

## 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	103.1781	103.057	4.146	1.87	
ZF	106.3906	106.125	4.342	3.92	
ZN	108.5938	108.190	4.490	5.83	
2y	99.719	99.2300	4.146	1.87	
5y	99.428	99.1370	4.379	4.43	
10y	100.672	100.2150	4.661	7.74	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAZ07	94.985	5.015	67	0.183	DEC	White Pack	
EDAH08	95.230	4.770	158	0.432	MAR		
EDAM08	95.395	4.605	249	0.682	JUN		
EDAU08	95.475	4.525	340	0.931	SEP	Red Pack	
EDAZ08	95.480	4.520	431	1.180	DEC		
EDAH09	95.435	4.565	522	1.429	MAR		
EDAM09	95.350	4.650	613	1.679	JUN	Green Pack	
EDAU09	95.260	4.740	704	1.928	SEP		
EDAZ09	95.170	4.830	795	2.177	DEC		
EDAH10	95.110	4.890	886	2.427	MAR	Blue Pack	
EDAM10	95.040	4.960	977	2.676	JUN		
EDAU10	94.970	5.030	1068	2.925	SEP		
EDAZ10	94.900	5.100	1159	3.175	DEC	Gold Pack	
EDAH11	94.865	5.135	1250	3.424	MAR		
EDAM11	94.805	5.195	1341	3.673	JUN		
EDAU11	94.750	5.250	1439	3.942	SEP		
EDAZ11	94.670	5.330	1530	4.191	DEC		
EDAH12	94.650	5.350	1621	4.440	MAR		
EDAM12	94.605	5.395	1712	4.690	JUN		
EDAU12	94.560	5.440	1803	4.939	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	4.852	2.375	9527.125	Pack Prices
Q.ED.Red	4.738	1.250	9538.125	
Q.ED.Green	5.058	1.750	9507.250	
Q.ED.Blue		0.500	9482.500	
Q.ED.Gold		0.000	9462.375	

Red pack is a 2yr proxy  
 Gold pack is a 10 yr proxy  
 Red pack/Gold pack is a 2/10 proxy  
 Blue/Gold is a 5/10 proxy

## Overview of Hedging

10/11/2007 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)

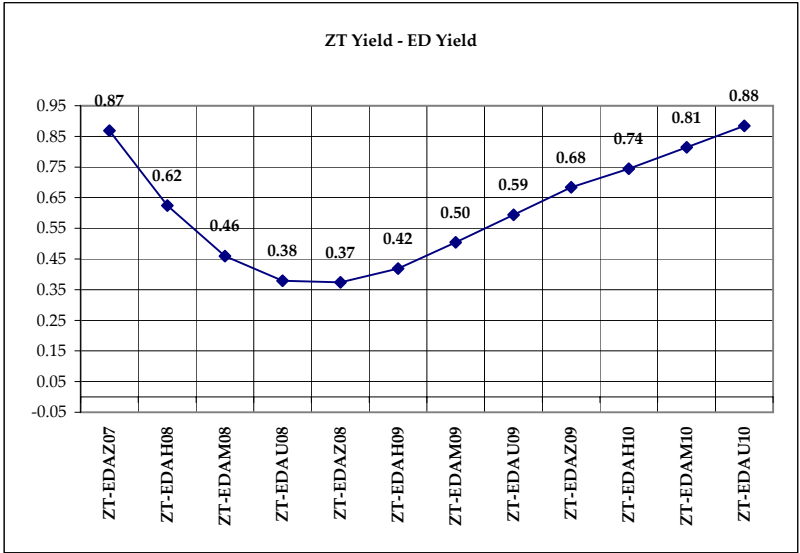
### **Eurodollar Color Codes for Individual Year Strips:**

<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)
EDAZ07	8.193	0.87	ZT-EDAZ07	88.303
EDAH08	7.948	0.62	ZT-EDAH08	61.116
EDAM08	7.783	0.46	ZT-EDAM08	97.244
EDAU08	7.703	0.38	ZT-EDAU08	98.151
EDAZ08	7.698	0.37	ZT-EDAZ08	98.752
EDAH09	7.743	0.42	ZT-EDAH09	99.037
EDAM09	7.828	0.50	ZT-EDAM09	98.359
EDAU09	7.918	0.59	ZT-EDAU09	97.250
EDAZ09	8.008	0.68	ZT-EDAZ09	96.068
EDAH10	8.068	0.74	ZT-EDAH10	93.827
EDAM10	8.138	0.81	ZT-EDAM10	92.691
EDAU10	8.208	0.88	ZT-EDAU10	91.758

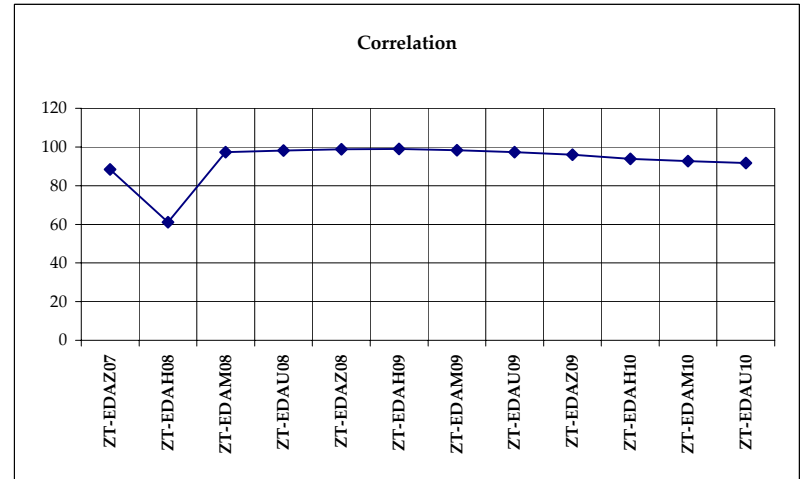
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZT Duration	Spread Duration	
EDAZ07	0.183	1.87	ZT-EDAZ07
EDAH08	0.432	1.87	ZT-EDAH08
EDAM08	0.682	1.87	ZT-EDAM08
EDAU08	0.931	1.87	ZT-EDAU08
EDAZ08	1.180	1.87	ZT-EDAZ08
EDAH09	1.429	1.87	ZT-EDAH09
EDAM09	1.679	1.87	ZT-EDAM09
EDAU09	1.928	1.87	ZT-EDAU09
EDAZ09	2.177	1.87	ZT-EDAZ09
EDAH10	2.427	1.87	ZT-EDAH10
EDAM10	2.676	1.87	ZT-EDAM10
EDAU10	2.925	1.87	ZT-EDAU10

