

## 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	102.3281	102.105	4.595	1.78	
ZF	105.2031	105.065	4.652	3.84	
ZN	107.1406	107.045	4.757	5.67	
2y	100.047	100.0150	4.596	1.87	
5y	99.913	99.2920	4.643	4.39	
10y	97.609	97.1950	4.805	7.72	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAU07	94.700	5.300	40	0.109	SEP	White Pack	
EDAZ07	94.895	5.105	131	0.358	DEC		
EDAH08	95.070	4.930	222	0.608	MAR		
EDAM08	95.135	4.865	313	0.857	JUN	Red Pack	
EDAU08	95.135	4.865	404	1.106	SEP		
EDAZ08	95.100	4.900	495	1.356	DEC		
EDAH09	95.050	4.950	586	1.605	MAR	Green Pack	
EDAM09	94.985	5.015	677	1.854	JUN		
EDAU09	94.920	5.080	768	2.103	SEP		
EDAZ09	94.850	5.150	859	2.353	DEC	Blue Pack	
EDAH10	94.800	5.200	950	2.602	MAR		
EDAM10	94.760	5.240	1041	2.851	JUN		
EDAU10	94.755	5.245	1132	3.101	SEP	Gold Pack	
EDAZ10	94.695	5.305	1223	3.350	DEC		
EDAH11	94.660	5.340	1314	3.599	MAR		
EDAM11	94.590	5.410	1405	3.849	JUN		
EDAU11	94.550	5.450	1503	4.117	SEP		
EDAZ11	94.500	5.500	1594	4.366	DEC		
EDAH12	94.560	5.440	1685	4.616	MAR		
EDAM12	94.485	5.515	1776	4.865	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	5.186	-4.125	9495.000	Pack Prices
Q.ED.Red	5.063	-6.000	9506.750	
Q.ED.Green	5.308	-5.625	9483.250	
Q.ED.Blue		0.000	9467.750	
Q.ED.Gold		0.000	9450.000	
Q.ED.Purple		0.000	9450.000	

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

8/8/2007 5:45

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)

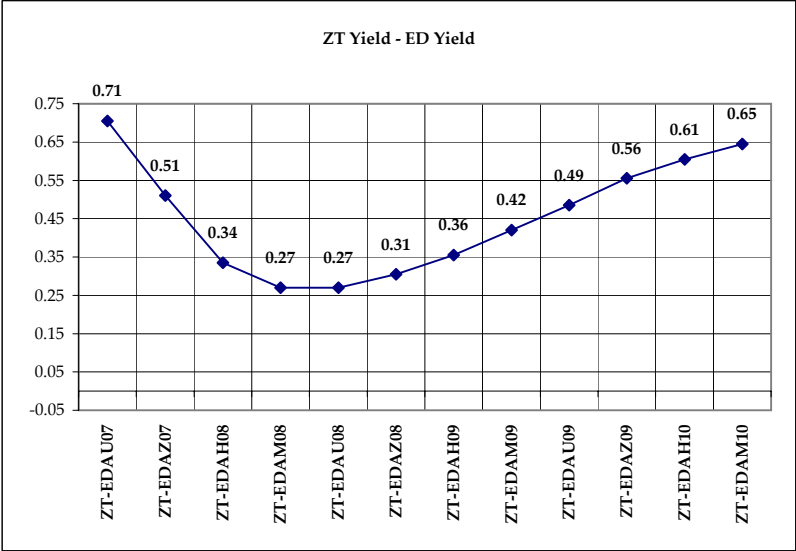
### Eurodollar Color Codes for Individual Year Strips:

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

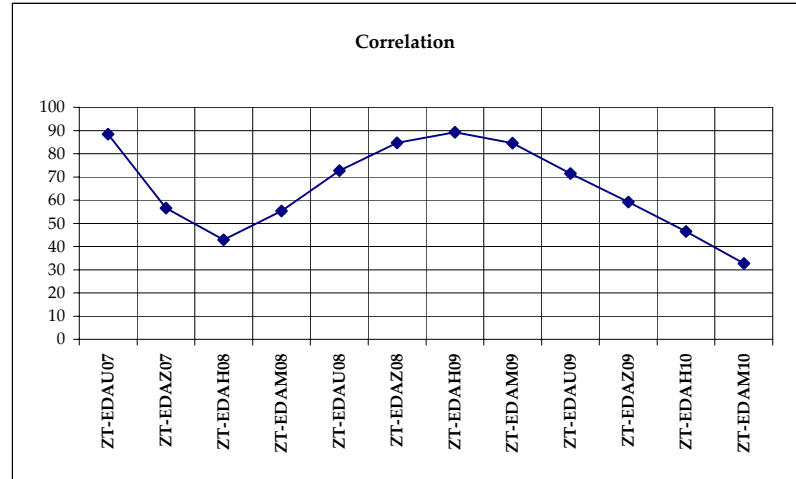
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	7.628	0.71	ZT-EDAU07	88.409
EDAZ07	7.433	0.51	ZT-EDAZ07	56.597
EDAH08	7.258	0.34	ZT-EDAH08	42.876
EDAM08	7.193	0.27	ZT-EDAM08	55.301
EDAU08	7.193	0.27	ZT-EDAU08	72.723
EDAZ08	7.228	0.31	ZT-EDAZ08	84.634
EDAH09	7.278	0.36	ZT-EDAH09	89.247
EDAM09	7.343	0.42	ZT-EDAM09	84.544
EDAU09	7.408	0.49	ZT-EDAU09	71.504
EDAZ09	7.478	0.56	ZT-EDAZ09	59.172
EDAH10	7.528	0.61	ZT-EDAH10	46.550
EDAM10	7.568	0.65	ZT-EDAM10	32.725

