

## 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	105.8969	105.287	2.678	1.90	
ZF	111.8125	111.260	3.111	3.94	
ZN	115.3281	115.105	3.445	5.89	
2y	101.084	101.0270	2.677	1.90	
5y	102.375	102.1200	3.106	4.46	
10y	103.609	103.1950	3.805	7.98	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	96.185	3.815	67	0.183	MAR	White Pack	
EDAM08	96.635	3.365	158	0.432	JUN		
EDAU08	96.850	3.150	249	0.682	SEP		
EDAZ08	96.935	3.065	340	0.931	DEC	Red Pack	
EDAH09	96.930	3.070	431	1.180	MAR		
EDAM09	96.855	3.145	522	1.429	JUN		
EDAU09	96.745	3.255	613	1.679	SEP	Green Pack	
EDAZ09	96.615	3.385	704	1.928	DEC		
EDAH10	96.480	3.520	795	2.177	MAR		
EDAM10	96.310	3.690	886	2.427	JUN	Blue Pack	
EDAU10	96.165	3.835	977	2.676	SEP		
EDAZ10	96.030	3.970	1068	2.925	DEC		
EDAH11	95.915	4.085	1159	3.175	MAR	Gold Pack	
EDAM11	95.805	4.195	1250	3.424	JUN		
EDAU11	95.710	4.290	1348	3.692	SEP		
EDAZ11	95.595	4.405	1439	3.942	DEC		
EDAH12	95.490	4.510	1530	4.191	MAR		
EDAM12	95.440	4.560	1621	4.440	JUN		
EDAU12	95.350	4.650	1712	4.690	SEP		
EDAU12	95.350	4.650	1712	4.690	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	3.424	0.625	9665.125	Pack Prices
Q.ED.Red	3.285	-1.125	9678.625	
Q.ED.Green	3.842	-1.875	9624.625	
Q.ED.Blue	4.349	-2.500	9575.625	
Q.ED.Gold		0.000	9540.875	

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

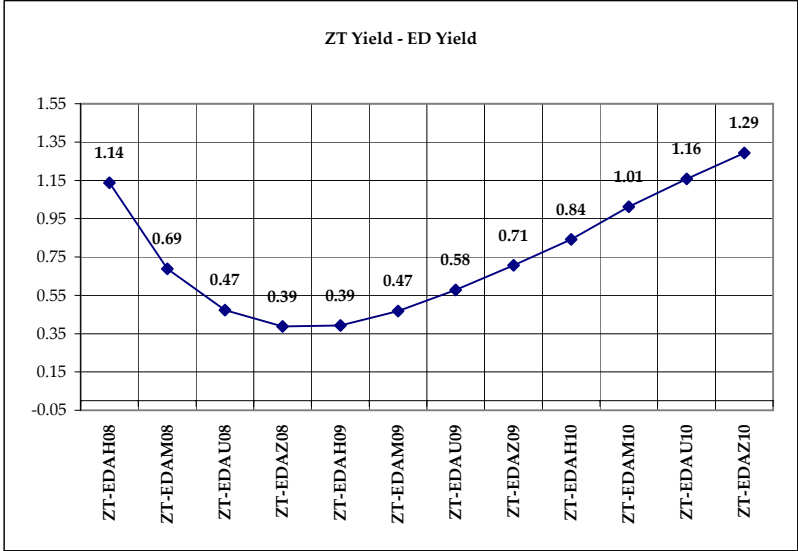
### Eurodollar Color Codes for Individual Year Strips:

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

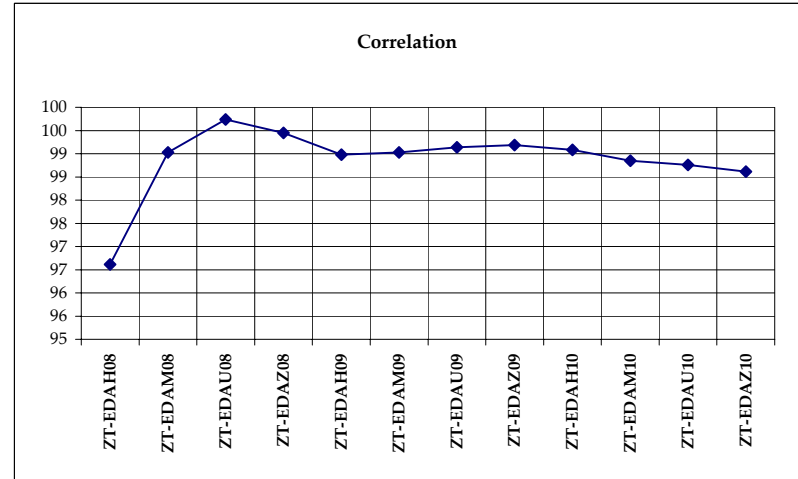
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.712	1.14	ZT-EDAH08	96.612
EDAM08	9.262	0.69	ZT-EDAM08	99.025
EDAU08	9.047	0.47	ZT-EDAU08	99.735
EDAZ08	8.962	0.39	ZT-EDAZ08	99.449
EDAH09	8.967	0.39	ZT-EDAH09	98.977
EDAM09	9.042	0.47	ZT-EDAM09	99.024
EDAU09	9.152	0.58	ZT-EDAU09	99.138
EDAZ09	9.282	0.71	ZT-EDAZ09	99.187
EDAH10	9.417	0.84	ZT-EDAH10	99.081
EDAM10	9.587	1.01	ZT-EDAM10	98.851
EDAU10	9.732	1.16	ZT-EDAU10	98.756
EDAZ10	9.867	1.29	ZT-EDAZ10	98.615

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		
EDAH08	0.183	1.90	1.71	ZT-EDAH08
EDAM08	0.432	1.90	1.46	ZT-EDAM08
EDAU08	0.682	1.90	1.22	ZT-EDAU08
EDAZ08	0.931	1.90	0.97	ZT-EDAZ08
EDAH09	1.180	1.90	0.72	ZT-EDAH09
EDAM09	1.429	1.90	0.47	ZT-EDAM09
EDAU09	1.679	1.90	0.22	ZT-EDAU09
EDAZ09	1.928	1.90	(0.03)	ZT-EDAZ09
EDAH10	2.177	1.90	(0.28)	ZT-EDAH10
EDAM10	2.427	1.90	(0.53)	ZT-EDAM10
EDAU10	2.676	1.90	(0.78)	ZT-EDAU10
EDAZ10	2.925	1.90	(1.03)	ZT-EDAZ10

