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.

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

Quotes

	F.I. Futures and Cash			
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	104.3344	104.107	3.461	1.87
ZF	108.8438	108.270	3.731	3.84
ZN	111.8281	111.265	3.993	5.77
2y	100.313	100.1000	3.458	1.78
5y	100.381	100.1220	3.790	4.47
10y	100.078	100.0250	4.238	8.08

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.140	4.860	32	0.087	DEC	White Pack
EDAH08	95.715	4.285	123	0.336	MAR	
EDAM08	95.980	4.020	214	0.586	JUN	
EDAU08	96.090	3.910	305	0.835	SEP	
EDAZ08	96.095	3.905	396	1.084	DEC	Red Pack
EDAH09	96.020	3.980	487	1.334	MAR	
EDAM09	95.890	4.110	578	1.583	JUN	
EDAU09	95.765	4.235	669	1.832	SEP	
EDAZ09	95.640	4.360	760	2.082	DEC	Green Pack
EDAH10	95.550	4.450	851	2.331	MAR	
EDAM10	95.445	4.555	942	2.580	JUN	
EDAU10	95.370	4.630	1033	2.829	SEP	
EDAZ10	95.255	4.745	1124	3.079	DEC	Blue Pack
EDAH11	95.150	4.850	1215	3.328	MAR	
EDAM11	95.070	4.930	1306	3.577	JUN	
EDAU11	95.005	4.995	1404	3.846	SEP	
EDAZ11	94.940	5.060	1495	4.095	DEC	Gold Pack
EDAH12	94.885	5.115	1586	4.345	MAR	
EDAM12	94.830	5.170	1677	4.594	JUN	
EDAU12	94.780	5.220	1768	4.843	SEP	

	Last Yield	Net Yield	Last Price	
Q.ED.White	4.375	2.750	9573.125	Pack Prices
Q.ED.Red	4.156	7.000	9594.250	
Q.ED.Green	4.613	5.875	9550.125	
Q.ED.Blue	5.009	0.750	9512.000	
Q.ED.Gold	5.281	0.250	9485.875	

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

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

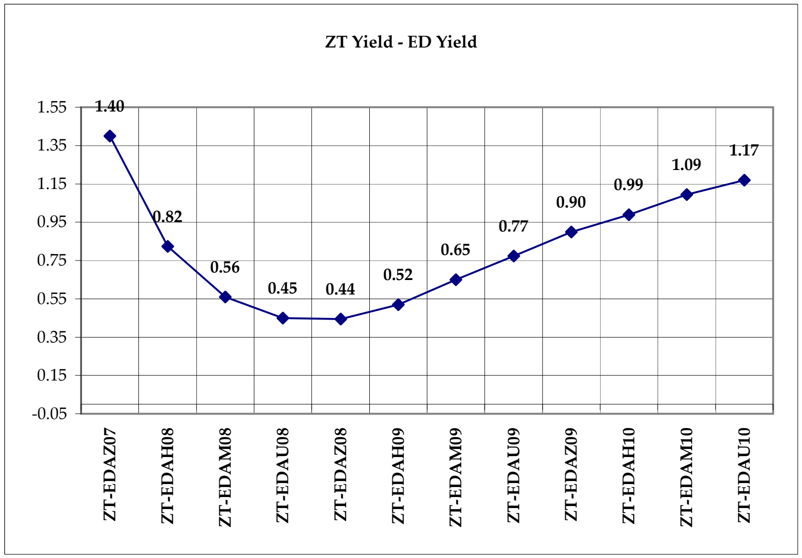
Eurodollar Color Codes for Individual Year Strips:

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

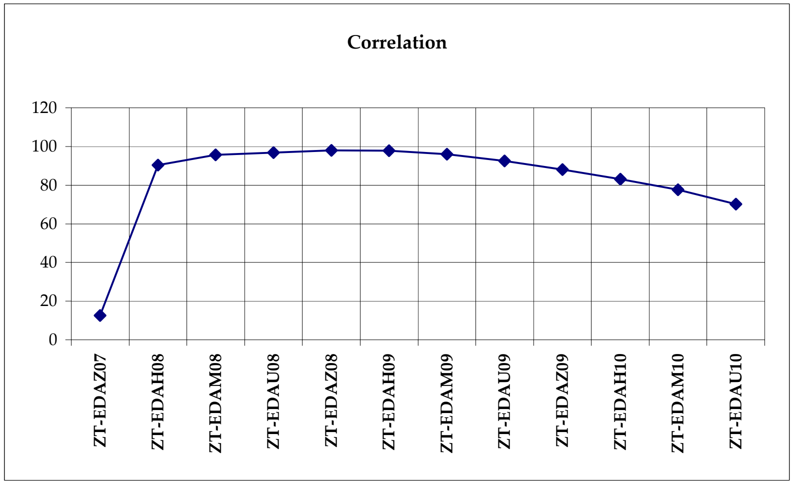
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	9.194	1.40	ZT-EDAZ07	12.561
EDAH08	8.619	0.82	ZT-EDAH08	90.368
EDAM08	8.354	0.56	ZT-EDAM08	95.685
EDAU08	8.244	0.45	ZT-EDAU08	96.845
EDAZ08	8.239	0.44	ZT-EDAZ08	98.046
EDAH09	8.314	0.52	ZT-EDAH09	97.804
EDAM09	8.444	0.65	ZT-EDAM09	95.923
EDAU09	8.569	0.77	ZT-EDAU09	92.582
EDAZ09	8.694	0.90	ZT-EDAZ09	88.046
EDAH10	8.784	0.99	ZT-EDAH10	83.127
EDAM10	8.889	1.09	ZT-EDAM10	77.688
EDAU10	8.964	1.17	ZT-EDAU10	70.168

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	
EDAZ07	0.087	1.87	1.78	ZT-EDAZ07
EDAH08	0.336	1.87	1.53	ZT-EDAH08
EDAM08	0.586	1.87	1.29	ZT-EDAM08
EDAU08	0.835	1.87	1.04	ZT-EDAU08
EDAZ08	1.084	1.87	0.79	ZT-EDAZ08
EDAH09	1.334	1.87	0.54	ZT-EDAH09
EDAM09	1.583	1.87	0.29	ZT-EDAM09
EDAU09	1.832	1.87	0.04	ZT-EDAU09
EDAZ09	2.082	1.87	(0.21)	ZT-EDAZ09
EDAH10	2.331	1.87	(0.46)	ZT-EDAH10
EDAM10	2.580	1.87	(0.71)	ZT-EDAM10
EDAU10	2.829	1.87	(0.96)	ZT-EDAU10

