

## 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	106.1250	106.040	2.520	1.88	
ZF	112.3750	112.120	2.895	3.93	
ZN	116.0000	116.000	3.340	5.88	
2y	101.375	101.1200	2.523	1.88	
5y	102.891	102.2850	2.991	4.45	
10y	104.375	104.1200	3.712	7.97	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	96.415	3.585	60	0.164	MAR	White Pack	
EDAM08	96.895	3.105	151	0.413	JUN		
EDAU08	97.100	2.900	242	0.662	SEP		
EDAZ08	97.170	2.830	333	0.912	DEC	Red Pack	
EDAH09	97.175	2.825	424	1.161	MAR		
EDAM09	97.090	2.910	515	1.410	JUN		
EDAU09	96.960	3.040	606	1.660	SEP	Green Pack	
EDAZ09	96.805	3.195	697	1.909	DEC		
EDAH10	96.665	3.335	788	2.158	MAR		
EDAM10	96.475	3.525	879	2.408	JUN	Blue Pack	
EDAU10	96.325	3.675	970	2.657	SEP		
EDAZ10	96.165	3.835	1061	2.906	DEC		
EDAH11	96.055	3.945	1152	3.156	MAR	Gold Pack	
EDAM11	95.910	4.090	1243	3.405	JUN		
EDAU11	95.805	4.195	1341	3.673	SEP		
EDAZ11	95.685	4.315	1432	3.923	DEC		
EDAH12	95.515	4.485	1523	4.172	MAR		
EDAM12	95.490	4.510	1614	4.421	JUN		
EDAU12	95.385	4.615	1705	4.671	SEP		
EDAU12	95.385	4.615	1705	4.671	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	3.173	-0.750	9689.500	Pack Prices
Q.ED.Red	3.057	-1.875	9700.750	
Q.ED.Green	3.675	-0.875	9640.750	
Q.ED.Blue	4.238	-0.375	9586.375	
Q.ED.Gold		0.000	9543.750	

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

1/17/2008 5:35

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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)

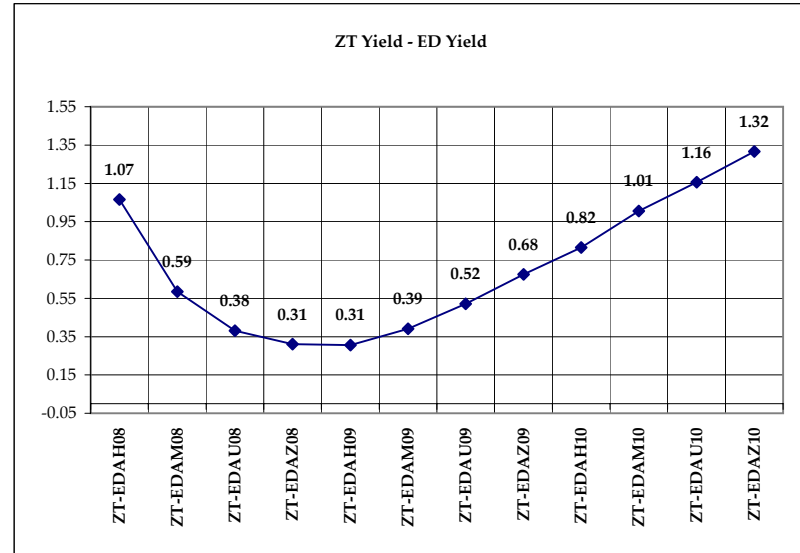
### Eurodollar Color Codes for Individual Year Strips:

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	9.710	1.07	ZT-EDAH08	94.398
EDAM08	9.230	0.59	ZT-EDAM08	96.778
EDAU08	9.025	0.38	ZT-EDAU08	98.267
EDAZ08	8.955	0.31	ZT-EDAZ08	98.534
EDAH09	8.950	0.31	ZT-EDAH09	97.000
EDAM09	9.035	0.39	ZT-EDAM09	95.056
EDAU09	9.165	0.52	ZT-EDAU09	93.749
EDAZ09	9.320	0.68	ZT-EDAZ09	93.372
EDAH10	9.460	0.82	ZT-EDAH10	92.771
EDAM10	9.650	1.01	ZT-EDAM10	92.781
EDAU10	9.800	1.16	ZT-EDAU10	91.804
EDAZ10	9.960	1.32	ZT-EDAZ10	91.598

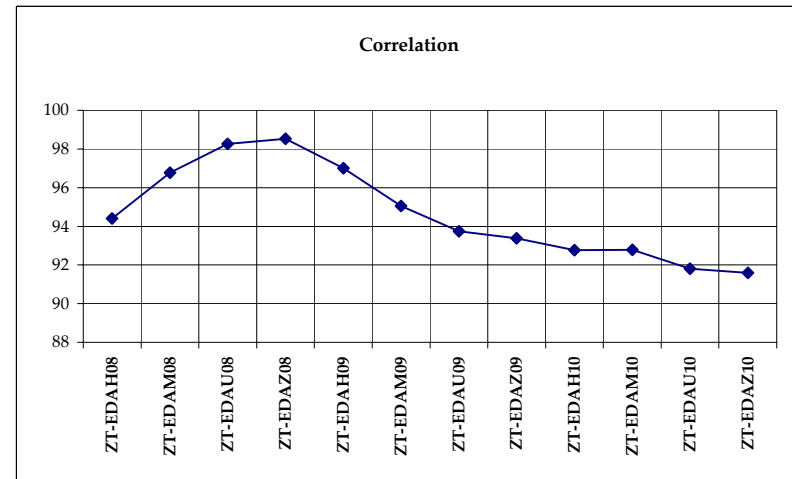
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZT Duration	Spread Duration	
EDAH08	0.164	1.72	ZT-EDAH08
EDAM08	0.413	1.47	ZT-EDAM08
EDAU08	0.662	1.22	ZT-EDAU08
EDAZ08	0.912	0.97	ZT-EDAZ08
EDAH09	1.161	0.72	ZT-EDAH09
EDAM09	1.410	0.47	ZT-EDAM09
EDAU09	1.660	0.22	ZT-EDAU09
EDAZ09	1.909	(0.03)	ZT-EDAZ09
EDAH10	2.158	(0.28)	ZT-EDAH10
EDAM10	2.408	(0.53)	ZT-EDAM10
EDAU10	2.657	(0.78)	ZT-EDAU10
EDAZ10	2.906	(1.03)	ZT-EDAZ10