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	0.109	1.78	1.67	ZT-EDAU07
EDAZ07	0.358	1.78	1.42	ZT-EDAZ07
EDAH08	0.608	1.78	1.17	ZT-EDAH08
EDAM08	0.857	1.78	0.92	ZT-EDAM08
EDAU08	1.106	1.78	0.67	ZT-EDAU08
EDAZ08	1.356	1.78	0.42	ZT-EDAZ08
EDAH09	1.605	1.78	0.18	ZT-EDAH09
EDAM09	1.854	1.78	(0.07)	ZT-EDAM09
EDAU09	2.103	1.78	(0.32)	ZT-EDAU09
EDAZ09	2.353	1.78	(0.57)	ZT-EDAZ09
EDAH10	2.602	1.78	(0.82)	ZT-EDAH10
EDAM10	2.851	1.78	(1.07)	ZT-EDAM10

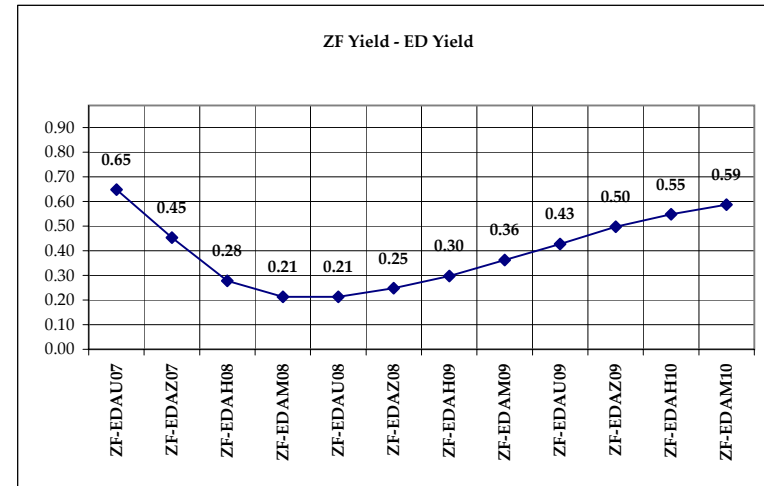
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	10.50	0.65	ZF-EDAU07	82.304
EDAZ07	10.31	0.45	ZF-EDAZ07	74.990
EDAH08	10.13	0.28	ZF-EDAH08	66.732
EDAM08	10.07	0.21	ZF-EDAM08	76.563
EDAU08	10.07	0.21	ZF-EDAU08	87.537
EDAZ08	10.10	0.25	ZF-EDAZ08	91.843
EDAH09	10.15	0.30	ZF-EDAH09	93.523
EDAM09	10.22	0.36	ZF-EDAM09	94.785
EDAU09	10.28	0.43	ZF-EDAU09	90.094
EDAZ09	10.35	0.50	ZF-EDAZ09	83.257
EDAH10	10.40	0.55	ZF-EDAH10	74.939
EDAM10	10.44	0.59	ZF-EDAM10	64.048

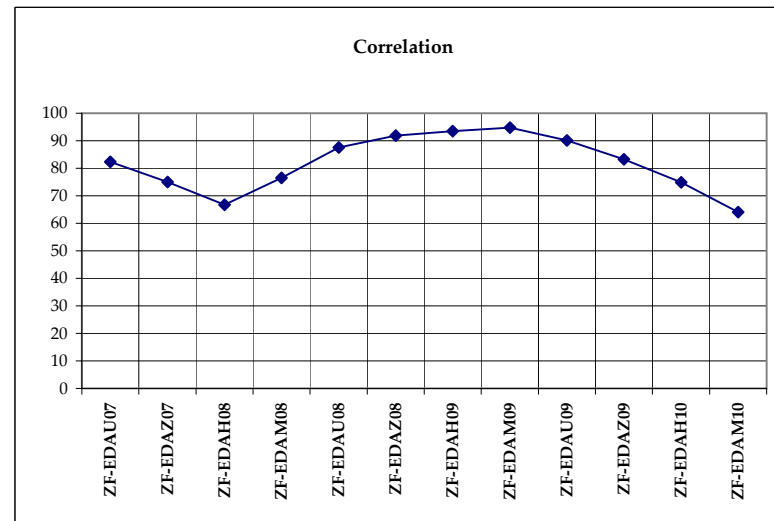
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAU07	0.109	3.84	3.73	ZF-EDAU07
EDAZ07	0.358	3.84	3.48	ZF-EDAZ07
EDAH08	0.608	3.84	3.23	ZF-EDAH08
EDAM08	0.857	3.84	2.98	ZF-EDAM08
EDAU08	1.106	3.84	2.74	ZF-EDAU08
EDAZ08	1.356	3.84	2.49	ZF-EDAZ08
EDAH09	1.605	3.84	2.24	ZF-EDAH09
EDAM09	1.854	3.84	1.99	ZF-EDAM09
EDAU09	2.103	3.84	1.74	ZF-EDAU09
EDAZ09	2.353	3.84	1.49	ZF-EDAZ09
EDAH10	2.602	3.84	1.24	ZF-EDAH10
EDAM10	2.851	3.84	0.99	ZF-EDAM10

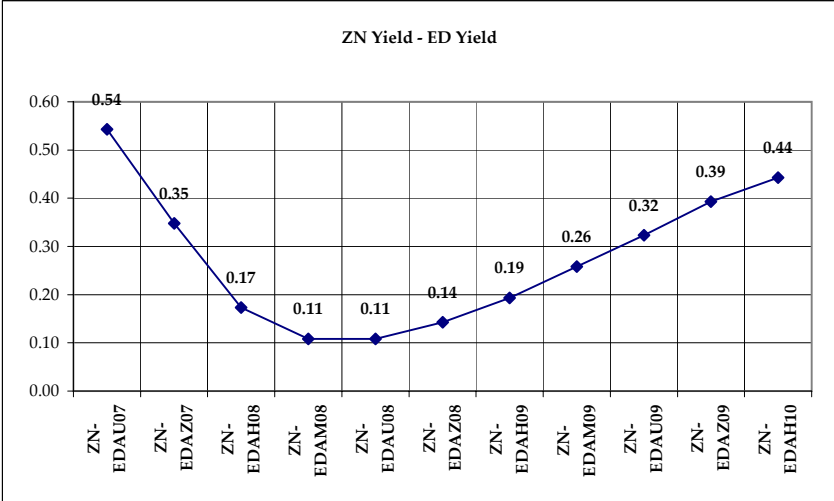
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

