



SIFMA Research Quarterly – 3Q19

US Fixed Income Markets

December 2019



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Associated Reports

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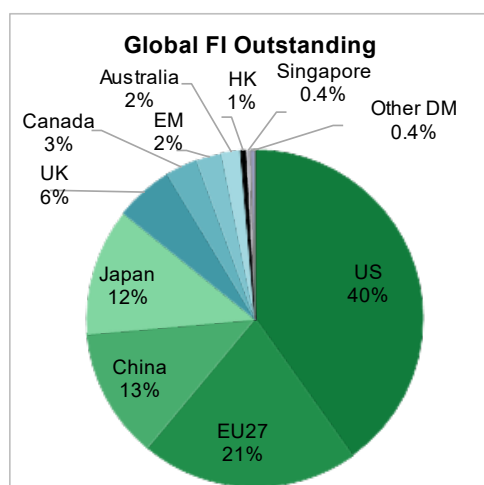
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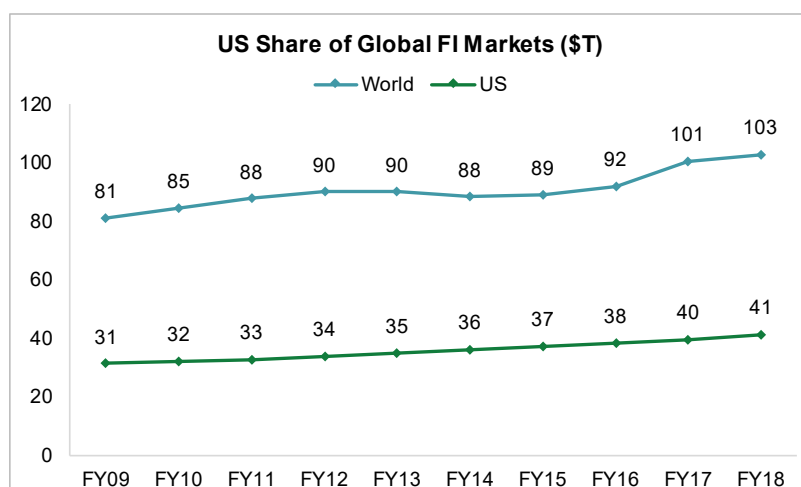
Executive Summary

The U.S. fixed income markets are the largest in the world, comprising 40.2% of the \$103 trillion securities outstanding across the globe, or \$41 trillion (as of FY18). This is 1.9x the next largest market, the EU (excluding the U.K.). U.S. market share has averaged 39.5% over the last 10 years, troughing at 37.4% in 2011 and peaking at 41.8% in 2015.

US Market Share – YTD



US Market Share – Historical Trends



Source: Bank for International Settlements (2018)

Quarterly Performance

In this report, we 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 secured overnight financing rate (SOFR).

Quarterly Highlights

	3Q19	3Q18	Y/Y	YTD19	YTD18	Y/Y	2018	2017	Y/Y
Issuance (\$B)									
UST	876	655	33.8%	2,180	1,897	14.9%	2,685	2,224	20.7%
MBS	610	519	17.4%	1,432	1,446	-1.0%	1,899	1,935	-1.9%
Corporates	406	323	25.6%	1,142	1,111	2.7%	1,369	1,680	-18.5%
Muni	105	142	-25.7%	278	253	9.9%	346	449	-23.0%
Agency	284	5,334	-94.7%	729	498	46.4%	654	731	-10.6%
ABS	75	129	-42.0%	249	409	-39.1%	517	550	-6.1%

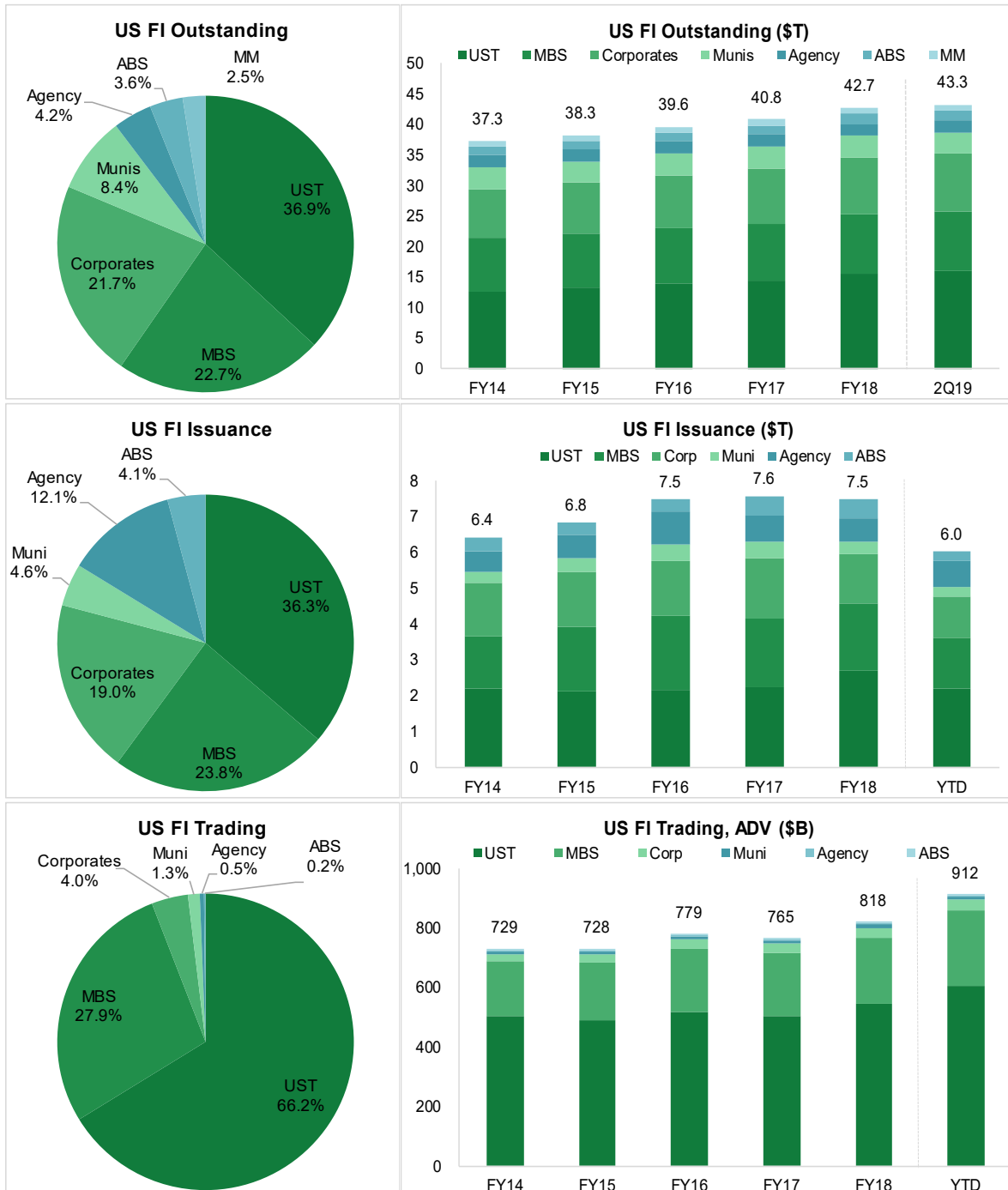
	3Q19	3Q18	Y/Y	YTD19	YTD18	Y/Y	2018	2017	Y/Y
Trading (ADV, \$B)									
UST	605	493	22.8%	604	535	13.0%	548	505	8.4%
MBS	255	209	22.0%	254	223	13.9%	221	212	4.7%
Corporates	33	29	12.8%	36	33	9.9%	33	32	2.3%
Muni	10.9	11.4	-4.7%	11.7	11.6	1.4%	11.6	10.8	7.9%
Agency	4.2	3.5	22.1%	4.1	3.4	22.1%	3.4	4.1	-16.6%
ABS	1.3	1.2	12.7%	1.6	1.5	5.6%	1.4	1.4	0.2%

	2Q19	2Q18	Y/Y	2018	2017	Y/Y
Outstanding (\$B)						
UST	15,922	14,972	6.3%	15,608	14,469	7.9%
MBS*	9,817	9,484	3.5%	9,732	9,305	4.6%
Corporates	9,467	9,102	4.0%	9,229	9,013	2.4%
Muni	3,547	3,866	-8.3%	3,688	3,659	0.8%
Agency	1,869	1,900	-1.6%	1,842	1,935	-4.8%
ABS*	1,561	1,528	2.2%	1,616	1,458	10.8%
MM	1,090	1,052	3.7%	996.0	965.9	3.1%

