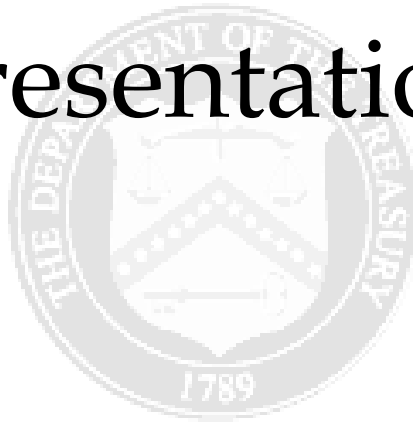


Treasury Presentation to TBAC



Office of Debt Management



Fiscal Year 2022 Q4 Report

Table of Contents*

I.	<u>Executive Summary</u> – Highlights of TBAC Presentation	p. 4
II.	<u>Recent Fiscal Results</u>	
	A. Monthly Receipts Chart and Highlights of Large Changes in Receipts Categories	p.6
	B. Largest Outlays Chart and Highlights of Largest Outlays	p.7
	C. Cumulative Budget Deficits	p.8
III.	<u>Various Fiscal Forecasts</u>	
	A. Recent Macroeconomic Forecasts	p.10
	B. Recent Deficit Forecasts	p.11
	C. Historical Changes in Various Deficit Forecasts	p.12
	D. Interest Rate Assumptions for Various Forecasts	p.13
IV.	<u>Estimated Borrowing Needs and Financing Implications</u>	
	A. Short-Term Privately-Held Net Marketable Borrowing Estimates	p.16
	B. Implied Bill Funding for the Next Two Quarters	p.17
	C. Longer-Term Borrowing Estimates	p.18
	D. Historical Changes in Various Privately Held Net Marketable Borrowing Forecasts	p.19
	E. Longer-Term Projected Privately-Held Net Marketable Borrowing Needs	p.20
V.	<u>Select Portfolio Metrics</u>	
	A. Historical & Hypothetical Projected Weighted Average Maturity	p.23
	B. Weighted Average Next Rate Reset Chart (WANRR)	p.24
	C. Historical & Hypothetical Projected Percentage Product Distributions	p.25
	D. Historical & Hypothetical Projected Rollover Percentages	p.26
VI.	<u>Select Demand Metrics</u>	
	A. Bid-to-Cover Metrics	p.28-32
	B. Investor Class Metrics	p.33-37
	C. Direct Awards and Primary Dealer Awards	p.38-39
	D. Foreign Demand at Auction and Treasury Security Holdings	p.40-41
VII.	<u>Appendix</u>	p.43-55

*All sources are from Treasury unless otherwise specified

Section I: Executive Summary



Highlights of Treasury's November 2022 Quarterly Refunding Presentation to the Treasury Borrowing Advisory Committee (TBAC)

Receipts and Outlays for FY2022

	\$ billions	Change from same period last year (\$ bn)	Change from same period last year (%)	As % of GDP	Change from same period last year (GDP %)
Total Receipts for FY2022	4,896	+850	+21%	19.6%	+1.7%
Total Outlays for FY2022	6,210	-612	-9.0%	25.1%	-5.0%

Treasury's Projected Net Marketable Borrowing for the Next Two Fiscal Quarters*

Treasury OFP Near Term Fiscal Projections	Net Privately Held Marketable Borrowing (\$ billion)	Assumed End-of-Quarter Cash Balance (\$ billion)
Q1 FY2023	550	700 (Dec)
Q2 FY2023	578	500 (Mar)

*These borrowing estimates are based upon current law. The end-of-December and end-of-March cash balances assume enactment of a debt limit suspension or increase. While the debt limit is not currently binding, Treasury's cash balance may be lower than assumed depending on several factors, including constraints related to the debt limit.

Projected Net Marketable Borrowing for the Next Three Fiscal Years from Various Sources**

Fiscal Year	Primary Dealers Median October 2022 (\$ billion)	OMB "Mid-Session Review" August 2022 (\$ billion)	CBO "Analysis of President Budget FY23" September 2022 (\$ billion)
2023	1,765	2,087	1,678
2024	1,433	1,722	1,250
2025	1,402	1,460	1,172

** All privately-held net marketable borrowing estimates are "normalized" with details from page 18.

Uncertainty regarding funding needs in FY2023 and FY2024 remains relatively high, reflecting a variety of views on the path monetary policy, the duration of SOMA redemptions, and the outlook for the economy.

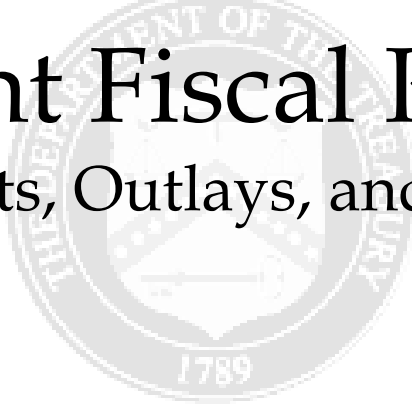
Latest Market Expectations For Treasury Financing In November:

- Primary dealers largely expect Treasury to leave nominal coupons auction sizes unchanged at the November refunding despite all dealers having increased their estimates for privately-held marketable borrowing needs in November relative to their August estimates.
- Given the forecasted funding gap over FY2023 and beyond, all dealers noted that because bills as a percentage of debt outstanding was near the 15 percent lower bound of the TBAC recommended range, there was ample room to increase bill issuance further in order to address near term funding needs.
- Dealers were evenly split on whether Treasury should consider increases to TIPS issuance by \$1 billion for the 10-year TIPS new issues in January 2023.

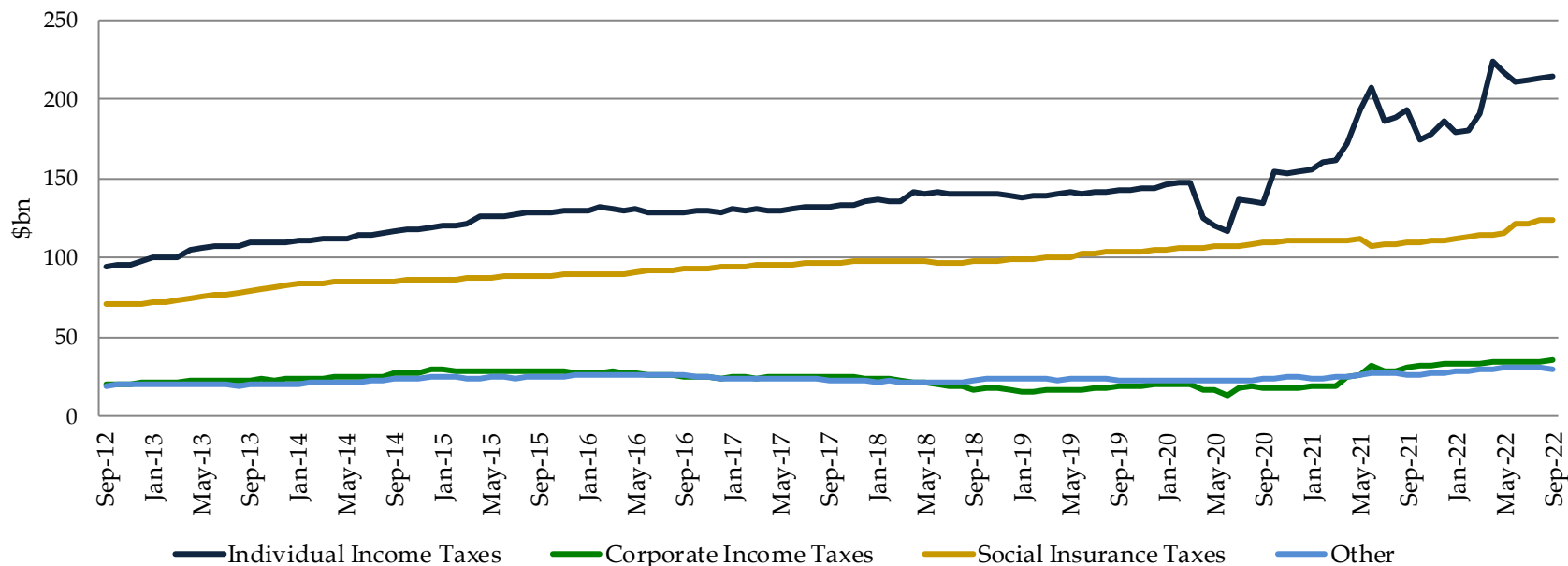
Section II:

Recent Fiscal Results

Receipts, Outlays, and Deficits



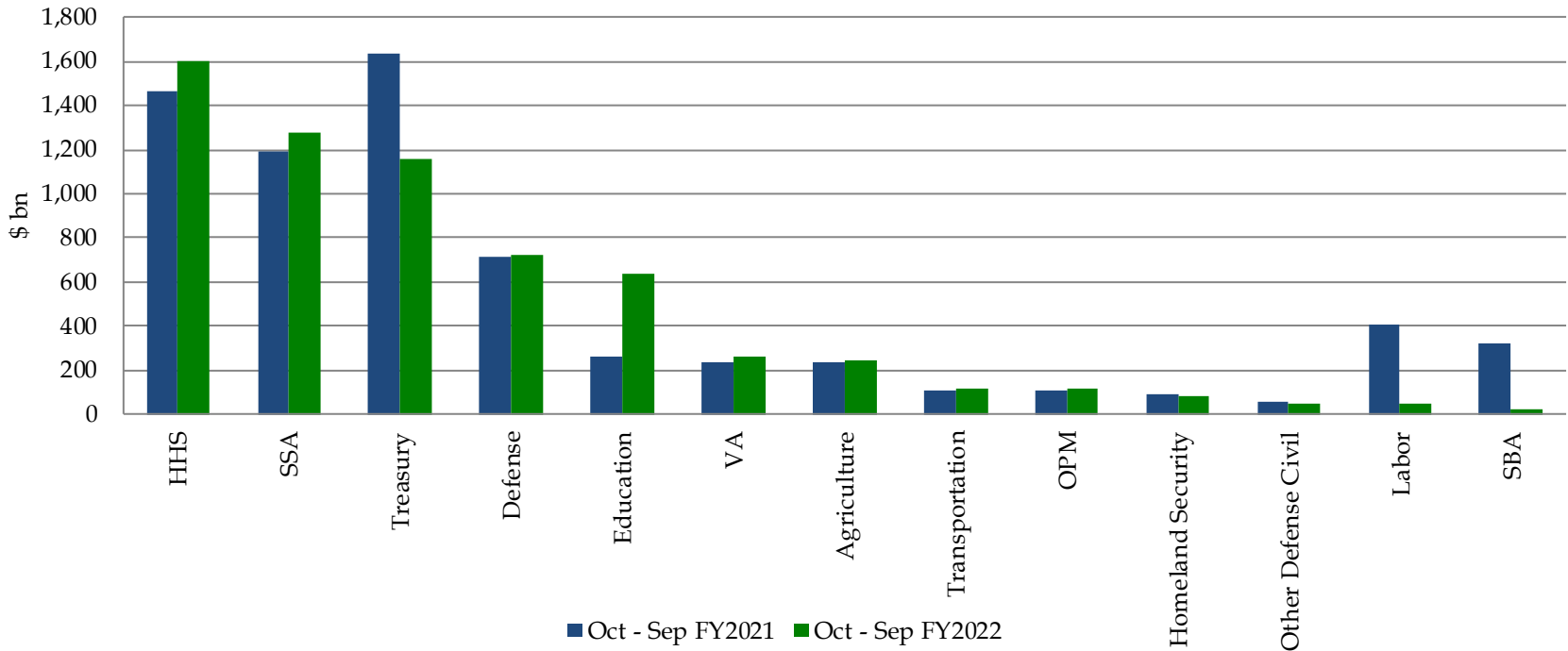
Monthly Receipt Levels (12-Month Moving Average)



Notable Receipt Category	Change from FY21 to FY22 (\$ billion)	Change from FY21 to FY22 (%)	Comments
Withheld & FICA taxes	+\$382	+14%	Reflecting rising wages and employment
Non-withheld and SECA taxes	+\$329	+37%	Buoyed by large final payment of 2021 tax liability in April associated with capital gains and other technical factors
Individual refunds	-\$32	-12%	Due to higher levels of taxable liability for 2021 than were anticipated by individuals, leading to fewer refunds.
Gross corporate taxes	+\$57	+14%	Driven by higher corporate profits
Federal Reserve earnings	+\$7	+7%	Remittances increased through May, but have decreased year-over-year as higher interest rates paid on reserves could reduce or eliminate this source of receipts for up to several years.

Tax receipts for Q4 FY2020 reflect the adjustment of April and June 2020 tax deadlines to July 15th, 2020. Individual Income Taxes include withheld and non-withheld. Social Insurance Taxes include FICA, SECA, RRTA, UTF deposits, FUTA and RUIA. Other includes excise taxes, estate and gift taxes, customs duties and miscellaneous receipts.

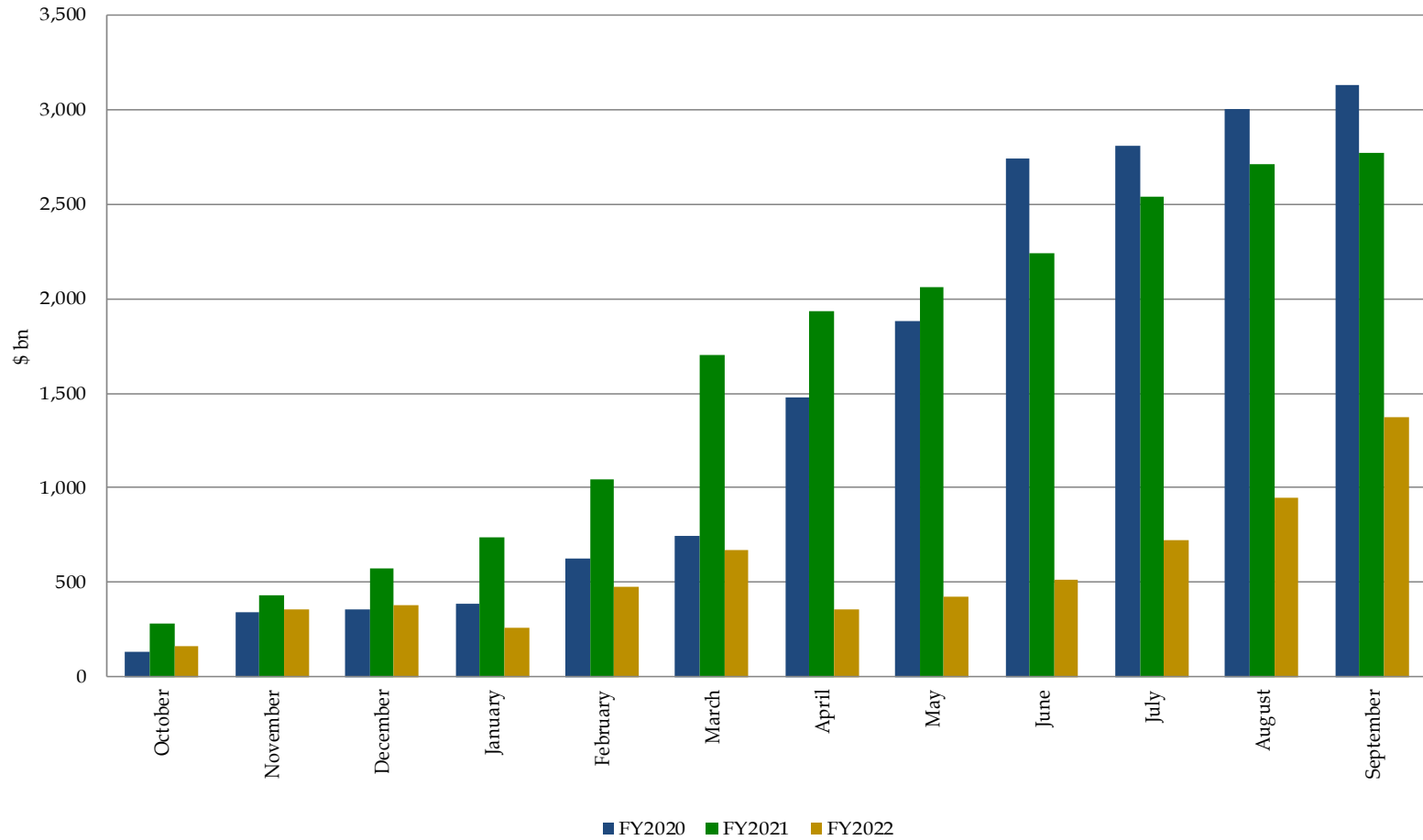
Largest Outlays



Notable Outlays Category	Change from FY21 to FY22 (\$ billion)	Change from FY21 to FY22 (%)	Comments
Department of Treasury	-\$472	-9%	Driven by lower Economic Impact Payments and COVID-19 relief payments, partially offset by increased tax credits and higher interest on the public debt of \$155 billion.
Department of Education	+\$379	+145%	Reflecting the large subsidy modification recognized in September, as well as increased spending on emergency grants through the Education Stabilization Fund to support K-12 and postsecondary education.
Department of Labor	-\$353	-87%	Driven lower due to the reduction in unemployment and expiration of expanded benefits attributable to the COVID-19 pandemic.
Small Business Administration	-\$300	-93%	Due to the recognition of higher subsidy costs in FY 2021 than in FY 2022.

All outlays are on calendar-adjusted basis

Cumulative Budget Deficits by Fiscal Year



Section III:

Various Fiscal Forecasts

Primary Dealers, OMB, CBO



Recent Economic Growth Forecasts

- Nominal and Real Growth Estimates from Primary Dealers as of October 2022:

PD Growth Estimates	Nominal Q4/Q4 % change (median)	Nominal Q4/Q4 % change (median)	Change	Real Q4/Q4 % change (median)	Real Q4/Q4 % change (median)	Change
	October '22 est	July '22 est		October '22 est	July '22 est	
CY2022	6.7	5.5	1.2	0.3	0.6	-0.3
CY2023	3.5	3.2	0.3	0.1	1.0	-0.9

- Most Recent CBO and OMB Growth Forecasts:

CBO Estimates May 2022

	<u>% Change from Q4 to Q4</u>		
	<u>CY2022</u>	<u>CY2023</u>	<u>CY2024</u>
GDP			
<i>Real</i>	3.1	2.2	1.5
<i>Nominal</i>	7.4	4.5	3.6

OMB Estimates August 2022

	<u>% Change from Q4 to Q4</u>		
	<u>CY2022</u>	<u>CY2023</u>	<u>CY2024</u>
GDP			
<i>Real</i>	1.4	1.8	2.0
<i>Nominal</i>	7.7	4.4	4.1

Note: Economic assumptions for CBO and OMB forecasts were established in March 2022 and June 2022, respectively.

