

The Morning Email: Correlations & R-Squared

Table of Contents

Pg 1	US Treasuries
Pg 2	US Treasuries & US Treasury Futures
Pg 3	US Treasuries, US Treasury Futures, & German Futures
Pg 4	Energy & Currencies
Pg 5	Notes
Pg 6	US Treasury Basis
Pg 7	US Treasury Spreads
Pg 8	Gold
Pg 9	Currencies
Pg 10	US Index Futures

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	(75)	(64)	(7)	21	58	43	21	(24)
10YR BASIS	40	(7)	(76)	(92)	(27)	16	46	81
30YR BASIS	31	(14)	(79)	(94)	(19)	23	52	83
2/10	(63)	(20)	60	85	45	3	(31)	(77)
2/5	3	48	92	92	(21)	(61)	(82)	(92)
2/30	(71)	(30)	52	80	54	13	(22)	(71)
5/10	(88)	(57)	24	58	75	42	8	(48)
5/30	(88)	(57)	25	59	75	42	8	(48)
10/30	(85)	(55)	26	61	74	40	7	(48)
TUF1^	(62)	(17)	61	83	41	0	(33)	(78)

^ 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	56	41	1	4	34	18	4	6
10YR BASIS	16	0	58	85	7	3	22	66
30YR BASIS	10	2	63	89	4	5	28	69
2/10	40	4	36	72	20	0	10	60
2/5	0	23	86	85	5	37	67	85
2/30	50	9	27	64	29	2	5	50
5/10	78	33	6	34	56	18	1	23
5/30	77	32	6	35	56	17	1	23
10/30	72	30	7	37	55	16	0	23
TUF1^	39	3	37	69	17	0	11	61

^ 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	87	22	(15)	(96)	(78)	(52)	2	
5yr Yield	87	100	66	33	(93)	(97)	(85)	(43)	
10yr Yield	22	66	100	92	(40)	(76)	(93)	(95)	
30yr Yield	(15)	33	92	100	(4)	(46)	(74)	(97)	
ZT	(96)	(93)	(40)	(4)	100	90	70	20	
ZF	(78)	(97)	(76)	(46)	90	100	94	59	
ZN	(52)	(85)	(93)	(74)	70	94	100	83	
ZB	2	(43)	(95)	(97)	20	59	83	100	
emini SP	76	75	20	(13)	(70)	(61)	(39)	8	CME
Dow Futures	75	71	14	(18)	(68)	(56)	(33)	15	CME/eCbot
USDJPY	77	88	54	23	(86)	(88)	(75)	(36)	Cash Market
EURUSD	(46)	(50)	(45)	(32)	60	63	61	48	Cash Market
EURJPY	37	44	13	(5)	(33)	(32)	(21)	7	Cash Market
Crude	13	14	(13)	(25)	(8)	(2)	9	28	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		76	0	2	92	60	27	0
5yr Yield	76	1	43	11	86	94	72	19
10yr Yield	5	43		85	16	57	86	90
30yr Yield	2	11	85		0	21	54	94
ZT	92	86	16	0		80	49	4
ZF	60	94	57	21	80		88	35
ZN	27	72	86	54	49	88		69
ZB	0	19	90	94	4	35	69	
emini SP	58	56	4	2	49	37	16	1
Dow Futures	57	50	2	3	46	31	11	2
USDJPY	60	78	29	5	74	77	57	13
EURUSD	22	25	21	10	36	39	38	23
EURJPY	14	19	2	0	11	10	4	1
Crude	2	2	2	6	1	0	1	8



Daily Correlations US Cash Treasuries				Daily Correlations US Bonds/Notes (CBOT)						
Symbol	2yr	5yr	10yr	ZT	ZF	ZN	Symbol	Exchange		
Schatz(2Y)	DG	(22)	(62)	(97)	38	71	88	DG	Schatz(2Y)	EUREX
Bobl(5Y)	DL	12	(35)	(93)	8	50	76	DL	Bobl(5Y)	EUREX
Bund(10Y)	DB	20	(27)	(89)	1	43	71	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	5	39	95	14	50	78	DG	Schatz(2Y)
Bobl(5Y)	DL	1	13	87	1	25	58	DL	Bobl(5Y)
Bund(10Y)	DB	4	7	80	0	19	50	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	87	4	Crude Oil
HOA	98	100	87	(0)	Heating Oil
RBA	87	87	100	(30)	unleaded Gas
NGA	4	(0)	(30)	100	Nat Gas
DJIA	64	71	84	(62)	Dow Cash
SPC5	62	74	87	(57)	S&P 500 Cash
EURUSD	70	58	37	43	€ / \$
EURJPY	89	92	86	(19)	€ / ¥
USDJPY	30	43	54	(56)	\$ / ¥
GCA	65	60	30	54	Gold

