

Office of Debt Management



Brief Overview of Key Data Sources on
Foreign Participation in the U.S. Treasury Securities Market

Executive Summary

- ▶ Several publicly available data sources provide information on foreign participation in the primary and secondary Treasury securities markets.
- ▶ Understanding this data, i.e. the way it is collected and reported and its strengths and weaknesses, is important for accurate analysis of foreign participation in the Treasury market.
- ▶ This presentation provides a brief survey of commonly used data sources.
 - ▶ **Primary Market** data on auction awards:
 - 1) *Treasury Investor Class Data*
 - 2) *Treasury Auction Results Data*
 - ▶ **Secondary Market** data on holdings and transactions:
 - 3) *Treasury International Capital (TIC) Data (Holdings and Transactions)*
 - 4) *Federal Reserve's H.4.1 – Factors Affecting Reserve Balances (Holdings)*
- ▶ Other sources of foreign holdings include: The Bureau of Economic Analysis's International Transactions and its International Investment Positions; the Federal Reserve's Z.1 - Financial Accounts of the U.S.; and the Treasury Bulletin. For foreign holdings, these sources rely on data derived from TIC.
- ▶ Finally, some individual foreign central banks may choose to disclose Treasury securities holdings or transactions voluntarily. We do not cite those sources here.

Primary Market

1) Treasury Investor Class Data

- ▶ Treasury releases “Investor Class” data on a lagged basis for all Treasury auctions. The investor class data provides a comprehensive breakdown of auction awards by entity type, including by “foreign and international” entities.
 - ▶ Coupons data is published about every two weeks for securities issued since the last publication.
 - ▶ Bills data is published at the beginning of the month for securities issued the prior month.
- ▶ A sample of the Investor Class coupon data for the month of December 2018 appears below:

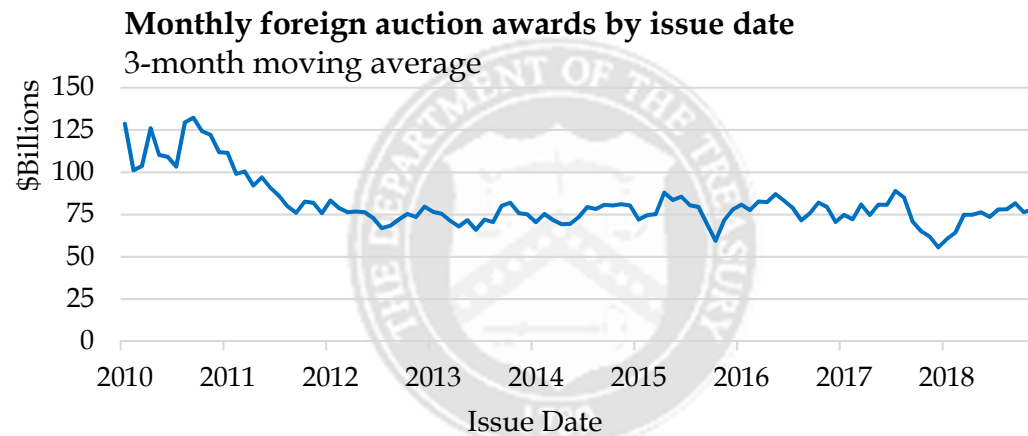
Auction Allotments By Investor Class For Marketable Treasury Coupon Securities													
[In billions of dollars. Source: Office of Debt Management, Office of the Under Secretary for Domestic Finance]													
Issue date	Security type	(%) Coupon rate Or Spread	Cusip	Maturity date	Total issue	(SOMA) Federal Reserve banks	Depository institutions	Individuals	Dealers and brokers	Pension and Retirement funds and Ins. Co.	Investment funds	Foreign and international	Other
12/31/2018	2-Year Note	2.500	9128285S5	12/31/2020	40.001	0.000	0.001	0.380	19.888	0.000	12.709	7.024	0.000
12/31/2018	5-Year TIPS Note	0.625	9128284H0	04/15/2023	14.000	0.000	0.000	0.030	1.757	0.130	11.351	0.732	0.000
12/31/2018	5-Year Note	2.625	9128285U0	12/31/2023	40.999	0.000	0.001	0.028	16.174	0.050	16.728	7.802	0.216
12/31/2018	7-Year Note	2.625	9128285T3	12/31/2025	32.000	0.000	0.000	0.012	6.614	0.000	20.817	4.398	0.160

- ▶ The “Foreign and international” category includes awards related to:
 - ▶ Competitive bids for foreign entities, whether official or private, placed directly or through a Primary Dealer or other Direct bidder (other dealers or depository institutions).
 - ▶ Noncompetitive bids for Foreign and International Monetary Authorities placed through the Federal Reserve Bank of New York (FRBNY).

