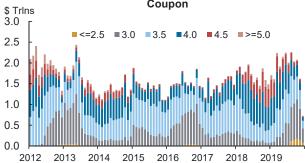


MBS and Agency Debt Market Liquidity Metrics

Figure 1: Weekly Agency MBS and Agency Debt Fails 4-Week Moving Average \$ Blns \$ Blns Fails Charge Announced Fails Charge 1,000 120 Implemented 105 800 90 Fails To Deliver Agency MBS (LHS)
Fails to Deliver Agency Debt (LHS)
Net Fails Agency MBS (RHS)
Net Fails Agency Debt (RHS) 75 600 60 400 45 30 200 15 0 0 2011 2012 2013 2014 2015 2016 2017 2018 2019 Source: FR2004





Note: Includes dealer-to-dealer outright sales and dealer-to-customer outright purchases and sales through 12/11/2019. Source: TRACE

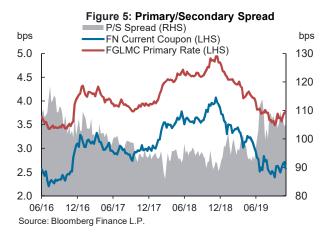
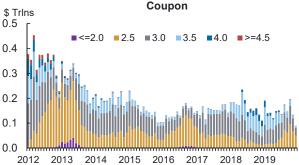


Figure 2: Monthly Average of Primary Dealer Agency
Debt Trading Volumes

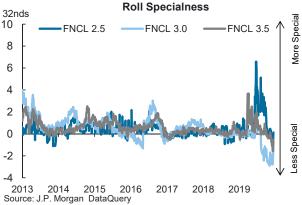


Figure 4: Monthly MBS 15-Year Trading Volume by



Note: Includes dealer-to-dealer outright sales and dealer-to-customer outright purchases and sales through 12/11/2019. Source: TRACE

Figure 6: 30-Year Production Coupon

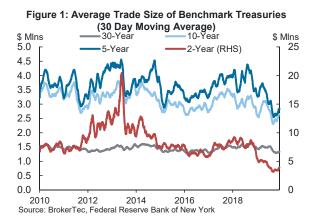




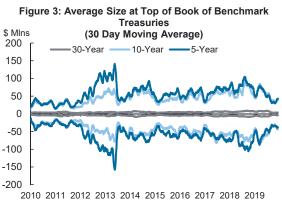
Treasury Market Practices Group Chart Pack

Price Table - Tuesday, December 17, 2019					
	Level	1-Week	1-Month	November	
Asset	Yesterday	Change	Change	TMPG	Year-to-Date
Treasuries					
2-Year Treasury	1.63%	+1	+2	+2	-86
10-Year Treasury	1.87%	+5	+4	+4	-81
30-Year Treasury	2.29%	+3	-2	-3	-73
2-Year 10-Year Spread	24 bps	+4	+2	+2	+5
Mortgages .	•				
Primary Mortgage Rate	3.69%	-1	-2	-4	-82
FNCL Current Coupon Yield	2.75%	+1	+3	+4	-75
Short Term Interest Rates					
Effective Fed Funds	1.56%	+0.01	+0.01	+0.01	-0.84
SOFR Rate	1.62%	+0.06	+0.03	+0.05	-1.38
3-Month LIBOR-OIS	34 bps	+0	-2	-1	-6
Policy Expectations	•				
February 2020 Fed Funds	1.56%	+0.02	+0.05	+0.07	-0.77
January 2021 Fed Funds	1.36%	+0.06	+0.09	+0.07	-0.81
January 2022 Fed Funds	1.36%	+0.06	+0.06	+0.05	NA
Equities					
S&P 500 Futures	3198	+2.0%	+2.5%	+3.9%	+27.0%
KBW Bank Index	113.08	+2.0%	+4.3%	+4.1%	+31.8%
Brent Crude	\$65.34	+1.7%	+3.2%	+5.8%	+21.4%
Credit Spread to Treasury					
5-Year Investment Grade	97 bps	-4	-9	-10	-56
5-Year High Yield	326 bps	-24	-53	-49	-200
Volatility Measures	•				
Currency Vol CVIX Index	5 pps	-1	-1	-1	-4
Rate Vol MOVE Index	56 bps	-11	-6	-6	-11

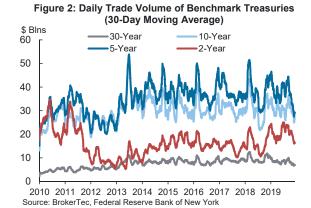
Treasury Market Liquidity Metrics and Fails

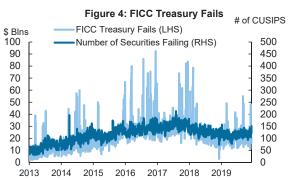


Source: Bloomberg



Source: BrokerTec, Federal Reserve Bank of New York





Calculated from data provided to the Federal Reserve Bank of New York by Fixed Income Clearing Corporation, a subsidiary of The Depository Trust & Clearing Corporation.