The Morning Email: TERM TEDS & Dirty TEDS

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Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days.

Quotes

F.I. Futures and Cash	Last Decimal	Last 32	Last Yield*	MDuration
ZT	106.9750	106.312	1.937	1.74
ZF	113.4063	113.130	2.612	3.84
ZN	116.7188	116.230	3.208	5.79
2y	100.266	100.0850	1.976	1.88
5y	100.422	100.1350	2.778	4.56
10y	97.984	97.3150	3.744	8.32

Eurodollars (ED)	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH08	97.070	2.930	24	0.065	MAR	White Pack
EDAM08	97.445	2.555	115	0.314	JUN	
EDAU08	97.575	2.425	206	0.564	SEP	
EDAZ08	97.520	2.480	297	0.813	DEC	
EDAH09	97.360	2.640	388	1.062	MAR	Red Pack
EDAM09	97.125	2.875	479	1.312	JUN	
EDAU09	96.900	3.100	570	1.561	SEP	
EDAZ09	96.675	3.325	661	1.810	DEC	
EDAH10	96.480	3.520	752	2.060	MAR	Green Pack
EDAM10	96.300	3.700	843	2.309	JUN	
EDAU10	96.110	3.890	934	2.558	SEP	
EDAZ10	95.940	4.060	1025	2.808	DEC	
EDAH11	95.785	4.215	1116	3.057	MAR	Blue Pack
EDAM11	95.610	4.390	1207	3.306	JUN	
EDAU11	95.485	4.515	1305	3.575	SEP	
EDAZ11	95.350	4.650	1396	3.824	DEC	
EDAH12	95.235	4.765	1487	4.073	MAR	Gold Pack
EDAM12	95.125	4.875	1578	4.323	JUN	
EDAU12	95.045	4.955	1669	4.572	SEP	
EDAU12	95.045	4.955	1669	4.572	SEP	

	Last Yield	Net Yield	Last Price	
Q.ED.White	2.651	1.438	9740.250	Pack Prices
Q.ED.Red	3.049	2.750	9701.500	
Q.ED.Green	3.882	2.125	9620.750	
Q.ED.Blue		0.375	9555.375	
Q.ED.Gold		0.000	9506.375	

Notes

Futures use CTD for Last Yield

Mduration = Modified Macaulay Duration

#VALUE! = no quote being provided by exchange.

Red pack is a 2yr proxy
Gold pack is a 10yr proxy
Red /Gold is a 2/10 proxy
Blue pack is a 5yr proxy
Blue/Gold is a 5/10 proxy

Jim Goulding, jgoulding@ghco.com

Overview of Hedging

How many ways can you hedge the TED? Let me count…there's lots and lots, like:

1 Regression
2 Engineered
3 Strip with and without Stubs
4 Convexity Bias
5 Weighted
6 Unweighted
and more…

Most of us are interested in the *unweighted hedge* which is simply a curve trade hedge.
There are so many ways to hedge the TED trade that I can't possibly list them all.

If you email me and ask for a specific hedge, I'll get it to you.
jgoulding@ghco.com

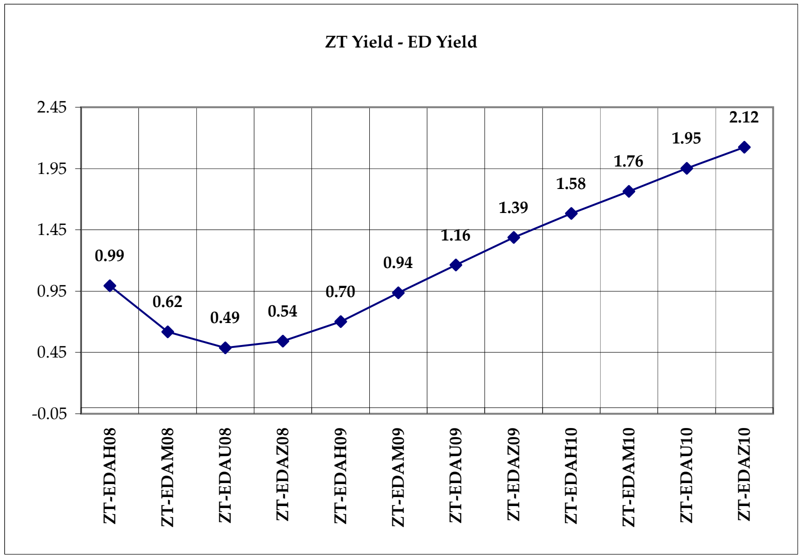
Eurodollar Color Codes for Individual Year Strips:

Color	Year	Contracts
White	One	1 – 4
Red	Two	5 – 8
Green	Three	9 – 12
Blue	Four	13 – 16
Gold	Five	17 – 20
Purple	Six	21 – 24
Orange	Seven	25 – 28
Pink	Eight	29 – 32
Silver	Nine	33 – 36
Copper	Ten	37 – 40

Dirty TED: ZT vs Eurodollar Contracts

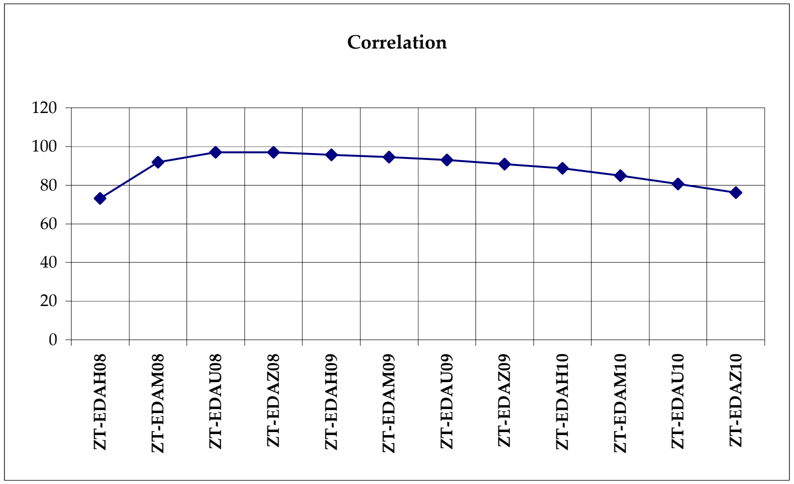
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.905	0.99	ZT-EDAH08	73.217
EDAM08	9.530	0.62	ZT-EDAM08	91.845
EDAU08	9.400	0.49	ZT-EDAU08	97.014
EDAZ08	9.455	0.54	ZT-EDAZ08	97.018
EDAH09	9.615	0.70	ZT-EDAH09	95.640
EDAM09	9.850	0.94	ZT-EDAM09	94.587
EDAU09	10.075	1.16	ZT-EDAU09	93.037
EDAZ09	10.300	1.39	ZT-EDAZ09	90.933
EDAH10	10.495	1.58	ZT-EDAH10	88.709
EDAM10	10.675	1.76	ZT-EDAM10	84.902
EDAU10	10.865	1.95	ZT-EDAU10	80.571
EDAZ10	11.035	2.12	ZT-EDAZ10	76.185