Sources: Bloomberg, Dealogic, Federal Reserve, Refinitiv, US Treasury, US Agencies, SIFMA estimates
 Note: Outstanding data for ABS and MBS as of 1Q19, the latest data available at the time of publication

Chart Book: Total Fixed Income

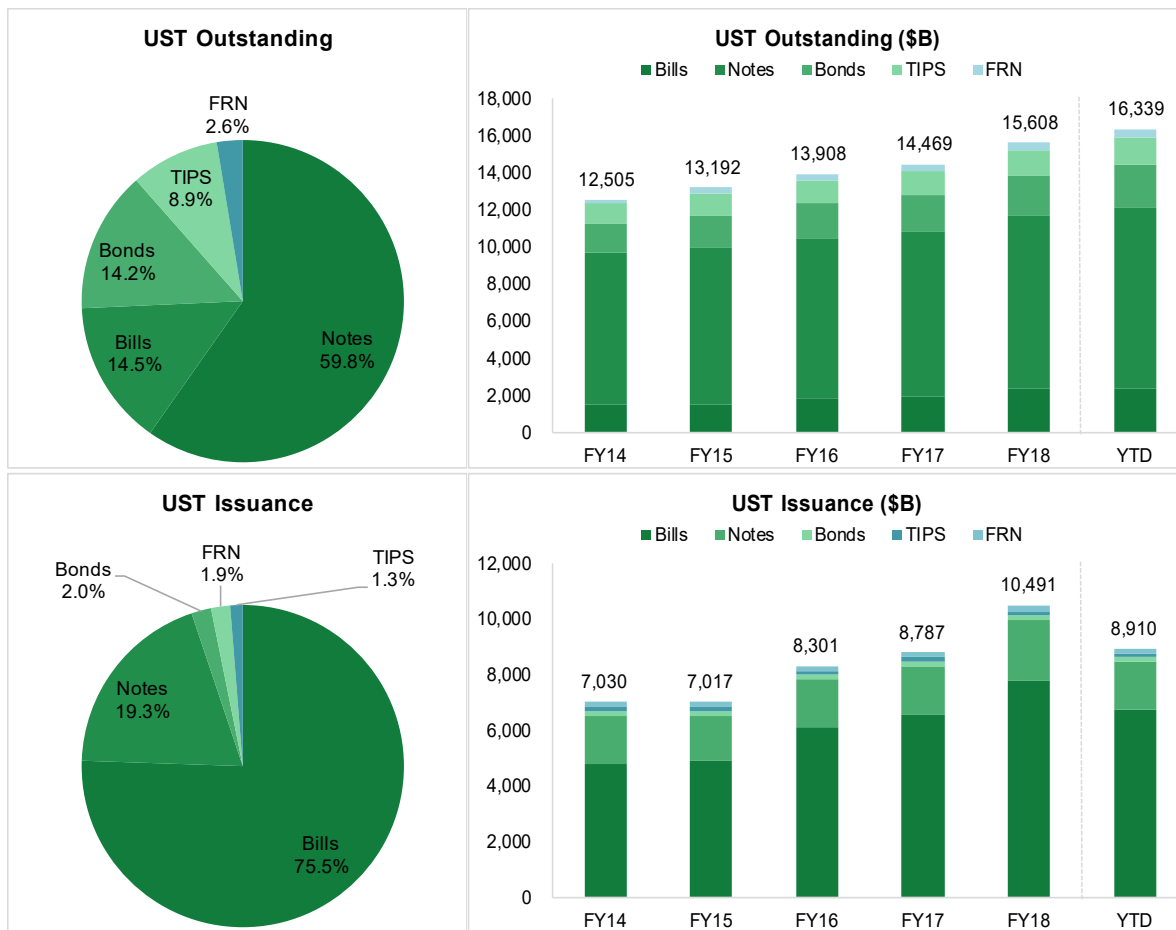
In general, fixed income securities are borrowed capital for the issuer to fund government operations, public projects or corporate investments, thereby fueling economic growth. The diversity of fixed income products both increases the amount of funds available to borrow and spreads credit risk across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



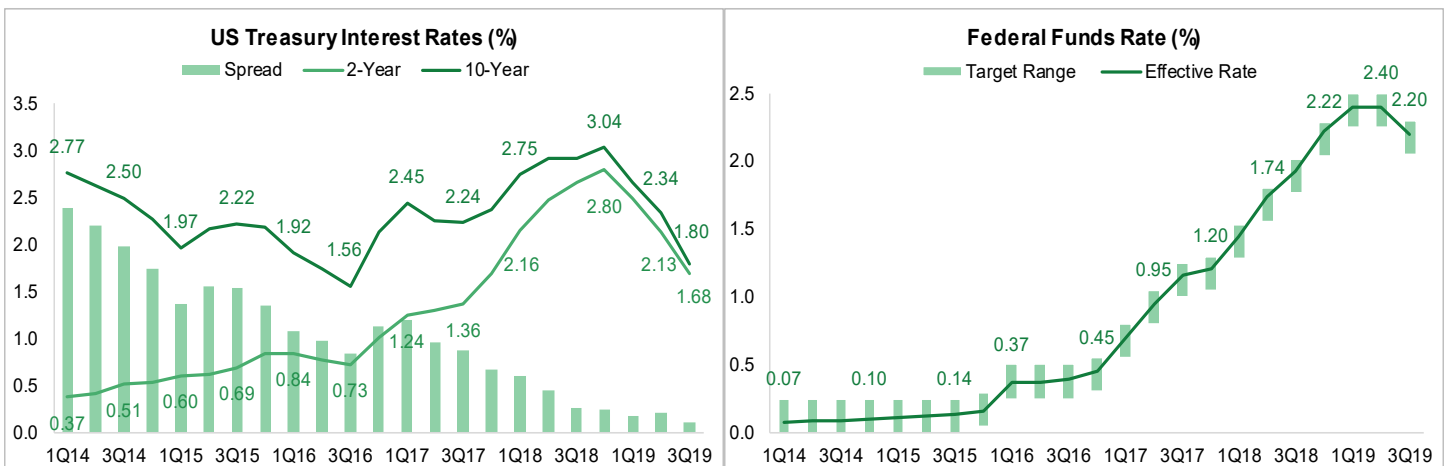
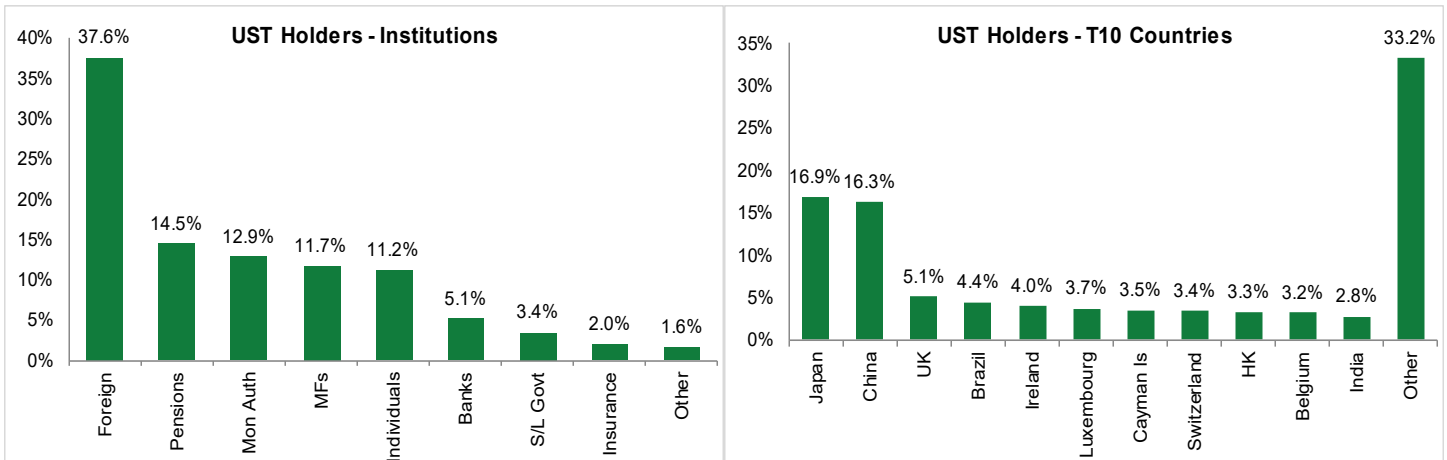
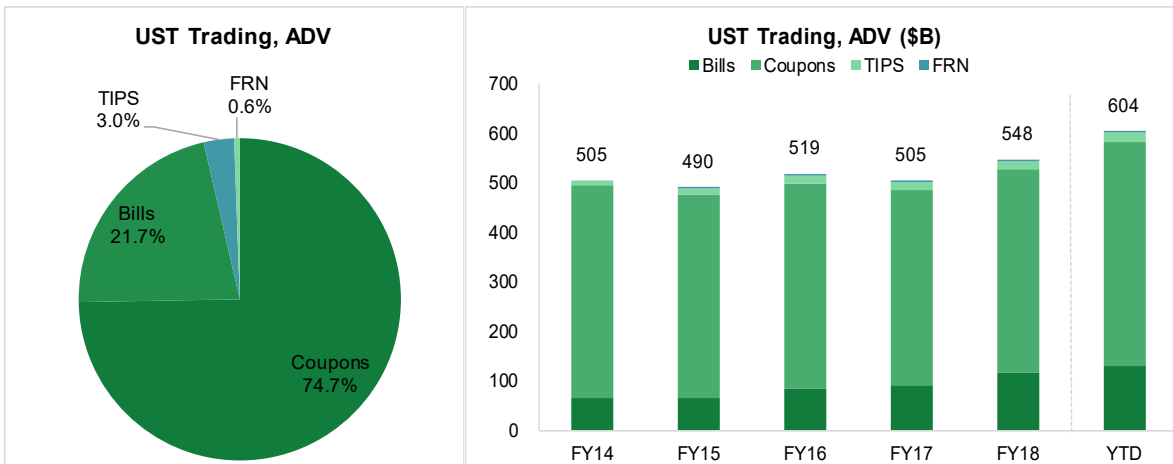
Sources: Bloomberg, Dealogic, Federal Reserve, Refinitiv, US Treasury, US Agencies, SIFMA estimates (MBS/ABS outstanding 1Q19, YTD Sept 2019)

