

The Morning Email: Correlations & R-Squared

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One contract may be correlating with another but does that mean there's causation. You must ask, "is one causing the other?"

That's what the R-Squared is for. Read R-Squared as follows: let's say, CLA and DJIA have an R-Squared of 0.44. That means there's a 44% chance that one is causing the market movement of the other.

You will always see a positive number for the R-Squared. If a correlation is a (negative) number, for example, (87.9) that means the two commodities are mirroring each other, not correlating. For example, today (which is 06/06/2007) the RBA and DJIA have a (87.9)% correlation. The R-Squared is 0.77. Therefore the two instruments are mirroring each other 88% of the time, and there's a 77% chance that one is causing the other.

Conditionally formatted cells:

If there's an R-Squared equal to or greater than 80%, then, the cell will turn BLUE. That tells us that there's an 80% chance that one of the instruments is causing the other to move. HOWEVER, the gold and currency pages are set to 70% or greater. Lastly, if the cell is any other color, just ignore it. Other colors are 'notes' for me. --Thanks, Jim

Want something added? Let me know: jgoulding@ghco.com

Disclaimer:All information within this newsletter is meant for internal use at HTG Capital Partners, only. All information has been recorded to the best of my ability. This material is based upon information that I consider reliable, but I do not represent that it is accurate or complete.

Daily Correlations
US Cash Treasuries (Yield)

Daily Correlations
US Bonds/Notes (CBOT)

	2yr Yield	5yr Yield	10yr Yield	30yr Yield	ZT	ZF	ZN	ZB
5YR BASIS	(81)	(78)	(57)	(38)	69	62	56	31
10YR BASIS	8	(20)	(54)	(75)	(2)	17	29	51
30YR BASIS	(17)	(41)	(68)	(84)	22	37	47	60
2/10	(63)	(35)	11	43	47	24	8	(30)
2/5	49	72	89	90	(62)	(78)	(85)	(90)
2/30	(75)	(50)	(6)	28	61	40	25	(13)
5/10	(95)	(81)	(45)	(13)	87	73	61	26
5/30	(95)	(82)	(46)	(13)	88	75	63	28
10/30	(94)	(82)	(48)	(15)	88	77	65	32
TUF1^	(60)	(31)	13	41	40	17	3	(36)

^ See notes page

Daily R-Squared
US Cash Treasuries (Yield)

Daily R-Squared
US Bonds/Notes (CBOT)

	2yr Yield	5yr Yield	10yr Yield	30yr Yield	ZT	ZF	ZN	ZB
5YR BASIS	66	61	33	14	48	39	32	9
10YR BASIS	1	4	29	56	0	3	8	26
30YR BASIS	3	17	47	70	5	14	22	36
2/10	39	12	1	18	22	6	1	9
2/5	24	51	80	81	38	61	72	81
2/30	56	25	0	8	38	16	6	2
5/10	90	65	20	2	76	54	38	7
5/30	91	66	21	2	77	56	40	8
10/30	88	67	23	2	78	59	43	10
TUF1^	36	10	2	17	16	3	0	13

^ See notes page

	Daily Correlations US Cash Treasuries (Yield)				Daily Correlations US Bonds/Notes (CBOT)				Exchange
	2yr Yield	5yr Yield	10yr Yield	30yr Yield	ZT	ZF	ZN	ZB	
2yr Yield	100	94	69	41	(97)	(89)	(81)	(51)	
5yr Yield	94	100	89	68	(97)	(97)	(94)	(75)	
10yr Yield	69	89	100	94	(80)	(91)	(96)	(95)	
30yr Yield	41	68	94	100	(55)	(72)	(82)	(94)	
ZT	(97)	(97)	(80)	(55)	100	96	91	68	
ZF	(89)	(97)	(91)	(72)	96	100	98	84	
ZN	(81)	(94)	(96)	(82)	91	98	100	92	
ZB	(51)	(75)	(95)	(94)	68	84	92	100	
emini SP	69	75	65	49	(69)	(72)	(67)	(57)	CME
Dow Futures	67	70	58	41	(65)	(67)	(61)	(50)	CME/eCbot
USDJPY	81	90	85	71	(85)	(90)	(89)	(76)	Cash Market
EURUSD	(81)	(70)	(42)	(14)	81	71	63	32	Cash Market
EURJPY	18	39	59	69	(23)	(38)	(44)	(58)	Cash Market
Crude	(30)	(4)	30	49	18	(3)	(13)	(44)	CME/NYMEX

