

U.S. Interest Rates Chartbook

TOLO

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May 2017

Takeaways

BBVA Research

FOMC minutes and Fedspeak have signaled FOMC readiness to raise the Fed funds rate by another 25bp at its next meeting in June. The Committee's commitment to the gradual reduction of its balance sheet "later this year" remains unchanged and will likely be green lighted once the policy rate extends midway towards the median of the FOMC projected long-run rate of 3.00%

> "With the federal funds rate projected to be in the range that is midway to the Committee's projection of the long-run value of the federal funds rate later this year, I would consider it reasonable to assess that this threshold will have been attained before too long" May 30, 2017, Governor Lael Brainard Speech

"I would view it as appropriate to continue to gradually raise rates. I would also see it as appropriate to begin the process of reducing the size of the balance sheet later this year" June 1, 2017, Governor Jerome Powell Speech

- The Fed funds futures market is aligned with the FOMC, pricing in two more rate hikes in 2017 with a 98% implied probability for the next rate increase in June, followed by a rate increase in December
- The yield curve flattens under newly resumed downward pressure on long-term yields as inflation expectations and term premium edge down
- The baseline is for a gradual increase in long-term yields





Unconventional Monetary Policy

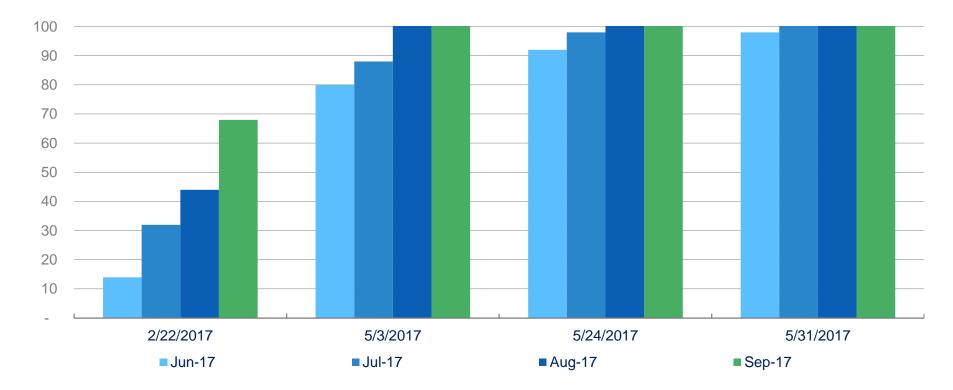
5.0 End of QE3 First MBS Purchase QE2 QE3 3rd 4.5 Rate Hike "Operation Twist" Taper 4.0 Tantrum 1st 2nd 3.5 Rate Hike Rate Hike 3.0 2.5 2.0 1.5 1.0 0.5 0.0 09 12 13 16 08 10 11 14 15 17 10-Year Treasury Yield Federal Funds Rate

FEDERAL FUNDS RATE AND 10-YEAR TREASURE NOTE (%)



June Rate Hike Probability is at 98%

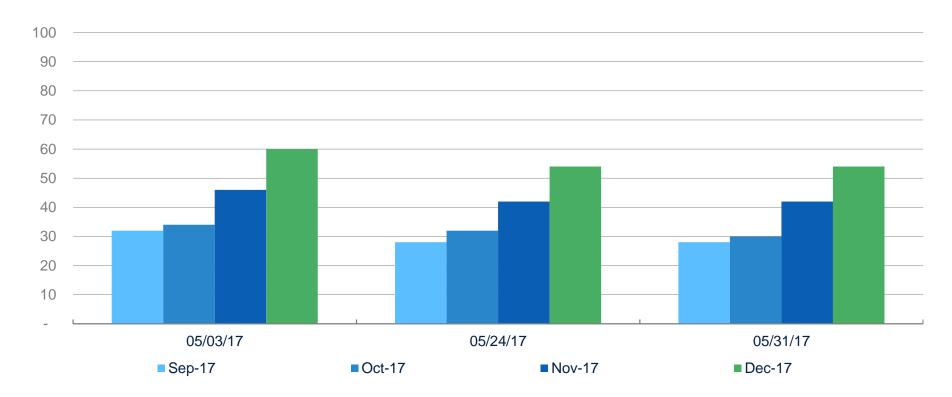
FED FUNDS FUTURES IMPLIED PROBABILITIES, FOURTH 25BP HIKE (%)





