

US Treasury “Classic” Bond Futures

Describing the Gap in the Delivery Basket & Presenting Potential Options to Address

November 2013

Agenda

US Treasury Bond Futures – Gap in Delivery Basket

Potential Options to Address Gap in Delivery Basket

- Option A – Maintain Status Quo
- Option B – Preemptively Exclude Bonds with Shortest Terms to Maturity
- Option C – Strategic Option: Redefine Deliverable Terms to Maturity

Note: Currently, the deliverable basket of US Treasury Bond futures consists of Treasury Bonds with remaining terms to maturity of at least 15 years and less than 25 years.



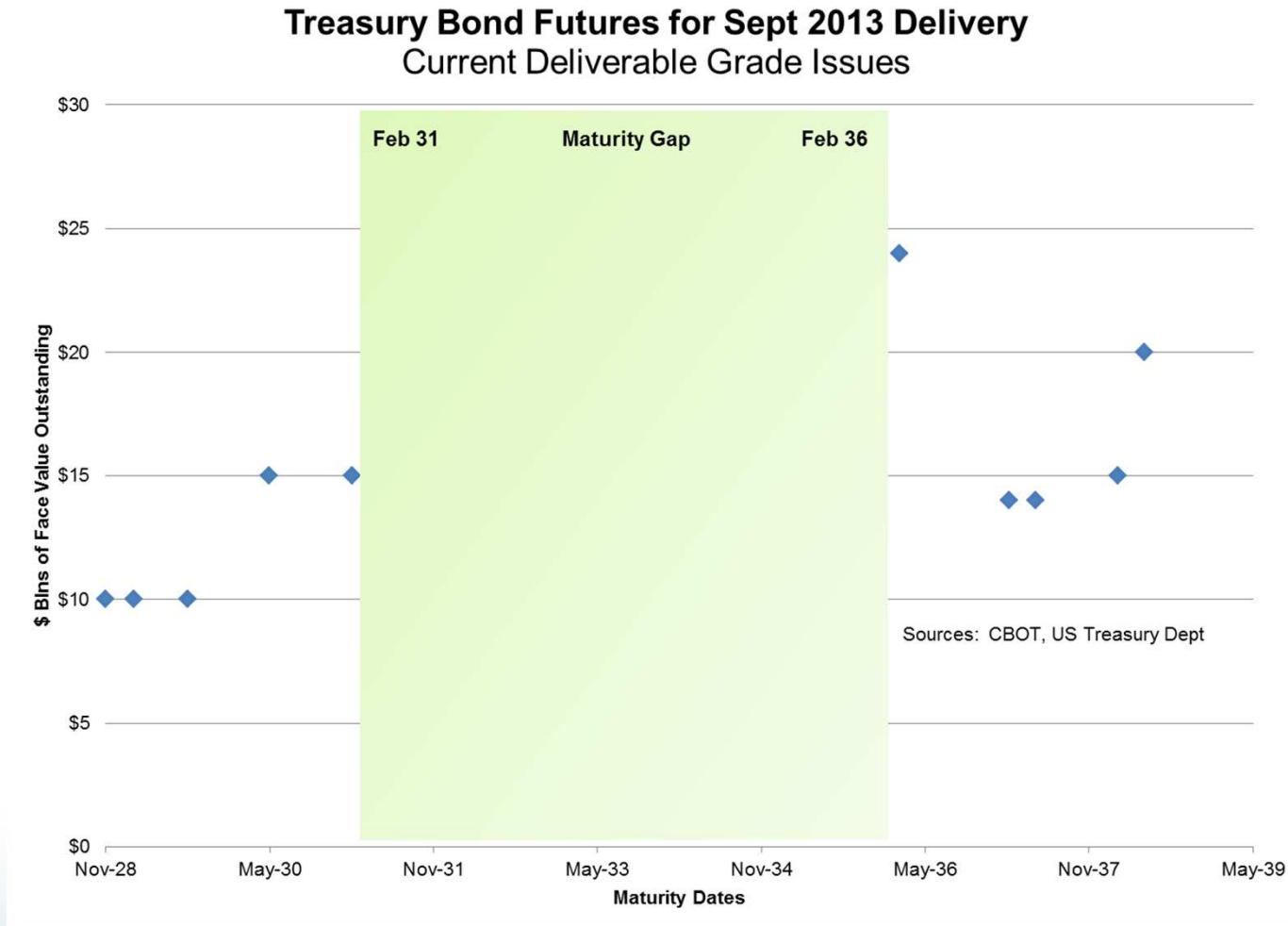
Treasury Bond Futures Delivery Basket Issue

5-Yr maturity gap in current delivery basket of Treasury Bond futures

- Result of Treasury's suspension of bond issuance between early 2001 and early 2006
- Maturity gap is not considered a significant issue for currently available expiration months. Possible changes are only being considered for contract months that have yet to be listed.
- Number of close candidates for cheapest-to-deliver (CTD) will be diminished to a few short dated issues that are isolated
 - Short-dated issues are isolated in terms of futures equivalent prices from rest of basket
- For the Sep 2014 through Mar 2015 delivery months, the leading candidates for CTD will be limited to two bonds with combined outstanding supply of \$33.5 bln
- Bond futures for delivery in Jun, Sep, and Dec 2015 will pivot upon a single CTD candidate -- 5-3/8 of Feb 2031 -- with outstanding supply of \$16.4 bln

