

## 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	104.9750	104.312	3.079	1.89	
ZF	110.0313	110.010	3.425	4.01	
ZN	113.0625	113.020	3.756	5.95	
2y	100.109	100.0350	3.063	1.89	
5y	99.734	99.2350	3.430	4.53	
10y	101.563	101.1800	4.053	8.03	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAZ07	95.033	4.968	5	0.013	DEC	White Pack	
EDAH08	95.605	4.395	96	0.262	MAR		
EDAM08	96.065	3.935	187	0.512	JUN		
EDAU08	96.335	3.665	278	0.761	SEP	Red Pack	
EDAZ08	96.445	3.555	369	1.010	DEC		
EDAH09	96.445	3.555	460	1.260	MAR		
EDAM09	96.345	3.655	551	1.509	JUN	Green Pack	
EDAU09	96.200	3.800	642	1.758	SEP		
EDAZ09	96.050	3.950	733	2.008	DEC		
EDAH10	95.920	4.080	824	2.257	MAR	Blue Pack	
EDAM10	95.790	4.210	915	2.506	JUN		
EDAU10	95.675	4.325	1006	2.756	SEP		
EDAZ10	95.560	4.440	1097	3.005	DEC	Gold Pack	
EDAH11	95.565	4.435	1188	3.254	MAR		
EDAM11	95.465	4.535	1279	3.503	JUN		
EDAU11	95.390	4.610	1377	3.772	SEP		
EDAZ11	95.275	4.725	1468	4.021	DEC		
EDAH12	95.125	4.875	1559	4.271	MAR		
EDAM12	95.160	4.840	1650	4.520	JUN		
EDAU12	94.985	5.015	1741	4.769	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	4.346	2.375	9575.938	Pack Prices
Q.ED.Red	3.726	-6.250	9635.875	
Q.ED.Green	4.243	-5.625	9585.875	
Q.ED.Blue	-1.375		9546.125	
Q.ED.Gold	0.000		9513.750	

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)

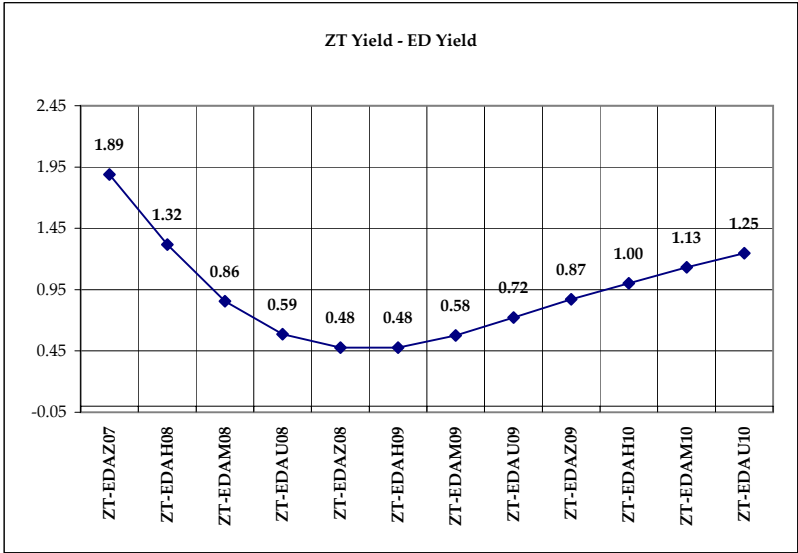
### Eurodollar Color Codes for Individual Year Strips:

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

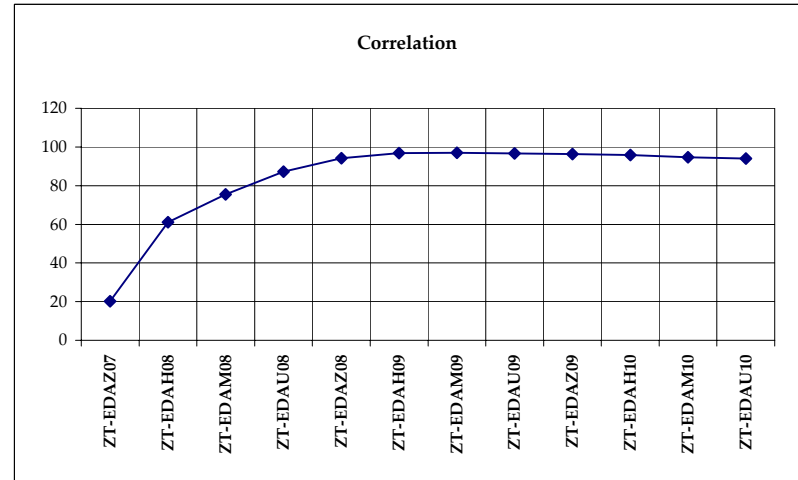
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	9.943	1.89	ZT-EDAZ07	20.225
EDAH08	9.370	1.32	ZT-EDAH08	61.113
EDAM08	8.910	0.86	ZT-EDAM08	75.551
EDAU08	8.640	0.59	ZT-EDAU08	87.249
EDAZ08	8.530	0.48	ZT-EDAZ08	94.130
EDAH09	8.530	0.48	ZT-EDAH09	96.753
EDAM09	8.630	0.58	ZT-EDAM09	96.974
EDAU09	8.775	0.72	ZT-EDAU09	96.644
EDAZ09	8.925	0.87	ZT-EDAZ09	96.280
EDAH10	9.055	1.00	ZT-EDAH10	95.762
EDAM10	9.185	1.13	ZT-EDAM10	94.688
EDAU10	9.300	1.25	ZT-EDAU10	94.014

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	0.013	1.89	1.88	ZT-EDAZ07
EDAH08	0.262	1.89	1.63	ZT-EDAH08
EDAM08	0.512	1.89	1.38	ZT-EDAM08
EDAU08	0.761	1.89	1.13	ZT-EDAU08
EDAZ08	1.010	1.89	0.88	ZT-EDAZ08
EDAH09	1.260	1.89	0.63	ZT-EDAH09
EDAM09	1.509	1.89	0.38	ZT-EDAM09
EDAU09	1.758	1.89	0.13	ZT-EDAU09
EDAZ09	2.008	1.89	(0.12)	ZT-EDAZ09
EDAH10	2.257	1.89	(0.36)	ZT-EDAH10
EDAM10	2.506	1.89	(0.61)	ZT-EDAM10
EDAU10	2.756	1.89	(0.86)	ZT-EDAU10

