

## 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	106.8656	106.277	1.875	1.93	
ZF	112.6719	112.215	2.721	4.11	
ZN	114.9844	114.315	3.350	6.05	
2y	100.131	100.0420	1.925	1.95	
5y	100.266	100.0850	2.815	4.55	
10y	97.547	97.1750	3.798	8.30	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.063	2.938	18	0.049	MAR	} White Pack	
EDAM08	97.490	2.510	109	0.298	JUN		
EDAU08	97.635	2.365	200	0.547	SEP		
EDAZ08	97.580	2.420	291	0.797	DEC	} Red Pack	
EDAH09	97.445	2.555	382	1.046	MAR		
EDAM09	97.235	2.765	473	1.295	JUN		
EDAU09	96.995	3.005	564	1.545	SEP	} Green Pack	
EDAZ09	96.755	3.245	655	1.794	DEC		
EDAH10	96.540	3.460	746	2.043	MAR		
EDAM10	96.330	3.670	837	2.292	JUN	} Blue Pack	
EDAU10	96.125	3.875	928	2.542	SEP		
EDAZ10	95.955	4.045	1019	2.791	DEC		
EDAH11	95.705	4.295	1110	3.040	MAR	} Gold Pack	
EDAM11	95.550	4.450	1201	3.290	JUN		
EDAU11	95.400	4.600	1299	3.558	SEP		
EDAZ11	95.255	4.745	1390	3.808	DEC	} Gold Pack	
EDAH12	95.150	4.850	1481	4.057	MAR		
EDAM12	95.040	4.960	1572	4.306	JUN		
EDAU12	95.005	4.995	1663	4.556	SEP	} Gold Pack	
EDAU12	95.005	4.995	1663	4.556	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	2.610	4.438	9744.188	} Pack Prices
Q.ED.Red	2.954	7.500	9710.750	
Q.ED.Green	3.851	7.375	9623.750	
Q.ED.Blue		0.000	9549.250	
Q.ED.Gold		0.000	9499.375	

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

2/28/2008 5:46

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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)

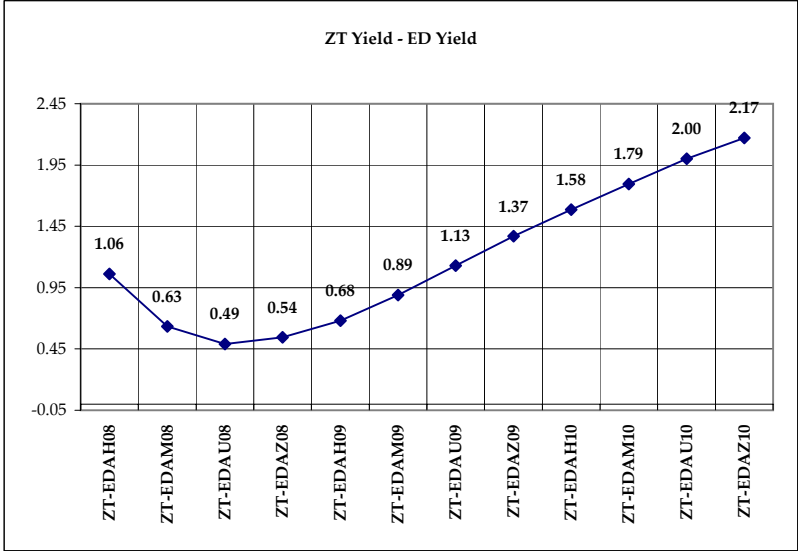
### Eurodollar Color Codes for Individual Year Strips:

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

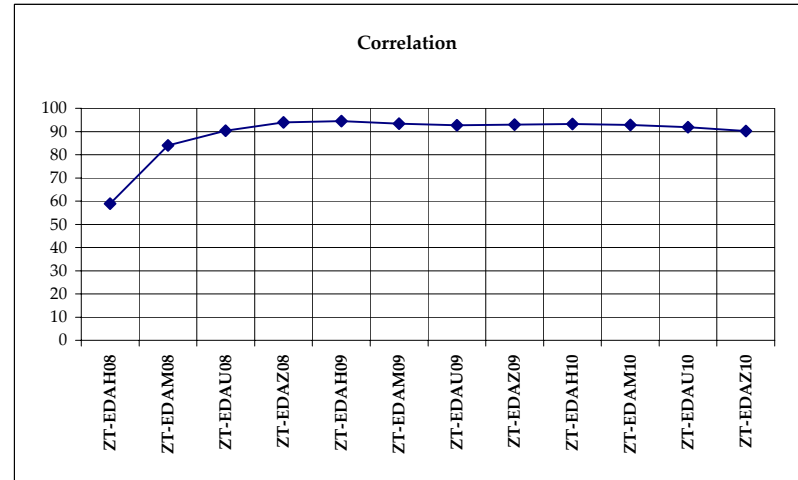
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.803	1.06	ZT-EDAH08	58.893
EDAM08	9.376	0.63	ZT-EDAM08	83.946
EDAU08	9.231	0.49	ZT-EDAU08	90.288
EDAZ08	9.286	0.54	ZT-EDAZ08	93.927
EDAH09	9.421	0.68	ZT-EDAH09	94.457
EDAM09	9.631	0.89	ZT-EDAM09	93.345
EDAU09	9.871	1.13	ZT-EDAU09	92.741
EDAZ09	10.111	1.37	ZT-EDAZ09	92.947
EDAH10	10.326	1.58	ZT-EDAH10	93.217
EDAM10	10.536	1.79	ZT-EDAM10	92.874
EDAU10	10.741	2.00	ZT-EDAU10	91.889
EDAZ10	10.911	2.17	ZT-EDAZ10	90.159

