

## 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	103.3500	103.112	4.023	1.89	
ZF	106.6094	106.195	4.272	3.97	
ZN	108.6719	108.215	4.459	5.88	
2y	99.897	99.2870	4.055	1.84	
5y	99.156	99.0500	4.315	4.41	
10y	100.625	100.2000	4.670	7.79	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAZ07	95.270	4.730	87	0.238	DEC	} White Pack	
EDAH08	95.540	4.460	178	0.487	MAR		
EDAM08	95.590	4.410	269	0.736	JUN		
EDAU08	95.595	4.405	360	0.986	SEP	} Red Pack	
EDAZ08	95.545	4.455	451	1.235	DEC		
EDAH09	95.460	4.540	542	1.484	MAR		
EDAM09	95.365	4.635	633	1.734	JUN	} Green Pack	
EDAU09	95.270	4.730	724	1.983	SEP		
EDAZ09	95.185	4.815	815	2.232	DEC		
EDAH10	95.115	4.885	906	2.481	MAR	} Blue Pack	
EDAM10	95.040	4.960	997	2.731	JUN		
EDAU10	94.965	5.035	1088	2.980	SEP		
EDAZ10	94.880	5.120	1179	3.229	DEC	} Gold Pack	
EDAH11	94.765	5.235	1270	3.479	MAR		
EDAM11	94.700	5.300	1361	3.728	JUN		
EDAU11	94.640	5.360	1459	3.997	SEP	} Gold Pack	
EDAZ11	94.580	5.420	1550	4.246	DEC		
EDAH12	94.575	5.425	1641	4.495	MAR		
EDAM12	94.665	5.335	1732	4.744	JUN	} Gold Pack	
EDAU12	94.465	5.535	1823	4.994	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	4.616	2.000	9549.875	} Pack Prices
Q.ED.Red	4.708	1.875	9541.000	
Q.ED.Green	5.054	1.500	9507.625	
Q.ED.Blue		0.000	9479.750	
Q.ED.Gold		0.000	9456.500	

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

9/21/2007 6:17

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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)

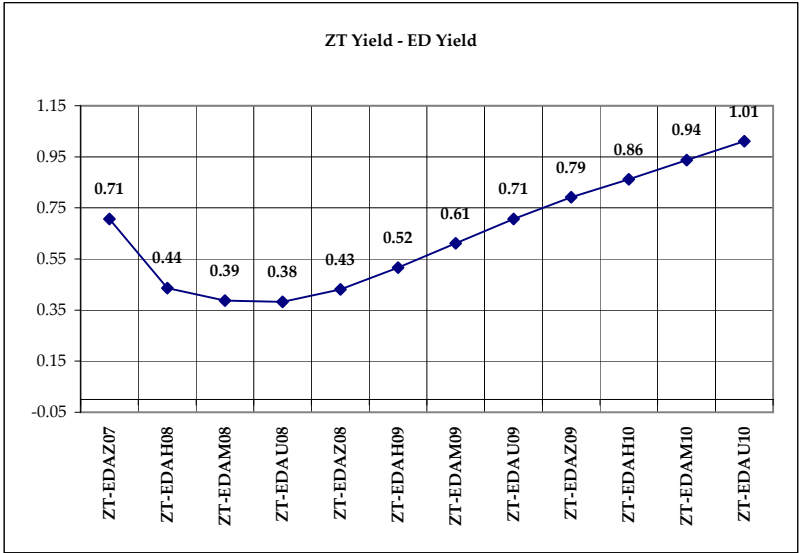
### Eurodollar Color Codes for Individual Year Strips:

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

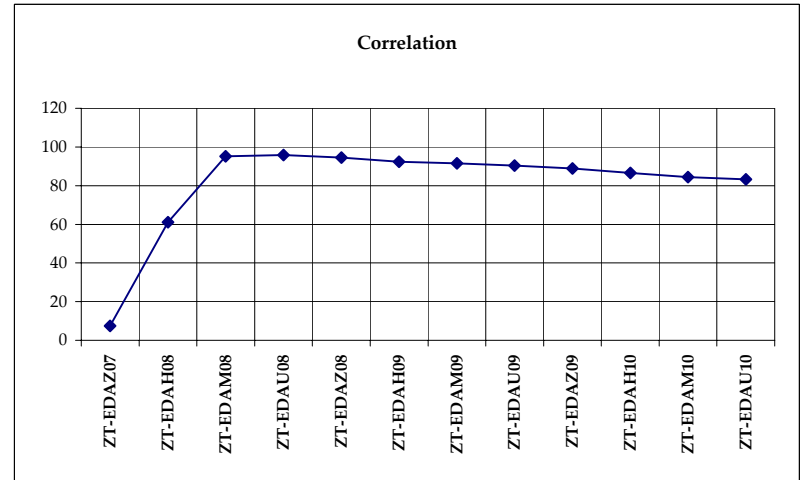
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.080	0.71	ZT-EDAZ07	7.485
EDAH08	7.810	0.44	ZT-EDAH08	61.116
EDAM08	7.760	0.39	ZT-EDAM08	95.160
EDAU08	7.755	0.38	ZT-EDAU08	95.821
EDAZ08	7.805	0.43	ZT-EDAZ08	94.452
EDAH09	7.890	0.52	ZT-EDAH09	92.375
EDAM09	7.985	0.61	ZT-EDAM09	91.526
EDAU09	8.080	0.71	ZT-EDAU09	90.390
EDAZ09	8.165	0.79	ZT-EDAZ09	88.956
EDAH10	8.235	0.86	ZT-EDAH10	86.568
EDAM10	8.310	0.94	ZT-EDAM10	84.431
EDAU10	8.385	1.01	ZT-EDAU10	83.290

