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MOTION IN THE MARKETS

Last Update July 9, 2018

Motion in the Markets is a succinct reference guide for anyone following markets as well as those who already have or are thinking about trading futures. Whether it be intraday, weekly, or even monthly trading, this piece allows readers the context around several outright futures markets, and their common pairs, as those markets move. Though Motion does not provide traders with direct 'buy' or 'sell' signals, it does alert them to what a normal day, week, or month's worth of trading has been using the most recent six months of data and assigning 1 standard deviation moves to those time-frames. From there, futures traders can draw their own assumptions and trade while keeping the probabilities in mind.

– Pete Mulmat & Frank Kaberna

Markets in the Relationship Spotlight are great candidates for pairs trades! But how do we size them?

Step 1 — **Adjust by Notional Value:**

Determine the notional, or dollar, value of each market by multiplying price by contract size:
Gold (/GC) = 100 Ounces at $1,350. Notional = 100 X $135,000

Step 2 — **Adjust by Implied Volatility:**

Then multiply the notional value by the 30-day Implied Volatility of the market:
Gold (/GC) notional = $135,000 and 30-day IV is 13%. IV Adj. Notional = 135,000 X 0.12 = $16,200

Step 3 — **IV adjusted notional pairs:**

Though candidates for pairs trades are often highly correlated, they do have risks that are unique to each product. These risks might not be reflected in the price but in the volatility

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Finally...

To find the ratio, we divide the larger IV adjusted notional by the smaller one.

PRODUCT	PRICE	NOTIONAL	30 DAY IV	IV ADJUSTED NOTIONAL
/GC	$1,350	$ 135,000	13%	$ 16,200
/SI	$16.50	$ 82,500	22%	$ 16,500

$ 16,500 divided by $16,200 = 1.02 Approximate tradable ratio = 1 to 1

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EQUITIES

S&P 500 /ES

/ES

	TICKS	US DOLLARS
DAILY	+/- 30.00	+/- $1500
WEEKLY	+/-54.00	+/- $2700
MONTHLY	+/-82.00	+/- $4100

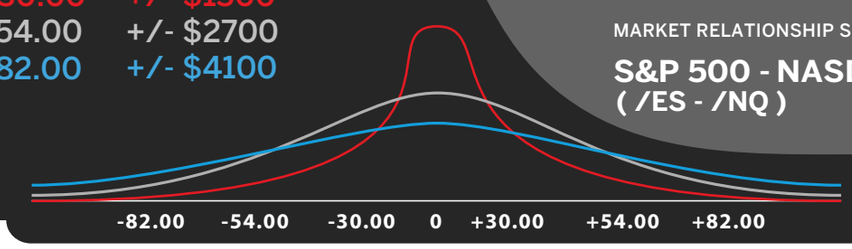
D +/-13.50 DAILY

W +/-25.00 WEEKLY

M +/-56.00 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

S&P 500 - NASDAQ 100
(/ES - /NQ)