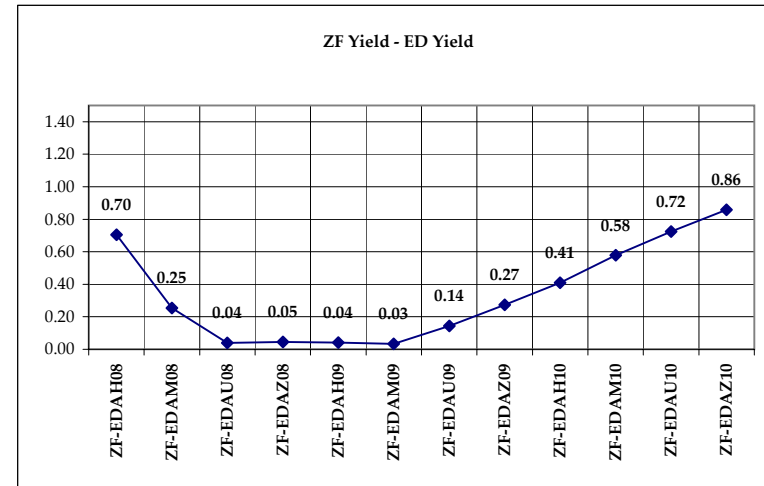
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	15.63	0.70	ZF-EDAH08	97.429
EDAM08	15.18	0.25	ZF-EDAM08	99.316
EDAU08	14.96	0.04	ZF-EDAU08	99.872
EDAZ08	14.88	0.05	ZF-EDAZ08	99.483
EDAH09	14.88	0.04	ZF-EDAH09	99.067
EDAM09	14.96	0.03	ZF-EDAM09	99.217
EDAU09	15.07	0.14	ZF-EDAU09	99.447
EDAZ09	15.20	0.27	ZF-EDAZ09	99.612
EDAH10	15.33	0.41	ZF-EDAH10	99.641
EDAM10	15.50	0.58	ZF-EDAM10	99.603
EDAU10	15.65	0.72	ZF-EDAU10	99.627
EDAZ10	15.78	0.86	ZF-EDAZ10	99.599

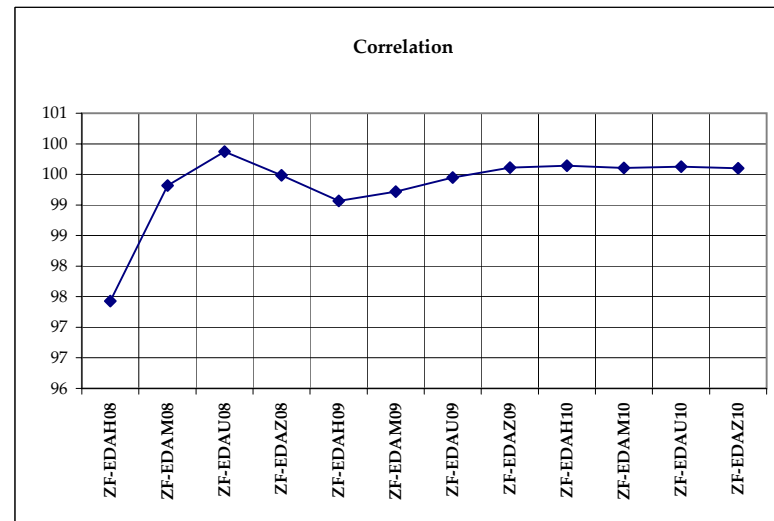
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.183	3.94	3.76	ZF-EDAH08
EDAM08	0.432	3.94	3.51	ZF-EDAM08
EDAU08	0.682	3.94	3.26	ZF-EDAU08
EDAZ08	0.931	3.94	3.01	ZF-EDAZ08
EDAH09	1.180	3.94	2.76	ZF-EDAH09
EDAM09	1.429	3.94	2.51	ZF-EDAM09
EDAU09	1.679	3.94	2.26	ZF-EDAU09
EDAZ09	1.928	3.94	2.02	ZF-EDAZ09
EDAH10	2.177	3.94	1.77	ZF-EDAH10
EDAM10	2.427	3.94	1.52	ZF-EDAM10
EDAU10	2.676	3.94	1.27	ZF-EDAU10
EDAZ10	2.925	3.94	1.02	ZF-EDAZ10

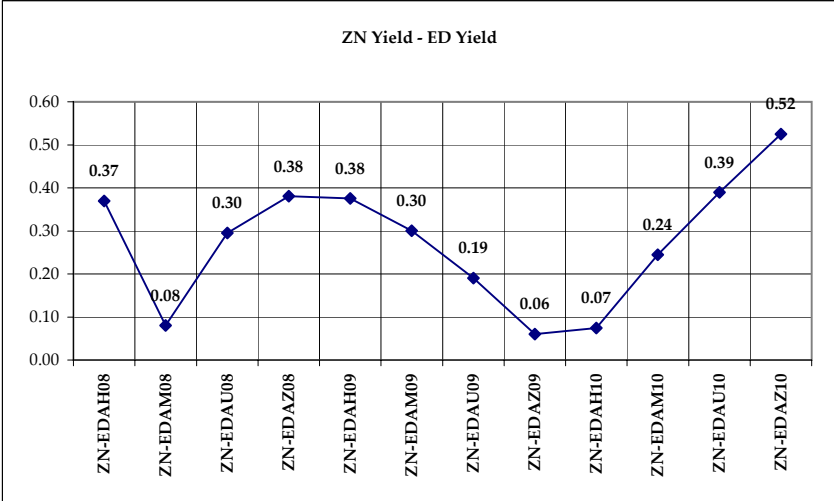
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