	Daily R-Squared US Cash Treasuries (Yield)				Daily R-Squared US Bonds/Notes (CBOT)			
	2yr Yield	5yr Yield	10yr Yield	30yr Yield	ZT	ZF	ZN	ZB
2yr Yield		88	0	17	93	78	65	26
5yr Yield	88	1	79	46	94	95	89	56
10yr Yield	47	79		88	64	84	92	90
30yr Yield	17	46	88		30	53	68	88
ZT	93	94	64	30		93	83	46
ZF	78	95	84	53	93		97	71
ZN	65	89	92	68	83	97		84
ZB	26	56	90	88	46	71	84	
emini SP	48	56	43	24	47	52	45	33
Dow Futures	44	49	34	17	43	45	37	25
USDJPY	66	82	73	50	73	81	79	59
EURUSD	65	48	18	2	66	50	40	10
EURJPY	3	15	35	47	5	14	19	34
Crude	9	0	9	24	3	0	2	20



Daily Correlations US Cash Treasuries				Daily Correlations US Bonds/Notes (CBOT)						
Symbol	2yr	5yr	10yr	ZT	ZF	ZN	Symbol	Exchange		
Schatz(2Y)	DG	(71)	(82)	(85)	76	83	83	DG	Schatz(2Y)	EUREX
Bobl(5Y)	DL	(46)	(68)	(86)	59	76	81	DL	Bobl(5Y)	EUREX
Bund(10Y)	DB	(39)	(63)	(82)	54	72	77	DB	Bund(10Y)	EUREX

Daily R-Squared US Cash Treasuries				Daily R-Squared US Bonds/Notes (CBOT)						
Symbol	2yr	5yr	10yr	ZT	ZF	ZN	Symbol	Exchange		
Schatz(2Y)	DG	50	68	72	58	69	69	DG	Schatz(2Y)	EUREX
Bobl(5Y)	DL	21	46	75	35	58	66	DL	Bobl(5Y)	EUREX
Bund(10Y)	DB	15	39	68	29	52	60	DB	Bund(10Y)	EUREX

How does this work on the ROLL? Formula's track the highest volume individual contract. For example, if we are rolling from Dec 2007 to March 2007, for the eCBOT, then, the day up to the 'top step change' Dec07 will be the highest volume traded contract. On the day of the switch, Mch08 will be the highest volume traded contract.

The formula will mix Dec07 and Mch08 until we've reached the 10th day of the change over. We always roll on the last trading day of the month. In this case it would be November 30th. So, by the tenth trading day of December the formula will have tracked the Mch08 contract entirely.

However, it doesn't matter. All that I'm concerned with is the highest volume contract and that's what the formulas track.

Furthermore, it works the same way for the Bund, Bobl, and Schatz; whatever contract is the highest volume contract, that's the contract the formula will take its data from.

Energies
Daily Correlations

	CLA	HOA	RBA	NGA	
CLA	100	94	74	34	Crude Oil
HOA	94	100	90	11	Heating Oil
RBA	74	90	100	(29)	unleaded Gas
NGA	34	11	(29)	100	Nat Gas
DJIA	40	66	89	(64)	Dow Cash
SPC5	43	68	91	(64)	S&P 500 Cash
EURUSD	62	46	6	81	€ / \$
EURJPY	75	83	82	(16)	€ / ¥
USDJPY	17	38	68	(79)	\$ / ¥
GCA	73	63	28	73	Gold

Currencies
Daily Correlations

	EURUSD	EURJPY	USDJPY	GBPEUR	
EURUSD	100	30	(53)	(72)	€ / \$
EURJPY	30	100	65	1	€ / ¥
USDJPY	(53)	65	100	59	\$ / ¥
Euro	93	35	(43)	(69)	€
Yen	54	(63)	(99)	(60)	¥
Swiss Fr	92	9	(65)	(79)	CHF
Canadain \$	(11)	74	76	29	C\$

Currencies
Daily Correlations

	Euro	Yen	Swiss Fr	Canadain \$	
Euro	100	41	96	(4)	€
Yen	41	100	64	(73)	¥
Swiss Fr	96	64	100	(27)	CHF
Canadain \$	(4)	(73)	(27)	100	C\$

