

## 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	104.9844	104.315	3.072	1.93
ZF	109.8594	109.275	3.415	4.05
ZN	112.8281	112.265	3.734	5.99
2y	100.047	100.0150	3.097	1.92
5y	101.859	101.2750	3.457	4.44
10y	101.906	101.2900	4.016	8.07

Above quotes reflect MARCH 2008 CONTRACTS for ZT, ZF, and ZN

Correlations, on following pages, reflect DEC 2007 Contract. This is only for today. Tomorrow, correclations will flip to March.

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAZ07	95.120	4.880	18	0.049	DEC
EDAH08	95.790	4.210	109	0.298	MAR
EDAM08	96.220	3.780	200	0.547	JUN
EDAU08	96.430	3.570	291	0.797	SEP
EDAZ08	96.495	3.505	382	1.046	DEC
EDAH09	96.465	3.535	473	1.295	MAR
EDAM09	96.365	3.635	564	1.545	JUN
EDAU09	96.235	3.765	655	1.794	SEP
EDAZ09	96.085	3.915	746	2.043	DEC
EDAH10	95.960	4.040	837	2.293	MAR
EDAM10	95.830	4.170	928	2.542	JUN
EDAU10	95.720	4.280	1019	2.791	SEP
EDAZ10	95.615	4.385	1110	3.040	DEC
EDAH11	95.470	4.530	1201	3.290	MAR
EDAM11	95.440	4.560	1292	3.539	JUN
EDAU11	95.320	4.680	1390	3.808	SEP
EDAZ11	95.210	4.790	1481	4.057	DEC
EDAH12	95.170	4.830	1572	4.306	MAR
EDAM12	95.100	4.900	1663	4.556	JUN
EDAU12	95.055	4.945	1754	4.805	SEP

White Pack  
Red Pack  
Green Pack  
Blue Pack  
Gold Pack

	Last Yield	Net Yield	Last Price
Q.ED.White	4.211	3.625	9589.000
Q.ED.Red	3.693	5.750	9639.000
Q.ED.Green	4.201	4.500	9589.875
Q.ED.Blue		1.500	9546.125
Q.ED.Gold		0.000	9514.750

Pack Prices

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

Notes

Futures use CTD for Last Yield

Mduration = Modified Macaulay Duration

#VALUE! = no quote being provided by exchange.

## Overview of Hedging

11/29/2007 5:40

Page A

**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)

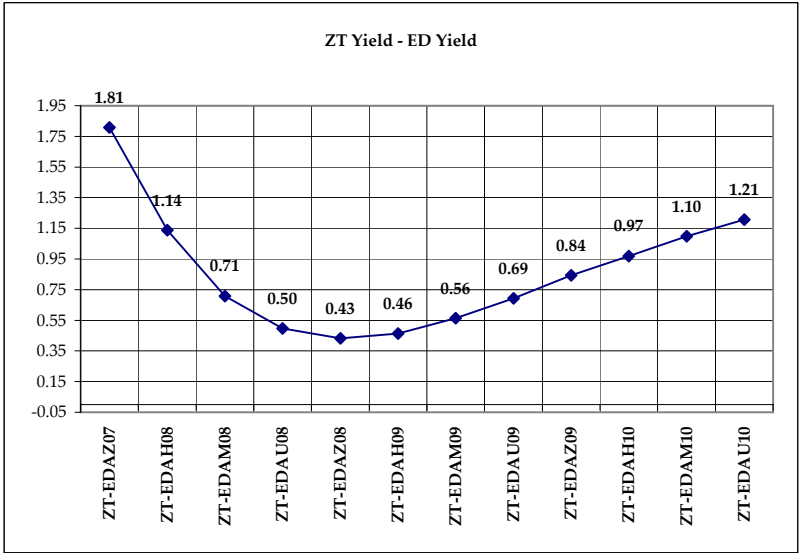
### Eurodollar Color Codes for Individual Year Strips:

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

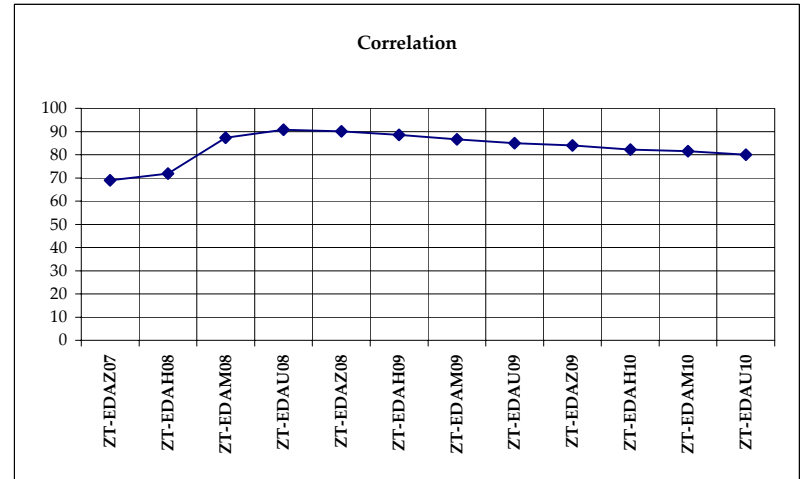
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	9.864	1.81	ZT-EDAZ07	68.940
EDAH08	9.194	1.14	ZT-EDAH08	71.871
EDAM08	8.764	0.71	ZT-EDAM08	87.283
EDAU08	8.554	0.50	ZT-EDAU08	90.775
EDAZ08	8.489	0.43	ZT-EDAZ08	90.137
EDAH09	8.519	0.46	ZT-EDAH09	88.589
EDAM09	8.619	0.56	ZT-EDAM09	86.659
EDAU09	8.749	0.69	ZT-EDAU09	84.994
EDAZ09	8.899	0.84	ZT-EDAZ09	83.948
EDAH10	9.024	0.97	ZT-EDAH10	82.202
EDAM10	9.154	1.10	ZT-EDAM10	81.458
EDAU10	9.264	1.21	ZT-EDAU10	80.031

