

# TBA Futures

Futures on 30-Year Uniform Mortgage-Backed Securities (UMBS) TBAs

**Launching November 7, 2022\***

*\*Pending regulatory review*

# TBA Futures will complement the existing marketplace with unique features

## Futures Contract Design

- Adheres to well-established TBA market standards
- Deliverable contract ensures convergence with underlying
- Utilizes MBSD delivery mechanism
- Futures have off-balance-sheet exposure, similar to TBAs

### Contract Specifications Summary (full details on slide9)

<b>Deliverable Grade Issuers</b>	UMBS (Fannie Mae and Freddie Mac)
<b>Deliverable Mortgage Term</b>	30-Year
<b>Available Coupons (initially)*</b>	2%, 2.5%, 3%, 3.5%, 4%, 4.5%, 5%
<b>Minimum Price Increment</b>	Outright: 1/4 of 1/32 <sup>nd</sup> (\$7.8125 per contract) Calendars: 1/8 of 1/32 <sup>nd</sup> electronic, 1/16 <sup>th</sup> blocks
<b>Contract Size</b>	\$100,000 (with deliveries in \$1M increments)
<b>Last Trading Day (LTD)</b>	3 days before SIFMA TBA Notification Day
<b>Delivery Day</b>	Business day following Last Trading Day
<b>Listed Delivery Months</b>	Nearest 3 calendar months at any given time

## Potential Benefits of TBA Futures

### Unique Market Structure

- CME Globex offers a transparent, all-to-all marketplace with a broad mix of global participants
- Inter-Contract Spreads between Treasury Futures and TBA Futures enable efficient liquidity formation

### Futures Clearing Efficiencies

- Multilateral netting via central counterparty (CCP)
- Margin offsets with Treasury Futures / Rates F&O
- Potential to add offsets with OTC Swaps

# Bringing the benefits of exchange-traded futures to TBAs

Exchange Trading creates value and efficiency even in established fixed income markets. Benefits of futurization are especially apparent in fixed income markets as the Fed raises rates and winds down balance sheet



- ✓ **Globex Central Limit Order Book**
  - Open to all, anonymous, and transparent.
  - Potentially enables superior liquidity formation
- ✓ **Central Counterparty Clearing**
  - Multilateral netting creates more stable and more liquid market
- ✓ **Margin Offsets with Other Fixed Income Futures Products**
  - Standardized margin requirements and efficient allocation of capital
- ✓ **\$100,000 Contract Sizes**
  - Allows for higher precision trades and hedges
- ✓ **Expanded Trading Access**
  - Globex offers transparent market with extended trading hours

# Expiration of TBA Futures Results in a TBA Forward Cleared at MBSD

**Deliverable grade of MBSD Cleared TBAs ensures alignment, convergence and ability of futures position holders to exit TBAs as they do currently**

To participate in TBA futures deliveries, an account holder at any Clearing Firm would need to meet the following requirements:

- ✓ Eligible Contract Participant, as defined in CEA
- ✓ Must be capable of making or taking TBA delivery through a “Full” FICC MBSD Clearing Member that may be either affiliated or unaffiliated with the Clearing Member
- ✓ Firms that are “EPN Only” (Electronic Pool Notification) Only Clearing Members of MBSD are not considered eligible to fulfill TBA futures deliveries either for itself or on behalf of other customers
- ✓ Customers of Clearing Members without affiliated MBSD Clearing Member are permitted to use unaffiliated MBSD Clearing Member to fulfill futures delivery of MBSD Cleared TBAs