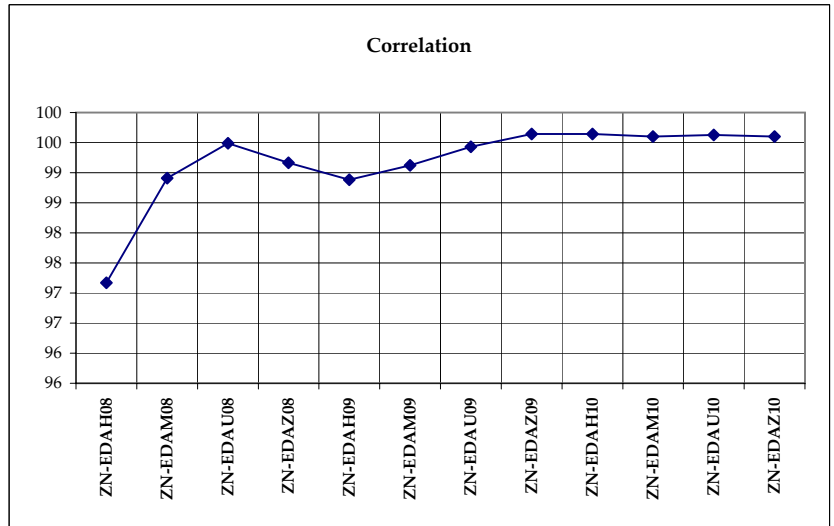
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.14	0.37	ZN-EDAH08	97.17
EDAM08	18.69	0.08	ZN-EDAM08	98.91
EDAU08	18.48	0.30	ZN-EDAU08	99.49
EDAZ08	18.39	0.38	ZN-EDAZ08	99.17
EDAH09	18.40	0.38	ZN-EDAH09	98.88
EDAM09	18.47	0.30	ZN-EDAM09	99.12
EDAU09	18.58	0.19	ZN-EDAU09	99.43
EDAZ09	18.71	0.06	ZN-EDAZ09	99.65
EDAH10	18.85	0.07	ZN-EDAH10	99.64
EDAM10	19.02	0.24	ZN-EDAM10	99.60
EDAU10	19.16	0.39	ZN-EDAU10	99.63
EDAZ10	19.30	0.52	ZN-EDAZ10	99.60

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	
EDAH08	0.183	5.89	5.71	ZN-EDAH08
EDAM08	0.432	5.89	5.46	ZN-EDAM08
EDAU08	0.682	5.89	5.21	ZN-EDAU08
EDAZ08	0.931	5.89	4.96	ZN-EDAZ08
EDAH09	1.180	5.89	4.71	ZN-EDAH09
EDAM09	1.429	5.89	4.47	ZN-EDAM09
EDAU09	1.679	5.89	4.22	ZN-EDAU09
EDAZ09	1.928	5.89	3.97	ZN-EDAZ09
EDAH10	2.177	5.89	3.72	ZN-EDAH10
EDAM10	2.427	5.89	3.47	ZN-EDAM10
EDAU10	2.676	5.89	3.22	ZN-EDAU10
EDAZ10	2.925	5.89	2.97	ZN-EDAZ10

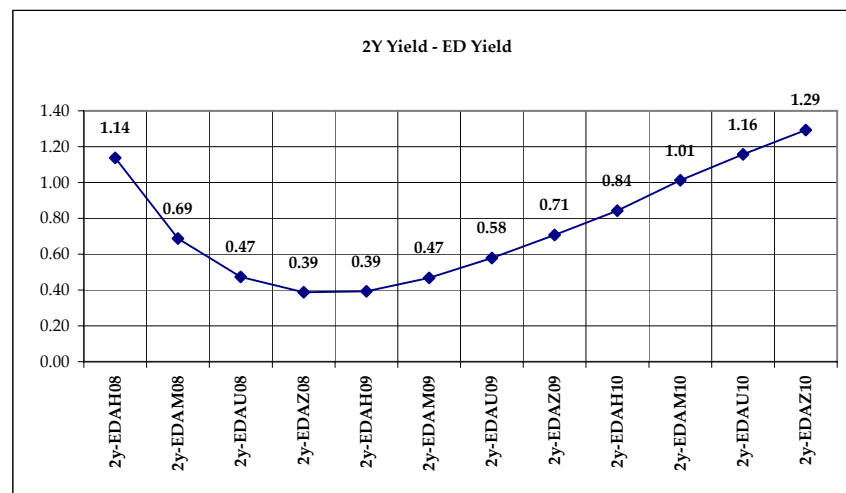
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.90	1.14	2y-EDAH08	-95.772
EDAM08	4.45	0.69	2y-EDAM08	-97.764
EDAU08	4.23	0.47	2y-EDAU08	-98.391
EDAZ08	4.15	0.39	2y-EDAZ08	-97.764
EDAH09	4.15	0.39	2y-EDAH09	-98.031
EDAM09	4.23	0.47	2y-EDAM09	-98.403
EDAU09	4.34	0.58	2y-EDAU09	-98.742
EDAZ09	4.47	0.71	2y-EDAZ09	-98.990
EDAH10	4.60	0.84	2y-EDAH10	-98.925
EDAM10	4.77	1.01	2y-EDAM10	-98.702
EDAU10	4.92	1.16	2y-EDAU10	-98.514
EDAZ10	5.05	1.29	2y-EDAZ10	-98.456

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.