Primary Market

1) Treasury Investor Class Data (continued)

- ▶ The investor class data provides information on foreign participation in auctions, but subsequent secondary market activity can affect foreign holdings.
- ▶ The following chart and table, respectively, demonstrate foreign awards over time and the various investor class allocations by product in CY2018.



Average award allocations in CY2018, weighted by issuance amount less SOMA

	Depository Institutions	Individuals	Dealers and Brokers	Pension, Retirement Funds, Investment Funds and Ins. Co.	Foreign and International	Other*	
Bills	0.1%	1.9%	60.1%	0.1%	30.5%	7.2%	0.2%
FRNs	0.4%	0.1%	49.7%	0.4%	27.0%	9.1%	13.3%
Nominals	0.0%	0.3%	35.0%	0.1%	49.2%	14.8%	0.5%
TIPS	0.0%	0.2%	20.3%	0.3%	61.3%	17.9%	0.0%
All	0.1%	1.5%	54.1%	0.1%	34.7%	9.0%	0.5%

*Other represents the residual from categories not already specified

Primary Market

2) *Treasury Auction Results Data*

Auction awards are divided into “competitive” and “noncompetitive” awards. Data is available at the time of the auction results release.

Competitive awards are divided into 3 bidder categories and provide an indication of how entities are participating at auction

- ▶ Foreign participants, can be included in any or all of the 3 categories.
- ▶ 1) Primary Dealers: awards for Primary Dealers’ house accounts. Some Primary Dealers are a branch, agency, or subsidiary of a non-U.S. bank or holding company.
- ▶ 2) Directs - awards for the house accounts of non-Primary Dealers.
- ▶ 3) Indirects - awards for customers of: Primary Dealers, other dealers participating as Directs, or depository institutions participating as Directs. Only dealers and depository institutions can submit customer bids.

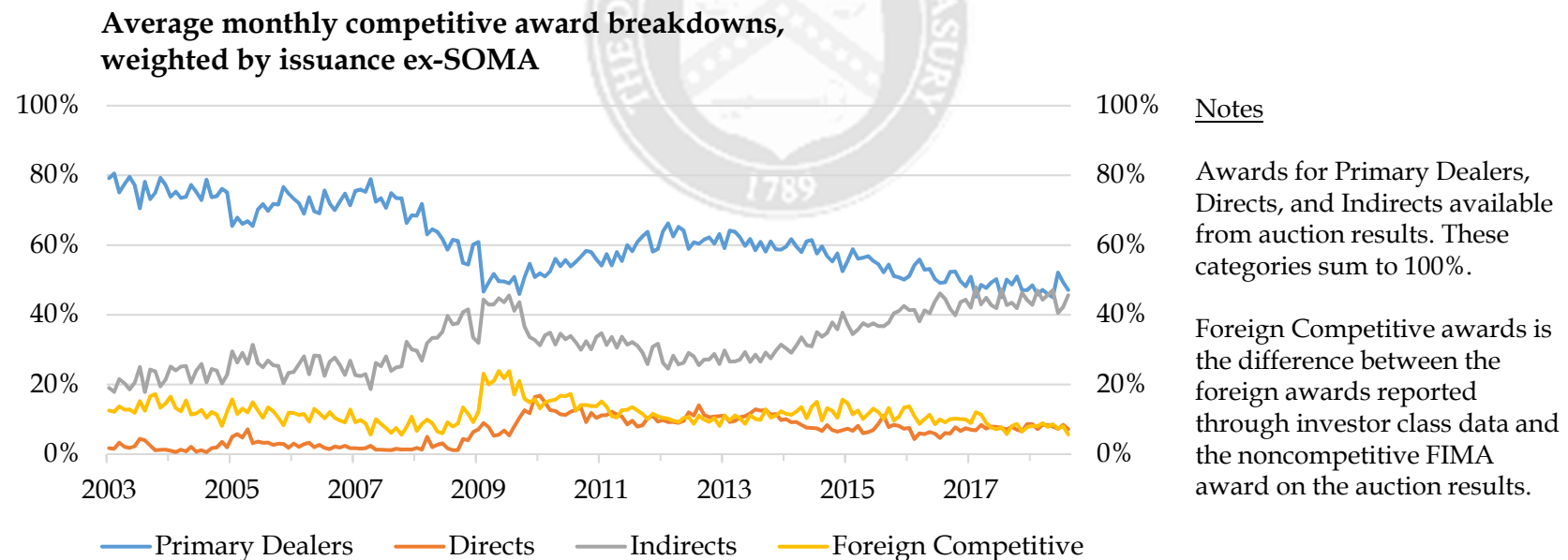
Noncompetitive awards include awards to relatively small investors and aggregated awards to Foreign Institution and Monetary Authorities (FIMA)

