

## 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	103.3031	103.097	4.049	1.88
ZF	106.5469	106.175	4.288	3.96
ZN	108.7031	108.225	4.457	5.88
2y	99.859	99.2750	4.076	1.84
5y	99.100	99.0320	4.329	4.40
10y	100.750	100.2400	4.652	7.79

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.225	4.775	84	0.229	DEC	White Pack
EDAH08	95.510	4.490	175	0.479	MAR	
EDAM08	95.585	4.415	266	0.728	JUN	
EDAU08	95.605	4.395	357	0.977	SEP	Red Pack
EDAZ08	95.565	4.435	448	1.227	DEC	
EDAH09	95.470	4.530	539	1.476	MAR	
EDAM09	95.360	4.640	630	1.725	JUN	Green Pack
EDAU09	95.265	4.735	721	1.975	SEP	
EDAZ09	95.165	4.835	812	2.224	DEC	
EDAH10	95.105	4.895	903	2.473	MAR	Blue Pack
EDAM10	95.025	4.975	994	2.723	JUN	
EDAU10	94.940	5.060	1085	2.972	SEP	
EDAZ10	#VALUE!	#VALUE!	1176	3.221	DEC	Gold Pack
EDAH11	#VALUE!	#VALUE!	1267	3.471	MAR	
EDAM11	94.810	5.190	1358	3.720	JUN	
EDAU11	94.745	5.255	1456	3.988	SEP	Pack Prices
EDAZ11	94.665	5.335	1547	4.238	DEC	
EDAH12	94.610	5.390	1638	4.487	MAR	
EDAM12	94.550	5.450	1729	4.736	JUN	
EDAU12	94.520	5.480	1820	4.986	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	4.634	-2.500	9548.125	Pack Prices
Q.ED.Red	4.703	-1.875	9541.500	
Q.ED.Green	5.073	-2.750	9505.875	
Q.ED.Blue		0.000	9482.750	
Q.ED.Gold		0.000	9460.375	

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

9/24/2007 5:52

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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)

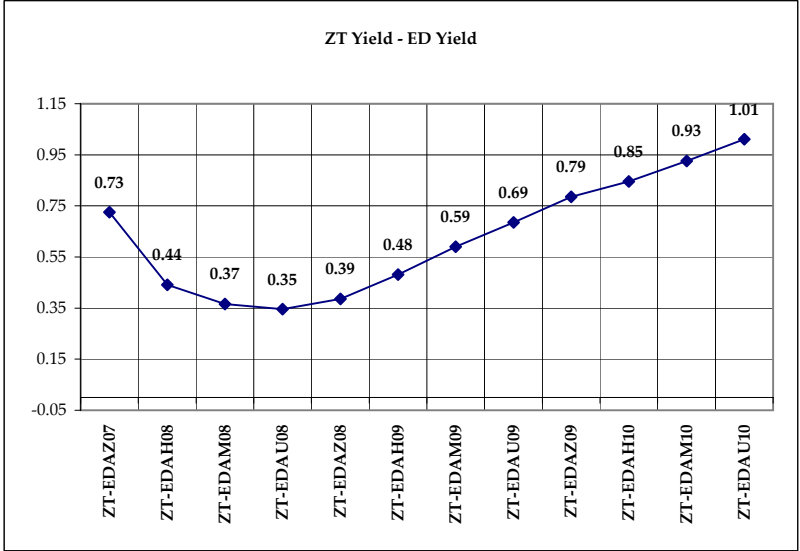
### Eurodollar Color Codes for Individual Year Strips:

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

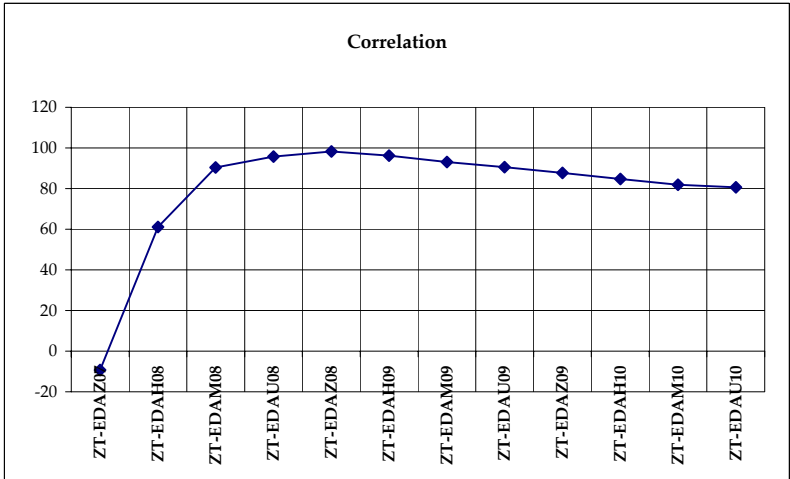
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.078	0.73	ZT-EDAZ07	-9.353
EDAH08	7.793	0.44	ZT-EDAH08	61.116
EDAM08	7.718	0.37	ZT-EDAM08	90.387
EDAU08	7.698	0.35	ZT-EDAU08	95.726
EDAZ08	7.738	0.39	ZT-EDAZ08	98.214
EDAH09	7.833	0.48	ZT-EDAH09	96.256
EDAM09	7.943	0.59	ZT-EDAM09	93.136
EDAU09	8.038	0.69	ZT-EDAU09	90.524
EDAZ09	8.138	0.79	ZT-EDAZ09	87.652
EDAH10	8.198	0.85	ZT-EDAH10	84.710
EDAM10	8.278	0.93	ZT-EDAM10	81.844
EDAU10	8.363	1.01	ZT-EDAU10	80.636

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	0.229	1.88	1.66	ZT-EDAZ07
EDAH08	0.479	1.88	1.41	ZT-EDAH08
EDAM08	0.728	1.88	1.16	ZT-EDAM08
EDAU08	0.977	1.88	0.91	ZT-EDAU08
EDAZ08	1.227	1.88	0.66	ZT-EDAZ08
EDAH09	1.476	1.88	0.41	ZT-EDAH09
EDAM09	1.725	1.88	0.16	ZT-EDAM09
EDAU09	1.975	1.88	(0.09)	ZT-EDAU09
EDAZ09	2.224	1.88	(0.34)	ZT-EDAZ09
EDAH10	2.473	1.88	(0.59)	ZT-EDAH10
EDAM10	2.723	1.88	(0.84)	ZT-EDAM10
EDAU10	2.972	1.88	(1.09)	ZT-EDAU10