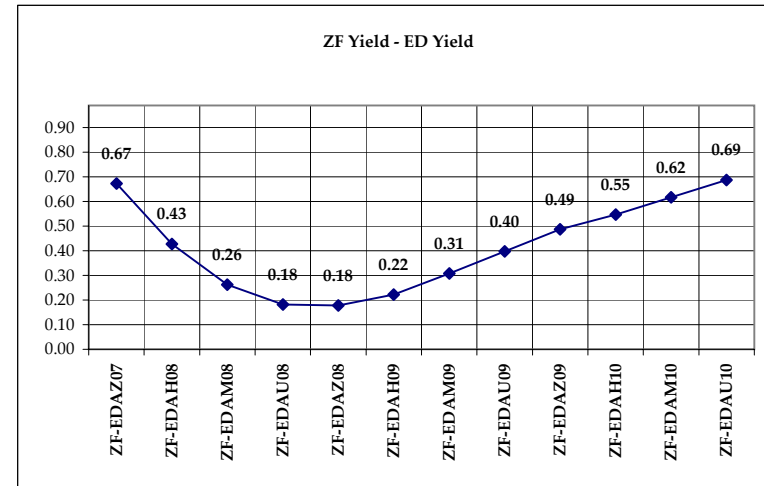
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

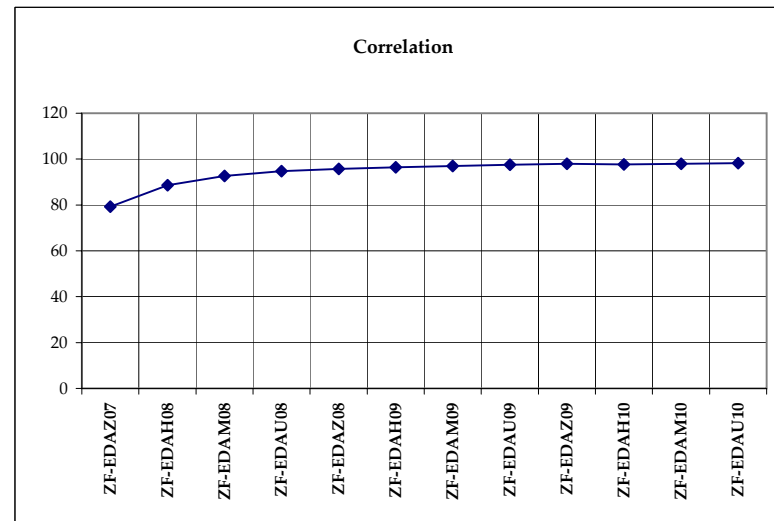
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.41	0.67	ZF-EDAZ07	79.233
EDAH08	11.16	0.43	ZF-EDAH08	88.542
EDAM08	11.00	0.26	ZF-EDAM08	92.656
EDAU08	10.92	0.18	ZF-EDAU08	94.694
EDAZ08	10.91	0.18	ZF-EDAZ08	95.663
EDAH09	10.96	0.22	ZF-EDAH09	96.436
EDAM09	11.04	0.31	ZF-EDAM09	97.002
EDAU09	11.13	0.40	ZF-EDAU09	97.569
EDAZ09	11.22	0.49	ZF-EDAZ09	97.987
EDAH10	11.28	0.55	ZF-EDAH10	97.725
EDAM10	11.35	0.62	ZF-EDAM10	97.973
EDAU10	11.42	0.69	ZF-EDAU10	98.237

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	0.183	3.92	3.73	ZF-EDAZ07
EDAH08	0.432	3.92	3.48	ZF-EDAH08
EDAM08	0.682	3.92	3.23	ZF-EDAM08
EDAU08	0.931	3.92	2.99	ZF-EDAU08
EDAZ08	1.180	3.92	2.74	ZF-EDAZ08
EDAH09	1.429	3.92	2.49	ZF-EDAH09
EDAM09	1.679	3.92	2.24	ZF-EDAM09
EDAU09	1.928	3.92	1.99	ZF-EDAU09
EDAZ09	2.177	3.92	1.74	ZF-EDAZ09
EDAH10	2.427	3.92	1.49	ZF-EDAH10
EDAM10	2.676	3.92	1.24	ZF-EDAM10
EDAU10	2.925	3.92	0.99	ZF-EDAU10

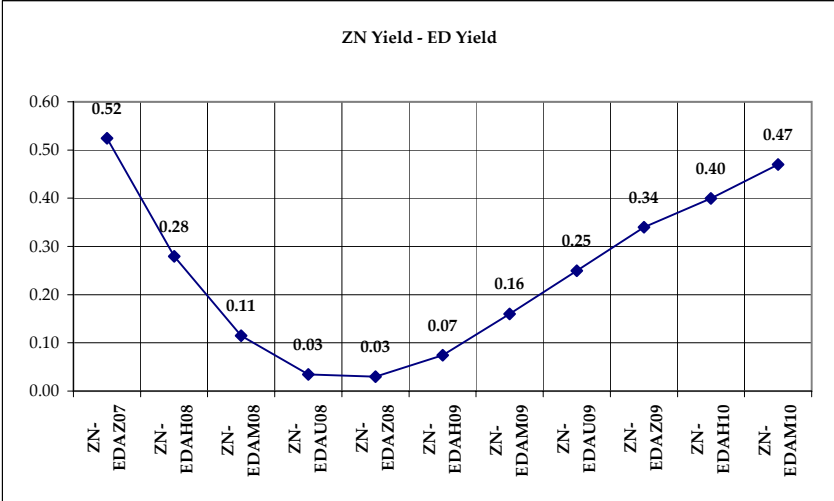
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

