

## 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	103.4125	103.132	4.013	1.89	
ZF	106.9219	106.295	4.203	3.94	
ZN	109.3594	109.115	4.369	5.86	
2y	99.969	99.3100	4.013	1.89	
5y	100.022	100.0070	4.243	4.45	
10y	101.500	101.1600	4.559	7.78	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAZ07	95.035	4.965	74	0.202	DEC	White Pack	
EDAH08	95.360	4.640	165	0.451	MAR		
EDAM08	95.530	4.470	256	0.701	JUN		
EDAU08	95.610	4.390	347	0.950	SEP	Red Pack	
EDAZ08	95.610	4.390	438	1.199	DEC		
EDAH09	95.555	4.445	529	1.449	MAR		
EDAM09	95.455	4.545	620	1.698	JUN	Green Pack	
EDAU09	95.365	4.635	711	1.947	SEP		
EDAZ09	95.285	4.715	802	2.197	DEC		
EDAH10	95.220	4.780	893	2.446	MAR	Blue Pack	
EDAM10	95.150	4.850	984	2.695	JUN		
EDAU10	95.075	4.925	1075	2.945	SEP		
EDAZ10	95.030	4.970	1166	3.194	DEC	Gold Pack	
EDAH11	94.975	5.025	1257	3.443	MAR		
EDAM11	94.895	5.105	1348	3.692	JUN		
EDAU11	94.865	5.135	1446	3.961	SEP		
EDAZ11	94.815	5.185	1537	4.210	DEC		
EDAH12	94.775	5.225	1628	4.460	MAR		
EDAM12	94.725	5.275	1719	4.709	JUN		
EDAU12	94.680	5.320	1810	4.958	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	4.735	-2.125	9538.375	Pack Prices
Q.ED.Red	4.618	-2.625	9549.625	
Q.ED.Green	4.944	-2.250	9518.250	
Q.ED.Blue		0.000	9495.375	
Q.ED.Gold		0.000	9474.375	

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

10/4/2007 5:45

Page A

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)

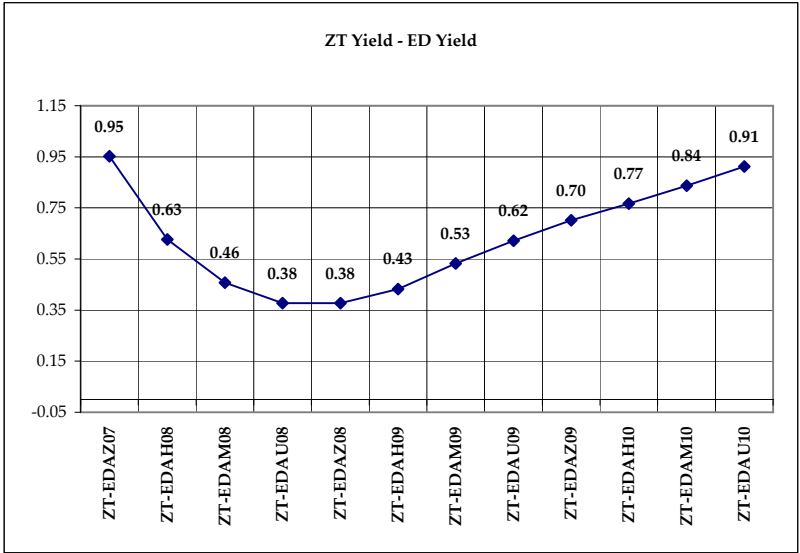
### Eurodollar Color Codes for Individual Year Strips:

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

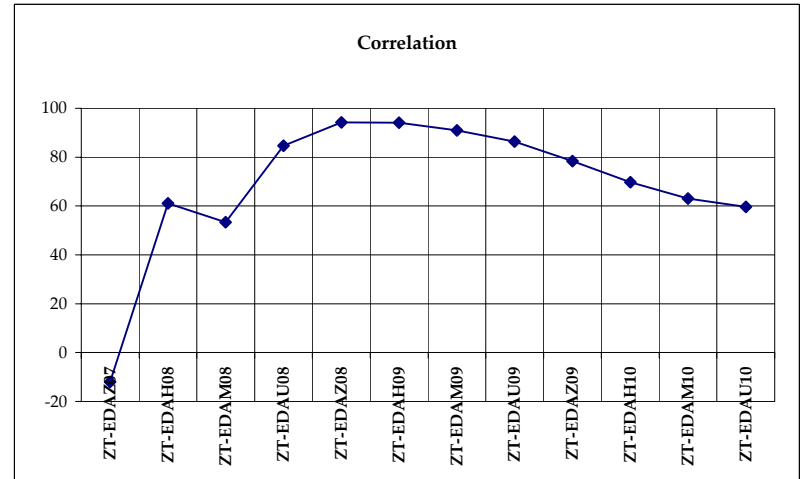
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.378	0.95	ZT-EDAZ07	-12.027
EDAH08	8.053	0.63	ZT-EDAH08	61.116
EDAM08	7.883	0.46	ZT-EDAM08	53.345
EDAU08	7.803	0.38	ZT-EDAU08	84.654
EDAZ08	7.803	0.38	ZT-EDAZ08	94.183
EDAH09	7.858	0.43	ZT-EDAH09	94.050
EDAM09	7.958	0.53	ZT-EDAM09	90.973
EDAU09	8.048	0.62	ZT-EDAU09	86.354
EDAZ09	8.128	0.70	ZT-EDAZ09	78.426
EDAH10	8.193	0.77	ZT-EDAH10	69.691
EDAM10	8.263	0.84	ZT-EDAM10	63.028
EDAU10	8.338	0.91	ZT-EDAU10	59.642