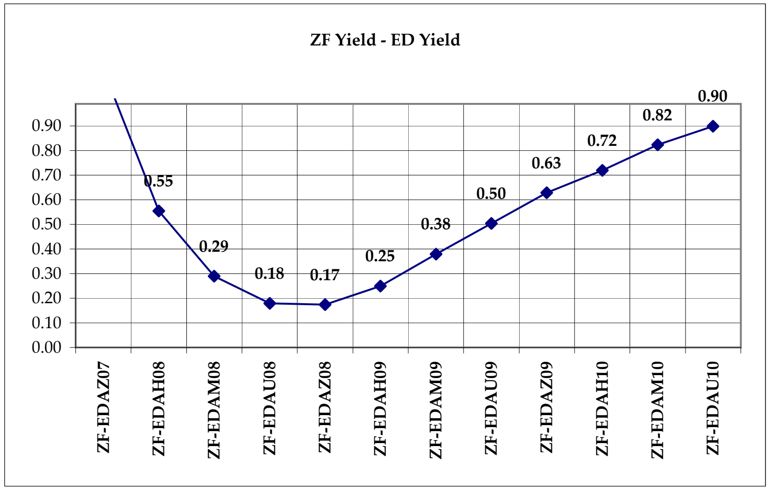
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

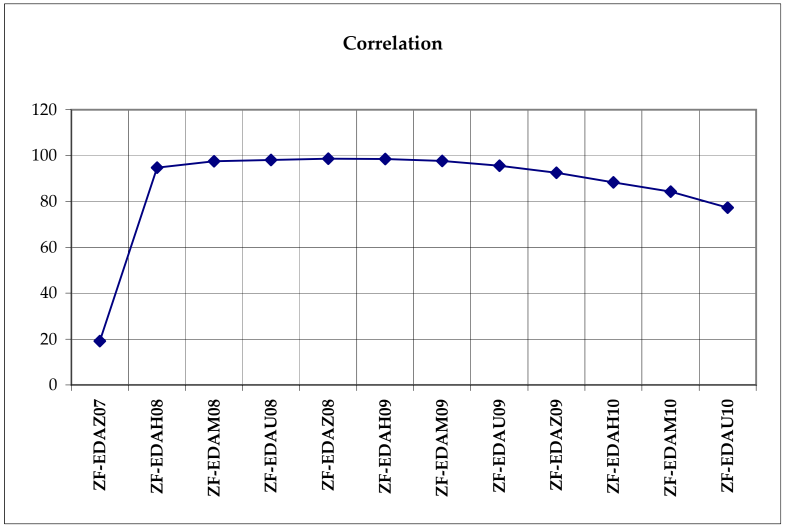
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.70	1.13	ZF-EDAZ07	19.115
EDAH08	13.13	0.55	ZF-EDAH08	94.754
EDAM08	12.86	0.29	ZF-EDAM08	97.494
EDAU08	12.75	0.18	ZF-EDAU08	98.092
EDAZ08	12.75	0.17	ZF-EDAZ08	98.621
EDAH09	12.82	0.25	ZF-EDAH09	98.485
EDAM09	12.95	0.38	ZF-EDAM09	97.635
EDAU09	13.08	0.50	ZF-EDAU09	95.548
EDAZ09	13.20	0.63	ZF-EDAZ09	92.520
EDAH10	13.29	0.72	ZF-EDAH10	88.372
EDAM10	13.40	0.82	ZF-EDAM10	84.215
EDAU10	13.47	0.90	ZF-EDAU10	77.359

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	ZF Duration	Spread Duration	
EDAZ07	0.087	3.84	3.75	ZF-EDAZ07
EDAH08	0.336	3.84	3.50	ZF-EDAH08
EDAM08	0.586	3.84	3.25	ZF-EDAM08
EDAU08	0.835	3.84	3.00	ZF-EDAU08
EDAZ08	1.084	3.84	2.75	ZF-EDAZ08
EDAH09	1.334	3.84	2.51	ZF-EDAH09
EDAM09	1.583	3.84	2.26	ZF-EDAM09
EDAU09	1.832	3.84	2.01	ZF-EDAU09
EDAZ09	2.082	3.84	1.76	ZF-EDAZ09
EDAH10	2.331	3.84	1.51	ZF-EDAH10
EDAM10	2.580	3.84	1.26	ZF-EDAM10
EDAU10	2.829	3.84	1.01	ZF-EDAU10

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



Dirty TED: ZN vs Eurodollar Contracts

	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	16.69	0.87	ZN-EDAZ07	24.11
EDAH08	16.11	0.29	ZN-EDAH08	97.22
EDAM08	15.85	0.03	ZN-EDAM08	98.12
EDAU08	15.74	0.08	ZN-EDAU08	97.83
EDAZ08	15.73	0.09	ZN-EDAZ08	97.03
EDAH09	15.81	0.01	ZN-EDAH09	96.89
EDAM09	15.94	0.12	ZN-EDAM09	97.19
EDAU09	16.06	0.24	ZN-EDAU09	97.39
EDAZ09	16.19	0.37	ZN-EDAZ09	96.91
EDAH10	16.28	0.46	ZN-EDAH10	88.37
EDAM10	16.38	0.56	ZN-EDAM10	84.22
EDAU10	16.46	0.64	ZN-EDAU10	77.36

