

## 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](mailto:jgoulding@ghco.com)

**Disclaimer:**All information within this newsletter is meant for internal use at GH Trader's LLC, 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.

**Quotes**

F.I. Futures and Cash					
	Last Decimal	Last 32	Last Yield*	MDuration	
ZT	102.7094	102.227	4.319	1.73	
ZF	106.0156	106.005	4.407	3.80	
ZN	108.5469	108.175	4.498	5.63	
2y	100.563	100.1800	4.320	1.82	
5y	100.866	100.2770	4.423	4.35	
10y	100.891	100.2850	4.633	7.87	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAU07	94.638	5.363	21	0.057	SEP	White Pack	
EDAZ07	95.020	4.980	112	0.306	DEC		
EDAH08	95.240	4.760	203	0.555	MAR		
EDAM08	95.285	4.715	294	0.805	JUN	Red Pack	
EDAU08	95.250	4.750	385	1.054	SEP		
EDAZ08	95.205	4.795	476	1.303	DEC		
EDAH09	95.165	4.835	567	1.553	MAR	Green Pack	
EDAM09	95.115	4.885	658	1.802	JUN		
EDAU09	95.065	4.935	749	2.051	SEP		
EDAZ09	95.015	4.985	840	2.301	DEC	Blue Pack	
EDAH10	94.990	5.010	931	2.550	MAR		
EDAM10	#VALUE!	#VALUE!	1022	2.799	JUN		
EDAU10	#VALUE!	#VALUE!	1113	3.049	SEP	Gold Pack	
EDAZ10	#VALUE!	#VALUE!	1204	3.298	DEC		
EDAH11	94.865	5.135	1295	3.547	MAR		
EDAM11	94.825	5.175	1386	3.797	JUN		
EDAU11	94.775	5.225	1484	4.065	SEP		
EDAZ11	94.705	5.295	1575	4.314	DEC		
EDAH12	94.680	5.320	1666	4.564	MAR		
EDAM12	94.640	5.360	1757	4.813	JUN		

Notes

Futures use CTD for Last Yield

Mduration = Modified Macaulay Duration

#VALUE! = no quote being provided by exchange.

	Last Yield	Net Yield	Last Price	
Q.ED.White	5.086	-2.125	9504.563	Pack Prices
Q.ED.Red	4.943	-1.875	9518.375	
Q.ED.Green		-1.375	9501.000	
Q.ED.Blue		0.000	9485.500	
Q.ED.Gold		0.000	9468.000	
Q.ED.Purple		0.000	9468.000	

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

## Overview of Hedging

8/27/2007 5:59

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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](mailto:jgoulding@ghco.com)

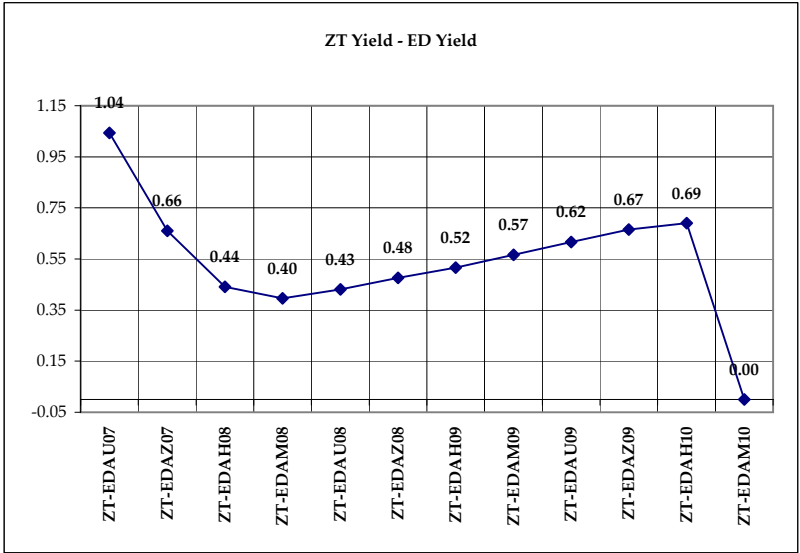
### Eurodollar Color Codes for Individual Year Strips:

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

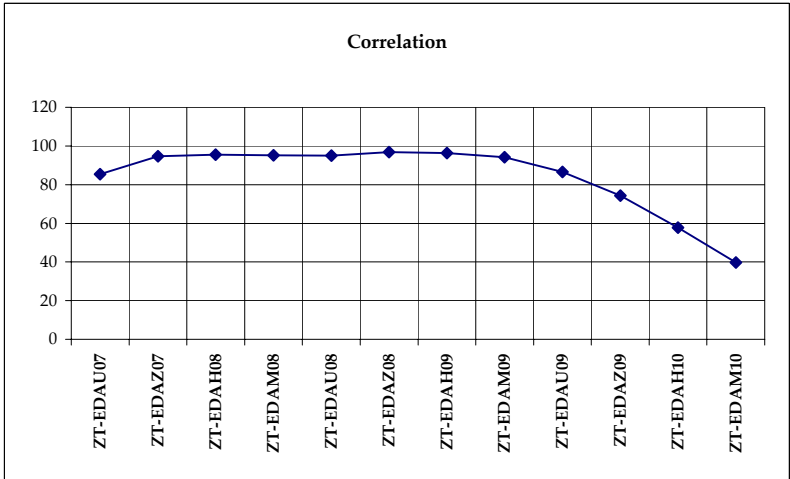
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	8.072	1.04	ZT-EDAU07	85.467
EDAZ07	7.689	0.66	ZT-EDAZ07	94.663
EDAH08	7.469	0.44	ZT-EDAH08	95.518
EDAM08	7.424	0.40	ZT-EDAM08	95.237
EDAU08	7.459	0.43	ZT-EDAU08	95.070
EDAZ08	7.504	0.48	ZT-EDAZ08	96.815
EDAH09	7.544	0.52	ZT-EDAH09	96.302
EDAM09	7.594	0.57	ZT-EDAM09	94.133
EDAU09	7.644	0.62	ZT-EDAU09	86.571
EDAZ09	7.694	0.67	ZT-EDAZ09	74.381
EDAH10	7.719	0.69	ZT-EDAH10	57.811
EDAM10	#VALUE!	#VALUE!	ZT-EDAM10	39.749

