

## 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	107.4688	107.150	1.536	1.91	
ZF	114.0219	114.007	2.409	4.10	
ZN	116.7344	116.235	3.450	6.67	
2y	100.828	100.2650	1.566	1.94	
5y	101.141	101.0450	2.505	4.63	
10y	98.844	98.2700	3.636	8.30	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.118	2.882	11	0.029	MAR	} White Pack	
EDAM08	97.535	2.465	102	0.279	JUN		
EDAU08	97.705	2.295	193	0.528	SEP		
EDAZ08	97.700	2.300	284	0.777	DEC	} Red Pack	
EDAH09	97.625	2.375	375	1.027	MAR		
EDAM09	97.450	2.550	466	1.276	JUN		
EDAU09	97.225	2.775	557	1.525	SEP		
EDAZ09	96.970	3.030	648	1.775	DEC	} Green Pack	
EDAH10	96.730	3.270	739	2.024	MAR		
EDAM10	96.485	3.515	830	2.273	JUN		
EDAU10	96.260	3.740	921	2.523	SEP		
EDAZ10	96.055	3.945	1012	2.772	DEC	} Blue Pack	
EDAH11	95.885	4.115	1103	3.021	MAR		
EDAM11	95.695	4.305	1194	3.271	JUN		
EDAU11	95.540	4.460	1292	3.539	SEP		
EDAZ11	95.385	4.615	1383	3.788	DEC	} Gold Pack	
EDAH12	95.265	4.735	1474	4.038	MAR		
EDAM12	95.125	4.875	1565	4.287	JUN		
EDAU12	95.005	4.995	1656	4.536	SEP		
EDAU12	95.005	4.995	1656	4.536	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	2.536	4.500	9751.438	} Pack Prices
Q.ED.Red	2.738	6.875	9731.750	
Q.ED.Green	3.701	4.750	9638.250	
Q.ED.Blue	4.484	1.875	9562.625	
Q.ED.Gold	5.060	0.625	9507.125	

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

3/6/2008 5:50

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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)

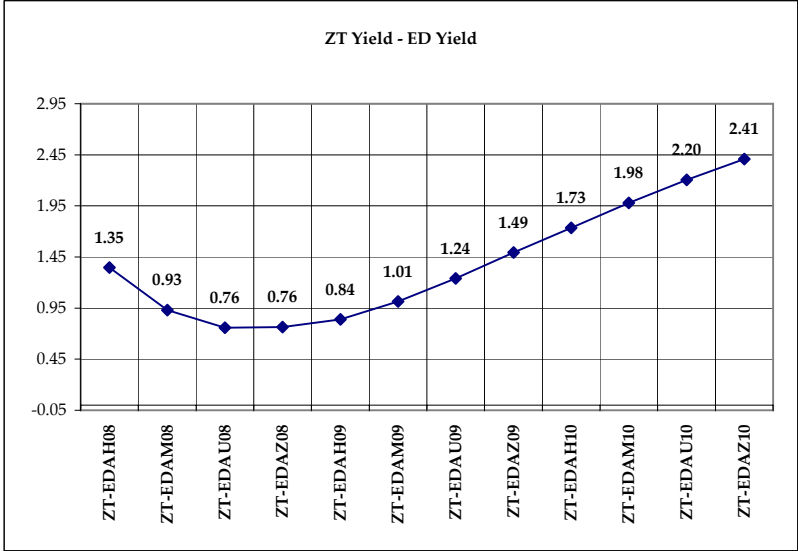
### Eurodollar Color Codes for Individual Year Strips:

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

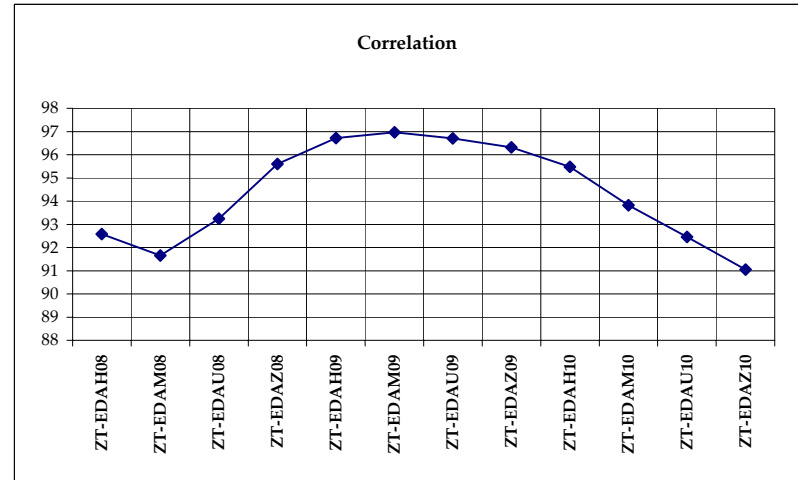
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	10.351	1.35	ZT-EDAH08	92.579
EDAM08	9.934	0.93	ZT-EDAM08	91.659
EDAU08	9.764	0.76	ZT-EDAU08	93.238
EDAZ08	9.769	0.76	ZT-EDAZ08	95.598
EDAH09	9.844	0.84	ZT-EDAH09	96.715
EDAM09	10.019	1.01	ZT-EDAM09	96.965
EDAU09	10.244	1.24	ZT-EDAU09	96.705
EDAZ09	10.499	1.49	ZT-EDAZ09	96.319
EDAH10	10.739	1.73	ZT-EDAH10	95.471
EDAM10	10.984	1.98	ZT-EDAM10	93.826
EDAU10	11.209	2.20	ZT-EDAU10	92.459
EDAZ10	11.414	2.41	ZT-EDAZ10	91.054