Price = Outright Decimal Price - Euro Contract Price
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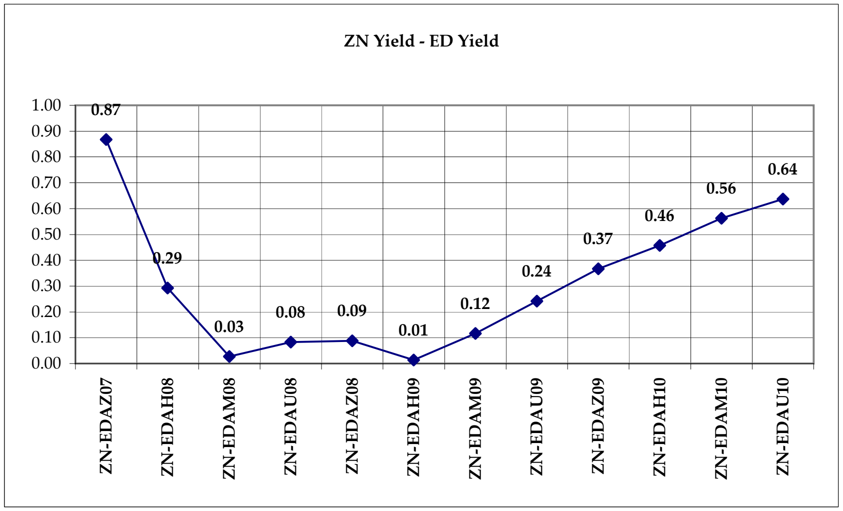
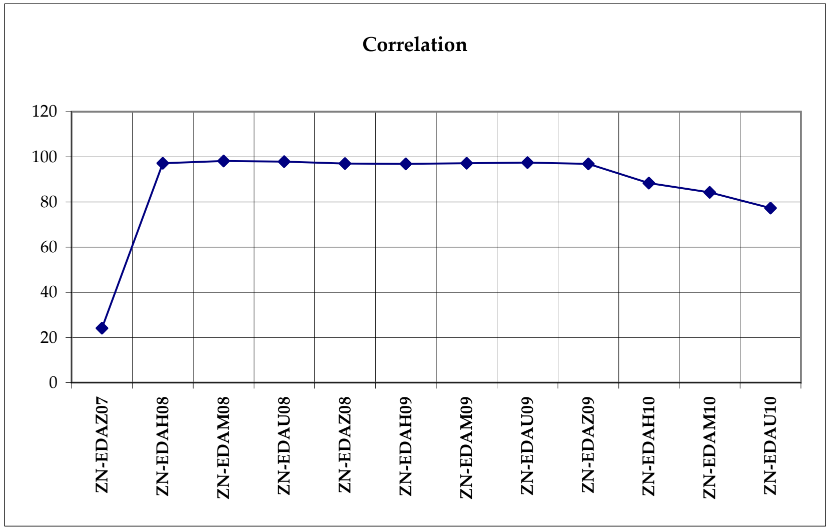


	GE Duration as Fraction of year	ZN Duration	Spread Duration	
EDAZ07	0.087	5.77	5.68	ZN-EDAZ07
EDAH08	0.336	5.77	5.43	ZN-EDAH08
EDAM08	0.586	5.77	5.18	ZN-EDAM08
EDAU08	0.835	5.77	4.93	ZN-EDAU08
EDAZ08	1.084	5.77	4.68	ZN-EDAZ08
EDAH09	1.334	5.77	4.43	ZN-EDAH09
EDAM09	1.583	5.77	4.19	ZN-EDAM09
EDAU09	1.832	5.77	3.94	ZN-EDAU09
EDAZ09	2.082	5.77	3.69	ZN-EDAZ09
EDAH10	2.331	5.77	3.44	ZN-EDAH10
EDAM10	2.580	5.77	3.19	ZN-EDAM10
EDAU10	2.829	5.77	2.94	ZN-EDAU10

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)
EDAZ07	5.17	1.40	2y-EDAZ07	-17.071
EDAH08	4.60	0.83	2y-EDAH08	-85.312
EDAM08	4.33	0.56	2y-EDAM08	-91.288
EDAU08	4.22	0.45	2y-EDAU08	-92.170
EDAZ08	4.22	0.45	2y-EDAZ08	-91.288
EDAH09	4.29	0.52	2y-EDAH09	-91.349
EDAM09	4.42	0.65	2y-EDAM09	-88.345
EDAU09	4.55	0.78	2y-EDAU09	-84.573
EDAZ09	4.67	0.90	2y-EDAZ09	-80.337
EDAH10	4.76	0.99	2y-EDAH10	-75.722
EDAM10	4.87	1.10	2y-EDAM10	-71.234
EDAU10	4.94	1.17	2y-EDAU10	-64.307

Price = Outright Decimal Price - Euro Contract Price
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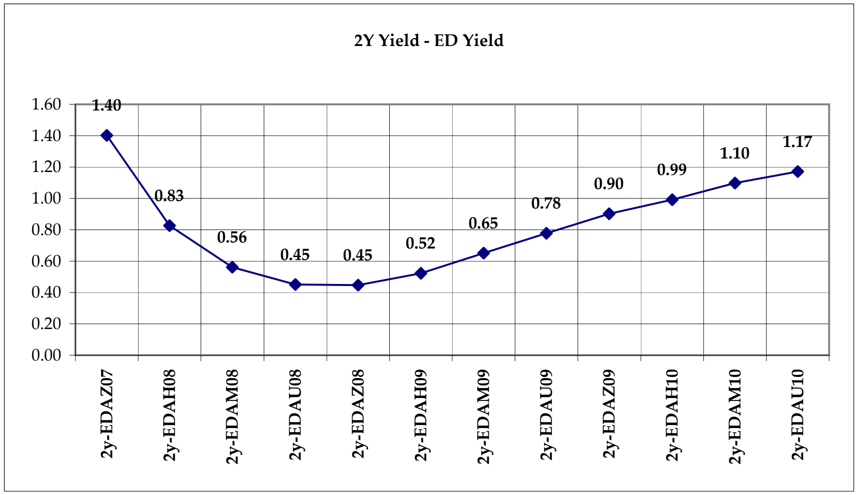

	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAZ07	0.087	1.78	1.70	2y-EDAZ07
EDAH08	0.336	1.78	1.45	2y-EDAH08
EDAM08	0.586	1.78	1.20	2y-EDAM08
EDAU08	0.835	1.78	0.95	2y-EDAU08
EDAZ08	1.084	1.78	0.70	2y-EDAZ08
EDAH09	1.334	1.78	0.45	2y-EDAH09
EDAM09	1.583	1.78	0.20	2y-EDAM09
EDAU09	1.832	1.78	(0.05)	2y-EDAU09
EDAZ09	2.082	1.78	(0.30)	2y-EDAZ09
EDAH10	2.331	1.78	(0.55)	2y-EDAH10
EDAM10	2.580	1.78	(0.80)	2y-EDAM10
EDAU10	2.829	1.78	(1.05)	2y-EDAU10