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	0.049	1.93	1.88	ZT-EDAZ07
EDAH08	0.298	1.93	1.63	ZT-EDAH08
EDAM08	0.547	1.93	1.38	ZT-EDAM08
EDAU08	0.797	1.93	1.13	ZT-EDAU08
EDAZ08	1.046	1.93	0.88	ZT-EDAZ08
EDAH09	1.295	1.93	0.63	ZT-EDAH09
EDAM09	1.545	1.93	0.38	ZT-EDAM09
EDAU09	1.794	1.93	0.13	ZT-EDAU09
EDAZ09	2.043	1.93	(0.12)	ZT-EDAZ09
EDAH10	2.293	1.93	(0.37)	ZT-EDAH10
EDAM10	2.542	1.93	(0.61)	ZT-EDAM10
EDAU10	2.791	1.93	(0.86)	ZT-EDAU10

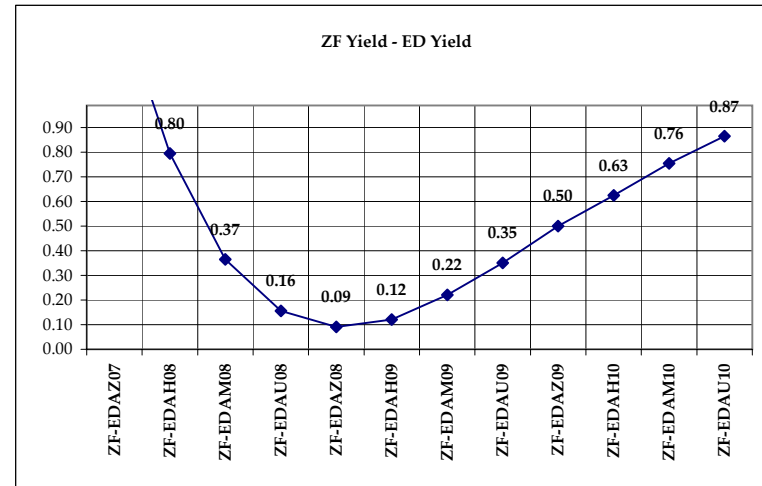
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	14.74	1.47	ZF-EDAZ07	50.884
EDAH08	14.07	0.80	ZF-EDAH08	67.546
EDAM08	13.64	0.37	ZF-EDAM08	91.540
EDAU08	13.43	0.16	ZF-EDAU08	97.262
EDAZ08	13.36	0.09	ZF-EDAZ08	98.069
EDAH09	13.39	0.12	ZF-EDAH09	97.458
EDAM09	13.49	0.22	ZF-EDAM09	96.340
EDAU09	13.62	0.35	ZF-EDAU09	95.569
EDAZ09	13.77	0.50	ZF-EDAZ09	95.246
EDAH10	13.90	0.63	ZF-EDAH10	94.471
EDAM10	14.03	0.76	ZF-EDAM10	94.283
EDAU10	14.14	0.87	ZF-EDAU10	93.585

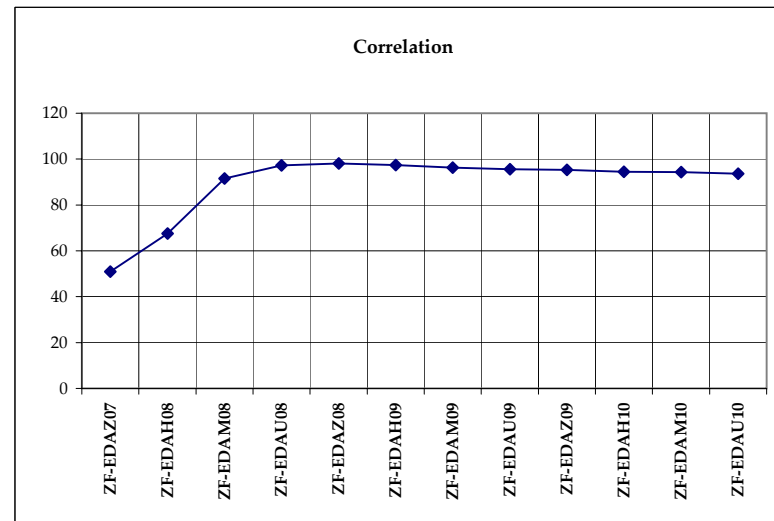
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAZ07	0.049	4.05	ZF-EDAZ07
EDAH08	0.298	4.05	ZF-EDAH08
EDAM08	0.547	4.05	ZF-EDAM08
EDAU08	0.797	4.05	ZF-EDAU08
EDAZ08	1.046	4.05	ZF-EDAZ08
EDAH09	1.295	4.05	ZF-EDAH09
EDAM09	1.545	4.05	ZF-EDAM09
EDAU09	1.794	4.05	ZF-EDAU09
EDAZ09	2.043	4.05	ZF-EDAZ09
EDAH10	2.293	4.05	ZF-EDAH10
EDAM10	2.542	4.05	ZF-EDAM10
EDAU10	2.791	4.05	ZF-EDAU10

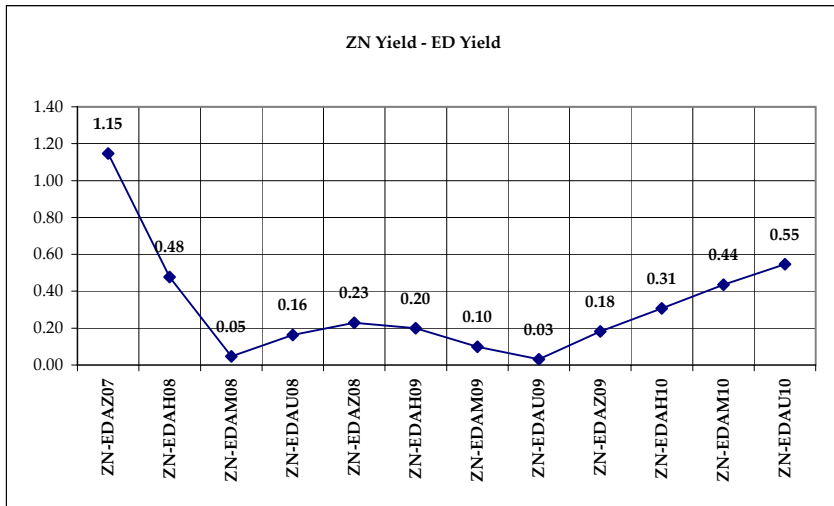
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