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZT Duration	Spread Duration	
EDAH08	0.065	1.74	1.67	ZT-EDAH08
EDAM08	0.314	1.74	1.42	ZT-EDAM08
EDAU08	0.564	1.74	1.17	ZT-EDAU08
EDAZ08	0.813	1.74	0.92	ZT-EDAZ08
EDAH09	1.062	1.74	0.67	ZT-EDAH09
EDAM09	1.312	1.74	0.42	ZT-EDAM09
EDAU09	1.561	1.74	0.18	ZT-EDAU09
EDAZ09	1.810	1.74	(0.07)	ZT-EDAZ09
EDAH10	2.060	1.74	(0.32)	ZT-EDAH10
EDAM10	2.309	1.74	(0.57)	ZT-EDAM10
EDAU10	2.558	1.74	(0.82)	ZT-EDAU10
EDAZ10	2.808	1.74	(1.07)	ZT-EDAZ10

The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	16.34	0.32	ZF-EDAH08	77.686
EDAM08	15.96	0.06	ZF-EDAM08	87.684
EDAU08	15.83	0.19	ZF-EDAU08	87.879
EDAZ08	15.89	0.13	ZF-EDAZ08	90.617
EDAH09	16.05	0.03	ZF-EDAH09	93.126
EDAM09	16.28	0.26	ZF-EDAM09	93.656
EDAU09	16.51	0.49	ZF-EDAU09	94.247
EDAZ09	16.73	0.71	ZF-EDAZ09	95.160
EDAH10	16.93	0.91	ZF-EDAH10	95.664
EDAM10	17.11	1.09	ZF-EDAM10	96.100
EDAU10	17.30	1.28	ZF-EDAU10	95.619
EDAZ10	17.47	1.45	ZF-EDAZ10	94.897

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
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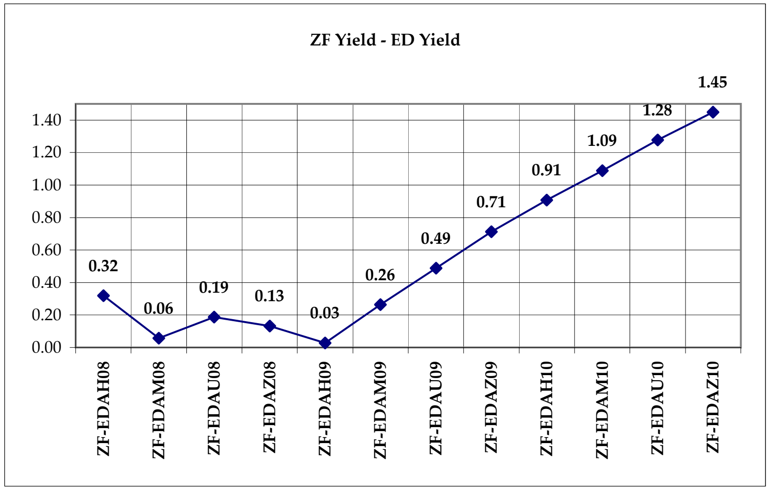

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.065	3.84	3.77	ZF-EDAH08
EDAM08	0.314	3.84	3.52	ZF-EDAM08
EDAU08	0.564	3.84	3.27	ZF-EDAU08
EDAZ08	0.813	3.84	3.02	ZF-EDAZ08
EDAH09	1.062	3.84	2.77	ZF-EDAH09
EDAM09	1.312	3.84	2.52	ZF-EDAM09
EDAU09	1.561	3.84	2.28	ZF-EDAU09
EDAZ09	1.810	3.84	2.03	ZF-EDAZ09
EDAH10	2.060	3.84	1.78	ZF-EDAH10
EDAM10	2.309	3.84	1.53	ZF-EDAM10
EDAU10	2.558	3.84	1.28	ZF-EDAU10
EDAZ10	2.808	3.84	1.03	ZF-EDAZ10

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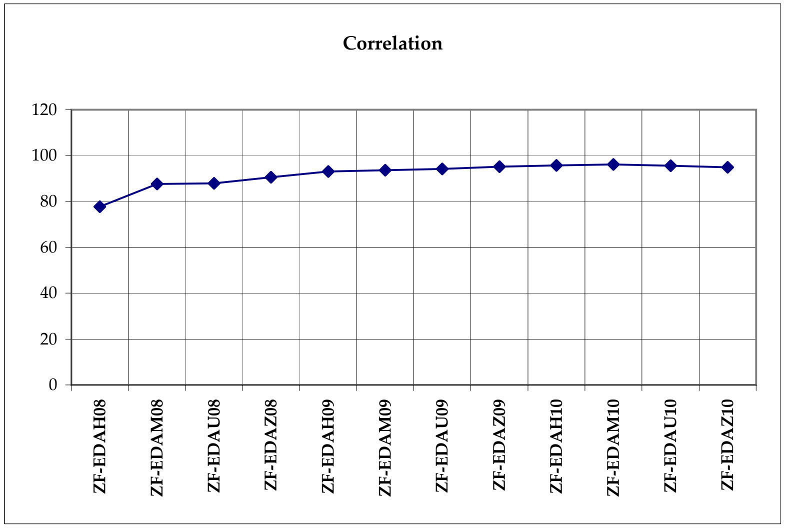

Dirty TED: ZN vs Eurodollar Contracts

	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.65	0.28	ZN-EDAH08	78.61
EDAM08	19.27	0.65	ZN-EDAM08	83.02
EDAU08	19.14	0.78	ZN-EDAU08	80.49
EDAZ08	19.20	0.73	ZN-EDAZ08	83.51
EDAH09	19.36	0.57	ZN-EDAH09	87.00
EDAM09	19.59	0.33	ZN-EDAM09	88.13
EDAU09	19.82	0.11	ZN-EDAU09	89.48
EDAZ09	20.04	0.12	ZN-EDAZ09	91.29
EDAH10	20.24	0.31	ZN-EDAH10	95.66
EDAM10	20.42	0.49	ZN-EDAM10	96.10
EDAU10	20.61	0.68	ZN-EDAU10	95.62
EDAZ10	20.78	0.85	ZN-EDAZ10	94.90

