



SIFMA Research Quarterly – 1Q21

US Fixed Income Markets – Issuance & Trading

April 2021

The SIFMA Research Quarterlies contain data and statistics on U.S. markets. The fixed income reports are split into two – (1) issuance and trading, (2) outstanding – given a delay in the reporting of outstanding data. The reports cover data on total U.S. fixed income markets, as captured in the SIFMA Research database: U.S. Treasuries, mortgage-backed securities, corporate bonds, municipal securities, federal agency securities, asset-backed securities, money markets (outstanding only), repurchase agreements (outstanding only) and secured overnight financing rate.

All reports, including the equity quarterly, and corresponding databases can be found at:

www.sifma.org/research



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Associated Reports

Please also see SIFMA Research Quarterly Report: US Cash Equities, ETFs, Multi-Listed Options and Capital Formation & SIFMA Research Quarterly Report: US Fixed Income Markets – Outstanding , which can be found at: www.sifma.org/research

SIFMA Insights Primers: The SIFMA Insights primer series is a reference tool that goes beyond a typical 101 series. By illustrating important technical and regulatory nuances, SIFMA Insights primers provide a fundamental understanding of the marketplace and set the scene to address complex issues arising in today's markets. The SIFMA Insights market structure primer series includes: Global Capital Markets & Financial Institutions; Electronic Trading; U.S. Fixed Income; SOFR, the Transition from LIBOR; U.S. Equity; U.S. Multi-Listed Options; U.S. ETFs; U.S. Capital Formation and Listings Exchanges; and Evolution of the Fintech Narrative. The primers and other Insights reports can be found at: www.sifma.org/primers

SIFMA is the leading trade association for broker-dealers, investment banks and asset managers operating in the U.S. and global capital markets. On behalf of our industry's nearly 1 million employees, we advocate on legislation, regulation and business policy, affecting retail and institutional investors, equity and fixed income markets and related products and services. We serve as an industry coordinating body to promote fair and orderly markets, informed regulatory compliance, and efficient market operations and resiliency. We also provide a forum for industry policy and professional development. SIFMA, with offices in New York and Washington, D.C., is the U.S. regional member of the Global Financial Markets Association (GFMA). For more information, visit <http://www.sifma.org>.

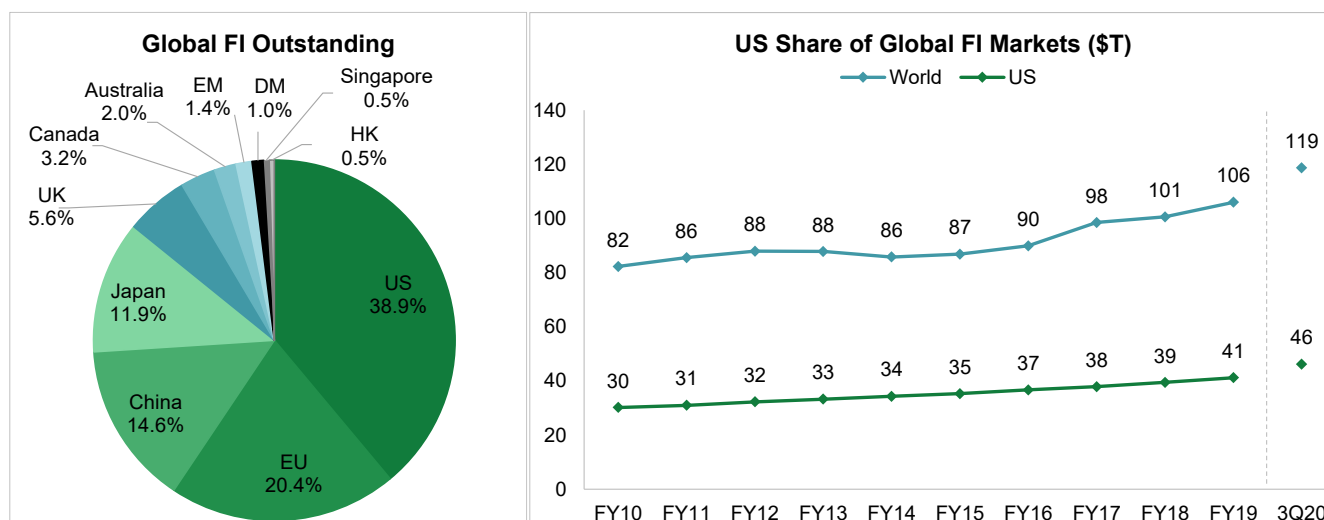
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Executive Summary

US Fixed Income Markets vs. Rest of World

The U.S. fixed income markets are the largest in the world, comprising 38.9% of the \$119 trillion securities outstanding across the globe, or \$46 trillion (as of 3Q20). This is 1.9x the next largest market, the EU. U.S. market share has averaged 38.6% over the last 10 years, troughing at 36.3% in 2011 and peaking at 40.8% in 2016.

US Market Share



Source: Bank for International Settlements (3Q20, BIS data for all countries has a lag)

Note: Country classification based on World Bank list of economies

Quarterly Performance

In this report, we utilized SIFMA Research's comprehensive fixed income and securitized products databases (www.sifma.org/statistics) to recap statistics for total U.S. fixed income markets, U.S. Treasuries (UST), mortgage-backed securities (MBS), corporate bonds (corporates), municipal securities (munis), federal agency securities (agency), asset-backed securities (ABS), money markets (MM), repurchase agreements (repos) and the secured overnight financing rate (SOFR).

Quarterly Highlights

| Issuance (\$B) | 1Q21 | 4Q20 | 1Q20 | Q/Q | Y/Y | 2020 | 2019 | Y/Y |
|---------------------|--------------|--------------|--------------|-------------|--------------|---------------|--------------|--------------|
| Total Market | 3,525 | 3,496 | 2,483 | 0.8% | 41.9% | 12,458 | 8,451 | 47.4% |
| UST | 1,289 | 1,173 | 758 | 9.8% | 70.1% | 3,896 | 2,935 | 32.7% |
| MBS | 1,263 | 1,558 | 617 | -18.9% | 104.9% | 4,243 | 2,243 | 89.2% |
| Corporates | 596 | 323 | 567 | 84.5% | 5.2% | 2,279 | 1,423 | 60.2% |
| Agency | 209 | 233 | 373 | -10.3% | -43.9% | 1,251 | 989 | 26.5% |
| Munis | 104 | 129 | 95 | -20.0% | 8.8% | 484 | 426 | 13.6% |
| ABS | 64 | 78 | 74 | -18.3% | -13.6% | 304 | 435 | -30.0% |