Fifth Rate Hike is Priced in for 4Q17

FED FUNDS FUTURES IMPLIED PROBABILITIES, FIFTH 25BP HIKE (%)





Fed Funds Futures Curve

2.000 -1.875 -1.750 -1.625 -1.500 -1.375 -1.250 -1.125 1.000 0.875 0.750 0.625 ____ _____ 0.500 -1 1 Aug-17 Nov-17 May-17 Feb-18 May-18 Aug-18 Nov-18 Feb-19 May-19 Aug-19 Nov-19 **—**5/3/2017 **—**5/24/2017 **—**5/31/2017

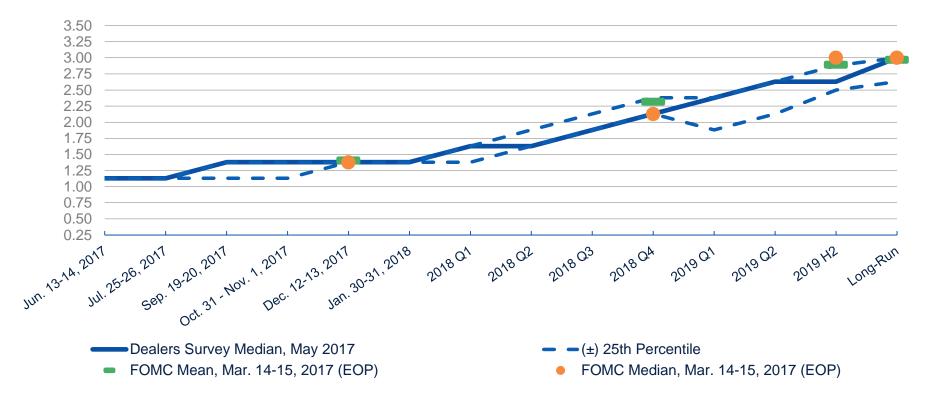
FED FUNDS FUTURES – MOST RECENT, 1 WEEK PRIOR, 1 MONTH PRIOR, 3 MONTHS PRIOR (%)



Dealers' expectations match the FOMC policy firming path for the end of 2017 to 2018

PROJECTED PACE OF POLICY FIRMING

(%)