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
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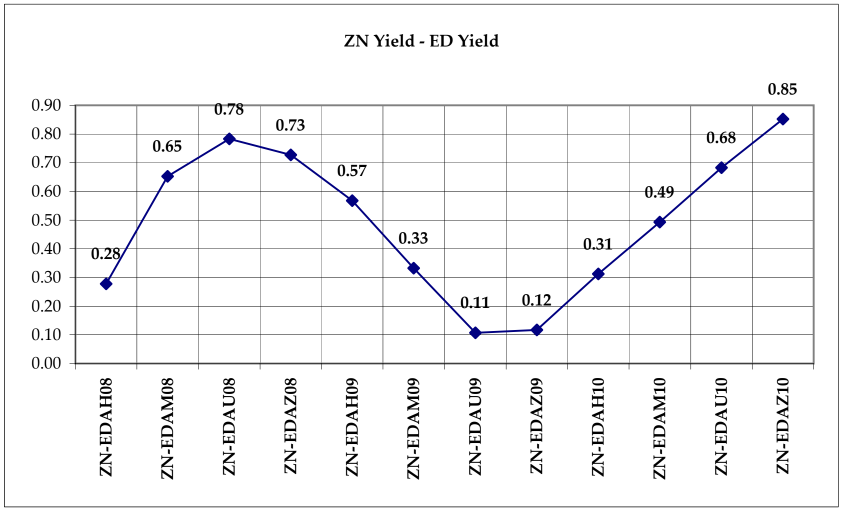
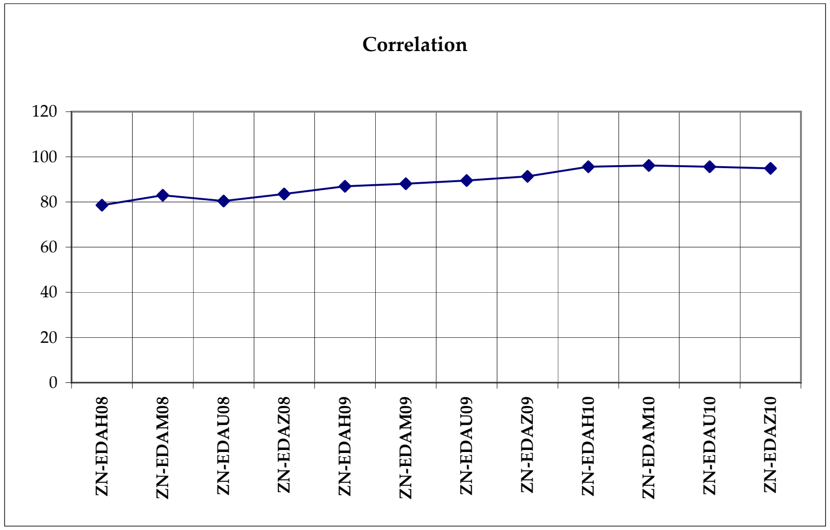


	GE Duration as Fraction of year	ZN Duration	Spread Duration	
EDAH08	0.065	5.79	5.72	ZN-EDAH08
EDAM08	0.314	5.79	5.47	ZN-EDAM08
EDAU08	0.564	5.79	5.22	ZN-EDAU08
EDAZ08	0.813	5.79	4.97	ZN-EDAZ08
EDAH09	1.062	5.79	4.73	ZN-EDAH09
EDAM09	1.312	5.79	4.48	ZN-EDAM09
EDAU09	1.561	5.79	4.23	ZN-EDAU09
EDAZ09	1.810	5.79	3.98	ZN-EDAZ09
EDAH10	2.060	5.79	3.73	ZN-EDAH10
EDAM10	2.309	5.79	3.48	ZN-EDAM10
EDAU10	2.558	5.79	3.23	ZN-EDAU10
EDAZ10	2.808	5.79	2.98	ZN-EDAZ10

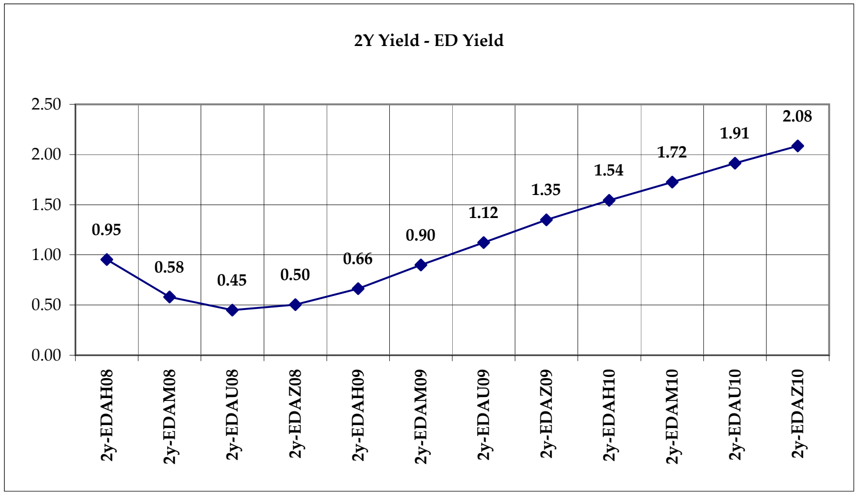
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

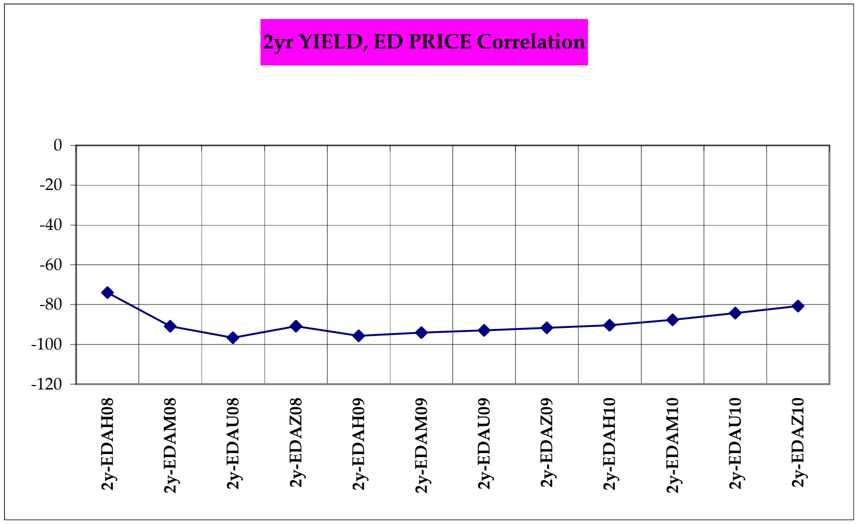
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.20	0.95	2y-EDAH08	-74.066
EDAM08	2.82	0.58	2y-EDAM08	-90.852
EDAU08	2.69	0.45	2y-EDAU08	-96.653
EDAZ08	2.75	0.50	2y-EDAZ08	-90.852
EDAH09	2.91	0.66	2y-EDAH09	-95.657
EDAM09	3.14	0.90	2y-EDAM09	-94.170
EDAU09	3.37	1.12	2y-EDAU09	-92.913
EDAZ09	3.59	1.35	2y-EDAZ09	-91.703
EDAH10	3.79	1.54	2y-EDAH10	-90.340
EDAM10	3.97	1.72	2y-EDAM10	-87.591
EDAU10	4.16	1.91	2y-EDAU10	-84.291
EDAZ10	4.33	2.08	2y-EDAZ10	-80.675