- ▶ FIMA accounts include foreign central banks, foreign governmental monetary or finance entities, non-governmental international financial organizations that are not private in nature (e.g. the World Bank), and non-financial international organizations in which the U.S participates (e.g. the United Nations).
 - ▶ FIMA bids are capped at \$100 million per account and \$1 billion in total, for a single auction.
 - ▶ Total FIMA awards averaged \$4.9 billion per month in CY2018.

Primary Market

2) Treasury Auction Results Data (continued)

- ▶ Some analysts use indirect awards as a proxy for foreign participation in an auction, however competitive award categories do not identify foreign participation.
- ▶ Auction participants are permitted to bid both directly and indirectly in the same auction.
- ▶ Caution should be exercised in using indirect awards a proxy for foreign auction participation since there is a modest and unstable correlation between the percent of indirect awards and the percent of competitive foreign awards.
- ▶ Foreign investors may also choose to acquire holdings in the secondary market rather than the primary market.



Secondary Market

3) Treasury International Capital (TIC) Data

- ▶ The TIC system collects data on cross-border portfolio investment flows and positions between U.S. residents (including U.S.-based branches of firms headquartered in other countries) and foreign residents (including offshore branches of U.S. firms).
- ▶ The annual holdings data, the monthly holdings data, and monthly transactions data provide varying levels of detail on foreign holdings and transactions, as shown below.

Survey	Coverage	Release Schedule	Short-Term (<=1yr)	Long-Term (>1yr)	Foreign Entity Type
Annual 5-Year Benchmark (next in 2019)	Foreign holdings from all U.S. custodians	Spring for survey results from the prior June	Holdings by country or region (MV)	Holdings by country or region, including a breakdown for nominals, TIPS, and FRNs	Holdings broken out into foreign official vs foreign private only at the aggregate level (MV)
Annual Non-Benchmark	Foreign holdings from largest U.S. custodians; accounts for 99% of MV of benchmark survey			Aggregate breakdown between nominal maturity buckets (MV)	
Monthly	Foreign Holdings	2-month lag	Holdings by country or region (PV)	Holdings by country or region (MV)	
	Transactions		Not Reported	Gross purchases and sales by country or region (MV)	Net purchases broken out into foreign official vs foreign private entities only at the aggregate level (MV)

PV = Par Value; MV = Market Value

Secondary Market

3) TIC Data (continued) – Important Features

Custodian Bias

- ▶ The monthly data on holdings, including the monthly table on Major Foreign Holders of Treasury Securities (see next slide), reflect foreign holdings of U.S. securities reported by U.S.-based custodians. As such, these data cannot attribute holdings of U.S. securities to the beneficial owner with complete accuracy. This is commonly known as “custodian bias.”
 - ▶ For example, if a U.S. Treasury security purchased by a foreign resident in Country A and held in a custodial account in Country B, ownership in the TIC data will be attributed to Country B.
 - ▶ The custodial data may also not properly attribute U.S. Treasury securities managed by a foreign entity on behalf of residents of other countries.

Transaction Bias

- ▶ A transaction may occur in the country of a foreign intermediary and not represent the actual end-users. In addition, repo transactions may not get classified appropriately and a repo activity can show up in transactions data while holdings data is unaffected.