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	0.049	1.93	1.88	ZT-EDAH08
EDAM08	0.298	1.93	1.63	ZT-EDAM08
EDAU08	0.547	1.93	1.38	ZT-EDAU08
EDAZ08	0.797	1.93	1.13	ZT-EDAZ08
EDAH09	1.046	1.93	0.88	ZT-EDAH09
EDAM09	1.295	1.93	0.63	ZT-EDAM09
EDAU09	1.545	1.93	0.39	ZT-EDAU09
EDAZ09	1.794	1.93	0.14	ZT-EDAZ09
EDAH10	2.043	1.93	(0.11)	ZT-EDAH10
EDAM10	2.292	1.93	(0.36)	ZT-EDAM10
EDAU10	2.542	1.93	(0.61)	ZT-EDAU10
EDAZ10	2.791	1.93	(0.86)	ZT-EDAZ10

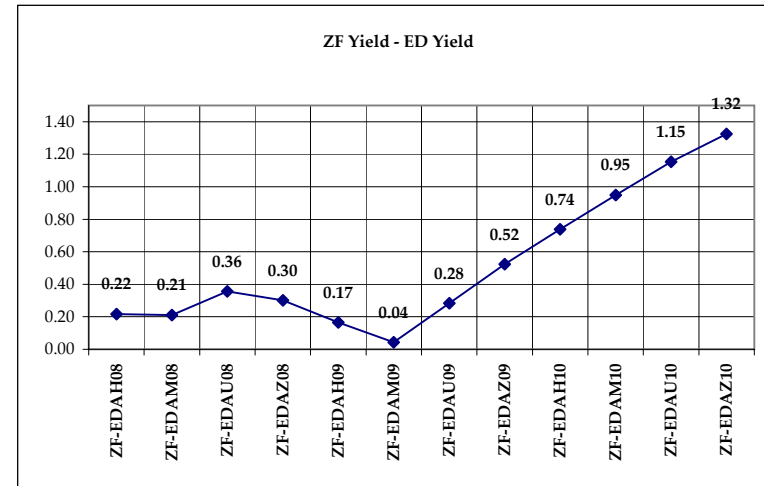
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	15.61	0.22	ZF-EDAH08	25.737
EDAM08	15.18	0.21	ZF-EDAM08	62.513
EDAU08	15.04	0.36	ZF-EDAU08	73.168
EDAZ08	15.09	0.30	ZF-EDAZ08	80.554
EDAH09	15.23	0.17	ZF-EDAH09	86.524
EDAM09	15.44	0.04	ZF-EDAM09	87.910
EDAU09	15.68	0.28	ZF-EDAU09	88.338
EDAZ09	15.92	0.52	ZF-EDAZ09	90.914
EDAH10	16.13	0.74	ZF-EDAH10	93.251
EDAM10	16.34	0.95	ZF-EDAM10	93.550
EDAU10	16.55	1.15	ZF-EDAU10	93.787
EDAZ10	16.72	1.32	ZF-EDAZ10	93.658

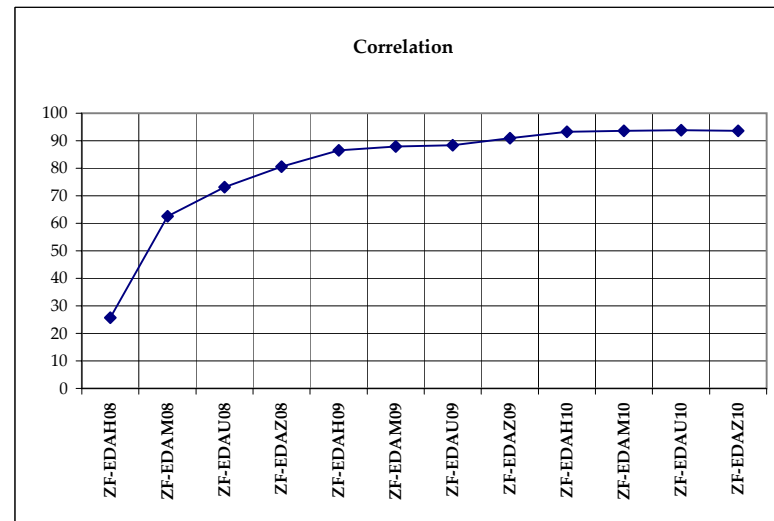
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.049	4.11	4.06	ZF-EDAH08
EDAM08	0.298	4.11	3.81	ZF-EDAM08
EDAU08	0.547	4.11	3.56	ZF-EDAU08
EDAZ08	0.797	4.11	3.31	ZF-EDAZ08
EDAH09	1.046	4.11	3.06	ZF-EDAH09
EDAM09	1.295	4.11	2.81	ZF-EDAM09
EDAU09	1.545	4.11	2.56	ZF-EDAU09
EDAZ09	1.794	4.11	2.32	ZF-EDAZ09
EDAH10	2.043	4.11	2.07	ZF-EDAH10
EDAM10	2.292	4.11	1.82	ZF-EDAM10
EDAU10	2.542	4.11	1.57	ZF-EDAU10
EDAZ10	2.791	4.11	1.32	ZF-EDAZ10

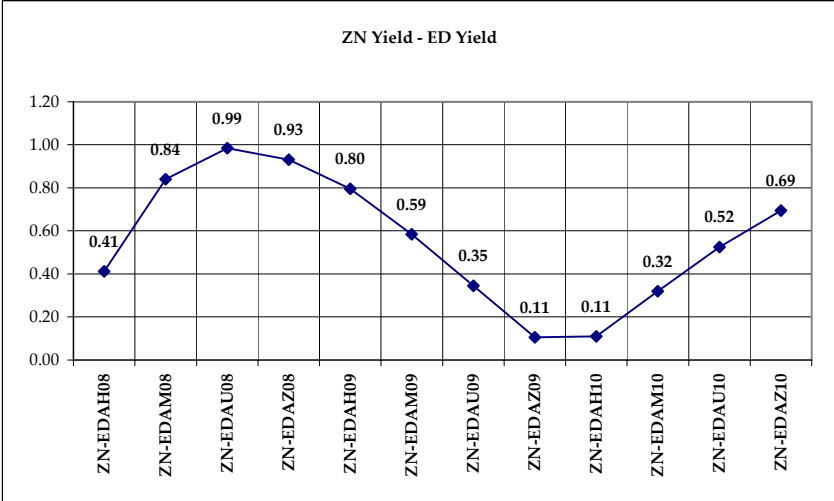
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

