

## 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	107.0688	107.022	1.744	1.90	
ZF	113.3969	113.127	2.543	4.08	
ZN	116.8906	116.285	3.368	6.66	
2y	100.484	100.1550	1.749	1.92	
5y	100.547	100.1750	2.629	4.61	
10y	99.219	99.0700	3.594	8.29	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.200	2.800	5	0.013	MAR	} White Pack	
EDAM08	97.575	2.425	96	0.262	JUN		
EDAU08	97.685	2.315	187	0.512	SEP		
EDAZ08	97.625	2.375	278	0.761	DEC	} Red Pack	
EDAH09	97.515	2.485	369	1.010	MAR		
EDAM09	97.340	2.660	460	1.260	JUN		
EDAU09	97.130	2.870	551	1.509	SEP	} Green Pack	
EDAZ09	96.895	3.105	642	1.758	DEC		
EDAH10	96.680	3.320	733	2.008	MAR		
EDAM10	96.435	3.565	824	2.257	JUN	} Blue Pack	
EDAU10	96.230	3.770	915	2.506	SEP		
EDAZ10	96.045	3.955	1006	2.756	DEC		
EDAH11	95.900	4.100	1097	3.005	MAR	} Gold Pack	
EDAM11	95.750	4.250	1188	3.254	JUN		
EDAU11	95.600	4.400	1286	3.523	SEP		
EDAZ11	95.455	4.545	1377	3.772	DEC	} Gold Pack	
EDAH12	95.285	4.715	1468	4.021	MAR		
EDAM12	95.175	4.825	1559	4.271	JUN		
EDAU12	95.040	4.960	1650	4.520	SEP		
EDAU12	95.040	4.960	1650	4.520	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	2.529	0.750	9752.125	} Pack Prices
Q.ED.Red	2.838	-1.750	9722.000	
Q.ED.Green	3.737	-0.750	9634.750	
Q.ED.Blue	4.432	3.000	9567.625	
Q.ED.Gold		-1.375	9510.625	

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

## Overview of Hedging

3/12/2008 5:39

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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)

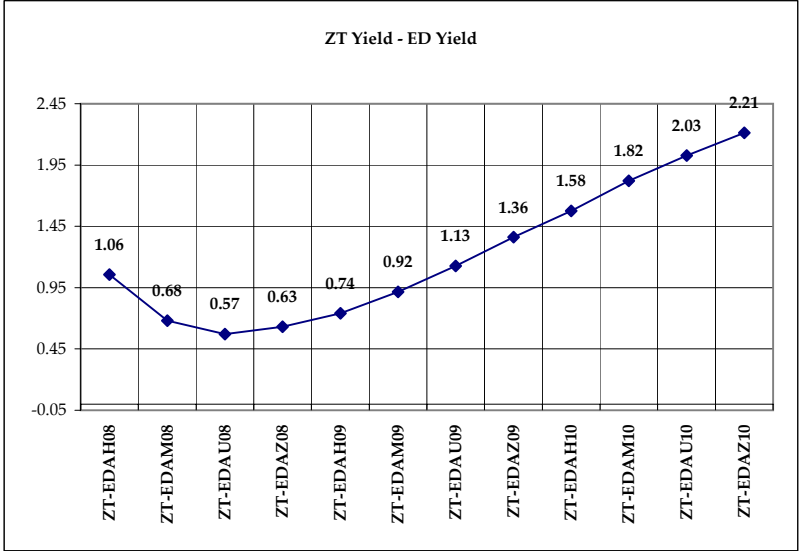
### **Eurodollar Color Codes for Individual Year Strips:**

<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

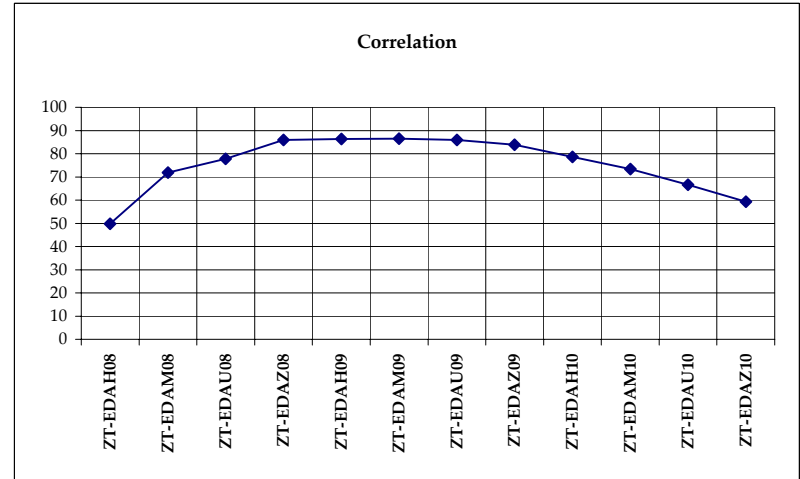
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.869	1.06	ZT-EDAH08	49.768
EDAM08	9.494	0.68	ZT-EDAM08	71.920
EDAU08	9.384	0.57	ZT-EDAU08	77.851
EDAZ08	9.444	0.63	ZT-EDAZ08	85.955
EDAH09	9.554	0.74	ZT-EDAH09	86.398
EDAM09	9.729	0.92	ZT-EDAM09	86.454
EDAU09	9.939	1.13	ZT-EDAU09	85.875
EDAZ09	10.174	1.36	ZT-EDAZ09	83.828
EDAH10	10.389	1.58	ZT-EDAH10	78.626
EDAM10	10.634	1.82	ZT-EDAM10	73.388
EDAU10	10.839	2.03	ZT-EDAU10	66.605
EDAZ10	11.024	2.21	ZT-EDAZ10	59.362

