CME Group
A CME/Chicago Board of Trade/NYMEX Company

Spread Calculation Page

Examples of spread calculations

All margin and credit rates on this page are for example purposes only.

** Scanning Based Spreads:
Scanning based spreads are spreads that we have setup so that they scan together as one target product before they are spread against each other. This is used for products that will travel in a similar pattern of price movements. One example would be Treasury products.

Calculation:
Scanning Based Spread: 80% credit for 30Yr, 10Yr, 5Yr, 3Yr, 2Yr at a ratio of 2:3:5:6:6.

This means that for any combination of the above products at their correct ratio you will receive an 80% credit off the top of the highest loss of the legs plus the smallest gain between the legs.

Steps:

1) Margin rate per leg times ratio per leg
2) Of those two values take the smaller and multiply by the percent credit.
3) Take the value of the higher value and subtract the value you get from Step 2

Examples:

+2 30Yr and -3 10Yr
30Yr - $3200
10Yr - $1800

1) 30Yr – 3200 * 2 = 6400; and 10Yr – 1800 * 3 = 5400
2) 5400 * 0.8 = 4320
3) 6400 – 4320 = 2080

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Span Scenario #	30 Year Scan	10 Year Scan	Span Scenario Total
1	-	-	-
2	-	-	-
3	-2133.312	1799.982	693.33
4	-2133.312	1799.982	693.33
5	2133.12	-1799.82	93.32
6	2133.12	-1799.82	93.32
7	-4266.88	3600.18	1386.74
8	-4266.88	3600.18	1386.74
9	4266.624	-3600.18	186.88
10	4266.624	-3600.18	186.88
11	-6400	5400	**2080.00**
12	-6400	5400	**2080.00**
13	6400	-5400	280.00
14	6400	-5400	280.00
15	-19200	16200	2059.20
16	19200	-16200	277.20

++ Inter Spread Calculations:

Inter Spreads are calculated as a percentage of credit off the top of the full outright margin of the products that make up the legs of the spread.

Example:

Corn vs. Soybeans (1:2) – 65% Inter Rate

Outright Rates

Corn $1500

Soybeans $3500

$1500 + 2 *$3500 = $8500 before spread credit

With Inter spread credit there is a saving of $5525 (8500 * 0.65) or in other words a charge of $3975 (8500 * 0.35)

^^Intra Spread Calculations when there is a rate of $0:

Intra spreads that display a rate of $0 is not necessarily the case. The way that SPAN calculates the spread margins on a portfolio is as follows: (Outright rate of leg 1 – Outright rate of leg 2) + Intra Spread Charge. The rates displayed on the Intra Spread pages are all of these rates with the exception where the formula would create a negative number. These rates are displayed as zeros. The rate for these spreads is: Outright rate of leg 1 – Outright rate of leg 2.

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Example:
Product X Month 2 - $500
Product X Month 3 - $500
Product X Month 4 - $750

Intra Spread Charge Month 2 vs. 3 - $200
Intra Spread Charge Month 2 vs. 4 - $50
Intra Spread Charge Month 3 vs. 4 - $0

Portfolio: +1 Month 2 and -1 Month 3 has a margin of $200 : ($500 -$500)+$200
+1 Month 2 and -1 Month 4 has a margin of $300 : ($750 -$500)+$50
+1 Month 3 and -1 Month 4 has a margin of $250 : ($750 -$500)+$0

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