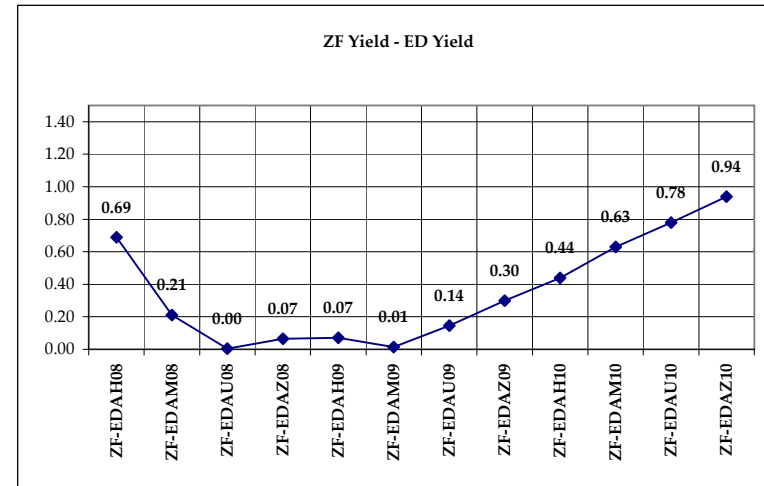
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	15.96	0.69	ZF-EDAH08	84.449
EDAM08	15.48	0.21	ZF-EDAM08	88.356
EDAU08	15.28	0.00	ZF-EDAU08	91.745
EDAZ08	15.21	0.07	ZF-EDAZ08	94.560
EDAH09	15.20	0.07	ZF-EDAH09	96.535
EDAM09	15.29	0.01	ZF-EDAM09	97.424
EDAU09	15.42	0.14	ZF-EDAU09	98.069
EDAZ09	15.57	0.30	ZF-EDAZ09	98.976
EDAH10	15.71	0.44	ZF-EDAH10	99.280
EDAM10	15.90	0.63	ZF-EDAM10	99.028
EDAU10	16.05	0.78	ZF-EDAU10	98.681
EDAZ10	16.21	0.94	ZF-EDAZ10	97.940

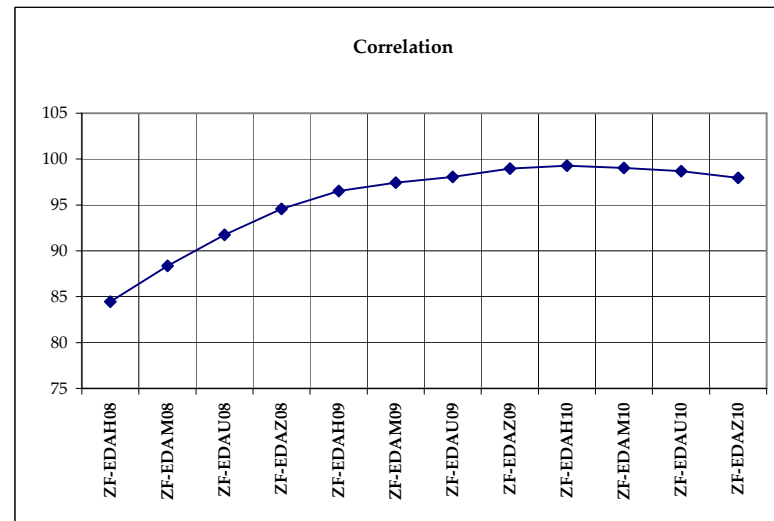
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.164	3.93	3.77	ZF-EDAH08
EDAM08	0.413	3.93	3.52	ZF-EDAM08
EDAU08	0.662	3.93	3.27	ZF-EDAU08
EDAZ08	0.912	3.93	3.02	ZF-EDAZ08
EDAH09	1.161	3.93	2.77	ZF-EDAH09
EDAM09	1.410	3.93	2.52	ZF-EDAM09
EDAU09	1.660	3.93	2.27	ZF-EDAU09
EDAZ09	1.909	3.93	2.02	ZF-EDAZ09
EDAH10	2.158	3.93	1.77	ZF-EDAH10
EDAM10	2.408	3.93	1.52	ZF-EDAM10
EDAU10	2.657	3.93	1.27	ZF-EDAU10
EDAZ10	2.906	3.93	1.02	ZF-EDAZ10

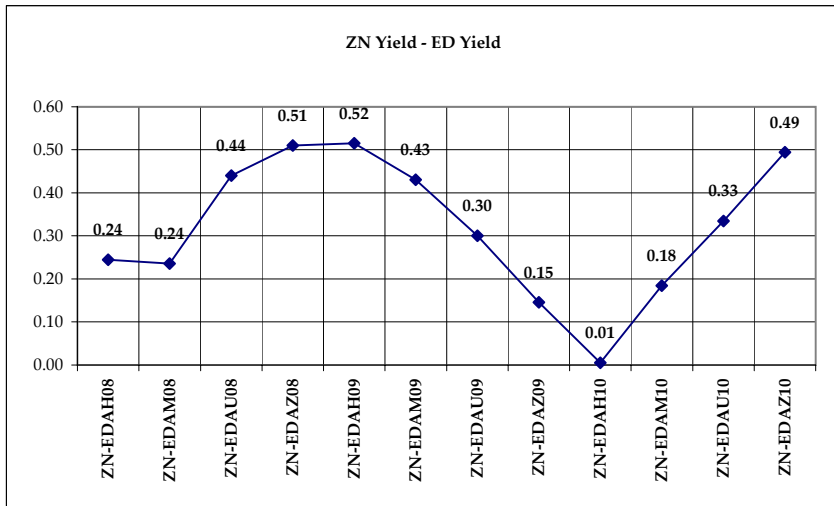
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

