

## 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	102.5938	102.190	4.422	1.77	
ZF	105.6250	105.200	4.523	3.83	
ZN	107.6875	107.220	4.635	5.66	
2y	100.375	100.1200	4.419	1.86	
5y	100.406	100.1300	4.533	4.39	
10y	100.078	100.0250	4.740	7.71	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAU07	94.785	5.215	38	0.103	SEP	White Pack	
EDAZ07	95.110	4.890	129	0.353	DEC		
EDAH08	95.280	4.720	220	0.602	MAR		
EDAM08	95.320	4.680	311	0.851	JUN	Red Pack	
EDAU08	95.280	4.720	402	1.101	SEP		
EDAZ08	95.215	4.785	493	1.350	DEC		
EDAH09	95.135	4.865	584	1.599	MAR		
EDAM09	95.055	4.945	675	1.849	JUN	Green Pack	
EDAU09	94.985	5.015	766	2.098	SEP		
EDAZ09	94.935	5.065	857	2.347	DEC		
EDAH10	94.870	5.130	948	2.597	MAR		
EDAM10	94.795	5.205	1039	2.846	JUN	Blue Pack	
EDAU10	94.725	5.275	1130	3.095	SEP		
EDAZ10	94.700	5.300	1221	3.345	DEC		
EDAH11	94.655	5.345	1312	3.594	MAR		
EDAM11	94.625	5.375	1403	3.843	JUN	Gold Pack	
EDAU11	94.580	5.420	1501	4.112	SEP		
EDAZ11	94.535	5.465	1592	4.361	DEC		
EDAH12	94.470	5.530	1683	4.610	MAR		
EDAM12	94.475	5.525	1774	4.860	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	5.005	5.000	9512.375	Pack Prices
Q.ED.Red	4.956	3.250	9517.125	
Q.ED.Green	5.242	2.500	9489.625	
Q.ED.Blue	-0.250		9465.625	
Q.ED.Gold	0.000		9447.625	
Q.ED.Purple	0.000		9447.625	

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

8/10/2007 5:44

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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)

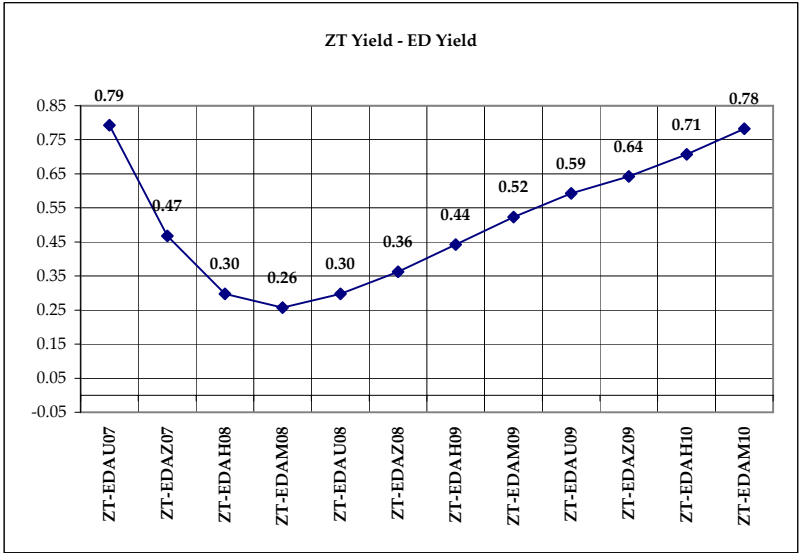
### Eurodollar Color Codes for Individual Year Strips:

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

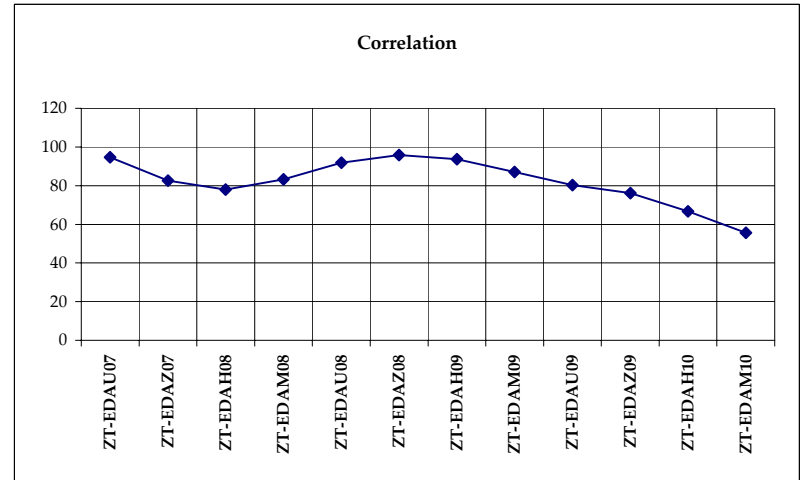
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	7.809	0.79	ZT-EDAU07	94.645
EDAZ07	7.484	0.47	ZT-EDAZ07	82.583
EDAH08	7.314	0.30	ZT-EDAH08	78.026
EDAM08	7.274	0.26	ZT-EDAM08	83.310
EDAU08	7.314	0.30	ZT-EDAU08	91.880
EDAZ08	7.379	0.36	ZT-EDAZ08	95.896
EDAH09	7.459	0.44	ZT-EDAH09	93.621
EDAM09	7.539	0.52	ZT-EDAM09	87.020
EDAU09	7.609	0.59	ZT-EDAU09	80.238
EDAZ09	7.659	0.64	ZT-EDAZ09	76.189
EDAH10	7.724	0.71	ZT-EDAH10	66.776
EDAM10	7.799	0.78	ZT-EDAM10	55.557

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	0.103	1.77	1.67	ZT-EDAU07
EDAZ07	0.353	1.77	1.42	ZT-EDAZ07
EDAH08	0.602	1.77	1.17	ZT-EDAH08
EDAM08	0.851	1.77	0.92	ZT-EDAM08
EDAU08	1.101	1.77	0.67	ZT-EDAU08
EDAZ08	1.350	1.77	0.42	ZT-EDAZ08
EDAH09	1.599	1.77	0.17	ZT-EDAH09
EDAM09	1.849	1.77	(0.08)	ZT-EDAM09
EDAU09	2.098	1.77	(0.33)	ZT-EDAU09
EDAZ09	2.347	1.77	(0.58)	ZT-EDAZ09
EDAH10	2.597	1.77	(0.83)	ZT-EDAH10
EDAM10	2.846	1.77	(1.07)	ZT-EDAM10

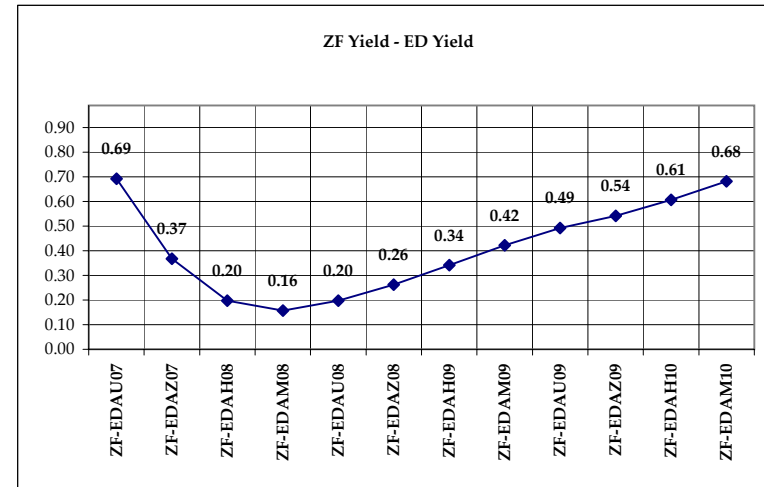
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	10.84	0.69	ZF-EDAU07	86.790
EDAZ07	10.52	0.37	ZF-EDAZ07	69.376
EDAH08	10.35	0.20	ZF-EDAH08	65.409
EDAM08	10.31	0.16	ZF-EDAM08	71.567
EDAU08	10.35	0.20	ZF-EDAU08	84.345
EDAZ08	10.41	0.26	ZF-EDAZ08	93.476
EDAH09	10.49	0.34	ZF-EDAH09	97.407
EDAM09	10.57	0.42	ZF-EDAM09	96.419
EDAU09	10.64	0.49	ZF-EDAU09	92.145
EDAZ09	10.69	0.54	ZF-EDAZ09	84.994
EDAH10	10.76	0.61	ZF-EDAH10	78.004
EDAM10	10.83	0.68	ZF-EDAM10	69.639