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	0.202	1.89	1.69	ZT-EDAZ07
EDAH08	0.451	1.89	1.44	ZT-EDAH08
EDAM08	0.701	1.89	1.19	ZT-EDAM08
EDAU08	0.950	1.89	0.94	ZT-EDAU08
EDAZ08	1.199	1.89	0.69	ZT-EDAZ08
EDAH09	1.449	1.89	0.44	ZT-EDAH09
EDAM09	1.698	1.89	0.19	ZT-EDAM09
EDAU09	1.947	1.89	(0.06)	ZT-EDAU09
EDAZ09	2.197	1.89	(0.31)	ZT-EDAZ09
EDAH10	2.446	1.89	(0.56)	ZT-EDAH10
EDAM10	2.695	1.89	(0.80)	ZT-EDAM10
EDAU10	2.945	1.89	(1.05)	ZT-EDAU10

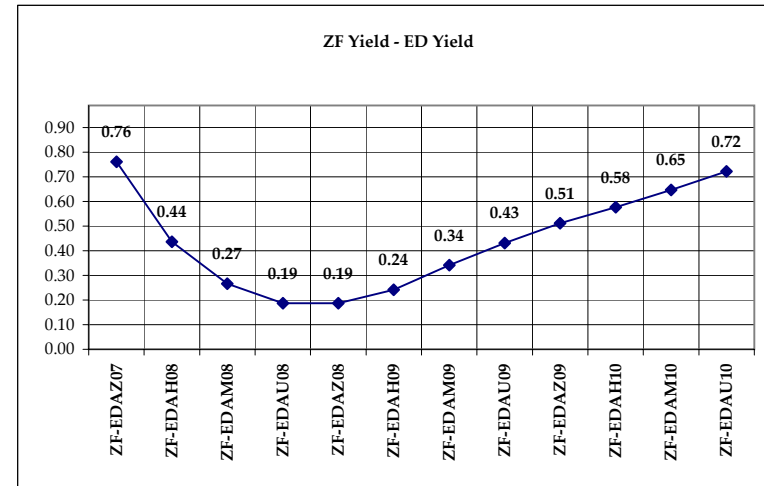
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.89	0.76	ZF-EDAZ07	-52.589
EDAH08	11.56	0.44	ZF-EDAH08	-40.876
EDAM08	11.39	0.27	ZF-EDAM08	4.213
EDAU08	11.31	0.19	ZF-EDAU08	53.192
EDAZ08	11.31	0.19	ZF-EDAZ08	78.229
EDAH09	11.37	0.24	ZF-EDAH09	88.461
EDAM09	11.47	0.34	ZF-EDAM09	91.730
EDAU09	11.56	0.43	ZF-EDAU09	94.360
EDAZ09	11.64	0.51	ZF-EDAZ09	95.873
EDAH10	11.70	0.58	ZF-EDAH10	95.957
EDAM10	11.77	0.65	ZF-EDAM10	95.400
EDAU10	11.85	0.72	ZF-EDAU10	94.582

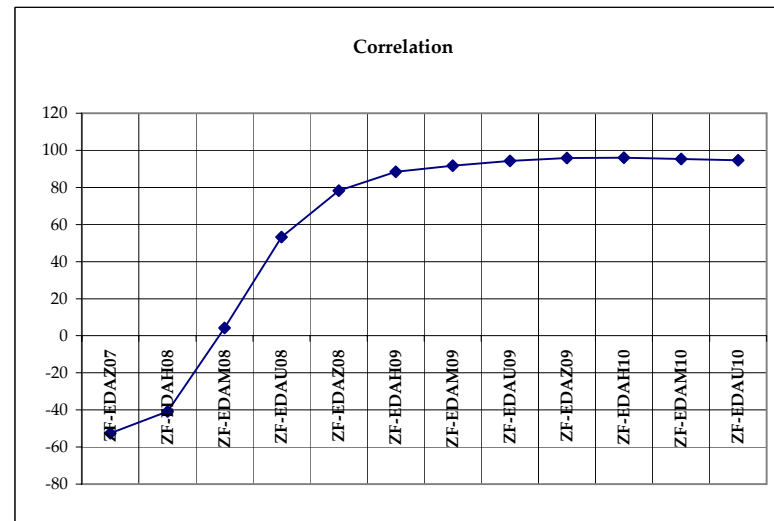
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAZ07	0.202	3.94	ZF-EDAZ07
EDAH08	0.451	3.94	ZF-EDAH08
EDAM08	0.701	3.94	ZF-EDAM08
EDAU08	0.950	3.94	ZF-EDAU08
EDAZ08	1.199	3.94	ZF-EDAZ08
EDAH09	1.449	3.94	ZF-EDAH09
EDAM09	1.698	3.94	ZF-EDAM09
EDAU09	1.947	3.94	ZF-EDAU09
EDAZ09	2.197	3.94	ZF-EDAZ09
EDAH10	2.446	3.94	ZF-EDAH10
EDAM10	2.695	3.94	ZF-EDAM10
EDAU10	2.945	3.94	ZF-EDAU10

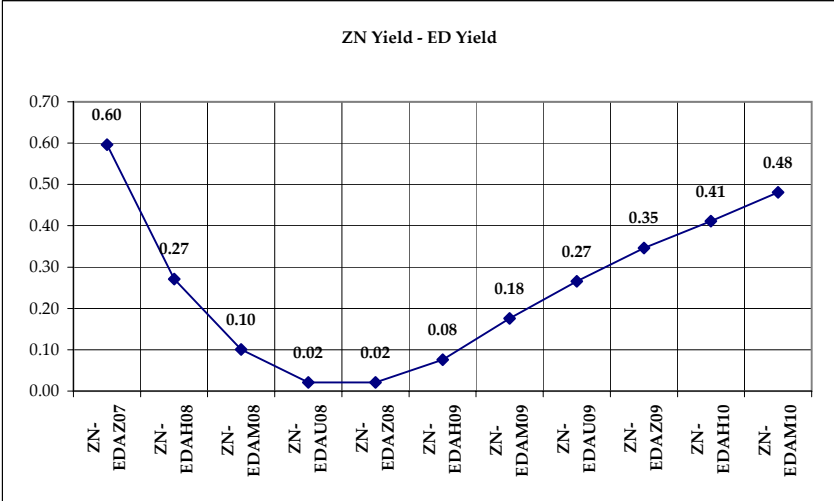
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

