

## 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	4.818	1.80	
ZF	104.2344	104.075	4.937	3.89	
ZN	105.8438	105.270	4.920	5.71	
2y	100.078	100.0250	4.832	1.94	
5y	99.866	99.2770	4.902	4.34	
10y	96.109	96.0350	5.005	7.75	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAU07	94.665	5.335	60	0.166	SEP	White Pack	
EDAZ07	94.700	5.300	151	0.415	DEC		
EDAH08	94.775	5.225	242	0.664	MAR		
EDAM08	94.840	5.160	333	0.913	JUN	Red Pack	
EDAU08	94.860	5.140	424	1.163	SEP		
EDAZ08	94.840	5.160	515	1.412	DEC		
EDAH09	94.800	5.200	606	1.661	MAR	Green Pack	
EDAM09	94.740	5.260	697	1.911	JUN		
EDAU09	94.675	5.325	788	2.160	SEP		
EDAZ09	94.610	5.390	879	2.409	DEC	Blue Pack	
EDAH10	94.565	5.435	970	2.659	MAR		
EDAM10	94.515	5.485	1061	2.908	JUN		
EDAU10	94.475	5.525	1152	3.157	SEP	Gold Pack	
EDAZ10	94.435	5.565	1243	3.407	DEC		
EDAH11	94.410	5.590	1334	3.656	MAR		
EDAM11	94.375	5.625	1425	3.905	JUN		
EDAU11	94.335	5.665	1523	4.174	SEP		
EDAZ11	94.295	5.705	1614	4.423	DEC		
EDAH12	94.270	5.730	1705	4.672	MAR		
EDAM12	94.265	5.735	1796	4.922	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	5.399	4.375	9474.500	Pack Prices
Q.ED.Red	5.331	9.000	9481.000	
Q.ED.Green	5.559	8.125	9459.125	
Q.ED.Blue	5.743	6.500	9441.500	
Q.ED.Gold	5.873	6.625	9429.000	
Q.ED.Purple	5.873	6.625	9429.000	

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)

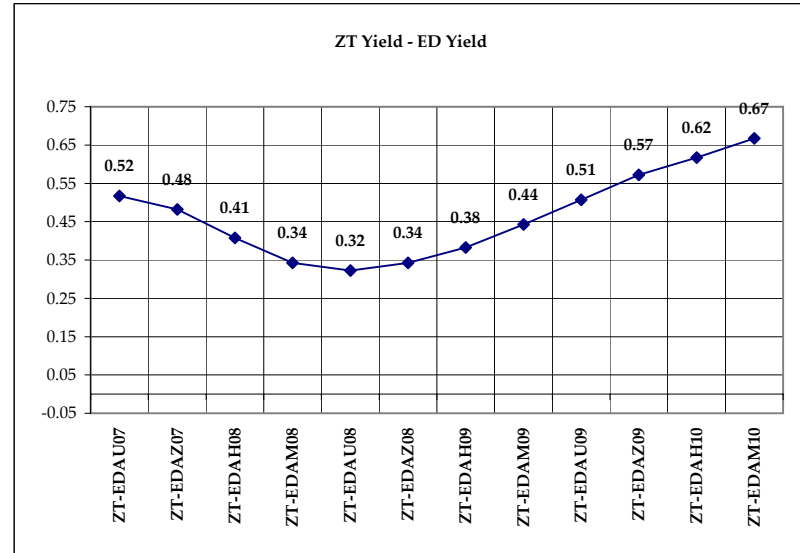
### **Eurodollar Color Codes for Individual Year Strips:**

<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)
EDAU07	7.288	0.52	ZT-EDAU07	85.770
EDAZ07	7.253	0.48	ZT-EDAZ07	98.209
EDAH08	7.178	0.41	ZT-EDAH08	99.084
EDAM08	7.113	0.34	ZT-EDAM08	99.600
EDAU08	7.093	0.32	ZT-EDAU08	99.630
EDAZ08	7.113	0.34	ZT-EDAZ08	99.536
EDAH09	7.153	0.38	ZT-EDAH09	98.719
EDAM09	7.213	0.44	ZT-EDAM09	97.465
EDAU09	7.278	0.51	ZT-EDAU09	96.991
EDAZ09	7.343	0.57	ZT-EDAZ09	96.836
EDAH10	7.388	0.62	ZT-EDAH10	95.963
EDAM10	7.438	0.67	ZT-EDAM10	95.383

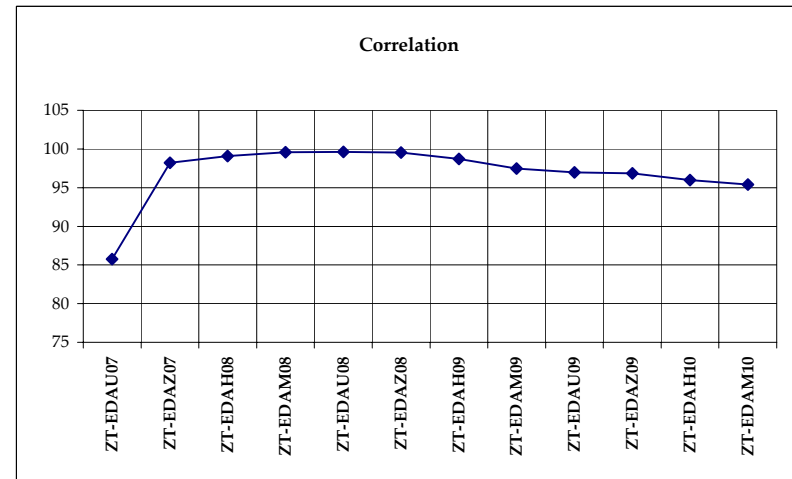
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZT Duration	Spread Duration	
EDAU07	0.166	1.80	1.64
EDAZ07	0.415	1.80	1.39
EDAH08	0.664	1.80	1.14
EDAM08	0.913	1.80	0.89
EDAU08	1.163	1.80	0.64
EDAZ08	1.412	1.80	0.39
EDAH09	1.661	1.80	0.14
EDAM09	1.911	1.80	(0.11)
EDAU09	2.160	1.80	(0.36)
EDAZ09	2.409	1.80	(0.60)
EDAH10	2.659	1.80	(0.85)
EDAM10	2.908	1.80	(1.10)