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	0.238	1.89	1.65	ZT-EDAZ07
EDAH08	0.487	1.89	1.40	ZT-EDAH08
EDAM08	0.736	1.89	1.15	ZT-EDAM08
EDAU08	0.986	1.89	0.90	ZT-EDAU08
EDAZ08	1.235	1.89	0.65	ZT-EDAZ08
EDAH09	1.484	1.89	0.40	ZT-EDAH09
EDAM09	1.734	1.89	0.15	ZT-EDAM09
EDAU09	1.983	1.89	(0.10)	ZT-EDAU09
EDAZ09	2.232	1.89	(0.34)	ZT-EDAZ09
EDAH10	2.481	1.89	(0.59)	ZT-EDAH10
EDAM10	2.731	1.89	(0.84)	ZT-EDAM10
EDAU10	2.980	1.89	(1.09)	ZT-EDAU10

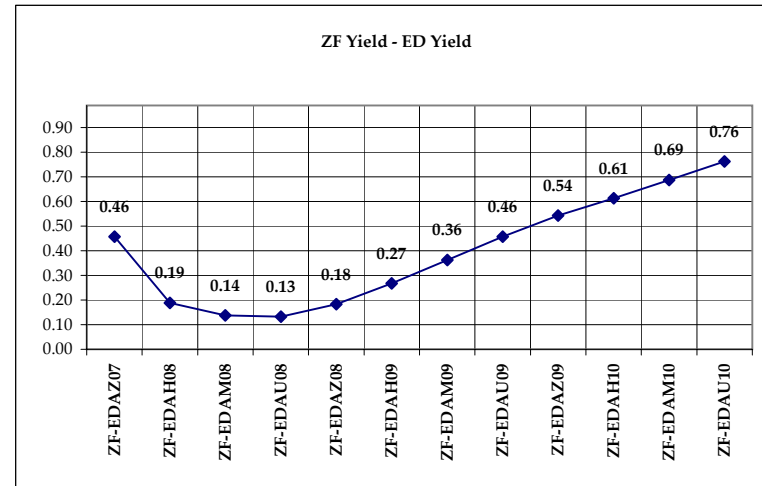
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

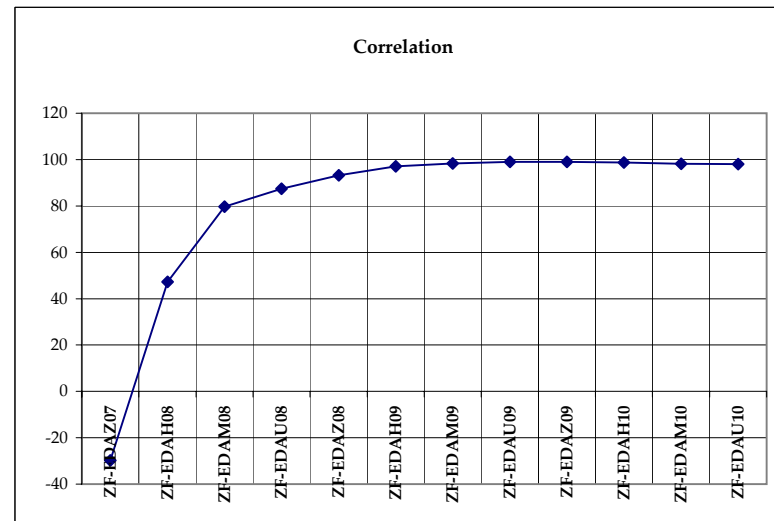
ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.34	0.46	ZF-EDAZ07	-29.762
EDAH08	11.07	0.19	ZF-EDAH08	47.188
EDAM08	11.02	0.14	ZF-EDAM08	79.675
EDAU08	11.01	0.13	ZF-EDAU08	87.379
EDAZ08	11.06	0.18	ZF-EDAZ08	93.163
EDAH09	11.15	0.27	ZF-EDAH09	97.030
EDAM09	11.24	0.36	ZF-EDAM09	98.284
EDAU09	11.34	0.46	ZF-EDAU09	98.948
EDAZ09	11.42	0.54	ZF-EDAZ09	99.051
EDAH10	11.49	0.61	ZF-EDAH10	98.787
EDAM10	11.57	0.69	ZF-EDAM10	98.248
EDAU10	11.64	0.76	ZF-EDAU10	98.075

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	0.238	3.97	3.73	ZF-EDAZ07
EDAH08	0.487	3.97	3.48	ZF-EDAH08
EDAM08	0.736	3.97	3.23	ZF-EDAM08
EDAU08	0.986	3.97	2.98	ZF-EDAU08
EDAZ08	1.235	3.97	2.73	ZF-EDAZ08
EDAH09	1.484	3.97	2.48	ZF-EDAH09
EDAM09	1.734	3.97	2.23	ZF-EDAM09
EDAU09	1.983	3.97	1.98	ZF-EDAU09
EDAZ09	2.232	3.97	1.73	ZF-EDAZ09
EDAH10	2.481	3.97	1.49	ZF-EDAH10
EDAM10	2.731	3.97	1.24	ZF-EDAM10
EDAU10	2.980	3.97	0.99	ZF-EDAU10

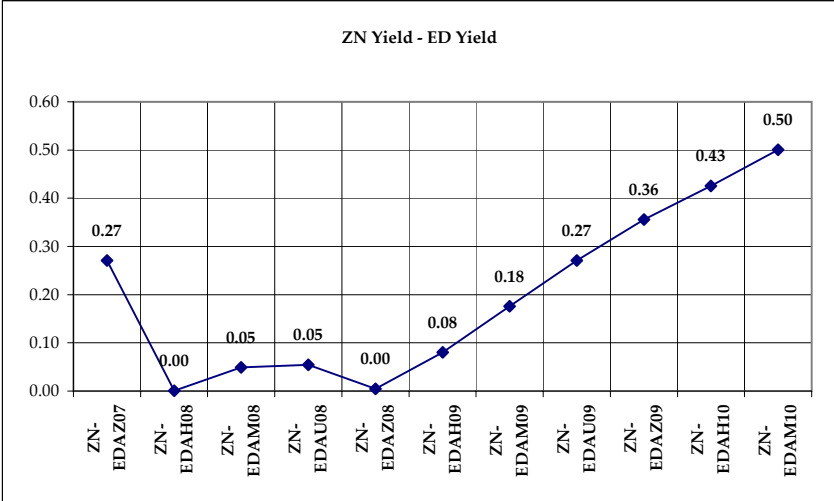
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

