User Guide
MBS Float Dashboard

Data Dynamics®

April 2023

What is the MBS float?

The MBS float is the total balance of securities *that are liquid and available to trade*. Market participants may be interested in analyzing MBS float to determine what pools are likely to be delivered into a to-be-announced (TBA) contract or to understand dollar roll market dynamics.

The MBS Float Dashboard enables users to assess the true liquidity of a given cohort of securities by netting out the balance of securities in that cohort that is "locked up" in illiquid structures (CMOs in our dashboard) or portfolios (Fed holdings in our dashboard). In addition, the MBS Float Dashboard accounts for securities in each cohort that may not be truly liquid - even if they are not explicitly "locked up" - because they trade as a specified pool ("spec pool" or "spec"). Spec pools generally trade at a premium to generic securities owing to their superior prepayment profile, reducing their liquidity. The remaining balance within a given cohort after excluding the balance of securities "locked up" in illiquid structures or portfolios or trades as spec is considered the float.

Calculation methodology may vary, but there is general agreement on the components of net float. To the right, we detail the key assumptions made in our MBS Float Dashboard calculations.

Considerations when Calculating the Float

1 Level 1 vs. Level 2 securities

Level 1 securities are backed by mortgage loans purchased by Fannie Mae only or Freddie Mac only. Level 2 securities are backed by Level 1 and/or Level 2 securities, not loans. They may include commingled GSE securities. Like L1 securities, L2 securities may be TBA-deliverable. Given that some L1 and L2 securities are pledged to other L2 securities, we adjust for the pledged amount to avoid double-counting. We calculate the vintage to which a given L2 security belongs using the weighted average age of the loans underlying its component securities. Freddie Mac MultiLender pools are treated as L1 securities, akin to Fannie Mae majors.

2 Fannie Mae vs. Freddie Mac securities

Since the launch of the Uniform Mortgage-Backed Security (UMBS) in 2019, securities guaranteed by Fannie Mae and Freddie Mac are both deliverable into a UMBS TBA contract. We combine Fannie Mae and Freddie Mac securities in our float calculations since they are deliverable into a single contract.

3 Mirror securities

To support the UMBS initiative, legacy Freddie Mac securities with a 45-day payment delay have been exchangeable for a mirror security with a 55-day payment delay. Mirror securities have the same collateral characteristics as the legacy securities but new issuance dates. Although most legacy securities have been exchanged for mirror securities, a portion of legacy securities remains intact. For the purpose of the MBS Float Dashboard, we use legacy securities and ignore mirror securities in order to assign securities to the appropriate vintage cohort. Although unconverted legacy securities are not TBA-eligible, we include them in the float given that they remain eligible for exchange.

4 Off-the-run REMICs

Collateral that was "locked up" in a REMIC at one point in time may be returned to the float following an event such as a deal call. For certain off-the-run REMICs, we do not have visibility into such events. Any inaccuracy in float calculations related to this activity would be *de minimis*. Reverse REMIC securities, which allow remaining pro rata tranches of REMIC securities to be combined into TBA-eligible Supers, *are* included in the float.

Net Float = Total Outstanding L1/L2 (Net) - Fed Holdings - CMO Outstanding - Spec Float

MBS Float Dashboard ⛵

New dashboard available in the **MBS section** of Data Dynamics

MBS Float Dashboard tabs

1   **CL | CI | CT Pools**

Explore the outstanding universe of mortgage-backed securities by coupon/vintage cohort, segmented by category. Gain additional transparency into specified story composition within specific cohorts. Observe changes in the float over time.

2   **Tabular Report**

Analyze replines and prepayment speeds for individual segments of the outstanding universe in a tabular format.