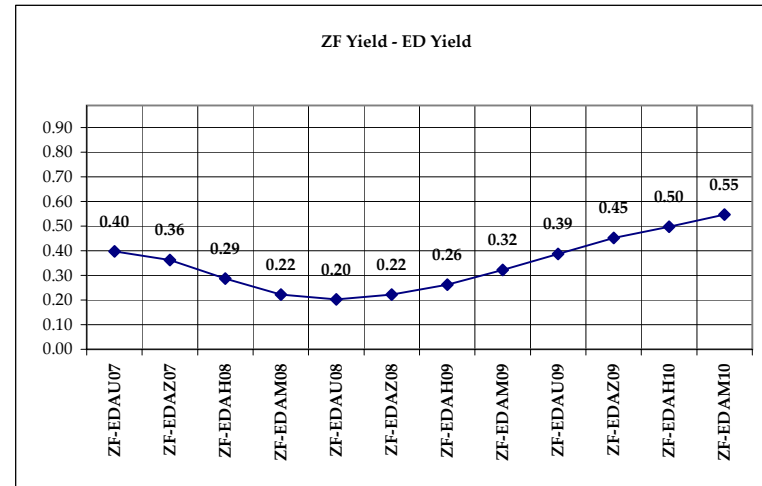
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	9.57	0.40	ZF-EDAU07	85.138
EDAZ07	9.53	0.36	ZF-EDAZ07	97.993
EDAH08	9.46	0.29	ZF-EDAH08	98.636
EDAM08	9.39	0.22	ZF-EDAM08	99.195
EDAU08	9.37	0.20	ZF-EDAU08	99.099
EDAZ08	9.39	0.22	ZF-EDAZ08	99.187
EDAH09	9.43	0.26	ZF-EDAH09	99.078
EDAM09	9.49	0.32	ZF-EDAM09	98.611
EDAU09	9.56	0.39	ZF-EDAU09	98.581
EDAZ09	9.62	0.45	ZF-EDAZ09	98.666
EDAH10	9.67	0.50	ZF-EDAH10	98.147
EDAM10	9.72	0.55	ZF-EDAM10	97.629

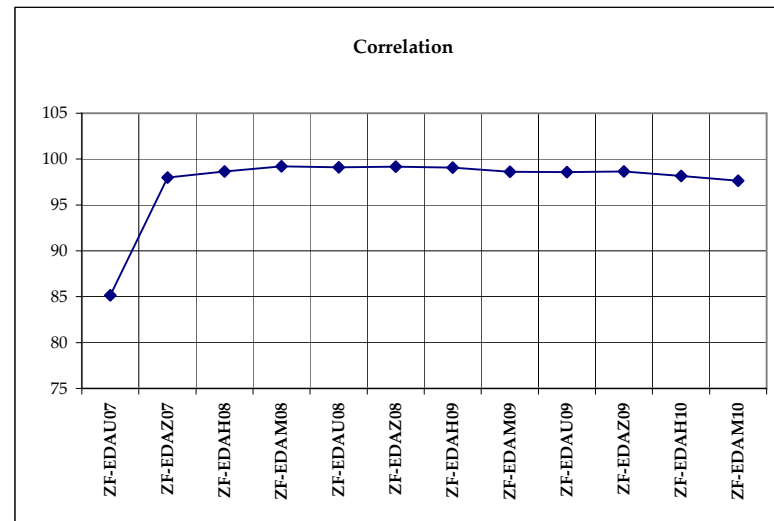
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAU07	0.166	3.89	ZF-EDAU07
EDAZ07	0.415	3.89	ZF-EDAZ07
EDAH08	0.664	3.89	ZF-EDAH08
EDAM08	0.913	3.89	ZF-EDAM08
EDAU08	1.163	3.89	ZF-EDAU08
EDAZ08	1.412	3.89	ZF-EDAZ08
EDAH09	1.661	3.89	ZF-EDAH09
EDAM09	1.911	3.89	ZF-EDAM09
EDAU09	2.160	3.89	ZF-EDAU09
EDAZ09	2.409	3.89	ZF-EDAZ09
EDAH10	2.659	3.89	ZF-EDAH10
EDAM10	2.908	3.89	ZF-EDAM10

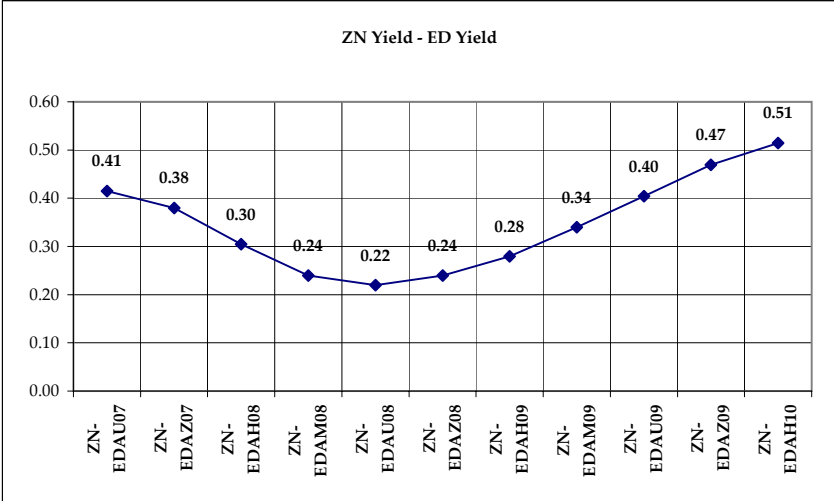
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