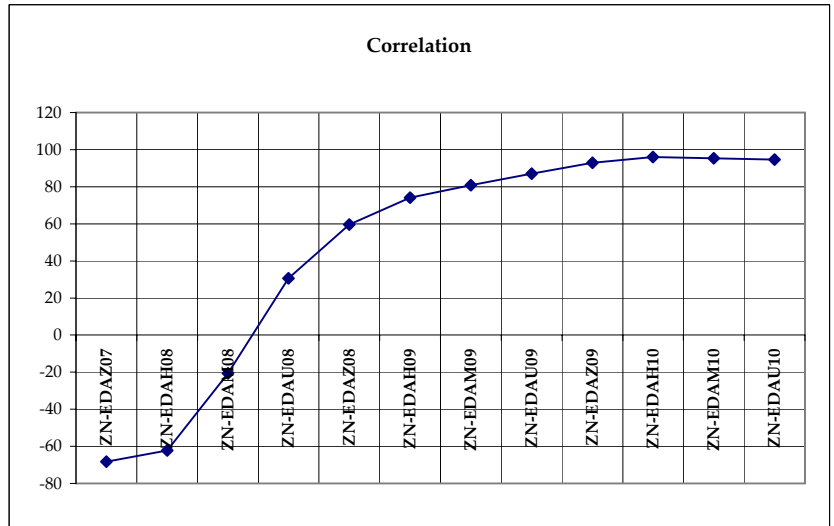
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	14.32	0.60	ZN-EDAZ07	-68.29
EDAH08	14.00	0.27	ZN-EDAH08	-62.25
EDAM08	13.83	0.10	ZN-EDAM08	-20.64
EDAU08	13.75	0.02	ZN-EDAU08	30.64
EDAZ08	13.75	0.02	ZN-EDAZ08	59.64
EDAH09	13.80	0.08	ZN-EDAH09	74.11
EDAM09	13.90	0.18	ZN-EDAM09	80.77
EDAU09	13.99	0.27	ZN-EDAU09	87.03
EDAZ09	14.07	0.35	ZN-EDAZ09	92.95
EDAH10	14.14	0.41	ZN-EDAH10	95.96
EDAM10	14.21	0.48	ZN-EDAM10	95.40
EDAU10	14.28	0.56	ZN-EDAU10	94.58

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	0.202	5.86	5.66	ZN-EDAZ07
EDAH08	0.451	5.86	5.41	ZN-EDAH08
EDAM08	0.701	5.86	5.16	ZN-EDAM08
EDAU08	0.950	5.86	4.91	ZN-EDAU08
EDAZ08	1.199	5.86	4.66	ZN-EDAZ08
EDAH09	1.449	5.86	4.41	ZN-EDAH09
EDAM09	1.698	5.86	4.16	ZN-EDAM09
EDAU09	1.947	5.86	3.91	ZN-EDAU09
EDAZ09	2.197	5.86	3.66	ZN-EDAZ09
EDAH10	2.446	5.86	3.41	ZN-EDAH10
EDAM10	2.695	5.86	3.16	ZN-EDAM10
EDAU10	2.945	5.86	2.91	ZN-EDAU10

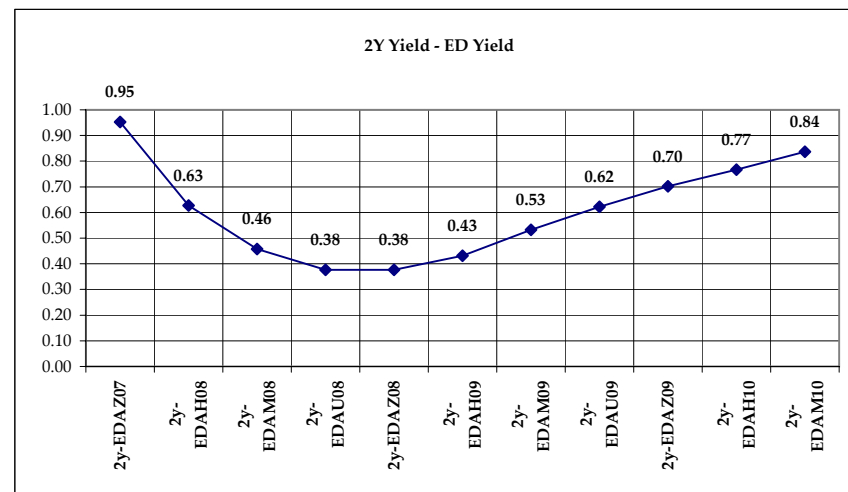
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.93	0.95	2y-EDAZ07	2.836
EDAH08	4.61	0.63	2y-EDAH08	-21.208
EDAM08	4.44	0.46	2y-EDAM08	-60.779
EDAU08	4.36	0.38	2y-EDAU08	-88.790
EDAZ08	4.36	0.38	2y-EDAZ08	-60.779
EDAH09	4.41	0.43	2y-EDAH09	-92.277
EDAM09	4.51	0.53	2y-EDAM09	-88.291
EDAU09	4.60	0.62	2y-EDAU09	-82.405
EDAZ09	4.68	0.70	2y-EDAZ09	-73.380
EDAH10	4.75	0.77	2y-EDAH10	-64.207
EDAM10	4.82	0.84	2y-EDAM10	-57.144
EDAU10	4.89	0.91	2y-EDAU10	-53.300

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.