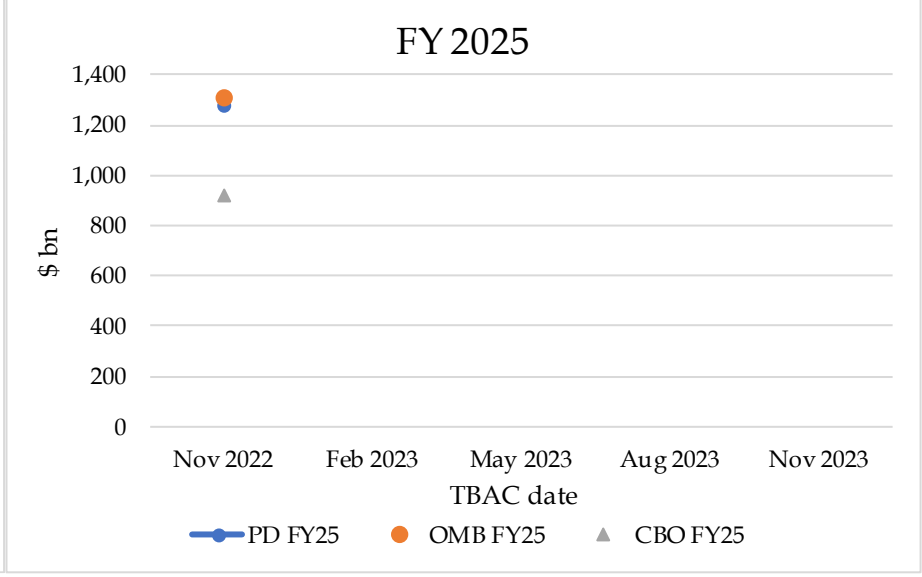
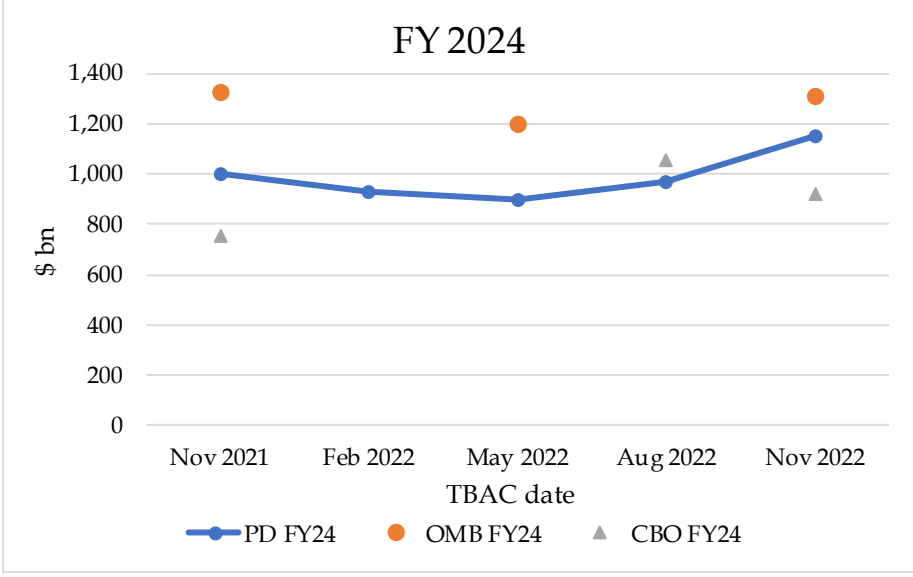
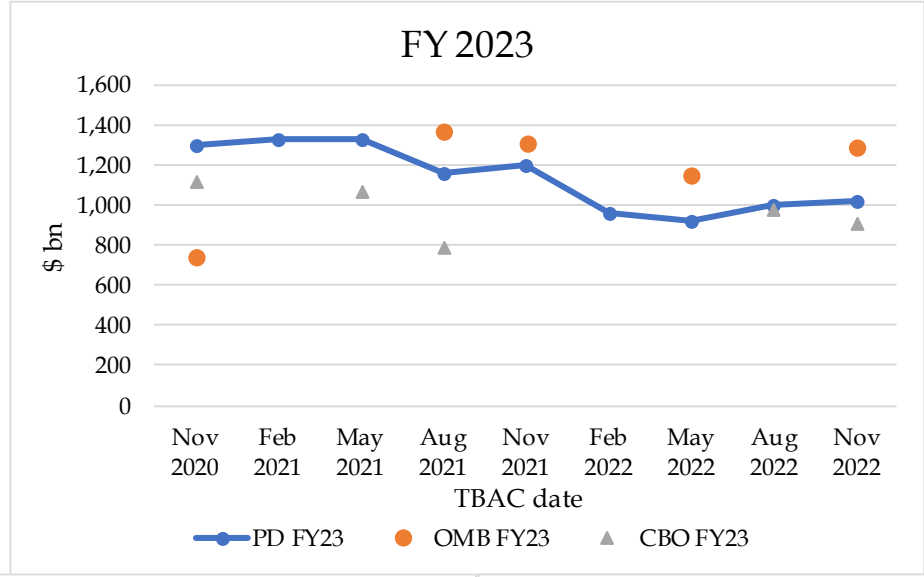
Recent Deficit Forecasts

- Primary dealers increased their deficit estimates in October relative to estimates they provided in July. Their changes reflected forecasts adjustments for higher interest costs, lower Federal Reserve remittances, and a slower economy.
- Dealers generally suggested that risks were asymmetrical to the upside, i.e., risks for higher deficits, as well as a high degree of uncertainty around their estimates.
- The latest OMB and CBO estimates in the table below are provided for reference.

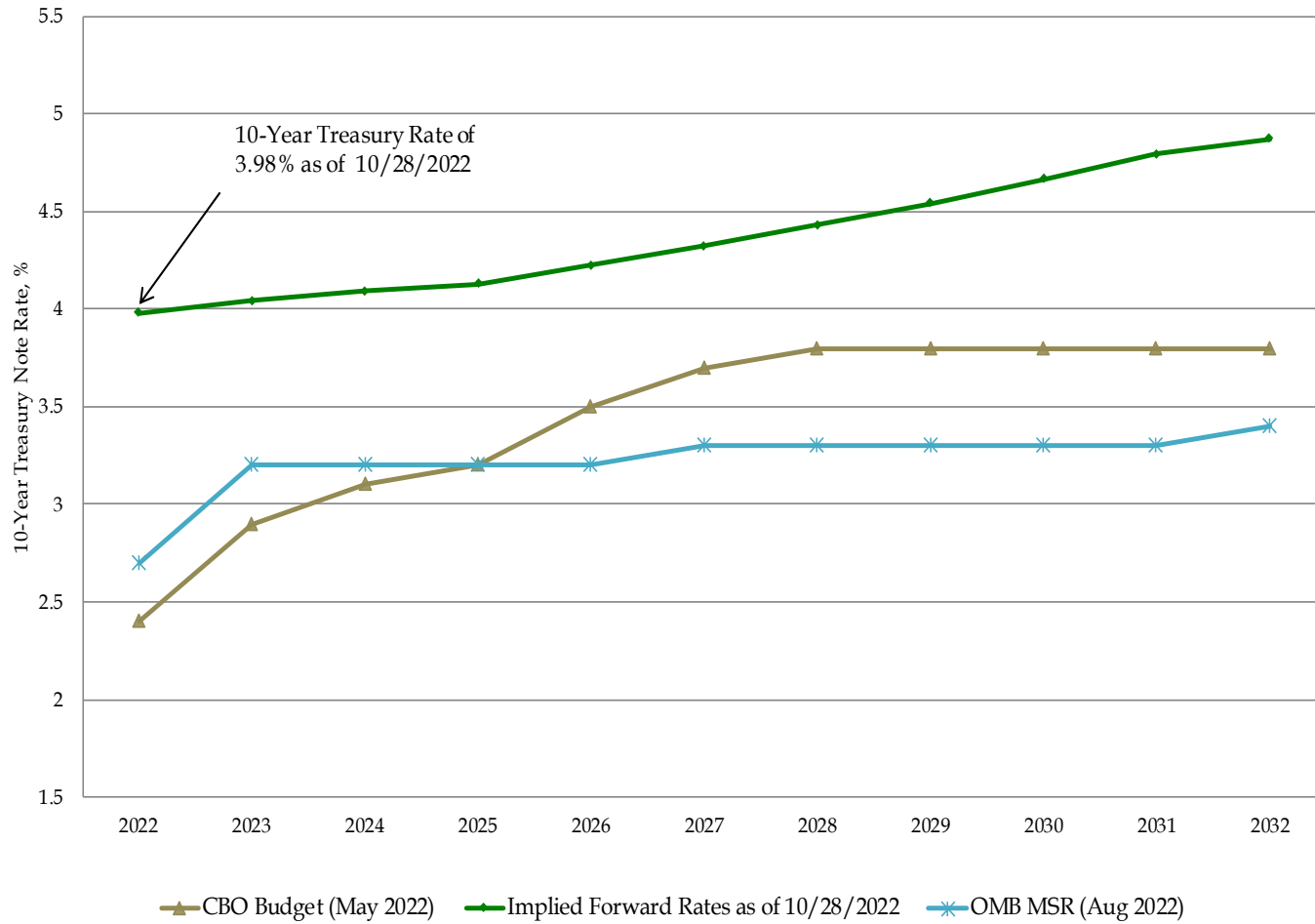
Deficit Estimates (\$ billion)	PD 25th Percentile	Primary Dealers (Median)	PD 75th Percentile	Change from Prior Quarter (Median)	OMB	CBO
FY2023	984	1,020	1,150	20	1,300	908
FY2024	1,055	1,150	1,250	185	1,311	921
FY2025	1,105	1,275	1,398		1,414	1,145
As of date	Oct-22	Oct-22	Oct-22		Aug-22	Sep-22

- OMB projections are using estimates are from Table S-1 of “Mid-Session Review Budget of The U.S. Government Fiscal Year 2023,” August 2022.
- CBO projections are using estimates are from Table 2 of “An Analysis of the President’s 2023 Budget,” September 2022.


Evolution of Median Primary Dealer, OMB and CBO Deficit Estimates



Interest Rate Assumptions: 10-Year Treasury Note



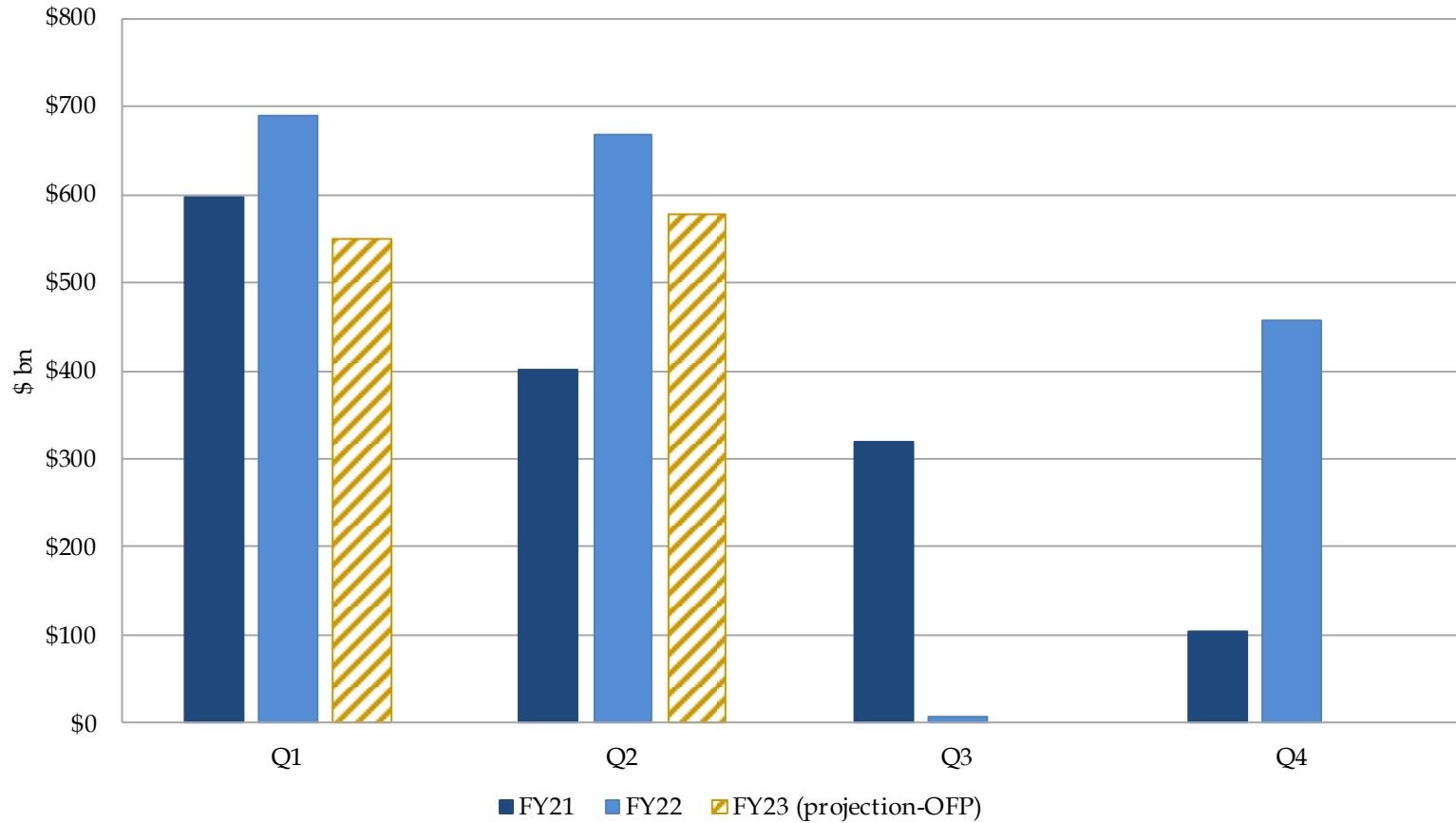
Section IV: Estimated Borrowing Needs and Financing Implications



Assumptions for Financing Section (pages 16 to 20)

- Portfolio and SOMA holdings as of 09/30/2022.
- Estimates assume privately announced issuance sizes and patterns remain constant for nominal coupons, TIPS, and FRNs given the issuance sizes in effect in October 2022, while using total bills outstanding of ~\$3.64 trillion.
- The principal on the TIPS securities was accreted to each projection date based on market ZCIS levels as of 09/30/2022.
- No attempt was made to account for future financing needs.
- **Privately-held marketable borrowing** excludes rollovers (auction “add-ons”) of Treasury securities held in the Federal Reserve System Open Market Account (SOMA) but includes financing required due to SOMA redemptions. Secondary market purchases of Treasury securities by SOMA do not directly change net privately-held marketable borrowing but, all else equal, when the securities mature and assuming the Fed does not redeem any maturing securities, would increase the amount of cash raised for a given privately-held auction size by increasing the SOMA “add-on” amount. These borrowing estimates are based upon current law and do not include any assumptions for the impact of additional legislation that may be passed.
- All near term estimates assume enactment of a debt limit suspension or increase.

Privately-Held Net Marketable Borrowing Outlook



Implied Bill Funding for Next Two Quarters Based on Recent Borrowing Estimates

Sources of Privately-Held Financing in FY23 Q1

October - December 2022	
Assuming Constant Coupon Issuance Sizes*	
Treasury Announced Net Marketable Borrowing**	550
Net Coupon Issuance	300
Implied Change in Bills	250

Sources of Privately-Held Financing in FY23 Q2

January - March 2023	
Assuming Constant Coupon Issuance Sizes*	
Treasury Announced Net Marketable Borrowing**	578
Net Coupon Issuance	277
Implied Change in Bills	301

Security	October - December 2022 Coupon Issuance			Fiscal Year-to-Date Coupon Issuance			Security	January - March 2023 Coupon Issuance			Fiscal Year-to-Date Coupon Issuance		
	Gross	Maturing	Net	Gross	Maturing	Net		Gross	Maturing	Net	Gross	Maturing	Net
2-Year FRN	68	74	(6)	68	74	(6)	2-Year FRN	68	80	(12)	136	154	(18)
2-Year	84	94	(10)	84	94	(10)	2-Year	168	204	(36)	252	298	(46)
3-Year	120	49	71	120	49	71	3-Year	120	79	41	240	128	112
5-Year	86	26	60	86	26	60	5-Year	172	73	99	258	98	160
7-Year	70	67	3	70	67	3	7-Year	140	111	29	210	179	31
10-Year	99	53	46	99	53	46	10-Year	99	38	61	198	91	107
20-Year	27	0	27	27	0	27	20-Year	51	0	51	78	0	78
30-Year	57	2	55	57	2	55	30-Year	57	5	52	114	7	107
5-Year TIPS	40	0	40	40	0	40	5-Year TIPS	0	0	0	40	0	40
10-Year TIPS	15	0	15	15	0	15	10-Year TIPS	32	49	(17)	47	49	(2)
30-Year TIPS	0	0	0	0	0	0	30-Year TIPS	9	0	9	9	0	9
Coupon Subtotal	666	366	300	666	366	300	Coupon Subtotal	916	639	277	1,582	1,005	577

* Keeping announced issuance sizes and patterns constant for nominal coupons, TIPS, and FRNs based on changes made before the November 2022 refunding.

** Assumes an end-of-December 2022 and end-of-March 2023 cash balances of \$700 billion and \$500 billion respectively versus a beginning-of-October 2022 cash balance of \$636 billion. Financing Estimates released by the Treasury can be found here: <http://www.treasury.gov/resource-center/data-chart-center/quarterly-refunding/Pages/Latest.aspx>

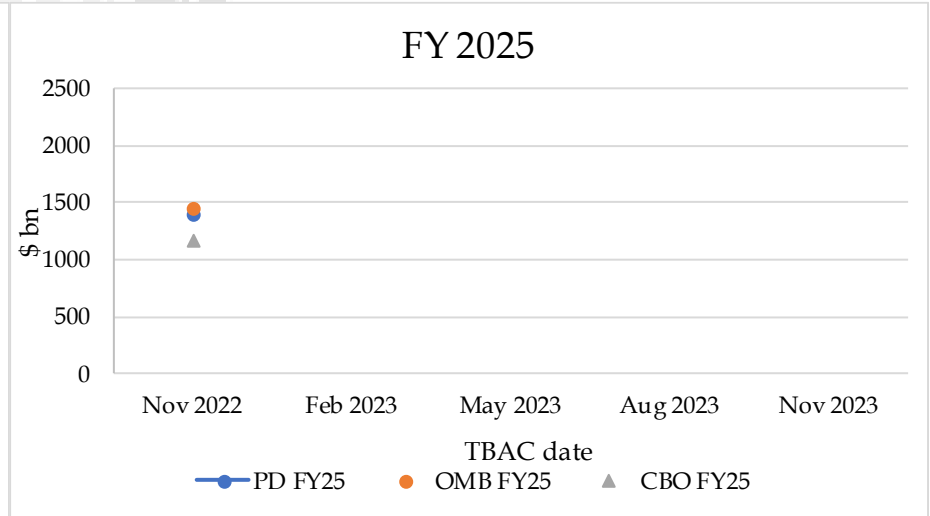
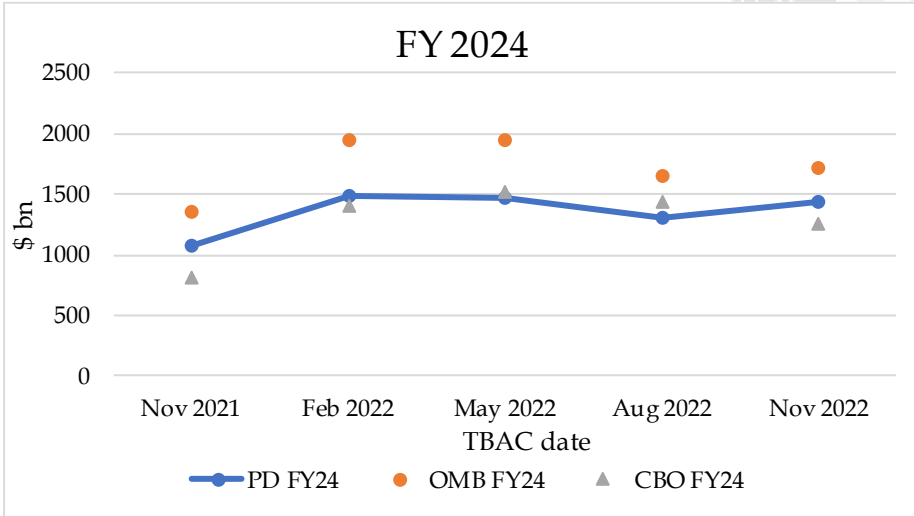
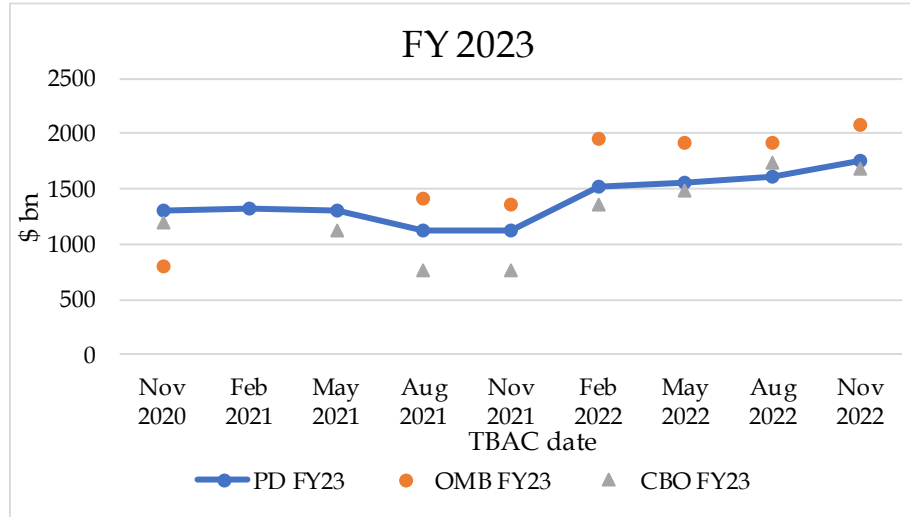
Longer-Term Privately Held Net Marketable Borrowing Estimates and SOMA Redemption Assumptions

FY 2023-2025 Deficits and Privately-Held Net Marketable Borrowing Estimates*, in \$ billions

	Primary Dealer			OMB	CBO ¹	CBO ²
	25th	Median	75th			
FY 2023 Deficit	984	1,020	1,150	1,300	908	984
FY 2024 Deficit	1,055	1,150	1,250	1,311	921	1,056
FY 2025 Deficit	1,105	1,275	1,398	1,414	1,145	1,318
FY 2023 SOMA Redemption	700	720	720			
FY 2024 SOMA Redemption	90	360	697			
FY 2025 SOMA Redemption	0	0	180			
FY 2023 Privately-Held Net Marketable Borrowing	1,650**	1,765**	1,854**	2,087**	1,678**	1,754**
FY 2024 Privately-Held Net Marketable Borrowing	1,338	1,433	1,781**	1,722**	1,250**	1,384**
FY 2025 Privately-Held Net Marketable Borrowing	1,193	1,402	1,500	1,460**	1,172**	1,344**
Estimates as of:		Oct-22		Aug-22	Sep-22	May-22

- All privately-held net marketable borrowing estimates of are “normalized” using:
 - 1) the median Primary Dealer’s estimates for SOMA redemptions, and
 - 2) assuming OMB’s end of fiscal year cash balance of \$650 billion, held constant in out years.
- OMB projections are using estimates are from Table S-1 of “Mid-Session Review Budget of The U.S. Government Fiscal Year 2023,” August 2022.
- CBO¹ projections are using estimates are from Table 2 of “An Analysis of the President’s 2023 Budget,” September 2022.
- CBO² projections are using estimates are from Table 1-1 of “The Budget and Economic Outlook: 2022 to 2032,” May 2022.