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	0.013	1.90	1.88	ZT-EDAH08
EDAM08	0.262	1.90	1.63	ZT-EDAM08
EDAU08	0.512	1.90	1.38	ZT-EDAU08
EDAZ08	0.761	1.90	1.13	ZT-EDAZ08
EDAH09	1.010	1.90	0.89	ZT-EDAH09
EDAM09	1.260	1.90	0.64	ZT-EDAM09
EDAU09	1.509	1.90	0.39	ZT-EDAU09
EDAZ09	1.758	1.90	0.14	ZT-EDAZ09
EDAH10	2.008	1.90	(0.11)	ZT-EDAH10
EDAM10	2.257	1.90	(0.36)	ZT-EDAM10
EDAU10	2.506	1.90	(0.61)	ZT-EDAU10
EDAZ10	2.756	1.90	(0.86)	ZT-EDAZ10

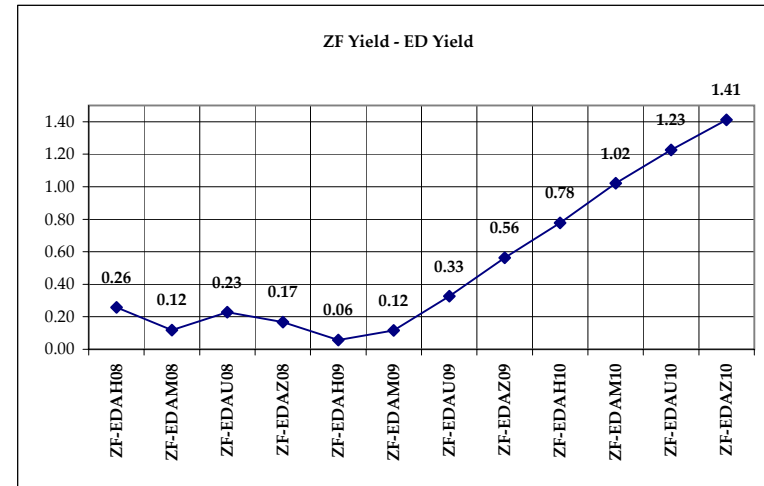
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	16.20	0.26	ZF-EDAH08	62.964
EDAM08	15.82	0.12	ZF-EDAM08	83.490
EDAU08	15.71	0.23	ZF-EDAU08	87.244
EDAZ08	15.77	0.17	ZF-EDAZ08	90.010
EDAH09	15.88	0.06	ZF-EDAH09	87.055
EDAM09	16.06	0.12	ZF-EDAM09	85.813
EDAU09	16.27	0.33	ZF-EDAU09	84.811
EDAZ09	16.50	0.56	ZF-EDAZ09	82.784
EDAH10	16.72	0.78	ZF-EDAH10	77.755
EDAM10	16.96	1.02	ZF-EDAM10	72.978
EDAU10	17.17	1.23	ZF-EDAU10	66.529
EDAZ10	17.35	1.41	ZF-EDAZ10	59.690

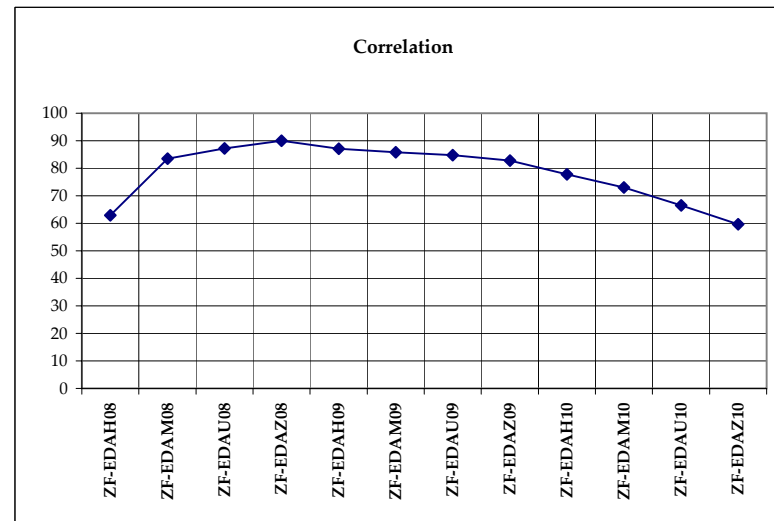
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.013	4.08	4.07	ZF-EDAH08
EDAM08	0.262	4.08	3.82	ZF-EDAM08
EDAU08	0.512	4.08	3.57	ZF-EDAU08
EDAZ08	0.761	4.08	3.32	ZF-EDAZ08
EDAH09	1.010	4.08	3.07	ZF-EDAH09
EDAM09	1.260	4.08	2.82	ZF-EDAM09
EDAU09	1.509	4.08	2.57	ZF-EDAU09
EDAZ09	1.758	4.08	2.32	ZF-EDAZ09
EDAH10	2.008	4.08	2.07	ZF-EDAH10
EDAM10	2.257	4.08	1.82	ZF-EDAM10
EDAU10	2.506	4.08	1.57	ZF-EDAU10
EDAZ10	2.756	4.08	1.32	ZF-EDAZ10

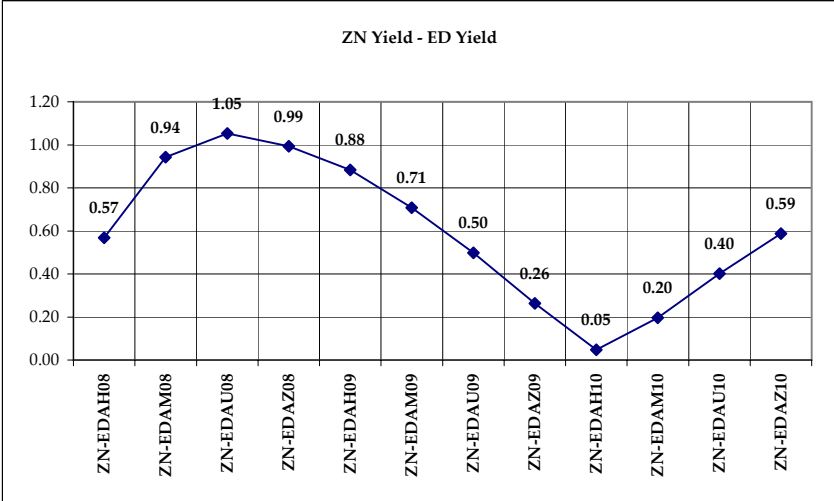
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