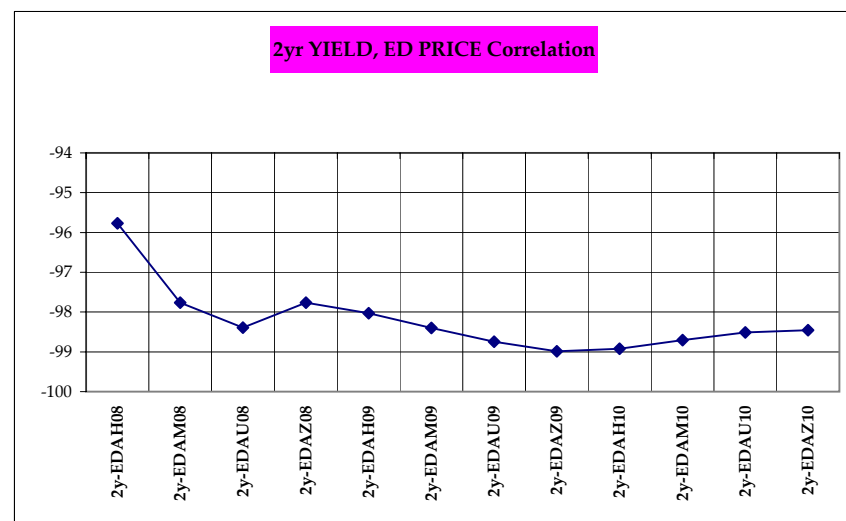


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAH08	0.183	1.90	2y-EDAH08
EDAM08	0.432	1.90	2y-EDAM08
EDAU08	0.682	1.90	2y-EDAU08
EDAZ08	0.931	1.90	2y-EDAZ08
EDAH09	1.180	1.90	2y-EDAH09
EDAM09	1.429	1.90	2y-EDAM09
EDAU09	1.679	1.90	2y-EDAU09
EDAZ09	1.928	1.90	2y-EDAZ09
EDAH10	2.177	1.90	2y-EDAH10
EDAM10	2.427	1.90	2y-EDAM10
EDAU10	2.676	1.90	2y-EDAU10
EDAZ10	2.925	1.90	2y-EDAZ10

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

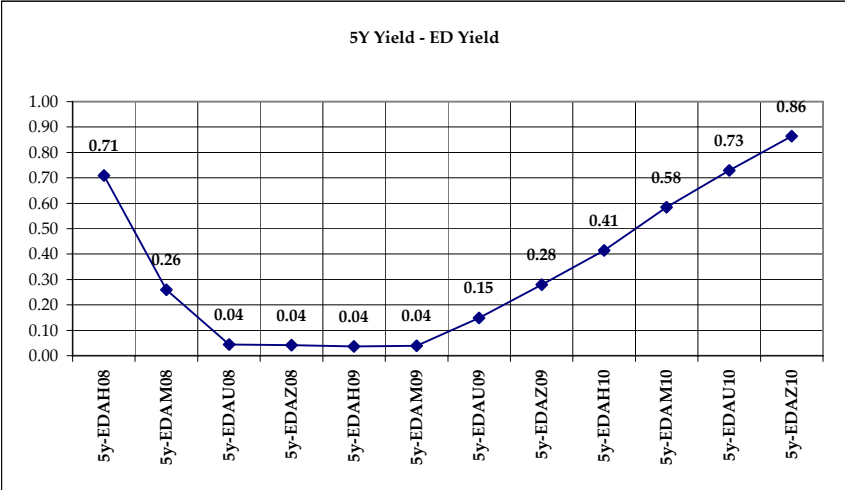
2yr YIELD, ED PRICE Correlation



TERM TED: 5y vs Eurodollar Contracts

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	6.19	0.71	5y-EDAH08	-95.712
EDAM08	5.74	0.26	5y-EDAM08	-97.346
EDAU08	5.53	0.04	5y-EDAU08	-97.965
EDAZ08	5.44	0.04	5y-EDAZ08	-97.346
EDAH09	5.45	0.04	5y-EDAH09	-97.653
EDAM09	5.52	0.04	5y-EDAM09	-98.087
EDAU09	5.63	0.15	5y-EDAU09	-98.493
EDAZ09	5.76	0.28	5y-EDAZ09	-98.789
EDAH10	5.90	0.41	5y-EDAH10	-98.784
EDAM10	6.07	0.58	5y-EDAM10	-98.701
EDAU10	6.21	0.73	5y-EDAU10	-98.619
EDAZ10	6.35	0.86	5y-EDAZ10	-98.679

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.

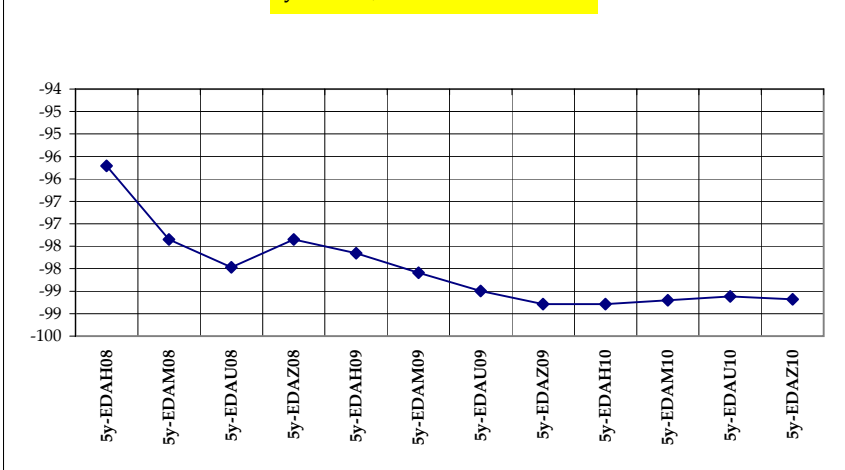


GE Duration as Fraction of year

	5Y Duration	Spread Duration	
EDAH08	0.183	4.46	5y-EDAH08
EDAM08	0.432	4.46	5y-EDAM08
EDAU08	0.682	4.46	5y-EDAU08
EDAZ08	0.931	4.46	5y-EDAZ08
EDAH09	1.180	4.46	5y-EDAH09
EDAM09	1.429	4.46	5y-EDAM09
EDAU09	1.679	4.46	5y-EDAU09
EDAZ09	1.928	4.46	5y-EDAZ09
EDAH10	2.177	4.46	5y-EDAH10
EDAM10	2.427	4.46	5y-EDAM10
EDAU10	2.676	4.46	5y-EDAU10
EDAZ10	2.925	4.46	5y-EDAZ10

