

## 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	107.1094	107.035	1.871	1.75	
ZF	113.2031	113.065	2.664	3.85	
ZN	116.1094	116.035	3.260	5.80	
2y	100.391	100.1250	1.920	1.90	
5y	100.422	100.1350	2.787	4.57	
10y	97.406	97.1300	3.813	8.33	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.108	2.893	27	0.073	MAR	} White Pack	
EDAM08	97.520	2.480	118	0.323	JUN		
EDAU08	97.650	2.350	209	0.572	SEP		
EDAZ08	97.580	2.420	300	0.821	DEC	} Red Pack	
EDAH09	97.415	2.585	391	1.071	MAR		
EDAM09	97.180	2.820	482	1.320	JUN		
EDAU09	96.935	3.065	573	1.569	SEP	} Green Pack	
EDAZ09	96.695	3.305	664	1.818	DEC		
EDAH10	96.500	3.500	755	2.068	MAR		
EDAM10	96.295	3.705	846	2.317	JUN	} Blue Pack	
EDAU10	96.100	3.900	937	2.566	SEP		
EDAZ10	95.930	4.070	1028	2.816	DEC		
EDAH11	95.755	4.245	1119	3.065	MAR	} Gold Pack	
EDAM11	95.600	4.400	1210	3.314	JUN		
EDAU11	95.440	4.560	1308	3.583	SEP		
EDAZ11	95.300	4.700	1399	3.832	DEC	} Gold Pack	
EDAH12	95.150	4.850	1490	4.081	MAR		
EDAM12	95.050	4.950	1581	4.331	JUN		
EDAU12	94.935	5.065	1672	4.580	SEP		
EDAU12	94.935	5.065	1672	4.580	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	2.587	4.500	9746.438	} Pack Prices
Q.ED.Red	3.007	5.875	9705.625	
Q.ED.Green	3.883	4.750	9620.625	
Q.ED.Blue		0.875	9552.375	
Q.ED.Gold		0.000	9498.500	

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)

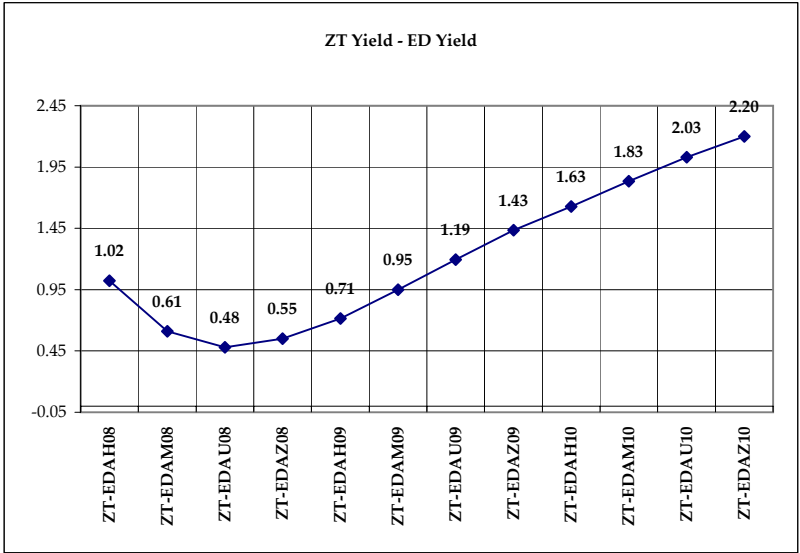
### Eurodollar Color Codes for Individual Year Strips:

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

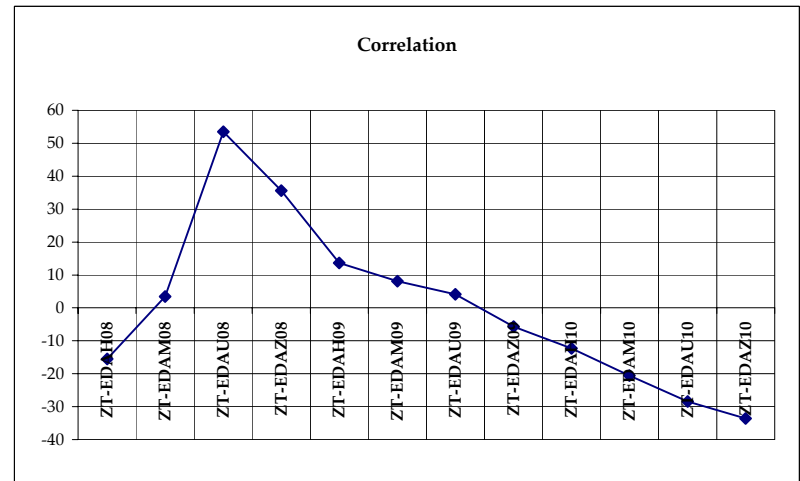
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	10.002	1.02	ZT-EDAH08	-15.493
EDAM08	9.589	0.61	ZT-EDAM08	3.411
EDAU08	9.459	0.48	ZT-EDAU08	53.500
EDAZ08	9.529	0.55	ZT-EDAZ08	35.655
EDAH09	9.694	0.71	ZT-EDAH09	13.672
EDAM09	9.929	0.95	ZT-EDAM09	8.102
EDAU09	10.174	1.19	ZT-EDAU09	4.142
EDAZ09	10.414	1.43	ZT-EDAZ09	-5.646
EDAH10	10.609	1.63	ZT-EDAH10	-12.267
EDAM10	10.814	1.83	ZT-EDAM10	-20.524
EDAU10	11.009	2.03	ZT-EDAU10	-28.453
EDAZ10	11.179	2.20	ZT-EDAZ10	-33.541