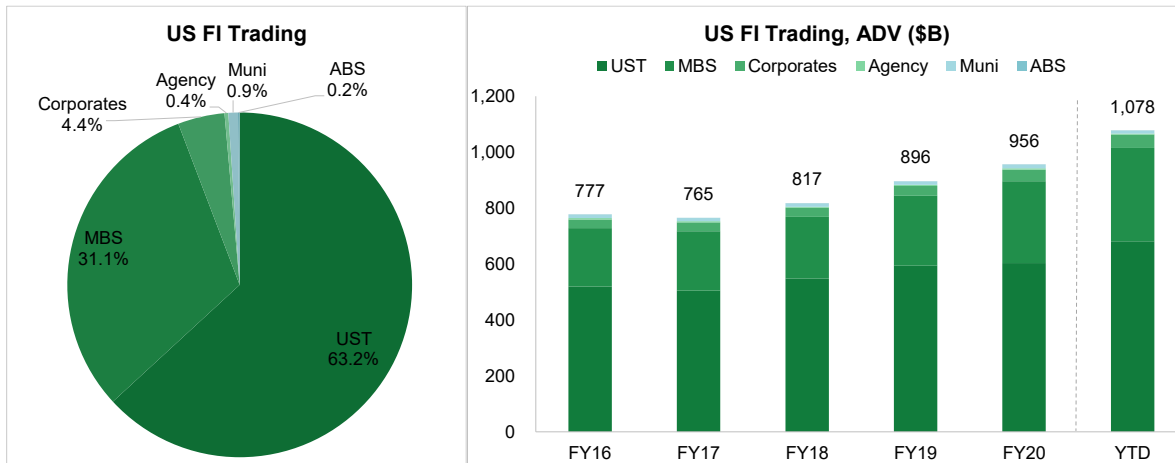
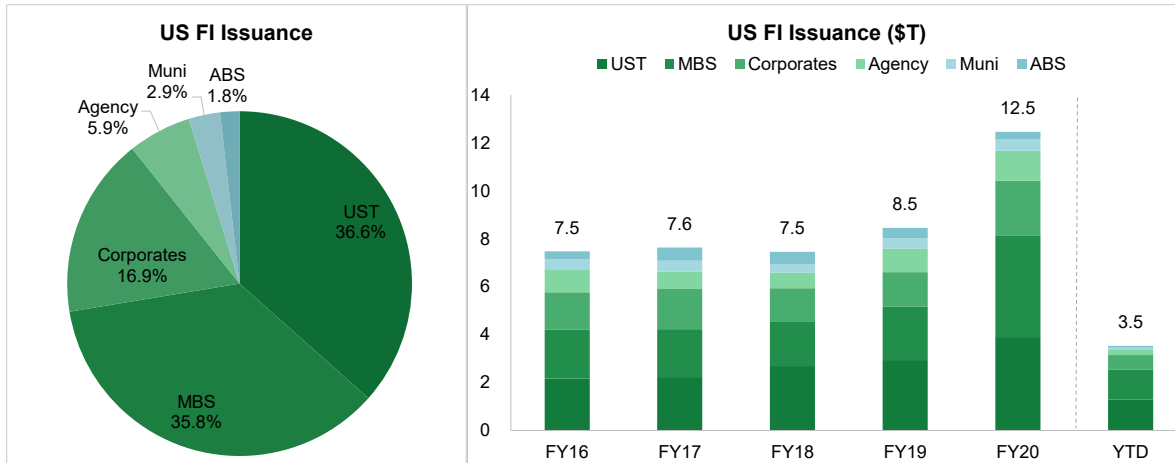
| Trading (ADV, \$B) | 1Q21 | 4Q20 | 1Q20 | Q/Q | Y/Y | 2020 | 2019 | Y/Y |
|---------------------|--------------|------------|--------------|--------------|-------------|------------|------------|-------------|
| Total Market | 1,078 | 894 | 1,078 | 20.6% | 0.0% | 956 | 896 | 6.7% |
| UST | 681 | 548 | 686 | 24.2% | -0.7% | 603 | 594 | 1.6% |
| MBS - Agency | 332 | 293 | 318 | 13.3% | 4.2% | 290 | 248 | 17.0% |
| MBS - Non Agency | 3.0 | 2.4 | 4.3 | 21.4% | -31.0% | 3.2 | 2.7 | 15.6% |
| Corporates | 47 | 36 | 45 | 31.1% | 4.6% | 41 | 35 | 16.2% |
| Agency | 3.9 | 3.7 | 5.5 | 2.8% | -29.5% | 5.1 | 4.1 | 25.8% |
| Munis | 9.6 | 9.4 | 16.2 | 2.3% | -40.6% | 12.0 | 11.5 | 4.2% |
| ABS | 1.7 | 1.5 | 2.5 | 12.8% | -31.6% | 1.9 | 1.5 | 23.2% |

Sources: Bloomberg, Federal Reserve Bank of New York, FINRA, Municipal Securities Rulemaking Board, Refinitiv, US Agencies, US Treasury, SIFMA estimates

Note: Issuance = LT securities only

Chart Book: Total Fixed Income

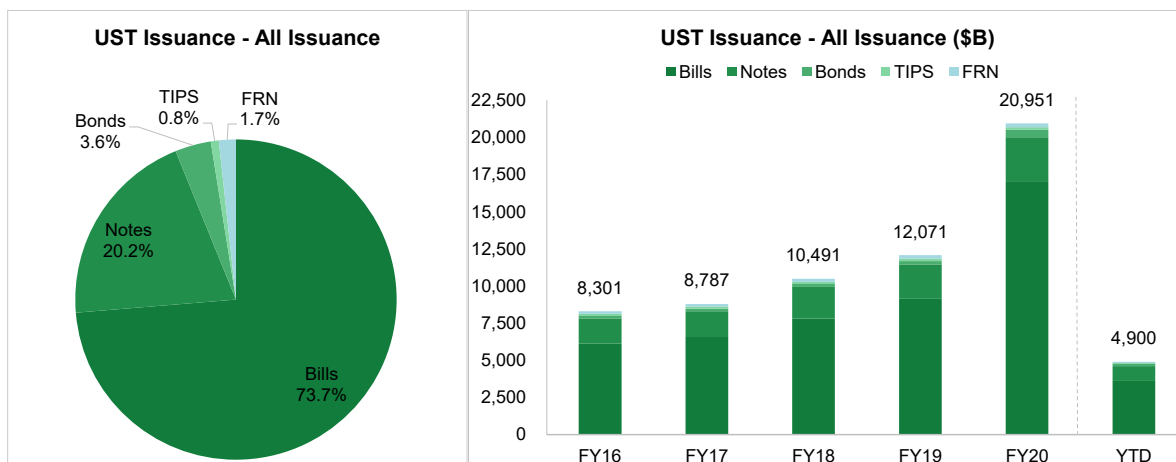
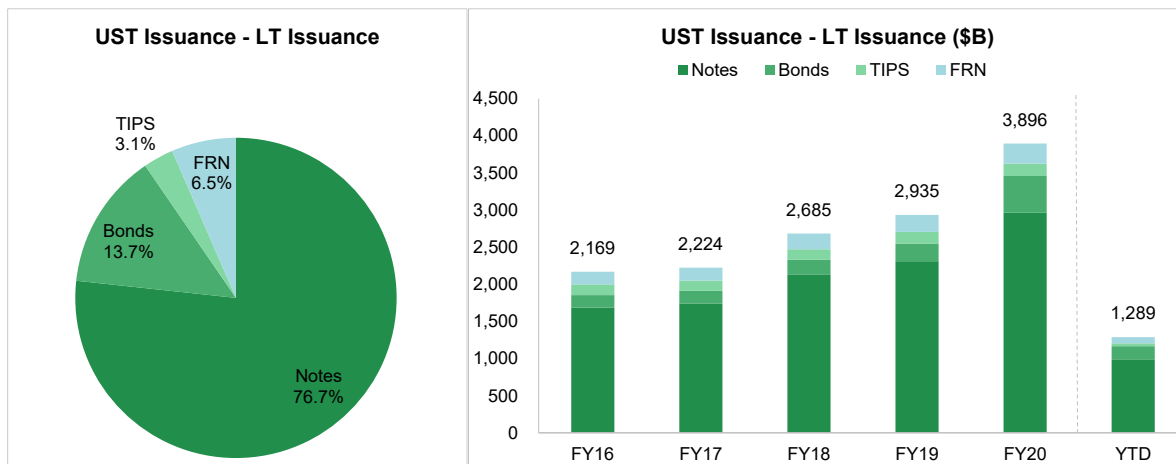
- Issuance: 1Q21 \$3.5T, +41.9% Y/Y, +0.8% Q/Q; FY20 \$12.5T, +47.4% Y/Y
- ADV: 1Q21 \$1,078B, +.02% Y/Y, +20.6% Q/Q; FY20 \$957B, +6.7% Y/Y