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		
EDAU07	0.057	1.73	1.68	ZT-EDAU07
EDAZ07	0.306	1.73	1.43	ZT-EDAZ07
EDAH08	0.555	1.73	1.18	ZT-EDAH08
EDAM08	0.805	1.73	0.93	ZT-EDAM08
EDAU08	1.054	1.73	0.68	ZT-EDAU08
EDAZ08	1.303	1.73	0.43	ZT-EDAZ08
EDAH09	1.553	1.73	0.18	ZT-EDAH09
EDAM09	1.802	1.73	(0.07)	ZT-EDAM09
EDAU09	2.051	1.73	(0.32)	ZT-EDAU09
EDAZ09	2.301	1.73	(0.57)	ZT-EDAZ09
EDAH10	2.550	1.73	(0.82)	ZT-EDAH10
EDAM10	2.799	1.73	(1.07)	ZT-EDAM10

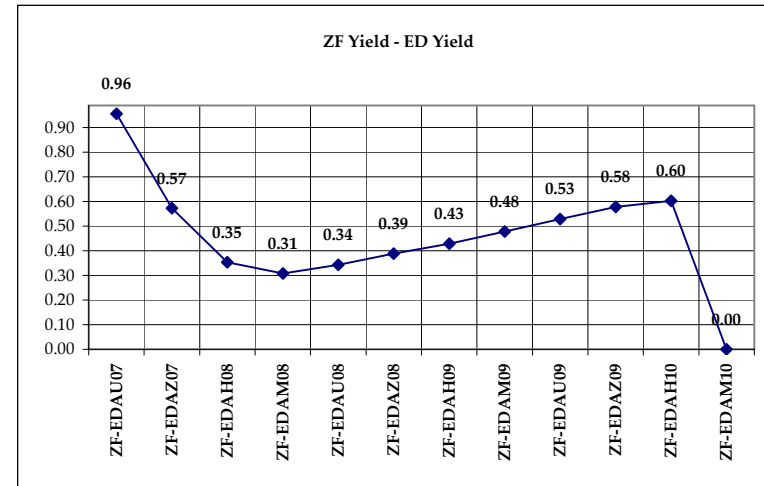
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	11.38	0.96	ZF-EDAU07	77.859
EDAZ07	11.00	0.57	ZF-EDAZ07	90.643
EDAH08	10.78	0.35	ZF-EDAH08	92.473
EDAM08	10.73	0.31	ZF-EDAM08	92.235
EDAU08	10.77	0.34	ZF-EDAU08	92.157
EDAZ08	10.81	0.39	ZF-EDAZ08	95.804
EDAH09	10.85	0.43	ZF-EDAH09	97.680
EDAM09	10.90	0.48	ZF-EDAM09	97.459
EDAU09	10.95	0.53	ZF-EDAU09	93.115
EDAZ09	11.00	0.58	ZF-EDAZ09	83.785
EDAH10	11.03	0.60	ZF-EDAH10	69.483
EDAM10	#VALUE!	#VALUE!	ZF-EDAM10	53.035

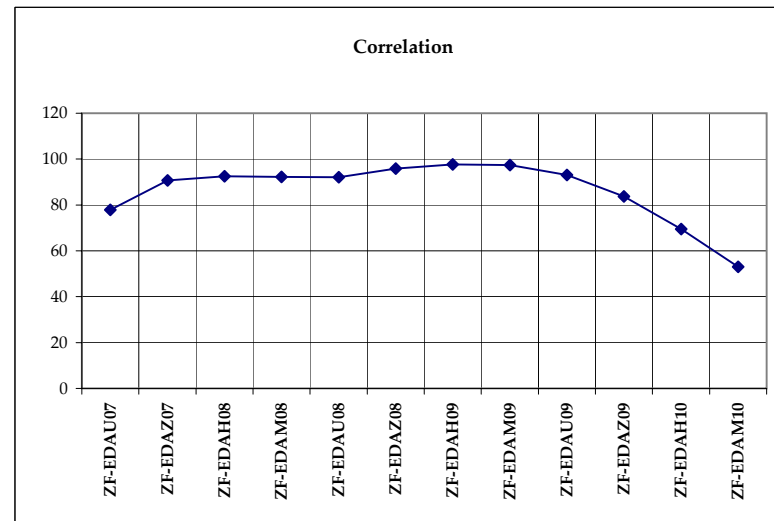
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAU07	0.057	3.80	3.74	ZF-EDAU07
EDAZ07	0.306	3.80	3.49	ZF-EDAZ07
EDAH08	0.555	3.80	3.24	ZF-EDAH08
EDAM08	0.805	3.80	2.99	ZF-EDAM08
EDAU08	1.054	3.80	2.74	ZF-EDAU08
EDAZ08	1.303	3.80	2.49	ZF-EDAZ08
EDAH09	1.553	3.80	2.24	ZF-EDAH09
EDAM09	1.802	3.80	2.00	ZF-EDAM09
EDAU09	2.051	3.80	1.75	ZF-EDAU09
EDAZ09	2.301	3.80	1.50	ZF-EDAZ09
EDAH10	2.550	3.80	1.25	ZF-EDAH10
EDAM10	2.799	3.80	1.00	ZF-EDAM10

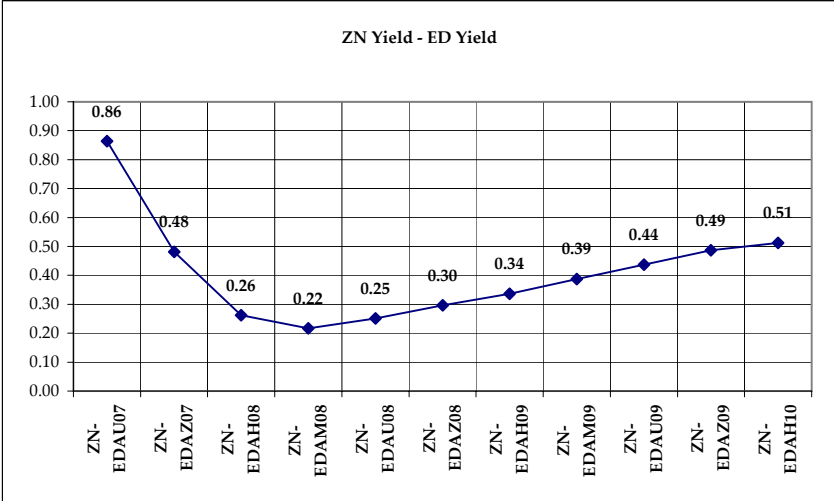
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