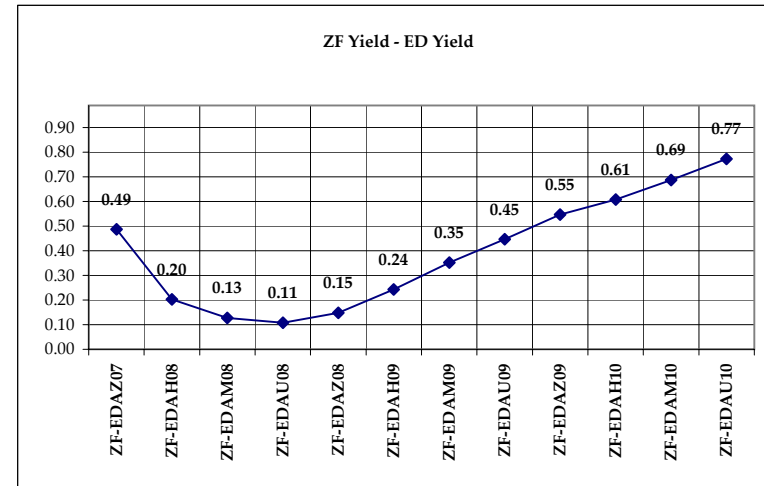
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.32	0.49	ZF-EDAZ07	-48.728
EDAH08	11.04	0.20	ZF-EDAH08	16.808
EDAM08	10.96	0.13	ZF-EDAM08	64.120
EDAU08	10.94	0.11	ZF-EDAU08	76.227
EDAZ08	10.98	0.15	ZF-EDAZ08	87.369
EDAH09	11.08	0.24	ZF-EDAH09	95.809
EDAM09	11.19	0.35	ZF-EDAM09	97.999
EDAU09	11.28	0.45	ZF-EDAU09	98.730
EDAZ09	11.38	0.55	ZF-EDAZ09	98.864
EDAH10	11.44	0.61	ZF-EDAH10	98.589
EDAM10	11.52	0.69	ZF-EDAM10	98.003
EDAU10	11.61	0.77	ZF-EDAU10	97.887

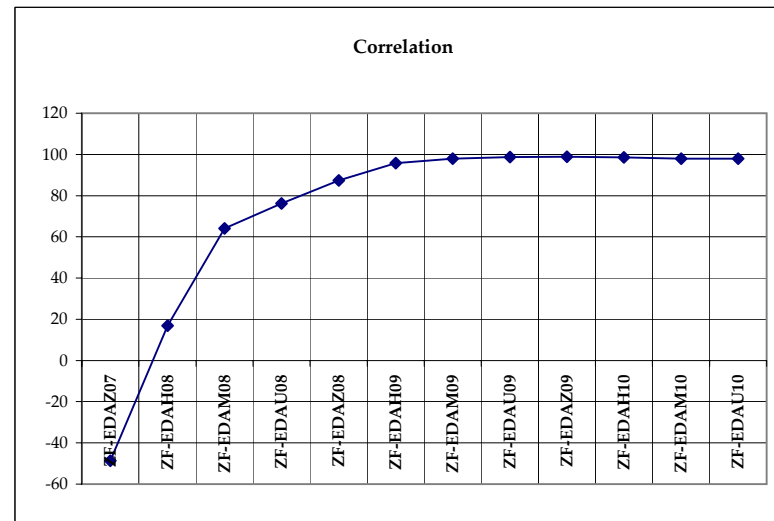
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAZ07	0.229	3.96	3.73	ZF-EDAZ07
EDAH08	0.479	3.96	3.48	ZF-EDAH08
EDAM08	0.728	3.96	3.24	ZF-EDAM08
EDAU08	0.977	3.96	2.99	ZF-EDAU08
EDAZ08	1.227	3.96	2.74	ZF-EDAZ08
EDAH09	1.476	3.96	2.49	ZF-EDAH09
EDAM09	1.725	3.96	2.24	ZF-EDAM09
EDAU09	1.975	3.96	1.99	ZF-EDAU09
EDAZ09	2.224	3.96	1.74	ZF-EDAZ09
EDAH10	2.473	3.96	1.49	ZF-EDAH10
EDAM10	2.723	3.96	1.24	ZF-EDAM10
EDAU10	2.972	3.96	0.99	ZF-EDAU10

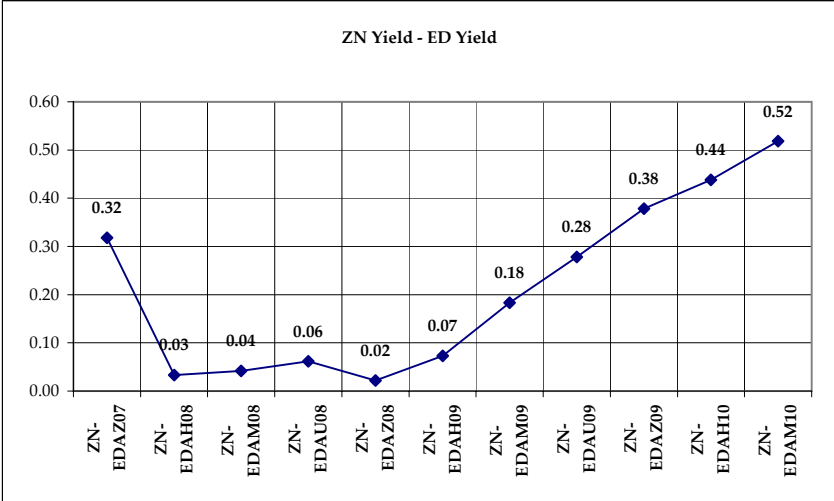
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