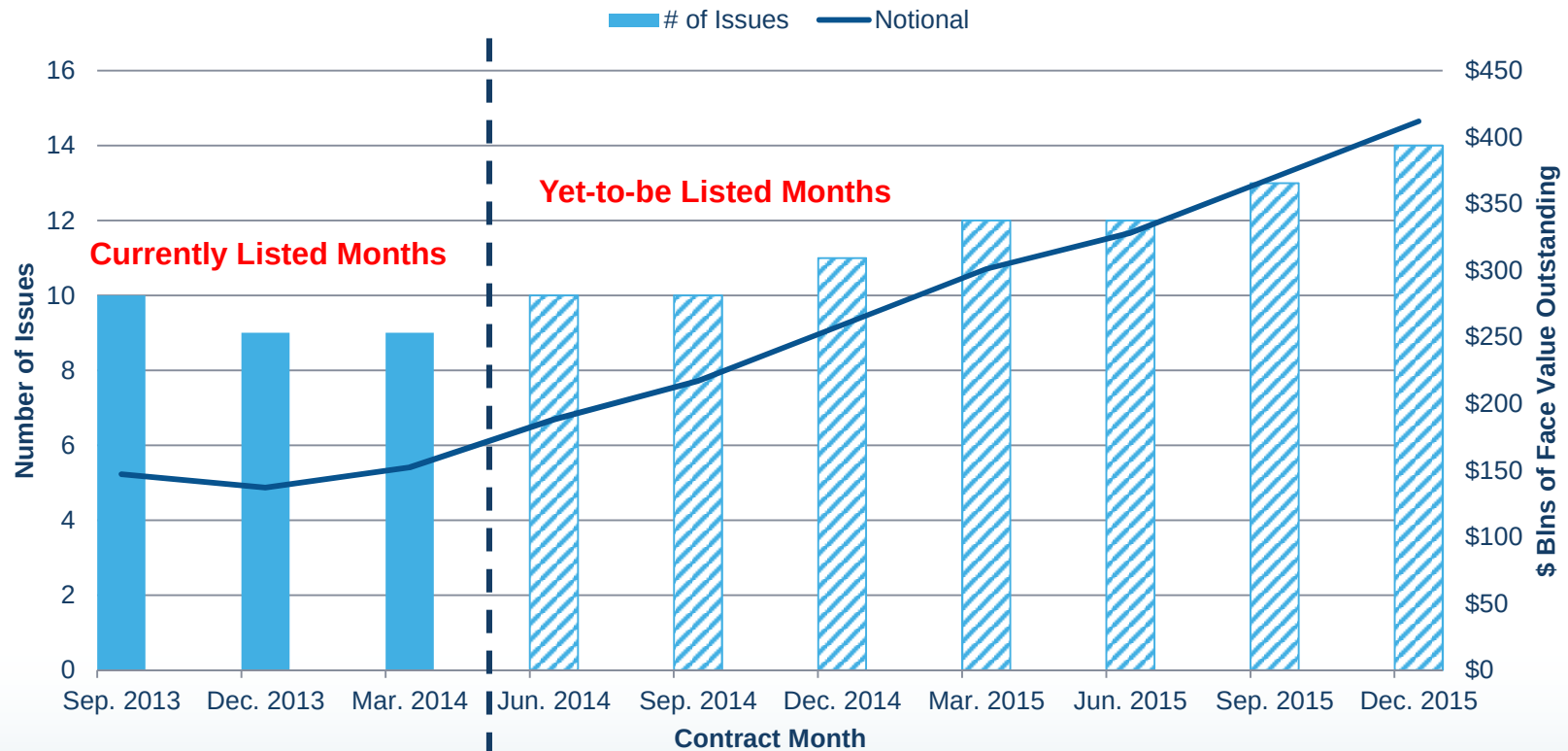


Current front month has multiple competitors for cheapest status



Basket size is still significant but...

Treasury Bond Futures-Delivery Basket # of issues & cumulative size of baskets

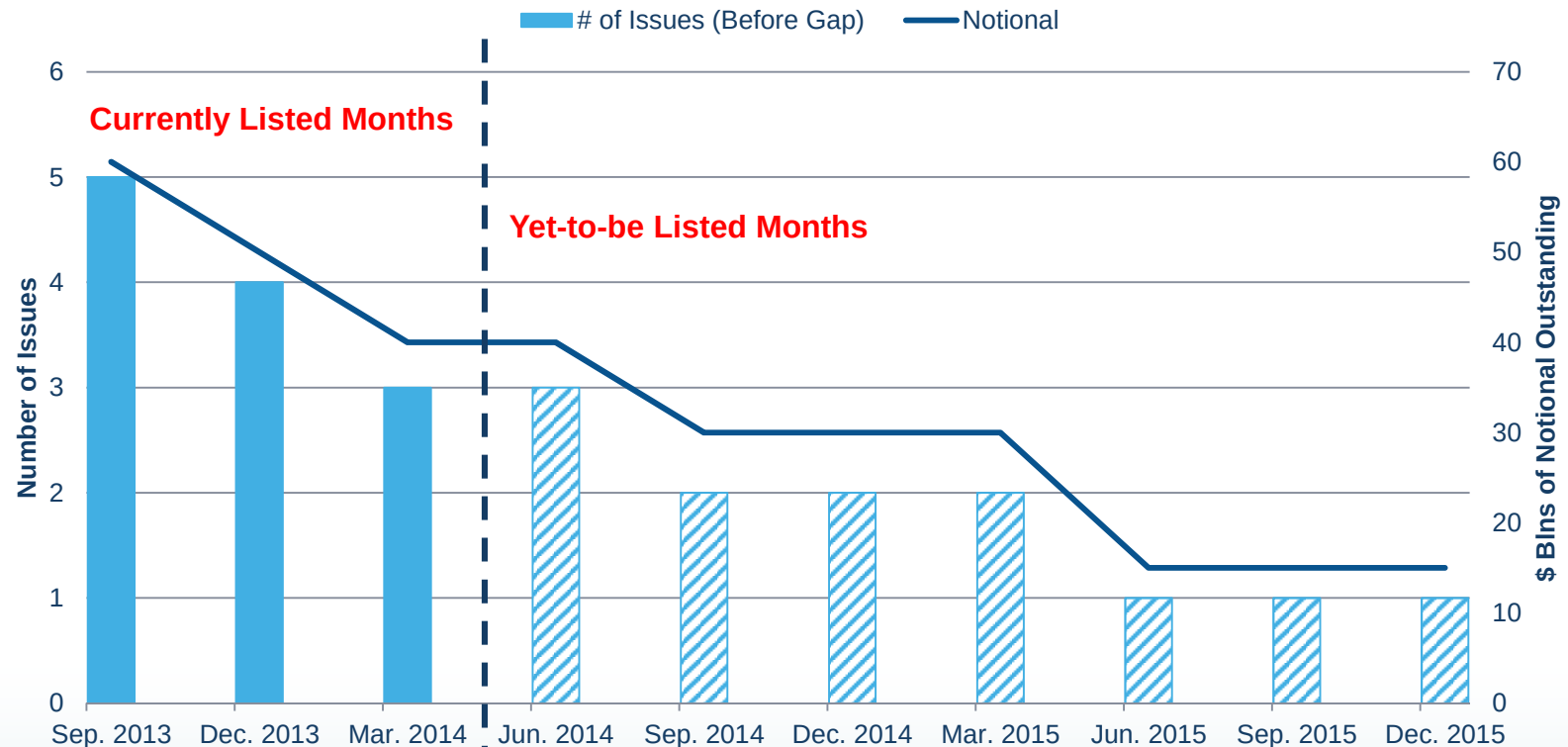


Source: CBOT



...basket size before gap is diminishing

Treasury Bond Futures-Delivery Basket
of issues & cumulative size of basket before gap