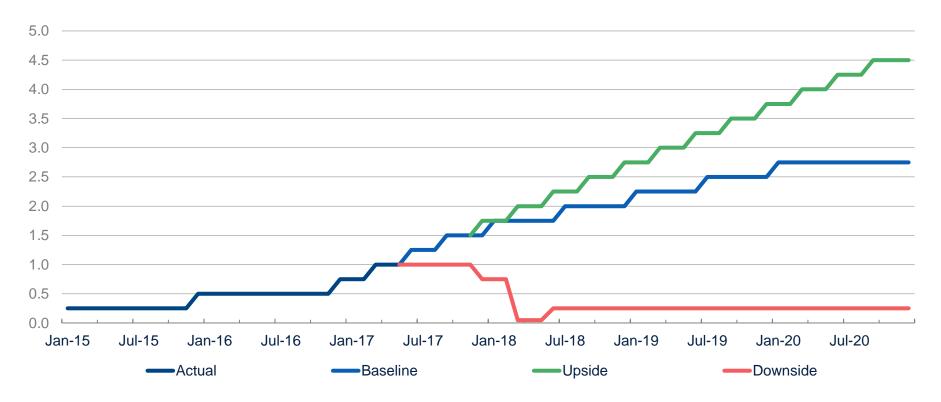




BBVA Fed Funds Firming Pace Forecast

FEDERAL FUNDS RATE

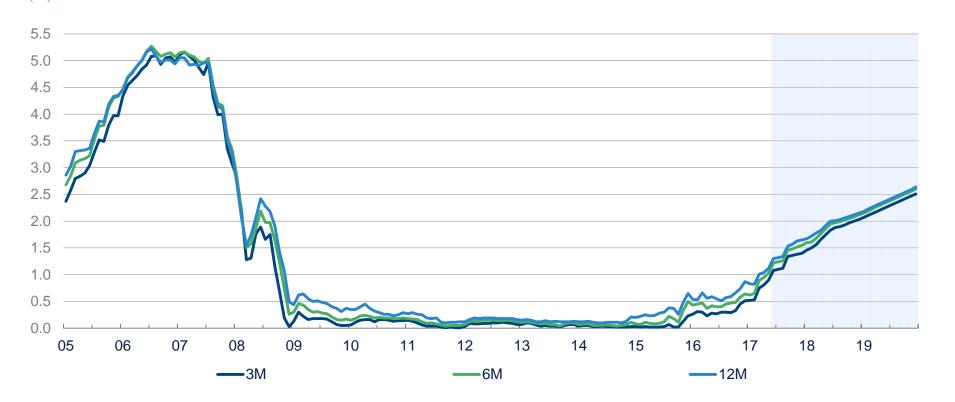
(%, Upper Bound, End of Period)





BBVA Baseline Forecasts of Treasury Bill Yield

3-MONTH TO 12-MONTH RATES (%)





Long-Term Yield Volatility Has Normalized Below Historic Mean

8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 -Jan-17 Jan-15 Apr-15 Jul-15 Oct-15 Jan-16 Apr-16 Jul-16 Oct-16 Apr-17 Mean since 2003 Index

10-YEAR U.S. TREASURY NOTE VOLATILITY

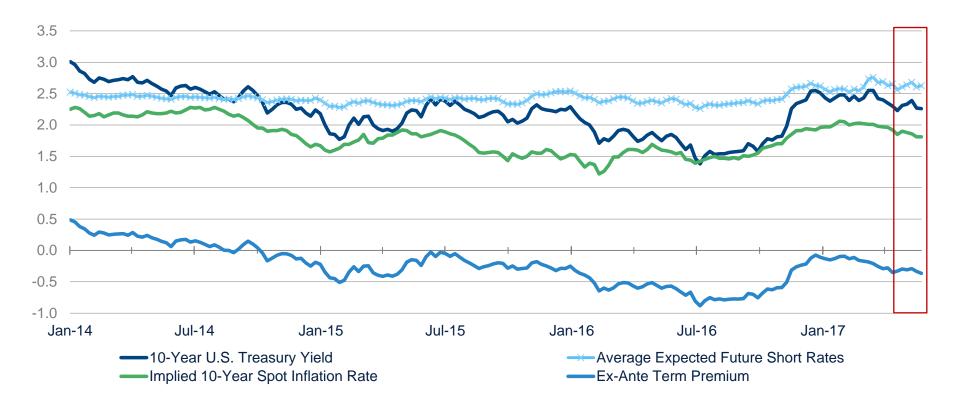
(Daily index)

Index measures a constant 30-day expected volatility of 10-Year Treasury Note futures prices, and is calculated based on transparent pricing from the Chicago Board of Trade's actively traded options on the Treasury Note futures



Downward Pressure on Term Premium Resumed

10-YEAR U.S. TREASURY TERM PREMIUM & MARKET INFLATION EXPECTATIONS (Weekly, %)





Mid-Term Duration-Risk Compression Has Stabilized at 11 Basis Points

DURATION-RISK COMPRESSION

(Daily, %)



Calculated as the difference between 5-Year and 3-Year term premium reported by the New York Fed ACM (Adrian, Crump, and Moench) five-factor, no-arbitrage term structure model incorporating pricing factors.