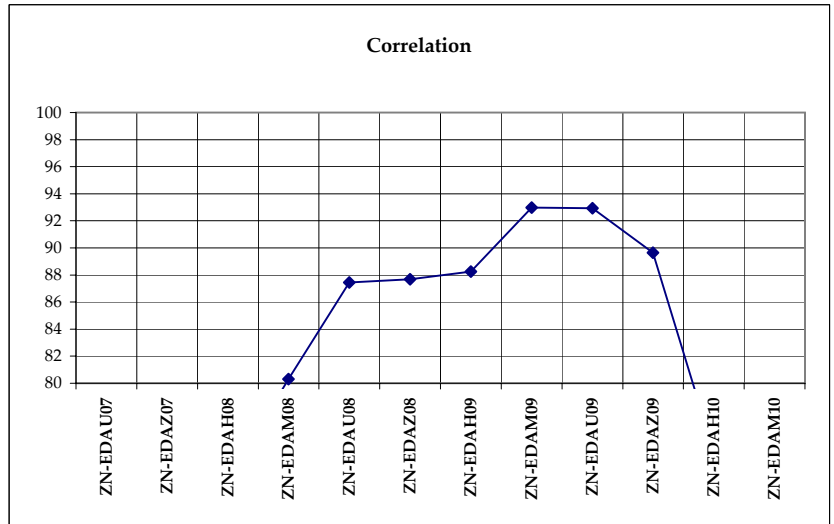
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	12.44	0.54	ZN-EDAU07	76.12
EDAZ07	12.25	0.35	ZN-EDAZ07	78.85
EDAH08	12.07	0.17	ZN-EDAH08	72.84
EDAM08	12.01	0.11	ZN-EDAM08	80.31
EDAU08	12.01	0.11	ZN-EDAU08	87.44
EDAZ08	12.04	0.14	ZN-EDAZ08	87.68
EDAH09	12.09	0.19	ZN-EDAH09	88.24
EDAM09	12.16	0.26	ZN-EDAM09	92.97
EDAU09	12.22	0.32	ZN-EDAU09	92.94
EDAZ09	12.29	0.39	ZN-EDAZ09	89.65
EDAH10	12.34	0.44	ZN-EDAH10	74.94
EDAM10	12.38	0.48	ZN-EDAM10	64.05

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	0.109	5.67	5.56	ZN-EDAU07
EDAZ07	0.358	5.67	5.31	ZN-EDAZ07
EDAH08	0.608	5.67	5.06	ZN-EDAH08
EDAM08	0.857	5.67	4.81	ZN-EDAM08
EDAU08	1.106	5.67	4.56	ZN-EDAU08
EDAZ08	1.356	5.67	4.31	ZN-EDAZ08
EDAH09	1.605	5.67	4.06	ZN-EDAH09
EDAM09	1.854	5.67	3.81	ZN-EDAM09
EDAU09	2.103	5.67	3.56	ZN-EDAU09
EDAZ09	2.353	5.67	3.31	ZN-EDAZ09
EDAH10	2.602	5.67	3.07	ZN-EDAH10
EDAM10	2.851	5.67	2.82	ZN-EDAM10

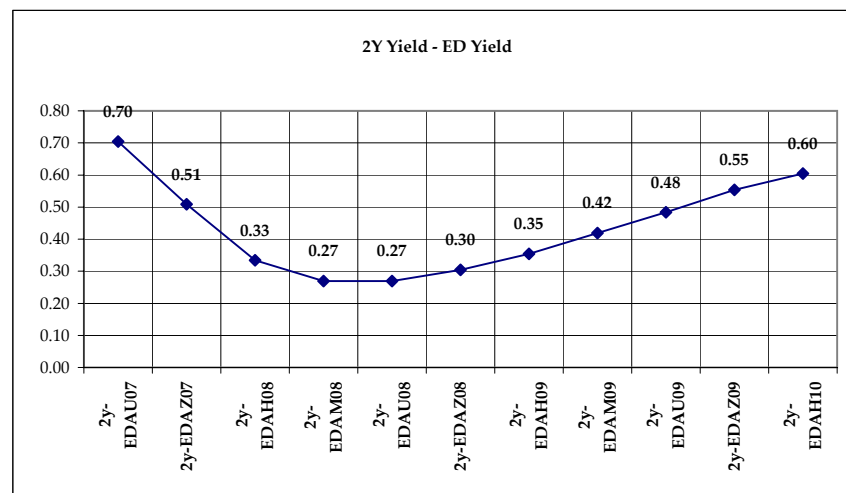
The farther away from 0 the spread duration is the riskier the trade.



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

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.35	0.70	2y-EDAU07	-71.195
EDAZ07	5.15	0.51	2y-EDAZ07	-68.620
EDAH08	4.98	0.33	2y-EDAH08	-63.709
EDAM08	4.91	0.27	2y-EDAM08	-73.425
EDAU08	4.91	0.27	2y-EDAU08	-82.174
EDAZ08	4.95	0.30	2y-EDAZ08	-73.425
EDAH09	5.00	0.35	2y-EDAH09	-84.128
EDAM09	5.06	0.42	2y-EDAM09	-82.923
EDAU09	5.13	0.48	2y-EDAU09	-77.664
EDAZ09	5.20	0.55	2y-EDAZ09	-68.555
EDAH10	5.25	0.60	2y-EDAH10	-59.205
EDAM10	5.29	0.64	2y-EDAM10	-50.746

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.

