

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)	(81)	(15)	31	66	50	17	(42)	
10YR BASIS	26	(20)	(89)	(89)	(23)	25	63	78	
30YR BASIS	40	(3)	(84)	(96)	(35)	14	59	86	
2/10	(75)	(38)	61	91	64	15	(39)	(89)	
2/5	(45)	(5)	78	92	35	(19)	(63)	(90)	
2/30	(83)	(51)	49	87	73	28	(26)	(85)	
5/10	(86)	(54)	47	83	75	33	(21)	(81)	
5/30	(91)	(64)	36	79	81	42	(11)	(77)	
10/30	(91)	(74)	18	67	83	53	3	(66)	
TUF1^	(84)	(52)	47	83	71	28	(25)	(83)	

^ 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	65	2	9	44	25	3	17	
10YR BASIS	7	4	79	79	5	6	40	62	
30YR BASIS	16	0	70	92	12	2	35	74	
2/10	56	14	38	84	41	2	15	80	
2/5	20	0	60	84	12	4	40	81	
2/30	69	26	24	75	53	8	7	72	
5/10	74	29	22	70	56	11	5	66	
5/30	82	40	13	62	65	18	1	59	
10/30	84	54	3	45	70	28	0	43	
TUF1^	71	27	22	69	50	8	6	69	

^ See notes page

Daily Correlations
US Cash Treasuries (Yield)

Daily Correlations
US Bonds/Notes (CBOT)

	2yr Yield	5yr Yield	10yr Yield	30yr Yield	ZT	ZF	ZN	ZB	Exchange
2yr Yield	100	89	4	(46)	(96)	(74)	(29)	44	
5yr Yield	89	100	49	(3)	(89)	(92)	(65)	3	
10yr Yield	4	49	100	85	(15)	(63)	(92)	(82)	
30yr Yield	(46)	(3)	85	100	35	(18)	(67)	(97)	
ZT	(96)	(89)	(15)	35	100	84	45	(27)	
ZF	(74)	(92)	(63)	(18)	84	100	85	25	
ZN	(29)	(65)	(92)	(67)	45	85	100	72	
ZB	44	3	(82)	(97)	(27)	25	72	100	
emini SP	77	76	11	(38)	(66)	(50)	(15)	45	CME
Dow Futures	78	76	9	(40)	(66)	(49)	(14)	48	CME/eCbot
USDJPY	58	63	26	(9)	(66)	(68)	(48)	(0)	Cash Market
EURUSD	43	48	14	(21)	(30)	(21)	(4)	34	Cash Market
EURJPY	56	62	20	(22)	(47)	(40)	(18)	31	Cash Market
Crude	34	36	1	(30)	(25)	(10)	7	39	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		78	0	22	91	54	8	20	
5yr Yield	78	1	24	0	79	84	42	0	
10yr Yield	0	24		72	2	40	84	68	
30yr Yield	22	0	72		12	3	44	94	
ZT	91	79	2	12		71	20	7	
ZF	54	84	40	3	71		72	6	
ZN	8	42	84	44	20	72		51	
ZB	20	0	68	94	7	6	51		
emini SP	59	57	1	14	44	25	2	20	
Dow Futures	61	57	1	16	44	24	2	23	
USDJPY	33	39	7	1	43	46	23	0	
EURUSD	18	23	2	4	9	5	0	12	
EURJPY	32	38	4	5	22	16	3	10	
Crude	12	13	0	9	6	1	1	16	



Daily Correlations US Cash Treasuries				Daily Correlations US Bonds/Notes (CBOT)						
Symbol	2yr	5yr	10yr	ZT	ZF	ZN	Symbol	Exchange		
Schatz(2Y)	DG	(50)	(82)	(84)	56	82	85	DG	Schatz(2Y)	EUREX
Bobl(5Y)	DL	20	(25)	(94)	(7)	44	82	DL	Bobl(5Y)	EUREX
Bund(10Y)	DB	61	24	(69)	(46)	5	54	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	25	67	71	31	67	72	DG	Schatz(2Y)
Bobl(5Y)	DL	4	6	89	0	19	67	DL	Bobl(5Y)
Bund(10Y)	DB	38	6	48	21	0	30	DB	Bund(10Y)

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	98	92	87	Crude Oil
HOA	98	100	89	87	Heating Oil
RBA	92	89	100	77	unleaded Gas
NGA	87	87	77	100	Nat Gas
DJIA	85	86	94	82	Dow Cash
SPC5	81	82	91	31	S&P 500 Cash
EURUSD	95	93	87	87	€ / \$
EURJPY	92	92	90	91	€ / ¥
USDJPY	25	31	41	48	\$ / ¥
GCA	88	91	70	77	Gold