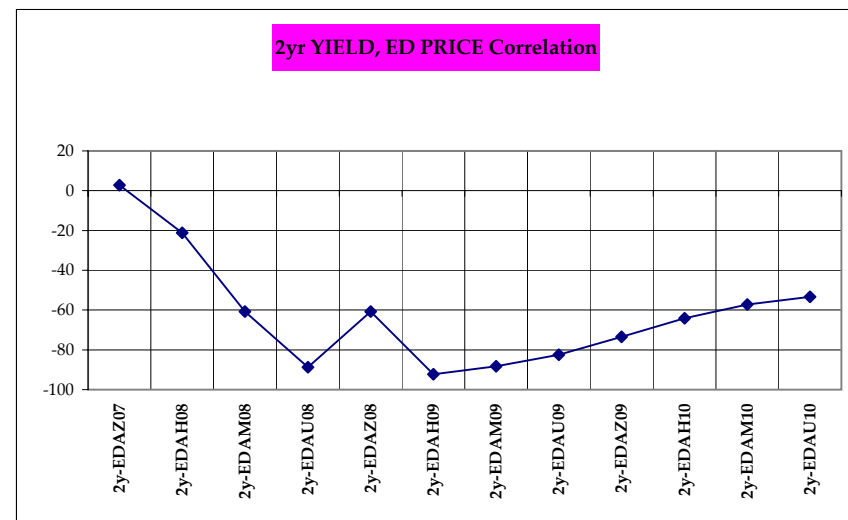


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAZ07	0.202	1.89	2y-EDAZ07
EDAH08	0.451	1.89	2y-EDAH08
EDAM08	0.701	1.89	2y-EDAM08
EDAU08	0.950	1.89	2y-EDAU08
EDAZ08	1.199	1.89	2y-EDAZ08
EDAH09	1.449	1.89	2y-EDAH09
EDAM09	1.698	1.89	2y-EDAM09
EDAU09	1.947	1.89	2y-EDAU09
EDAZ09	2.197	1.89	2y-EDAZ09
EDAH10	2.446	1.89	2y-EDAH10
EDAM10	2.695	1.89	2y-EDAM10
EDAU10	2.945	1.89	2y-EDAU10

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

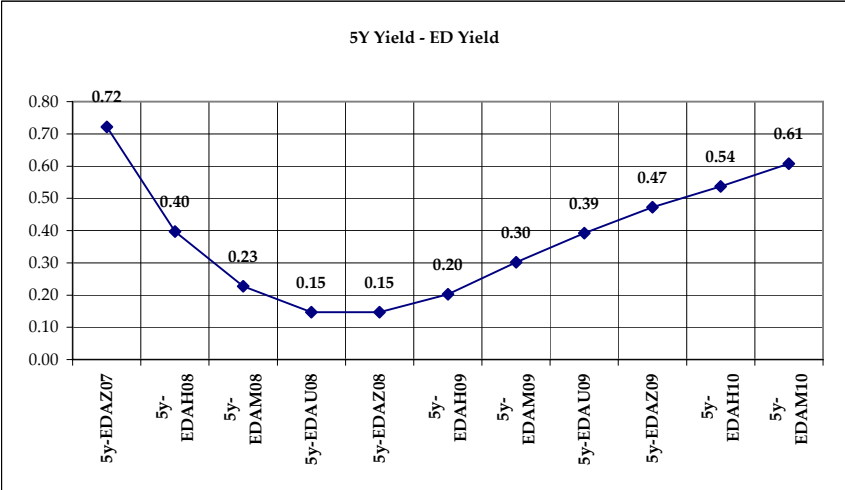
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.99	0.72	5y-EDAZ07	46.288
EDAH08	4.66	0.40	5y-EDAH08	34.918
EDAM08	4.49	0.23	5y-EDAM08	-9.069
EDAU08	4.41	0.15	5y-EDAU08	-54.414
EDAZ08	4.41	0.15	5y-EDAZ08	-9.069
EDAH09	4.47	0.20	5y-EDAH09	-84.208
EDAM09	4.57	0.30	5y-EDAM09	-87.137
EDAU09	4.66	0.39	5y-EDAU09	-89.008
EDAZ09	4.74	0.47	5y-EDAZ09	-89.671
EDAH10	4.80	0.54	5y-EDAH10	-89.515
EDAM10	4.87	0.61	5y-EDAM10	-88.163
EDAU10	4.95	0.68	5y-EDAU10	-86.714

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.

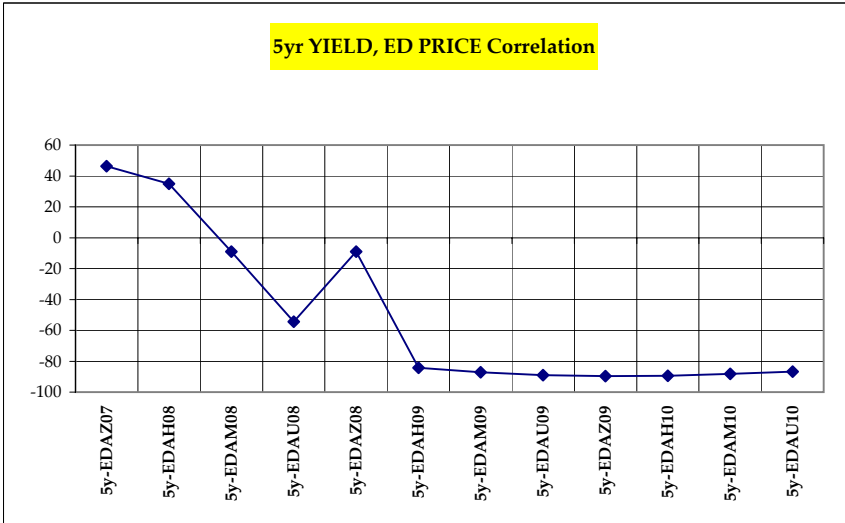


**GE Duration as**

	Fraction of year	5Y Duration	Spread Duration	
EDAZ07	0.202	4.45	4.25	5y-EDAZ07
EDAH08	0.451	4.45	4.00	5y-EDAH08
EDAM08	0.701	4.45	3.75	5y-EDAM08
EDAU08	0.950	4.45	3.50	5y-EDAU08
EDAZ08	1.199	4.45	3.25	5y-EDAZ08
EDAH09	1.449	4.45	3.00	5y-EDAH09
EDAM09	1.698	4.45	2.75	5y-EDAM09
EDAU09	1.947	4.45	2.50	5y-EDAU09
EDAZ09	2.197	4.45	2.25	5y-EDAZ09
EDAH10	2.446	4.45	2.00	5y-EDAH10
EDAM10	2.695	4.45	1.75	5y-EDAM10
EDAU10	2.945	4.45	1.50	5y-EDAU10