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days.**
These are measuring YIELD correlations.



	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAH08	0.065	1.88	1.82	2y-EDAH08
EDAM08	0.314	1.88	1.57	2y-EDAM08
EDAU08	0.564	1.88	1.32	2y-EDAU08
EDAZ08	0.813	1.88	1.07	2y-EDAZ08
EDAH09	1.062	1.88	0.82	2y-EDAH09
EDAM09	1.312	1.88	0.57	2y-EDAM09
EDAU09	1.561	1.88	0.32	2y-EDAU09
EDAZ09	1.810	1.88	0.07	2y-EDAZ09
EDAH10	2.060	1.88	(0.18)	2y-EDAH10
EDAM10	2.309	1.88	(0.43)	2y-EDAM10
EDAU10	2.558	1.88	(0.68)	2y-EDAU10
EDAZ10	2.808	1.88	(0.93)	2y-EDAZ10

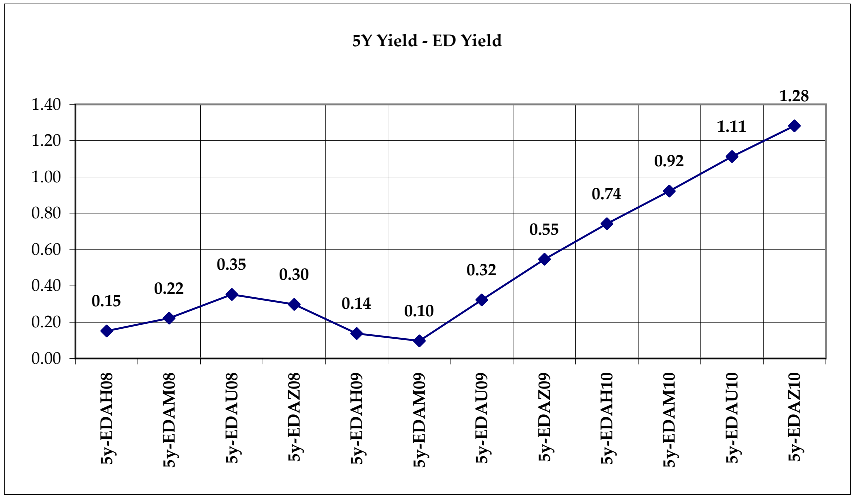
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

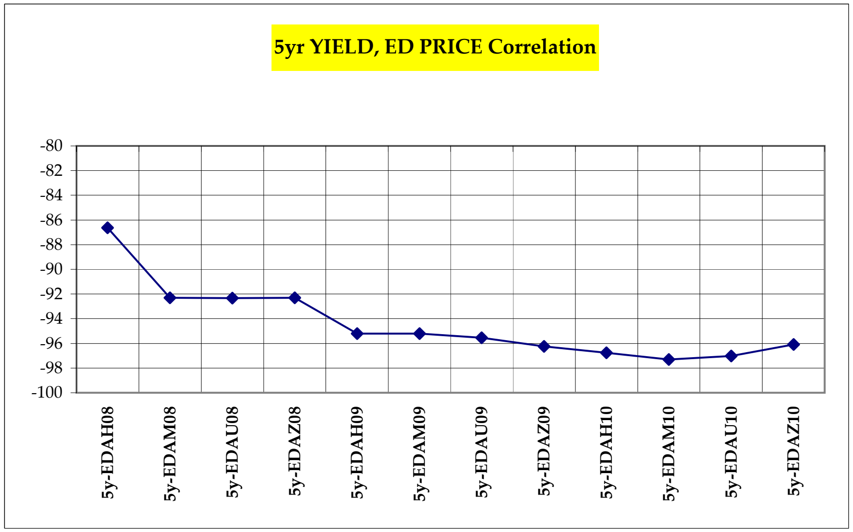
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.35	0.15	5y-EDAH08	-86.638
EDAM08	2.98	0.22	5y-EDAM08	-92.304
EDAU08	2.85	0.35	5y-EDAU08	-92.319
EDAZ08	2.90	0.30	5y-EDAZ08	-92.304
EDAH09	3.06	0.14	5y-EDAH09	-95.206
EDAM09	3.30	0.10	5y-EDAM09	-95.208
EDAU09	3.52	0.32	5y-EDAU09	-95.553
EDAZ09	3.75	0.55	5y-EDAZ09	-96.255
EDAH10	3.94	0.74	5y-EDAH10	-96.764
EDAM10	4.12	0.92	5y-EDAM10	-97.302
EDAU10	4.31	1.11	5y-EDAU10	-97.015
EDAZ10	4.48	1.28	5y-EDAZ10	-96.080

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**
These are measuring YIELD correlations.