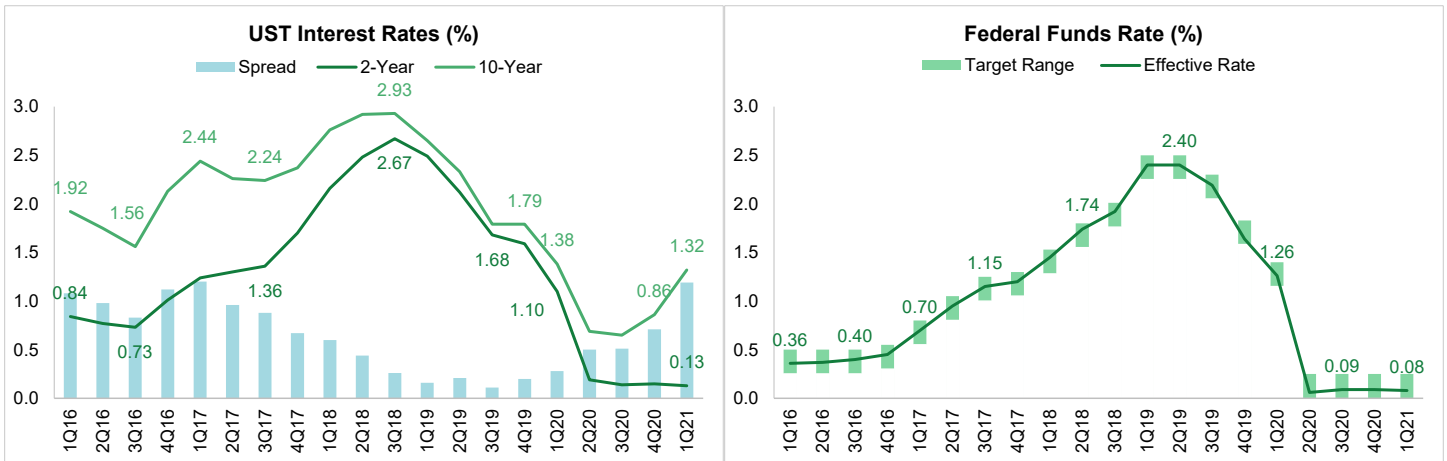
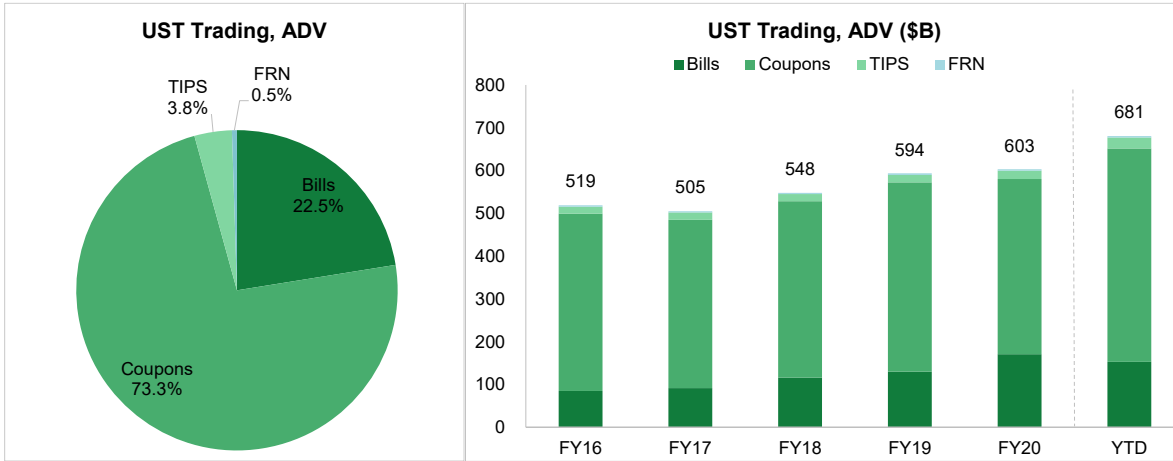
Sources: Bloomberg, Federal Reserve Bank of New York, FINRA, Municipal Securities Rulemaking Board, Refinitiv, US Agencies, US Treasury, SIFMA estimates

Chart Book: US Treasuries (UST)

- Issuance:
 - LT 1Q21 \$1.3T, +70.1% Y/Y, +9.8% Q/Q; FY20 \$3.9T, +32.7% Y/Y
 - All 1Q21 \$4.9T, +48.8% Y/Y, -10.0% Q/Q; FY20 \$21.0T, +73.6% Y/Y
- ADV: 1Q21 \$680.8B, -0.7% Y/Y, +24.2% Q/Q; FY20 \$603.2B, +1.6% Y/Y



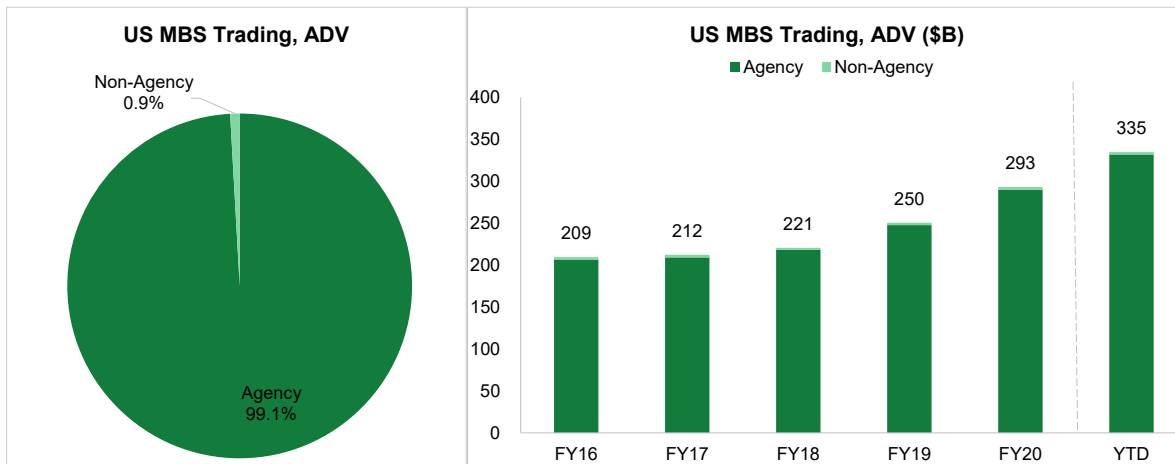
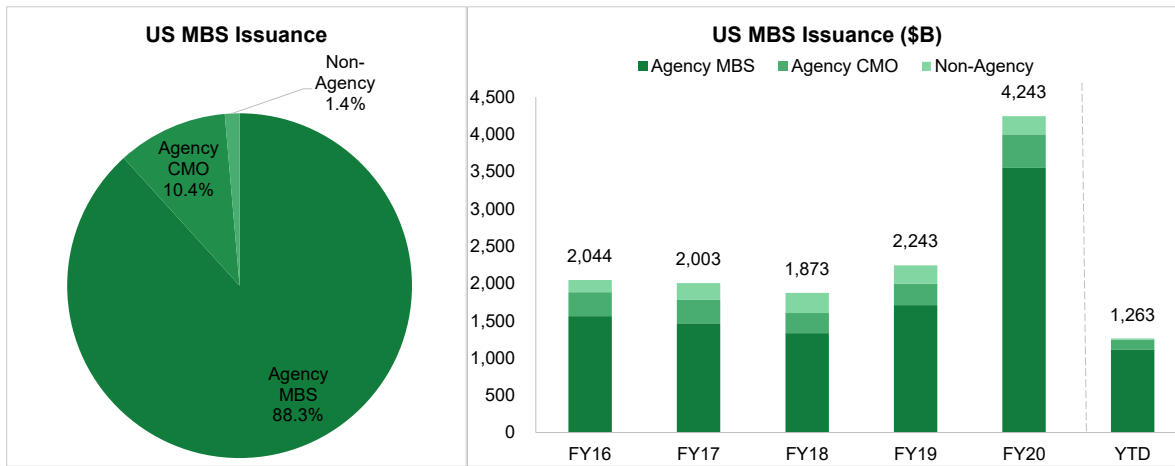
Sources: US Treasury, SIFMA estimates
 Note: All issuance includes T-Bills