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

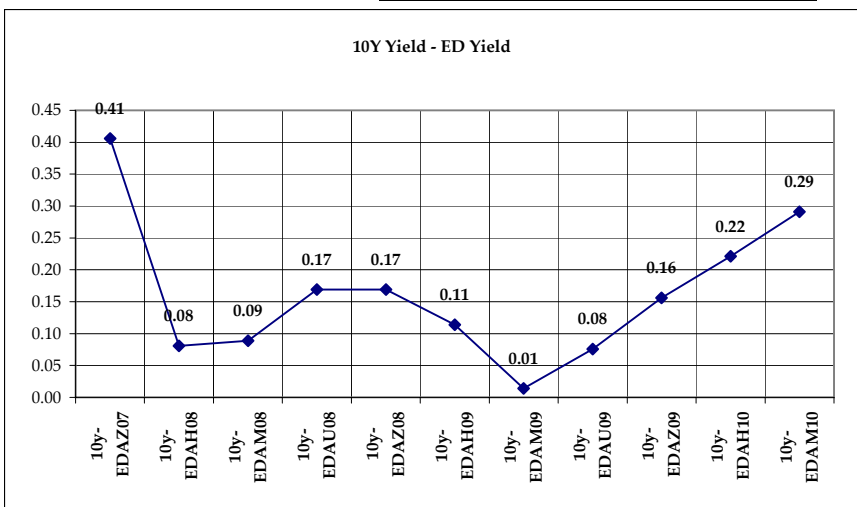
**5yr YIELD, ED PRICE Correlation**



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

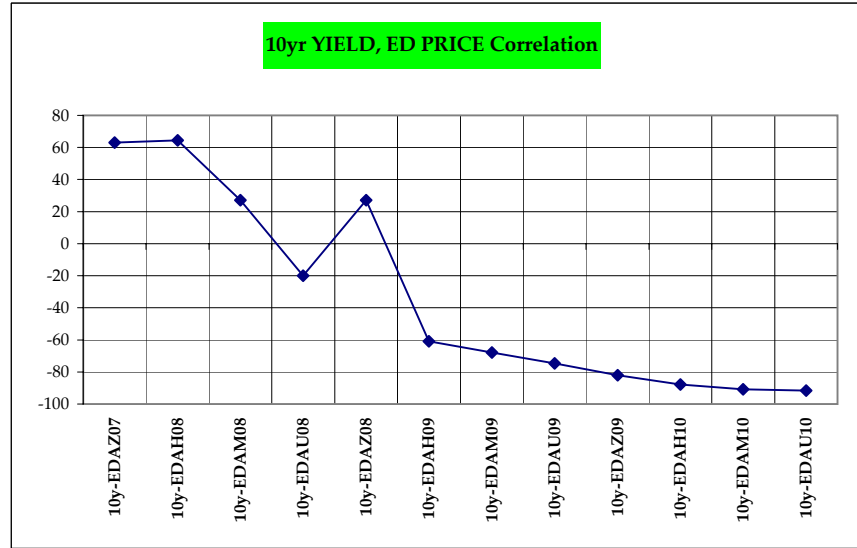
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.99	0.41	10y-EDAZ07	63.110
EDAH08	4.66	0.08	10y-EDAH08	64.422
EDAM08	4.49	0.09	10y-EDAM08	27.144
EDAU08	4.41	0.17	10y-EDAU08	-20.046
EDAZ08	4.41	0.17	10y-EDAZ08	27.144
EDAH09	4.47	0.11	10y-EDAH09	-60.880
EDAM09	4.57	0.01	10y-EDAM09	-67.942
EDAU09	4.66	0.08	10y-EDAU09	-74.641
EDAZ09	4.74	0.16	10y-EDAZ09	-81.984
EDAH10	4.80	0.22	10y-EDAH10	-87.853
EDAM10	4.87	0.29	10y-EDAM10	-90.737
EDAU10	4.95	0.37	10y-EDAU10	-91.568

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	0.202	7.78	7.57	10y-EDAZ07
EDAH08	0.451	7.78	7.32	10y-EDAH08
EDAM08	0.701	7.78	7.08	10y-EDAM08
EDAU08	0.950	7.78	6.83	10y-EDAU08
EDAZ08	1.199	7.78	6.58	10y-EDAZ08
EDAH09	1.449	7.78	6.33	10y-EDAH09
EDAM09	1.698	7.78	6.08	10y-EDAM09
EDAU09	1.947	7.78	5.83	10y-EDAU09
EDAZ09	2.197	7.78	5.58	10y-EDAZ09
EDAH10	2.446	7.78	5.33	10y-EDAH10
EDAM10	2.695	7.78	5.08	10y-EDAM10
EDAU10	2.945	7.78	4.83	10y-EDAU10

