

## 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	107.0219	107.007	1.949	1.87	
ZF	114.3281	114.105	2.411	3.93	
ZN	118.3281	118.105	2.958	5.89	
2y	102.444	102.1420	1.956	1.87	
5y	105.047	105.0150	2.527	4.44	
10y	106.969	106.3100	3.406	7.99	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.135	2.865	54	0.147	MAR	White Pack	
EDAM08	97.680	2.320	145	0.397	JUN		
EDAU08	97.770	2.230	236	0.646	SEP		
EDAZ08	97.740	2.260	327	0.895	DEC	Red Pack	
EDAH09	97.655	2.345	418	1.145	MAR		
EDAM09	97.510	2.490	509	1.394	JUN		
EDAU09	97.360	2.640	600	1.643	SEP	Green Pack	
EDAZ09	97.195	2.805	691	1.892	DEC		
EDAH10	97.030	2.970	782	2.142	MAR		
EDAM10	96.845	3.155	873	2.391	JUN	Blue Pack	
EDAU10	96.675	3.325	964	2.640	SEP		
EDAZ10	96.535	3.465	1055	2.890	DEC		
EDAH11	96.370	3.630	1146	3.139	MAR	Gold Pack	
EDAM11	96.220	3.780	1237	3.388	JUN		
EDAU11	96.065	3.935	1335	3.657	SEP		
EDAZ11	95.940	4.060	1426	3.906	DEC		
EDAH12	95.840	4.160	1517	4.156	MAR		
EDAM12	95.730	4.270	1608	4.405	JUN		
EDAU12	95.550	4.450	1699	4.654	SEP		
EDAU12	95.550	4.450	1699	4.654	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	2.467	14.875	9758.125	Pack Prices
Q.ED.Red	2.623	8.375	9743.000	
Q.ED.Green	3.300	6.375	9677.125	
Q.ED.Blue		1.500	9614.875	
Q.ED.Gold		0.000	9567.750	

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

1/23/2008 5:42

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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)

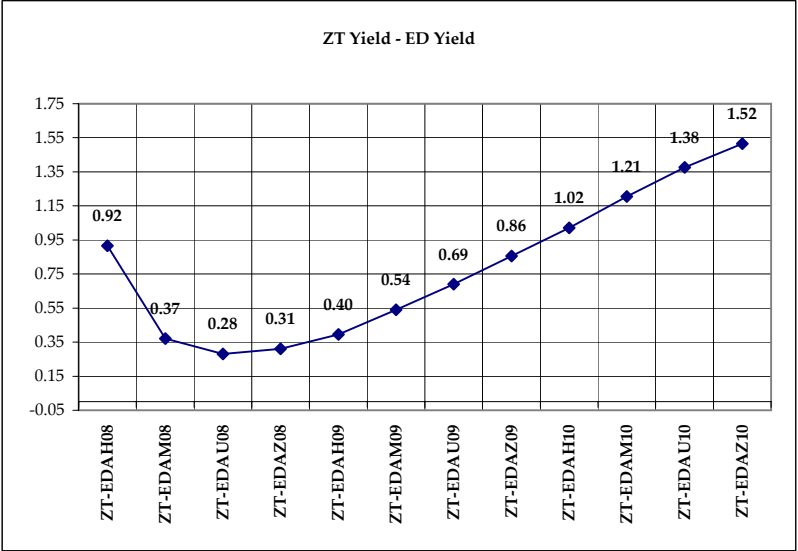
### **Eurodollar Color Codes for Individual Year Strips:**

<b>Color</b>	<b>Year</b>	<b>Contracts</b>
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

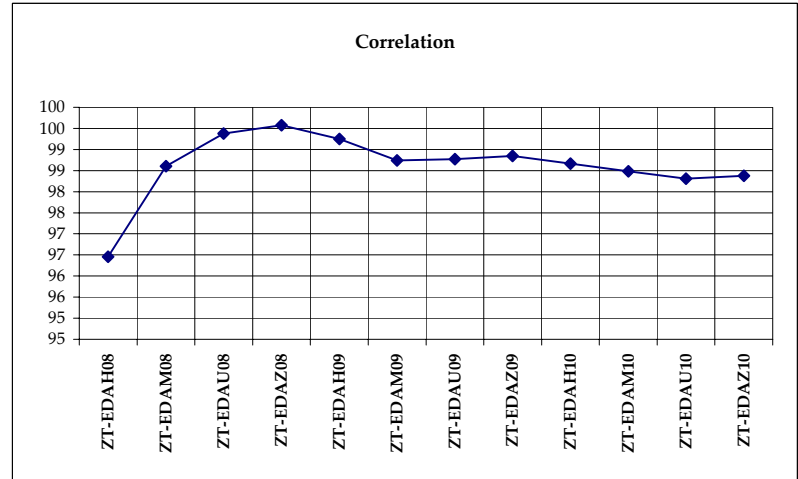
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	9.887	0.92	ZT-EDAH08	96.456
EDAM08	9.342	0.37	ZT-EDAM08	98.603
EDAU08	9.252	0.28	ZT-EDAU08	99.376
EDAZ08	9.282	0.31	ZT-EDAZ08	99.574
EDAH09	9.367	0.40	ZT-EDAH09	99.248
EDAM09	9.512	0.54	ZT-EDAM09	98.738
EDAU09	9.662	0.69	ZT-EDAU09	98.775
EDAZ09	9.827	0.86	ZT-EDAZ09	98.845
EDAH10	9.992	1.02	ZT-EDAH10	98.662
EDAM10	10.177	1.21	ZT-EDAM10	98.486
EDAU10	10.347	1.38	ZT-EDAU10	98.311
EDAZ10	10.487	1.52	ZT-EDAZ10	98.375

