

## 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	103.9688	103.310	3.675	1.89	
ZF	108.1875	108.060	3.902	3.86	
ZN	110.9375	110.300	4.134	5.78	
2y	99.891	99.2850	3.683	1.81	
5y	99.578	99.1850	3.968	4.48	
10y	103.172	103.0550	4.345	7.72	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAZ07	95.140	4.860	41	0.112	DEC	White Pack	
EDAH08	95.590	4.410	132	0.361	MAR		
EDAM08	95.785	4.215	223	0.610	JUN		
EDAU08	95.880	4.120	314	0.860	SEP	Red Pack	
EDAZ08	95.900	4.100	405	1.109	DEC		
EDAH09	95.840	4.160	496	1.358	MAR		
EDAM09	95.730	4.270	587	1.608	JUN	Green Pack	
EDAU09	95.615	4.385	678	1.857	SEP		
EDAZ09	95.505	4.495	769	2.106	DEC		
EDAH10	95.415	4.585	860	2.356	MAR	Blue Pack	
EDAM10	95.330	4.670	951	2.605	JUN		
EDAU10	95.255	4.745	1042	2.854	SEP		
EDAZ10	95.150	4.850	1133	3.103	DEC	Gold Pack	
EDAH11	95.085	4.915	1224	3.353	MAR		
EDAM11	95.020	4.980	1315	3.602	JUN		
EDAU11	94.995	5.005	1413	3.871	SEP		
EDAZ11	94.895	5.105	1504	4.120	DEC		
EDAH12	94.860	5.140	1595	4.369	MAR		
EDAM12	94.790	5.210	1686	4.619	JUN		
EDAU12	94.910	5.090	1777	4.868	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	4.512	-1.250	9559.875	Pack Prices
Q.ED.Red	4.333	-1.750	9577.125	
Q.ED.Green	4.743	-2.500	9537.625	
Q.ED.Blue		-1.125	9508.750	
Q.ED.Gold		0.000	9486.125	

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

11/6/2007 5:25

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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)

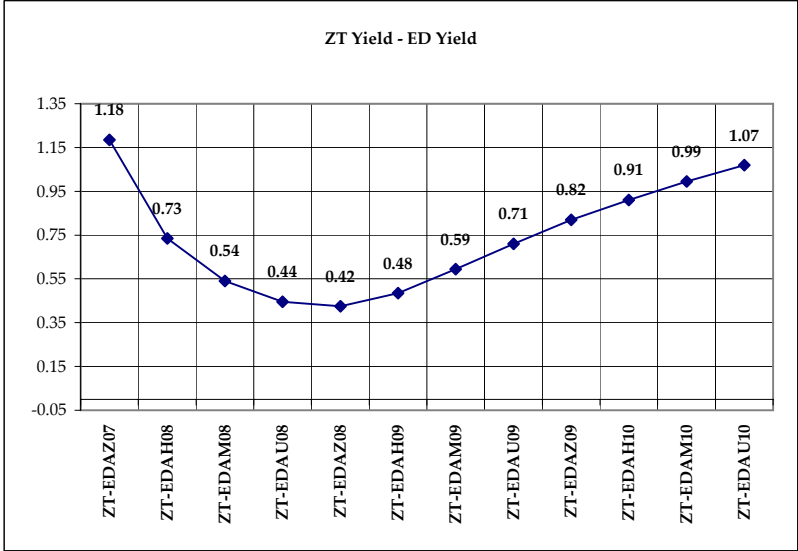
### Eurodollar Color Codes for Individual Year Strips:

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

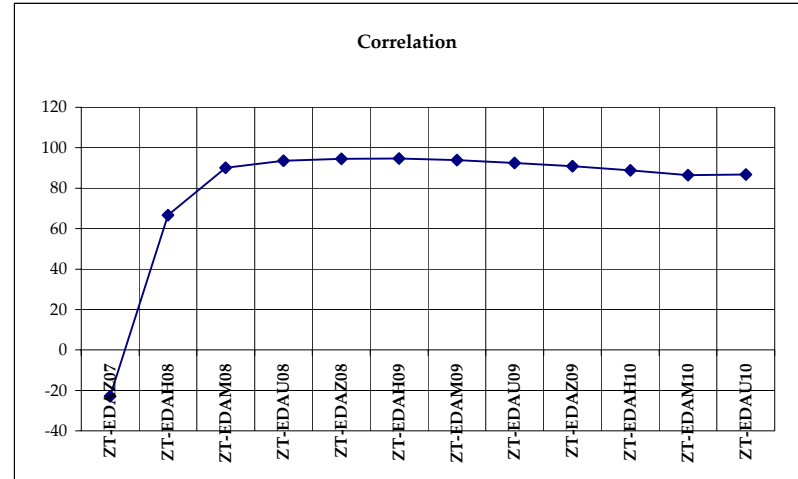
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.829	1.18	ZT-EDAZ07	-22.936
EDAH08	8.379	0.73	ZT-EDAH08	66.597
EDAM08	8.184	0.54	ZT-EDAM08	90.106
EDAU08	8.089	0.44	ZT-EDAU08	93.572
EDAZ08	8.069	0.42	ZT-EDAZ08	94.583
EDAH09	8.129	0.48	ZT-EDAH09	94.703
EDAM09	8.239	0.59	ZT-EDAM09	93.808
EDAU09	8.354	0.71	ZT-EDAU09	92.504
EDAZ09	8.464	0.82	ZT-EDAZ09	90.850
EDAH10	8.554	0.91	ZT-EDAH10	88.745
EDAM10	8.639	0.99	ZT-EDAM10	86.503
EDAU10	8.714	1.07	ZT-EDAU10	86.770

