

IMPLIED TREASURY & MAC SWAP SPREADS--BASED ON SEPTEMBER 2017 FUTURES CONTRACTS				
Spread Name	Futures Contract Legs	Price Ratio*	Leg Quantity Ratio*	External Name*
TYT	2-Year T- Note vs. 3-Year T-Note	1.6667**	5:3	TYT 05-03 U7**
TFY	2-Year T- Note vs. 5-Year T-Note	2.0000**	1:1	TFY 01-01 U7**
TUF	2-Year T- Note vs. 5-Year T-Note	2.5000**	5:4	TUF 05-04 U7**
TAF	2-Year T- Note vs. 5-Year T-Note	3.0000**	3:2	TAF 03-02 U7**
TUT	2-Year T-Note vs. 10-Year T-Note	4.0000**	2:1	TUT 02-01 U7**
TUX	2-Year T- Note vs. Ultra 10-Year T-Note	6.0000**	3:1	TUX 03-01 U7**
TUB	2-Year T-Note vs. T-Bond	12.0000**	6:1	TUB 06-01 U7**
TUL	2-Year T-Note vs. Ultra T-Bond	16.0000**	8:1	TUL 08-01 U7**
TOF	3-Year T- Note vs. 5-Year T-Note	1.6000**	4:5	TOF 04-05 U7**
TUN	3-Year T-Note vs. 10-Year T-Note	2.5000**	5:4	TUN 05-04 U7**
TYX	3-Year T- Note vs. Ultra 10-Year T-Note	4.0000**	2:1	TYX 02-01 U7**
TOB	3-Year T-Note vs. T-Bond	8.0000**	4:1	TOB 04-01 U7**
TOU	3-Year T-Note vs. Ultra T-Bond	10.0000**	5:1	TOU 05-01 U7**
FIT	5-Year T-Note vs. 10-Year T-Note	1.6667	5:3	FIT 05-03 U7
FYN	5-Year T-Note vs. 10-Year T-Note	1.0000	1:1	FYN 01-01 U7
FYT	5-Year T-Note vs. 10-Year T-Note	1.5000	3:2	FYT 03-02 U7
FIX	5-Year T- Note vs. Ultra 10-Year T-Note	2.5000	5:2	FIX 05-02 U7
FOB	5-Year T-Note vs. T-Bond	4.0000	4:1	FOB 04-01 U7
FOL	5-Year T-Note vs. Ultra T-Bond	6.0000	6:1	FOL 06-01 U7
NON	10-Year T-Note vs. Ultra 10-Year T-Note	1.0000	1:1	NON 01-01 U7
TEX	10-Year T-Note vs. Ultra 10-Year T-Note	1.5000	3:2	TEX 03-02 U7
NBY	10-Year T-Note vs. T-Bond	1.0000	1:1	NBY 01-01 U7
NOB	10-Year T-Note vs. T-Bond	3.0000	3:1	NOB 03-01 U7
NOL	10-Year T-Note vs. Ultra T-Bond	4.0000	4:1	NOL 04-01 U7
NCB	Ultra 10-Year T-Note vs. T-Bond	2.0000	2:1	NCB 02-01 U7
NUB	Ultra 10-Year T-Note vs. Ultra T-Bond	2.5000	5:2	NUB 05-02 U7
BOB	T-Bond vs. Ultra T-Bond	1.3333	4:3	BOB 04-03 U7
BUB	T-Bond vs. Ultra T-Bond	1.0000	1:1	BUB 01-01 U7
FNU	5-Year MAC Swap vs. 10-Year MAC Swap	2.0000	2:1	FNU 02-01 U7
*Leg quantity and price ratios are subject to change. Highlighted ratios are unchanged from prior quarterly expiration. **Price ratios of spreads involving 2-Year and 3-Year T-Notes are doubled to account for larger notional size (\$200K) in the price changes of the spreads. However, the ratio of the TYT is not doubled because the contracts have the same notional size.				