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	0.147	1.87	1.72	ZT-EDAH08
EDAM08	0.397	1.87	1.47	ZT-EDAM08
EDAU08	0.646	1.87	1.22	ZT-EDAU08
EDAZ08	0.895	1.87	0.97	ZT-EDAZ08
EDAH09	1.145	1.87	0.72	ZT-EDAH09
EDAM09	1.394	1.87	0.48	ZT-EDAM09
EDAU09	1.643	1.87	0.23	ZT-EDAU09
EDAZ09	1.892	1.87	(0.02)	ZT-EDAZ09
EDAH10	2.142	1.87	(0.27)	ZT-EDAH10
EDAM10	2.391	1.87	(0.52)	ZT-EDAM10
EDAU10	2.640	1.87	(0.77)	ZT-EDAU10
EDAZ10	2.890	1.87	(1.02)	ZT-EDAZ10

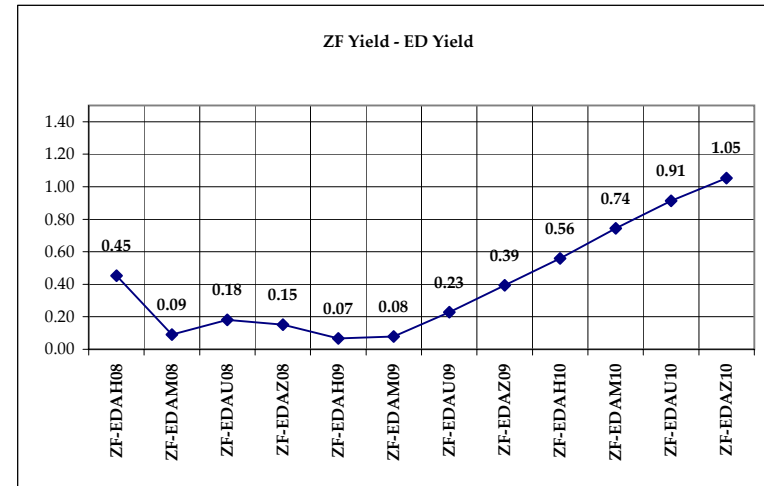
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	17.19	0.45	ZF-EDAH08	94.637
EDAM08	16.65	0.09	ZF-EDAM08	97.306
EDAU08	16.56	0.18	ZF-EDAU08	98.346
EDAZ08	16.59	0.15	ZF-EDAZ08	98.853
EDAH09	16.67	0.07	ZF-EDAH09	98.876
EDAM09	16.82	0.08	ZF-EDAM09	98.722
EDAU09	16.97	0.23	ZF-EDAU09	98.998
EDAZ09	17.13	0.39	ZF-EDAZ09	99.325
EDAH10	17.30	0.56	ZF-EDAH10	99.399
EDAM10	17.48	0.74	ZF-EDAM10	99.380
EDAU10	17.65	0.91	ZF-EDAU10	99.368
EDAZ10	17.79	1.05	ZF-EDAZ10	99.415

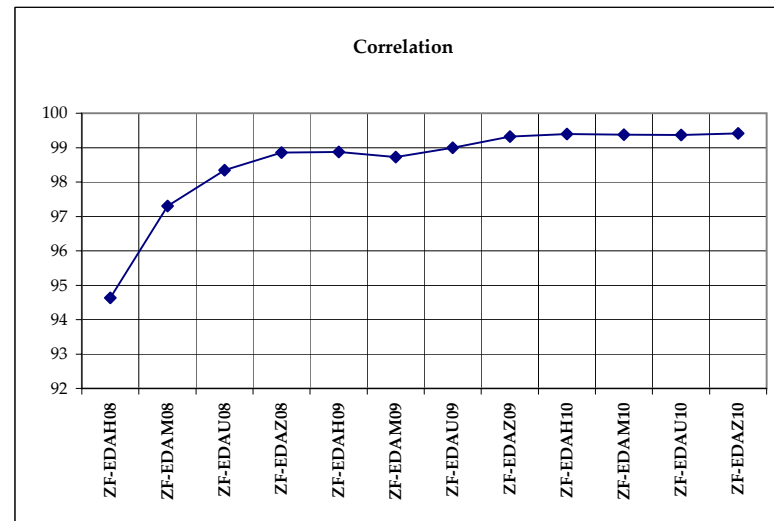
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.147	3.93	3.78	ZF-EDAH08
EDAM08	0.397	3.93	3.53	ZF-EDAM08
EDAU08	0.646	3.93	3.28	ZF-EDAU08
EDAZ08	0.895	3.93	3.03	ZF-EDAZ08
EDAH09	1.145	3.93	2.78	ZF-EDAH09
EDAM09	1.394	3.93	2.53	ZF-EDAM09
EDAU09	1.643	3.93	2.29	ZF-EDAU09
EDAZ09	1.892	3.93	2.04	ZF-EDAZ09
EDAH10	2.142	3.93	1.79	ZF-EDAH10
EDAM10	2.391	3.93	1.54	ZF-EDAM10
EDAU10	2.640	3.93	1.29	ZF-EDAU10
EDAZ10	2.890	3.93	1.04	ZF-EDAZ10

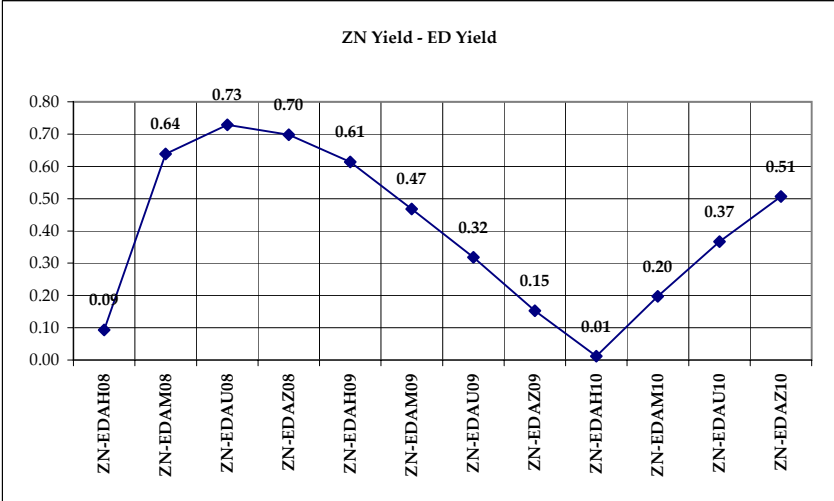
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