# Conversion from Futures to Forward happens just before 72-hour day

## Hypothetical Example – Taking Delivery on a December 2022 position

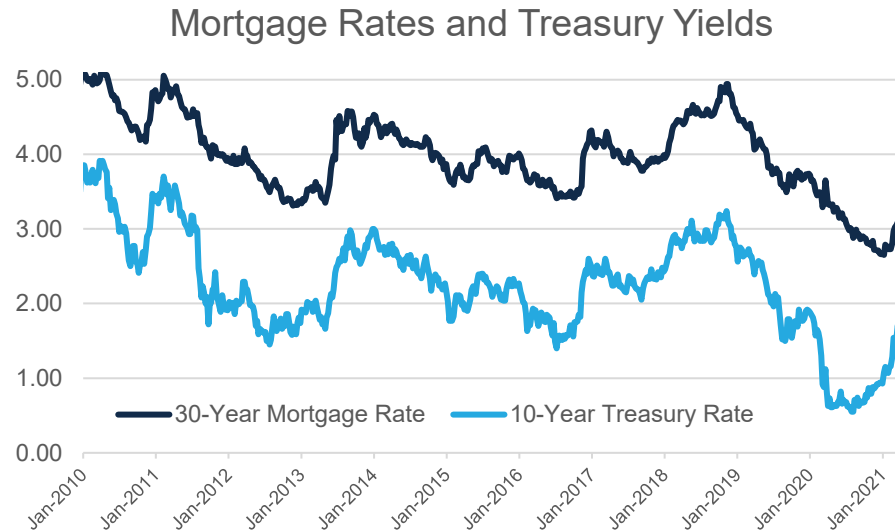
Nov 10	Account K buys 1000 TBA futures (\$100 mln notional face value) for December 2022 delivery of UMBS 30-Year 4.5% TBAs. Price = 103-16
Nov 10 to Dec 6	Futures subject to daily marks-to-market
Dec 6	<p>Futures Last Trading Day</p> <p>Final settlement price = 104-16. Cumulative p&amp;l on Account K's position = \$ 1,000,000 (equal to \$31.25 per 1/32<sup>nd</sup> per contract x 32/32<sup>nds</sup> x 1000 contracts)</p> <p>CME Clearing assigns Account K's 1000 open long contracts to become TBA buyers from open short contracts assigned (by CME Clearing) to become TBA sellers. By 5pm CME Clearing notifies Account K's clearing member of accounts matched to become TBA sellers to Account K.</p>
Dec 7	<p>Futures Delivery Day.</p> <p>Account K's clearing firm ensures that Account K makes and receives TBA Confirmations. Account K becomes December 2022 TBA buyer, and short futures position holder(s) matched by CME Clearing to Account K become(s) December 2022 TBA seller(s), of \$100 mln face value of UMBS 30-Year 4.5% MBS at 104-16.</p>
Dec 8	MBSD Netting Day (72-Hour Day)
Dec 9	SIFMA TBA Notification Day (48-Hour Day)
Dec 13	SIFMA TBA Settlement Day

December 2022						
SU	MO	TU	WE	TH	FR	SA
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

TBA Future converted to TBA Forward

# Market Background for TBAs and MBS

	Daily Volume (\$B, in 2021)	% of total
Specified Pools	\$30.4	11%
TBA GNMA	\$61.2	22%
TBA UMBS 15yr	\$17.8	6%
<b>TBA UMBS 30yr</b>	\$168.0	61%
<b>Total</b>	<b>\$277.5</b>	<b>100%</b>



Sample Volume Distribution (\$billions) for TBA UMBS 30yr  
by Coupon and Settlement date  
Using trade date Aug-04-2022

	<=2%	2.5%	3%	3.5%	4%	4.5%	>4.5%	Total
Aug settle	\$13	\$14	\$16	\$18	\$39	\$29	\$14	\$144
Sep settle	\$12	\$12	\$11	\$14	\$29	\$18	\$7	\$103
Oct settle	*	\$0	*	\$3	\$6	\$2	\$2	\$12
All months	\$25	\$26	\$27	\$35	\$73	\$49	\$23	\$259