Sources: Federal Reserve Bank of New York, US Treasury, SIFMA estimates

Chart Book: Mortgage-Backed Securities (MBS)

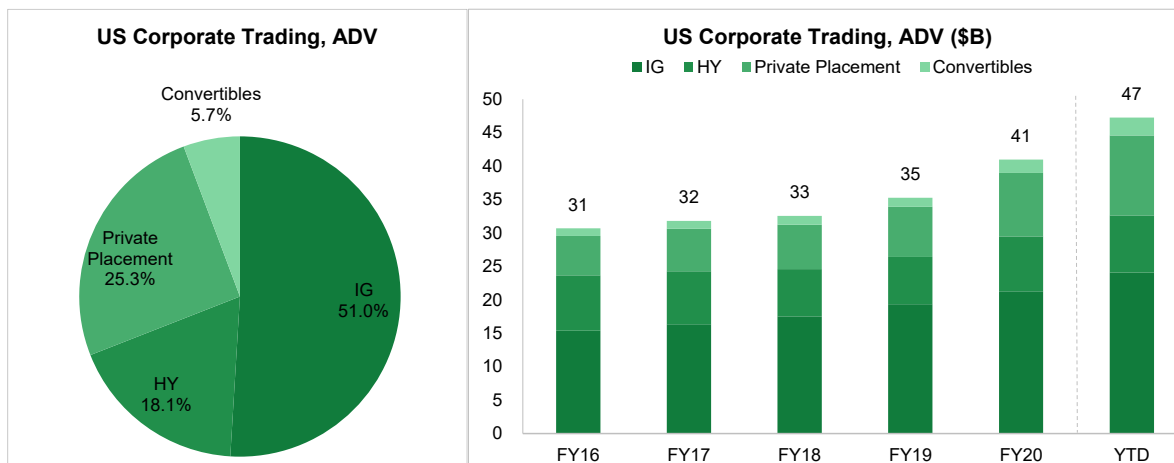
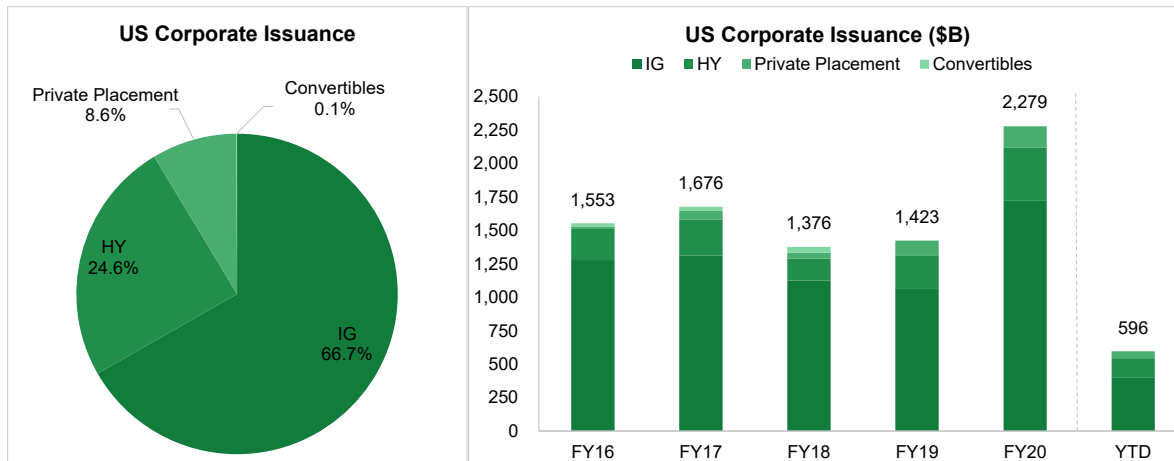
- Issuance: 1Q21 \$1,263B, +104.9% Y/Y, -12% Q/Q; FY20 \$4.1T, +87.3% Y/Y
- ADV:
 - Agency 1Q21 \$332B, +4.2% Y/Y, +13.3% Q/Q; FY20 \$290B, +17.0% Y/Y
 - Non-Agency 1Q21 \$3B, -31.0% Y/Y, +21.4% Q/Q; FY20 \$3.2B, +15.6% Y/Y



Sources: Bloomberg, US Agencies, FINRA, SIFMA estimates

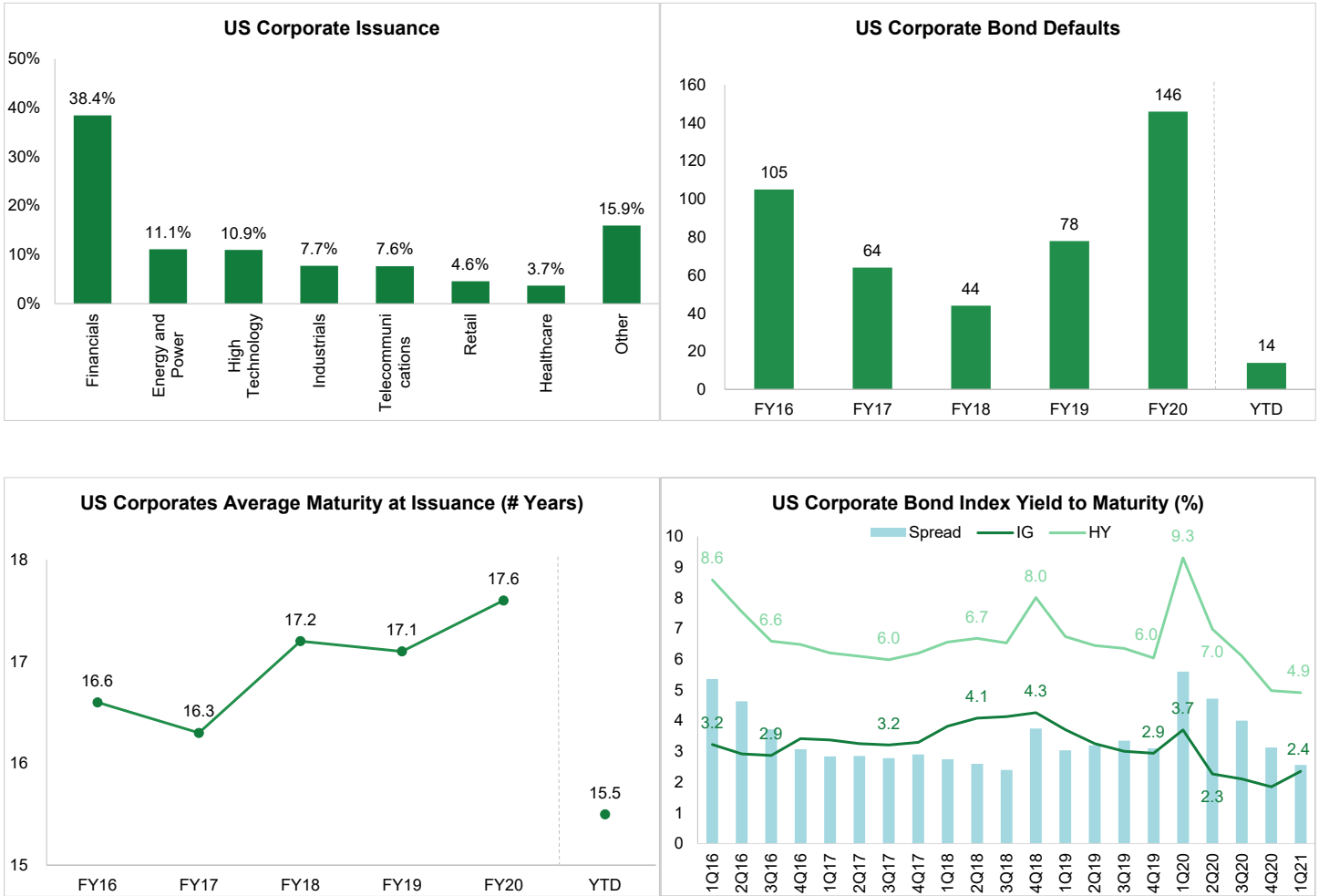
Chart Book: Corporate Bonds (Corporates)

