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	105.9375	105.300	2.648	1.89
ZF	111.7500	111.240	3.038	3.94
ZN	115.0313	115.010	3.485	5.88
2y	101.141	101.0450	2.650	1.89
5y	102.319	102.1020	3.115	4.45
10y	103.203	103.0650	3.853	7.96

	Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH08	96.290	3.710	66	0.180	MAR	White Pack
EDAM08	96.745	3.255	157	0.429	JUN	
EDAU08	96.930	3.070	248	0.679	SEP	
EDAZ08	96.990	3.010	339	0.928	DEC	
EDAH09	96.970	3.030	430	1.177	MAR	Red Pack
EDAM09	96.880	3.120	521	1.427	JUN	
EDAU09	96.760	3.240	612	1.676	SEP	
EDAZ09	96.620	3.380	703	1.925	DEC	
EDAH10	96.480	3.520	794	2.175	MAR	Green Pack
EDAM10	96.315	3.685	885	2.424	JUN	
EDAU10	96.150	3.850	976	2.673	SEP	
EDAZ10	96.020	3.980	1067	2.923	DEC	
EDAH11	95.895	4.105	1158	3.172	MAR	Blue Pack
EDAM11	95.745	4.255	1249	3.421	JUN	
EDAU11	95.640	4.360	1347	3.690	SEP	
EDAZ11	95.515	4.485	1438	3.939	DEC	
EDAH12	95.440	4.560	1529	4.188	MAR	Gold Pack
EDAM12	95.345	4.655	1620	4.438	JUN	
EDAU12	95.290	4.710	1711	4.687	SEP	
EDAU12	95.290	4.710	1711	4.687	SEP	

	Last Yield	Net Yield	Last Price	
Q.ED.White	3.334	5.250	9673.875	Pack Prices
Q.ED.Red	3.263	4.875	9680.750	
Q.ED.Green	3.847	4.125	9624.125	
Q.ED.Blue		0.750	9570.625	
Q.ED.Gold		0.000	9530.625	

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

<u>Notes</u>
Futures use CTD for Last Yield
Mduration = Modified Macaulay Duration
#VALUE! = no quote being provided by exchange.

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

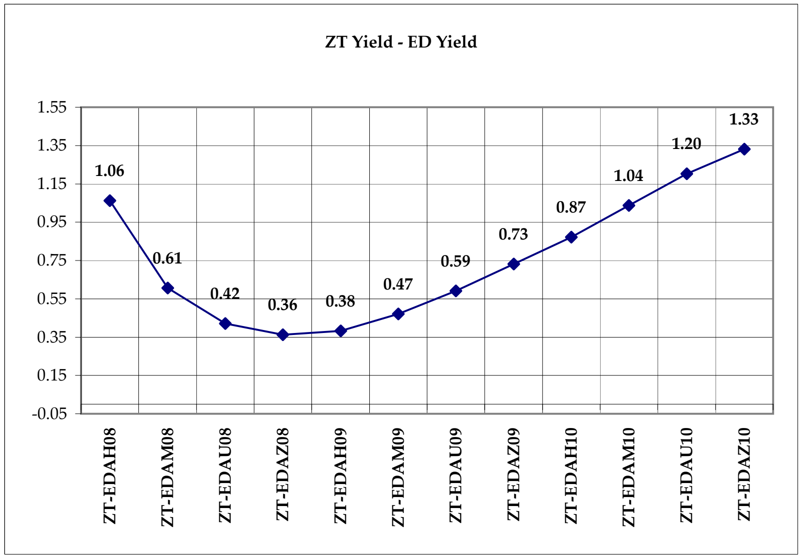
Eurodollar Color Codes for Individual Year Strips:

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

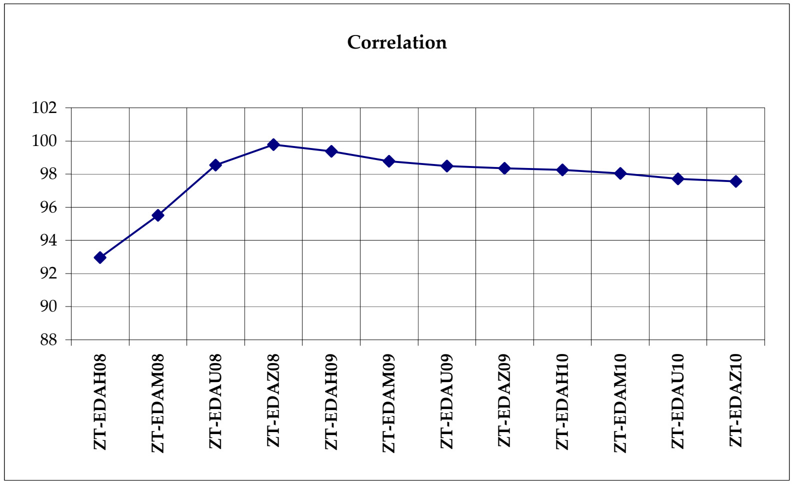
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.647	1.06	ZT-EDAH08	92.964
EDAM08	9.192	0.61	ZT-EDAM08	95.518
EDAU08	9.007	0.42	ZT-EDAU08	98.549
EDAZ08	8.947	0.36	ZT-EDAZ08	99.787
EDAH09	8.967	0.38	ZT-EDAH09	99.375
EDAM09	9.057	0.47	ZT-EDAM09	98.771
EDAU09	9.177	0.59	ZT-EDAU09	98.486
EDAZ09	9.317	0.73	ZT-EDAZ09	98.346
EDAH10	9.457	0.87	ZT-EDAH10	98.261
EDAM10	9.622	1.04	ZT-EDAM10	98.043
EDAU10	9.787	1.20	ZT-EDAU10	97.716
EDAZ10	9.917	1.33	ZT-EDAZ10	97.567

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	0.180	1.89	1.71	ZT-EDAH08
EDAM08	0.429	1.89	1.46	ZT-EDAM08
EDAU08	0.679	1.89	1.21	ZT-EDAU08
EDAZ08	0.928	1.89	0.96	ZT-EDAZ08
EDAH09	1.177	1.89	0.71	ZT-EDAH09
EDAM09	1.427	1.89	0.46	ZT-EDAM09
EDAU09	1.676	1.89	0.21	ZT-EDAU09
EDAZ09	1.925	1.89	(0.04)	ZT-EDAZ09
EDAH10	2.175	1.89	(0.29)	ZT-EDAH10
EDAM10	2.424	1.89	(0.53)	ZT-EDAM10
EDAU10	2.673	1.89	(0.78)	ZT-EDAU10
EDAZ10	2.923	1.89	(1.03)	ZT-EDAZ10