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	0.029	1.91	1.88	ZT-EDAH08
EDAM08	0.279	1.91	1.64	ZT-EDAM08
EDAU08	0.528	1.91	1.39	ZT-EDAU08
EDAZ08	0.777	1.91	1.14	ZT-EDAZ08
EDAH09	1.027	1.91	0.89	ZT-EDAH09
EDAM09	1.276	1.91	0.64	ZT-EDAM09
EDAU09	1.525	1.91	0.39	ZT-EDAU09
EDAZ09	1.775	1.91	0.14	ZT-EDAZ09
EDAH10	2.024	1.91	(0.11)	ZT-EDAH10
EDAM10	2.273	1.91	(0.36)	ZT-EDAM10
EDAU10	2.523	1.91	(0.61)	ZT-EDAU10
EDAZ10	2.772	1.91	(0.86)	ZT-EDAZ10

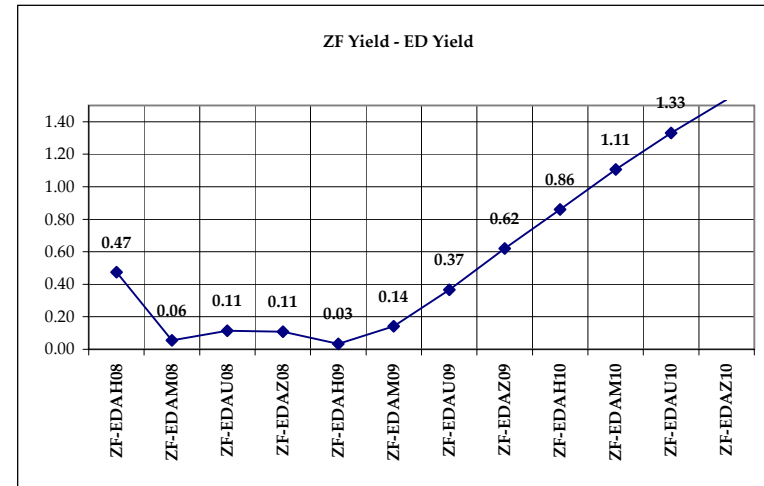
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

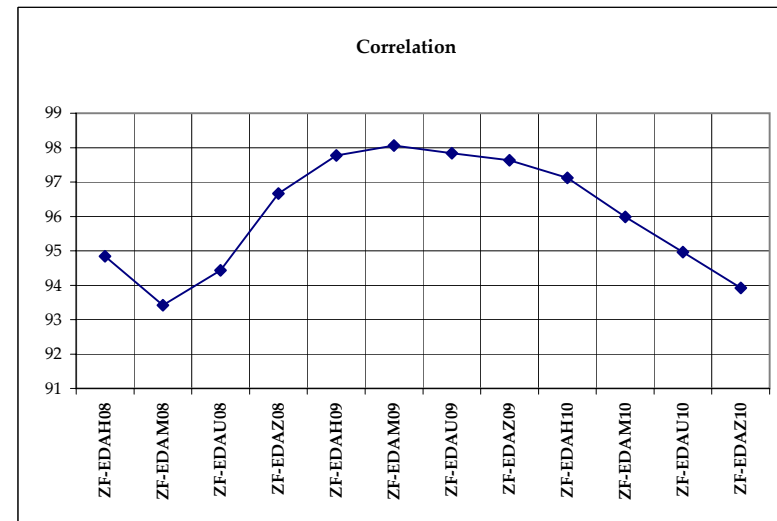
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	16.90	0.47	ZF-EDAH08	94.839
EDAM08	16.49	0.06	ZF-EDAM08	93.415
EDAU08	16.32	0.11	ZF-EDAU08	94.436
EDAZ08	16.32	0.11	ZF-EDAZ08	96.663
EDAH09	16.40	0.03	ZF-EDAH09	97.768
EDAM09	16.57	0.14	ZF-EDAM09	98.058
EDAU09	16.80	0.37	ZF-EDAU09	97.840
EDAZ09	17.05	0.62	ZF-EDAZ09	97.629
EDAH10	17.29	0.86	ZF-EDAH10	97.122
EDAM10	17.54	1.11	ZF-EDAM10	95.987
EDAU10	17.76	1.33	ZF-EDAU10	94.960
EDAZ10	17.97	1.54	ZF-EDAZ10	93.924

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	
EDAH08	0.029	4.10	4.07	ZF-EDAH08
EDAM08	0.279	4.10	3.82	ZF-EDAM08
EDAU08	0.528	4.10	3.57	ZF-EDAU08
EDAZ08	0.777	4.10	3.32	ZF-EDAZ08
EDAH09	1.027	4.10	3.07	ZF-EDAH09
EDAM09	1.276	4.10	2.82	ZF-EDAM09
EDAU09	1.525	4.10	2.57	ZF-EDAU09
EDAZ09	1.775	4.10	2.32	ZF-EDAZ09
EDAH10	2.024	4.10	2.07	ZF-EDAH10
EDAM10	2.273	4.10	1.83	ZF-EDAM10
EDAU10	2.523	4.10	1.58	ZF-EDAU10
EDAZ10	2.772	4.10	1.33	ZF-EDAZ10

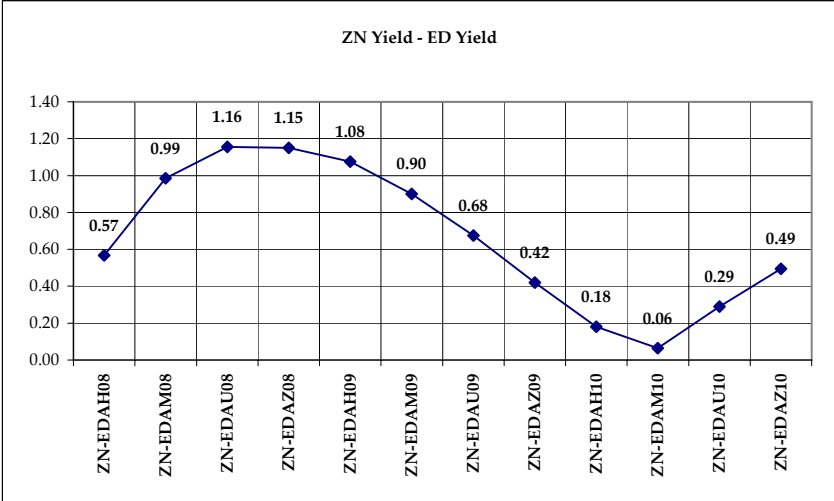
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