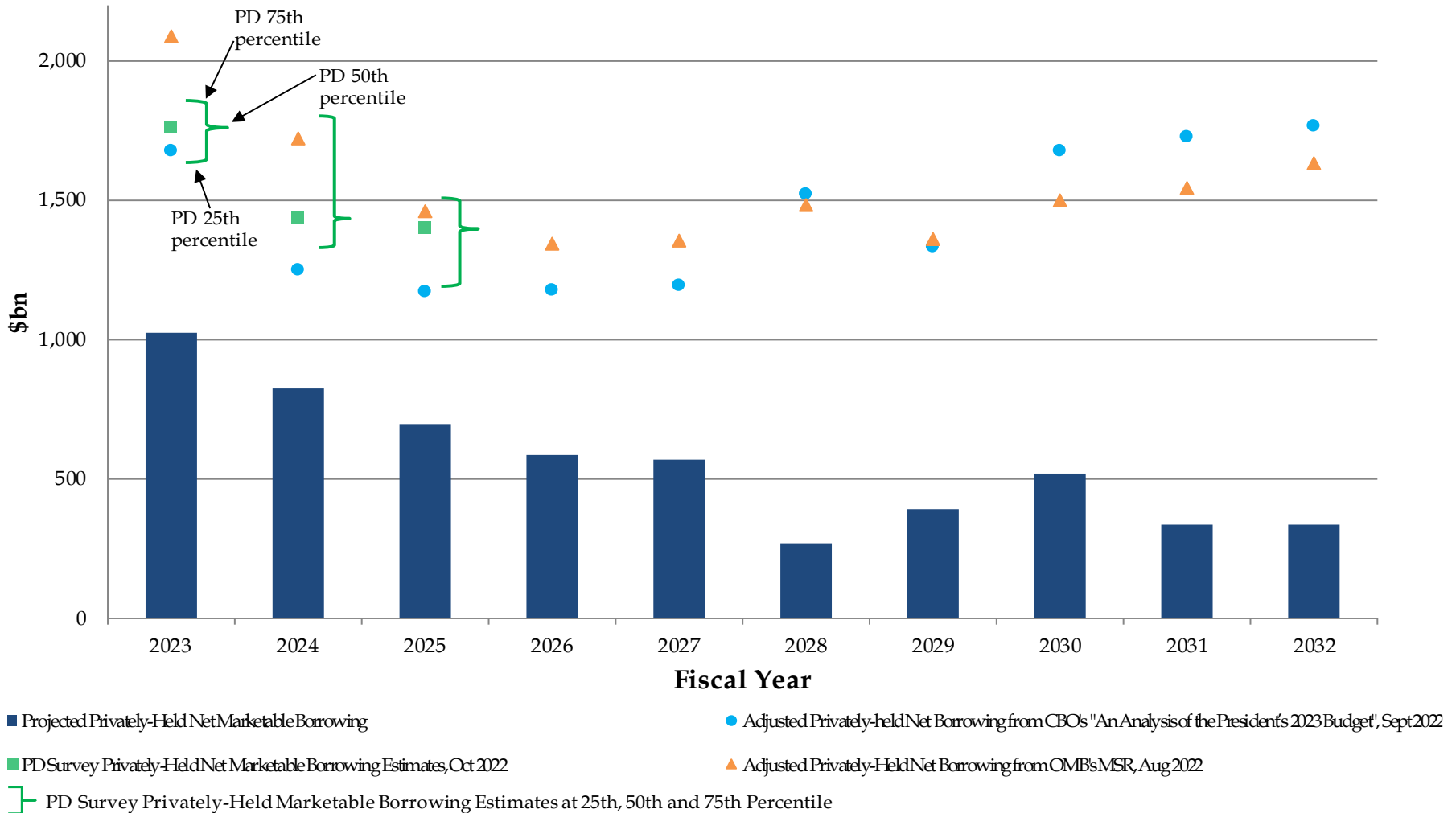
Evolution of Median Primary Dealer, OMB and CBO Privately-Held Net Marketable Borrowing Estimates*



* Note that both the OMB and CBO privately-held net marketable borrowing estimates are calculated by adjusting their respective deficit estimates using dealer's median SOMA redemption estimates. In addition, all the PD, OMB and CBO privately-held borrowings are normalized with the same cash balance changes.

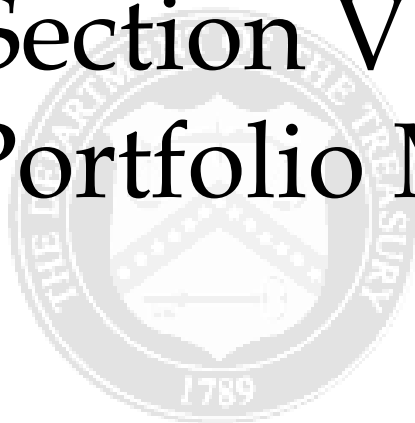
Projected Privately-Held Net Marketable Borrowing

Assuming Private Coupon Issuance & Total Bills Outstanding Remain Constant as of 09/30/2022*



*Treasury's latest primary dealer survey median/interquartile range estimates can be found on page 18. OMB's borrowing projections are from Table S-1 of "Mid-Session Review Budget of the U.S. Government Fiscal Year 2023," Aug 2022. CBO's borrowing projections are using estimates from Table 2 of CBO's "An Analysis of the President's 2023 Budget," Sept 2022. Both OMB and CBO borrowing estimates are normalized to privately-held net borrowing after adding PD survey median SOMA redemption assumptions for FY23/24/25. FY2022 net borrowing estimates from PD and CBO are normalized with OMB MSR fiscal-year ending cash balance of \$650 billion, held constant in out years.

Section V: Select Portfolio Metrics



Note: Several of the portfolio metric charts that follow include three years of projected metrics.

These projections are hypothetical and are meant for illustrative purposes only. The projections contained in these charts should not be interpreted as representing any future policy decisions regarding Treasury financing.

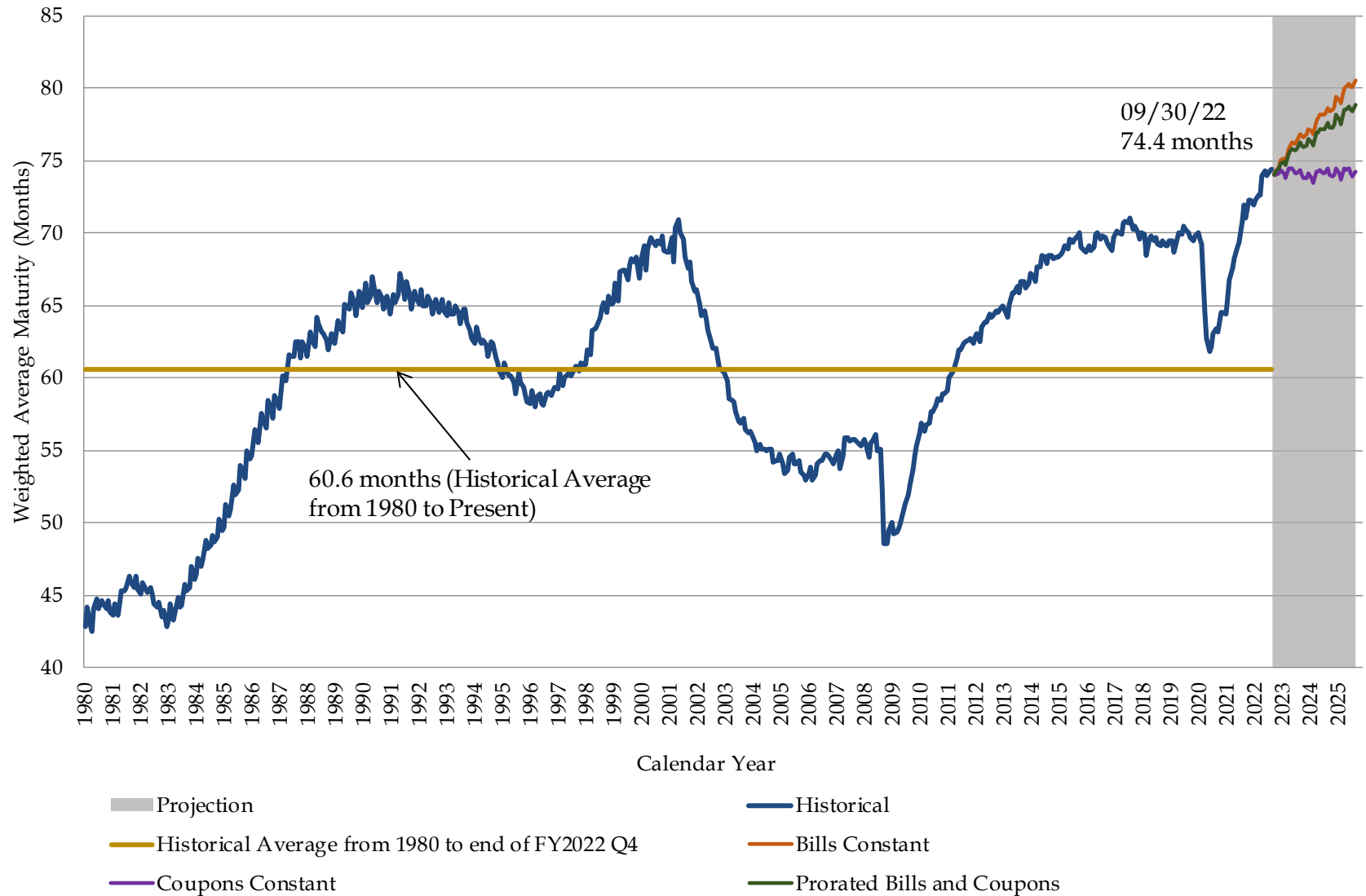
Projections illustrate how various portfolio metrics could evolve under three hypothetical financing scenarios. The scenarios were chosen to illustrate a potential range of portfolio metric outcomes based on hypothetical issuance choices.

The scenarios are:

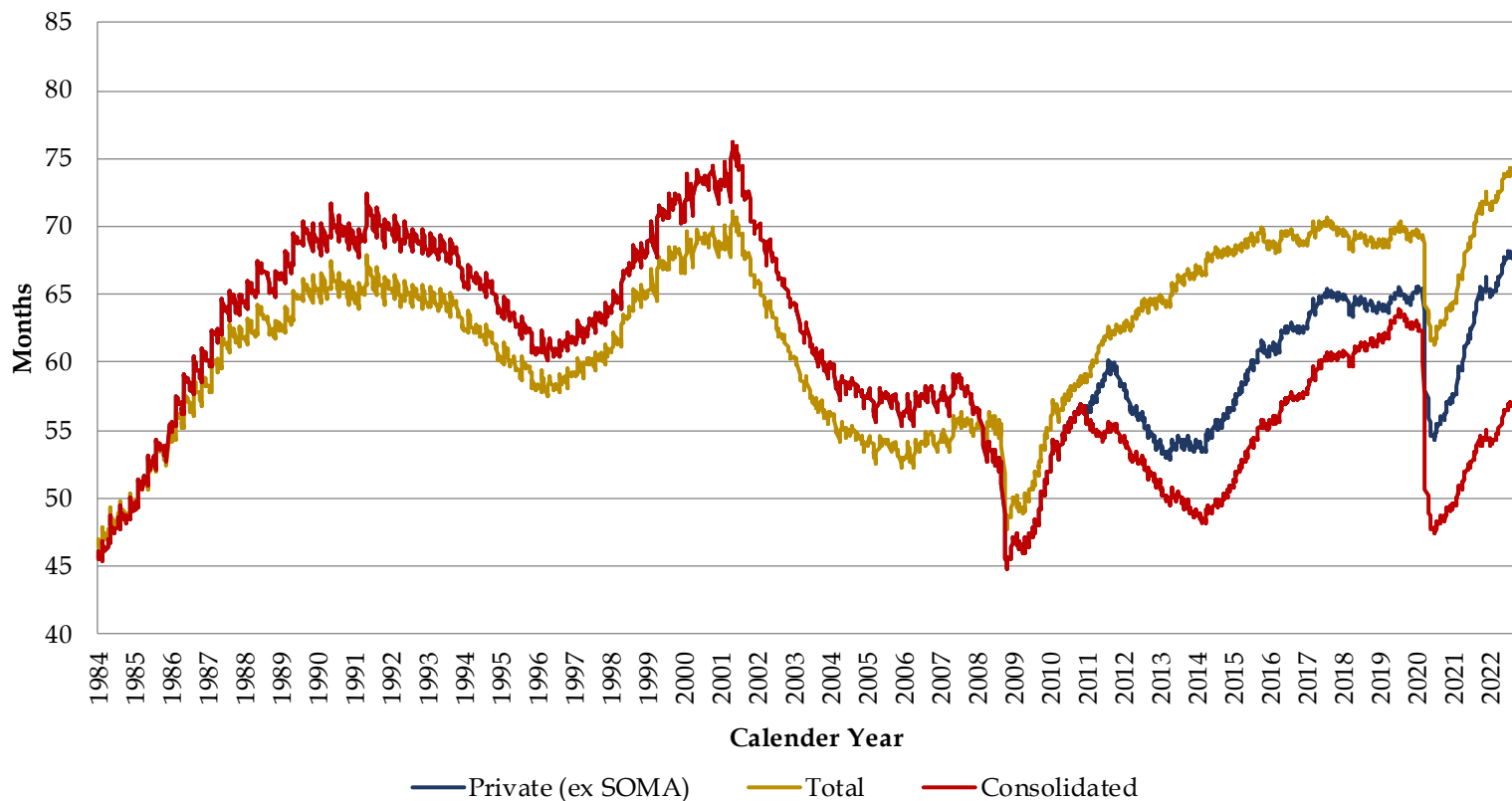
- 1) ***“Coupons Constant”***: Treasury maintains **coupon, FRN, and TIPS auction sizes constant** starting in October 2022 and addresses any changes in financing needs by only increasing or decreasing T-bill auction sizes;
- 2) ***“Bills Constant”***: Treasury maintains **T-bills aggregate supply constant** at \$3.64 trillion as of 9/30/2022 and increases or decreases coupon, FRN, and TIPS auction sizes in response to financing needs in a manner that maintains current issuance proportions starting in October 2022
- 3) ***“Prorated Bills and Coupons”***: Treasury maintains **T-bills share constant** at 15.4% as of 9/30/2022 and addresses any changes in financing needs by pro rata increasing or decreasing coupon, FRN, and TIPS auction sizes.

Net marketable borrowing needs used in the projections section of these charts are proxied using median primary dealer estimates for FY23, FY24, & FY25 (see page 18).

Weighted Average Maturity of Marketable Debt Outstanding



Consolidated WANRR Calculation*

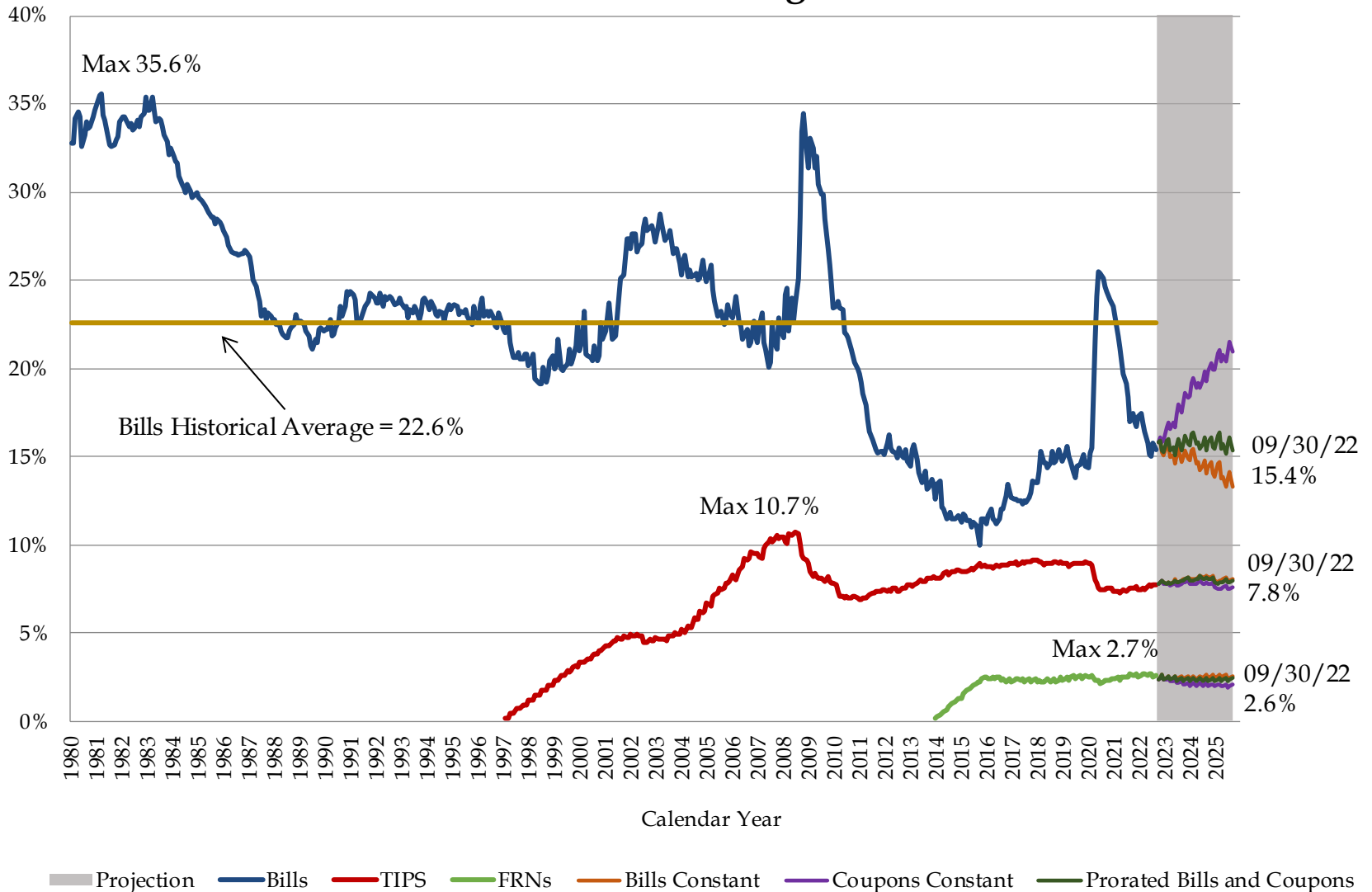


* Weighted Average Next Rate Reset (WANRR) is a “Weighted Average Maturity” metric that attempts to adjust for the floating rate aspect of some Treasury debt. The WANRR is the average time until the outstanding debt’s interest rate is set to a new interest rate. For bills and fixed rate notes and bonds, the next rate reset is equal to the maturity date.