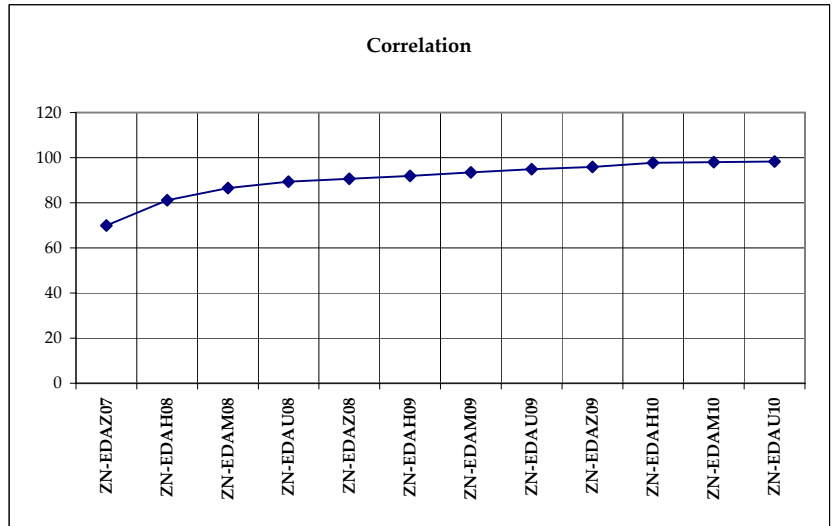
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.61	0.52	ZN-EDAZ07	69.89
EDAH08	13.36	0.28	ZN-EDAH08	81.11
EDAM08	13.20	0.11	ZN-EDAM08	86.55
EDAU08	13.12	0.03	ZN-EDAU08	89.38
EDAZ08	13.11	0.03	ZN-EDAZ08	90.63
EDAH09	13.16	0.07	ZN-EDAH09	91.90
EDAM09	13.24	0.16	ZN-EDAM09	93.44
EDAU09	13.33	0.25	ZN-EDAU09	94.90
EDAZ09	13.42	0.34	ZN-EDAZ09	95.93
EDAH10	13.48	0.40	ZN-EDAH10	97.73
EDAM10	13.55	0.47	ZN-EDAM10	97.97
EDAU10	13.62	0.54	ZN-EDAU10	98.24

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	0.183	5.83	5.65	ZN-EDAZ07
EDAH08	0.432	5.83	5.40	ZN-EDAH08
EDAM08	0.682	5.83	5.15	ZN-EDAM08
EDAU08	0.931	5.83	4.90	ZN-EDAU08
EDAZ08	1.180	5.83	4.65	ZN-EDAZ08
EDAH09	1.429	5.83	4.40	ZN-EDAH09
EDAM09	1.679	5.83	4.15	ZN-EDAM09
EDAU09	1.928	5.83	3.90	ZN-EDAU09
EDAZ09	2.177	5.83	3.65	ZN-EDAZ09
EDAH10	2.427	5.83	3.40	ZN-EDAH10
EDAM10	2.676	5.83	3.16	ZN-EDAM10
EDAU10	2.925	5.83	2.91	ZN-EDAU10

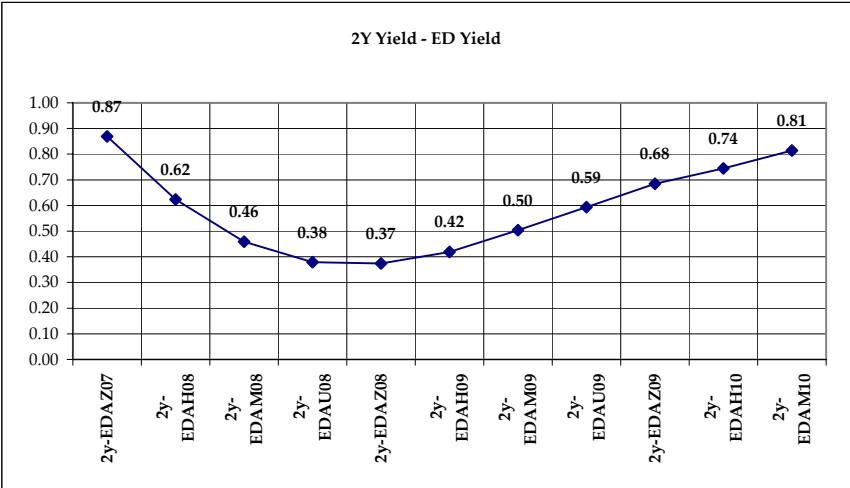
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.73	0.87	2y-EDAZ07	-87.330
EDAH08	4.49	0.62	2y-EDAH08	-94.370
EDAM08	4.32	0.46	2y-EDAM08	-96.552
EDAU08	4.24	0.38	2y-EDAU08	-97.490
EDAZ08	4.24	0.37	2y-EDAZ08	-96.552
EDAH09	4.28	0.42	2y-EDAH09	-98.519
EDAM09	4.37	0.50	2y-EDAM09	-98.078
EDAU09	4.46	0.59	2y-EDAU09	-96.692
EDAZ09	4.55	0.68	2y-EDAZ09	-95.217
EDAH10	4.61	0.74	2y-EDAH10	-93.012
EDAM10	4.68	0.81	2y-EDAM10	-91.850
EDAU10	4.75	0.88	2y-EDAU10	-91.129

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.