Energies
Daily R-Squared

	CLA	HOA	RBA	NGA	
CLA		88	54	12	Crude Oil
HOA	88		82	1	Heating Oil
RBA	54	82		8	unleaded Gas
NGA	12	1	8		Nat Gas
DJIA	16	43	80	41	Dow Cash
SPC5	18	46	83	41	S&P 500 Cash
EURUSD	38	22	0	66	€ / \$
EURJPY	57	70	67	2	€ / ¥
USDJPY	3	14	47	63	\$ / ¥
GCA	54	40	8	53	Gold

Currencies
Daily R-Squared

	EURUSD	EURJPY	USDJPY	GBPEUR	
EURUSD		9	28	51	€ / \$
EURJPY	9		42	0	€ / ¥
USDJPY	28	42		35	\$ / ¥
Euro	86	12	19	47	€
Yen	29	40	98	36	¥
Swiss Fr	84	1	43	62	CHF
Canadain \$	1	55	58	8	C\$

Currencies
Daily R-Squared

	Euro	Yen	Swiss Fr	Canadain \$	
Euro		17	91	0	€
Yen	17		40	53	¥
Swiss Fr	91	40		7	CHF
Canadain \$	0	53	7		C\$

Exchange

CME / Nymex
CME / Nymex
CME / Nymex
CME / Nymex
NYSE (Cash)
Cash
Cash
Cash
Cash
Comex

Exchange

Cash
Cash
Cash
CME/Globex
CME/Globex
CME/Globex
CME/Globex

Exchange

CME/Globex
CME/Globex
CME/Globex
CME/Globex

Notes:

EURUSD, EURJPY, USDJPY, & USDGBP are all cash market products.

Euro, Yen, Swiss Fr, Canadain \$, & BP are all CME products.

- 1) ALL Correlations are based on 10 day historical
- 2) CQG quotes prices in 32nds. That means you won't see "**32" on the end of my equations. I don't need to multiply by 32 to see the correct quote.

TUF1 = Cash2yr Yield - 5 Year Futures

CQG Equation = $\text{SHARESCALE}(\text{BUSP02}-(\text{FVA}?.5), \text{INTEGER1}) * 32$? Where FVA? is the 5yr electronic lead month futures contract.

FYT1 = $(\text{FV} * 1.5) - \text{TY}$

CQG Equation = $((\text{FVA}?.5) - \text{TYA}?)$

Where: FV = 5 yr electronic futures; TY = 10 yr electronic futures

FYT2 = $((5 \text{ yr cash} - (\text{TY}?.7))$

CQG Equation $((\text{BUS05P} - (\text{TYA}?.7))$

Where: 5 yr cash = OTR; TY = 10 yr electronic futures

NOB1 = $(10 \text{ yr cash} - (\text{US}?.7))$

CQG Equation = $(\text{BUS10P} - (\text{USA}?.7))$

Where: US = 30 yr electronic futures; 10 yr cash = OTR

NOB2 = $(\text{TY} - (\text{US}?.7))$

CQG Equation = $(\text{TYA} - (\text{USA}?.7))$

Where: TY = 10 yr electronic futures; US = 30 yr electronic futures

BASIS is conversion factor.

Basis = Cash Price - (Futures Price * Conversion Factor)

FAQ

Q: Why do I have a column titled 'q' in certain places?

A: Those are q formulas I use within CQG. CQG is the engine behind my morning emails. They provide the quotes, I provide the formulas.

Q: Why are certain cells colored?

A: They help me identify what formula's need to be changed by hand and which are automated. There are over 9,000 formula's working behind the scenes to deliver the morning emails. I need some kind of system assist me in identifying certain formula's that need to be adjusted on new issues, rolls etc. I also use a color pattern for the treasuries to help with quick visual interpretation.

Daily Correlations
Treasury Basis^

	5YR BASIS	10YR BASIS	30YR BASIS
emini SP	(60)	(17)	(23)
5\$ Dow Futures	(57)	(9)	(14)
USDJPY	(67)	(22)	(43)
EURUSD	46	(43)	(16)
EURJPY	(33)	(65)	(64)
Crude	18	(61)	(42)
TUF1^	58	(56)	(36)
2/10	52	(64)	(50)
2/5	(35)	(52)	(65)
2/30	60	(58)	(41)
5/10	75	(32)	(10)
5/30	74	(33)	(11)
10/30	71	(33)	(13)
ZT	69	(2)	69
ZF	62	17	62
ZN	56	29	56
ZB	31	51	31