3   **Product Heat Map**

Review a visualization of user-specified float concentration by coupon/vintage cohort.
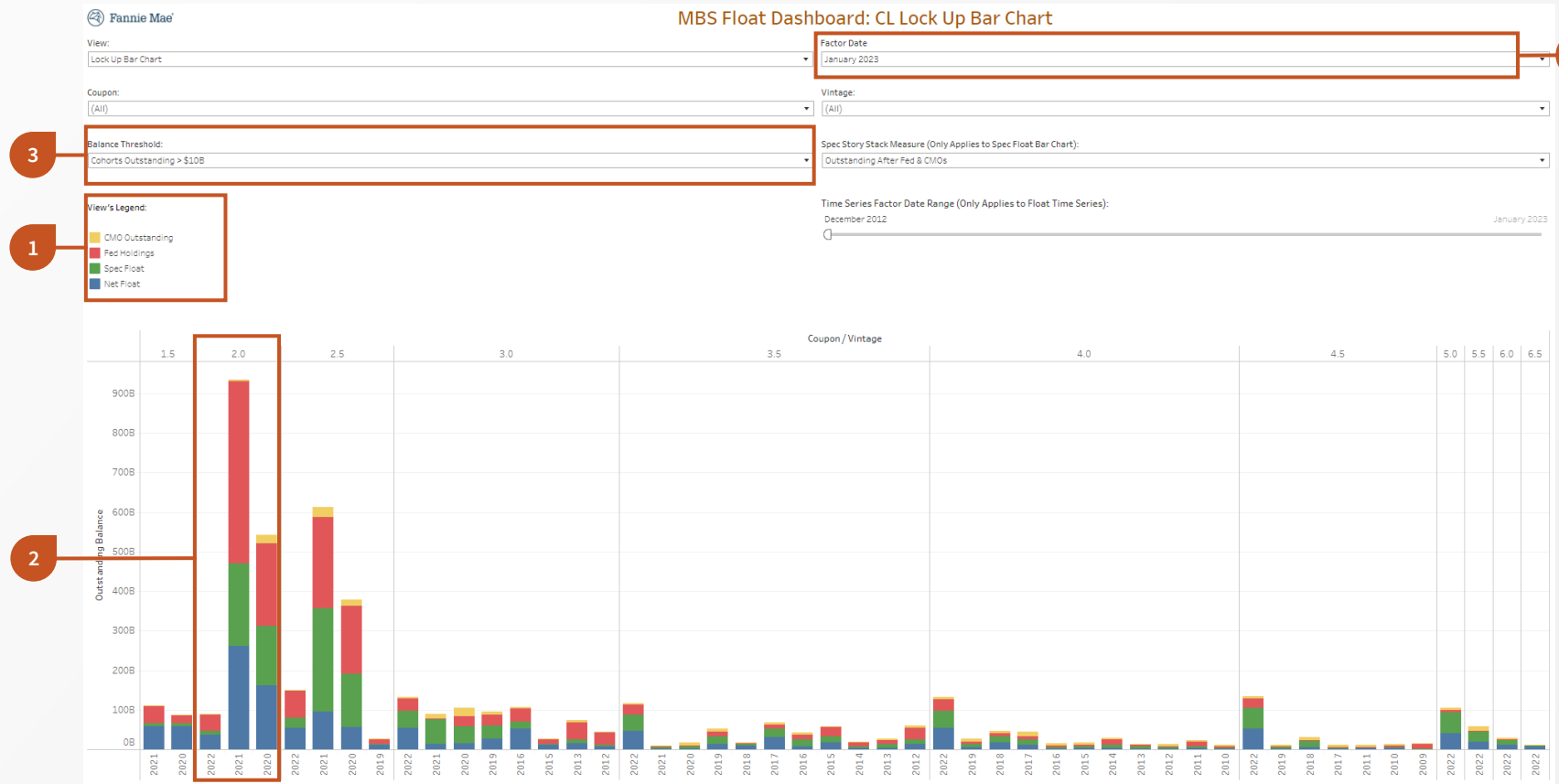
Lock Up Bar Chart view

The default view for the MBS Float Dashboard report is the Lock Up Bar Chart for CL prefix pools. This view is a stacked bar chart visualization of the outstanding universe of MBS by coupon/vintage cohort. The CI and CT tabs also default to the Lock Up Bar Chart view.

This dashboard includes insights into:
- *What are the most liquid coupons in the stack?*
- *Where are the Fed's holdings concentrated?*
- *What vintage has a lot of balance in each coupon?*

Filters and Cohorts

- The **Factor Date** filter allows users to analyze the MBS float as of a particular factor date, going as far back as Jan-2013.

- Users can limit their analysis to a specific subset of **Coupons** and **Vintages** by using these filters.

- The default view filters to coupon/vintage cohorts with at least $10B in outstanding UPB. Using the **Balance Threshold** filter, users can choose to display other cohorts, as well.

- All other filters in this dashboard pertain to other views.

MBS Float Dashboard: CL Lock Up Bar Chart

Understanding the Lock Up Bar Chart view

1 View's Legend

The stacked bars are color-coded according to lock-up category. *Net float is shown in blue.*

2 Composition of Outstanding Securities

The outstanding MBS universe is segmented by coupon and vintage. The stacked bars represent the outstanding balance in each coupon/vintage cohort, segmented by lock-up category. Tooltips provide balance detail. *We can observe that 2021 2s have the largest float.*

3 Balance Threshold Filter

The default view for this dashboard shows cohorts with outstanding UPB of at least $10B. Alternatively, users can choose to display other cohorts, as well.

