

## 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	103.0219	103.007	4.227	1.86
ZF	106.2500	106.080	4.382	3.90
ZN	108.4531	108.145	4.520	5.82
2y	99.578	99.1850	4.227	1.86
5y	99.281	99.0900	4.413	4.41
10y	100.516	100.1650	4.681	7.73

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.045	4.955	63	0.172	DEC	White Pack
EDAH08	95.240	4.760	154	0.421	MAR	
EDAM08	95.365	4.635	245	0.671	JUN	
EDAU08	95.420	4.580	336	0.920	SEP	Red Pack
EDAZ08	95.410	4.590	427	1.169	DEC	
EDAH09	95.350	4.650	518	1.418	MAR	
EDAM09	95.265	4.735	609	1.668	JUN	Green Pack
EDAU09	95.180	4.820	700	1.917	SEP	
EDAZ09	95.105	4.895	791	2.166	DEC	
EDAH10	95.040	4.960	882	2.416	MAR	Blue Pack
EDAM10	94.985	5.015	973	2.665	JUN	
EDAU10	94.925	5.075	1064	2.914	SEP	
EDAZ10	#VALUE!	#VALUE!	1155	3.164	DEC	Gold Pack
EDAH11	#VALUE!	#VALUE!	1246	3.413	MAR	
EDAM11	#VALUE!	#VALUE!	1337	3.662	JUN	
EDAU11	#VALUE!	#VALUE!	1435	3.931	SEP	
EDAZ11	94.675	5.325	1526	4.180	DEC	
EDAH12	94.635	5.365	1617	4.429	MAR	
EDAM12	94.595	5.405	1708	4.679	JUN	
EDAU12	94.560	5.440	1799	4.928	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	4.856	0.250	9526.750	Pack Prices
Q.ED.Red	4.821	-0.375	9530.125	
Q.ED.Green	5.119	-0.125	9501.375	
Q.ED.Blue		0.000	9479.250	
Q.ED.Gold		0.000	9461.000	

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

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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)

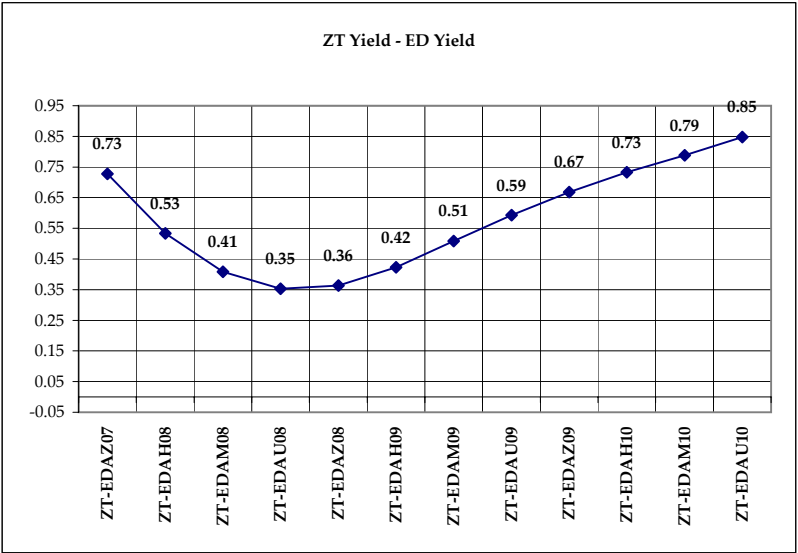
### Eurodollar Color Codes for Individual Year Strips:

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

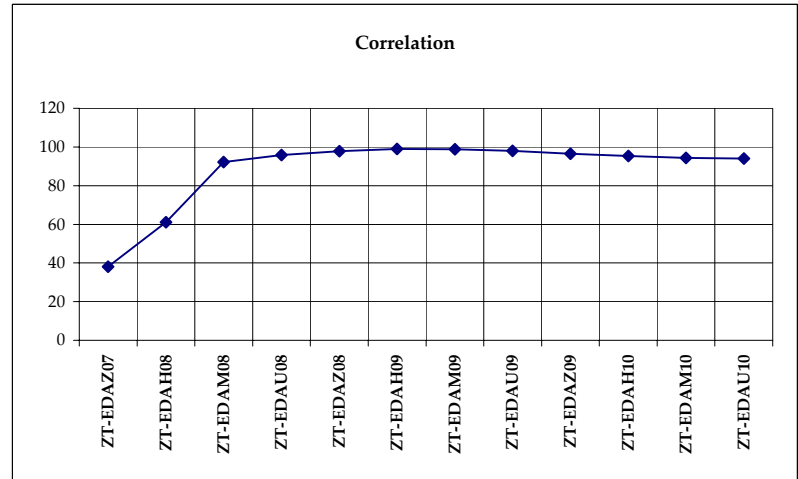
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	7.977	0.73	ZT-EDAZ07	38.115
EDAH08	7.782	0.53	ZT-EDAH08	61.116
EDAM08	7.657	0.41	ZT-EDAM08	92.130
EDAU08	7.602	0.35	ZT-EDAU08	95.844
EDAZ08	7.612	0.36	ZT-EDAZ08	97.844
EDAH09	7.672	0.42	ZT-EDAH09	99.032
EDAM09	7.757	0.51	ZT-EDAM09	98.888
EDAU09	7.842	0.59	ZT-EDAU09	97.941
EDAZ09	7.917	0.67	ZT-EDAZ09	96.419
EDAH10	7.982	0.73	ZT-EDAH10	95.354
EDAM10	8.037	0.79	ZT-EDAM10	94.367
EDAU10	8.097	0.85	ZT-EDAU10	94.085

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	0.172	1.86	1.69	ZT-EDAZ07
EDAH08	0.421	1.86	1.44	ZT-EDAH08
EDAM08	0.671	1.86	1.19	ZT-EDAM08
EDAU08	0.920	1.86	0.94	ZT-EDAU08
EDAZ08	1.169	1.86	0.69	ZT-EDAZ08
EDAH09	1.418	1.86	0.44	ZT-EDAH09
EDAM09	1.668	1.86	0.19	ZT-EDAM09
EDAU09	1.917	1.86	(0.06)	ZT-EDAU09
EDAZ09	2.166	1.86	(0.31)	ZT-EDAZ09
EDAH10	2.416	1.86	(0.56)	ZT-EDAH10
EDAM10	2.665	1.86	(0.81)	ZT-EDAM10
EDAU10	2.914	1.86	(1.06)	ZT-EDAU10