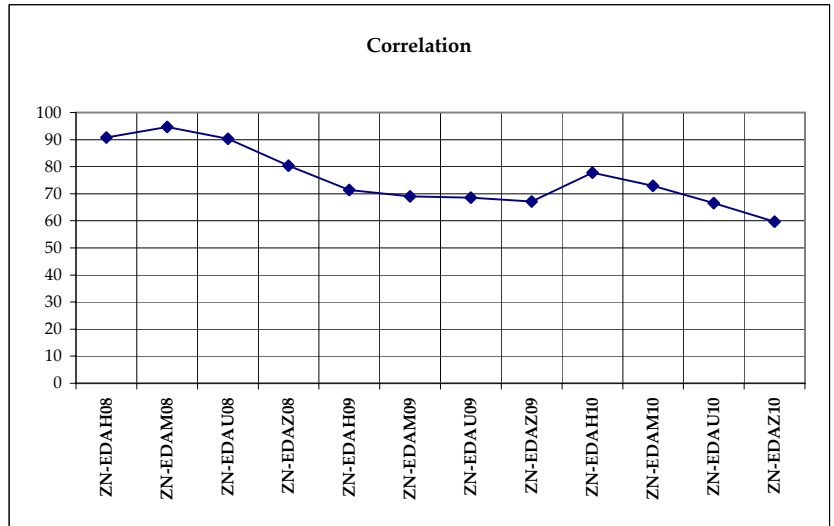
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.69	0.57	ZN-EDAH08	90.84
EDAM08	19.32	0.94	ZN-EDAM08	94.72
EDAU08	19.21	1.05	ZN-EDAU08	90.26
EDAZ08	19.27	0.99	ZN-EDAZ08	80.39
EDAH09	19.38	0.88	ZN-EDAH09	71.36
EDAM09	19.55	0.71	ZN-EDAM09	69.09
EDAU09	19.76	0.50	ZN-EDAU09	68.61
EDAZ09	20.00	0.26	ZN-EDAZ09	67.18
EDAH10	20.21	0.05	ZN-EDAH10	77.75
EDAM10	20.46	0.20	ZN-EDAM10	72.98
EDAU10	20.66	0.40	ZN-EDAU10	66.53
EDAZ10	20.85	0.59	ZN-EDAZ10	59.69

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	0.013	6.66	6.65	ZN-EDAH08
EDAM08	0.262	6.66	6.40	ZN-EDAM08
EDAU08	0.512	6.66	6.15	ZN-EDAU08
EDAZ08	0.761	6.66	5.90	ZN-EDAZ08
EDAH09	1.010	6.66	5.65	ZN-EDAH09
EDAM09	1.260	6.66	5.40	ZN-EDAM09
EDAU09	1.509	6.66	5.15	ZN-EDAU09
EDAZ09	1.758	6.66	4.90	ZN-EDAZ09
EDAH10	2.008	6.66	4.65	ZN-EDAH10
EDAM10	2.257	6.66	4.40	ZN-EDAM10
EDAU10	2.506	6.66	4.16	ZN-EDAU10
EDAZ10	2.756	6.66	3.91	ZN-EDAZ10

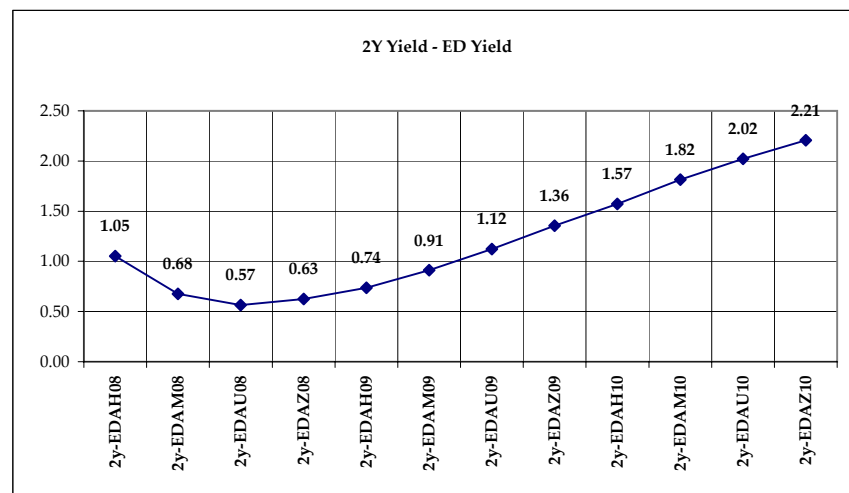
The farther away from 0 the spread duration is the riskier the trade.



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

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.28	1.05	2y-EDAH08	-48.712
EDAM08	2.91	0.68	2y-EDAM08	-65.720
EDAU08	2.80	0.57	2y-EDAU08	-66.399
EDAZ08	2.86	0.63	2y-EDAZ08	-65.720
EDAH09	2.97	0.74	2y-EDAH09	-56.248
EDAM09	3.14	0.91	2y-EDAM09	-54.763
EDAU09	3.35	1.12	2y-EDAU09	-53.948
EDAZ09	3.59	1.36	2y-EDAZ09	-51.073
EDAH10	3.80	1.57	2y-EDAH10	-43.389
EDAM10	4.05	1.82	2y-EDAM10	-35.713
EDAU10	4.25	2.02	2y-EDAU10	-26.586
EDAZ10	4.44	2.21	2y-EDAZ10	-17.796

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.

