

## 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	101.9531	101.305	4.841	1.79	
ZF	104.2344	104.075	4.867	3.88	
ZN	105.8281	105.265	4.932	5.70	
2y	100.078	100.0250	4.827	1.93	
5y	99.881	99.2820	4.902	4.33	
10y	96.078	96.0250	5.008	7.74	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAU07	94.660	5.340	59	0.161	SEP	} White Pack	
EDAZ07	94.705	5.295	150	0.410	DEC		
EDAH08	94.780	5.220	241	0.660	MAR		
EDAM08	94.845	5.155	332	0.909	JUN	} Red Pack	
EDAU08	94.865	5.135	423	1.158	SEP		
EDAZ08	94.855	5.145	514	1.408	DEC		
EDAH09	94.820	5.180	605	1.657	MAR	} Green Pack	
EDAM09	94.760	5.240	696	1.906	JUN		
EDAU09	94.695	5.305	787	2.155	SEP		
EDAZ09	94.625	5.375	878	2.405	DEC	} Blue Pack	
EDAH10	94.580	5.420	969	2.654	MAR		
EDAM10	94.535	5.465	1060	2.903	JUN		
EDAU10	94.490	5.510	1151	3.153	SEP	} Gold Pack	
EDAZ10	94.415	5.585	1242	3.402	DEC		
EDAH11	94.390	5.610	1333	3.651	MAR		
EDAM11	94.350	5.650	1424	3.901	JUN	} Gold Pack	
EDAU11	94.320	5.680	1522	4.169	SEP		
EDAZ11	94.285	5.715	1613	4.419	DEC		
EDAH12	94.270	5.730	1704	4.668	MAR		
EDAM12	94.235	5.765	1795	4.917	JUN		

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	5.396	0.875	9474.750	} Pack Prices
Q.ED.Red	5.316	2.625	9482.500	
Q.ED.Green	5.541	3.000	9460.875	
Q.ED.Blue		0.625	9441.250	
Q.ED.Gold		0.000	9428.250	
Q.ED.Purple		0.000	9428.250	

Red pack is a 2yr proxy  
 Gold pack is a 10 yr proxy  
 Red pack/Gold pack is a 2/10 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)

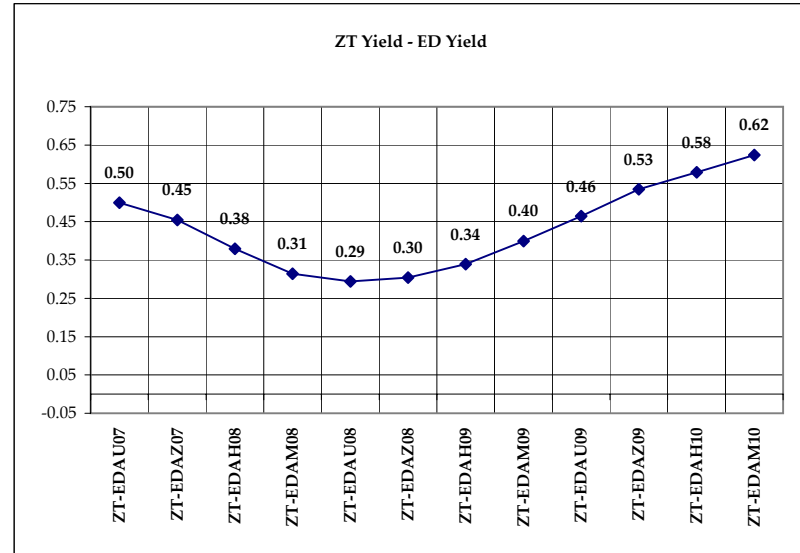
### Eurodollar Color Codes for Individual Year Strips:

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

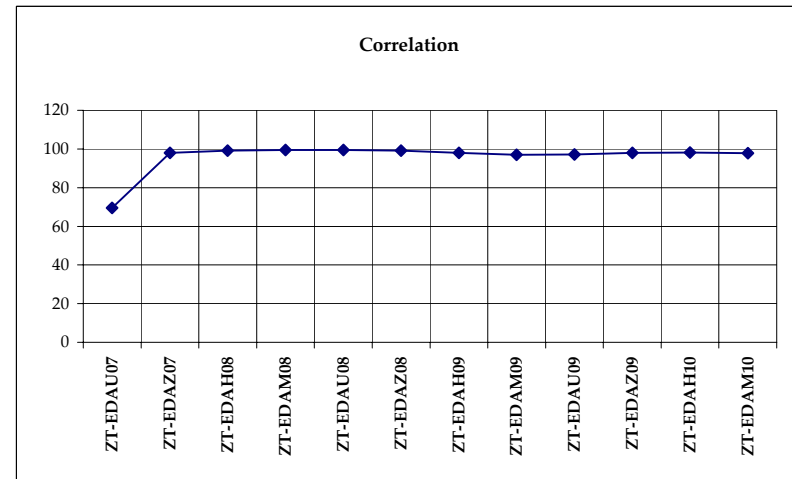
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	7.293	0.50	ZT-EDAU07	69.446
EDAZ07	7.248	0.45	ZT-EDAZ07	97.933
EDAH08	7.173	0.38	ZT-EDAH08	99.063
EDAM08	7.108	0.31	ZT-EDAM08	99.552
EDAU08	7.088	0.29	ZT-EDAU08	99.452
EDAZ08	7.098	0.30	ZT-EDAZ08	99.117
EDAH09	7.133	0.34	ZT-EDAH09	98.026
EDAM09	7.193	0.40	ZT-EDAM09	96.980
EDAU09	7.258	0.46	ZT-EDAU09	97.227
EDAZ09	7.328	0.53	ZT-EDAZ09	98.036
EDAH10	7.373	0.58	ZT-EDAH10	98.090
EDAM10	7.418	0.62	ZT-EDAM10	97.790