Long-Term Duration-Risk Compression Has Stabilized at 10 Basis Points

DURATION-RISK COMPRESSION

(Daily, %)

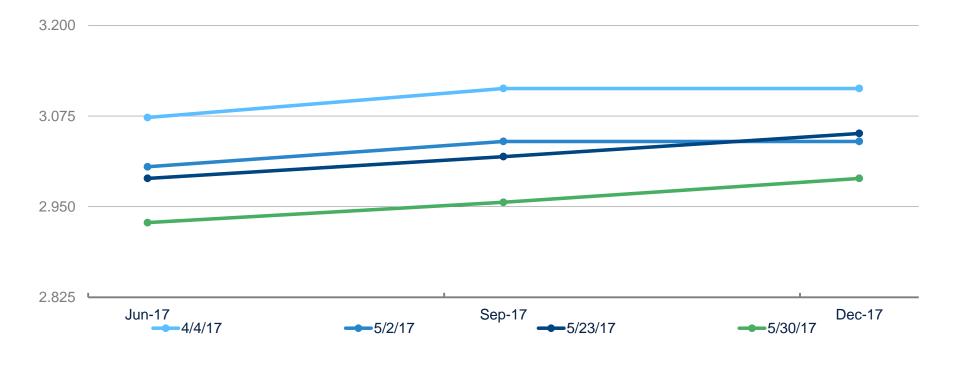


Calculated as the difference between 10-Year and 5-Year term premium reported by the New York Fed ACM (Adrian, Crump, and Moench) five-factor, no-arbitrage term structure model incorporating pricing factors.



Futures Declined, Discounting a 6bp Raise in 10YTN Yields Over the Next 2 Quarters

10-YEAR U.S. TREASURY YIELD FUTURES – MOST RECENT, 1 WEEK PRIOR, 1 MONTH PRIOR, 3 MONTHS PRIOR (%)



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10-YEAR U.S. TREASURY YIELD

10-Year Treasury Yield Forecasts



* National Association for Business Economics (NABE) Outlook median forecast compiled from a panel of NABE members. Last release date March 26, 2017

** Survey of Professional Forecasters (SPF) conducted by Federal Reserve Bank of Philadelphia. Last release date May 12, 2017

*** Congressional Budget Office (CBO). Last release date January 24, 2017

**** Administration: 2018 Budget. Last release date May 23, 2017

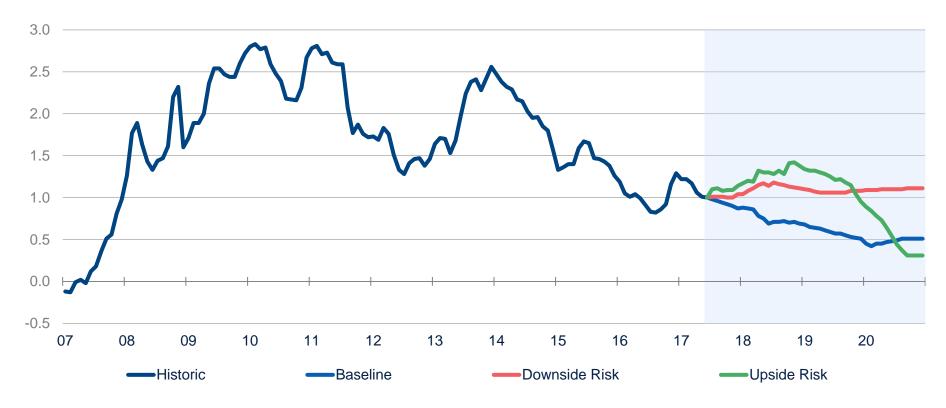
Source: BBVA Research, NABE, FRB Philadelphia, CBO and Haver Analytics