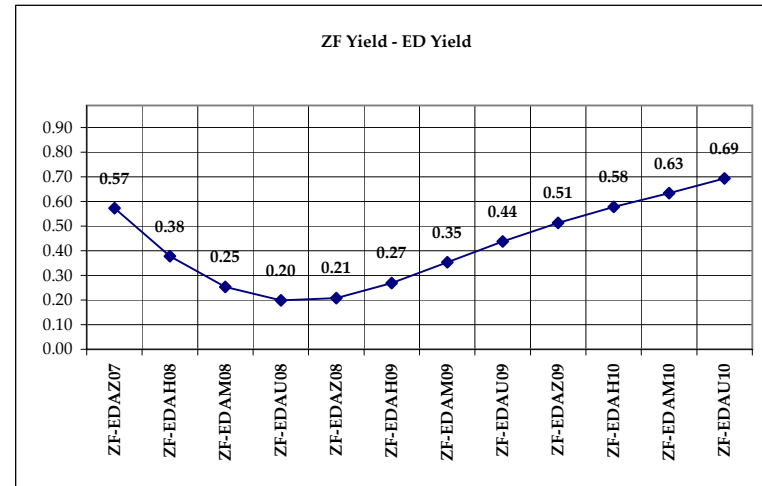
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

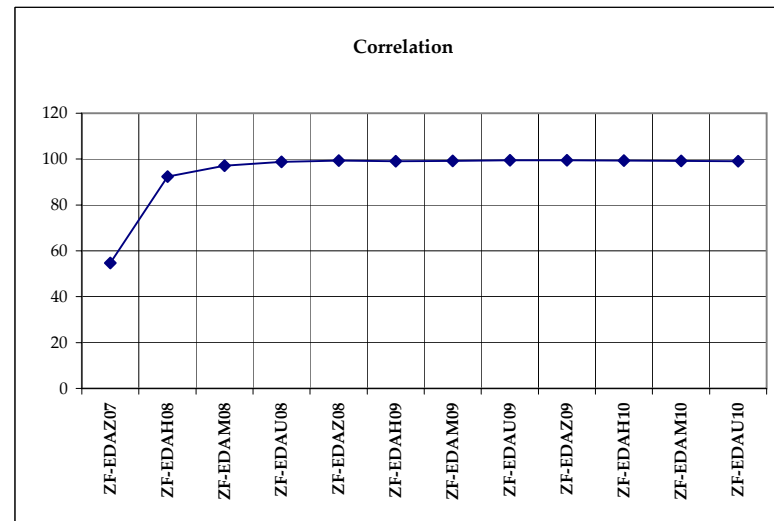
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.21	0.57	ZF-EDAZ07	54.706
EDAH08	11.01	0.38	ZF-EDAH08	92.393
EDAM08	10.89	0.25	ZF-EDAM08	97.133
EDAU08	10.83	0.20	ZF-EDAU08	98.854
EDAZ08	10.84	0.21	ZF-EDAZ08	99.294
EDAH09	10.90	0.27	ZF-EDAH09	99.090
EDAM09	10.99	0.35	ZF-EDAM09	99.188
EDAU09	11.07	0.44	ZF-EDAU09	99.458
EDAZ09	11.15	0.51	ZF-EDAZ09	99.512
EDAH10	11.21	0.58	ZF-EDAH10	99.341
EDAM10	11.27	0.63	ZF-EDAM10	99.142
EDAU10	11.33	0.69	ZF-EDAU10	99.134

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	0.172	3.90	3.73	ZF-EDAZ07
EDAH08	0.421	3.90	3.48	ZF-EDAH08
EDAM08	0.671	3.90	3.23	ZF-EDAM08
EDAU08	0.920	3.90	2.98	ZF-EDAU08
EDAZ08	1.169	3.90	2.74	ZF-EDAZ08
EDAH09	1.418	3.90	2.49	ZF-EDAH09
EDAM09	1.668	3.90	2.24	ZF-EDAM09
EDAU09	1.917	3.90	1.99	ZF-EDAU09
EDAZ09	2.166	3.90	1.74	ZF-EDAZ09
EDAH10	2.416	3.90	1.49	ZF-EDAH10
EDAM10	2.665	3.90	1.24	ZF-EDAM10
EDAU10	2.914	3.90	0.99	ZF-EDAU10

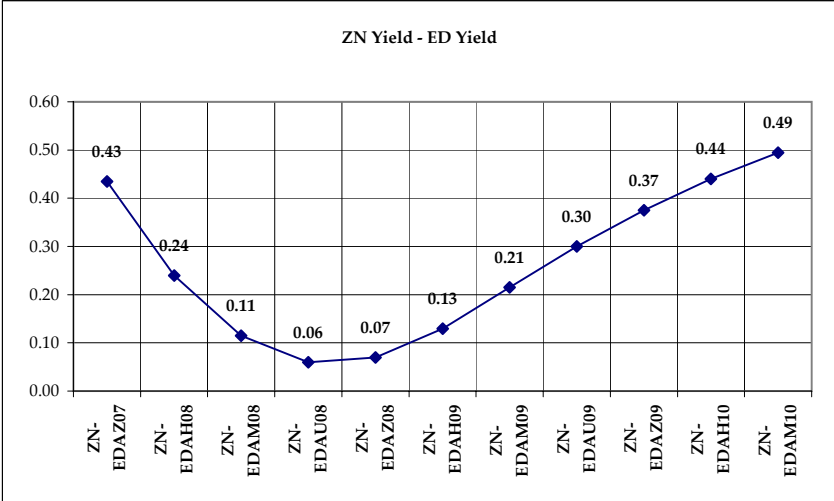
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