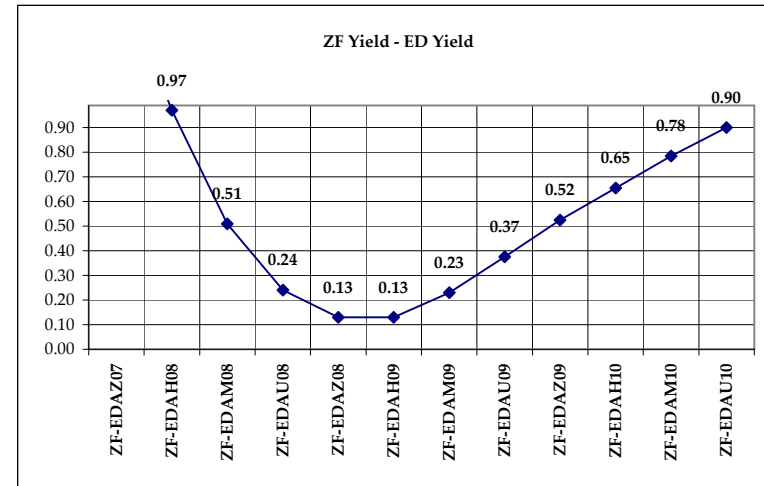
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	15.00	1.54	ZF-EDAZ07	9.723
EDAH08	14.43	0.97	ZF-EDAH08	52.204
EDAM08	13.97	0.51	ZF-EDAM08	68.425
EDAU08	13.70	0.24	ZF-EDAU08	81.962
EDAZ08	13.59	0.13	ZF-EDAZ08	90.281
EDAH09	13.59	0.13	ZF-EDAH09	93.937
EDAM09	13.69	0.23	ZF-EDAM09	94.428
EDAU09	13.83	0.37	ZF-EDAU09	94.023
EDAZ09	13.98	0.52	ZF-EDAZ09	93.536
EDAH10	14.11	0.65	ZF-EDAH10	92.883
EDAM10	14.24	0.78	ZF-EDAM10	91.563
EDAU10	14.36	0.90	ZF-EDAU10	90.654

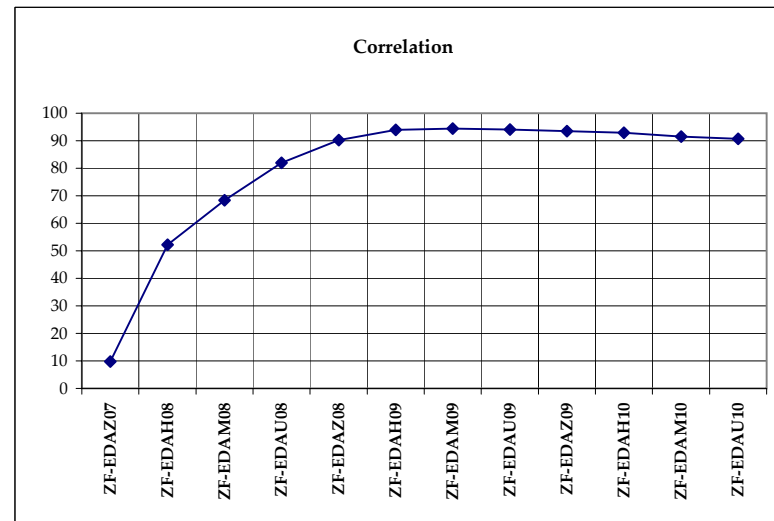
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAZ07	0.013	4.01	ZF-EDAZ07
EDAH08	0.262	4.01	ZF-EDAH08
EDAM08	0.512	4.01	ZF-EDAM08
EDAU08	0.761	4.01	ZF-EDAU08
EDAZ08	1.010	4.01	ZF-EDAZ08
EDAH09	1.260	4.01	ZF-EDAH09
EDAM09	1.509	4.01	ZF-EDAM09
EDAU09	1.758	4.01	ZF-EDAU09
EDAZ09	2.008	4.01	ZF-EDAZ09
EDAH10	2.257	4.01	ZF-EDAH10
EDAM10	2.506	4.01	ZF-EDAM10
EDAU10	2.756	4.01	ZF-EDAU10

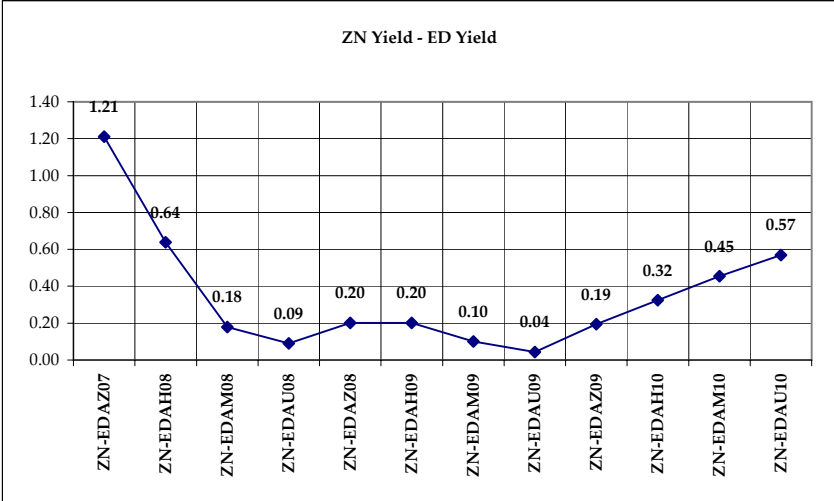
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