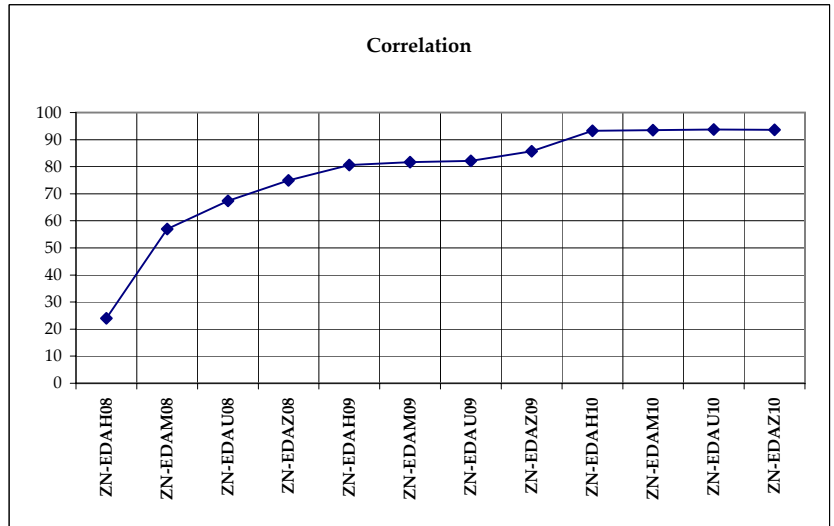
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	17.92	0.41	ZN-EDAH08	23.96
EDAM08	17.49	0.84	ZN-EDAM08	56.96
EDAU08	17.35	0.99	ZN-EDAU08	67.41
EDAZ08	17.40	0.93	ZN-EDAZ08	74.99
EDAH09	17.54	0.80	ZN-EDAH09	80.59
EDAM09	17.75	0.59	ZN-EDAM09	81.63
EDAU09	17.99	0.35	ZN-EDAU09	82.17
EDAZ09	18.23	0.11	ZN-EDAZ09	85.75
EDAH10	18.44	0.11	ZN-EDAH10	93.25
EDAM10	18.65	0.32	ZN-EDAM10	93.55
EDAU10	18.86	0.52	ZN-EDAU10	93.79
EDAZ10	19.03	0.69	ZN-EDAZ10	93.66

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	0.049	6.05	6.01	ZN-EDAH08
EDAM08	0.298	6.05	5.76	ZN-EDAM08
EDAU08	0.547	6.05	5.51	ZN-EDAU08
EDAZ08	0.797	6.05	5.26	ZN-EDAZ08
EDAH09	1.046	6.05	5.01	ZN-EDAH09
EDAM09	1.295	6.05	4.76	ZN-EDAM09
EDAU09	1.545	6.05	4.51	ZN-EDAU09
EDAZ09	1.794	6.05	4.26	ZN-EDAZ09
EDAH10	2.043	6.05	4.01	ZN-EDAH10
EDAM10	2.292	6.05	3.76	ZN-EDAM10
EDAU10	2.542	6.05	3.51	ZN-EDAU10
EDAZ10	2.791	6.05	3.26	ZN-EDAZ10

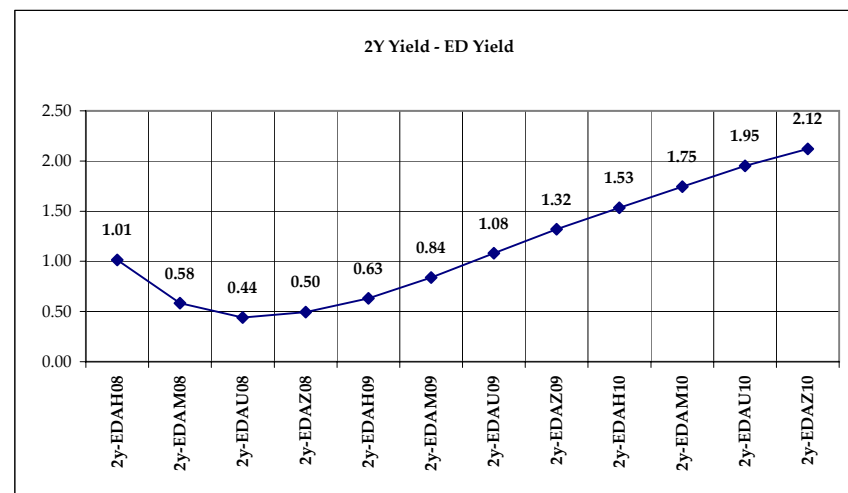
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.07	1.01	2y-EDAH08	-66.203
EDAM08	2.64	0.58	2y-EDAM08	-90.420
EDAU08	2.50	0.44	2y-EDAU08	-96.189
EDAZ08	2.55	0.50	2y-EDAZ08	-90.420
EDAH09	2.69	0.63	2y-EDAH09	-98.024
EDAM09	2.90	0.84	2y-EDAM09	-96.739
EDAU09	3.14	1.08	2y-EDAU09	-96.486
EDAZ09	3.38	1.32	2y-EDAZ09	-96.913
EDAH10	3.59	1.53	2y-EDAH10	-96.905
EDAM10	3.80	1.75	2y-EDAM10	-96.660
EDAU10	4.01	1.95	2y-EDAU10	-96.056
EDAZ10	4.18	2.12	2y-EDAZ10	-94.526

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.