- Issuance: 1Q21 \$596B, +5.2% Y/Y, +84.5% Q/Q; FY20 \$2.3T, +60.2% Y/Y
- ADV: 1Q21 \$47B, +4.6% Y/Y, +31.1% Q/Q; FY20 \$41, +16.2% Y/Y



Sources: Refinitiv, FINRA, SIFMA estimates

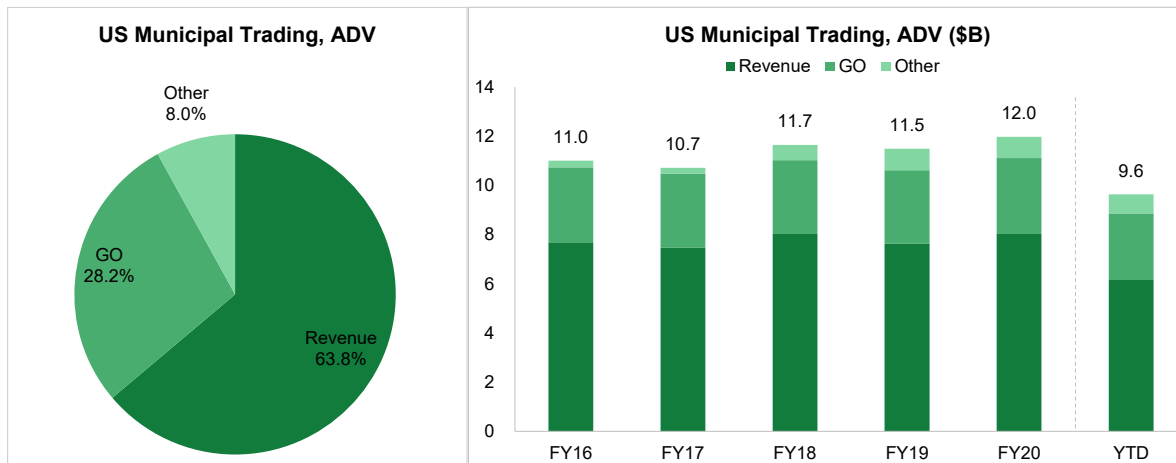
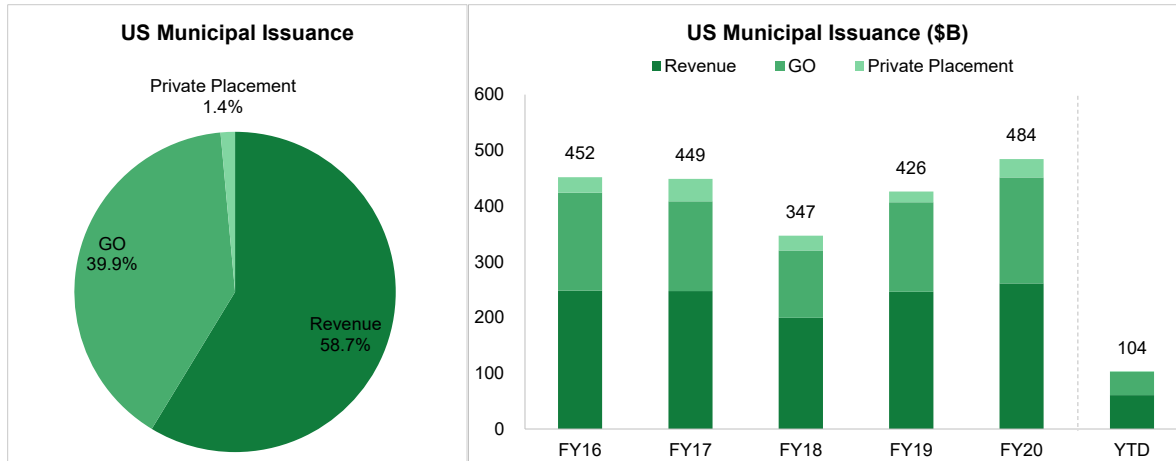
Chart Book: Corporate Bonds (Corporates)



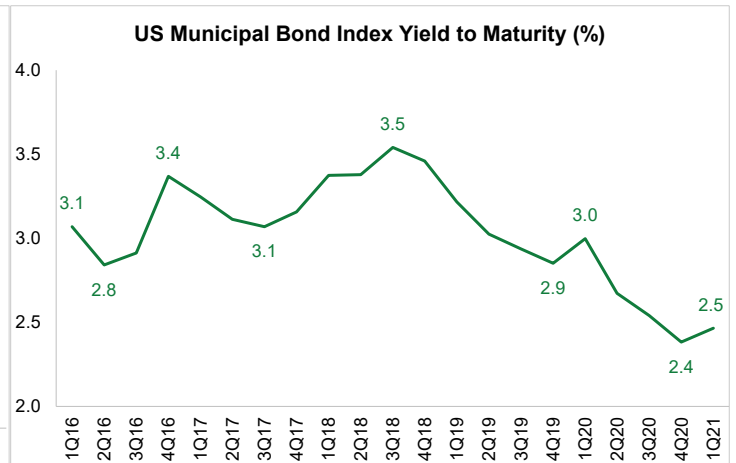
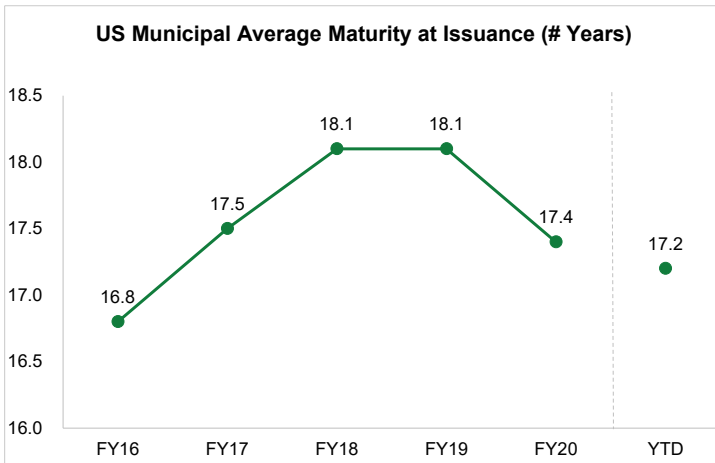
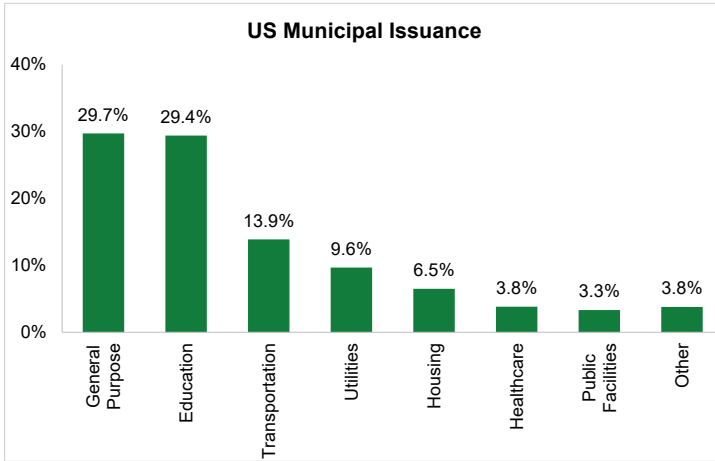
Source: Bloomberg, Refinitiv, S&P Global Ratings, SIFMA estimates