Daily R-Squared
Treasury Basis

	5YR BASIS	10YR BASIS	30YR BASIS	Exchange
emini SP	37	3	5	Globex
5\$ Dow Futures	32	1	2	Globex
USDJPY	44	5	18	Cash
EURUSD	21	19	3	Cash
EURJPY	11	42	41	Cash
Crude	3	38	17	CME / NYMEX
TUF1^	33	31	13	CME / NYMEX
2/10	27	41	25	BrokerTec
2/5	12	27	43	BrokerTec
2/30	36	33	17	BrokerTec
5/10	56	10	1	BrokerTec
5/30	55	11	1	BrokerTec
10/30	51	11	2	BrokerTec
ZT	48	0	48	Globex
ZF	39	3	39	Globex
ZN	32	8	32	Globex
ZB	9	26	9	Globex

^See "Notes Page"

Daily Correlations

US Cash Treasuries Spreads (Yield)

Symbol	2/10	2/5	2/30	5/10	5/30	10/30	NOB1^	NOB2^	TUF^	FYT1^	FYT2^
2/10		35	98	81	81	78	59	88	90	88	81
2/5	35		18	(28)	(27)	(26)	11	(1)	23	(3)	10
2/30	98	18		89	90	88	58	92	88	92	82
5/10	81	(28)	89		100	96	53	91	77	91	76
5/30	81	(27)	90	100		98	51	91	75	91	75
10/30	78	(26)	88	96	98		45	88	68	89	71
NOB1^	59	11	58	53	51	45					
NOB2^	88	(1)	92	91	91	88					
TUF^	90	23	88	77	75	68					
FYT1^	88	(3)	92	91	91	89					
FYT2^	81	10	82	76	75	71					

Daily R-Squared

US Cash Treasuries Spreads (Yield)

Symbol	2/10	2/5	2/30	5/10	5/30	10/30	NOB1^	NOB2^	TUF^	FYT1^	FYT2^
2/10		12	97	65	65	61	35	78	80	77	65
2/5	12		3	8	7	7	1	0	5	0	1
2/30	97	3		79	80	78	33	85	77	85	67
5/10	65	8	79		99	93	28	83	60	83	58
5/30	65	7	80	99		96	26	82	57	83	57
10/30	61	7	78	93	96		21	77	47	79	50
NOB1^	35	1	33	28	26	21					
NOB2^	78	0	85	83	82	77					
TUF^	80	5	77	60	57	47					
FYT1^	77	0	85	83	83	79					
FYT2^	65	1	67	58	57	50					

^ See notes page

Daily Correlations		
Symbol	GC	Exchange
emini SP	(14)	Globex
5\$ Dow Futures	(14)	Globex
WTI Crude	73	Glbx / Nymx
Brent Crude	43	ICE
USDJPY	(29)	Cash
EURUSD	84	Cash
EURJPY	43	Cash
Euro	93	Globex
Yen	27	Globex
Swiss Fr	88	Globex
Canadain \$	8	Globex
2yr Yield	(73)	Broker Tec
5yr Yield	(56)	Broker Tec
10yr Yield	(23)	Broker Tec
30yr Yield	5	Broker Tec
ZT	64	Globex
ZF	48	Globex
ZN	37	Globex
ZB	1	Globex

Daily R-Squared		
Symbol	GC	Exchange
emini SP	2	Globex
\$ Dow Futures	2	Globex
WTI Crude	54	Glbx / Nymx
Brent Crude	19	ICE
USDJPY	8	Cash
EURUSD	70	Cash
EURJPY	18	Cash
Euro	87	Globex
Yen	7	Globex
Swiss Fr	77	Globex
Canadain \$	1	Globex
2yr Yield	54	Broker Tec
5yr Yield	31	Broker Tec
10yr Yield	5	Broker Tec
30yr Yield	0	Broker Tec
ZT	41	Globex
ZF	23	Globex
ZN	14	Globex
ZB	0	Globex

This matrix is set-up to have the cells automatically highlight themselves if there's an R-Squared greater than 70%.

Note: YG old ecbot gold, now on CME (used to be eCbot). GC is Globex/Nymex Gold.