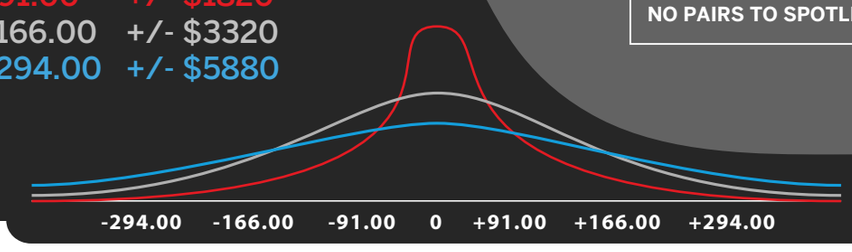


NASDAQ 100 /NQ

/NQ

	TICKS	US DOLLARS
DAILY	+/-91.00	+/- $1820
WEEKLY	+/-166.00	+/- $3320
MONTHLY	+/-294.00	+/- $5880

NO PAIRS TO SPOTLIGHT



DOW 30 /YM

/YM

	TICKS	US DOLLARS
DAILY	+/-294	+/- $1470
WEEKLY	+/-522	+/- $2610
MONTHLY	+/-738	+/- $3690

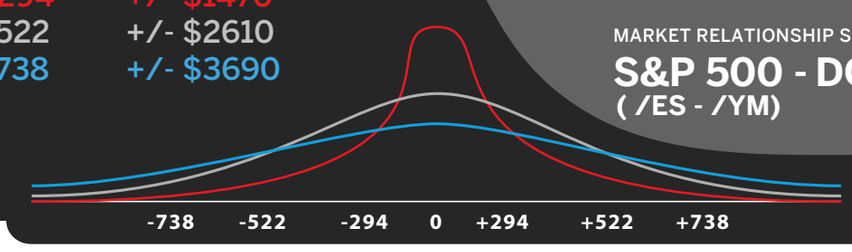
D +/-7.00 DAILY

W +/-14.00 WEEKLY

M +/-26.00 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

S&P 500 - DOW 30
(/ES - /YM)

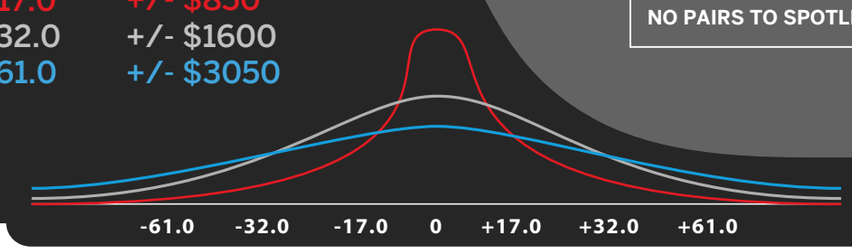


RUSSELL 2000 /RTY

/RTY

	TICKS	US DOLLARS
DAILY	+/-17.0	+/- $850
WEEKLY	+/-32.0	+/- $1600
MONTHLY	+/-61.0	+/- $3050

NO PAIRS TO SPOTLIGHT



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INTEREST RATES

2 YEAR NOTE /ZT

/ZT

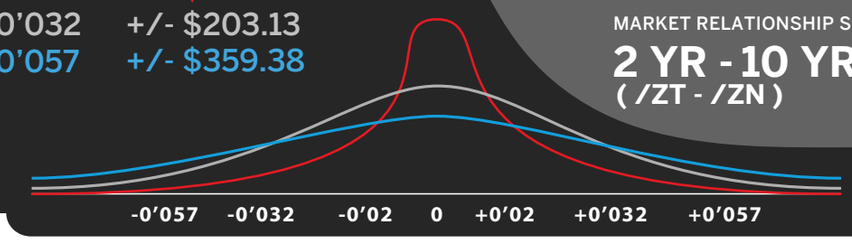
	TICKS	US DOLLARS
DAILY	+/- 0'02	+/- $125
WEEKLY	+/-0'032	+/- $203.13
MONTHLY	+/-0'057	+/- $359.38

D +/-0'015 DAILY | W +/-0'027 WEEKLY | M +/-0'062 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

2 YR - 10 YR

(/ZT - /ZN)



5 YEAR NOTE /ZF

/ZF

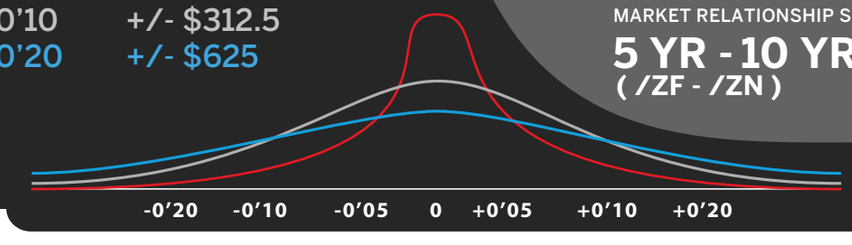
	TICKS	US DOLLARS
DAILY	+/- 0'05	+/- $156.25
WEEKLY	+/-0'10	+/- $312.5
MONTHLY	+/-0'20	+/- $625