Energies
Daily R-Squared

	CLA	HOA	RBA	NGA	
CLA		97	84	76	Crude Oil
HOA	97		80	76	Heating Oil
RBA	84	80		60	unleaded Gas
NGA	76	76	60		Nat Gas
DJIA	73	74	88	68	Dow Cash
SPC5	65	68	83	9	S&P 500 Cash
EURUSD	91	87	75	75	€ / \$
EURJPY	85	85	81	84	€ / ¥
USDJPY	6	9	16	23	\$ / ¥
GCA	77	82	49	60	Gold

Exchange

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

Currencies
Daily Correlations

	EURUSD	EURJPY	USDJPY	GBPEUR	
EURUSD	100	95	21	57	€ / \$
EURJPY	95	100	50	68	€ / ¥
USDJPY	21	50	100	53	\$ / ¥
Euro	98	93	18	51	€
Yen	(19)	(47)	(97)	(59)	¥
Swiss Fr	93	82	(2)	33	CHF
Canadain \$	90	90	32	56	C\$

Currencies
Daily R-Squared

	EURUSD	EURJPY	USDJPY	GBPEUR	
EURUSD		91	4	33	€ / \$
EURJPY	91		25	46	€ / ¥
USDJPY	4	25		28	\$ / ¥
Euro	96	86	3	26	€
Yen	4	22	94	35	¥
Swiss Fr	87	67	0	11	CHF
Canadain \$	81	82	11	32	C\$

Exchange

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

Currencies
Daily Correlations

	Euro	Yen	Swiss Fr	Canadain \$	
Euro	100	(18)	97	89	€
Yen	(18)	100	1	(32)	¥
Swiss Fr	97	1	100	82	CHF
Canadain \$	89	(32)	82	100	C\$

Currencies
Daily R-Squared

	Euro	Yen	Swiss Fr	Canadain \$	
Euro		3	94	80	€
Yen	3		0	11	¥
Swiss Fr	94	0		67	CHF
Canadain \$	80	11	67		C\$

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	(91)	(2)	23
5\$ Dow Futures	(92)	(0)	25
USDJPY	(37)	4	16
EURUSD	(75)	(20)	3
EURJPY	(78)	(15)	9
Crude	(64)	(8)	17
TUF1^	69	(63)	(73)
2/10	57	(75)	(84)
2/5	36	(79)	(85)
2/30	67	(66)	(79)
5/10	65	(67)	(76)
5/30	73	(57)	(71)
10/30	80	(40)	(60)
ZT	66	(23)	66
ZF	50	25	50
ZN	17	63	17
ZB	(42)	78	(42)

q

4

45

47

46

48

49

44

Daily R-Squared
Treasury Basis

	5YR BASIS	10YR BASIS	30YR BASIS	Exchange
emini SP	83	0	5	Globex
5\$ Dow Futures	84	0	6	Globex
USDJPY	13	0	3	Cash
EURUSD	56	4	0	Cash
EURJPY	60	2	1	Cash
Crude	41	1	3	CME / NYMEX
TUF1^	47	40	54	CME / NYMEX
2/10	33	57	71	BrokerTec
2/5	13	62	73	BrokerTec
2/30	45	44	63	BrokerTec
5/10	42	44	58	BrokerTec
5/30	53	32	51	BrokerTec
10/30	64	16	36	BrokerTec
ZT	44	5	44	Globex
ZF	25	6	25	Globex
ZN	3	40	3	Globex
ZB	17	62	17	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		91	98	97	94	84	76	95	95	98	90
2/5	91		84	77	73	62	55	76	75	84	75
2/30	98	84		98	98	92	84	98	96	97	93
5/10	97	77	98		98	90	82	97	99	97	91
5/30	94	73	98	98		96	88	99	97	95	92
10/30	84	62	92	90	96		92	95	88	86	89
NOB1^	76	55	84	82	88	92					
NOB2^	95	76	98	97	99	95					
TUF^	95	75	96	99	97	88					
FYT1^	98	84	97	97	95	86					
FYT2^	90	75	93	91	92	89					

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		82	97	94	88	70	58	90	91	95	81
2/5	82		71	60	53	38	31	58	56	71	56
2/30	97	71		96	96	85	71	97	93	95	86
5/10	94	60	96		96	80	67	95	97	94	82
5/30	88	53	96	96		93	78	98	94	90	85
10/30	70	38	85	80	93		85	90	77	74	80
NOB1^	58	31	71	67	78	85					
NOB2^	90	58	97	95	98	90					
TUF^	91	56	93	97	94	77					
FYT1^	95	71	95	94	90	74					
FYT2^	81	56	86	82	85	80					

^ See notes page

Daily Correlations		
Symbol	GC	Exchange
emini SP	65	Globex
5\$ Dow Futures	64	Globex
WTI Crude	88	Glbx / Nymx
Brent Crude	84	ICE
USDJPY	14	Cash
EURUSD	87	Cash
EURJPY	81	Cash
Euro	92	Globex
Yen	(17)	Globex
Swiss Fr	93	Globex
Canadain \$	69	Globex
2yr Yield	11	Broker Tec
5yr Yield	20	Broker Tec
10yr Yield	17	Broker Tec
30yr Yield	(3)	Broker Tec
ZT	(6)	Globex
ZF	(3)	Globex
ZN	(3)	Globex
ZB	13	Globex