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		
EDAZ07	0.112	1.89	1.78	ZT-EDAZ07
EDAH08	0.361	1.89	1.53	ZT-EDAH08
EDAM08	0.610	1.89	1.28	ZT-EDAM08
EDAU08	0.860	1.89	1.03	ZT-EDAU08
EDAZ08	1.109	1.89	0.78	ZT-EDAZ08
EDAH09	1.358	1.89	0.53	ZT-EDAH09
EDAM09	1.608	1.89	0.29	ZT-EDAM09
EDAU09	1.857	1.89	0.04	ZT-EDAU09
EDAZ09	2.106	1.89	(0.21)	ZT-EDAZ09
EDAH10	2.356	1.89	(0.46)	ZT-EDAH10
EDAM10	2.605	1.89	(0.71)	ZT-EDAM10
EDAU10	2.854	1.89	(0.96)	ZT-EDAU10

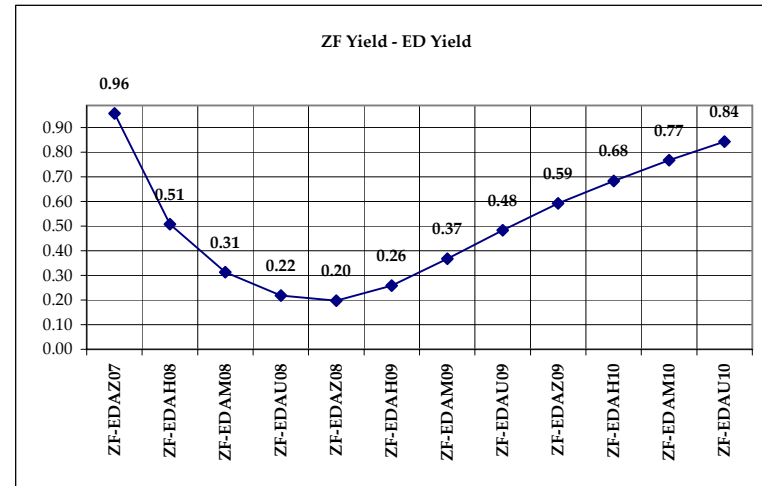
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.05	0.96	ZF-EDAZ07	-30.110
EDAH08	12.60	0.51	ZF-EDAH08	59.313
EDAM08	12.40	0.31	ZF-EDAM08	85.807
EDAU08	12.31	0.22	ZF-EDAU08	89.991
EDAZ08	12.29	0.20	ZF-EDAZ08	90.797
EDAH09	12.35	0.26	ZF-EDAH09	91.326
EDAM09	12.46	0.37	ZF-EDAM09	90.875
EDAU09	12.57	0.48	ZF-EDAU09	89.935
EDAZ09	12.68	0.59	ZF-EDAZ09	88.806
EDAH10	12.77	0.68	ZF-EDAH10	87.001
EDAM10	12.86	0.77	ZF-EDAM10	84.894
EDAU10	12.93	0.84	ZF-EDAU10	85.862

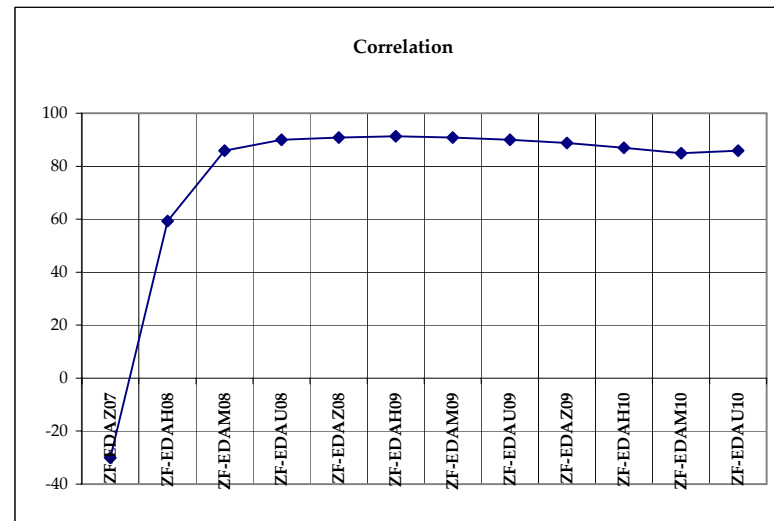
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAZ07	0.112	3.86	ZF-EDAZ07
EDAH08	0.361	3.86	ZF-EDAH08
EDAM08	0.610	3.86	ZF-EDAM08
EDAU08	0.860	3.86	ZF-EDAU08
EDAZ08	1.109	3.86	ZF-EDAZ08
EDAH09	1.358	3.86	ZF-EDAH09
EDAM09	1.608	3.86	ZF-EDAM09
EDAU09	1.857	3.86	ZF-EDAU09
EDAZ09	2.106	3.86	ZF-EDAZ09
EDAH10	2.356	3.86	ZF-EDAH10
EDAM10	2.605	3.86	ZF-EDAM10
EDAU10	2.854	3.86	ZF-EDAU10

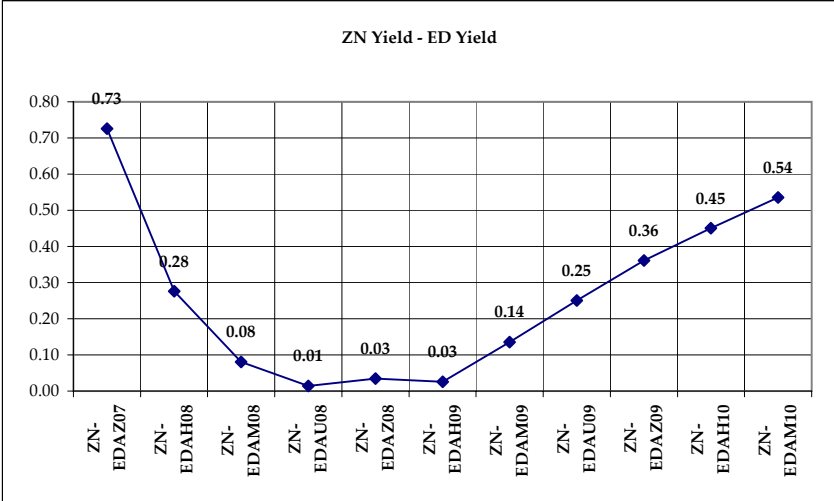
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