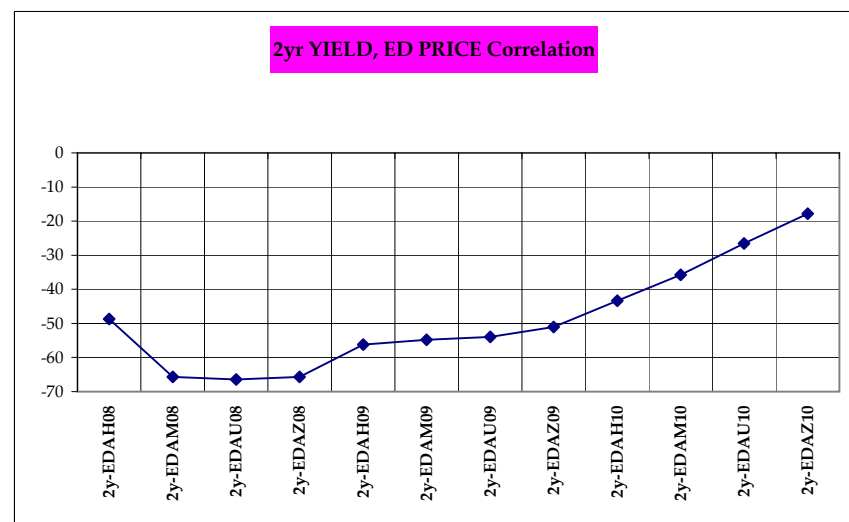


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAH08	0.013	1.92	2y-EDAH08
EDAM08	0.262	1.92	2y-EDAM08
EDAU08	0.512	1.92	2y-EDAU08
EDAZ08	0.761	1.92	2y-EDAZ08
EDAH09	1.010	1.92	2y-EDAH09
EDAM09	1.260	1.92	2y-EDAM09
EDAU09	1.509	1.92	2y-EDAU09
EDAZ09	1.758	1.92	2y-EDAZ09
EDAH10	2.008	1.92	2y-EDAH10
EDAM10	2.257	1.92	2y-EDAM10
EDAU10	2.506	1.92	2y-EDAU10
EDAZ10	2.756	1.92	2y-EDAZ10

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

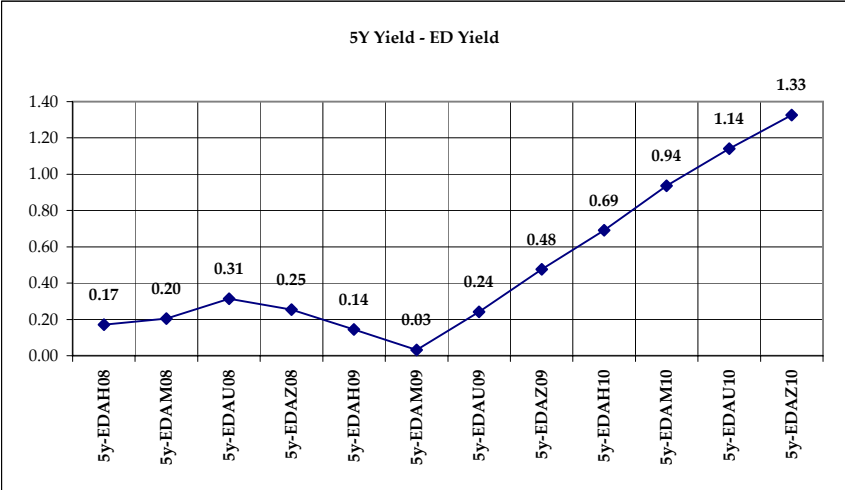
**2yr YIELD, ED PRICE Correlation**



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.35	0.17	5y-EDAH08	-61.250
EDAM08	2.97	0.20	5y-EDAM08	-81.562
EDAU08	2.86	0.31	5y-EDAU08	-83.436
EDAZ08	2.92	0.25	5y-EDAZ08	-81.562
EDAH09	3.03	0.14	5y-EDAH09	-75.190
EDAM09	3.21	0.03	5y-EDAM09	-73.139
EDAU09	3.42	0.24	5y-EDAU09	-71.959
EDAZ09	3.65	0.48	5y-EDAZ09	-69.675
EDAH10	3.87	0.69	5y-EDAH10	-63.716
EDAM10	4.11	0.94	5y-EDAM10	-58.126
EDAU10	4.32	1.14	5y-EDAU10	-50.565
EDAZ10	4.50	1.33	5y-EDAZ10	-43.080

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.

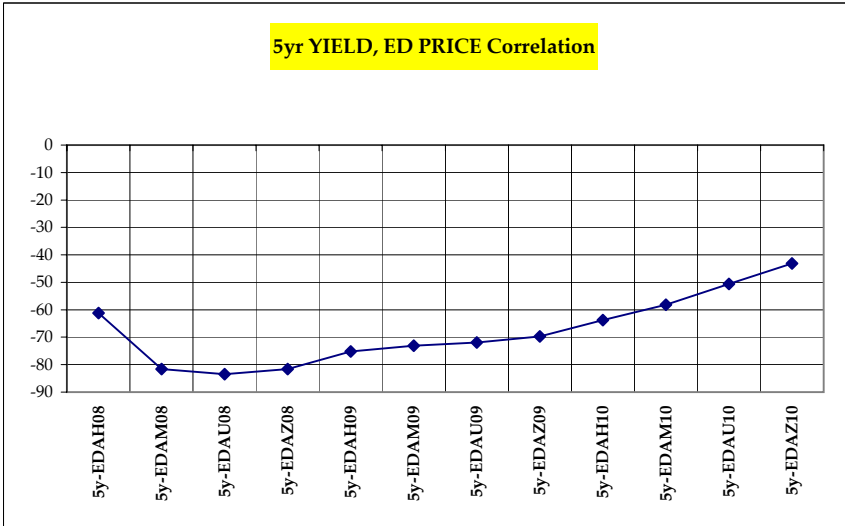


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAH08	0.013	4.61	4.60 5y-EDAH08
EDAM08	0.262	4.61	4.35 5y-EDAM08
EDAU08	0.512	4.61	4.10 5y-EDAU08
EDAZ08	0.761	4.61	3.85 5y-EDAZ08
EDAH09	1.010	4.61	3.60 5y-EDAH09
EDAM09	1.260	4.61	3.35 5y-EDAM09
EDAU09	1.509	4.61	3.10 5y-EDAU09
EDAZ09	1.758	4.61	2.85 5y-EDAZ09
EDAH10	2.008	4.61	2.60 5y-EDAH10
EDAM10	2.257	4.61	2.35 5y-EDAM10
EDAU10	2.506	4.61	2.10 5y-EDAU10
EDAZ10	2.756	4.61	1.86 5y-EDAZ10