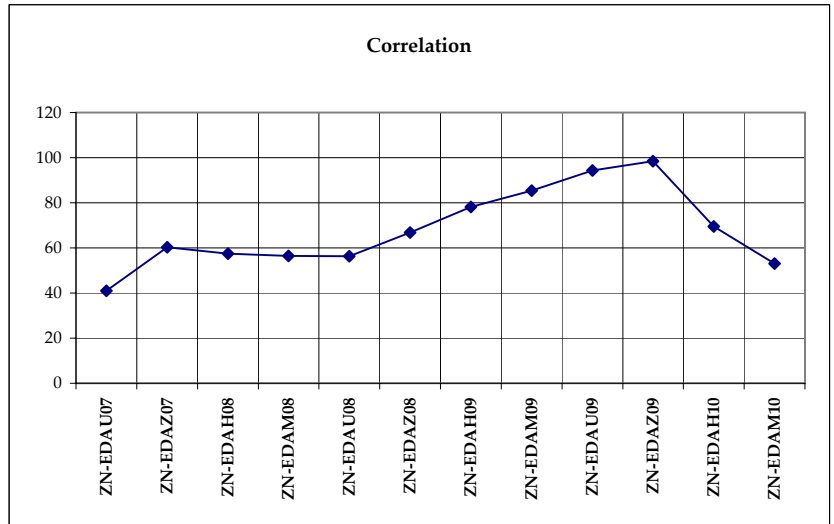
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	13.91	0.86	ZN-EDAU07	41.02
EDAZ07	13.53	0.48	ZN-EDAZ07	60.30
EDAH08	13.31	0.26	ZN-EDAH08	57.49
EDAM08	13.26	0.22	ZN-EDAM08	56.43
EDAU08	13.30	0.25	ZN-EDAU08	56.37
EDAZ08	13.34	0.30	ZN-EDAZ08	66.78
EDAH09	13.38	0.34	ZN-EDAH09	78.12
EDAM09	13.43	0.39	ZN-EDAM09	85.40
EDAU09	13.48	0.44	ZN-EDAU09	94.38
EDAZ09	13.53	0.49	ZN-EDAZ09	98.48
EDAH10	13.56	0.51	ZN-EDAH10	69.48
EDAM10	#VALUE!	#VALUE!	ZN-EDAM10	53.04

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	
EDAU07	0.057	5.63	5.58	ZN-EDAU07
EDAZ07	0.306	5.63	5.33	ZN-EDAZ07
EDAH08	0.555	5.63	5.08	ZN-EDAH08
EDAM08	0.805	5.63	4.83	ZN-EDAM08
EDAU08	1.054	5.63	4.58	ZN-EDAU08
EDAZ08	1.303	5.63	4.33	ZN-EDAZ08
EDAH09	1.553	5.63	4.08	ZN-EDAH09
EDAM09	1.802	5.63	3.83	ZN-EDAM09
EDAU09	2.051	5.63	3.58	ZN-EDAU09
EDAZ09	2.301	5.63	3.33	ZN-EDAZ09
EDAH10	2.550	5.63	3.08	ZN-EDAH10
EDAM10	2.799	5.63	2.83	ZN-EDAM10

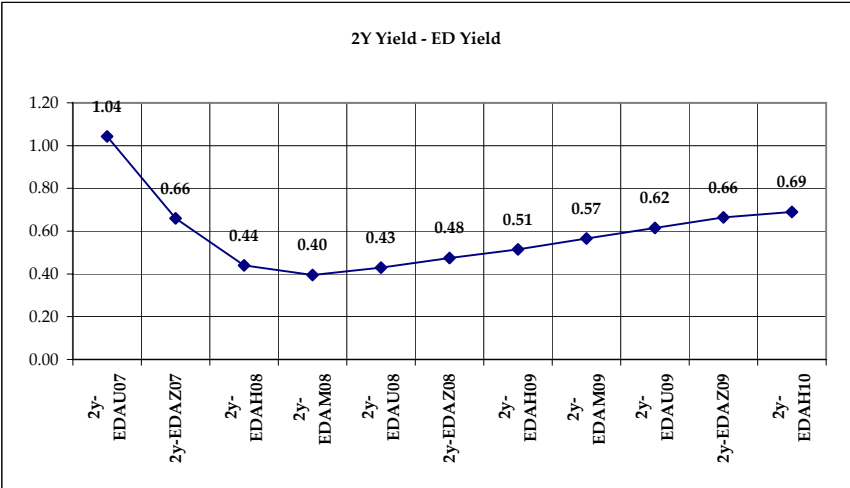
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.93	1.04	2y-EDAU07	-84.748
EDAZ07	5.54	0.66	2y-EDAZ07	-88.584
EDAH08	5.32	0.44	2y-EDAH08	-77.214
EDAM08	5.28	0.40	2y-EDAM08	-74.265
EDAU08	5.31	0.43	2y-EDAU08	-73.644
EDAZ08	5.36	0.48	2y-EDAZ08	-74.265
EDAH09	5.40	0.51	2y-EDAH09	-82.421
EDAM09	5.45	0.57	2y-EDAM09	-83.556
EDAU09	5.50	0.62	2y-EDAU09	-79.697
EDAZ09	5.55	0.66	2y-EDAZ09	-70.815
EDAH10	5.57	0.69	2y-EDAH10	-58.682
EDAM10	#VALUE!	#VALUE!	2y-EDAM10	-43.966

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.

