

## 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	106.7563	106.242	2.073	1.73	
ZF	112.6875	112.220	2.800	3.83	
ZN	115.6719	115.215	3.381	5.77	
2y	100.031	100.0100	2.105	1.87	
5y	99.688	99.2200	2.940	4.55	
10y	96.828	96.2650	3.883	8.30	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.013	2.988	20	0.054	MAR	} White Pack	
EDAM08	97.305	2.695	111	0.303	JUN		
EDAU08	97.420	2.580	202	0.553	SEP		
EDAZ08	97.350	2.650	293	0.802	DEC	} Red Pack	
EDAH09	97.195	2.805	384	1.051	MAR		
EDAM09	96.975	3.025	475	1.301	JUN		
EDAU09	96.745	3.255	566	1.550	SEP	} Green Pack	
EDAZ09	96.530	3.470	657	1.799	DEC		
EDAH10	96.350	3.650	748	2.049	MAR		
EDAM10	96.155	3.845	839	2.298	JUN	} Blue Pack	
EDAU10	95.960	4.040	930	2.547	SEP		
EDAZ10	95.780	4.220	1021	2.797	DEC		
EDAH11	95.630	4.370	1112	3.046	MAR	} Gold Pack	
EDAM11	95.420	4.580	1203	3.295	JUN		
EDAU11	95.290	4.710	1301	3.564	SEP		
EDAZ11	95.165	4.835	1392	3.813	DEC	} Gold Pack	
EDAH12	95.190	4.810	1483	4.062	MAR		
EDAM12	95.010	4.990	1574	4.312	JUN		
EDAU12	94.835	5.165	1665	4.561	SEP		
EDAU12	94.835	5.165	1665	4.561	SEP		

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	2.785	1.187	9727.188	} Pack Prices
Q.ED.Red	3.208	2.000	9686.125	
Q.ED.Green	4.033	2.750	9606.125	
Q.ED.Blue		0.625	9539.125	
Q.ED.Gold		0.000	9489.875	

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

2/26/2008 5:48

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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)

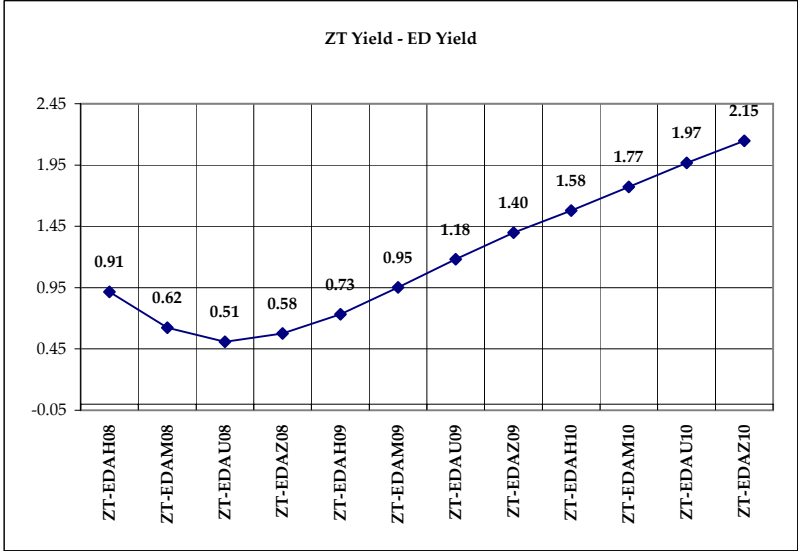
### **Eurodollar Color Codes for Individual Year Strips:**

<b>Color</b>	<b>Year</b>	<b>Contracts</b>
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

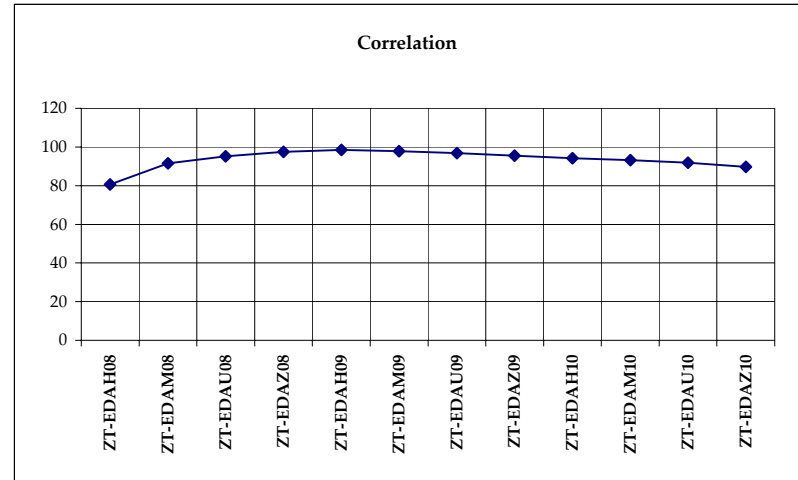
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.744	0.91	ZT-EDAH08	80.654
EDAM08	9.451	0.62	ZT-EDAM08	91.503
EDAU08	9.336	0.51	ZT-EDAU08	95.153
EDAZ08	9.406	0.58	ZT-EDAZ08	97.421
EDAH09	9.561	0.73	ZT-EDAH09	98.434
EDAM09	9.781	0.95	ZT-EDAM09	97.894
EDAU09	10.011	1.18	ZT-EDAU09	96.846
EDAZ09	10.226	1.40	ZT-EDAZ09	95.471
EDAH10	10.406	1.58	ZT-EDAH10	94.122
EDAM10	10.601	1.77	ZT-EDAM10	93.236
EDAU10	10.796	1.97	ZT-EDAU10	91.816
EDAZ10	10.976	2.15	ZT-EDAZ10	89.654