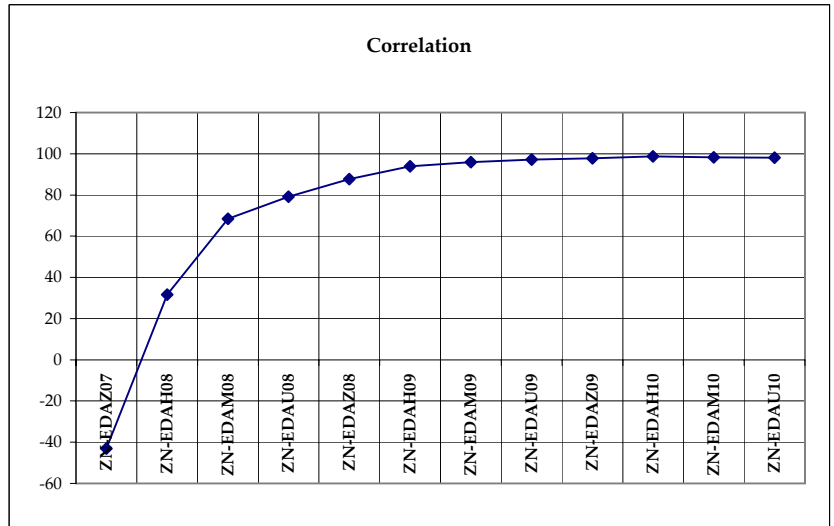
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.40	0.27	ZN-EDAZ07	-43.13
EDAH08	13.13	0.00	ZN-EDAH08	31.56
EDAM08	13.08	0.05	ZN-EDAM08	68.49
EDAU08	13.08	0.05	ZN-EDAU08	79.12
EDAZ08	13.13	0.00	ZN-EDAZ08	87.72
EDAH09	13.21	0.08	ZN-EDAH09	93.89
EDAM09	13.31	0.18	ZN-EDAM09	95.94
EDAU09	13.40	0.27	ZN-EDAU09	97.18
EDAZ09	13.49	0.36	ZN-EDAZ09	97.80
EDAH10	13.56	0.43	ZN-EDAH10	98.79
EDAM10	13.63	0.50	ZN-EDAM10	98.25
EDAU10	13.71	0.58	ZN-EDAU10	98.07

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	0.238	5.88	5.64	ZN-EDAZ07
EDAH08	0.487	5.88	5.39	ZN-EDAH08
EDAM08	0.736	5.88	5.14	ZN-EDAM08
EDAU08	0.986	5.88	4.90	ZN-EDAU08
EDAZ08	1.235	5.88	4.65	ZN-EDAZ08
EDAH09	1.484	5.88	4.40	ZN-EDAH09
EDAM09	1.734	5.88	4.15	ZN-EDAM09
EDAU09	1.983	5.88	3.90	ZN-EDAU09
EDAZ09	2.232	5.88	3.65	ZN-EDAZ09
EDAH10	2.481	5.88	3.40	ZN-EDAH10
EDAM10	2.731	5.88	3.15	ZN-EDAM10
EDAU10	2.980	5.88	2.90	ZN-EDAU10

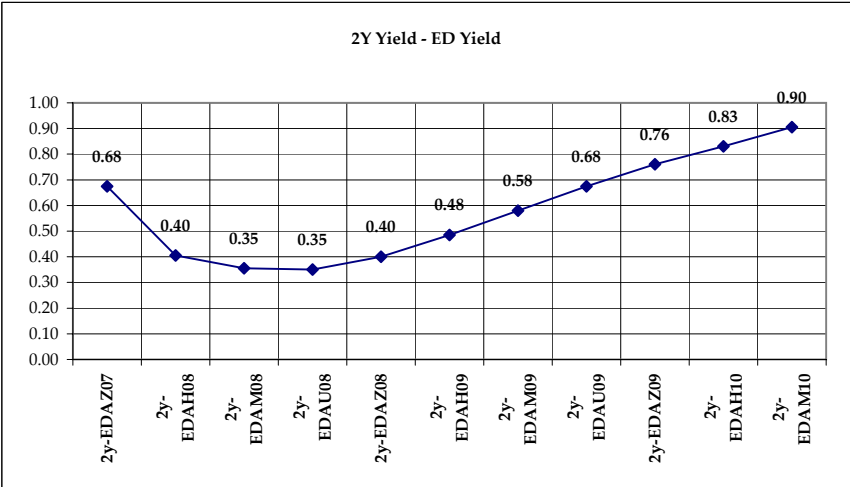
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.63	0.68	2y-EDAZ07	10.754
EDAH08	4.36	0.40	2y-EDAH08	-65.481
EDAM08	4.31	0.35	2y-EDAM08	-89.433
EDAU08	4.30	0.35	2y-EDAU08	-91.598
EDAZ08	4.35	0.40	2y-EDAZ08	-89.433
EDAH09	4.44	0.48	2y-EDAH09	-93.298
EDAM09	4.53	0.58	2y-EDAM09	-93.513
EDAU09	4.63	0.68	2y-EDAU09	-93.598
EDAZ09	4.71	0.76	2y-EDAZ09	-93.200
EDAH10	4.78	0.83	2y-EDAH10	-91.843
EDAM10	4.86	0.90	2y-EDAM10	-90.565
EDAU10	4.93	0.98	2y-EDAU10	-89.760

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.