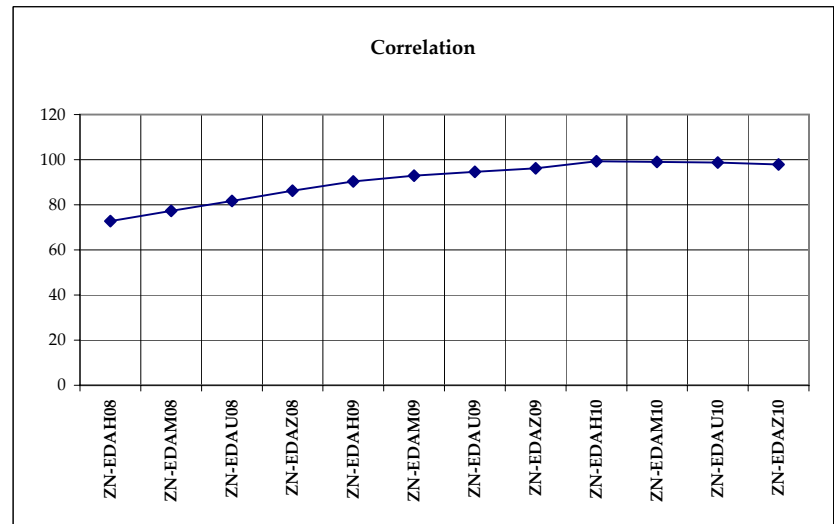
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.59	0.24	ZN-EDAH08	72.77
EDAM08	19.11	0.24	ZN-EDAM08	77.29
EDAU08	18.90	0.44	ZN-EDAU08	81.73
EDAZ08	18.83	0.51	ZN-EDAZ08	86.27
EDAH09	18.83	0.52	ZN-EDAH09	90.33
EDAM09	18.91	0.43	ZN-EDAM09	92.89
EDAU09	19.04	0.30	ZN-EDAU09	94.58
EDAZ09	19.20	0.15	ZN-EDAZ09	96.12
EDAH10	19.34	0.01	ZN-EDAH10	99.28
EDAM10	19.53	0.18	ZN-EDAM10	99.03
EDAU10	19.68	0.33	ZN-EDAU10	98.68
EDAZ10	19.84	0.49	ZN-EDAZ10	97.94

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	0.164	5.88	5.72	ZN-EDAH08
EDAM08	0.413	5.88	5.47	ZN-EDAM08
EDAU08	0.662	5.88	5.22	ZN-EDAU08
EDAZ08	0.912	5.88	4.97	ZN-EDAZ08
EDAH09	1.161	5.88	4.72	ZN-EDAH09
EDAM09	1.410	5.88	4.47	ZN-EDAM09
EDAU09	1.660	5.88	4.22	ZN-EDAU09
EDAZ09	1.909	5.88	3.97	ZN-EDAZ09
EDAH10	2.158	5.88	3.72	ZN-EDAH10
EDAM10	2.408	5.88	3.47	ZN-EDAM10
EDAU10	2.657	5.88	3.23	ZN-EDAU10
EDAZ10	2.906	5.88	2.98	ZN-EDAZ10

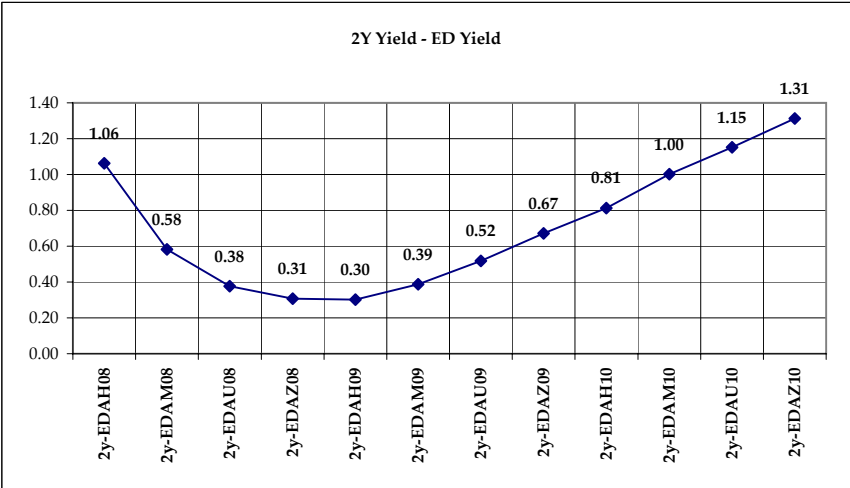
The farther away from 0 the spread duration is the riskier the trade.



**TERM TED: 2y vs Eurodollar Contracts**

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.96	1.06	2y-EDAH08	-92.619
EDAM08	4.48	0.58	2y-EDAM08	-94.796
EDAU08	4.28	0.38	2y-EDAU08	-95.865
EDAZ08	4.21	0.31	2y-EDAZ08	-94.796
EDAH09	4.20	0.30	2y-EDAH09	-94.840
EDAM09	4.29	0.39	2y-EDAM09	-93.145
EDAU09	4.42	0.52	2y-EDAU09	-91.977
EDAZ09	4.57	0.67	2y-EDAZ09	-91.744
EDAH10	4.71	0.81	2y-EDAH10	-91.314
EDAM10	4.90	1.00	2y-EDAM10	-91.905
EDAU10	5.05	1.15	2y-EDAU10	-91.208
EDAZ10	5.21	1.31	2y-EDAZ10	-91.943

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.