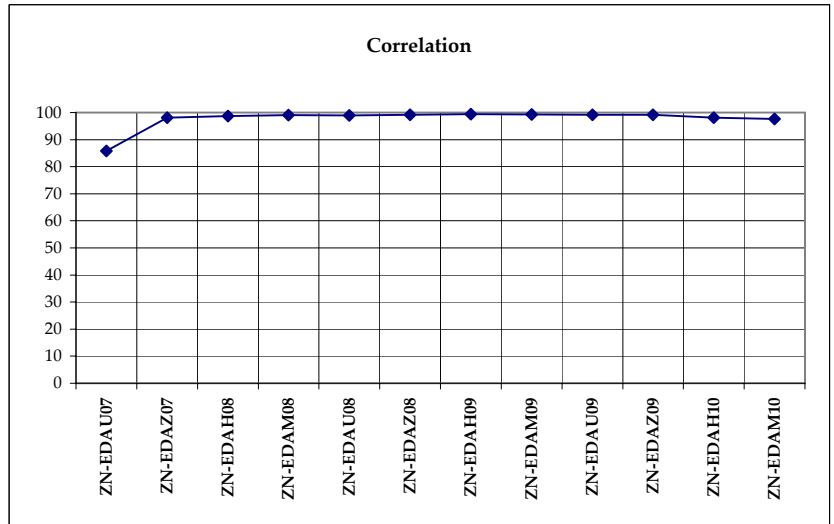
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	11.18	0.41	ZN-EDAU07	85.77
EDAZ07	11.14	0.38	ZN-EDAZ07	98.10
EDAH08	11.07	0.30	ZN-EDAH08	98.68
EDAM08	11.00	0.24	ZN-EDAM08	99.09
EDAU08	10.98	0.22	ZN-EDAU08	98.98
EDAZ08	11.00	0.24	ZN-EDAZ08	99.20
EDAH09	11.04	0.28	ZN-EDAH09	99.44
EDAM09	11.10	0.34	ZN-EDAM09	99.25
EDAU09	11.17	0.40	ZN-EDAU09	99.21
EDAZ09	11.23	0.47	ZN-EDAZ09	99.12
EDAH10	11.28	0.51	ZN-EDAH10	98.15
EDAM10	11.33	0.56	ZN-EDAM10	97.63

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	0.166	5.71	5.55	ZN-EDAU07
EDAZ07	0.415	5.71	5.30	ZN-EDAZ07
EDAH08	0.664	5.71	5.05	ZN-EDAH08
EDAM08	0.913	5.71	4.80	ZN-EDAM08
EDAU08	1.163	5.71	4.55	ZN-EDAU08
EDAZ08	1.412	5.71	4.30	ZN-EDAZ08
EDAH09	1.661	5.71	4.05	ZN-EDAH09
EDAM09	1.911	5.71	3.80	ZN-EDAM09
EDAU09	2.160	5.71	3.55	ZN-EDAU09
EDAZ09	2.409	5.71	3.30	ZN-EDAZ09
EDAH10	2.659	5.71	3.05	ZN-EDAH10
EDAM10	2.908	5.71	2.81	ZN-EDAM10

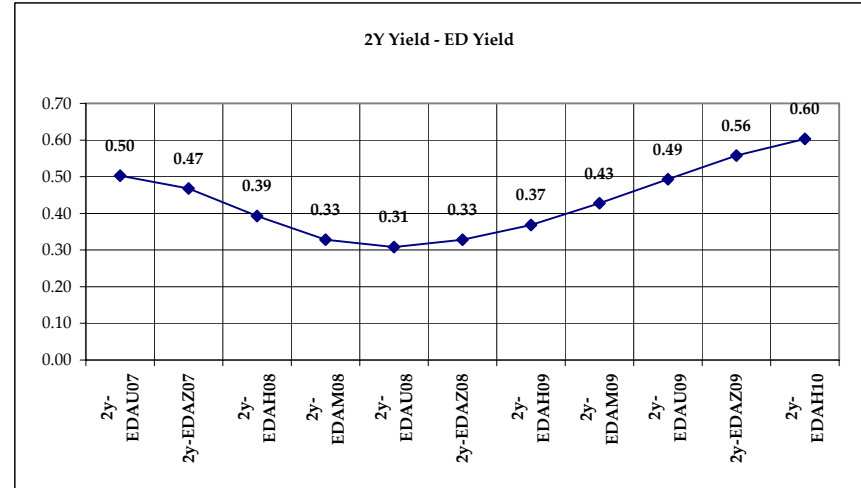
The farther away from 0 the spread duration is the riskier the trade.



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

2y				Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU07	5.41	0.50	2y-EDAU07	-76.082
EDAZ07	5.38	0.47	2y-EDAZ07	-92.961
EDAH08	5.30	0.39	2y-EDAH08	-93.096
EDAM08	5.24	0.33	2y-EDAM08	-92.685
EDAU08	5.22	0.31	2y-EDAU08	-92.769
EDAZ08	5.24	0.33	2y-EDAZ08	-92.685
EDAH09	5.28	0.37	2y-EDAH09	-93.747
EDAM09	5.34	0.43	2y-EDAM09	-93.275
EDAU09	5.40	0.49	2y-EDAU09	-92.681
EDAZ09	5.47	0.56	2y-EDAZ09	-92.025
EDAH10	5.51	0.60	2y-EDAH10	-91.543
EDAM10	5.56	0.65	2y-EDAM10	-91.167

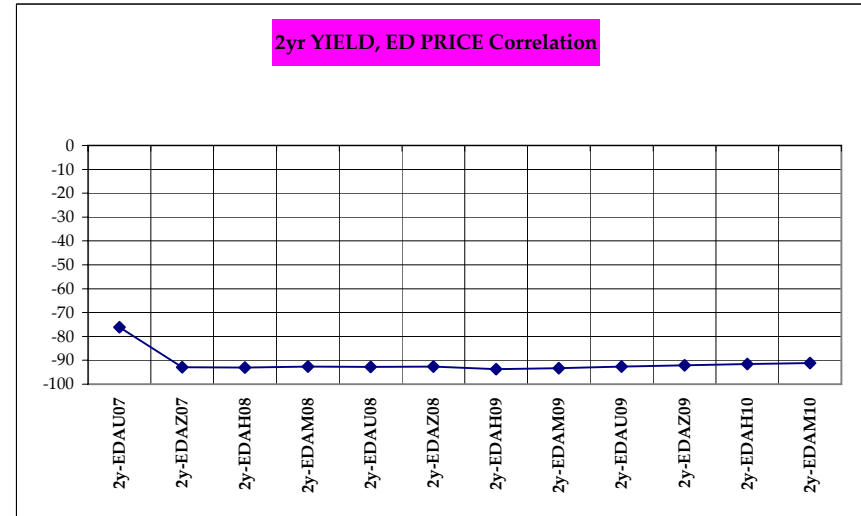
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days.  
 These are measuring YIELD correlations.