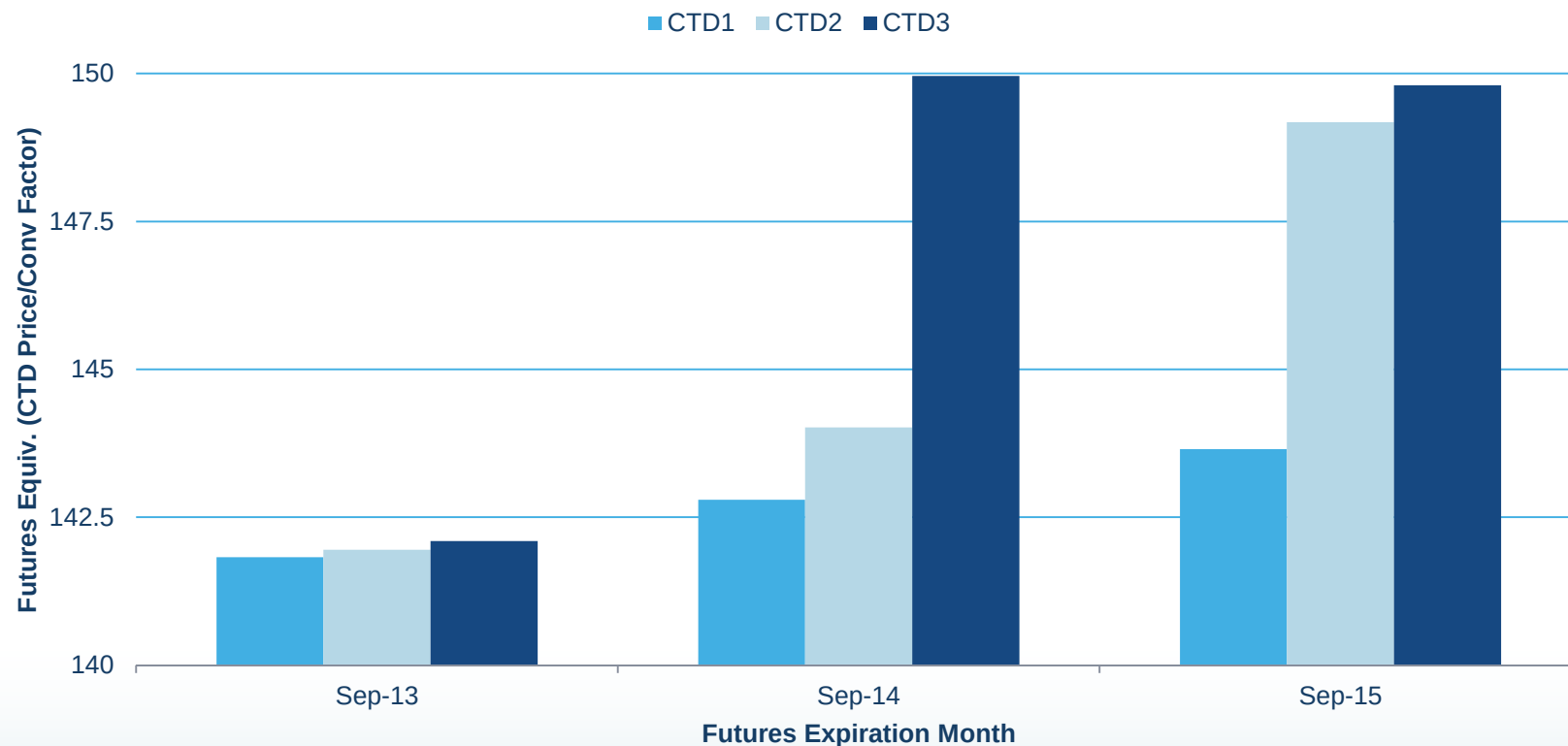


Source: CBOT



Gap will increase price differences of cheapest to deliver

Futures Equivalent Prices
Three Cheapest to Deliver Bonds (Sept '13, '14, '15)



Sources: Bloomberg, CBOT



Option A

Maintain status quo

Option A – Maintain status quo

Make no changes to deliverable grade of Treasury Bond (US) futures.

Number of close candidates for cheapest-to-deliver (CTD) status gradually shrinks to one bond, until Mar 2016 delivery when minimum deliverable-grade term to maturity jumps from approx 15 years to approx 20 years.

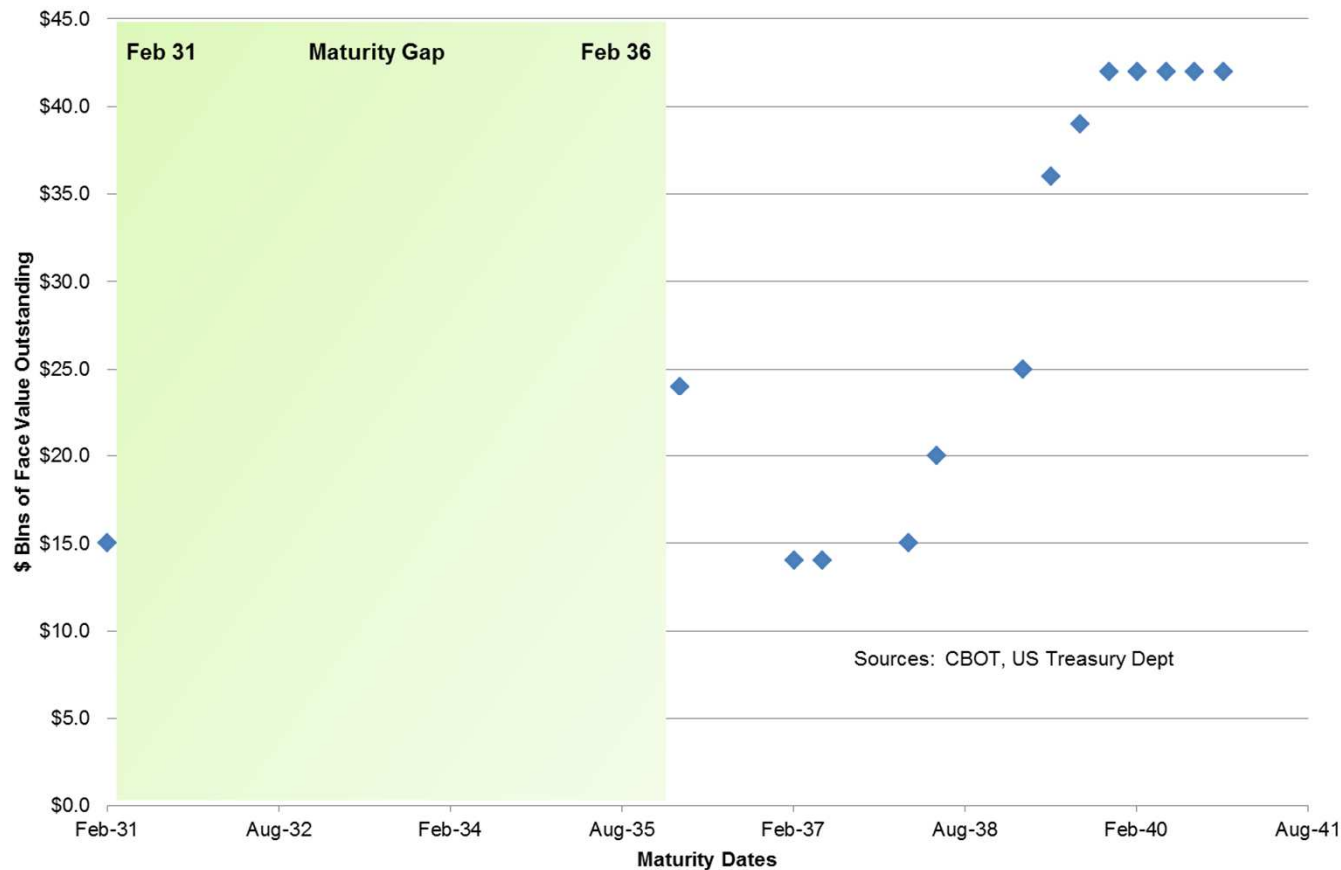
CMEG would address concerns over decreasing supply of likeliest CTDs through heightened market surveillance and review of position limits on expiring futures.