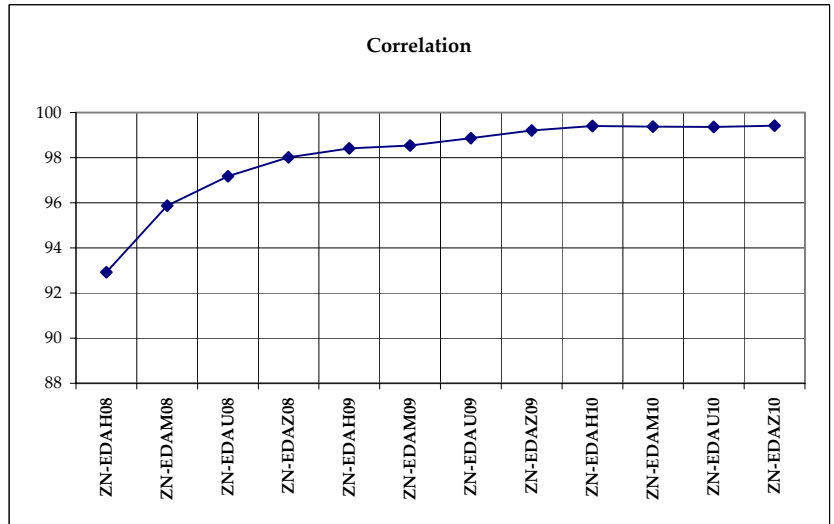
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	21.19	0.09	ZN-EDAH08	92.92
EDAM08	20.65	0.64	ZN-EDAM08	95.88
EDAU08	20.56	0.73	ZN-EDAU08	97.18
EDAZ08	20.59	0.70	ZN-EDAZ08	98.01
EDAH09	20.67	0.61	ZN-EDAH09	98.42
EDAM09	20.82	0.47	ZN-EDAM09	98.53
EDAU09	20.97	0.32	ZN-EDAU09	98.86
EDAZ09	21.13	0.15	ZN-EDAZ09	99.21
EDAH10	21.30	0.01	ZN-EDAH10	99.40
EDAM10	21.48	0.20	ZN-EDAM10	99.38
EDAU10	21.65	0.37	ZN-EDAU10	99.37
EDAZ10	21.79	0.51	ZN-EDAZ10	99.42

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	0.147	5.89	5.74	ZN-EDAH08
EDAM08	0.397	5.89	5.49	ZN-EDAM08
EDAU08	0.646	5.89	5.24	ZN-EDAU08
EDAZ08	0.895	5.89	4.99	ZN-EDAZ08
EDAH09	1.145	5.89	4.74	ZN-EDAH09
EDAM09	1.394	5.89	4.49	ZN-EDAM09
EDAU09	1.643	5.89	4.25	ZN-EDAU09
EDAZ09	1.892	5.89	4.00	ZN-EDAZ09
EDAH10	2.142	5.89	3.75	ZN-EDAH10
EDAM10	2.391	5.89	3.50	ZN-EDAM10
EDAU10	2.640	5.89	3.25	ZN-EDAU10
EDAZ10	2.890	5.89	3.00	ZN-EDAZ10

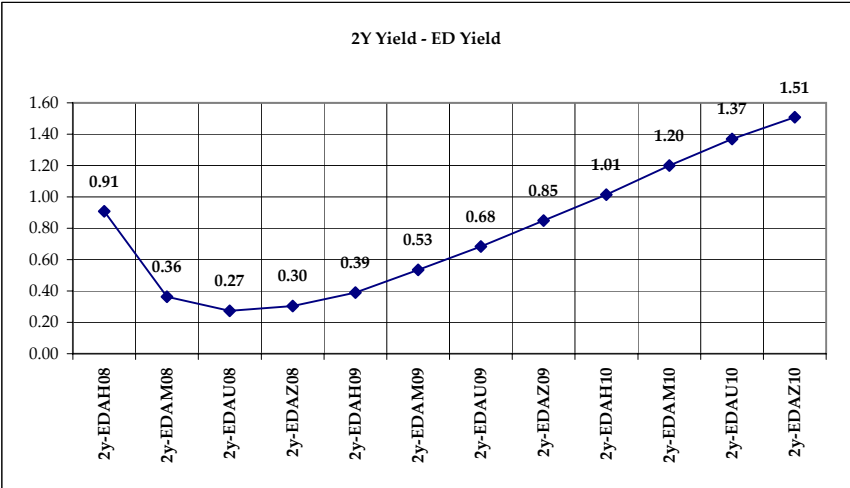
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	5.31	0.91	2y-EDAH08	-97.352
EDAM08	4.76	0.36	2y-EDAM08	-99.080
EDAU08	4.67	0.27	2y-EDAU08	-99.380
EDAZ08	4.70	0.30	2y-EDAZ08	-99.080
EDAH09	4.79	0.39	2y-EDAH09	-98.665
EDAM09	4.93	0.53	2y-EDAM09	-97.952
EDAU09	5.08	0.68	2y-EDAU09	-97.821
EDAZ09	5.25	0.85	2y-EDAZ09	-97.817
EDAH10	5.41	1.01	2y-EDAH10	-97.771
EDAM10	5.60	1.20	2y-EDAM10	-97.756
EDAU10	5.77	1.37	2y-EDAU10	-97.629
EDAZ10	5.91	1.51	2y-EDAZ10	-97.654