The farther away from 0 the spread duration is
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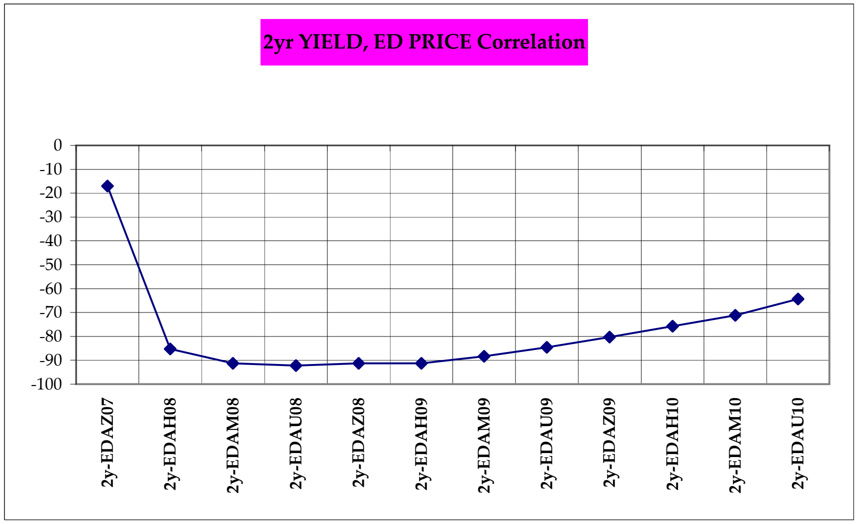

TERM TED: 5y vs Eurodollar Contracts

	5y Spread Price	5y Spread Yield	5y Spread Name	Correlation* (percent)
EDAZ07	5.24	1.07	5y-EDAZ07	-22.416
EDAH08	4.67	0.49	5y-EDAH08	-88.534
EDAM08	4.40	0.23	5y-EDAM08	-93.282
EDAU08	4.29	0.12	5y-EDAU08	-93.782
EDAZ08	4.29	0.12	5y-EDAZ08	-93.282
EDAH09	4.36	0.19	5y-EDAH09	-92.503
EDAM09	4.49	0.32	5y-EDAM09	-90.012
EDAU09	4.62	0.44	5y-EDAU09	-87.115
EDAZ09	4.74	0.57	5y-EDAZ09	-83.768
EDAH10	4.83	0.66	5y-EDAH10	-79.806
EDAM10	4.94	0.76	5y-EDAM10	-76.066
EDAU10	5.01	0.84	5y-EDAU10	-69.440

Price = Outright Decimal Price - Euro Contract Price
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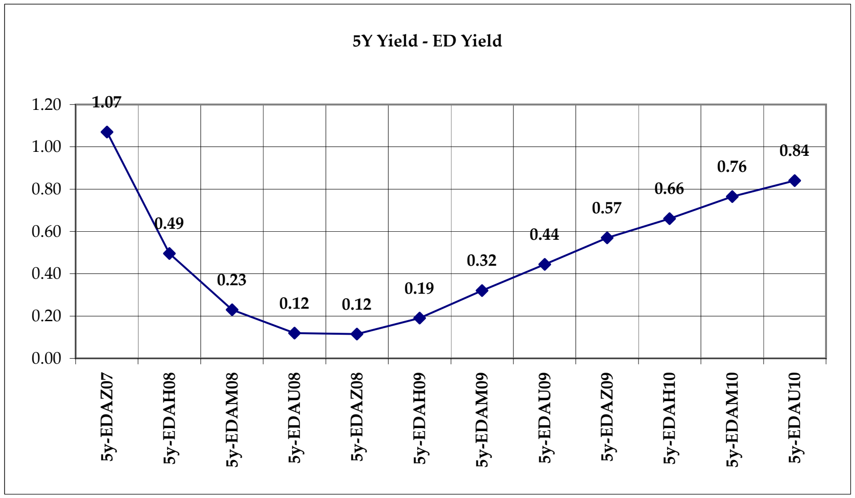
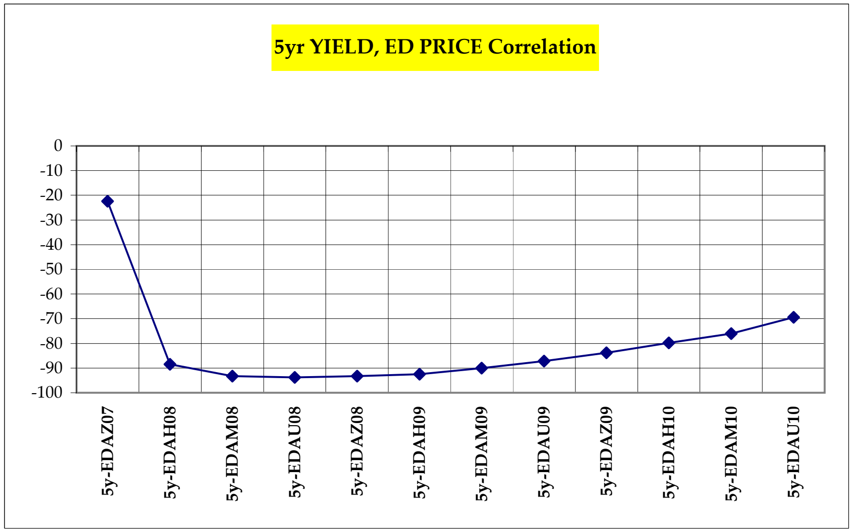
These are measuring YIELD correlations.



	GE Duration as Fraction of year	5Y Duration	Spread Duration	
EDAZ07	0.087	4.47	4.38	5y-EDAZ07
EDAH08	0.336	4.47	4.13	5y-EDAH08
EDAM08	0.586	4.47	3.88	5y-EDAM08
EDAU08	0.835	4.47	3.63	5y-EDAU08
EDAZ08	1.084	4.47	3.38	5y-EDAZ08
EDAH09	1.334	4.47	3.13	5y-EDAH09
EDAM09	1.583	4.47	2.88	5y-EDAM09
EDAU09	1.832	4.47	2.63	5y-EDAU09
EDAZ09	2.082	4.47	2.38	5y-EDAZ09
EDAH10	2.331	4.47	2.13	5y-EDAH10
EDAM10	2.580	4.47	1.89	5y-EDAM10
EDAU10	2.829	4.47	1.64	5y-EDAU10