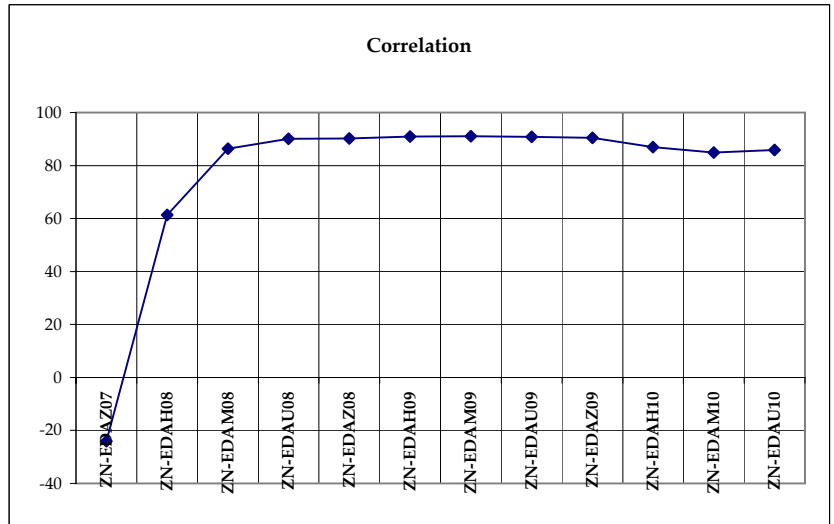
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	15.80	0.73	ZN-EDAZ07	-24.11
EDAH08	15.35	0.28	ZN-EDAH08	61.30
EDAM08	15.15	0.08	ZN-EDAM08	86.37
EDAU08	15.06	0.01	ZN-EDAU08	90.13
EDAZ08	15.04	0.03	ZN-EDAZ08	90.21
EDAH09	15.10	0.03	ZN-EDAH09	90.94
EDAM09	15.21	0.14	ZN-EDAM09	91.03
EDAU09	15.32	0.25	ZN-EDAU09	90.87
EDAZ09	15.43	0.36	ZN-EDAZ09	90.49
EDAH10	15.52	0.45	ZN-EDAH10	87.00
EDAM10	15.61	0.54	ZN-EDAM10	84.89
EDAU10	15.68	0.61	ZN-EDAU10	85.86

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	
EDAZ07	0.112	5.78	5.67	ZN-EDAZ07
EDAH08	0.361	5.78	5.42	ZN-EDAH08
EDAM08	0.610	5.78	5.17	ZN-EDAM08
EDAU08	0.860	5.78	4.92	ZN-EDAU08
EDAZ08	1.109	5.78	4.67	ZN-EDAZ08
EDAH09	1.358	5.78	4.43	ZN-EDAH09
EDAM09	1.608	5.78	4.18	ZN-EDAM09
EDAU09	1.857	5.78	3.93	ZN-EDAU09
EDAZ09	2.106	5.78	3.68	ZN-EDAZ09
EDAH10	2.356	5.78	3.43	ZN-EDAH10
EDAM10	2.605	5.78	3.18	ZN-EDAM10
EDAU10	2.854	5.78	2.93	ZN-EDAU10

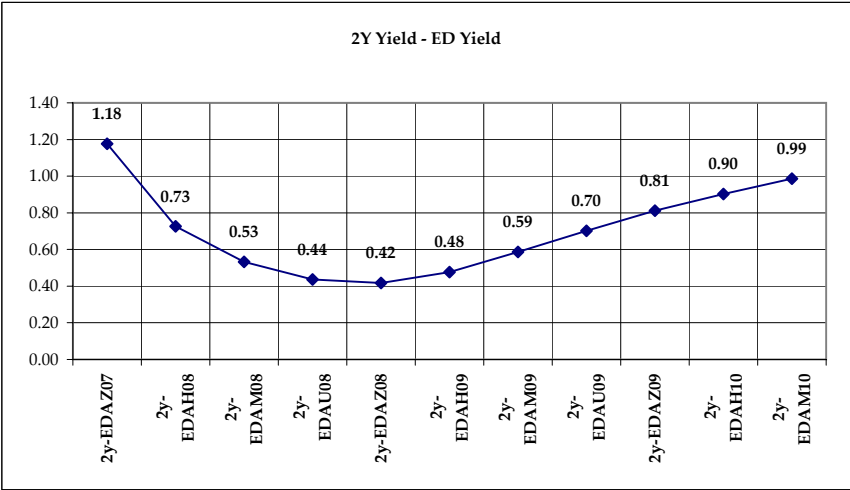
The farther away from 0 the spread duration is the riskier the trade.



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

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.75	1.18	2y-EDAZ07	40.088
EDAH08	4.30	0.73	2y-EDAH08	-46.961
EDAM08	4.11	0.53	2y-EDAM08	-76.417
EDAU08	4.01	0.44	2y-EDAU08	-81.365
EDAZ08	3.99	0.42	2y-EDAZ08	-76.417
EDAH09	4.05	0.48	2y-EDAH09	-82.718
EDAM09	4.16	0.59	2y-EDAM09	-81.305
EDAU09	4.28	0.70	2y-EDAU09	-79.592
EDAZ09	4.39	0.81	2y-EDAZ09	-77.753
EDAH10	4.48	0.90	2y-EDAH10	-75.485
EDAM10	4.56	0.99	2y-EDAM10	-73.234
EDAU10	4.64	1.06	2y-EDAU10	-74.507

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.