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		
EDAU07	0.161	1.79	1.63	ZT-EDAU07
EDAZ07	0.410	1.79	1.38	ZT-EDAZ07
EDAH08	0.660	1.79	1.13	ZT-EDAH08
EDAM08	0.909	1.79	0.89	ZT-EDAM08
EDAU08	1.158	1.79	0.64	ZT-EDAU08
EDAZ08	1.408	1.79	0.39	ZT-EDAZ08
EDAH09	1.657	1.79	0.14	ZT-EDAH09
EDAM09	1.906	1.79	(0.11)	ZT-EDAM09
EDAU09	2.155	1.79	(0.36)	ZT-EDAU09
EDAZ09	2.405	1.79	(0.61)	ZT-EDAZ09
EDAH10	2.654	1.79	(0.86)	ZT-EDAH10
EDAM10	2.903	1.79	(1.11)	ZT-EDAM10

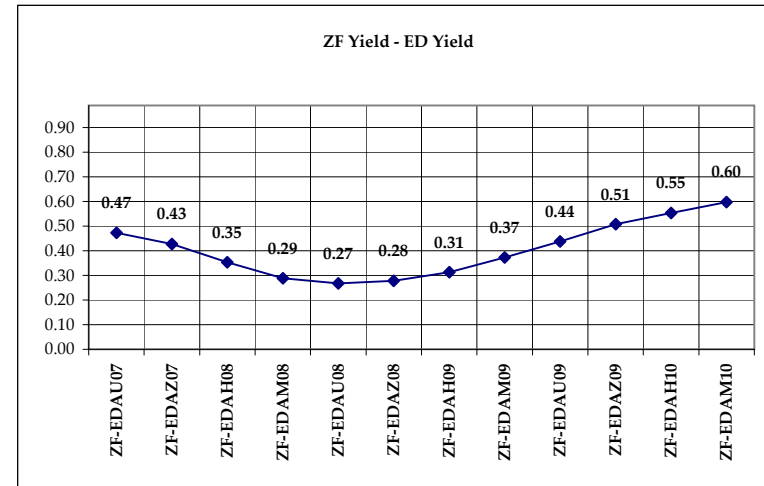
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	9.57	0.47	ZF-EDAU07	64.788
EDAZ07	9.53	0.43	ZF-EDAZ07	98.031
EDAH08	9.45	0.35	ZF-EDAH08	98.743
EDAM08	9.39	0.29	ZF-EDAM08	99.119
EDAU08	9.37	0.27	ZF-EDAU08	99.094
EDAZ08	9.38	0.28	ZF-EDAZ08	99.015
EDAH09	9.41	0.31	ZF-EDAH09	98.456
EDAM09	9.47	0.37	ZF-EDAM09	97.839
EDAU09	9.54	0.44	ZF-EDAU09	98.166
EDAZ09	9.61	0.51	ZF-EDAZ09	98.736
EDAH10	9.65	0.55	ZF-EDAH10	98.753
EDAM10	9.70	0.60	ZF-EDAM10	98.418

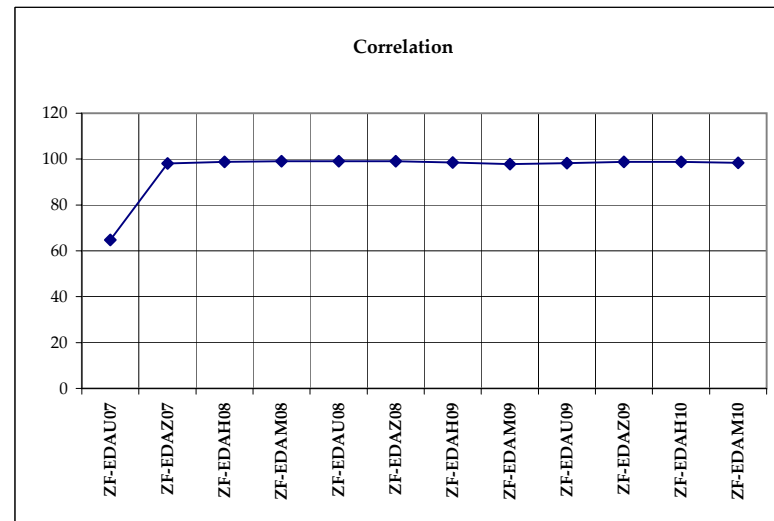
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAU07	0.161	3.88	ZF-EDAU07
EDAZ07	0.410	3.88	ZF-EDAZ07
EDAH08	0.660	3.88	ZF-EDAH08
EDAM08	0.909	3.88	ZF-EDAM08
EDAU08	1.158	3.88	ZF-EDAU08
EDAZ08	1.408	3.88	ZF-EDAZ08
EDAH09	1.657	3.88	ZF-EDAH09
EDAM09	1.906	3.88	ZF-EDAM09
EDAU09	2.155	3.88	ZF-EDAU09
EDAZ09	2.405	3.88	ZF-EDAZ09
EDAH10	2.654	3.88	ZF-EDAH10
EDAM10	2.903	3.88	ZF-EDAM10

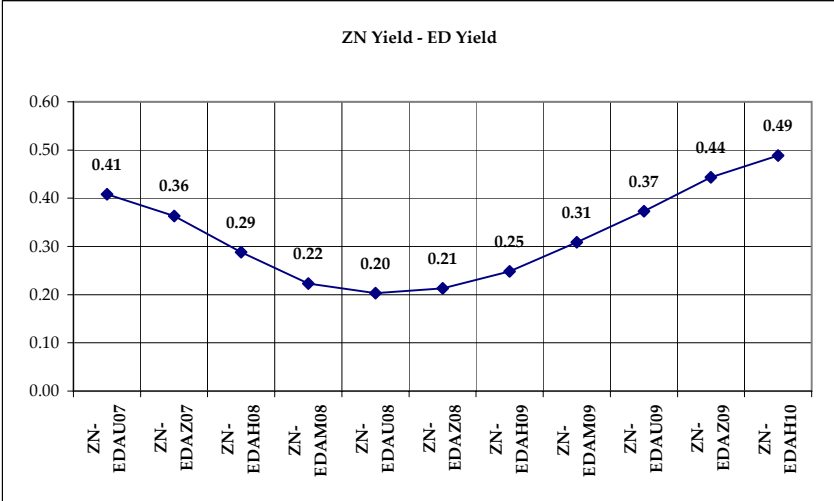
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