Energies
Daily R-Squared

	CLA	HOA	RBA	NGA	
CLA		96	75	0	Crude Oil
HOA	96		76	0	Heating Oil
RBA	75	76		9	unleaded Gas
NGA	0	0	9		Nat Gas
DJIA	41	50	71	38	Dow Cash
SPC5	39	54	76	32	S&P 500 Cash
EURUSD	48	34	14	19	€ / \$
EURJPY	79	84	74	3	€ / ¥
USDJPY	9	18	29	31	\$ / ¥
GCA	42	37	9	29	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	45	(41)	2	€ / \$
EURJPY	45	100	63	49	€ / ¥
USDJPY	(41)	63	100	47	\$ / ¥
Euro	95	51	(31)	1	€
Yen	40	(63)	(99)	(51)	¥
Swiss Fr	91	20	(59)	(24)	CHF
Canadain \$	19	87	72	60	C\$

Currencies
Daily R-Squared

	EURUSD	EURJPY	USDJPY	GBPEUR	
EURUSD		20	17	0	€ / \$
EURJPY	20		40	24	€ / ¥
USDJPY	17	40		22	\$ / ¥
Euro	90	26	9	0	€
Yen	16	40	98	26	¥
Swiss Fr	84	4	35	6	CHF
Canadain \$	4	76	52	36	C\$

Exchange

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

Currencies
Daily Correlations

	Euro	Yen	Swiss Fr	Canadain \$	
Euro	100	27	94	30	€
Yen	27	100	56	(74)	¥
Swiss Fr	94	56	100	(3)	CHF
Canadain \$	30	(74)	(3)	100	C\$

Currencies
Daily R-Squared

	Euro	Yen	Swiss Fr	Canadain \$	
Euro		8	88	9	€
Yen	8		32	54	¥
Swiss Fr	88	32		0	CHF
Canadain \$	9	54	0		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	(83)	25	21
5\$ Dow Futures	(84)	29	25
USDJPY	(51)	5	(2)
EURUSD	(13)	3	9
EURJPY	(61)	8	8
Crude	(47)	19	23
TUF1^	59	(87)	(82)
2/10	60	(90)	(86)
2/5	11	(77)	(81)
2/30	64	(87)	(84)
5/10	74	(74)	(67)
5/30	74	(75)	(69)
10/30	71	(75)	(72)
ZT	58	(27)	58
ZF	43	16	43
ZN	21	46	21
ZB	(24)	81	(24)

Daily R-Squared
Treasury Basis

	5YR BASIS	10YR BASIS	30YR BASIS	Exchange
emini SP	68	6	4	Globex
5\$ Dow Futures	70	8	6	Globex
USDJPY	26	0	0	Cash
EURUSD	2	0	1	Cash
EURJPY	38	1	1	Cash
Crude	22	3	5	CME / NYMEX
TUF1^	35	76	68	CME / NYMEX
2/10	36	80	75	BrokerTec
2/5	1	60	66	BrokerTec
2/30	41	76	71	BrokerTec
5/10	55	54	45	BrokerTec
5/30	54	56	48	BrokerTec
10/30	50	56	52	BrokerTec
ZT	34	7	34	Globex
ZF	18	3	18	Globex
ZN	4	22	4	Globex
ZB	6	66	6	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		73	99	91	91	90	86	97	96	96	93
2/5	73		66	37	39	41	56	57	67	55	63
2/30	99	66		94	95	95	86	98	95	98	93
5/10	91	37	94		100	97	82	96	89	96	87
5/30	91	39	95	100		99	82	96	89	96	87
10/30	90	41	95	97	99		80	95	86	96	86
NOB1^	86	56	86	82	82	80					
NOB2^	97	57	98	96	96	95					
TUF^	96	67	95	89	89	86					
FYT1^	96	55	98	96	96	96					
FYT2^	93	63	93	87	87	86					

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		54	99	82	83	81	75	94	93	92	86
2/5	54		44	14	15	17	32	33	45	30	40
2/30	99	44		88	90	89	75	96	91	95	86
5/10	82	14	88		99	94	68	92	80	92	76
5/30	83	15	90	99		97	68	93	79	93	77
10/30	81	17	89	94	97		65	90	74	91	74
NOB1^	75	32	75	68	68	65					
NOB2^	94	33	96	92	93	90					
TUF^	93	45	91	80	79	74					
FYT1^	92	30	95	92	93	91					
FYT2^	86	40	86	76	77	74					

^ See notes page

Daily Correlations		
Symbol	GC	Exchange
emini SP	(2)	Globex
5\$ Dow Futures	(2)	Globex
WTI Crude	65	Glbx / Nymx
Brent Crude	45	ICE
USDJPY	(27)	Cash
EURUSD	83	Cash
EURJPY	44	Cash
Euro	94	Globex
Yen	23	Globex
Swiss Fr	91	Globex
Canadain \$	20	Globex
2yr Yield	(57)	Broker Tec
5yr Yield	(48)	Broker Tec
10yr Yield	(23)	Broker Tec
30yr Yield	(7)	Broker Tec
ZT	57	Globex
ZF	47	Globex
ZN	38	Globex
ZB	16	Globex