# Example CME Direct Trading Grid for TBA Futures

To expedite your set-up on CME Direct, download a template grid from the website

X	CC	Product	Description	+	Qty	Bid	Ofr	Qty	Volume
- Sep-outright									
x	20U	30-Year 2.0% Coupo...	Sep22		100	H 92'030	92'050	L	1
x	25U	30-Year 2.5% Coupo...	Sep22		1	H 91'310	97'000	L	1
x	30U	30-Year 3.0% Coupo...	Sep22		100	H 97'310	98'000	L	10
x	35U	30-Year 3.5% Coupo...	Sep22		1	H 98'050	98'070	L	1
x	40U	30-Year 4.0% Coupo...	Sep22		1	H 99'265	100'000	L	1
x	45U	30-Year 4.5% Coupo...	Sep22		100	H 101'075	102'085	L	1
x	50U	30-Year 5.0% Coupo...	Sep22	+	50	H 102'050	102'070	L	1
- Dollar Rolls									
x	30U	30-Year 3.0% Coupo...	Sep22/Oct22		1	H 0'020	0'025	L	1
x	40U	30-Year 4.0% Coupo...	Sep22/Oct22		90	H 0'000	0'001	L	10
x	45U	30-Year 4.5% Coupo...	Sep22/Oct22		1	H 0'040	0'047	L	9

# 1/16<sup>th</sup> increment available for block spreads, reported as 2-level prices

Spread block trades executed at 1/16 of 1/32 (0.001953125) can be reported by splitting quantities 50/50 across price levels of 1/8

**Add Deal - GEN: 2-Year U.S. Treasury Note Future +2 Mar21, -1 Jun21, -1 Jun21**

Deal Cross CME Group | CME Direct

Product: 26: 2-Year U.S. Treasury Note Future Strategy: Custom Trade type: Block Clearing: CME

Terms: Price: Quantity: Unit: Price Legs

Disp...	Ratio	Product	Term	Price	Quantity	Units	Settlement Price
BUY	-	+ 26: 2-Year U.S. Treasury Note	Mar21	110'103	100	Contracts/Month	Requesting...
SELL	-	+ 26: 2-Year U.S. Treasury Note	Jun21	110'101	50	Contracts/Month	Requesting...
SELL	-	+ 26: 2-Year U.S. Treasury Note	Jun21	110'102	50	Contracts/Month	Requesting...

GEN: 2-Year U.S. Treasury Note Future +2 Mar21, -1 Jun21, -1 Jun21 Add leg

**Buyer** Alleged Aggressor Affirmed Ted Carey/BKR6

**Seller** Alleged Aggressor Affirmed Ted Carey/BKR6

Notes: Requires affirmation Add another

Exec date: 04 Mar 2021 Exec time: 13:14:30

Fees (F4) Save draft (F5) Submit to clearing (F12) Close

## Participant trades Mar-Jun spread at 3/16<sup>th</sup>

Mar'21 side is booked at 100 at 3/8<sup>th</sup> (6/16<sup>th</sup>)

Jun'21 side is booked with quantity split across two price levels, 50 at 1/8<sup>th</sup> and 50 at 2/8<sup>th</sup> for an average of 3/16<sup>th</sup>.

Participants have 15 minutes to submit block trades



## CME provides 2 types of RFQ functionality for “on-demand” liquidity

Category	Globex RFQ (G-RFQ)	Directed RFQ (D-RFQ)
<i>Visible to</i>	All Market Participants, sender is anonymous	1 or more specific recipients, sender is identified
<i>Initiated On</i>	CME Direct, many ISVs, proprietary systems	CME Direct only*
<i>Commonly Used For</i>	Indication of Interest Enables others to improve CLOB liquidity	Initiating a Block Trade
<i>Current Usage</i>	~5,000 per day for Interest Rate Options	Initial adoption by Energy and FX Options
<i>Availability</i>	All CME Group Futures & Options markets	

\*dRFQ API access is in pipeline

# TBA Codes & Expiry Calendar

## Examples:

- 3.5s for Dec 2022 settle
  - CME: 35UZ2
  - Bloomberg: JYDZ2 Comdty
- 4.0s for Jan 2023 settle
  - CME: 40UF3
  - Bloomberg: JYEF3 Comdty