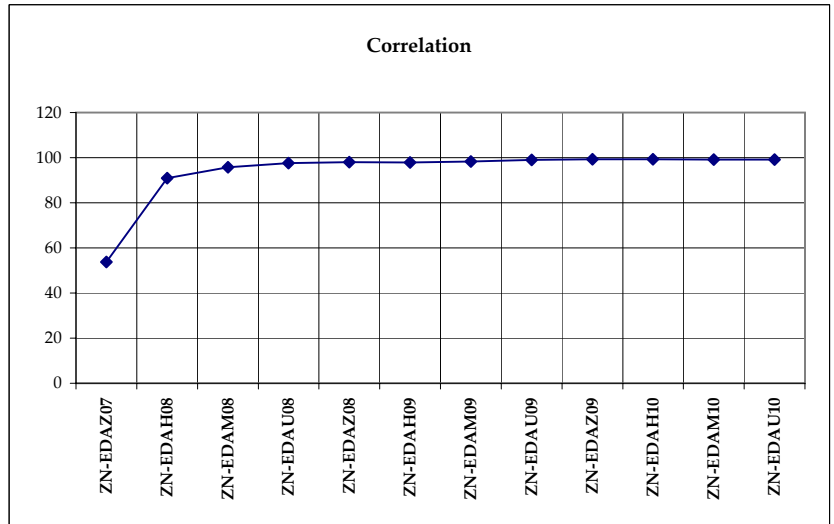
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.41	0.43	ZN-EDAZ07	53.74
EDAH08	13.21	0.24	ZN-EDAH08	90.86
EDAM08	13.09	0.11	ZN-EDAM08	95.71
EDAU08	13.03	0.06	ZN-EDAU08	97.54
EDAZ08	13.04	0.07	ZN-EDAZ08	98.04
EDAH09	13.10	0.13	ZN-EDAH09	97.92
EDAM09	13.19	0.21	ZN-EDAM09	98.35
EDAU09	13.27	0.30	ZN-EDAU09	98.96
EDAZ09	13.35	0.37	ZN-EDAZ09	99.32
EDAH10	13.41	0.44	ZN-EDAH10	99.34
EDAM10	13.47	0.49	ZN-EDAM10	99.14
EDAU10	13.53	0.55	ZN-EDAU10	99.13

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	0.172	5.82	5.65	ZN-EDAZ07
EDAH08	0.421	5.82	5.40	ZN-EDAH08
EDAM08	0.671	5.82	5.15	ZN-EDAM08
EDAU08	0.920	5.82	4.90	ZN-EDAU08
EDAZ08	1.169	5.82	4.65	ZN-EDAZ08
EDAH09	1.418	5.82	4.40	ZN-EDAH09
EDAM09	1.668	5.82	4.15	ZN-EDAM09
EDAU09	1.917	5.82	3.90	ZN-EDAU09
EDAZ09	2.166	5.82	3.65	ZN-EDAZ09
EDAH10	2.416	5.82	3.40	ZN-EDAH10
EDAM10	2.665	5.82	3.15	ZN-EDAM10
EDAU10	2.914	5.82	2.90	ZN-EDAU10

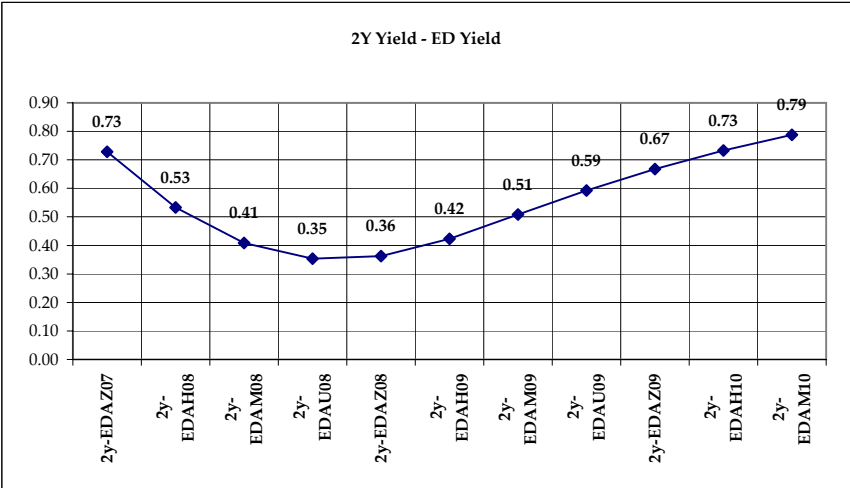
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.53	0.73	2y-EDAZ07	-43.183
EDAH08	4.34	0.53	2y-EDAH08	-87.133
EDAM08	4.21	0.41	2y-EDAM08	-93.764
EDAU08	4.16	0.35	2y-EDAU08	-96.478
EDAZ08	4.17	0.36	2y-EDAZ08	-93.764
EDAH09	4.23	0.42	2y-EDAH09	-98.777
EDAM09	4.31	0.51	2y-EDAM09	-98.493
EDAU09	4.40	0.59	2y-EDAU09	-97.313
EDAZ09	4.47	0.67	2y-EDAZ09	-95.563
EDAH10	4.54	0.73	2y-EDAH10	-94.332
EDAM10	4.59	0.79	2y-EDAM10	-93.384
EDAU10	4.65	0.85	2y-EDAU10	-93.252

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.