Chart Book: US Treasuries (UST)

U.S. Treasury securities (UST) are debt obligations of the federal government used to fund 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.



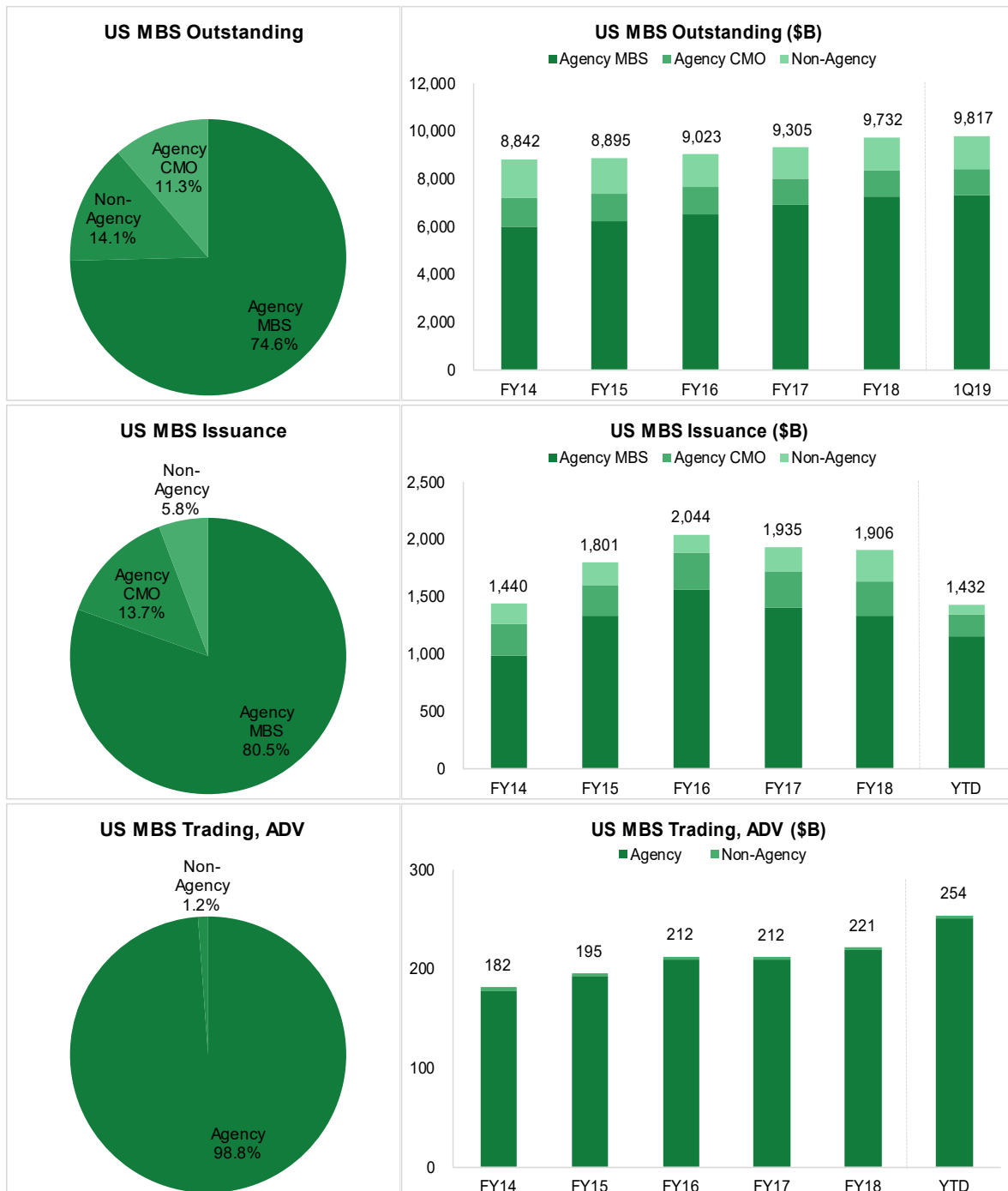
Sources: US Treasury, New York Federal Reserve, Federal Reserve, SIFMA estimates (YTD = Sept 2019)



Sources: US Treasury, New York Federal Reserve, Federal Reserve, SIFMA estimates (YTD = Sept 2019)

Chart Book: Mortgage-Backed Securities (MBS)