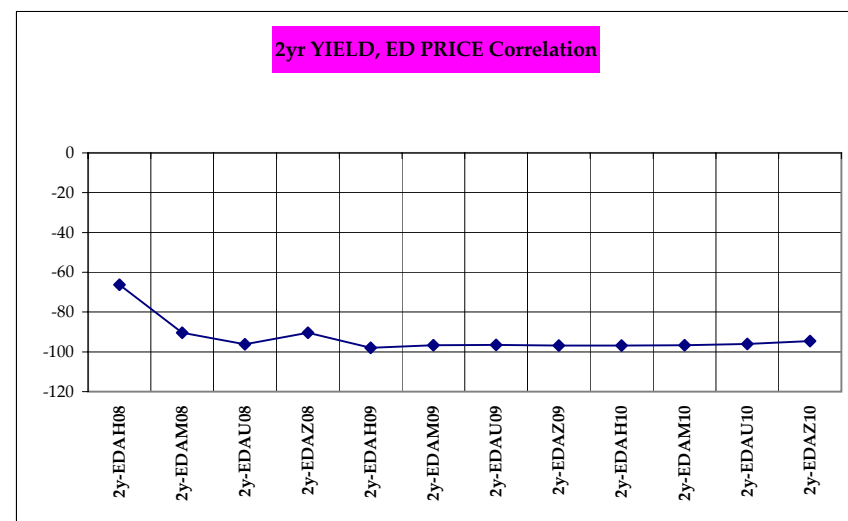


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAH08	0.049	1.95	2y-EDAH08
EDAM08	0.298	1.95	2y-EDAM08
EDAU08	0.547	1.95	2y-EDAU08
EDAZ08	0.797	1.95	2y-EDAZ08
EDAH09	1.046	1.95	2y-EDAH09
EDAM09	1.295	1.95	2y-EDAM09
EDAU09	1.545	1.95	2y-EDAU09
EDAZ09	1.794	1.95	2y-EDAZ09
EDAH10	2.043	1.95	2y-EDAH10
EDAM10	2.292	1.95	2y-EDAM10
EDAU10	2.542	1.95	2y-EDAU10
EDAZ10	2.791	1.95	2y-EDAZ10

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

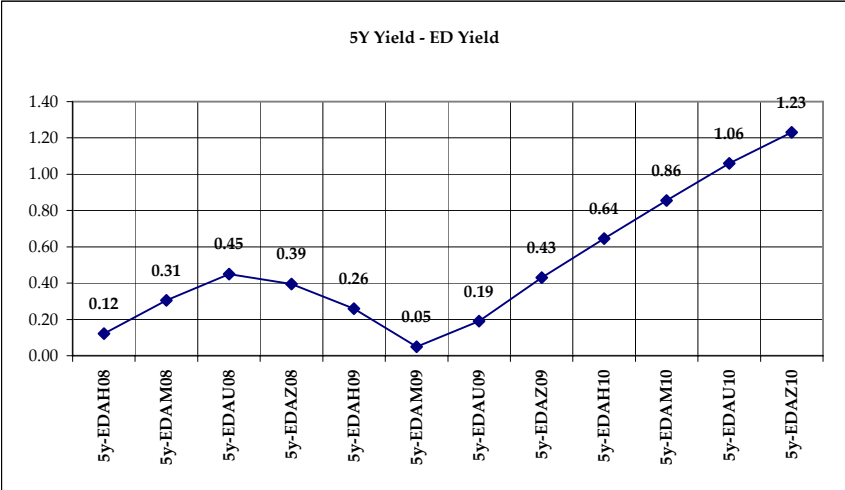
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.20	0.12	5y-EDAH08	-61.711
EDAM08	2.78	0.31	5y-EDAM08	-80.820
EDAU08	2.63	0.45	5y-EDAU08	-86.636
EDAZ08	2.69	0.39	5y-EDAZ08	-80.820
EDAH09	2.82	0.26	5y-EDAH09	-89.353
EDAM09	3.03	0.05	5y-EDAM09	-87.592
EDAU09	3.27	0.19	5y-EDAU09	-87.474
EDAZ09	3.51	0.43	5y-EDAZ09	-89.669
EDAH10	3.73	0.64	5y-EDAH10	-91.676
EDAM10	3.94	0.86	5y-EDAM10	-92.617
EDAU10	4.14	1.06	5y-EDAU10	-93.393
EDAZ10	4.31	1.23	5y-EDAZ10	-92.219

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.

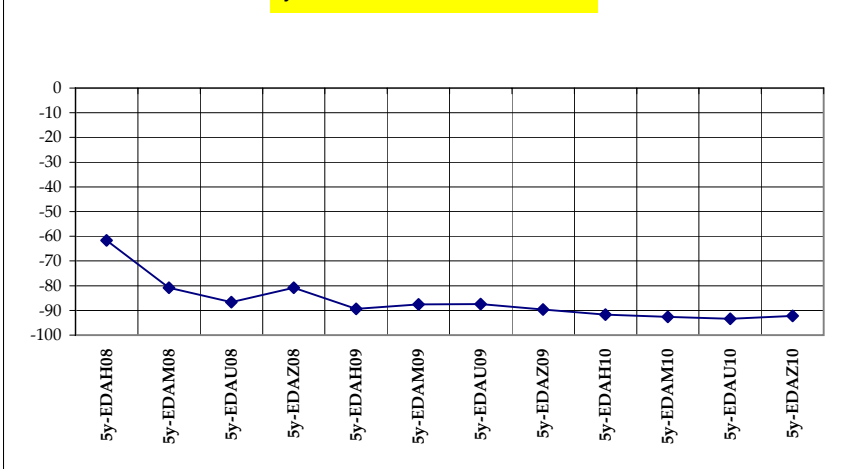


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAH08	0.049	4.55	4.50 5y-EDAH08
EDAM08	0.298	4.55	4.25 5y-EDAM08
EDAU08	0.547	4.55	4.00 5y-EDAU08
EDAZ08	0.797	4.55	3.75 5y-EDAZ08
EDAH09	1.046	4.55	3.50 5y-EDAH09
EDAM09	1.295	4.55	3.25 5y-EDAM09
EDAU09	1.545	4.55	3.01 5y-EDAU09
EDAZ09	1.794	4.55	2.76 5y-EDAZ09
EDAH10	2.043	4.55	2.51 5y-EDAH10
EDAM10	2.292	4.55	2.26 5y-EDAM10
EDAU10	2.542	4.55	2.01 5y-EDAU10
EDAZ10	2.791	4.55	1.76 5y-EDAZ10