D +/-0'015 DAILY | W +/-0'025 WEEKLY | M +/-0'057 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

5 YR - 10 YR

(/ZF - /ZN)



10 YEAR NOTE /ZN

/ZN

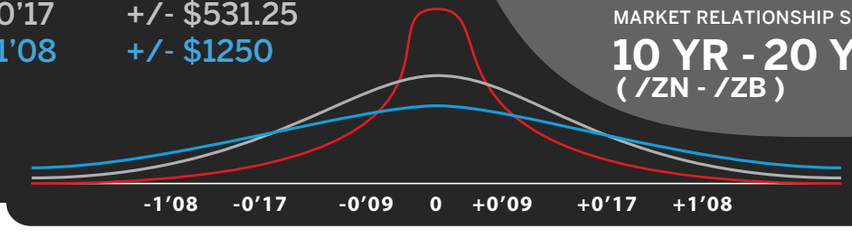
	TICKS	US DOLLARS
DAILY	+/- 0'09	+/- $281.25
WEEKLY	+/-0'17	+/- $531.25
MONTHLY	+/-1'08	+/- $1250

D +/-0'035 DAILY | W +/-0'06 WEEKLY | M +/-0'10 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

10 YR - 20 YR

(/ZN - /ZB)



20 YEAR BOND /ZB

/ZB

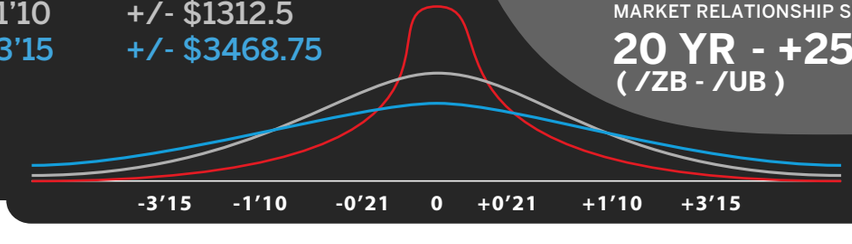
	TICKS	US DOLLARS
DAILY	+/- 0'21	+/- $656.25
WEEKLY	+/-1'10	+/- $1312.5
MONTHLY	+/-3'15	+/- $3468.75

D +/-0'035 DAILY | W +/-0'07 WEEKLY | M +/-0'16 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

20 YR - +25 YR

(/ZB - /UB)

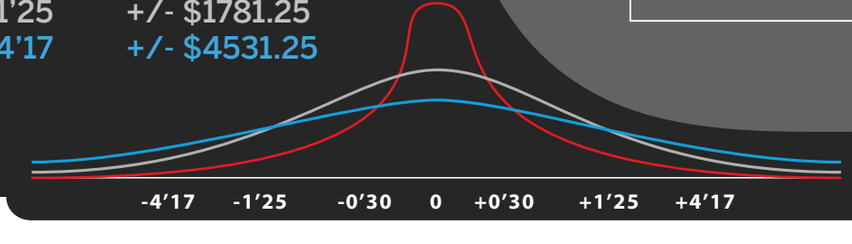


+25 YEAR BOND /UB

/UB

	TICKS	US DOLLARS
DAILY	+/- 0'30	+/- $937.5
WEEKLY	+/-1'25	+/- $1781.25
MONTHLY	+/-4'17	+/- $4531.25

NO PAIRS TO SPOTLIGHT



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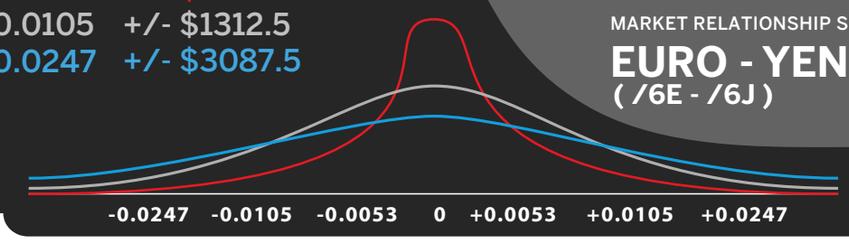
FOREIGN EXCHANGE