Chart Book: Municipal Securities (Munis)

- Issuance: 1Q21 \$103.6B, +8.8% Y/Y, -20.0% Q/Q; FY20 \$484B, +13.6% Y/Y
- ADV: 1Q21 \$9.6B, +2.3% Y/Y, -40.6% Q/Q; FY20 \$12.0B, +4.2% Y/Y



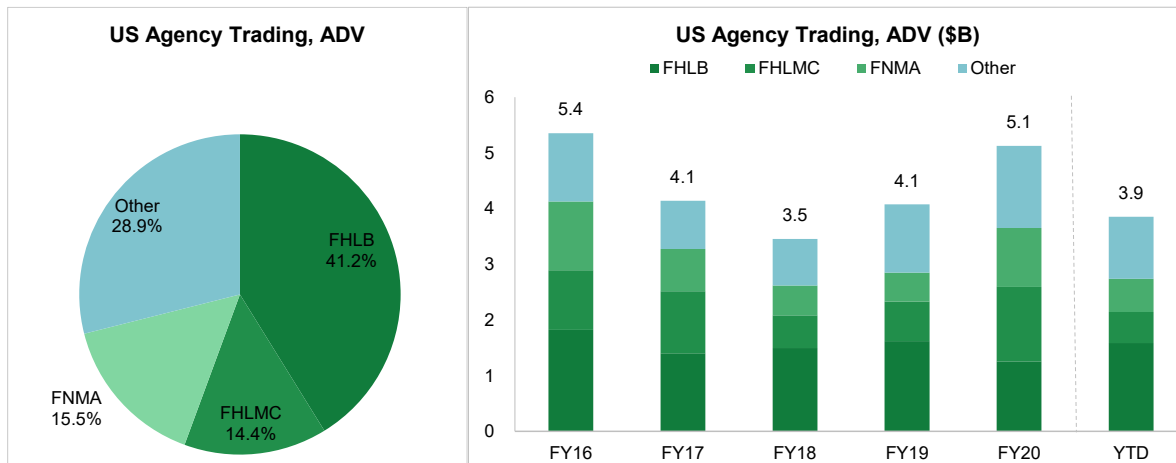
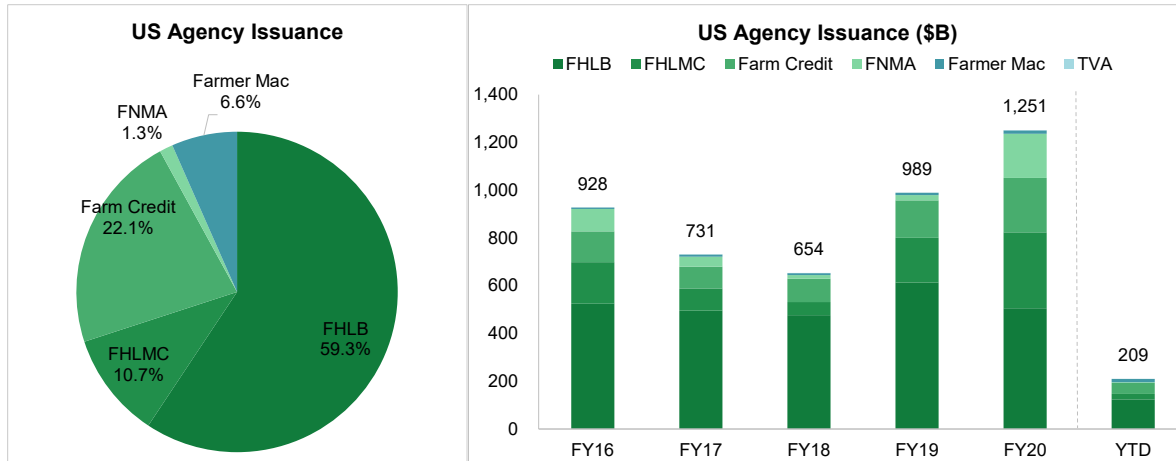
Source: Municipal Securities Rulemaking Board, Refinitiv, SIFMA estimates



Source: Bloomberg, Refinitiv, SIFMA estimates

Chart Book: Federal Agency Securities (Agency)

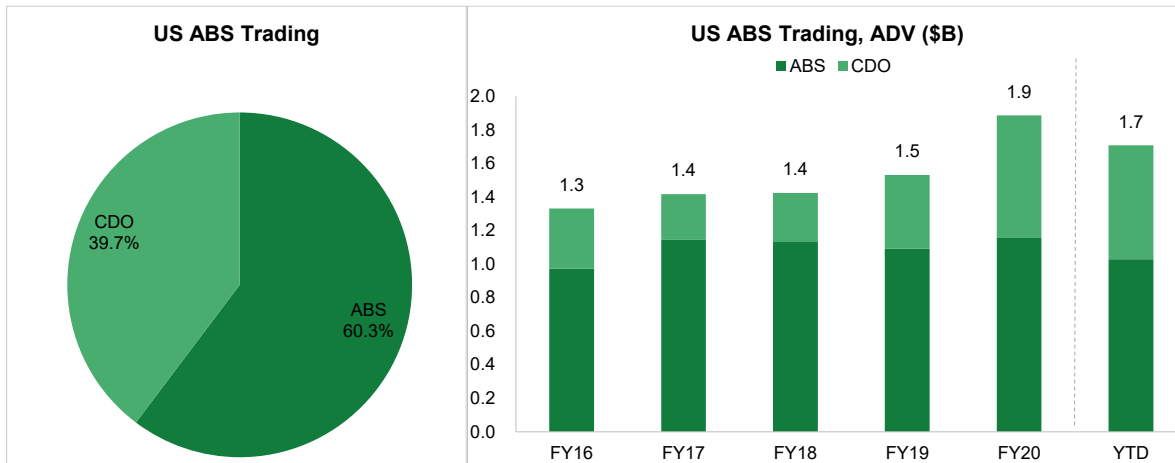
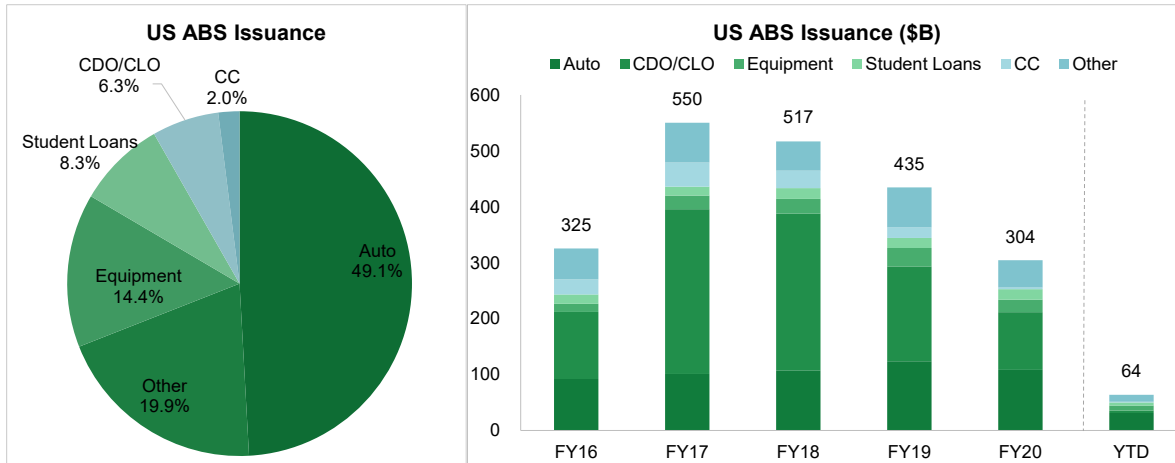
- Issuance: 1Q21 \$209.2B, -43.9% Y/Y, -10.3% Q/Q; FY20 \$1,251B, +26.5% Y/Y
- ADV: 1Q21 \$3.9B, -29.5% Y/Y, +2.8% Q/Q; FY20 \$5.1B, +25.8% Y/Y