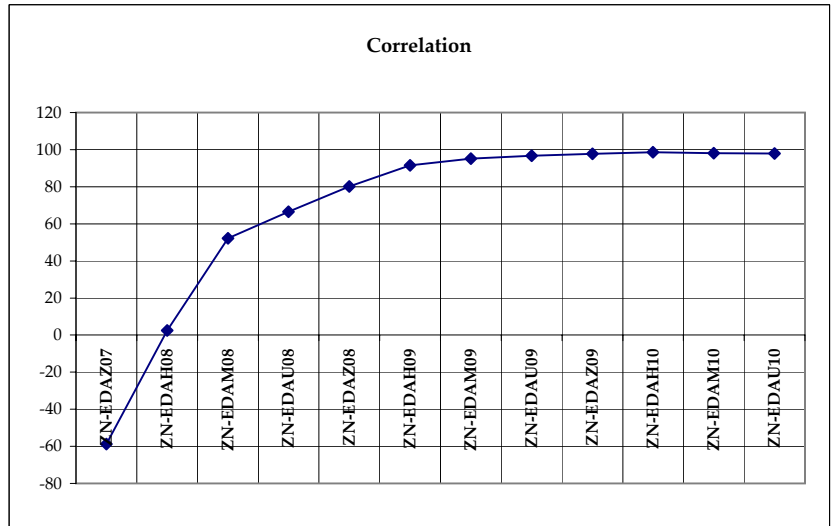
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.48	0.32	ZN-EDAZ07	-58.84
EDAH08	13.19	0.03	ZN-EDAH08	2.40
EDAM08	13.12	0.04	ZN-EDAM08	52.15
EDAU08	13.10	0.06	ZN-EDAU08	66.57
EDAZ08	13.14	0.02	ZN-EDAZ08	80.18
EDAH09	13.23	0.07	ZN-EDAH09	91.52
EDAM09	13.34	0.18	ZN-EDAM09	95.20
EDAU09	13.44	0.28	ZN-EDAU09	96.75
EDAZ09	13.54	0.38	ZN-EDAZ09	97.72
EDAH10	13.60	0.44	ZN-EDAH10	98.59
EDAM10	13.68	0.52	ZN-EDAM10	98.00
EDAU10	13.76	0.60	ZN-EDAU10	97.89

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	0.229	5.88	5.65	ZN-EDAZ07
EDAH08	0.479	5.88	5.40	ZN-EDAH08
EDAM08	0.728	5.88	5.15	ZN-EDAM08
EDAU08	0.977	5.88	4.90	ZN-EDAU08
EDAZ08	1.227	5.88	4.65	ZN-EDAZ08
EDAH09	1.476	5.88	4.40	ZN-EDAH09
EDAM09	1.725	5.88	4.15	ZN-EDAM09
EDAU09	1.975	5.88	3.90	ZN-EDAU09
EDAZ09	2.224	5.88	3.65	ZN-EDAZ09
EDAH10	2.473	5.88	3.41	ZN-EDAH10
EDAM10	2.723	5.88	3.16	ZN-EDAM10
EDAU10	2.972	5.88	2.91	ZN-EDAU10

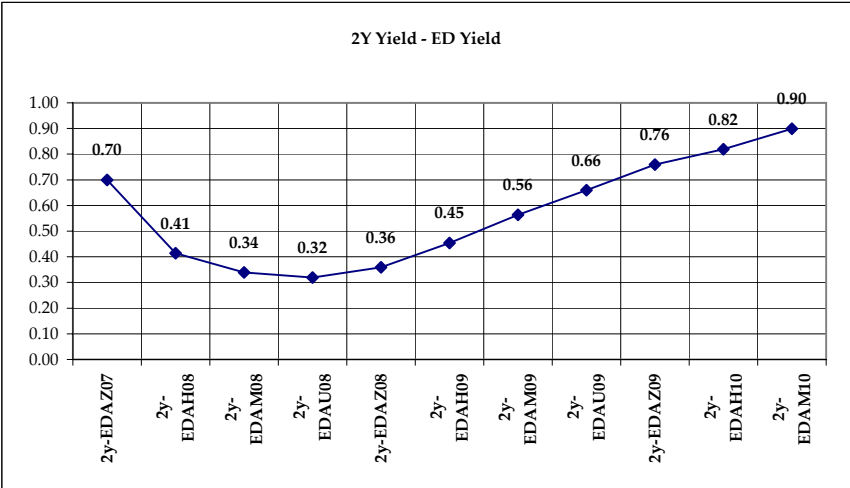
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.63	0.70	2y-EDAZ07	30.219
EDAH08	4.35	0.41	2y-EDAH08	-39.023
EDAM08	4.27	0.34	2y-EDAM08	-80.371
EDAU08	4.25	0.32	2y-EDAU08	-87.040
EDAZ08	4.29	0.36	2y-EDAZ08	-80.371
EDAH09	4.39	0.45	2y-EDAH09	-93.901
EDAM09	4.50	0.56	2y-EDAM09	-92.111
EDAU09	4.59	0.66	2y-EDAU09	-91.321
EDAZ09	4.69	0.76	2y-EDAZ09	-89.993
EDAH10	4.75	0.82	2y-EDAH10	-88.724
EDAM10	4.83	0.90	2y-EDAM10	-87.011
EDAU10	4.92	0.98	2y-EDAU10	-86.050

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.