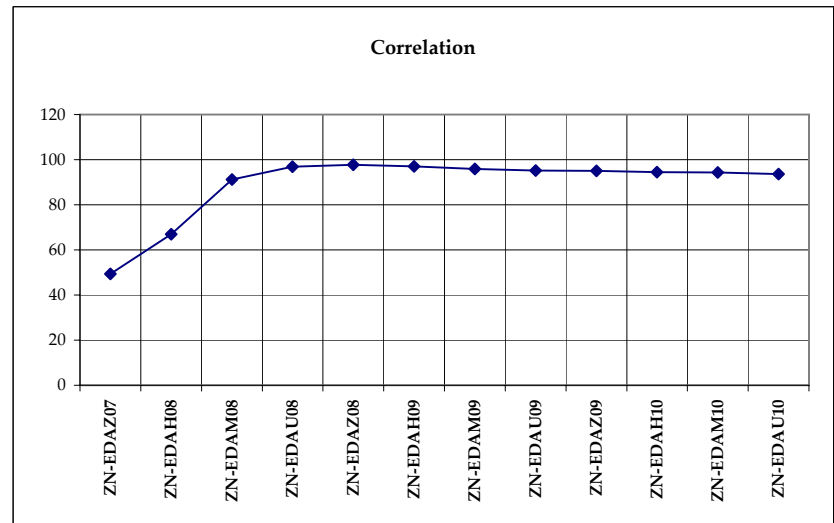
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	17.71	1.15	ZN-EDAZ07	49.39
EDAH08	17.04	0.48	ZN-EDAH08	67.02
EDAM08	16.61	0.05	ZN-EDAM08	91.21
EDAU08	16.40	0.16	ZN-EDAU08	96.92
EDAZ08	16.33	0.23	ZN-EDAZ08	97.71
EDAH09	16.36	0.20	ZN-EDAH09	97.08
EDAM09	16.46	0.10	ZN-EDAM09	95.91
EDAU09	16.59	0.03	ZN-EDAU09	95.23
EDAZ09	16.74	0.18	ZN-EDAZ09	95.08
EDAH10	16.87	0.31	ZN-EDAH10	94.47
EDAM10	17.00	0.44	ZN-EDAM10	94.28
EDAU10	17.11	0.55	ZN-EDAU10	93.58

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	0.049	5.99	5.94	ZN-EDAZ07
EDAH08	0.298	5.99	5.69	ZN-EDAH08
EDAM08	0.547	5.99	5.44	ZN-EDAM08
EDAU08	0.797	5.99	5.19	ZN-EDAU08
EDAZ08	1.046	5.99	4.94	ZN-EDAZ08
EDAH09	1.295	5.99	4.69	ZN-EDAH09
EDAM09	1.545	5.99	4.44	ZN-EDAM09
EDAU09	1.794	5.99	4.19	ZN-EDAU09
EDAZ09	2.043	5.99	3.95	ZN-EDAZ09
EDAH10	2.293	5.99	3.70	ZN-EDAH10
EDAM10	2.542	5.99	3.45	ZN-EDAM10
EDAU10	2.791	5.99	3.20	ZN-EDAU10

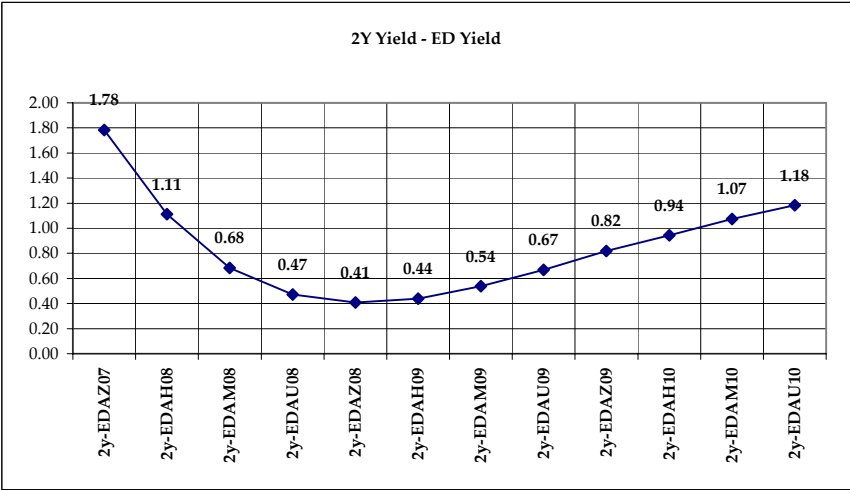
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

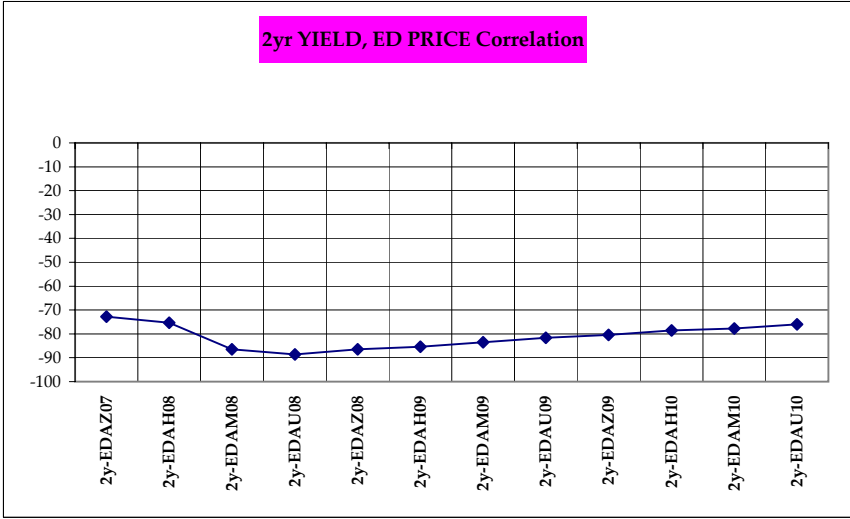
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.93	1.78	2y-EDAZ07	-72.755
EDAH08	4.26	1.11	2y-EDAH08	-75.299
EDAM08	3.83	0.68	2y-EDAM08	-86.514
EDAU08	3.62	0.47	2y-EDAU08	-88.610
EDAZ08	3.55	0.41	2y-EDAZ08	-86.514
EDAH09	3.58	0.44	2y-EDAH09	-85.443
EDAM09	3.68	0.54	2y-EDAM09	-83.447
EDAU09	3.81	0.67	2y-EDAU09	-81.641
EDAZ09	3.96	0.82	2y-EDAZ09	-80.390
EDAH10	4.09	0.94	2y-EDAH10	-78.558
EDAM10	4.22	1.07	2y-EDAM10	-77.687
EDAU10	4.33	1.18	2y-EDAU10	-76.067