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	0.073	1.75	1.68	ZT-EDAH08
EDAM08	0.323	1.75	1.43	ZT-EDAM08
EDAU08	0.572	1.75	1.18	ZT-EDAU08
EDAZ08	0.821	1.75	0.93	ZT-EDAZ08
EDAH09	1.071	1.75	0.68	ZT-EDAH09
EDAM09	1.320	1.75	0.43	ZT-EDAM09
EDAU09	1.569	1.75	0.18	ZT-EDAU09
EDAZ09	1.818	1.75	(0.07)	ZT-EDAZ09
EDAH10	2.068	1.75	(0.32)	ZT-EDAH10
EDAM10	2.317	1.75	(0.57)	ZT-EDAM10
EDAU10	2.566	1.75	(0.82)	ZT-EDAU10
EDAZ10	2.816	1.75	(1.07)	ZT-EDAZ10

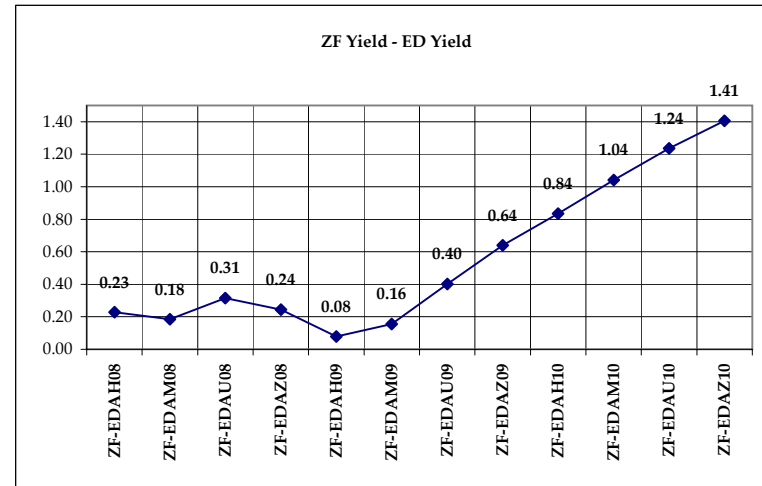
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	16.10	0.23	ZF-EDAH08	72.011
EDAM08	15.68	0.18	ZF-EDAM08	78.300
EDAU08	15.55	0.31	ZF-EDAU08	58.944
EDAZ08	15.62	0.24	ZF-EDAZ08	79.324
EDAH09	15.79	0.08	ZF-EDAH09	92.581
EDAM09	16.02	0.16	ZF-EDAM09	93.690
EDAU09	16.27	0.40	ZF-EDAU09	93.298
EDAZ09	16.51	0.64	ZF-EDAZ09	92.244
EDAH10	16.70	0.84	ZF-EDAH10	91.228
EDAM10	16.91	1.04	ZF-EDAM10	89.190
EDAU10	17.10	1.24	ZF-EDAU10	85.994
EDAZ10	17.27	1.41	ZF-EDAZ10	82.762

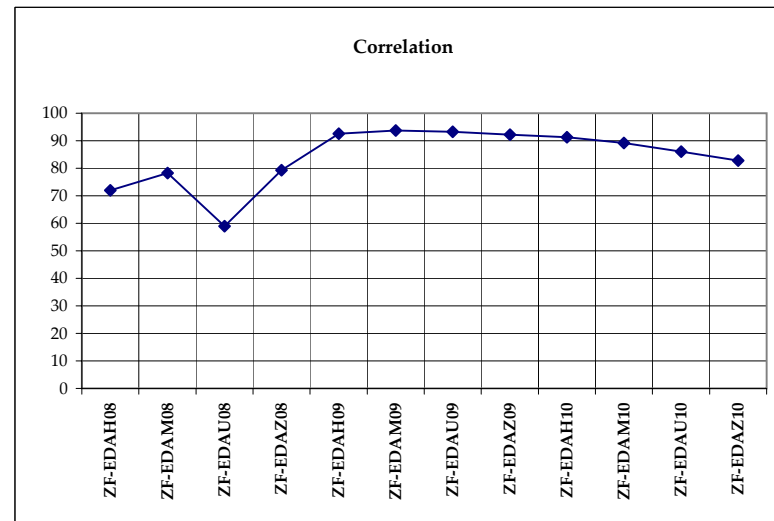
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.073	3.85	3.78	ZF-EDAH08
EDAM08	0.323	3.85	3.53	ZF-EDAM08
EDAU08	0.572	3.85	3.28	ZF-EDAU08
EDAZ08	0.821	3.85	3.03	ZF-EDAZ08
EDAH09	1.071	3.85	2.78	ZF-EDAH09
EDAM09	1.320	3.85	2.53	ZF-EDAM09
EDAU09	1.569	3.85	2.28	ZF-EDAU09
EDAZ09	1.818	3.85	2.03	ZF-EDAZ09
EDAH10	2.068	3.85	1.78	ZF-EDAH10
EDAM10	2.317	3.85	1.53	ZF-EDAM10
EDAU10	2.566	3.85	1.28	ZF-EDAU10
EDAZ10	2.816	3.85	1.03	ZF-EDAZ10

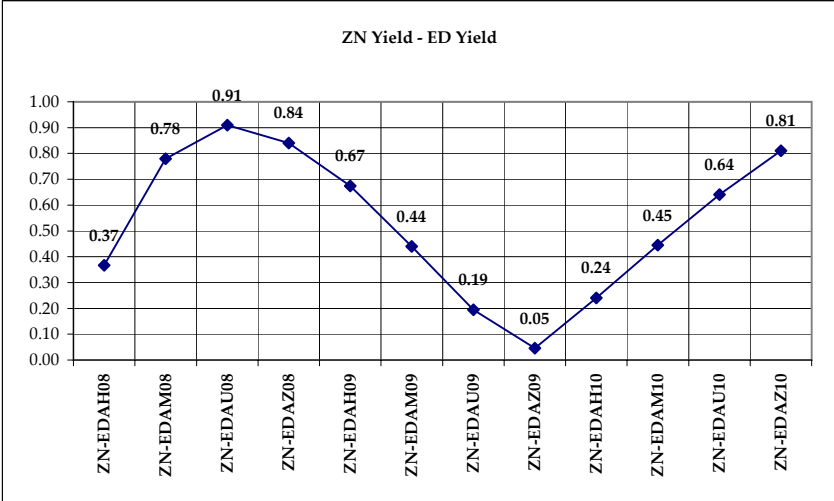
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