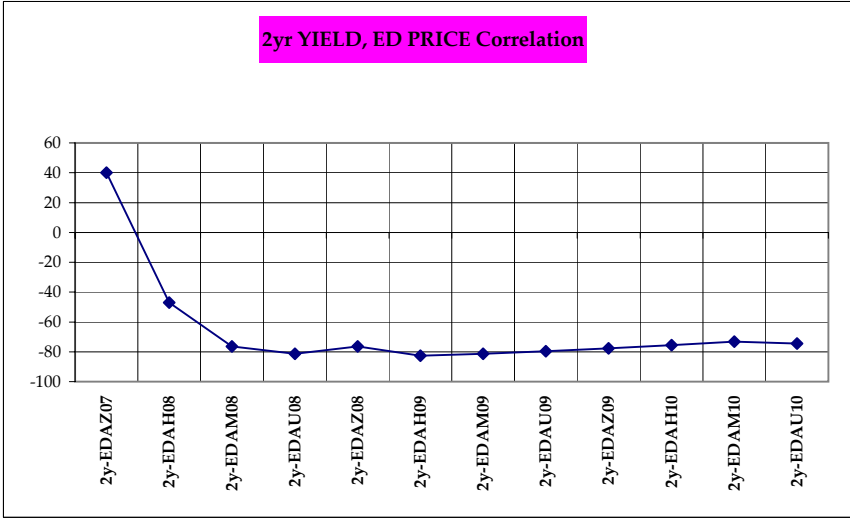


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAZ07	0.112	1.69	2y-EDAZ07
EDAH08	0.361	1.44	2y-EDAH08
EDAM08	0.610	1.19	2y-EDAM08
EDAU08	0.860	0.95	2y-EDAU08
EDAZ08	1.109	0.70	2y-EDAZ08
EDAH09	1.358	0.45	2y-EDAH09
EDAM09	1.608	0.20	2y-EDAM09
EDAU09	1.857	(0.05)	2y-EDAU09
EDAZ09	2.106	(0.30)	2y-EDAZ09
EDAH10	2.356	(0.55)	2y-EDAH10
EDAM10	2.605	(0.80)	2y-EDAM10
EDAU10	2.854	(1.05)	2y-EDAU10

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

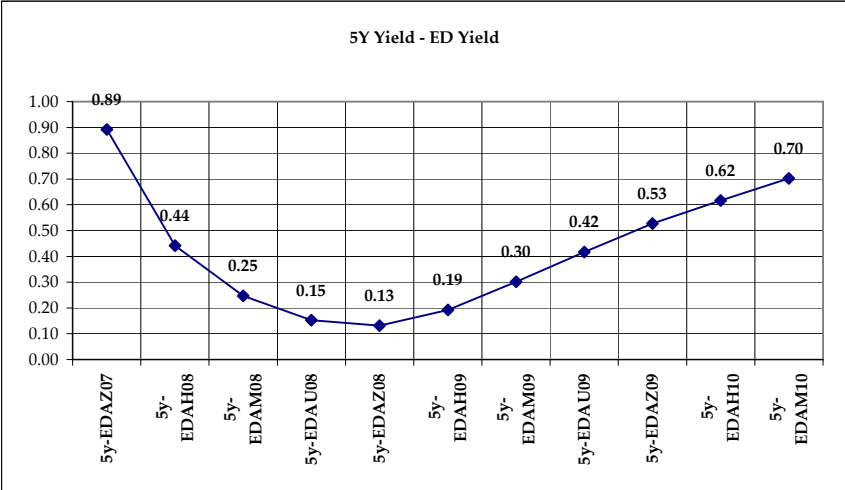
**2yr YIELD, ED PRICE Correlation**



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.44	0.89	5y-EDAZ07	33.435
EDAH08	3.99	0.44	5y-EDAH08	-51.001
EDAM08	3.79	0.25	5y-EDAM08	-79.458
EDAU08	3.70	0.15	5y-EDAU08	-84.000
EDAZ08	3.68	0.13	5y-EDAZ08	-79.458
EDAH09	3.74	0.19	5y-EDAH09	-85.198
EDAM09	3.85	0.30	5y-EDAM09	-84.509
EDAU09	3.96	0.42	5y-EDAU09	-83.578
EDAZ09	4.07	0.53	5y-EDAZ09	-82.877
EDAH10	4.16	0.62	5y-EDAH10	-81.473
EDAM10	4.25	0.70	5y-EDAM10	-79.937
EDAU10	4.32	0.78	5y-EDAU10	-81.490

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.

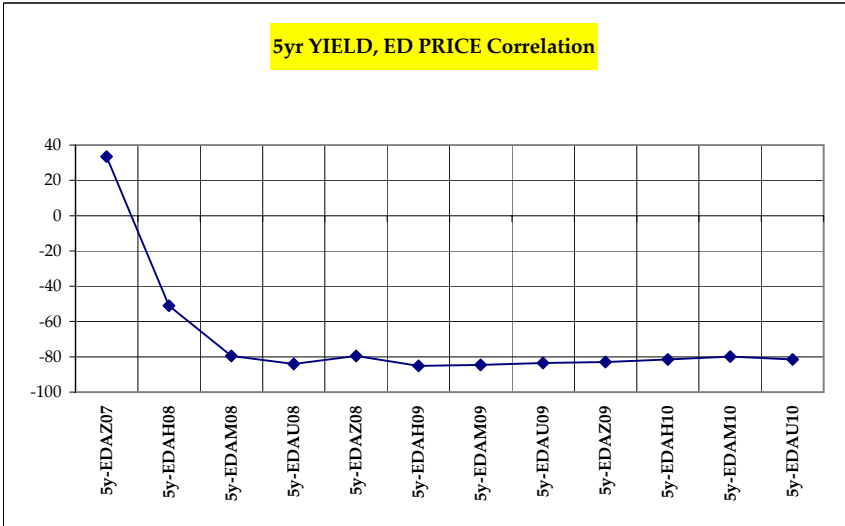


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAZ07	0.112	4.48	4.37 5y-EDAZ07
EDAH08	0.361	4.48	4.12 5y-EDAH08
EDAM08	0.610	4.48	3.87 5y-EDAM08
EDAU08	0.860	4.48	3.62 5y-EDAU08
EDAZ08	1.109	4.48	3.38 5y-EDAZ08
EDAH09	1.358	4.48	3.13 5y-EDAH09
EDAM09	1.608	4.48	2.88 5y-EDAM09
EDAU09	1.857	4.48	2.63 5y-EDAU09
EDAZ09	2.106	4.48	2.38 5y-EDAZ09
EDAH10	2.356	4.48	2.13 5y-EDAH10
EDAM10	2.605	4.48	1.88 5y-EDAM10
EDAU10	2.854	4.48	1.63 5y-EDAU10