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	0.049	1.92	1.88	2y-EDAZ07
EDAH08	0.298	1.92	1.63	2y-EDAH08
EDAM08	0.547	1.92	1.38	2y-EDAM08
EDAU08	0.797	1.92	1.13	2y-EDAU08
EDAZ08	1.046	1.92	0.88	2y-EDAZ08
EDAH09	1.295	1.92	0.63	2y-EDAH09
EDAM09	1.545	1.92	0.38	2y-EDAM09
EDAU09	1.794	1.92	0.13	2y-EDAU09
EDAZ09	2.043	1.92	(0.12)	2y-EDAZ09
EDAH10	2.293	1.92	(0.37)	2y-EDAH10
EDAM10	2.542	1.92	(0.62)	2y-EDAM10
EDAU10	2.791	1.92	(0.87)	2y-EDAU10

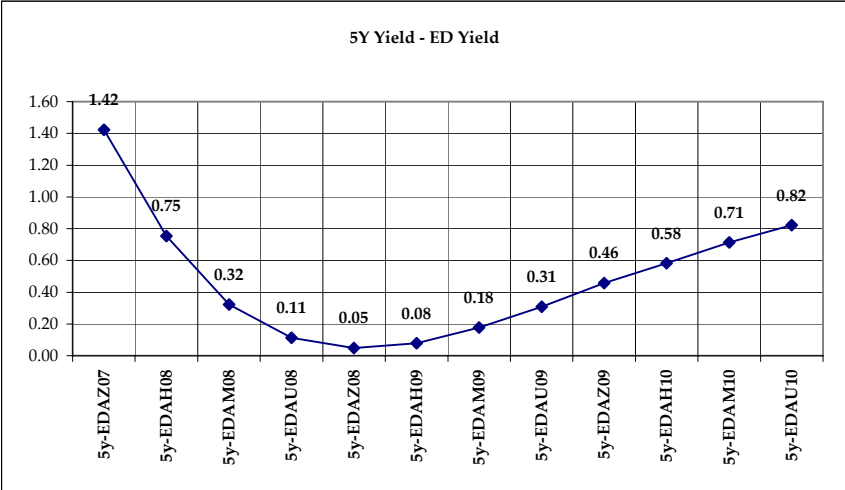
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

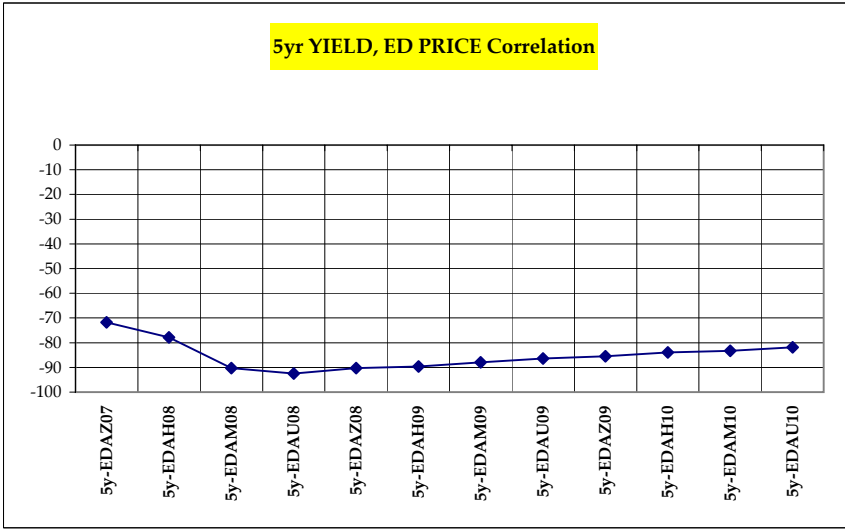
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	6.74	1.42	5y-EDAZ07	-71.807
EDAH08	6.07	0.75	5y-EDAH08	-77.832
EDAM08	5.64	0.32	5y-EDAM08	-90.250
EDAU08	5.43	0.11	5y-EDAU08	-92.463
EDAZ08	5.36	0.05	5y-EDAZ08	-90.250
EDAH09	5.39	0.08	5y-EDAH09	-89.692
EDAM09	5.49	0.18	5y-EDAM09	-87.934
EDAU09	5.62	0.31	5y-EDAU09	-86.452
EDAZ09	5.77	0.46	5y-EDAZ09	-85.500
EDAH10	5.90	0.58	5y-EDAH10	-83.873
EDAM10	6.03	0.71	5y-EDAM10	-83.235
EDAU10	6.14	0.82	5y-EDAU10	-81.809

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	0.049	4.44	4.39	5y-EDAZ07
EDAH08	0.298	4.44	4.14	5y-EDAH08
EDAM08	0.547	4.44	3.89	5y-EDAM08
EDAU08	0.797	4.44	3.64	5y-EDAU08
EDAZ08	1.046	4.44	3.39	5y-EDAZ08
EDAH09	1.295	4.44	3.14	5y-EDAH09
EDAM09	1.545	4.44	2.89	5y-EDAM09
EDAU09	1.794	4.44	2.64	5y-EDAU09
EDAZ09	2.043	4.44	2.40	5y-EDAZ09
EDAH10	2.293	4.44	2.15	5y-EDAH10
EDAM10	2.542	4.44	1.90	5y-EDAM10
EDAU10	2.791	4.44	1.65	5y-EDAU10