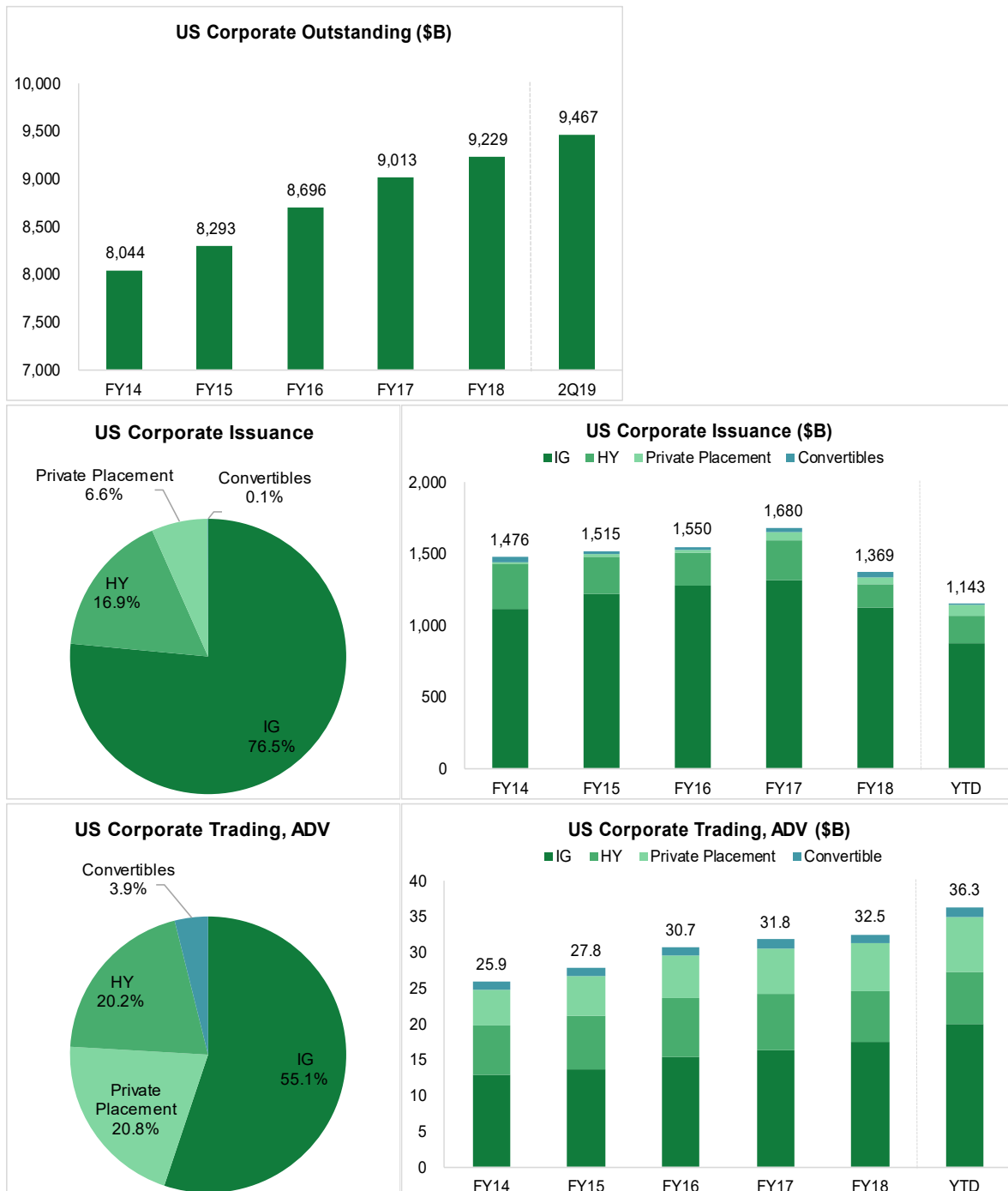
Since mortgages (a debt instrument collateralized by a specified real estate property) are less liquid than other investment vehicles, they can be securitized into mortgage-backed securities (MBS), whether in pass-throughs or collateralized mortgage obligations (CMOs).



Sources: Bloomberg, US Agencies, FINRA, SIFMA estimates (YTD = Sept 2019)

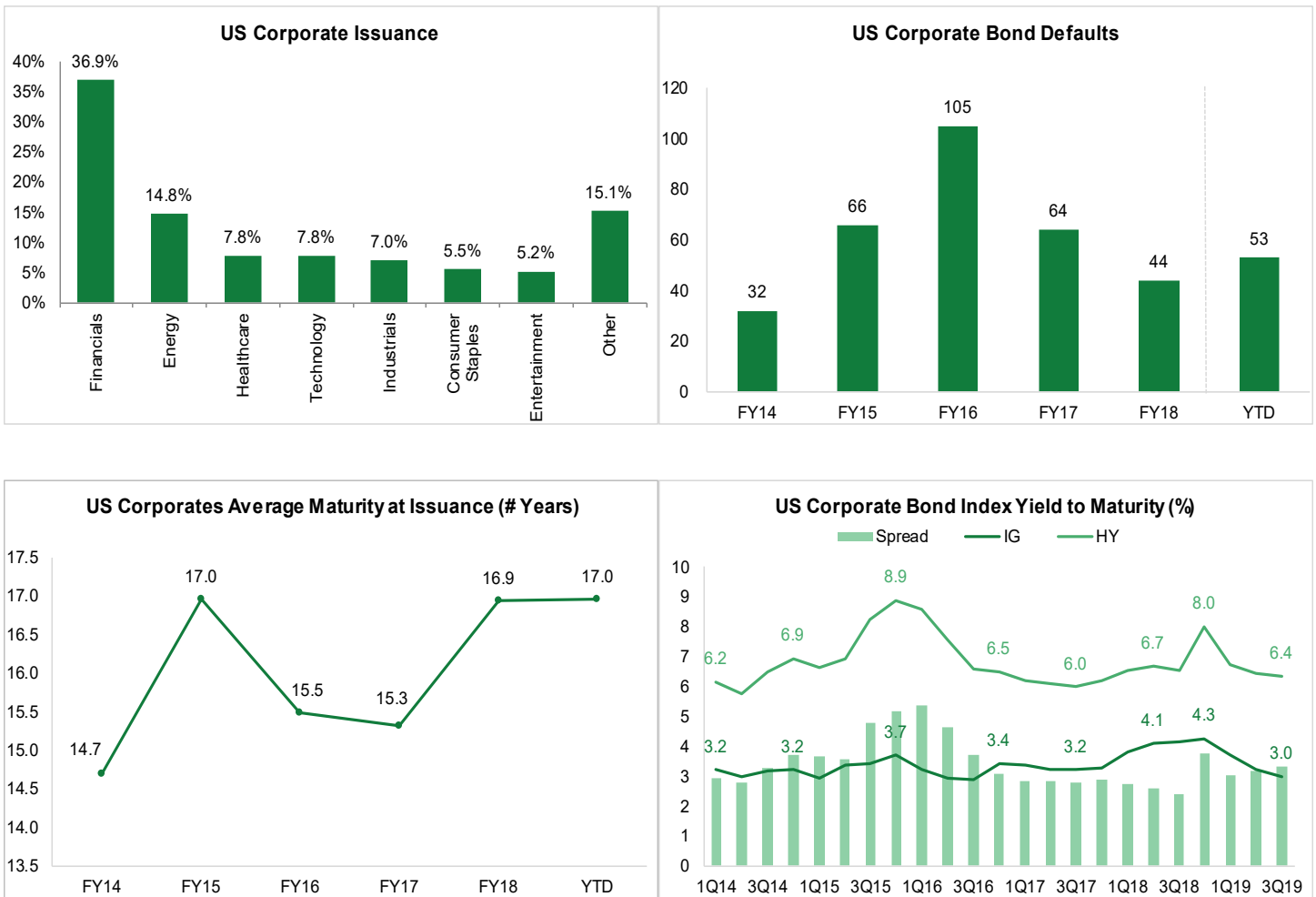
Chart Book: Corporate Bonds (Corporates)

Corporate bonds (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.



Sources: Refinitiv, Federal Reserve, SIFMA estimates (YTD = Sept 2019)

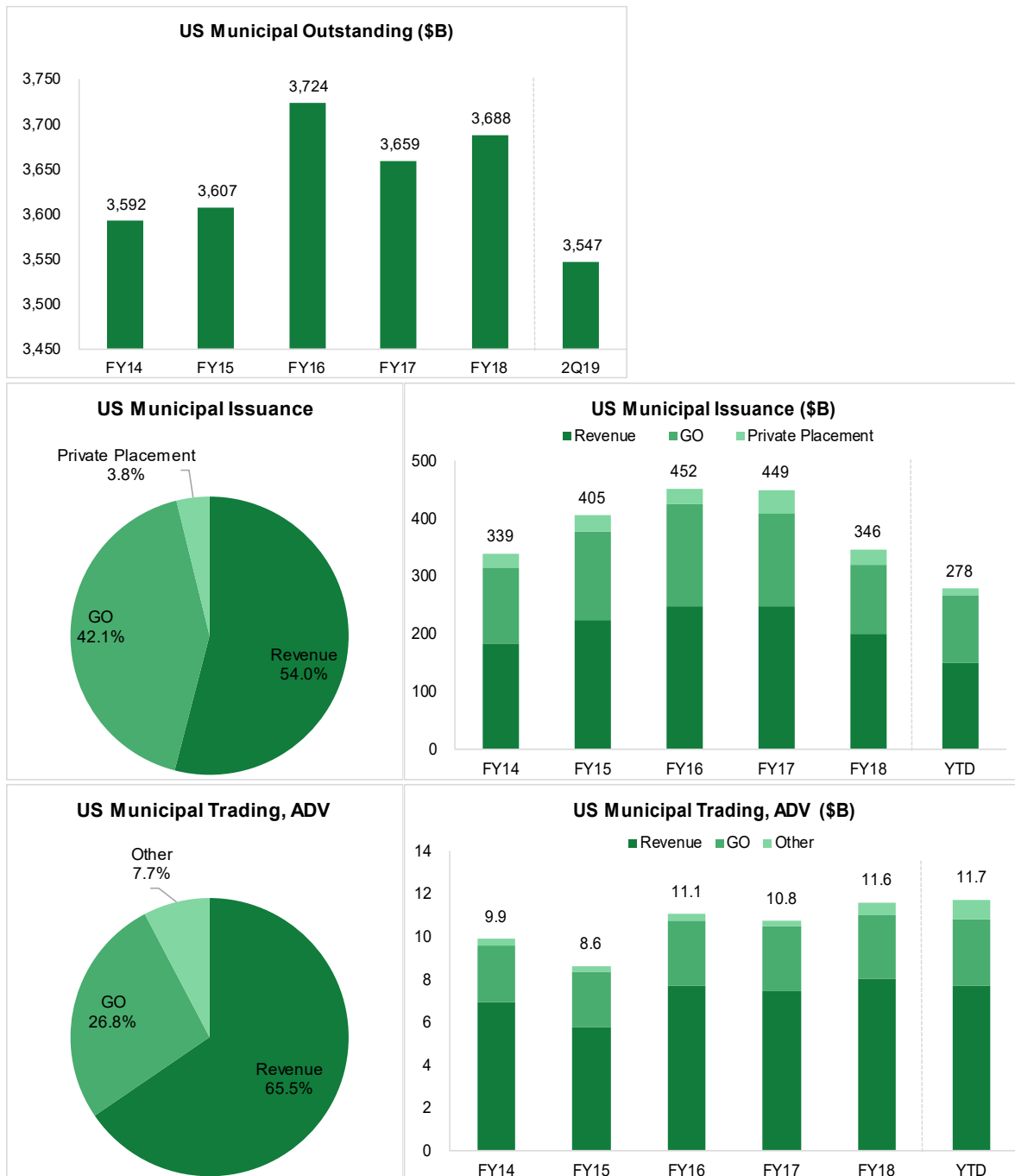
Chart Book: Corporate Bonds (Corporates)