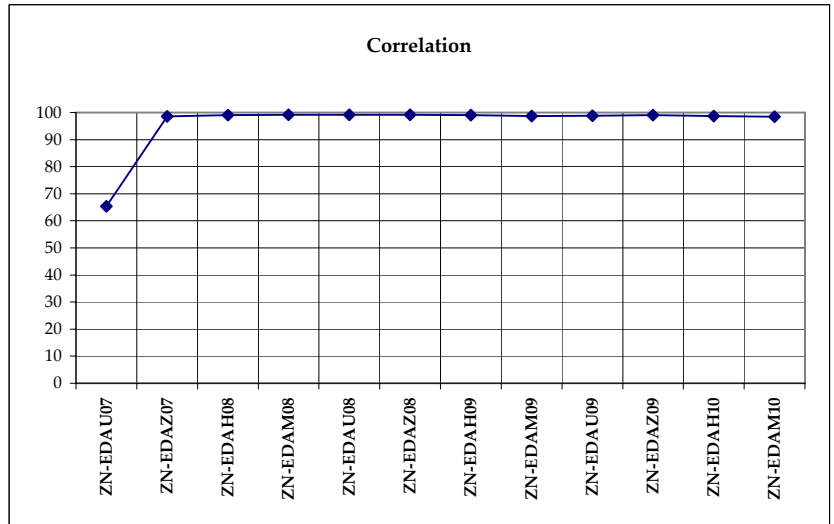
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	11.17	0.41	ZN-EDAU07	65.38
EDAZ07	11.12	0.36	ZN-EDAZ07	98.61
EDAH08	11.05	0.29	ZN-EDAH08	99.08
EDAM08	10.98	0.22	ZN-EDAM08	99.12
EDAU08	10.96	0.20	ZN-EDAU08	99.17
EDAZ08	10.97	0.21	ZN-EDAZ08	99.22
EDAH09	11.01	0.25	ZN-EDAH09	99.01
EDAM09	11.07	0.31	ZN-EDAM09	98.65
EDAU09	11.13	0.37	ZN-EDAU09	98.85
EDAZ09	11.20	0.44	ZN-EDAZ09	99.06
EDAH10	11.25	0.49	ZN-EDAH10	98.75
EDAM10	11.29	0.53	ZN-EDAM10	98.42

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	
EDAU07	0.161	5.70	5.54	ZN-EDAU07
EDAZ07	0.410	5.70	5.29	ZN-EDAZ07
EDAH08	0.660	5.70	5.04	ZN-EDAH08
EDAM08	0.909	5.70	4.79	ZN-EDAM08
EDAU08	1.158	5.70	4.54	ZN-EDAU08
EDAZ08	1.408	5.70	4.29	ZN-EDAZ08
EDAH09	1.657	5.70	4.05	ZN-EDAH09
EDAM09	1.906	5.70	3.80	ZN-EDAM09
EDAU09	2.155	5.70	3.55	ZN-EDAU09
EDAZ09	2.405	5.70	3.30	ZN-EDAZ09
EDAH10	2.654	5.70	3.05	ZN-EDAH10
EDAM10	2.903	5.70	2.80	ZN-EDAM10

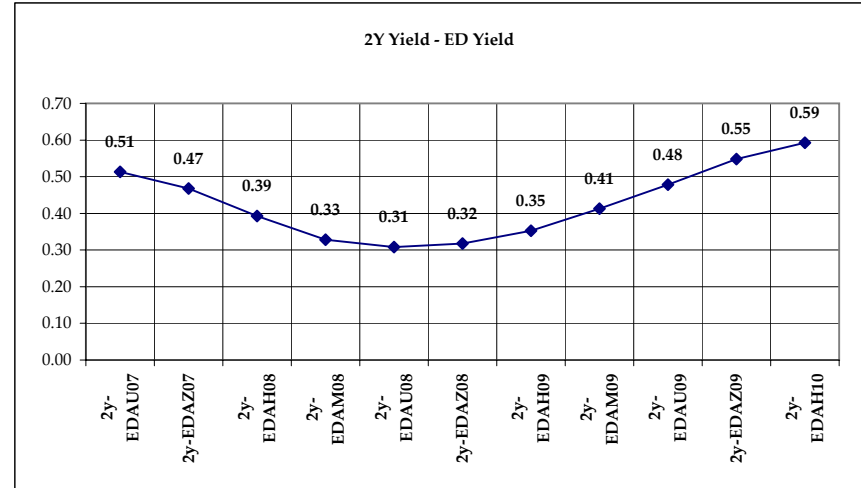
The farther away from 0 the spread duration is the riskier the trade.



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

2y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.42	0.51	2y-EDAU07	-55.587
EDAZ07	5.37	0.47	2y-EDAZ07	-92.182
EDAH08	5.30	0.39	2y-EDAH08	-90.004
EDAM08	5.23	0.33	2y-EDAM08	-88.887
EDAU08	5.21	0.31	2y-EDAU08	-88.370
EDAZ08	5.22	0.32	2y-EDAZ08	-88.887
EDAH09	5.26	0.35	2y-EDAH09	-90.535
EDAM09	5.32	0.41	2y-EDAM09	-91.257
EDAU09	5.38	0.48	2y-EDAU09	-92.102
EDAZ09	5.45	0.55	2y-EDAZ09	-92.963
EDAH10	5.50	0.59	2y-EDAH10	-94.127
EDAM10	5.54	0.64	2y-EDAM10	-93.996

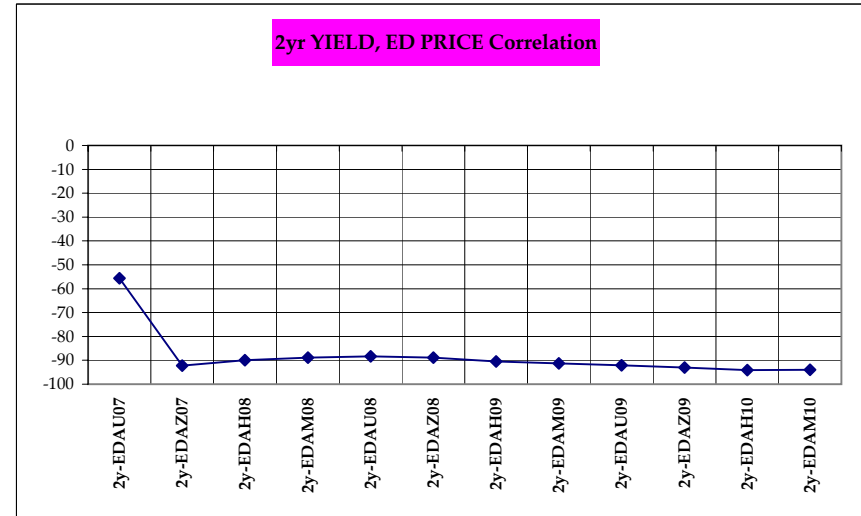
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days.  
 These are measuring YIELD correlations.