4 Factor Date Filter

Users can see the most recent factor date or on any historical factor date going back to Jan-2013.
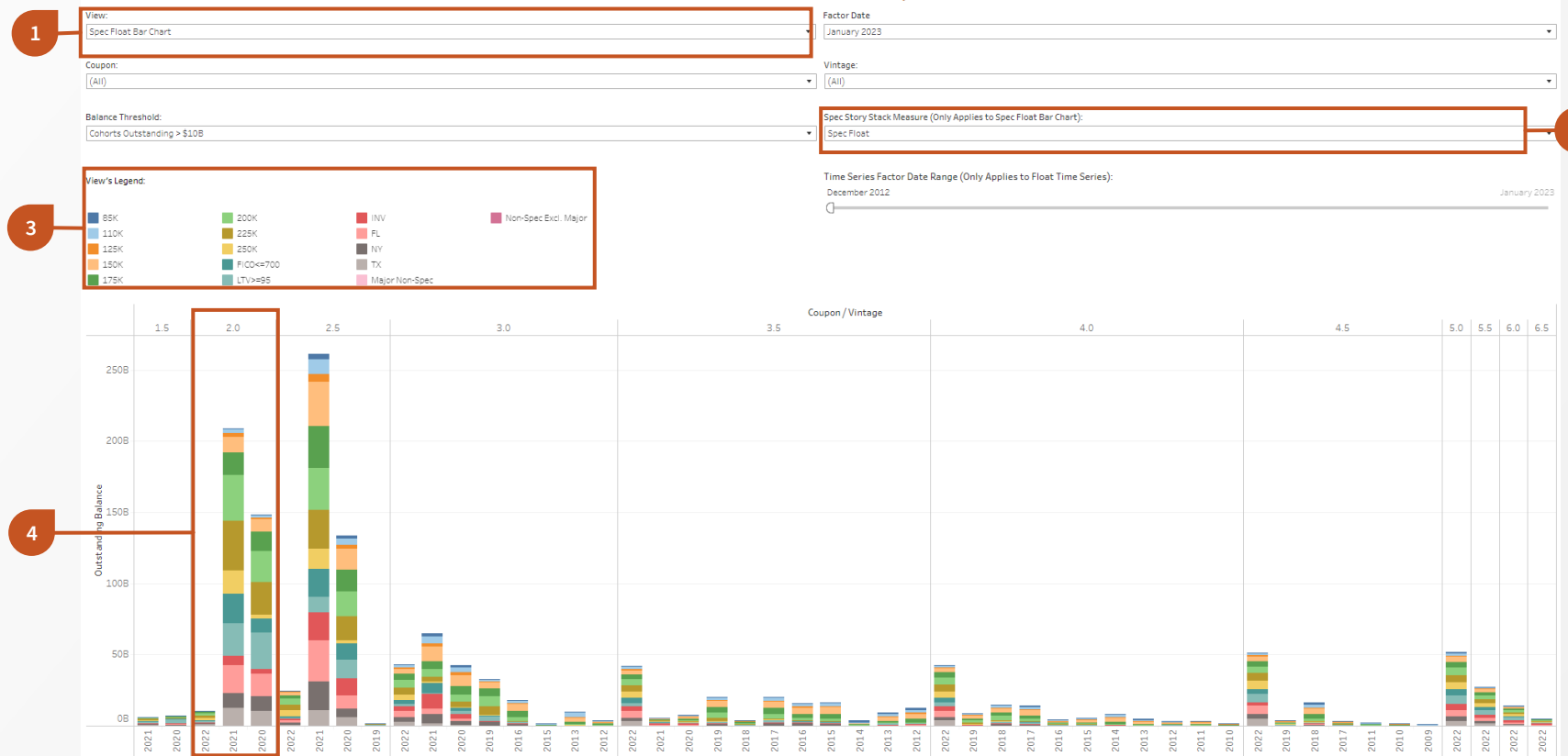
Spec Float Bar Chart view

Within each of the CL|CI|CT Pools tabs, users can select the Spec Float Bar Chart view. This view segments a given market segment according to specified story in a stacked bar chart visualization by coupon/vintage cohort.

This dashboard includes insights into:
- *What are the most liquid spec stories in each cohort?*
- *What spec stories are most commonly used for CMO collateral?*

Filters and Cohorts

- The **Factor Date** filter allows users to analyze the MBS float as of a particular factor date, going as far back as Jan-2013.

- Users can limit their analysis to a specific subset of **Coupons** and **Vintages** by using these filters.

- The default view filters to coupon/vintage cohorts with at least $10B in outstanding UPB. Using the **Balance Threshold** filter, users can choose to display other cohorts, as well.

- Users can visualize the spec segmentation according to the lock-up or float category of their choice using the **Spec Story Stack Measure** filter.