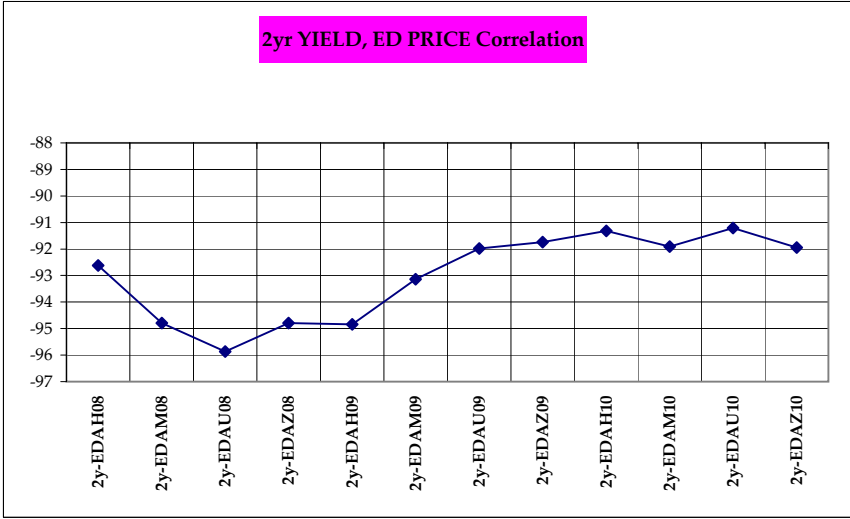


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAH08	0.164	1.72	2y-EDAH08
EDAM08	0.413	1.47	2y-EDAM08
EDAU08	0.662	1.22	2y-EDAU08
EDAZ08	0.912	0.97	2y-EDAZ08
EDAH09	1.161	0.72	2y-EDAH09
EDAM09	1.410	0.47	2y-EDAM09
EDAU09	1.660	0.22	2y-EDAU09
EDAZ09	1.909	(0.03)	2y-EDAZ09
EDAH10	2.158	(0.28)	2y-EDAH10
EDAM10	2.408	(0.53)	2y-EDAM10
EDAU10	2.657	(0.78)	2y-EDAU10
EDAZ10	2.906	(1.03)	2y-EDAZ10

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

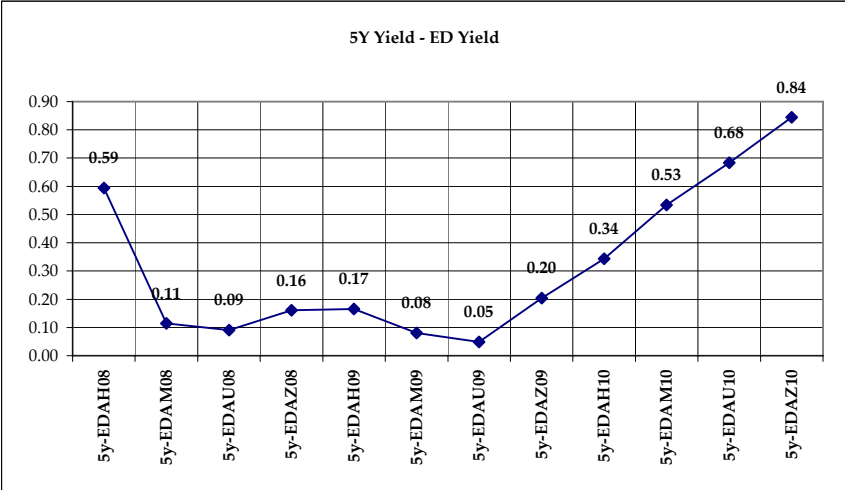
**2yr YIELD, ED PRICE Correlation**



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	6.48	0.59	5y-EDAH08	-82.118
EDAM08	6.00	0.11	5y-EDAM08	-84.363
EDAU08	5.79	0.09	5y-EDAU08	-86.242
EDAZ08	5.72	0.16	5y-EDAZ08	-84.363
EDAH09	5.72	0.17	5y-EDAH09	-88.171
EDAM09	5.80	0.08	5y-EDAM09	-88.014
EDAU09	5.93	0.05	5y-EDAU09	-88.122
EDAZ09	6.09	0.20	5y-EDAZ09	-89.035
EDAH10	6.23	0.34	5y-EDAH10	-89.563
EDAM10	6.42	0.53	5y-EDAM10	-90.363
EDAU10	6.57	0.68	5y-EDAU10	-90.767
EDAZ10	6.73	0.84	5y-EDAZ10	-91.746

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.

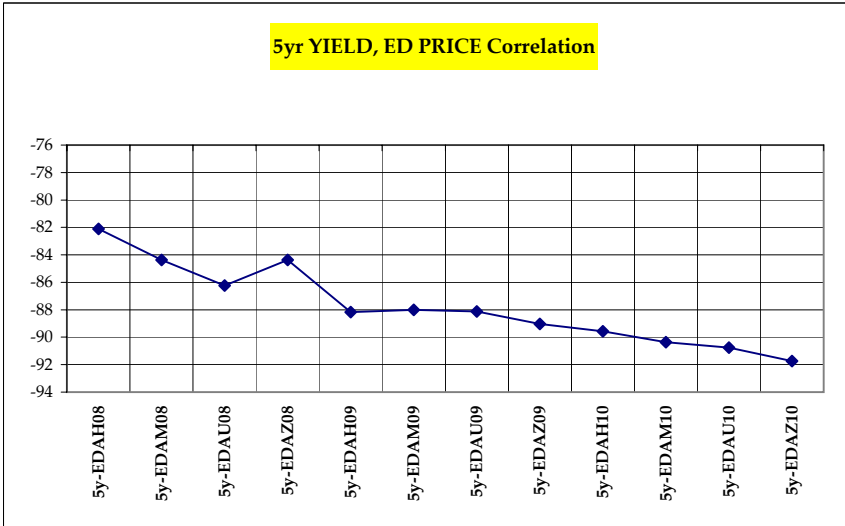


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAH08	0.164	4.45	4.28 5y-EDAH08
EDAM08	0.413	4.45	4.03 5y-EDAM08
EDAU08	0.662	4.45	3.78 5y-EDAU08
EDAZ08	0.912	4.45	3.53 5y-EDAZ08
EDAH09	1.161	4.45	3.29 5y-EDAH09
EDAM09	1.410	4.45	3.04 5y-EDAM09
EDAU09	1.660	4.45	2.79 5y-EDAU09
EDAZ09	1.909	4.45	2.54 5y-EDAZ09
EDAH10	2.158	4.45	2.29 5y-EDAH10
EDAM10	2.408	4.45	2.04 5y-EDAM10
EDAU10	2.657	4.45	1.79 5y-EDAU10
EDAZ10	2.906	4.45	1.54 5y-EDAZ10