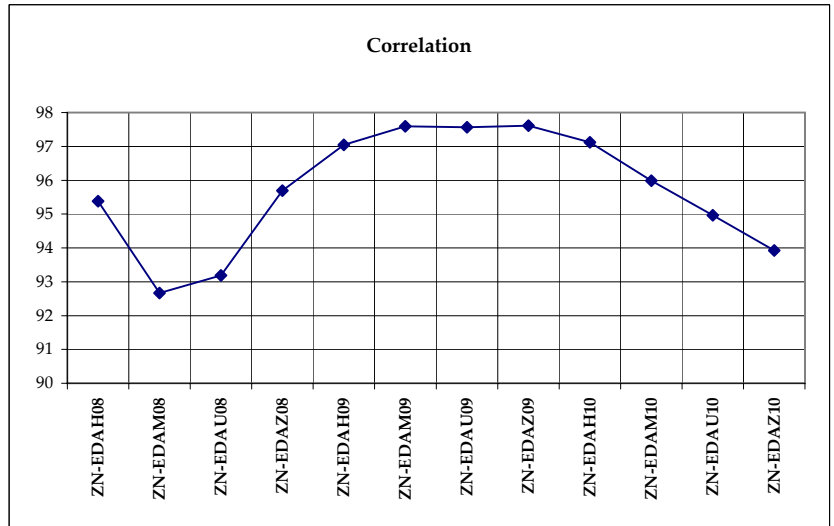
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.62	0.57	ZN-EDAH08	95.38
EDAM08	19.20	0.99	ZN-EDAM08	92.67
EDAU08	19.03	1.16	ZN-EDAU08	93.19
EDAZ08	19.03	1.15	ZN-EDAZ08	95.70
EDAH09	19.11	1.08	ZN-EDAH09	97.04
EDAM09	19.28	0.90	ZN-EDAM09	97.59
EDAU09	19.51	0.68	ZN-EDAU09	97.57
EDAZ09	19.76	0.42	ZN-EDAZ09	97.61
EDAH10	20.00	0.18	ZN-EDAH10	97.12
EDAM10	20.25	0.06	ZN-EDAM10	95.99
EDAU10	20.47	0.29	ZN-EDAU10	94.96
EDAZ10	20.68	0.49	ZN-EDAZ10	93.92

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	0.029	6.67	6.64	ZN-EDAH08
EDAM08	0.279	6.67	6.39	ZN-EDAM08
EDAU08	0.528	6.67	6.14	ZN-EDAU08
EDAZ08	0.777	6.67	5.89	ZN-EDAZ08
EDAH09	1.027	6.67	5.64	ZN-EDAH09
EDAM09	1.276	6.67	5.39	ZN-EDAM09
EDAU09	1.525	6.67	5.15	ZN-EDAU09
EDAZ09	1.775	6.67	4.90	ZN-EDAZ09
EDAH10	2.024	6.67	4.65	ZN-EDAH10
EDAM10	2.273	6.67	4.40	ZN-EDAM10
EDAU10	2.523	6.67	4.15	ZN-EDAU10
EDAZ10	2.772	6.67	3.90	ZN-EDAZ10

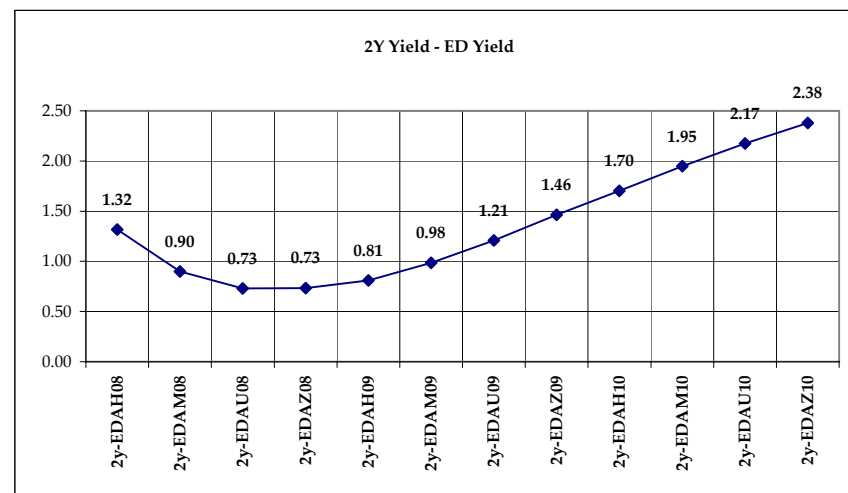
The farther away from 0 the spread duration is the riskier the trade.



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

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.71	1.32	2y-EDAH08	-89.020
EDAM08	3.29	0.90	2y-EDAM08	-89.538
EDAU08	3.12	0.73	2y-EDAU08	-92.140
EDAZ08	3.13	0.73	2y-EDAZ08	-89.538
EDAH09	3.20	0.81	2y-EDAH09	-94.539
EDAM09	3.38	0.98	2y-EDAM09	-94.269
EDAU09	3.60	1.21	2y-EDAU09	-93.491
EDAZ09	3.86	1.46	2y-EDAZ09	-92.575
EDAH10	4.10	1.70	2y-EDAH10	-91.139
EDAM10	4.34	1.95	2y-EDAM10	-89.009
EDAU10	4.57	2.17	2y-EDAU10	-87.265
EDAZ10	4.77	2.38	2y-EDAZ10	-85.684

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.