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	0.054	1.73	1.68	ZT-EDAH08
EDAM08	0.303	1.73	1.43	ZT-EDAM08
EDAU08	0.553	1.73	1.18	ZT-EDAU08
EDAZ08	0.802	1.73	0.93	ZT-EDAZ08
EDAH09	1.051	1.73	0.68	ZT-EDAH09
EDAM09	1.301	1.73	0.43	ZT-EDAM09
EDAU09	1.550	1.73	0.18	ZT-EDAU09
EDAZ09	1.799	1.73	(0.07)	ZT-EDAZ09
EDAH10	2.049	1.73	(0.32)	ZT-EDAH10
EDAM10	2.298	1.73	(0.57)	ZT-EDAM10
EDAU10	2.547	1.73	(0.82)	ZT-EDAU10
EDAZ10	2.797	1.73	(1.07)	ZT-EDAZ10

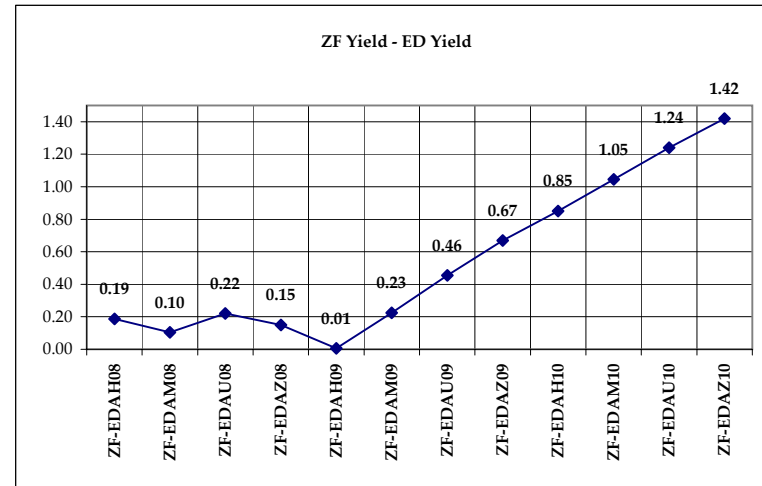
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	15.68	0.19	ZF-EDAH08	61.314
EDAM08	15.38	0.10	ZF-EDAM08	77.101
EDAU08	15.27	0.22	ZF-EDAU08	81.932
EDAZ08	15.34	0.15	ZF-EDAZ08	86.722
EDAH09	15.49	0.01	ZF-EDAH09	90.987
EDAM09	15.71	0.23	ZF-EDAM09	92.295
EDAU09	15.94	0.46	ZF-EDAU09	92.196
EDAZ09	16.16	0.67	ZF-EDAZ09	93.030
EDAH10	16.34	0.85	ZF-EDAH10	93.706
EDAM10	16.53	1.05	ZF-EDAM10	93.962
EDAU10	16.73	1.24	ZF-EDAU10	94.119
EDAZ10	16.91	1.42	ZF-EDAZ10	93.876

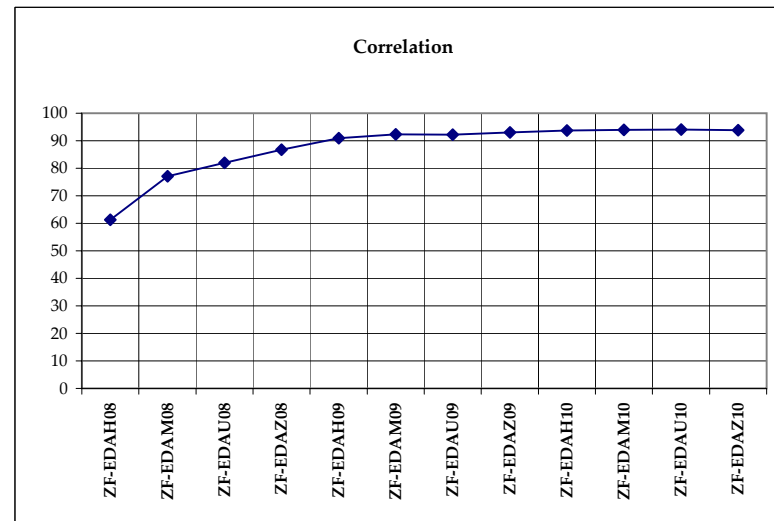
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.054	3.83	3.77	ZF-EDAH08
EDAM08	0.303	3.83	3.52	ZF-EDAM08
EDAU08	0.553	3.83	3.27	ZF-EDAU08
EDAZ08	0.802	3.83	3.02	ZF-EDAZ08
EDAH09	1.051	3.83	2.77	ZF-EDAH09
EDAM09	1.301	3.83	2.53	ZF-EDAM09
EDAU09	1.550	3.83	2.28	ZF-EDAU09
EDAZ09	1.799	3.83	2.03	ZF-EDAZ09
EDAH10	2.049	3.83	1.78	ZF-EDAH10
EDAM10	2.298	3.83	1.53	ZF-EDAM10
EDAU10	2.547	3.83	1.28	ZF-EDAU10
EDAZ10	2.797	3.83	1.03	ZF-EDAZ10

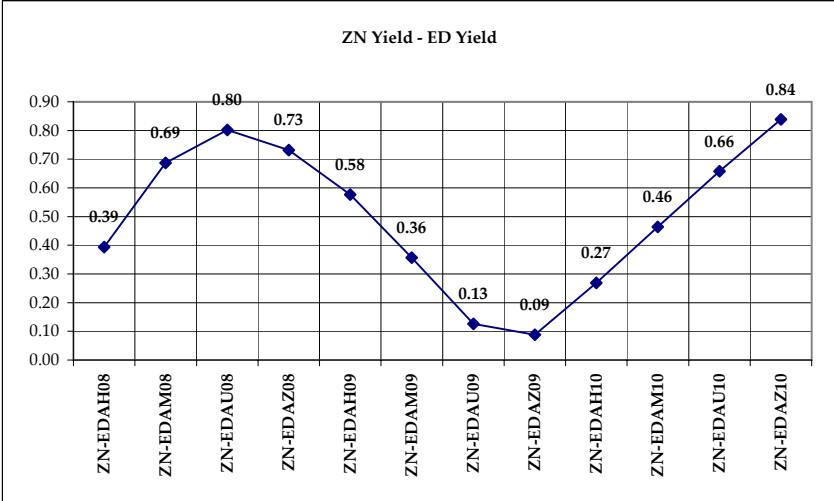
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