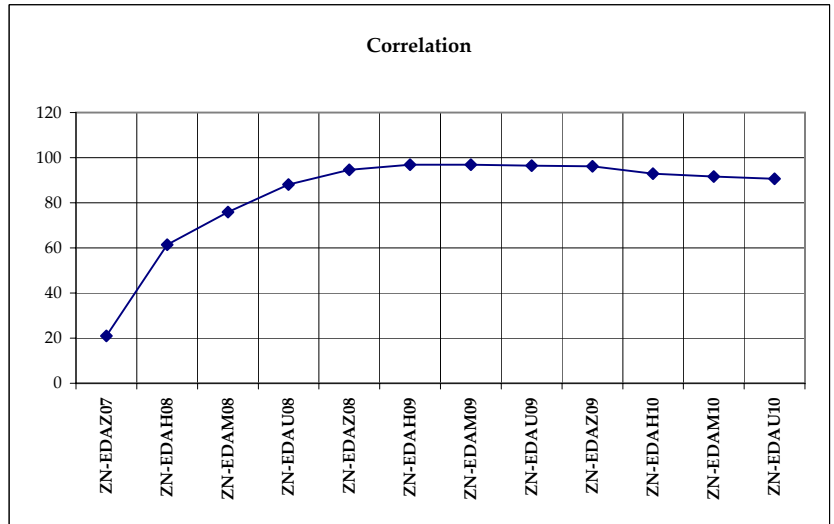
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	18.03	1.21	ZN-EDAZ07	21.03
EDAH08	17.46	0.64	ZN-EDAH08	61.38
EDAM08	17.00	0.18	ZN-EDAM08	75.92
EDAU08	16.73	0.09	ZN-EDAU08	88.02
EDAZ08	16.62	0.20	ZN-EDAZ08	94.63
EDAH09	16.62	0.20	ZN-EDAH09	96.89
EDAM09	16.72	0.10	ZN-EDAM09	96.94
EDAU09	16.86	0.04	ZN-EDAU09	96.50
EDAZ09	17.01	0.19	ZN-EDAZ09	96.10
EDAH10	17.14	0.32	ZN-EDAH10	92.88
EDAM10	17.27	0.45	ZN-EDAM10	91.56
EDAU10	17.39	0.57	ZN-EDAU10	90.65

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	0.013	5.95	5.94	ZN-EDAZ07
EDAH08	0.262	5.95	5.69	ZN-EDAH08
EDAM08	0.512	5.95	5.44	ZN-EDAM08
EDAU08	0.761	5.95	5.19	ZN-EDAU08
EDAZ08	1.010	5.95	4.94	ZN-EDAZ08
EDAH09	1.260	5.95	4.69	ZN-EDAH09
EDAM09	1.509	5.95	4.45	ZN-EDAM09
EDAU09	1.758	5.95	4.20	ZN-EDAU09
EDAZ09	2.008	5.95	3.95	ZN-EDAZ09
EDAH10	2.257	5.95	3.70	ZN-EDAH10
EDAM10	2.506	5.95	3.45	ZN-EDAM10
EDAU10	2.756	5.95	3.20	ZN-EDAU10

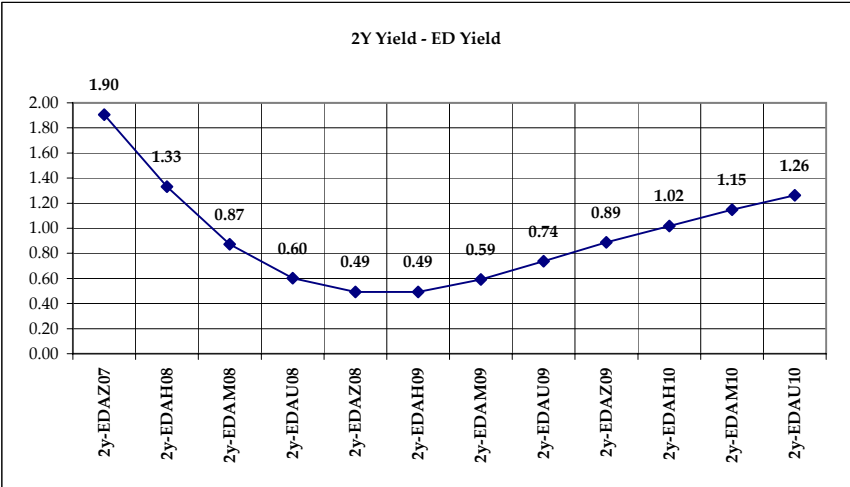
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	5.08	1.90	2y-EDAZ07	-7.040
EDAH08	4.50	1.33	2y-EDAH08	-51.408
EDAM08	4.04	0.87	2y-EDAM08	-66.802
EDAU08	3.77	0.60	2y-EDAU08	-80.224
EDAZ08	3.66	0.49	2y-EDAZ08	-66.802
EDAH09	3.66	0.49	2y-EDAH09	-90.471
EDAM09	3.76	0.59	2y-EDAM09	-90.455
EDAU09	3.91	0.74	2y-EDAU09	-89.931
EDAZ09	4.06	0.89	2y-EDAZ09	-89.338
EDAH10	4.19	1.02	2y-EDAH10	-88.740
EDAM10	4.32	1.15	2y-EDAM10	-87.759
EDAU10	4.43	1.26	2y-EDAU10	-86.976

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.