Benefits/Risks

- Maintains continuity in Treasury futures “rules of the game.”
- Difference in futures delivery invoice prices between Feb 2031 and Feb 2036 for Sept 2013 (USU3) is approximately 5 points (ie, 160 ticks).
- Would heightened market surveillance alone suffice to overcome potential concerns?

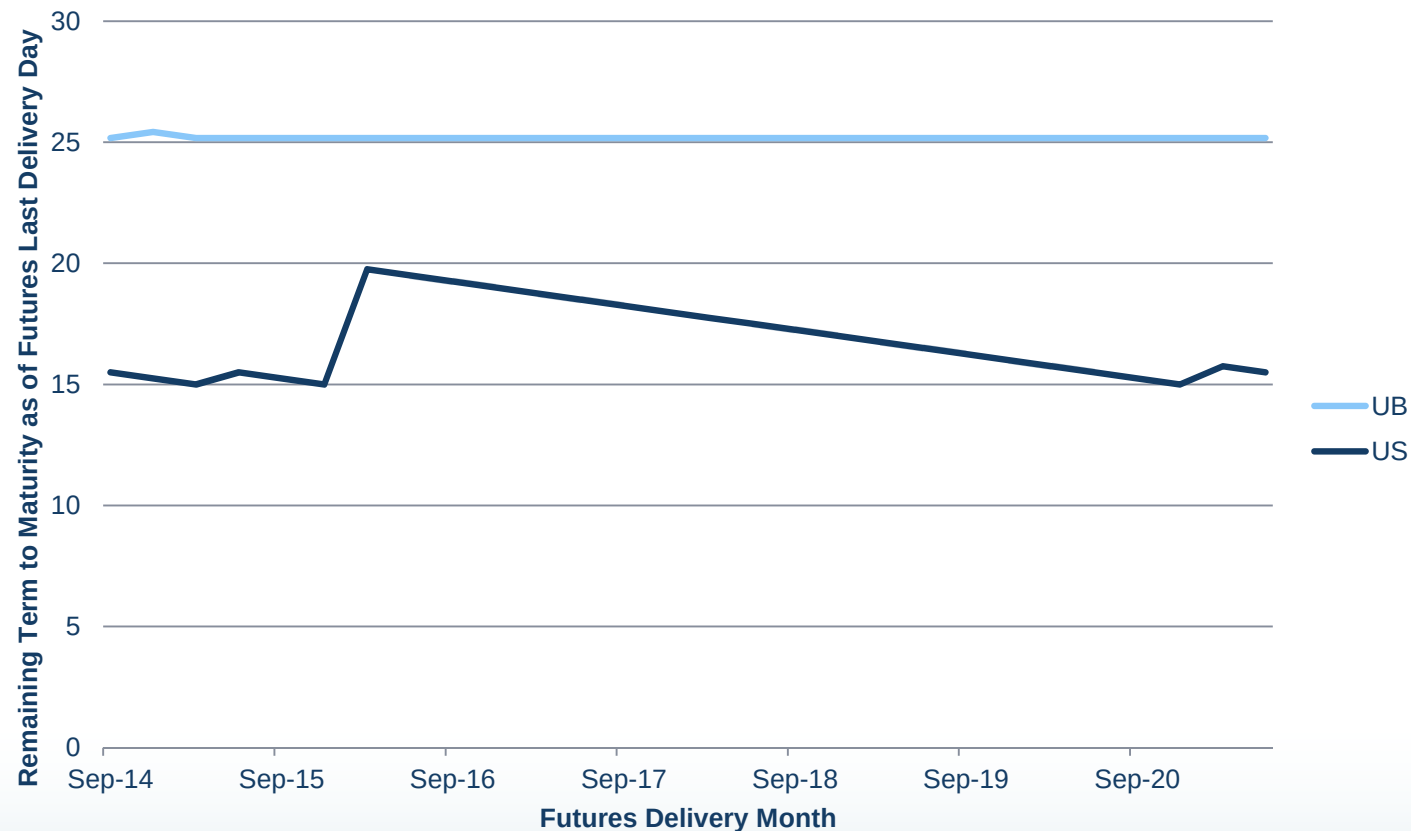
Diminishing number of issues at front end of basket for Jun 2015 through Dec 2015 deliveries --

Treasury Bond Futures for Dec 2015 Delivery
Projected Deliverable Grade Issues-Option A



No change might maintain current term-to-maturity relationship between US & UB as long as possible --

**Shortest Deliverable Term to Maturity
Option A - T-Bond (US) and Ultra T-Bond (UB)**



Sources: CBOT, US Treasury Dept



Option B

Exclude Shortest Bonds

Option B – Preemptively exclude bonds with shortest terms to maturity

Preemptively exclude a bond (or two) from delivery eligibility. Delivery months under consideration include --

- a) Jun15, Sep15, Dec15 (1 issue, \$16.4 bln total face value)
- b) Possibly also Sep14, Dec14, Mar15 (2 issues, \$33.5 bln total face value)