EURO /6E

/6E

	TICKS	US DOLLARS
DAILY	+/- 0.0053	+/- $662.5
WEEKLY	+/-0.0105	+/- $1312.5
MONTHLY	+/-0.0247	+/- $3087.5

D +/-0.0056 DAILY | W +/-0.0107 WEEKLY | M +/-0.0185 MONTHLY



MARKET RELATIONSHIP SPOTLIGHT

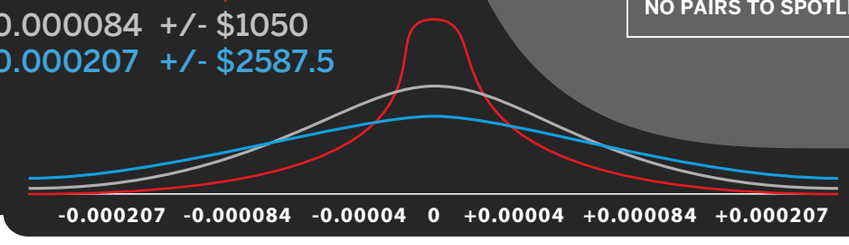
EURO - YEN

(/6E - /6J)

YEN /6J

/6J

	TICKS	US DOLLARS
DAILY	+/- 0.00004	+/- $500
WEEKLY	+/-0.000084	+/- $1050
MONTHLY	+/-0.000207	+/- $2587.5



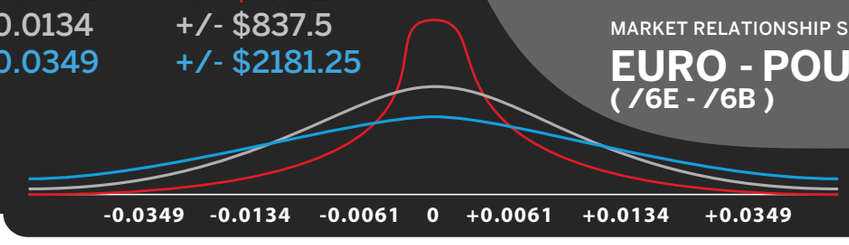
NO PAIRS TO SPOTLIGHT

POUND /6B

/6B

	TICKS	US DOLLARS
DAILY	+/- 0.0061	+/- $381.25
WEEKLY	+/-0.0134	+/- $837.5
MONTHLY	+/-0.0349	+/- $2181.25

D +/-0.0044 DAILY | W +/-0.0082 WEEKLY | M +/-0.015 MONTHLY



MARKET RELATIONSHIP SPOTLIGHT

EURO - POUND

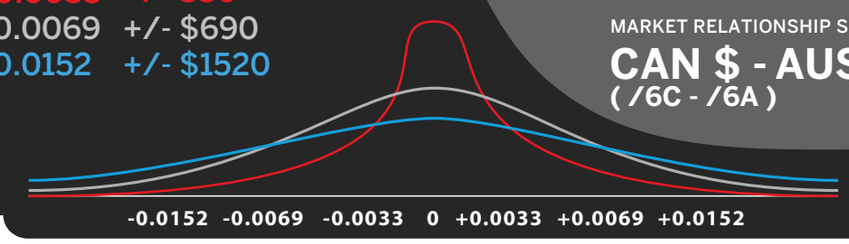
(/6E - /6B)