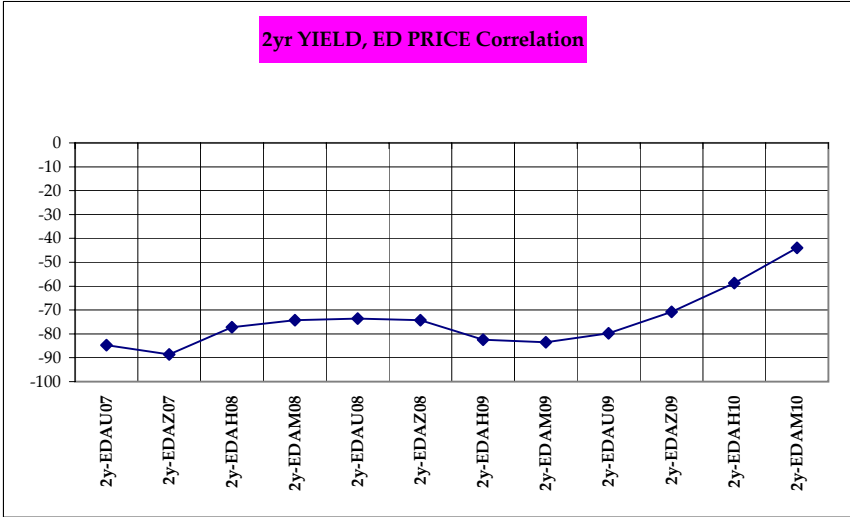


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAU07	0.057	1.76	2y-EDAU07
EDAZ07	0.306	1.51	2y-EDAZ07
EDAH08	0.555	1.26	2y-EDAH08
EDAM08	0.805	1.01	2y-EDAM08
EDAU08	1.054	0.76	2y-EDAU08
EDAZ08	1.303	0.51	2y-EDAZ08
EDAH09	1.553	0.27	2y-EDAH09
EDAM09	1.802	0.02	2y-EDAM09
EDAU09	2.051	(0.23)	2y-EDAU09
EDAZ09	2.301	(0.48)	2y-EDAZ09
EDAH10	2.550	(0.73)	2y-EDAH10
EDAM10	2.799	(0.98)	2y-EDAM10

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

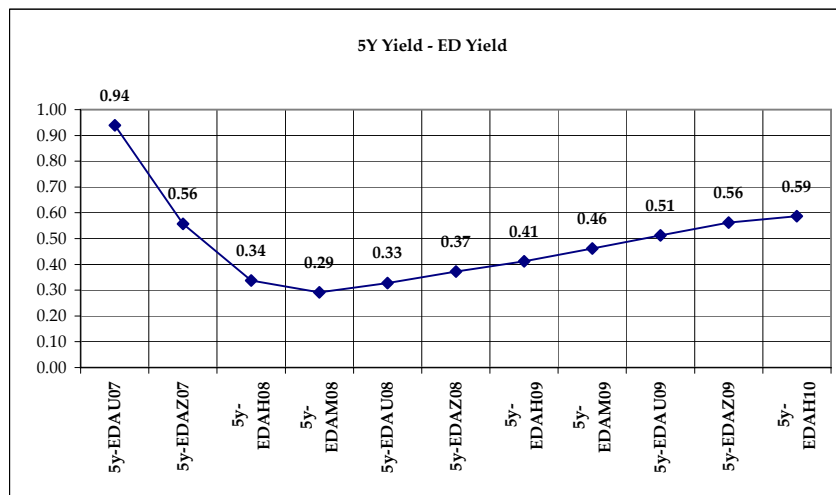
2yr YIELD, ED PRICE Correlation



**TERM TED: 5y vs Eurodollar Contracts**

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	6.23	0.94	5y-EDAU07	-79.263
EDAZ07	5.85	0.56	5y-EDAZ07	-84.807
EDAH08	5.63	0.34	5y-EDAH08	-75.166
EDAM08	5.58	0.29	5y-EDAM08	-72.465
EDAU08	5.62	0.33	5y-EDAU08	-71.841
EDAZ08	5.66	0.37	5y-EDAZ08	-72.465
EDAH09	5.70	0.41	5y-EDAH09	-82.810
EDAM09	5.75	0.46	5y-EDAM09	-85.373
EDAU09	5.80	0.51	5y-EDAU09	-83.336
EDAZ09	5.85	0.56	5y-EDAZ09	-76.700
EDAH10	5.88	0.59	5y-EDAH10	-66.540
EDAM10	#VALUE!	#VALUE!	5y-EDAM10	-53.893

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

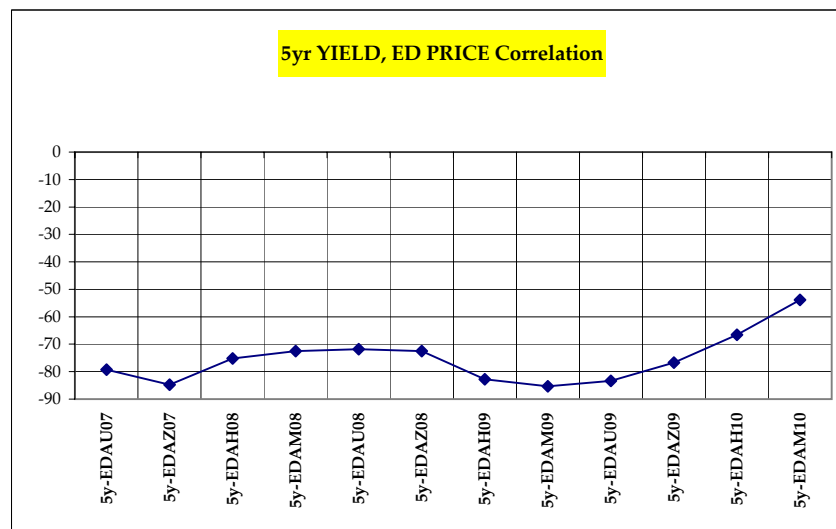


**GE Duration as**

	Fraction of year	5Y Duration	Spread Duration	
EDAU07	0.057	4.35	4.29	5y-EDAU07
EDAZ07	0.306	4.35	4.04	5y-EDAZ07
EDAH08	0.555	4.35	3.80	5y-EDAH08
EDAM08	0.805	4.35	3.55	5y-EDAM08
EDAU08	1.054	4.35	3.30	5y-EDAU08
EDAZ08	1.303	4.35	3.05	5y-EDAZ08
EDAH09	1.553	4.35	2.80	5y-EDAH09
EDAM09	1.802	4.35	2.55	5y-EDAM09
EDAU09	2.051	4.35	2.30	5y-EDAU09
EDAZ09	2.301	4.35	2.05	5y-EDAZ09
EDAH10	2.550	4.35	1.80	5y-EDAH10
EDAM10	2.799	4.35	1.55	5y-EDAM10