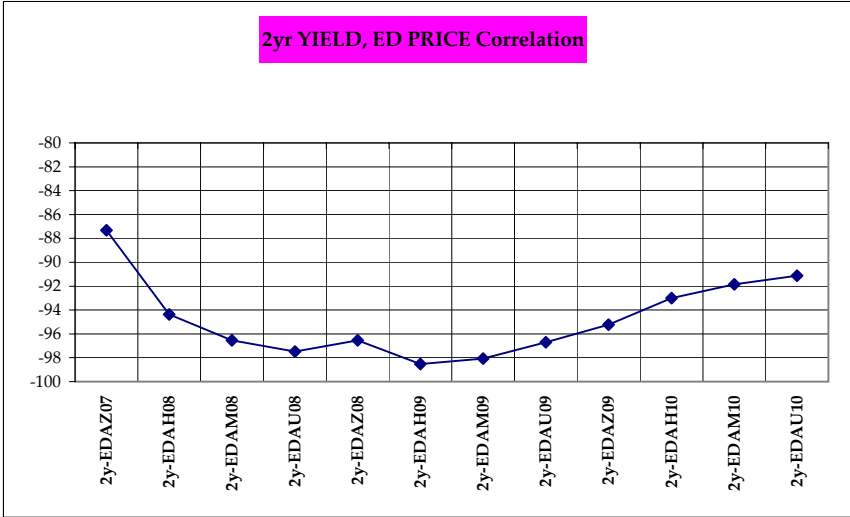


GE Duration as Fraction of year

	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAZ07	0.183	1.87	1.69	2y-EDAZ07
EDAH08	0.432	1.87	1.44	2y-EDAH08
EDAM08	0.682	1.87	1.19	2y-EDAM08
EDAU08	0.931	1.87	0.94	2y-EDAU08
EDAZ08	1.180	1.87	0.69	2y-EDAZ08
EDAH09	1.429	1.87	0.44	2y-EDAH09
EDAM09	1.679	1.87	0.19	2y-EDAM09
EDAU09	1.928	1.87	(0.06)	2y-EDAU09
EDAZ09	2.177	1.87	(0.31)	2y-EDAZ09
EDAH10	2.427	1.87	(0.56)	2y-EDAH10
EDAM10	2.676	1.87	(0.81)	2y-EDAM10
EDAU10	2.925	1.87	(1.06)	2y-EDAU10

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

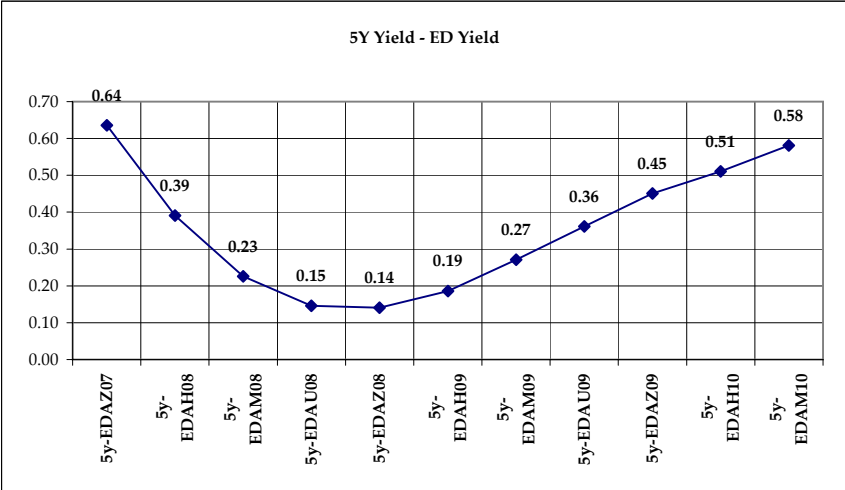
2yr YIELD, ED PRICE Correlation



TERM TED: 5y vs Eurodollar Contracts

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.44	0.64	5y-EDAZ07	-78.475
EDAH08	4.20	0.39	5y-EDAH08	-87.763
EDAM08	4.03	0.23	5y-EDAM08	-91.966
EDAU08	3.95	0.15	5y-EDAU08	-93.961
EDAZ08	3.95	0.14	5y-EDAZ08	-91.966
EDAH09	3.99	0.19	5y-EDAH09	-95.570
EDAM09	4.08	0.27	5y-EDAM09	-96.172
EDAU09	4.17	0.36	5y-EDAU09	-96.323
EDAZ09	4.26	0.45	5y-EDAZ09	-96.264
EDAH10	4.32	0.51	5y-EDAH10	-95.792
EDAM10	4.39	0.58	5y-EDAM10	-95.715
EDAU10	4.46	0.65	5y-EDAU10	-95.939

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

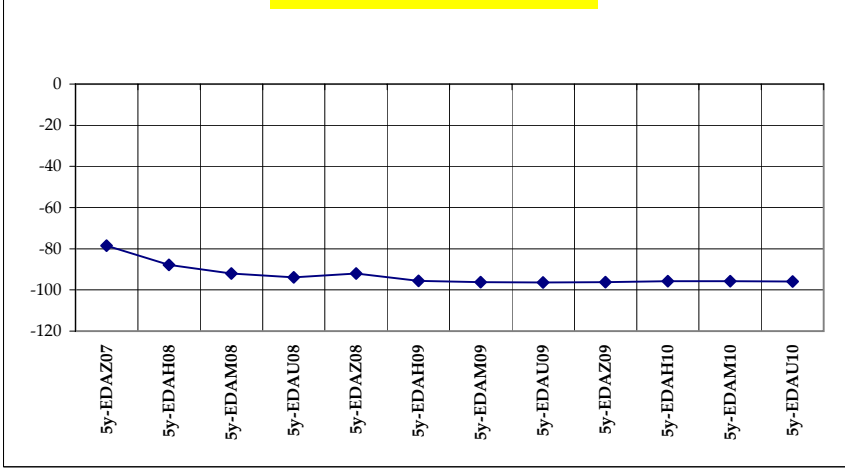


GE Duration as Fraction of year

	5Y Duration	Spread Duration	
EDAZ07	0.183	4.43	4.24 5y-EDAZ07
EDAH08	0.432	4.43	3.99 5y-EDAH08
EDAM08	0.682	4.43	3.74 5y-EDAM08
EDAU08	0.931	4.43	3.49 5y-EDAU08
EDAZ08	1.180	4.43	3.25 5y-EDAZ08
EDAH09	1.429	4.43	3.00 5y-EDAH09
EDAM09	1.679	4.43	2.75 5y-EDAM09
EDAU09	1.928	4.43	2.50 5y-EDAU09
EDAZ09	2.177	4.43	2.25 5y-EDAZ09
EDAH10	2.427	4.43	2.00 5y-EDAH10
EDAM10	2.676	4.43	1.75 5y-EDAM10
EDAU10	2.925	4.43	1.50 5y-EDAU10