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

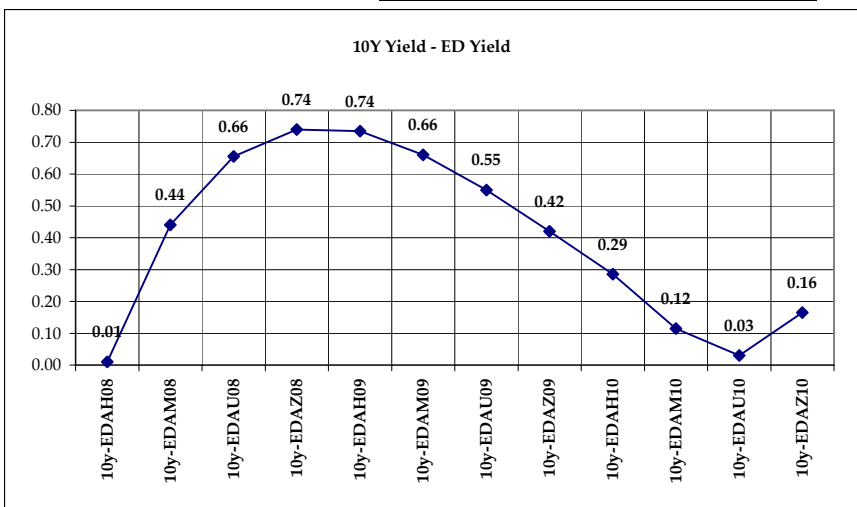
5yr YIELD, ED PRICE Correlation



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

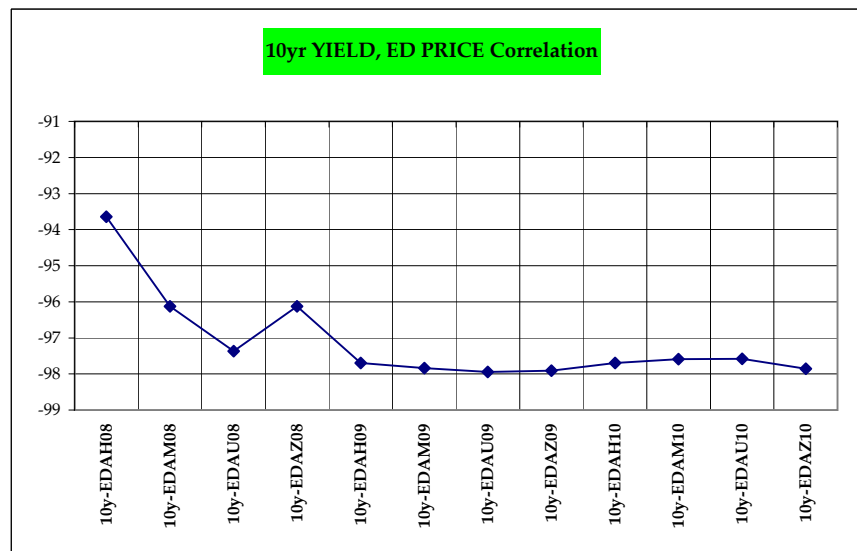
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	6.19	0.01	10y-EDAH08	-93.640
EDAM08	5.74	0.44	10y-EDAM08	-96.124
EDAU08	5.53	0.66	10y-EDAU08	-97.368
EDAZ08	5.44	0.74	10y-EDAZ08	-96.124
EDAH09	5.45	0.74	10y-EDAH09	-97.699
EDAM09	5.52	0.66	10y-EDAM09	-97.835
EDAU09	5.63	0.55	10y-EDAU09	-97.943
EDAZ09	5.76	0.42	10y-EDAZ09	-97.907
EDAH10	5.90	0.29	10y-EDAH10	-97.696
EDAM10	6.07	0.12	10y-EDAM10	-97.588
EDAU10	6.21	0.03	10y-EDAU10	-97.581
EDAZ10	6.35	0.16	10y-EDAZ10	-97.856

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	
EDAH08	0.183	7.98	7.80	10y-EDAH08
EDAM08	0.432	7.98	7.55	10y-EDAM08
EDAU08	0.682	7.98	7.30	10y-EDAU08
EDAZ08	0.931	7.98	7.05	10y-EDAZ08
EDAH09	1.180	7.98	6.80	10y-EDAH09
EDAM09	1.429	7.98	6.55	10y-EDAM09
EDAU09	1.679	7.98	6.30	10y-EDAU09
EDAZ09	1.928	7.98	6.05	10y-EDAZ09
EDAH10	2.177	7.98	5.80	10y-EDAH10
EDAM10	2.427	7.98	5.55	10y-EDAM10
EDAU10	2.676	7.98	5.30	10y-EDAU10
EDAZ10	2.925	7.98	5.05	10y-EDAZ10