Valuation

- ▶ The TIC data for long-term securities are reported based on market value of the holdings as opposed to par value. This means that sharp movements in yields between reporting periods can change the reported value of a foreign entity’s holdings amount substantially, even if the foreign holder did not execute any transactions.

Secondary Market

3) TIC Data (continued) – Major Foreign Holders

MAJOR FOREIGN HOLDERS OF TREASURY SECURITIES
(in billions of dollars)
HOLDINGS 1/ AT END OF PERIOD

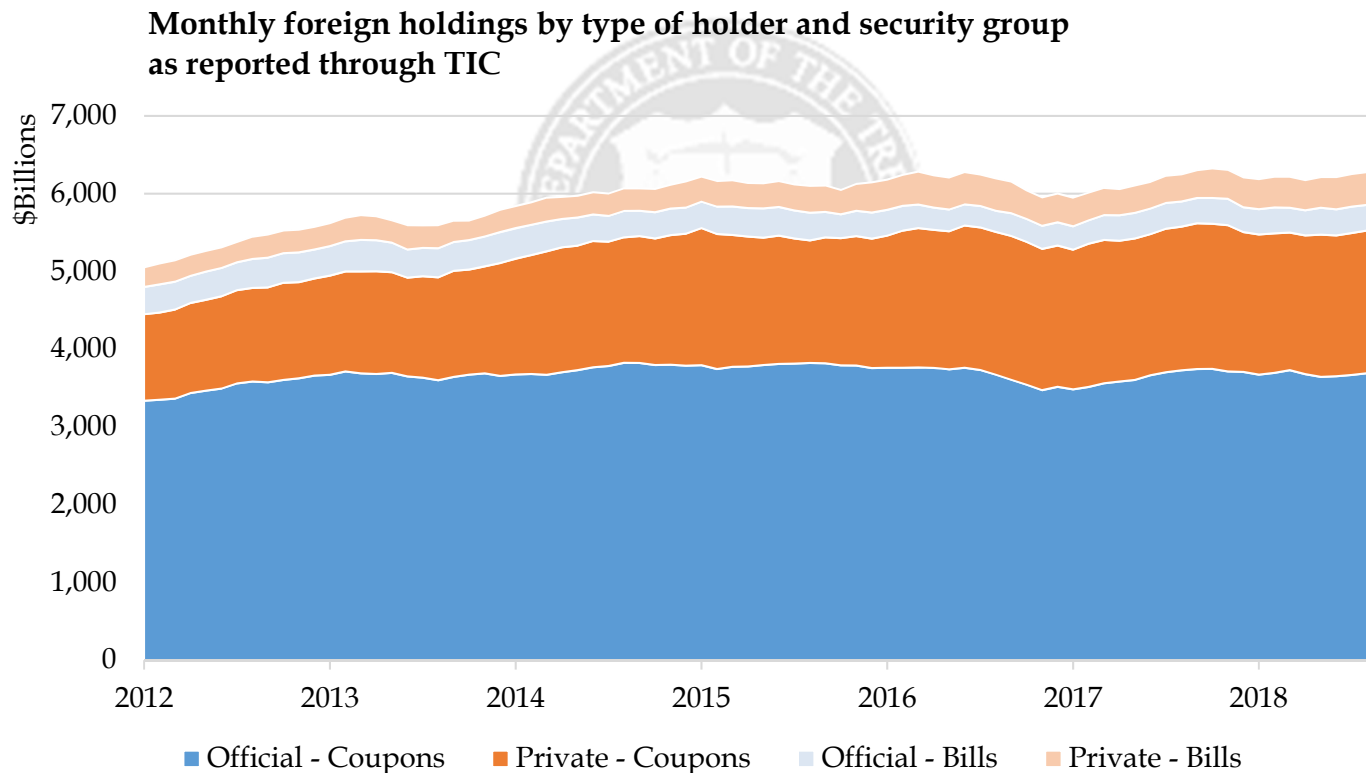
Country	Oct 2018	Sep 2018	Aug 2018	Jul 2018	Jun 2018	May 2018	...
China, Mainland	1,138.9	1,151.4	1,165.1	1,171.0	1,179.0	1,183.1	...
Japan	1,018.5	1,028.0	1,029.9	1,035.5	1,032.2	1,048.8	...
Brazil	313.9	317.0	317.8	299.7	300.1	299.2	...
Ireland	287.3	290.4	311.6	300.2	301.3	301.0	...
United Kingdom	263.9	276.3	272.6	271.7	274.4	265.0	...
Luxembourg	225.4	227.2	224.0	221.5	220.5	209.1	...
Switzerland	225.2	226.9	232.0	233.1	236.3	243.4	...
Cayman Islands	208.2	200.0	197.5	197.9	191.1	186.2	...
Hong Kong	185.0	192.3	193.2	194.4	196.5	191.9	...
Saudi Arabia	171.3	176.1	169.5	166.8	164.3	162.1	...
Belgium	169.7	164.7	154.3	154.5	154.7	150.5	...
Taiwan	162.3	166.4	163.2	164.2	162.6	164.8	...
India	138.2	144.0	140.6	142.6	147.3	148.9	...
...
Grand Total	6,199.6	6,225.2	6,277.9	6,253.8	6,213.7	6,214.7	...
Of which:							
For. Official	3,947.2	4,010.1	4,021.1	4,007.8	3,988.8	3,990.8	...
Treasury Bills	306.6	316.7	329.3	339.6	336.3	346.3	...
T-Bonds & Notes	3,640.6	3,693.4	3,691.8	3,668.1	3,652.5	3,644.5	...