**GE Duration as**

	Fraction of year	2Y Duration	Spread Duration	
EDAU07	0.161	1.93	1.77	2y-EDAU07
EDAZ07	0.410	1.93	1.52	2y-EDAZ07
EDAH08	0.660	1.93	1.27	2y-EDAH08
EDAM08	0.909	1.93	1.02	2y-EDAM08
EDAU08	1.158	1.93	0.77	2y-EDAU08
EDAZ08	1.408	1.93	0.52	2y-EDAZ08
EDAH09	1.657	1.93	0.27	2y-EDAH09
EDAM09	1.906	1.93	0.02	2y-EDAM09
EDAU09	2.155	1.93	(0.22)	2y-EDAU09
EDAZ09	2.405	1.93	(0.47)	2y-EDAZ09
EDAH10	2.654	1.93	(0.72)	2y-EDAH10
EDAM10	2.903	1.93	(0.97)	2y-EDAM10

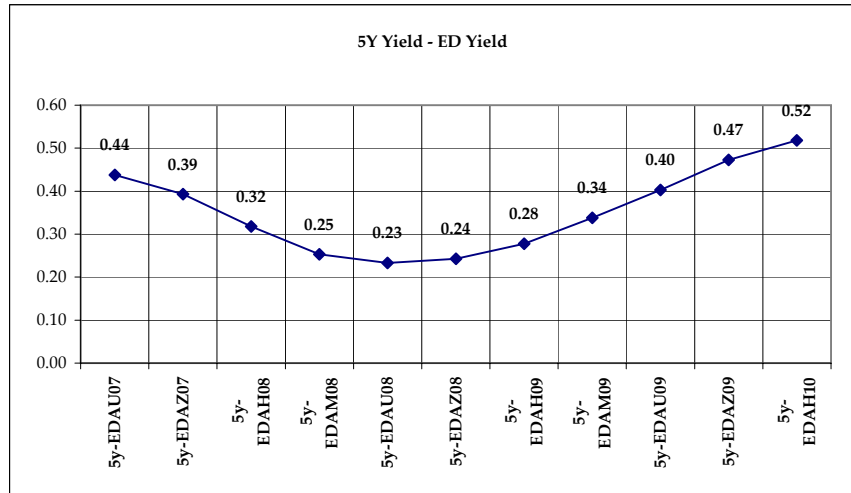
The farther away from 0 the spread duration is the riskier the trade.



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

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.22	0.44	5y-EDAU07	-51.409
EDAZ07	5.18	0.39	5y-EDAZ07	-93.620
EDAH08	5.10	0.32	5y-EDAH08	-92.117
EDAM08	5.04	0.25	5y-EDAM08	-91.574
EDAU08	5.02	0.23	5y-EDAU08	-91.287
EDAZ08	5.03	0.24	5y-EDAZ08	-91.574
EDAH09	5.06	0.28	5y-EDAH09	-92.302
EDAM09	5.12	0.34	5y-EDAM09	-92.542
EDAU09	5.19	0.40	5y-EDAU09	-93.561
EDAZ09	5.26	0.47	5y-EDAZ09	-94.471
EDAH10	5.30	0.52	5y-EDAH10	-95.268
EDAM10	5.35	0.56	5y-EDAM10	-94.765

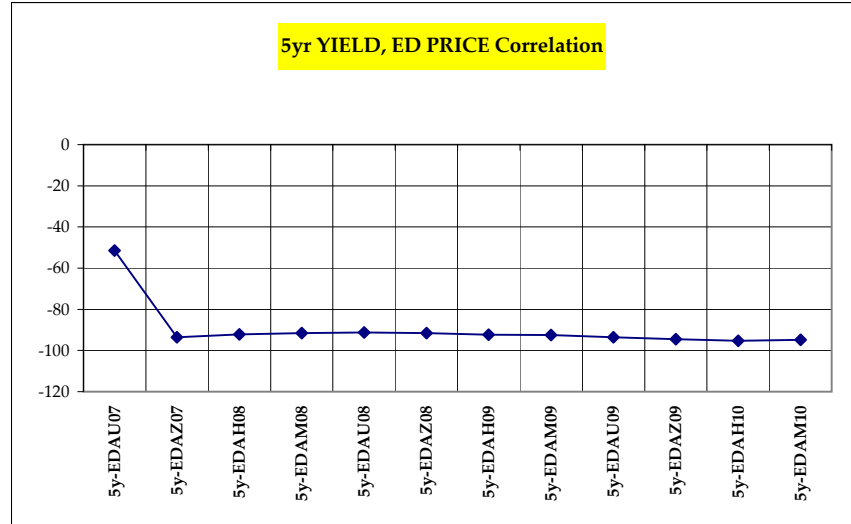
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days  
 These are measuring YIELD correlations.