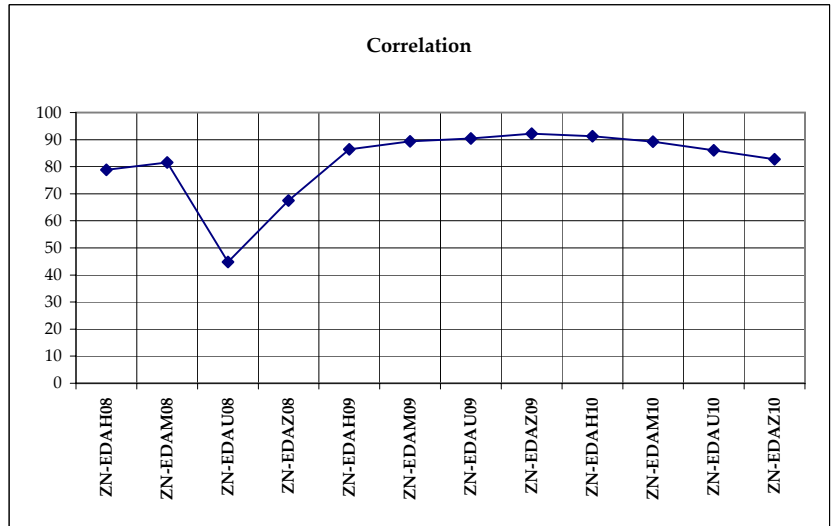
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.00	0.37	ZN-EDAH08	78.79
EDAM08	18.59	0.78	ZN-EDAM08	81.59
EDAU08	18.46	0.91	ZN-EDAU08	44.83
EDAZ08	18.53	0.84	ZN-EDAZ08	67.49
EDAH09	18.69	0.67	ZN-EDAH09	86.38
EDAM09	18.93	0.44	ZN-EDAM09	89.31
EDAU09	19.17	0.19	ZN-EDAU09	90.40
EDAZ09	19.41	0.05	ZN-EDAZ09	92.15
EDAH10	19.61	0.24	ZN-EDAH10	91.23
EDAM10	19.81	0.45	ZN-EDAM10	89.19
EDAU10	20.01	0.64	ZN-EDAU10	85.99
EDAZ10	20.18	0.81	ZN-EDAZ10	82.76

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	0.073	5.80	5.72	ZN-EDAH08
EDAM08	0.323	5.80	5.48	ZN-EDAM08
EDAU08	0.572	5.80	5.23	ZN-EDAU08
EDAZ08	0.821	5.80	4.98	ZN-EDAZ08
EDAH09	1.071	5.80	4.73	ZN-EDAH09
EDAM09	1.320	5.80	4.48	ZN-EDAM09
EDAU09	1.569	5.80	4.23	ZN-EDAU09
EDAZ09	1.818	5.80	3.98	ZN-EDAZ09
EDAH10	2.068	5.80	3.73	ZN-EDAH10
EDAM10	2.317	5.80	3.48	ZN-EDAM10
EDAU10	2.566	5.80	3.23	ZN-EDAU10
EDAZ10	2.816	5.80	2.98	ZN-EDAZ10

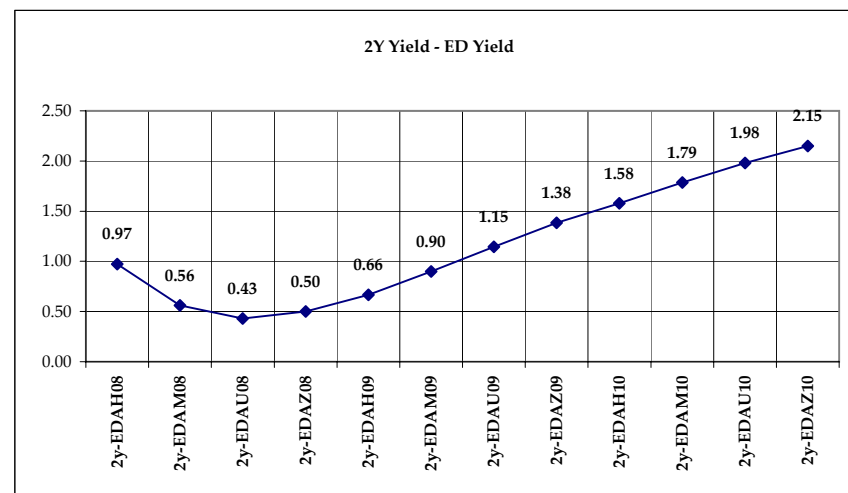
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.28	0.97	2y-EDAH08	8.696
EDAM08	2.87	0.56	2y-EDAM08	-7.919
EDAU08	2.74	0.43	2y-EDAU08	-60.509
EDAZ08	2.81	0.50	2y-EDAZ08	-7.919
EDAH09	2.98	0.66	2y-EDAH09	-22.941
EDAM09	3.21	0.90	2y-EDAM09	-18.840
EDAU09	3.46	1.15	2y-EDAU09	-16.741
EDAZ09	3.70	1.38	2y-EDAZ09	-9.621
EDAH10	3.89	1.58	2y-EDAH10	-5.300
EDAM10	4.10	1.79	2y-EDAM10	0.896
EDAU10	4.29	1.98	2y-EDAU10	7.368
EDAZ10	4.46	2.15	2y-EDAZ10	11.886

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.