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

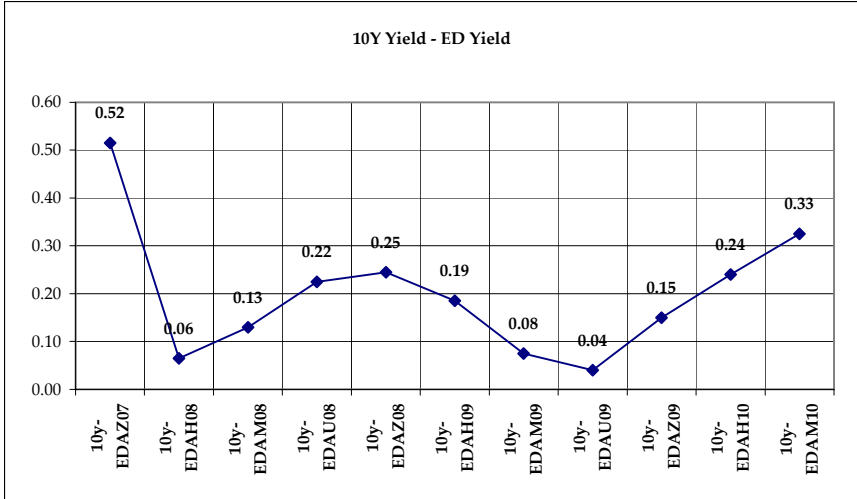
**5yr YIELD, ED PRICE Correlation**



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

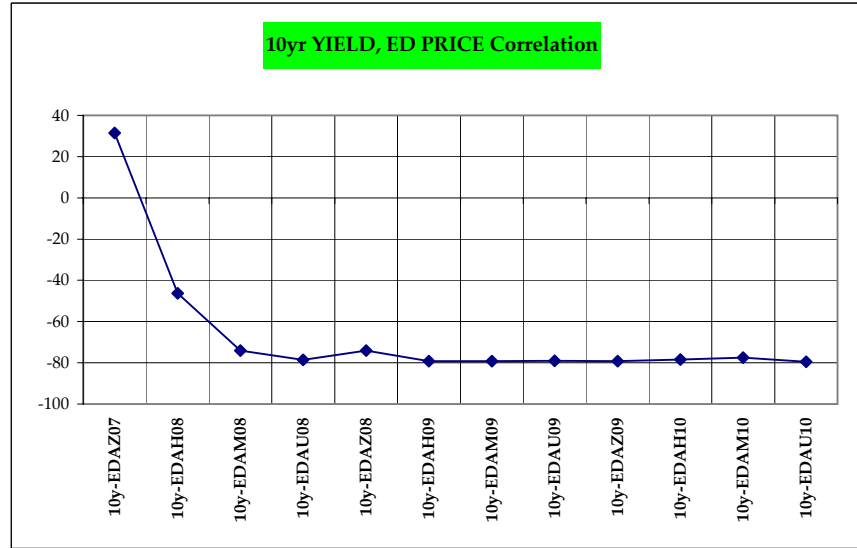
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.44	0.52	10y-EDAZ07	31.424
EDAH08	3.99	0.06	10y-EDAH08	-46.242
EDAM08	3.79	0.13	10y-EDAM08	-74.146
EDAU08	3.70	0.22	10y-EDAU08	-78.511
EDAZ08	3.68	0.25	10y-EDAZ08	-74.146
EDAH09	3.74	0.19	10y-EDAH09	-79.262
EDAM09	3.85	0.08	10y-EDAM09	-79.189
EDAU09	3.96	0.04	10y-EDAU09	-79.056
EDAZ09	4.07	0.15	10y-EDAZ09	-79.168
EDAH10	4.16	0.24	10y-EDAH10	-78.417
EDAM10	4.25	0.33	10y-EDAM10	-77.461
EDAU10	4.32	0.40	10y-EDAU10	-79.443

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.