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

**5yr YIELD, ED PRICE Correlation**

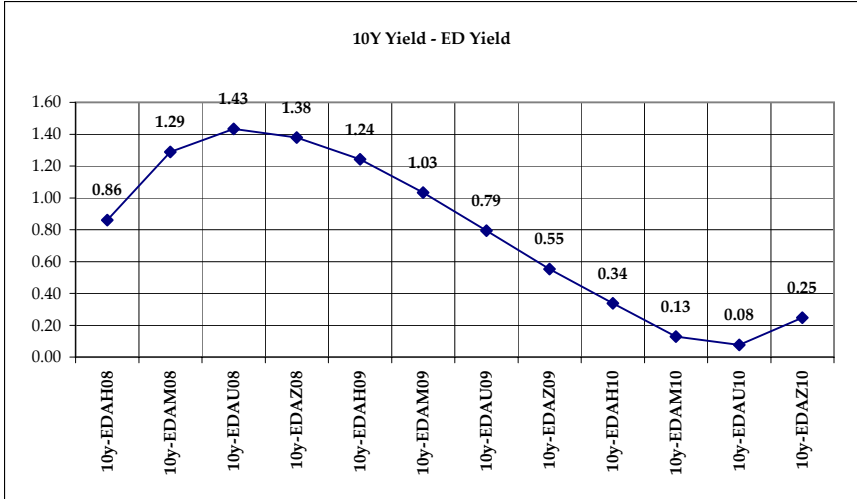




**TERM TED: 10y vs Eurodollar Contracts**

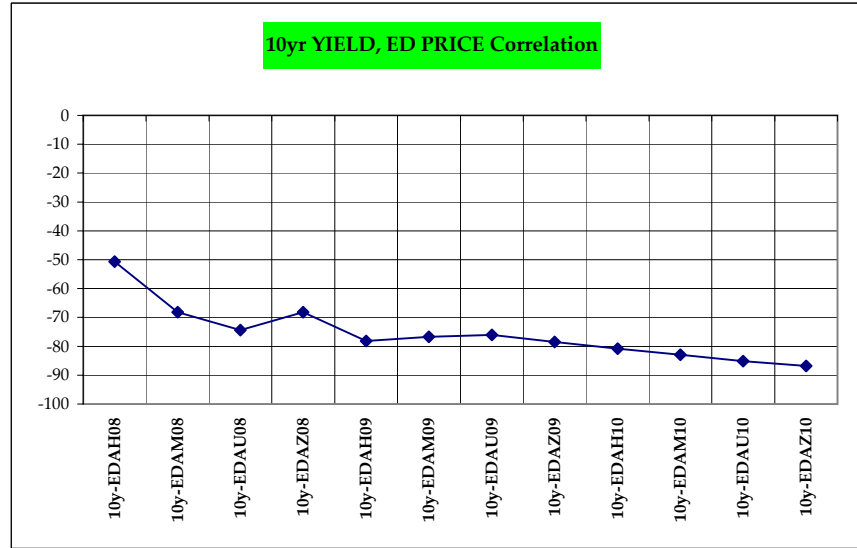
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.20	0.86	10y-EDAH08	-50.645
EDAM08	2.78	1.29	10y-EDAM08	-68.212
EDAU08	2.63	1.43	10y-EDAU08	-74.394
EDAZ08	2.69	1.38	10y-EDAZ08	-68.212
EDAH09	2.82	1.24	10y-EDAH09	-78.131
EDAM09	3.03	1.03	10y-EDAM09	-76.773
EDAU09	3.27	0.79	10y-EDAU09	-76.029
EDAZ09	3.51	0.55	10y-EDAZ09	-78.479
EDAH10	3.73	0.34	10y-EDAH10	-80.780
EDAM10	3.94	0.13	10y-EDAM10	-82.874
EDAU10	4.14	0.08	10y-EDAU10	-85.144
EDAZ10	4.31	0.25	10y-EDAZ10	-86.789

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.