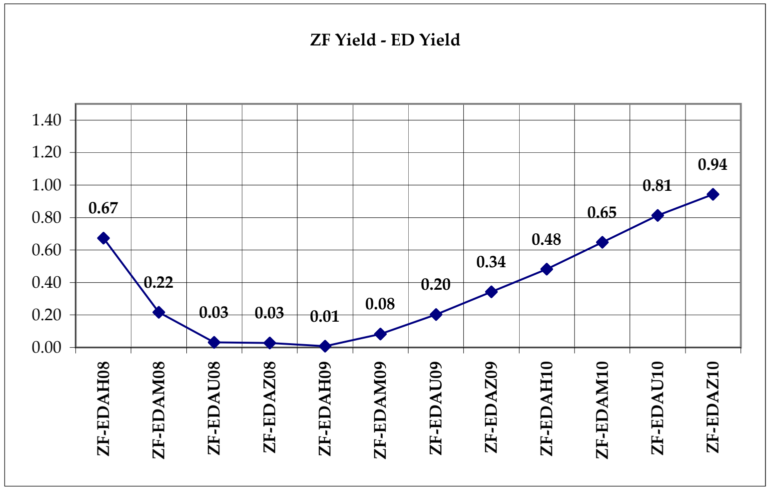
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	15.46	0.67	ZF-EDAH08	90.832
EDAM08	15.01	0.22	ZF-EDAM08	92.729
EDAU08	14.82	0.03	ZF-EDAU08	96.408
EDAZ08	14.76	0.03	ZF-EDAZ08	98.470
EDAH09	14.78	0.01	ZF-EDAH09	98.988
EDAM09	14.87	0.08	ZF-EDAM09	99.143
EDAU09	14.99	0.20	ZF-EDAU09	99.306
EDAZ09	15.13	0.34	ZF-EDAZ09	99.454
EDAH10	15.27	0.48	ZF-EDAH10	99.423
EDAM10	15.44	0.65	ZF-EDAM10	99.298
EDAU10	15.60	0.81	ZF-EDAU10	99.350
EDAZ10	15.73	0.94	ZF-EDAZ10	99.263

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	
EDAH08	0.180	3.94	3.76	ZF-EDAH08
EDAM08	0.429	3.94	3.51	ZF-EDAM08
EDAU08	0.679	3.94	3.26	ZF-EDAU08
EDAZ08	0.928	3.94	3.01	ZF-EDAZ08
EDAH09	1.177	3.94	2.76	ZF-EDAH09
EDAM09	1.427	3.94	2.51	ZF-EDAM09
EDAU09	1.676	3.94	2.26	ZF-EDAU09
EDAZ09	1.925	3.94	2.01	ZF-EDAZ09
EDAH10	2.175	3.94	1.76	ZF-EDAH10
EDAM10	2.424	3.94	1.51	ZF-EDAM10
EDAU10	2.673	3.94	1.26	ZF-EDAU10
EDAZ10	2.923	3.94	1.02	ZF-EDAZ10

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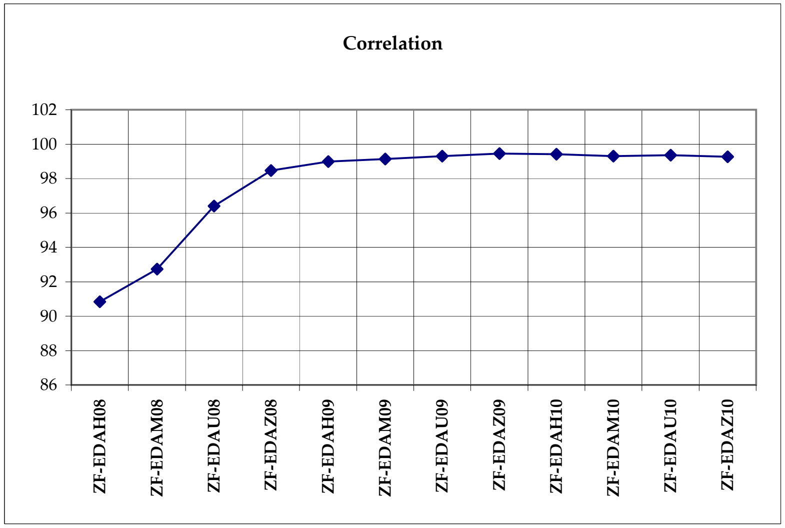
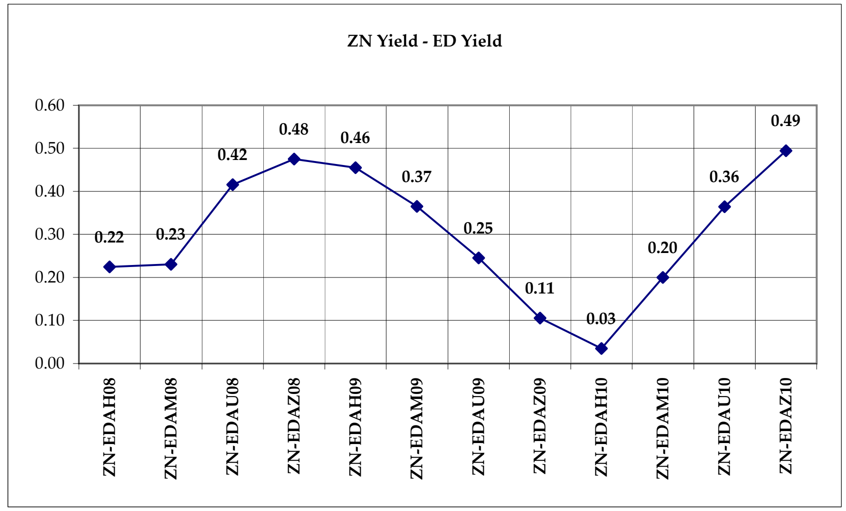