Product	CME Symbol	Bloomberg Ticker
30-Year UMBS TBA Futures - 2.0% Coupon	20U	JYAA Comdty
30-Year UMBS TBA Futures - 2.5% Coupon	25U	JYBA Comdty
30-Year UMBS TBA Futures - 3.0% Coupon	30U	JYCA Comdty
30-Year UMBS TBA Futures - 3.5% Coupon	35U	JYDA Comdty
30-Year UMBS TBA Futures - 4.0% Coupon	40U	JYEA Comdty
30-Year UMBS TBA Futures - 4.5% Coupon	45U	JYIA Comdty
30-Year UMBS TBA Futures - 5.0% Coupon	50U	JYPA Comdty

	TBA Futures		TBA Forward Dates (per SIFMA)	
Contract	Last Trade Date	Expiry / Delivery	Notification Day	Settlement Day
<b>Dec-2022</b>	06-Dec-2022	07-Dec-2022	09-Dec-2022	13-Dec-2022
<b>Jan-2023</b>	05-Jan-2023	06-Jan-2023	10-Jan-2023	12-Jan-2023
<b>Feb-2023</b>	06-Feb-2023	07-Feb-2023	09-Feb-2023	13-Feb-2023
<b>Mar-2023</b>	06-Mar-2023	07-Mar-2023	09-Mar-2023	13-Mar-2023

## 30-Year UMBS TBA Futures- *Contract Specifications*

<b>Deliverable Grade Issuers</b>	Fannie Mae and Freddie Mac
<b>Deliverable Mortgage Term</b>	30-Year
<b>Deliverable Grade Coupons</b>	For a given Delivery Month, futures are listed by the Exchange for delivery of each of a small number of specified active (current-production) mortgage coupon rates (eg, 1.5%, 2.0%, 2.5%, 3%, 3.5%, 4%). Each Coupon Rate will be listed as separate product with a unique product code.
<b>Deliverable Grade and Size</b>	\$100K face value of MBS-cleared 30-year UMBS TBA at a given coupon rate. Deliveries must be made in 10 contract increments with combined deliveries of \$1 mln face value of MBS-cleared 30-year UMBS TBA at a given coupon rate. Non-deliverable positions of less than 10 contracts will be cash-settled at expiration.
<b>Qualification for Physical Delivery</b>	10 contract increments
<b>Price</b>	Par is on basis of 100 points. Each point = \$1,000 per contract.
<b>Minimum Price Increment</b>	1/4 of 1/32 <sup>nd</sup> of one point (\$7.8125 per contract). 1/8 of 1/32 <sup>nd</sup> for intra-market calendar spreads (\$3.90625 per calendar spread), with block trades eligible for 1/16 <sup>th</sup> of 1/32 <sup>nd</sup>
<b>Listed Delivery Months</b>	Nearest 3 calendar months at any given time
<b>Last Trading Day (LTD)</b>	For a given Delivery Month, 3 Exchange business days before SIFMA TBA Notification Day. Expiring contract ceases trading at 2pm Chicago time (CT).
<b>Delivery Day</b>	Business day following Last Trading Day
<b>Settlement/Delivery</b>	Assignment of an expiring MBS-cleared TBA for the contract-grade mortgage coupon rate. After termination of trading, CME Clearing assigns 10 open long futures positions as buyer, and 10 open short positions as seller, of contract-grade TBA.  By 5pm Chicago time on LTD, CME Clearing notifies clearing member firms carrying open positions in expiring futures of accounts holding long positions in expiring contracts who are assigned to become TBA buyers from accounts holding short positions in expiring contracts. CME Clearing makes delivery assignments directly to accounts of expiring long and short positions matched during futures delivery process.