Daily R-Squared		
Symbol	GC	Exchange
emini SP	42	Globex
5\$ Dow Futures	41	Globex
WTI Crude	77	Glbx / Nymx
Brent Crude	71	ICE
USDJPY	2	Cash
EURUSD	75	Cash
EURJPY	66	Cash
Euro	84	Globex
Yen	3	Globex
Swiss Fr	86	Globex
Canadain \$	48	Globex
2yr Yield	1	Broker Tec
5yr Yield	4	Broker Tec
10yr Yield	3	Broker Tec
30yr Yield	0	Broker Tec
ZT	0	Globex
ZF	0	Globex
ZN	0	Globex
ZB	2	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		21	50	18	(97)	(2)	32	Cash
EURUSD	21		95	98	(19)	93	90	Cash
EURJPY	50	95		93	(47)	82	90	Cash
Euro	18	98	93		(18)	97	89	Globex
Yen	(97)	(19)	(47)	(18)		1	(32)	Globex
Swiss Fr	(2)	93	82	97	1		82	Globex
Canadian \$	32	90	90	89	(32)	82		Globex
emini SP	50	88	94	81	(45)	66	83	Globex
5\$ Dow Futures	47	88	93	80	(42)	66	81	Globex
WTI Crude	25	95	92	97	(26)	91	93	Glbx / Nymx
Brent Crude	33	95	33	94	(31)	85	91	ICE
2yr Yield	58	43	56	31	(55)	10	42	BTEC
5yr Yield	63	48	62	39	(53)	19	42	BTEC
10yr Yield	26	14	20	16	(13)	14	(2)	BTEC
30yr Yield	(9)	(21)	(22)	(15)	18	(5)	(36)	BTEC
ZT	(66)	(30)	(47)	(21)	63	1	(30)	Globex
ZF	(68)	(21)	(40)	(16)	59	3	(17)	Globex
ZN	(48)	(4)	(18)	(5)	38	4	5	Globex
ZB	(0)	34	31	26	(8)	19	44	Globex

Daily R-Squared

Symbol	USDJPY	EURUSD	EURJPY	Euro	Yen	Swiss Fr	Canadian \$
USDJPY		4	25	3	94	0	11
EURUSD	4		91	96	4	87	81
EURJPY	25	91		86	22	67	82
Euro	3	96	86		3	94	80
Yen	94	4	22	3		0	11
Swiss Fr	0	87	67	94	0		67
Canadian \$	11	81	82	80	11	67	
emini SP	25	78	88	65	20	44	68
5\$ Dow Futures	22	78	86	64	17	43	66
WTI Crude	6	91	85	93	7	83	87
Brent Crude	11	90	11	87	10	72	82
2yr Yield	33	18	32	10	30	1	18
5yr Yield	39	23	38	15	28	4	18
10yr Yield	7	2	4	3	2	2	0
30yr Yield	1	4	5	2	3	0	13
ZT	43	9	22	5	40	0	9
ZF	46	5	16	2	35	0	3
ZN	23	0	3	0	15	0	0
ZB	0	12	10	7	1	4	20

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	50	47	Cash
EURUSD	88	88	Cash
EURJPY	94	93	Cash
Euro	81	80	Globex
Yen	(45)	(42)	Globex
Swiss Fr	66	66	Globex
Canadian \$	83	81	Globex
WTI Crude	83	82	Glbx / Nymx
Brent Crude	91	90	ICE
2yr Yield	77	78	BTEC
5yr Yield	76	76	BTEC
10yr Yield	11	9	BTEC
30yr Yield	(38)	(40)	BTEC
ZT	(66)	(66)	Globex
ZF	(50)	(49)	Globex
ZN	(15)	(14)	Globex
ZB	45	48	Globex
GC	65	64	Glbx / Comex

R-Squared

	Globex	Globex	Exchange
	Emini SP	5\$ Dow Futrs	
USDJPY	25	22	Cash
EURUSD	78	78	Cash
EURJPY	88	86	Cash
Euro	65	64	Globex
Yen	20	17	Globex
Swiss Fr	44	43	Globex
Canadian \$	68	66	Globex
WTI Crude	69	68	Glbx / Nymx
Brent Crude	83	81	ICE
2yr Yield	59	61	BTEC
5yr Yield	57	57	BTEC
10yr Yield	1	1	BTEC
30yr Yield	14	16	BTEC
ZT	44	44	Globex
ZF	25	24	Globex
ZN	2	2	Globex
ZB	20	23	Globex
GC	42	41	Glbx / Comex