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

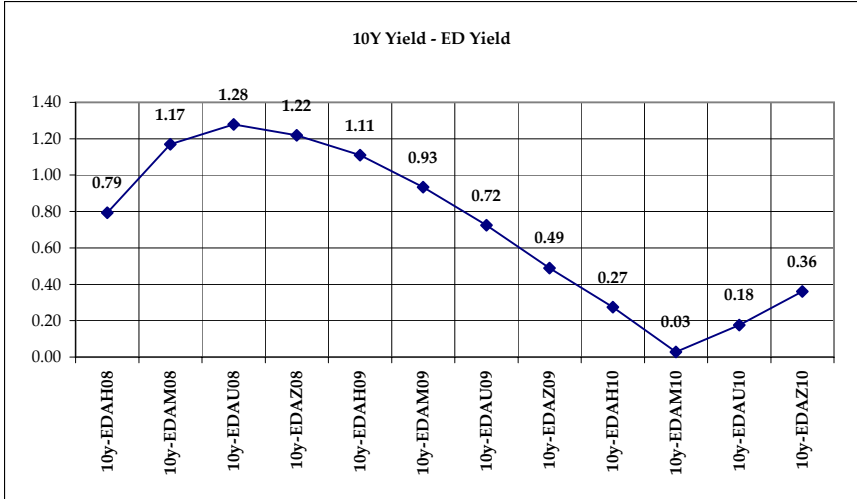
**5yr YIELD, ED PRICE Correlation**



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

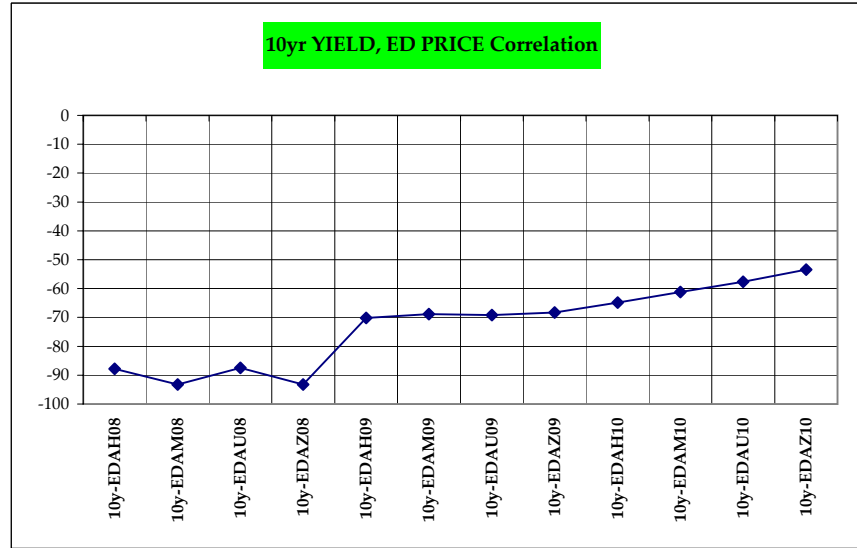
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.35	0.79	10y-EDAH08	-87.858
EDAM08	2.97	1.17	10y-EDAM08	-93.207
EDAU08	2.86	1.28	10y-EDAU08	-87.444
EDAZ08	2.92	1.22	10y-EDAZ08	-93.207
EDAH09	3.03	1.11	10y-EDAH09	-70.219
EDAM09	3.21	0.93	10y-EDAM09	-68.889
EDAU09	3.42	0.72	10y-EDAU09	-69.223
EDAZ09	3.65	0.49	10y-EDAZ09	-68.252
EDAH10	3.87	0.27	10y-EDAH10	-64.866
EDAM10	4.11	0.03	10y-EDAM10	-61.248
EDAU10	4.32	0.18	10y-EDAU10	-57.694
EDAZ10	4.50	0.36	10y-EDAZ10	-53.442

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.