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

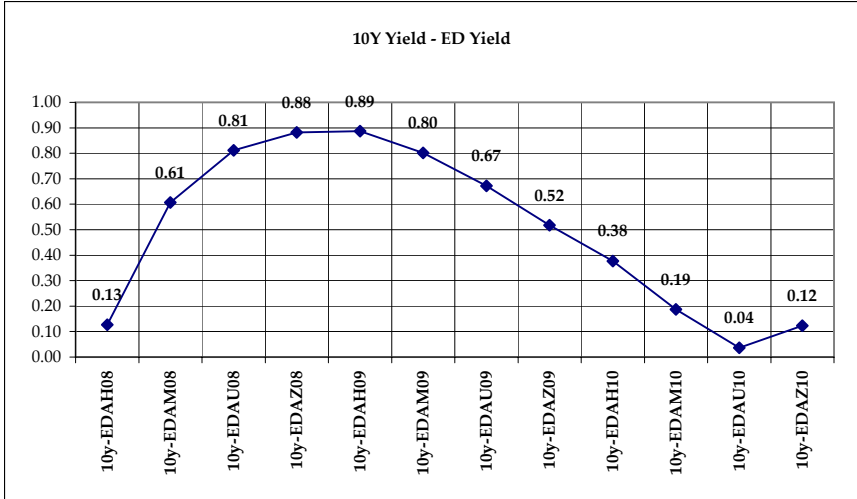
**5yr YIELD, ED PRICE Correlation**



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

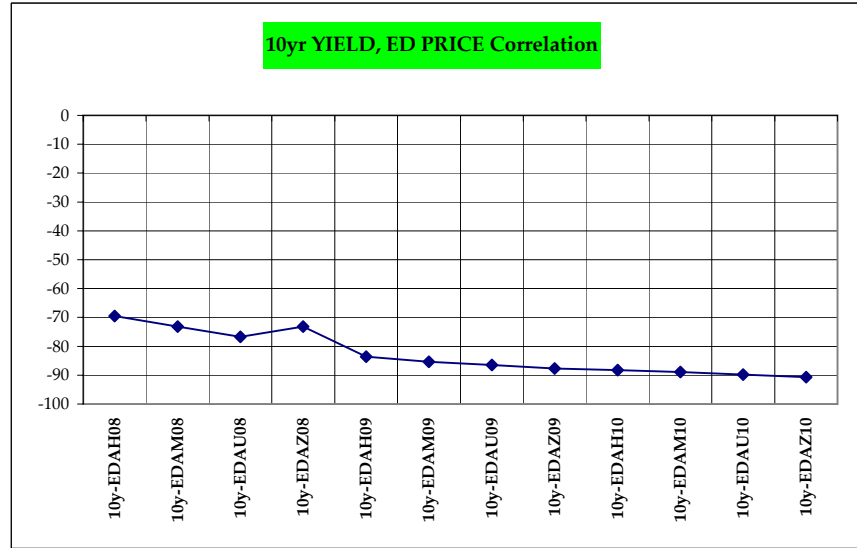
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	6.48	0.13	10y-EDAH08	-69.544
EDAM08	6.00	0.61	10y-EDAM08	-73.188
EDAU08	5.79	0.81	10y-EDAU08	-76.700
EDAZ08	5.72	0.88	10y-EDAZ08	-73.188
EDAH09	5.72	0.89	10y-EDAH09	-83.635
EDAM09	5.80	0.80	10y-EDAM09	-85.417
EDAU09	5.93	0.67	10y-EDAU09	-86.494
EDAZ09	6.09	0.52	10y-EDAZ09	-87.696
EDAH10	6.23	0.38	10y-EDAH10	-88.237
EDAM10	6.42	0.19	10y-EDAM10	-88.931
EDAU10	6.57	0.04	10y-EDAU10	-89.769
EDAZ10	6.73	0.12	10y-EDAZ10	-90.667

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.