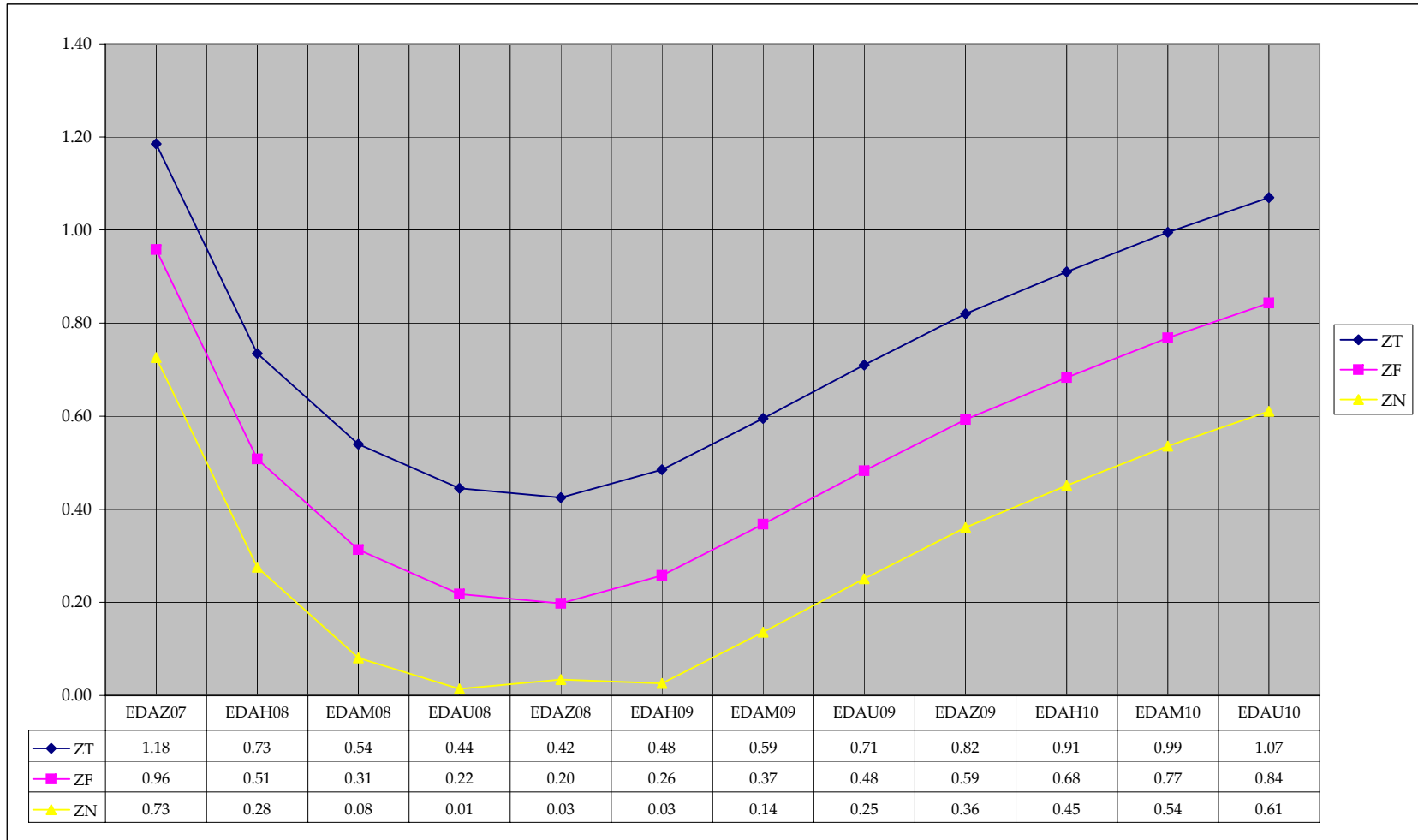
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.112	7.72	7.60	10y-EDAZ07
EDAH08	0.361	7.72	7.35	10y-EDAH08
EDAM08	0.610	7.72	7.10	10y-EDAM08
EDAU08	0.860	7.72	6.86	10y-EDAU08
EDAZ08	1.109	7.72	6.61	10y-EDAZ08
EDAH09	1.358	7.72	6.36	10y-EDAH09
EDAM09	1.608	7.72	6.11	10y-EDAM09
EDAU09	1.857	7.72	5.86	10y-EDAU09
EDAZ09	2.106	7.72	5.61	10y-EDAZ09
EDAH10	2.356	7.72	5.36	10y-EDAH10
EDAM10	2.605	7.72	5.11	10y-EDAM10
EDAU10	2.854	7.72	4.86	10y-EDAU10

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



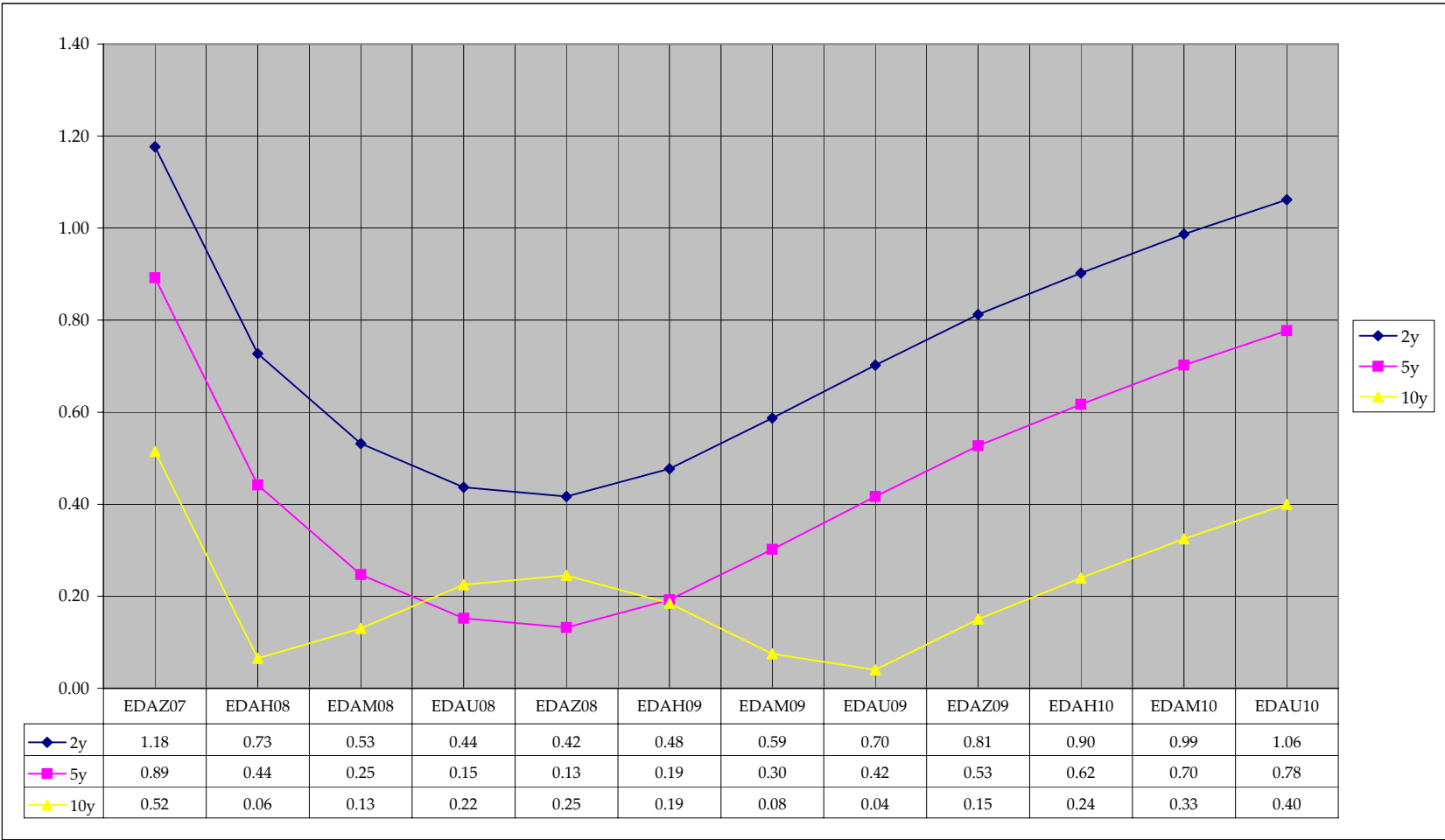
**Dirty TED Curve**

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.