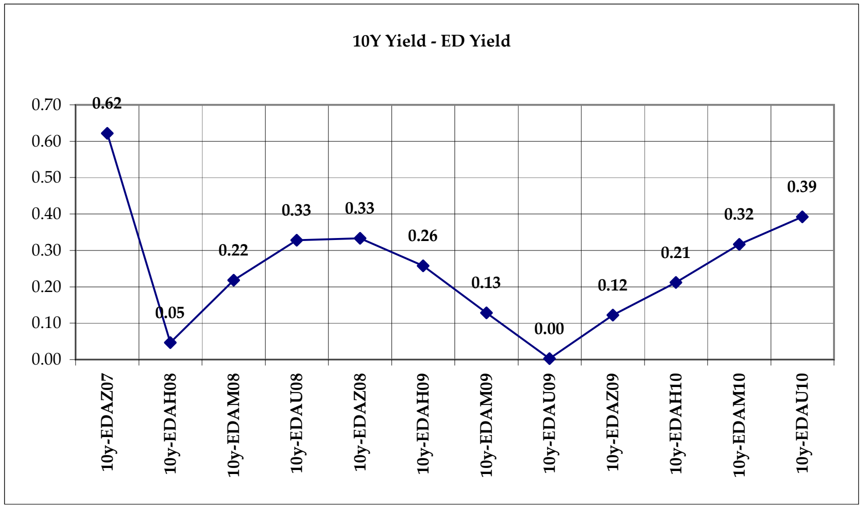
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

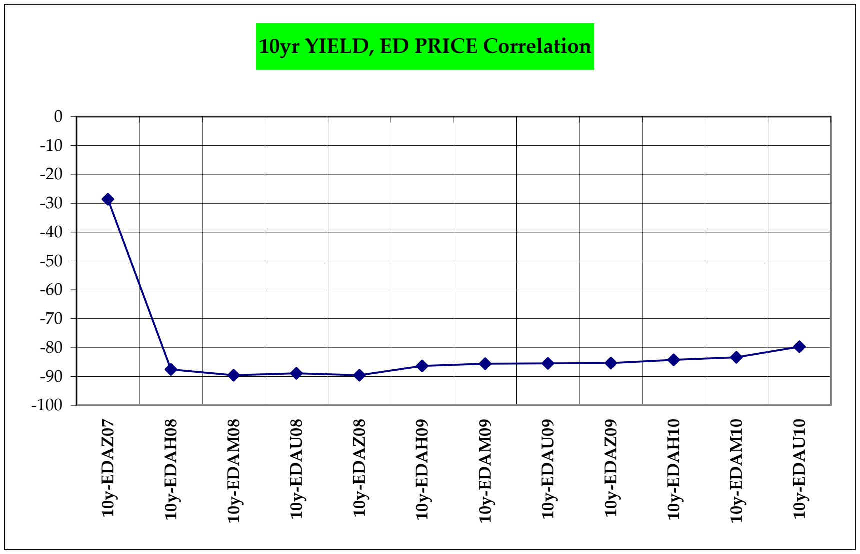
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	5.24	0.62	10y-EDAZ07	-28.554
EDAH08	4.67	0.05	10y-EDAH08	-87.633
EDAM08	4.40	0.22	10y-EDAM08	-89.533
EDAU08	4.29	0.33	10y-EDAU08	-88.944
EDAZ08	4.29	0.33	10y-EDAZ08	-89.533
EDAH09	4.36	0.26	10y-EDAH09	-86.394
EDAM09	4.49	0.13	10y-EDAM09	-85.579
EDAU09	4.62	0.00	10y-EDAU09	-85.497
EDAZ09	4.74	0.12	10y-EDAZ09	-85.399
EDAH10	4.83	0.21	10y-EDAH10	-84.267
EDAM10	4.94	0.32	10y-EDAM10	-83.336
EDAU10	5.01	0.39	10y-EDAU10	-79.666

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.



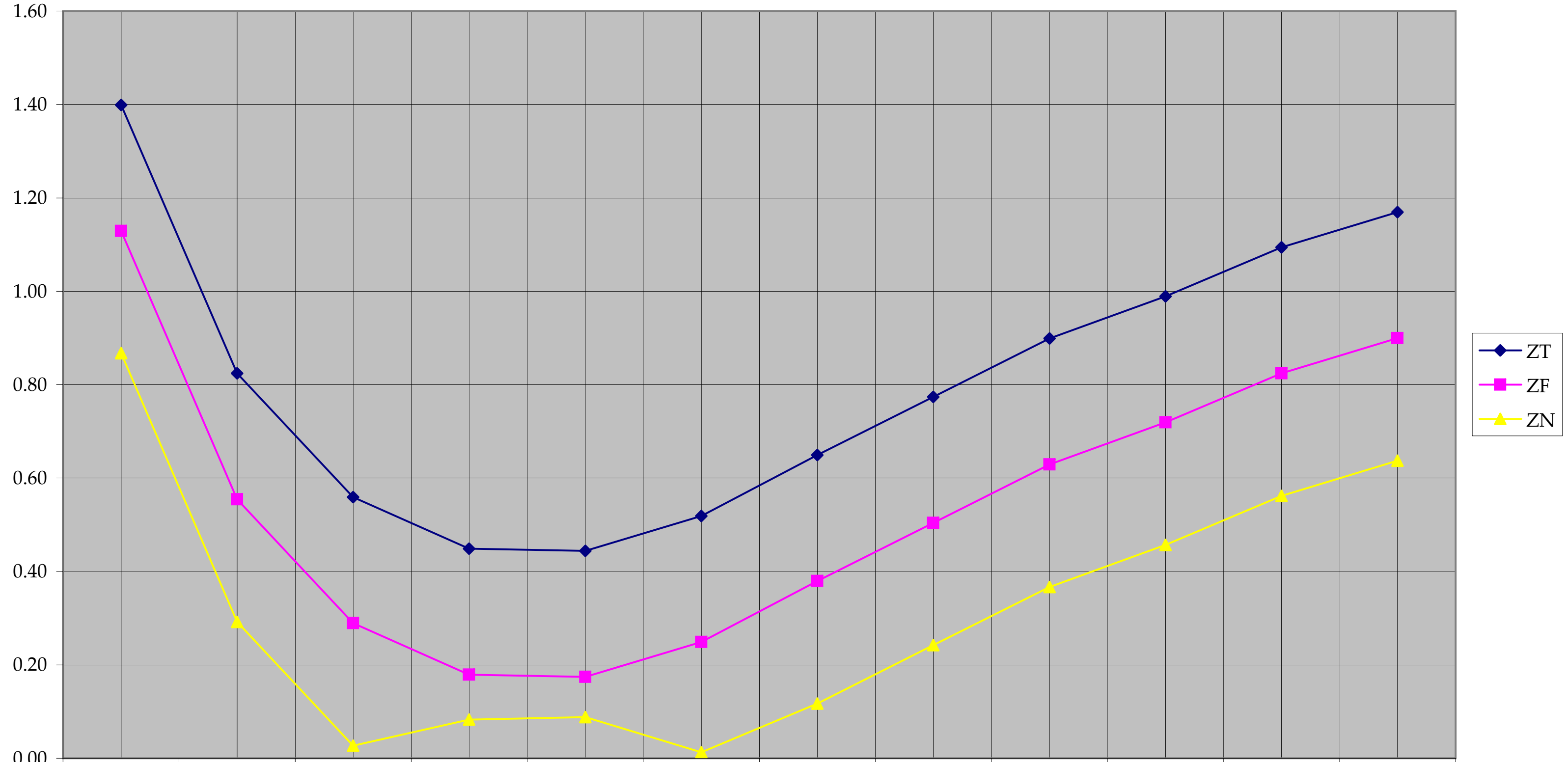
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.087	8.08	7.99	10y-EDAZ07
EDAH08	0.336	8.08	7.74	10y-EDAH08
EDAM08	0.586	8.08	7.49	10y-EDAM08
EDAU08	0.835	8.08	7.24	10y-EDAU08
EDAZ08	1.084	8.08	6.99	10y-EDAZ08
EDAH09	1.334	8.08	6.74	10y-EDAH09
EDAM09	1.583	8.08	6.49	10y-EDAM09
EDAU09	1.832	8.08	6.24	10y-EDAU09
EDAZ09	2.082	8.08	5.99	10y-EDAZ09
EDAH10	2.331	8.08	5.75	10y-EDAH10
EDAM10	2.580	8.08	5.50	10y-EDAM10
EDAU10	2.829	8.08	5.25	10y-EDAU10