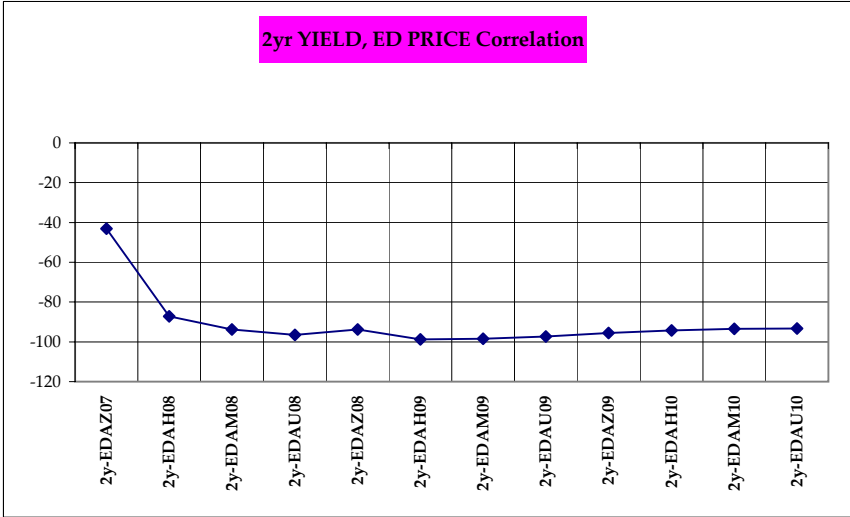


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAZ07	0.172	1.86	2y-EDAZ07
EDAH08	0.421	1.86	2y-EDAH08
EDAM08	0.671	1.86	2y-EDAM08
EDAU08	0.920	1.86	2y-EDAU08
EDAZ08	1.169	1.86	2y-EDAZ08
EDAH09	1.418	1.86	2y-EDAH09
EDAM09	1.668	1.86	2y-EDAM09
EDAU09	1.917	1.86	2y-EDAU09
EDAZ09	2.166	1.86	2y-EDAZ09
EDAH10	2.416	1.86	2y-EDAH10
EDAM10	2.665	1.86	2y-EDAM10
EDAU10	2.914	1.86	2y-EDAU10

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

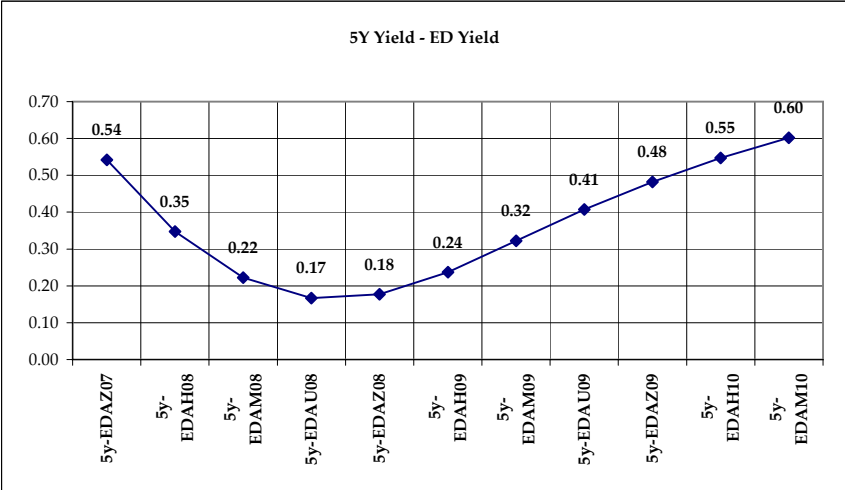
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.24	0.54	5y-EDAZ07	-57.540
EDAH08	4.04	0.35	5y-EDAH08	-93.753
EDAM08	3.92	0.22	5y-EDAM08	-97.960
EDAU08	3.86	0.17	5y-EDAU08	-99.074
EDAZ08	3.87	0.18	5y-EDAZ08	-97.960
EDAH09	3.93	0.24	5y-EDAH09	-98.786
EDAM09	4.02	0.32	5y-EDAM09	-98.634
EDAU09	4.10	0.41	5y-EDAU09	-98.555
EDAZ09	4.18	0.48	5y-EDAZ09	-98.268
EDAH10	4.24	0.55	5y-EDAH10	-97.918
EDAM10	4.30	0.60	5y-EDAM10	-97.671
EDAU10	4.36	0.66	5y-EDAU10	-97.673

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.

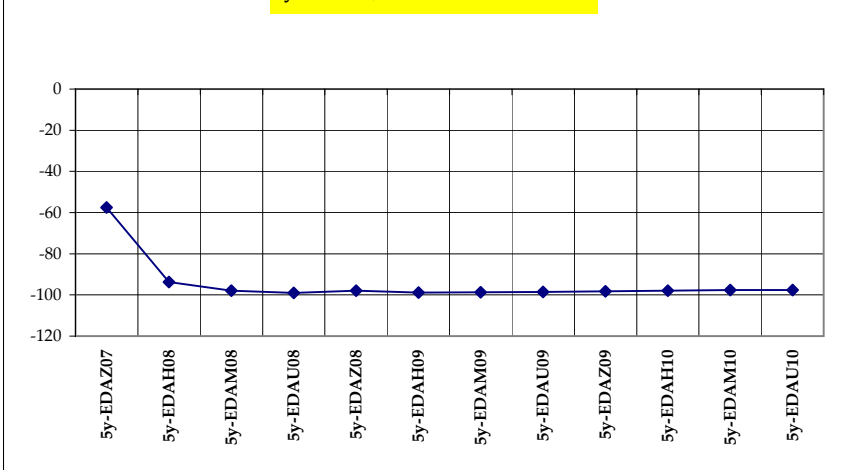


**GE Duration as**

	Fraction of year	5Y Duration	Spread Duration	
EDAZ07	0.172	4.41	4.24	5y-EDAZ07
EDAH08	0.421	4.41	3.99	5y-EDAH08
EDAM08	0.671	4.41	3.74	5y-EDAM08
EDAU08	0.920	4.41	3.49	5y-EDAU08
EDAZ08	1.169	4.41	3.24	5y-EDAZ08
EDAH09	1.418	4.41	3.00	5y-EDAH09
EDAM09	1.668	4.41	2.75	5y-EDAM09
EDAU09	1.917	4.41	2.50	5y-EDAU09
EDAZ09	2.166	4.41	2.25	5y-EDAZ09
EDAH10	2.416	4.41	2.00	5y-EDAH10
EDAM10	2.665	4.41	1.75	5y-EDAM10
EDAU10	2.914	4.41	1.50	5y-EDAU10