Dirty TED: ZN vs Eurodollar Contracts

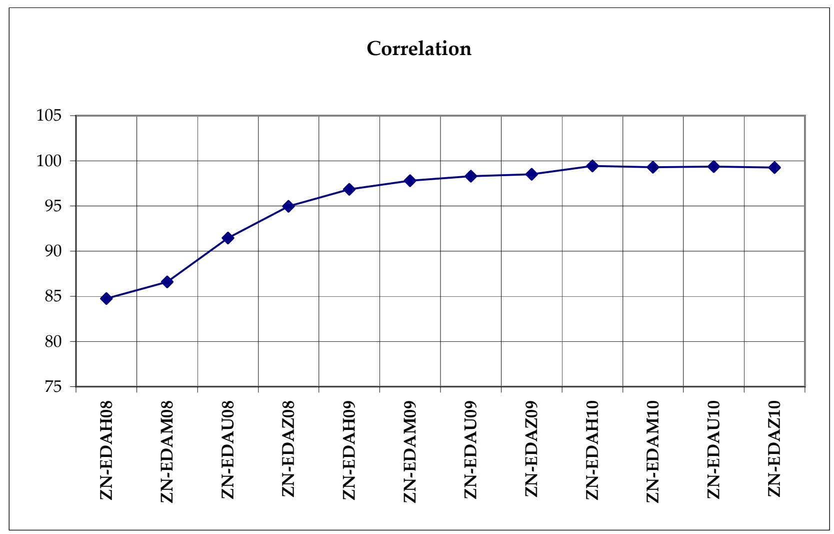
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	18.74	0.22	ZN-EDAH08	84.76
EDAM08	18.29	0.23	ZN-EDAM08	86.58
EDAU08	18.10	0.42	ZN-EDAU08	91.44
EDAZ08	18.04	0.48	ZN-EDAZ08	94.96
EDAH09	18.06	0.46	ZN-EDAH09	96.84
EDAM09	18.15	0.37	ZN-EDAM09	97.80
EDAU09	18.27	0.25	ZN-EDAU09	98.29
EDAZ09	18.41	0.11	ZN-EDAZ09	98.52
EDAH10	18.55	0.03	ZN-EDAH10	99.42
EDAM10	18.72	0.20	ZN-EDAM10	99.30
EDAU10	18.88	0.36	ZN-EDAU10	99.35
EDAZ10	19.01	0.49	ZN-EDAZ10	99.26

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	ZN Duration	Spread Duration	
EDAH08	0.180	5.88	5.70	ZN-EDAH08
EDAM08	0.429	5.88	5.45	ZN-EDAM08
EDAU08	0.679	5.88	5.21	ZN-EDAU08
EDAZ08	0.928	5.88	4.96	ZN-EDAZ08
EDAH09	1.177	5.88	4.71	ZN-EDAH09
EDAM09	1.427	5.88	4.46	ZN-EDAM09
EDAU09	1.676	5.88	4.21	ZN-EDAU09
EDAZ09	1.925	5.88	3.96	ZN-EDAZ09
EDAH10	2.175	5.88	3.71	ZN-EDAH10
EDAM10	2.424	5.88	3.46	ZN-EDAM10
EDAU10	2.673	5.88	3.21	ZN-EDAU10
EDAZ10	2.923	5.88	2.96	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	4.85	1.06	2y-EDAH08	-92.272
EDAM08	4.40	0.60	2y-EDAM08	-94.150
EDAU08	4.21	0.42	2y-EDAU08	-96.733
EDAZ08	4.15	0.36	2y-EDAZ08	-94.150
EDAH09	4.17	0.38	2y-EDAH09	-97.624
EDAM09	4.26	0.47	2y-EDAM09	-97.542
EDAU09	4.38	0.59	2y-EDAU09	-97.662
EDAZ09	4.52	0.73	2y-EDAZ09	-97.899
EDAH10	4.66	0.87	2y-EDAH10	-97.955
EDAM10	4.83	1.04	2y-EDAM10	-97.779
EDAU10	4.99	1.20	2y-EDAU10	-97.364
EDAZ10	5.12	1.33	2y-EDAZ10	-97.341

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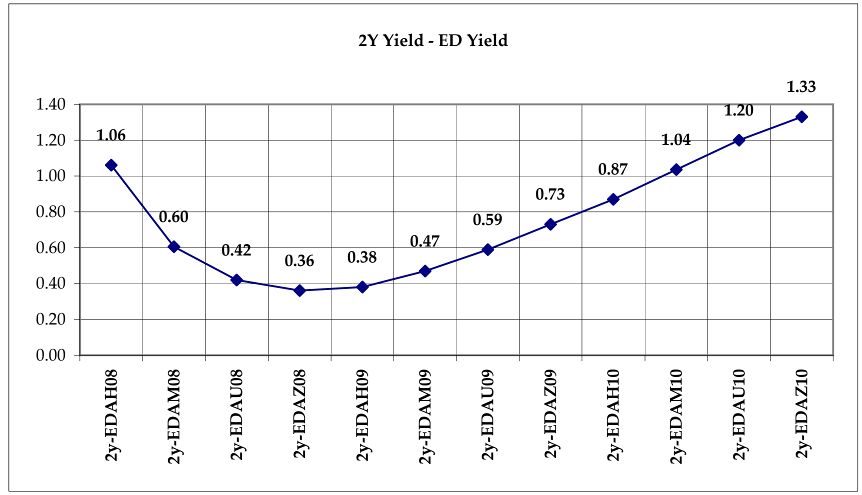
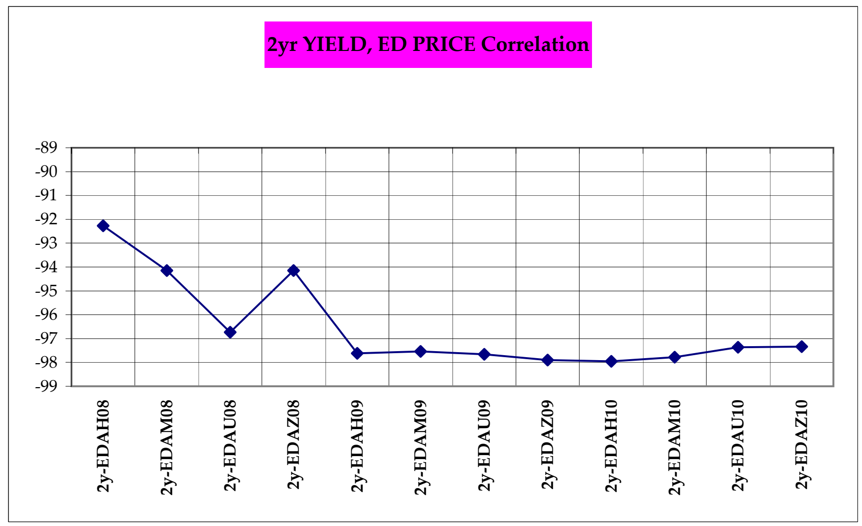
These are measuring YIELD correlations.