Source: FINRA, US Agencies, SIFMA estimates

Chart Book: Asset-Backed Securities (ABS)

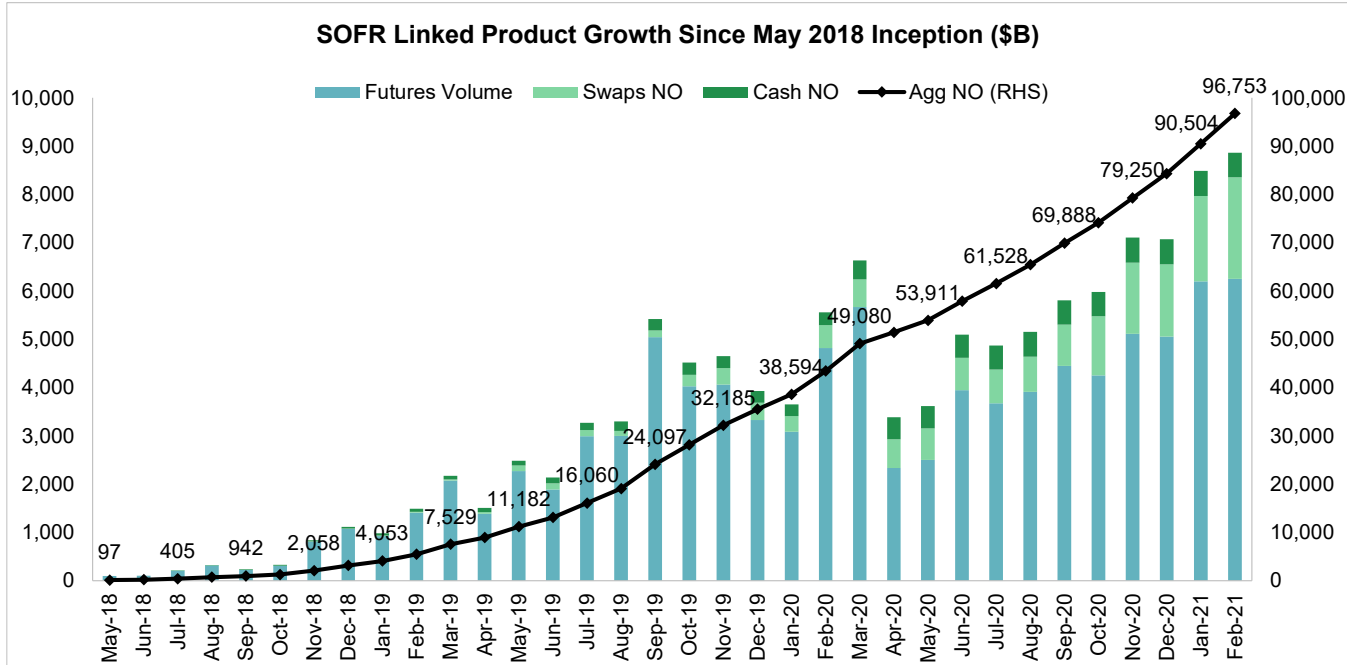
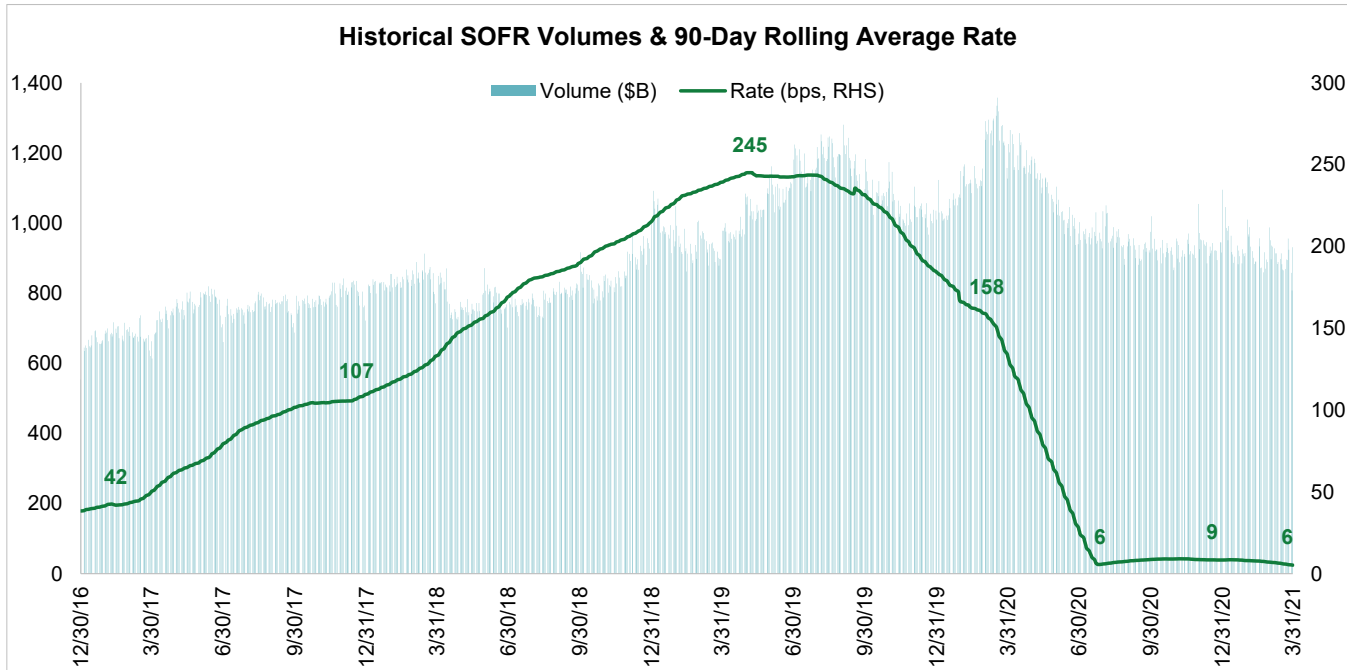
- Issuance: 1Q21 \$64B, -13.6% Y/Y, -18.3% Q/Q; FY20 \$304B, -30.0% Y/Y
- ADV: 1Q21 \$1.7B, -31.6% Y/Y, +12.8% Q/Q; FY20 \$1.9B, +23.2% Y/Y



Source: Bloomberg, FINRA, Refinitiv, SIFMA estimates

Chart Book: Secured Overnight Financing Rate (SOFR)

- SOFR Rate (90 day rolling average): As of 3/31/21 = 6 bps
- Fed Volumes: As of 3/31/21 = \$931B
- Market Volumes: As of 2/28/21 = futures \$6.2T, aggregate notional outstanding \$96.8T



Source: The Alternative Reference Rates Committee, Federal Reserve Bank of New York, SIFMA estimates

Appendix: Fixed Income Securities Definitions & Purpose

In general, fixed income securities are borrowed capital for the issuer to fund government operations, public projects or corporate investments, thereby fueling economic growth. The diversity of fixed income products both increases the amount of funds available to borrow and spreads credit risk across multiple market participants.