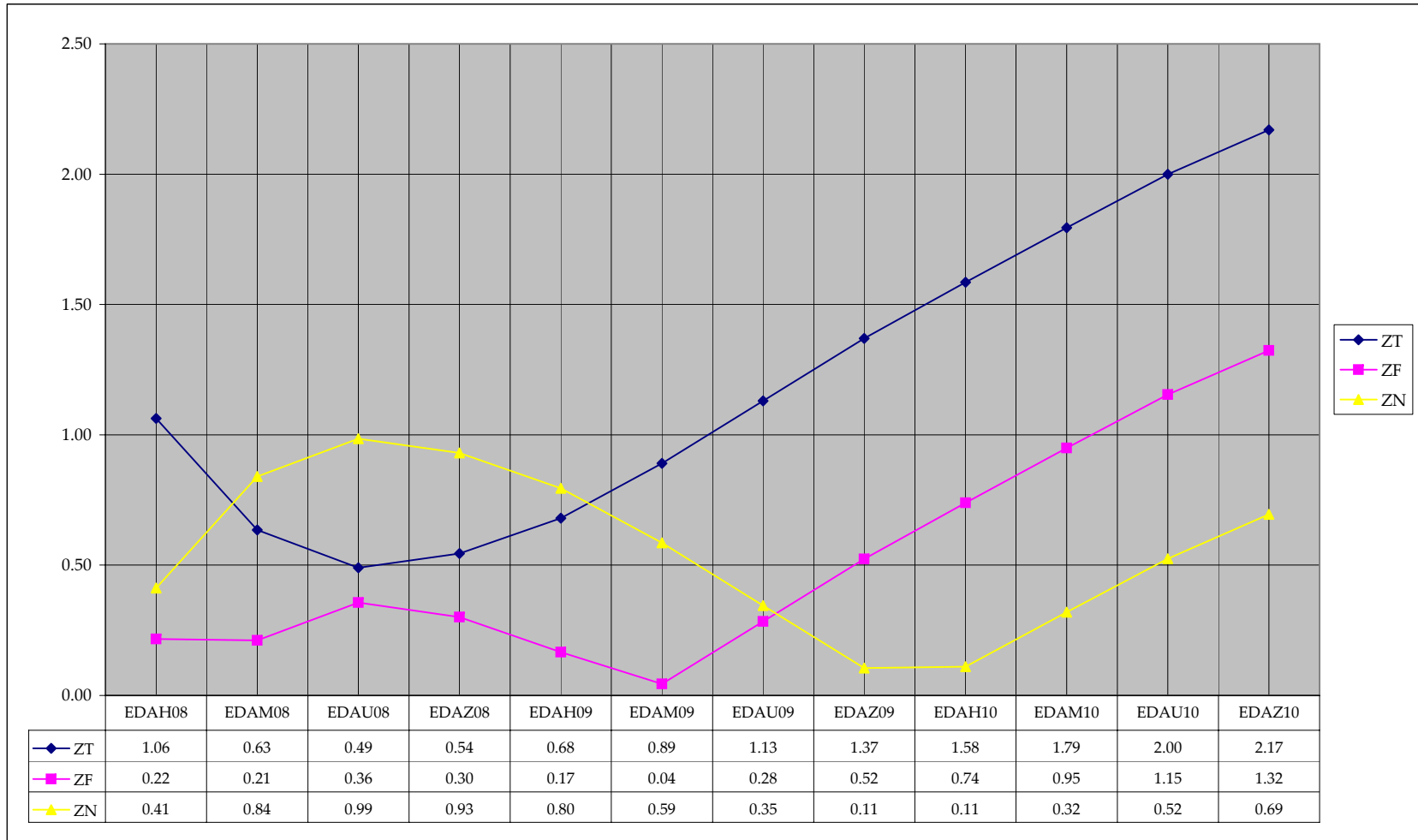
	GE Duration as Fraction of year		10Y Duration	Spread Duration	
EDAH08	0.049	8.30	8.26	10y-EDAH08	
EDAM08	0.298	8.30	8.01	10y-EDAM08	
EDAU08	0.547	8.30	7.76	10y-EDAU08	
EDAZ08	0.797	8.30	7.51	10y-EDAZ08	
EDAH09	1.046	8.30	7.26	10y-EDAH09	
EDAM09	1.295	8.30	7.01	10y-EDAM09	
EDAU09	1.545	8.30	6.76	10y-EDAU09	
EDAZ09	1.794	8.30	6.51	10y-EDAZ09	
EDAH10	2.043	8.30	6.26	10y-EDAH10	
EDAM10	2.292	8.30	6.01	10y-EDAM10	
EDAU10	2.542	8.30	5.76	10y-EDAU10	
EDAZ10	2.791	8.30	5.51	10y-EDAZ10	

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



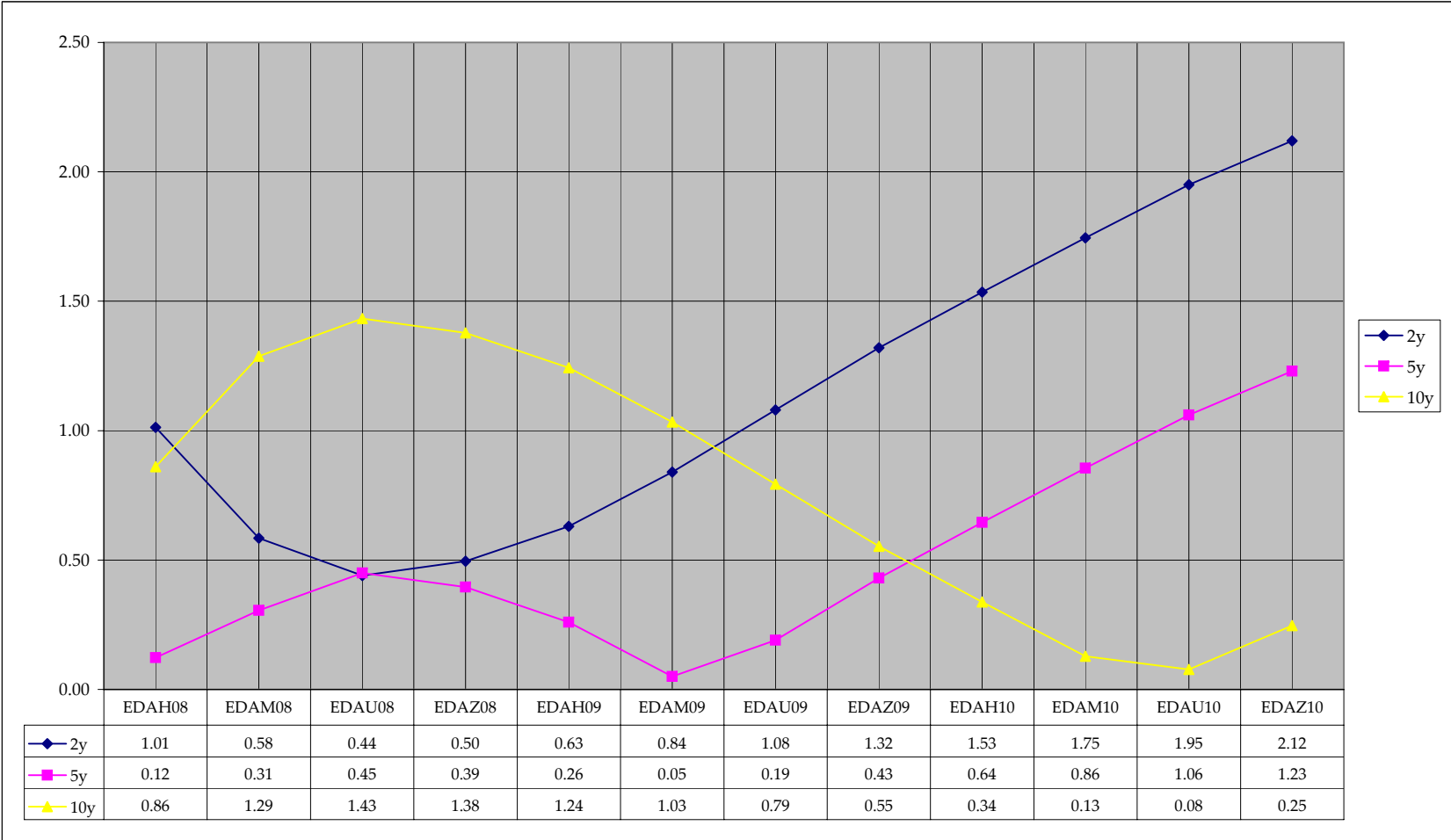
**Dirty TED Curve**

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.