	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAH08	0.180	1.89	1.71	2y-EDAH08
EDAM08	0.429	1.89	1.46	2y-EDAM08
EDAU08	0.679	1.89	1.21	2y-EDAU08
EDAZ08	0.928	1.89	0.96	2y-EDAZ08
EDAH09	1.177	1.89	0.71	2y-EDAH09
EDAM09	1.427	1.89	0.46	2y-EDAM09
EDAU09	1.676	1.89	0.21	2y-EDAU09
EDAZ09	1.925	1.89	(0.04)	2y-EDAZ09
EDAH10	2.175	1.89	(0.29)	2y-EDAH10
EDAM10	2.424	1.89	(0.53)	2y-EDAM10
EDAU10	2.673	1.89	(0.78)	2y-EDAU10
EDAZ10	2.923	1.89	(1.03)	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	6.03	0.59	5y-EDAH08	-88.280
EDAM08	5.57	0.14	5y-EDAM08	-89.674
EDAU08	5.39	0.05	5y-EDAU08	-93.187
EDAZ08	5.33	0.11	5y-EDAZ08	-89.674
EDAH09	5.35	0.08	5y-EDAH09	-96.287
EDAM09	5.44	0.01	5y-EDAM09	-97.006
EDAU09	5.56	0.12	5y-EDAU09	-97.537
EDAZ09	5.70	0.26	5y-EDAZ09	-97.969
EDAH10	5.84	0.40	5y-EDAH10	-97.933
EDAM10	6.00	0.57	5y-EDAM10	-97.735
EDAU10	6.17	0.73	5y-EDAU10	-97.679
EDAZ10	6.30	0.87	5y-EDAZ10	-97.722

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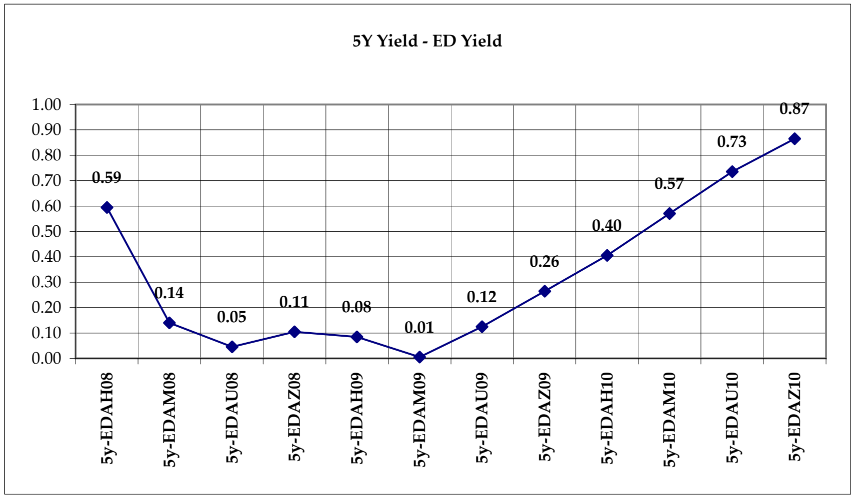
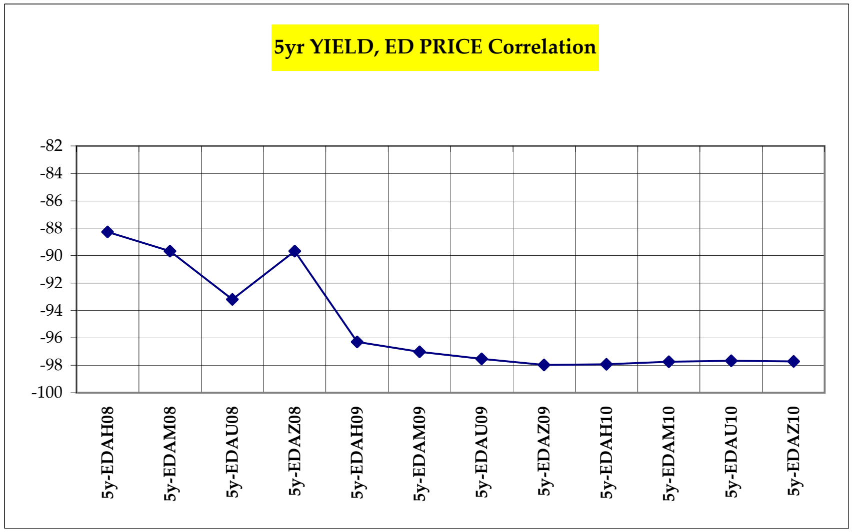
These are measuring YIELD correlations.



	GE Duration as Fraction of year	5Y Duration	Spread Duration	
EDAH08	0.180	4.45	4.27	5y-EDAH08
EDAM08	0.429	4.45	4.02	5y-EDAM08
EDAU08	0.679	4.45	3.77	5y-EDAU08
EDAZ08	0.928	4.45	3.52	5y-EDAZ08
EDAH09	1.177	4.45	3.28	5y-EDAH09
EDAM09	1.427	4.45	3.03	5y-EDAM09
EDAU09	1.676	4.45	2.78	5y-EDAU09
EDAZ09	1.925	4.45	2.53	5y-EDAZ09
EDAH10	2.175	4.45	2.28	5y-EDAH10
EDAM10	2.424	4.45	2.03	5y-EDAM10
EDAU10	2.673	4.45	1.78	5y-EDAU10
EDAZ10	2.923	4.45	1.53	5y-EDAZ10