**GE Duration as**

	Fraction of year	2Y Duration	Spread Duration	
EDAU07	0.166	1.94	1.78	2y-EDAU07
EDAZ07	0.415	1.94	1.53	2y-EDAZ07
EDAH08	0.664	1.94	1.28	2y-EDAH08
EDAM08	0.913	1.94	1.03	2y-EDAM08
EDAU08	1.163	1.94	0.78	2y-EDAU08
EDAZ08	1.412	1.94	0.53	2y-EDAZ08
EDAH09	1.661	1.94	0.28	2y-EDAH09
EDAM09	1.911	1.94	0.03	2y-EDAM09
EDAU09	2.160	1.94	(0.22)	2y-EDAU09
EDAZ09	2.409	1.94	(0.47)	2y-EDAZ09
EDAH10	2.659	1.94	(0.72)	2y-EDAH10
EDAM10	2.908	1.94	(0.97)	2y-EDAM10

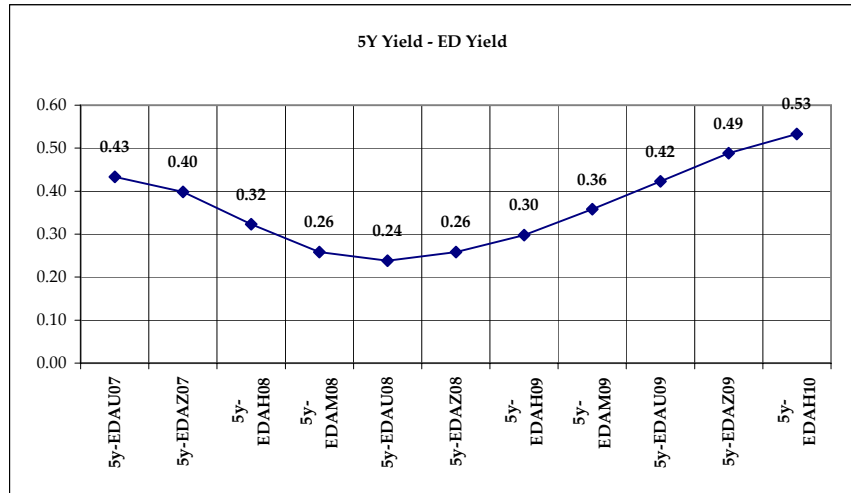
The farther away from 0 the spread duration is the riskier the trade.



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

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.20	0.43	5y-EDAU07	-76.855
EDAZ07	5.17	0.40	5y-EDAZ07	-94.456
EDAH08	5.09	0.32	5y-EDAH08	-94.924
EDAM08	5.03	0.26	5y-EDAM08	-95.093
EDAU08	5.01	0.24	5y-EDAU08	-95.072
EDAZ08	5.03	0.26	5y-EDAZ08	-95.093
EDAH09	5.07	0.30	5y-EDAH09	-95.900
EDAM09	5.13	0.36	5y-EDAM09	-95.736
EDAU09	5.19	0.42	5y-EDAU09	-95.772
EDAZ09	5.26	0.49	5y-EDAZ09	-95.687
EDAH10	5.30	0.53	5y-EDAH10	-95.431
EDAM10	5.35	0.58	5y-EDAM10	-94.947

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.

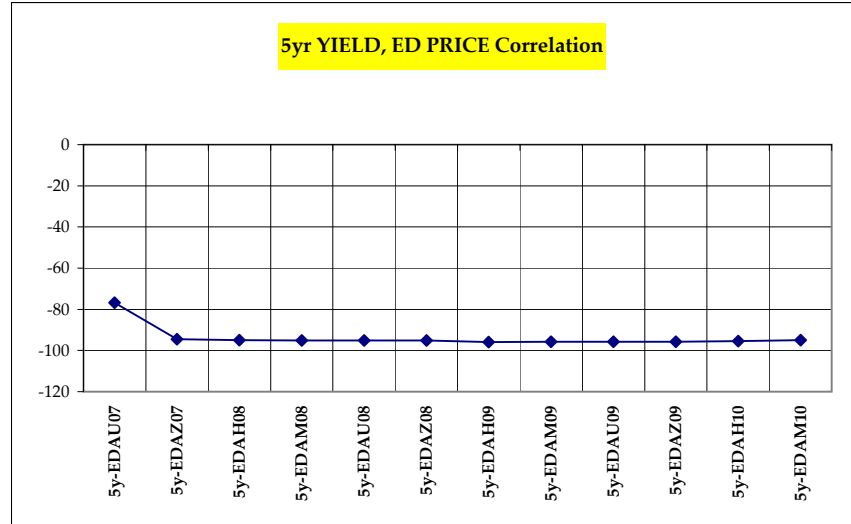


**GE Duration as Fraction of year**

	Fraction of year	5Y Duration	Spread Duration	
EDAU07	0.166	4.34	4.17	5y-EDAU07
EDAZ07	0.415	4.34	3.92	5y-EDAZ07
EDAH08	0.664	4.34	3.67	5y-EDAH08
EDAM08	0.913	4.34	3.43	5y-EDAM08
EDAU08	1.163	4.34	3.18	5y-EDAU08
EDAZ08	1.412	4.34	2.93	5y-EDAZ08
EDAH09	1.661	4.34	2.68	5y-EDAH09
EDAM09	1.911	4.34	2.43	5y-EDAM09
EDAU09	2.160	4.34	2.18	5y-EDAU09
EDAZ09	2.409	4.34	1.93	5y-EDAZ09
EDAH10	2.659	4.34	1.68	5y-EDAH10
EDAM10	2.908	4.34	1.43	5y-EDAM10