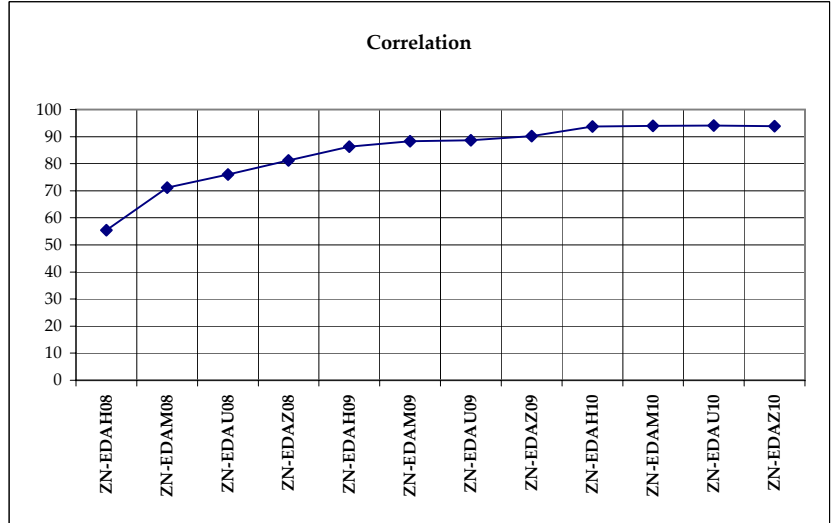
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	18.66	0.39	ZN-EDAH08	55.38
EDAM08	18.37	0.69	ZN-EDAM08	71.17
EDAU08	18.25	0.80	ZN-EDAU08	75.97
EDAZ08	18.32	0.73	ZN-EDAZ08	81.22
EDAH09	18.48	0.58	ZN-EDAH09	86.24
EDAM09	18.70	0.36	ZN-EDAM09	88.28
EDAU09	18.93	0.13	ZN-EDAU09	88.61
EDAZ09	19.14	0.09	ZN-EDAZ09	90.22
EDAH10	19.32	0.27	ZN-EDAH10	93.71
EDAM10	19.52	0.46	ZN-EDAM10	93.96
EDAU10	19.71	0.66	ZN-EDAU10	94.12
EDAZ10	19.89	0.84	ZN-EDAZ10	93.88

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	0.054	5.77	5.72	ZN-EDAH08
EDAM08	0.303	5.77	5.47	ZN-EDAM08
EDAU08	0.553	5.77	5.22	ZN-EDAU08
EDAZ08	0.802	5.77	4.97	ZN-EDAZ08
EDAH09	1.051	5.77	4.72	ZN-EDAH09
EDAM09	1.301	5.77	4.47	ZN-EDAM09
EDAU09	1.550	5.77	4.22	ZN-EDAU09
EDAZ09	1.799	5.77	3.97	ZN-EDAZ09
EDAH10	2.049	5.77	3.72	ZN-EDAH10
EDAM10	2.298	5.77	3.47	ZN-EDAM10
EDAU10	2.547	5.77	3.22	ZN-EDAU10
EDAZ10	2.797	5.77	2.98	ZN-EDAZ10

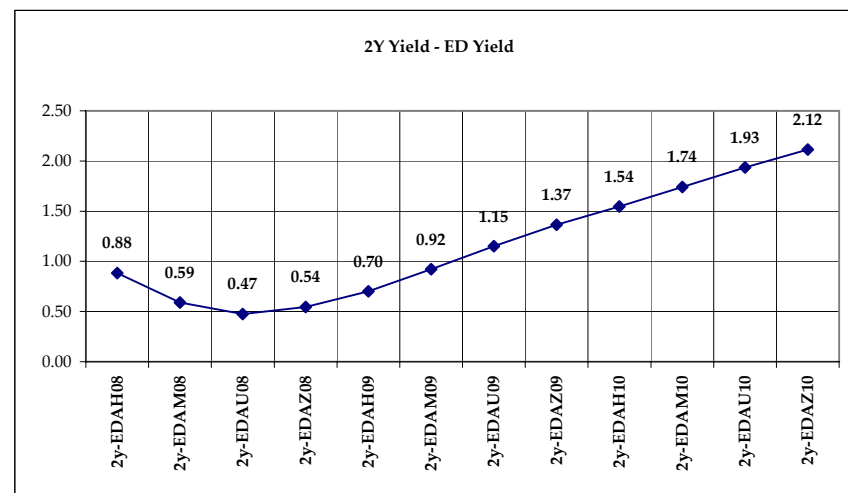
The farther away from 0 the spread duration is the riskier the trade.



**TERM TED: 2y vs Eurodollar Contracts**

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.02	0.88	2y-EDAH08	-83.678
EDAM08	2.73	0.59	2y-EDAM08	-92.955
EDAU08	2.61	0.47	2y-EDAU08	-96.968
EDAZ08	2.68	0.54	2y-EDAZ08	-92.955
EDAH09	2.84	0.70	2y-EDAH09	-97.775
EDAM09	3.06	0.92	2y-EDAM09	-96.327
EDAU09	3.29	1.15	2y-EDAU09	-95.072
EDAZ09	3.50	1.37	2y-EDAZ09	-94.022
EDAH10	3.68	1.54	2y-EDAH10	-92.759
EDAM10	3.88	1.74	2y-EDAM10	-91.475
EDAU10	4.07	1.93	2y-EDAU10	-89.815
EDAZ10	4.25	2.12	2y-EDAZ10	-87.447

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.