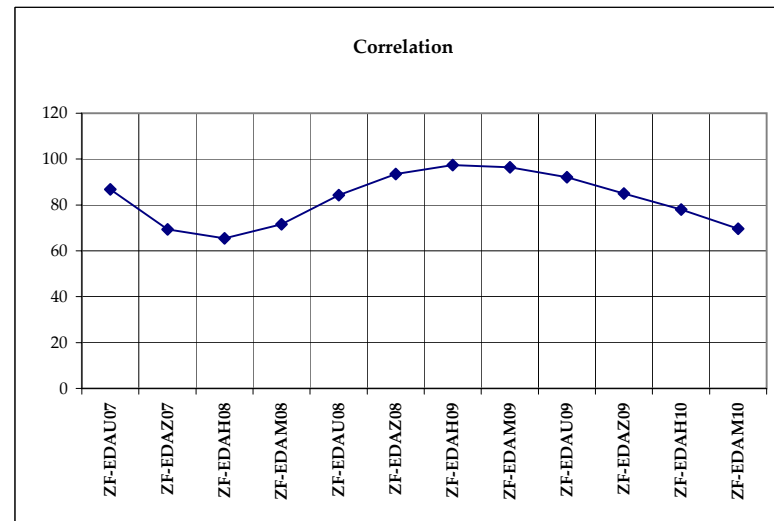
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAU07	0.103	3.83	3.73	ZF-EDAU07
EDAZ07	0.353	3.83	3.48	ZF-EDAZ07
EDAH08	0.602	3.83	3.23	ZF-EDAH08
EDAM08	0.851	3.83	2.98	ZF-EDAM08
EDAU08	1.101	3.83	2.73	ZF-EDAU08
EDAZ08	1.350	3.83	2.48	ZF-EDAZ08
EDAH09	1.599	3.83	2.24	ZF-EDAH09
EDAM09	1.849	3.83	1.99	ZF-EDAM09
EDAU09	2.098	3.83	1.74	ZF-EDAU09
EDAZ09	2.347	3.83	1.49	ZF-EDAZ09
EDAH10	2.597	3.83	1.24	ZF-EDAH10
EDAM10	2.846	3.83	0.99	ZF-EDAM10

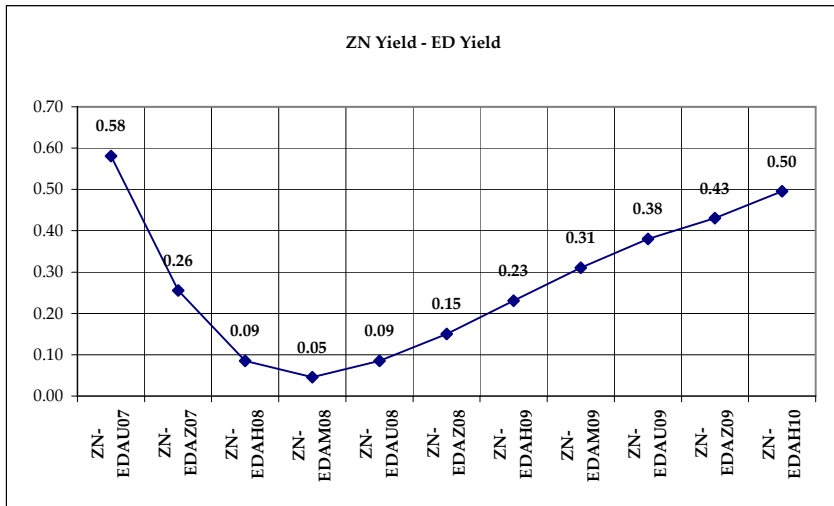
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	12.90	0.58	ZN-EDAU07	82.10
EDAZ07	12.58	0.26	ZN-EDAZ07	66.97
EDAH08	12.41	0.09	ZN-EDAH08	63.05
EDAM08	12.37	0.05	ZN-EDAM08	68.55
EDAU08	12.41	0.09	ZN-EDAU08	80.95
EDAZ08	12.47	0.15	ZN-EDAZ08	89.62
EDAH09	12.55	0.23	ZN-EDAH09	93.63
EDAM09	12.63	0.31	ZN-EDAM09	94.71
EDAU09	12.70	0.38	ZN-EDAU09	92.72
EDAZ09	12.75	0.43	ZN-EDAZ09	87.55
EDAH10	12.82	0.50	ZN-EDAH10	78.00
EDAM10	12.89	0.57	ZN-EDAM10	69.64