Source: Refinitiv, Federal Reserve, FINRA, S&P Global Ratings, SIFMA estimates (YTD = Sept 2019)

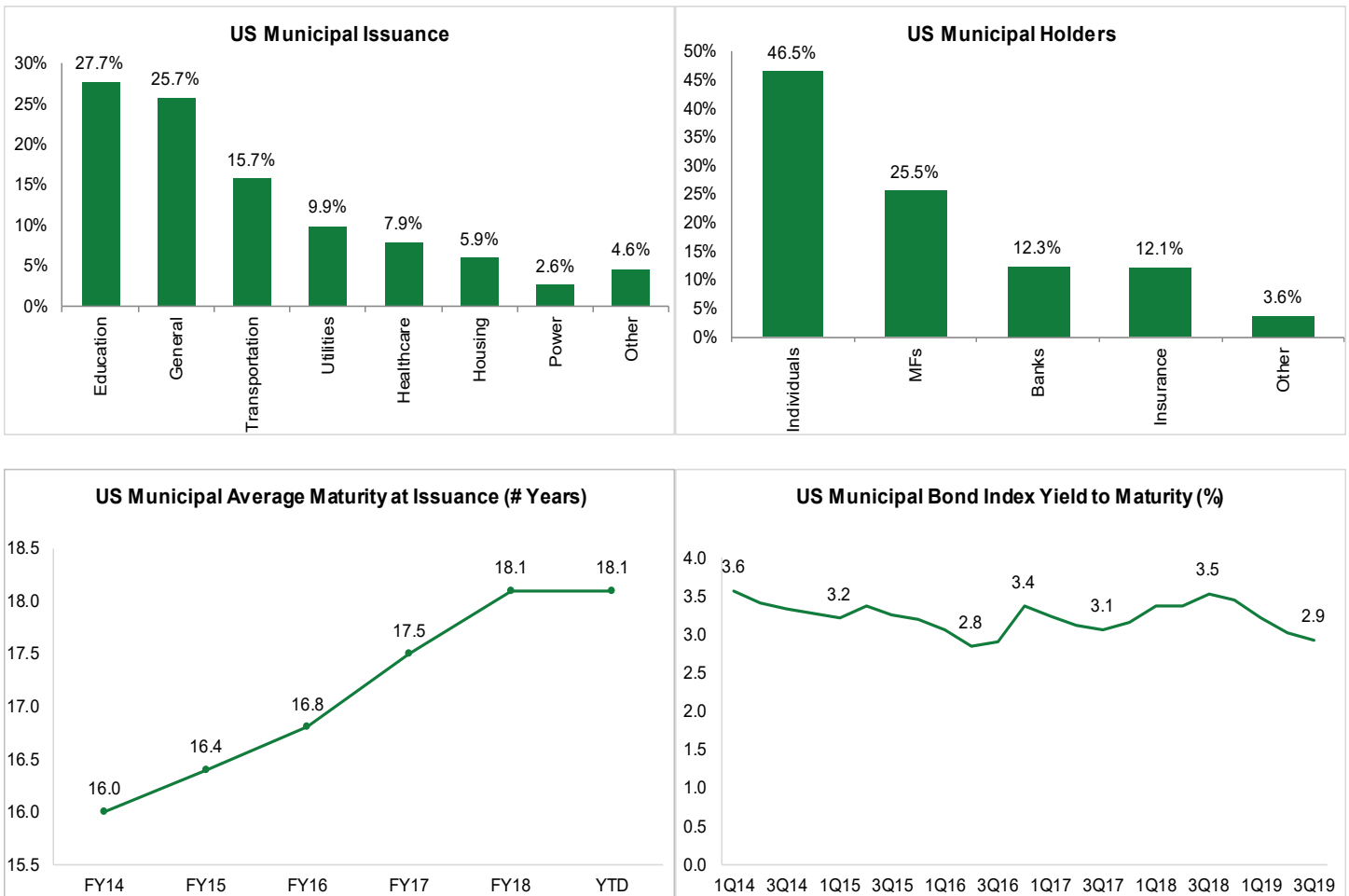
Chart Book: Municipal Securities (Munis)

Municipal bonds (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.



Source: Refinitiv, Federal Reserve, SIFMA estimates (YTD = Sept 2019)

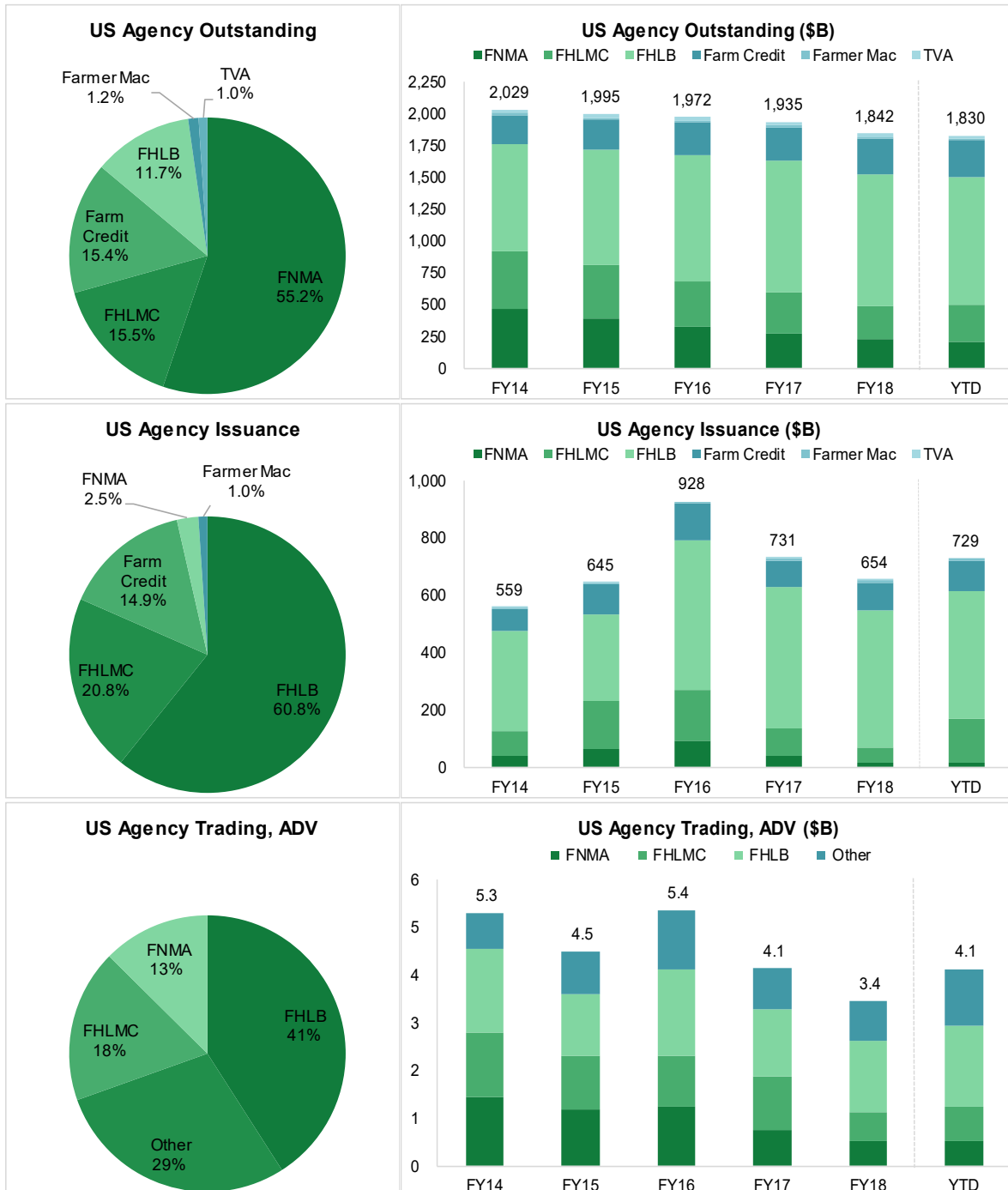
Chart Book: Municipal Securities (Munis)