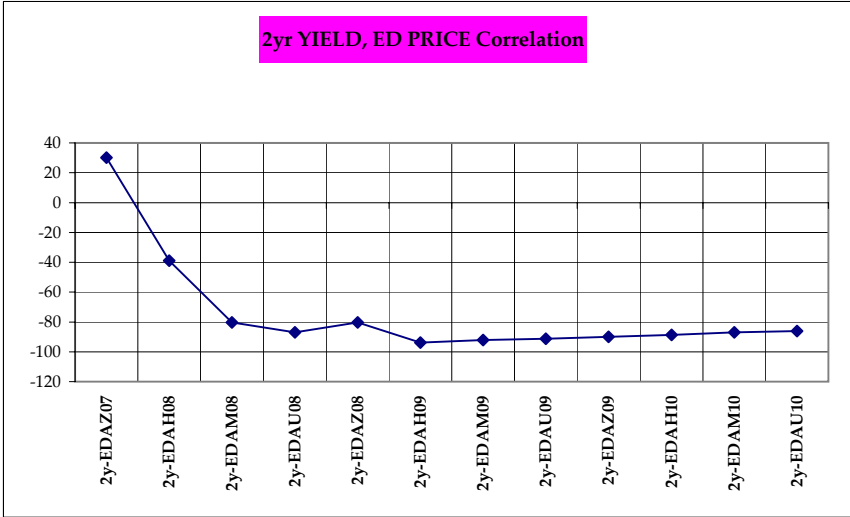


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAZ07	0.229	1.84	2y-EDAZ07
EDAH08	0.479	1.84	2y-EDAH08
EDAM08	0.728	1.84	2y-EDAM08
EDAU08	0.977	1.84	2y-EDAU08
EDAZ08	1.227	1.84	2y-EDAZ08
EDAH09	1.476	1.84	2y-EDAH09
EDAM09	1.725	1.84	2y-EDAM09
EDAU09	1.975	1.84	2y-EDAU09
EDAZ09	2.224	1.84	2y-EDAZ09
EDAH10	2.473	1.84	2y-EDAH10
EDAM10	2.723	1.84	2y-EDAM10
EDAU10	2.972	1.84	2y-EDAU10

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

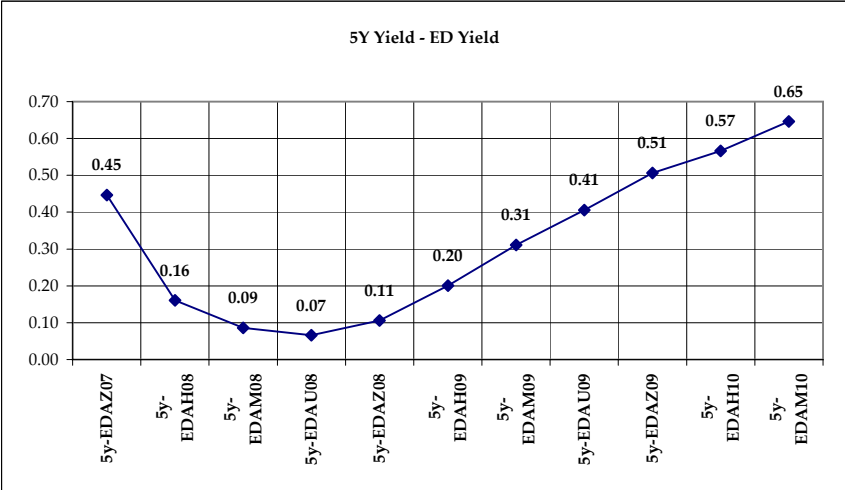
2yr YIELD, ED PRICE Correlation



TERM TED: 5y vs Eurodollar Contracts

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	3.87	0.45	5y-EDAZ07	57.825
EDAH08	3.59	0.16	5y-EDAH08	-6.658
EDAM08	3.51	0.09	5y-EDAM08	-56.567
EDAU08	3.49	0.07	5y-EDAU08	-69.754
EDAZ08	3.54	0.11	5y-EDAZ08	-56.567
EDAH09	3.63	0.20	5y-EDAH09	-92.487
EDAM09	3.74	0.31	5y-EDAM09	-95.298
EDAU09	3.83	0.41	5y-EDAU09	-96.784
EDAZ09	3.93	0.51	5y-EDAZ09	-97.551
EDAH10	3.99	0.57	5y-EDAH10	-98.015
EDAM10	4.07	0.65	5y-EDAM10	-98.090
EDAU10	4.16	0.73	5y-EDAU10	-98.089

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.

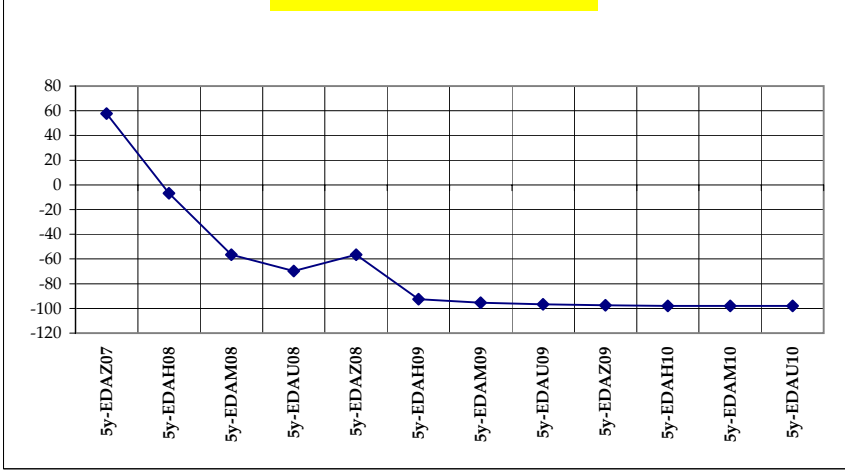


GE Duration as Fraction of year

	5Y Duration	Spread Duration	
EDAZ07	0.229	4.40	4.17 5y-EDAZ07
EDAH08	0.479	4.40	3.92 5y-EDAH08
EDAM08	0.728	4.40	3.67 5y-EDAM08
EDAU08	0.977	4.40	3.43 5y-EDAU08
EDAZ08	1.227	4.40	3.18 5y-EDAZ08
EDAH09	1.476	4.40	2.93 5y-EDAH09
EDAM09	1.725	4.40	2.68 5y-EDAM09
EDAU09	1.975	4.40	2.43 5y-EDAU09
EDAZ09	2.224	4.40	2.18 5y-EDAZ09
EDAH10	2.473	4.40	1.93 5y-EDAH10
EDAM10	2.723	4.40	1.68 5y-EDAM10
EDAU10	2.972	4.40	1.43 5y-EDAU10