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

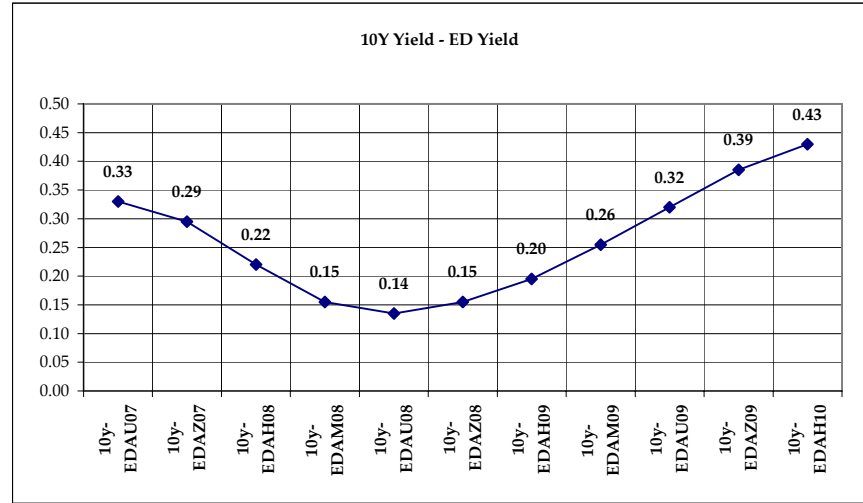
5yr YIELD, ED PRICE Correlation



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

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.20	0.33	10y-EDAU07	-74.476
EDAZ07	5.17	0.29	10y-EDAZ07	-93.942
EDAH08	5.09	0.22	10y-EDAH08	-93.994
EDAM08	5.03	0.15	10y-EDAM08	-93.852
EDAU08	5.01	0.14	10y-EDAU08	-93.834
EDAZ08	5.03	0.15	10y-EDAZ08	-93.852
EDAH09	5.07	0.20	10y-EDAH09	-95.238
EDAM09	5.13	0.26	10y-EDAM09	-95.496
EDAU09	5.19	0.32	10y-EDAU09	-95.577
EDAZ09	5.26	0.39	10y-EDAZ09	-95.206
EDAH10	5.30	0.43	10y-EDAH10	-94.832
EDAM10	5.35	0.48	10y-EDAM10	-94.273

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.

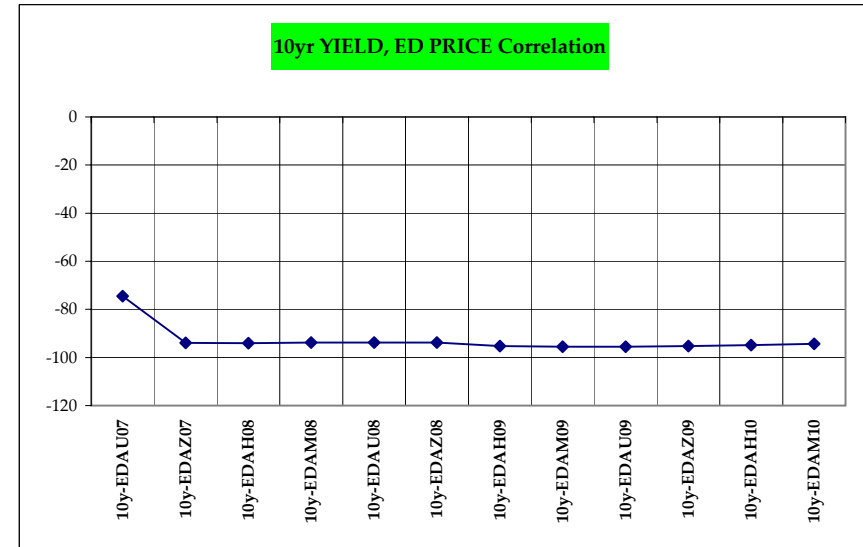


**GE Duration as**

	Fraction of year	10Y Duration	Spread Duration	
EDAU07	0.166	7.75	7.58	10y-EDAU07
EDAZ07	0.415	7.75	7.33	10y-EDAZ07
EDAH08	0.664	7.75	7.08	10y-EDAH08
EDAM08	0.913	7.75	6.83	10y-EDAM08
EDAU08	1.163	7.75	6.58	10y-EDAU08
EDAZ08	1.412	7.75	6.33	10y-EDAZ08
EDAH09	1.661	7.75	6.08	10y-EDAH09
EDAM09	1.911	7.75	5.84	10y-EDAM09
EDAU09	2.160	7.75	5.59	10y-EDAU09
EDAZ09	2.409	7.75	5.34	10y-EDAZ09
EDAH10	2.659	7.75	5.09	10y-EDAH10
EDAM10	2.908	7.75	4.84	10y-EDAM10