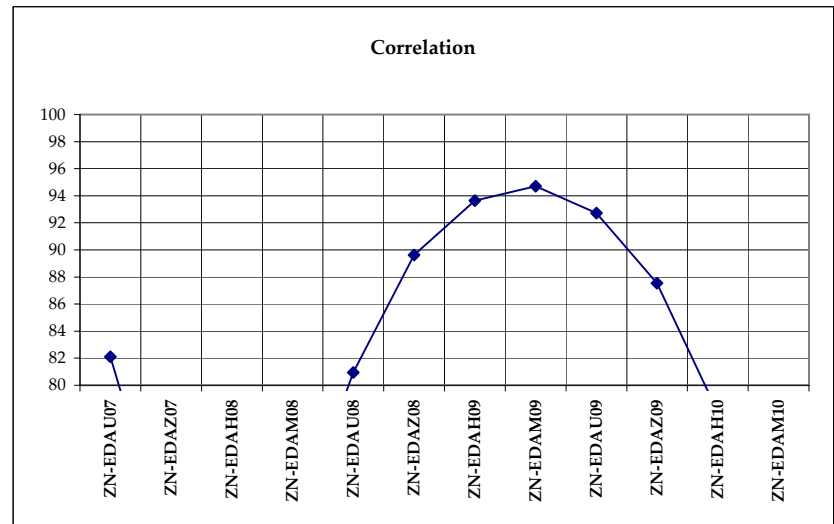
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZN Duration	Spread Duration	
EDAU07	0.103	5.56	ZN-EDAU07
EDAZ07	0.353	5.66	ZN-EDAZ07
EDAH08	0.602	5.66	ZN-EDAH08
EDAM08	0.851	5.66	ZN-EDAM08
EDAU08	1.101	5.66	ZN-EDAU08
EDAZ08	1.350	5.66	ZN-EDAZ08
EDAH09	1.599	5.66	ZN-EDAH09
EDAM09	1.849	5.66	ZN-EDAM09
EDAU09	2.098	5.66	ZN-EDAU09
EDAZ09	2.347	5.66	ZN-EDAZ09
EDAH10	2.597	5.66	ZN-EDAH10
EDAM10	2.846	5.66	ZN-EDAM10