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

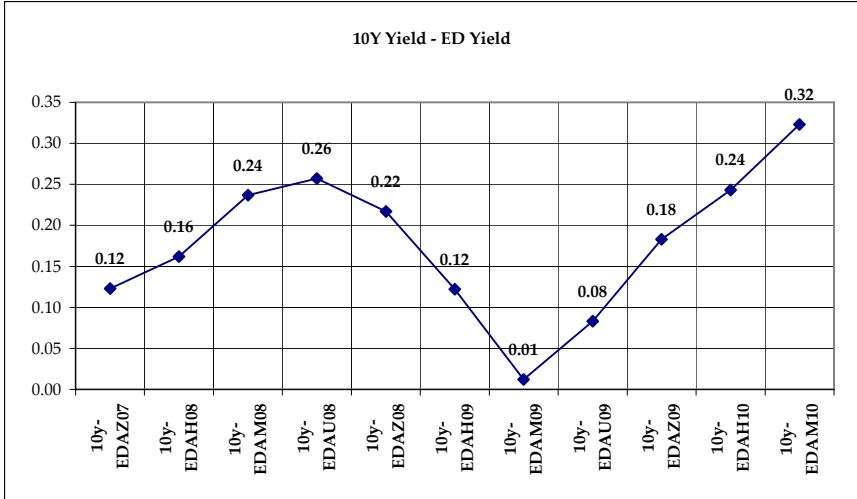
5yr YIELD, ED PRICE Correlation



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

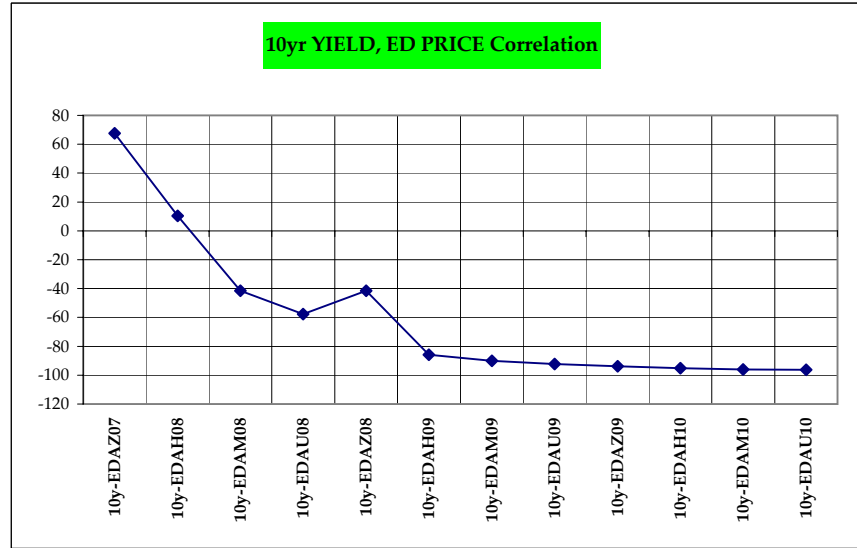
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	3.87	0.12	10y-EDAZ07	67.670
EDAH08	3.59	0.16	10y-EDAH08	10.330
EDAM08	3.51	0.24	10y-EDAM08	-41.567
EDAU08	3.49	0.26	10y-EDAU08	-57.672
EDAZ08	3.54	0.22	10y-EDAZ08	-41.567
EDAH09	3.63	0.12	10y-EDAH09	-85.853
EDAM09	3.74	0.01	10y-EDAM09	-90.112
EDAU09	3.83	0.08	10y-EDAU09	-92.306
EDAZ09	3.93	0.18	10y-EDAZ09	-93.901
EDAH10	3.99	0.24	10y-EDAH10	-95.191
EDAM10	4.07	0.32	10y-EDAM10	-96.015
EDAU10	4.16	0.41	10y-EDAU10	-96.360

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.