Daily Correlations

Symbol	USDJPY	EURUSD	EURJPY	Euro	Yen	Swiss Fr	Canadian \$	Exchange
USDJPY		(53)	65	(43)	(99)	(66)	76	Cash
EURUSD	(53)		30	93	54	92	(11)	Cash
EURJPY	65	30		35	(63)	9	74	Cash
Euro	(43)	93	35		41	96	(4)	Globex
Yen	(99)	54	(63)	41		64	(73)	Globex
Swiss Fr	(65)	92	9	96	64		(27)	Globex
Canadian \$	76	(11)	74	(4)	(73)	(27)		Globex
emini SP	84	(25)	70	(26)	(78)	(47)	95	Globex
5\$ Dow Futures	79	(23)	66	(26)	(74)	(45)	94	Globex
WTI Crude	17	62	75	75	(17)	58	54	Glbx / Nymx
Brent Crude	56	28	56	38	(53)	15	87	ICE
2yr Yield	81	(81)	18	(80)	(79)	(93)	56	BTEC
5yr Yield	90	(70)	39	(61)	(90)	(79)	67	BTEC
10yr Yield	85	(42)	59	(25)	(87)	(46)	67	BTEC
30yr Yield	71	(14)	69	7	(74)	(16)	57	BTEC
ZT	(85)	81	(23)	73	86	87	(60)	Globex
ZF	(90)	71	(38)	57	91	73	(68)	Globex
ZN	(89)	63	(44)	45	91	63	(67)	Globex
ZB	(76)	32	(58)	7	80	27	(67)	Globex

Daily R-Squared

Symbol	USDJPY	EURUSD	EURJPY	Euro	Yen	Swiss Fr	Canadian \$
USDJPY		28	42	19	98	43	58
EURUSD	28		9	86	29	84	1
EURJPY	42	9		12	40	1	55
Euro	19	86	12		17	91	0
Yen	98	29	40	17		40	53
Swiss Fr	43	84	1	91	40		7
Canadian \$	58	1	55	0	53	7	
emini SP	70	6	49	7	61	22	90
5\$ Dow Futures	63	5	44	7	54	20	88
WTI Crude	3	38	57	56	3	33	30
Brent Crude	31	8	31	15	28	2	76
2yr Yield	66	65	3	65	63	87	31
5yr Yield	82	48	15	38	80	63	45
10yr Yield	73	18	35	6	76	21	46
30yr Yield	50	2	47	0	55	2	32
ZT	73	66	5	53	73	75	37
ZF	81	50	14	32	82	54	46
ZN	79	40	19	20	83	40	44
ZB	59	10	34	0	65	7	45

If there's an R-Squared greater than 70%, the cell will automatically highlight to blue.

q	
6	5YR BASIS
2	10YR BASIS
9	30YR BASIS
45	2/10
47	2/5
46	2/30
48	5/10
49	5/30
44	10/30
4	TUF1^
50	FYT1^
3	FYT2^
1	NOB1^
33	NOB2^

This page contains notes for me.

Daily Correlations

	Globex	Globex	Exchange
	Emini SP	5\$ Dow Futrs	
USDJPY	84	79	Cash
EURUSD	(25)	(23)	Cash
EURJPY	70	66	Cash
Euro	(26)	(26)	Globex
Yen	(78)	(73)	Globex
Swiss Fr	(47)	(45)	Globex
Canadian \$	95	94	Globex
WTI Crude	38	36	Glbx / Nymx
Brent Crude	76	74	ICE
2yr Yield	69	67	BTEC
5yr Yield	75	70	BTEC
10yr Yield	65	58	BTEC
30yr Yield	49	41	BTEC
ZT	(69)	(65)	Globex
ZF	(72)	(67)	Globex
ZN	(67)	(61)	Globex
ZB	(57)	(50)	Globex
GC	(14)	(13)	Glbx / Comex

R-Squared

	Globex	Globex	Exchange
	Emini SP	5\$ Dow Futrs	
USDJPY	70.18	62.68	Cash
EURUSD	6.20	5.43	Cash
EURJPY	49.21	43.92	Cash
Euro	6.57	6.81	Globex
Yen	61.28	53.82	Globex
Swiss Fr	21.92	20.44	Globex
Canadian \$	89.60	87.73	Globex
WTI Crude	14.63	13.27	Glbx / Nymx
Brent Crude	57.80	54.52	ICE
2yr Yield	47.37	44.37	BTEC
5yr Yield	55.71	48.46	BTEC
10yr Yield	42.67	33.70	BTEC
30yr Yield	23.87	16.65	BTEC
ZT	47.16	42.81	Globex
ZF	51.57	44.85	Globex
ZN	44.70	37.07	Globex
ZB	32.56	25.30	Globex
GC	1.94	1.77	Glbx / Comex