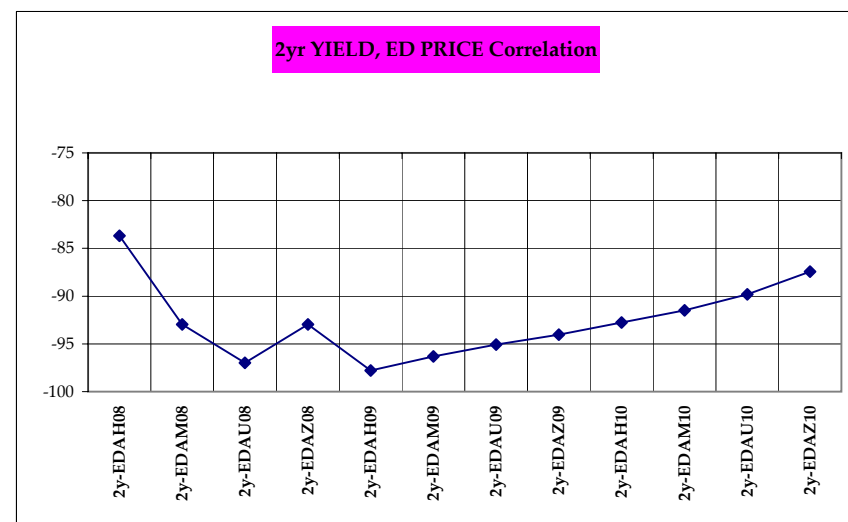


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAH08	0.054	1.87	2y-EDAH08
EDAM08	0.303	1.87	2y-EDAM08
EDAU08	0.553	1.87	2y-EDAU08
EDAZ08	0.802	1.87	2y-EDAZ08
EDAH09	1.051	1.87	2y-EDAH09
EDAM09	1.301	1.87	2y-EDAM09
EDAU09	1.550	1.87	2y-EDAU09
EDAZ09	1.799	1.87	2y-EDAZ09
EDAH10	2.049	1.87	2y-EDAH10
EDAM10	2.298	1.87	2y-EDAM10
EDAU10	2.547	1.87	2y-EDAU10
EDAZ10	2.797	1.87	2y-EDAZ10

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

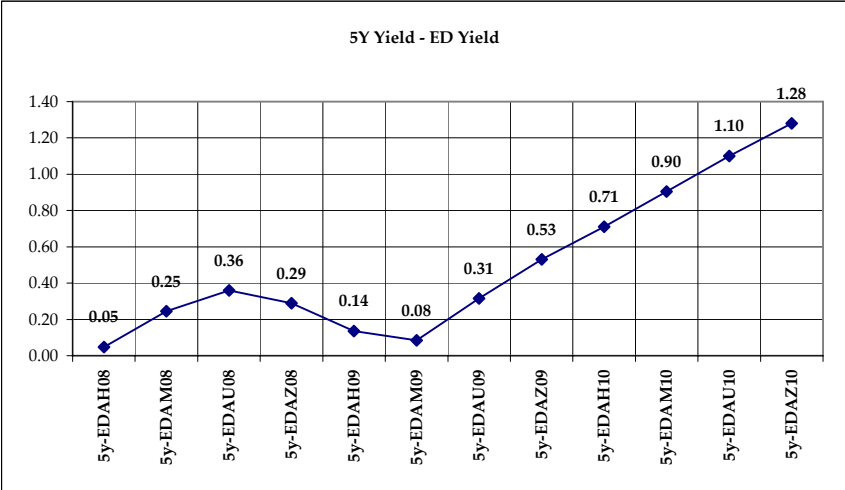
**2yr YIELD, ED PRICE Correlation**



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	2.68	0.05	5y-EDAH08	-82.359
EDAM08	2.38	0.25	5y-EDAM08	-90.711
EDAU08	2.27	0.36	5y-EDAU08	-93.661
EDAZ08	2.34	0.29	5y-EDAZ08	-90.711
EDAH09	2.49	0.14	5y-EDAH09	-96.579
EDAM09	2.71	0.08	5y-EDAM09	-96.248
EDAU09	2.94	0.31	5y-EDAU09	-95.881
EDAZ09	3.16	0.53	5y-EDAZ09	-96.005
EDAH10	3.34	0.71	5y-EDAH10	-96.003
EDAM10	3.53	0.90	5y-EDAM10	-96.211
EDAU10	3.73	1.10	5y-EDAU10	-96.050
EDAZ10	3.91	1.28	5y-EDAZ10	-95.231

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.

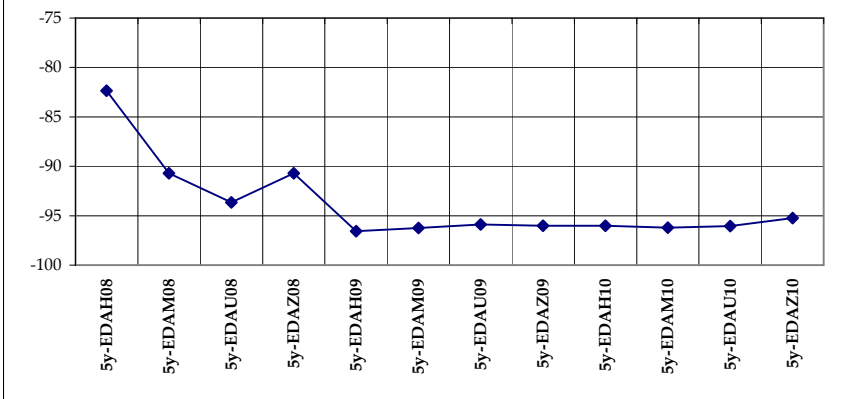


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAH08	0.054	4.55	4.50 5y-EDAH08
EDAM08	0.303	4.55	4.25 5y-EDAM08
EDAU08	0.553	4.55	4.00 5y-EDAU08
EDAZ08	0.802	4.55	3.75 5y-EDAZ08
EDAH09	1.051	4.55	3.50 5y-EDAH09
EDAM09	1.301	4.55	3.25 5y-EDAM09
EDAU09	1.550	4.55	3.00 5y-EDAU09
EDAZ09	1.799	4.55	2.75 5y-EDAZ09
EDAH10	2.049	4.55	2.50 5y-EDAH10
EDAM10	2.298	4.55	2.25 5y-EDAM10
EDAU10	2.547	4.55	2.00 5y-EDAU10
EDAZ10	2.797	4.55	1.75 5y-EDAZ10