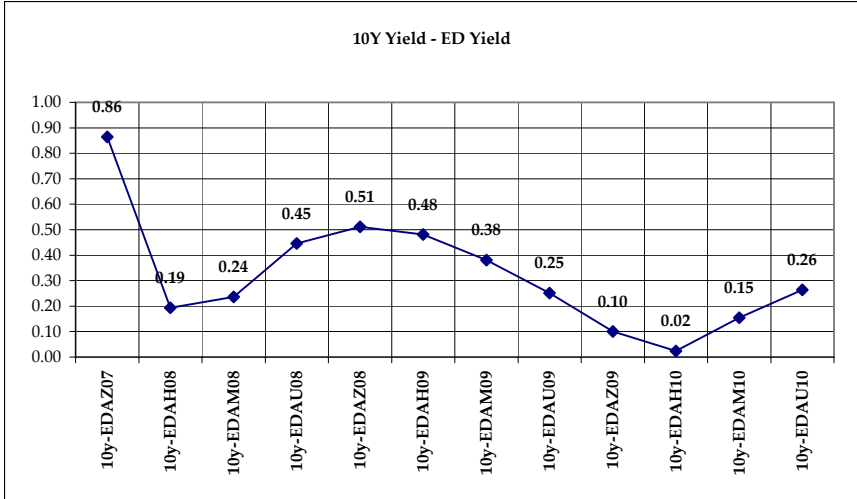
The farther away from 0 the spread duration is the riskier the trade.



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

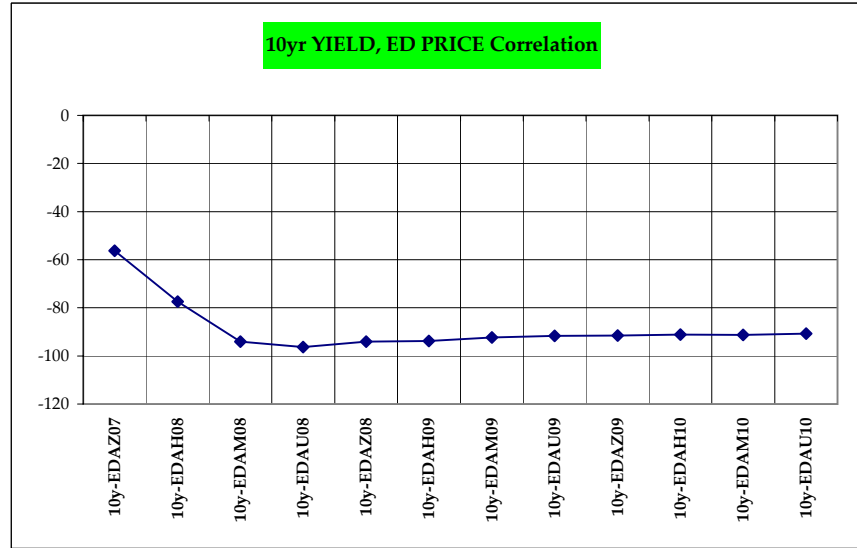
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	6.74	0.86	10y-EDAZ07	-56.306
EDAH08	6.07	0.19	10y-EDAH08	-77.472
EDAM08	5.64	0.24	10y-EDAM08	-94.030
EDAU08	5.43	0.45	10y-EDAU08	-96.374
EDAZ08	5.36	0.51	10y-EDAZ08	-94.030
EDAH09	5.39	0.48	10y-EDAH09	-93.833
EDAM09	5.49	0.38	10y-EDAM09	-92.374
EDAU09	5.62	0.25	10y-EDAU09	-91.604
EDAZ09	5.77	0.10	10y-EDAZ09	-91.580
EDAH10	5.90	0.02	10y-EDAH10	-91.112
EDAM10	6.03	0.15	10y-EDAM10	-91.273
EDAU10	6.14	0.26	10y-EDAU10	-90.745

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	0.049	8.07	8.02	10y-EDAZ07
EDAH08	0.298	8.07	7.77	10y-EDAH08
EDAM08	0.547	8.07	7.52	10y-EDAM08
EDAU08	0.797	8.07	7.27	10y-EDAU08
EDAZ08	1.046	8.07	7.02	10y-EDAZ08
EDAH09	1.295	8.07	6.77	10y-EDAH09
EDAM09	1.545	8.07	6.52	10y-EDAM09
EDAU09	1.794	8.07	6.27	10y-EDAU09
EDAZ09	2.043	8.07	6.02	10y-EDAZ09
EDAH10	2.293	8.07	5.77	10y-EDAH10
EDAM10	2.542	8.07	5.52	10y-EDAM10
EDAU10	2.791	8.07	5.28	10y-EDAU10

