Daily Trends in Yields, Equity Returns, FX

- **10-Yr US Government Yield (%)**
  - Nominal Yield
  - MSCI USA

- **Equity Return (%)**

- **Cumulative MSCI Equity Return in USD (%)**
  - USA
  - World ex USA
  - Emerging Markets

- **10-Yr Government Yield: Cumulative Change (bps)**
  - US
  - Germany
  - UK
  - Japan

- **Strength of USD**
  - vs EUR
  - vs GBP
  - vs JPY
  - vs CNY

*See Appendix for data sources*
Monthly Trends in Yields, Equity Returns, FX

- **10-Yr US Government Yield (%):**
  - Nominal Yield
  - MSCI USA

- **Equity Return (%):**

- **Cumulative MSCI Equity Return in USD (%):**
  - USA
  - World ex USA
  - Emerging Markets

- **10-Yr Government Yield: Cumulative Change (bps):**
  - US
  - Germany
  - UK
  - Japan

- **Strength of USD:**
  - vs EUR
  - vs GBP
  - vs JPY
  - vs CNY

*As of April 13
**See Appendix for data sources
Government Nominal Yield Curves

- **US Government Yield Curve (%)**
  - Maturity (years) range from 1 to 30 years.
  - Graph shows yield curves for different dates:
    - 13-Apr 2021
    - 31-Oct 2020
    - 30-Apr 2020

- **Germany Government Yield Curve (%)**
  - Maturity (years) range from 1 to 30 years.
  - Graph shows yield curves for different dates:
    - 13-Apr 2021
    - 31-Oct 2020
    - 30-Apr 2020

- **UK Government Yield Curve (%)**
  - Maturity (years) range from 1 to 30 years.
  - Graph shows yield curves for different dates:
    - 13-Apr 2021
    - 31-Oct 2020
    - 30-Apr 2020

- **Japan Government Yield Curve (%)**
  - Maturity (years) range from 1 to 30 years.
  - Graph shows yield curves for different dates:
    - 13-Apr 2021
    - 31-Oct 2020
    - 30-Apr 2020

*See Appendix for data sources*
Daily & Monthly US Corporate Spreads vs Equities

10-Yr BBB OAS (bps) vs Equity Return (%)

10-Yr Corporate OAS: Cumulative Change (bps)

*As of April 13

**See Appendix for data sources
Euro Corporate and Sovereign Spreads vs Equities

10-Yr BBB OAS (bps)*

Equity Return (%)*

10-Yr Sovereign OAS (bps)*

Equity Return (%)*

10-Yr Corporate OAS: Cumulative Change (bps)

10-Yr Sovereign OAS: Cumulative Change (bps)

*Option Adjusted Spread in basis points to German government curve. Equity return expressed in USD.

**As of April 13

***See Appendix for data sources
Spread Term Structure: BBB Corporates & Sovereigns

US BBB OAS (bps)

- 13-Apr 2021
- 31-Oct 2020
- 30-Apr 2020

Maturity (years)

0 1 3 5 7 10 15 20 30

Euro BBB OAS (bps)*

- 13-Apr 2021
- 31-Oct 2020
- 30-Apr 2020

Maturity (years)

0 1 3 5 7 10 15 20 30

*Spread to German government curve as of April 13

Euro Sovereign OAS (bps)*

- Italy
- Spain
- France

Maturity (years)

0 1 3 5 7 10 15 20 30

Italy Sovereign OAS (bps)*

- 13-Apr 2021
- 31-Oct 2020
- 30-Apr 2020

Maturity (years)

0 1 3 5 7 10 15 20 30

*Spread to German government curve

**See Appendix for data sources
Trends in Government Yields and Actual Inflation

-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50

10-Yr Government Nominal Yields (%)

May 2017 Jan '18 Jul '18 Jan '19 Jul '19 Jan '20 Jul '20 Jan '21

-1.00 -0.50 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50

Realized Inflation (%)

May 2017 Jan '18 Jul '18 Jan '19 Jul '19 Jan '20 Jul '20 Jan '21

-2.50 -2.00 -1.50 -1.00 -0.50 0.00 0.50 1.00

10-Yr Government Breakeven Inflation Yields (%)

May 2017 Jan '18 Jul '18 Jan '19 Jul '19 Jan '20 Jul '20 Jan '21

1.50 1.00 0.50 0.00 -0.50 -1.00 -1.50 -2.00 -2.50

10-Yr Government Real Yields (%)

May 2017 Jan '18 Jul '18 Jan '19 Jul '19 Jan '20 Jul '20 Jan '21

*UK breakeven inflation and real yields are adjusted to reflect historical differences between the Retail Price Index (RPI) and the Consumer Price Index (CPI)

**See Appendix for data sources
Spreads on Corporates & Euro / EM Sovereigns

10-Yr US Corporate OAS (bps)

10-Yr Euro Sovereign OAS (bps)*

10-Yr Euro OAS (bps)*

10-Yr Emerging Markets Sovereign OAS (bps)*

*Spread to German government curve

**See Appendix for data sources
Inflation: US Market Implied (BEI) and Actual CPI / PCE

US Government Breakeven Inflation Yield Curve (%)