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

**5yr YIELD, ED PRICE Correlation**

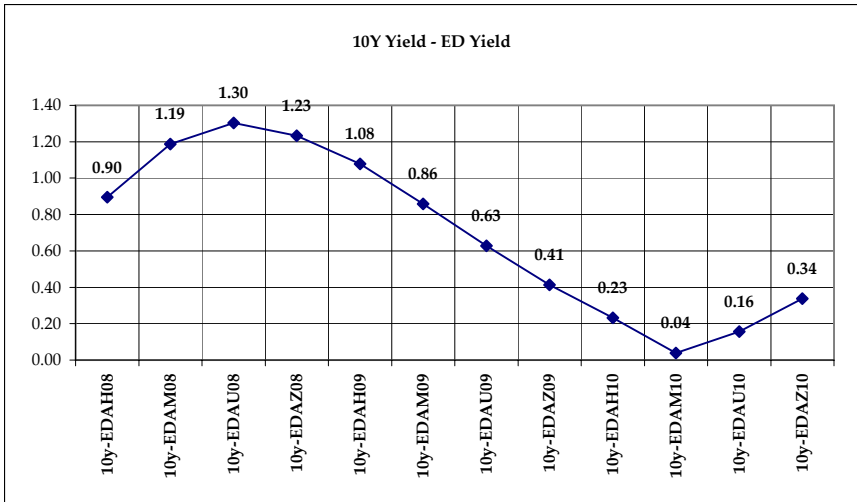




**TERM TED: 10y vs Eurodollar Contracts**

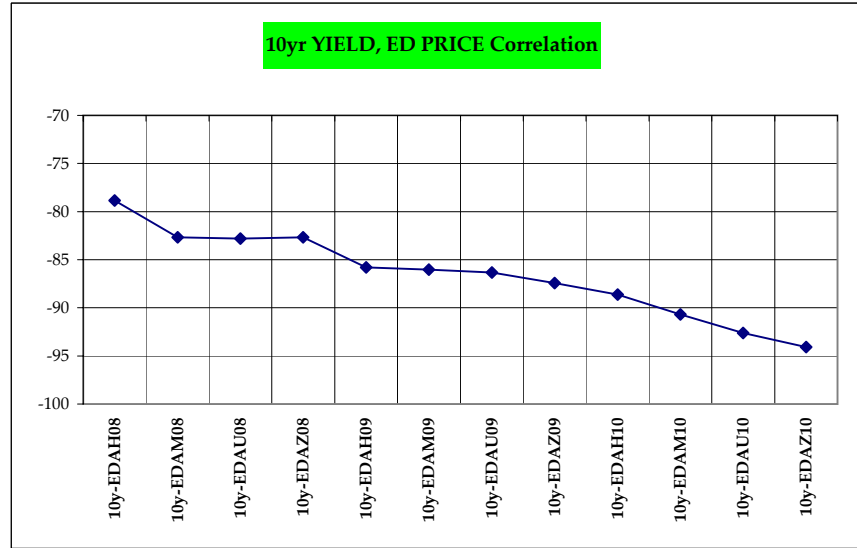
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	2.68	0.90	10y-EDAH08	-78.836
EDAM08	2.38	1.19	10y-EDAM08	-82.687
EDAU08	2.27	1.30	10y-EDAU08	-82.819
EDAZ08	2.34	1.23	10y-EDAZ08	-82.687
EDAH09	2.49	1.08	10y-EDAH09	-85.783
EDAM09	2.71	0.86	10y-EDAM09	-86.030
EDAU09	2.94	0.63	10y-EDAU09	-86.341
EDAZ09	3.16	0.41	10y-EDAZ09	-87.436
EDAH10	3.34	0.23	10y-EDAH10	-88.615
EDAM10	3.53	0.04	10y-EDAM10	-90.697
EDAU10	3.73	0.16	10y-EDAU10	-92.633
EDAZ10	3.91	0.34	10y-EDAZ10	-94.072

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.