## For More Info

1. Visit [www.cmegroup.com/tba](http://www.cmegroup.com/tba)
2. Contact your representative from CME Client Development & Sales
3. Contact Ted Carey, Senior Director, Product Manager for Long-Term Rates Products  
[Ted.Carey@cmegroup.com](mailto:Ted.Carey@cmegroup.com)  
212-299-2020

# Appendix

## Details of TBA Futures delivery process

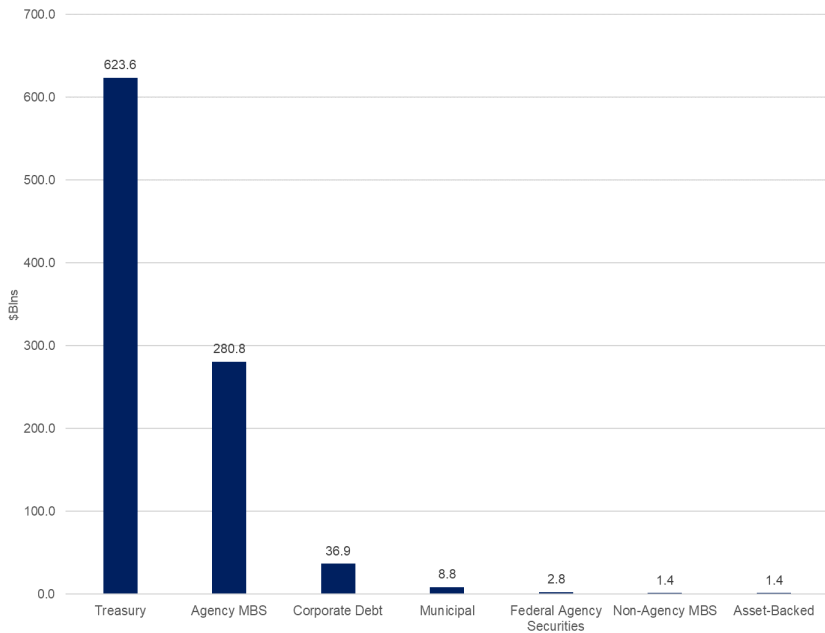
# TBA Background and CME Group TBA Futures

## What is the TBA market, why is it important, and what is CME doing?

- Established in the 1970s, the To-Be-Announced (TBA) market facilitates **forward** trading of generic exposures in residential mortgage-backed securities (MBS) issued by the GSEs (Fannie Mae (FNMA), Freddie Mac (FHLMC), and Ginnie Mae (GNMA)).
  - The generic, forward-starting features of the TBA mechanism have contributed to development of deep liquidity
  - TBA market fosters standardization of MBS pools by stipulating standards for goodness of delivery in fulfillment of TBA agreements
  - Codification of TBA market practices is built upon “Good-Delivery Guidelines” promulgated and maintained by SIFMA
  - Since 2011 TBA trading accounts for more than 90% of all Agency MBS transaction volumes (TBA + MBS)
- On Oct 3 2022, CME will be launching **futures** on TBA forwards.

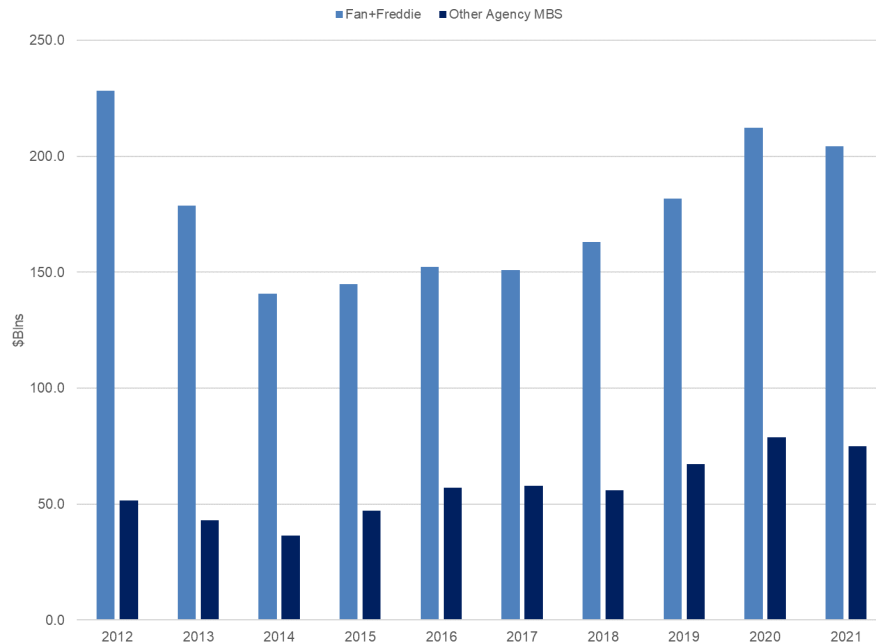
# Agency MBS is the 2<sup>nd</sup> largest fixed income market, and has grown from 2017-2021