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

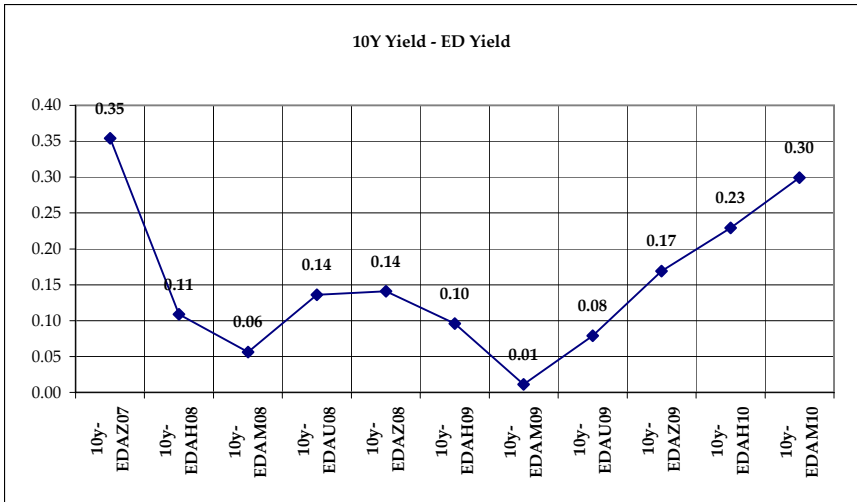
5yr YIELD, ED PRICE Correlation



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

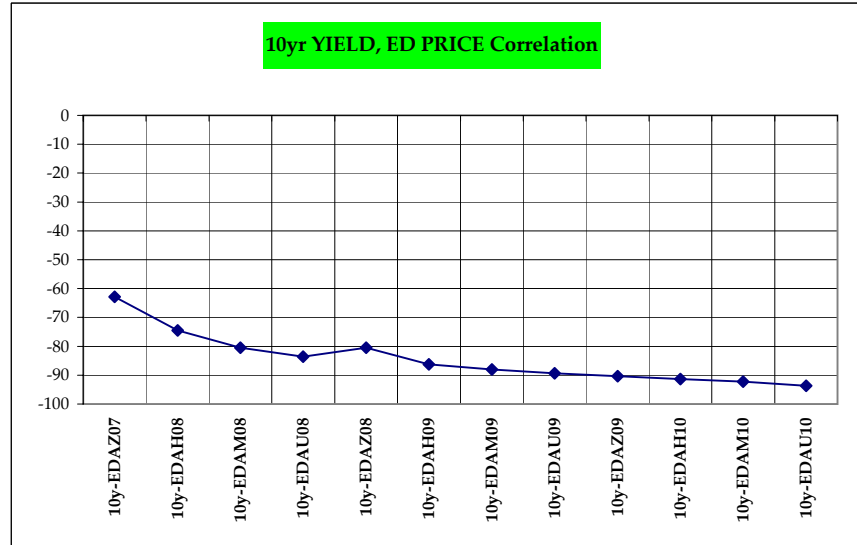
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.44	0.35	10y-EDAZ07	-62.850
EDAH08	4.20	0.11	10y-EDAH08	-74.453
EDAM08	4.03	0.06	10y-EDAM08	-80.534
EDAU08	3.95	0.14	10y-EDAU08	-83.621
EDAZ08	3.95	0.14	10y-EDAZ08	-80.534
EDAH09	3.99	0.10	10y-EDAH09	-86.248
EDAM09	4.08	0.01	10y-EDAM09	-88.012
EDAU09	4.17	0.08	10y-EDAU09	-89.341
EDAZ09	4.26	0.17	10y-EDAZ09	-90.317
EDAH10	4.32	0.23	10y-EDAH10	-91.335
EDAM10	4.39	0.30	10y-EDAM10	-92.292
EDAU10	4.46	0.37	10y-EDAU10	-93.700