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

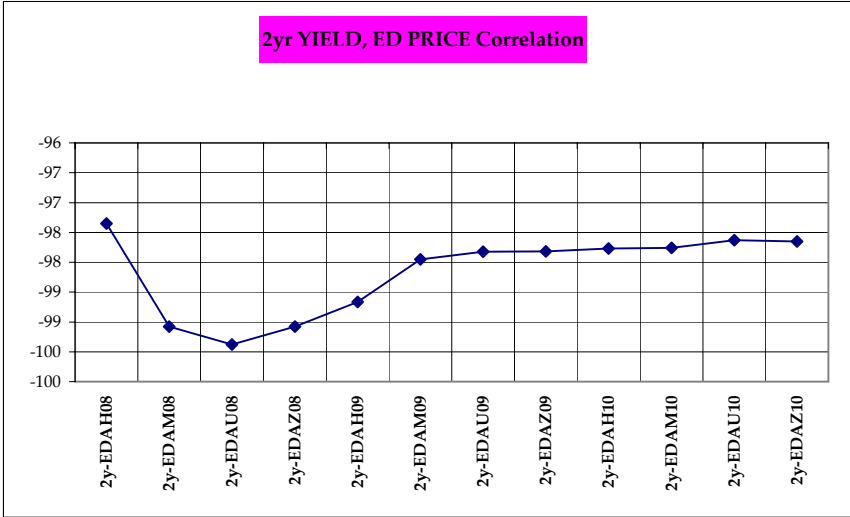


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAH08	0.147	1.87	2y-EDAH08
EDAM08	0.397	1.87	2y-EDAM08
EDAU08	0.646	1.87	2y-EDAU08
EDAZ08	0.895	1.87	2y-EDAZ08
EDAH09	1.145	1.87	2y-EDAH09
EDAM09	1.394	1.87	2y-EDAM09
EDAU09	1.643	1.87	2y-EDAU09
EDAZ09	1.892	1.87	2y-EDAZ09
EDAH10	2.142	1.87	2y-EDAH10
EDAM10	2.391	1.87	2y-EDAM10
EDAU10	2.640	1.87	2y-EDAU10
EDAZ10	2.890	1.87	2y-EDAZ10

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

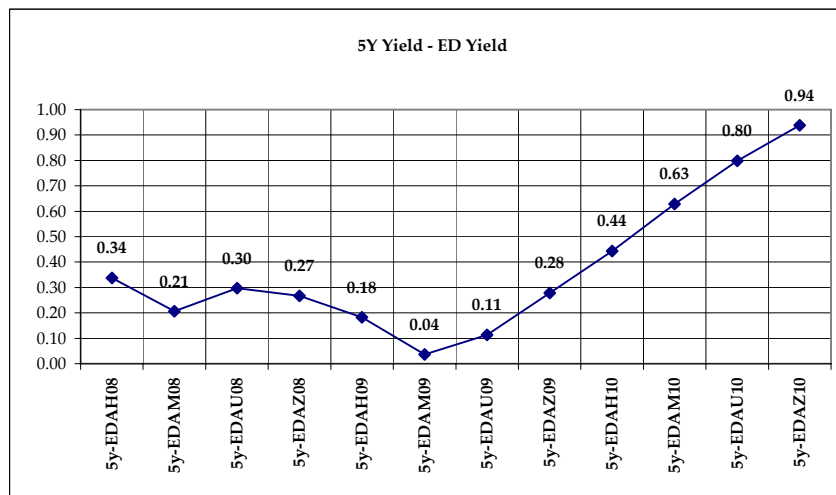
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	7.91	0.34	5y-EDAH08	-96.205
EDAM08	7.37	0.21	5y-EDAM08	-98.363
EDAU08	7.28	0.30	5y-EDAU08	-98.939
EDAZ08	7.31	0.27	5y-EDAZ08	-98.363
EDAH09	7.39	0.18	5y-EDAH09	-98.546
EDAM09	7.54	0.04	5y-EDAM09	-97.988
EDAU09	7.69	0.11	5y-EDAU09	-97.973
EDAZ09	7.85	0.28	5y-EDAZ09	-98.140
EDAH10	8.02	0.44	5y-EDAH10	-98.225
EDAM10	8.20	0.63	5y-EDAM10	-98.313
EDAU10	8.37	0.80	5y-EDAU10	-98.338
EDAZ10	8.51	0.94	5y-EDAZ10	-98.412

Price = Outright Decimal Price - Euro Contract Price  
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 \*Correlation = ED Correlation to Treasury Future over 10 days  
 These are measuring YIELD correlations.

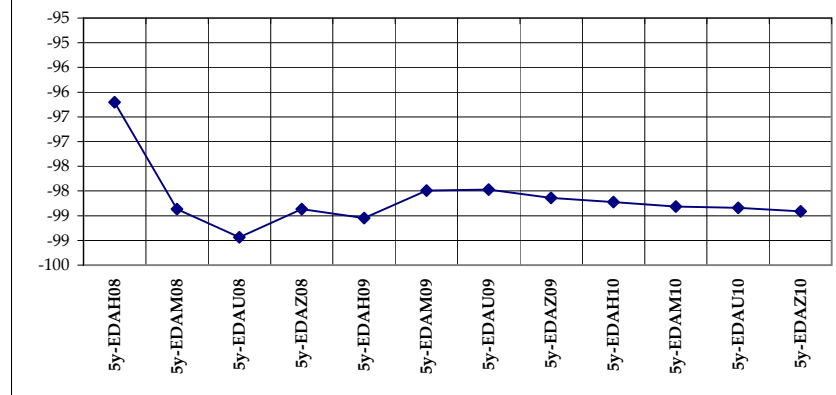


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAH08	0.147	4.44	4.30 5y-EDAH08
EDAM08	0.397	4.44	4.05 5y-EDAM08
EDAU08	0.646	4.44	3.80 5y-EDAU08
EDAZ08	0.895	4.44	3.55 5y-EDAZ08
EDAH09	1.145	4.44	3.30 5y-EDAH09
EDAM09	1.394	4.44	3.05 5y-EDAM09
EDAU09	1.643	4.44	2.80 5y-EDAU09
EDAZ09	1.892	4.44	2.55 5y-EDAZ09
EDAH10	2.142	4.44	2.30 5y-EDAH10
EDAM10	2.391	4.44	2.05 5y-EDAM10
EDAU10	2.640	4.44	1.80 5y-EDAU10
EDAZ10	2.890	4.44	1.55 5y-EDAZ10