Financial centers with a substantial amount of securities held in custody

Secondary Market

3) TIC Data (continued) – Monthly Holdings Breakdown

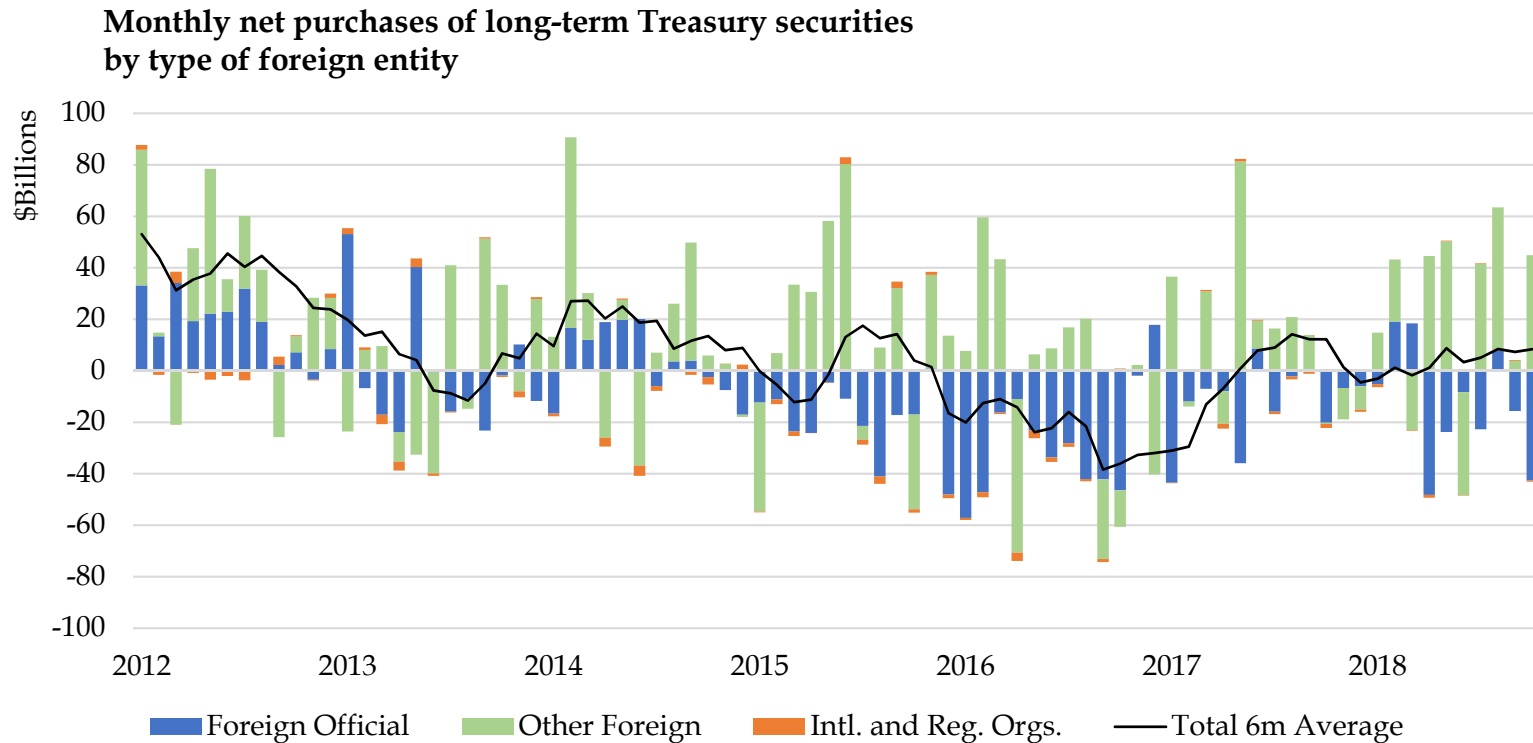
- ▶ As of October 2018, TIC reported a total of \$6.2 trillion held by foreign accounts, of which \$3.9 trillion (64%) was held by foreign official accounts.
- ▶ The following chart provides the breakdown between coupons and bills and between foreign official and foreign private accounts through September 2018.