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



Dirty TED Curve

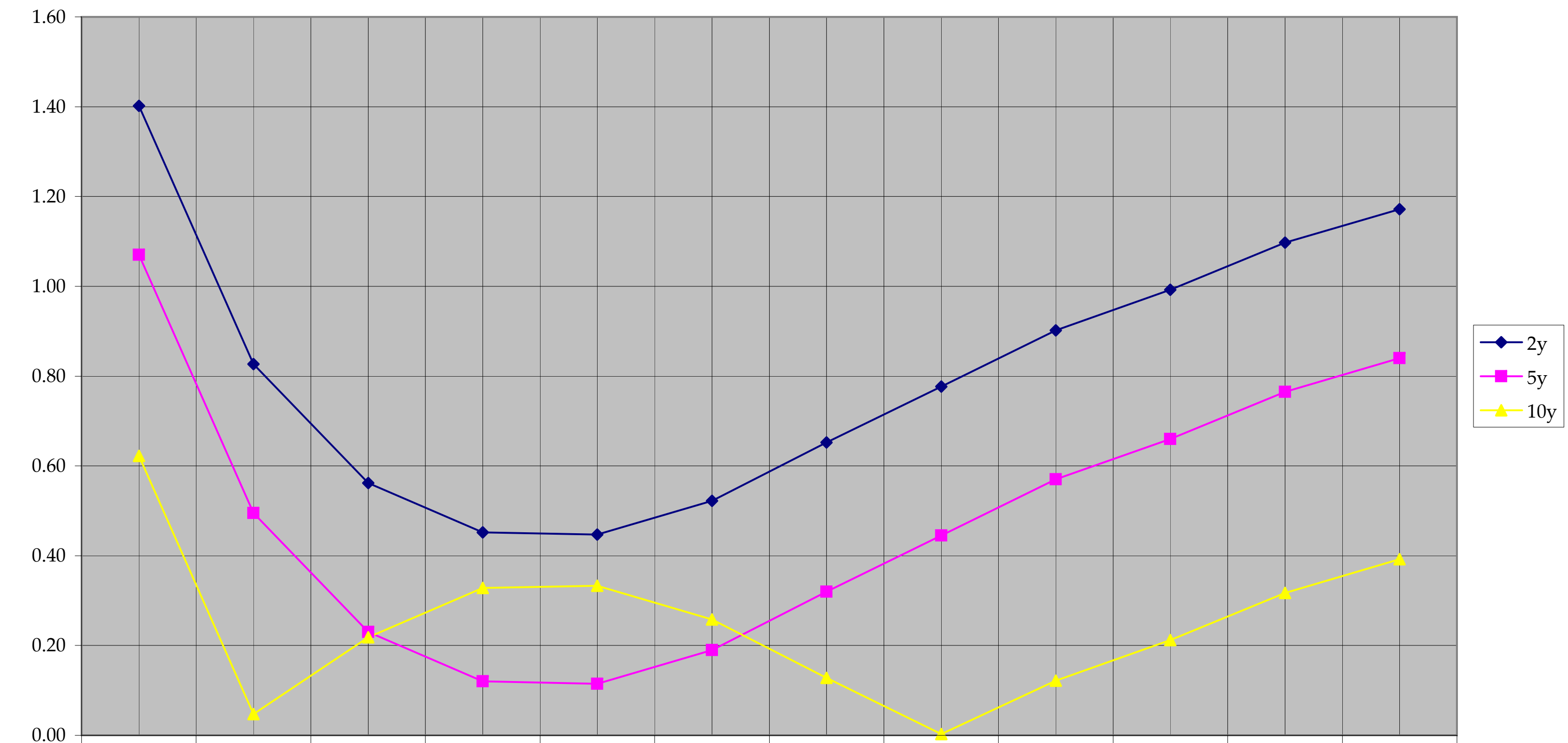
Chart values show the differences between ED contract and Treasury Futures conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
ZT	1.40	0.82	0.56	0.45	0.44	0.52	0.65	0.77	0.90	0.99	1.09	1.17
ZF	1.13	0.55	0.29	0.18	0.17	0.25	0.38	0.50	0.63	0.72	0.82	0.90
ZN	0.87	0.29	0.03	0.08	0.09	0.01	0.12	0.24	0.37	0.46	0.56	0.64