	GE Duration as Fraction of year	5Y Duration	Spread Duration	
EDAH08	0.065	4.56	4.50	5y-EDAH08
EDAM08	0.314	4.56	4.25	5y-EDAM08
EDAU08	0.564	4.56	4.00	5y-EDAU08
EDAZ08	0.813	4.56	3.75	5y-EDAZ08
EDAH09	1.062	4.56	3.50	5y-EDAH09
EDAM09	1.312	4.56	3.25	5y-EDAM09
EDAU09	1.561	4.56	3.00	5y-EDAU09
EDAZ09	1.810	4.56	2.75	5y-EDAZ09
EDAH10	2.060	4.56	2.50	5y-EDAH10
EDAM10	2.309	4.56	2.25	5y-EDAM10
EDAU10	2.558	4.56	2.00	5y-EDAU10
EDAZ10	2.808	4.56	1.75	5y-EDAZ10

The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.35	0.81	10y-EDAH08	-87.038
EDAM08	2.98	1.19	10y-EDAM08	-81.590
EDAU08	2.85	1.32	10y-EDAU08	-76.271
EDAZ08	2.90	1.26	10y-EDAZ08	-81.590
EDAH09	3.06	1.10	10y-EDAH09	-81.495
EDAM09	3.30	0.87	10y-EDAM09	-82.596
EDAU09	3.52	0.64	10y-EDAU09	-84.033
EDAZ09	3.75	0.42	10y-EDAZ09	-86.167
EDAH10	3.94	0.22	10y-EDAH10	-88.215
EDAM10	4.12	0.04	10y-EDAM10	-91.511
EDAU10	4.31	0.15	10y-EDAU10	-94.009
EDAZ10	4.48	0.32	10y-EDAZ10	-95.665

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
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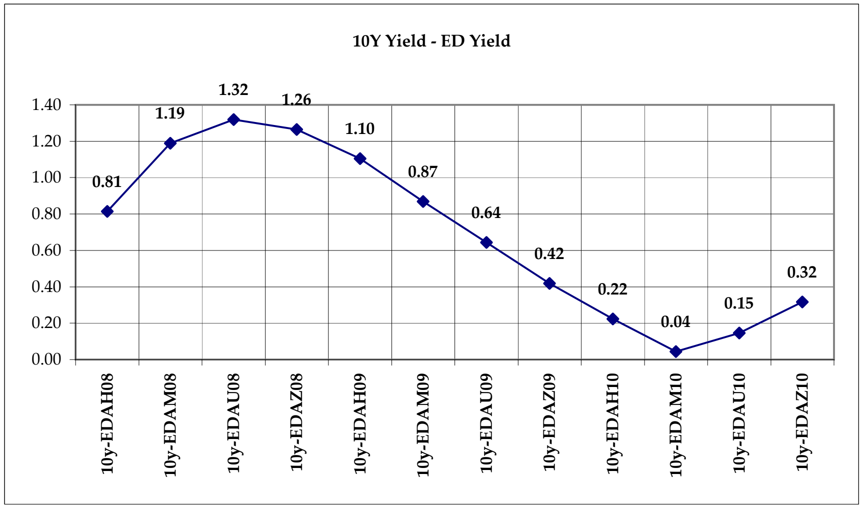
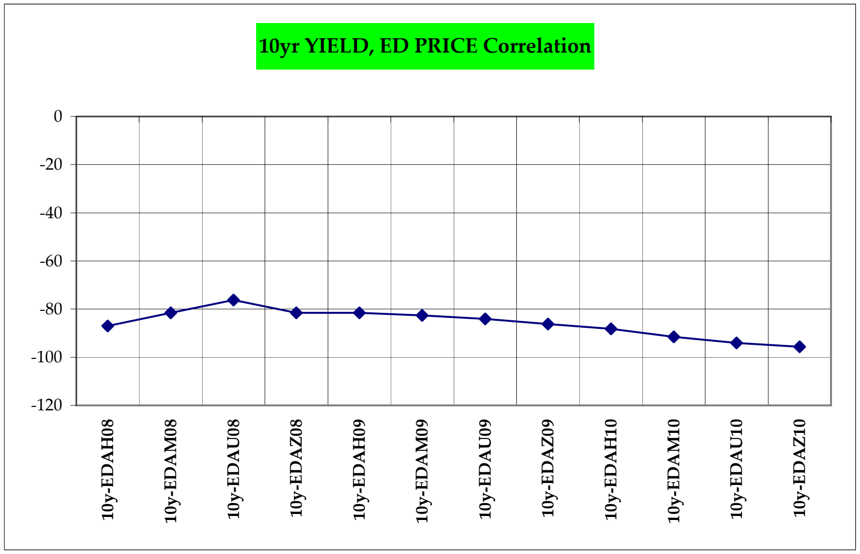
These are measuring YIELD correlations.



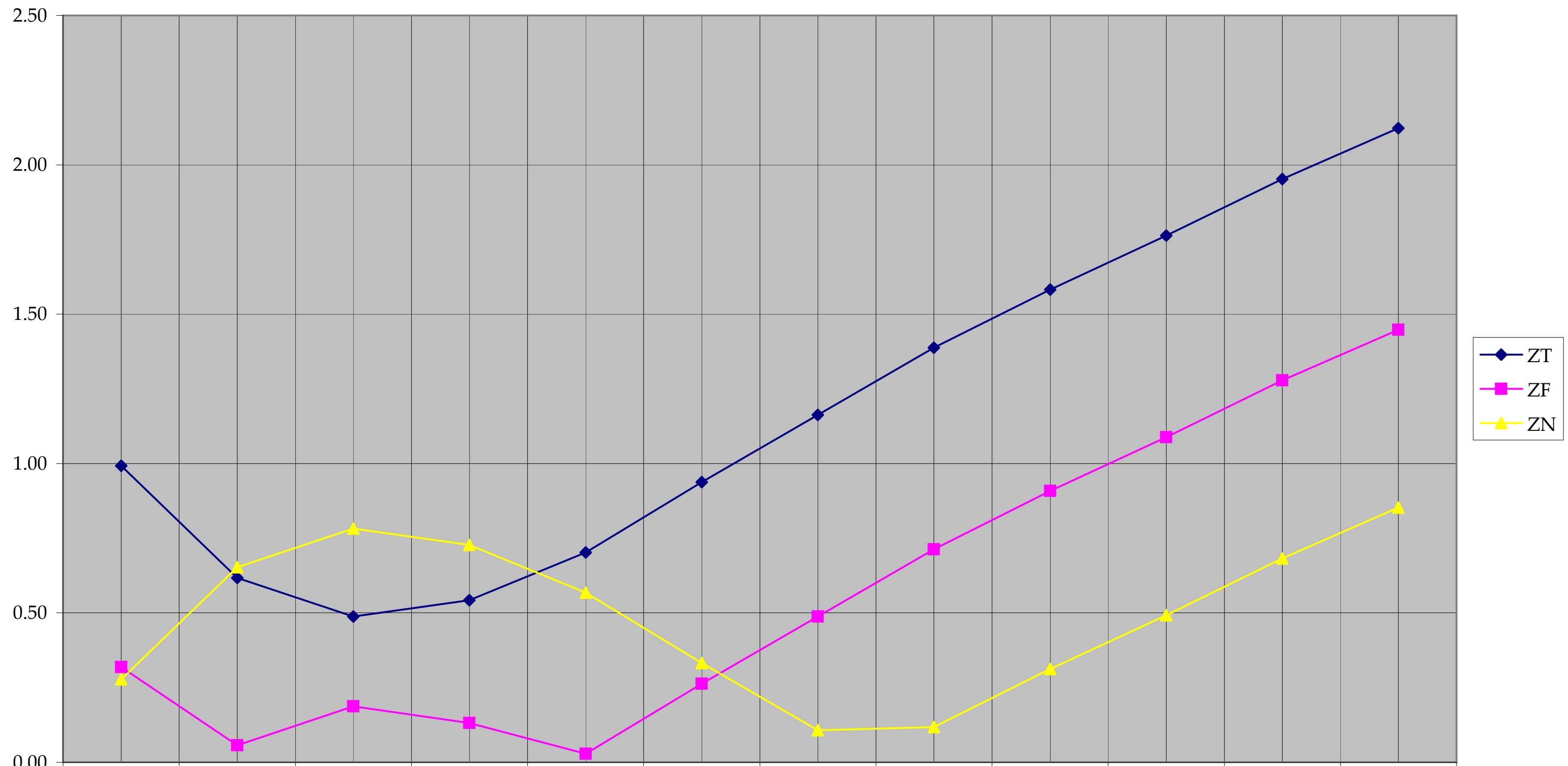
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAH08	0.065	8.32	8.26	10y-EDAH08
EDAM08	0.314	8.32	8.01	10y-EDAM08
EDAU08	0.564	8.32	7.76	10y-EDAU08
EDAZ08	0.813	8.32	7.51	10y-EDAZ08
EDAH09	1.062	8.32	7.26	10y-EDAH09
EDAM09	1.312	8.32	7.01	10y-EDAM09
EDAU09	1.561	8.32	6.76	10y-EDAU09
EDAZ09	1.810	8.32	6.51	10y-EDAZ09
EDAH10	2.060	8.32	6.26	10y-EDAH10
EDAM10	2.309	8.32	6.01	10y-EDAM10
EDAU10	2.558	8.32	5.76	10y-EDAU10
EDAZ10	2.808	8.32	5.51	10y-EDAZ10