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

**5yr YIELD, ED PRICE Correlation**



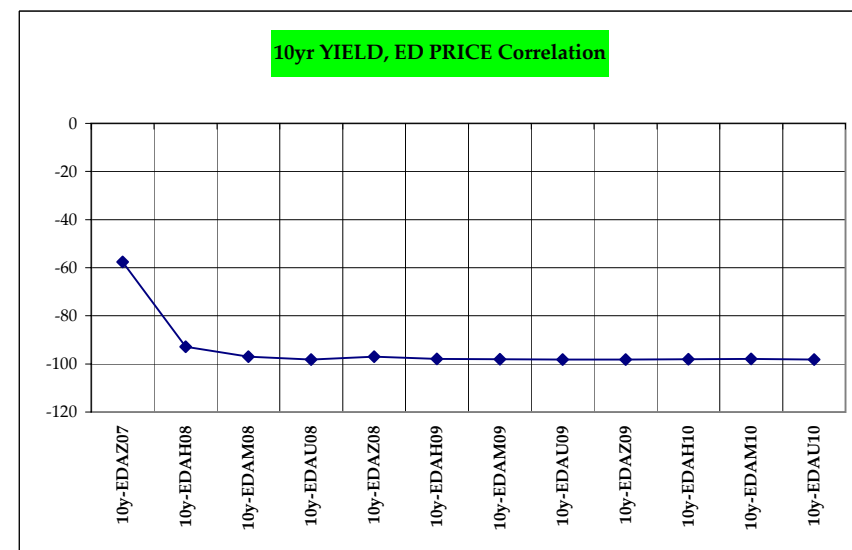
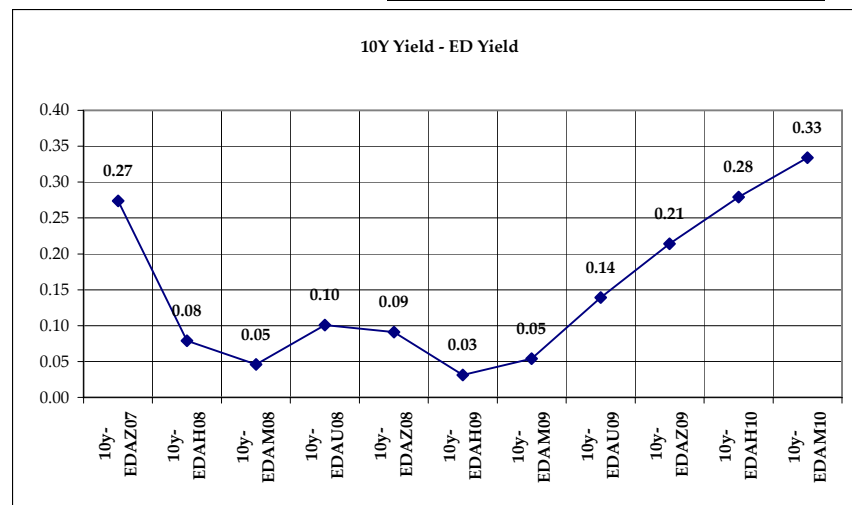
**TERM TED: 10y vs Eurodollar Contracts**

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.24	0.27	10y-EDAZ07	-57.635
EDAH08	4.04	0.08	10y-EDAH08	-92.841
EDAM08	3.92	0.05	10y-EDAM08	-97.001
EDAU08	3.86	0.10	10y-EDAU08	-98.150
EDAZ08	3.87	0.09	10y-EDAZ08	-97.001
EDAH09	3.93	0.03	10y-EDAH09	-97.886
EDAM09	4.02	0.05	10y-EDAM09	-98.018
EDAU09	4.10	0.14	10y-EDAU09	-98.196
EDAZ09	4.18	0.21	10y-EDAZ09	-98.180
EDAH10	4.24	0.28	10y-EDAH10	-98.033
EDAM10	4.30	0.33	10y-EDAM10	-97.969
EDAU10	4.36	0.39	10y-EDAU10	-98.153

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	0.172	7.73	7.56	10y-EDAZ07
EDAH08	0.421	7.73	7.31	10y-EDAH08
EDAM08	0.671	7.73	7.06	10y-EDAM08
EDAU08	0.920	7.73	6.81	10y-EDAU08
EDAZ08	1.169	7.73	6.56	10y-EDAZ08
EDAH09	1.418	7.73	6.31	10y-EDAH09
EDAM09	1.668	7.73	6.06	10y-EDAM09
EDAU09	1.917	7.73	5.81	10y-EDAU09
EDAZ09	2.166	7.73	5.57	10y-EDAZ09
EDAH10	2.416	7.73	5.32	10y-EDAH10
EDAM10	2.665	7.73	5.07	10y-EDAM10
EDAU10	2.914	7.73	4.82	10y-EDAU10