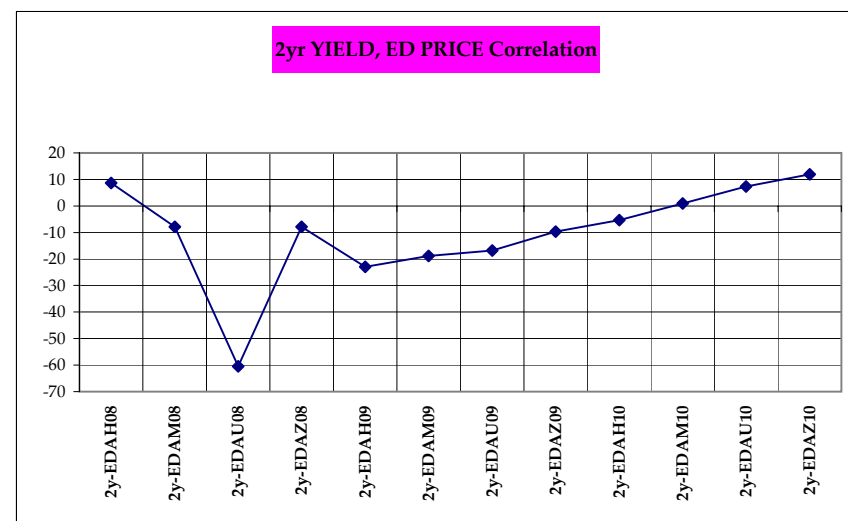


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAH08	0.073	1.90	2y-EDAH08
EDAM08	0.323	1.90	2y-EDAM08
EDAU08	0.572	1.90	2y-EDAU08
EDAZ08	0.821	1.90	2y-EDAZ08
EDAH09	1.071	1.90	2y-EDAH09
EDAM09	1.320	1.90	2y-EDAM09
EDAU09	1.569	1.90	2y-EDAU09
EDAZ09	1.818	1.90	2y-EDAZ09
EDAH10	2.068	1.90	2y-EDAH10
EDAM10	2.317	1.90	2y-EDAM10
EDAU10	2.566	1.90	2y-EDAU10
EDAZ10	2.816	1.90	2y-EDAZ10

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

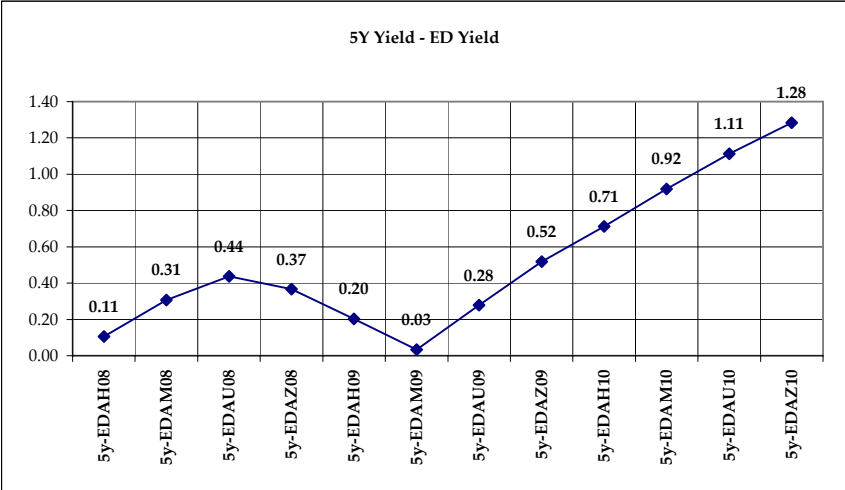
2yr YIELD, ED PRICE Correlation



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

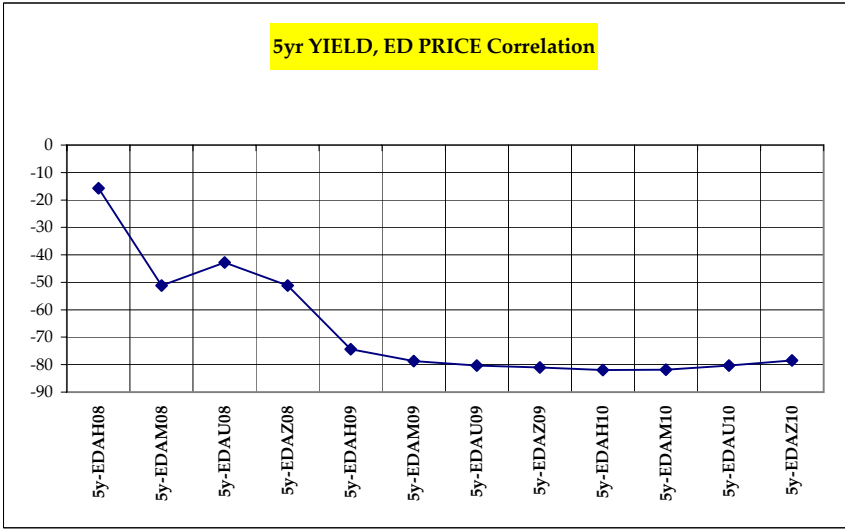
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.31	0.11	5y-EDAH08	-15.689
EDAM08	2.90	0.31	5y-EDAM08	-51.173
EDAU08	2.77	0.44	5y-EDAU08	-42.788
EDAZ08	2.84	0.37	5y-EDAZ08	-51.173
EDAH09	3.01	0.20	5y-EDAH09	-74.329
EDAM09	3.24	0.03	5y-EDAM09	-78.664
EDAU09	3.49	0.28	5y-EDAU09	-80.314
EDAZ09	3.73	0.52	5y-EDAZ09	-81.029
EDAH10	3.92	0.71	5y-EDAH10	-81.917
EDAM10	4.13	0.92	5y-EDAM10	-81.866
EDAU10	4.32	1.11	5y-EDAU10	-80.276
EDAZ10	4.49	1.28	5y-EDAZ10	-78.444

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	0.073	4.57	4.50	5y-EDAH08
EDAM08	0.323	4.57	4.25	5y-EDAM08
EDAU08	0.572	4.57	4.00	5y-EDAU08
EDAZ08	0.821	4.57	3.75	5y-EDAZ08
EDAH09	1.071	4.57	3.50	5y-EDAH09
EDAM09	1.320	4.57	3.26	5y-EDAM09
EDAU09	1.569	4.57	3.01	5y-EDAU09
EDAZ09	1.818	4.57	2.76	5y-EDAZ09
EDAH10	2.068	4.57	2.51	5y-EDAH10
EDAM10	2.317	4.57	2.26	5y-EDAM10
EDAU10	2.566	4.57	2.01	5y-EDAU10
EDAZ10	2.816	4.57	1.76	5y-EDAZ10