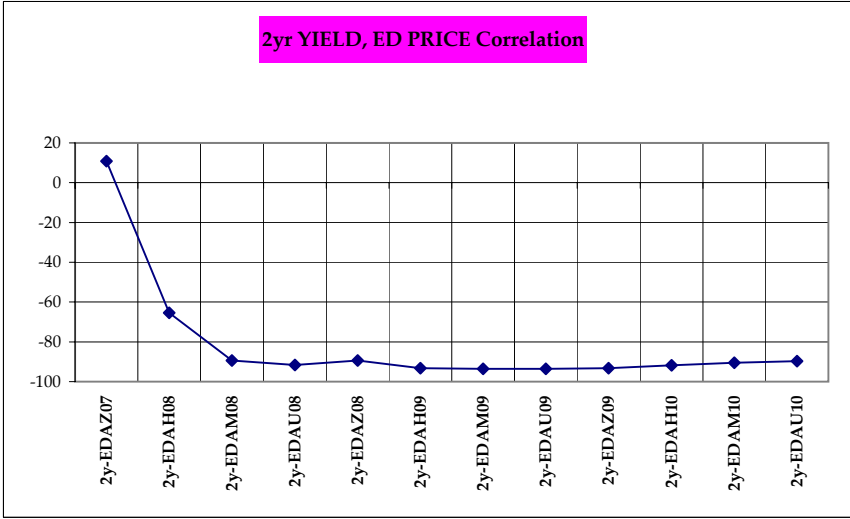


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAZ07	0.238	1.84	2y-EDAZ07
EDAH08	0.487	1.84	2y-EDAH08
EDAM08	0.736	1.84	2y-EDAM08
EDAU08	0.986	1.84	2y-EDAU08
EDAZ08	1.235	1.84	2y-EDAZ08
EDAH09	1.484	1.84	2y-EDAH09
EDAM09	1.734	1.84	2y-EDAM09
EDAU09	1.983	1.84	2y-EDAU09
EDAZ09	2.232	1.84	2y-EDAZ09
EDAH10	2.481	1.84	2y-EDAH10
EDAM10	2.731	1.84	2y-EDAM10
EDAU10	2.980	1.84	2y-EDAU10

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

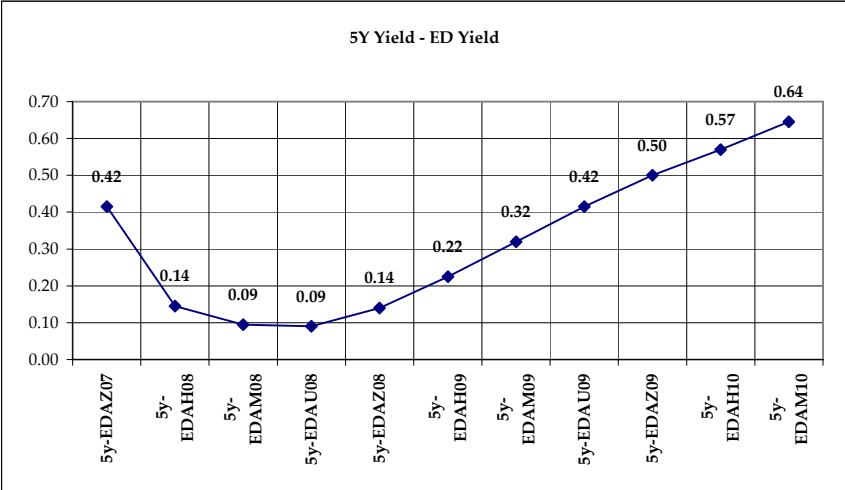
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	3.89	0.42	5y-EDAZ07	38.069
EDAH08	3.62	0.14	5y-EDAH08	-39.835
EDAM08	3.57	0.09	5y-EDAM08	-74.109
EDAU08	3.56	0.09	5y-EDAU08	-82.363
EDAZ08	3.61	0.14	5y-EDAZ08	-74.109
EDAH09	3.70	0.22	5y-EDAH09	-94.429
EDAM09	3.79	0.32	5y-EDAM09	-96.304
EDAU09	3.89	0.42	5y-EDAU09	-97.596
EDAZ09	3.97	0.50	5y-EDAZ09	-98.253
EDAH10	4.04	0.57	5y-EDAH10	-98.528
EDAM10	4.12	0.64	5y-EDAM10	-98.557
EDAU10	4.19	0.72	5y-EDAU10	-98.542

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.

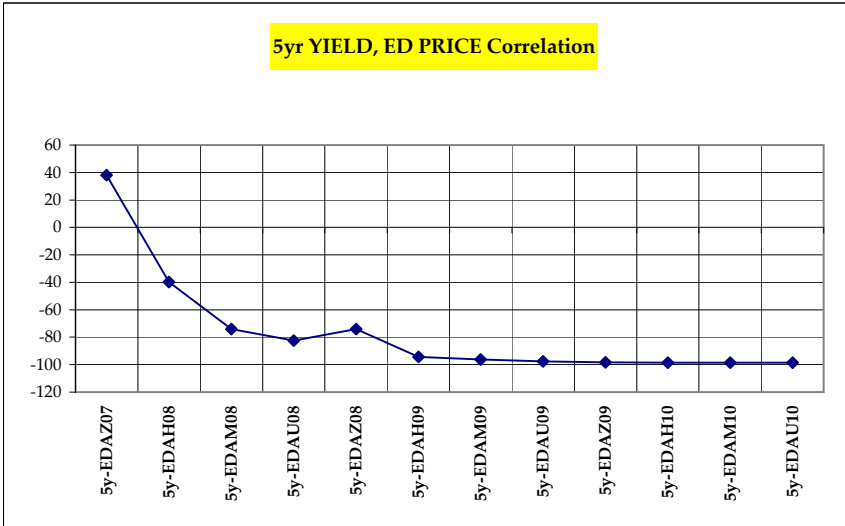


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAZ07	0.238	4.41	5y-EDAZ07
EDAH08	0.487	4.41	5y-EDAH08
EDAM08	0.736	4.41	5y-EDAM08
EDAU08	0.986	4.41	5y-EDAU08
EDAZ08	1.235	4.41	5y-EDAZ08
EDAH09	1.484	4.41	5y-EDAH09
EDAM09	1.734	4.41	5y-EDAM09
EDAU09	1.983	4.41	5y-EDAU09
EDAZ09	2.232	4.41	5y-EDAZ09
EDAH10	2.481	4.41	5y-EDAH10
EDAM10	2.731	4.41	5y-EDAM10
EDAU10	2.980	4.41	5y-EDAU10