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

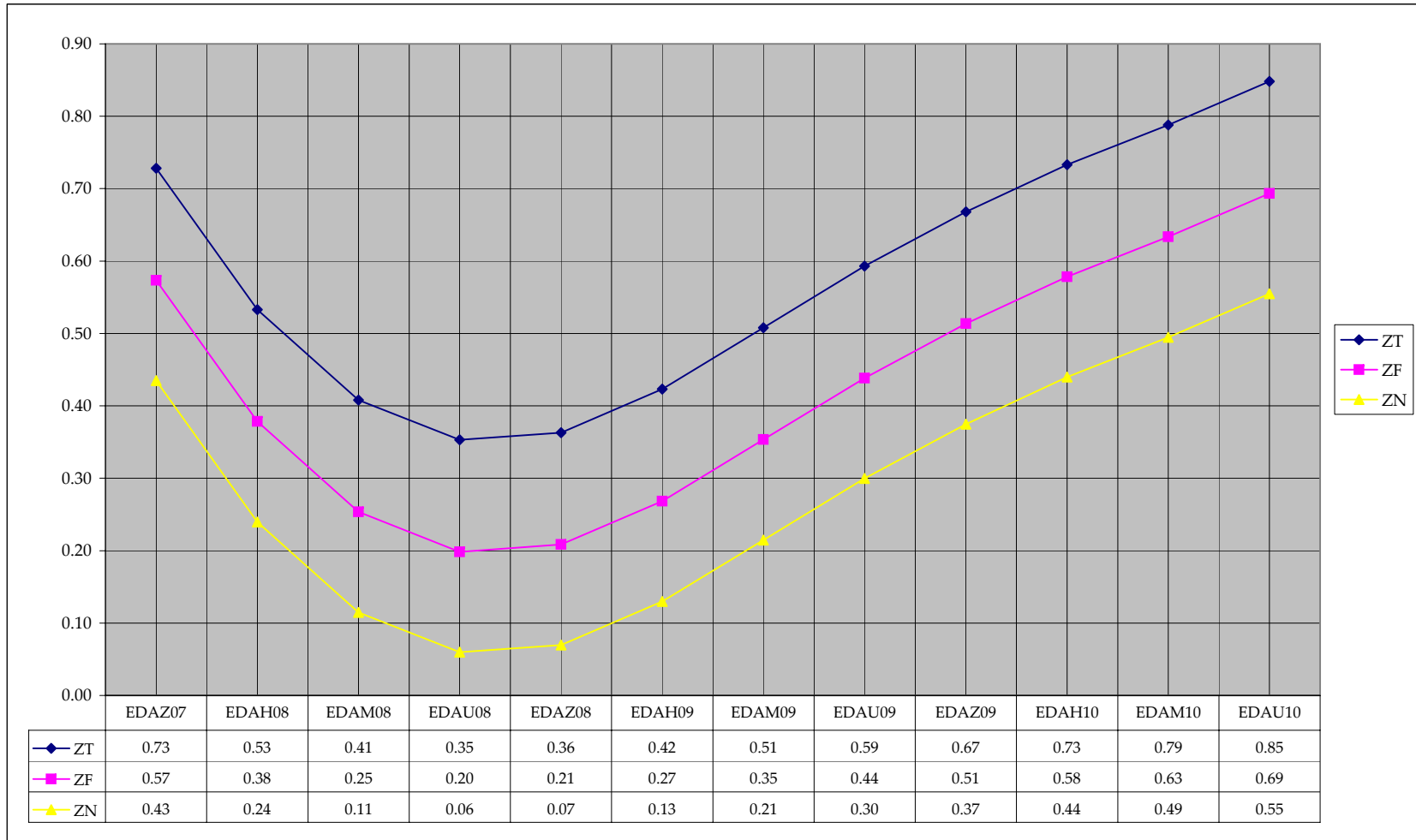


**Dirty TED Curve**

10/15/2007 5:57

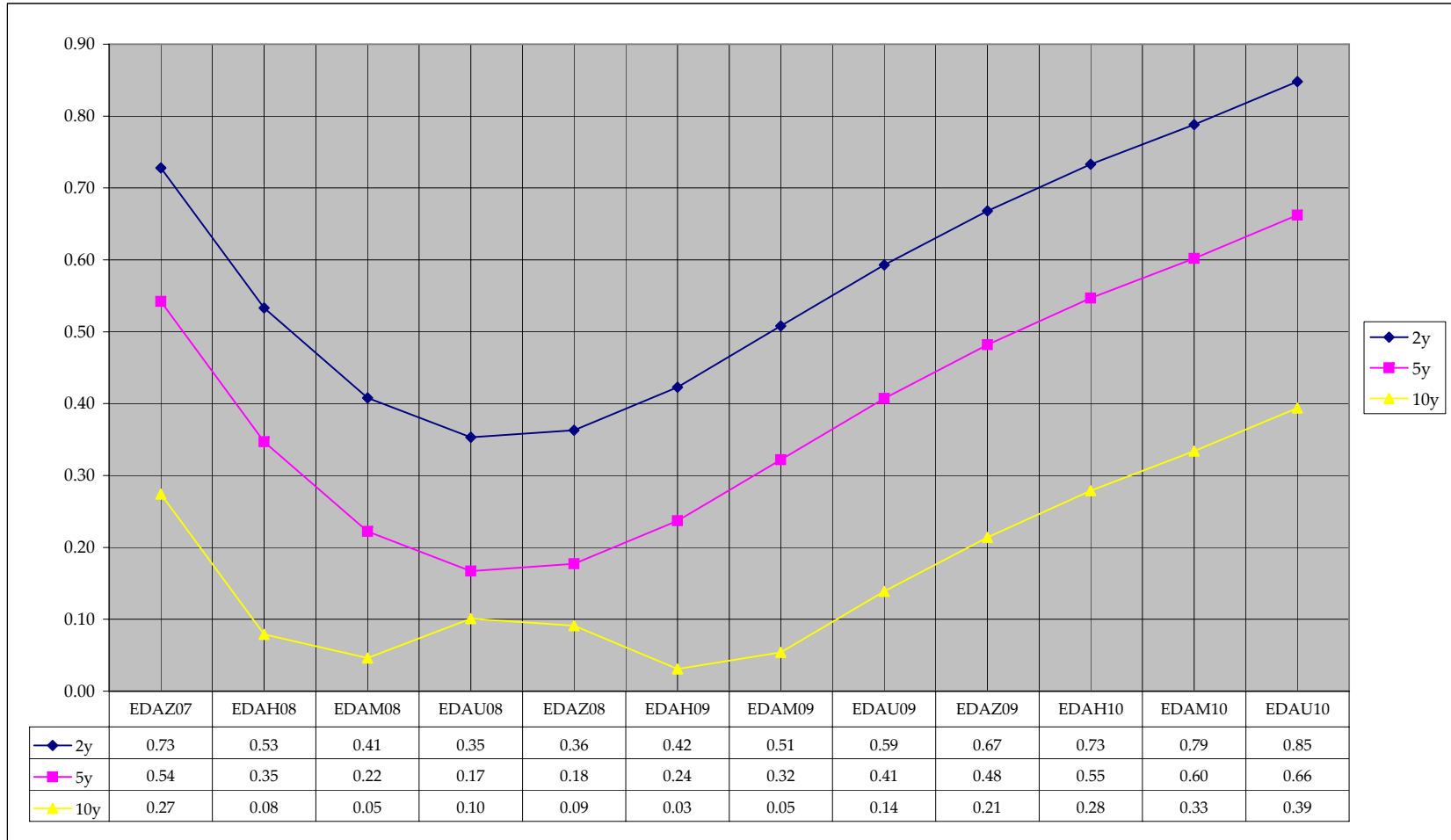
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