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

**10yr YIELD, ED PRICE Correlation**



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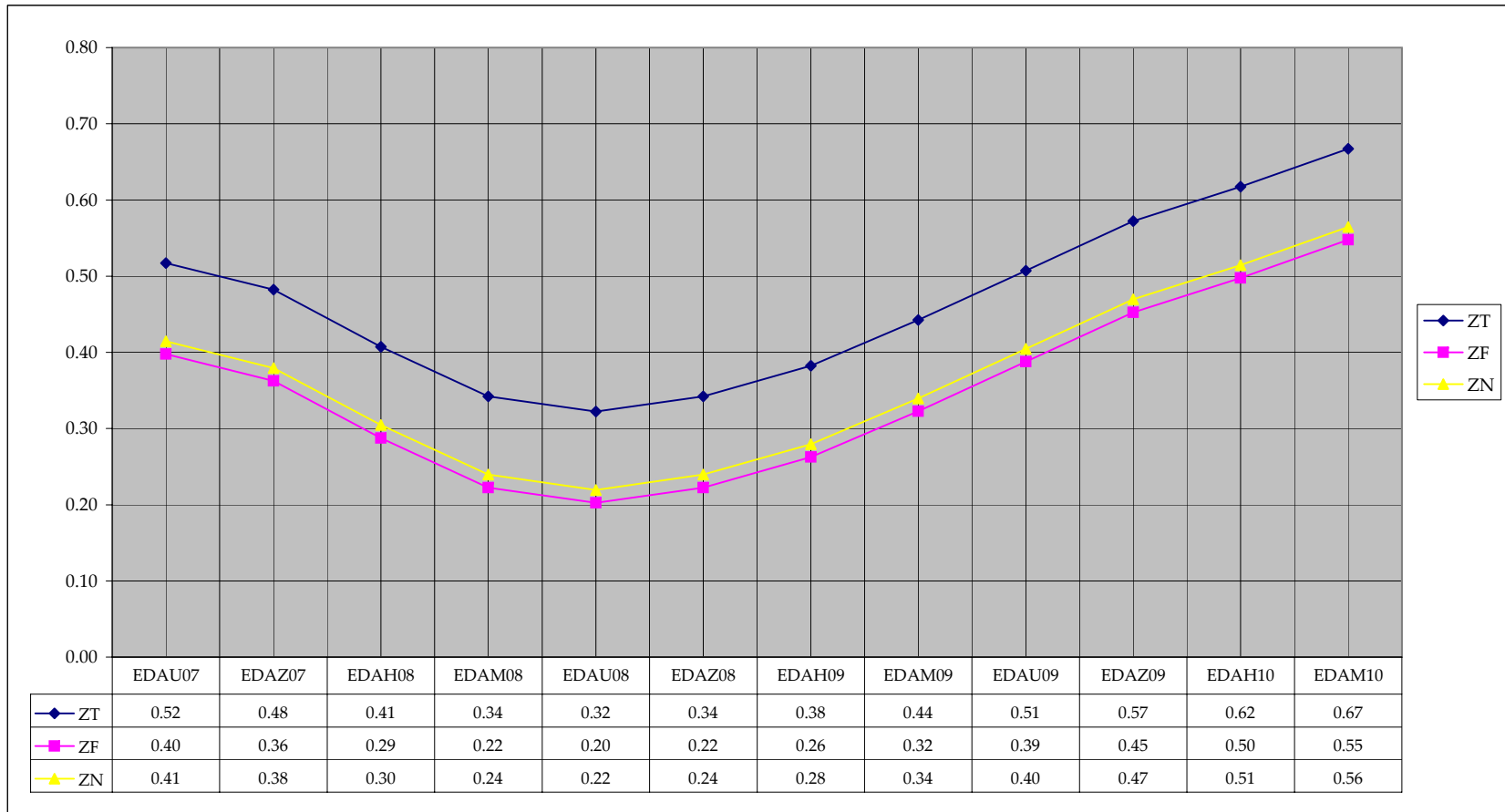
The Morning Email, TED

### Dirty TED Curve

7/18/2007 14:07

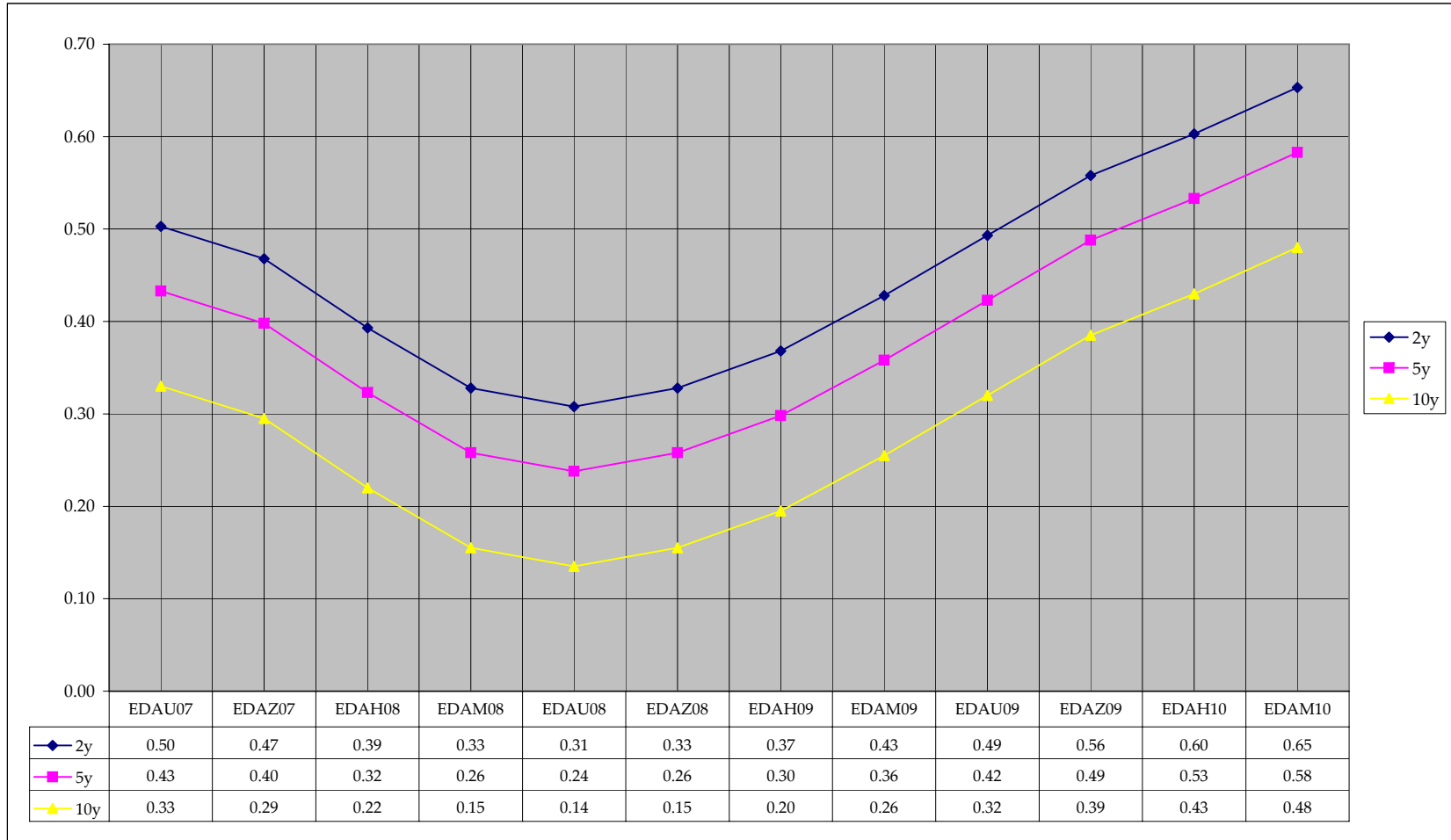
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