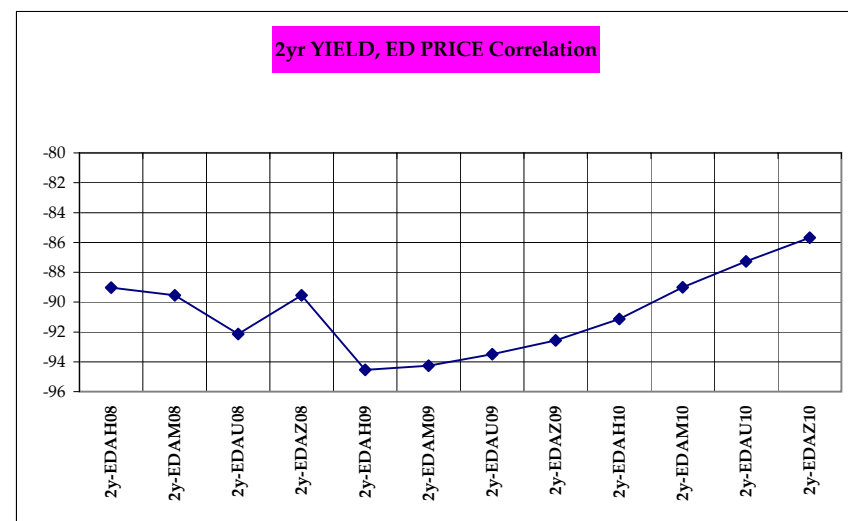


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAH08	0.029	1.94	2y-EDAH08
EDAM08	0.279	1.94	2y-EDAM08
EDAU08	0.528	1.94	2y-EDAU08
EDAZ08	0.777	1.94	2y-EDAZ08
EDAH09	1.027	1.94	2y-EDAH09
EDAM09	1.276	1.94	2y-EDAM09
EDAU09	1.525	1.94	2y-EDAU09
EDAZ09	1.775	1.94	2y-EDAZ09
EDAH10	2.024	1.94	2y-EDAH10
EDAM10	2.273	1.94	2y-EDAM10
EDAU10	2.523	1.94	2y-EDAU10
EDAZ10	2.772	1.94	2y-EDAZ10

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

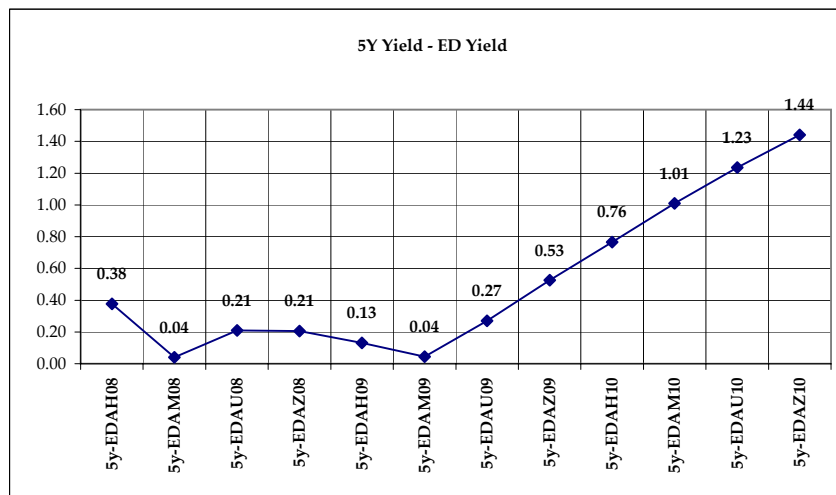
**2yr YIELD, ED PRICE Correlation**



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.02	0.38	5y-EDAH08	-93.187
EDAM08	3.61	0.04	5y-EDAM08	-92.149
EDAU08	3.44	0.21	5y-EDAU08	-93.777
EDAZ08	3.44	0.21	5y-EDAZ08	-92.149
EDAH09	3.52	0.13	5y-EDAH09	-96.851
EDAM09	3.69	0.04	5y-EDAM09	-96.929
EDAU09	3.92	0.27	5y-EDAU09	-96.487
EDAZ09	4.17	0.53	5y-EDAZ09	-96.109
EDAH10	4.41	0.76	5y-EDAH10	-95.456
EDAM10	4.66	1.01	5y-EDAM10	-94.274
EDAU10	4.88	1.23	5y-EDAU10	-93.206
EDAZ10	5.09	1.44	5y-EDAZ10	-92.194

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.

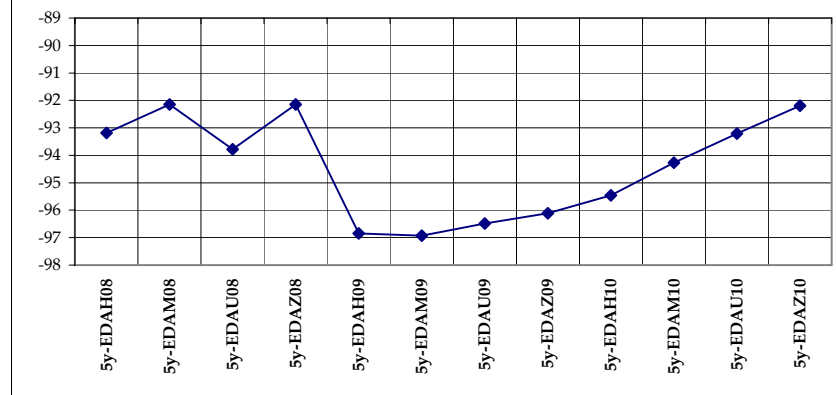


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAH08	0.029	4.63	4.60 5y-EDAH08
EDAM08	0.279	4.63	4.35 5y-EDAM08
EDAU08	0.528	4.63	4.10 5y-EDAU08
EDAZ08	0.777	4.63	3.85 5y-EDAZ08
EDAH09	1.027	4.63	3.60 5y-EDAH09
EDAM09	1.276	4.63	3.35 5y-EDAM09
EDAU09	1.525	4.63	3.11 5y-EDAU09
EDAZ09	1.775	4.63	2.86 5y-EDAZ09
EDAH10	2.024	4.63	2.61 5y-EDAH10
EDAM10	2.273	4.63	2.36 5y-EDAM10
EDAU10	2.523	4.63	2.11 5y-EDAU10
EDAZ10	2.772	4.63	1.86 5y-EDAZ10

