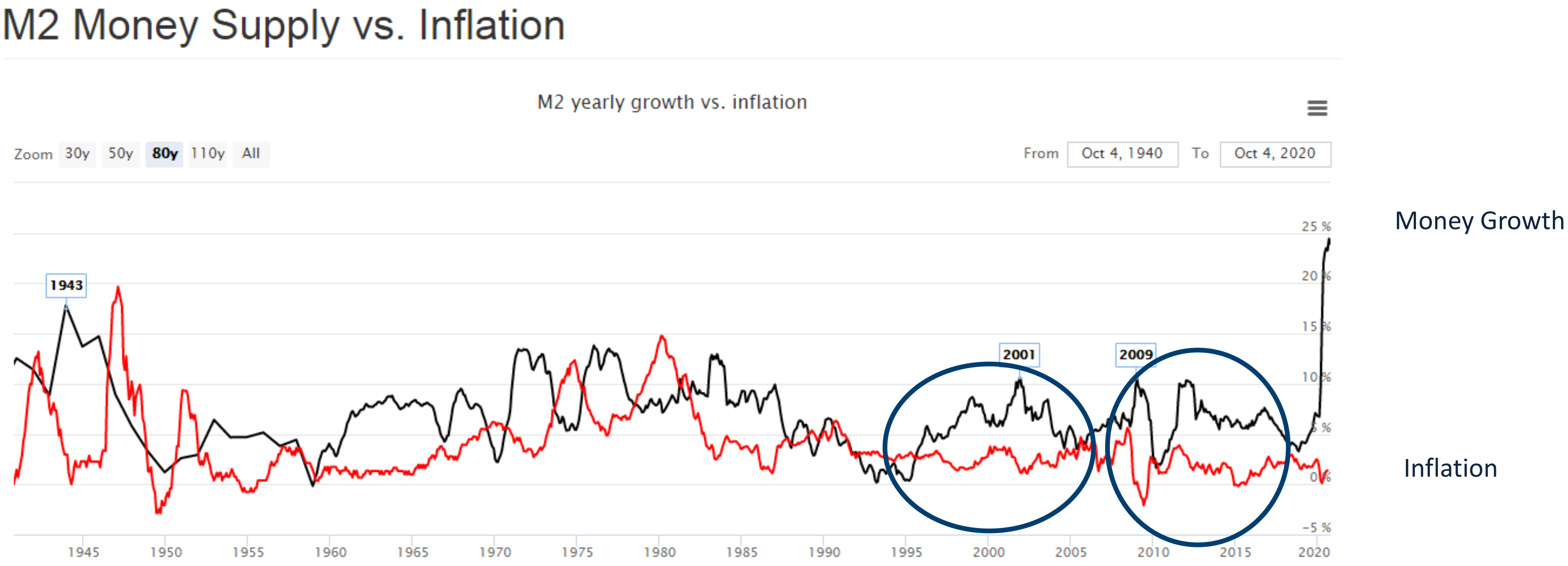
- **Current Conditions, However, Not Conducive to Roughly Stable "V" and "Q"**
  - Consumers currently holding large precautionary balances
    - Record savings rates should slow velocity of money
  - Unprecedented output gaps suggest economy should be:
    - Able to grow faster than potential without exerting upward pressure on price

1. Friedman (**Free to Choose** 1980) references the hyperinflation in Germany after WWI and the relatively moderate US inflation (1969-79) when money rose 9% p.a. and prices rose 7% p.a.
2. Paul Samuelson (**Economics: Introductory Analysis, 4th edition**) classic quantity theory of money equation: MV= PT or money supply times its velocity = price level times volume of transactions or GDP.
3. With a fully employed economy and V constant, an increase in the money supply above the rate of increase in productivity growth (e.g., 2%) would translate into an equivalent increase in the price level or inflation.