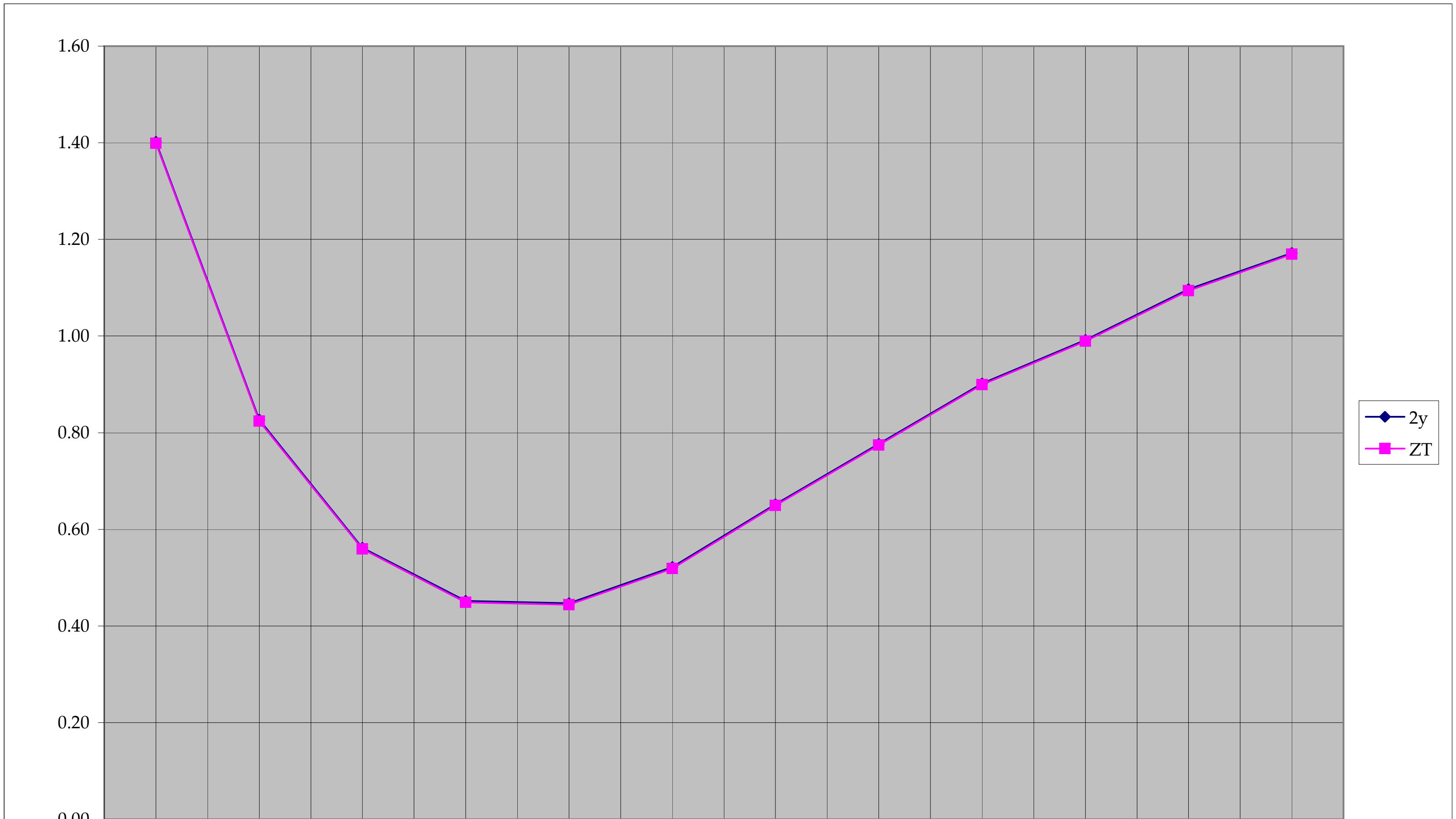
TED Curve

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.



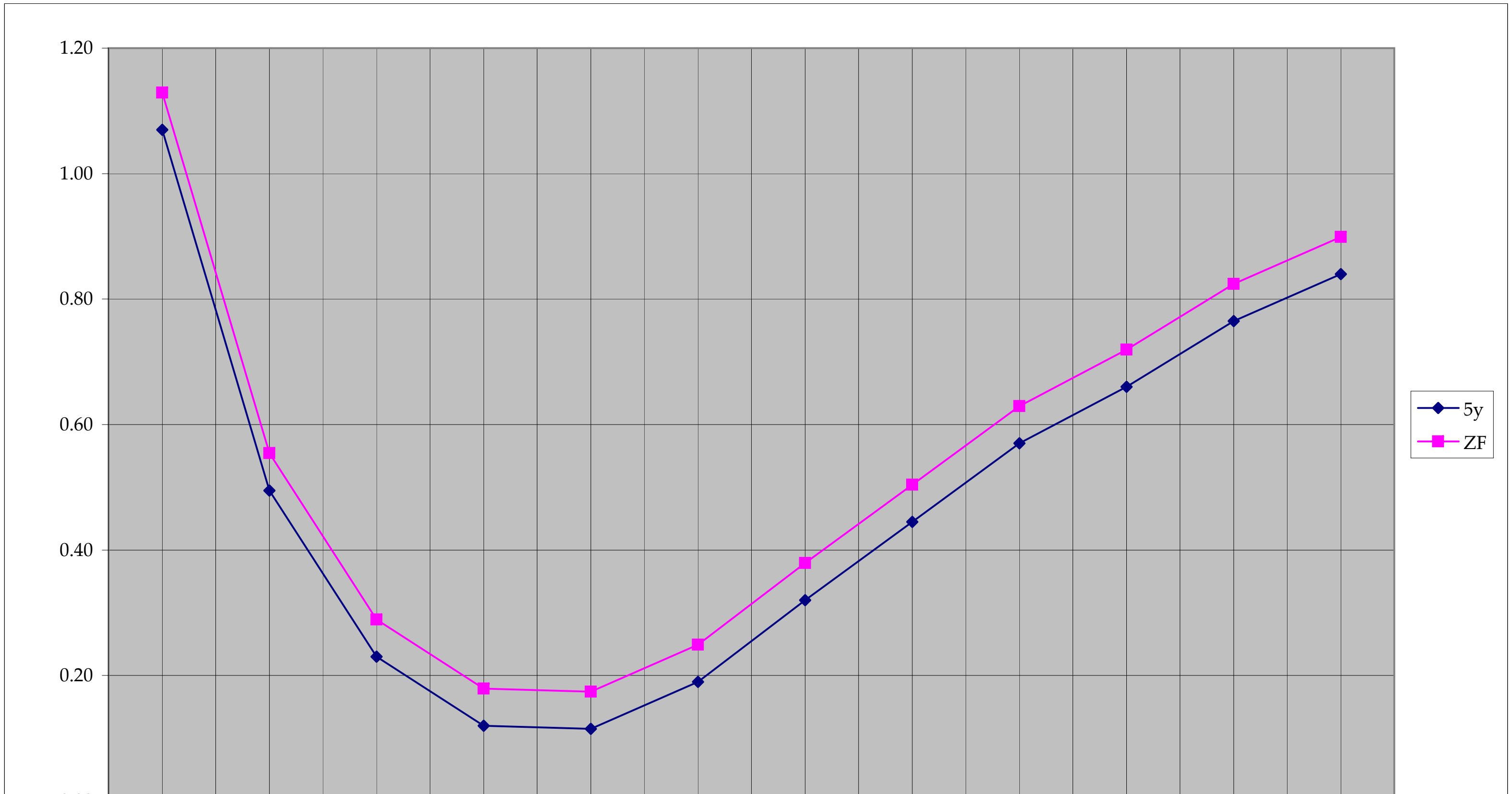
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	1.40	0.83	0.56	0.45	0.45	0.52	0.65	0.78	0.90	0.99	1.10	1.17
5y	1.07	0.49	0.23	0.12	0.12	0.19	0.32	0.44	0.57	0.66	0.76	0.84
10y	0.62	0.05	0.22	0.33	0.33	0.26	0.13	0.00	0.12	0.21	0.32	0.39