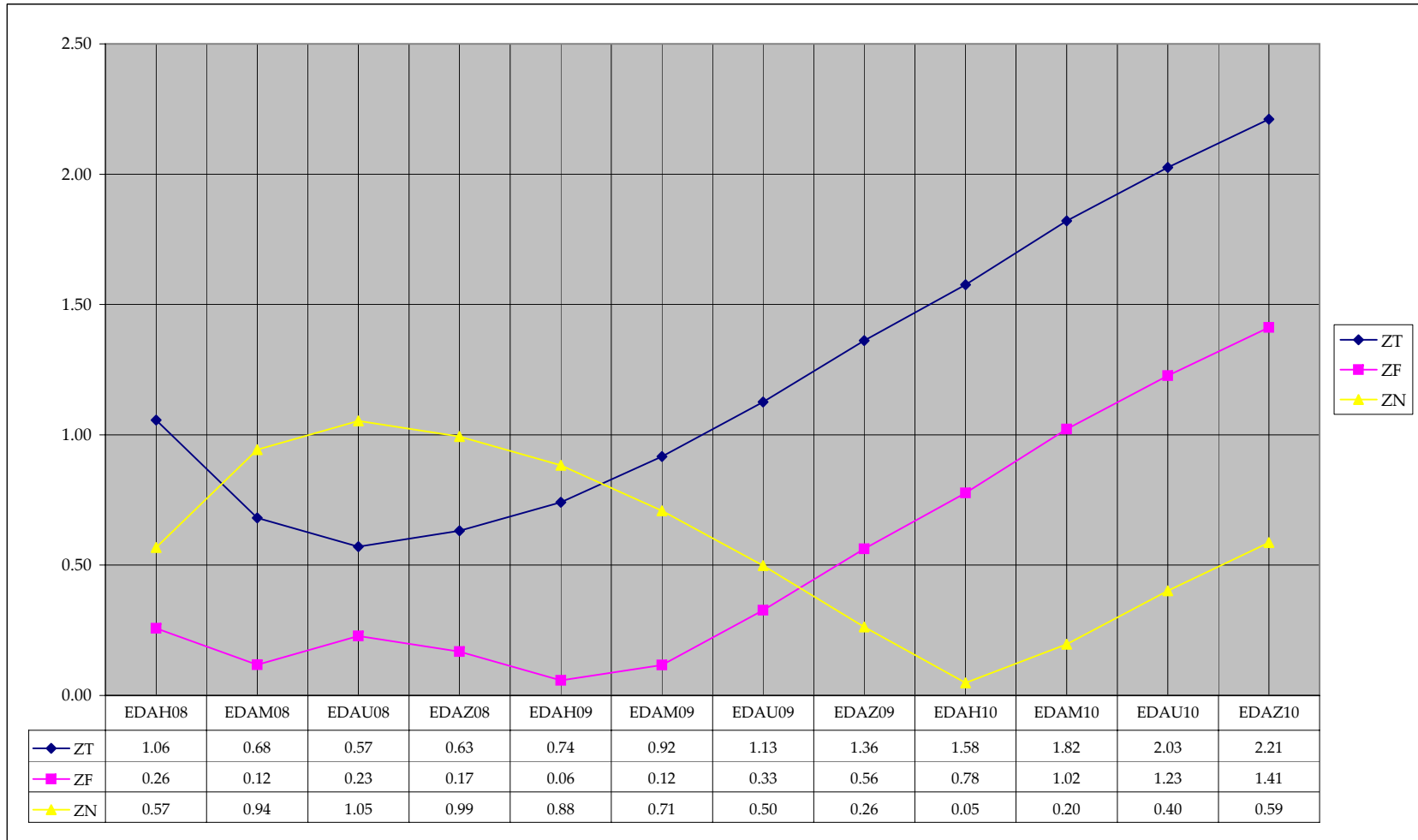
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAH08	0.013	8.29	8.28	10y-EDAH08
EDAM08	0.262	8.29	8.03	10y-EDAM08
EDAU08	0.512	8.29	7.78	10y-EDAU08
EDAZ08	0.761	8.29	7.53	10y-EDAZ08
EDAH09	1.010	8.29	7.28	10y-EDAH09
EDAM09	1.260	8.29	7.03	10y-EDAM09
EDAU09	1.509	8.29	6.78	10y-EDAU09
EDAZ09	1.758	8.29	6.53	10y-EDAZ09
EDAH10	2.008	8.29	6.29	10y-EDAH10
EDAM10	2.257	8.29	6.04	10y-EDAM10
EDAU10	2.506	8.29	5.79	10y-EDAU10
EDAZ10	2.756	8.29	5.54	10y-EDAZ10

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



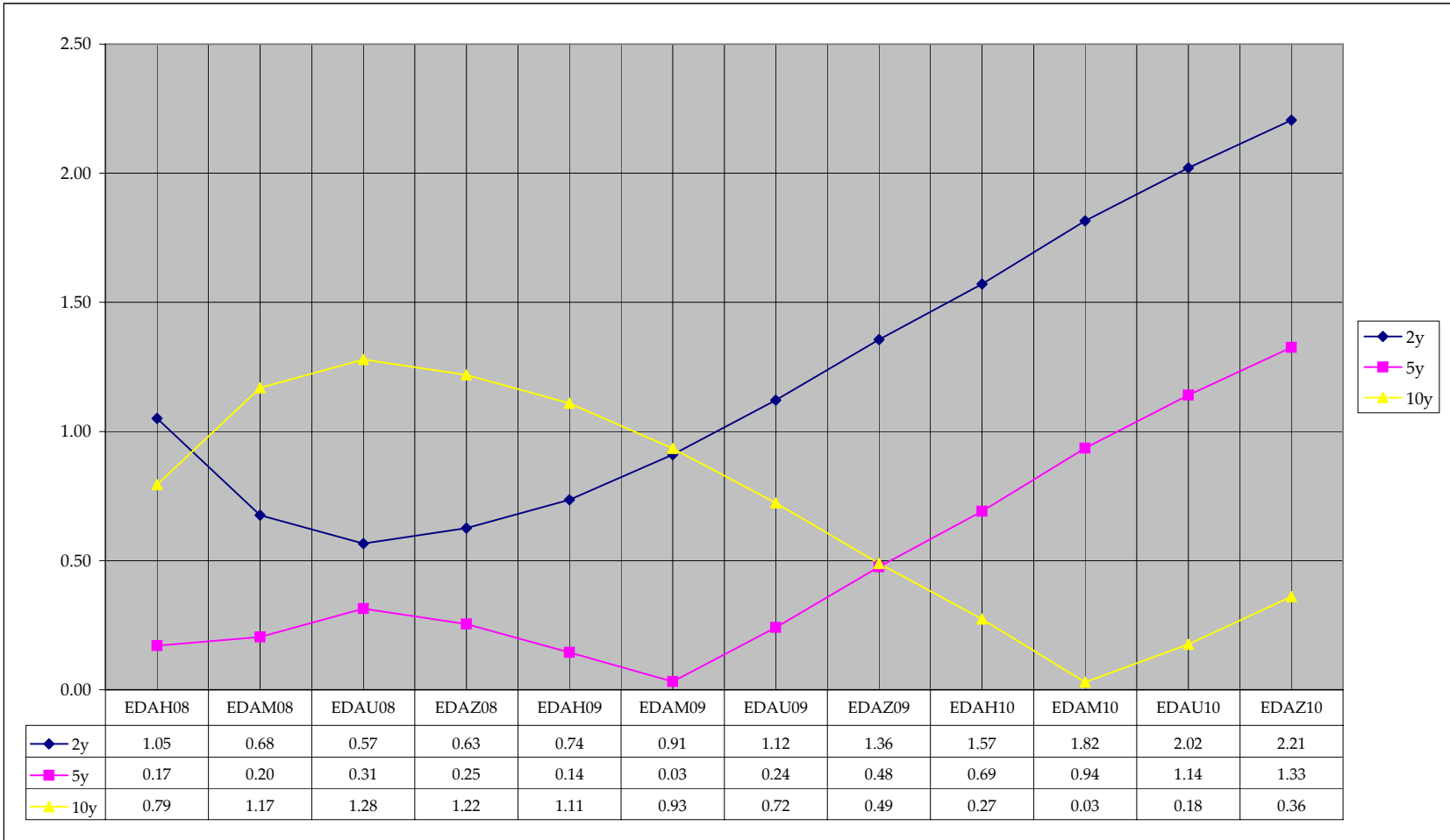
**Dirty TED Curve**

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.