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

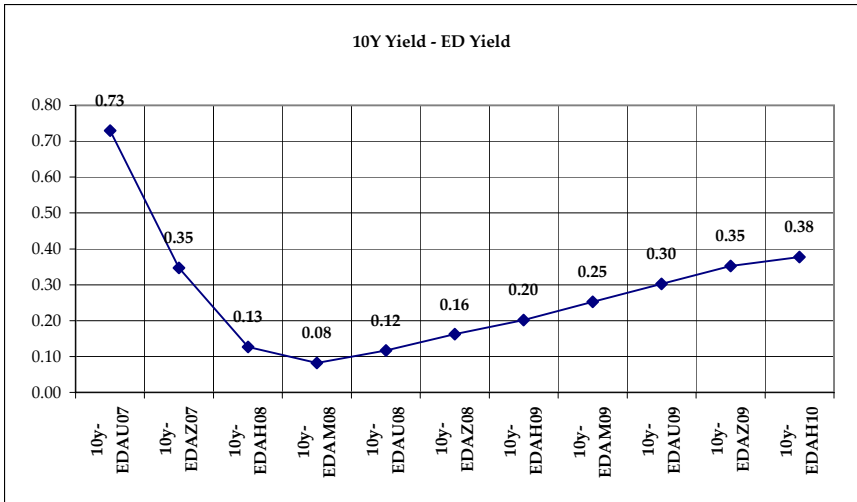
5yr YIELD, ED PRICE Correlation



**TERM TED: 10y vs Eurodollar Contracts**

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	6.23	0.73	10y-EDAU07	-11.598
EDAZ07	5.85	0.35	10y-EDAZ07	-21.474
EDAH08	5.63	0.13	10y-EDAH08	-9.113
EDAM08	5.58	0.08	10y-EDAM08	-6.644
EDAU08	5.62	0.12	10y-EDAU08	-6.965
EDAZ08	5.66	0.16	10y-EDAZ08	-6.644
EDAH09	5.70	0.20	10y-EDAH09	-35.590
EDAM09	5.75	0.25	10y-EDAM09	-46.849
EDAU09	5.80	0.30	10y-EDAU09	-61.612
EDAZ09	5.85	0.35	10y-EDAZ09	-73.766
EDAH10	5.88	0.38	10y-EDAH10	-82.164
EDAM10	#VALUE!	#VALUE!	10y-EDAM10	-85.021

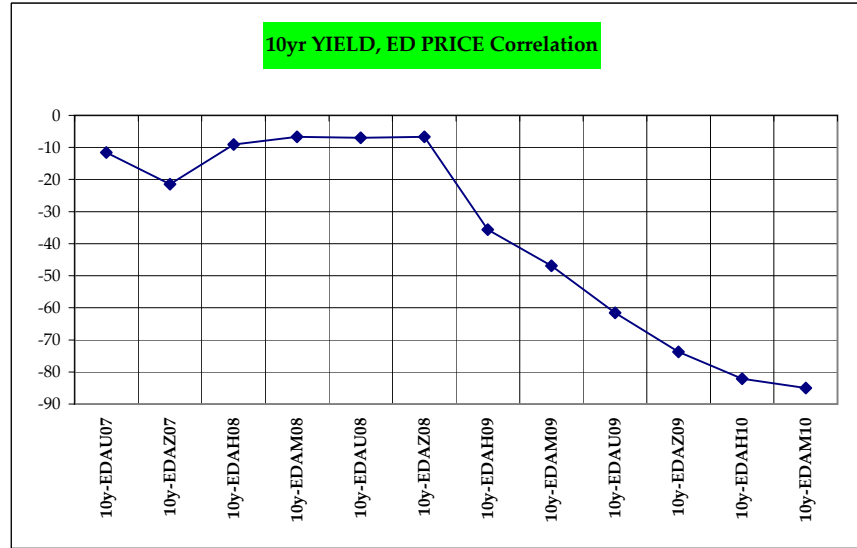
Price = Outright Decimal Price - Euro Contract Price  
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 \*Correlation = ED Correlation to Treasury Future over 10 days  
 These are measuring YIELD correlations.