**GE Duration as**

	Fraction of year	5Y Duration	Spread Duration	
EDAU07	0.161	4.33	4.17	5y-EDAU07
EDAZ07	0.410	4.33	3.92	5y-EDAZ07
EDAH08	0.660	4.33	3.67	5y-EDAH08
EDAM08	0.909	4.33	3.42	5y-EDAM08
EDAU08	1.158	4.33	3.17	5y-EDAU08
EDAZ08	1.408	4.33	2.92	5y-EDAZ08
EDAH09	1.657	4.33	2.67	5y-EDAH09
EDAM09	1.906	4.33	2.42	5y-EDAM09
EDAU09	2.155	4.33	2.17	5y-EDAU09
EDAZ09	2.405	4.33	1.92	5y-EDAZ09
EDAH10	2.654	4.33	1.67	5y-EDAH10
EDAM10	2.903	4.33	1.42	5y-EDAM10

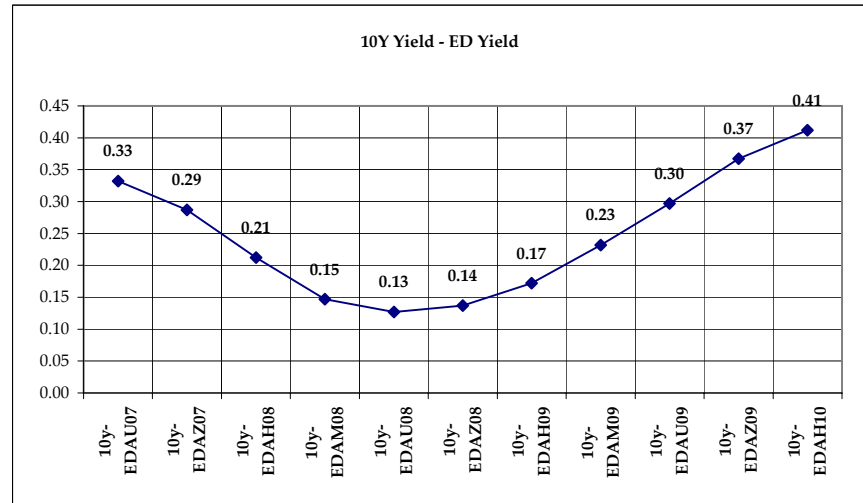
The farther away from 0 the spread duration is the riskier the trade.



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

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.22	0.33	10y-EDAU07	-48.363
EDAZ07	5.18	0.29	10y-EDAZ07	-92.068
EDAH08	5.10	0.21	10y-EDAH08	-90.421
EDAM08	5.04	0.15	10y-EDAM08	-89.452
EDAU08	5.02	0.13	10y-EDAU08	-89.261
EDAZ08	5.03	0.14	10y-EDAZ08	-89.452
EDAH09	5.06	0.17	10y-EDAH09	-90.918
EDAM09	5.12	0.23	10y-EDAM09	-91.564
EDAU09	5.19	0.30	10y-EDAU09	-92.474
EDAZ09	5.26	0.37	10y-EDAZ09	-92.903
EDAH10	5.30	0.41	10y-EDAH10	-93.440
EDAM10	5.35	0.46	10y-EDAM10	-92.822

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.

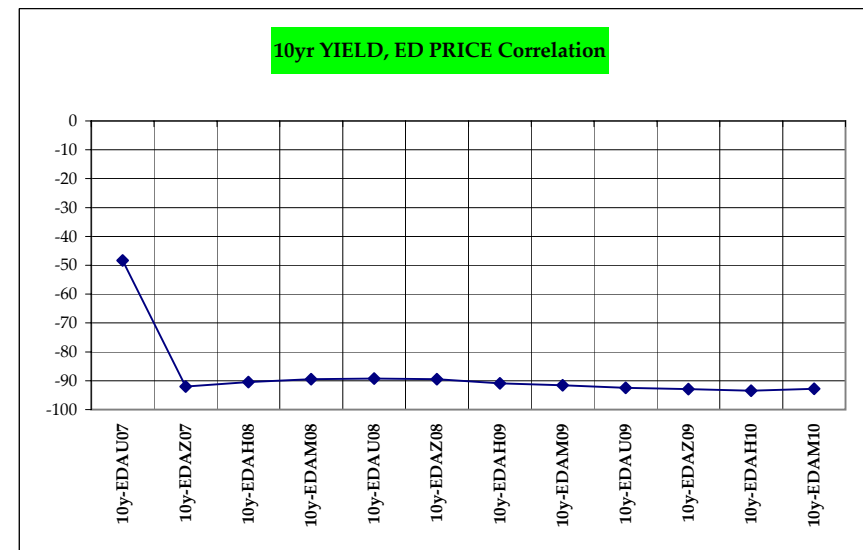


**GE Duration as**

	Fraction of year	10Y Duration	Spread Duration	
EDAU07	0.161	7.74	7.57	10y-EDAU07
EDAZ07	0.410	7.74	7.32	10y-EDAZ07
EDAH08	0.660	7.74	7.08	10y-EDAH08
EDAM08	0.909	7.74	6.83	10y-EDAM08
EDAU08	1.158	7.74	6.58	10y-EDAU08
EDAZ08	1.408	7.74	6.33	10y-EDAZ08
EDAH09	1.657	7.74	6.08	10y-EDAH09
EDAM09	1.906	7.74	5.83	10y-EDAM09
EDAU09	2.155	7.74	5.58	10y-EDAU09
EDAZ09	2.405	7.74	5.33	10y-EDAZ09
EDAH10	2.654	7.74	5.08	10y-EDAH10
EDAM10	2.903	7.74	4.83	10y-EDAM10