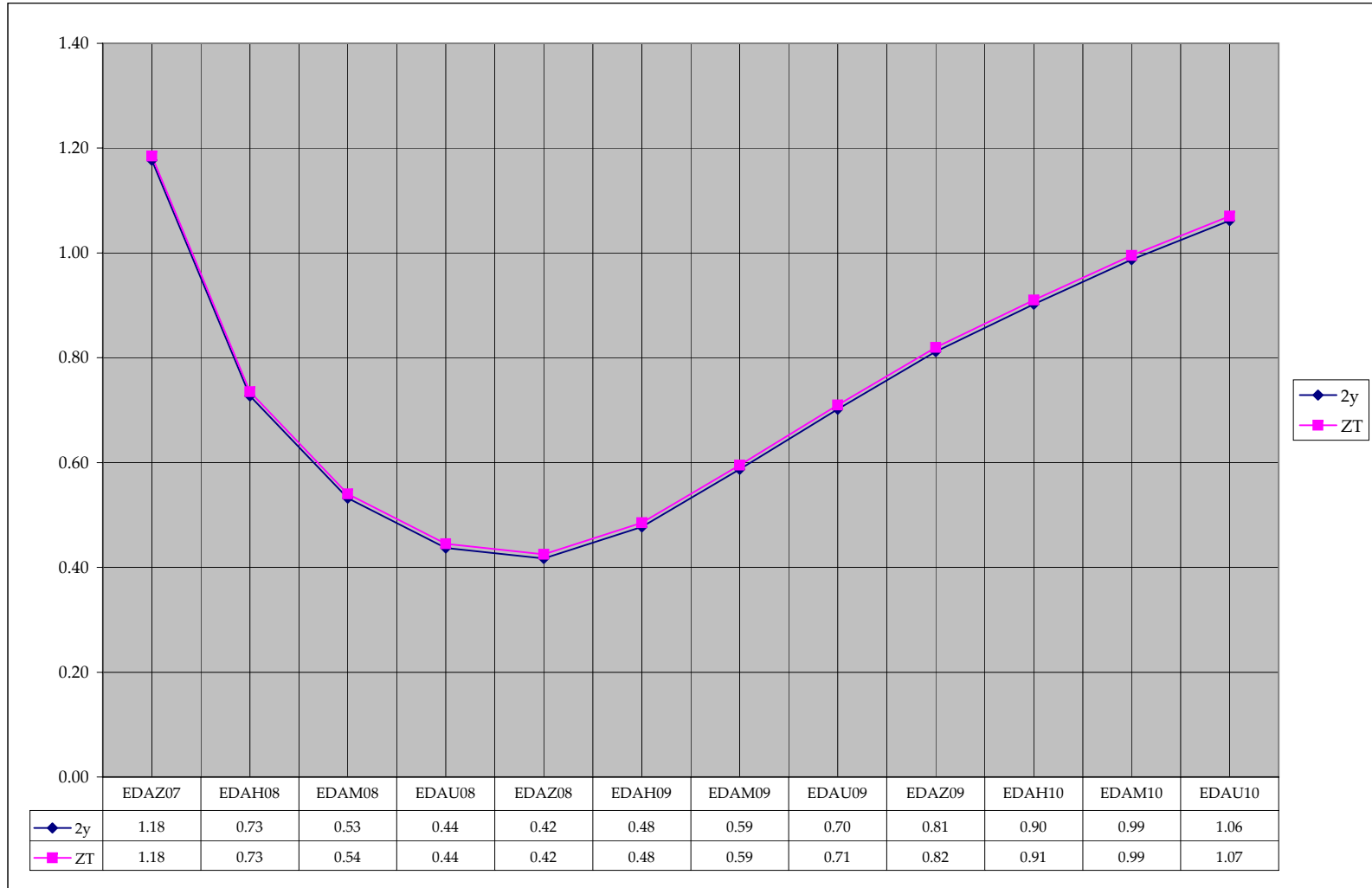


TED Curve

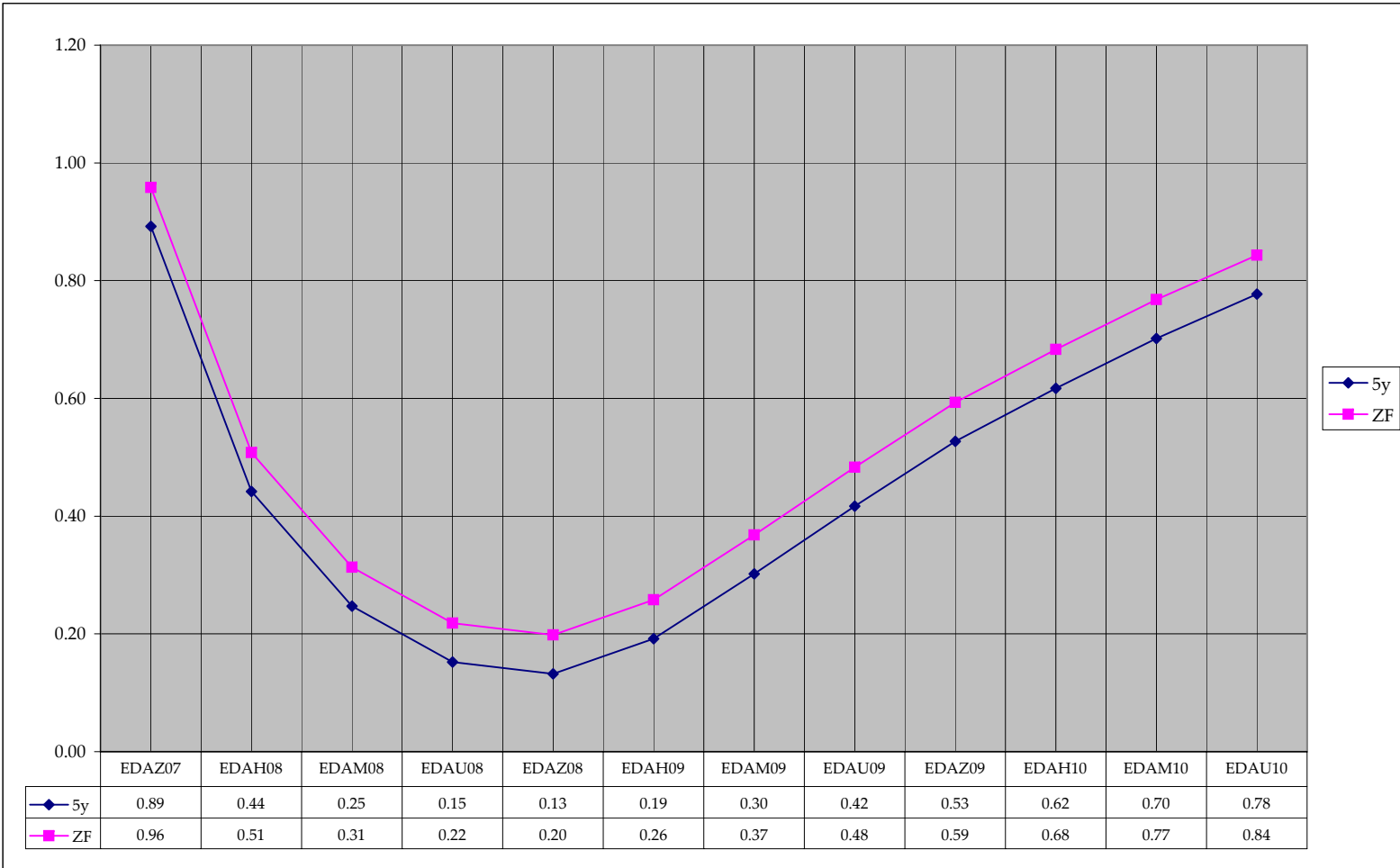
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