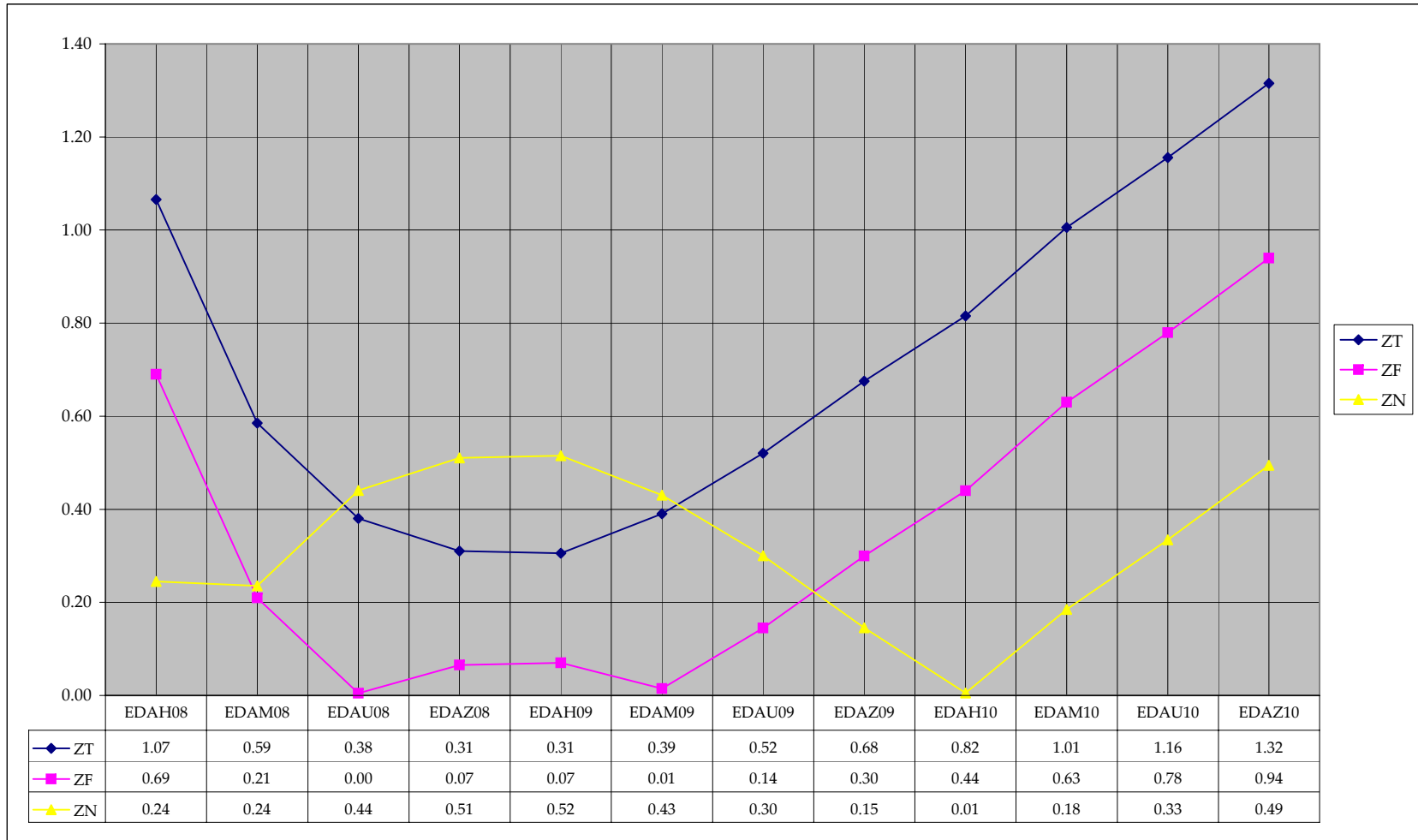
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAH08	0.164	7.97	7.81	10y-EDAH08
EDAM08	0.413	7.97	7.56	10y-EDAM08
EDAU08	0.662	7.97	7.31	10y-EDAU08
EDAZ08	0.912	7.97	7.06	10y-EDAZ08
EDAH09	1.161	7.97	6.81	10y-EDAH09
EDAM09	1.410	7.97	6.56	10y-EDAM09
EDAU09	1.660	7.97	6.31	10y-EDAU09
EDAZ09	1.909	7.97	6.06	10y-EDAZ09
EDAH10	2.158	7.97	5.81	10y-EDAH10
EDAM10	2.408	7.97	5.56	10y-EDAM10
EDAU10	2.657	7.97	5.31	10y-EDAU10
EDAZ10	2.906	7.97	5.06	10y-EDAZ10

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



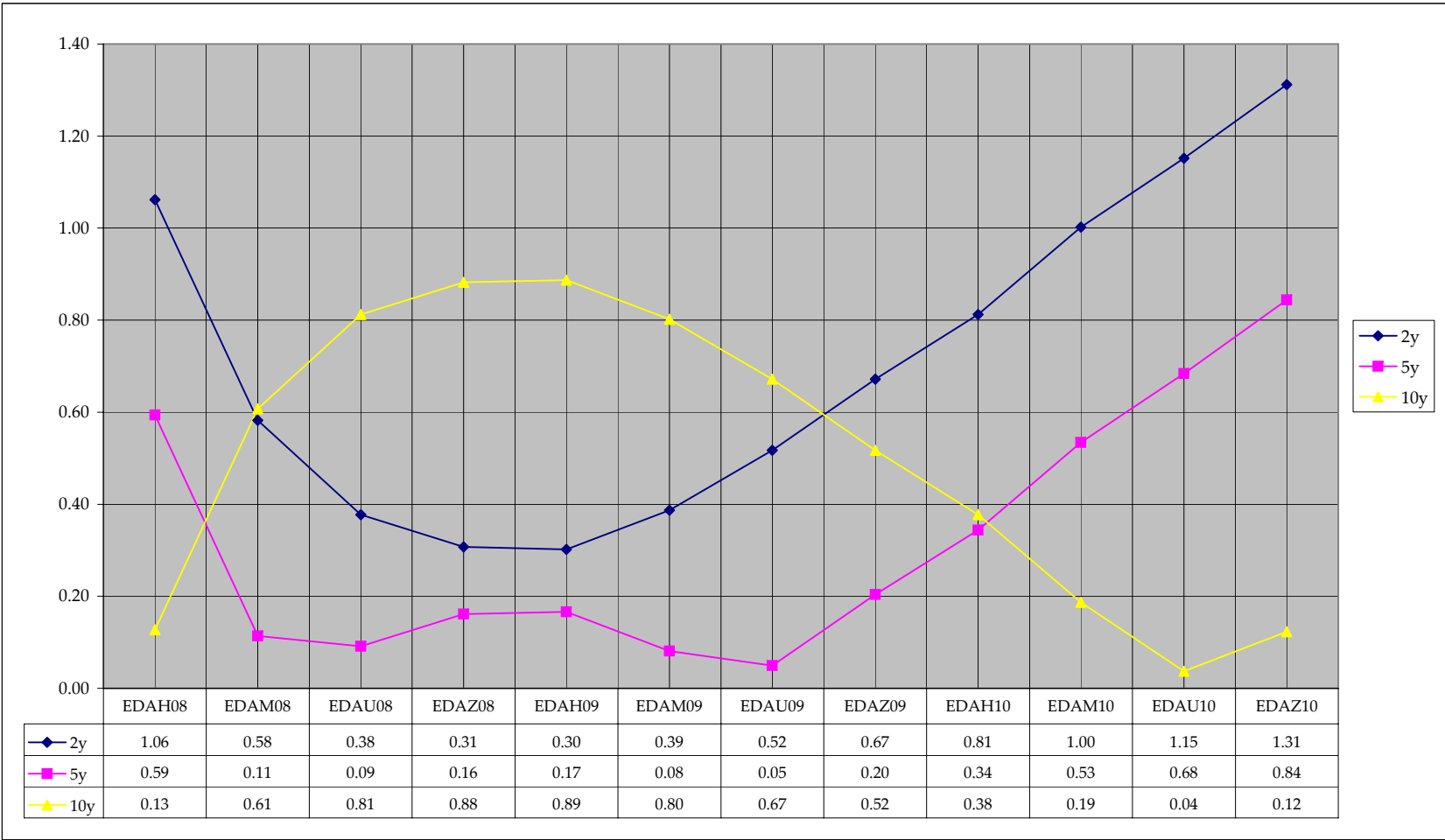
**Dirty TED Curve**

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.