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

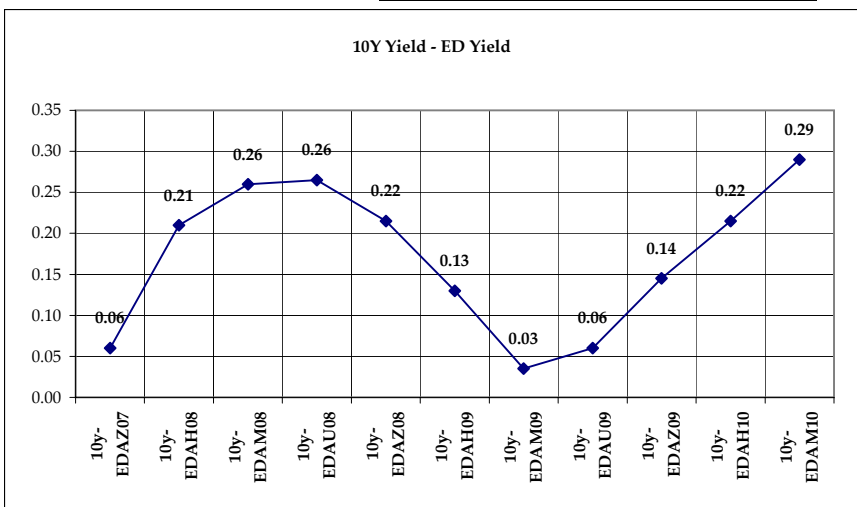
**5yr YIELD, ED PRICE Correlation**



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

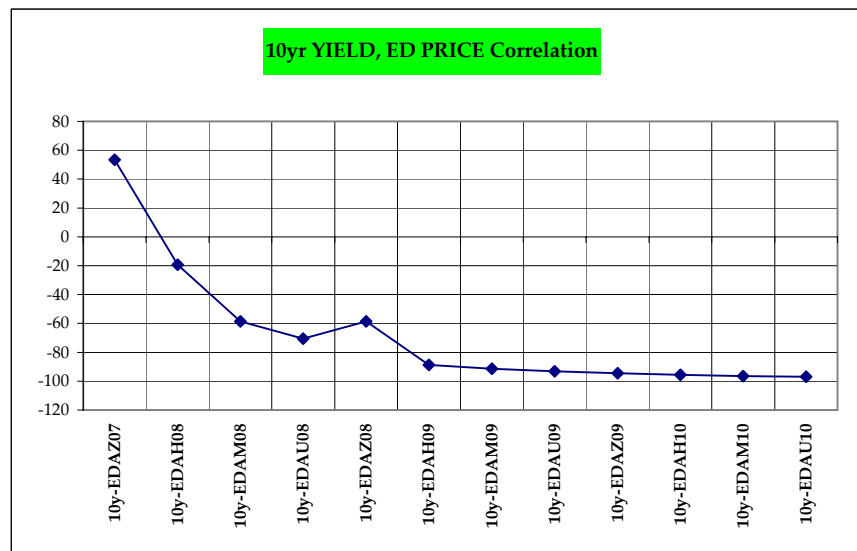
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	3.89	0.06	10y-EDAZ07	53.425
EDAH08	3.62	0.21	10y-EDAH08	-19.224
EDAM08	3.57	0.26	10y-EDAM08	-58.535
EDAU08	3.56	0.26	10y-EDAU08	-70.635
EDAZ08	3.61	0.22	10y-EDAZ08	-58.535
EDAH09	3.70	0.13	10y-EDAH09	-88.717
EDAM09	3.79	0.03	10y-EDAM09	-91.407
EDAU09	3.89	0.06	10y-EDAU09	-93.202
EDAZ09	3.97	0.14	10y-EDAZ09	-94.414
EDAH10	4.04	0.22	10y-EDAH10	-95.618
EDAM10	4.12	0.29	10y-EDAM10	-96.427
EDAU10	4.19	0.36	10y-EDAU10	-96.931

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.