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

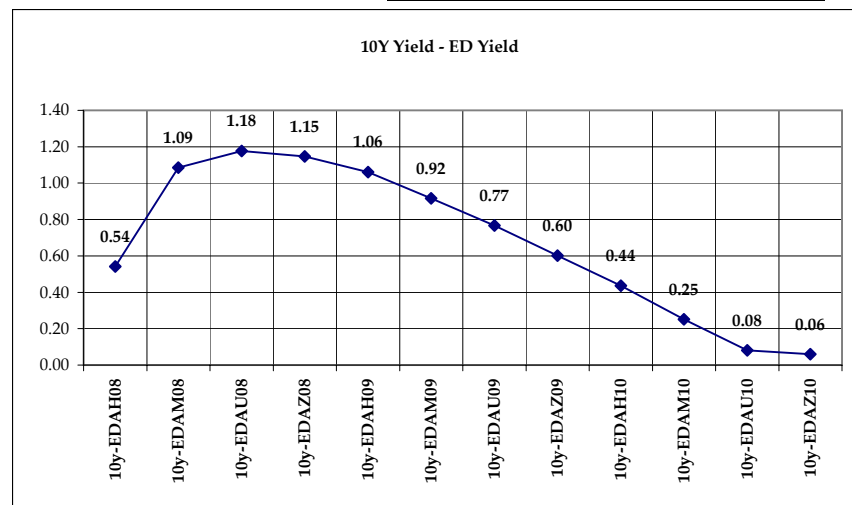
**5yr YIELD, ED PRICE Correlation**



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

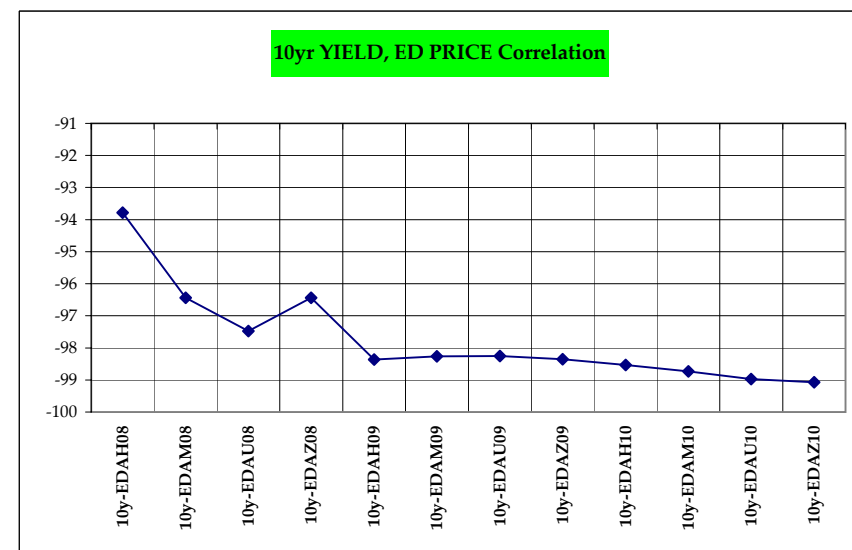
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	7.91	0.54	10y-EDAH08	-93.782
EDAM08	7.37	1.09	10y-EDAM08	-96.436
EDAU08	7.28	1.18	10y-EDAU08	-97.474
EDAZ08	7.31	1.15	10y-EDAZ08	-96.436
EDAH09	7.39	1.06	10y-EDAH09	-98.362
EDAM09	7.54	0.92	10y-EDAM09	-98.262
EDAU09	7.69	0.77	10y-EDAU09	-98.259
EDAZ09	7.85	0.60	10y-EDAZ09	-98.357
EDAH10	8.02	0.44	10y-EDAH10	-98.533
EDAM10	8.20	0.25	10y-EDAM10	-98.736
EDAU10	8.37	0.08	10y-EDAU10	-98.968
EDAZ10	8.51	0.06	10y-EDAZ10	-99.073

Price = Outright Decimal Price - Euro Contract Price  
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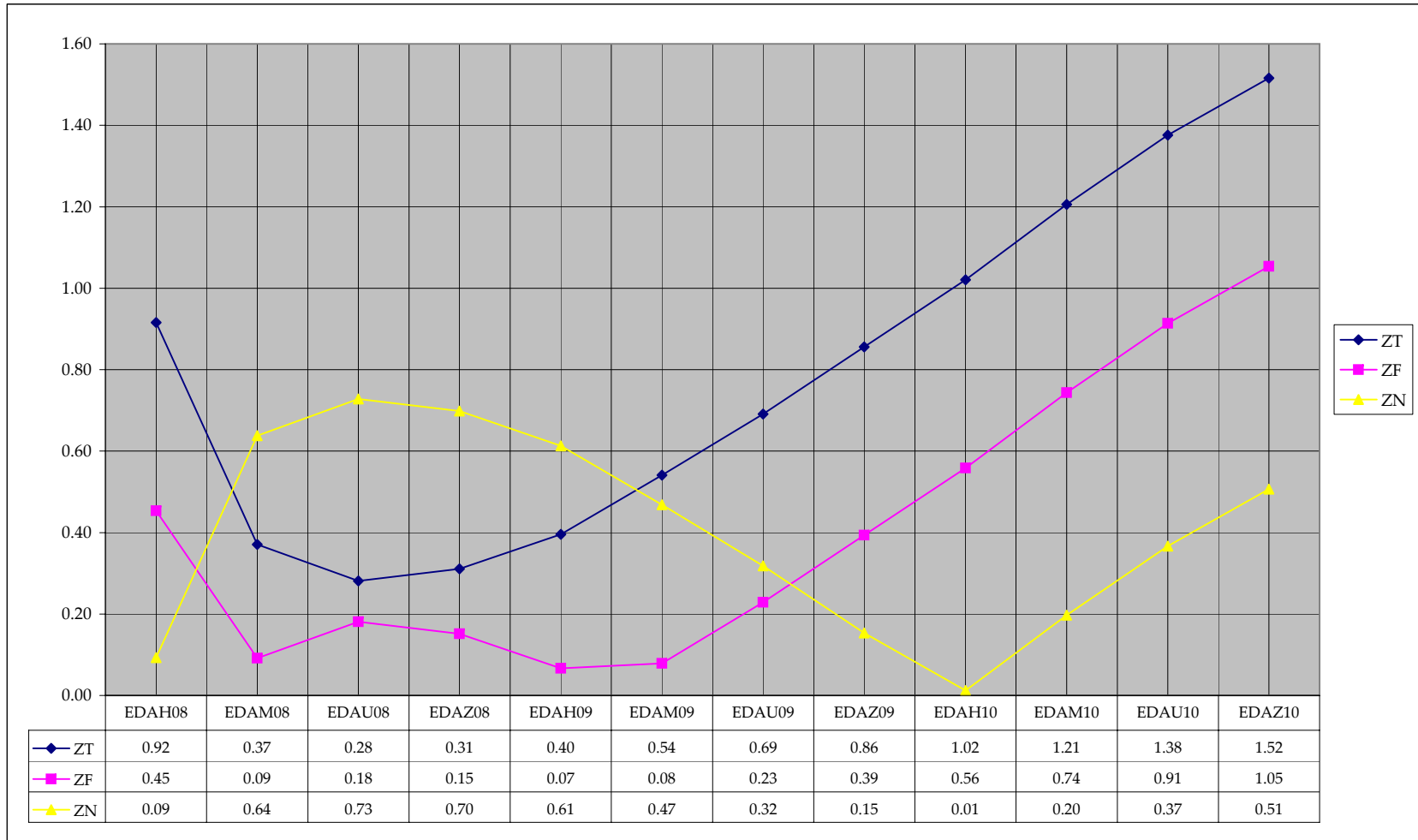
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAH08	0.147	7.99	7.84	10y-EDAH08
EDAM08	0.397	7.99	7.59	10y-EDAM08
EDAU08	0.646	7.99	7.35	10y-EDAU08
EDAZ08	0.895	7.99	7.10	10y-EDAZ08
EDAH09	1.145	7.99	6.85	10y-EDAH09
EDAM09	1.394	7.99	6.60	10y-EDAM09
EDAU09	1.643	7.99	6.35	10y-EDAU09
EDAZ09	1.892	7.99	6.10	10y-EDAZ09
EDAH10	2.142	7.99	5.85	10y-EDAH10
EDAM10	2.391	7.99	5.60	10y-EDAM10
EDAU10	2.640	7.99	5.35	10y-EDAU10
EDAZ10	2.890	7.99	5.10	10y-EDAZ10