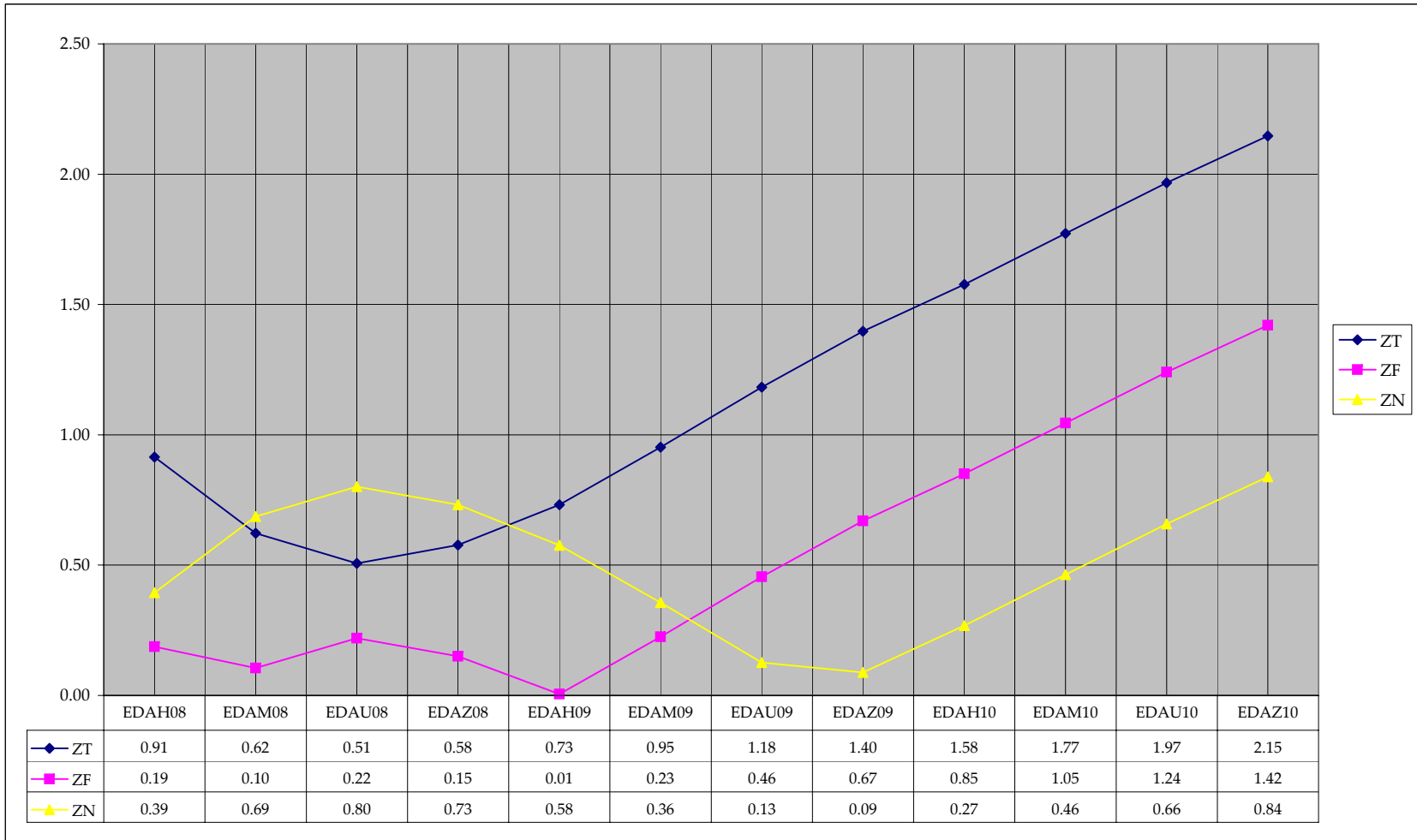
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAH08	0.054	8.30	8.24	10y-EDAH08
EDAM08	0.303	8.30	8.00	10y-EDAM08
EDAU08	0.553	8.30	7.75	10y-EDAU08
EDAZ08	0.802	8.30	7.50	10y-EDAZ08
EDAH09	1.051	8.30	7.25	10y-EDAH09
EDAM09	1.301	8.30	7.00	10y-EDAM09
EDAU09	1.550	8.30	6.75	10y-EDAU09
EDAZ09	1.799	8.30	6.50	10y-EDAZ09
EDAH10	2.049	8.30	6.25	10y-EDAH10
EDAM10	2.298	8.30	6.00	10y-EDAM10
EDAU10	2.547	8.30	5.75	10y-EDAU10
EDAZ10	2.797	8.30	5.50	10y-EDAZ10