Source: Refinitiv, Bloomberg, Municipal Securities Rulemaking Board, SIFMA estimates (YTD = Sept 2019)

Chart Book: Federal Agency Securities (Agency)

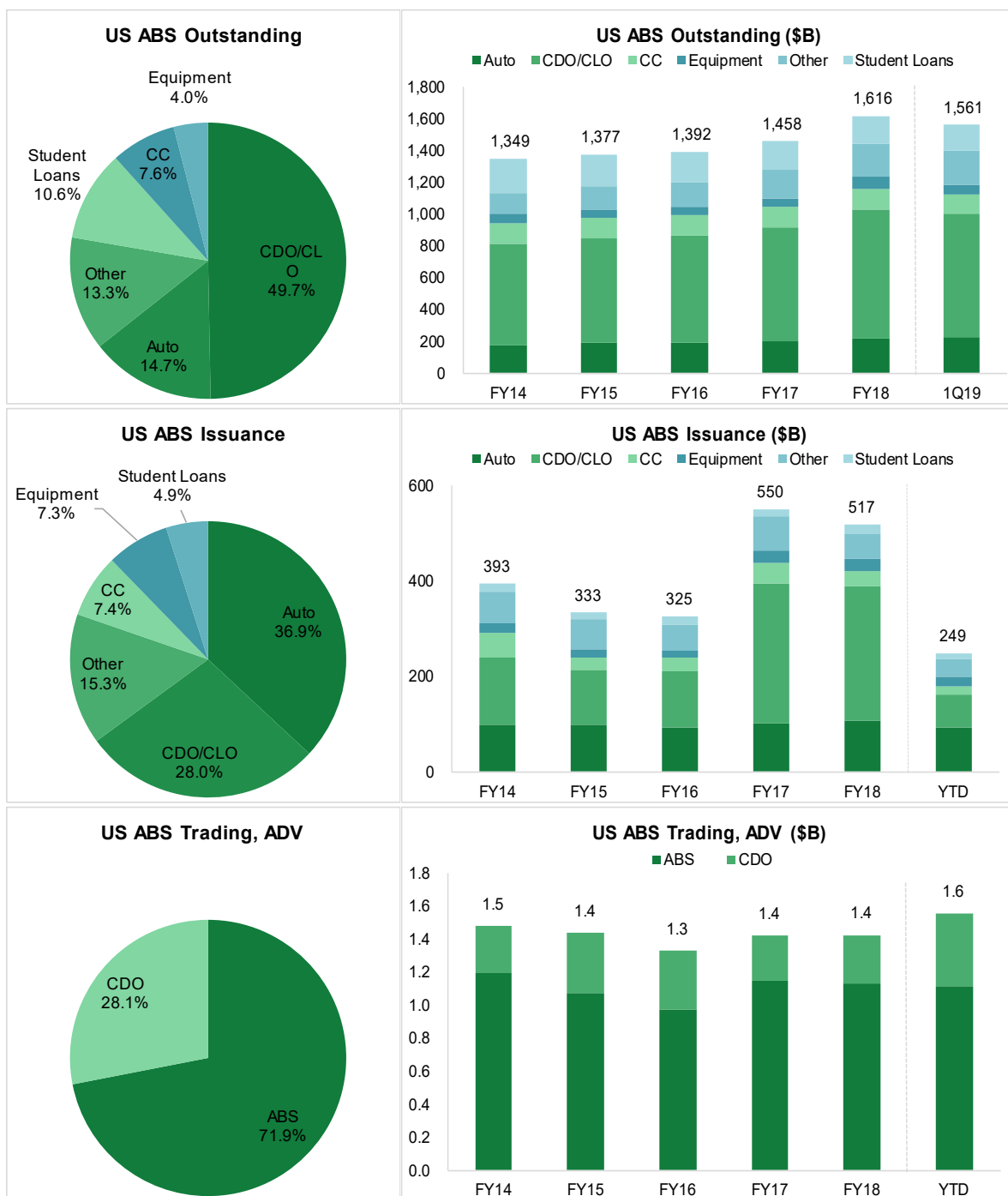
Agency securities are issued by quasi-governmental agencies (federal government, government sponsored enterprises) to fund operations. Unlike UST or munis, these securities are not always fully guaranteed by the U.S. or a municipal government. As such, they can hold credit and default risk.



Source: US Agencies, FINRA, SIFMA estimates (YTD = Sept 2019)

Chart Book: Asset-Backed Securities (ABS)

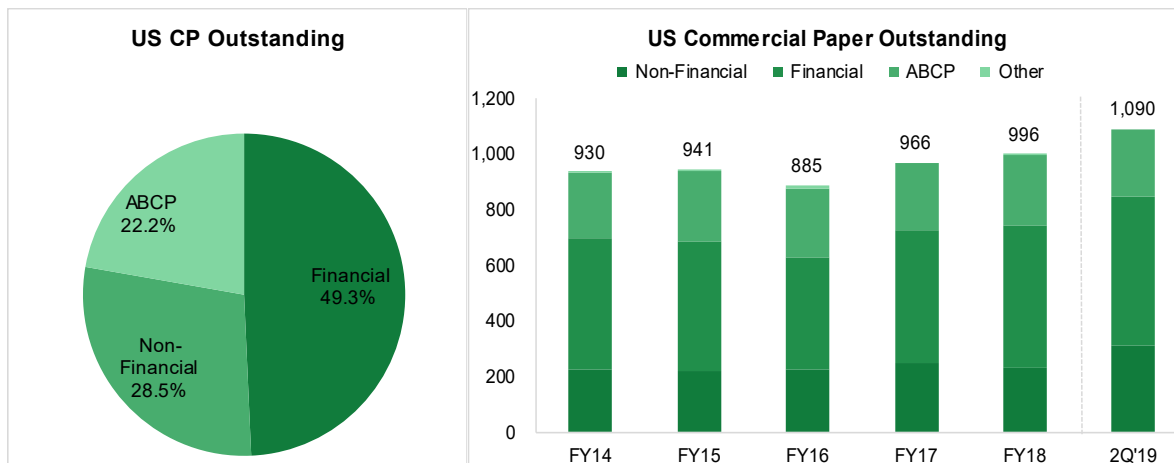
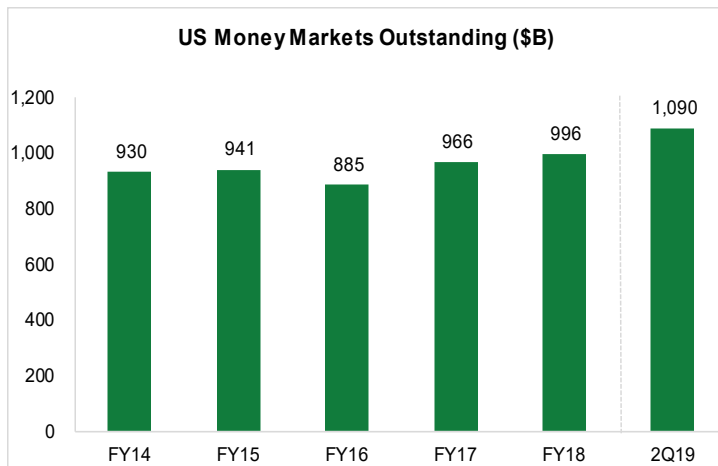
An asset-backed security (ABS) is a financial security collateralized by a pool of typically illiquid assets such as auto loans, student loans, credit cards, etc. Pooling these assets creates a more liquid investment vehicle, with a valuation based on the cash flows of the underlying and the structure of the transaction.