Yield Curve Slope Forecasts

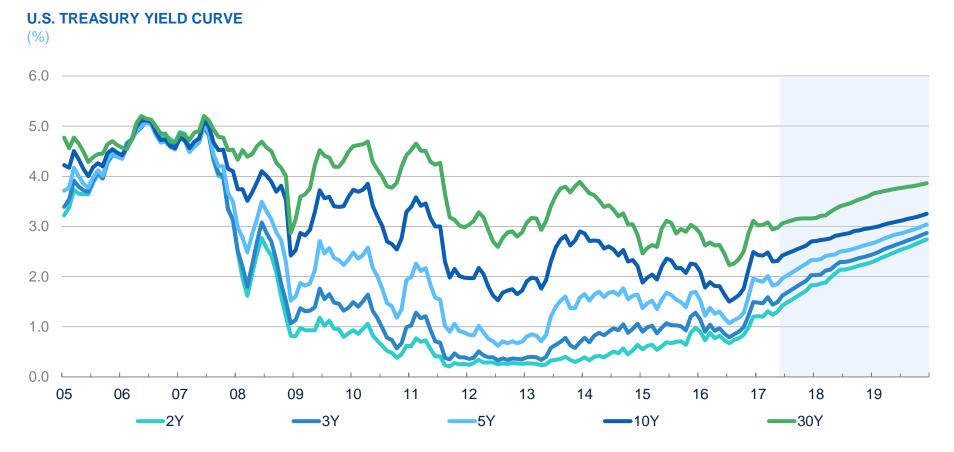
TREASURY YIELD CURVE SLOPE

(%, 10Y-2Y)





Treasury Yield Curve Baseline Forecasts



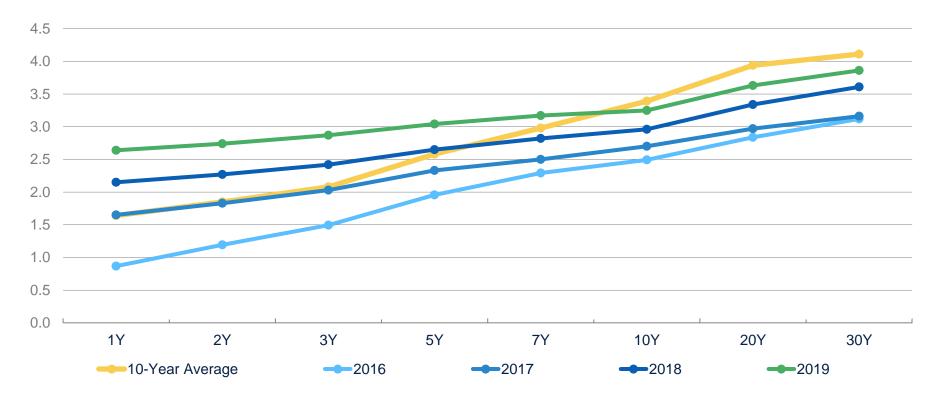
Treasury yield curve is estimated with a three-factor no-arbitrage model linked to macroeconomic factors measuring growth, inflation and monetary policy. Estimates are based on BBVA research baseline forecast for GDP growth, inflation and Fed funds rate.



Yield Curve Forecasts

TREASURY YIELD CURVE BASELINE FORECAST

(%, End of Period)



Treasury yield curve is estimated with a three-factor no-arbitrage model linked to macroeconomic factors measuring growth, inflation and monetary policy. Estimates are based on BBVA research baseline forecast for GDP growth, inflation and Fed funds rate.



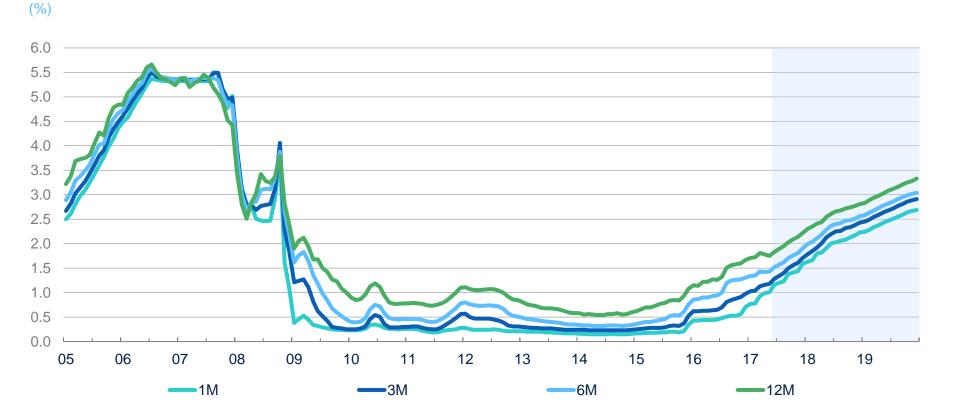
Swap Curve Baseline Forecasts



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LIBOR Curve Baseline Forecasts

U.S. DOLLAR LIBOR RATES





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