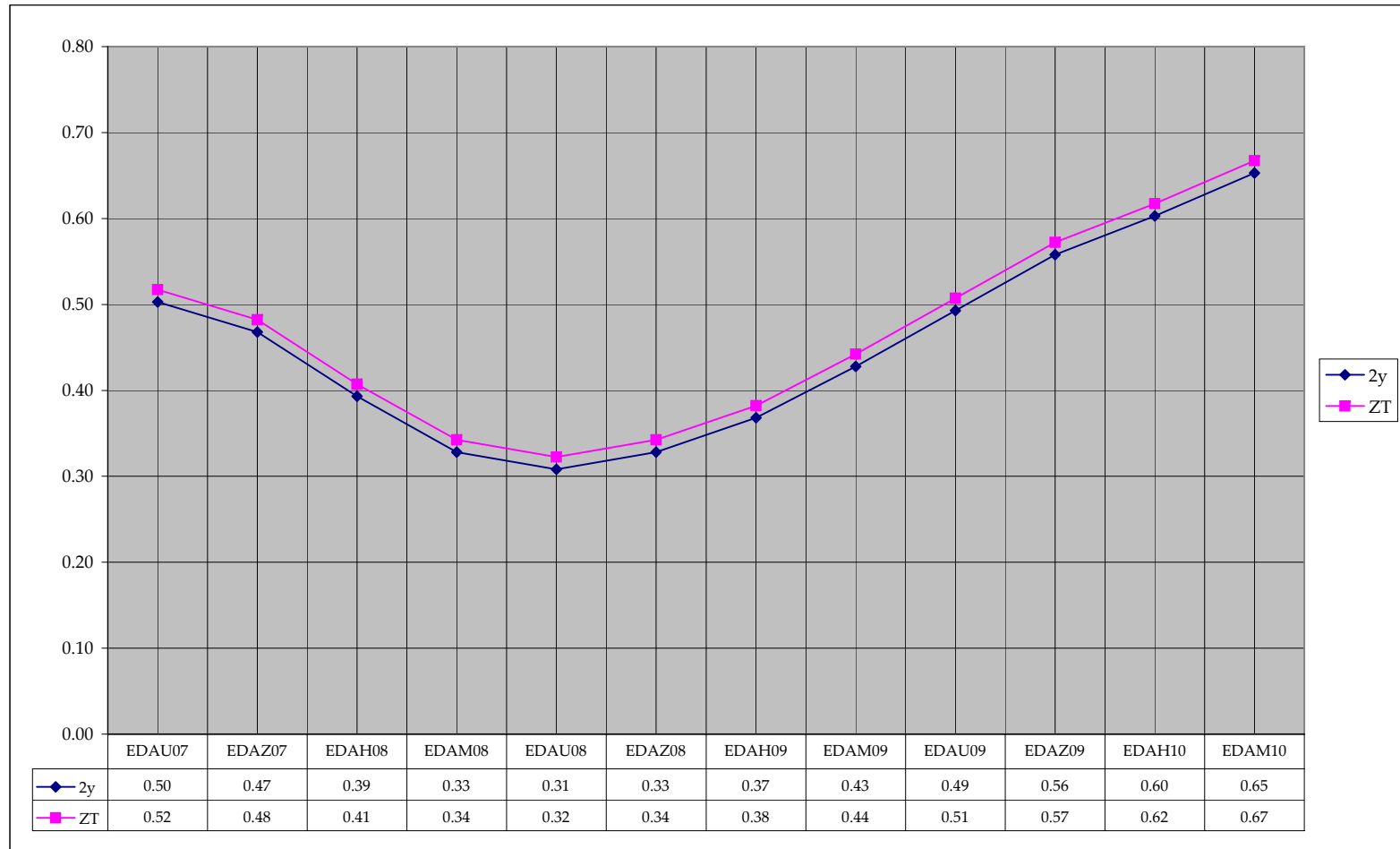


TED Curve

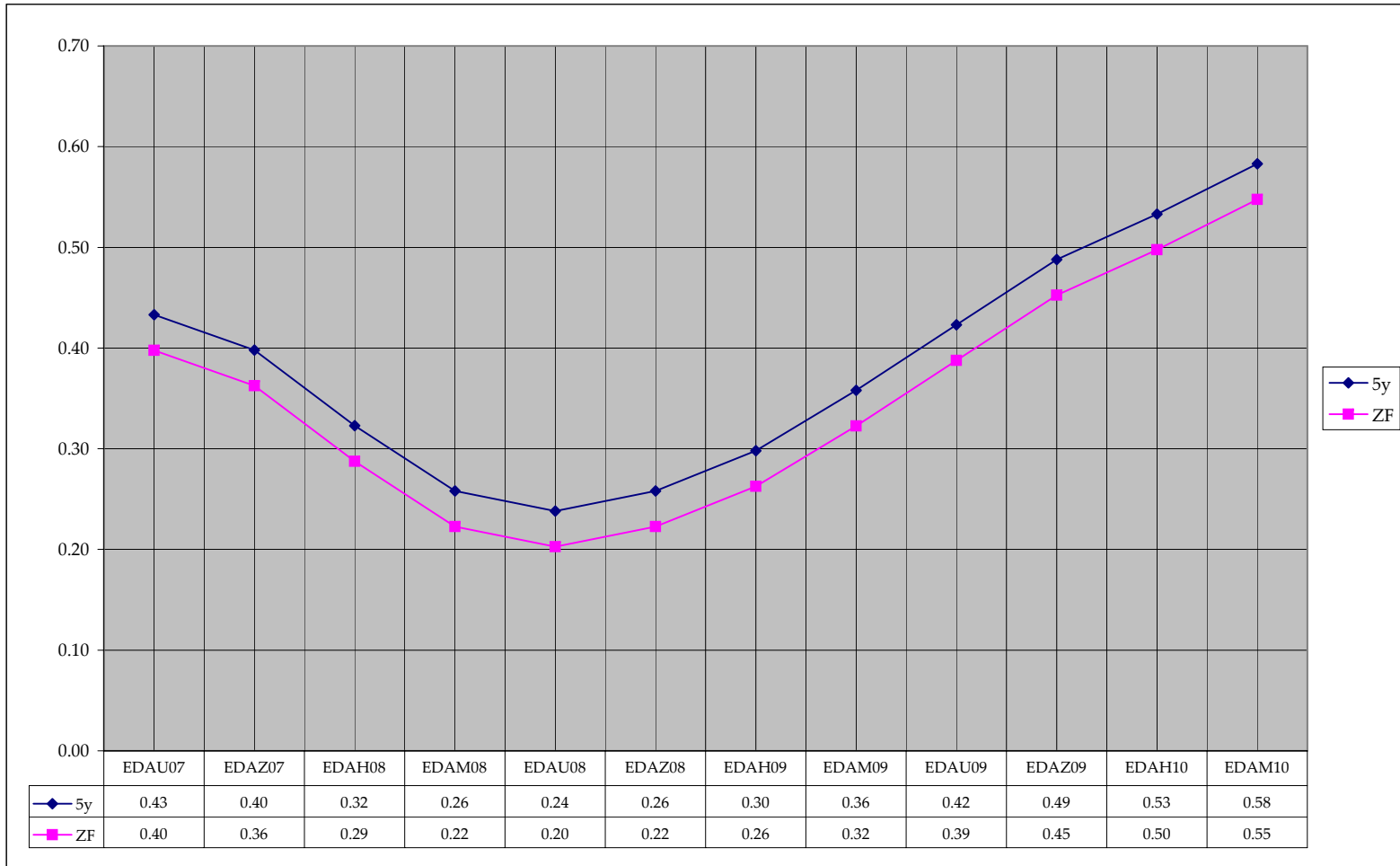
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