Source: Refinitiv, Bloomberg, FINRA, SIFMA estimates (YTD = Sept 2019)

Chart Book: Money Markets (MM)

The money markets (MM) 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.

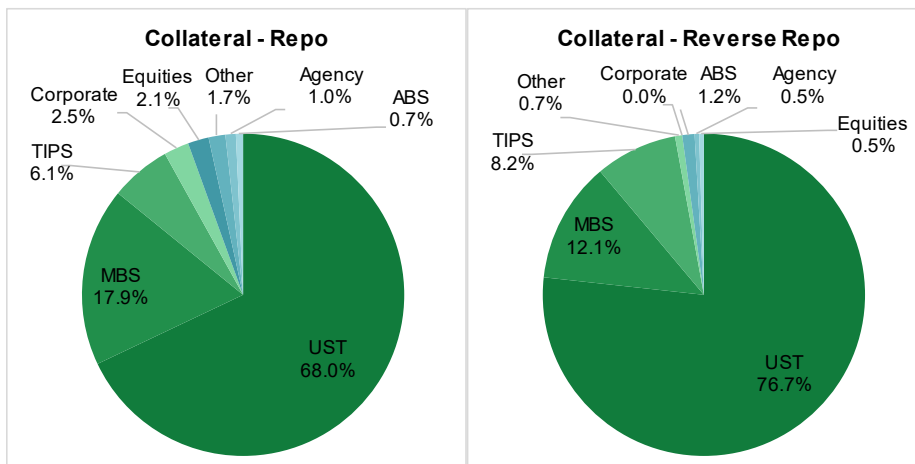
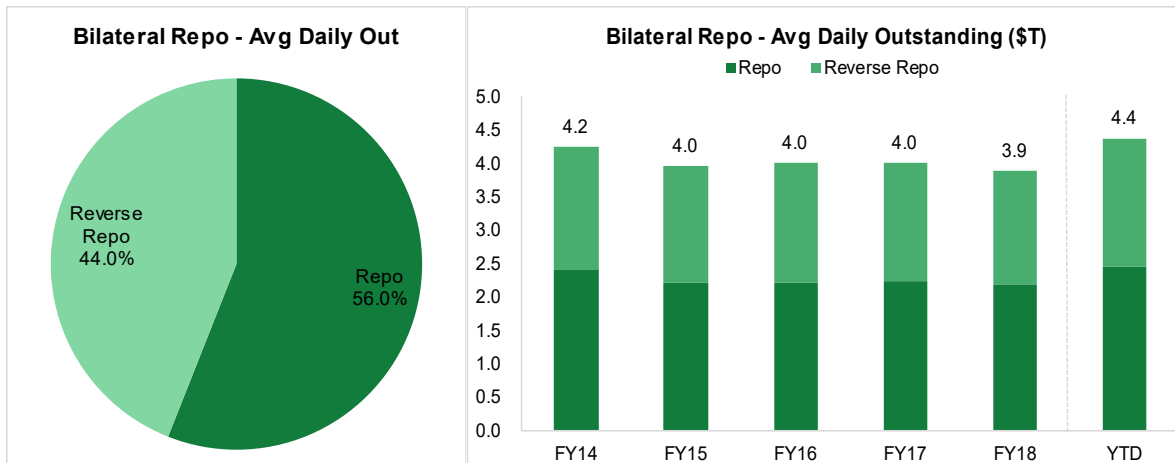


Source: Federal Reserve, SIFMA estimates

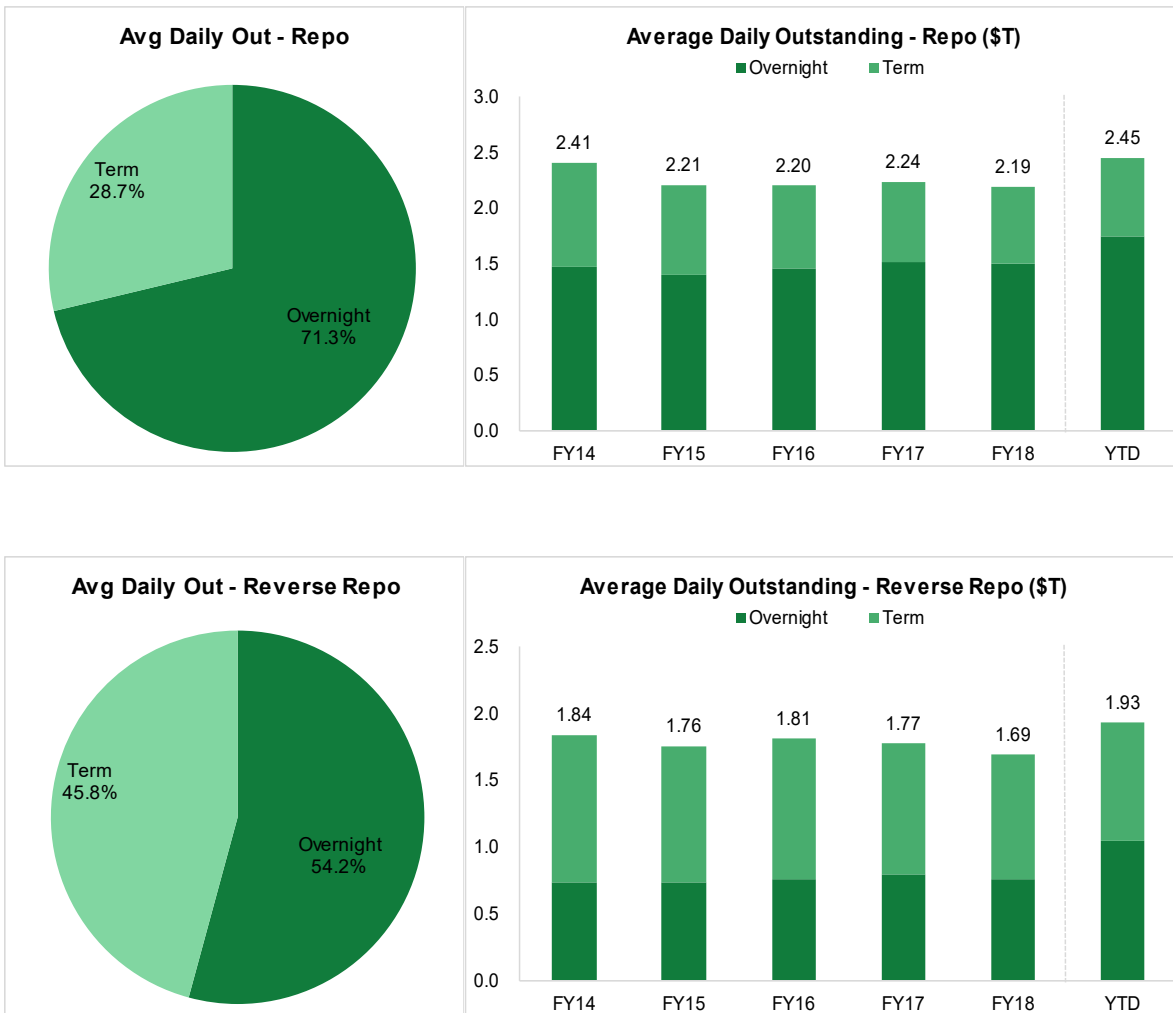
Chart Book: Repurchase Agreements (Repo)

A repurchase agreement (repo) is a financial transaction 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.