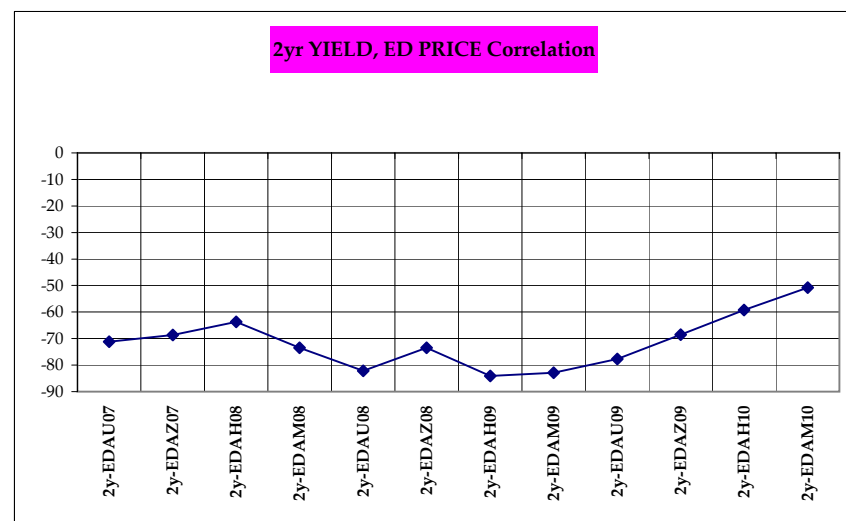


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAU07	0.109	1.87	2y-EDAU07
EDAZ07	0.358	1.87	2y-EDAZ07
EDAH08	0.608	1.87	2y-EDAH08
EDAM08	0.857	1.87	2y-EDAM08
EDAU08	1.106	1.87	2y-EDAU08
EDAZ08	1.356	1.87	2y-EDAZ08
EDAH09	1.605	1.87	2y-EDAH09
EDAM09	1.854	1.87	2y-EDAM09
EDAU09	2.103	1.87	2y-EDAU09
EDAZ09	2.353	1.87	2y-EDAZ09
EDAH10	2.602	1.87	2y-EDAH10
EDAM10	2.851	1.87	2y-EDAM10

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

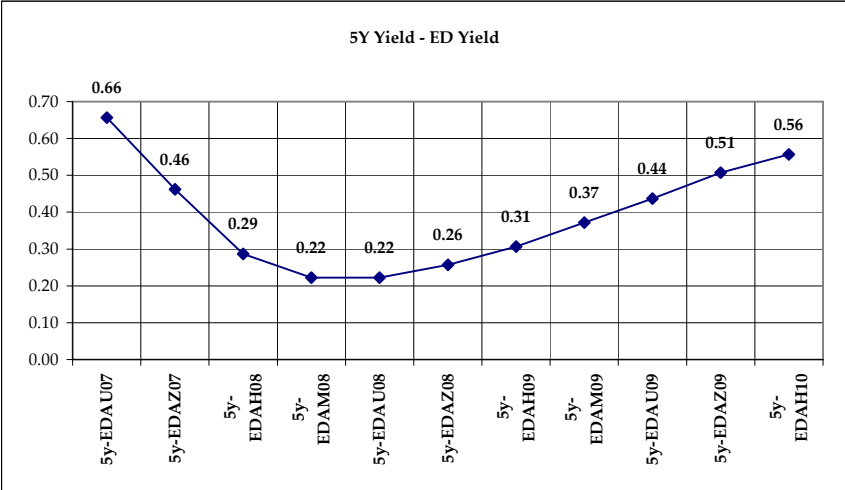
**2yr YIELD, ED PRICE Correlation**



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

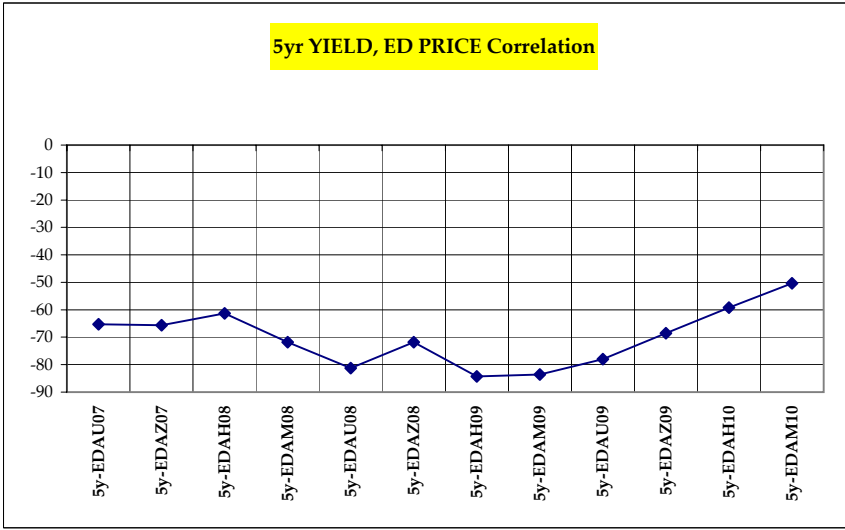
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.21	0.66	5y-EDAU07	-65.320
EDAZ07	5.02	0.46	5y-EDAZ07	-65.682
EDAH08	4.84	0.29	5y-EDAH08	-61.351
EDAM08	4.78	0.22	5y-EDAM08	-71.811
EDAU08	4.78	0.22	5y-EDAU08	-81.228
EDAZ08	4.81	0.26	5y-EDAZ08	-71.811
EDAH09	4.86	0.31	5y-EDAH09	-84.276
EDAM09	4.93	0.37	5y-EDAM09	-83.550
EDAU09	4.99	0.44	5y-EDAU09	-77.990
EDAZ09	5.06	0.51	5y-EDAZ09	-68.493
EDAH10	5.11	0.56	5y-EDAH10	-59.168
EDAM10	5.15	0.60	5y-EDAM10	-50.408

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	0.109	4.39	4.29	5y-EDAU07	
EDAZ07	0.358	4.39	4.04	5y-EDAZ07	
EDAH08	0.608	4.39	3.79	5y-EDAH08	
EDAM08	0.857	4.39	3.54	5y-EDAM08	
EDAU08	1.106	4.39	3.29	5y-EDAU08	
EDAZ08	1.356	4.39	3.04	5y-EDAZ08	
EDAH09	1.605	4.39	2.79	5y-EDAH09	
EDAM09	1.854	4.39	2.54	5y-EDAM09	
EDAU09	2.103	4.39	2.29	5y-EDAU09	
EDAZ09	2.353	4.39	2.04	5y-EDAZ09	
EDAH10	2.602	4.39	1.79	5y-EDAH10	
EDAM10	2.851	4.39	1.54	5y-EDAM10	