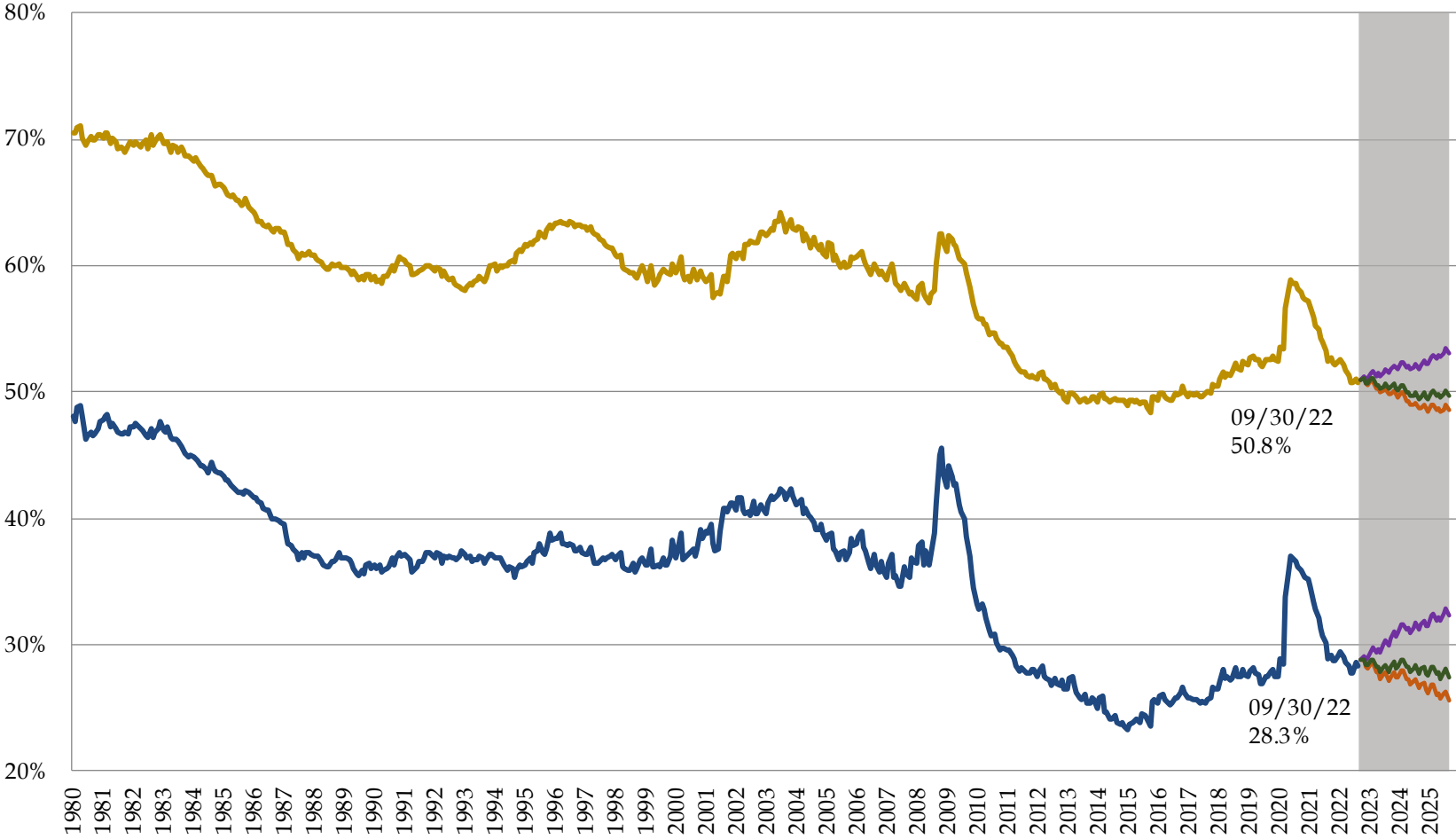
In contrast, for floating rate obligations, the time between the next rate reset date or maturity date is examined and the shorter period is used in the calculation.

The consolidated outstanding debt is defined as the private amount plus SOMA Treasury securities holdings less currency amount. In this calculation, SOMA Treasury holdings greater than the level of currency outstanding is treated as if it is a daily rate reset.

Bills, TIPS & FRNs Outstanding as a Percent of Marketable Debt Outstanding



Treasury Maturity Profile

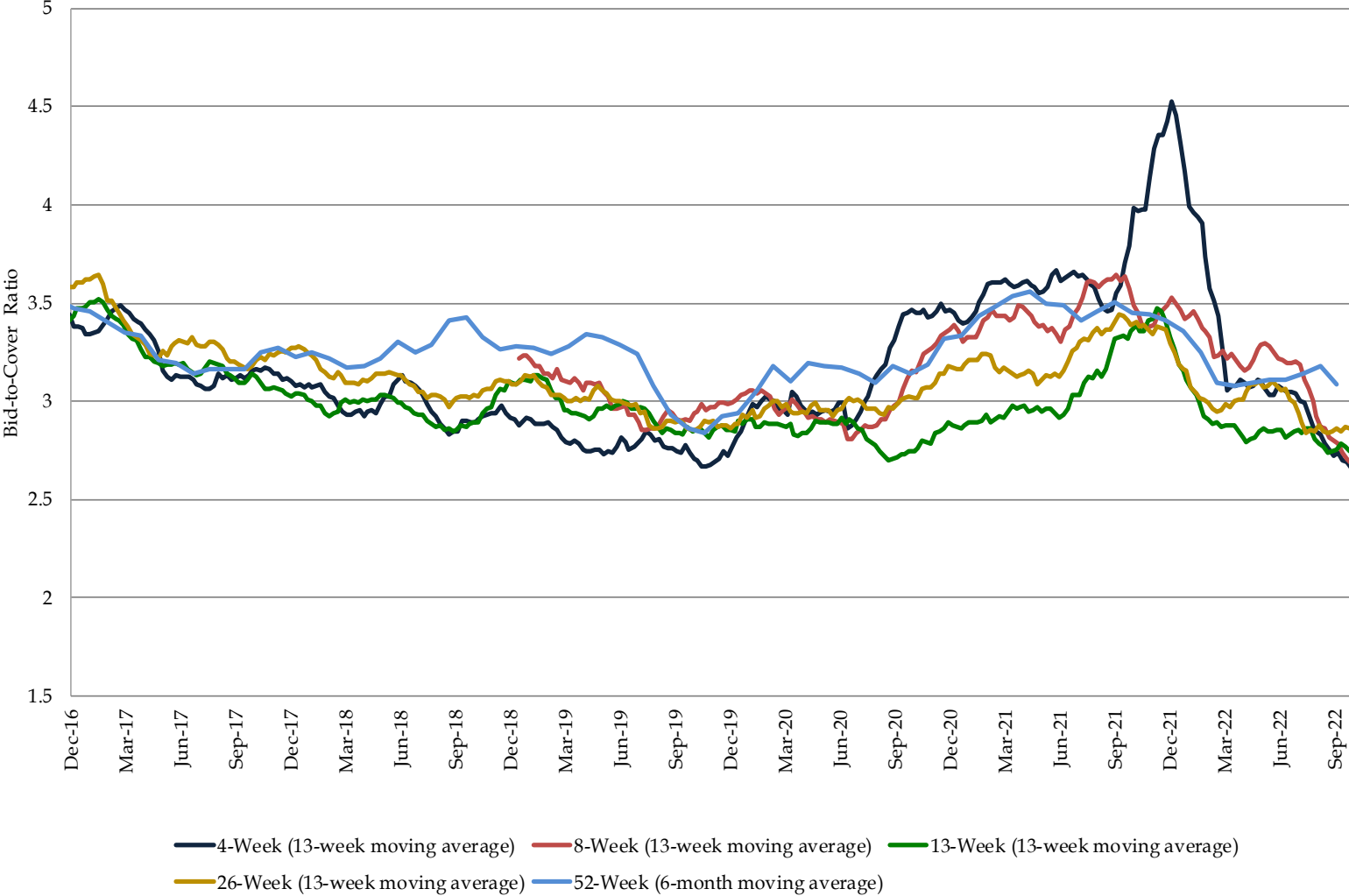


- Projection
- Bills Constant
- Percent Maturing <=1 Year
- Coupons Constant
- Percent Maturing <=3 Year
- Prorated Bills and Coupons

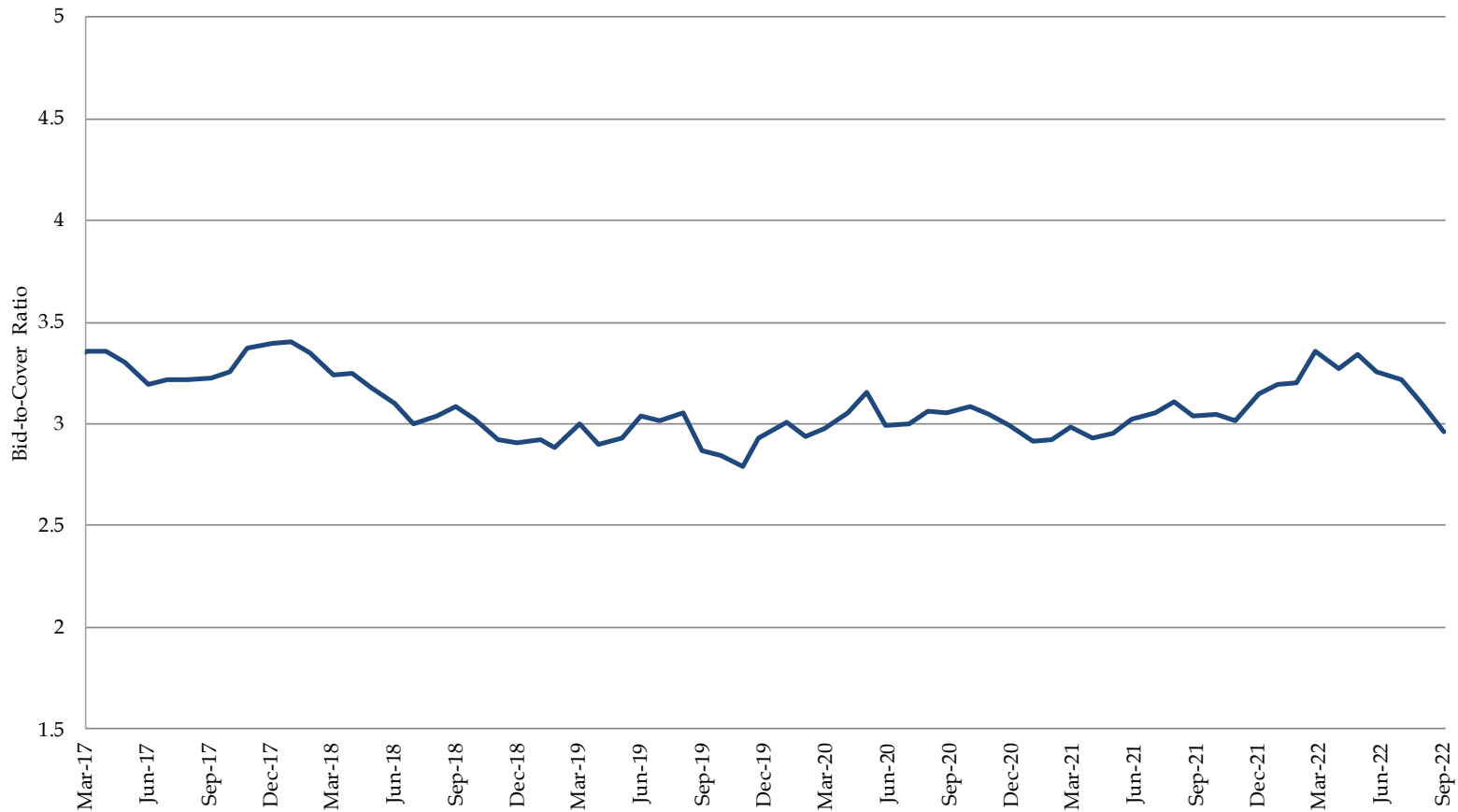
Section VI: Select Demand Metrics

Bid-to-Cover Data, Investor Class Data,
Direct & Primary Dealer Awards, and Foreign Demand

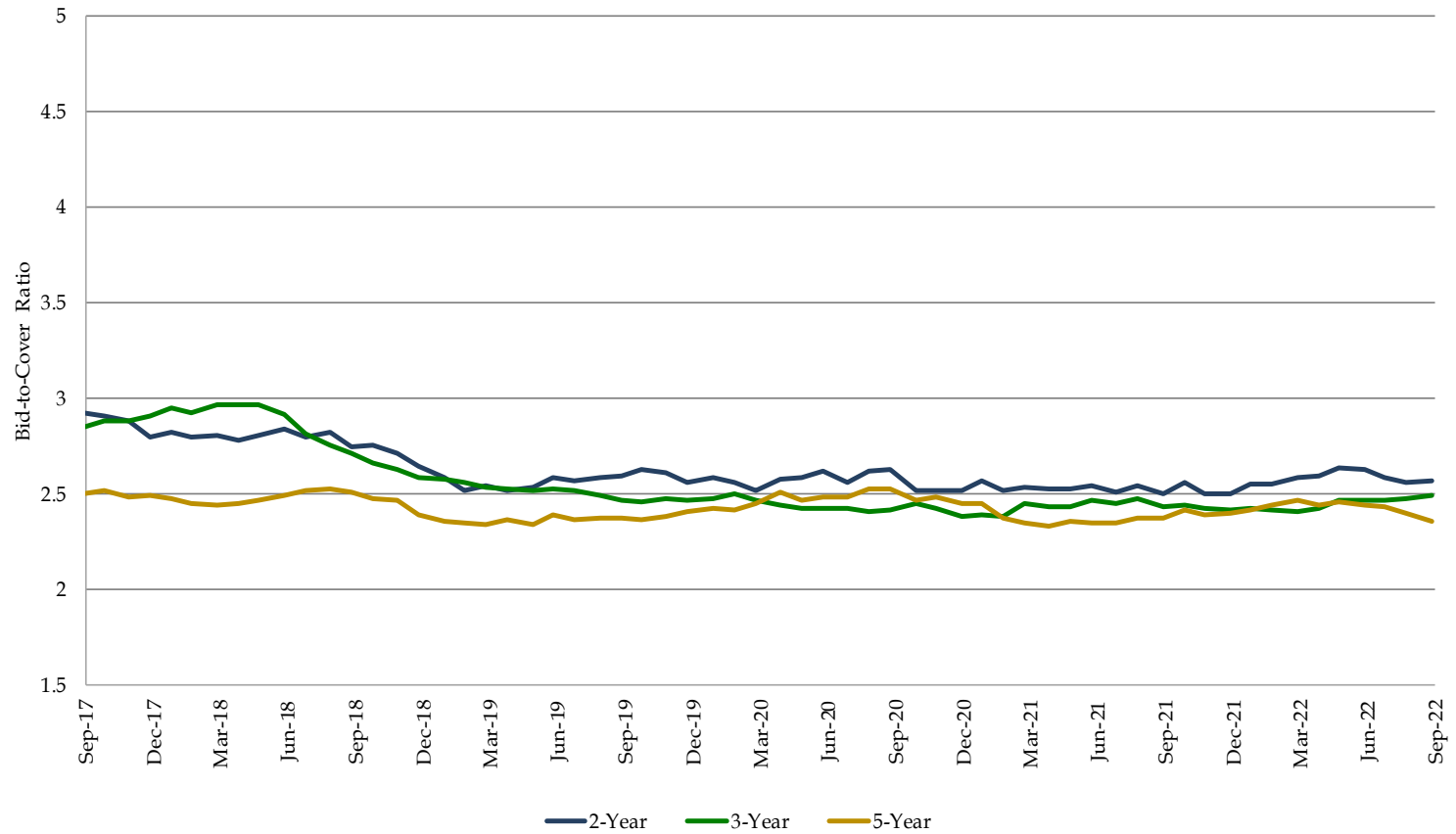
Bid-to-Cover Ratios for Treasury Bills



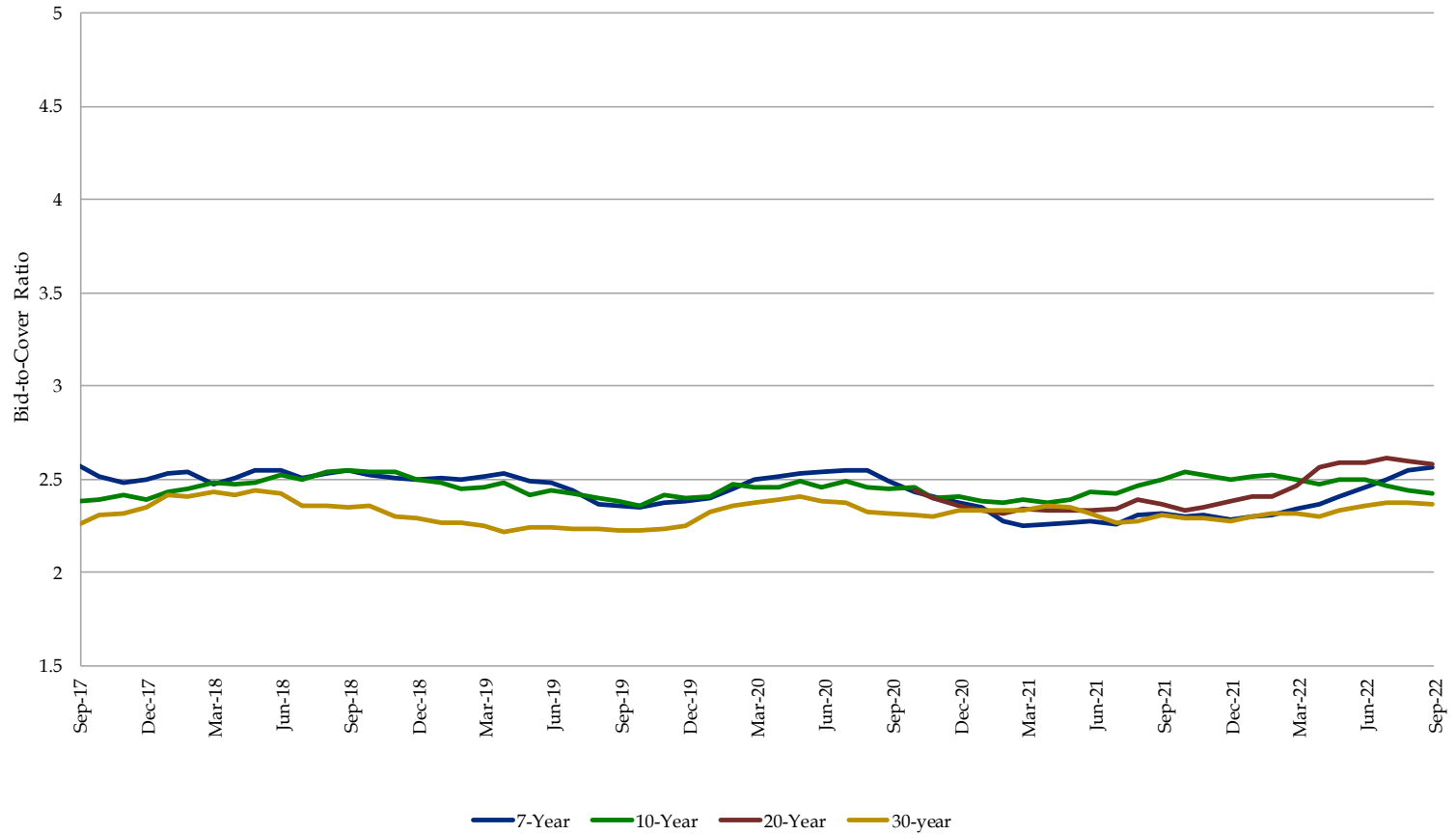
Bid-to-Cover Ratios for FRNs (6-Month Moving Average)