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



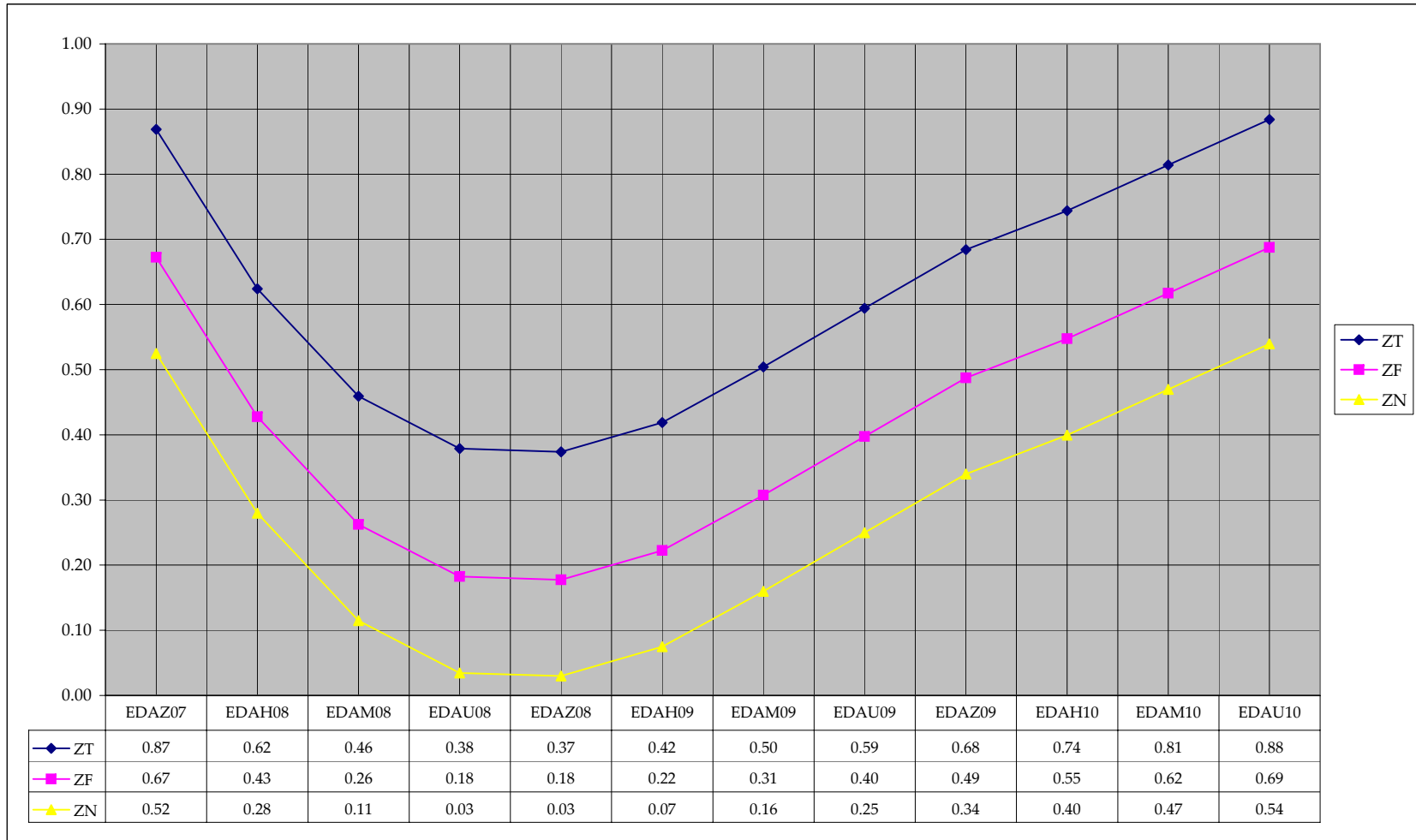
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.183	7.74	7.56	10y-EDAZ07
EDAH08	0.432	7.74	7.31	10y-EDAH08
EDAM08	0.682	7.74	7.06	10y-EDAM08
EDAU08	0.931	7.74	6.81	10y-EDAU08
EDAZ08	1.180	7.74	6.56	10y-EDAZ08
EDAH09	1.429	7.74	6.32	10y-EDAH09
EDAM09	1.679	7.74	6.07	10y-EDAM09
EDAU09	1.928	7.74	5.82	10y-EDAU09
EDAZ09	2.177	7.74	5.57	10y-EDAZ09
EDAH10	2.427	7.74	5.32	10y-EDAH10
EDAM10	2.676	7.74	5.07	10y-EDAM10
EDAU10	2.925	7.74	4.82	10y-EDAU10

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



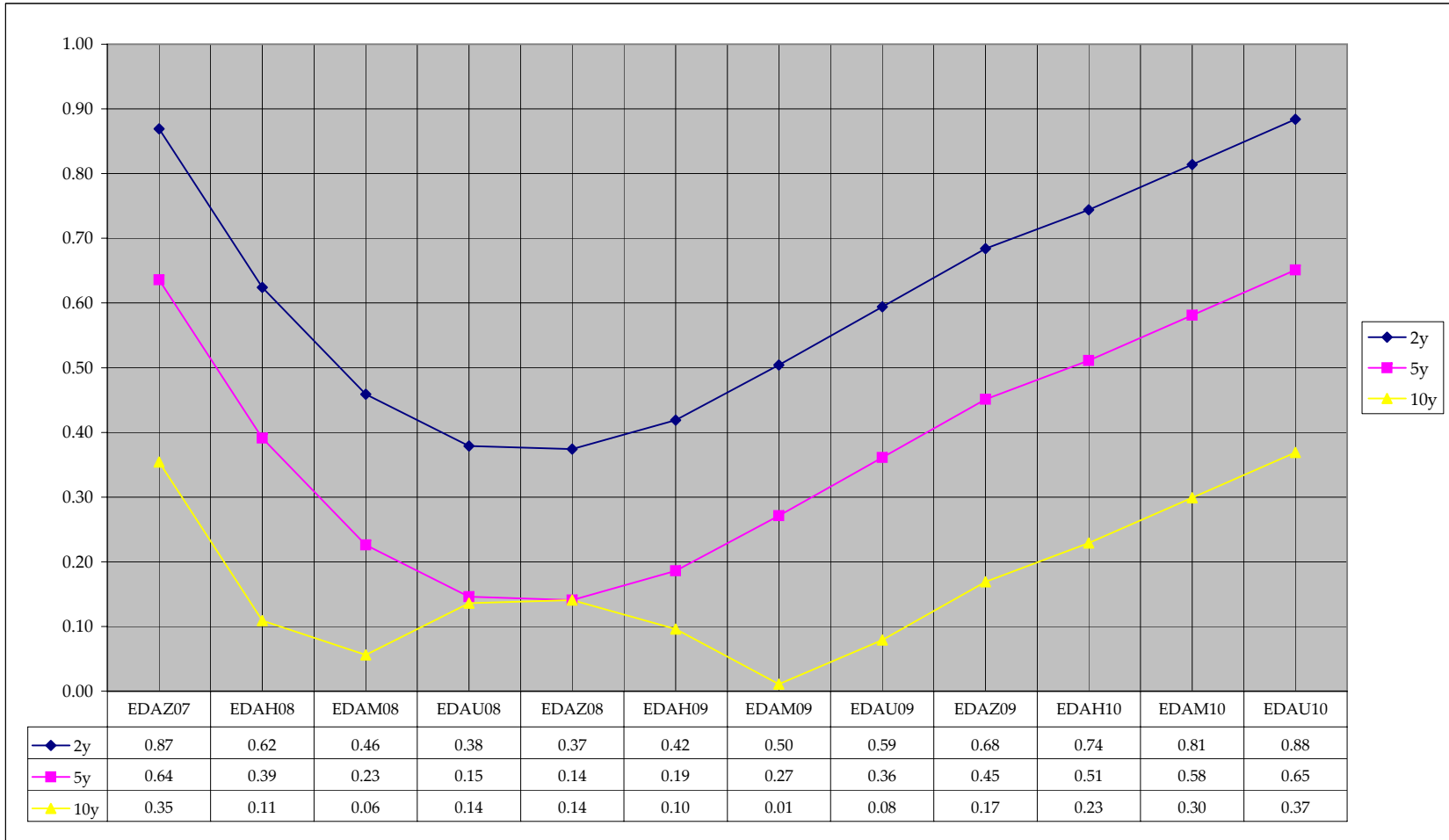
**Dirty TED Curve**

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.