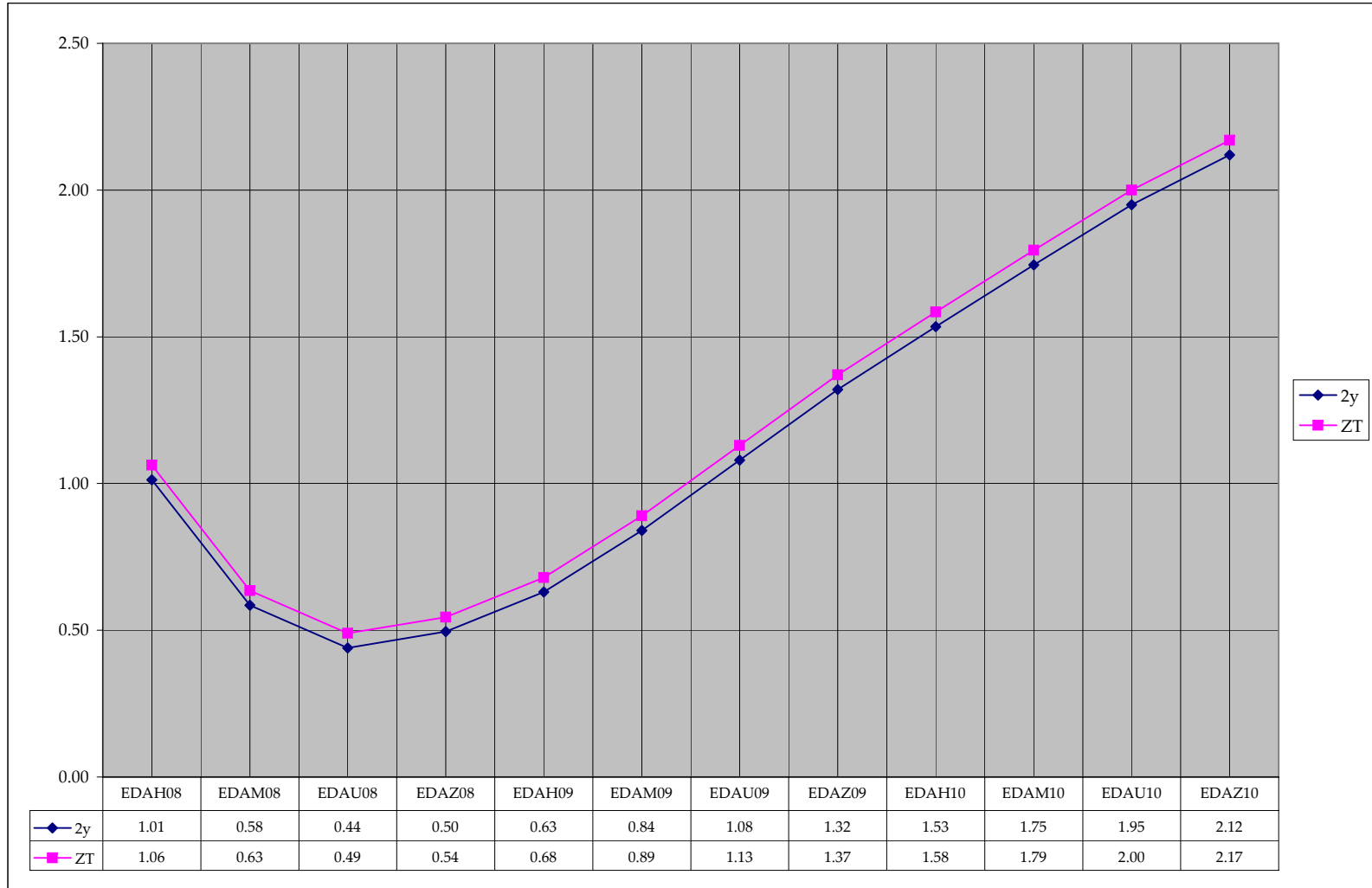


TED Curve

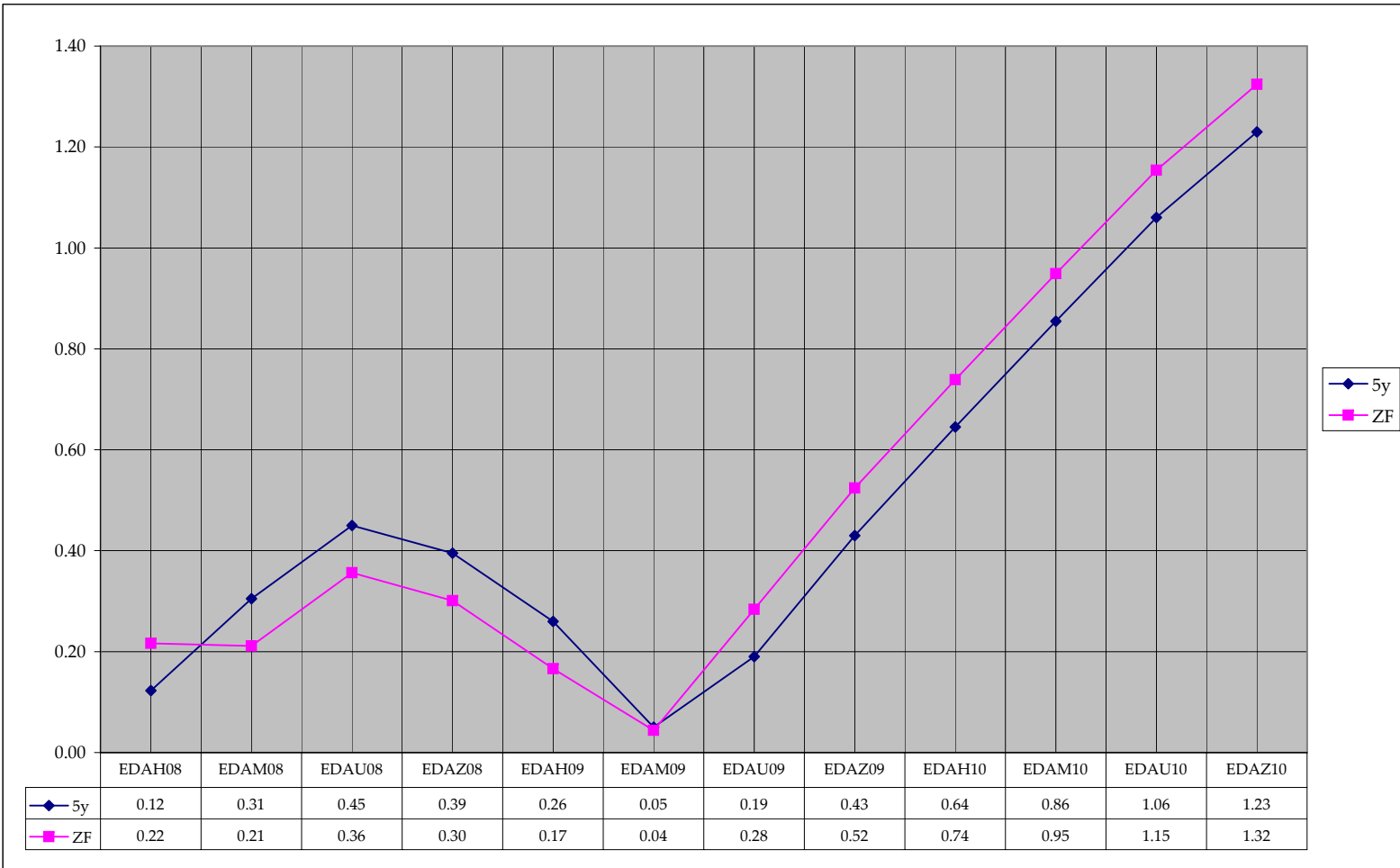
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



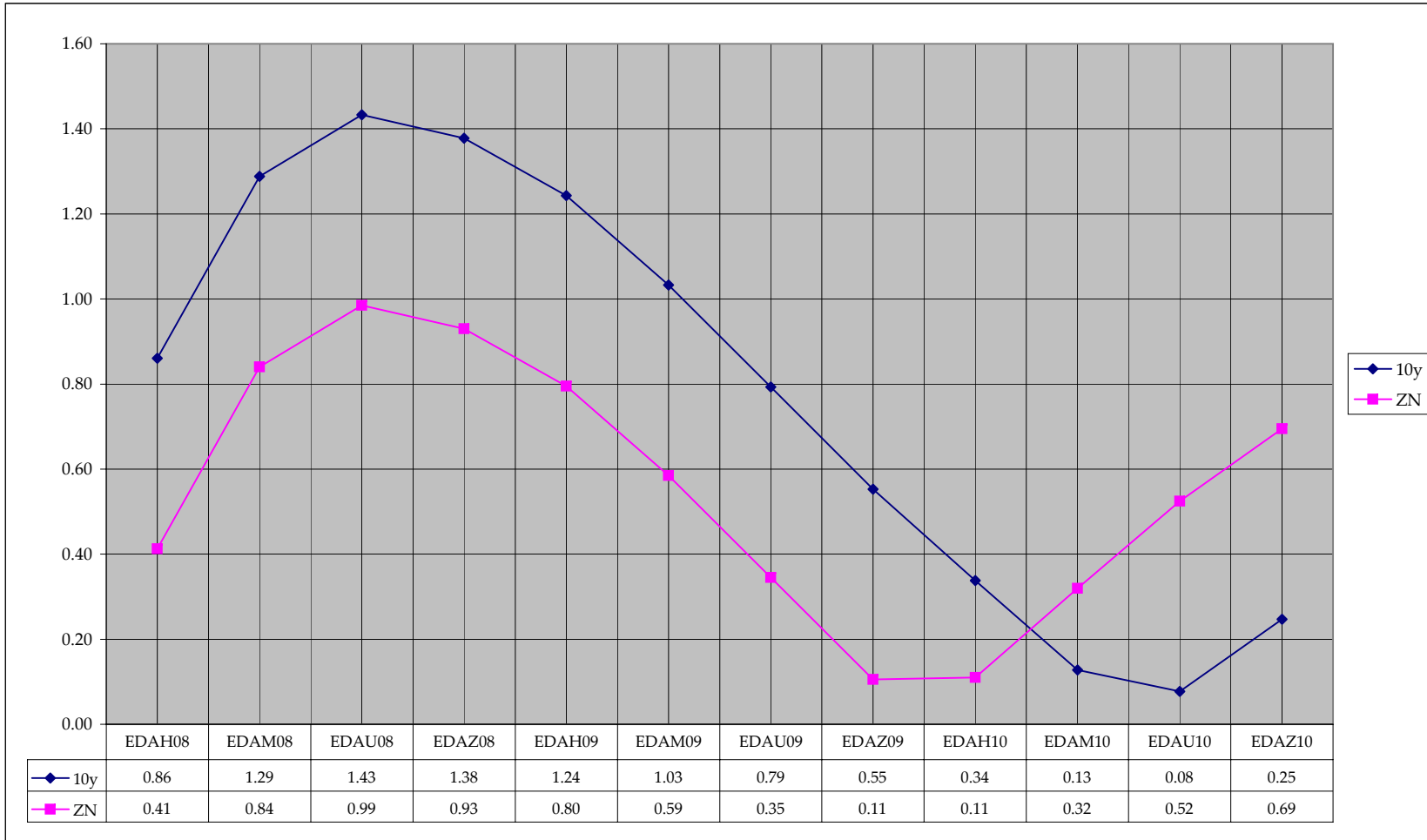
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.610	4.438	9744.188
Q.ED.Red	2.954	7.500	9710.750
Q.ED.Green	3.851	7.375	9623.750
Q.ED.Blue	0.000	0.000	9549.250
Q.ED.Gold	0.000	0.000	9499.375