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

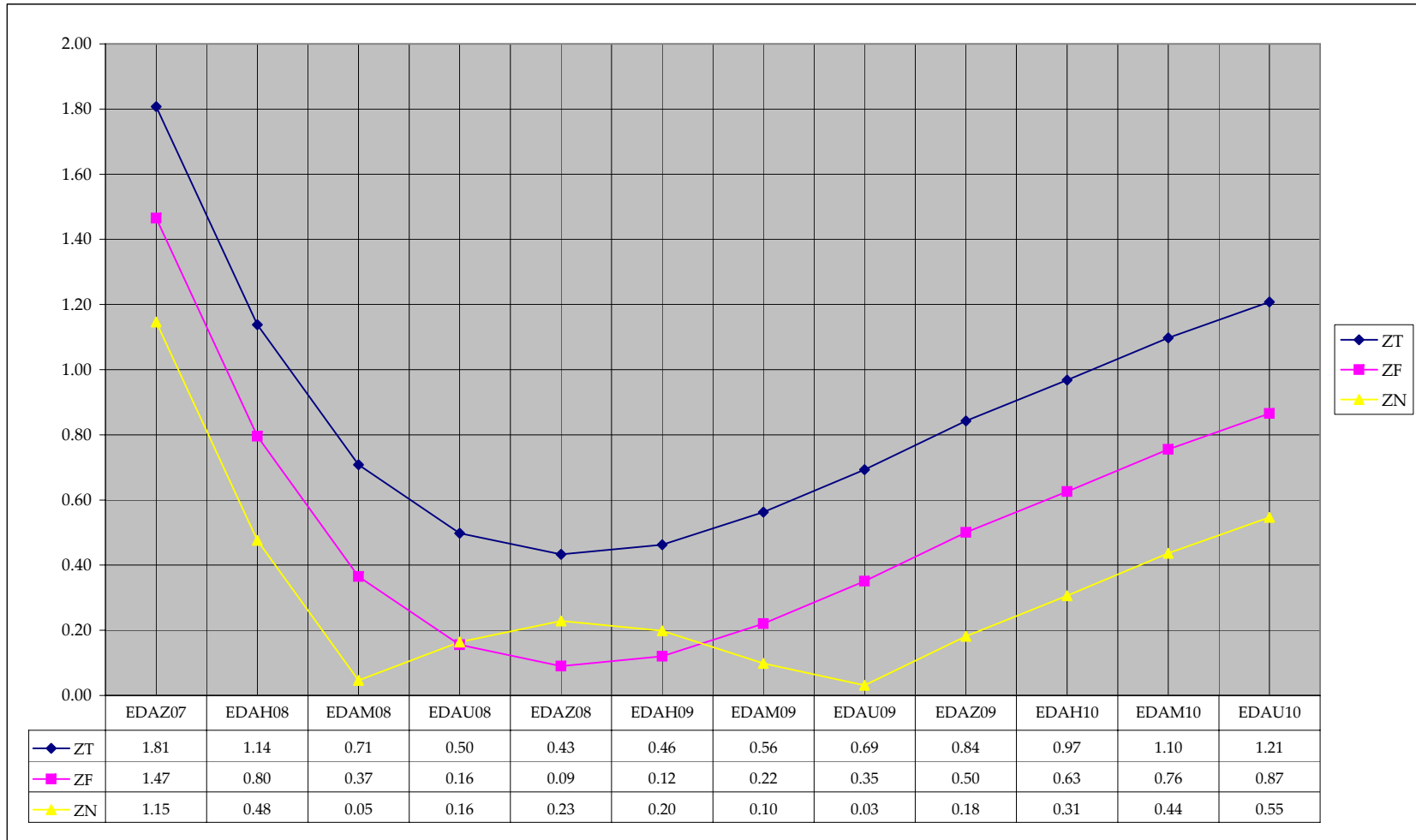


**Dirty TED Curve**

11/29/2007 5:40

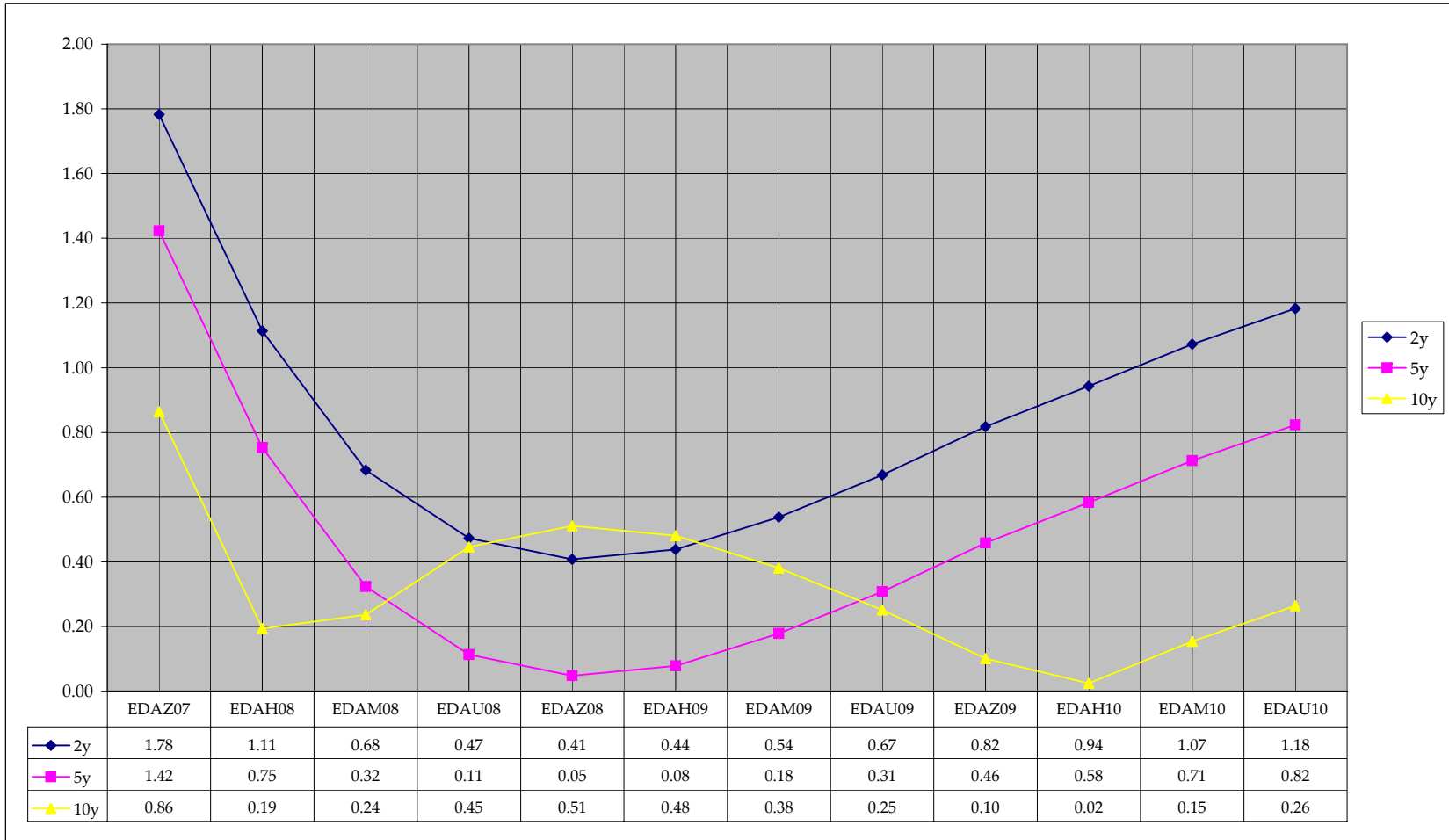
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