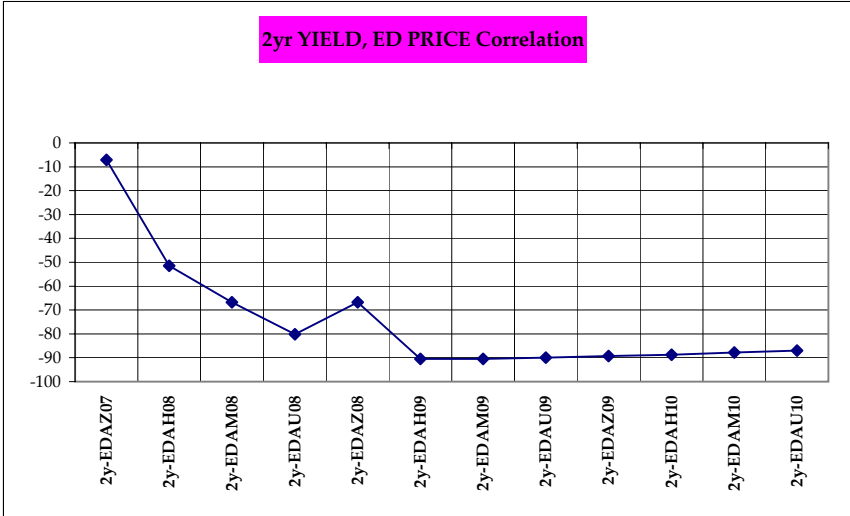


GE Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAZ07	0.013	1.89	1.88	2y-EDAZ07
EDAH08	0.262	1.89	1.63	2y-EDAH08
EDAM08	0.512	1.89	1.38	2y-EDAM08
EDAU08	0.761	1.89	1.13	2y-EDAU08
EDAZ08	1.010	1.89	0.88	2y-EDAZ08
EDAH09	1.260	1.89	0.63	2y-EDAH09
EDAM09	1.509	1.89	0.38	2y-EDAM09
EDAU09	1.758	1.89	0.13	2y-EDAU09
EDAZ09	2.008	1.89	(0.12)	2y-EDAZ09
EDAH10	2.257	1.89	(0.37)	2y-EDAH10
EDAM10	2.506	1.89	(0.62)	2y-EDAM10
EDAU10	2.756	1.89	(0.87)	2y-EDAU10

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

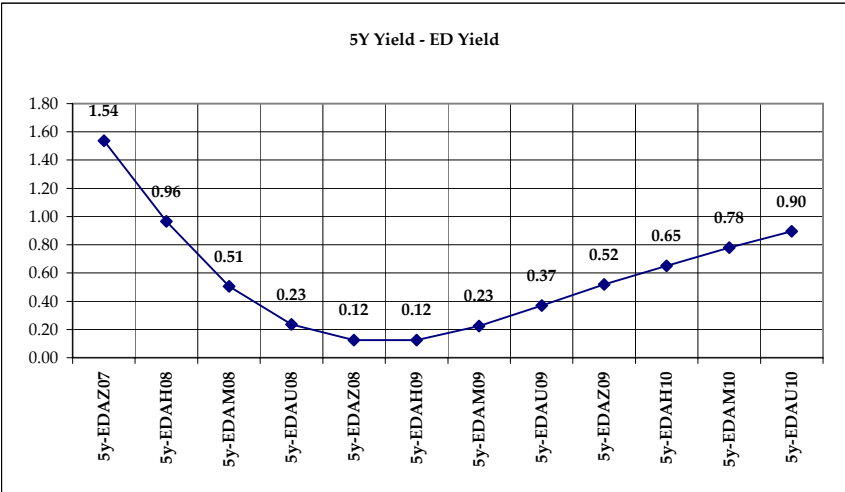
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.70	1.54	5y-EDAZ07	-11.347
EDAH08	4.13	0.96	5y-EDAH08	-54.459
EDAM08	3.67	0.51	5y-EDAM08	-69.551
EDAU08	3.40	0.23	5y-EDAU08	-82.713
EDAZ08	3.29	0.12	5y-EDAZ08	-69.551
EDAH09	3.29	0.12	5y-EDAH09	-91.956
EDAM09	3.39	0.23	5y-EDAM09	-91.923
EDAU09	3.53	0.37	5y-EDAU09	-91.375
EDAZ09	3.68	0.52	5y-EDAZ09	-90.827
EDAH10	3.81	0.65	5y-EDAH10	-90.508
EDAM10	3.94	0.78	5y-EDAM10	-89.903
EDAU10	4.06	0.90	5y-EDAU10	-89.149

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.

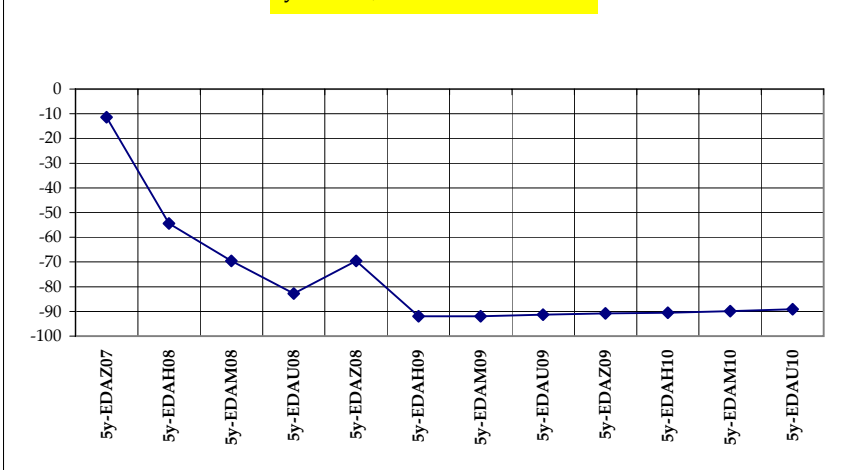


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAZ07	0.013	4.53	5y-EDAZ07
EDAH08	0.262	4.53	5y-EDAH08
EDAM08	0.512	4.53	5y-EDAM08
EDAU08	0.761	4.53	5y-EDAU08
EDAZ08	1.010	4.53	5y-EDAZ08
EDAH09	1.260	4.53	5y-EDAH09
EDAM09	1.509	4.53	5y-EDAM09
EDAU09	1.758	4.53	5y-EDAU09
EDAZ09	2.008	4.53	5y-EDAZ09
EDAH10	2.257	4.53	5y-EDAH10
EDAM10	2.506	4.53	5y-EDAM10
EDAU10	2.756	4.53	5y-EDAU10