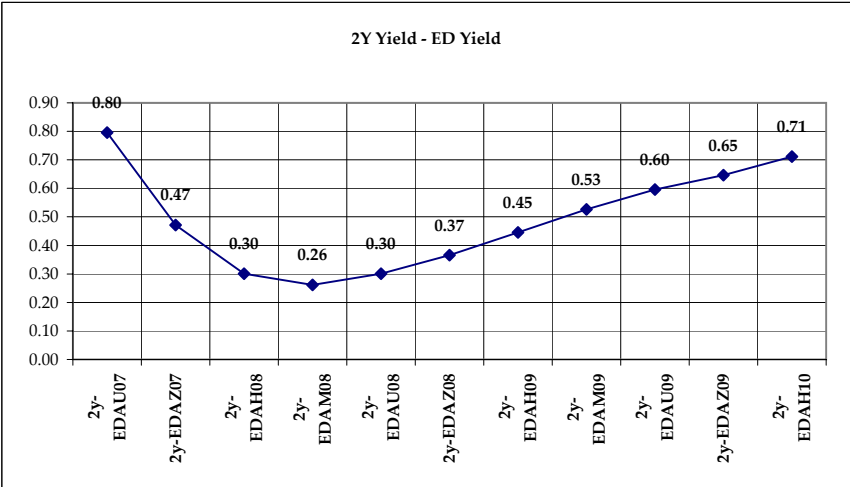
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.59	0.80	2y-EDAU07	-84.998
EDAZ07	5.27	0.47	2y-EDAZ07	-85.498
EDAH08	5.10	0.30	2y-EDAH08	-84.173
EDAM08	5.06	0.26	2y-EDAM08	-87.853
EDAU08	5.10	0.30	2y-EDAU08	-92.133
EDAZ08	5.16	0.37	2y-EDAZ08	-87.853
EDAH09	5.24	0.45	2y-EDAH09	-85.603
EDAM09	5.32	0.53	2y-EDAM09	-82.380
EDAU09	5.39	0.60	2y-EDAU09	-81.450
EDAZ09	5.44	0.65	2y-EDAZ09	-81.376
EDAH10	5.51	0.71	2y-EDAH10	-75.474
EDAM10	5.58	0.79	2y-EDAM10	-67.733

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.

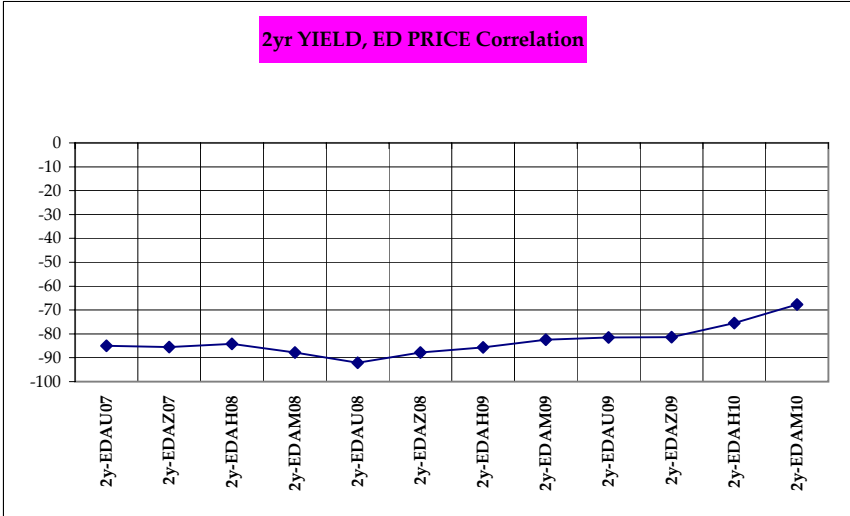


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAU07	0.103	1.75	2y-EDAU07
EDAZ07	0.353	1.50	2y-EDAZ07
EDAH08	0.602	1.25	2y-EDAH08
EDAM08	0.851	1.01	2y-EDAM08
EDAU08	1.101	0.76	2y-EDAU08
EDAZ08	1.350	0.51	2y-EDAZ08
EDAH09	1.599	0.26	2y-EDAH09
EDAM09	1.849	0.01	2y-EDAM09
EDAU09	2.098	(0.24)	2y-EDAU09
EDAZ09	2.347	(0.49)	2y-EDAZ09
EDAH10	2.597	(0.74)	2y-EDAH10
EDAM10	2.846	(0.99)	2y-EDAM10