Historical Relationship Between Money Growth and Inflation

- **Relationship Between Money Growth and Future Inflation Far From Automatic:**
  - Number of periods over last 80 years when rise in money growth not followed by rise in US inflation

- **Magnitude of Jump in This Year's M2 Growth Unprecedented**
  - But fiscal[1] backdrop also unprecedented in size and scope



Source: Bloomberg, SECOR

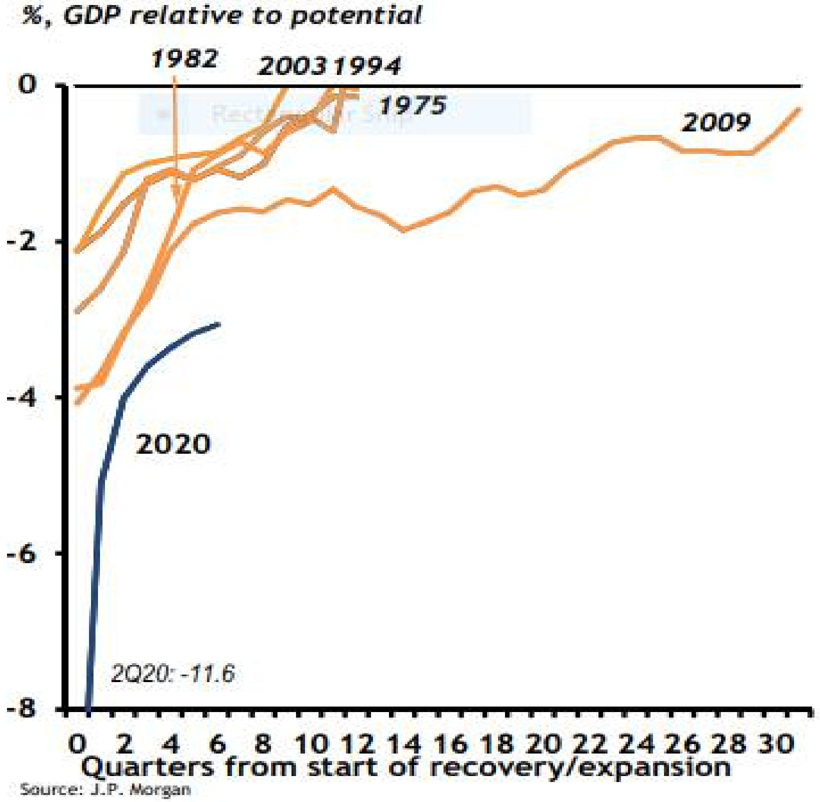
1. For example, the $2.3 trillion Cares Act passed in late March included $350 billion payroll protection program for small businesses which was subsequently increased by $310 billion. The act also made ~$ 500 billion available for large businesses including $46 billion for loans and loan guarantees for air carriers

Unprecedented Output Gap and Saving Rate

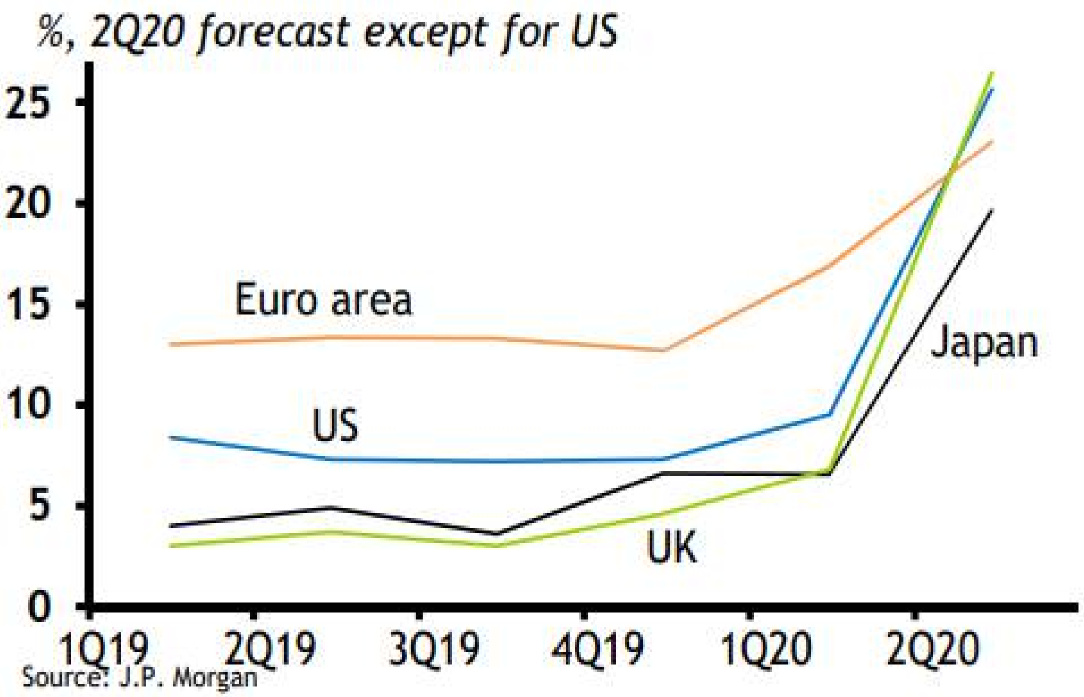
- Global output gap currently ~3%
- Could take 3 or more years to reach full employment