**GE Duration as**

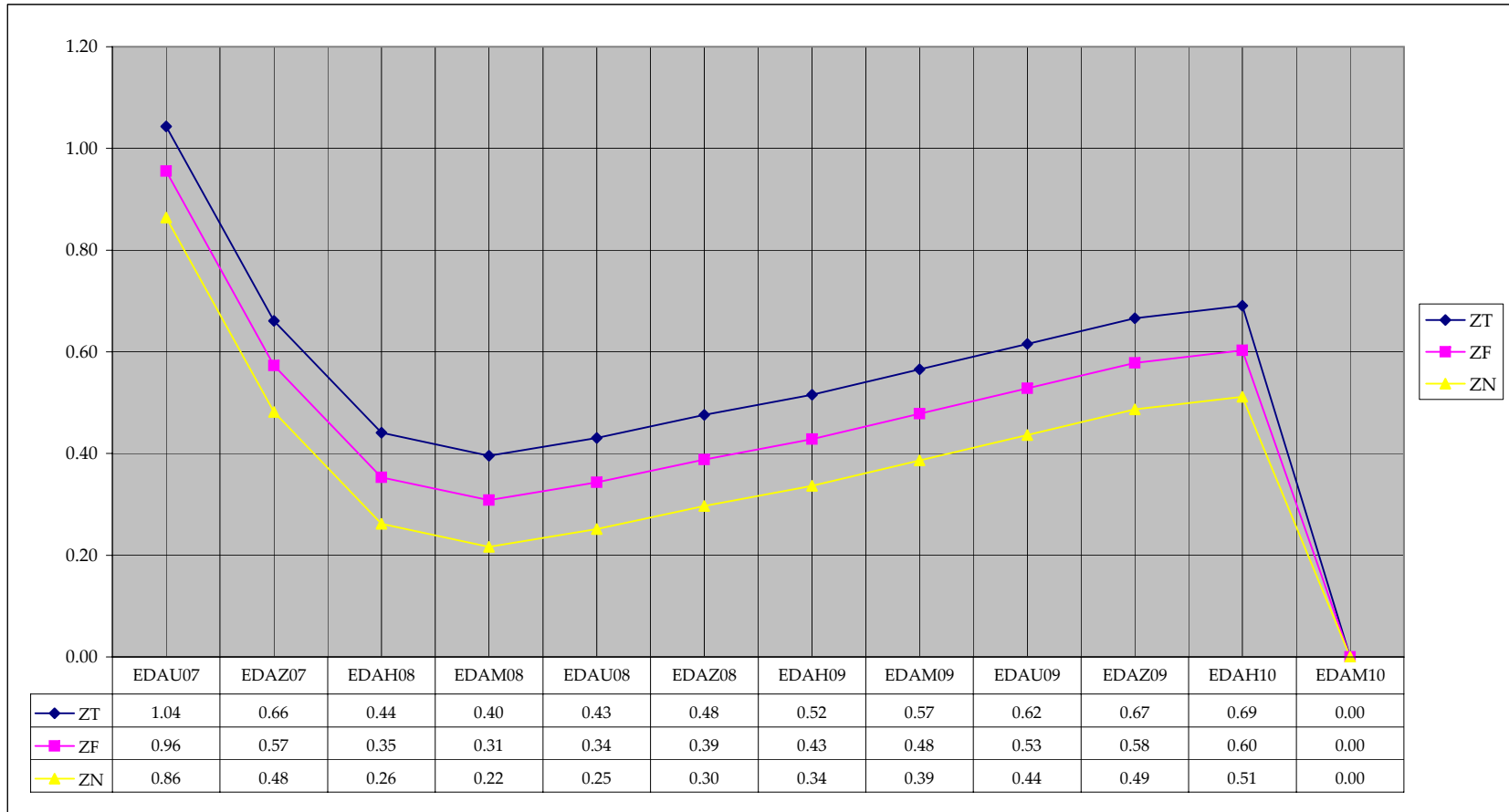
	Fraction of year	10Y Duration	Spread Duration	
EDAU07	0.057	7.87	7.81	10y-EDAU07
EDAZ07	0.306	7.87	7.56	10y-EDAZ07
EDAH08	0.555	7.87	7.31	10y-EDAH08
EDAM08	0.805	7.87	7.06	10y-EDAM08
EDAU08	1.054	7.87	6.81	10y-EDAU08
EDAZ08	1.303	7.87	6.56	10y-EDAZ08
EDAH09	1.553	7.87	6.31	10y-EDAH09
EDAM09	1.802	7.87	6.07	10y-EDAM09
EDAU09	2.051	7.87	5.82	10y-EDAU09
EDAZ09	2.301	7.87	5.57	10y-EDAZ09
EDAH10	2.550	7.87	5.32	10y-EDAH10
EDAM10	2.799	7.87	5.07	10y-EDAM10

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



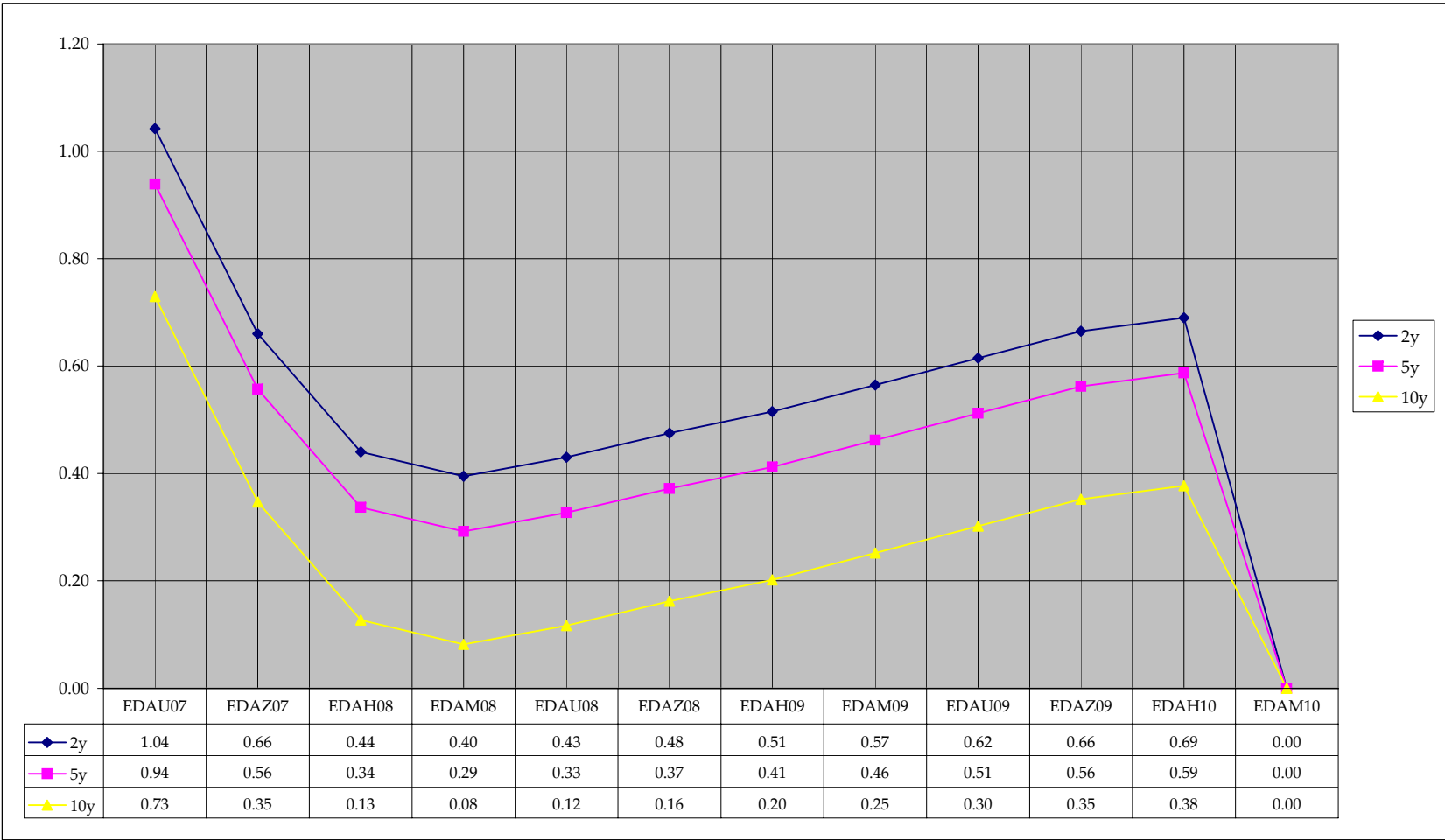
**Dirty TED Curve**

Chart values show the differences between ED contract and Treasury Futures contract. 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.