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

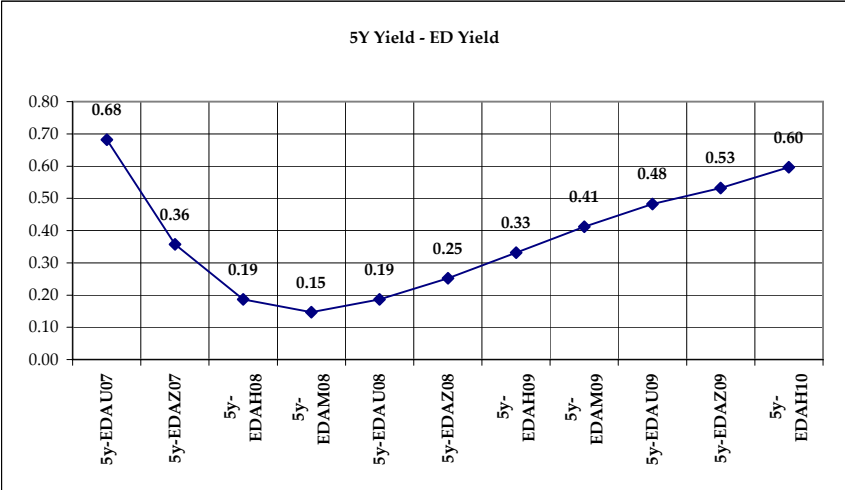
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.62	0.68	5y-EDAU07	-82.109
EDAZ07	5.30	0.36	5y-EDAZ07	-69.540
EDAH08	5.13	0.19	5y-EDAH08	-66.470
EDAM08	5.09	0.15	5y-EDAM08	-73.059
EDAU08	5.13	0.19	5y-EDAU08	-84.054
EDAZ08	5.19	0.25	5y-EDAZ08	-73.059
EDAH09	5.27	0.33	5y-EDAH09	-92.376
EDAM09	5.35	0.41	5y-EDAM09	-90.975
EDAU09	5.42	0.48	5y-EDAU09	-87.119
EDAZ09	5.47	0.53	5y-EDAZ09	-81.035
EDAH10	5.54	0.60	5y-EDAH10	-73.867
EDAM10	5.61	0.67	5y-EDAM10	-65.465

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.

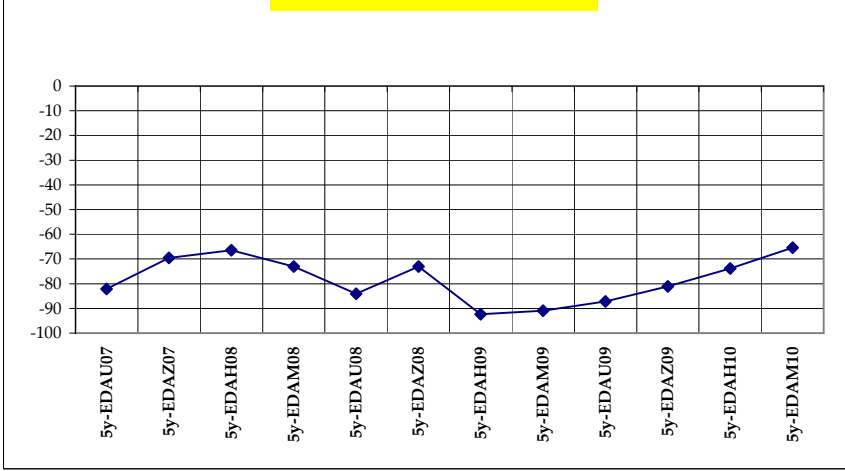


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAU07	0.103	4.39	4.28 5y-EDAU07
EDAZ07	0.353	4.39	4.03 5y-EDAZ07
EDAH08	0.602	4.39	3.79 5y-EDAH08
EDAM08	0.851	4.39	3.54 5y-EDAM08
EDAU08	1.101	4.39	3.29 5y-EDAU08
EDAZ08	1.350	4.39	3.04 5y-EDAZ08
EDAH09	1.599	4.39	2.79 5y-EDAH09
EDAM09	1.849	4.39	2.54 5y-EDAM09
EDAU09	2.098	4.39	2.29 5y-EDAU09
EDAZ09	2.347	4.39	2.04 5y-EDAZ09
EDAH10	2.597	4.39	1.79 5y-EDAH10
EDAM10	2.846	4.39	1.54 5y-EDAM10