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

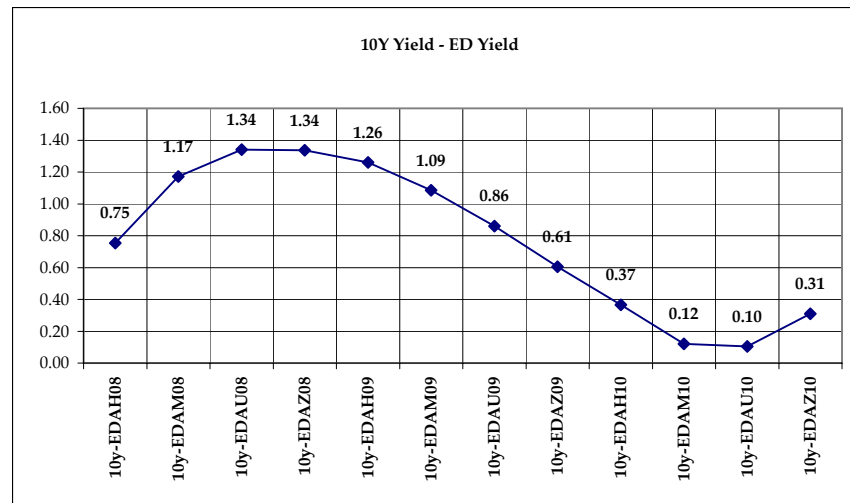
**5yr YIELD, ED PRICE Correlation**



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

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.02	0.75	10y-EDAH08	-96.776
EDAM08	3.61	1.17	10y-EDAM08	-94.298
EDAU08	3.44	1.34	10y-EDAU08	-94.065
EDAZ08	3.44	1.34	10y-EDAZ08	-94.298
EDAH09	3.52	1.26	10y-EDAH09	-96.869
EDAM09	3.69	1.09	10y-EDAM09	-97.329
EDAU09	3.92	0.86	10y-EDAU09	-97.340
EDAZ09	4.17	0.61	10y-EDAZ09	-97.483
EDAH10	4.41	0.37	10y-EDAH10	-97.652
EDAM10	4.66	0.12	10y-EDAM10	-97.666
EDAU10	4.88	0.10	10y-EDAU10	-97.440
EDAZ10	5.09	0.31	10y-EDAZ10	-97.230

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.

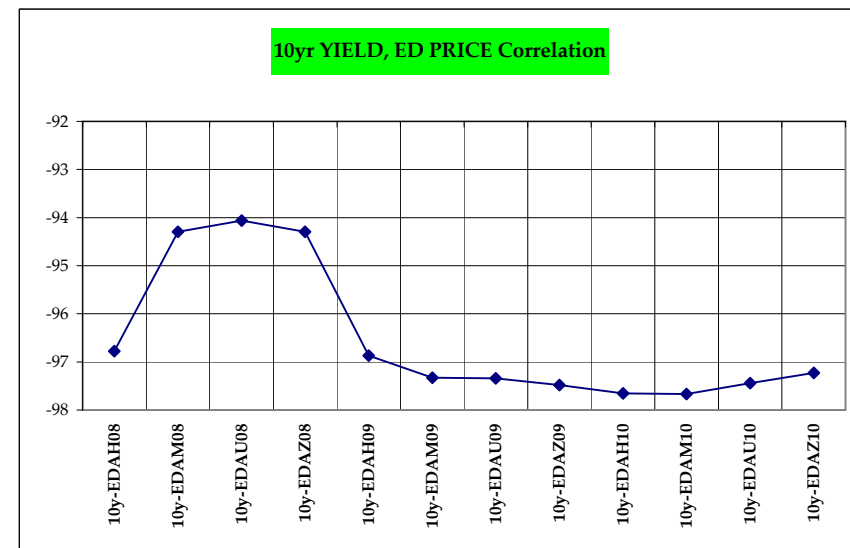


**GE Duration as**

	Fraction of year	10Y Duration	Spread Duration	
EDAH08	0.029	8.30	8.27	10y-EDAH08
EDAM08	0.279	8.30	8.02	10y-EDAM08
EDAU08	0.528	8.30	7.78	10y-EDAU08
EDAZ08	0.777	8.30	7.53	10y-EDAZ08
EDAH09	1.027	8.30	7.28	10y-EDAH09
EDAM09	1.276	8.30	7.03	10y-EDAM09
EDAU09	1.525	8.30	6.78	10y-EDAU09
EDAZ09	1.775	8.30	6.53	10y-EDAZ09
EDAH10	2.024	8.30	6.28	10y-EDAH10
EDAM10	2.273	8.30	6.03	10y-EDAM10
EDAU10	2.523	8.30	5.78	10y-EDAU10
EDAZ10	2.772	8.30	5.53	10y-EDAZ10