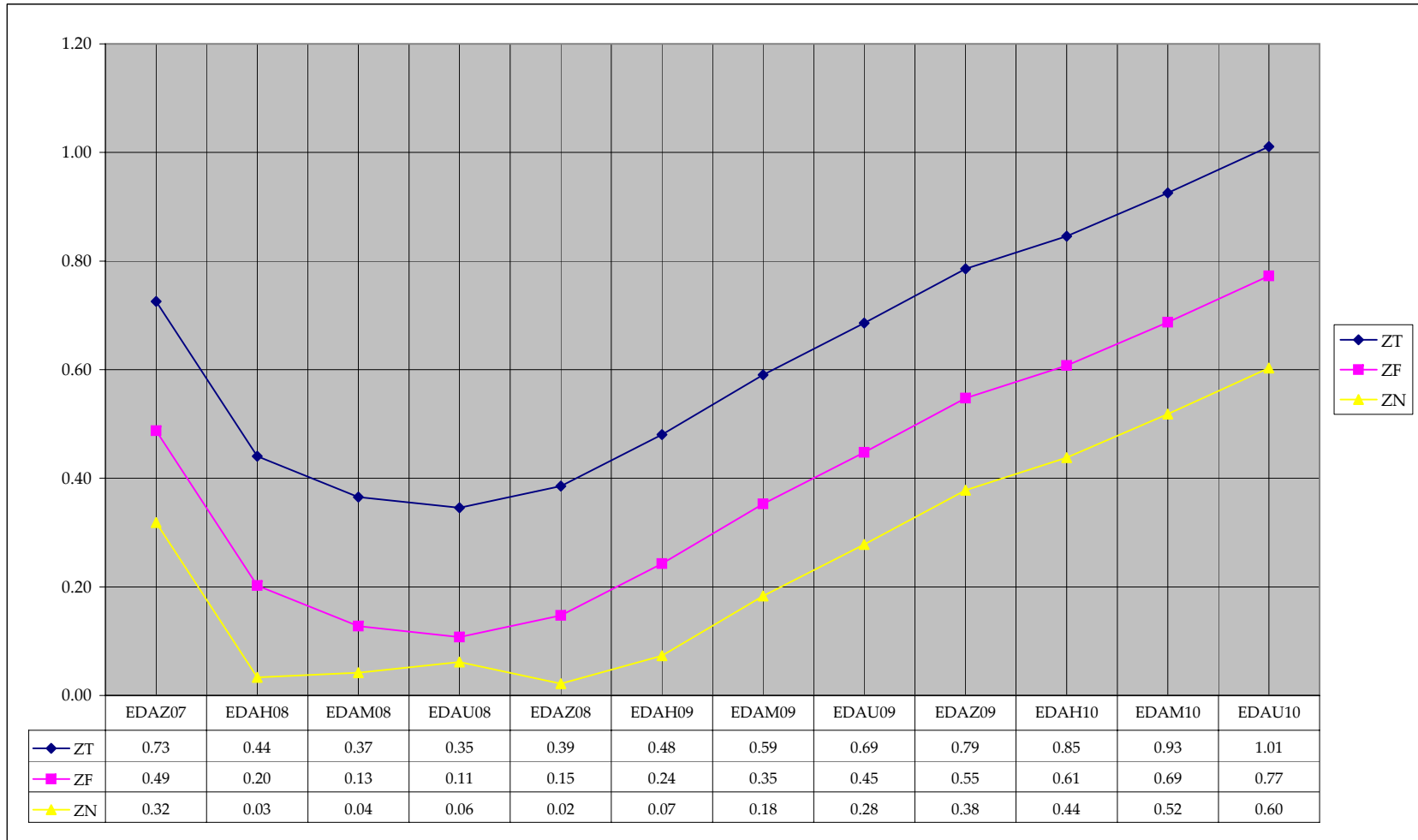
	GE Duration as Fraction of year		10Y Duration	Spread Duration	
EDAZ07	0.229	7.79	7.56	10y-EDAZ07	
EDAH08	0.479	7.79	7.31	10y-EDAH08	
EDAM08	0.728	7.79	7.06	10y-EDAM08	
EDAU08	0.977	7.79	6.81	10y-EDAU08	
EDAZ08	1.227	7.79	6.56	10y-EDAZ08	
EDAH09	1.476	7.79	6.31	10y-EDAH09	
EDAM09	1.725	7.79	6.07	10y-EDAM09	
EDAU09	1.975	7.79	5.82	10y-EDAU09	
EDAZ09	2.224	7.79	5.57	10y-EDAZ09	
EDAH10	2.473	7.79	5.32	10y-EDAH10	
EDAM10	2.723	7.79	5.07	10y-EDAM10	
EDAU10	2.972	7.79	4.82	10y-EDAU10	

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



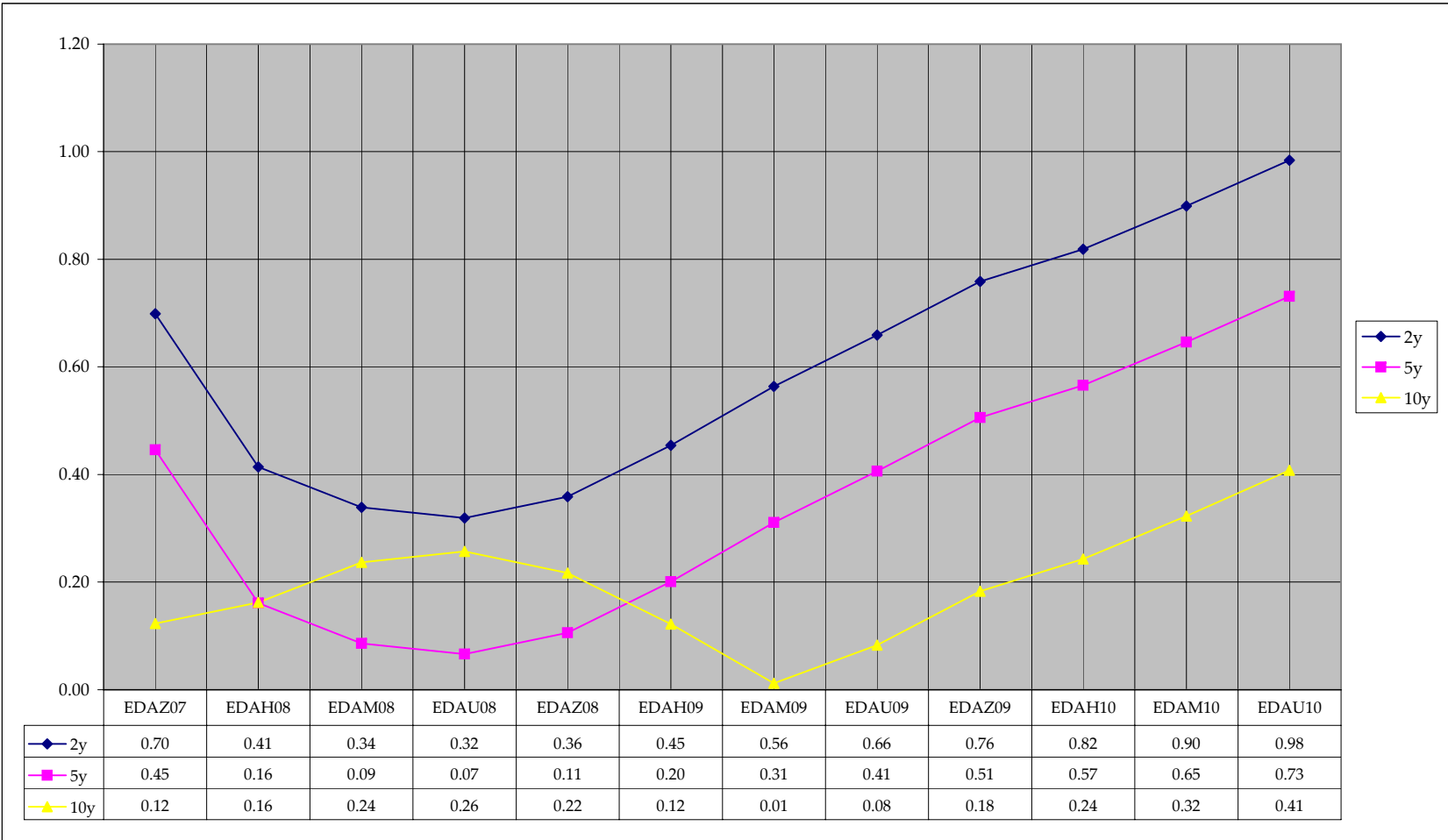
**Dirty TED Curve**

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.

