

Coupon Blending

Automated. Scalable. Available to ALL Market Participants.

Compression via Coupon Blending

Overview

- **An innovative solution** that reduces gross notional outstanding and line items
- Works **across pay-fixed and receive-fixed** cleared interest rate swaps with varying fixed rates and notional amounts, but otherwise identical attributes. (e.g. currency, effective date)

Competitive Advantages

- **Automated and scalable compression solution** that is not dependent on a trade counterparty
- **Flexibility to utilize daily**, on an automated basis as part of the existing EOD workflows, or **selectively**, as an ad-hoc process
- Reduces notional outstanding and line items **without changing cash flows**

Coupon Blending Process

- ✓ **Select** trades to be included in the process via the blending identifier found on the trade register
- ✓ **Identify** the highest and lowest fixed rates in the portfolio
- ✓ **Solve** for the notional of Remnant 1 (R1) and Remnant 2 (R2) such that the cash flows match those of the original portfolio
- ✓ **Terminate** the original trades which have been replaced by R1 and R2

Coupon Blending Example - Step 1

Step 1: Calculate the net weighted notional amount

- Weighted notional is the product of the fixed rate and notional amount.
- Net weighted notional is the sum of the weighted notional amounts

$$\text{Net Weighted Notional} = \sum_{i=1}^n \text{Fixed Rate}_i \times \text{Notional}_i$$

	Fixed Rate	Notional	Weighted Notional
Swap 1	2.575	-200,000,000	-515,000,000
Swap 2	3.27	105,000,000	343,350,000
Swap 3	2.95	-15,000,000	-44,250,000
Swap 4	3.125	25,000,000	78,125,000
Swap 5	2.025	-50,000,000	-101,250,000
Swap 6	3.1345	37,500,000	117,543,750
Swap 7	2.925	-55,000,000	-160,875,000
Swap 8	3.1875	300,000,000	956,250,000
Swap 9	3.325	-111,500,000	-370,737,500
Swap 10	3.425	145,000,000	496,625,000
<i>Lowest Fixed Rate</i>	<i>Highest Fixed Rate</i>	Net Notional	Net Weighted Notional
2.025	3.42500	181,000,000	799,781,250

Coupon Blending Example- Steps 2 & 3

Step 2: Derive Remnant Trade 1 (T1) notional to minimize gross notional

- **Highest fixed rate** among the blended trades is **fixed rate on Remnant Trade 1 (T1)**
- **Lowest fixed rate** among the blended trades is fixed rate on **Remnant Trade 2 (T2)**
- Given the two fixed rates, we calculate notional for T1 (rounded to two decimal places)

$$T1 \text{ Notional} = \frac{(\text{Net Weighted Notional} - \text{Net Notional} \times \text{Fixed Rate Remnant 2})}{(\text{Fixed Rate Remnant 1} - \text{Fixed Rate Remnant 2})}$$

$$T1 \text{ Notional} = \frac{(799,781,250 - 181,000,000 \times 2.025)}{(3.425 - 2.025)} = 309,468,750.00$$

Step 3: Create Remnant Trade 2 (T2) so that the cash flows of the fixed and floating legs match those of the original portfolio

- Notional amount on Remnant Trade 2 is calculated as follows:

$$T2 \text{ Notional} = \text{Net Notional} - T1 \text{ Notional}$$

$$T2 \text{ Notional} = 181,000,000 - 309,468,750 = -128,468,750.00$$

Coupon Blending Example: Fixed & Float Legs

Fixed Leg: Cash Flows on Remnant Trade 1 (T1) match those of the original portfolio.

Fixed Coupon Cash Flows of Original Portfolio

	Rate	Notional	91	182	271	364
Swap 1	2.575	-200,000,000	\$ (1,301,806)	\$ (1,301,806)	\$(1,273,194)	\$ (1,330,417)
....
Swap 10	3.425	145,000,000	\$ 1,255,357	\$ (393,472)	\$(384,824)	\$ (402,120)
Sum of Portfolio			\$ 2,021,669	\$ 2,021,669	\$ 1,977,237	\$ 2,066,102

Fixed Coupon Cash Flows of Remnant T1

Swap	Rate	Notional	91	182	271	364
T1	3.425	309,468,750	\$ 2,679,268	\$ 2,679,268	\$ 2,620,384	\$ 2,738,154
T2	2.025	-128,468,750	\$ (657,599)	\$ (657,599)	\$ (643,147)	\$ (672,052)
Sum of Remnants			\$ 2,021,669	\$ 2,021,669	\$ 1,977,237	\$ 2,066,102

Float Leg: Notional amount of Remnant Trade 1 (T1) + Remnant Trade (2) matches net notional of original portfolio. The floating rate payments also match those of the original portfolio.

Trade	Notional
Remnant Trade 1	309,468,750.00
Remnant Trade 2	-128,468,750.00
Net Notional	181,000,000.00

Coupon Blending Example: Results

- ✓ **Float Leg** Cash Flows **Match** Original Portfolio
- ✓ **Fixed Leg** Cash Flows **Match** Original Portfolio
- ✓ **Reduced** Gross Notional and Line Items, with no change in cash flows

	<i>Before</i>	<i>After</i>	Reduction
Line Items	10	2	80%
Gross Notional	\$1,044,000,000	437,937,500	58%

Operational Details

- CME provides a Blending ID to identify trades eligible for coupon blending. **Any two trades with matching blending IDs can be blended**
- Coupon Blending is an account level setting represented by two new netting options:
 1. **Full Coupon Blending:** All trades with matching blending IDs will automatically blend
 2. **Selective Coupon Blending:** All trades with matching blending IDs and matching client IDs will blend. Provides client's flexibility to manage which trades will compress.

Eligible Products: Vanilla fixed/float IRS, OIS, and FRAs
Not Eligible: Basis Swaps

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