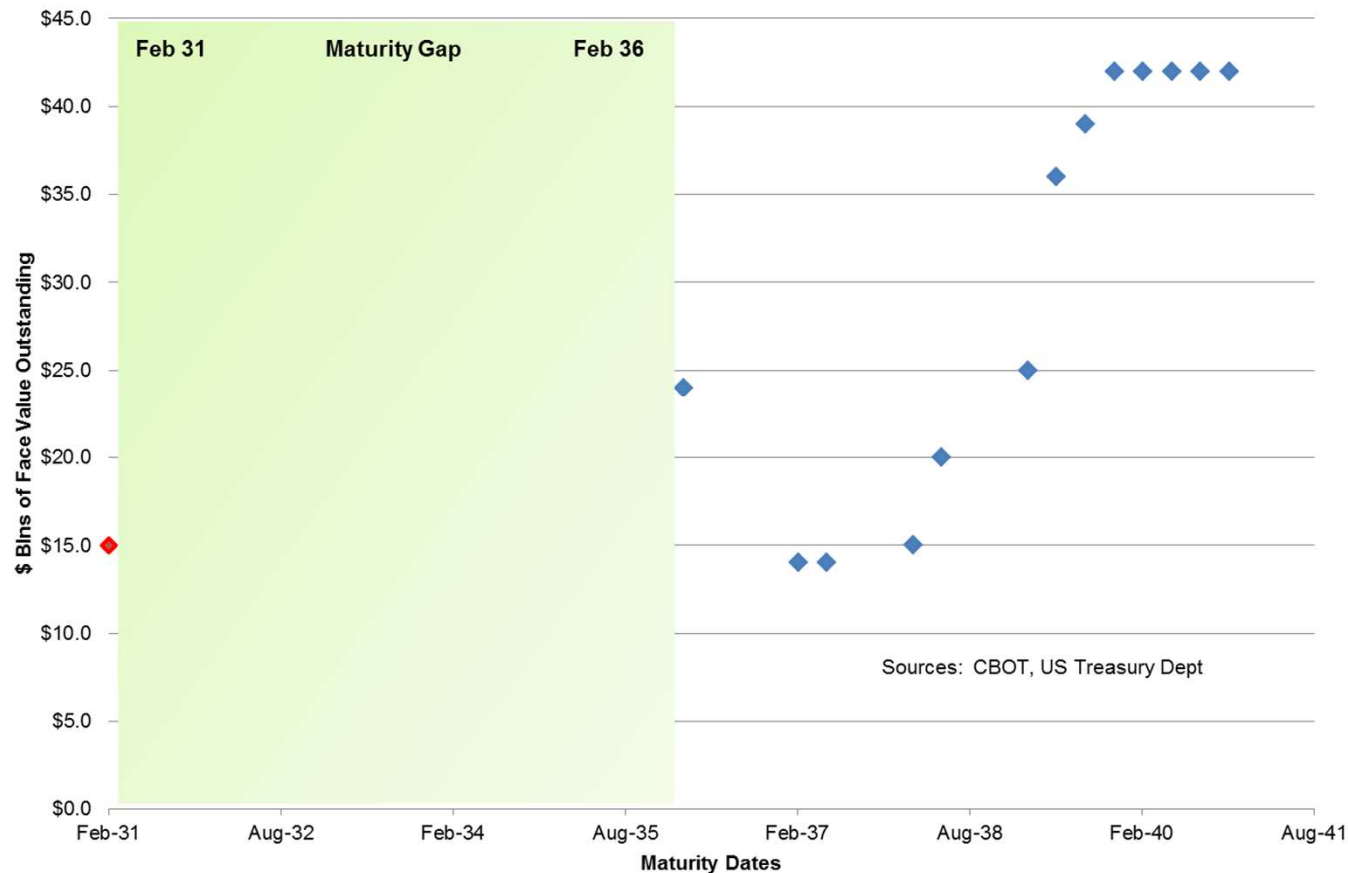
Benefits/Risks

- Accelerates jump in minimum deliverable term to maturity, before the number of likeliest candidates for CTD has fallen to one or two (isolated) bonds.
- Risk of perception that Option B is more disruptive than Option A.
- If implemented for Sep 2014 delivery, difference in term to maturity between US and UB CTDs would shrink to less than 4 years (gradually widening thereafter).
 - ❖ Higher correlation between US & UB may result in development of one long-end liquidity pool.
- Would this change result in more or less trading and/or open interest of US and UB combined?



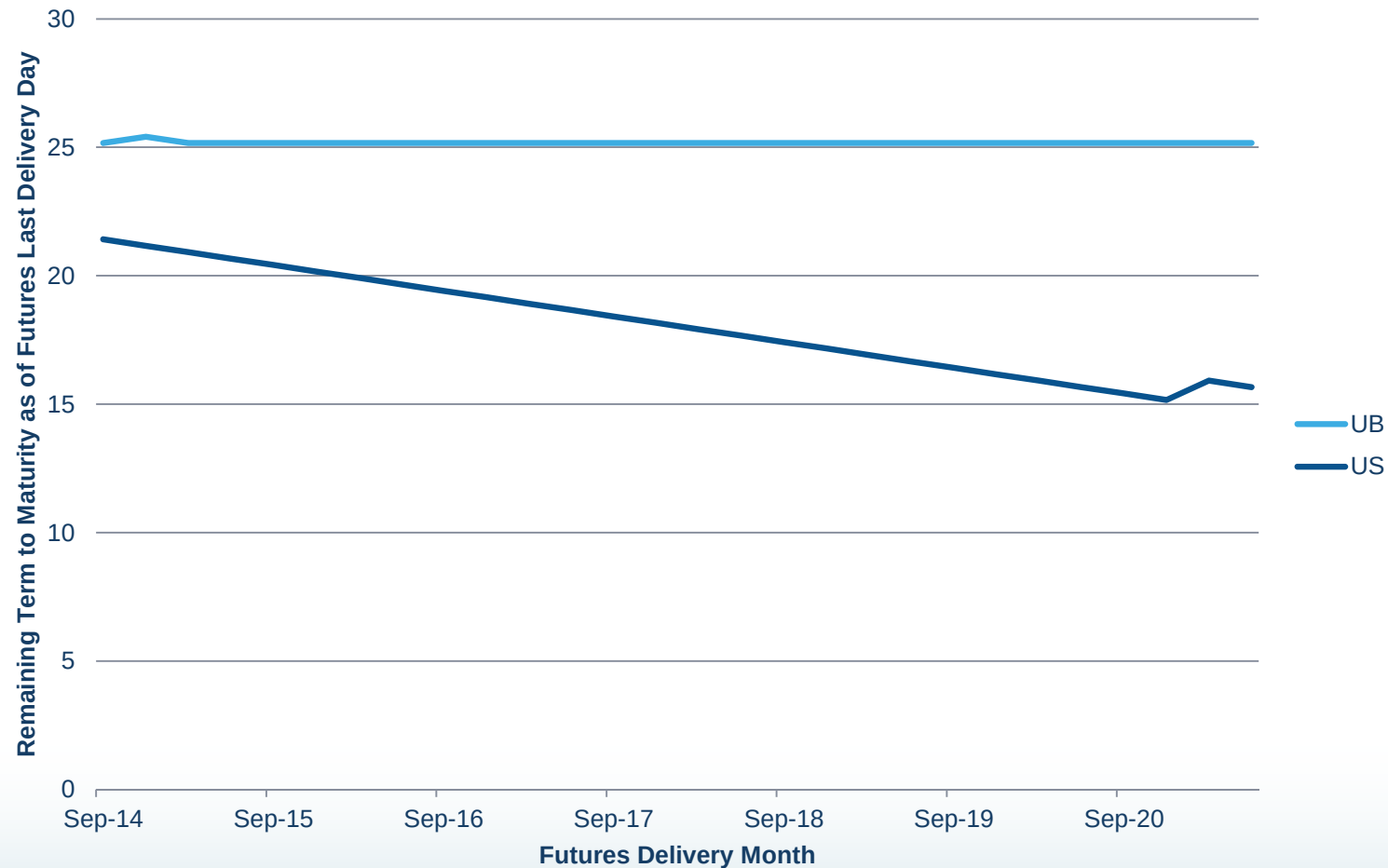
Preemptively excluding shortest-dated deliverable issues hastens the inevitable

Treasury Bond Futures for Dec 2015 Delivery
Projected Deliverable Grade Issues-Option B



US & UB CTD terms to maturity become closer sooner

Shortest Deliverable Term to Maturity Option B - T-Bond (US) and Ultra T-Bond (UB)



Sources: CBOT, US Treasury Dept



Option C

Redefine Terms to Maturity

The Strategic Option

Option C -- Redefine Deliverable Terms to Maturity

Strategic Option: Change deliverable-grade terms to maturity.