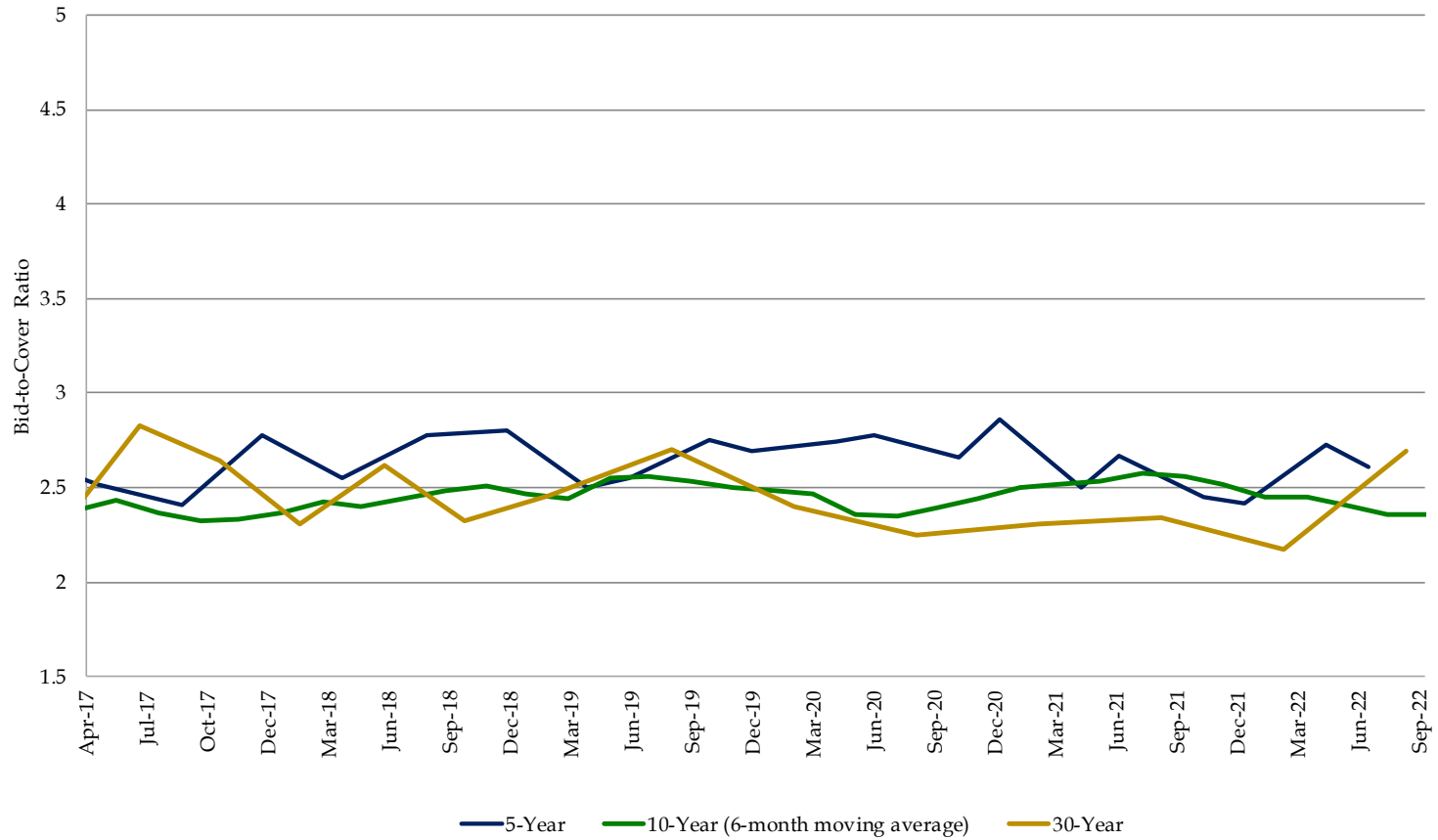
Bid-to-Cover Ratios for 2-, 3-, and 5-Year Nominal Securities (6-Month Moving Average)



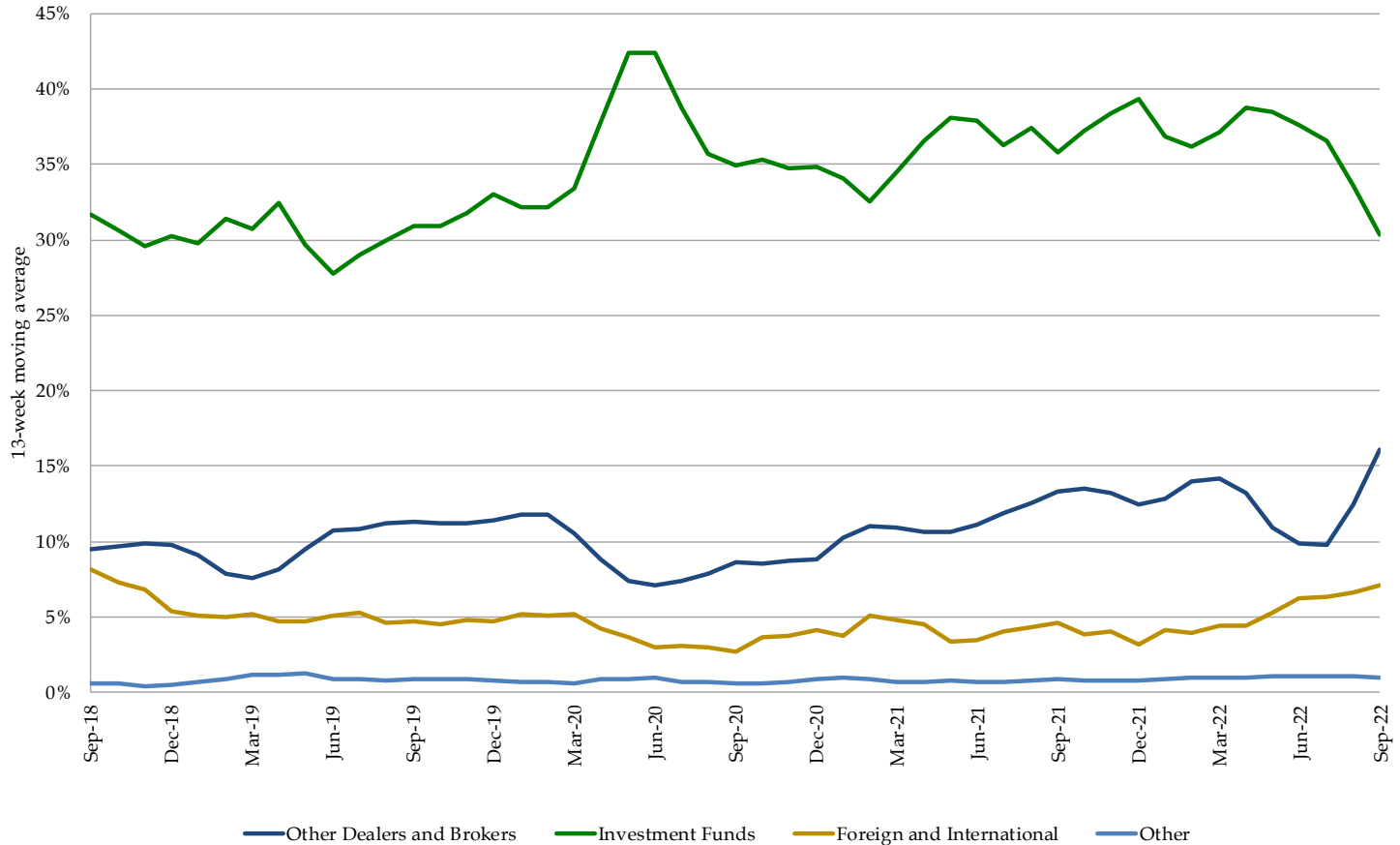
Bid-to-Cover Ratios for 7-, 10-, 20-, and 30-Year Nominal Securities (6-Month Moving Average)



Bid-to-Cover Ratios for TIPS

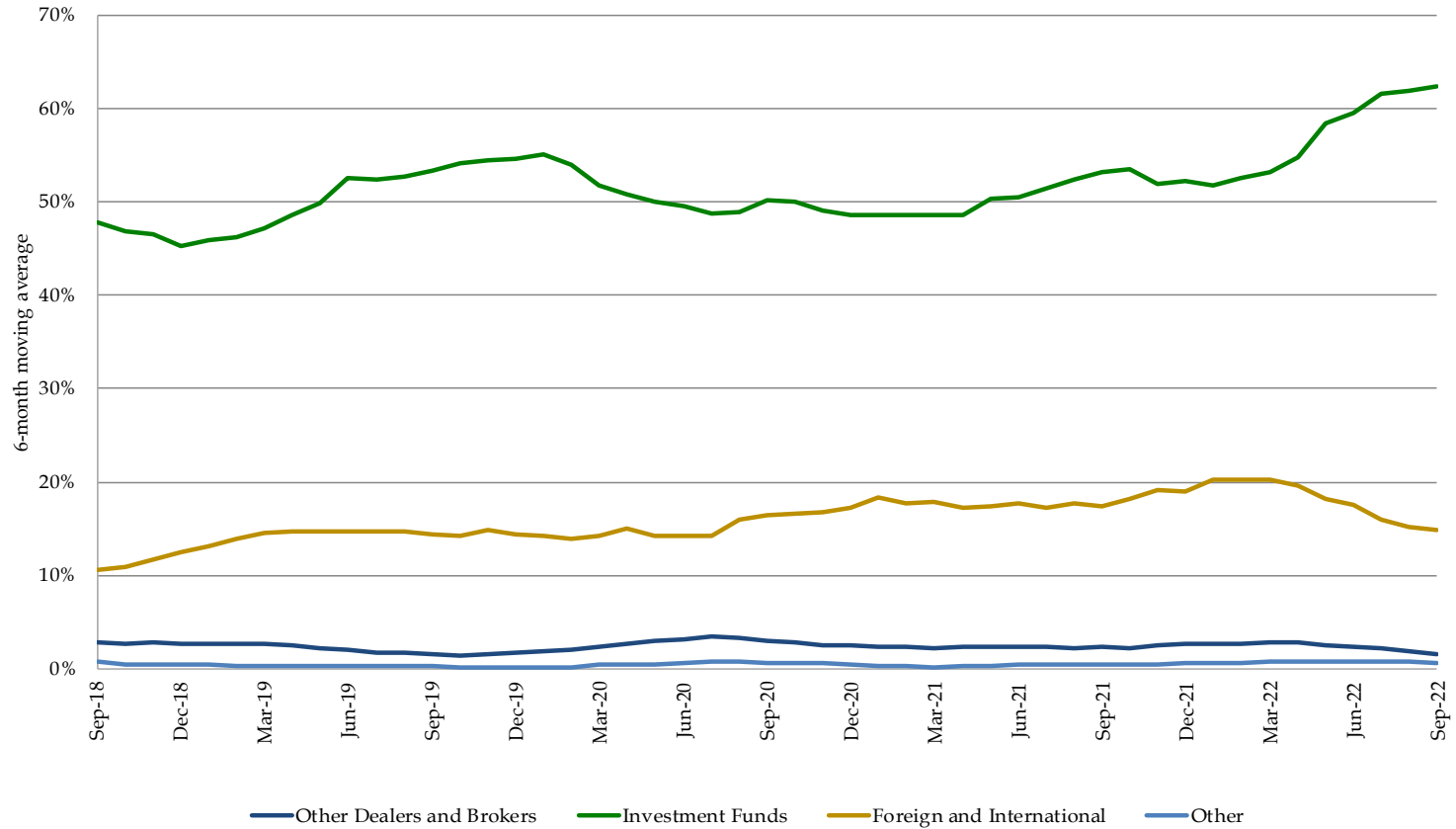


Percent Awarded in Bill Auctions by Investor Class (13-Week Moving Average)



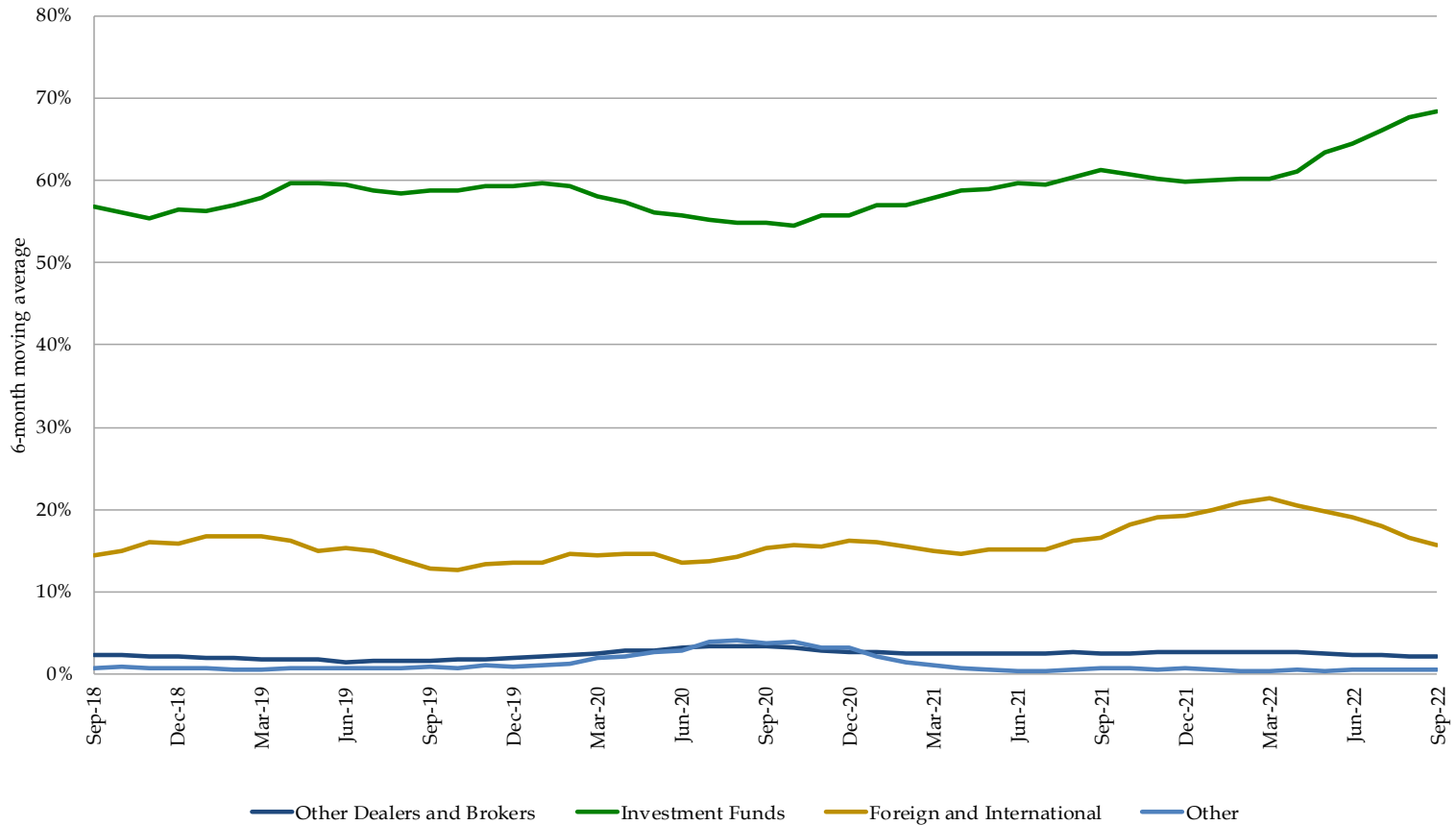
Excludes SOMA add-ons. The “Other” category includes categories that are each less than 5%, which include Depository Institutions, Individuals, Pension and Insurance.

Percent Awarded in 2-, 3-, and 5-Year Nominal Security Auctions by Investor Class (6-Month Moving Average)



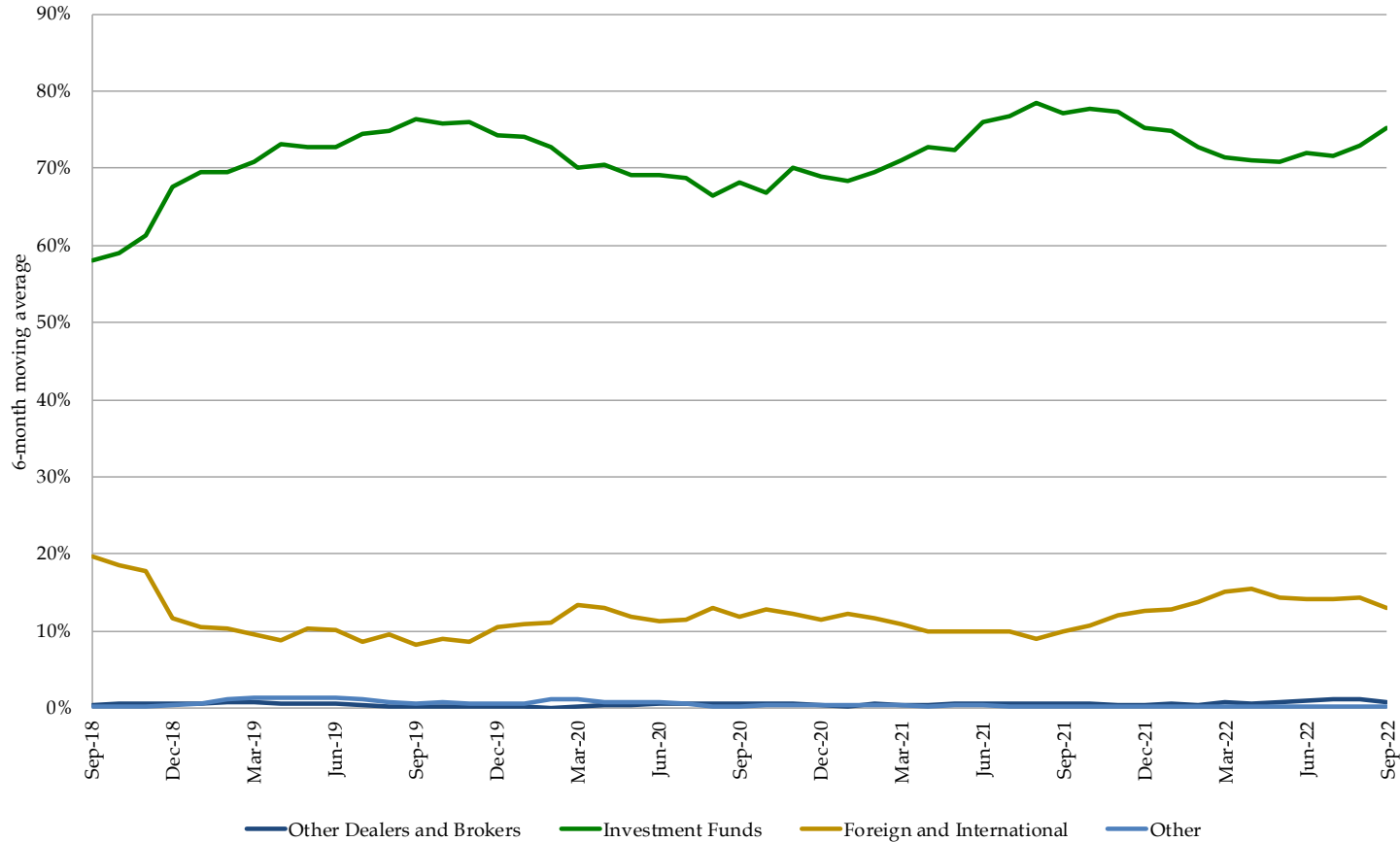
Excludes SOMA add-ons. The “Other” category includes categories that are each less than 5%, which include Depository Institutions, Individuals, Pension and Insurance.

Percent Awarded in 7-, 10-, 20-, 30-Year Nominal Security Auctions by Investor Class (6-Month Moving Average)



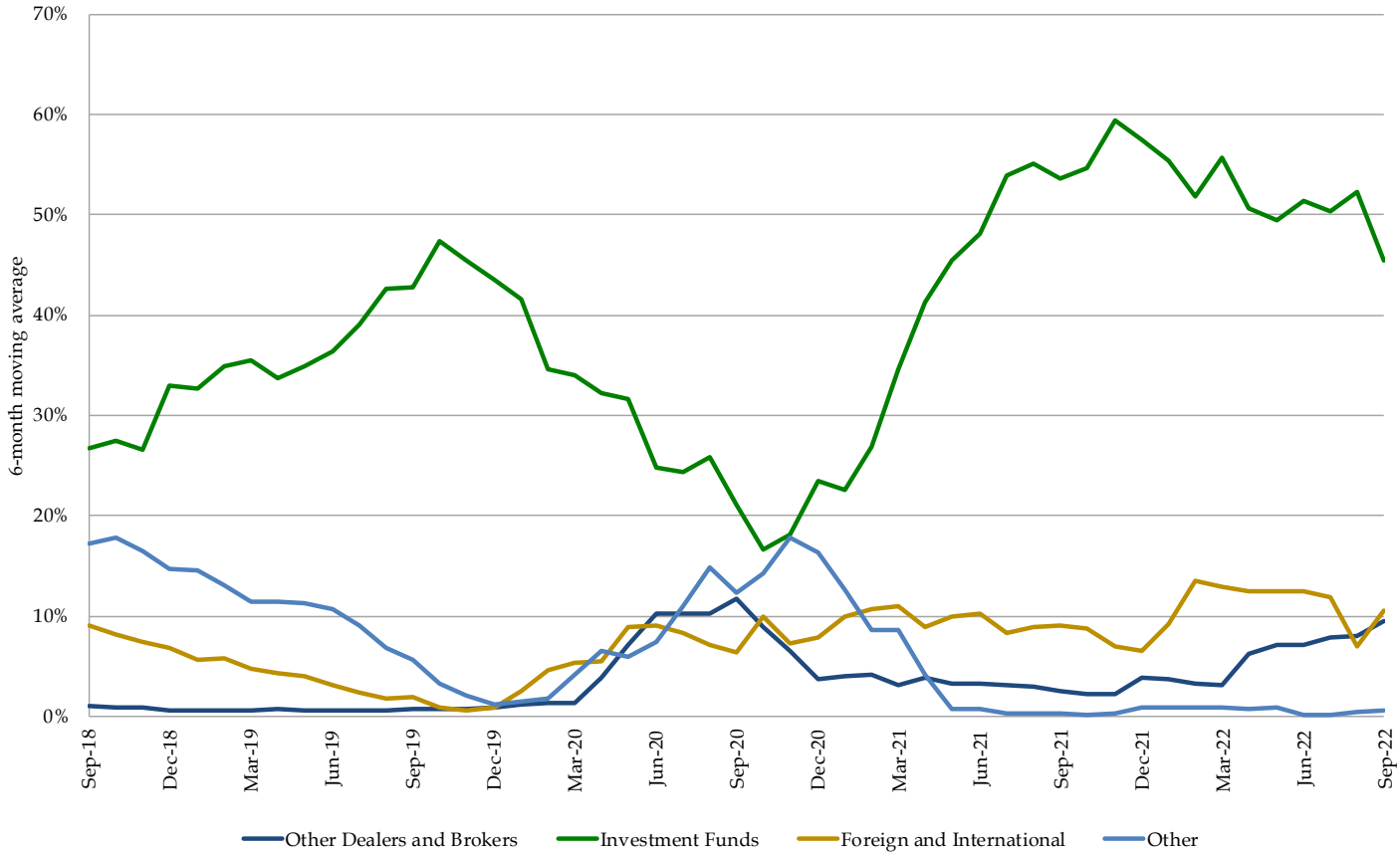
Excludes SOMA add-ons. The “Other” category includes categories that are each less than 5%, which include Depository Institutions, Individuals, Pension and Insurance.