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

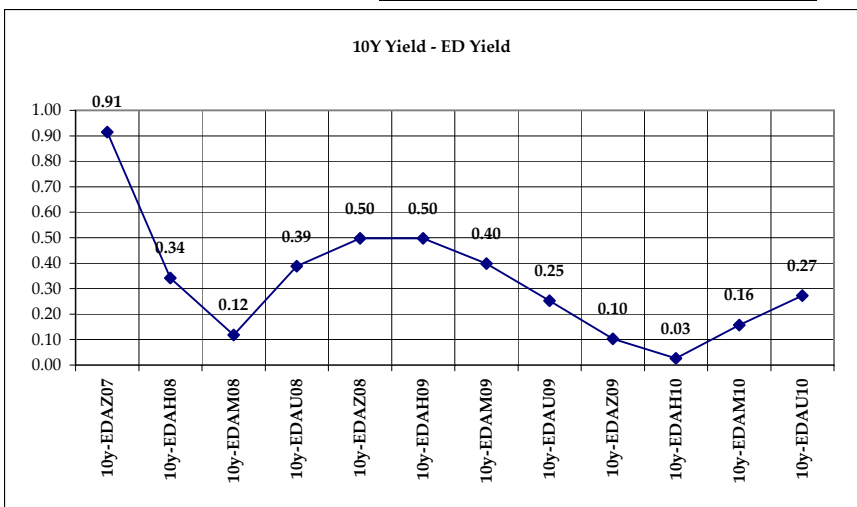
**5yr YIELD, ED PRICE Correlation**



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

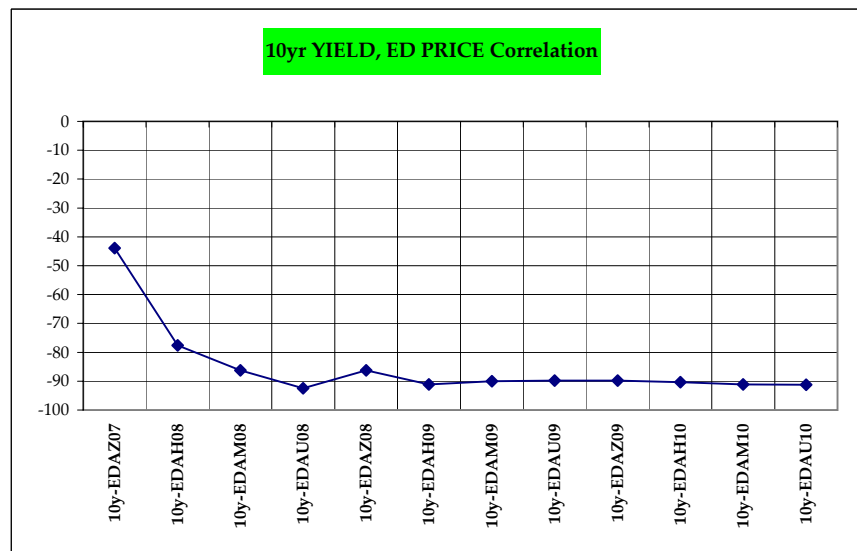
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.70	0.91	10y-EDAZ07	-43.890
EDAH08	4.13	0.34	10y-EDAH08	-77.633
EDAM08	3.67	0.12	10y-EDAM08	-86.263
EDAU08	3.40	0.39	10y-EDAU08	-92.467
EDAZ08	3.29	0.50	10y-EDAZ08	-86.263
EDAH09	3.29	0.50	10y-EDAH09	-91.167
EDAM09	3.39	0.40	10y-EDAM09	-89.989
EDAU09	3.53	0.25	10y-EDAU09	-89.825
EDAZ09	3.68	0.10	10y-EDAZ09	-89.795
EDAH10	3.81	0.03	10y-EDAH10	-90.319
EDAM10	3.94	0.16	10y-EDAM10	-91.166
EDAU10	4.06	0.27	10y-EDAU10	-91.280

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	0.013	8.03	8.03	8.01	10y-EDAZ07
EDAH08	0.262	8.03	8.03	7.76	10y-EDAH08
EDAM08	0.512	8.03	8.03	7.52	10y-EDAM08
EDAU08	0.761	8.03	8.03	7.27	10y-EDAU08
EDAZ08	1.010	8.03	8.03	7.02	10y-EDAZ08
EDAH09	1.260	8.03	8.03	6.77	10y-EDAH09
EDAM09	1.509	8.03	8.03	6.52	10y-EDAM09
EDAU09	1.758	8.03	8.03	6.27	10y-EDAU09
EDAZ09	2.008	8.03	8.03	6.02	10y-EDAZ09
EDAH10	2.257	8.03	8.03	5.77	10y-EDAH10
EDAM10	2.506	8.03	8.03	5.52	10y-EDAM10
EDAU10	2.756	8.03	8.03	5.27	10y-EDAU10