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

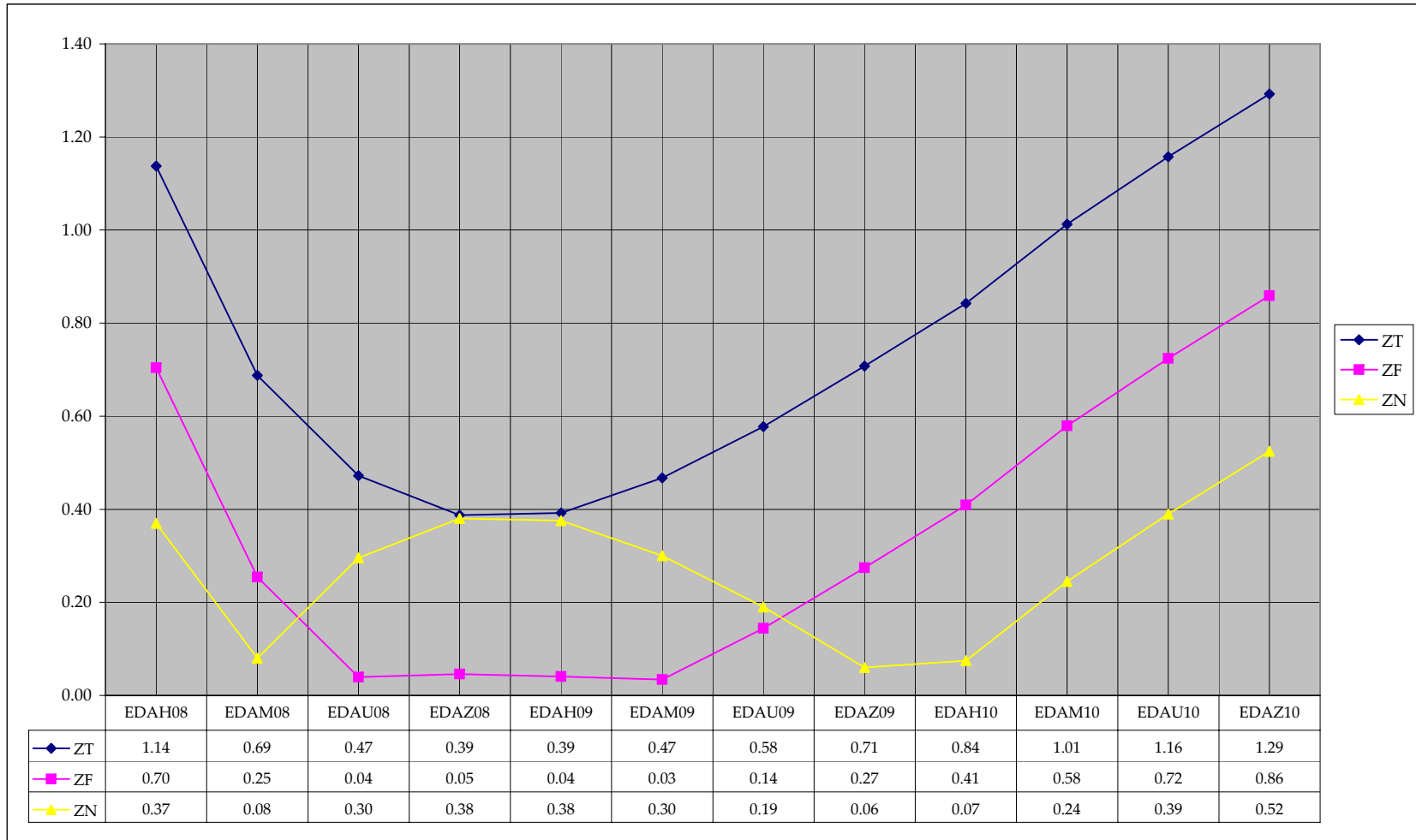


### Dirty TED Curve

1/10/2008 5:44

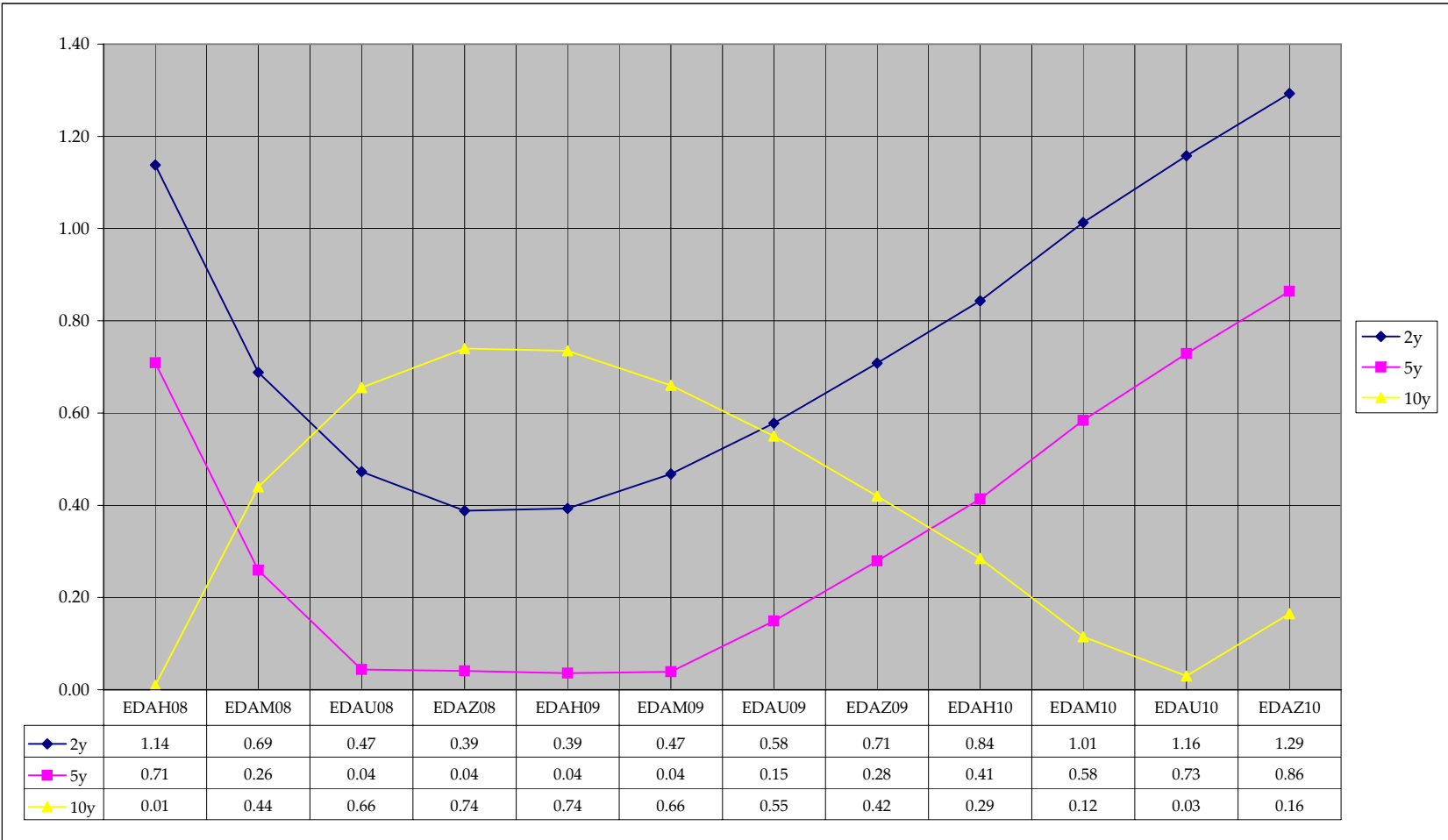
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