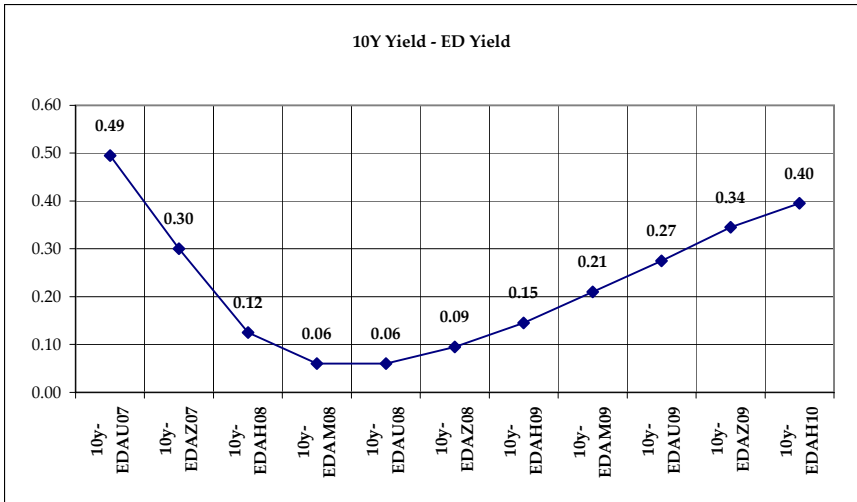
The farther away from 0 the spread duration is the riskier the trade.



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

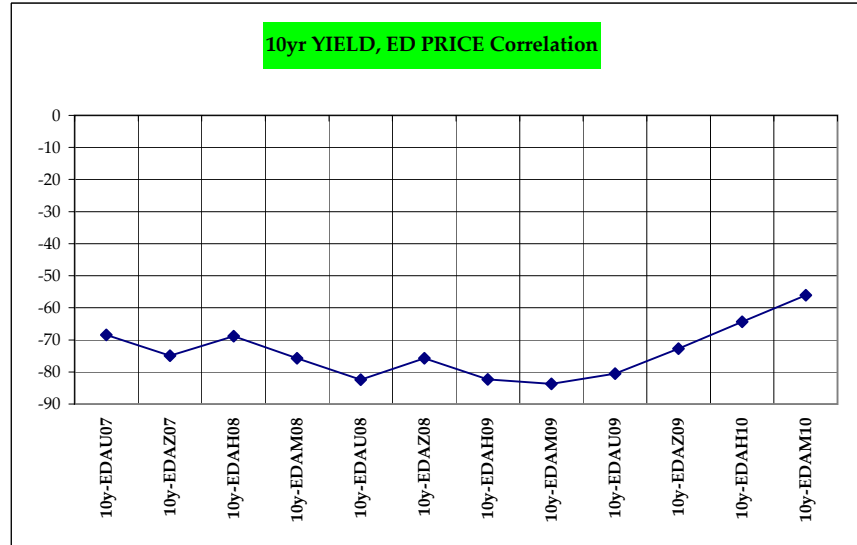
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.21	0.49	10y-EDAU07	-68.484
EDAZ07	5.02	0.30	10y-EDAZ07	-74.979
EDAH08	4.84	0.12	10y-EDAH08	-68.843
EDAM08	4.78	0.06	10y-EDAM08	-75.775
EDAU08	4.78	0.06	10y-EDAU08	-82.449
EDAZ08	4.81	0.09	10y-EDAZ08	-75.775
EDAH09	4.86	0.15	10y-EDAH09	-82.327
EDAM09	4.93	0.21	10y-EDAM09	-83.749
EDAU09	4.99	0.27	10y-EDAU09	-80.479
EDAZ09	5.06	0.34	10y-EDAZ09	-72.784
EDAH10	5.11	0.40	10y-EDAH10	-64.313
EDAM10	5.15	0.43	10y-EDAM10	-56.082

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.