Currently, bonds eligible for delivery into US must have remaining terms to maturity of at least 15 years and less than 25 years.

Redefining basket could result in:

- Shifting shortest term to maturity to something between 10 and 15 years
- Shifting longest term to maturity to something between 20 and 25 years

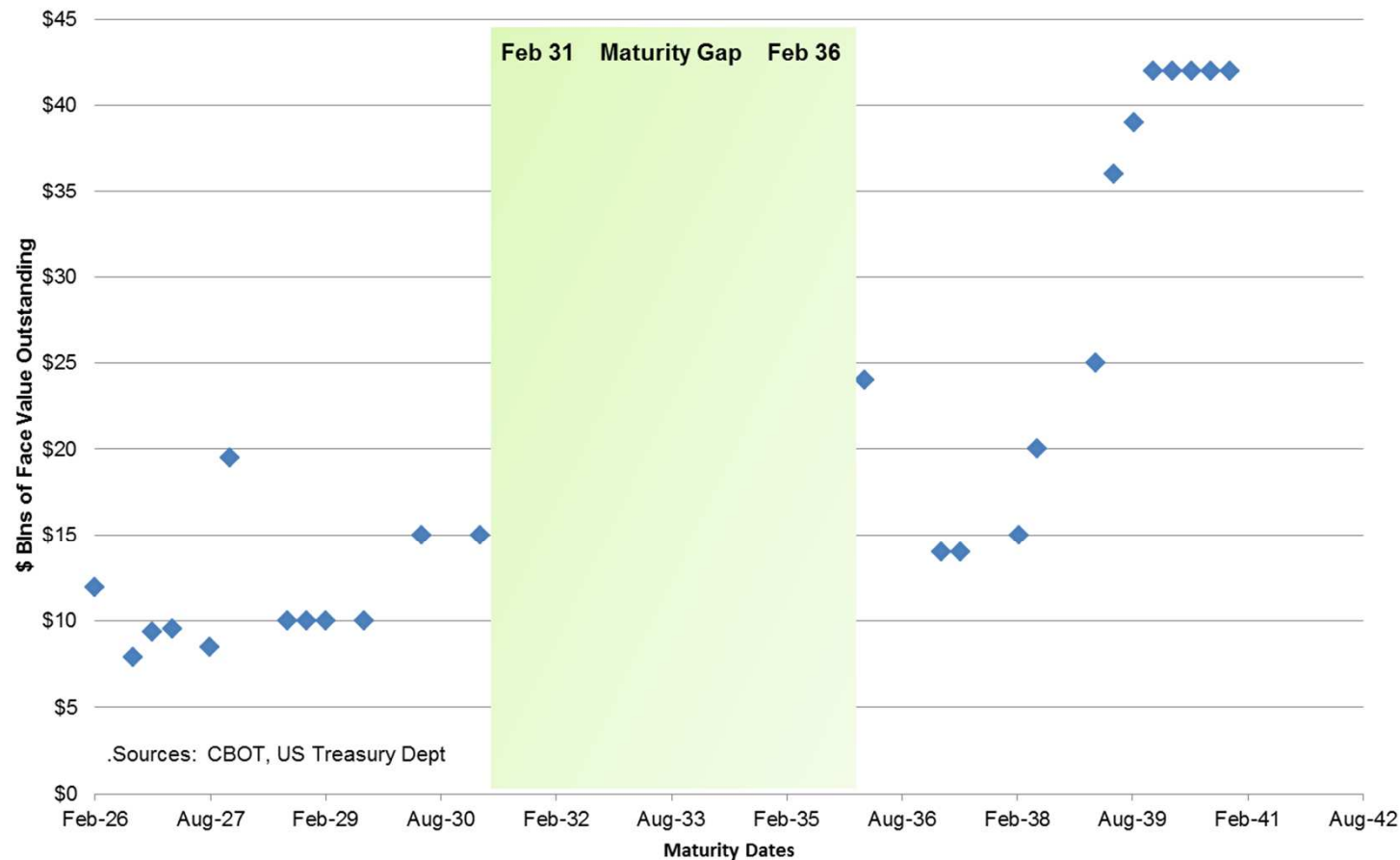
Benefits/Risks

- Potential to position US for longer-term viability.
 - Opportunity to get closer to benchmark 10yr point and allow UB to stand alone on long end
 - Capping back end could create better balance if much higher rates produced shift of CTD from front to back of all baskets: 2Yr (TU), 5Yr (FV), 10Yr (TY), 20-22 Yr? (US), 30Yr (UB)
- Maturity gap still needs to be addressed, possibly in 2020-2021. Option C will continue to provide flexibility to adjust to market conditions with transparency to all market participants as well as create better outcomes for US and UB than Options A or B.
- Risk that this option is perceived to produce most significant changes.
- Would this result in more or less trading and/or open interest of TY, US, and UB combined?



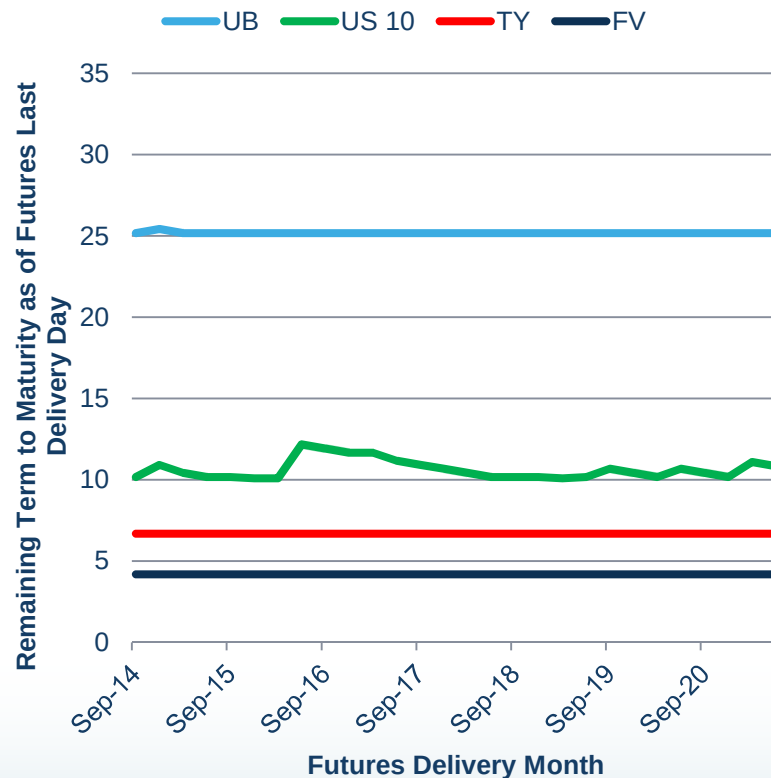
Redefining US deliverable grade may delay gap's impact