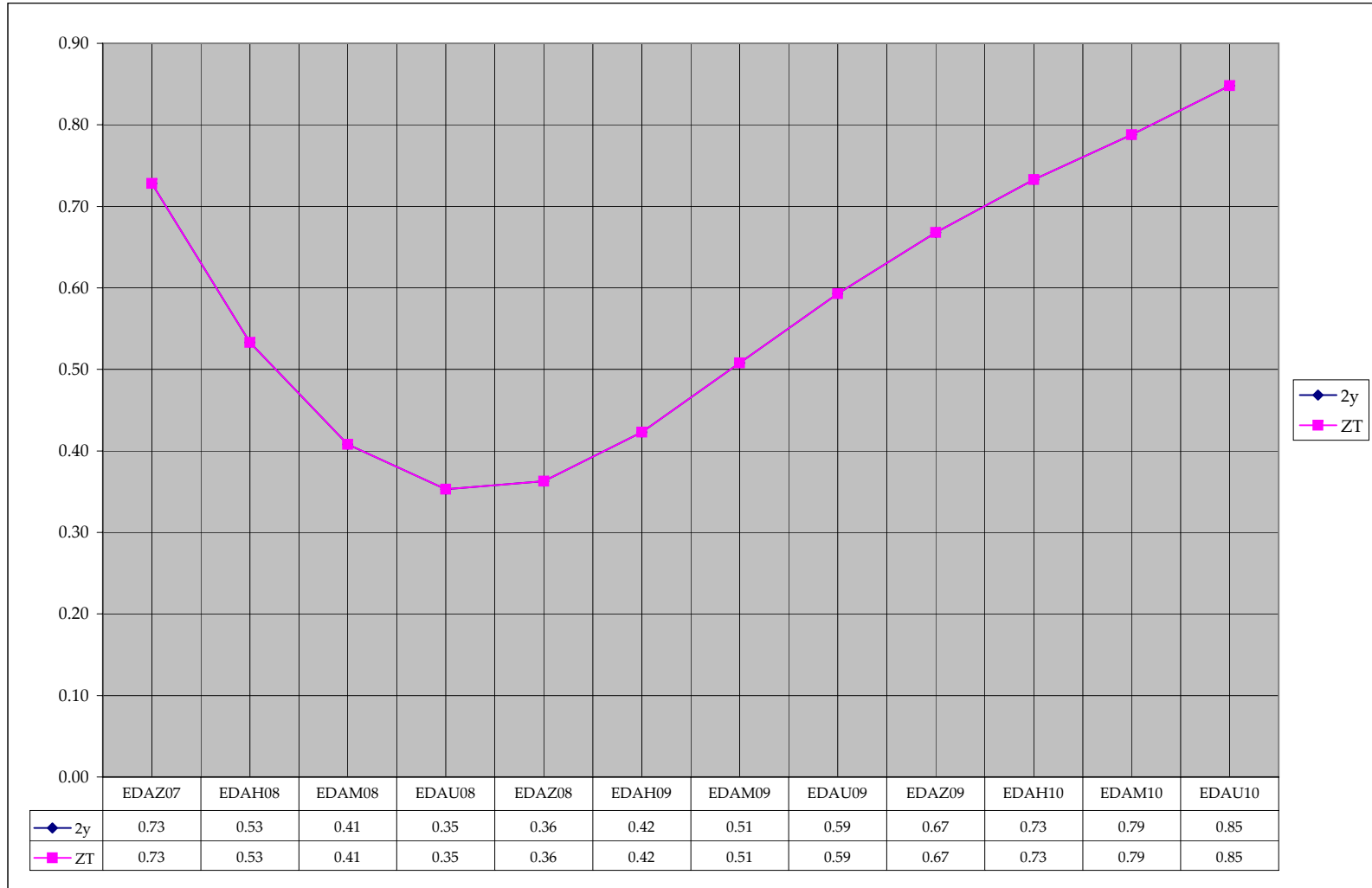


TED Curve

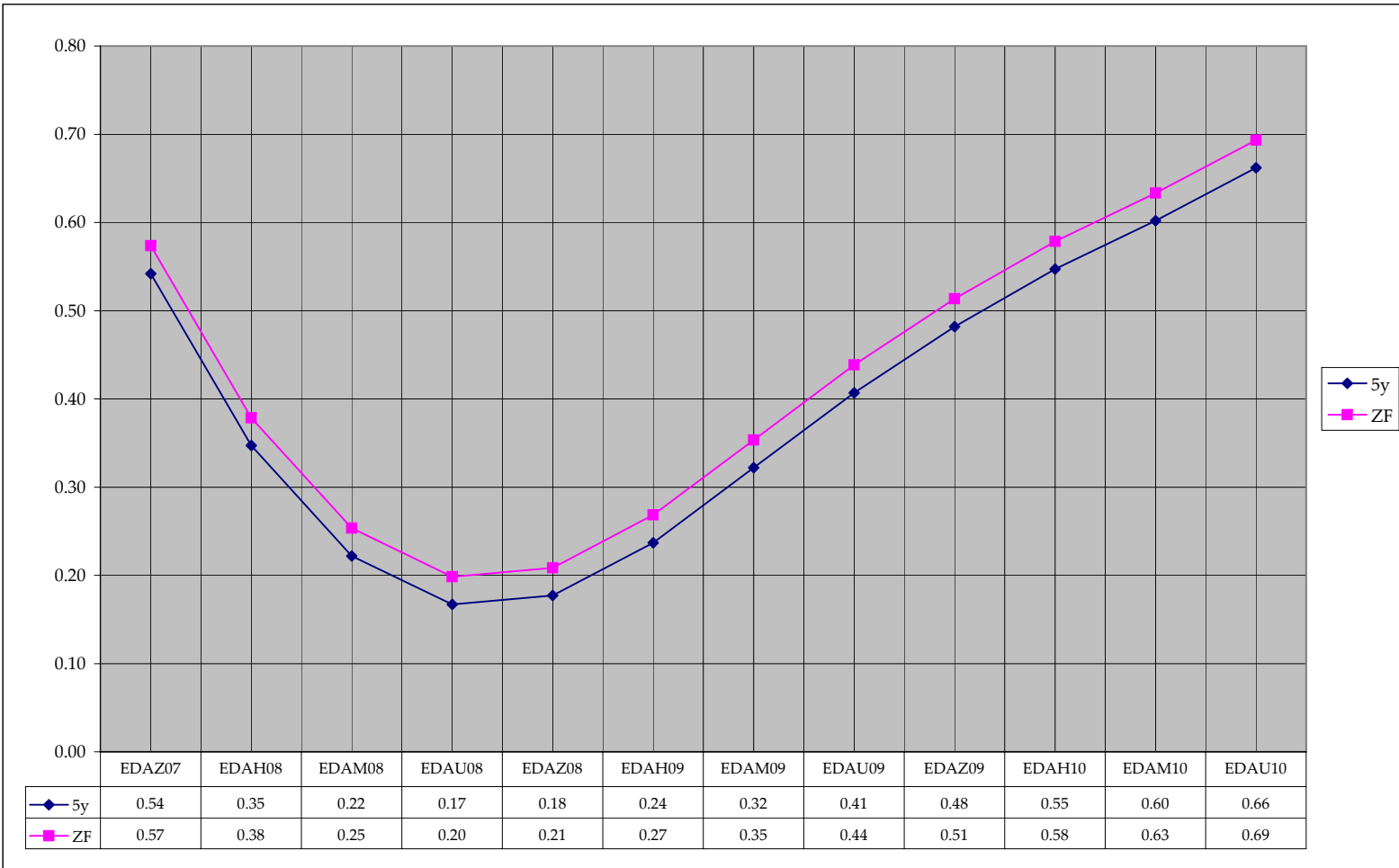
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