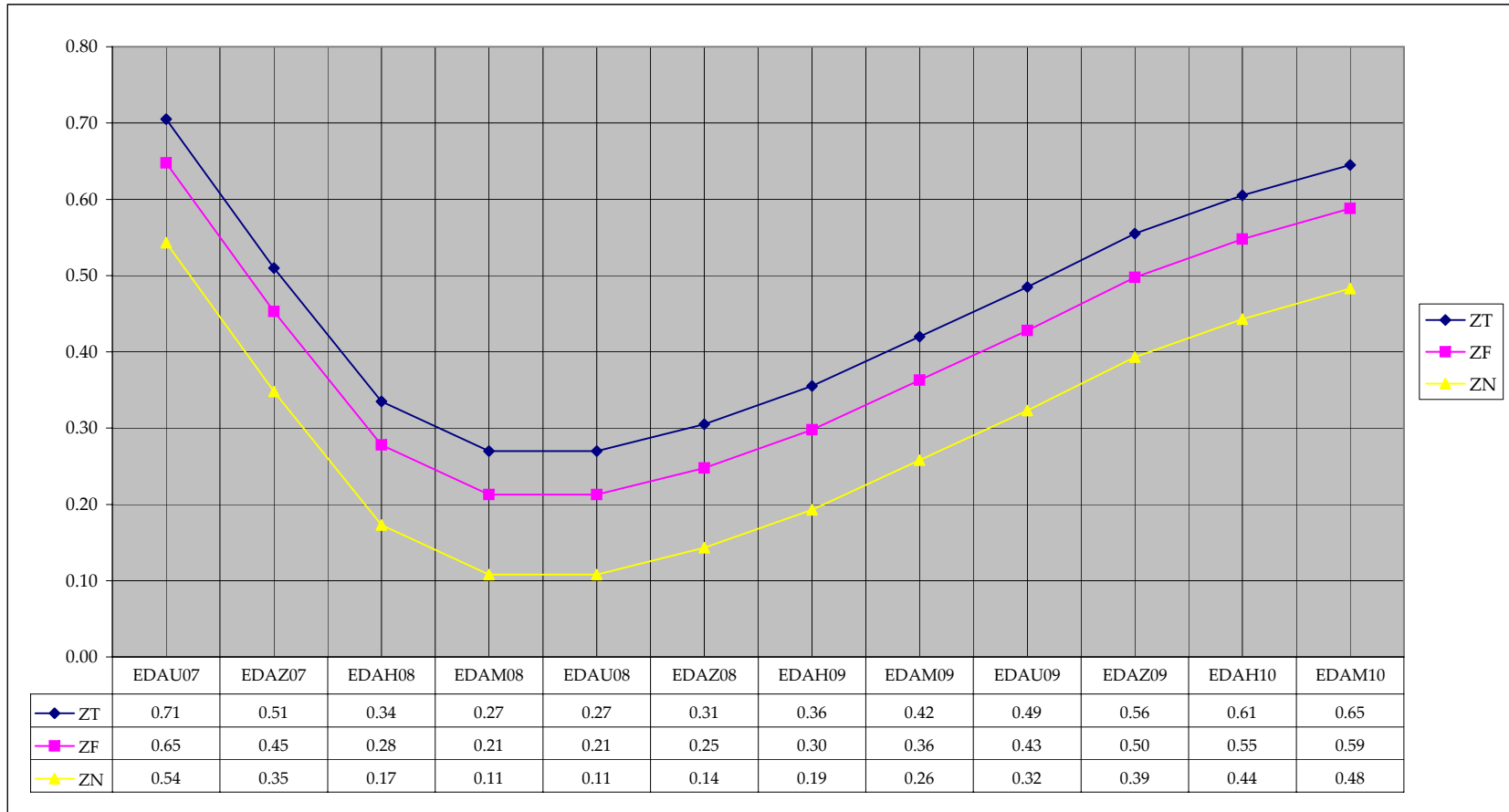
	GE Duration as Fraction of year		10Y Duration	Spread Duration	
EDAU07	0.109		7.72	7.61	10y-EDAU07
EDAZ07	0.358		7.72	7.36	10y-EDAZ07
EDAH08	0.608		7.72	7.11	10y-EDAH08
EDAM08	0.857		7.72	6.86	10y-EDAM08
EDAU08	1.106		7.72	6.61	10y-EDAU08
EDAZ08	1.356		7.72	6.36	10y-EDAZ08
EDAH09	1.605		7.72	6.11	10y-EDAH09
EDAM09	1.854		7.72	5.86	10y-EDAM09
EDAU09	2.103		7.72	5.61	10y-EDAU09
EDAZ09	2.353		7.72	5.36	10y-EDAZ09
EDAH10	2.602		7.72	5.11	10y-EDAH10
EDAM10	2.851		7.72	4.86	10y-EDAM10

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



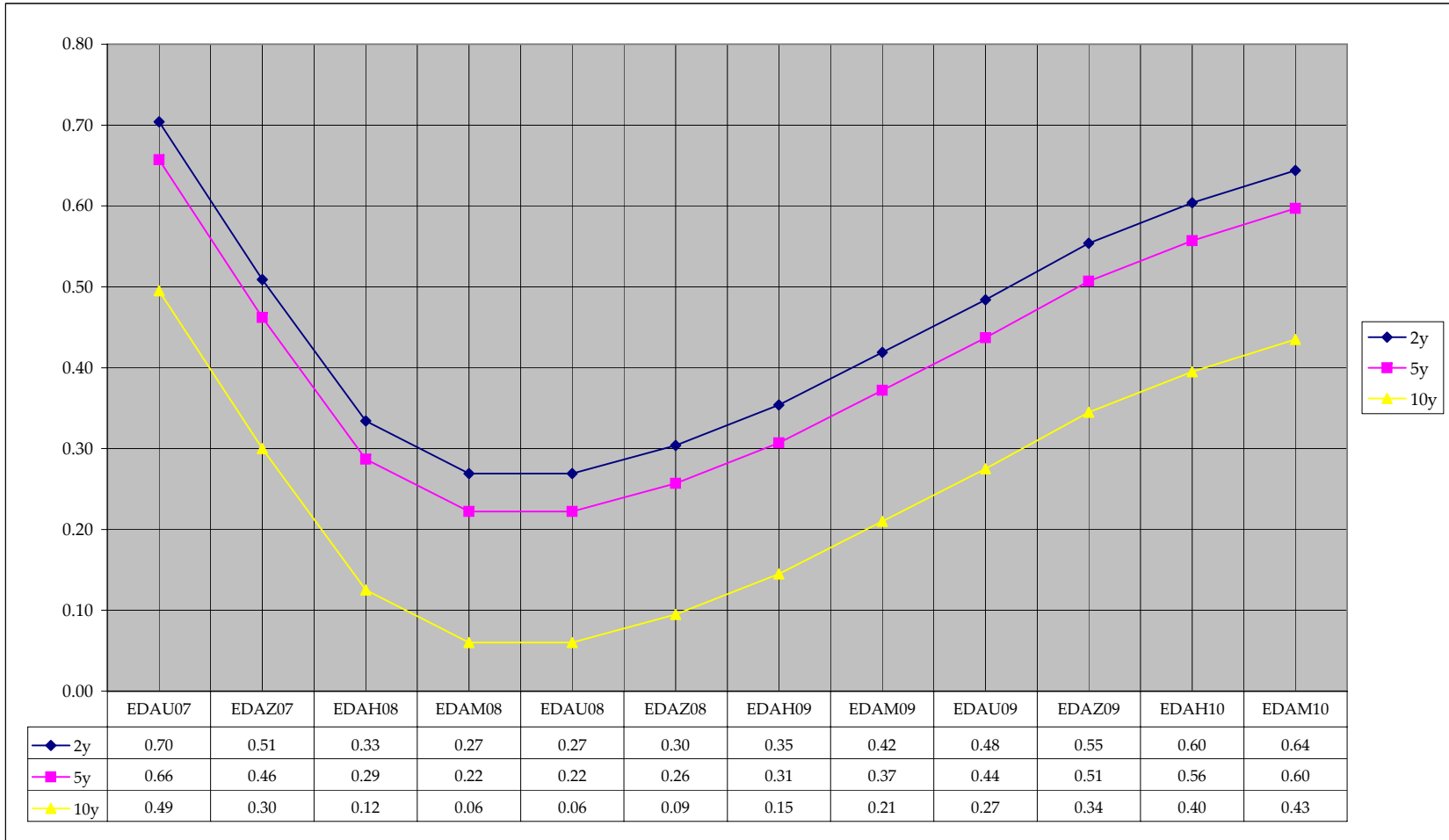
**Dirty TED Curve**

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.