CANADIAN DOLLAR /6C

/6C

	TICKS	US DOLLARS
DAILY	+/- 0.0033	+/- 330
WEEKLY	+/-0.0069	+/- $690
MONTHLY	+/-0.0152	+/- $1520

D +/-0.0027 DAILY | W +/-0.0056 WEEKLY | M +/-0.0146 MONTHLY



MARKET RELATIONSHIP SPOTLIGHT

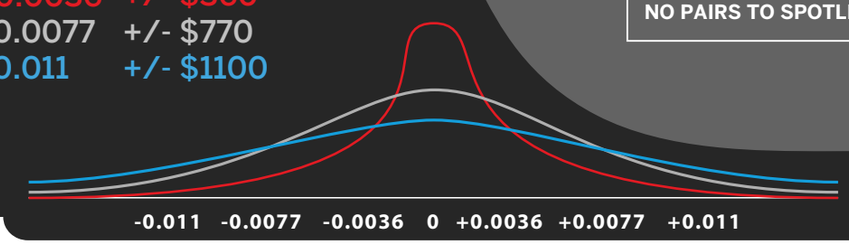
CAN $ - AUS $

(/6C - /6A)

AUSTRALIAN DOLLAR /6A

/6A

	TICKS	US DOLLARS
DAILY	+/- 0.0036	+/- $360
WEEKLY	+/-0.0077	+/- $770
MONTHLY	+/-0.011	+/- $1100



NO PAIRS TO SPOTLIGHT

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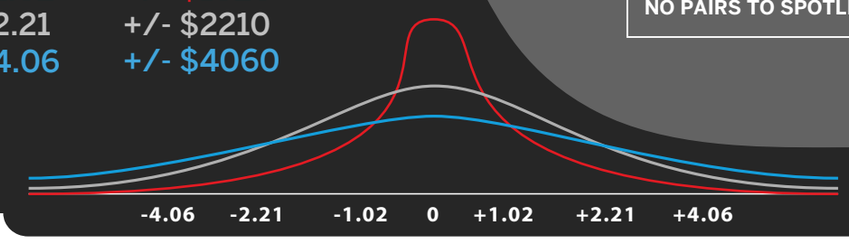
ENERGY & METALS

WTI CRUDE OIL /CL

/CL

	TICKS	US DOLLARS
DAILY	+/-1.02	+/- $1020
WEEKLY	+/-2.21	+/- $2210
MONTHLY	+/-4.06	+/- $4060

NO PAIRS TO SPOTLIGHT

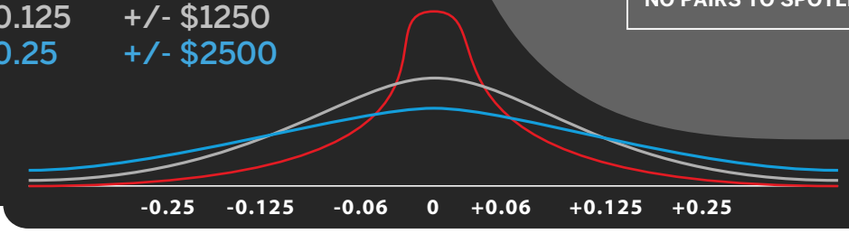


NATURAL GAS /NG

/NG

	TICKS	US DOLLARS
DAILY	+/-0.6	+/- $600
WEEKLY	+/-0.125	+/- $1250
MONTHLY	+/-0.25	+/- $2500

NO PAIRS TO SPOTLIGHT



GOLD /GC

/GC

	TICKS	US DOLLARS
DAILY	+/-9.0	+/- $900
WEEKLY	+/-16.4	+/- $1640
MONTHLY	+/-24.7	+/- $2470

D +/-5.8 DAILY

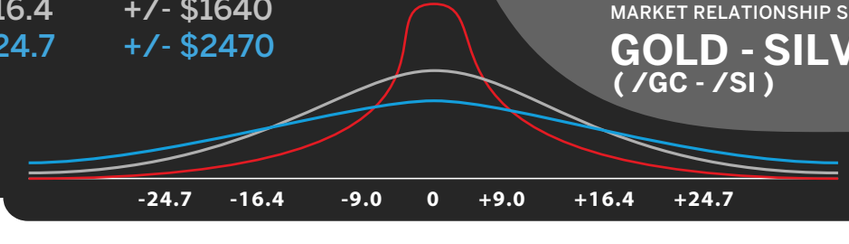
W +/-10.9 WEEKLY

M +/-25.9 MONTHLY

MARKET RELATIONSHIP SPOTLIGHT

GOLD - SILVER

(/GC - /SI)