MBS Float Dashboard: CL Spec Float Bar Chart

Understanding the Spec Float Bar Chart view

1 Navigate to the Spec Float Bar Chart View

Navigate to the Spec Float Bar Chart view within the CL|CI|CT Pools tabs.

2 Select Spec Story Stack Measure

Select the lock-up or float category that you would like to see stratified by specified story.

3 View's Legend

The stacked bars are color-coded according to specified story eligibility. We classify pools using a waterfall based on pool characteristics.

4 Composition of Outstanding Securities

The stacked bars represent the outstanding balance in each coupon/vintage cohort, segmented by specified story. Tooltips provide story and balance detail. *When we select Spec Float, we can see that the most liquid stories from recent vintages are 200K/225K Max, FICO, LTV, and FL.*
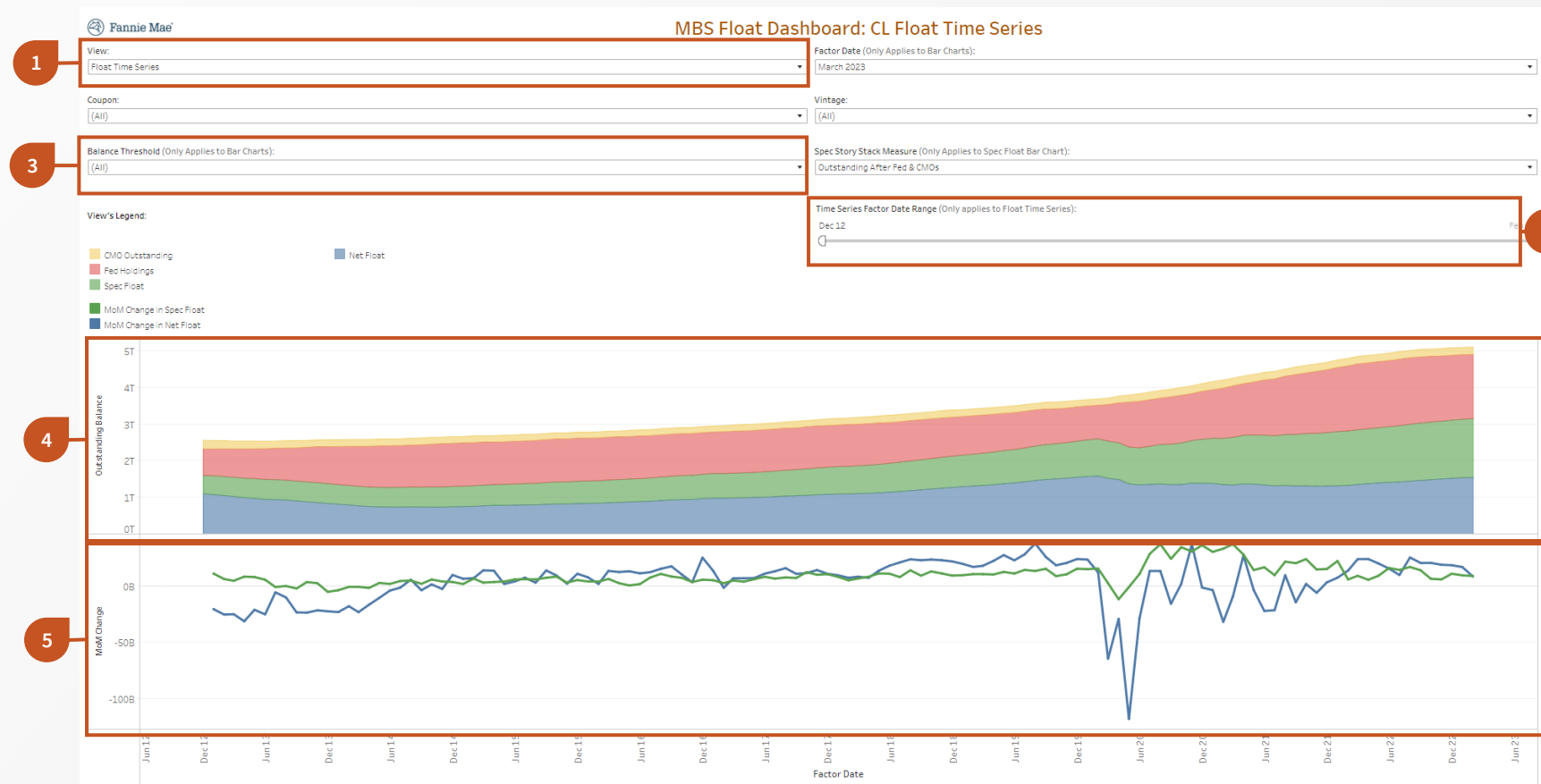
Float Time Series view

Within each of the CL|CI|CT Pools tabs, users can select the Float Time Series view. The top chart illustrates how the outstanding universe evolves over time. The bottom chart shows month-over-month changes in float.