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



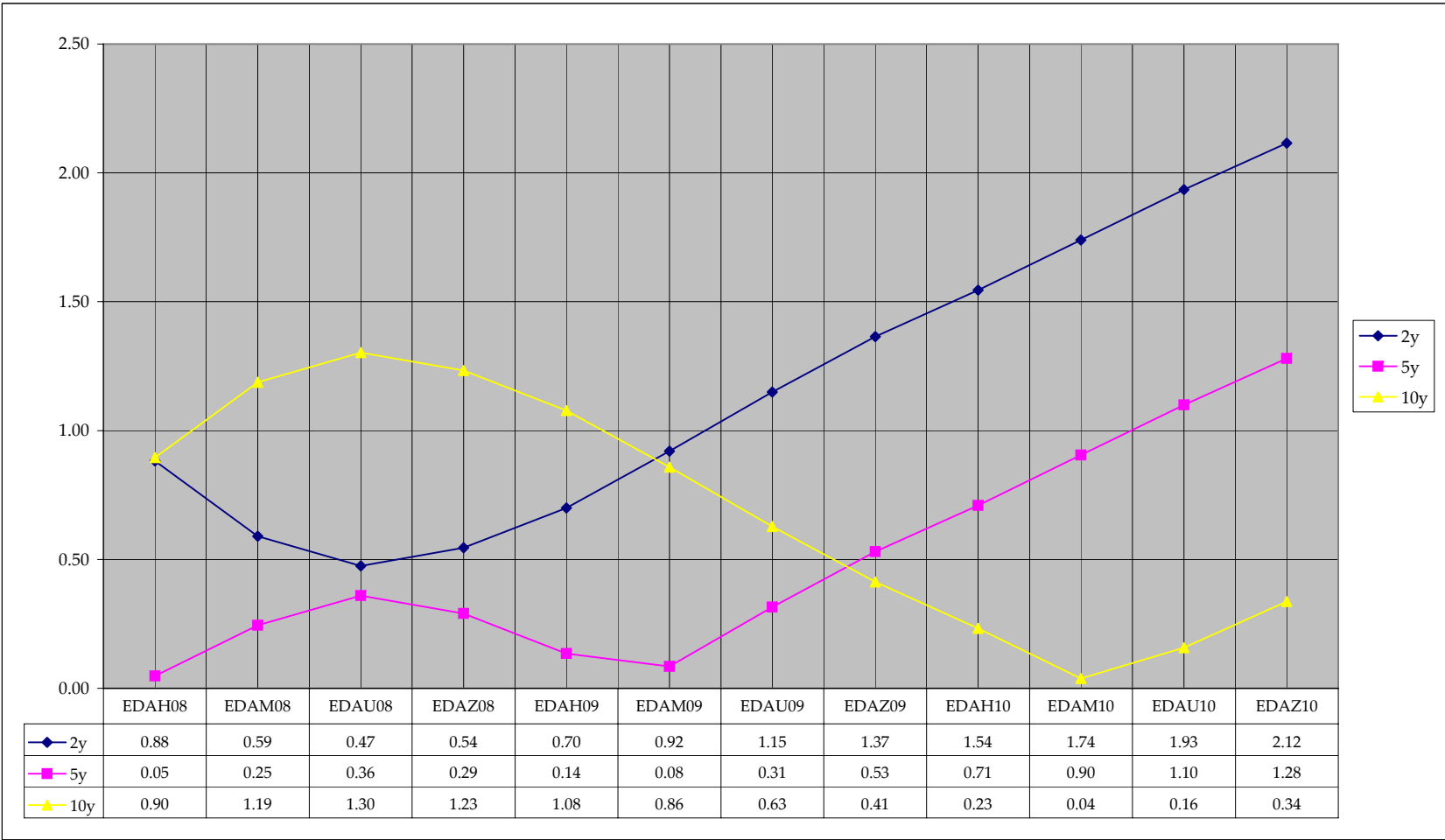
**Dirty TED Curve**

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

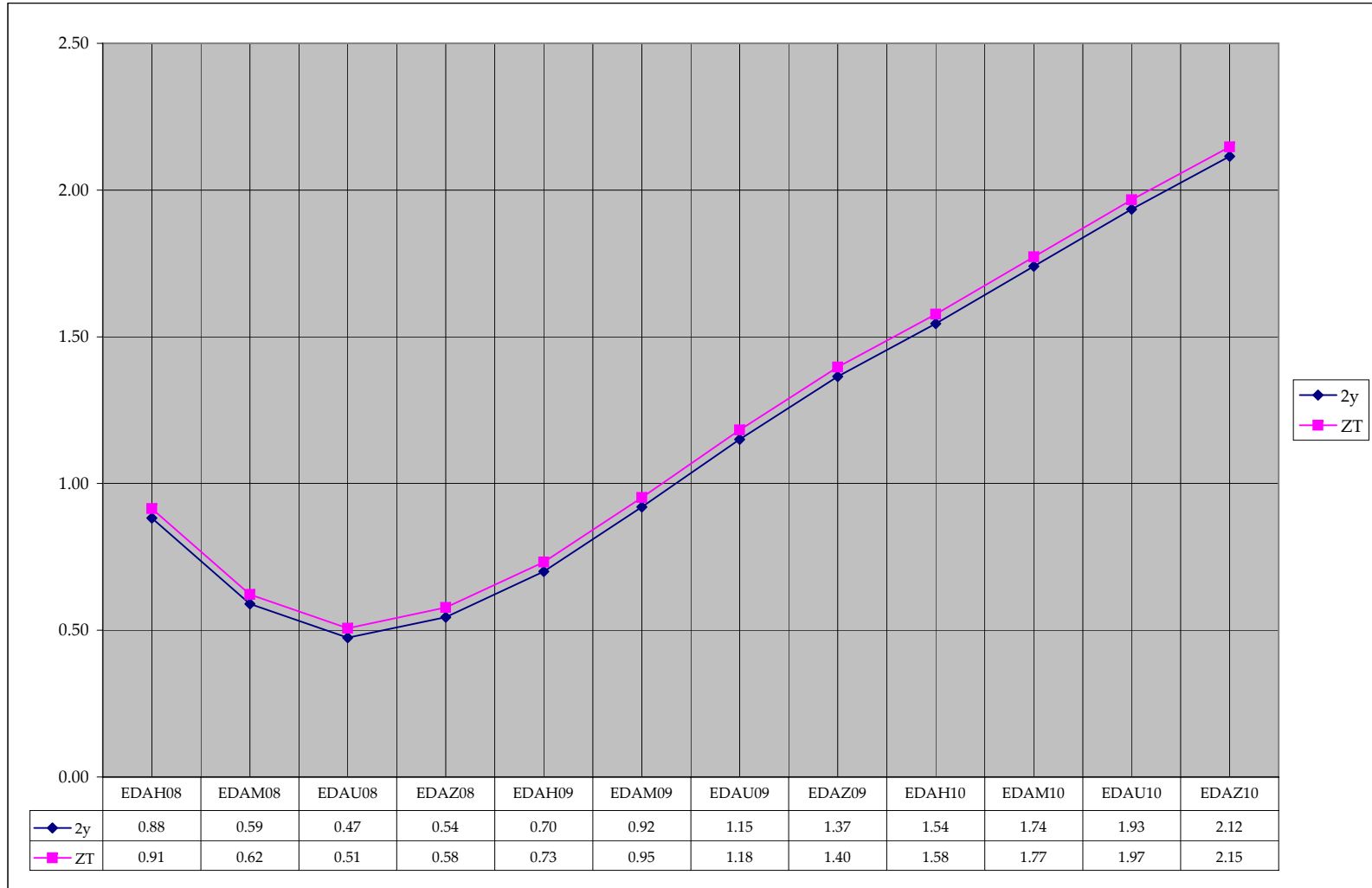


TED Curve

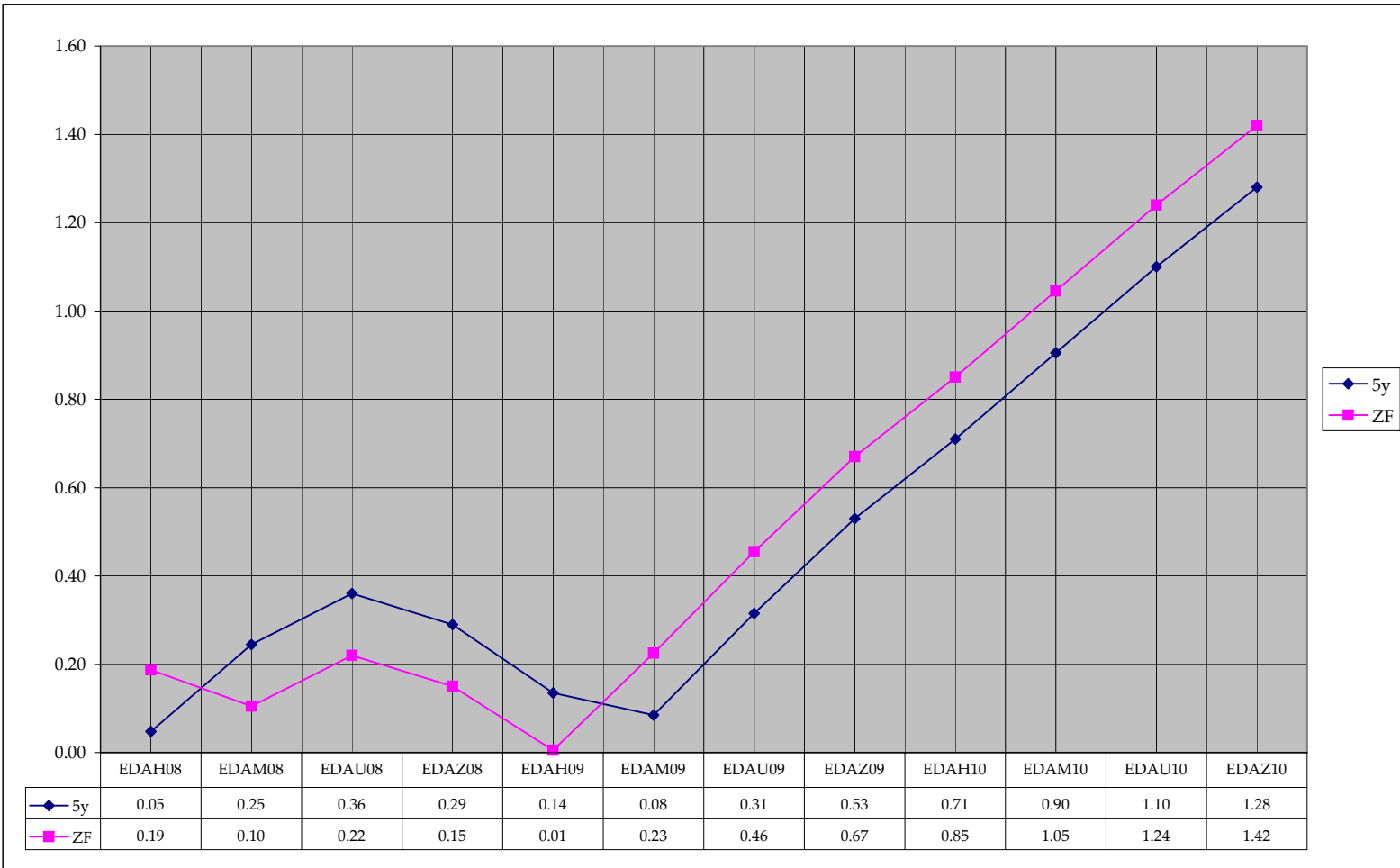
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