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



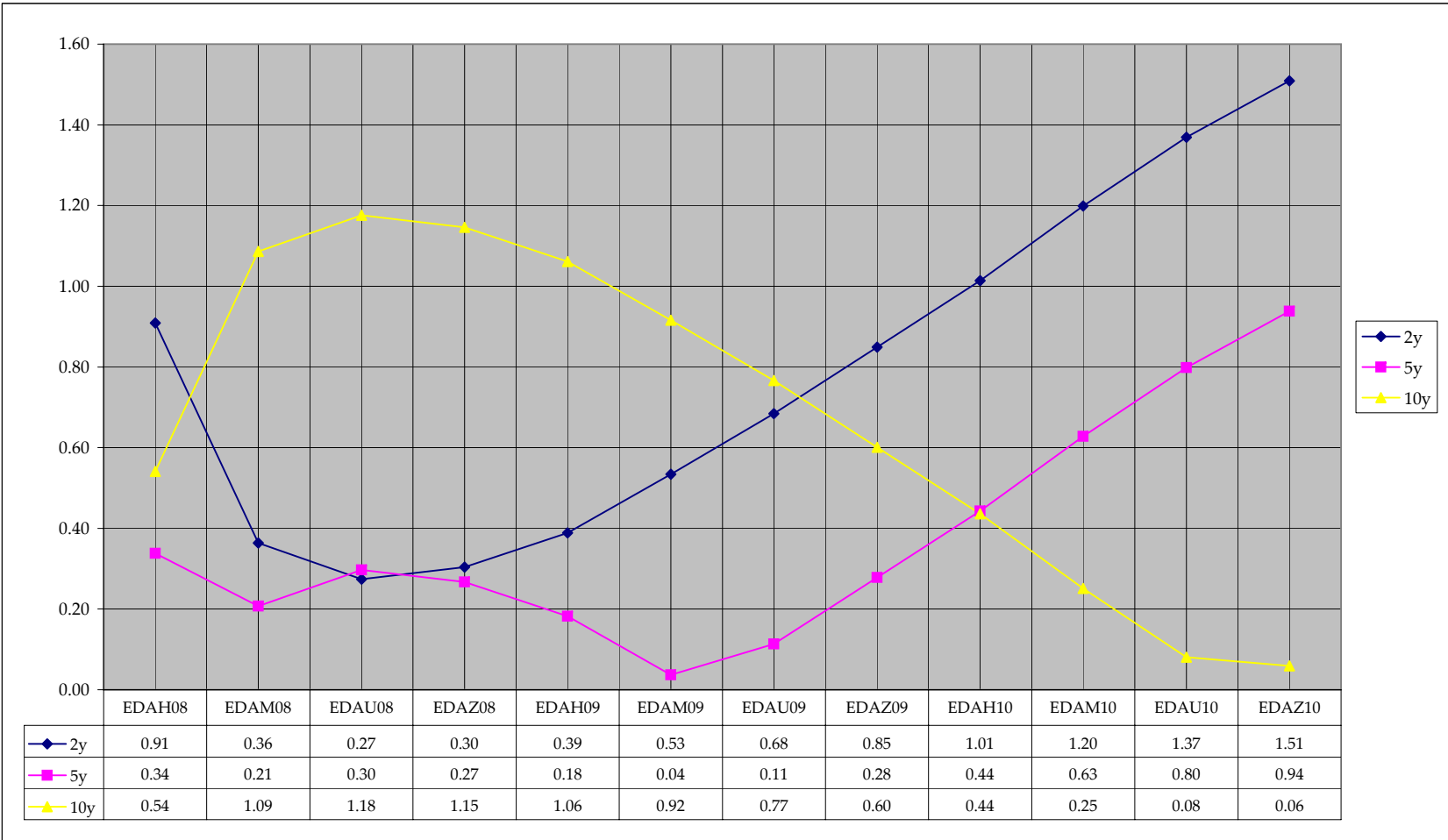
**Dirty TED Curve**

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.