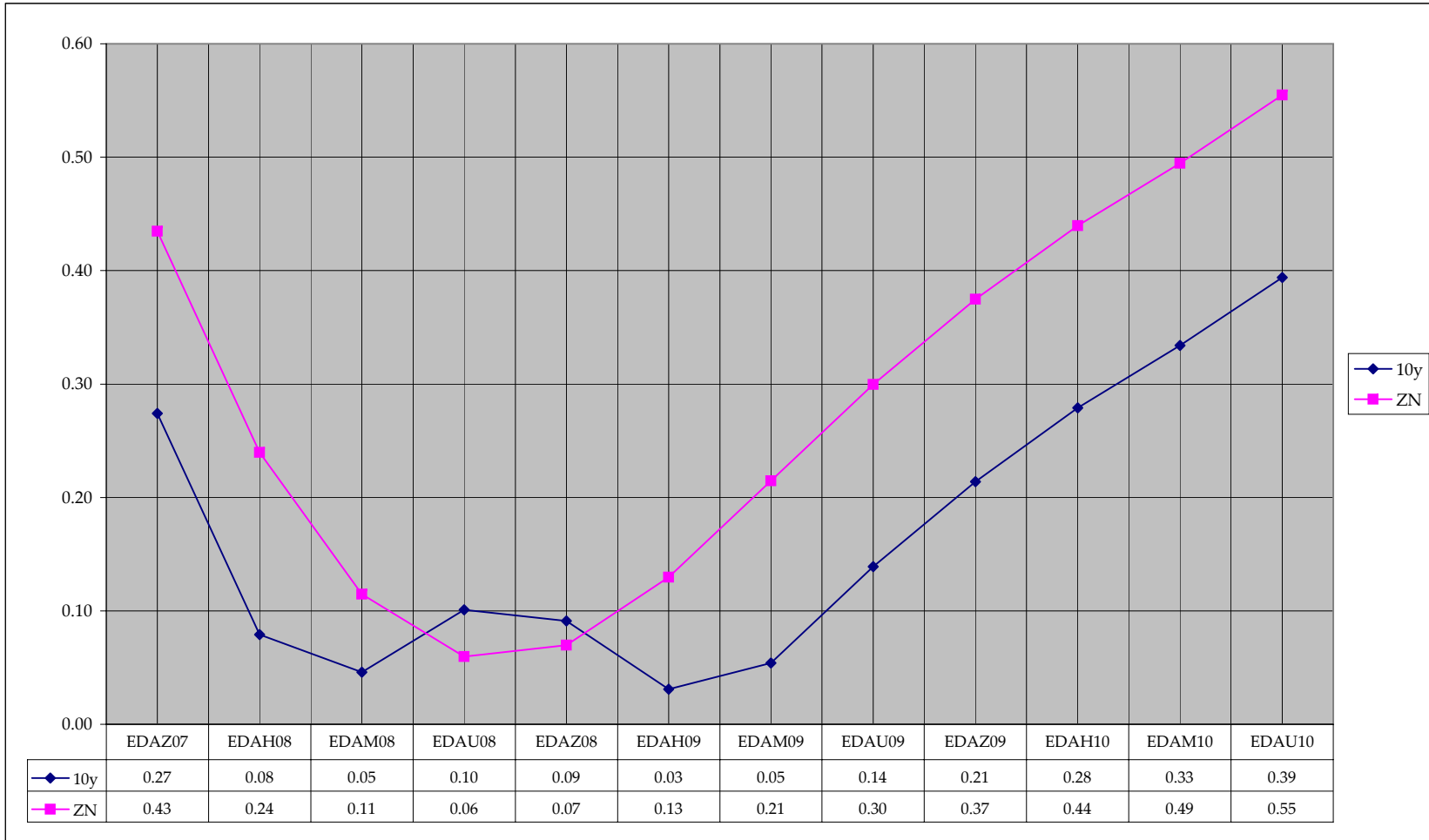
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

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	last Yield	Net Last Yield	Last Price
Q.ED.White	4.856	0.250	9526.750
Q.ED.Red	4.821	-0.375	9530.125
Q.ED.Green	5.119	-0.125	9501.375
Q.ED.Blue		0.000	9479.250
Q.ED.Gold		0.000	9461.000