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

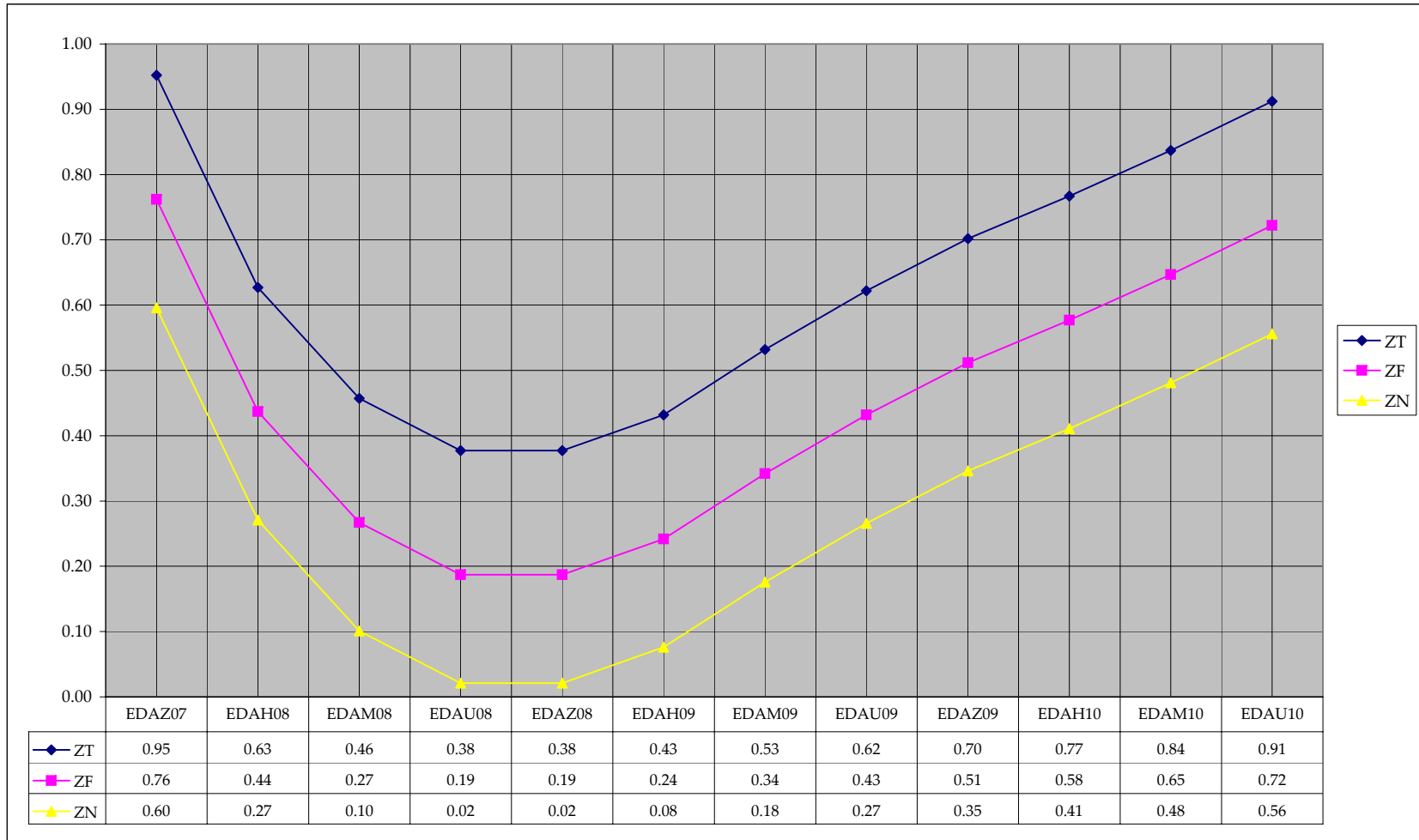


### Dirty TED Curve

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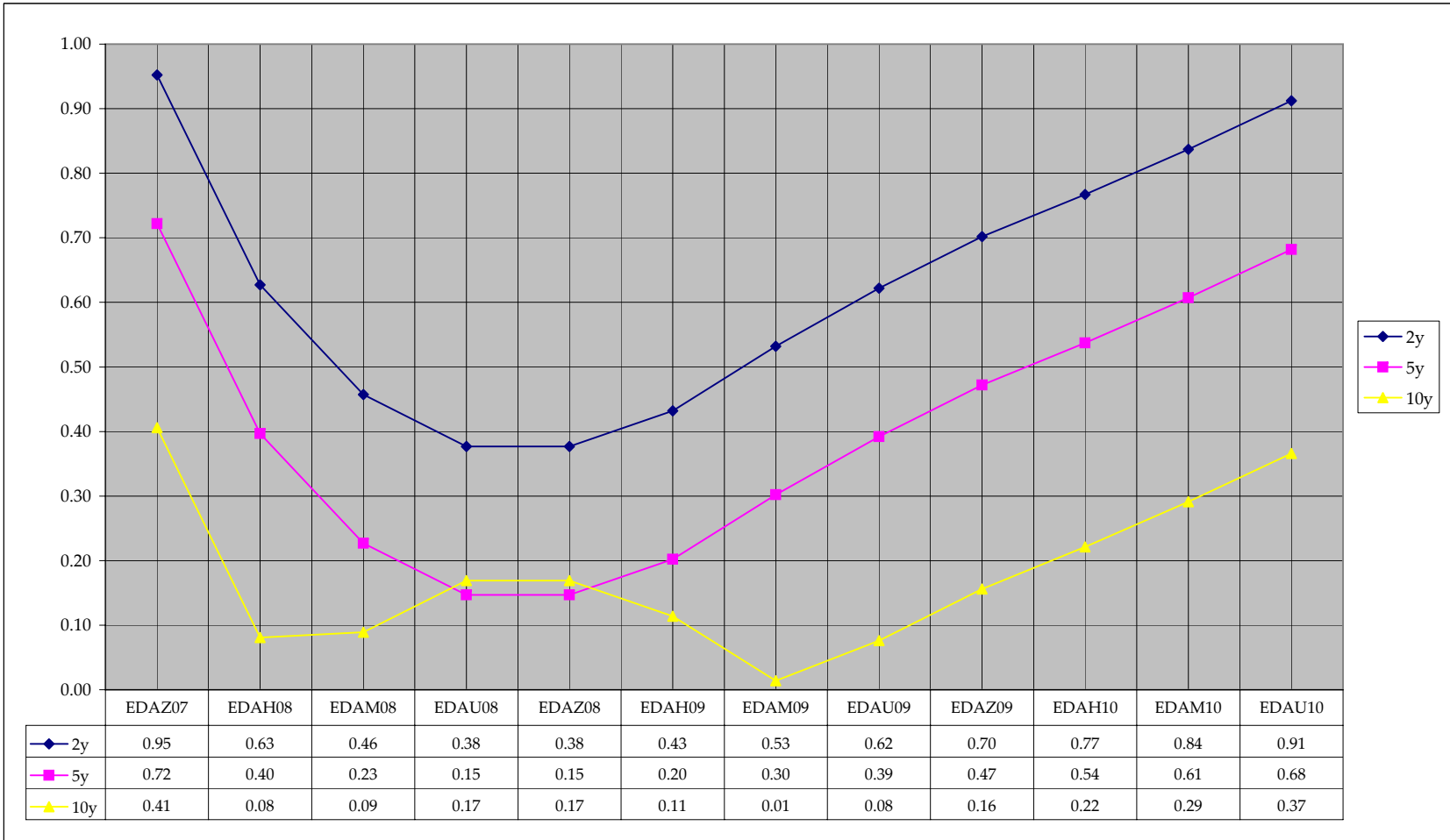
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