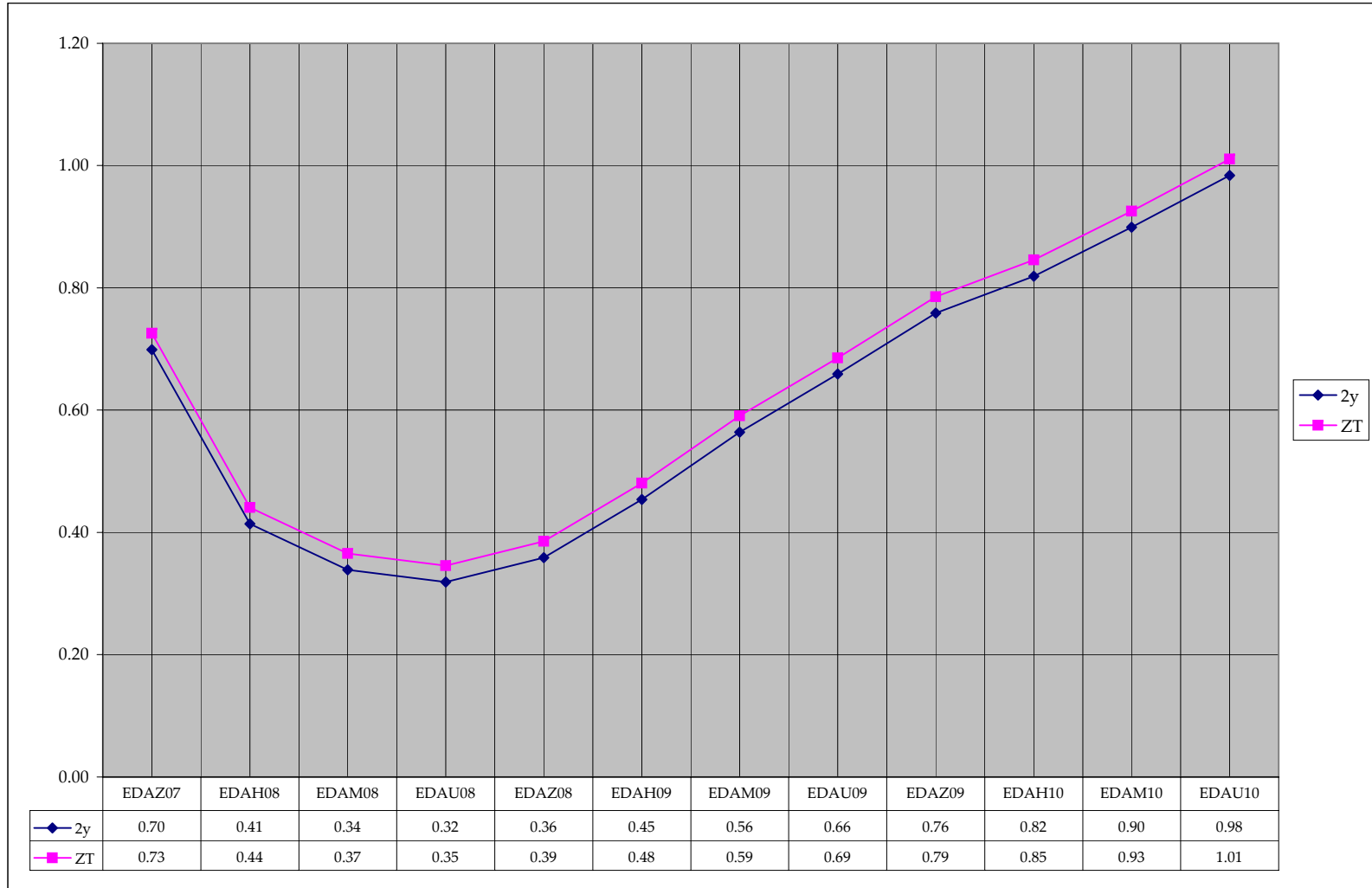


TED Curve

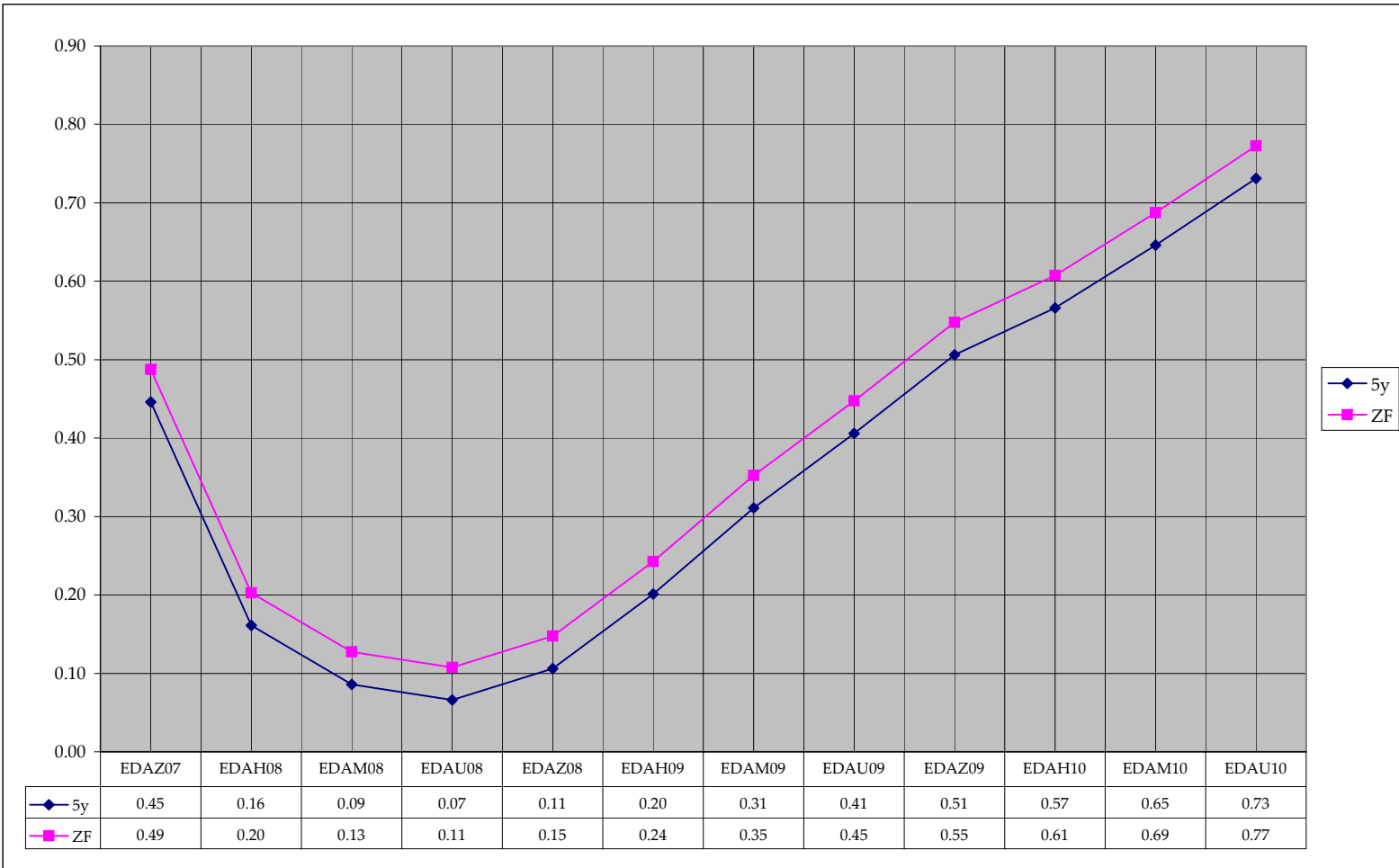
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



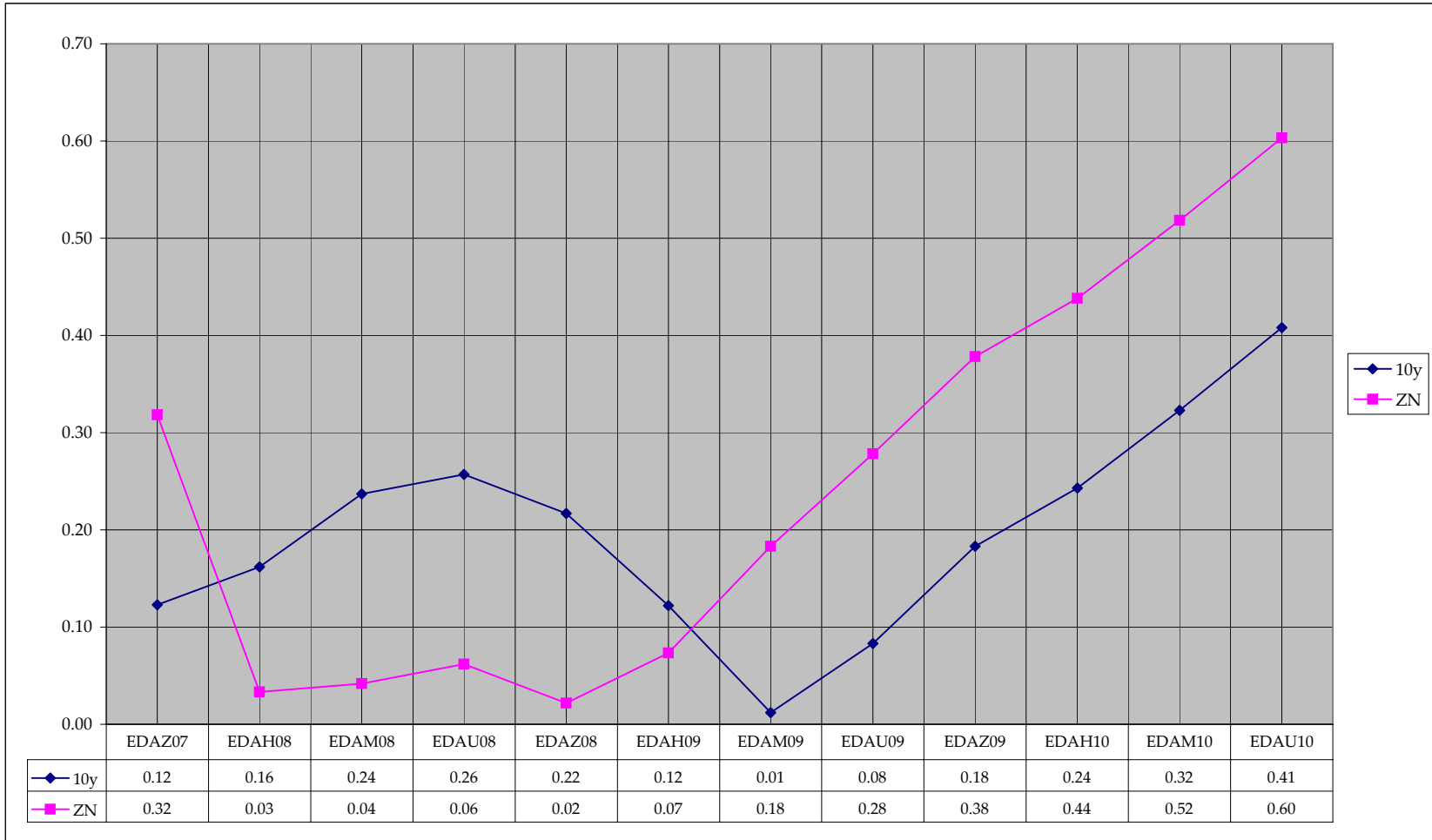
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.634	-2.500	9548.125
Q.ED.Red	4.703	-1.875	9541.500
Q.ED.Green	5.073	-2.750	9505.875
Q.ED.Blue		0.000	9482.750
Q.ED.Gold		0.000	9460.375