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

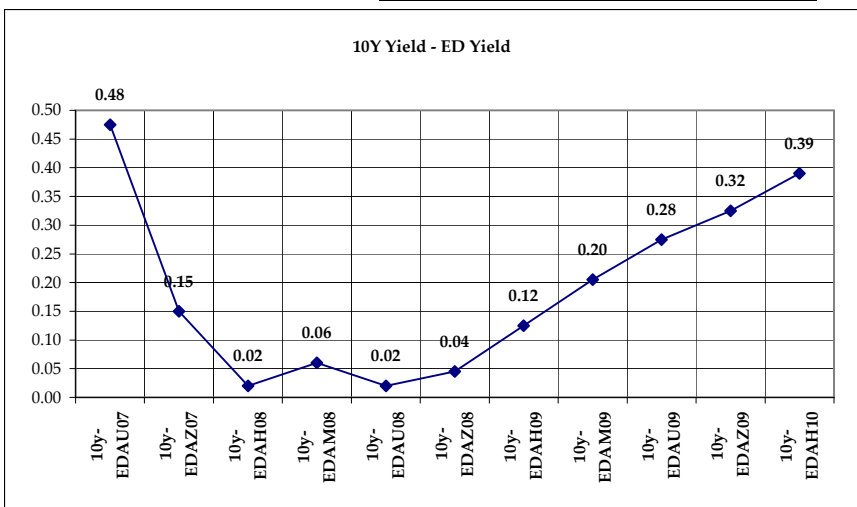
**5yr YIELD, ED PRICE Correlation**



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

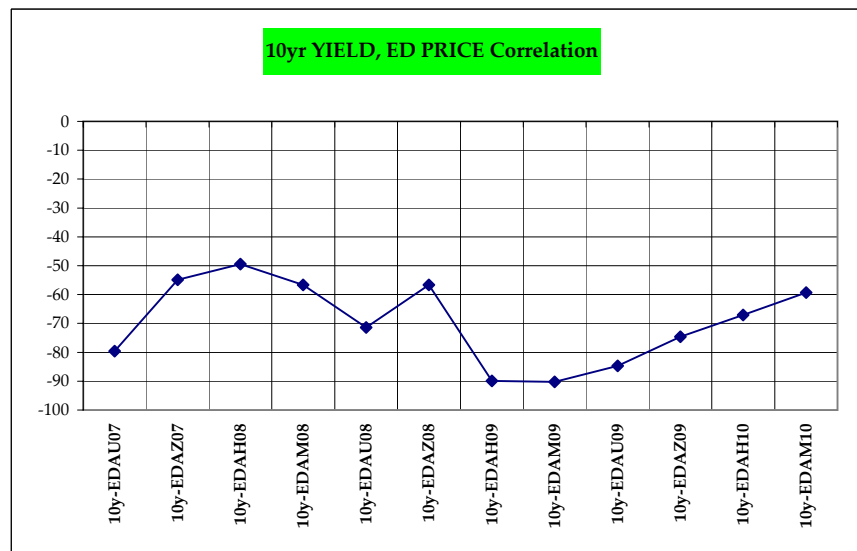
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.62	0.48	10y-EDAU07	-79.600
EDAZ07	5.30	0.15	10y-EDAZ07	-54.851
EDAH08	5.13	0.02	10y-EDAH08	-49.492
EDAM08	5.09	0.06	10y-EDAM08	-56.665
EDAU08	5.13	0.02	10y-EDAU08	-71.412
EDAZ08	5.19	0.04	10y-EDAZ08	-56.665
EDAH09	5.27	0.12	10y-EDAH09	-89.921
EDAM09	5.35	0.20	10y-EDAM09	-90.230
EDAU09	5.42	0.28	10y-EDAU09	-84.657
EDAZ09	5.47	0.32	10y-EDAZ09	-74.563
EDAH10	5.54	0.39	10y-EDAH10	-67.033
EDAM10	5.61	0.46	10y-EDAM10	-59.313

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.