- Personal saving rate at record levels
- Lockdowns curtailed spending, while fiscal stimulus supported incomes

Global Output Gap: Past Expansions



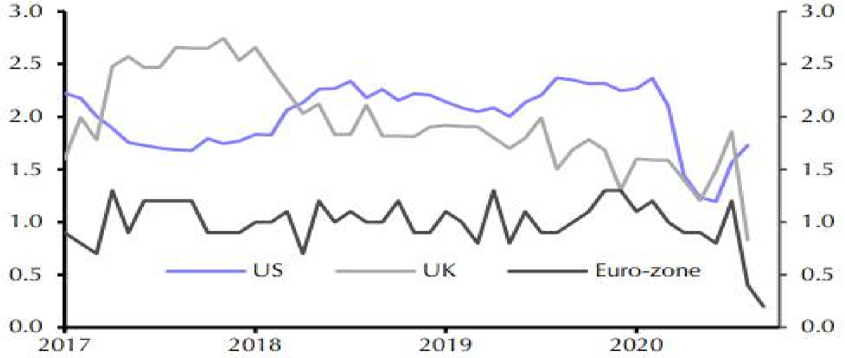
Personal Savings Rate*



* US represents actual personal savings rate

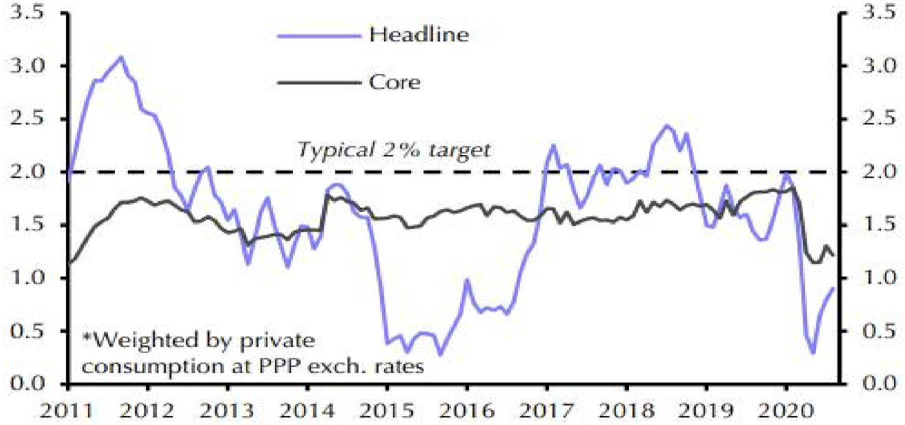
Inflation Currently Subdued

Major Developed Markets: Core Inflation (%)[1]