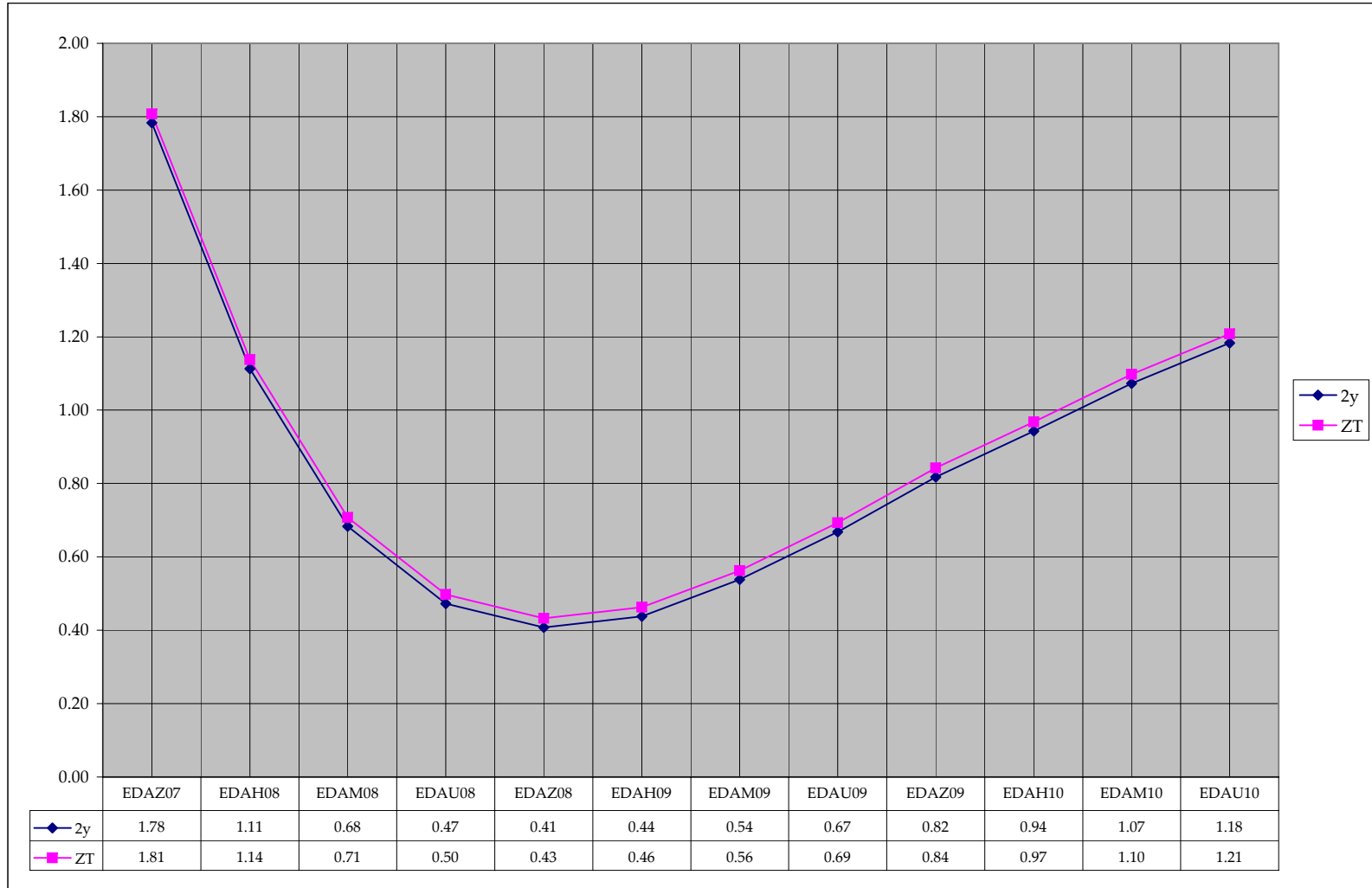


TED Curve

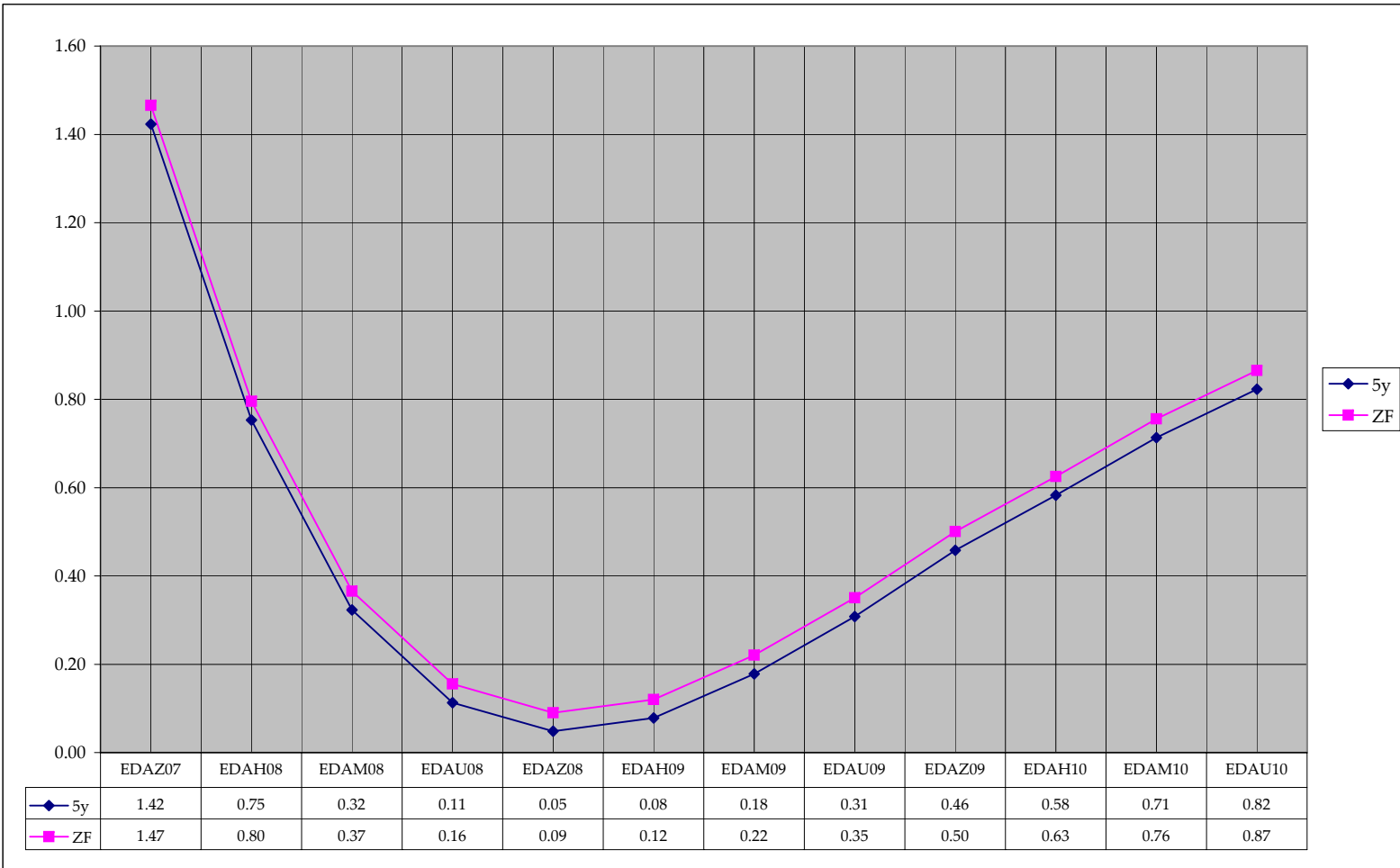
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



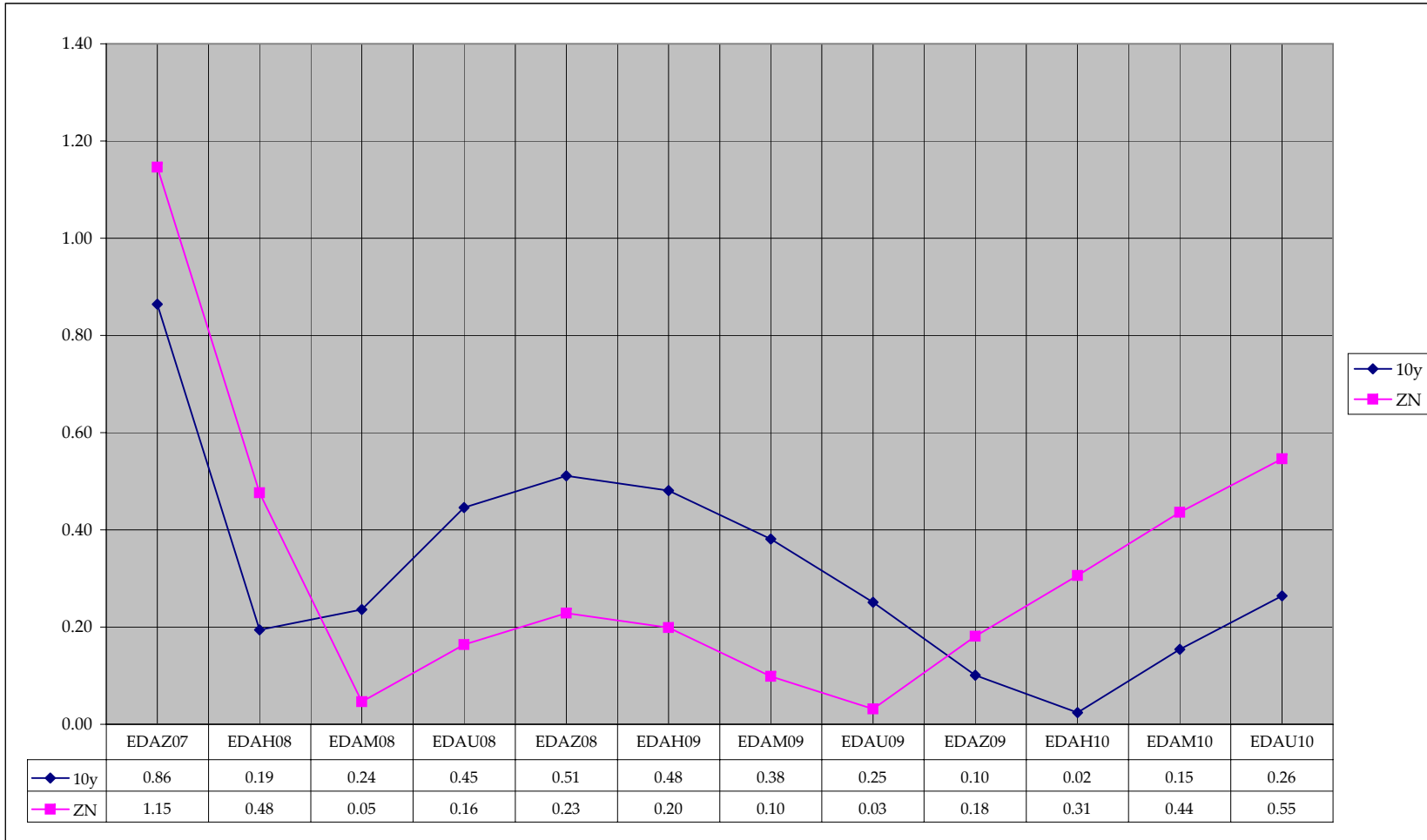
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.211	3.625	9589.000
Q.ED.Red	3.693	5.750	9639.000
Q.ED.Green	4.201	4.500	9589.875
Q.ED.Blue	1.500		9546.125
Q.ED.Gold		0.000	9514.750