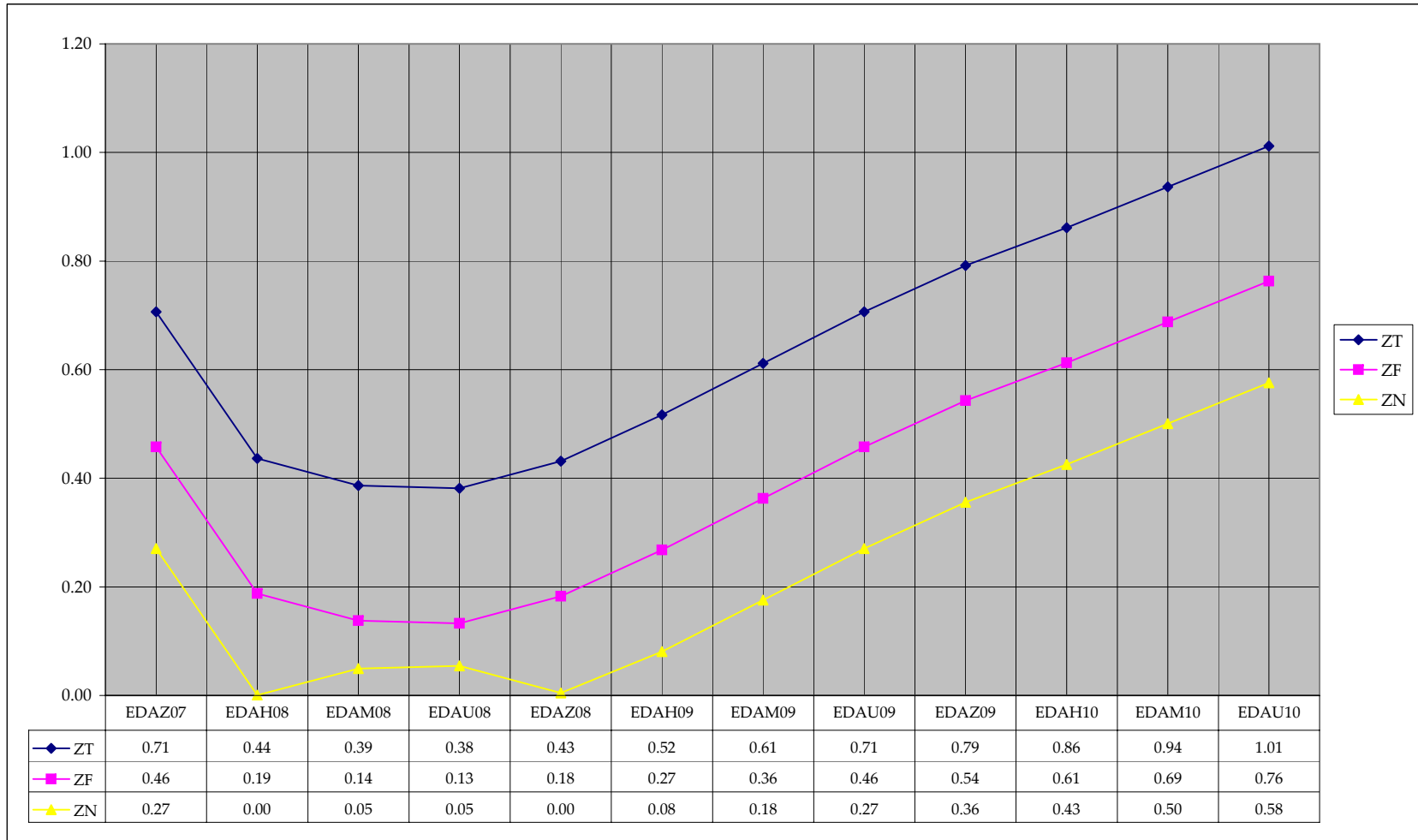
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.238	7.79	7.55	10y-EDAZ07
EDAH08	0.487	7.79	7.30	10y-EDAH08
EDAM08	0.736	7.79	7.06	10y-EDAM08
EDAU08	0.986	7.79	6.81	10y-EDAU08
EDAZ08	1.235	7.79	6.56	10y-EDAZ08
EDAH09	1.484	7.79	6.31	10y-EDAH09
EDAM09	1.734	7.79	6.06	10y-EDAM09
EDAU09	1.983	7.79	5.81	10y-EDAU09
EDAZ09	2.232	7.79	5.56	10y-EDAZ09
EDAH10	2.481	7.79	5.31	10y-EDAH10
EDAM10	2.731	7.79	5.06	10y-EDAM10
EDAU10	2.980	7.79	4.81	10y-EDAU10

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



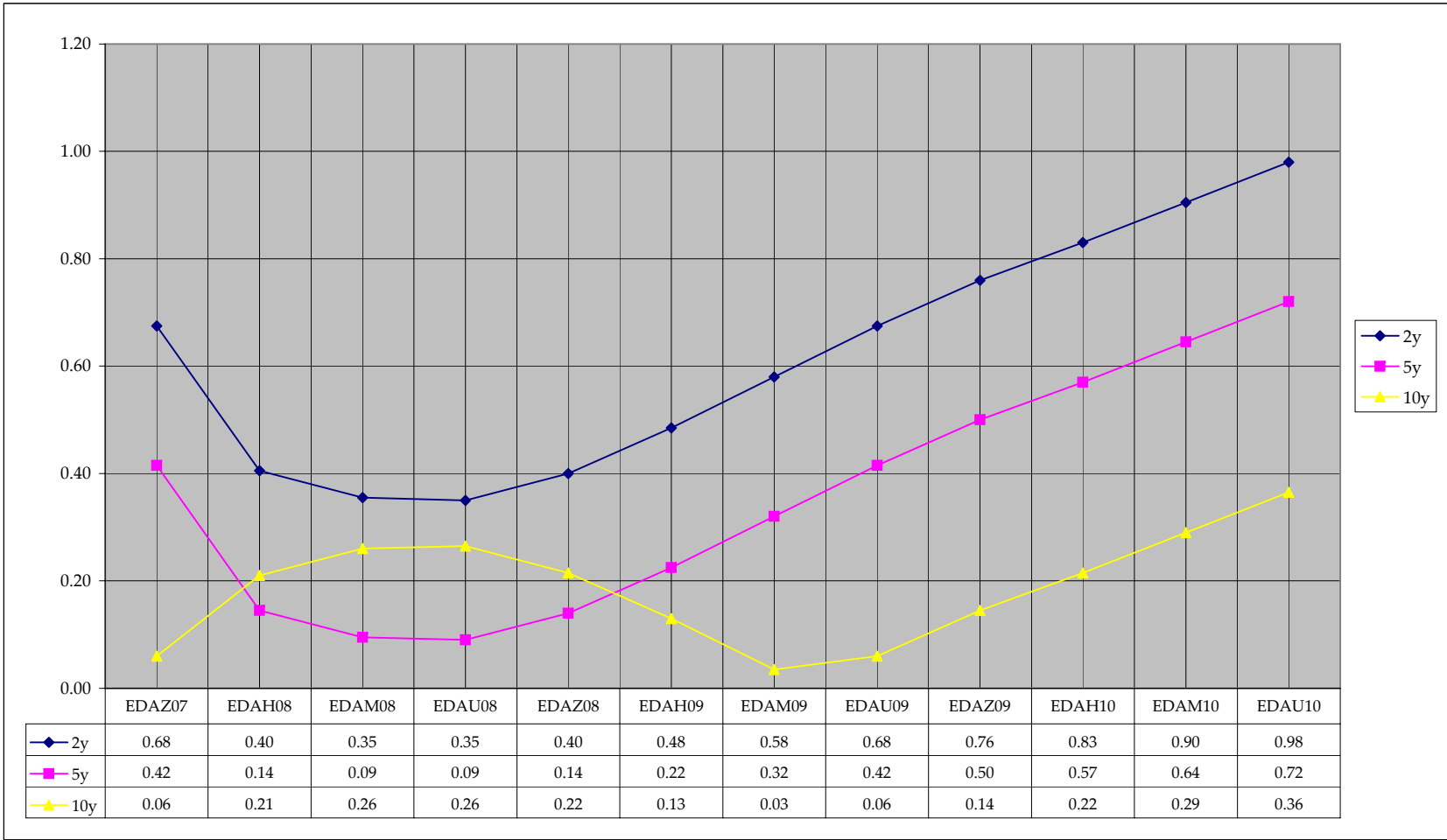
Dirty TED Curve

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.