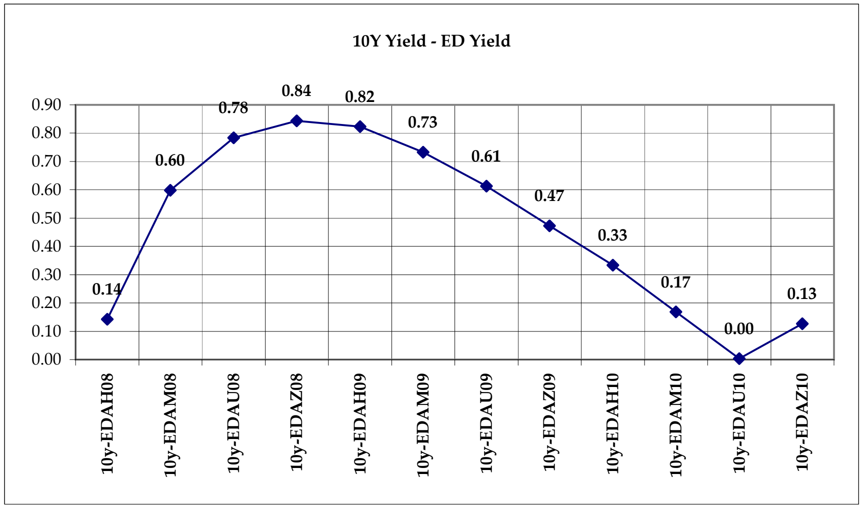
The farther away from 0 the spread duration is
the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	6.03	0.14	10y-EDAH08	-76.984
EDAM08	5.57	0.60	10y-EDAM08	-79.001
EDAU08	5.39	0.78	10y-EDAU08	-84.559
EDAZ08	5.33	0.84	10y-EDAZ08	-79.001
EDAH09	5.35	0.82	10y-EDAH09	-91.889
EDAM09	5.44	0.73	10y-EDAM09	-93.407
EDAU09	5.56	0.61	10y-EDAU09	-94.126
EDAZ09	5.70	0.47	10y-EDAZ09	-94.415
EDAH10	5.84	0.33	10y-EDAH10	-93.796
EDAM10	6.00	0.17	10y-EDAM10	-93.187
EDAU10	6.17	0.00	10y-EDAU10	-93.517
EDAZ10	6.30	0.13	10y-EDAZ10	-93.595

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	
EDAH08	0.180	7.96	7.78	10y-EDAH08
EDAM08	0.429	7.96	7.54	10y-EDAM08
EDAU08	0.679	7.96	7.29	10y-EDAU08
EDAZ08	0.928	7.96	7.04	10y-EDAZ08
EDAH09	1.177	7.96	6.79	10y-EDAH09
EDAM09	1.427	7.96	6.54	10y-EDAM09
EDAU09	1.676	7.96	6.29	10y-EDAU09
EDAZ09	1.925	7.96	6.04	10y-EDAZ09
EDAH10	2.175	7.96	5.79	10y-EDAH10
EDAM10	2.424	7.96	5.54	10y-EDAM10
EDAU10	2.673	7.96	5.29	10y-EDAU10
EDAZ10	2.923	7.96	5.04	10y-EDAZ10

The farther away from 0 the spread duration is
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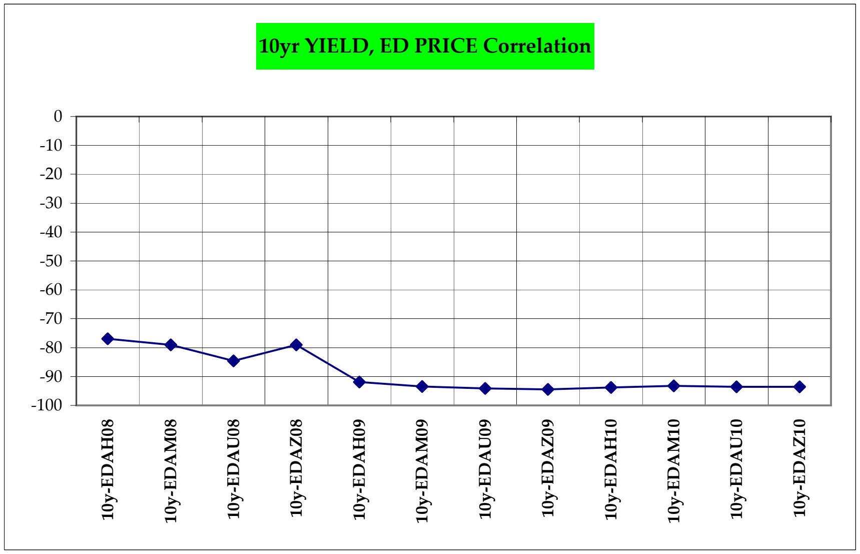
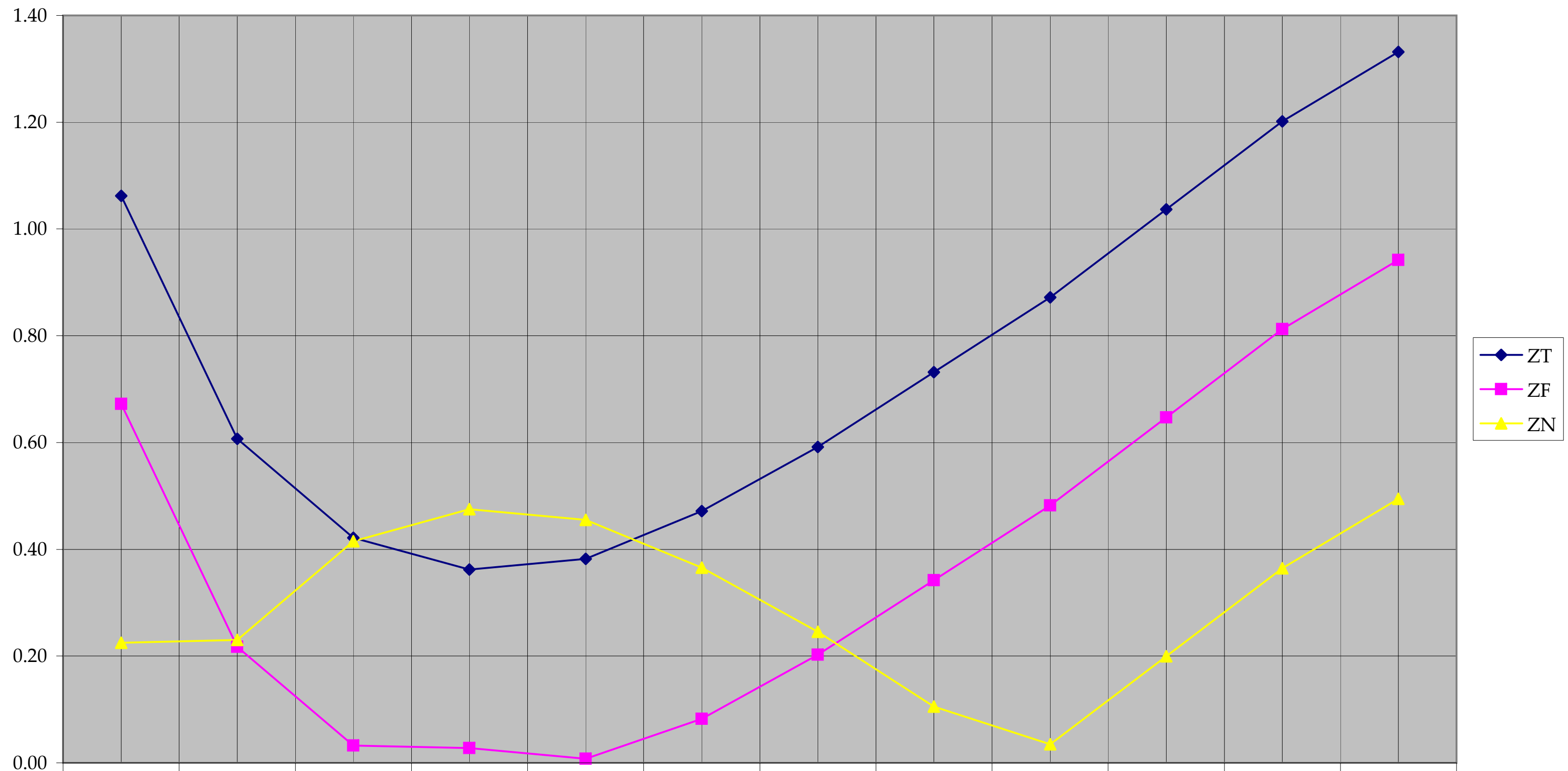