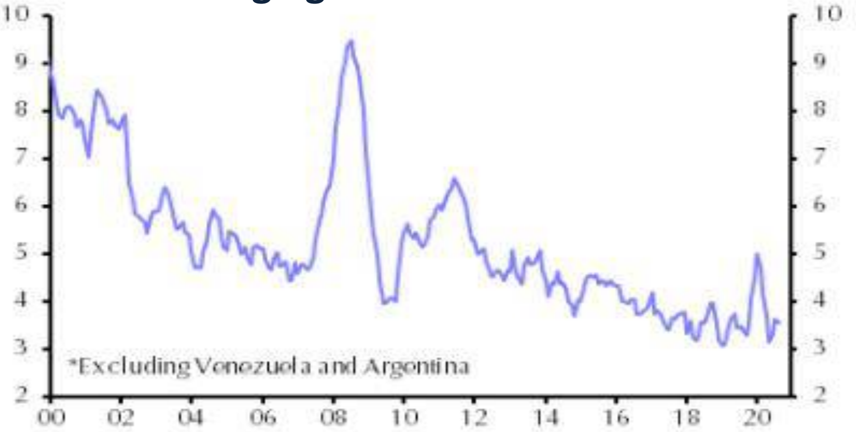
Source: Refinitiv, CE

OECD Inflation (ex Turkey)[2]



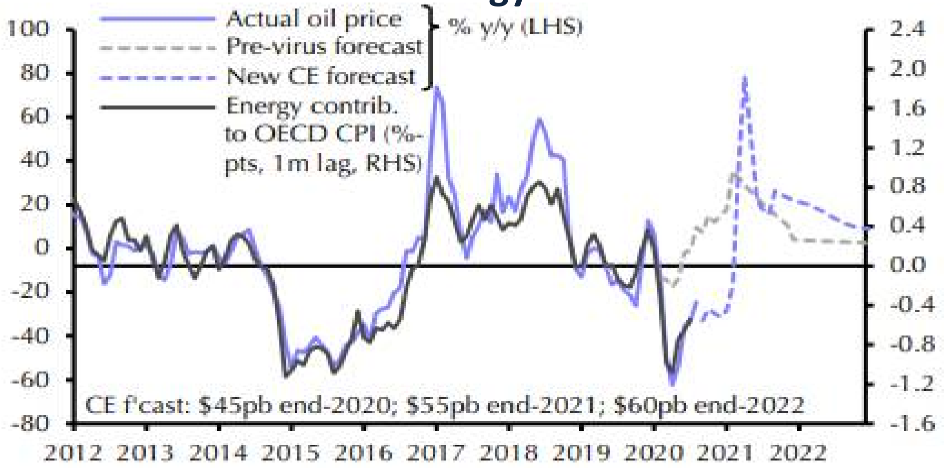
Source: Refinitiv, CE

Emerging Market Inflation*



Source: Refinitiv, CE

Oil Prices & Energy Contribution[3]



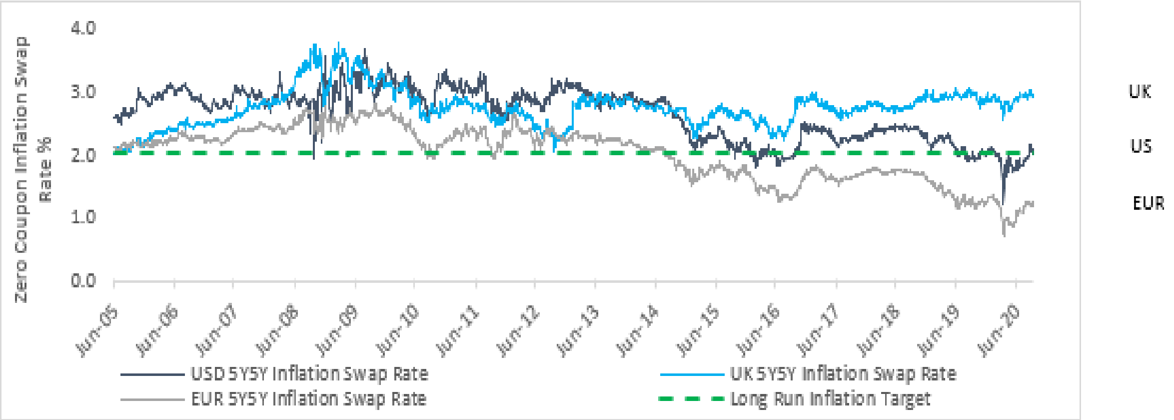
Source: Refinitiv, CE

1. In UK and Euro area core inflation in July and August, respectively, dropped as VAT cuts and dining discounts took effect.
2. Organisation for Economic Co-operation and Development (OECD) headline inflation inched ahead to 0.9% in August due to rise in oil prices.
3. Energy contribution to OECD inflation assumes only mild upward pressure on inflation from energy, before a spike on anniversary of early - 2020 drop.