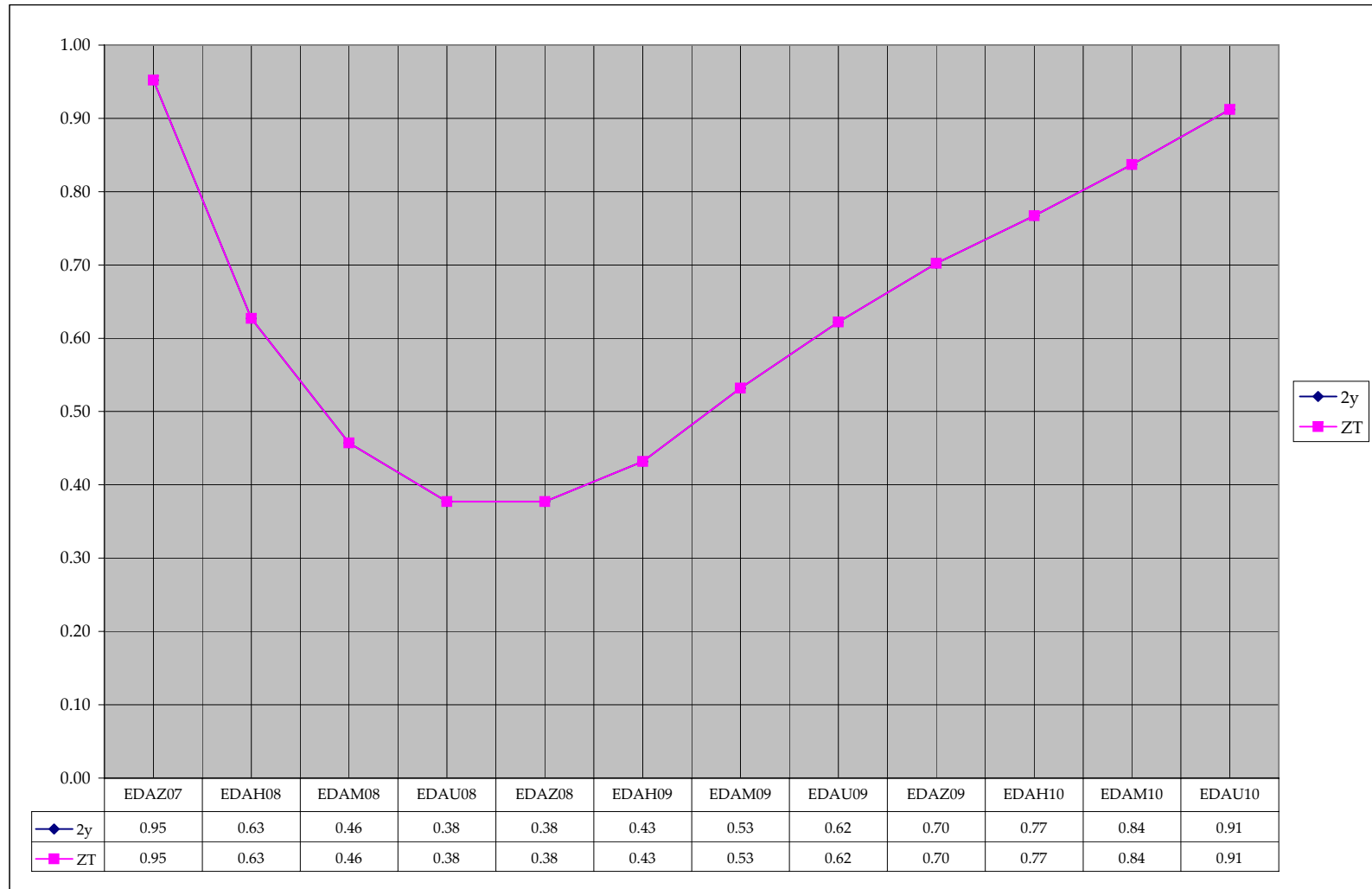


TED Curve

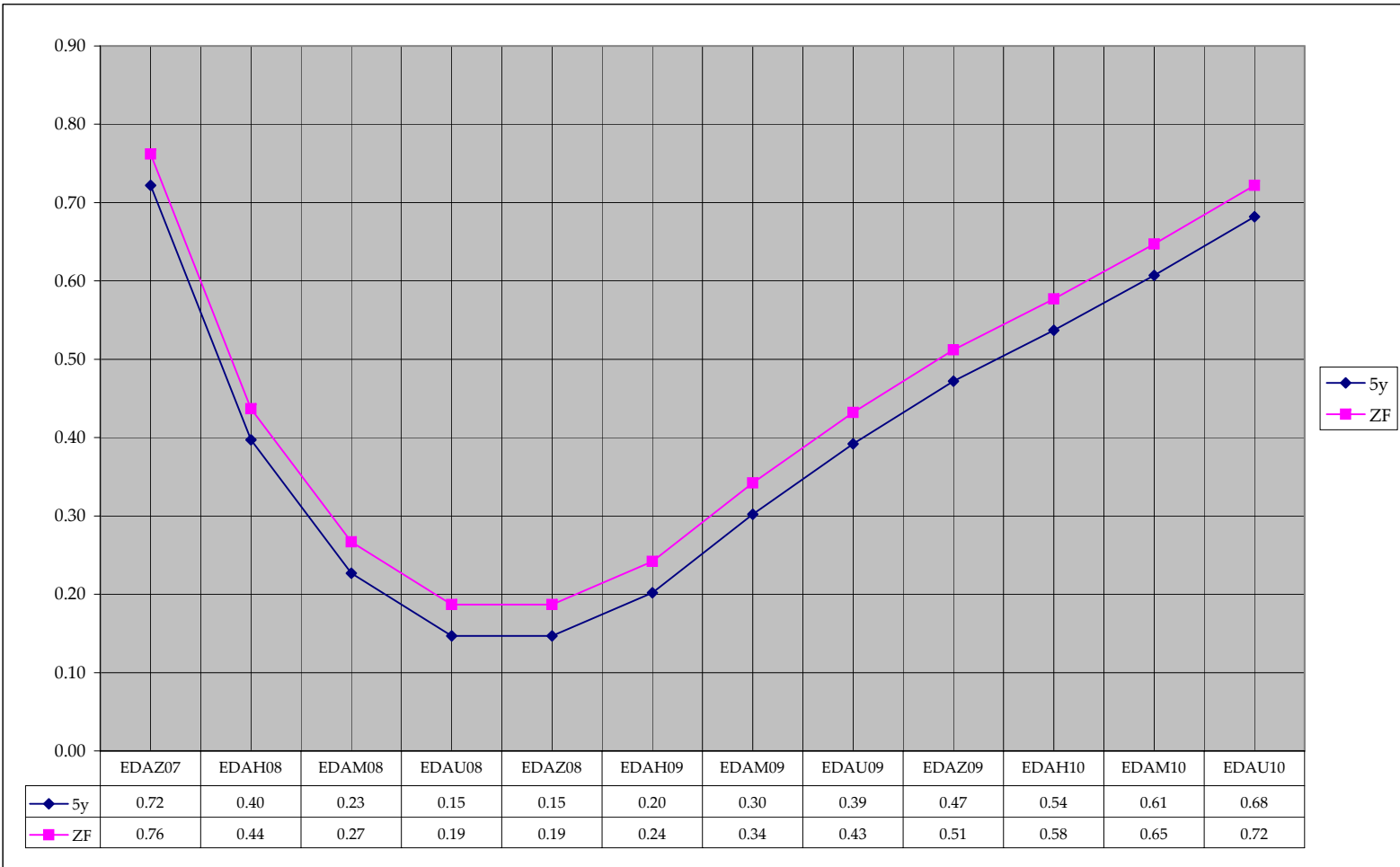
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