Percent Awarded in TIPS Auctions by Investor Class (6-Month Moving Average)



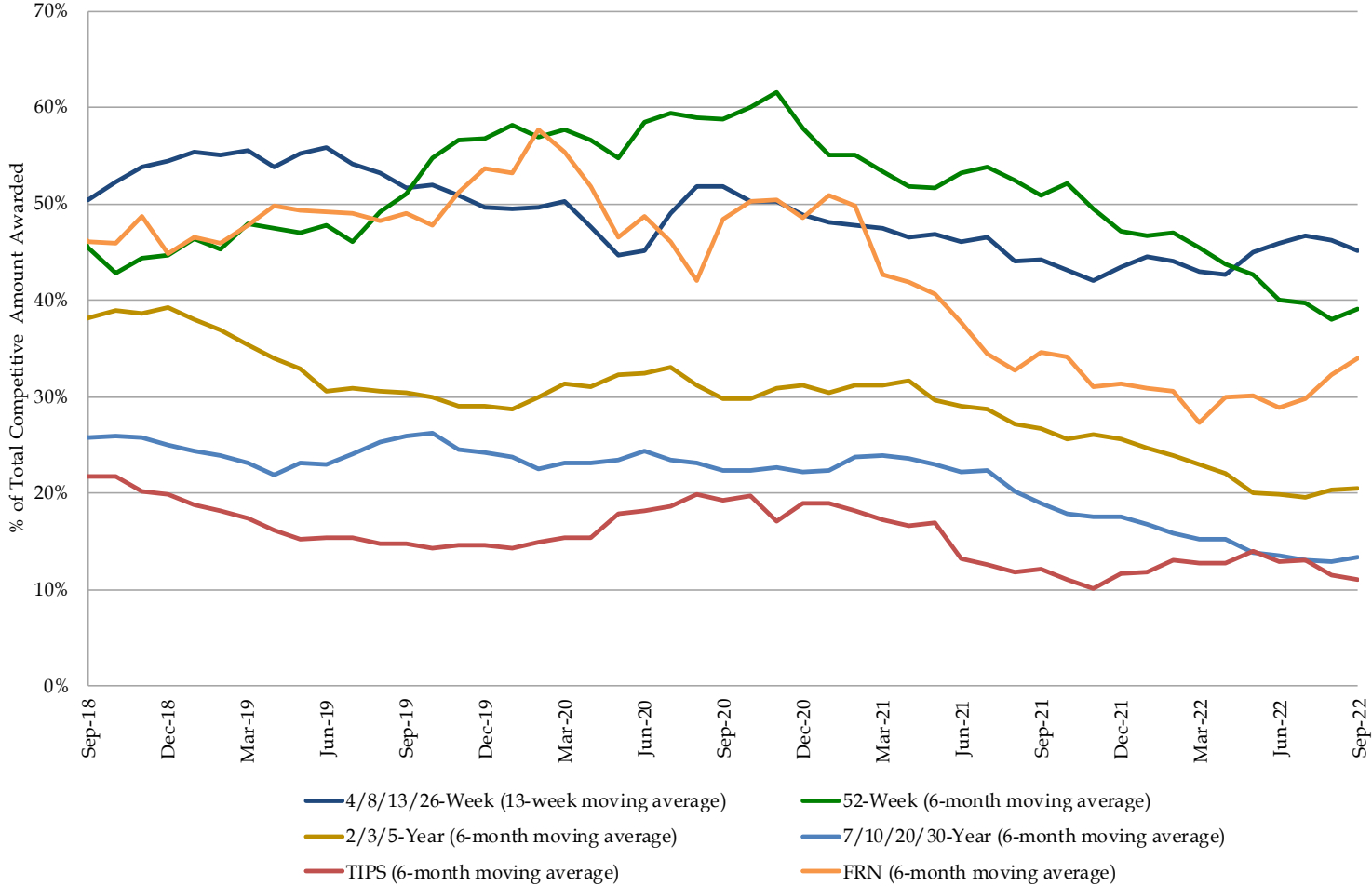
Excludes SOMA add-ons. The "Other" category includes categories that are each less than 5%, which include Depository Institutions, Individuals, Pension and Insurance.

Percent Awarded in FRN Auctions by Investor Class (6-Month Moving Average)



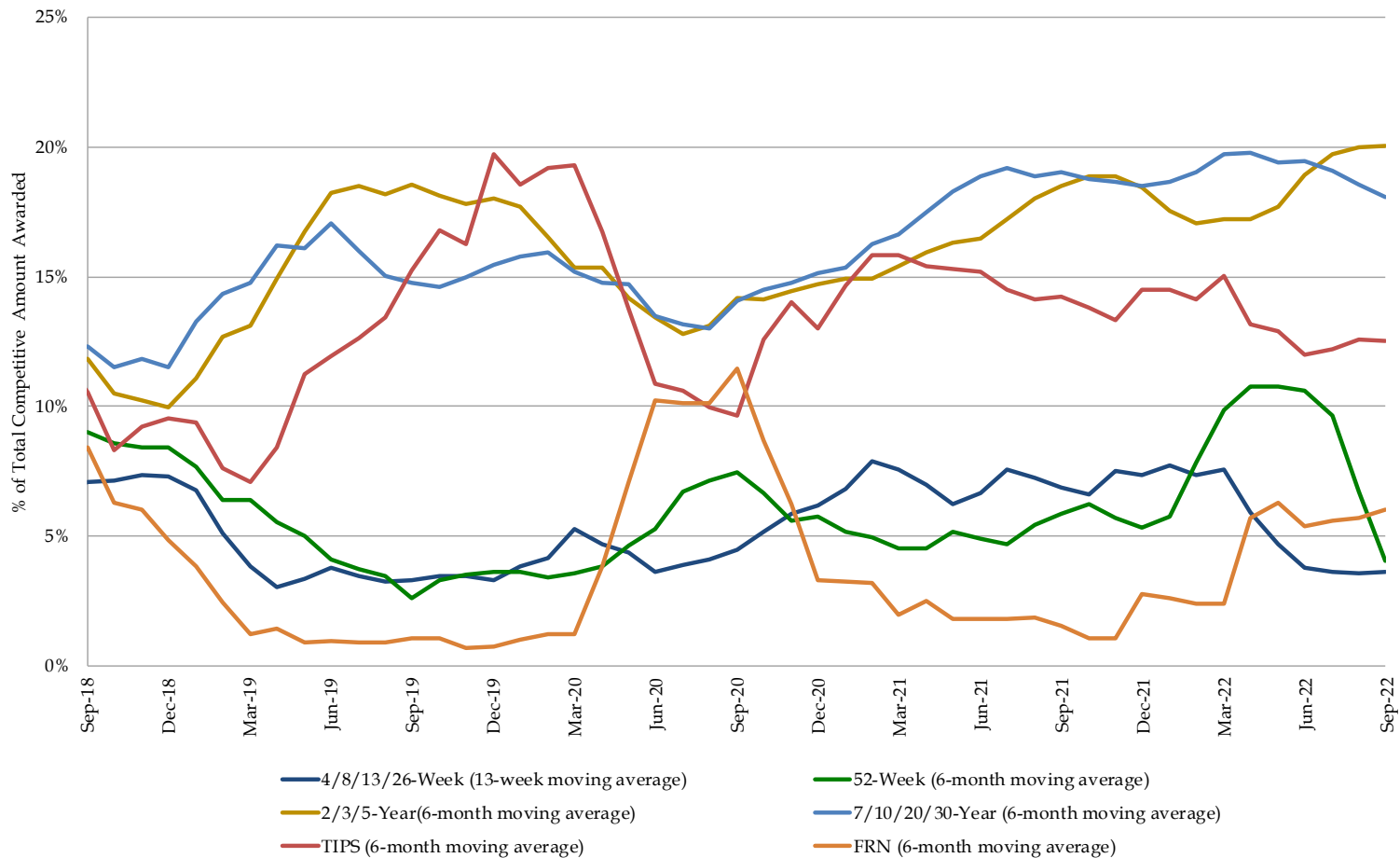
Excludes SOMA add-ons. The “Other” category includes categories that are each less than 5%, which include Depository Institutions, Individuals, Pension and Insurance.

Primary Dealer Awards at Auction



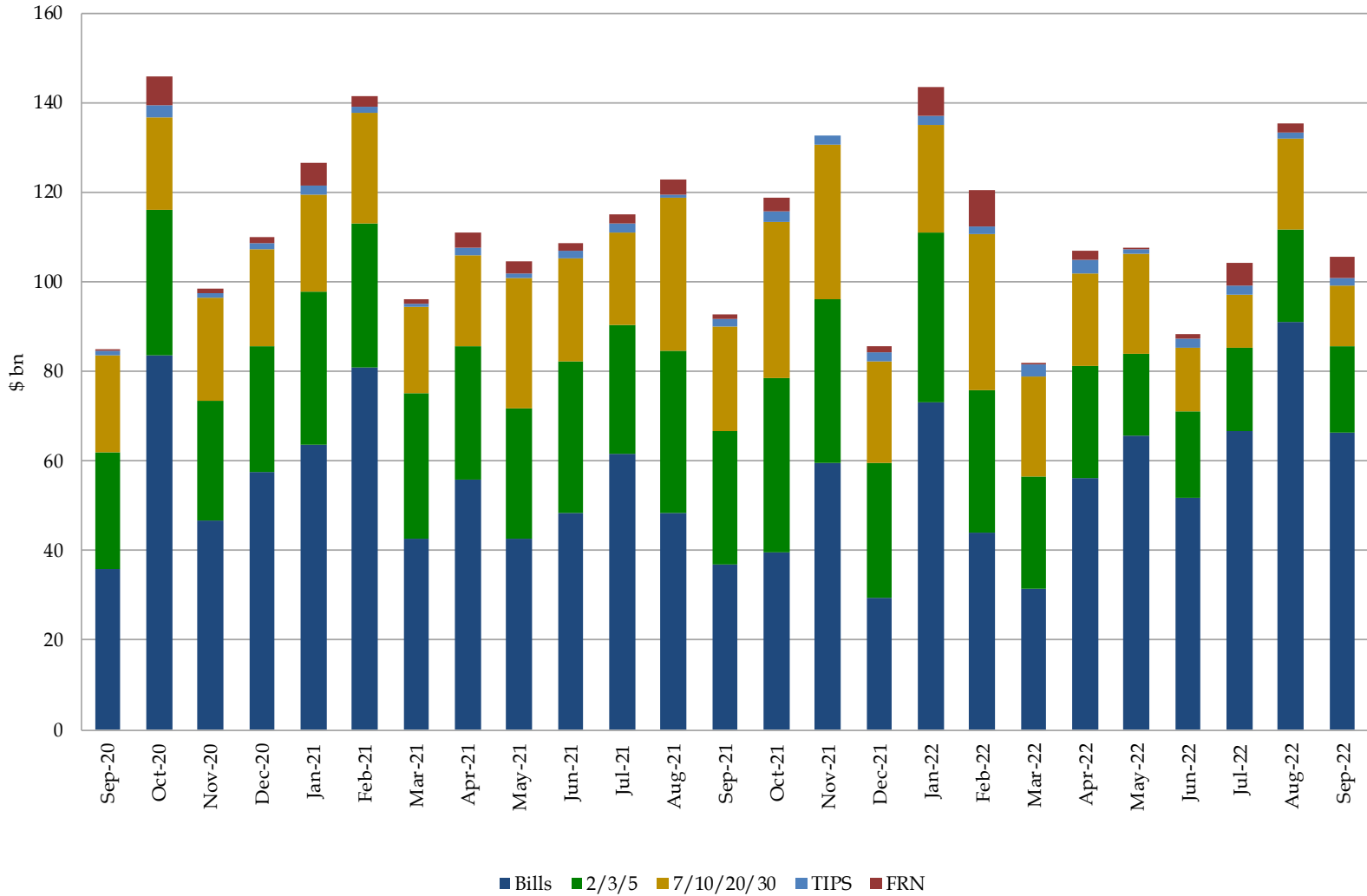
Competitive Amount Awarded excludes SOMA add-ons.

Direct Bidder Awards at Auction



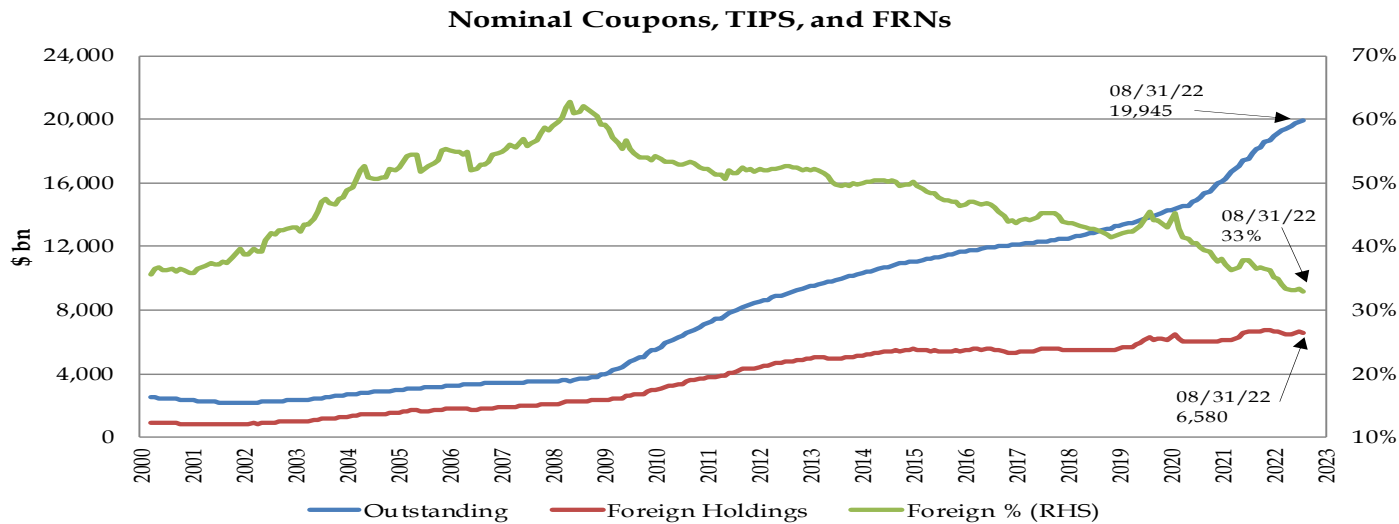
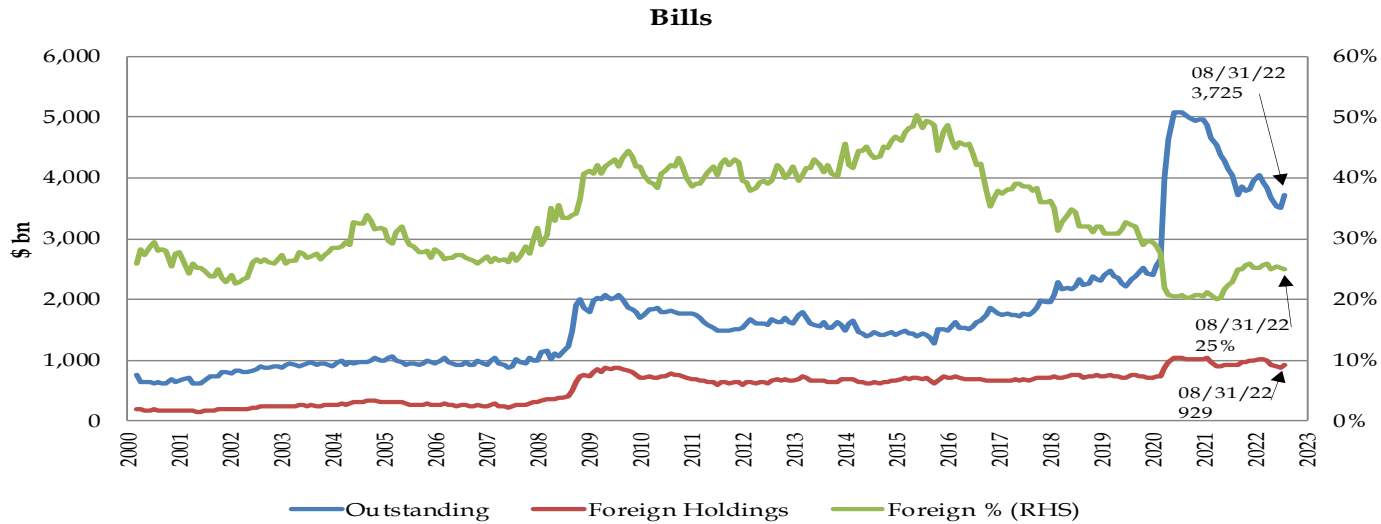
Competitive Amount Awarded excludes SOMA add-ons.

Total Foreign Awards of Treasuries at Auction, \$ billions



Foreign includes both private sector and official institutions.

Total Foreign Holdings



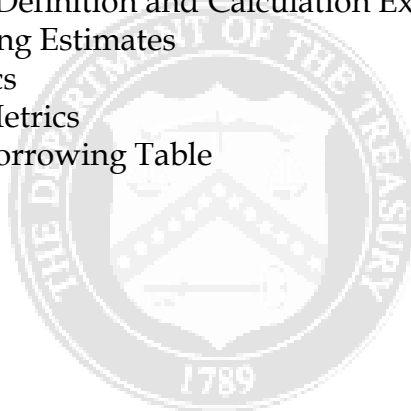
Source: Treasury International Capital (TIC) System as of August 2022.

For more information on foreign participation data, including more details about the TIC data shown here, please refer to Treasury Presentation to TBAC “Brief Overview of Key Data Sources on Foreign Participation in the U.S. Treasury Securities Market” at the Treasury February 2019 Refunding.