- Maturity (years)
  - 1, 3, 5, 7, 10, 15, 20, 30

- 13-Apr 2021
- 31-Oct 2020
- 30-Apr 2020

US CPI vs Breakeven Inflation Yields (%)

- Maturity (years)
  - May 2017, Jan '18, Jul '18, Jan '19, Jul '19, Jan '20, Jul '20, Jan '21

US CPI (%)

- May 2017, Jan '18, Jul '18, Jan '19, Jul '19, Jan '20, Jul '20, Jan '21

- CPI all items
- CPI ex food/energy

US Inflation: CPI vs PCE (%)

- May 2017, Jan '18, Jul '18, Jan '19, Jul '19, Jan '20, Jul '20, Jan '21

- PCE ex food/energy
- CPI ex food/energy

*CPI ex food/energy inflation (yoy) 1.6% as of Mar 2021
**See Appendix for data sources
US Govt Yield Drilldown: Nominal, Real and BEI

10-Yr US Government Yields (%)

10-Yr Yields: Cumulative Change (bps)

*See Appendix for data sources
China Government Bond Drilldown

**China Sovereign (CNY) Yield Curve (%)**

- Maturity (years): 1, 3, 5, 7, 10, 15, 20, 30
- **Yield (CNY)**:
  - 13-Apr 2021
  - 31-Oct 2020
  - 30-Apr 2020

**10-Yr China Sovereign Yield (%)**

- **Equity Return (%)**:
  - As of April 13. Equity return in USD
  - Yield (CNY)
  - MSCI China

**Realized Inflation (%)**

- **Inflation measured by All Items CPI includes food and energy prices**
- **China inflation (yoy) -0.2% as of Feb 2021**

***See Appendix for data sources***

MSCI
Long-Run Trends in Yields and Inflation

10-Yr Government Nominal Yields (%)

10-Yr Government Breakeven Inflation Yields (%)

10-Yr Government Real Yields (%)

1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00

Jun 1997 Jun '03 Jun '06 Jun '09 Jun '12 Jun '15 Jun '18 Jan '21

US Germany UK Japan

-1.00
-0.50
0.00
0.50
1.00
1.50
2.00
2.50
3.00

Jun 1997 Jun '03 Jun '06 Jun '09 Jun '12 Jun '15 Jun '18 Jan '21

US Eurozone UK Japan

-3.00
-2.00
-1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00

Jun 1997 Jun '03 Jun '06 Jun '09 Jun '12 Jun '15 Jun '18 Jan '21

US Germany UK Japan

-3.00
-2.00
-1.00
0.00
1.00
2.00
3.00
4.00

Jun 1997 Jun '03 Jun '06 Jun '09 Jun '12 Jun '15 Jun '18 Jan '21

US Germany UK Japan

*UK breakeven inflation and real yields are adjusted to reflect historical differences between the Retail Price Index (RPI) and the Consumer Price Index (CPI)

**See Appendix for data sources
**Trends in Yield and Return Volatilities**

10-Yr Government Nominal Yield Volatility (bps)*

US Nominal Yield Volatility Curve (bps)*

0 50 100 150 200

Maturity (years)

1 3 5 7 10 15 20 30

US 10-Yr Nominal

09-Apr 2021

MSCI World ex USA

30-Oct 2020

MSCI USA

24-Apr 2020

MSCI Emerging Markets

10-Yr US Yield Volatility (bps)*

Equity and 10-Yr US Government Return Volatility (%)*

0 10 20 30 40 50 60

Nominal BEI Real

0 10 20 30 40 50 60

Jan

US 10-Yr Nominal

MSCI World ex USA

MSCI USA

MSCI Emerging Markets

*Realized volatility using exponential time decay with half life of 18-weeks

**See Appendix for data sources
Trends in Correlations and Yield Curve Slope

Return Correlations: Equities & 10-Yr US Government*

MSCI USA vs:
- MSCI World ex USA
- MSCI Emerging Markets

Return Correlations: US Equity & 10-Yr US Real, BEI*

MSCI USA vs:
- 10-Yr Government BEI
- 10-Yr Government Real

Yield Correlations: 10-Yr US Government*

10-Yr Nominal vs:
- 10-Yr BEI
- 10-Yr Real

Yield Curve Slope: 10-Yr less 3-Month (bps)

10-Yr Nominal vs:
- US
- Germany
- UK
- Japan

*Realized correlation using exponential time decay with half life of 2-years
**See Appendix for data sources
FX Trends

Strength of US Dollar

FX Forward Curve: Strength of US Dollar*

FX Volatility (%)**

*As of April 13
***See Appendix for data sources

**Realized volatility using exponential time decay with half life of 18-weeks
Appendix
Data Sources

Yields and Spreads
MSCI zero coupon yield and spread curves

Indexes
MSCI USA Index, MSCI World ex USA Index, MSCI Europe Index, MSCI China, MSCI Emerging Market Index

Relative Strength of Currencies
MSCI

Inflation and GDP
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