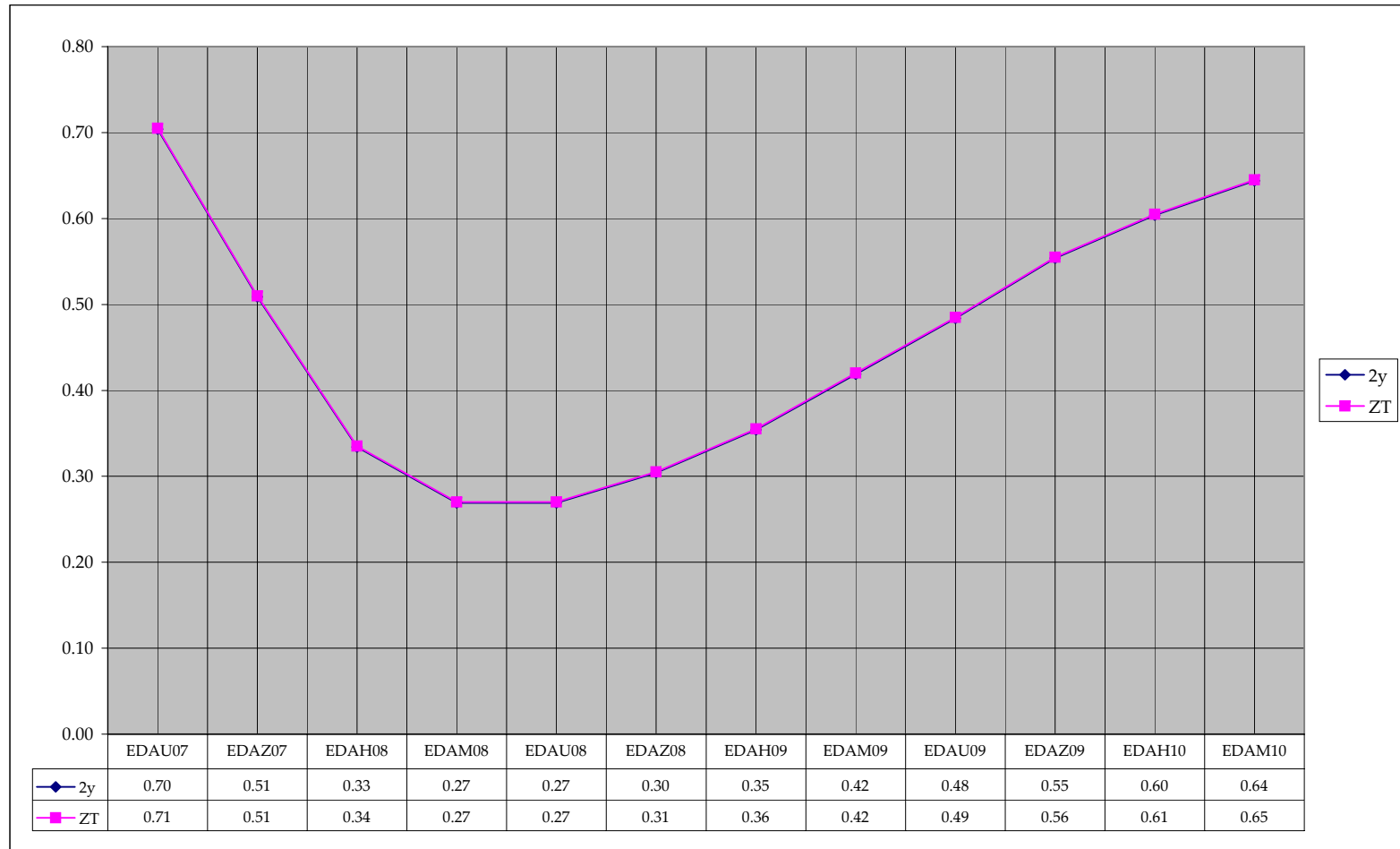


TED Curve

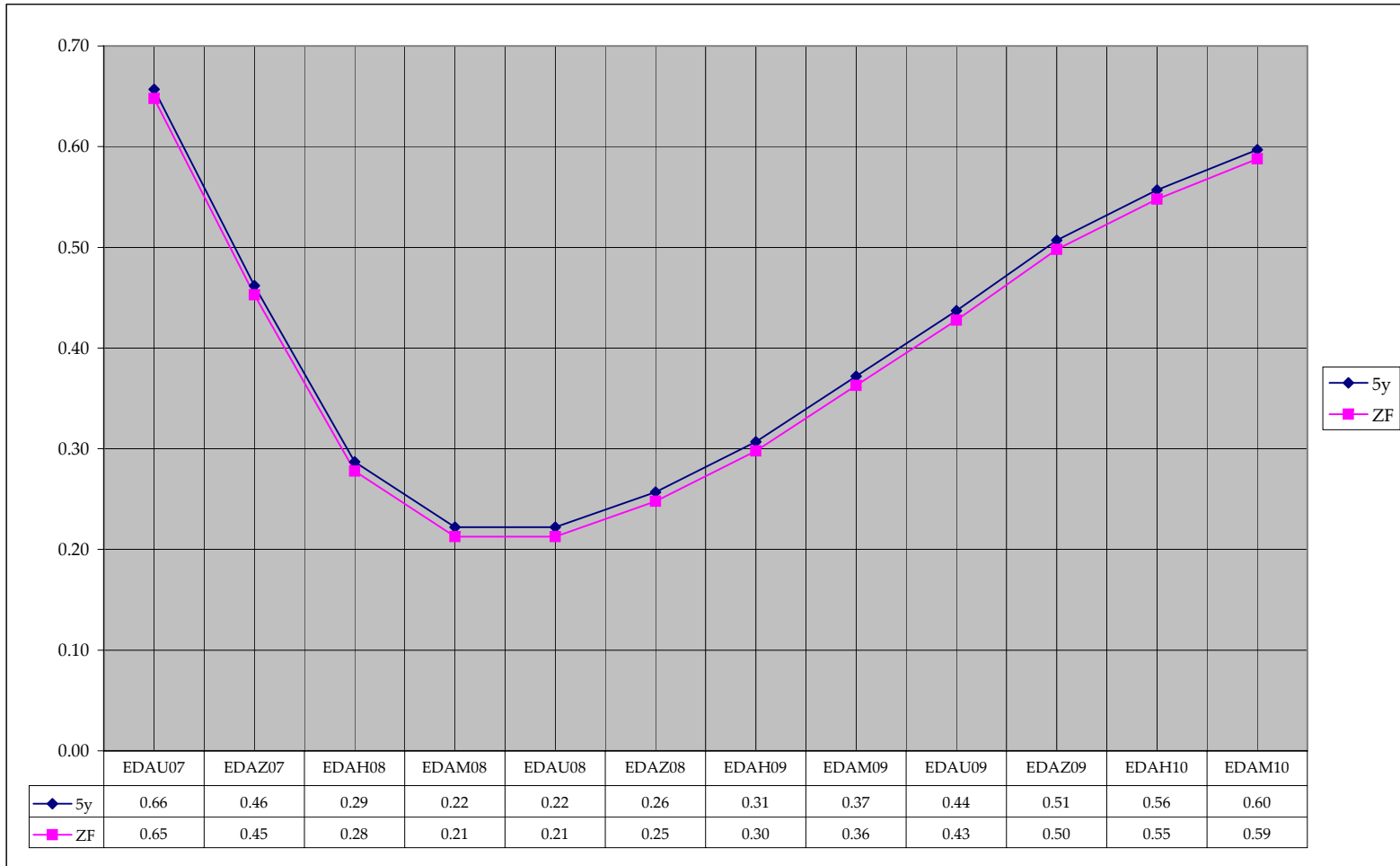
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