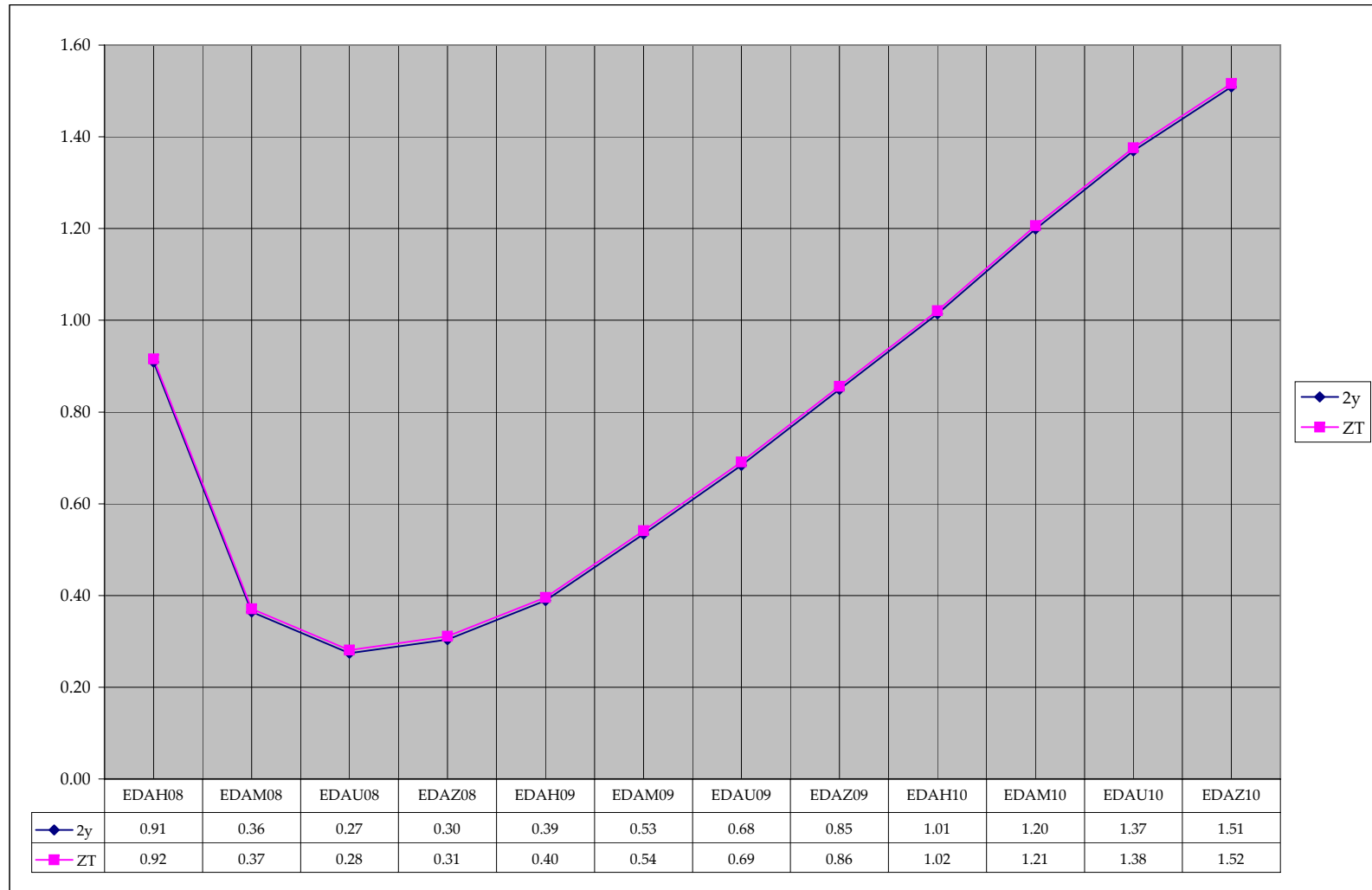


TED Curve

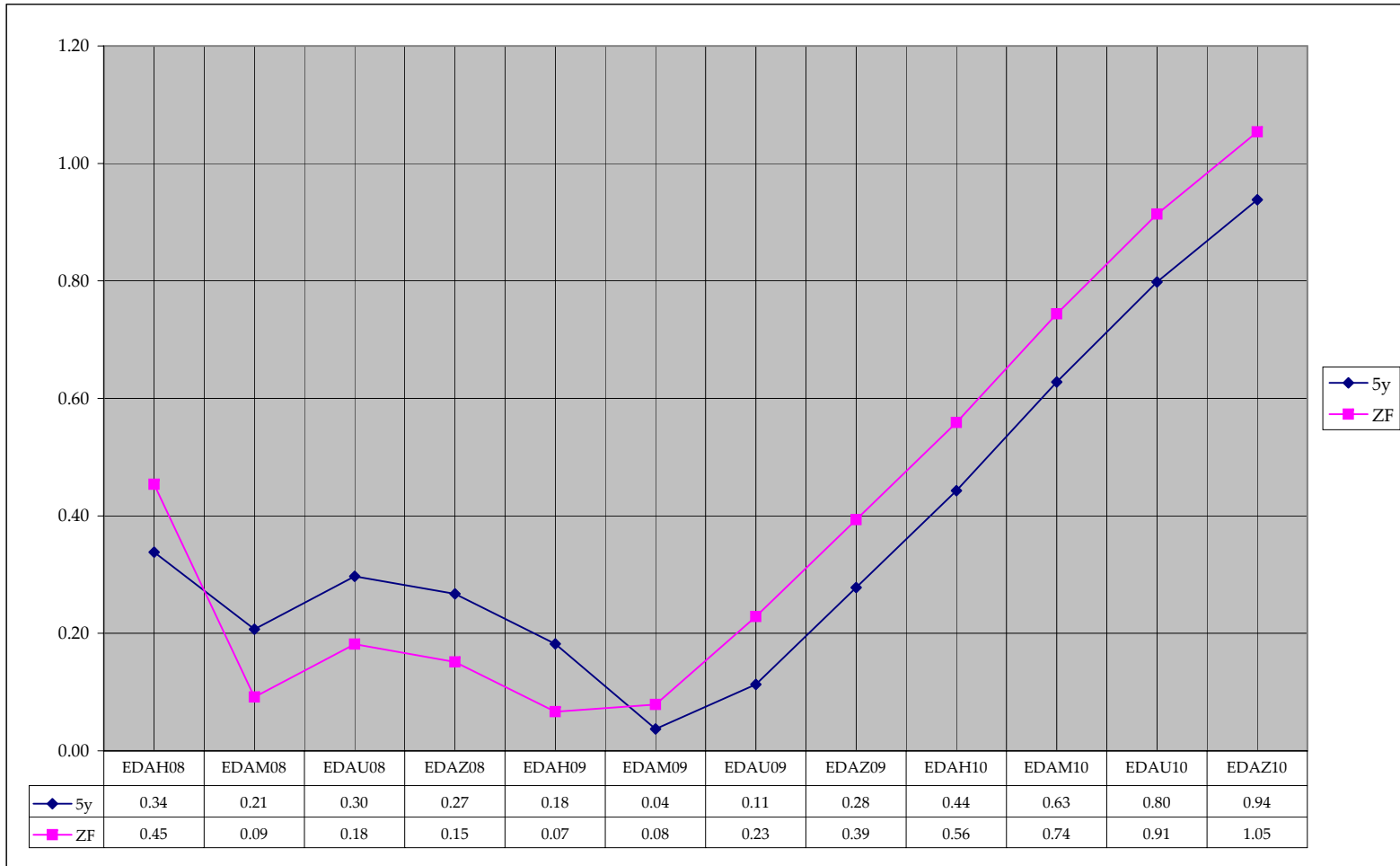
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