The farther away from 0 the spread duration is the riskier the trade.



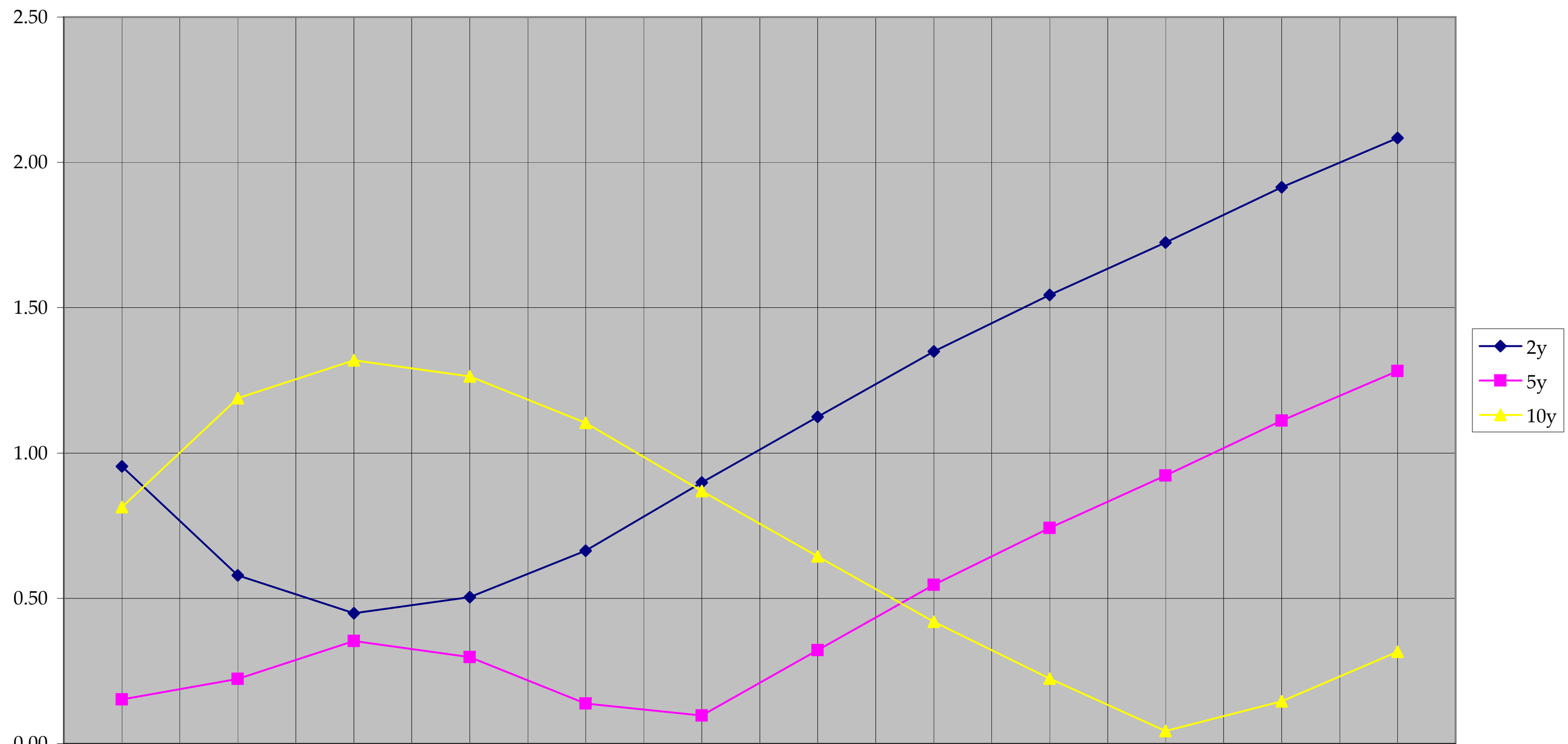
Dirty TED Curve

Chart values show the differences between ED contract and Treasury Futures conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