Treasury Bond Futures for Dec 2015 Delivery--
Deliverable Grade Issues Under Option C
(10Yrs $\leq$ m < 25Yrs)

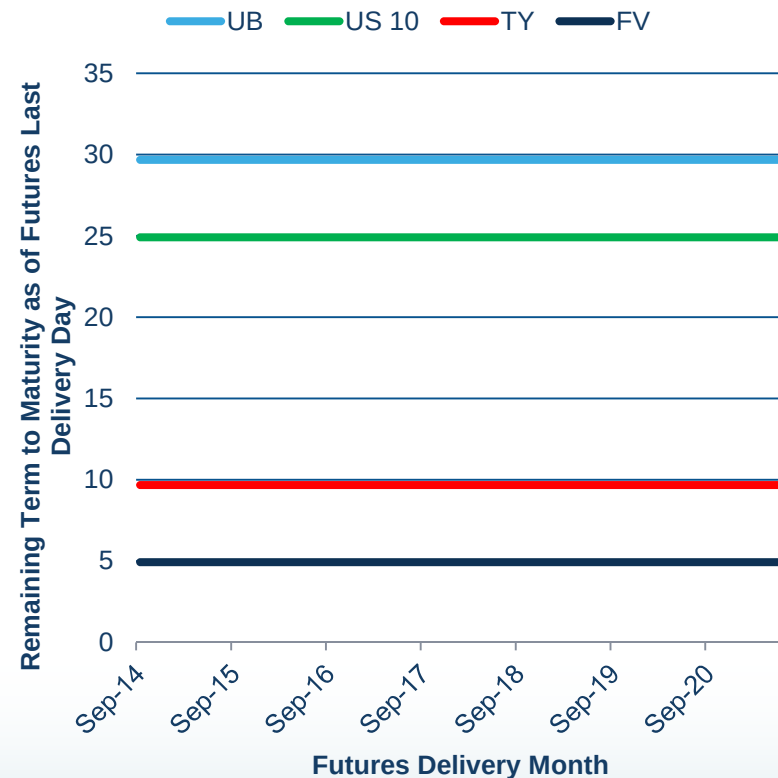


...and creates new balance between UB, US, TY, with US CTD initially closer to 10 year maturity point

Shortest Deliverable Term to Maturity Option C- US 10Yrs+(FV,TY, US, UB)



Second Longest Deliverable Term to Maturity-Option C



Next Steps

CME Group wants to hear from you! You are encouraged to reach out to one of the following to arrange a follow up call or meeting to provide your feedback and recommendations:

1. Call or email your primary contact on the CME Group's Client Development & Sales team
2. Email the relevant members of the Interest Rate Products team at bondbasket@cmegroup.com

Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes	Becomes
Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month	Front Month
Dec-13	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16	Nov-16	Mar-17	Jun-17	Sep-17				

BOND FUTURES CONTRACT

OPTIONS A & B

	Maturity Date	SOMA*	Jun. 2013	Sep. 2013	Dec. 2013	Mar. 2014	Jun. 2014	Sep. 2014	Dec. 2014	Mar. 2015	Jun. 2015	Sep. 2015	Dec. 2015	Mar. 2016	Jun. 2016	Sep. 2016	Dec. 2016	Mar. 2017	Jun. 2017	Sep. 2017	Dec. 2017
1.)	08/15/28	40.3%	\$11.8		Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat								
2.)	11/15/28	23.4%	\$10.9	\$10.9	15	15 3/12	15	15 6/12	15 3/12	15	15 6/12	15 3/12	15								
3.)	02/15/29	36.5%	\$11.4	\$11.4	\$11.4																
4.)	08/15/29	55.8%	\$11.2	\$11.2	\$11.2	\$11.2	\$11.2			←	Front of Deliverable Basket										
5.)	05/15/30	48.9%	\$17.0	\$17.0	\$17.0	\$17.0	\$17.0	\$17.0	\$17.0	\$17.0											
6.)	02/15/31	17.8%	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4	\$16.4								
# ISSUES, FRONT OF BASKET				5	4	3	3	2	2	2	1	1	1								
Total Outstanding Value,			\$78.7	\$66.9	\$56.0	\$44.6	\$44.6	\$33.5	\$33.5	\$33.5	\$16.4	\$16.4	\$16.4								
Front of Basket			5 YEAR GAP										5 YEAR GAP (Covers front of Deliverable Basket)								
DIFF FROM BACK OF GAP TO ULTRA			2 6/12	2 9/12	3	3 3/12	3 6/12	3 9/12	4	4 3/12	4 6/12	4 9/12	5	5 3/12	5 6/12	5 9/12	6	6 3/12	6 6/12	6 9/12	7
			Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat
			22 6/12	22 3/12	22	21 9/12	21 6/12	21 3/12	21	20 9/12	20 6/12	20 3/12	20	19 9/12	19 6/12	19 3/12	19	18 9/12	18 6/12	18 3/12	18
7.)	02/15/36	42.6%	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4	\$26.4
8.)	02/15/37	69.4%	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6	\$16.6
9.)	05/15/37	70.0%	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4	\$21.4
10.)	02/15/38	69.0%	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5	\$22.5
11.)	05/15/38	55.8%	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5	\$25.5
12.)	02/15/39	45.5%				\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9	\$25.9
13.)	05/15/39	70.0%					\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8	\$38.8
14.)	08/15/39	64.3%						\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4	\$41.4
15.)	11/15/39	56.5%							\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6	\$44.6
16.)	02/15/40	49.6%								\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9	\$44.9
17.)	05/15/40	45.4%									\$43.5	\$43.5	\$43.5	\$43.5	\$43.5	\$43.5	\$43.5	\$43.5	\$43.5	\$43.5	\$43.5
18.)	08/15/40	50.0%										\$43.2	\$43.2	\$43.2	\$43.2	\$43.2	\$43.2	\$43.2	\$43.2	\$43.2	\$43.2
19.)	11/15/40	45.8%											\$42.9	\$42.9	\$42.9	\$42.9	\$42.9	\$42.9	\$42.9	\$42.9	\$42.9
TOTAL ISSUES			11	10	9	9	10	10	11	12	12	13	14	14	15	16	17	18	19	20	21
TOTAL ISSUANCE			\$157.0	\$147.0	\$137.0	\$152.0	\$188.0	\$217.0	\$259.0	\$301.0	\$328.0	\$370.0	\$412.0	\$439.0	\$481.0	\$523.0	\$565.0	\$607.0	\$649.0	\$691.0	\$733.0