Secondary Market

3) TIC Data (continued) - Monthly Transactions

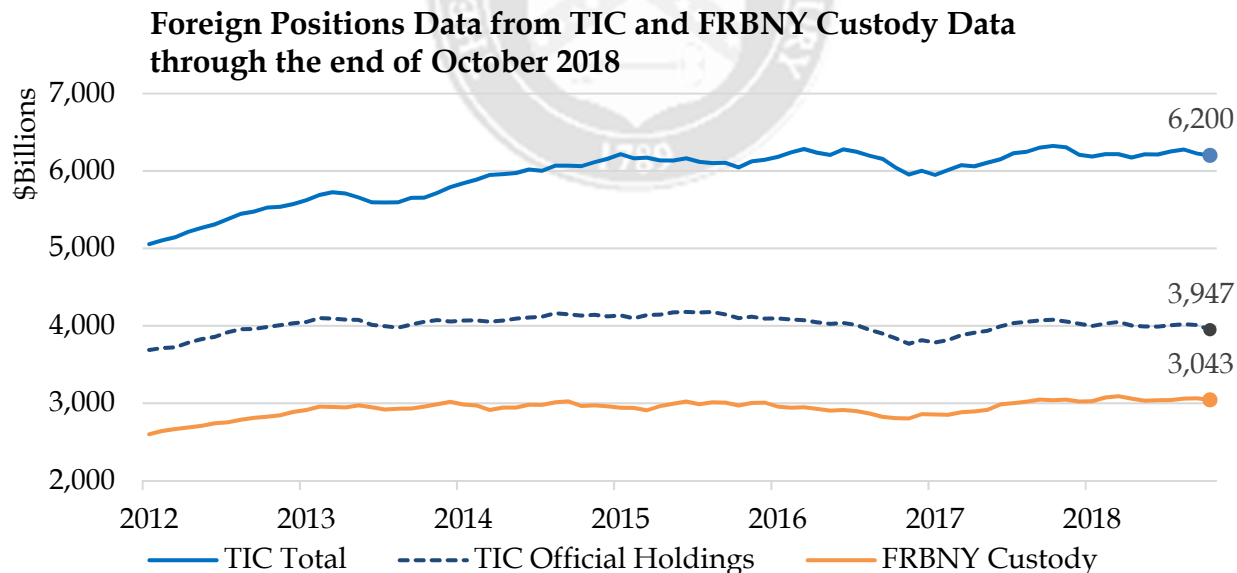
- ▶ Monthly transactions data is available for gross purchases and sales by country or region. Data aggregated by type of foreign entity is also available as net purchases (see below).
- ▶ The following chart shows net purchases by type of foreign entity, including foreign official, other foreign, and international and regional organization.