This dashboard includes insights into:
- *How has the float changed over time?*
- *How has the Fed's balance sheet evolved?*

Filters and Cohorts

- The **Factor Date** filter allows users to analyze the MBS float as of a particular factor date, going as far back as Jan-2013.

- Users can limit their analysis to a specific subset of **Coupons** and **Vintages** by using these filters.

- The only **Balance Threshold** option applicable to this dashboard is All, as the time series representation is meant to provide an aggregated view over time.

- Users can control the time horizon over which float changes are shown using the **Time Series Factor Date Range** slider.

Understanding the Float Time Series view

1 **Navigate to the Float Time Series View**

Navigate to the Float Time Series view within the CL|CI|CT Pools tabs.

2 **Time Series Factor Date Range**

Control the time window over which float balances are shown.

3 **Balance Threshold**

The only Balance Threshold option applicable to this dashboard is All.

4 **Change in Outstanding over Time**

Visualization of how the composition of the float has changed over time. Tooltips provide balance detail.

5 **Month-over-Month Change in Float**

Month-over-month changes in spec and net float. Tooltips provide balance detail.

Tabular Report tab

The Tabular Report tab provides information on the composition of market segments in a tabular format. Users can also drill into a repline view for each of the component cohorts. We focus on the UPBs view in this slide.

This dashboard includes insights into:
- *What is the total outstanding UPB in each cohort? What is the net float in each cohort?*
- *How much of the outstanding balance in each cohort is held in CMOs/Fed portfolio?*

Filters and Cohorts

- Users can select their desired MBS product from the **Product** filter.

- The **Factor Date** filter allows users to analyze the MBS float as of a particular factor date, going as far back as Jan-2013.

- Users can limit their analysis to a specific subset of **Coupons** and **Vintages** by using these filters.

- The default view shows the decomposition of the outstanding universe by coupon and vintage. Users can filter to component cohorts and their corresponding replines using the **View** filter.

MBS Float Dashboard: Tabular UPBs

(1) Product: CL

Factor Date: January 2023

(2) View: UPBs

Coupon: (All)

Vintage: (All)

(3)

Coupon	Vintage	Total L1 Outstanding	Total Out. (Incl. L2)	CMO Outstanding	Fed Holdings	Spec Float	Net Float
1.0	2021	$30,864,587	$30,864,587	$0	$0	$0	$30,864,587
1.5	2022	$743,875,380	$708,699,110	$0	$0	$2,524,405	$706,174,705
	2021	$110,650,569,454	$110,830,944,686	$295,344,291	$44,874,748,447	$6,160,583,122	$59,500,268,826
	2020	$88,483,256,912	$88,338,058,431	$1,344,158,645	$20,777,081,817	$7,108,427,841	$59,108,390,128
	2017	$128,516	$128,516	$0	$0	$0	$0
	2016	$3,806,224	$3,806,224	$0	$0	$3,236,584	$569,640
	2009	$533,321	$533,321	$0	$0	$0	$533,321
2.0	2022	$92,060,611,308	$90,603,073,427	$0	$43,180,622,601	$10,586,851,711	$36,835,599,115
	2021	$934,299,218,679	$935,267,522,715	$3,211,236,710	$461,615,641,973	$209,019,065,431	$261,421,578,601
	2020	$542,804,679,853	$543,293,915,557	$22,377,367,306	$209,325,687,688	$148,625,405,520	$162,965,455,043
	2019	$37,909,779	$37,909,779	$0	$19,064,067	$2,818,186	$16,027,526
	2018	$2,094,427	$2,094,427	$0	$0	$613,383	$1,481,044
	2017	$31,668,016	$31,668,016	$0	$0	$17,302,641	$14,365,375
	2016	$98,773,762	$98,773,762	$0	$0	$28,708,362	$70,065,400
	2015	$9,382,882	$9,382,882	$0	$0	$3,710,467	$5,672,415
	2013	$453,140	$0	$0	$0	$0	$0
	2012	$4,510,289	$3,980,866	$0	$608,056	$0	$3,372,810
	2010	$0	$2,213,942	$0	$0	$0	$2,213,942
	2009	$505,381	$0	$0	$0	$0	$0
	2008	$725,998	$0	$0	$0	$0	$0
2.5	2022	$152,423,918,426	$150,457,212,836	$2,680,931,916	$68,601,555,183	$24,703,834,255	$54,470,891,482
	2021	$611,091,764,717	$613,381,162,145	$25,200,891,920	$231,047,928,789	$261,336,568,850	$95,795,772,586
	2020	$379,371,566,733	$379,168,802,495	$15,167,184,374	$173,257,236,795	$133,427,153,876	$57,317,227,450
	2019	$27,785,043,084	$27,698,360,263	$1,897,881,762	$11,464,029,295	$1,540,747,417	$12,795,701,789
	2018	$47,062,633	$41,280,845	$0	$236,510	$9,705,348	$31,338,987
	2017	$229,050,678	$184,342,755	$0	$1,033,983	$21,842,385	$161,466,387
	2016	$3,163,868,568	$3,210,782,662	$340,010,407	$16,864,585	$43,741,796	$2,810,165,874
	2015	$185,256,478	$172,713,253	$35,244,450	$4,046,630	$18,028,158	$115,393,985
	2014	$17,539,376	$17,649,690	$2,189,256	$650,312	$325,748	$14,484,374
	2013	$1,874,028,871	$1,866,592,603	$352,754,298	$867,778,367	$2,133,507	$643,926,431
	2012	$2,261,318,884	$2,273,330,253	$291,923,996	$1,500,136,519	$480,131	$480,789,607
	2011	$2,711,723	$7,415,409	$4,703,686	$2,711,723	$0	$0
	2009	$1,480,720	$1,480,720	$1,480,720	$0	$0	$0
	2007	$2,764,063	$2,764,063	$0	$0	$204,509	$2,559,554
	2006	$2,401,258	$1,347,365	$0	$0	$0	$1,347,365
	2005	$1,165,453	$1,165,453	$0	$0	$457,454	$707,999
	2004	$109,717	$28,641	$0	$0	$0	$28,641
3.0	2022	$135,067,293,470	$132,682,336,839	$4,749,412,246	$30,249,698,971	$42,957,448,866	$54,725,776,766