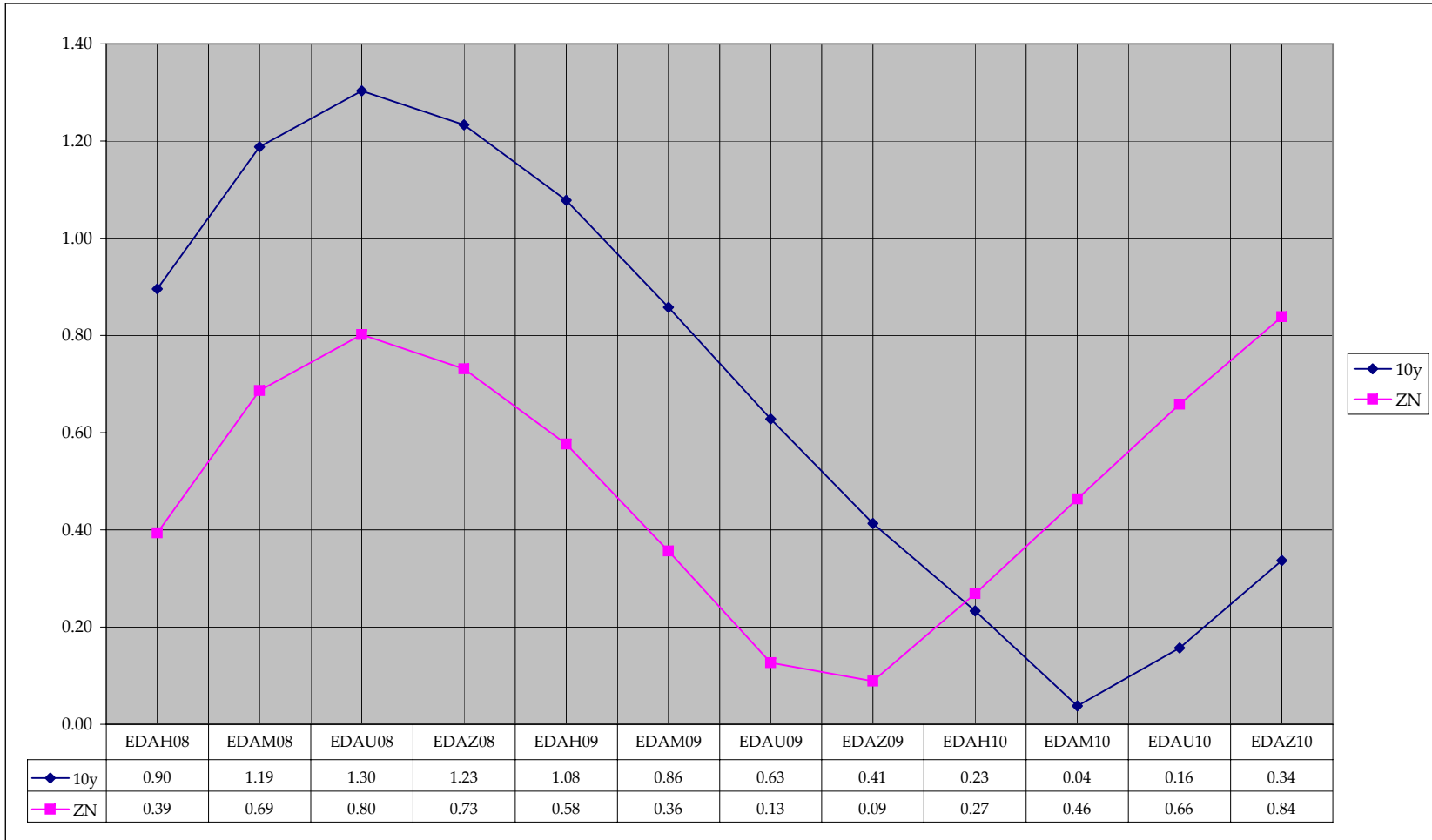
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.785	1.187	9727.188
Q.ED.Red	3.208	2.000	9686.125
Q.ED.Green	4.033	2.750	9606.125
Q.ED.Blue	0.625	0.625	9539.125
Q.ED.Gold	0.000	0.000	9489.875