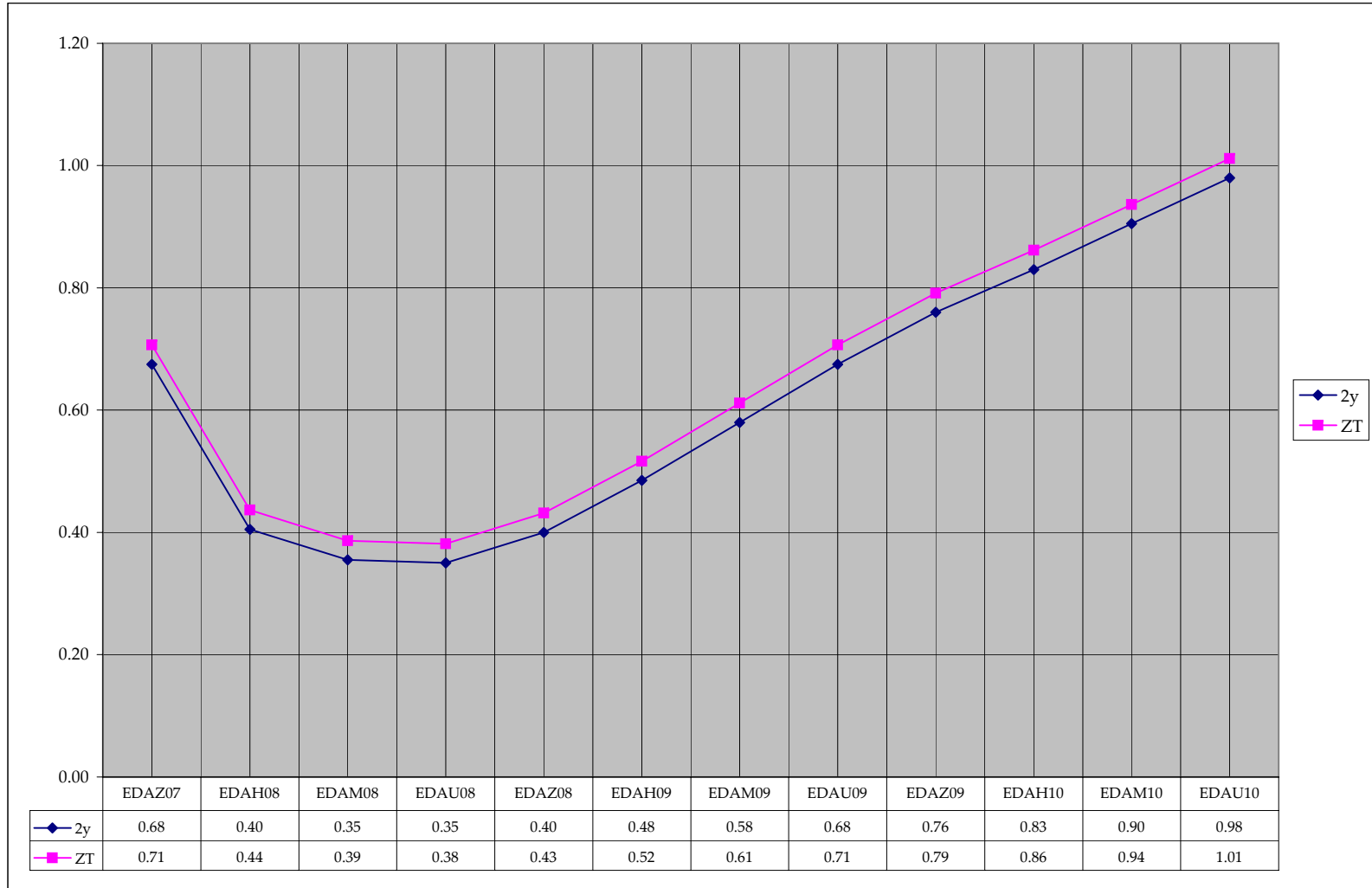


TED Curve

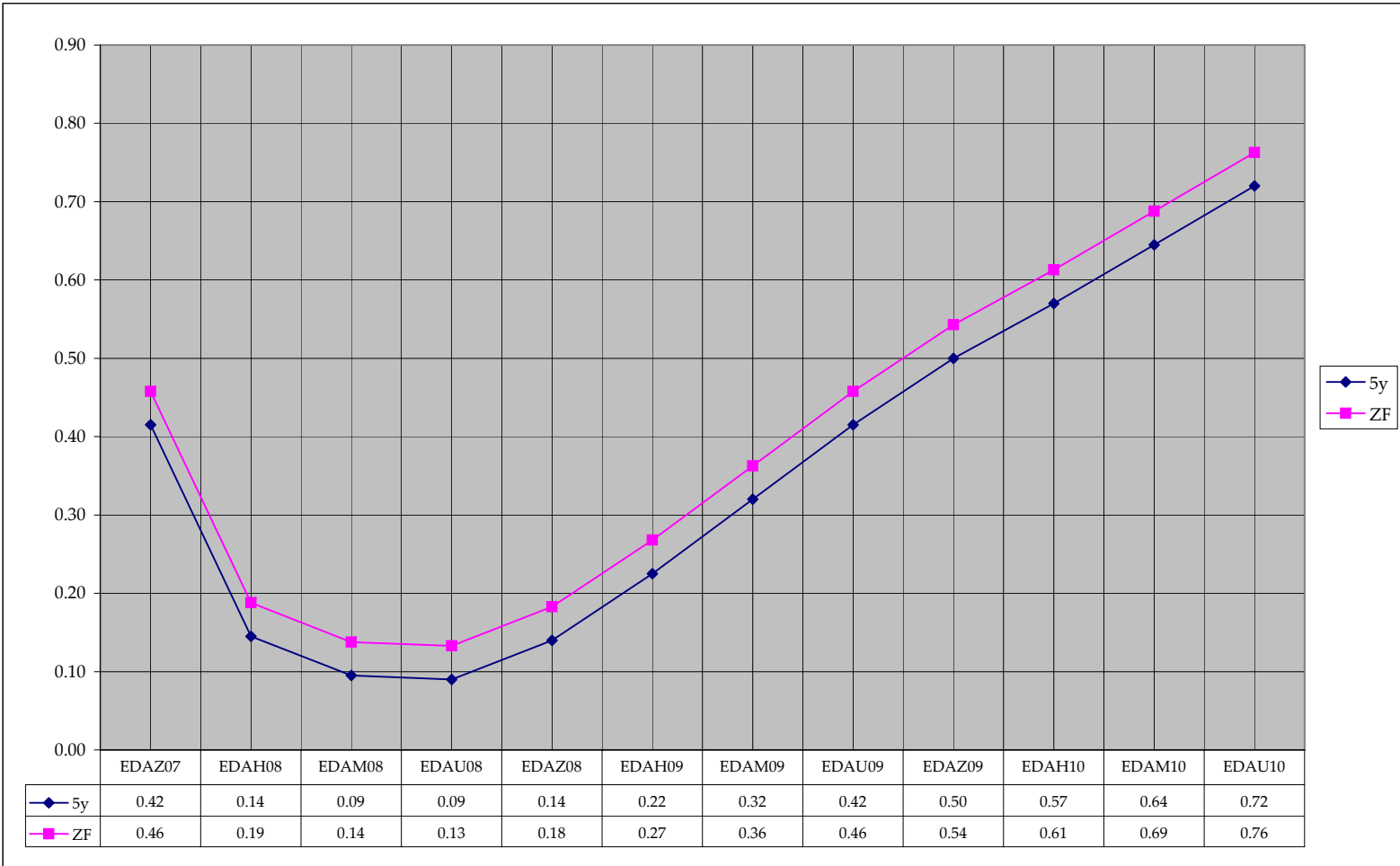
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