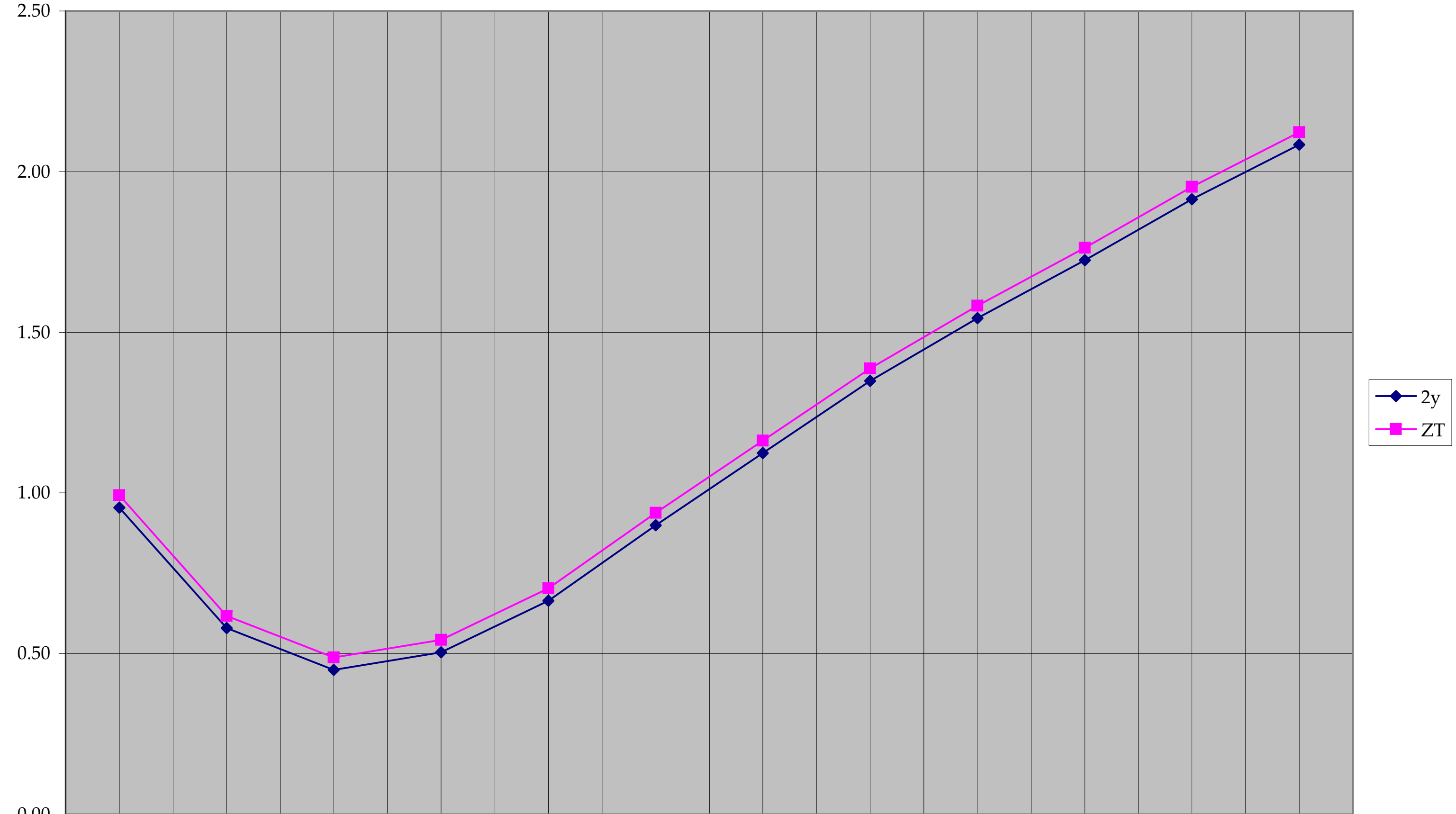
	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
ZT	0.99	0.62	0.49	0.54	0.70	0.94	1.16	1.39	1.58	1.76	1.95	2.12
ZF	0.32	0.06	0.19	0.13	0.03	0.26	0.49	0.71	0.91	1.09	1.28	1.45
ZN	0.28	0.65	0.78	0.73	0.57	0.33	0.11	0.12	0.31	0.49	0.68	0.85

Chart values show the differences between ED contract and Treasury Cash conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



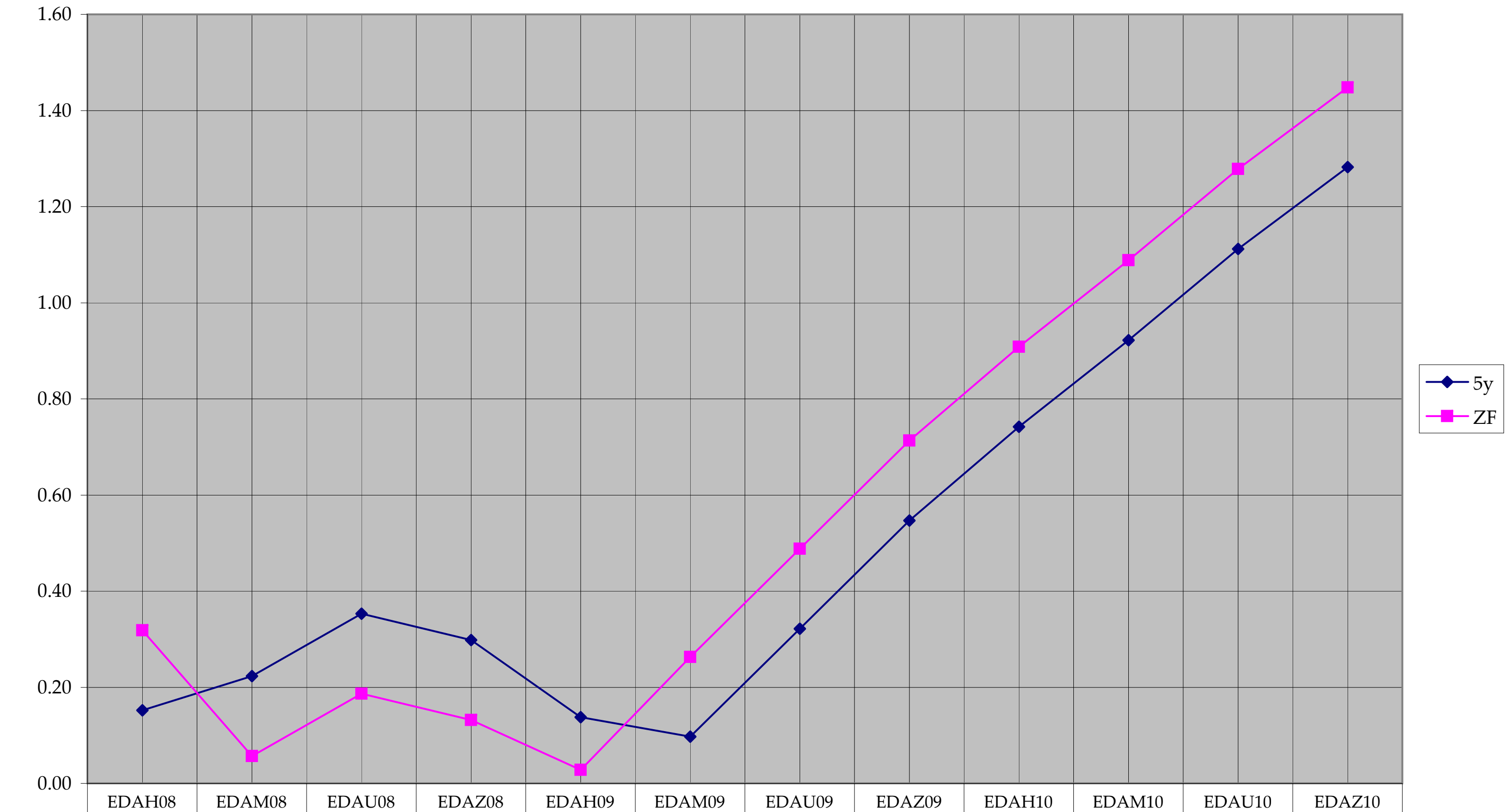
	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
2y	0.95	0.58	0.45	0.50	0.66	0.90	1.12	1.35	1.54	1.72	1.91	2.08
5y	0.15	0.22	0.35	0.30	0.14	0.10	0.32	0.55	0.74	0.92	1.11	1.28
10y	0.81	1.19	1.32	1.26	1.10	0.87	0.64	0.42	0.22	0.04	0.15	0.32