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

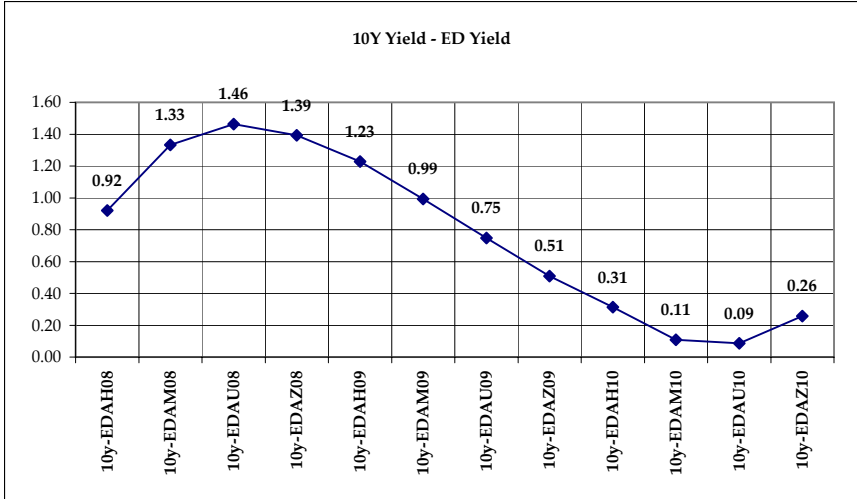




**TERM TED: 10y vs Eurodollar Contracts**

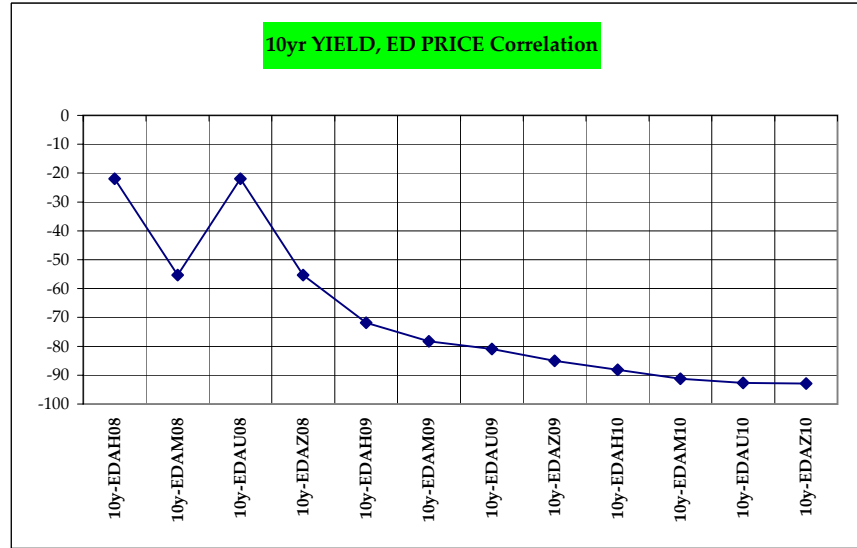
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.31	0.92	10y-EDAH08	-21.942
EDAM08	2.90	1.33	10y-EDAM08	-55.315
EDAU08	2.77	1.46	10y-EDAU08	-21.913
EDAZ08	2.84	1.39	10y-EDAZ08	-55.315
EDAH09	3.01	1.23	10y-EDAH09	-71.790
EDAM09	3.24	0.99	10y-EDAM09	-78.308
EDAU09	3.49	0.75	10y-EDAU09	-80.956
EDAZ09	3.73	0.51	10y-EDAZ09	-85.054
EDAH10	3.92	0.31	10y-EDAH10	-88.112
EDAM10	4.13	0.11	10y-EDAM10	-91.187
EDAU10	4.32	0.09	10y-EDAU10	-92.639
EDAZ10	4.49	0.26	10y-EDAZ10	-92.922

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	0.073	8.33	8.25	10y-EDAH08
EDAM08	0.323	8.33	8.00	10y-EDAM08
EDAU08	0.572	8.33	7.75	10y-EDAU08
EDAZ08	0.821	8.33	7.51	10y-EDAZ08
EDAH09	1.071	8.33	7.26	10y-EDAH09
EDAM09	1.320	8.33	7.01	10y-EDAM09
EDAU09	1.569	8.33	6.76	10y-EDAU09
EDAZ09	1.818	8.33	6.51	10y-EDAZ09
EDAH10	2.068	8.33	6.26	10y-EDAH10
EDAM10	2.317	8.33	6.01	10y-EDAM10
EDAU10	2.566	8.33	5.76	10y-EDAU10
EDAZ10	2.816	8.33	5.51	10y-EDAZ10