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

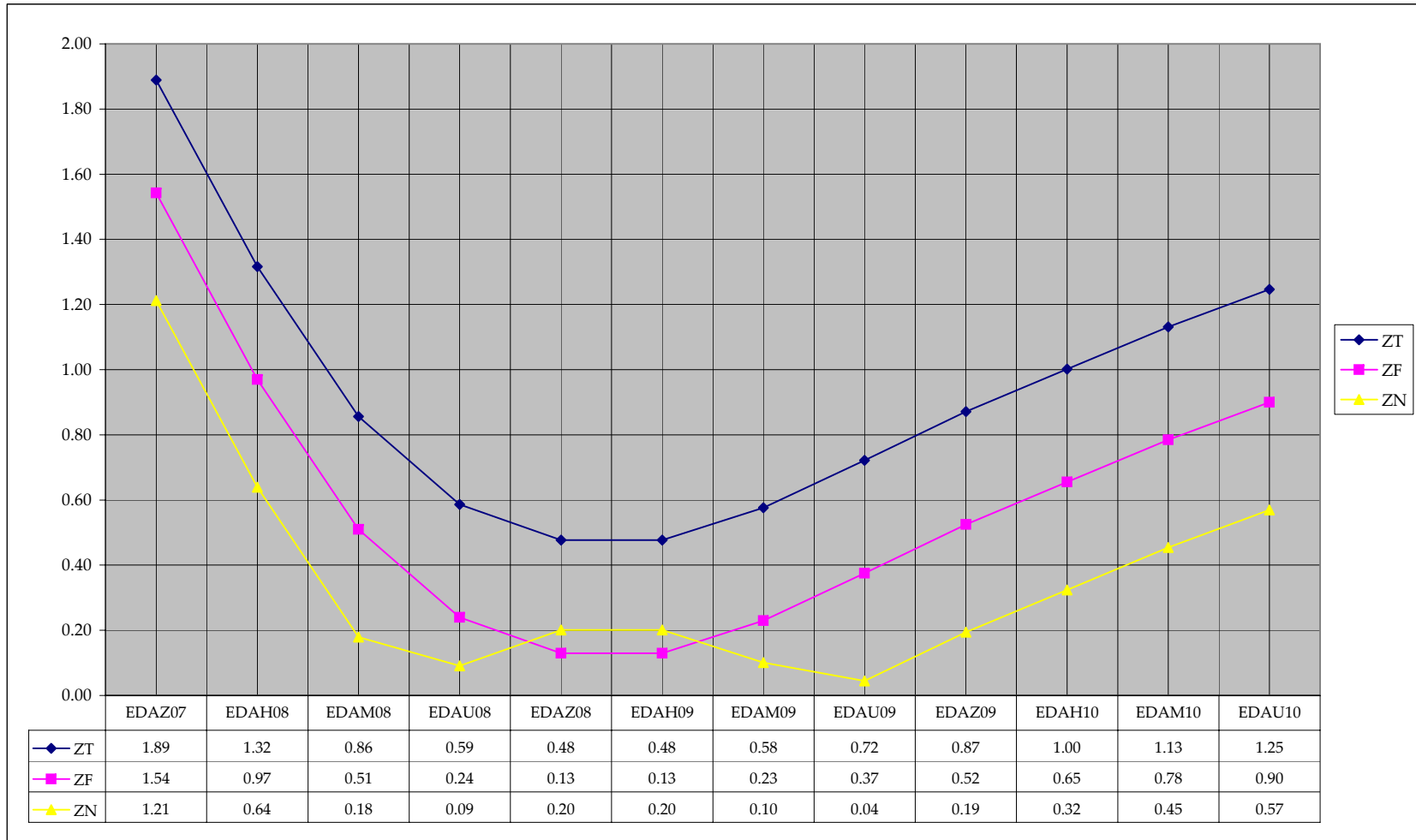


**Dirty TED Curve**

12/12/2007 5:41

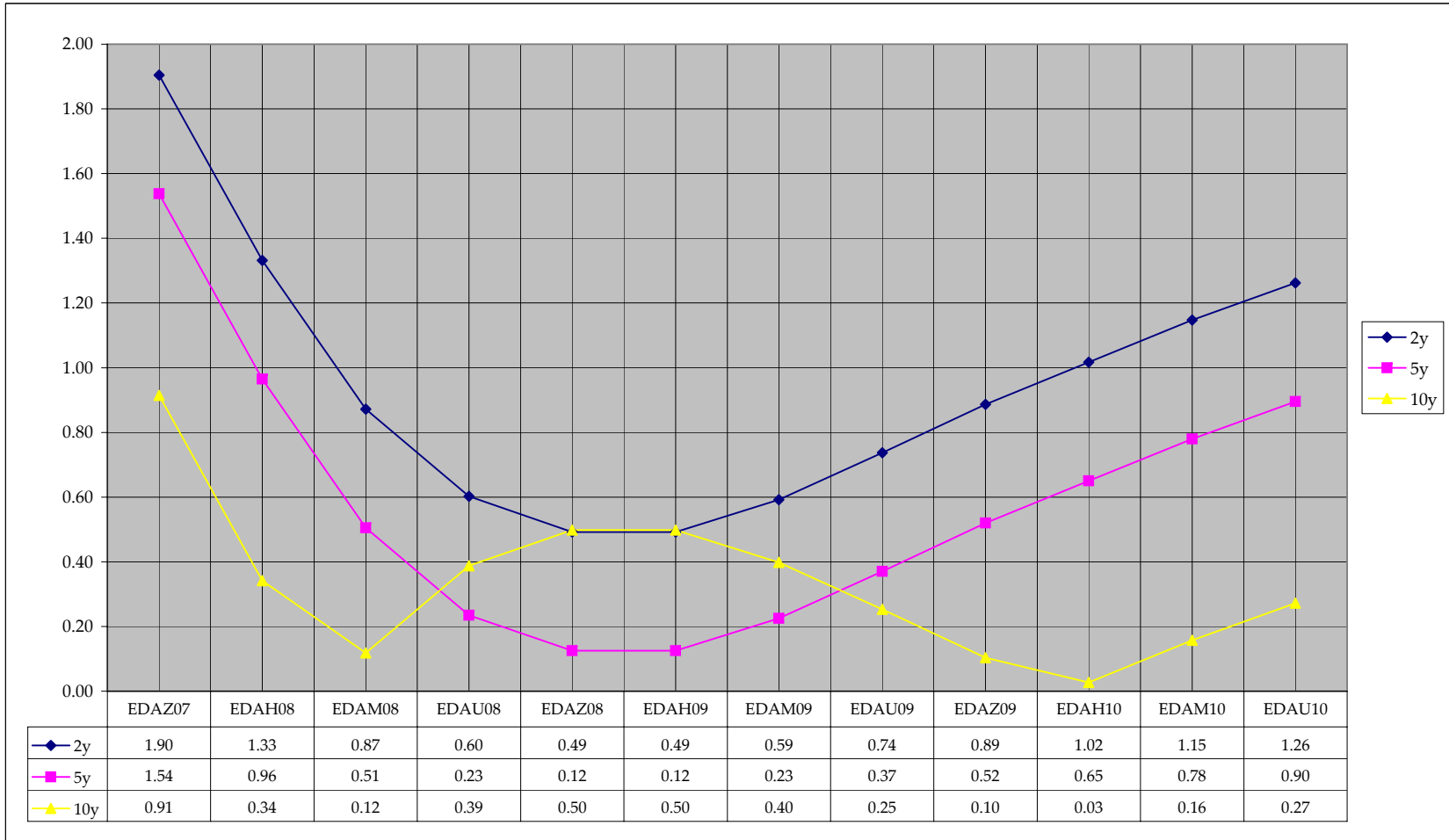
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