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

10yr YIELD, ED PRICE Correlation

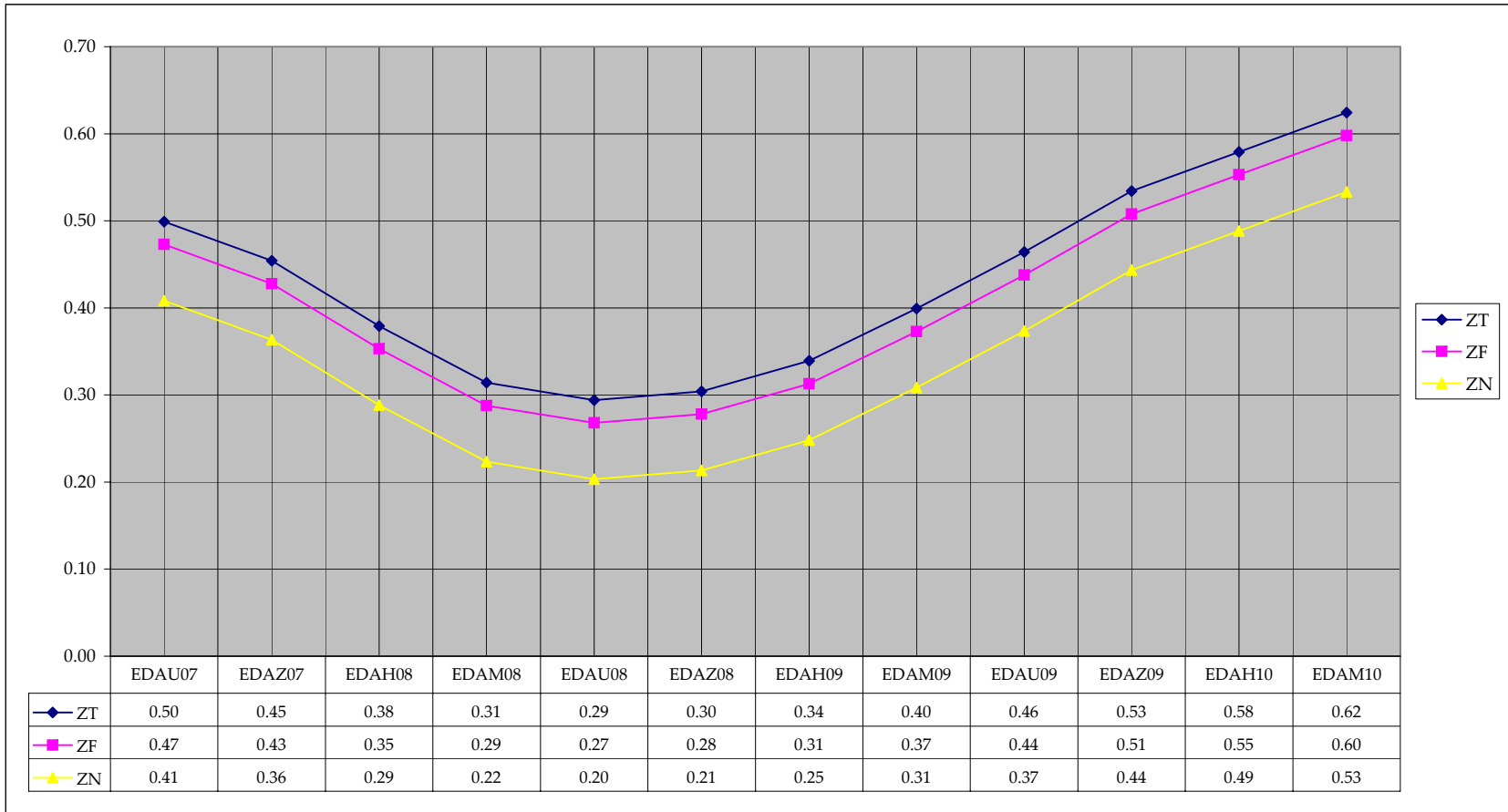


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The Morning Email, TED

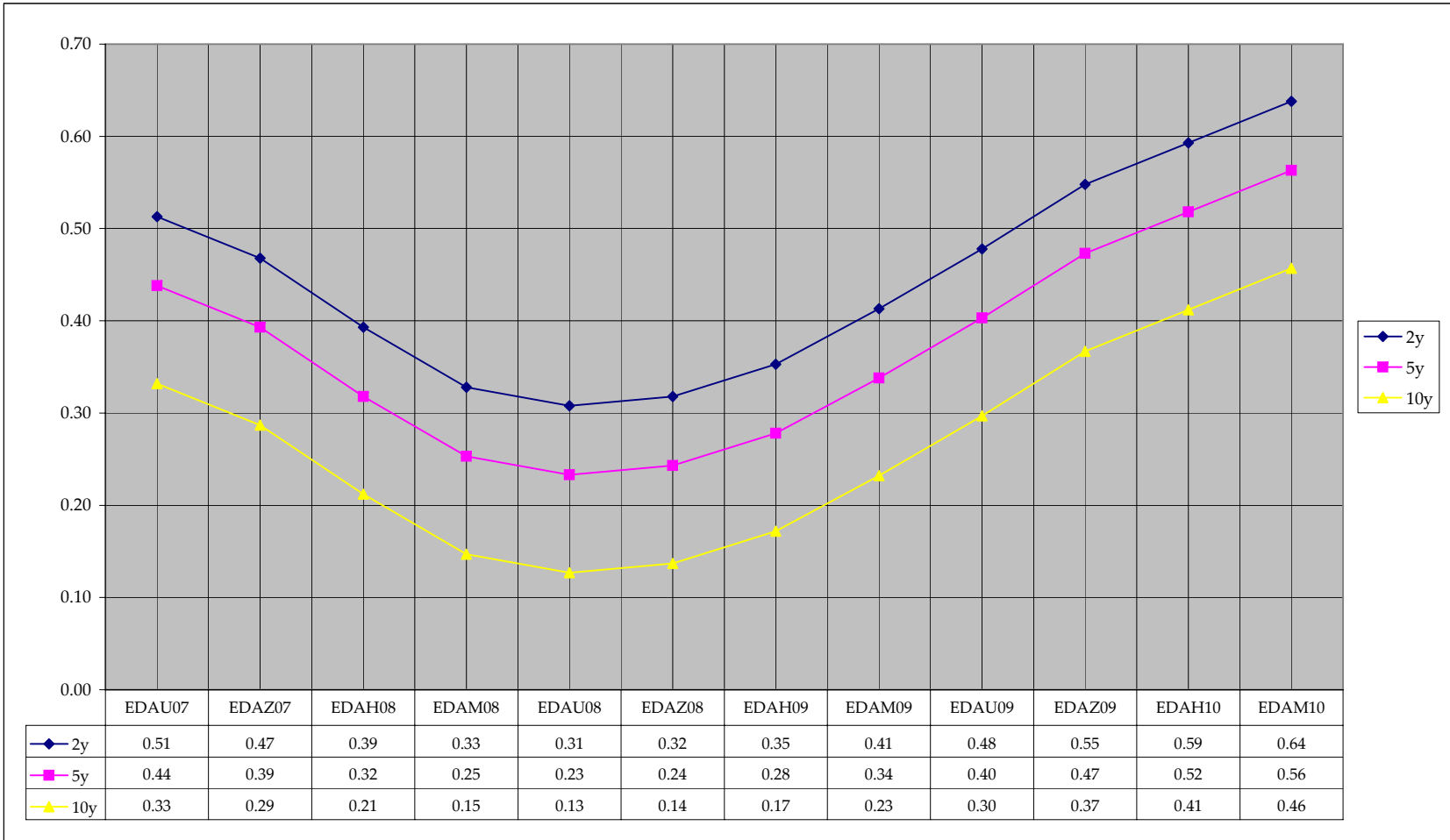
**Dirty TED Curve**

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.