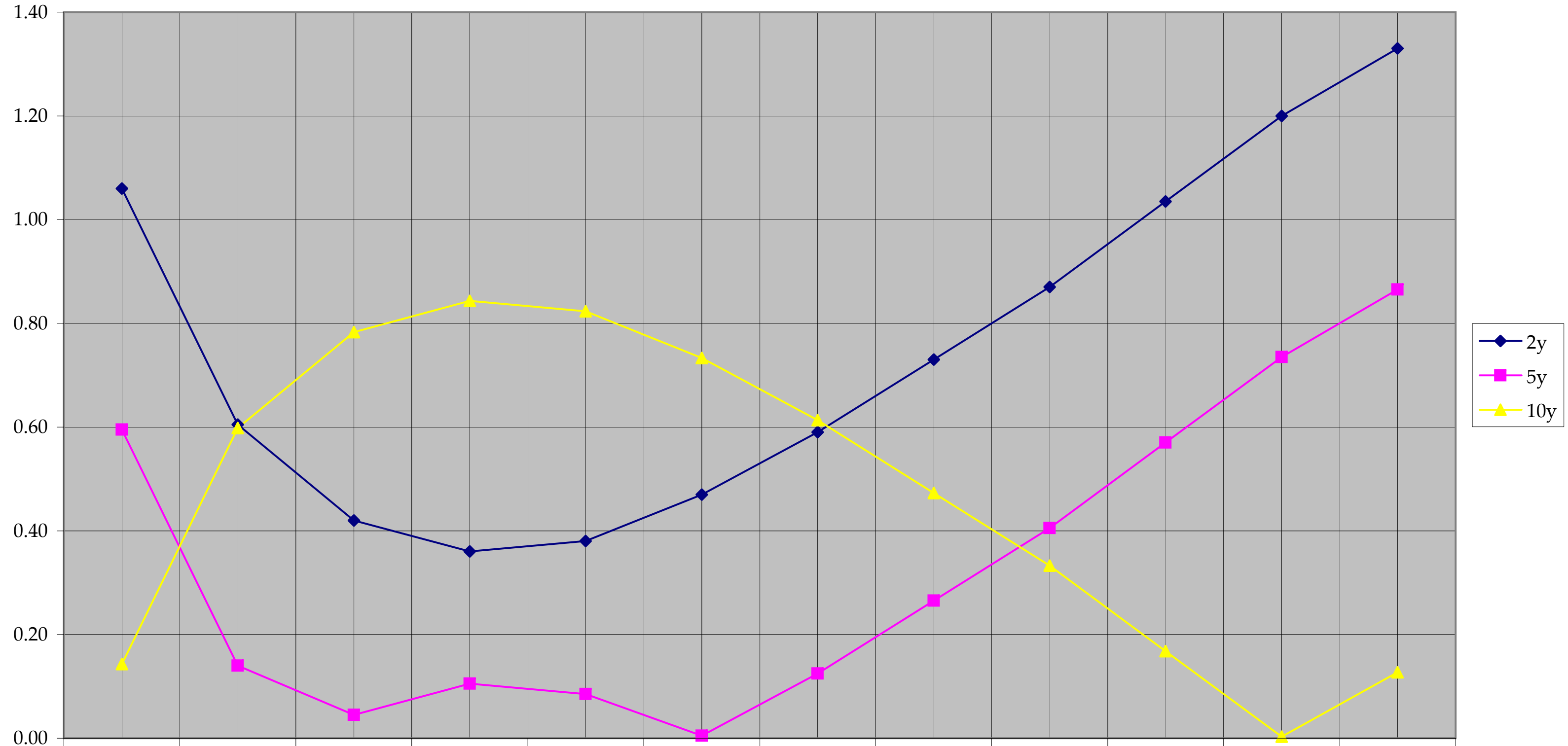
Dirty TED Curve

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.