Secondary Market

4) Federal Reserve's H.4.1

- ▶ The Federal Reserve publishes a weekly dataset, *H.4.1 – Factors Affecting Reserve Balances*, that includes Treasury securities held in custody for foreign official and international institutions at the Federal Reserve Bank of New York (FRBNY).
- ▶ There are slight differences in methodology that limit the comparability between the H.4.1 holdings data and the TIC data on *foreign official holdings*.
 - ▶ H.4.1 is at par value (with principal accretion for TIPS), while TIC uses market values for long-term holdings.
 - ▶ H.4.1 does not cover all foreign official holdings, though the reported value of H.4.1 holdings is roughly 77% of the reported foreign official holdings in TIC. Also, H.4.1 can include holdings for international organizations, whereas TIC classifies those entities as foreign private.
 - ▶ Holdings that move between FRBNY and other U.S. custodians will affect H.4.1 levels but may affect TIC.



Secondary Market

Other Foreign Holdings Data

The below additional publications also provide information regarding Treasury securities holdings. These data sources rely on Treasury's TIC data as a primary source but may make some adjustments, such as seasonality, and can be subject to revisions.

The Bureau of Economic Analysis's (BEA) international data series

- ▶ BEA publishes quarterly reports on *International Transactions* and its *International Investment Positions*, which rely on TIC data for reporting foreign holdings of Treasury securities.

The Federal Reserve's Z.1 - Financial Accounts of the U.S., Flow of Funds

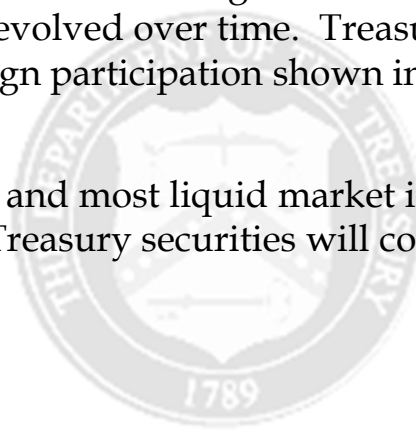
- ▶ The Federal Reserve publishes a quarterly release which includes holdings of Treasury securities by type of holder. Within that breakdown, securities held by the "Rest of the World" is based on the BEA data described above.

The Treasury Bulletin

- ▶ Treasury publishes the quarterly *Treasury Bulletin*, detailing Treasury-related operations and programs. Within the report, data on ownership of Treasury securities by type of holder, including foreign and international accounts, is based on the Z.1 data described above.

Conclusion

- ▶ Understanding the various data sets related to foreign participation in the Treasury market is important for conducting accurate analysis and interpretation of the data.
- ▶ The Treasury market is supported by a broad investor base (both foreign and domestic), all with a variety of investment needs that can and do change over time. Foreign participation in the Treasury market has continuously evolved over time. Treasury takes a holistic and long-term perspective on any changes in foreign participation shown in the data.
- ▶ The Treasury market is the deepest and most liquid market in the world, and Treasury remains confident that overall demand for Treasury securities will continue to remain strong.



References

Source	Publisher	Publication Schedule
Investor Class Auction Allotments	Treasury	Bills - Beginning of the month for securities issued the prior month Coupons - Roughly every two weeks for securities issued since the last publication Coupons' and Bills' data: https://home.treasury.gov/data/investor-class-auction-allotments
Auction Results	Treasury	After each auction Press releases: https://treasurydirect.gov/instit/annceresult/press/press.htm Competitive bidder breakdown pre-April 2008: https://www.treasurydirect.gov/instit/annceresult/auctdata/auctdata_stat.htm
Treasury International Capital	Treasury	Annual Surveys - each Spring for data as of the prior June Monthly Surveys - two-month lag TIC reports: https://www.treasury.gov/resource-center/data-chart-center/tic/Pages/index.aspx
H.4.1 - Factors Affecting Reserve Balances	Federal Reserve	Weekly H.4.1 reports: https://www.federalreserve.gov/releases/h41/current/
Z.1 - Financial Accounts of the U.S.	Federal Reserve	Quarterly Z.1 reports: https://www.federalreserve.gov/releases/z1/current/
International Transactions and International Investment Positions	Bureau of Economic Analysis	Quarterly BEA international reports: http://www.bea.gov/data/economic-accounts/international
Treasury Bulletin	Treasury	Quarterly Treasury Bulletins: https://www.fiscal.treasury.gov/reports-statements/treasury-bulletin/current.html