Scroll to see more coupon cohorts

Understanding the Tabular Report UPBs view

(1) Select the Product

Choose between CL, CI, and CT prefixes.

(2) Select the Desired View

Filtering to the UPBs view shows the disaggregation of the outstanding balance for each coupon/vintage cohort.

(3) Outstanding UPB by Lock-up Category

In the UPBs view, the outstanding balance in each coupon/vintage cohort is disaggregated by lock-up category. Use the scrollbar to see full cohort universe. *We can see that of the $935B UPB outstanding in 2021 2s, $462B is held by the Fed and $209B is spec, leaving a net float of $261B.*

Tabular Report tab

The Tabular Report tab provides information on the composition of the float in a tabular format. Users can also drill into a repline view for each of the component cohorts. We focus on the Replines view in this slide.

This dashboard includes insights into:
- *What is the collateral profile of the net float in each cohort?*
- *What prepayment speeds have been observed on the net float portion of the cohort?*

Filters and Cohorts

- Users can select their desired MBS product from the **Product** filter.

- The **Factor Date** filter allows users to analyze the MBS float as of a particular factor date, going as far back as Jan-2013.

- Users can limit their analysis to a specific subset of **Coupons** and **Vintages** by using these filters.

- The default view shows the decomposition of the outstanding universe by coupon and vintage. Users can filter to component cohorts and their corresponding replines using the **View** filter.

Fannie Mae

MBS Float Dashboard: Tabular Net Float Replines

Product: CL

Factor Date: January 2023

(1) View: Net Float Replines

Coupon: (All)

Vintage: (All)

Scroll to see more coupon cohorts

(2)