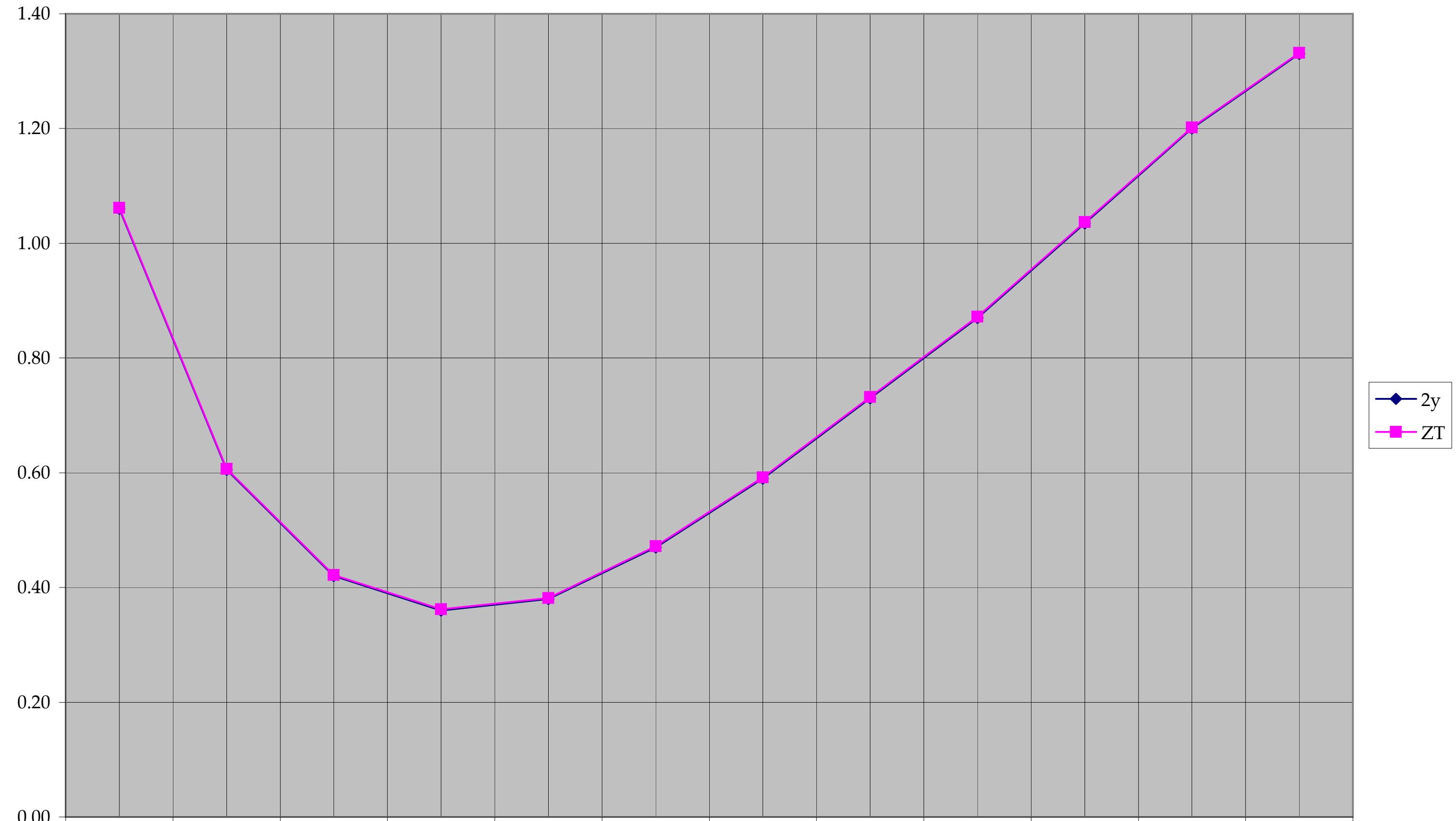
	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
ZT	1.06	0.61	0.42	0.36	0.38	0.47	0.59	0.73	0.87	1.04	1.20	1.33
ZF	0.67	0.22	0.03	0.03	0.01	0.08	0.20	0.34	0.48	0.65	0.81	0.94
ZN	0.22	0.23	0.42	0.48	0.46	0.37	0.25	0.11	0.03	0.20	0.36	0.49

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.



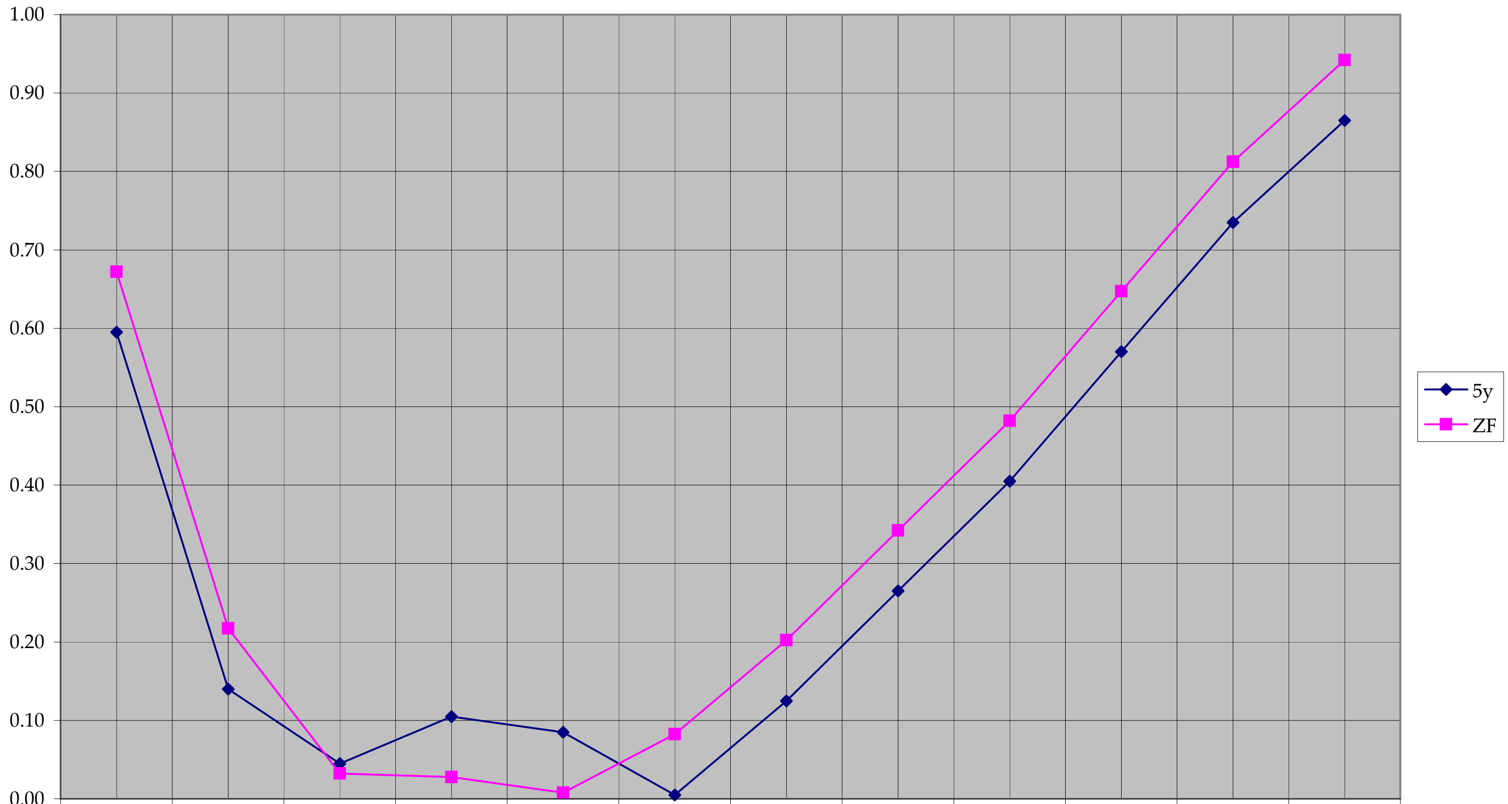
	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
2y	1.06	0.60	0.42	0.36	0.38	0.47	0.59	0.73	0.87	1.04	1.20	1.33
5y	0.59	0.14	0.05	0.11	0.08	0.01	0.12	0.26	0.40	0.57	0.73	0.87
10y	0.14	0.60	0.78	0.84	0.82	0.73	0.61	0.47	0.33	0.17	0.00	0.13