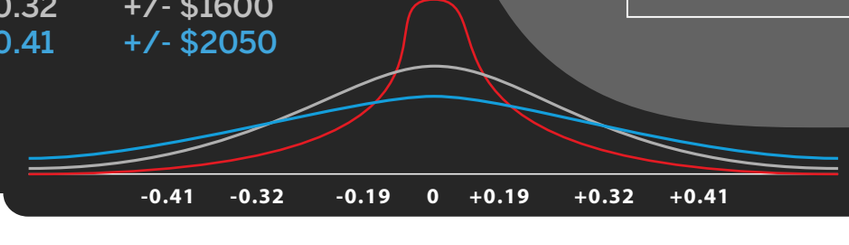


SILVER /SI

/SI

	TICKS	US DOLLARS
DAILY	+/-0.19	+/- $950
WEEKLY	+/-0.32	+/- $1600
MONTHLY	+/-0.41	+/- $2050

NO PAIRS TO SPOTLIGHT



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AGRICULTURE

SOYBEANS /ZS

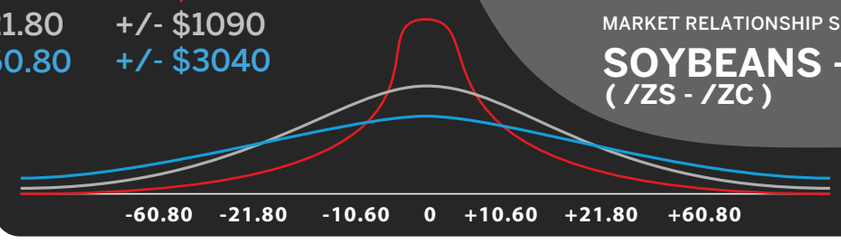
/ZS

	TICKS	US DOLLARS
DAILY	+/-10.60	+/- $530
WEEKLY	+/-21.80	+/- $1090
MONTHLY	+/-60.80	+/- $3040

D +/-8.70 DAILY

W +/-16.90 WEEKLY

M +/-29.40 MONTHLY



MARKET RELATIONSHIP SPOTLIGHT

SOYBEANS - CORN
(/ZS - /ZC)