2y Basis TED Curve



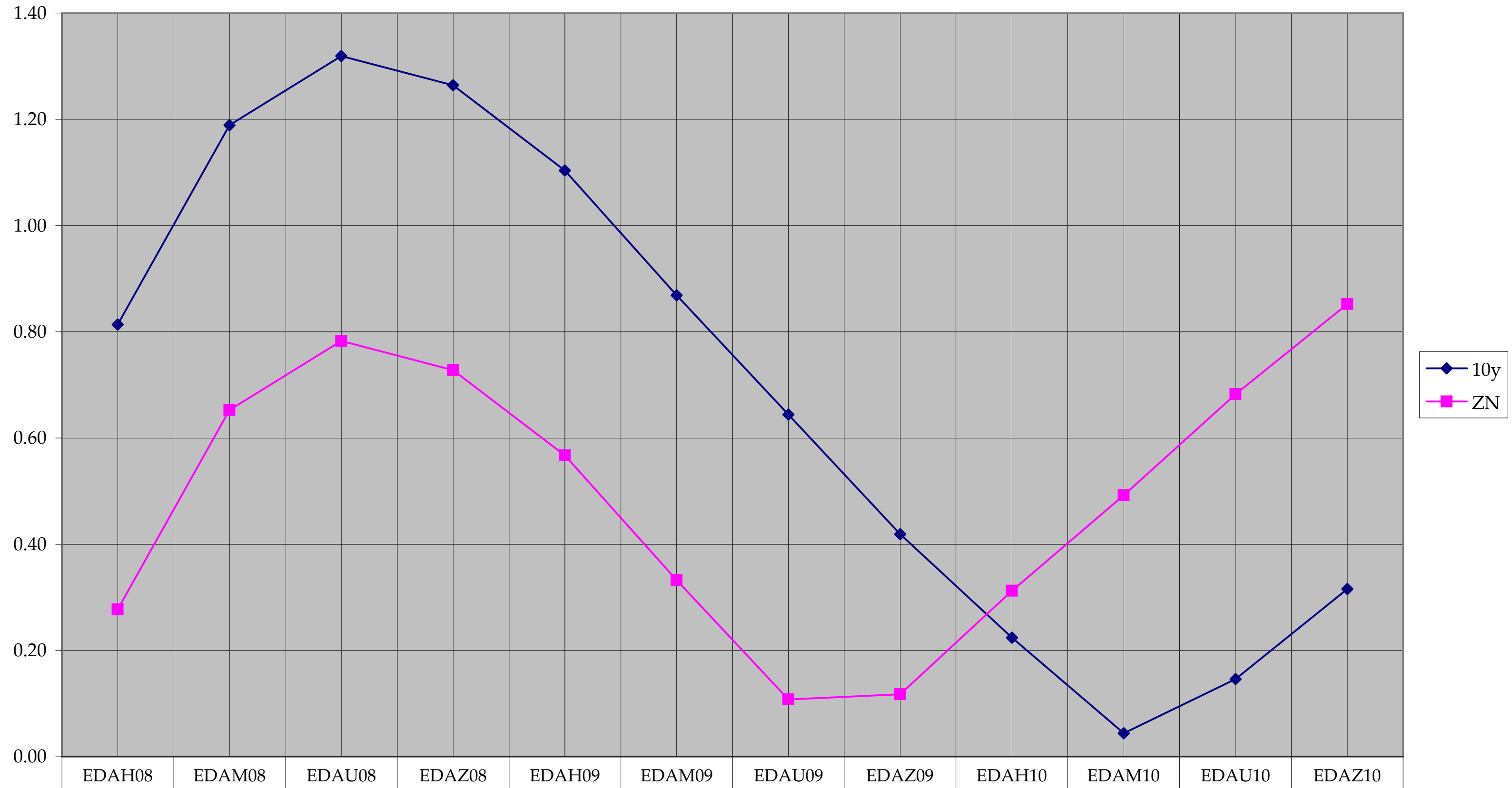
	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
2y	0.95	0.58	0.45	0.50	0.66	0.90	1.12	1.35	1.54	1.72	1.91	2.08
ZT	0.99	0.62	0.49	0.54	0.70	0.94	1.16	1.39	1.58	1.76	1.95	2.12

5y Basis TED Curve



	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
5y	0.15	0.22	0.35	0.30	0.14	0.10	0.32	0.55	0.74	0.92	1.11	1.28
ZF	0.32	0.06	0.19	0.13	0.03	0.26	0.49	0.71	0.91	1.09	1.28	1.45

10y Basis TED Curve



	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
10y	0.81	1.19	1.32	1.26	1.10	0.87	0.64	0.42	0.22	0.04	0.15	0.32
ZN	0.28	0.65	0.78	0.73	0.57	0.33	0.11	0.12	0.31	0.49	0.68	0.85

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.651	1.438	9740.250
Q.ED.Red	3.049	2.750	9701.500
Q.ED.Green	3.882	2.125	9620.750
Q.ED.Blue		0.375	9555.375
Q.ED.Gold		0.000	9506.375