2y Basis TED Curve



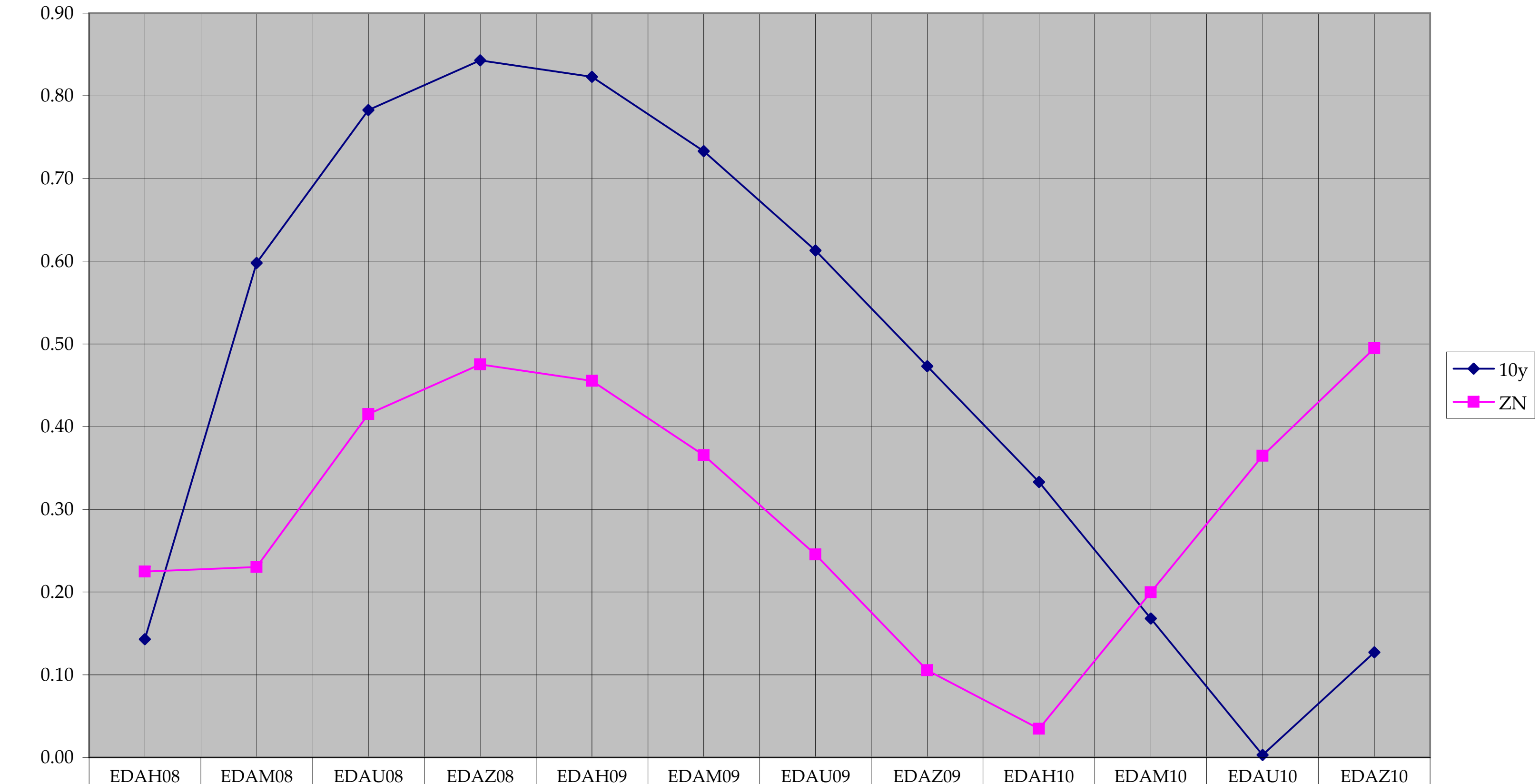
	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
2y	1.06	0.60	0.42	0.36	0.38	0.47	0.59	0.73	0.87	1.04	1.20	1.33
ZT	1.06	0.61	0.42	0.36	0.38	0.47	0.59	0.73	0.87	1.04	1.20	1.33

5y Basis TED Curve



	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
5y	0.59	0.14	0.05	0.11	0.08	0.01	0.12	0.26	0.40	0.57	0.73	0.87
ZF	0.67	0.22	0.03	0.03	0.01	0.08	0.20	0.34	0.48	0.65	0.81	0.94

10y Basis TED Curve



	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10
10y	0.14	0.60	0.78	0.84	0.82	0.73	0.61	0.47	0.33	0.17	0.00	0.13
ZN	0.22	0.23	0.42	0.48	0.46	0.37	0.25	0.11	0.03	0.20	0.36	0.49

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	3.334	5.250	9673.875
Q.ED.Red	3.263	4.875	9680.750
Q.ED.Green	3.847	4.125	9624.125
Q.ED.Blue		0.750	9570.625
Q.ED.Gold		0.000	9530.625