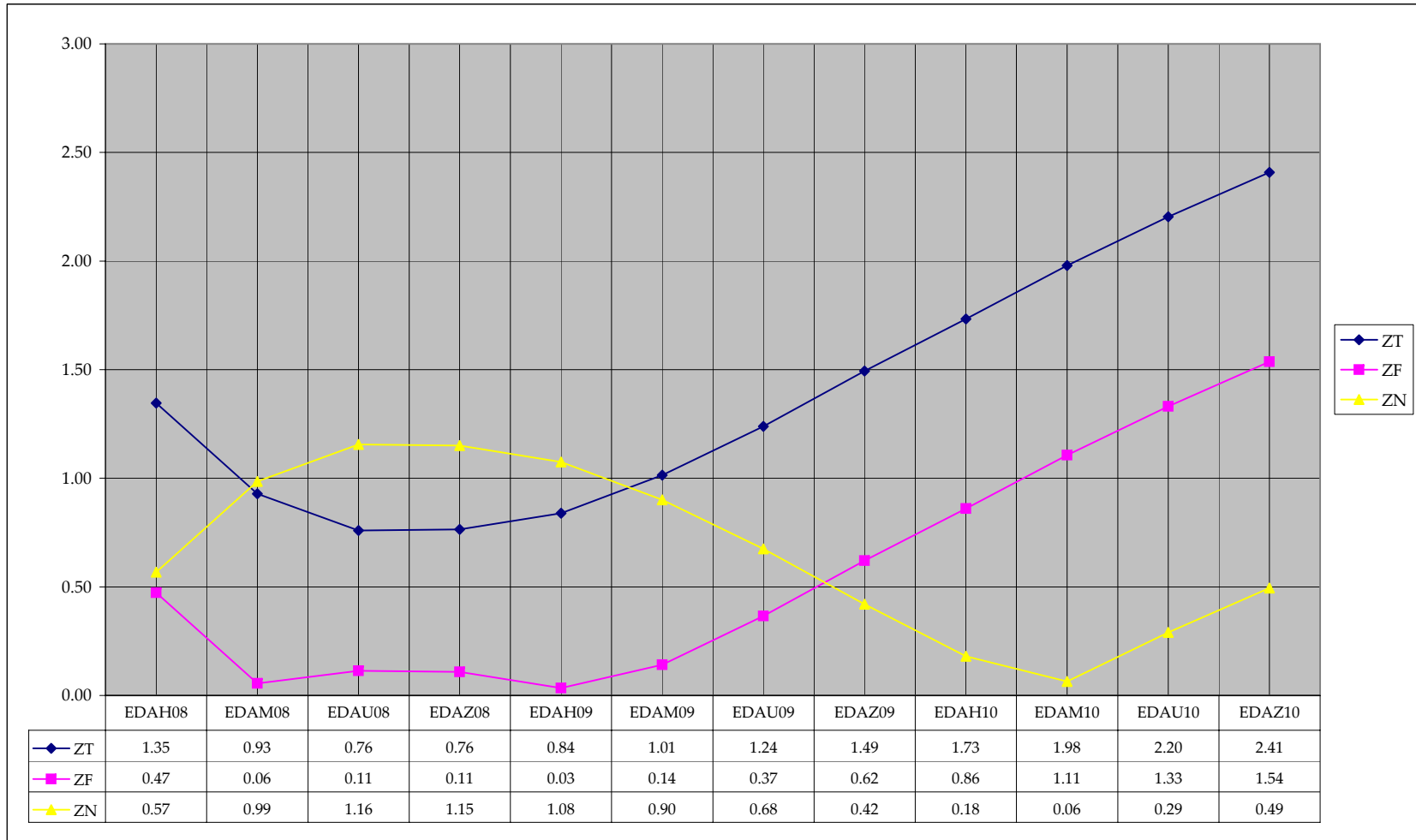
The farther away from 0 the spread duration is the riskier the trade.

**10yr YIELD, ED PRICE Correlation**



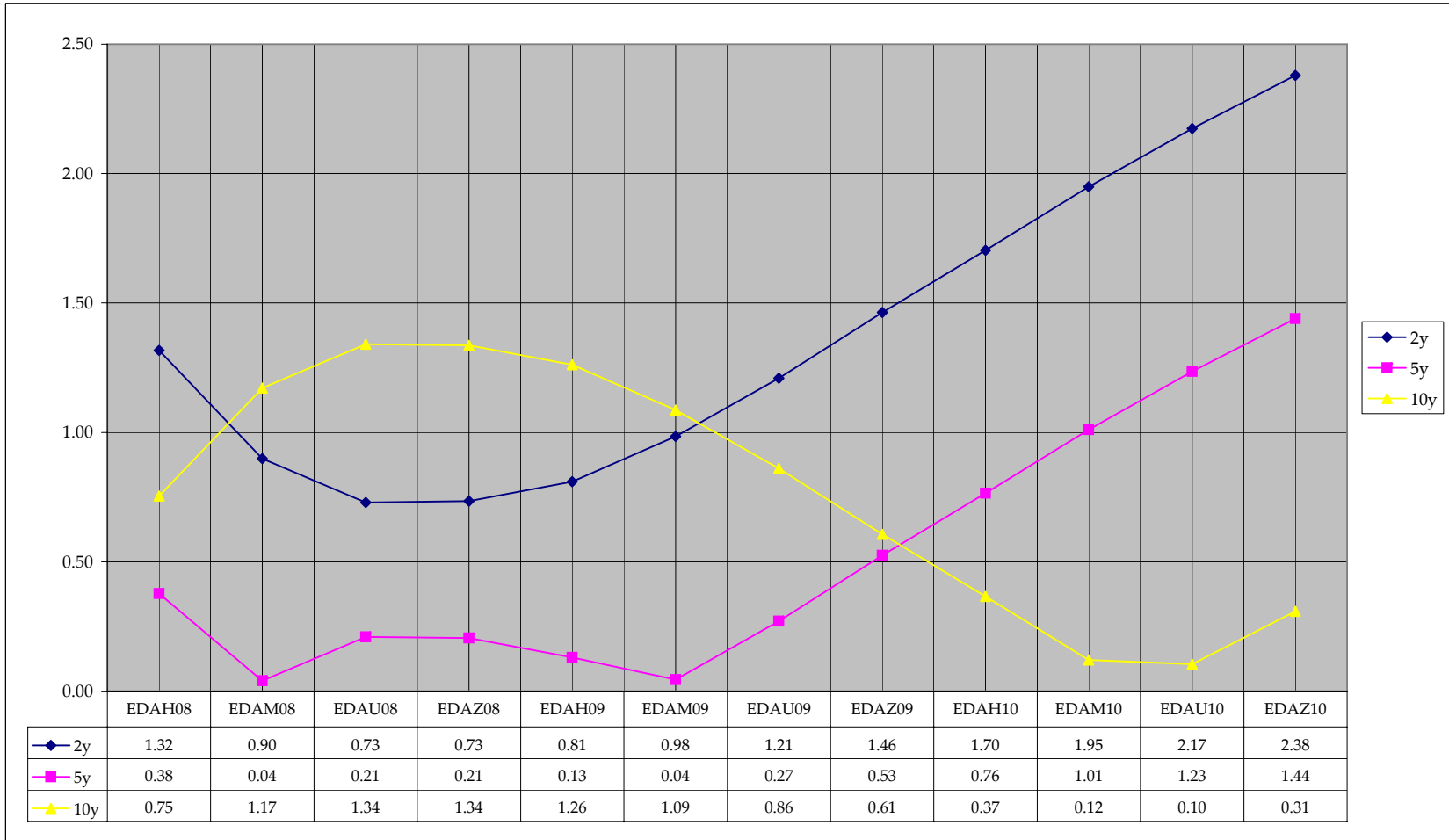
**Dirty TED Curve**

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.