**US Fixed Income Cash Markets: Agency MBS products are second only to US Treasuries, accounting for about 30% of bond market volume (well ahead of Corporate Bonds, Munis)**



• Source: FINRA Trace, NY Fed

**Agency MBS Volume: Fannie & Freddie TBAs account for 70%+**



# TBA Futures-Deliveries

## Timetable for Deliveries

1. Clearing Members would be required to report details of open interest to the CME Clearing Delivery Team by 8pm Central Time (CT) during the last three trading days in expiring futures, which is similar to reporting process for MAC Swap futures.
2. Last Trading Day (LTD), three exchange business days prior to SIFMA TBA Notification Date, CME Clearing:
  - *assigns 10 open long futures positions as buyer, and 10 open short positions as seller, of an expiring contract-grade TBA*
  - *makes delivery assignments directly to accounts of expiring long and short positions matched during futures delivery process*
  - *notifies each clearing member firm carrying open positions in expiring futures of accounts assigned to become TBA buyers (sellers) versus short (long) positions in expiring contracts held in accounts carried by the clearing member firm*
3. Delivery Day, business day following LTD, Clearing Member ensures that accounts participating in the delivery process make and receive TBA confirmations



# TBA Futures-Deliveries

## Delivery Process-Last Trading Day

- Trading in expiring contract month ceases at 2pm CT
- Clearing members are required to report intentions by 4pm CT
- CME Clearing makes delivery assignment information available at 5pm CT
- Delivery matching will occur in the following order:
  1. Clearing members' long and short positions
  2. Pro-rata
- Firm Notification Reports will be made available to Clearing Members following assignment. Reports must include:
  1. Clearing Member Firm (CMF)
  2. Trade Member Firm (TMF)
  3. Origin
  4. Contract
  5. Quantity

# TBA Futures-Deliveries

## Delivery Process-Delivery Day

- TBA buyers and sellers are required to provide confirmation of TBA transfer to the CME Clearing Delivery Team
- Final Confirmations-Clearing members are required to provide CME Clearing Delivery Team TBA confirmation details by 3pm CT
- Clearing members must report nonreceipt within one hour after the delivery deadline
- Cash-settlement of positions that are not in increments of 10 contracts. Cash-settlement based on the Final Settlement Price on the Last Trading Day of these non-deliverable positions.
- Delivery margin removed at EOD (End of Day)
- Delivery process complete from Exchange perspective

# Confirmations of TBA Transactions

*Contain the following information applicable to the securities being confirmed:*

- description of security, including settlement month, coupon rate, and product type;
- confirming party's name, address and telephone number;
- identification of the "contra party";
- designation of "purchase from" or "sale to";
- price and par amount;
- trade date;
- settlement date;
- unless covered by a separate agreement, reference to material provisions of any applicable initial margin or mark-to-market requirements; and
- any other information needed to ensure that the parties agree on important details of the transaction (e.g., specific certificate denominations, additional information for "new pools" dated the same month as they are settled).

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