*As of 9/18/2013



BOND FUTURES CONTRACT

OPTIONS A & B

*As of 9/18/2013



BOND FUTURES CONTRACT

	Maturity Date	SOMA*																			
			Sep. 2013	Dec. 2013	Mar. 2014	Jun. 2014	Sep. 2014	Dec. 2014	Mar. 2015	Jun. 2015	Sep. 2015	Dec. 2015	Mar. 2016	Jun. 2016	Sep. 2016	Dec. 2016	Mar. 2017	Jun. 2017	Sep. 2017	Dec. 2017	
1.)	08/15/23	51.4%																			
2.)	11/15/24	52.5%																			
3.)	02/15/25	54.2%																			
4.)	08/15/25	59.2%																			
5.)	02/15/26	34.2%																			
6.)	08/15/26	55.7%																			
7.)	11/15/26	51.2%																			
8.)	02/15/27	55.9%																			
9.)	08/15/27	50.6%																			
10.)	11/15/27	48.8%																			
11.)	08/15/28	40.3%																			
12.)	11/15/28	23.4%																			
13.)	02/15/29	36.5%																			
14.)	08/15/29	55.8%																			
15.)	05/15/30	48.9%																			
16.)	02/15/31	17.8%																			
# of issues, front of basket			15	15	15	15	15	15	14	13	13	12	12	11	11	10	9	8	8	7	6
Total Outstanding Value, Front of Basket			\$ 182.3	\$ 182.2	\$ 182.2	\$ 182.2	\$ 182.2	\$ 172.6	\$ 163.1	\$ 163.1	\$ 151.9	\$ 151.9	\$ 139.1	\$ 139.1	\$ 130.3	\$ 119.4	\$ 109.9	\$ 109.9	\$ 100.7	\$ 78.7	
							5 YEAR GAP			5 YEAR GAP (Covers front of Deliverable Basket)											
			Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	
			22 5/12	22 2/12	21 11/12	21 8/12	21 5/12	21 2/12	20 11/12	20 8/12	20 5/12	20 2/12	19 11/12	19 8/12	19 5/12	19 2/12	18 11/12	18 8/12	18 5/12	18 2/12	
17.)	02/15/36	42.6%	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	
18.)	02/15/37	69.4%	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	
19.)	05/15/37	70.0%	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	
20.)	02/15/38	69.0%	\$ 15.0	\$ 15.0	\$ 15.0	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	
21.)	05/15/38	55.8%	\$ 20.0	\$ 20.0	\$ 20.0	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	
22.)	02/15/39	45.5%			\$ 25.0	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	
23.)	05/15/39	70.0%				\$															



BOND FUTURES CONTRACT

OPTION C

		Maturity Date	SOMA*	Mar. 2018	Jun. 2018	Sep. 2018	Dec. 2018	Mar. 2019	Jun. 2019															
										Sep. 2019	Dec. 2019	Mar. 2020	Jun. 2020	Sep. 2020	Dec. 2020	Mar. 2021	Jun. 2021	Sep. 2021	Dec. 2021	Mar. 2022	Jun. 2022			
1.)	08/15/23	51.4%								Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat									
2.)	11/15/24	52.5%								10 8/12	10 5/12	10 2/12	10 8/12	10 5/12	10 2/12									
3.)	02/15/25	54.2%																						
4.)	08/15/25	59.2%																						
5.)	02/15/26	34.2%																						
6.)	08/15/26	55.7%																						
7.)	11/15/26	51.2%																						
8.)	02/15/27	55.9%																						
9.)	08/15/27	50.6%																						
10.)	11/15/27	48.8%																						
11.)	08/15/28	40.3%	\$ 11.8	\$ 11.8																				
12.)	11/15/28	23.4%	\$ 10.9	\$ 10.9	\$ 10.9																			
13.)	02/15/29	36.5%	\$ 11.4	\$ 11.4	\$ 11.4	\$ 11.4																		
14.)	08/15/29	55.8%	\$ 11.2	\$ 11.2	\$ 11.2	\$ 11.2	\$ 11.2	\$ 11.2	\$ 11.2															
15.)	05/15/30	48.9%	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0	\$ 17.0												
16.)	02/15/31	17.8%	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4									
# of issues, front of basket			6	6	5	4	3	3	3	2	2	2	1	1	1									
Total Outstanding Value, Front of Basket			\$ 78.7	\$ 78.7	\$ 66.9	\$ 56.0	\$ 44.6	\$ 44.6	\$ 33.4	\$ 33.4	\$ 33.4	\$ 16.4	\$ 16.4	\$ 16.4	\$ 16.4									
----- 5 YEAR GAP (Covers front of Deliverable Basket) -----																								
			Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat	Yrs to Mat				
			17 11/12	17 8/12	17 5/12	17 2/12	16 11/12	16 8/12	16 5/12	16 2/12	15 11/12	15 8/12	15 5/12	15 2/12	14 11/12	14 8/12	14 5/12	14 2/12	13 11/12	13 8/12				
17.)	02/15/36	42.6%	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4	\$ 26.4				
18.)	02/15/37	69.4%	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6	\$ 16.6				
19.)	05/15/37	70.0%	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4	\$ 21.4				
20.)	02/15/38	69.0%	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5	\$ 22.5				
21.)	05/15/38	55.8%	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5	\$ 25.5				
22.)	02/15/39	45.5%	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9	\$ 25.9				
23.)	05/15/39	70.0%	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8	\$ 38.8				
24.)	08/15/39	64.3%	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4	\$ 41.4				
25.)	11/15/39	56.5%	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6				
26.)	02/15/40	49.6%	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9	\$ 44.9				
27.)	05/15/40	45.4%	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5	\$ 43.5				
28.)	08/15/40	50.0%	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2	\$ 43.2				
29.)	11/15/40	45.8%	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9	\$ 42.9				
30.)	02/15/41	55.1%	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0	\$ 43.0				
31.)	05/15/41	58.7%	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0				
32.)	08/15/41	49.5%	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5	\$ 42.5				
33.)	11/15/41	32.5%	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6	\$ 44.6				
34.)	02/15/42	37.8%	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2	\$ 47.2				
35.)	05/15/42	48.5%	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9	\$ 43.9				
36.)	08/15/42	16.9%	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0				
37.)	11/15/42	10.5%	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0				
38.)	02/15/43	5.4%	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0				
39.)	05/15/43	0.3%		\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0	\$ 42.0				
40.)	08/15/43	0.0%			\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0	\$ 29.0				
# Issues			28	29	29	28	27	27	26	26	26	25	25	25	24	24	24	24	24	24	24			
\$ Issuance			\$ 826.8	\$ 868.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8	\$ 897.8			

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