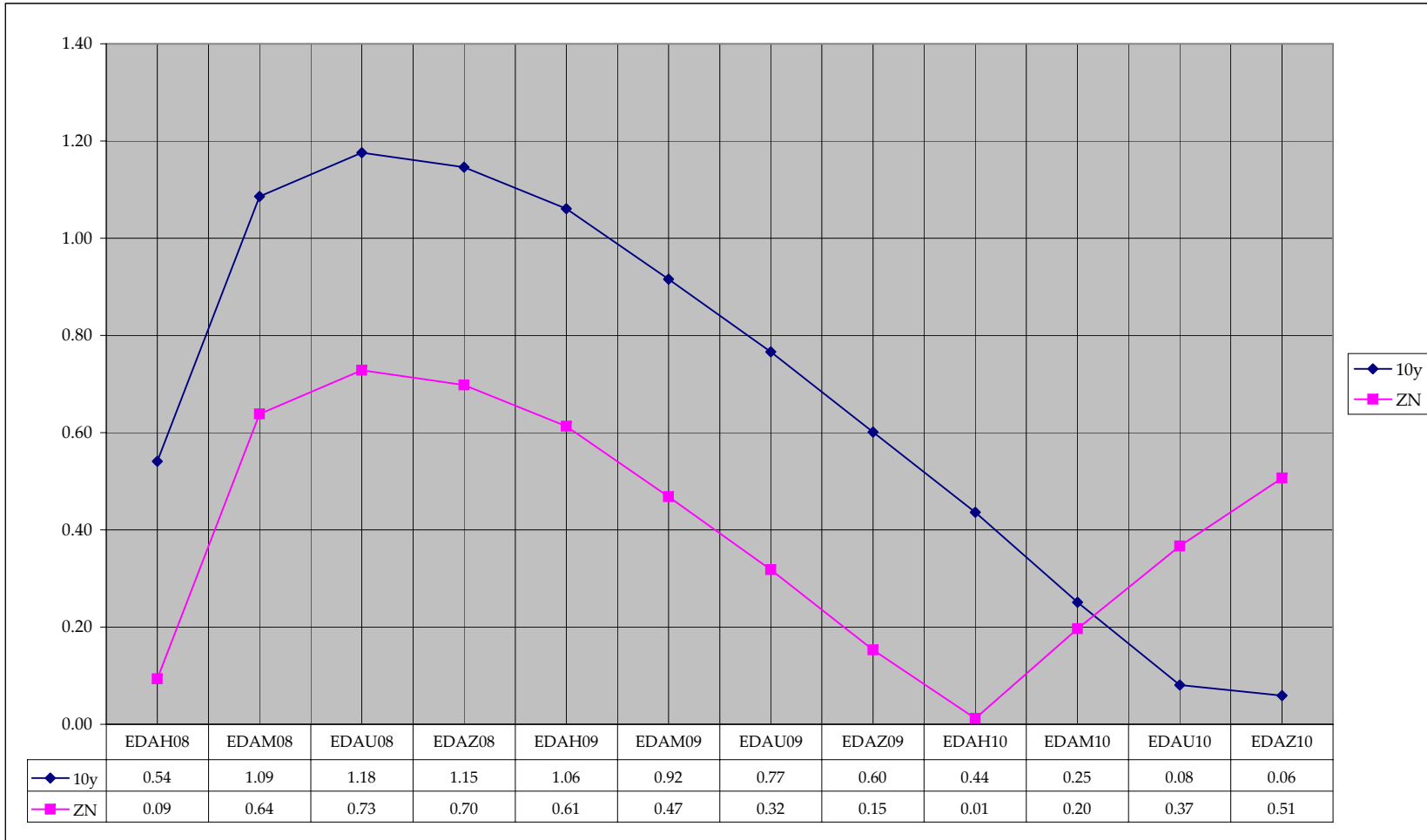
## 2y Basis TED Curve



## 5y Basis TED Curve



10y Basis TED Curve



Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.467	14.875	9758.125
Q.ED.Red	2.623	8.375	9743.000
Q.ED.Green	3.300	6.375	9677.125
Q.ED.Blue	1.500	1.500	9614.875
Q.ED.Gold		0.000	9567.750