Daily R-Squared		
Symbol	GC	Exchange
emini SP	0	Globex
5\$ Dow Futures	0	Globex
WTI Crude	42	Glbx / Nymx
Brent Crude	20	ICE
USDJPY	7	Cash
EURUSD	69	Cash
EURJPY	20	Cash
Euro	88	Globex
Yen	5	Globex
Swiss Fr	83	Globex
Canadain \$	4	Globex
2yr Yield	33	Broker Tec
5yr Yield	23	Broker Tec
10yr Yield	5	Broker Tec
30yr Yield	0	Broker Tec
ZT	32	Globex
ZF	23	Globex
ZN	14	Globex
ZB	3	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		(41)	63	(31)	(99)	(59)	72	Cash
EURUSD	(41)		45	95	40	91	19	Cash
EURJPY	63	45		51	(63)	20	87	Cash
Euro	(31)	95	51		27	94	30	Globex
Yen	(99)	40	(63)	27		56	(74)	Globex
Swiss Fr	(59)	91	20	94	56		(3)	Globex
Canadian \$	72	19	87	30	(74)	(3)		Globex
emini SP	78	9	85	10	(78)	(22)	93	Globex
5\$ Dow Futures	74	12	83	12	(73)	(20)	91	Globex
WTI Crude	30	70	89	76	(32)	50	78	Glbx / Nymx
Brent Crude	51	50	51	57	(53)	26	91	ICE
2yr Yield	77	(46)	37	(48)	(78)	(73)	63	BTEC
5yr Yield	88	(50)	44	(42)	(87)	(67)	71	BTEC
10yr Yield	54	(45)	13	(29)	(51)	(36)	30	BTEC
30yr Yield	23	(32)	(5)	(16)	(21)	(12)	1	BTEC
ZT	(86)	60	(33)	53	87	78	(62)	Globex
ZF	(88)	63	(32)	50	87	70	(61)	Globex
ZN	(75)	61	(21)	44	74	58	(45)	Globex
ZB	(36)	48	7	29	33	27	(6)	Globex

Daily R-Squared

Symbol	USDJPY	EURUSD	EURJPY	Euro	Yen	Swiss Fr	Canadian \$
USDJPY		17	40	9	98	35	52
EURUSD	17		20	90	16	84	4
EURJPY	40	20		26	40	4	76
Euro	9	90	26		8	88	9
Yen	98	16	40	8		32	54
Swiss Fr	35	84	4	88	32		0
Canadian \$	52	4	76	9	54	0	
emini SP	61	1	72	1	60	5	86
5\$ Dow Futures	55	2	69	1	54	4	82
WTI Crude	9	48	79	58	10	25	61
Brent Crude	26	25	26	32	28	7	83
2yr Yield	60	22	14	23	60	53	40
5yr Yield	78	25	19	18	76	45	50
10yr Yield	29	21	2	9	26	13	9
30yr Yield	5	10	0	3	4	1	0
ZT	74	36	11	28	75	61	39
ZF	77	39	10	25	76	49	37
ZN	57	38	4	20	55	34	21
ZB	13	23	1	8	11	7	0

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	78	74	Cash
EURUSD	9	12	Cash
EURJPY	85	83	Cash
Euro	10	12	Globex
Yen	(78)	(73)	Globex
Swiss Fr	(22)	(20)	Globex
Canadian \$	93	91	Globex
WTI Crude	69	69	Glbx / Nymx
Brent Crude	84	83	ICE
2yr Yield	76	75	BTEC
5yr Yield	75	71	BTEC
10yr Yield	20	14	BTEC
30yr Yield	(13)	(18)	BTEC
ZT	(70)	(68)	Globex
ZF	(61)	(56)	Globex
ZN	(39)	(33)	Globex
ZB	8	15	Globex
GC	(2)	(2)	Glbx / Comex

R-Squared

	Globex	Globex	Exchange
	Emini SP	5\$ Dow Futrs	
USDJPY	61	55	Cash
EURUSD	1	2	Cash
EURJPY	72	69	Cash
Euro	1	1	Globex
Yen	60	54	Globex
Swiss Fr	5	4	Globex
Canadian \$	86	82	Globex
WTI Crude	47	48	Glbx / Nymx
Brent Crude	71	69	ICE
2yr Yield	58	57	BTEC
5yr Yield	56	50	BTEC
10yr Yield	4	2	BTEC
30yr Yield	2	3	BTEC
ZT	49	46	Globex
ZF	37	31	Globex
ZN	16	11	Globex
ZB	1	2	Globex
GC	0	0	Glbx / Comex