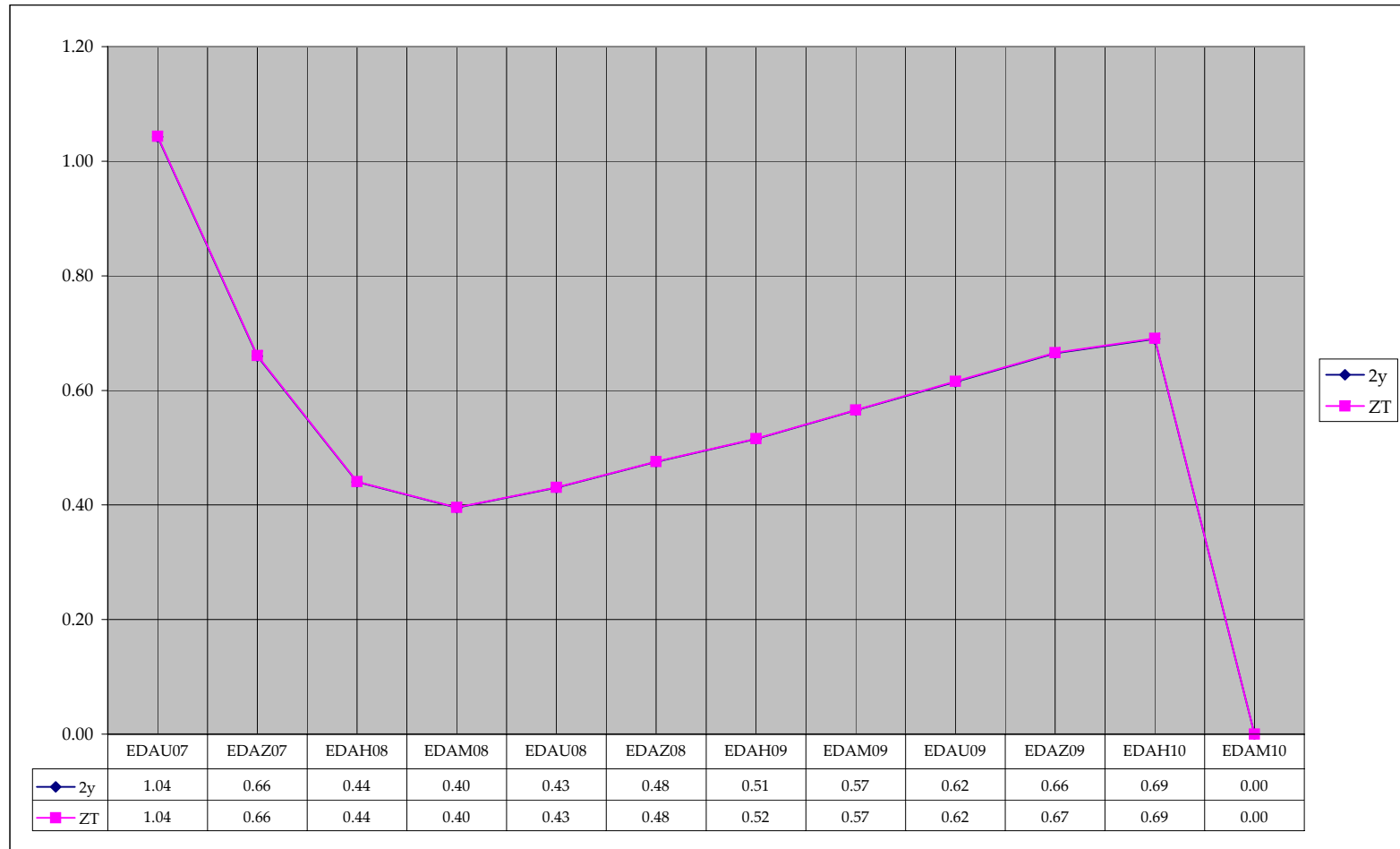


TED Curve

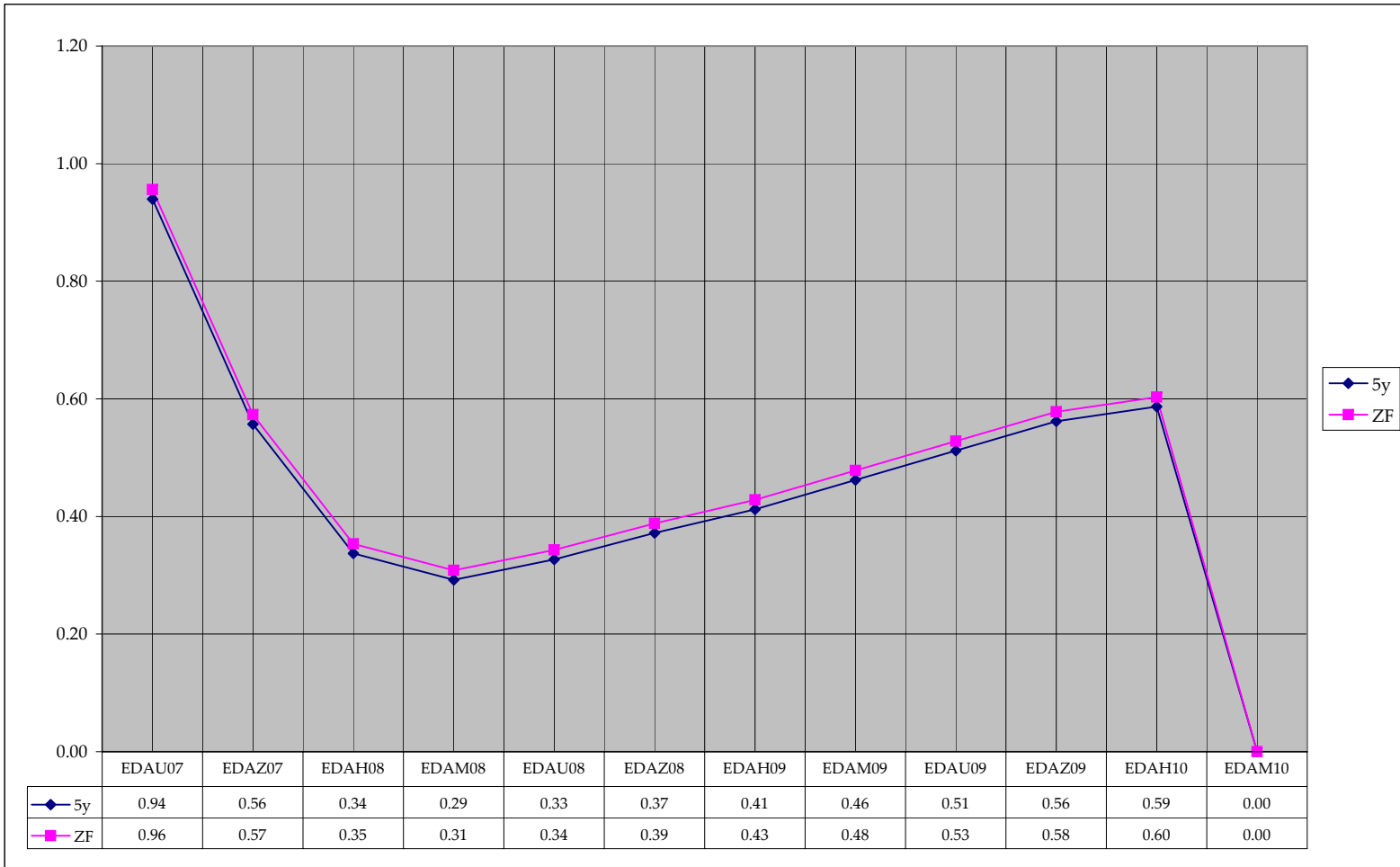
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



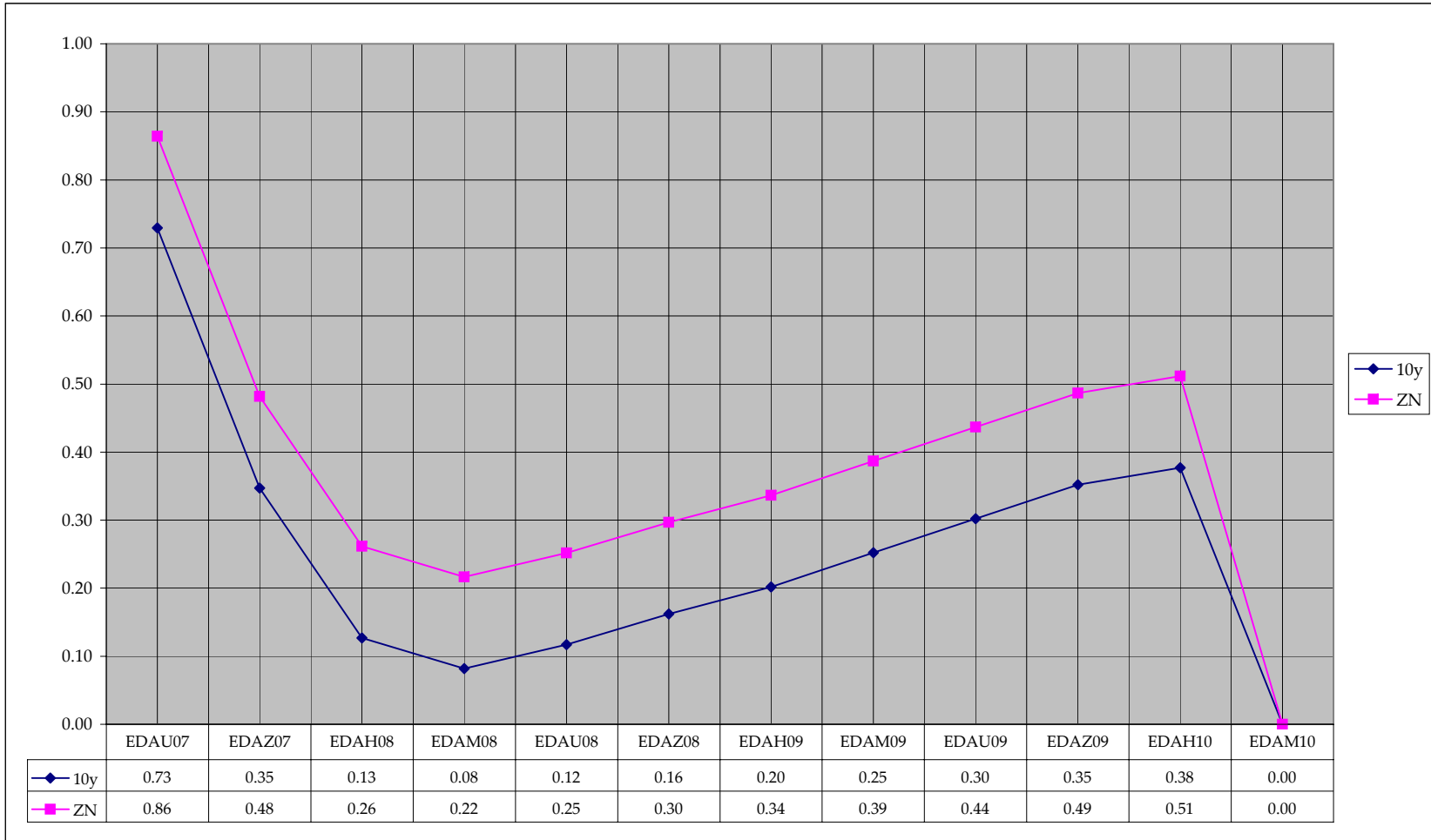
## 2y Basis TED Curve



## 5y Basis TED Curve



10y Basis TED Curve



### Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	5.086	-2.125	9504.563
Q.ED.Red	4.943	-1.875	9518.375
Q.ED.Green		-1.375	9501.000
Q.ED.Blue		0.000	9485.500
Q.ED.Gold		0.000	9468.000
Q.ED.Purple		0.000	9468.000