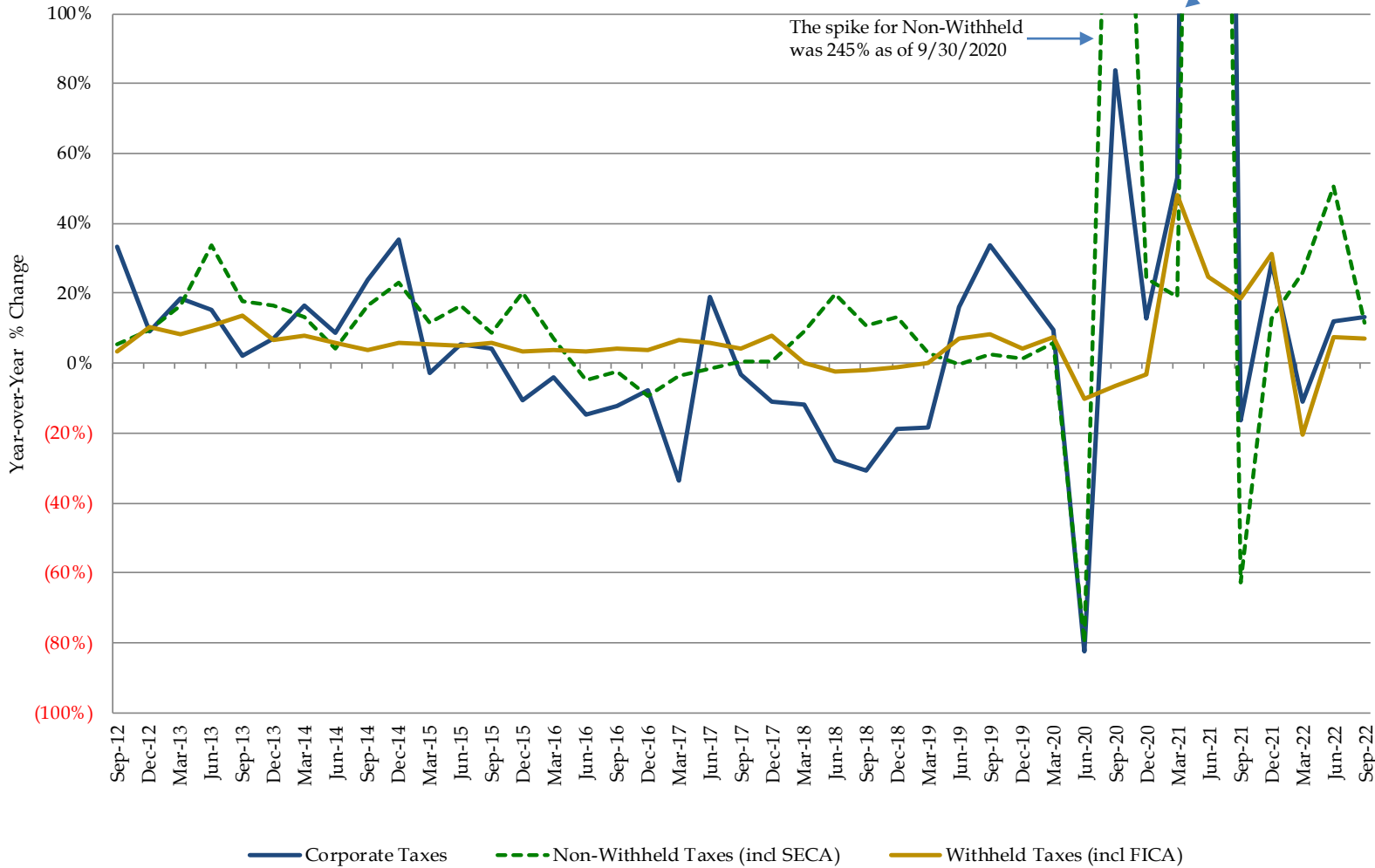
VII. Appendix

Contents

A. Quarterly Tax Receipts Chart	p. 43
B. Treasury Non-Marketable Borrowing	p. 44
C. Budget Surplus and Deficits	p. 45
D. Sources of Financing: Reconciliation of last quarter	p. 46
E. Privately-Held Net Marketable Borrowing Definition and Calculation Example	p. 47
F. Detailed Reconciliation of Various Borrowing Estimates	p. 48
G. Various Historical Debt Service Cost Metrics	p. 49
H. Various Historical Treasury Interest Rate Metrics	p. 50
I. Projected Privately-Held Net Marketable Borrowing Table	p. 51
J. Auction Statistics Tables	p. 52-55

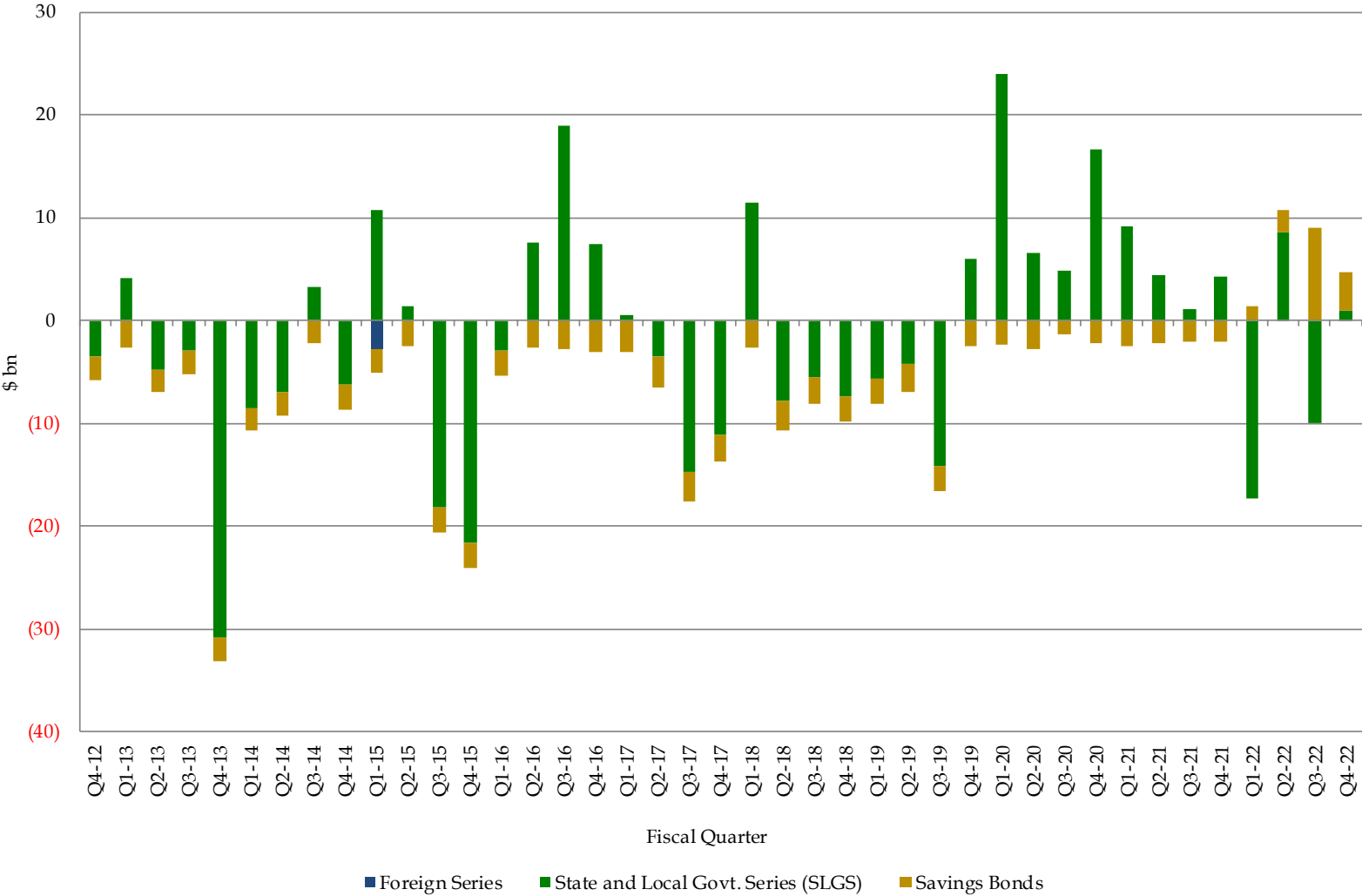


Quarterly Tax Receipts

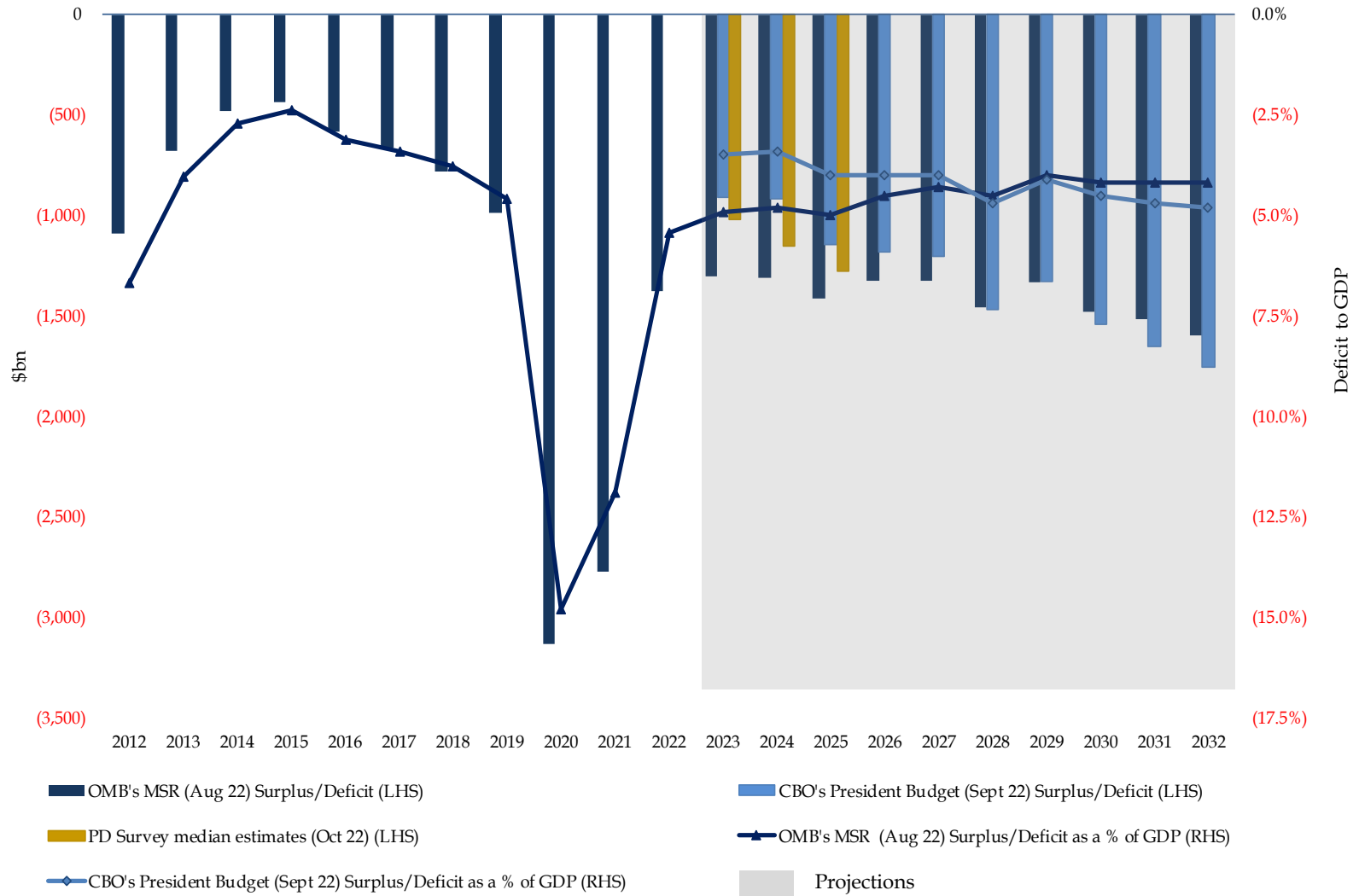


Quarterly tax receipts for Q4 FY2020 reflect the adjustment of April and June 2020 tax deadlines to July 15th, 2020.

Treasury Net Nonmarketable Borrowing



Budget Surplus/Deficit*



*OMB's projections are from OMB's Table S-1 of "Mid-Session Review Budget of The U.S. Government Fiscal Year 2023," Aug 2022. CBO's deficit projections are using estimates from CBO's Table 2 of "An Analysis of the President's 2023 Budget," Sept 2022.

Sources of Privately-Held Financing in FY22 Q4

July - September 2022	
Net Bill Issuance	137
Net Coupon Issuance	320
Subtotal: Net Marketable Borrowing	457
Ending Cash Balance	636
Beginning Cash Balance	782
Subtotal: Change in Cash Balance	(146)
Net Implied Funding for FY 2022 Q4*	603

Security	July - September 2022 Bill Issuance			Fiscal Year-to-Date Bill Issuance		
	Gross	Maturing	Net	Gross	Maturing	Net
4-Week	645	585	60	2,020	1,890	130
8-Week	580	440	140	1,800	1,665	135
13-Week	690	627	63	2,790	2,766	24
26-Week	546	657	(111)	2,400	2,622	(222)
52-Week	102	102	0	442	442	(0)
CMBs						
17-Week	390	405	(15)	1,755	1,785	(30)
CMBs	60	60	0	735	825	(90)
Bill Subtotal	3,013	2,876	137	11,942	11,995	(53)

Security	July - September 2022 Coupon Issuance			Fiscal Year-to-Date Coupon Issuance		
	Gross	Maturing	Net	Gross	Maturing	Net
2-Year FRN	68	68	0	282	240	42
2-Year	132	127	5	603	432	171
3-Year	126	83	43	579	311	268
5-Year	135	76	59	615	310	305
7-Year	111	73	38	564	301	263
10-Year	100	20	80	423	111	312
20-Year	41	0	41	210	0	210
30-Year	58	4	54	255	13	242
5-Year TIPS	0	0	0	74	40	34
10-Year TIPS	32	40	(8)	90	80	10
30-Year TIPS	8	0	8	17	0	17
Coupon Subtotal	811	491	320	3,712	1,838	1,873

Total	3,824	3,367	457	15,654	13,833	1,820
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*By adjusting the change in cash balance, Treasury arrives at the net implied funding number.

Privately-Held Net Marketable Borrowing Definition and Calculation Example

FY 2022 Actual Deficits and Privately-Held Net Marketable Borrowing, in \$ billions

	FY 2022 Actual
FY 2022 Deficit	1,375
FY 2022 + Change in Cash Balance	421
FY 2022 + Other Means of Financing (e.g. Direct Loans)	-125
FY 2022 = Total Net Marketable Borrowing	1,671
FY 2022 + SOMA Redemption	150
FY 2022 = Privately-Held Net Marketable Borrowing	1,821

- Actual deficits are sourced from the Monthly Treasury Statement.
- Actual change in cash balance is sourced from the Daily Treasury Statement. Change in cash balance = cash balance of Sept 30, 2022 - cash balance of Sept 30, 2021
- Other Means of Financing include cash flows associated with federal credit programs, such as those related to student loans and loans to small businesses.
- Privately-Held Net Marketable Borrowing = Total Net Marketable Borrowing + SOMA Redemption
- SOMA redemption is the amount that the Federal Reserve redeems securities that Treasury has to replace with privately-held marketable borrowing. Actual SOMA redemptions amounts is from the Sources and Uses Reconciliation Table.
- Actual Privately-Held Net Marketable Borrowing is from the Sources and Uses Reconciliation Table.

FY 2023-2025 Deficits and Privately-Held Net Marketable Borrowing Estimates*, in \$ billions

	Primary Dealer ¹			OMB ²	CBO ³	CBO ⁴
	25th	Median	75th			
FY 2023 Deficit	984	1,020	1,150	1,300	908	984
FY 2024 Deficit	1,055	1,150	1,250	1,311	921	1,056
FY 2025 Deficit	1,105	1,275	1,398	1,414	1,145	1,318
FY 2023 Change in Cash Balance	-36	24	64	14	0	0
FY 2024 Change in Cash Balance	0	0	13	0	0	0
FY 2025 Change in Cash Balance	0	0	0	0	0	0
FY 2023 Total Net Marketable Borrowing				1,367	944	1,020
FY 2024 Total Net Marketable Borrowing				1,362	890	1,024
FY 2025 Total Net Marketable Borrowing				1,460	1,172	1,344
FY 2023 SOMA Redemption	700	720	720			
FY 2024 SOMA Redemption	90	360	697			
FY 2025 SOMA Redemption	0	0	180			
FY 2023 Privately-Held Net Marketable Borrowing	1,650**	1,765**	1,854**	2,087**	1,678**	1,754**
FY 2024 Privately-Held Net Marketable Borrowing	1,338	1,433	1,781**	1,722**	1,250**	1,384**
FY 2025 Privately-Held Net Marketable Borrowing	1,193	1,402	1,500	1,460**	1,172**	1,344**
Estimates as of:		Oct-22		Aug-22	Sep-22	May-22

¹ Estimates represent the medians/interquartile ranges from the primary dealer survey in October 2022.

² OMB projections are using estimates are from Table S-1 of "Mid-Session Review Budget of The U.S. Government Fiscal Year 2023," August 2022.

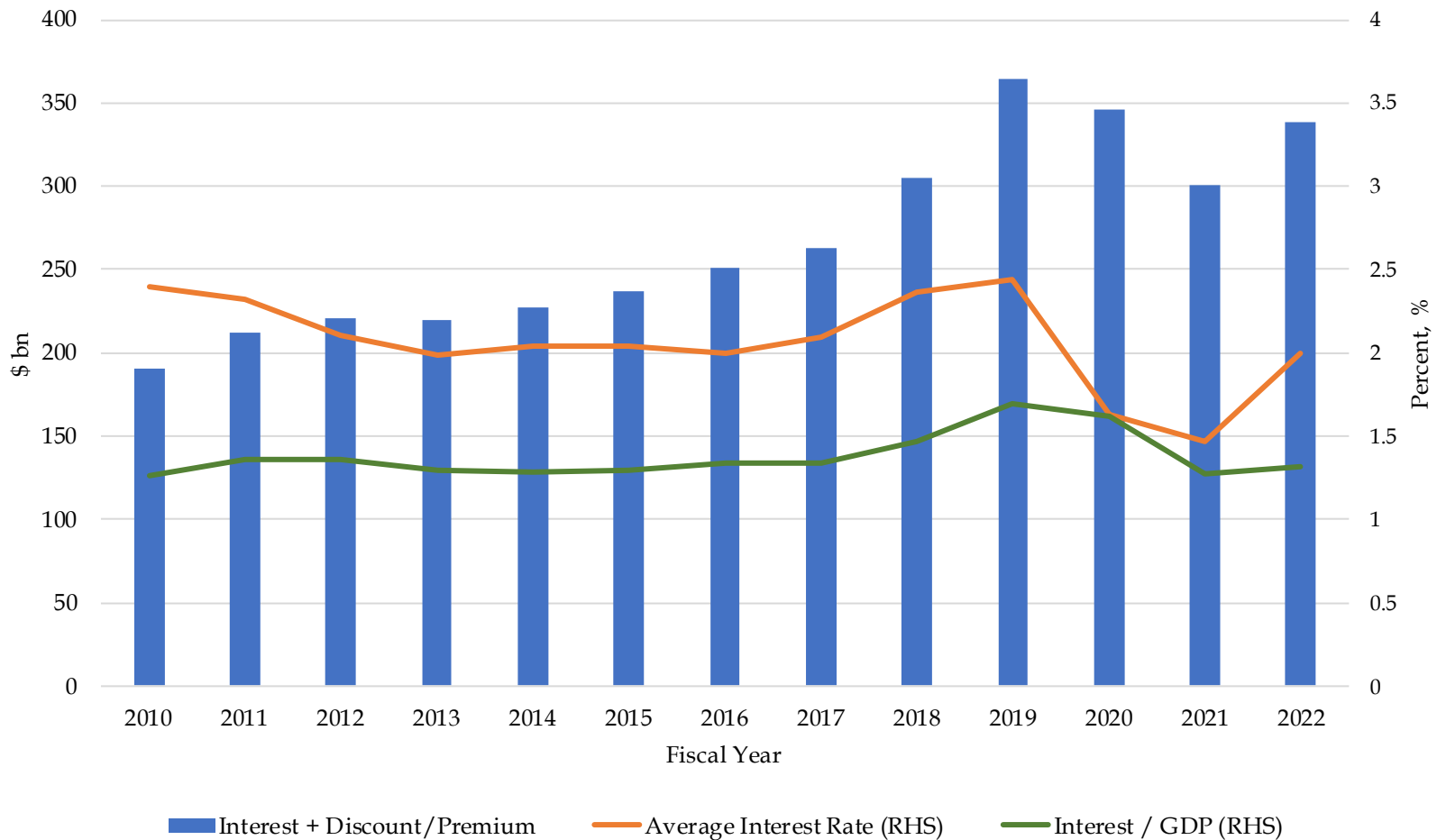
³ CBO projections are using estimates are from Table 2 of "An Analysis of the President's 2023 Budget," September 2022.

⁴ CBO projections are using estimates are from Table 1-1 of "The Budget and Economic Outlook: 2022 to 2032," May 2022.

*Privately-held marketable borrowing excludes rollovers (auction "add-ons") of Treasury securities held in the Federal Reserve System Open Market Account (SOMA) but includes financing required due to SOMA redemptions. Secondary market purchases of Treasury securities by SOMA do not directly change net privately-held marketable borrowing but, all else equal, when the securities mature and assuming the Fed does not redeem any maturing securities, would increase the amount of cash raised for a given privately-held auction size by increasing the SOMA "add-on" amount.