- **U.S. Treasury Securities (UST)** – UST are debt obligations of the federal government used to fund its operations. Since UST are backed by the full faith and credit of the U.S. government, these securities are considered by market participants as the benchmark credit. The U.S. government has a AAA rating, meaning it has essentially no credit risk and can easily meet its financial obligations on time and in full. In light of this, UST show a diversity of holders, in both institutional type and foreign holders.
- **Mortgage-Backed Securities (MBS)** – Since mortgages (a debt instrument collateralized by a specified real estate property) are less liquid than other investment vehicles, they can be securitized into MBS, whether in pass-throughs or collateralized mortgage obligations (CMOs).
- **Corporate Bonds (Corporates)** – Corporates are debt securities issued by public and private corporations. They are issued to raise money to fund investments or expansion plans. Corporates are considered riskier than UST, and receive ratings by credit ratings agencies to determine creditworthiness, i.e. probability of repayment of debt in a timely manner.
- **Municipal Bonds (Munis)** – Munis are debt securities issued by state/local governments or government agencies and public entities (utilities, school districts) to fund public projects, predominantly infrastructure related. Efficient muni markets enable states and municipalities to borrow at low rates and finance capital expenditures over a longer time period.
- **Federal Agency Securities (Agency)** – Agency securities are issued by quasi-governmental agencies (federal government, government sponsored enterprises) to fund operations. Unlike UST or munis, these securities are not always fully guaranteed by the U.S. or a municipal government. As such, they can hold credit and default risk.
- **Asset-Backed Securities (ABS)** – ABS are financial securities collateralized by a pool of typically illiquid assets such as auto loans, student loans, credit cards, etc. Pooling these assets creates a more liquid investment vehicle, with a valuation based on the cash flows of the underlying and the structure of the transaction.
- **Money Markets (MM)** – MMs involve highly liquid, short maturity (typically overnight to less than one year) financial instruments (certificates of deposit/CDs, bankers acceptances, commercial paper/CP, etc.), used by investors to borrow and lend in the short term. Transactions in the money markets are wholesale, taking place only between institutional investors (no individual investors) and for large denominations.

- **Repurchase Agreements (Repos)** – Repos are financial transactions in which one party sells an asset to another party with a promise to repurchase the asset at a pre-specified later date (a reverse repo is the same transaction seen from the perspective of the security buyer). Repos can be overnight (duration one day) or term (duration up to one year, albeit some are up to two years and the majority are three months or less). The repo market enables market participants to provide collateralized loans to one another, and financial institutions predominantly use repos to manage short-term fluctuations in cash holdings, rather than general balance sheet funding. Repos aid secondary market liquidity for the cash markets (ex: UST), allowing dealers to act as market makers in a very efficient manner.
- **Secured Overnight Financing Rate (SOFR)** – In the U.S., the transition away from London Interbank Offered Rate (LIBOR) to its chosen alternative reference rate, SOFR, is underway. While LIBOR is not fully transaction based, SOFR is based on the overnight repo markets with ~ \$1 trillion of transactions per day. Publication of the SOFR rate began in April 2018. Trading and clearing of SOFR based swaps and futures began in May 2018.

Appendix: Terms to Know

| | |
|-------|---|
| Y/Y | Year-over-Year |
| Q/Q | Quarter-over-Quarter |
| YTD | Year-to-Date |
| BPS | Basis Points |
| PPS | Percentage Points |
| CAGR | Compound Annual Growth Rate |
| CUSIP | Committee on Uniform Securities Identification Procedures |

| | |
|--------|---------------------------------------|
| CFTC | Commodity Futures Trading Commission |
| SEC | Securities and Exchange Commission |
| Fed | Federal Reserve System |
| FRB | Federal Reserve Bank |
| NY Fed | Federal Reserve Bank of New York |
| ARRC | Alternative Reference Rates Committee |

| | |
|---------|--|
| ADV | Average Daily Trading Volume |
| Algo | Algorithm (algorithmic trading) |
| AT | Automated Trading |
| ATS | Alternative Trading System |
| AUM | Assets Under Management |
| Best Ex | Best Execution |
| CLOB | Central Limit Order Book |
| D2C | Dealer-to-Client |
| D2D | Dealer-to-Dealer |
| ECN | Electronic Communications Network |
| ETP | Electronic Trading Platforms |
| ETD | Exchange Traded Derivative |
| FI | Fixed Income |
| FICC | Fixed Income, Currencies and Commodities |
| GCF | General Collateral Financing |
| IDB | Inter-Dealer Broker |
| IIV | Intraday Indicative Value |
| IOI | Indication of Interest |
| MM | Market Maker |
| OI | Open Interest |
| OTC | Over-the-Counter |
| VWAP | Volume Weighted Average Price |

| | |
|-------|----------------------------------|
| IBOR | Interbank Offered Rate |
| LIBOR | London Inter-bank Offered Rate |
| RFR | Risk Free Rate |
| SOFR | Secured Overnight Financing Rate |
| DV01 | Dollar Value of Basis Point |
| DVP | Delivery-versus-Payment |
| EFFR | Effective Fed Funds Rate |
| PAI | Price Alignment Interest |
| Repo | Repurchase Agreement |

| | |
|------------|---------------------------|
| UST | U.S. Treasury Securities |
| MBS | Mortgage-Backed Security |
| Corporates | Corporate Bonds |
| Munis | Municipal Securities |
| Agency | Federal Agency Securities |
| ABS | Asset-Backed Securities |
| MM | Money Markets |

| | |
|--------|---|
| FRN | Floating Rate Note |
| FRA | Forward Rate Agreement |
| T-Bill | U.S. Treasury Bill |
| T-Note | U.S. Treasury Note |
| T-Bond | U.S. Treasury Bond |
| TIPS | Treasury Inflation Protected Securities |

| | |
|------|------------------------------------|
| ABS | Asset-Backed Security |
| CMO | Collateralized Mortgage Obligation |
| MBS | Mortgage-Backed Security |
| CMBS | Commercial MBS |
| RMBS | Residential MBS |

| | |
|----|-----------------------|
| HY | High Yield Bond |
| IG | Investment Grade Bond |

| | |
|---------|-------------------------|
| GO | General Obligation Bond |
| Revenue | Revenue Bond |

| | |
|------|--------------------------------|
| CD | Certificate of Deposit |
| CDO | Collateralized Debt Obligation |
| CLO | Collateralized Loan Obligation |
| CP | Commercial Paper |
| ABCP | Asset-Backed Commercial Paper |
| MMF | Money Market Mutual Funds |

| | |
|-------|--|
| FAMC | Farmer Mac/Federal Agricultural Mortgage Corporation |
| FCS | Farm Credit System |
| FHLB | Federal Home Loan Banks |
| FHLMC | Freddie Mac/Federal Home Loan Mortgage Corporation |
| FNMA | Fannie Mae/Federal National Mortgage Association |
| GNMA | Ginnie Mae/Government National Mortgage Association |
| TVA | Tennessee Valley Authority |

| | |
|------|--------------------------|
| IR | Interest Rate |
| IRS | Interest Rate Swap |
| OIS | Overnight Index Swap |
| TRS | Total Return Swap |
| STIR | Short-Term Interest Rate |

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