Bilateral Repo

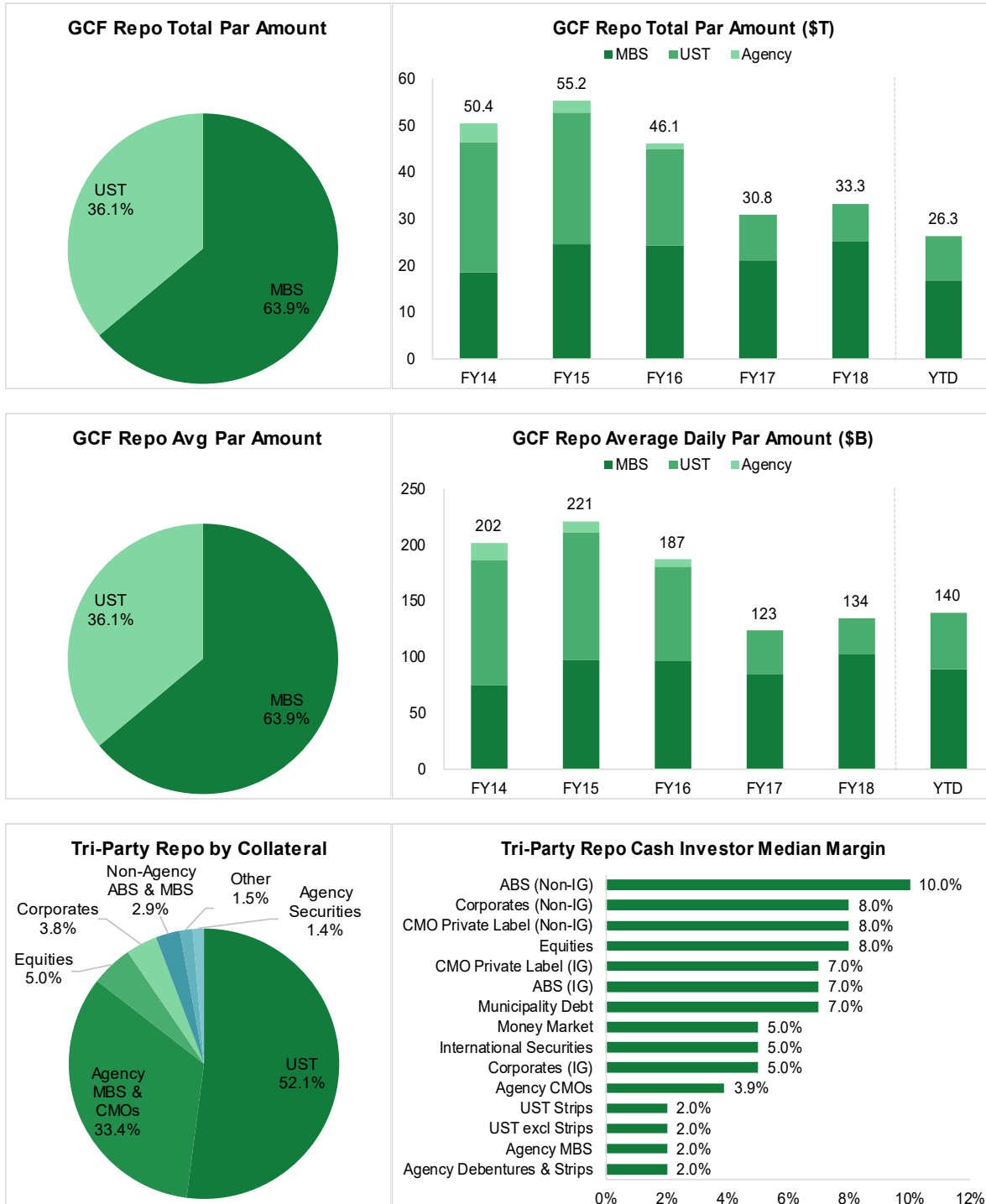


Source: Federal Reserve Bank of New York, SIFMA estimates (YTD = Sept 2019)



Source: Federal Reserve Bank of New York, SIFMA estimates (YTD = Sept 2019)

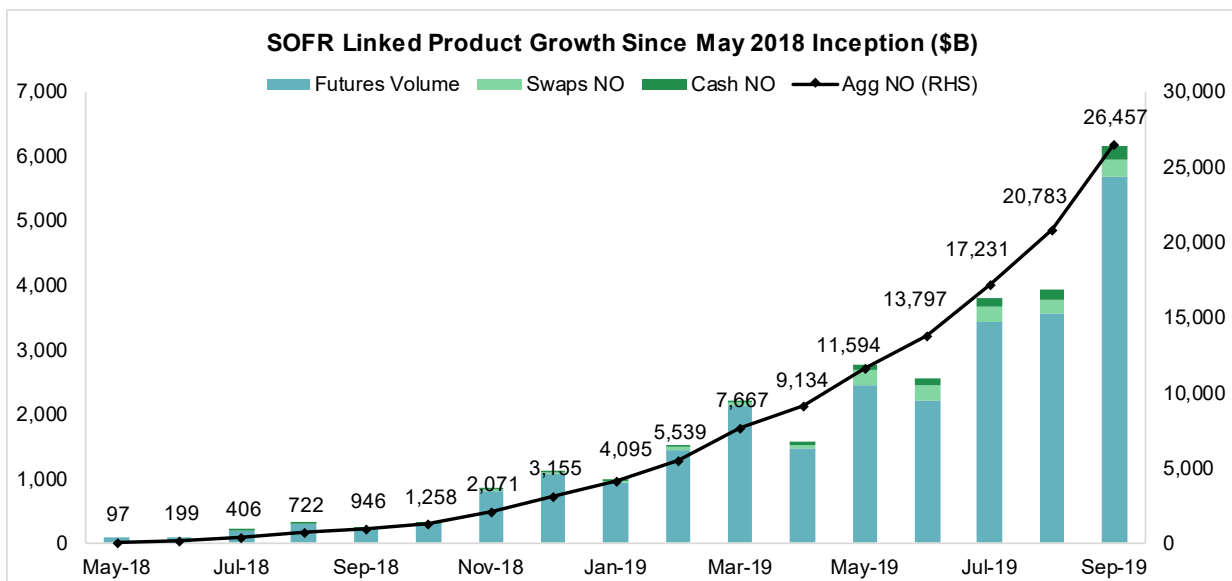
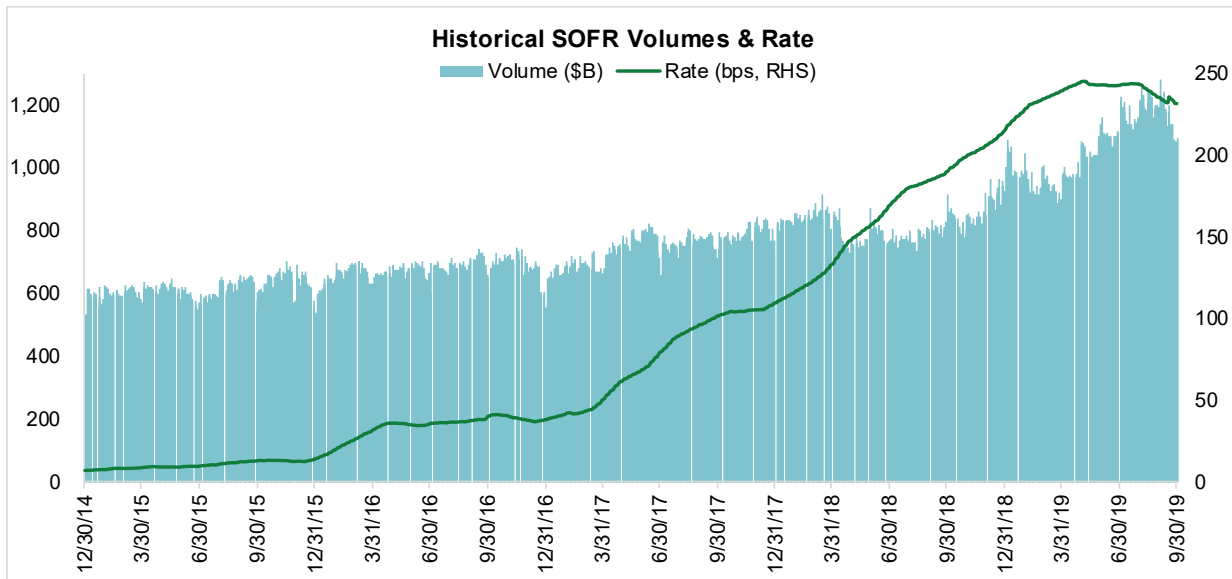
GCF Repo



Source: Federal Reserve Bank of New York, The Depository Trust & Clearing Corporation, SIFMA estimates (YTD = Sept 2019)

Chart Book: Secured Overnight Financing Rate (SOFR)

In the U.S., the transition away from London Interbank Offered Rate (LIBOR) to its chosen alternative reference rate, Secured Overnight Financing 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.



Source: The Alternative Reference Rates Committee, Federal Reserve Bank of New York, SIFMA estimates
 Note: SOFR rate = 90 day rolling average

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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