Coupon	Vintage	Net Float	WAC	WAM	WALA	WAOLS	WAFICO	WALTV%	CPR1	CPR3	CPR6	CPR12
1.0	2021	$30,864,587	2.00	334	24	$434,590	775	62	0.2%	0.2%	0.6%	2.7%
1.5	2022	$706,174,680	2.50	346	12	$429,557	766	65	2.9%	2.2%	2.4%	
	2021	$59,437,125,235	2.50	333	22	$419,187	773	68	2.4%	2.5%	3.2%	4.1%
	2020	$59,108,390,038	2.54	327	26	$401,809	775	69	2.6%	3.0%	3.7%	4.7%
	2017	$0										
	2016	$569,640	2.63	261	76	$133,985	720	89	9.9%	3.8%	2.2%	1.7%
	2009	$533,321	2.06	179	165	$252,690	739	95	3.0%	3.0%	3.0%	2.8%
2.0	2022	$36,835,598,685	2.94	346	11	$456,365	761	70	2.1%	2.3%	2.7%	2.6%
	2021	$261,421,577,432	2.86	336	19	$408,108	764	72	2.6%	3.0%	3.8%	5.0%
	2020	$162,965,454,804	2.93	325	28	$388,595	770	72	3.3%	3.8%	4.9%	6.6%
	2019	$16,027,526	3.08	314	39	$330,114	758	79	15.2%	6.1%	3.3%	5.7%
	2018	$1,481,044	3.13	298	60	$174,031	714	87	0.1%	0.1%	0.1%	19.3%
	2017	$14,365,375	2.85	289	68	$228,527	744	90	0.3%	4.8%	6.1%	8.7%
	2016	$70,065,400	2.96	277	77	$203,300	743	91	9.2%	8.9%	8.1%	7.7%
	2015	$5,672,415	3.09	263	91	$201,813	733	85	0.5%	5.7%	3.4%	8.6%
	2013	$0										
	2012	$3,372,810	2.68	224	123	$226,590	769	69	0.4%	0.5%	0.5%	0.4%
	2010	$2,213,942	2.61	196	147	$187,250	722	84	0.9%	0.8%	0.8%	0.9%
	2009	$0										
	2008	$0										
2.5	2022	$54,468,204,601	3.33	347	11	$443,516	751	75	2.4%	2.7%	3.2%	3.4%
	2021	$95,795,771,679	3.25	338	18	$394,199	745	76	3.5%	3.9%	4.9%	6.5%
	2020	$57,317,227,220	3.38	323	30	$366,512	760	74	4.3%	4.9%	6.5%	10.0%
	2019	$12,795,701,742	3.48	314	39	$349,934	767	75	4.5%	5.3%	6.7%	11.1%
	2018	$31,338,987	3.48	295	58	$203,357	736	90	0.7%	2.7%	4.6%	8.8%
	2017	$161,466,387	3.40	283	67	$269,017	750	82	7.5%	7.1%	7.7%	9.5%
	2016	$2,809,705,700	3.33	272	77	$318,737	770	72	4.5%	4.8%	6.3%	9.9%
	2015	$115,393,984	3.38	257	91	$256,197	759	79	9.2%	8.1%	7.8%	11.2%
	2014	$14,484,374	3.30	248	99	$271,176	760	76	1.2%	11.4%	9.0%	11.3%
	2013	$643,926,424	3.13	226	119	$286,308	773	68	3.5%	5.2%	6.4%	8.9%
	2012	$480,789,607	3.16	222	121	$293,651	775	69	3.9%	4.8%	6.5%	8.7%
	2011	$0										
	2009	$0										
	2007	$2,559,554	3.00	169	188	$341,352	734	82	0.2%	0.2%	0.2%	1.3%
	2006	$1,347,365	3.00	154	199	$283,182	716	85	0.8%	0.9%	1.0%	0.8%
	2005	$707,999	3.00	143	208	$307,523	727	83	0.4%	20.0%	10.7%	5.7%
	2004	$28,641	3.00	107	220	$278,000	698	75	3.9%	5.0%	3.8%	3.7%
3.0	2022	$54,704,726,128	3.77	349	9	$440,882	748	76	2.5%	2.7%	3.3%	3.4%
	2021	$12,936,925,377	3.78	340	17	$372,133	708	78	4.1%	5.0%	6.7%	9.4%
	2020	$16,233,787,792	3.85	321	32	$346,802	743	77	5.7%	6.5%	8.5%	14.9%

Understanding the Tabular Report Replines view

(1) Select the Desired View

Filtering to one of the Replines views isolates the collateral profile and recent prepayment speeds of a given component of outstanding universe. Here, we have filtered to the net float (outstanding balance of each cohort net of Fed holdings, CMOs, and spec float).