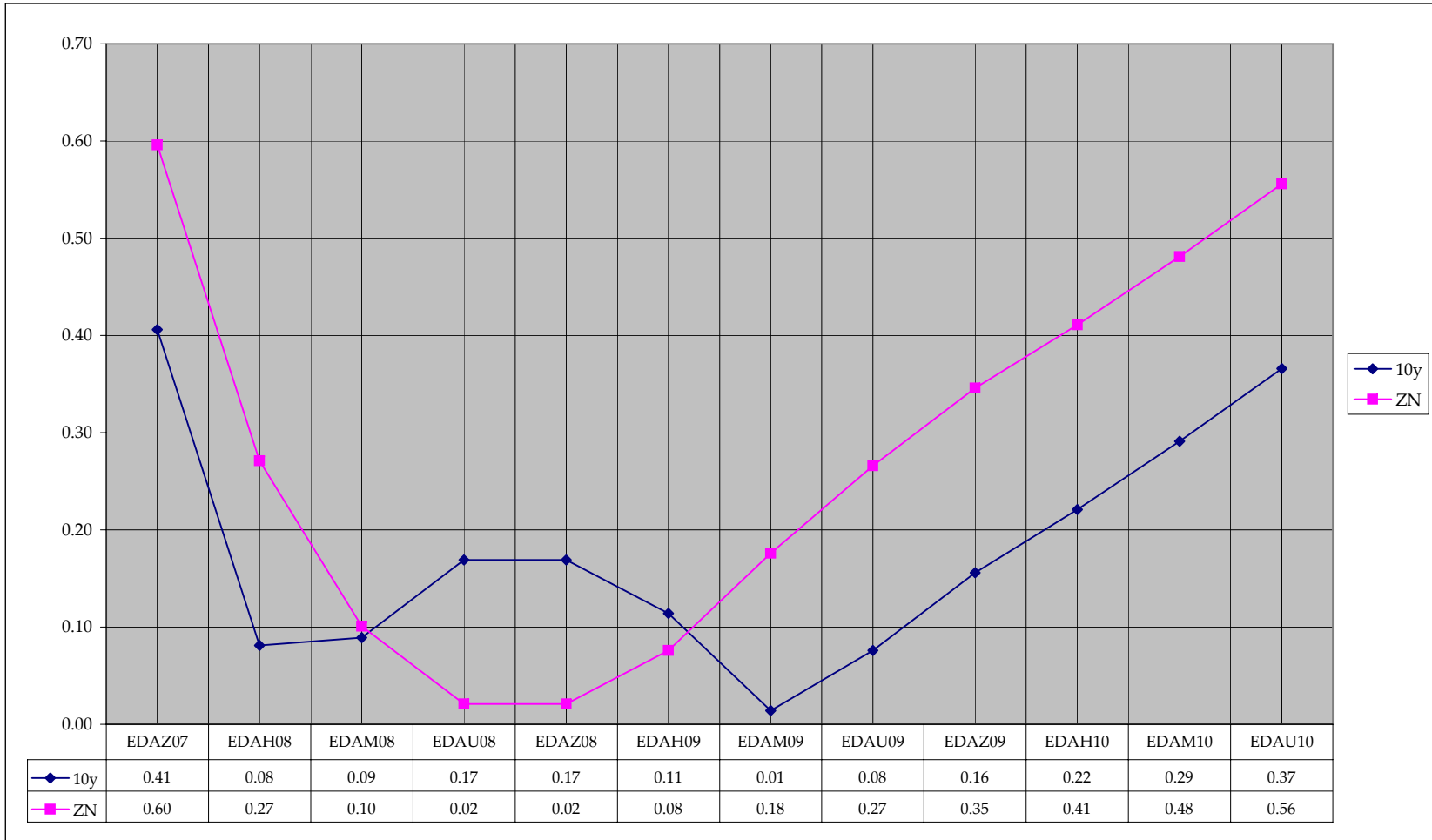
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.735	-2.125	9538.375
Q.ED.Red	4.618	-2.625	9549.625
Q.ED.Green	4.944	-2.250	9518.250
Q.ED.Blue		0.000	9495.375
Q.ED.Gold		0.000	9474.375

