Global Interest Rate Highlights

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Section 1

Fixed income themes and risks
What Happens When the Fed Cuts Rates?

1. The Fed Eases ECB to Follow
   - How do we know if this is an insurance cut or a pre-recession cut?
   - Watch the front-end rates market, consumer confidence, initial claims, financial conditions

2. Recession or Not?
   - Outside of manufacturing, the economy still looks in good shape.
   - Trade tensions, global growth, politics are key risks

3. What Happens post-Rate Cut?
   - If no recession, stocks, bond yields and the dollar rise
   - Recessionary cuts...the opposite

Resilient economy + Fed easing is a good combo for risk assets;
Keep an eye on the front-end rates market
The markets and the Fed will watch financial conditions closely

US Financial Conditions Index

Source: Bloomberg Finance LP
As of August 28, 2019
Section 2

Current interest rate environment
Almost $17 trillion in negative yielding debt

Barclays Global Aggregate Index

Source: Bloomberg
As of August 28, 2019
Global bond yields

10-year government yields

Source: Bloomberg
As of August 28, 2019
Global growth is stabilizing just above trend

Global PMIs are now consistent with trend growth (~52) & in expansionary territory (>50)

Source: UBS Asset Management, Bloomberg as of July 31, 2019
IMF advanced vs. emerging market growth

Source: International Monetary Fund, World Economic Outlook Database
As of April 2019
US GDP supportive of higher U.S. rates relative to many developed market rates

US economic growth

Source: Bloomberg
As of July 31, 2019
Slowdown in manufacturing, but watch non-manufacturing closely

Service sector has remained resilient so far

Source: UBS Asset Management, Bloomberg as of July 31, 2019
Household incomes moderating but remain solid

The consumer, primary driver of the economy, remains strong

**Household Income**

- Employment
- Average Hourly Earnings
- Hours Worked

**Jobless Claims near 50 year lows**

- Initial Jobless Claims, 4w MA, SA

Source: UBS Asset Management, Macrobond. Data up to July, 2019
Central bank balance sheets

Major central banks: total assets

Source: Bloomberg
As of August 28, 2019
Less compensation demanded to hold longer term bonds

US Treasury 10-year term premium & MOVE index – Is the US curve distorted?

Source: Bloomberg
As of August 28, 2019
Demographics

Working-age population

Source: United Nations, Morgan Stanley Research
Strong flows into fixed income & cash funds

Global fund flows
(cumulative since 2007
$ billions)

Defensives
(Bonds, Cash)

Equities

Source: Goldman Sachs
As of June 30, 2019

UBS
Longer life expectancy likely leads to higher savings rates

Life expectancy at birth for the US and World from UN plus projections going forward

Source: Bloomberg
As of June 30, 2019
World population is aging

Productivity improving

Source: Bureau of labor statistics, Bloomberg
Section 3

Inflation status
Structural factors likely keep inflation in check for a while

- Global excess supply
- Global working age population
- Developed market demographics
- Technology
US, EUR, Swiss & JPY Inflation

**US Core PCE (yoy %)**

- Current value: 1.5

**Eurozone Core CPI (yoy %)**

- Current value: 0.9

**Japan Core CPI measures (yoy %)**

- CPI excluding fresh food [0.6]
- CPI excluding fresh food and energy [0.3]

**Swiss Core CPI (yoy %)**

- Current value: 0.4

Source: Bloomberg

As of August 28, 2019
US TIPS inflation breakeven rates have come down

Source: Bloomberg
As of August 28, 2019
Section 4

Interest rate outlook
Expectations for higher rates has been a common theme.

Survey of professional forecasters - 10yr US Treasury yield

Source: Federal Reserve Bank of Philadelphia, Bianco Research LLC
As of August 28, 2019
Yield curve inversions lead recessions

10yr less 3mo yield curve

Source: Bianco Research LLC
As of August 28, 2019

8/28/2019
-0.49%
How long until the next recession?

When the 3 month/10 year yield curve inverts for 10 straight days

<table>
<thead>
<tr>
<th>Date of Inversion</th>
<th>Date of Next Recession</th>
<th>Days to Next Recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/10/1969</td>
<td>Dec-69</td>
<td>325</td>
</tr>
<tr>
<td>6/14/1973</td>
<td>Nov-73</td>
<td>140</td>
</tr>
<tr>
<td>12/8/1978</td>
<td>Jan-80</td>
<td>389</td>
</tr>
<tr>
<td>11/7/1980</td>
<td>Jul-81</td>
<td>236</td>
</tr>
<tr>
<td>6/6/1989</td>
<td>Jul-90</td>
<td>390</td>
</tr>
<tr>
<td>7/31/2000</td>
<td>Mar-01</td>
<td>213</td>
</tr>
<tr>
<td>8/1/2006</td>
<td>Dec-07</td>
<td>487</td>
</tr>
<tr>
<td>6/6/2019</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td><strong>311</strong></td>
</tr>
</tbody>
</table>

Is this signal diluted by lower term premium and global search for yield?

Source: Bianco Research LLC
As of August 28, 2019
FOMC dot projections

Distribution of FOMC members projections for Fed Funds rate

Meeting date 6/19/2019

- 2 easings in 2019
- 2 easings in 2020

Source: Federal Reserve
As of August 28, 2019

Overnight Index Swap (OIS) is an interest rate swap involving the overnight rate being exchanged for a fixed interest rate. An overnight index swap uses an overnight rate index, such as the Federal Funds Rate, as the underlying for its floating leg, while the fixed leg would be set at an assumed rate. Overnight index swaps are popular amongst financial institutions for the reason that the overnight index is considered to be a good indicator of the interbank credit markets, and less risky than other traditional interest rate spreads.
US interest rate movements going forward

The FOMC is data dependent and focused on risk management of cross currents ("mid cycle adjustment to policy")

**Rates Up**
- Inflation accelerates above 2%
- US – China trade deal completed
- Sustained pick-up in global growth

**Rates range bound**
- Economic and geopolitical uncertainties continue
- 2% US GDP with inflation 1.75% to 2.25%
- Expected range 1.25% - 2.00%

**Rates down**
- Financial conditions tighten too much against Fed's forecast
- US economy sustainably slows below 2% GDP with low inflation
- Global growth slows systematically

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Source: UBS Asset Management
As of August 28, 2019
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