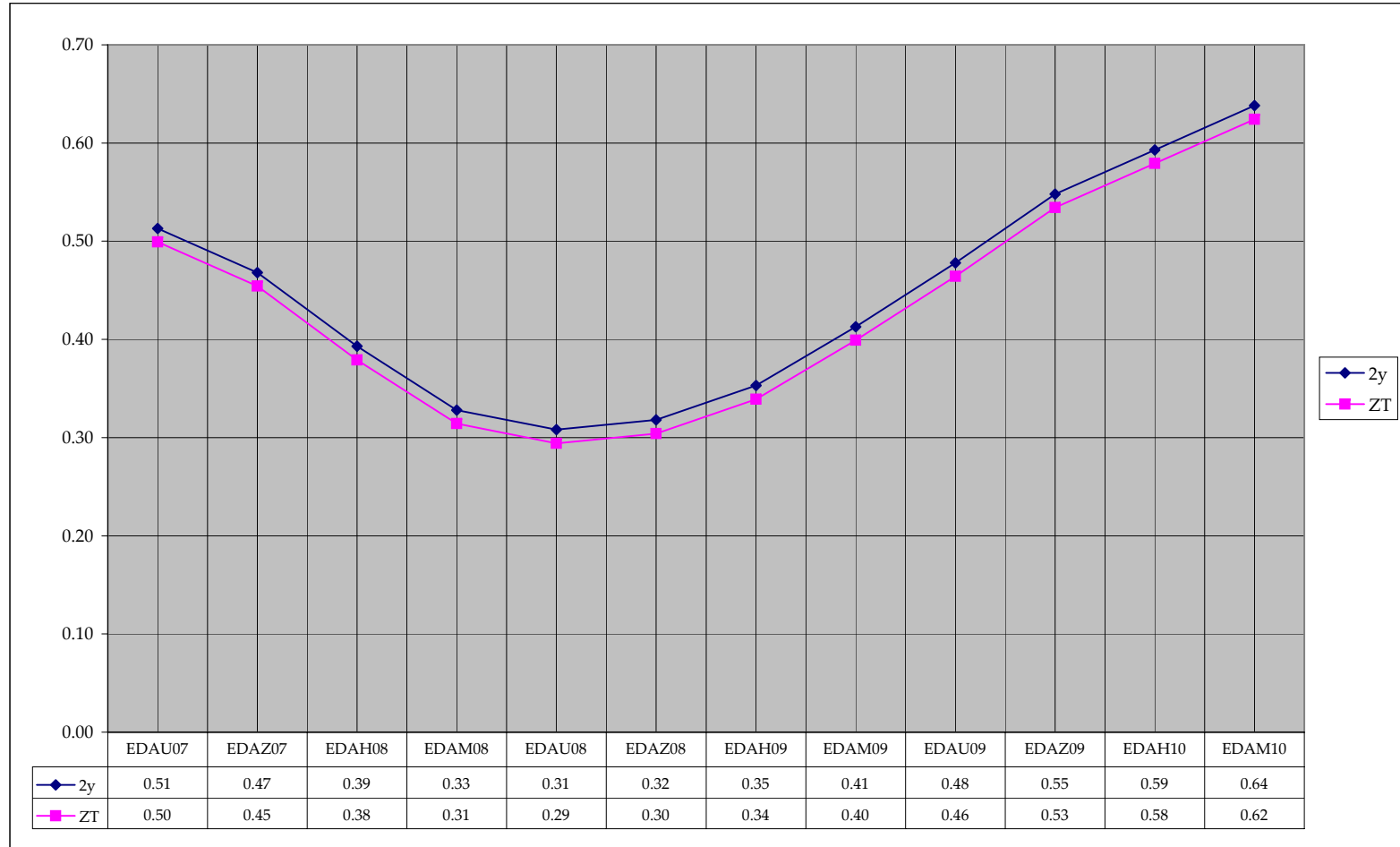


TED Curve

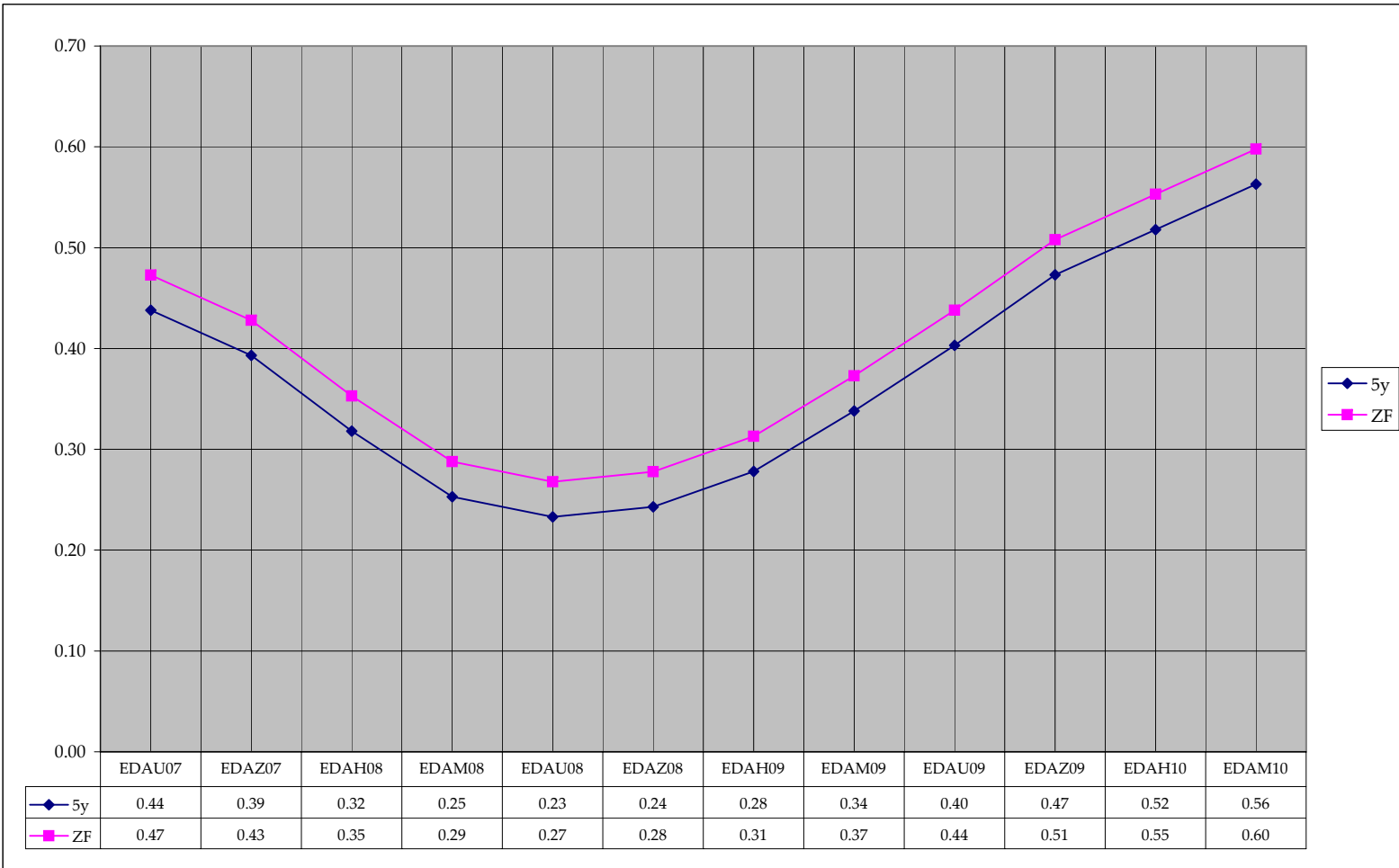
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



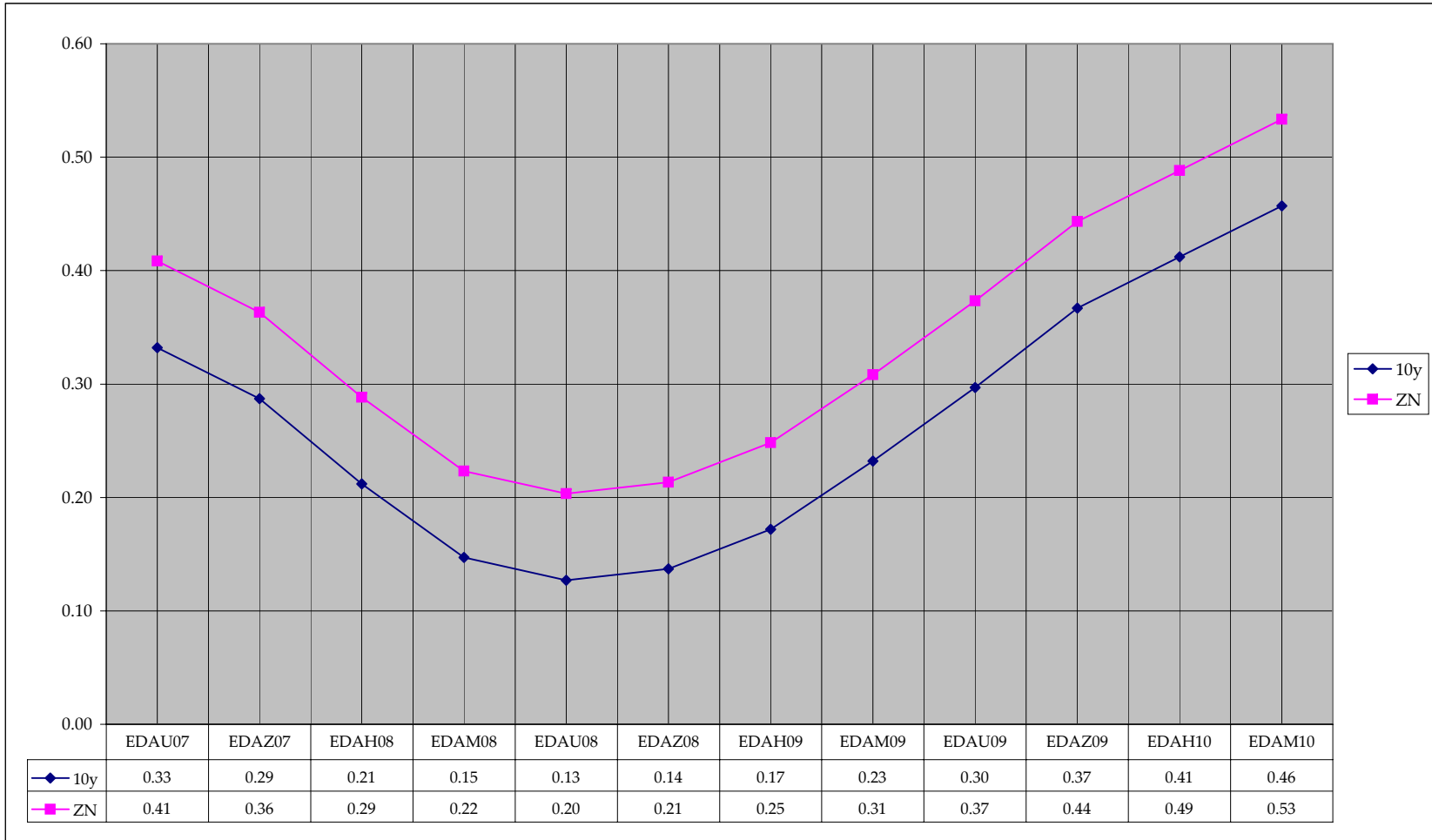
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



### Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	5.396	0.875	9474.750
Q.ED.Red	5.316	2.625	9482.500
Q.ED.Green	5.541	3.000	9460.875
Q.ED.Blue		0.625	9441.250
Q.ED.Gold		0.000	9428.250
Q.ED.Purple		0.000	9428.250