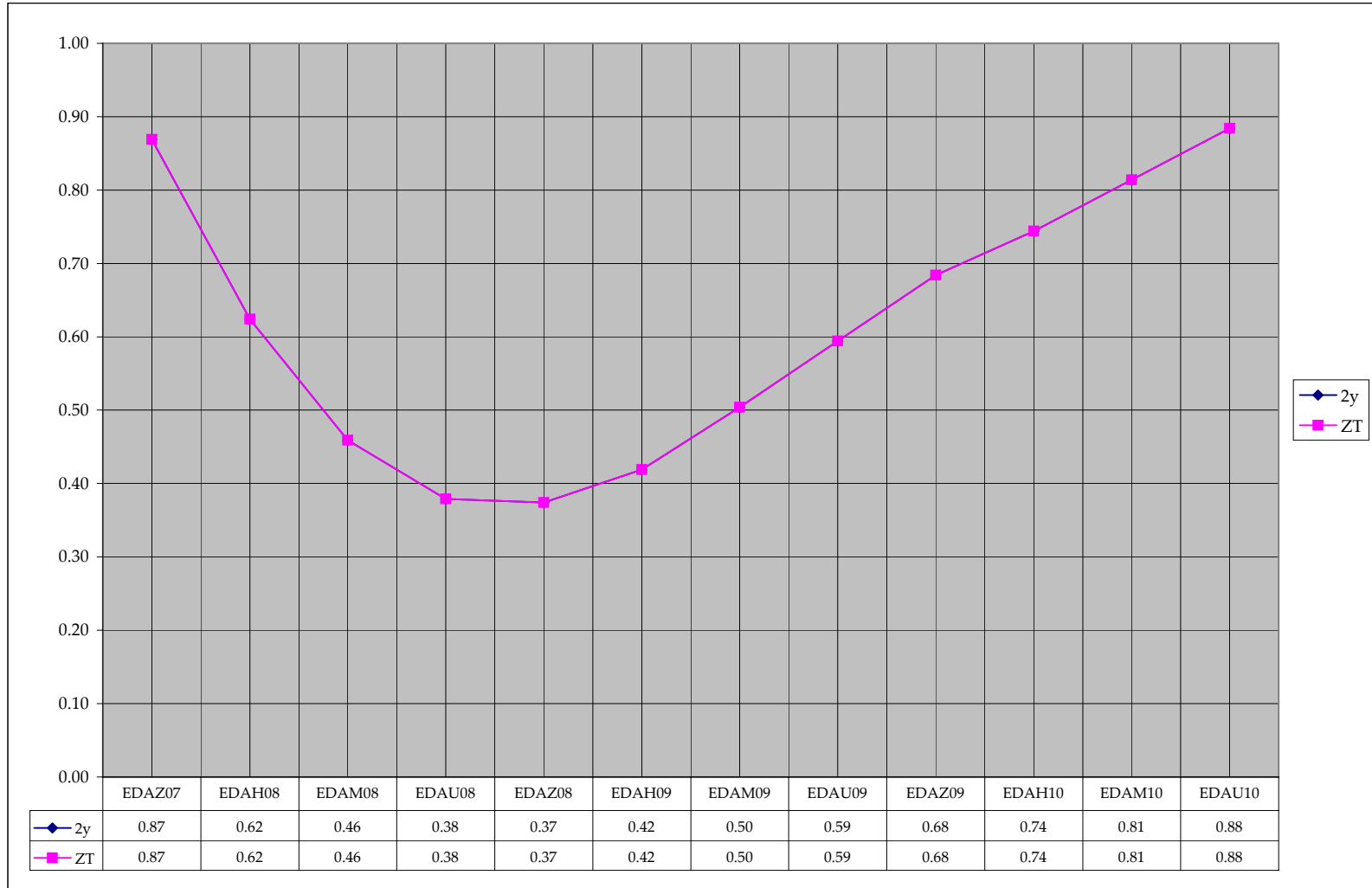


TED Curve

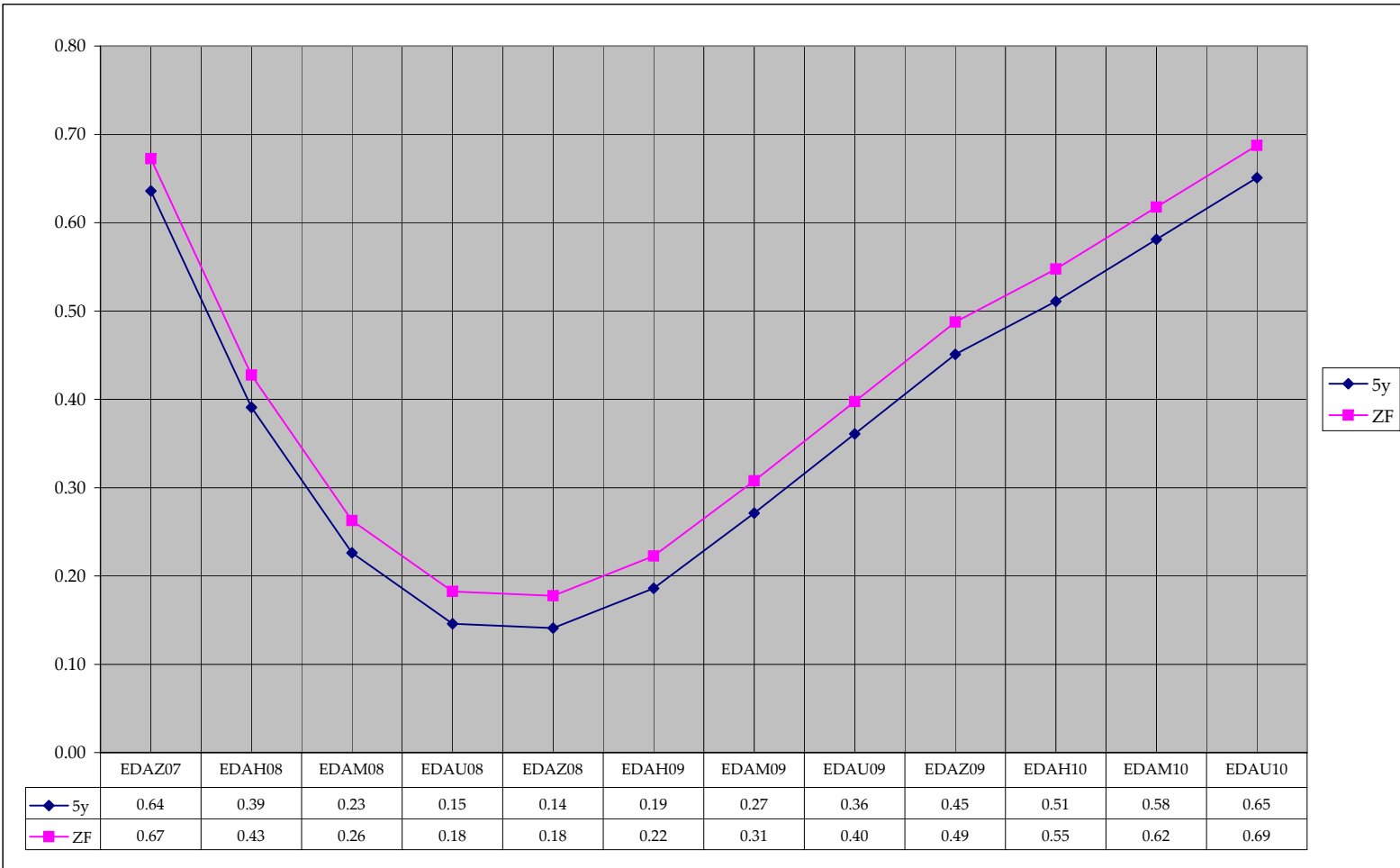
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



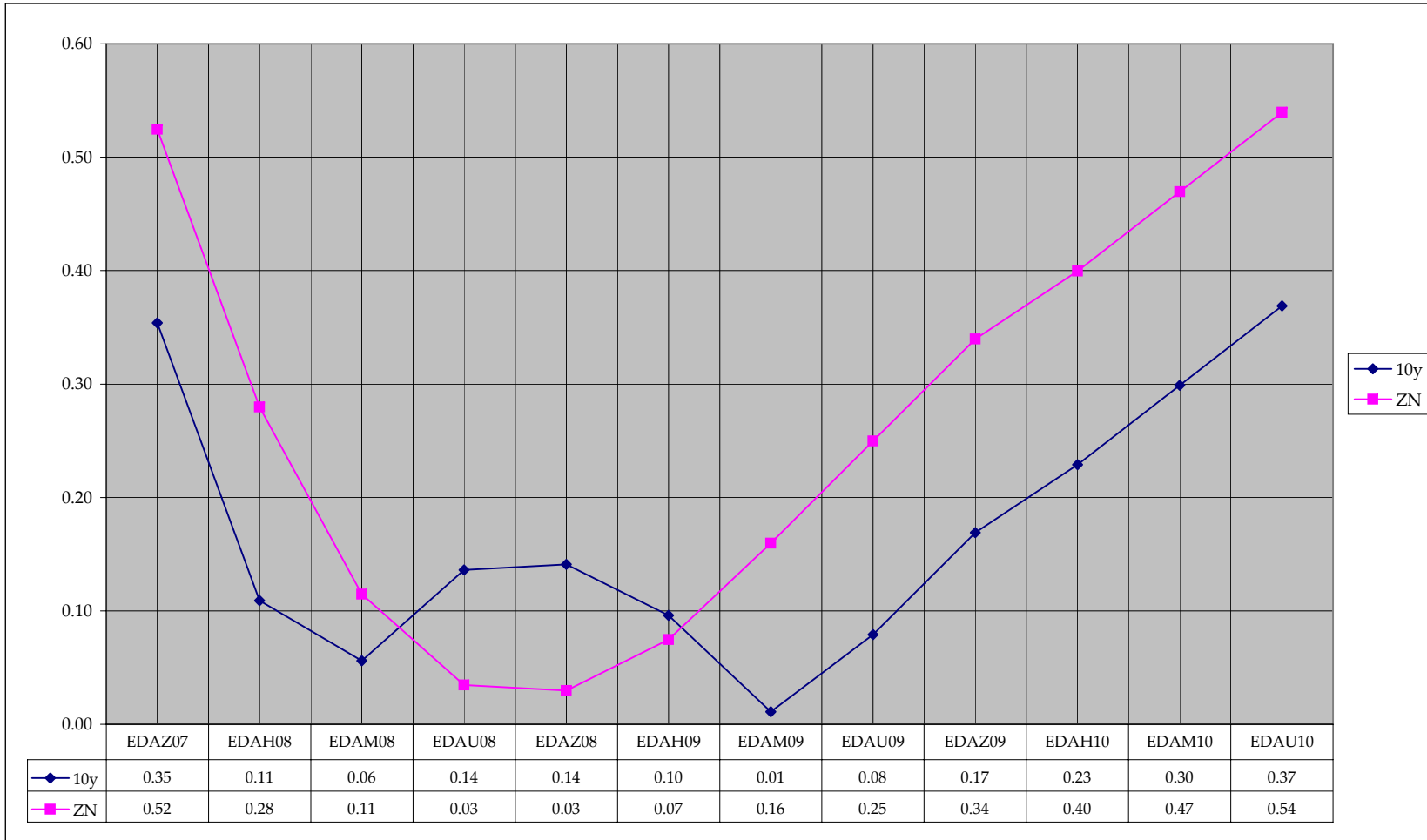
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.852	2.375	9527.125
Q.ED.Red	4.738	1.250	9538.125
Q.ED.Green	5.058	1.750	9507.250
Q.ED.Blue	0.500	0.500	9482.500
Q.ED.Gold	0.000	0.000	9462.375