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

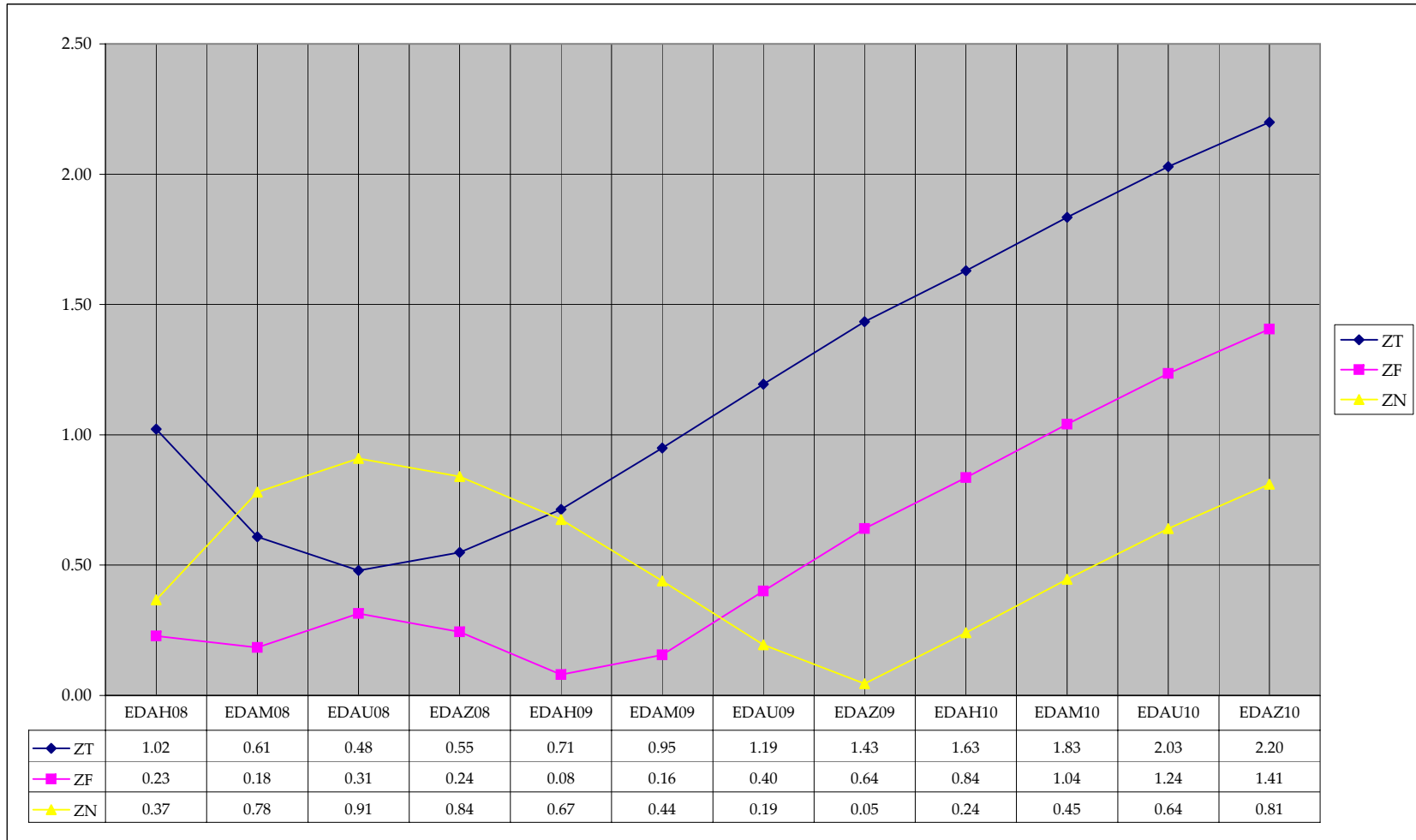


**Dirty TED Curve**

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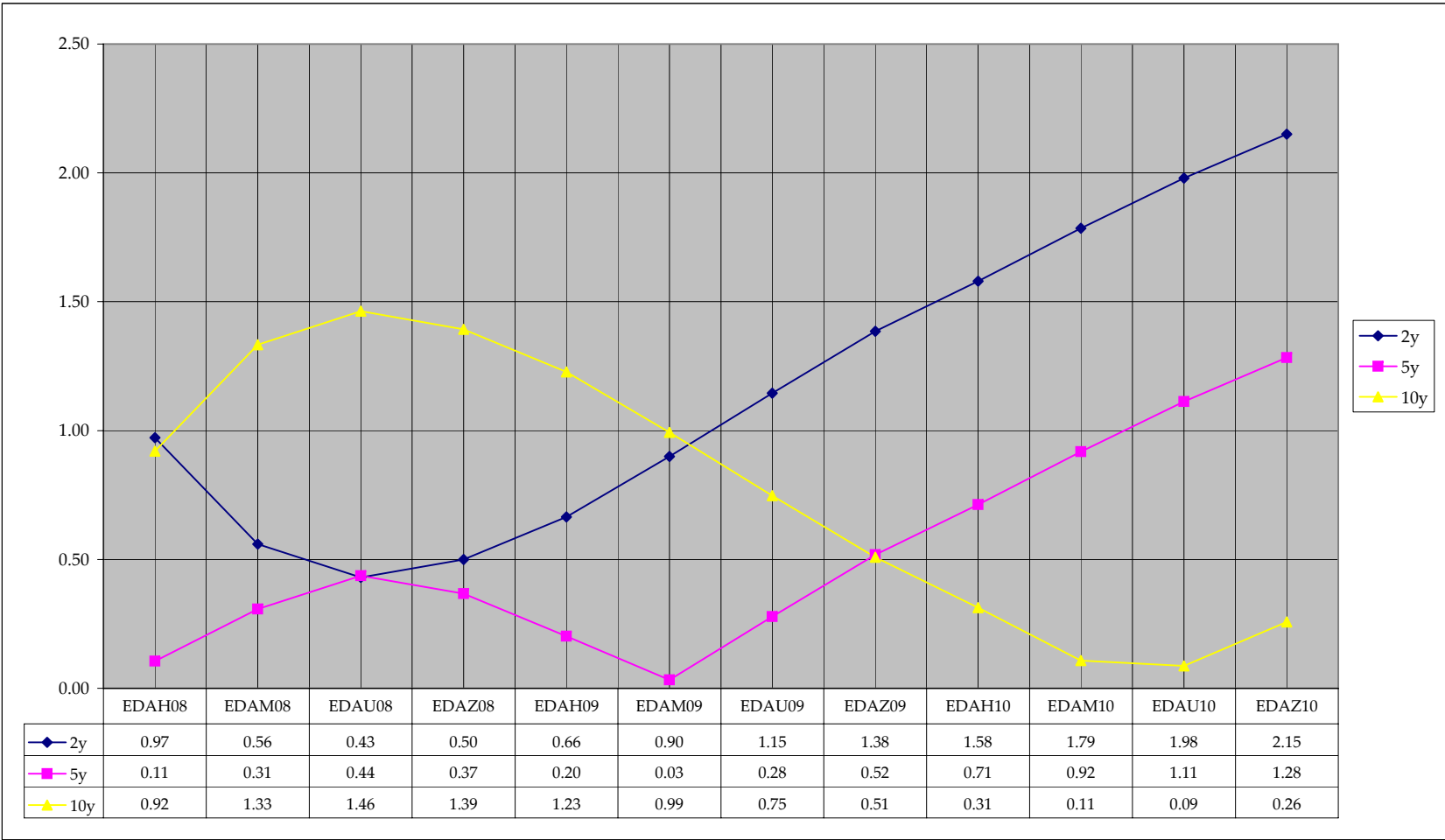
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