(3) Repline View

Replines and prepayment speeds are provided for the selected component by coupon/vintage cohort. Here, we show replines for the net float. *Using this view, market participants can isolate the most liquid portion of each coupon cohort based on the float balance. They can also draw conclusions about the securities that would be most likely delivered into a TBA contract based on their liquidity, characteristics, and performance.*
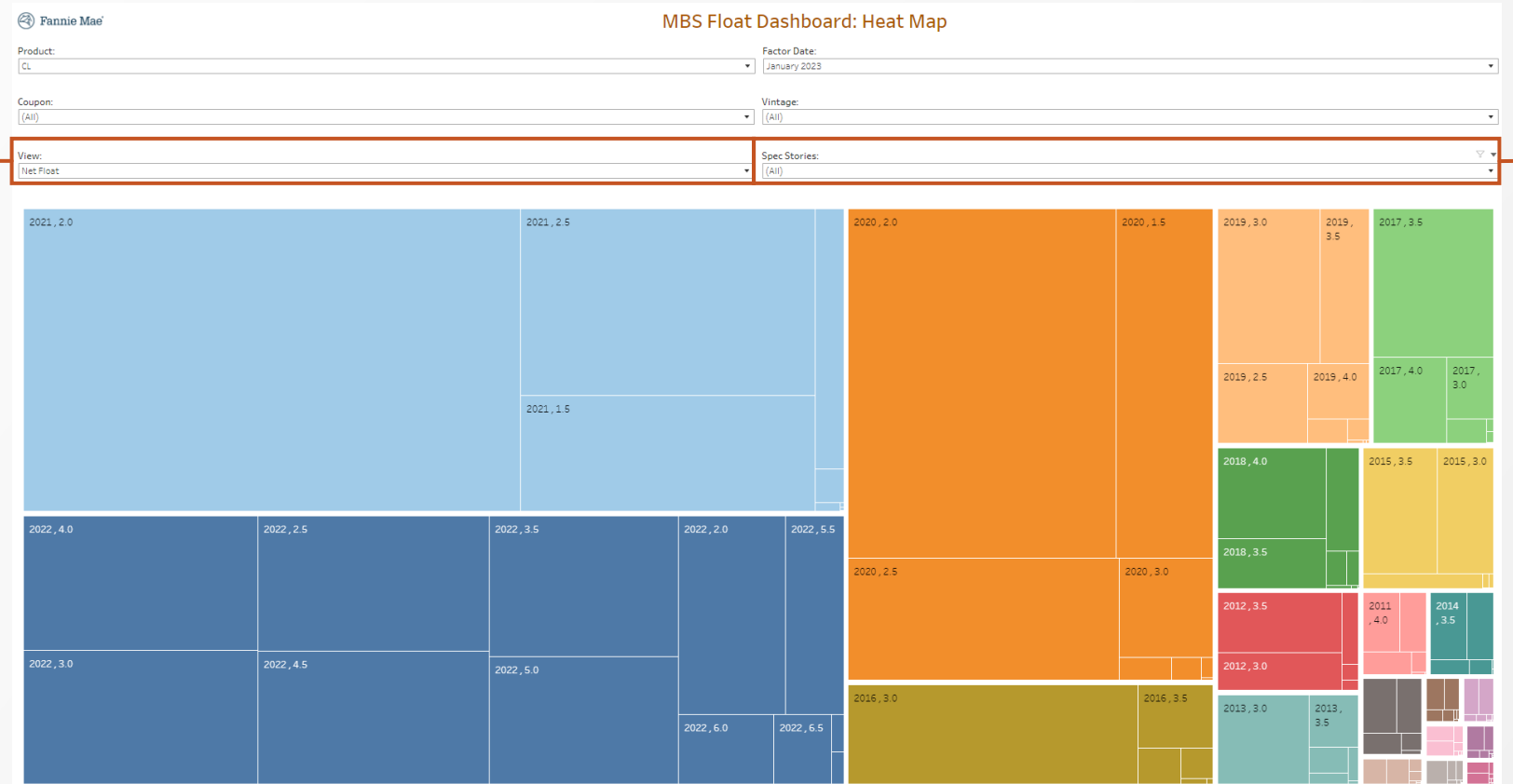
Product Heat Map tab

The Product Heat Map tab provides a visual representation of the outstanding universe by coupon/vintage cohort. Users can drill into specific components of the float, as well as by specified story.

This dashboard includes insights into:
- *In what cohorts is most of the Net Float concentrated?*
- *In what cohorts are Fed holdings/CMO collateral/spec stories concentrated?*

Filters and Cohorts

- Users can select their desired MBS product from the **Product** filter.

- The **Factor Date** filter allows users to analyze the MBS float as of a particular factor date, going as far back as Jan-2013.

- Users can customize their analysis to a specific subset of **Coupons** and **Vintages** by using these filters.

- Users can analyze different components of the outstanding universe using the **View** filter.

- Users can filter to a particular specified story using the **Spec Stories** filter.

Understanding the Product Heat Map tab

1. Select the Desired View

Users can visualize the specific component of the outstanding universe for which they would like to visualize the distribution by coupon/vintage cohort. *We can observe that most of the Net Float is concentrated in the 2020, 2021, and 2022 vintages.*

2. Spec Stories

Users can filter to a given spec story to see in which coupon/vintage cohorts the outstanding balance of that story is concentrated. Since we are looking at the Net Float view in the screenshot above, no spec stories would be represented.

Resources

- **Access Data Dynamics:**
  www.fanniemae.com/datadynamics

- **Sign up for Fannie Mae communications:**
  www.fanniemae.com/CMsignup

- **Contact us with questions:**
  1-800-232-6643, Option 3 or by e-mail