**Both OMB and CBO borrowing estimates are normalized to privately-held net borrowing after adding PD survey median SOMA redemption assumptions for FY23/24/25. In addition, all the PD and CBO privately-held net borrowing estimates are normalized with OMB MSR FY23/FY24/FY25 ending cash balance of \$650 billion.

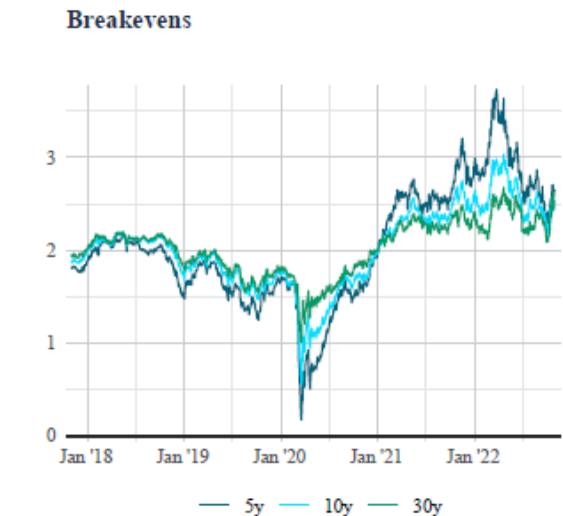
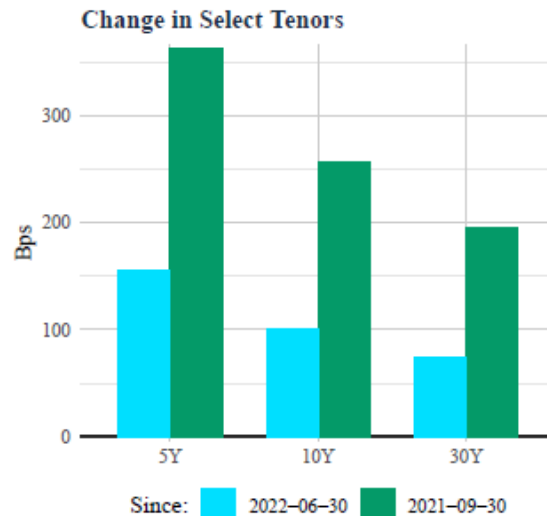
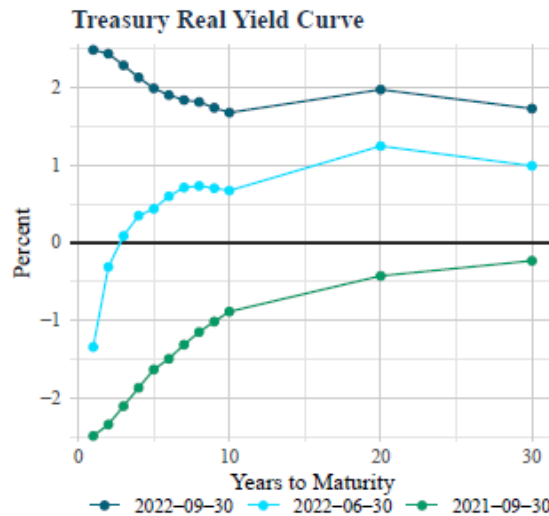
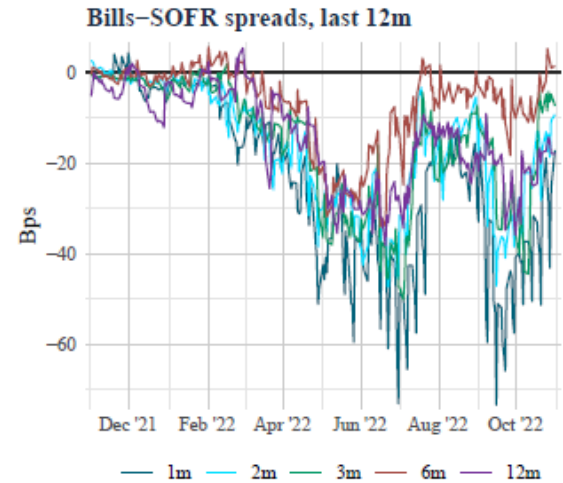
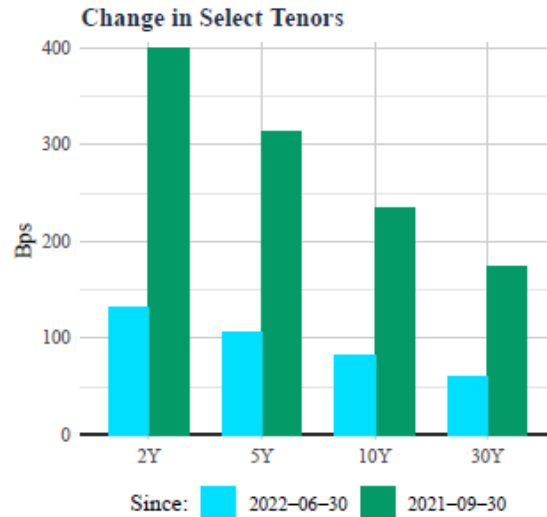
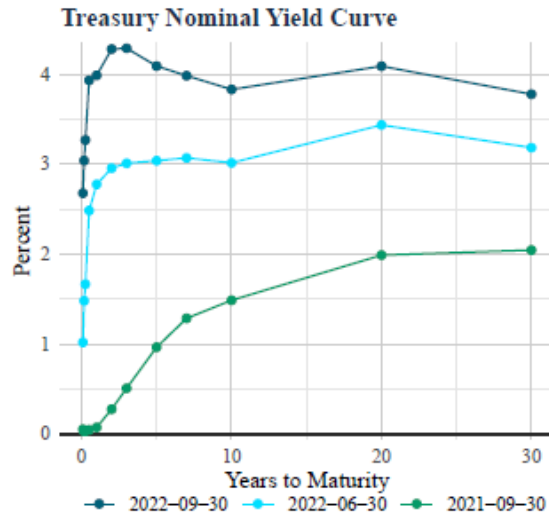
Historical Marketable Treasury Debt Service Cost



Source: <https://fiscaldata.treasury.gov/datasets>

The average interest rates for total marketable debt do not include the Treasury Inflation-Indexed Securities and the Treasury Floating Rate Notes. However, they include securities from Federal Financing Bank. The average interest rates in the chart are as of corresponding fiscal year-end-dates.

Various Historical Treasury Interest Rate Metrics



**Projected Privately-Held Net Marketable Borrowing
Assuming Private Coupon Issuance & Total Bills Outstanding
Remain Constant as of 09/30/2022***

Fiscal Year	Bills	2/3/5	7/10/20/30	TIPS	FRN	Historical/Projected Net Borrowing Capacity
2018	438	197	493	45	23	1,196
2019	137	498	534	51	59	1,280
2020	2,652	538	724	46	55	4,015
2021	(1,315)	1,260	1,328	55	92	1,420
2022	(53)	744	1,027	61	42	1,821
2023	0	341	679	46	(42)	1,024
2024	0	66	695	71	(10)	822
2025	0	(23)	716	4	0	697
2026	0	(148)	712	22	0	586
2027	0	(28)	595	4	0	571
2028	0	0	282	(13)	0	269
2029	0	0	398	(7)	0	391
2030	0	0	508	8	0	517
2031	0	0	339	(3)	0	336
2032	0	0	363	(27)	0	336

*Projections reflect only SOMA rollovers at auction of principal payments of Treasury securities. No adjustments are made for open-market outright purchases and subsequent rollovers.

Bills										
Issue	Settle Date	Stop Out Rate (%)	Bid-to-Cover Ratio	Competitive Awards (\$bn)	% Primary Dealer	% Direct	% Indirect	Non-Competitive Awards (\$bn)	SOMA "Add Ons" (\$bn)	10-Year Equivalent (\$bn)*
4-Week	7/12/2022	1.530	2.87	34.0	47.1	1.0	51.9	1.0	3.6	0.3
4-Week	7/19/2022	1.980	2.75	43.9	43.6	1.2	55.1	1.1	2.9	0.4
4-Week	7/26/2022	2.120	2.44	53.6	49.7	1.6	48.7	1.4	3.5	0.5
4-Week	8/2/2022	2.140	2.66	53.0	44.9	2.0	53.2	2.0	3.4	0.5
4-Week	8/9/2022	2.110	2.80	53.6	39.2	2.8	58.0	1.4	3.5	0.5
4-Week	8/16/2022	2.150	2.44	53.7	47.4	2.4	50.2	1.3	2.9	0.5
4-Week	8/23/2022	2.150	2.53	53.7	47.1	2.9	50.1	1.3	3.4	0.5
4-Week	8/30/2022	2.310	2.37	53.7	50.0	2.4	47.6	1.3	3.3	0.5
4-Week	9/6/2022	2.470	2.65	48.4	43.2	2.3	54.6	1.6	2.8	0.5
4-Week	9/13/2022	2.500	3.03	48.0	39.6	1.2	59.2	2.0	2.3	0.5
4-Week	9/20/2022	2.670	2.70	48.4	42.3	3.0	54.6	1.6	2.8	0.5
4-Week	9/27/2022	2.660	2.82	48.1	41.0	2.3	56.8	1.9	2.7	0.5
4-Week	10/4/2022	2.660	2.54	48.3	38.2	2.4	59.4	1.7	2.6	0.5
8-Week	7/12/2022	1.840	2.77	29.3	57.3	3.9	38.7	0.7	3.1	0.6
8-Week	7/19/2022	2.270	2.47	39.2	62.7	4.3	33.0	0.8	2.6	0.8
8-Week	7/26/2022	2.230	2.71	49.2	45.3	2.3	52.4	0.8	3.2	0.9
8-Week	8/2/2022	2.210	2.79	48.5	37.3	3.2	59.5	1.5	3.1	0.9
8-Week	8/9/2022	2.280	2.54	49.5	49.3	1.7	49.0	0.5	3.2	0.9
8-Week	8/16/2022	2.430	2.35	49.6	57.0	4.0	39.0	0.4	2.6	0.9
8-Week	8/23/2022	2.490	2.77	49.3	42.6	2.2	55.1	0.7	3.1	0.9
8-Week	8/30/2022	2.610	2.73	48.9	39.9	1.7	58.3	1.1	3.0	0.9
8-Week	9/6/2022	2.730	3.02	44.3	43.4	0.8	55.8	0.7	2.5	0.8
8-Week	9/13/2022	2.765	2.93	44.3	43.1	2.1	54.8	0.7	2.1	0.8
8-Week	9/20/2022	2.925	2.64	44.2	41.0	2.4	56.6	0.8	2.5	0.8
8-Week	9/27/2022	2.990	2.60	43.9	45.8	2.3	51.9	1.1	2.4	0.9
8-Week	10/4/2022	3.065	2.57	44.1	42.8	1.1	56.1	0.9	2.4	0.8

*Approximated using prices at settlement and includes both competitive and non-competitive awards.

Bills (cont.)										
Issue	Settle Date	Stop Out Rate (%)	Bid-to-Cover Ratio	Competitive Awards (\$bn)	% Primary Dealer	% Direct	% Indirect	Non-Competitive Awards (\$bn)	SOMA "Add Ons" (\$bn)	10-Year Equivalent (\$bn)*
13-Week	7/7/2022	1.850	2.53	43.2	57.4	5.5	37.1	1.8	7.3	1.5
13-Week	7/14/2022	2.110	2.49	49.4	49.6	3.3	47.0	1.6	6.8	1.7
13-Week	7/21/2022	2.470	2.97	52.7	41.9	10.4	47.6	1.3	7.7	1.8
13-Week	7/28/2022	2.520	2.95	52.0	40.9	2.8	56.4	2.0	7.4	1.8
13-Week	8/4/2022	2.490	2.63	52.4	48.1	3.9	48.0	1.6	8.4	1.8
13-Week	8/11/2022	2.580	2.84	52.2	32.5	4.5	63.0	1.8	6.5	1.8
13-Week	8/18/2022	2.610	2.64	52.4	43.8	4.3	51.8	1.6	7.5	1.7
13-Week	8/25/2022	2.740	2.69	51.8	35.0	4.6	60.4	2.2	6.1	1.7
13-Week	9/1/2022	2.880	3.03	52.7	45.2	2.3	52.5	1.3	6.6	1.7
13-Week	9/8/2022	2.965	3.06	52.5	35.9	3.4	60.7	1.5	4.4	1.7
13-Week	9/15/2022	3.075	2.74	52.3	42.3	3.1	54.7	1.7	4.5	1.7
13-Week	9/22/2022	3.270	2.57	52.0	42.2	4.5	53.3	2.0	1.8	1.6
13-Week	9/29/2022	3.270	2.56	51.1	40.5	3.3	56.2	2.9	6.9	1.8
26-Week	7/7/2022	2.500	2.57	40.3	54.2	3.7	42.0	1.7	6.8	2.8
26-Week	7/14/2022	2.685	2.67	40.4	53.4	4.6	42.0	1.6	5.6	2.7
26-Week	7/21/2022	2.910	2.65	40.8	47.2	11.8	41.0	1.2	6.0	2.8
26-Week	7/28/2022	2.920	3.16	39.9	42.6	1.5	56.0	2.1	5.8	2.8
26-Week	8/4/2022	2.850	2.91	40.2	43.6	10.7	45.7	1.8	6.6	2.8
26-Week	8/11/2022	3.040	3.09	40.0	49.5	4.6	45.9	2.0	5.0	2.7
26-Week	8/18/2022	3.020	2.75	40.2	45.1	3.3	51.6	1.8	5.8	2.7
26-Week	8/25/2022	3.110	2.93	39.6	38.2	3.5	58.3	2.4	4.8	2.6
26-Week	9/1/2022	3.235	2.88	40.4	45.5	4.9	49.6	1.6	5.1	2.7
26-Week	9/8/2022	3.320	3.14	40.2	51.3	3.8	44.9	1.8	3.4	2.6
26-Week	9/15/2022	3.465	3.03	40.2	42.4	15.1	42.5	1.8	3.5	2.6
26-Week	9/22/2022	3.780	2.75	40.1	57.7	5.7	36.6	1.9	1.4	2.5
26-Week	9/29/2022	3.850	2.68	38.8	47.3	2.5	50.2	3.2	5.4	2.8
52-Week	7/14/2022	2.960	3.17	33.0	45.4	3.8	50.8	1.0	4.5	4.5
52-Week	8/11/2022	3.200	3.05	32.7	34.7	2.4	62.9	1.3	4.1	4.4
52-Week	9/8/2022	3.460	2.75	33.0	41.9	1.5	56.5	1.0	2.8	4.2

*Approximated using prices at settlement and includes both competitive and non-competitive awards.

Bills (cont.)										
Issue	Settle Date	Stop Out Rate (%)	Bid-to-Cover Ratio	Competitive Awards (\$bn)	% Primary Dealer	% Direct	% Indirect	Non-Competitive Awards (\$bn)	SOMA "Add Ons" (\$bn)	10-Year Equivalent (\$bn)*
17-Week	7/12/2022	2.230	3.40	29.7	41.9	1.7	56.4	0.3	0.0	1.1
17-Week	7/19/2022	2.600	2.95	29.7	62.3	4.6	33.2	0.3	0.0	1.1
17-Week	7/26/2022	2.720	3.87	29.9	46.2	0.6	53.1	0.1	0.0	1.1
17-Week	8/2/2022	2.690	3.69	29.5	36.6	4.0	59.3	0.5	0.0	1.1
17-Week	8/9/2022	2.730	3.35	29.9	51.1	2.4	46.4	0.1	0.0	1.1
17-Week	8/16/2022	2.780	2.82	29.7	45.9	2.1	52.0	0.3	0.0	1.1
17-Week	8/23/2022	2.890	3.06	29.9	53.9	11.0	35.1	0.1	0.0	1.1
17-Week	8/30/2022	2.970	3.40	29.5	43.7	4.8	51.6	0.5	0.0	1.1
17-Week	9/6/2022	3.100	3.54	30.0	57.3	2.4	40.3	0.0	0.0	1.1
17-Week	9/13/2022	3.195	3.63	29.9	41.0	2.4	56.6	0.1	0.0	1.1
17-Week	9/20/2022	3.550	3.14	29.8	48.9	3.7	47.4	0.2	0.0	1.1
17-Week	9/27/2022	3.590	3.76	29.9	39.7	0.0	60.3	0.1	0.0	1.1
17-Week	10/4/2022	3.590	3.05	29.0	47.7	1.7	50.5	1.0	0.0	1.1
CMB	8/25/2022	2.200	2.45	59.9	58.1	3.8	38.0	0.1	0.0	0.4

*Approximated using prices at settlement and includes both competitive and non-competitive awards.

Nominal Coupons										
Issue	Settle Date	Stop Out Rate (%)*	Bid-to-Cover Ratio	Competitive Awards (\$bn)	% Primary Dealer	% Direct	% Indirect	Non-Competitive Awards (\$bn)	SOMA "Add Ons" (\$bn)	10-Year Equivalent (\$bn)**
2-Year	8/1/2022	3.015	2.58	44.3	17.9	20.0	62.0	0.7	3.9	11.1
2-Year	8/31/2022	3.307	2.49	43.0	23.0	17.3	59.7	1.0	5.7	11.1
2-Year	9/30/2022	4.290	2.51	41.1	22.2	24.8	53.0	1.9	0.0	9.7
3-Year	7/15/2022	3.093	2.43	42.7	20.3	19.4	60.4	0.3	5.5	16.3
3-Year	8/15/2022	3.202	2.50	41.7	19.6	17.3	63.1	0.3	26.6	23.1
3-Year	9/15/2022	3.564	2.49	40.8	23.6	21.9	54.5	0.2	0.0	13.5
5-Year	8/1/2022	2.860	2.46	45.9	16.8	16.8	66.4	0.1	4.0	27.4
5-Year	8/31/2022	3.230	2.30	44.9	20.6	18.2	61.2	0.1	5.9	27.1
5-Year	9/30/2022	4.228	2.27	43.8	21.7	18.7	59.6	0.2	0.0	23.3
7-Year	8/1/2022	2.730	2.60	38.0	10.6	18.4	70.9	0.0	3.3	31.0
7-Year	8/31/2022	3.130	2.65	37.0	8.6	15.7	75.7	0.0	4.8	30.2
7-Year	9/30/2022	3.898	2.57	35.9	12.8	24.7	62.5	0.1	0.0	25.8
10-Year	7/15/2022	2.960	2.34	33.0	20.7	18.0	61.3	0.0	4.2	37.2
10-Year	8/15/2022	2.755	2.53	35.0	9.9	15.6	74.5	0.0	22.1	59.0
10-Year	9/15/2022	3.330	2.37	32.0	19.8	17.9	62.3	0.0	0.0	32.0
20-Year	8/1/2022	3.420	2.65	14.0	7.9	14.1	78.0	0.0	1.2	25.8
20-Year	8/31/2022	3.380	2.30	15.0	14.7	18.3	67.0	0.0	2.0	28.2
20-Year	9/30/2022	3.820	2.65	12.0	8.1	16.6	75.3	0.0	0.0	19.9
30-Year	7/15/2022	3.115	2.44	19.0	10.5	16.3	73.2	0.0	2.4	49.5
30-Year	8/15/2022	3.106	2.31	21.0	10.8	18.5	70.6	0.0	13.3	79.9
30-Year	9/15/2022	3.511	2.42	18.0	10.9	17.1	72.1	0.0	0.0	40.0
2-Year FRN	8/1/2022	0.037	3.13	24.0	29.5	1.1	69.4	0.0	2.1	0.01
2-Year FRN	8/26/2022	0.090	2.57	22.0	42.1	0.9	57.1	0.0	0.0	0.03
2-Year FRN	9/30/2022	0.092	2.84	22.0	34.1	1.7	64.2	0.0	0.0	0.03

TIPS										
Issue	Settle Date	Stop Out Rate (%)	Bid-to-Cover Ratio	Competitive Awards (\$bn)	% Primary Dealer	% Direct	% Indirect	Non-Competitive Awards (\$bn)	SOMA "Add Ons" (\$bn)	10-Year Equivalent (\$bn)**
10-Year TIPS	7/29/2022	0.630	2.18	16.9	15.8	17.1	67.1	0.1	0.0	19.4
10-Year TIPS	9/30/2022	1.248	2.54	15.0	7.9	21.3	70.8	0.0	0.0	16.7
30-Year TIPS	8/31/2022	0.920	2.69	8.0	11.1	12.0	76.9	0.0	1.0	30.0

*FRNs are reported on discount margin basis.

**Approximated using prices at settlement and includes both competitive and non-competitive awards. For TIPS 10-Year equivalent, a constant auction BEI is used as the inflation assumption.