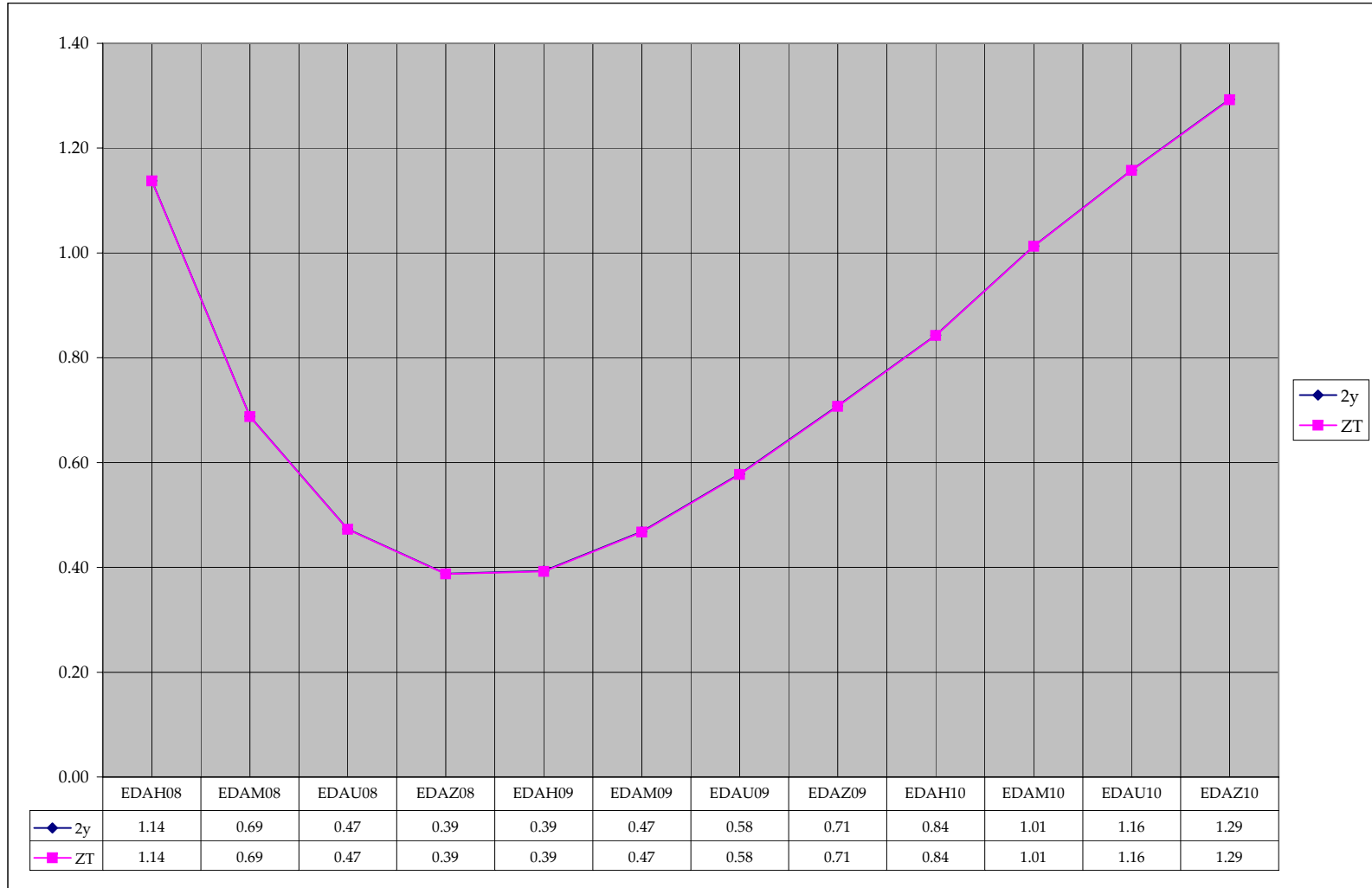


TED Curve

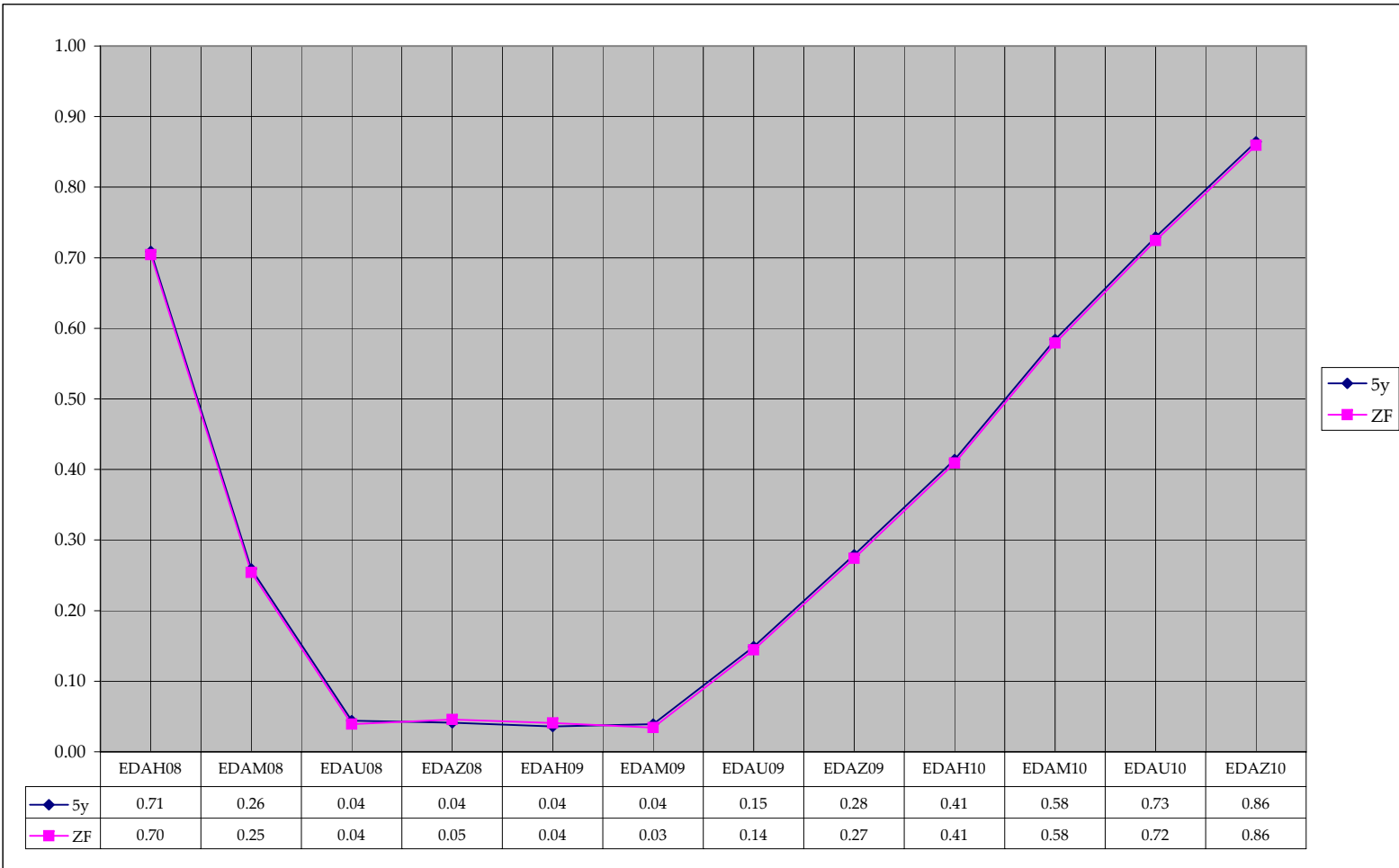
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