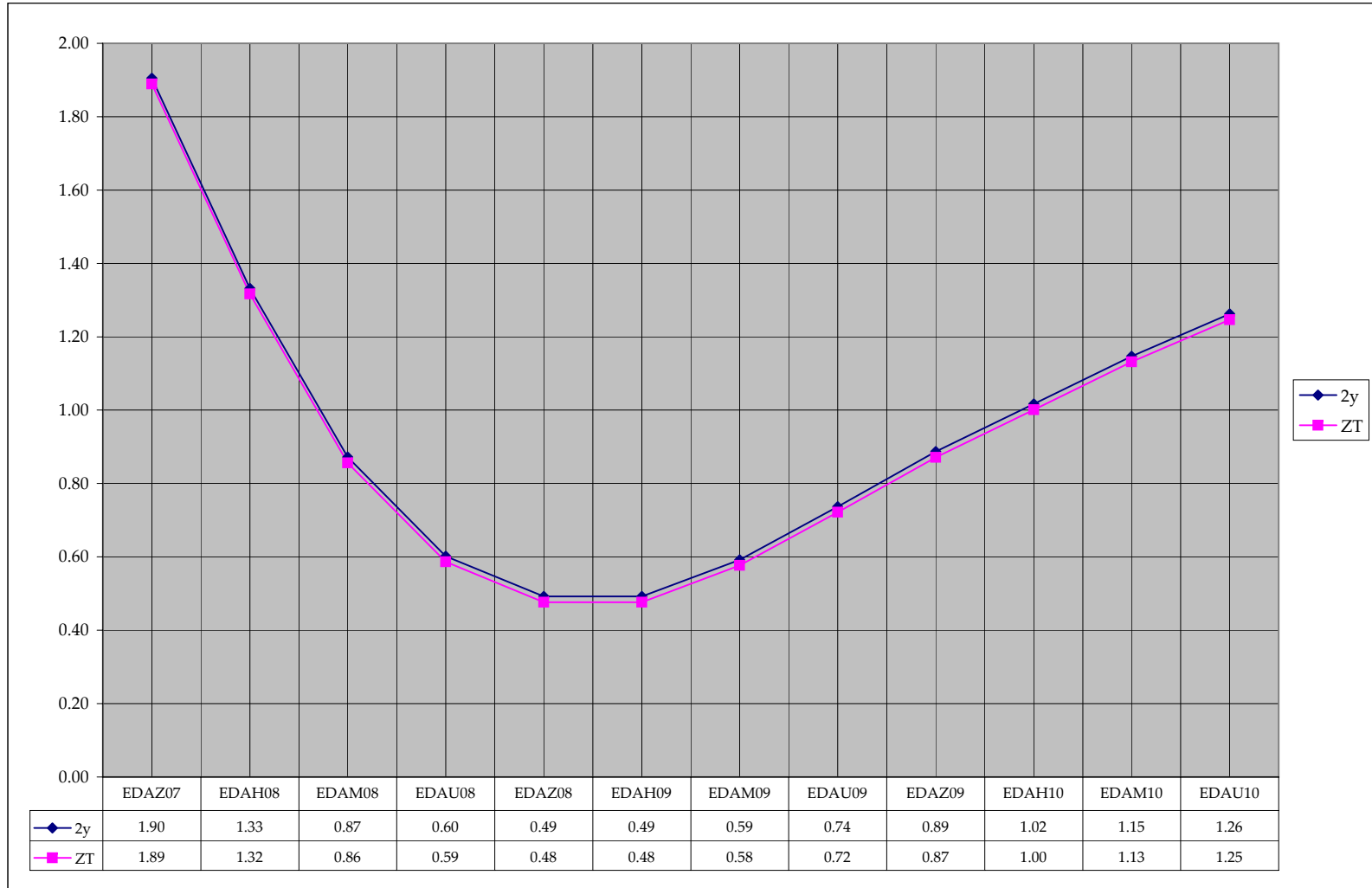


TED Curve

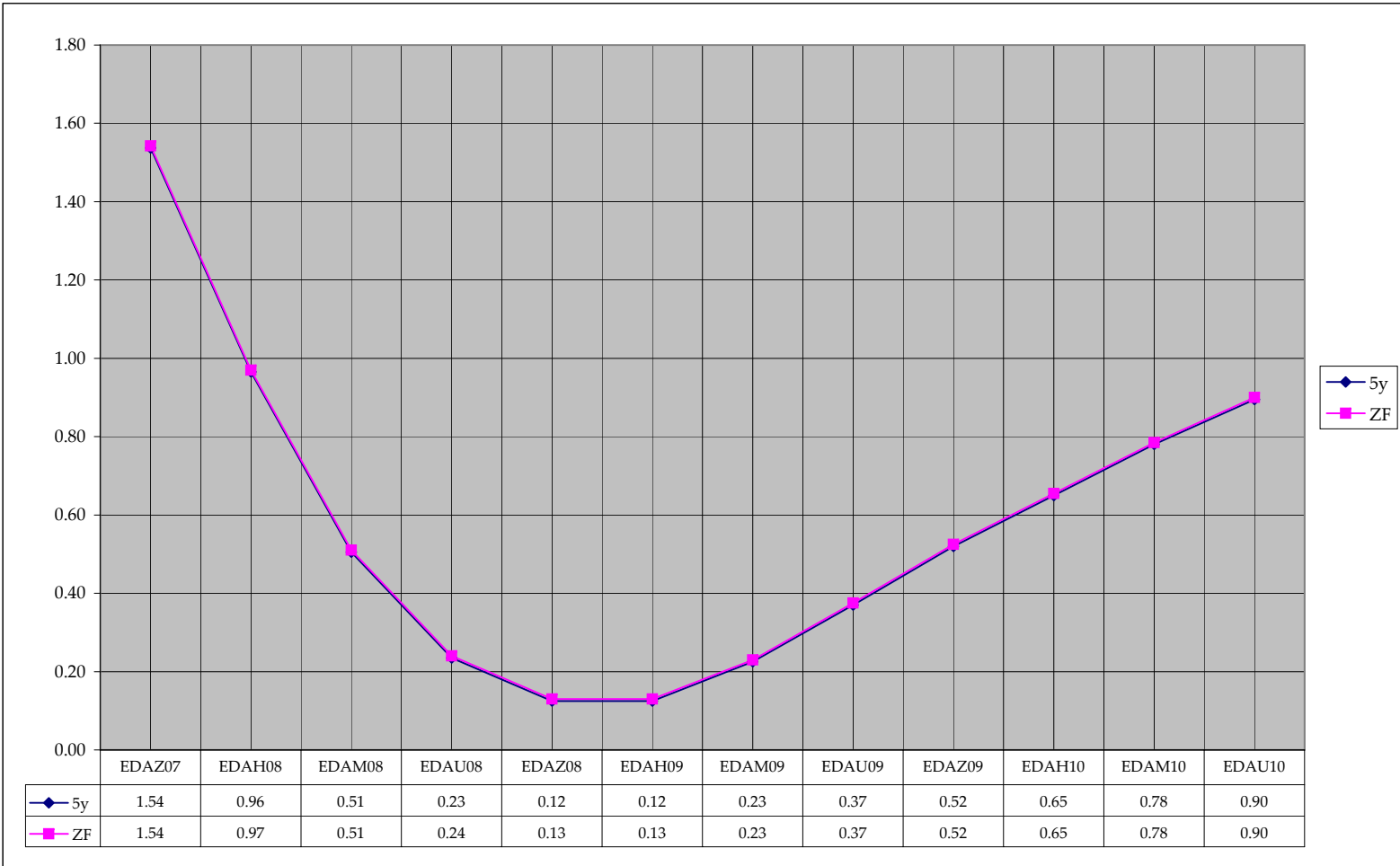
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



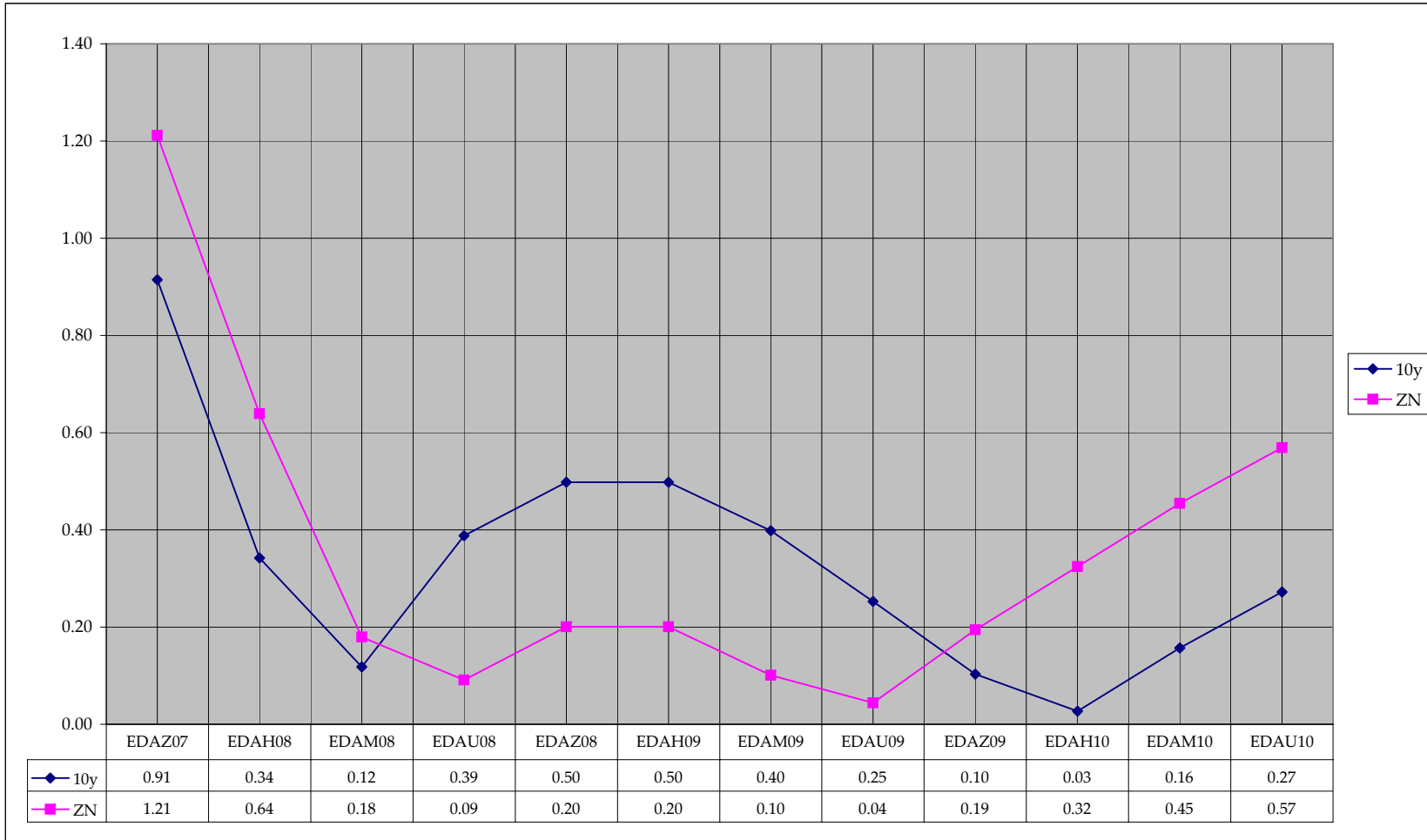
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.346	2.375	9575.938
Q.ED.Red	3.726	-6.250	9635.875
Q.ED.Green	4.243	-5.625	9585.875
Q.ED.Blue		-1.375	9546.125
Q.ED.Gold		0.000	9513.750