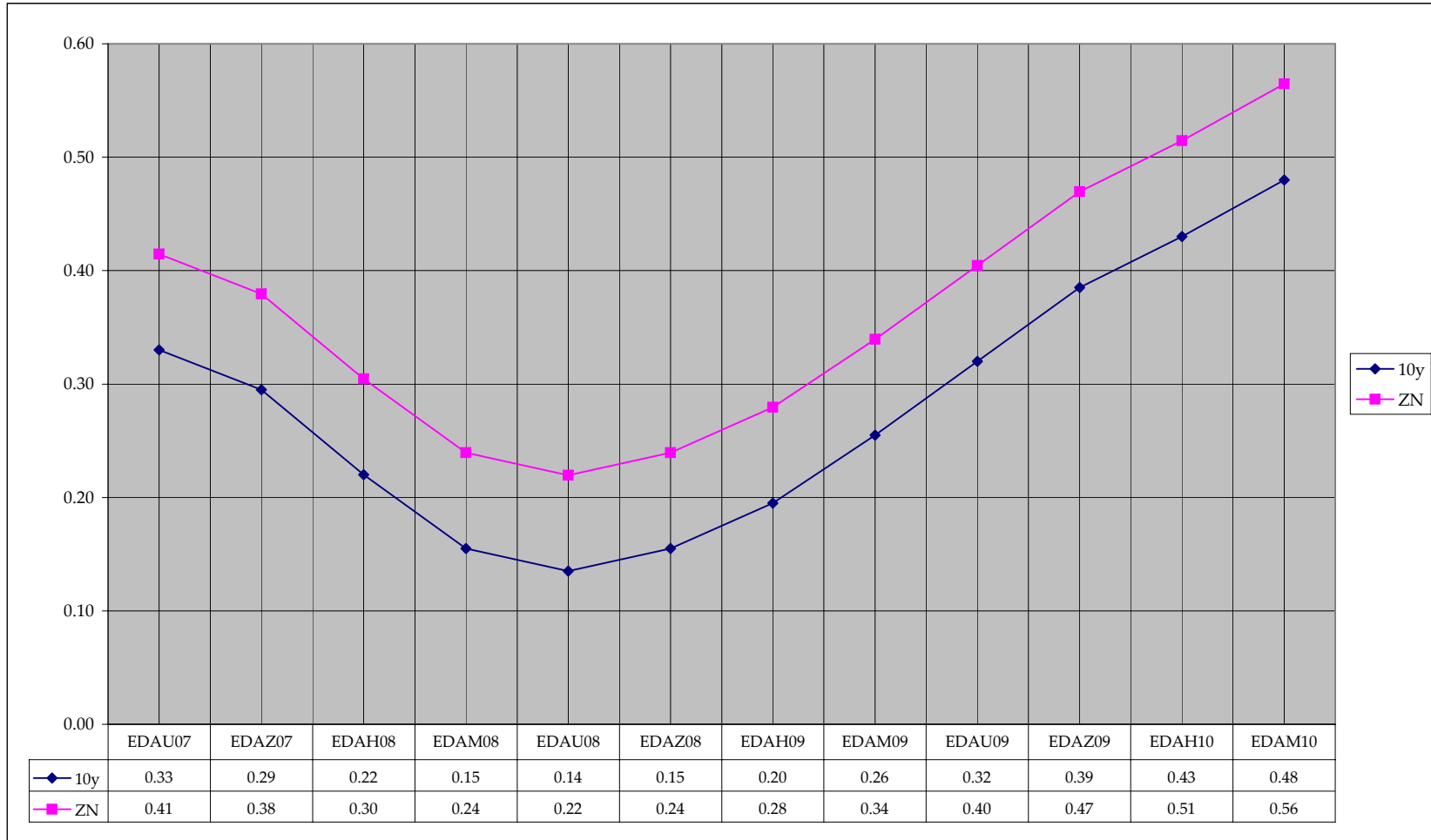
## 2y Basis TED Curve



## 5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	5.399	4.375	9474.500
Q.ED.Red	5.331	9.000	9481.000
Q.ED.Green	5.559	8.125	9459.125
Q.ED.Blue	5.743	6.500	9441.500
Q.ED.Gold	5.873	6.625	9429.000
Q.ED.Purple	5.873	6.625	9429.000