Charts as of August 31, 2020

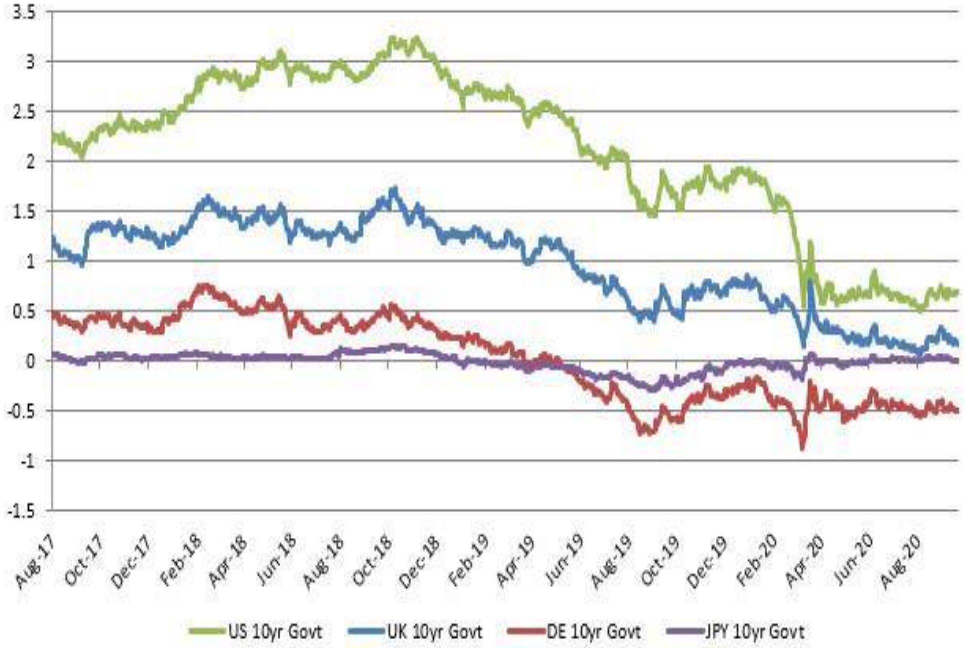
Inflation Expectations Well Anchored Currently

US, Euro Area, UK Inflation Expectations 10-Years Forward[1]



Source: Bloomberg, SECOR

Sovereign Bond Yields[2]



Source: Bloomberg

1. Brexit concerns seemingly account for the relatively high probability of 10-year forward inflation above 2.5% in the UK.
2. Historically low bond yields to some degree due to post – pandemic central bank actions but even pre-pandemic yields did not incorporate material inflation – risk premia

Pulling It All Together

- **High Probability Inflation Will Stay Contained Over Cyclical Horizon[1]**
  - Surge in money supply growth attenuating/seemingly tied to:
    - Extraordinary jump in central bank asset purchases earlier in the year
  - Traditional money supply growth/inflation link muted currently
    - Pandemic/lockdowns resulted in unprecedented slack
    - Consumers holding large precautionary balances/unparalleled saving rates

- **Looking Beyond Cyclical Horizon & Over Decade Ahead: Three Alternative Scenarios**
  - Most likely scenario: central banks continue to follow sound policies
    - Inflation remains in line with central bank targets
  - < 25% probability of period of "controlled" inflation post 2023[2]
  - Tail risk: monetary authorities abandon sound polices that have characterized their behavior for the past 40 years

1. Our definition of inflation staying contained over the cyclical horizon: meaningful or disruptive central bank tightening will not be required over the next 3 or more years.
2. "Controlled" inflation scenario attributed to Capital Economics. In the absence of central bank countervailing actions, when economies returns to normal circa 2023 excess money equivalent to 10%-15% of GDP could raise inflation rate to 4%-5% for a few years instead of targeted rate of ~2%.

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