WHEAT /ZW

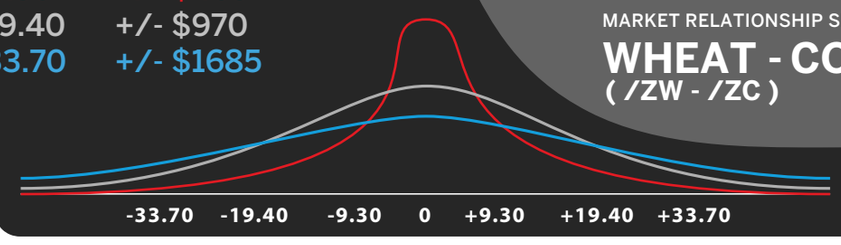
/ZW

	TICKS	US DOLLARS
DAILY	+/-9.30	+/- $465
WEEKLY	+/-19.40	+/- $970
MONTHLY	+/-33.70	+/- $1685

D +/-7.00 DAILY

W +/-14.60 WEEKLY

M +/-22.90 MONTHLY



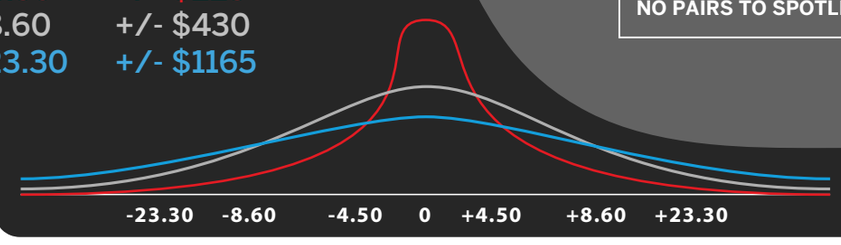
MARKET RELATIONSHIP SPOTLIGHT

WHEAT - CORN
(/ZW - /ZC)

CORN /ZC

/ZC

	TICKS	US DOLLARS
DAILY	+/-4.50	+/- $225
WEEKLY	+/-8.60	+/- $430
MONTHLY	+/-23.30	+/- $1165



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Market Relationship Spotlight Appendix

Equities

Everything is pegged against the S&P 500 futures contract (/ES). Though the Nasdaq futures (/NQ) are more than twice the price of /ES, each dollar is only $20 as opposed to $50; so, we trade these futures one to one. Thus, one point in the spread is equivalent to one point in /ES - $50.

To calculate this spread, we take the /ES movement and subtract /NQ*(2/5). For example, if /ES is up 10 and /NQ is up 20, then the spread (/ES-/NQ) is +2.

The same thought process exists for /ES and /YM. To calculate this spread, we take the /ES movement and subtract /YM*(1/10).

Treasuries

All standard deviation numbers are in terms of the front leg of the relationship. We calculate the ratios and spread values for Treasuries in accordance with the Chicago Mercantile Exchange's (CME) calculations. Whereby, the ratio is based off dollar value of a basis point (DV01) and the spread is priced in ticks of the front leg contract multiplied by the number of front month contracts.

The ratio of the TUT spread (/ZT-/ZN) is 2:1, so a 0'01 move in the spread is equivalent to 1 /ZT tick multiplied by 2 contracts - $123.

The ratio of the FIT spread (/ZF-/ZN) is 5:3, so a 0'01 move in the spread is equivalent to 1 /ZF tick multiplied by 5 contracts - $156.25.

The ratio of the NOB spread (/ZN-/ZB) is 5:2, so a 0'01 move in the spread is equivalent to 1 /ZN tick multiplied by 5 contracts - $156.25.

The ratio of the BOB spread (/ZB-/UB) is 3:2, so a 0'01 move in the spread is equivalent to 1 /ZB tick multiplied by 3 contracts - $93.75.

Foreign Exchange

FX pairs featured in the "Spotlight" are all quoted in terms of pips in the front leg of the relationship, similar to Treasuries. This works easily for the Euro-Yen (/6E-/6J) and Canada-Aussie (/6C-/6A) trades that are one to one. Since a pip in Pounds (/6B) is half as much as /6E, we use twice as many /6B contracts for every /6E; however, the calculation of the spread is straight-forward.

To calculate the Euro-Yen spread, we take the /6E movement and subtract /6J*(100).

To calculate the Euro-Pound spread, we take the /6E movement and subtract /6B.

To calculate the Canada-Aussie spread, we take the /6C movement and subtract /6A.

Metals

We trade Gold (/GC) and Silver (/SI) on a one to one basis due to their equivalence when factoring in notional value and implied volatility.

To calculate the Gold-Silver spread, we take the /GC movement and subtract /SI*50.

Agriculture

Though Soybeans (/ZS), Wheat (/ZW), and Corn (/ZC) all move in the same quarter of a penny tick increments, the notional value of /ZS is twice that of /ZC. Thus, we use two /ZC contracts for every /ZS, but we do /ZW to /ZC on a one-to-one basis.

To calculate the Soybeans-Corn spread, we take the /ZS movement and subtract /ZC*2.

To calculate the Wheat-Corn spread, we take the /ZW movement and subtract /ZC.

Pete Mulmat & Frank Kaberna