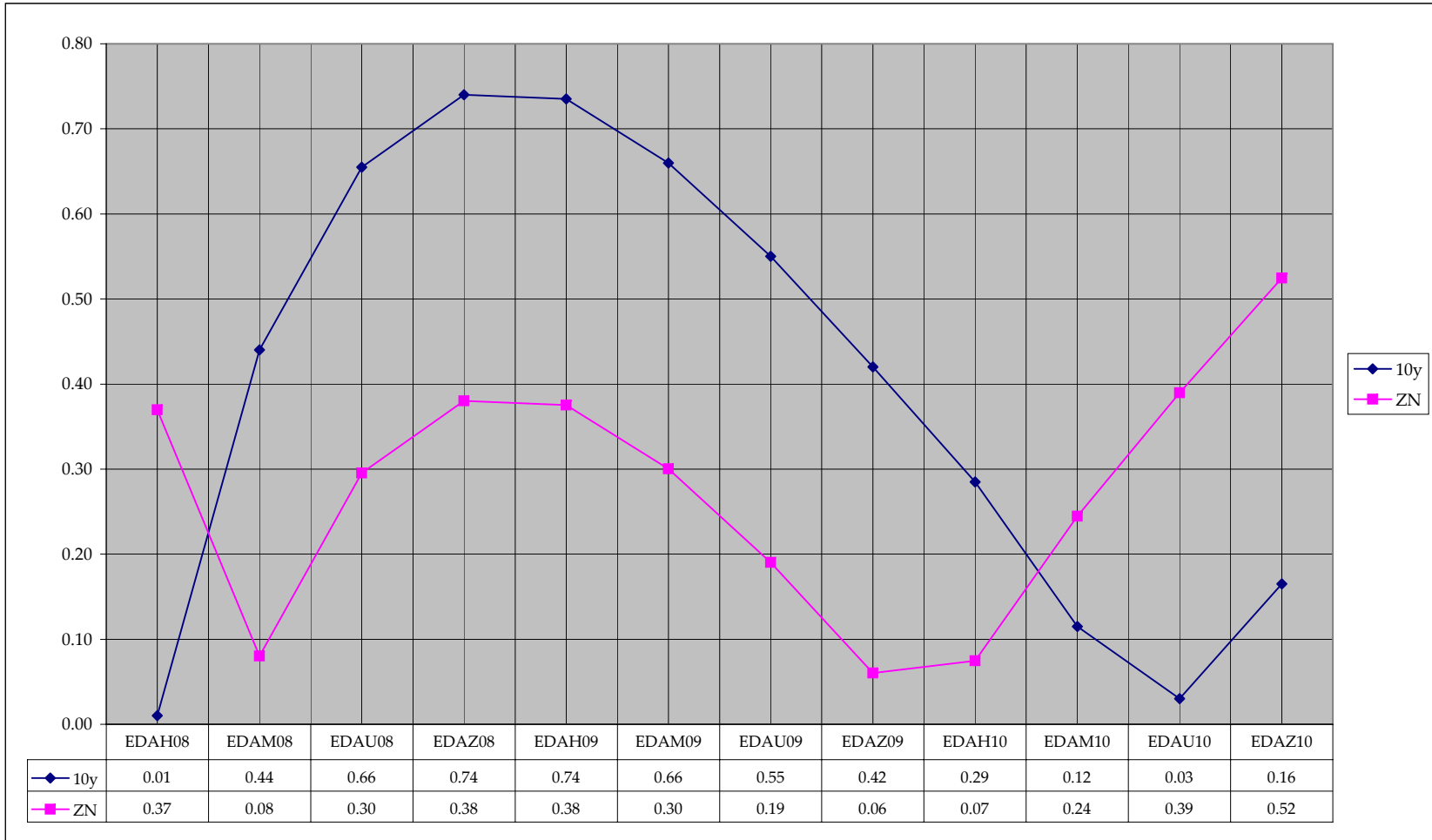
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	3.424	0.625	9665.125
Q.ED.Red	3.285	-1.125	9678.625
Q.ED.Green	3.842	-1.875	9624.625
Q.ED.Blue	4.349	-2.500	9575.625
Q.ED.Gold		0.000	9540.875