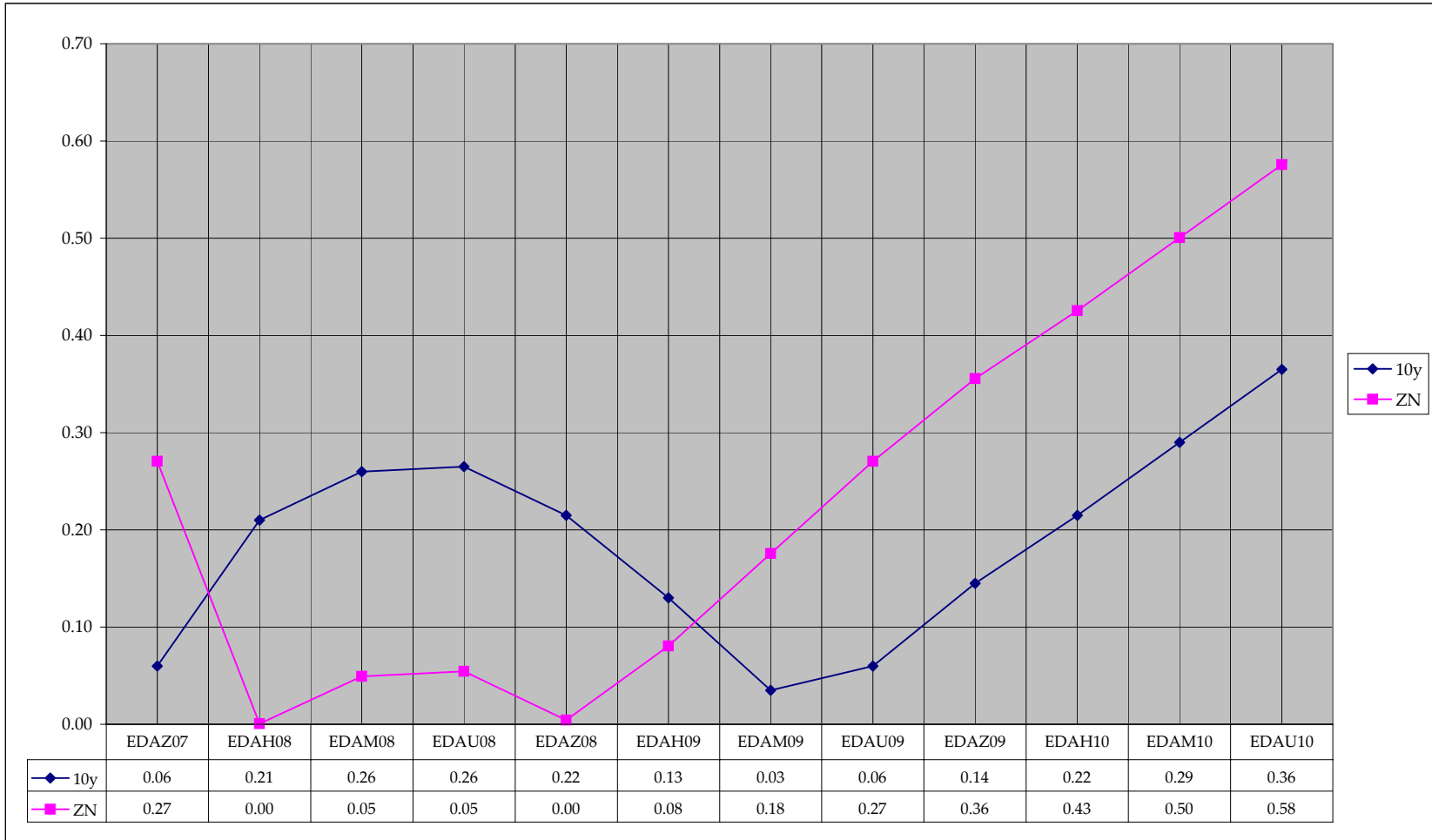
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.616	2.000	9549.875
Q.ED.Red	4.708	1.875	9541.000
Q.ED.Green	5.054	1.500	9507.625
Q.ED.Blue	0.000	0.000	9479.750
Q.ED.Gold	0.000	0.000	9456.500