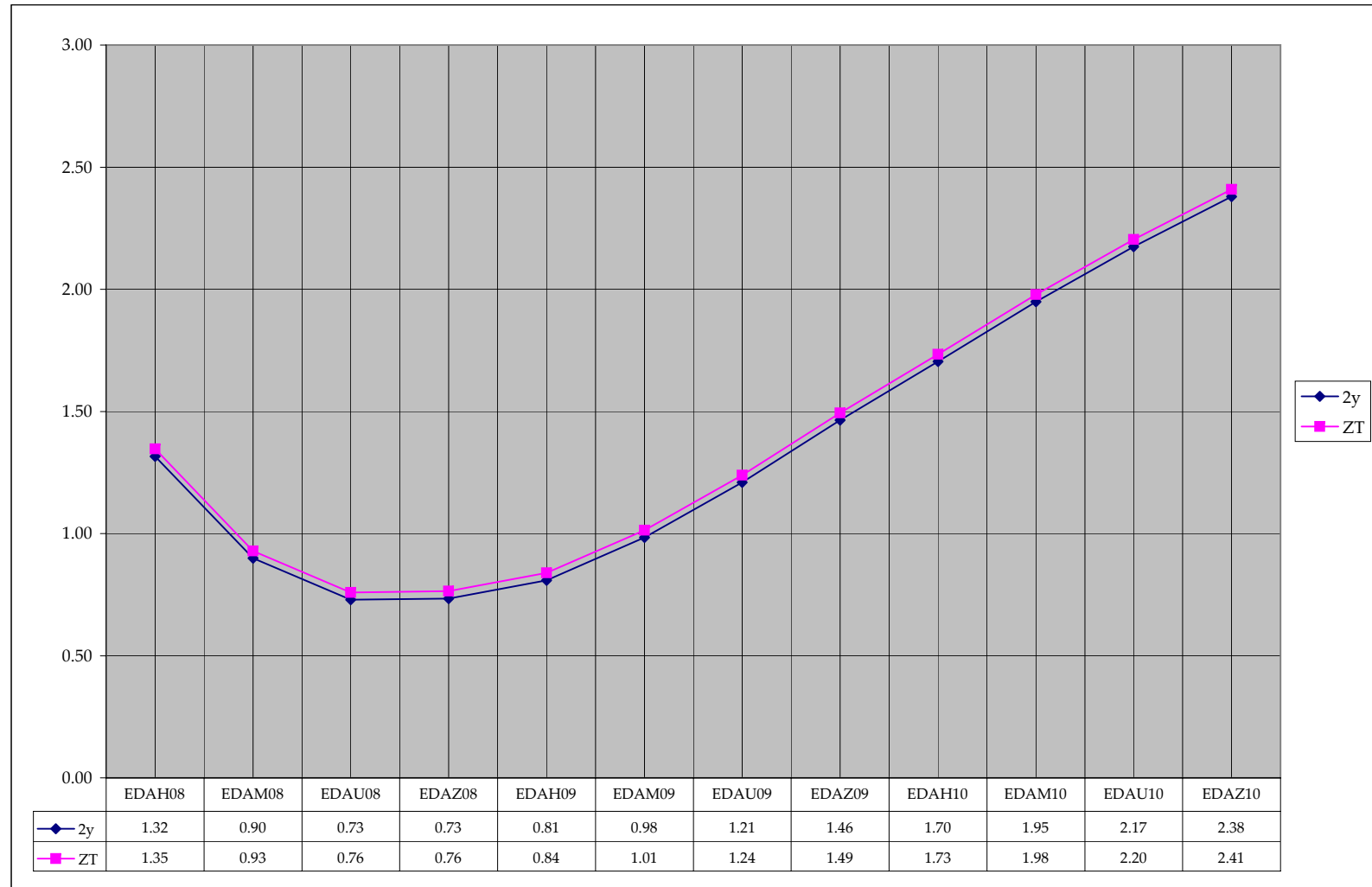


TED Curve

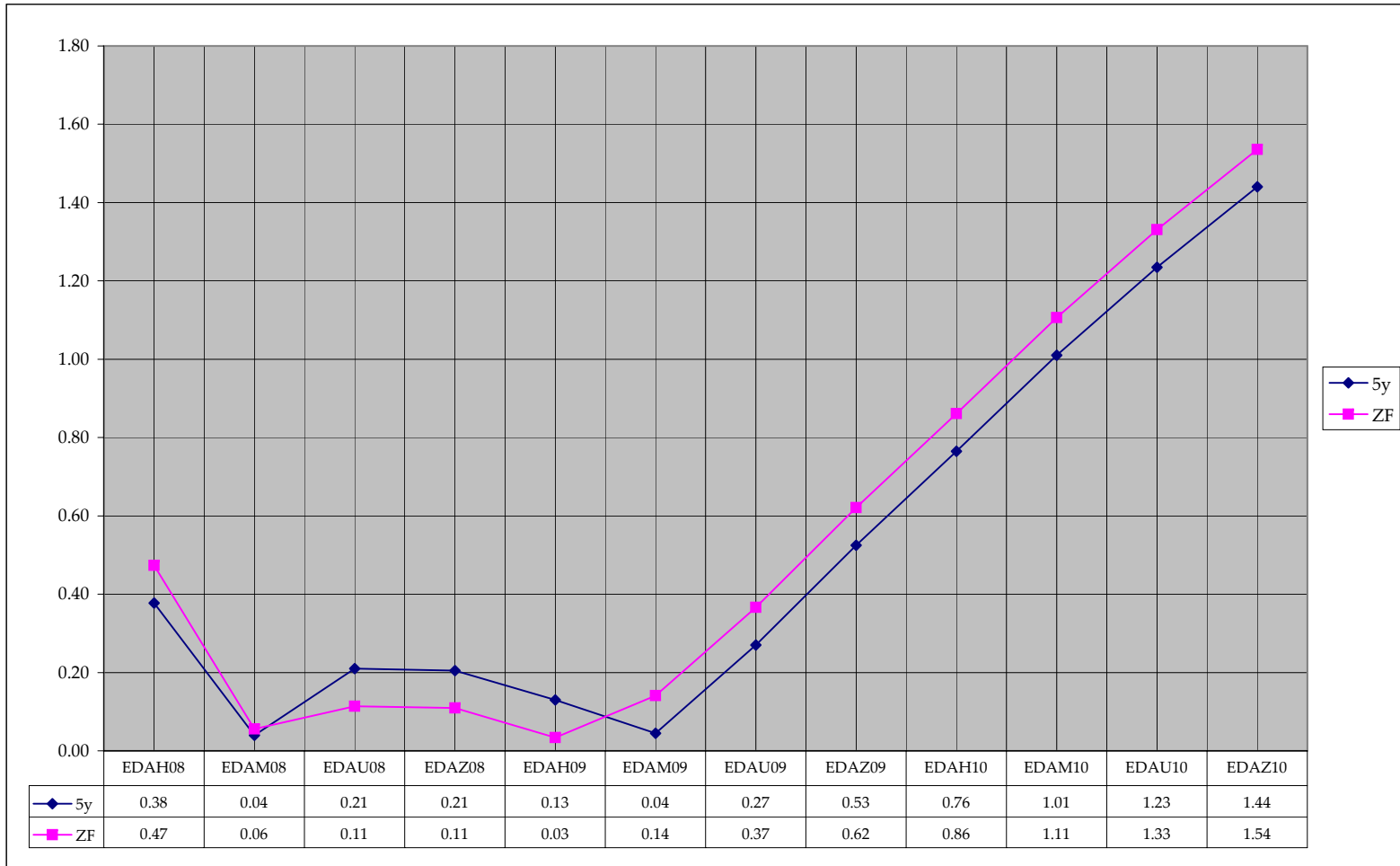
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



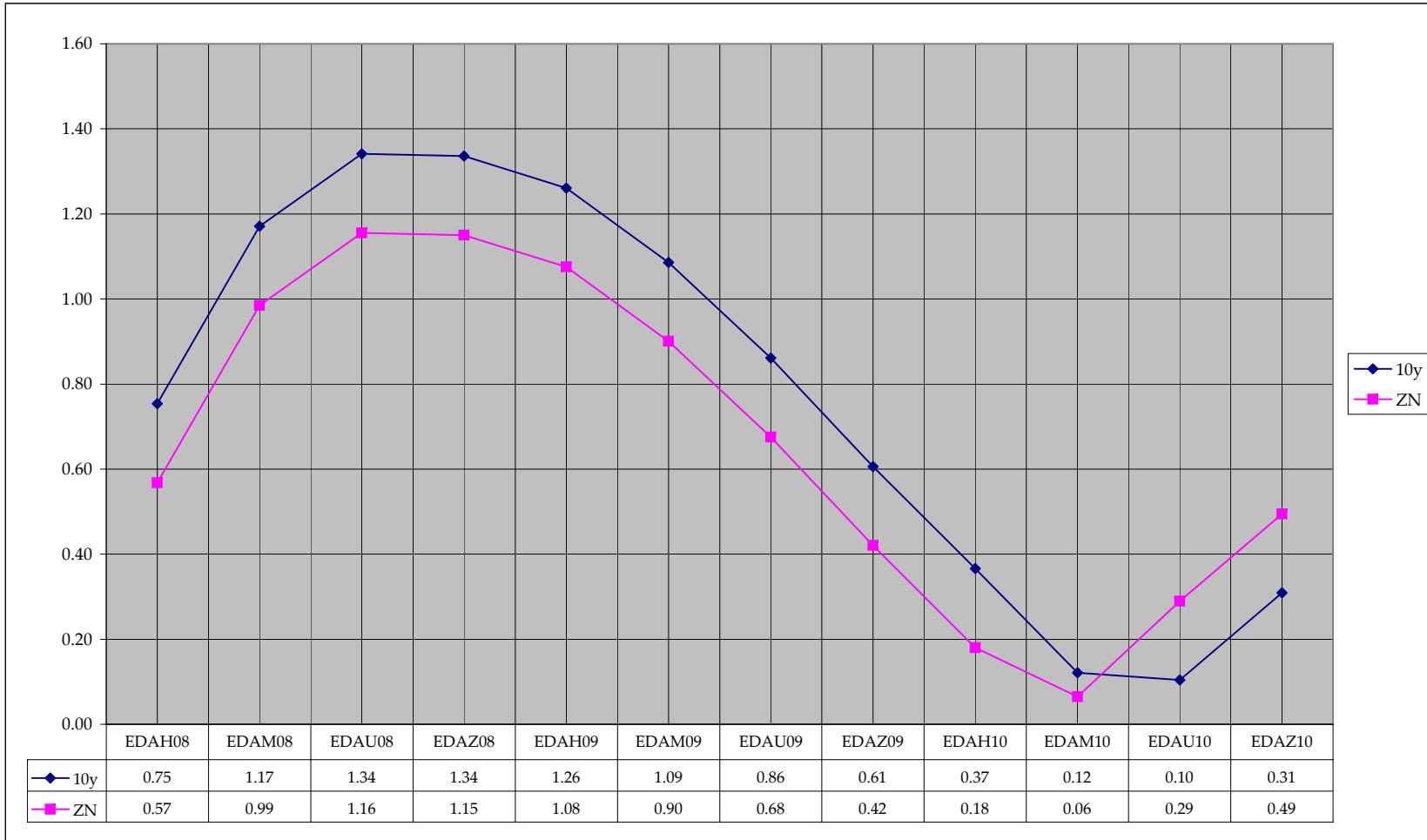
## 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.536	4.500	9751.438
Q.ED.Red	2.738	6.875	9731.750
Q.ED.Green	3.701	4.750	9638.250
Q.ED.Blue	4.484	1.875	9562.625
Q.ED.Gold	5.060	0.625	9507.125