2y Basis TED Curve



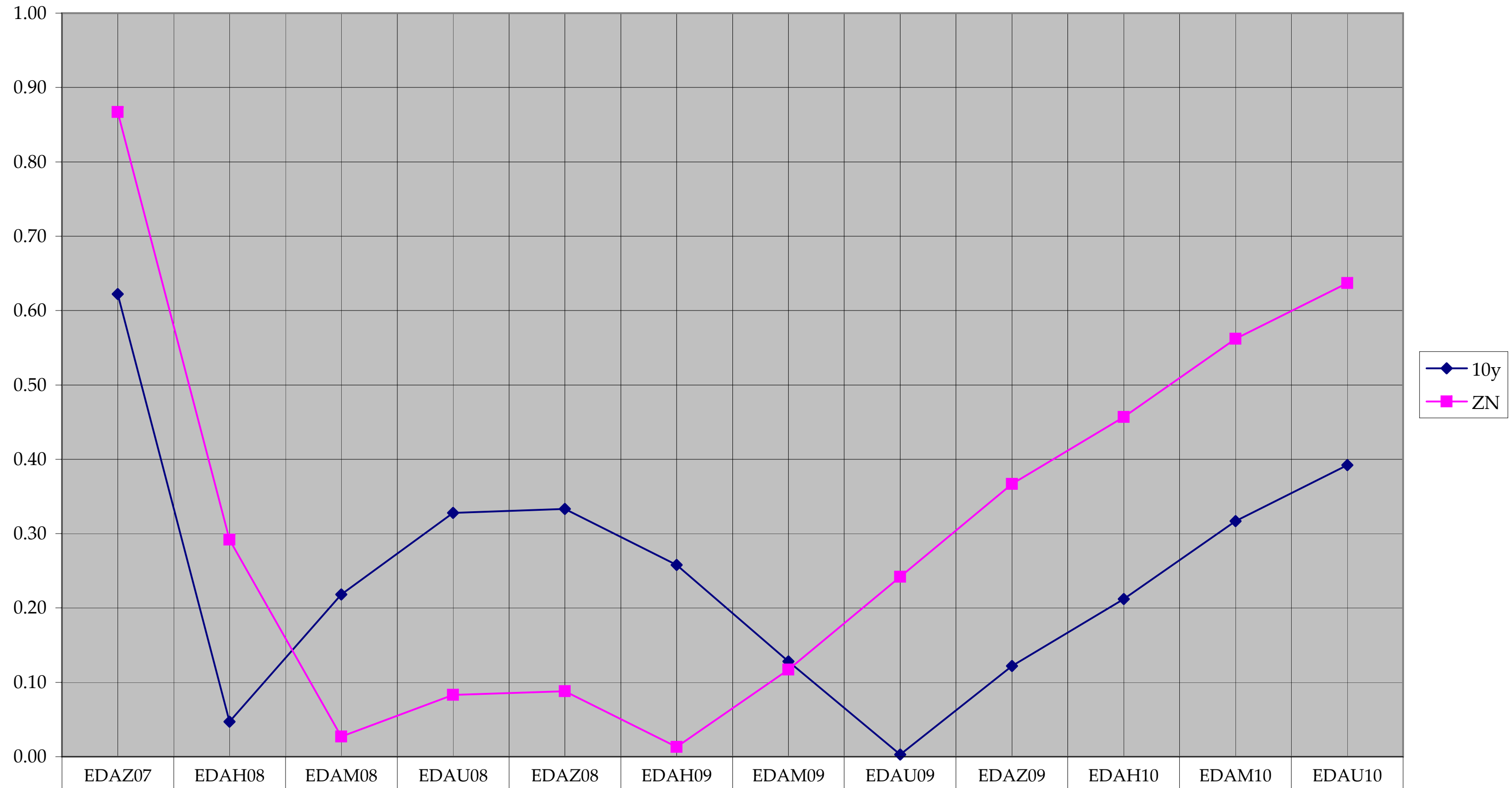
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	1.40	0.83	0.56	0.45	0.45	0.52	0.65	0.78	0.90	0.99	1.10	1.17
ZT	1.40	0.82	0.56	0.45	0.44	0.52	0.65	0.77	0.90	0.99	1.09	1.17

5y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
5y	1.07	0.49	0.23	0.12	0.12	0.19	0.32	0.44	0.57	0.66	0.76	0.84
ZF	1.13	0.55	0.29	0.18	0.17	0.25	0.38	0.50	0.63	0.72	0.82	0.90

10y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
10y	0.62	0.05	0.22	0.33	0.33	0.26	0.13	0.00	0.12	0.21	0.32	0.39
ZN	0.87	0.29	0.03	0.08	0.09	0.01	0.12	0.24	0.37	0.46	0.56	0.64

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.375	2.750	9573.125
Q.ED.Red	4.156	7.000	9594.250
Q.ED.Green	4.613	5.875	9550.125
Q.ED.Blue	5.009	0.750	9512.000
Q.ED.Gold	5.281	0.250	9485.875