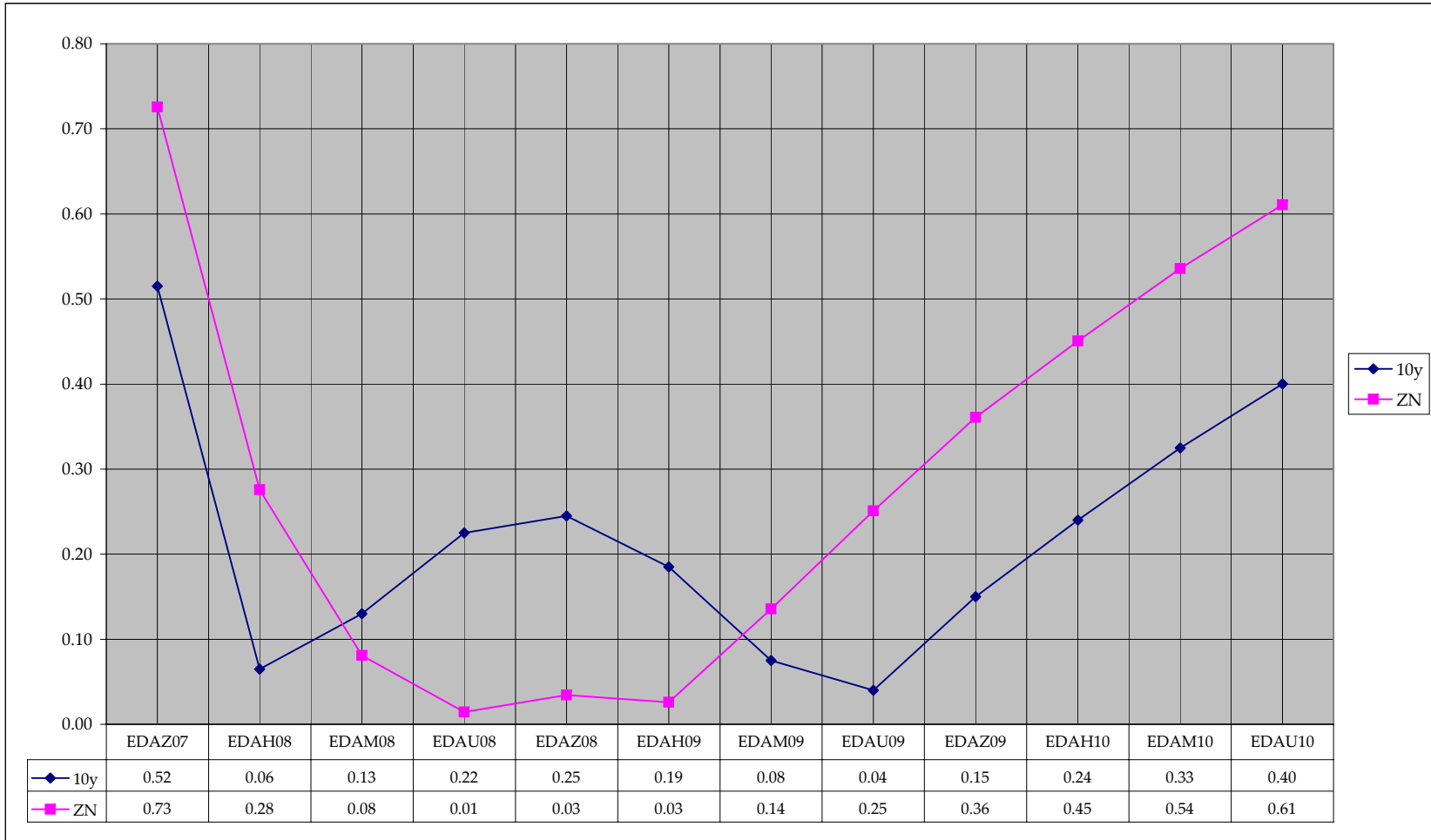
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.512	-1.250	9559.875
Q.ED.Red	4.333	-1.750	9577.125
Q.ED.Green	4.743	-2.500	9537.625
Q.ED.Blue		-1.125	9508.750
Q.ED.Gold		0.000	9486.125