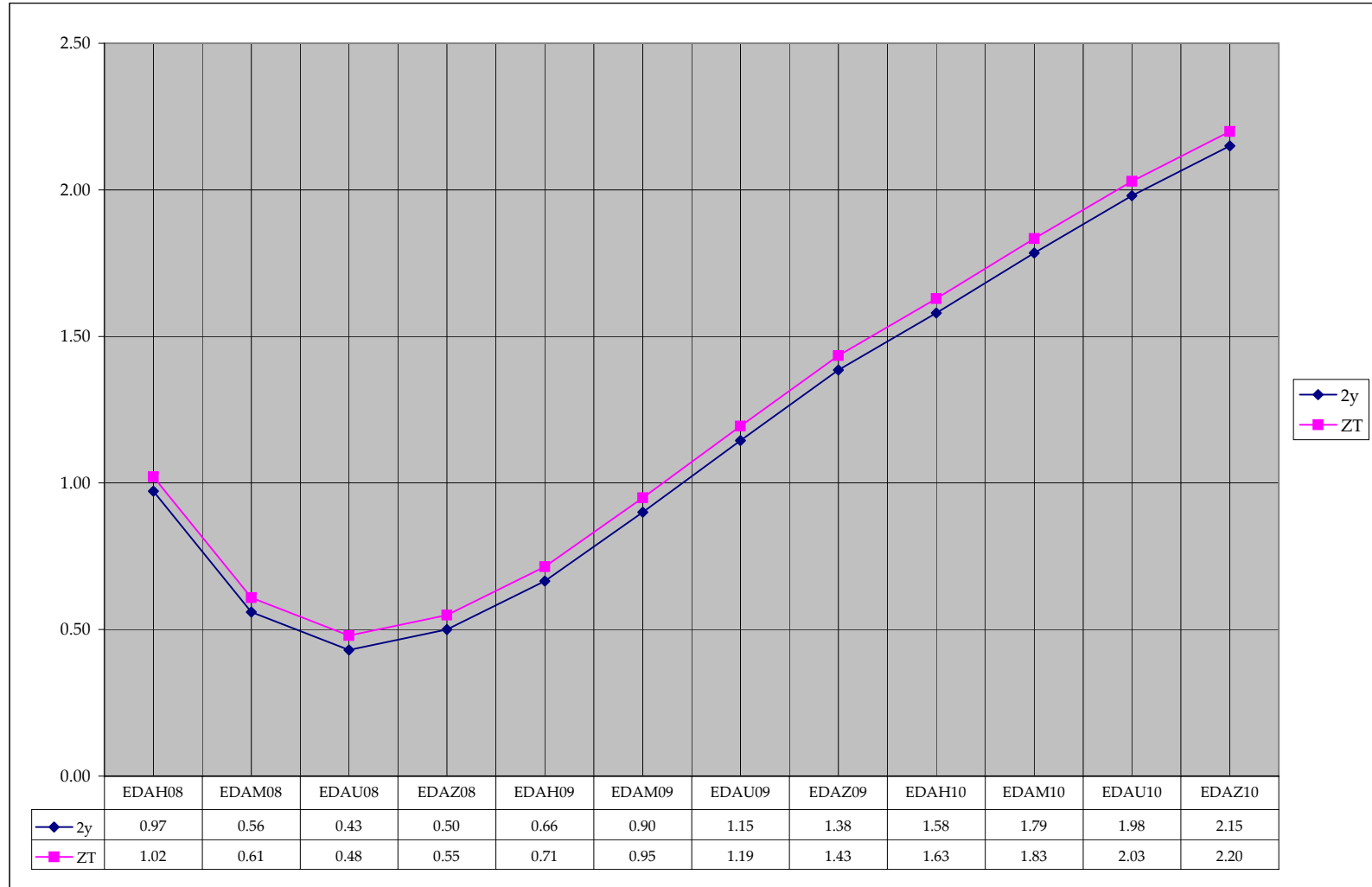


TED Curve

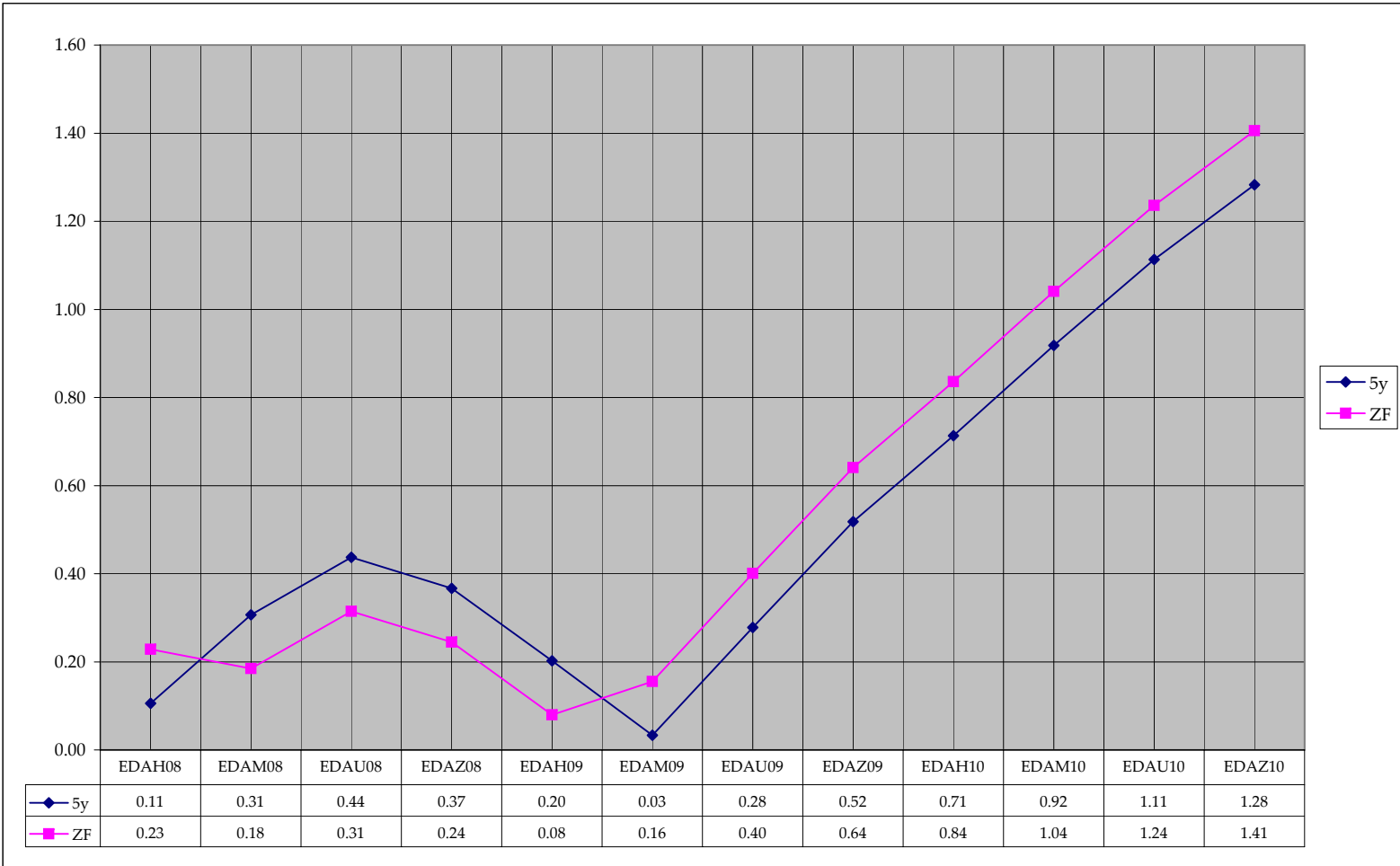
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



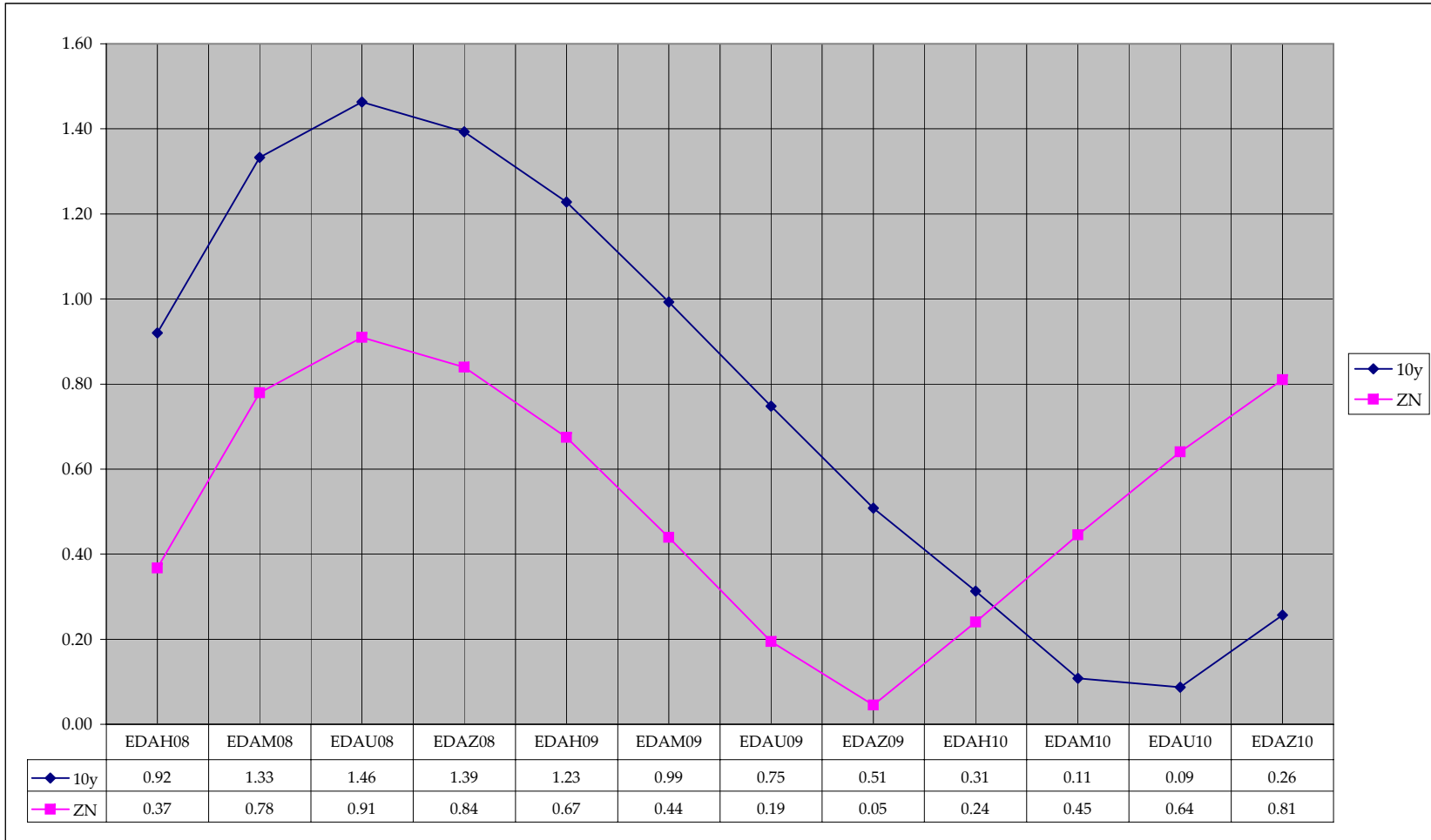
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.587	4.500	9746.438
Q.ED.Red	3.007	5.875	9705.625
Q.ED.Green	3.883	4.750	9620.625
Q.ED.Blue	0.875		9552.375
Q.ED.Gold		0.000	9498.500