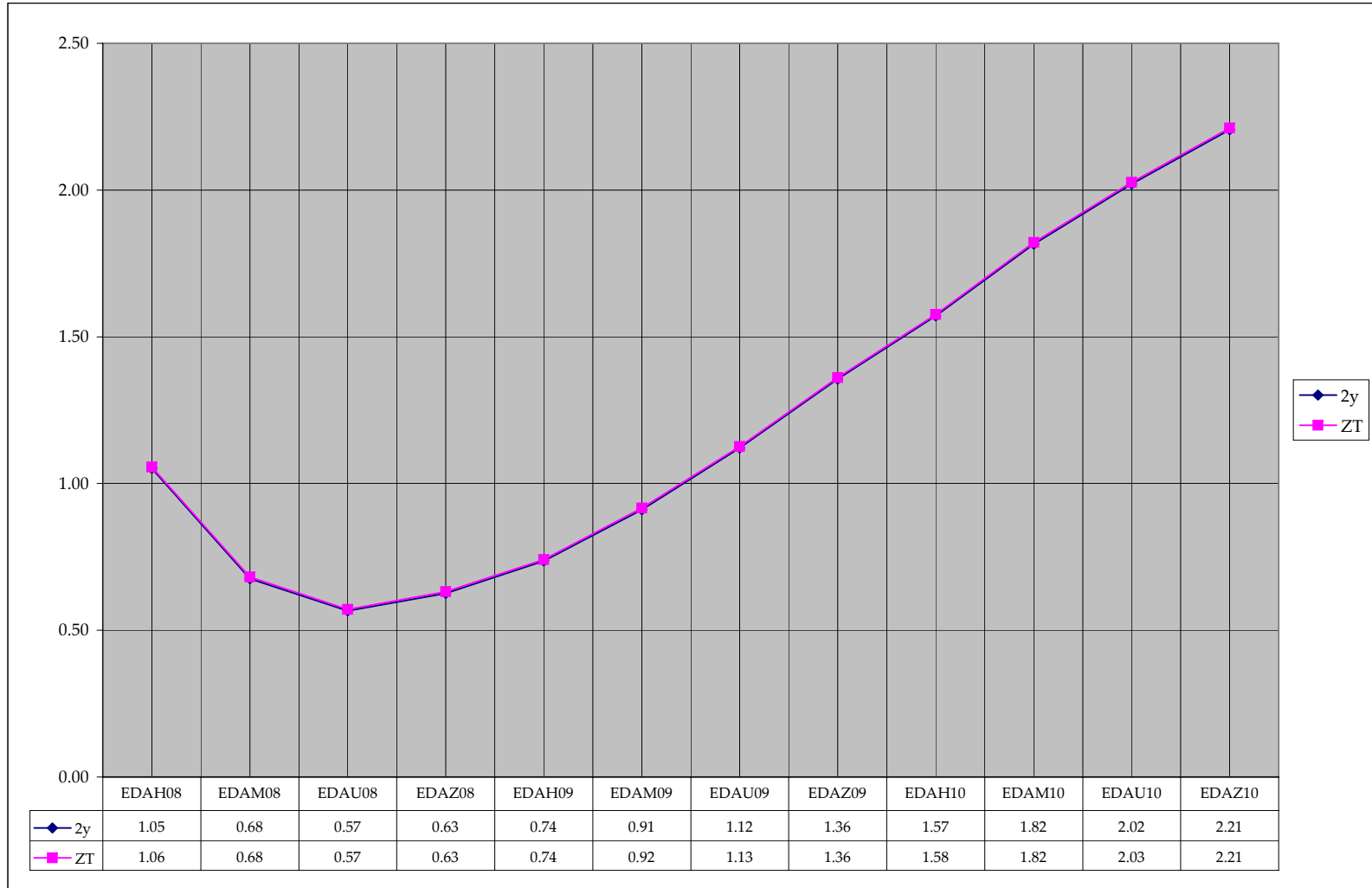


TED Curve

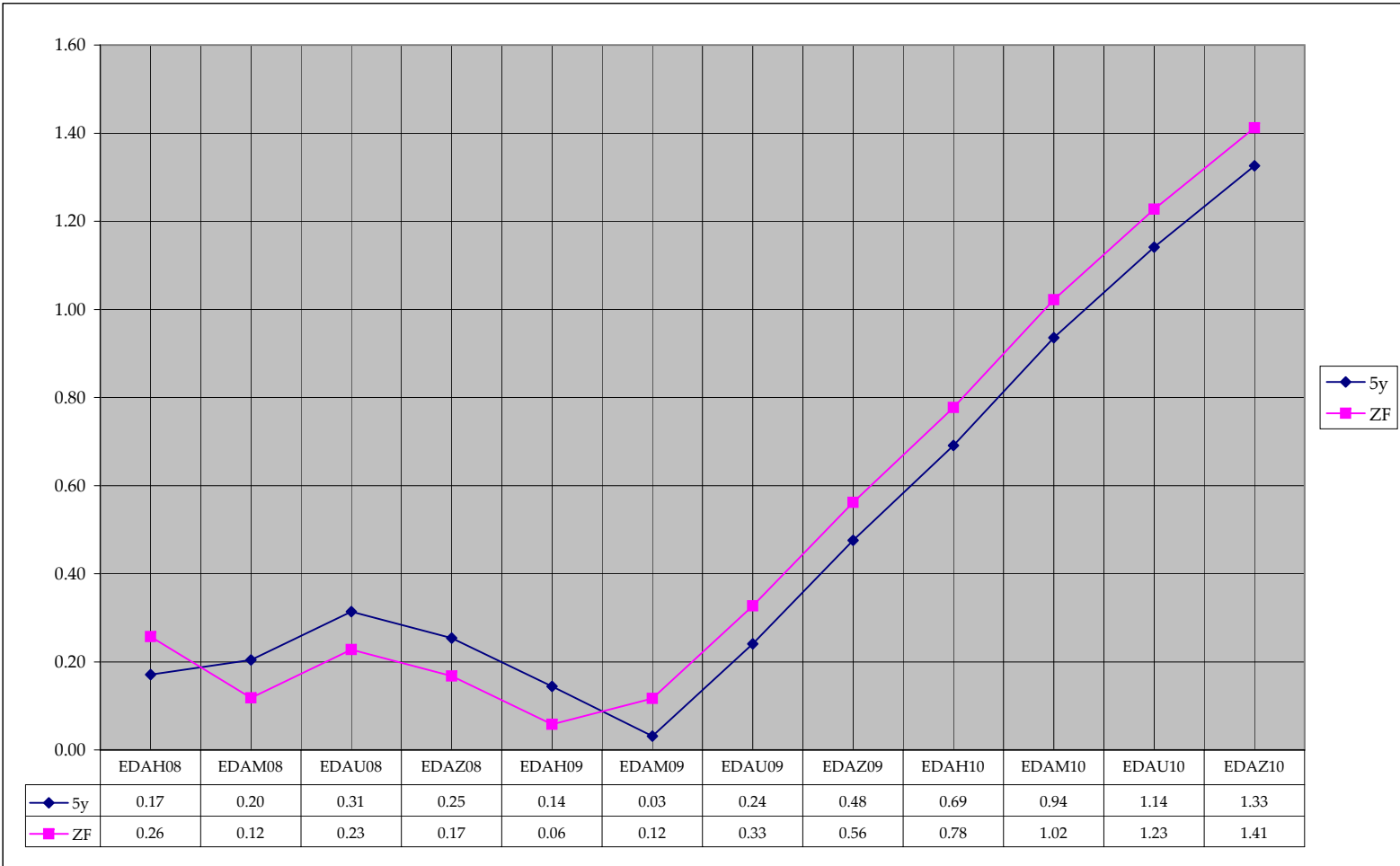
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



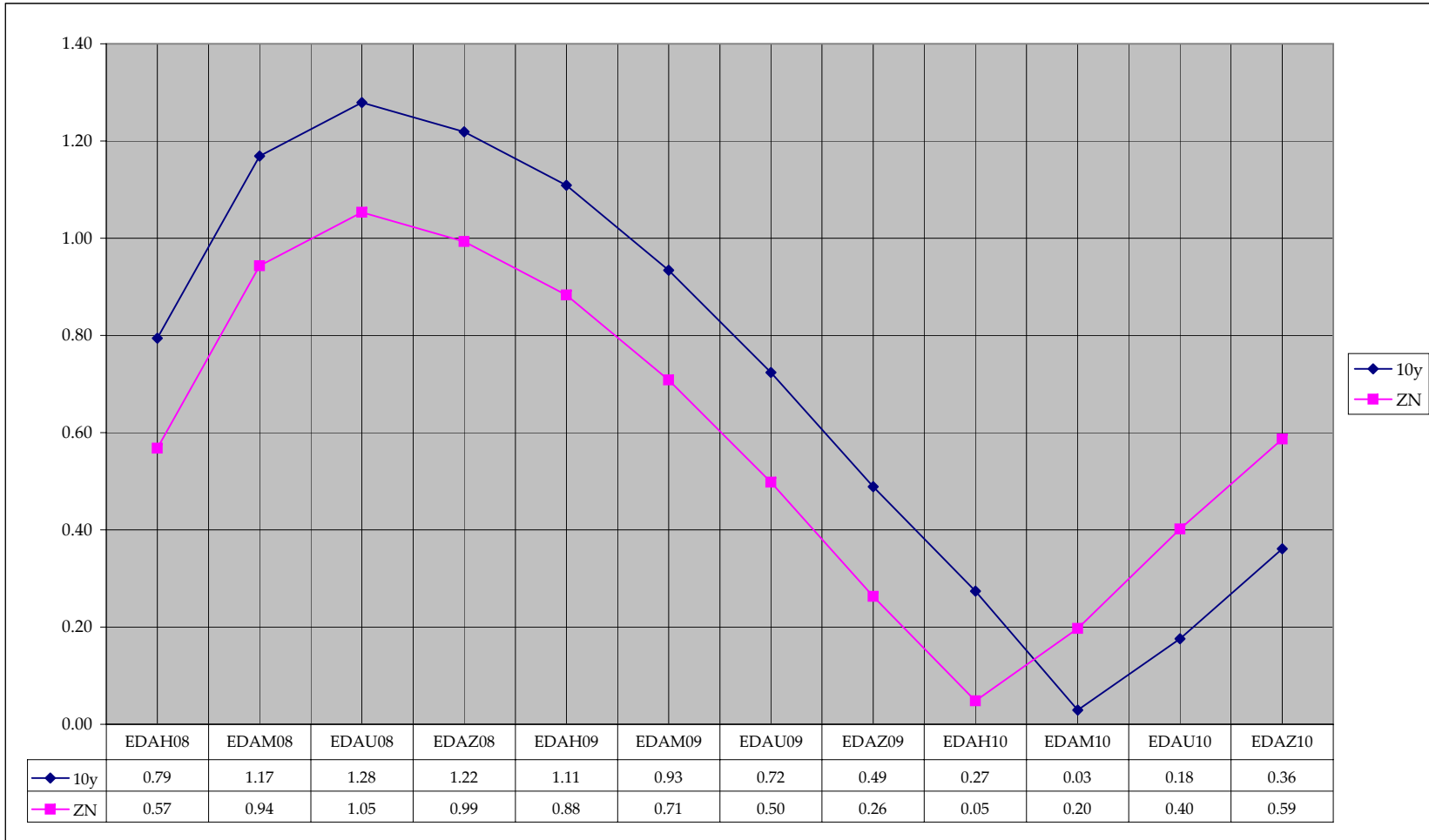
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.529	0.750	9752.125
Q.ED.Red	2.838	-1.750	9722.000
Q.ED.Green	3.737	-0.750	9634.750
Q.ED.Blue	4.432	3.000	9567.625
Q.ED.Gold		-1.375	9510.625