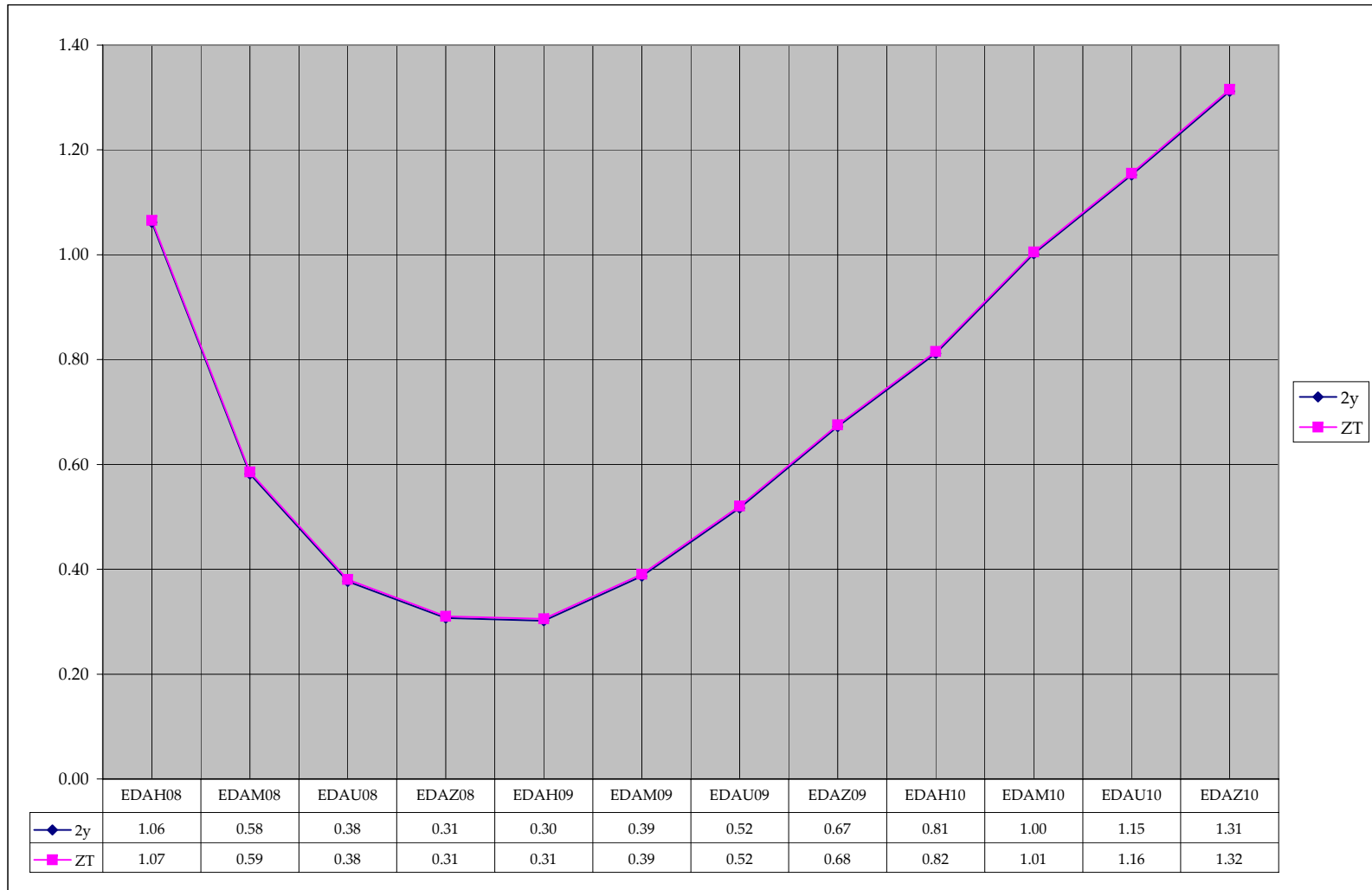


TED Curve

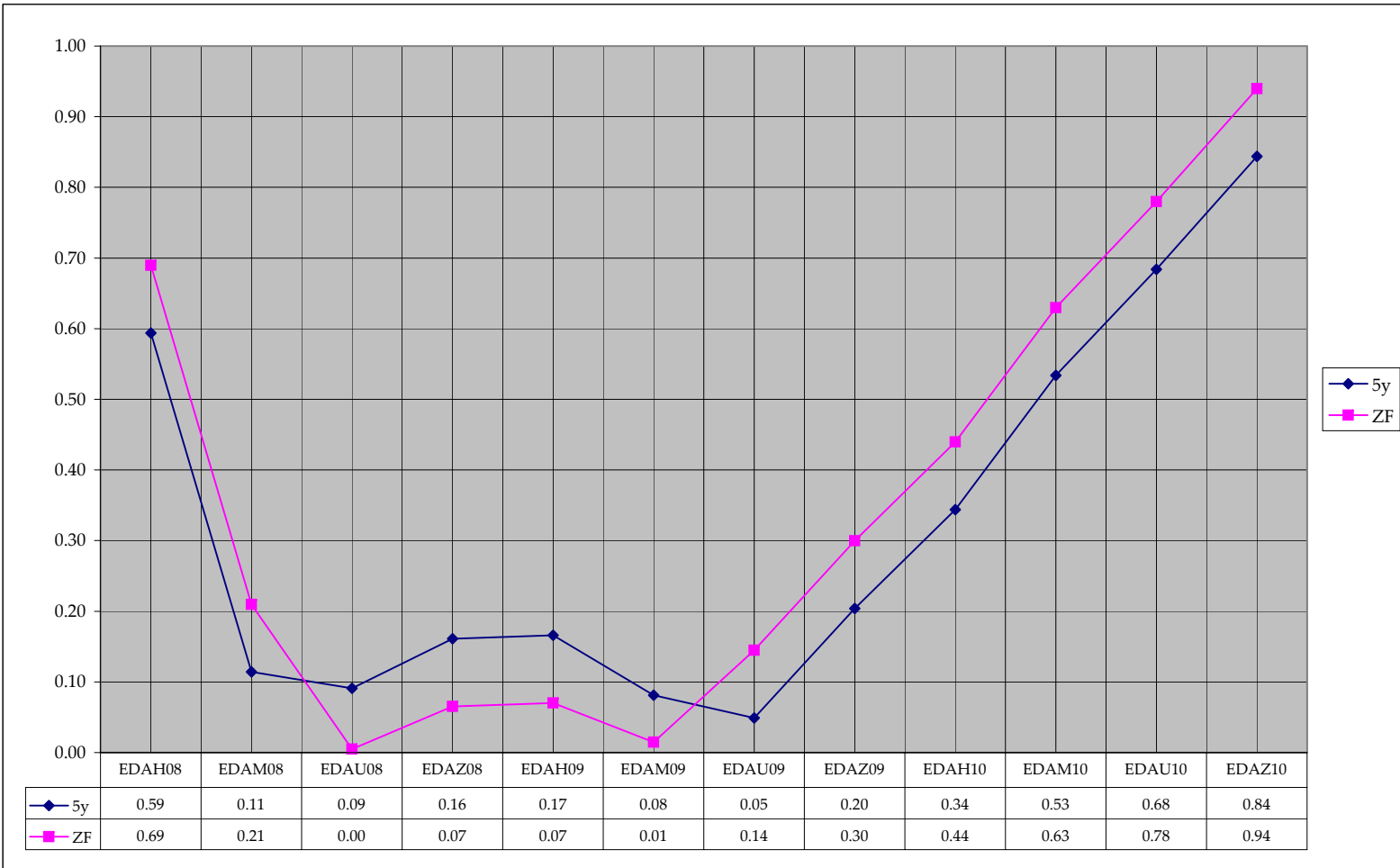
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



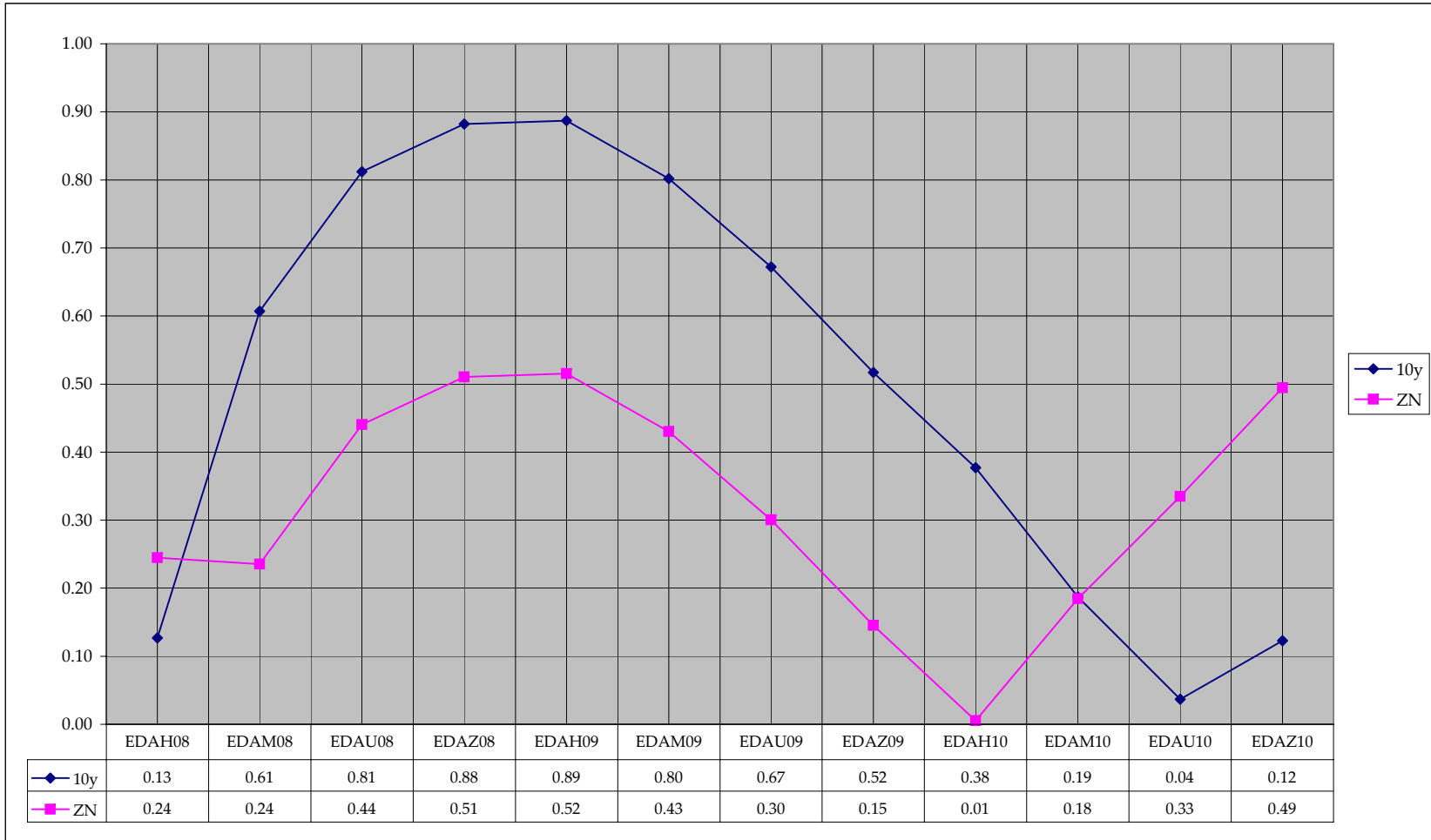
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	3.173	-0.750	9689.500
Q.ED.Red	3.057	-1.875	9700.750
Q.ED.Green	3.675	-0.875	9640.750
Q.ED.Blue	4.238	-0.375	9586.375
Q.ED.Gold		0.000	9543.750