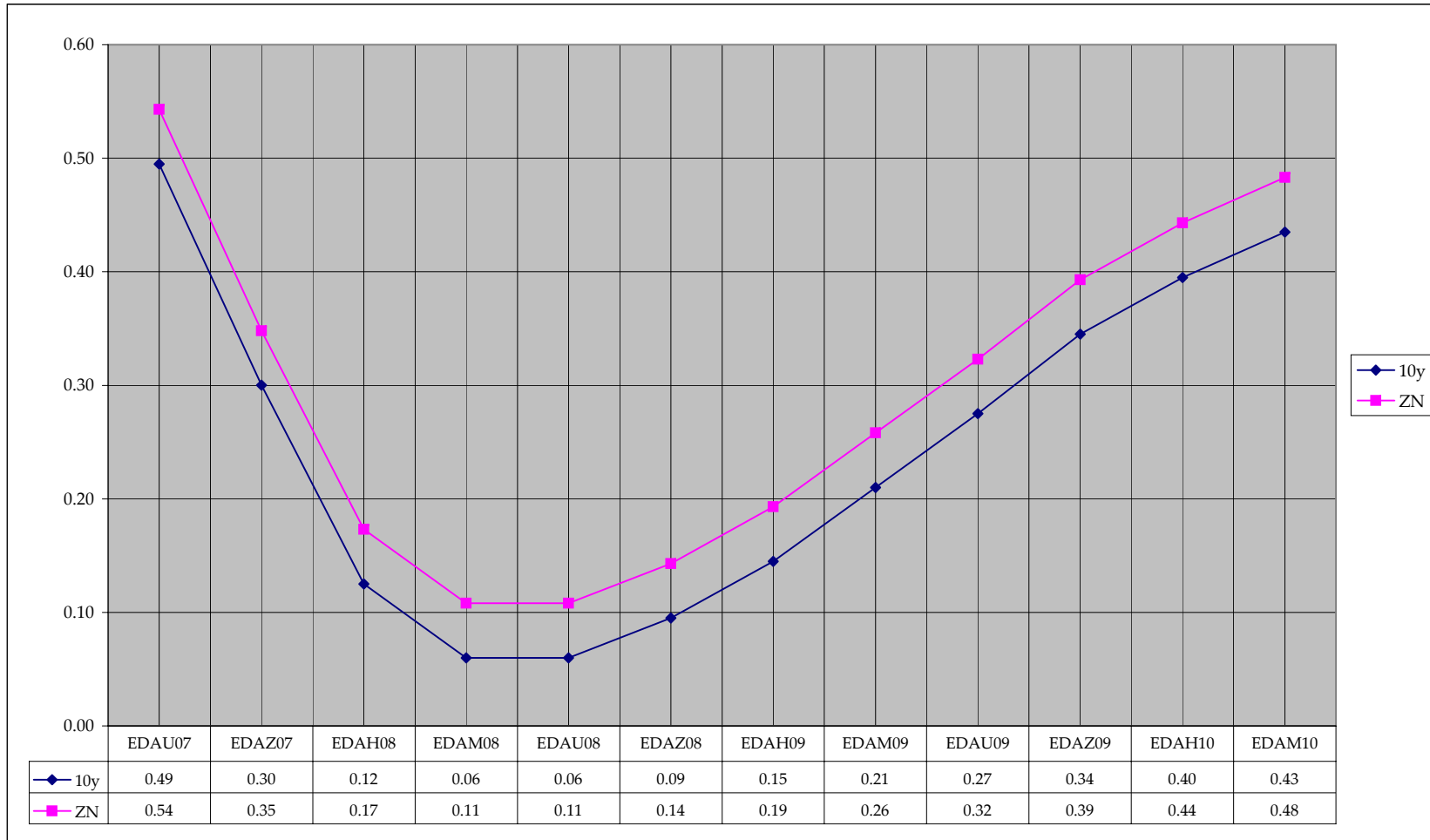
## 2y Basis TED Curve



5y Basis TED Curve



## 10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	5.186	-4.125	9495.000
Q.ED.Red	5.063	-6.000	9506.750
Q.ED.Green	5.308	-5.625	9483.250
Q.ED.Blue		0.000	9467.750
Q.ED.Gold		0.000	9450.000
Q.ED.Purple		0.000	9450.000