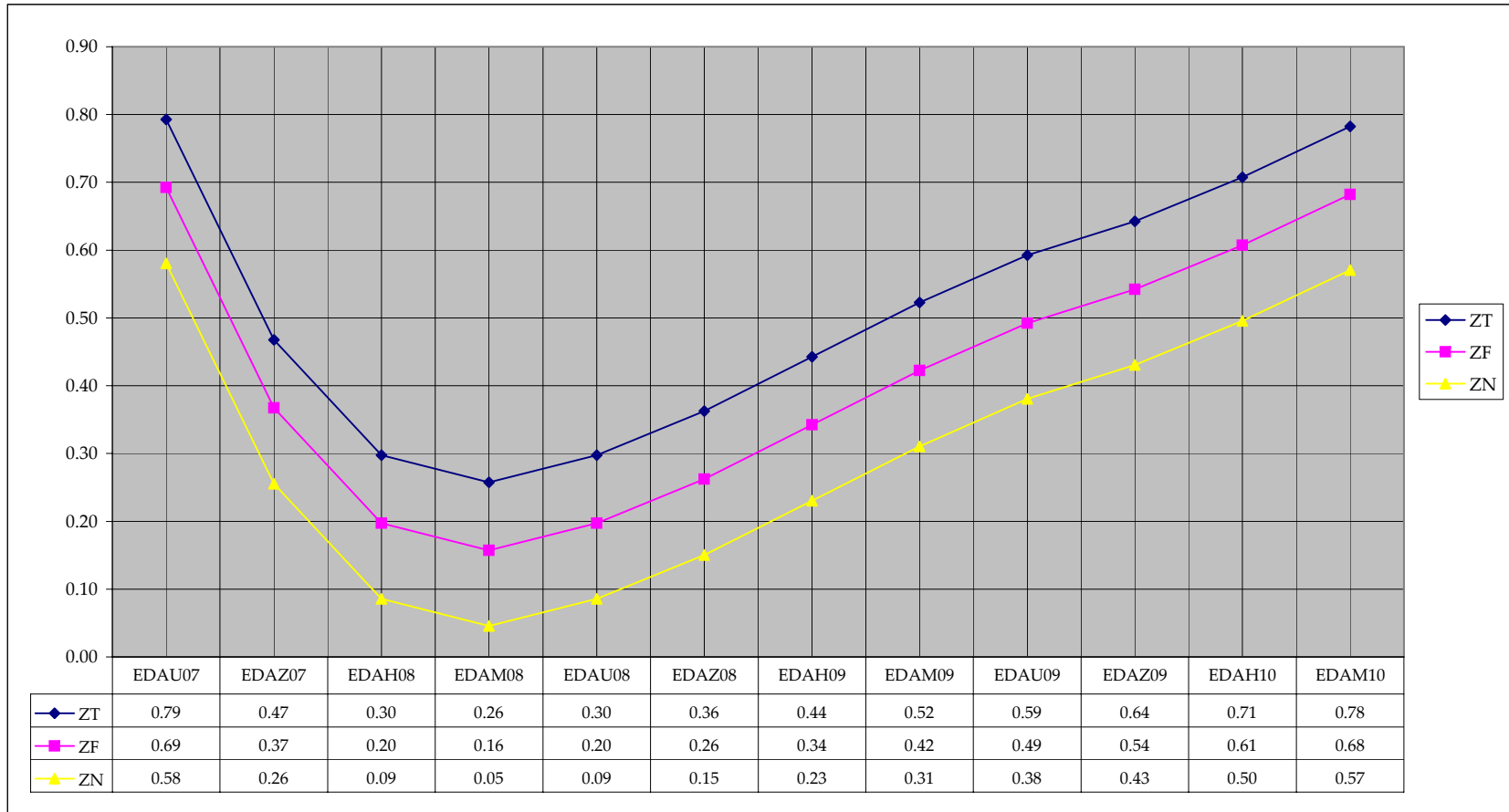
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAU07	0.103	7.71	7.61	10y-EDAU07
EDAZ07	0.353	7.71	7.36	10y-EDAZ07
EDAH08	0.602	7.71	7.11	10y-EDAH08
EDAM08	0.851	7.71	6.86	10y-EDAM08
EDAU08	1.101	7.71	6.61	10y-EDAU08
EDAZ08	1.350	7.71	6.36	10y-EDAZ08
EDAH09	1.599	7.71	6.11	10y-EDAH09
EDAM09	1.849	7.71	5.86	10y-EDAM09
EDAU09	2.098	7.71	5.61	10y-EDAU09
EDAZ09	2.347	7.71	5.36	10y-EDAZ09
EDAH10	2.597	7.71	5.11	10y-EDAH10
EDAM10	2.846	7.71	4.87	10y-EDAM10

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



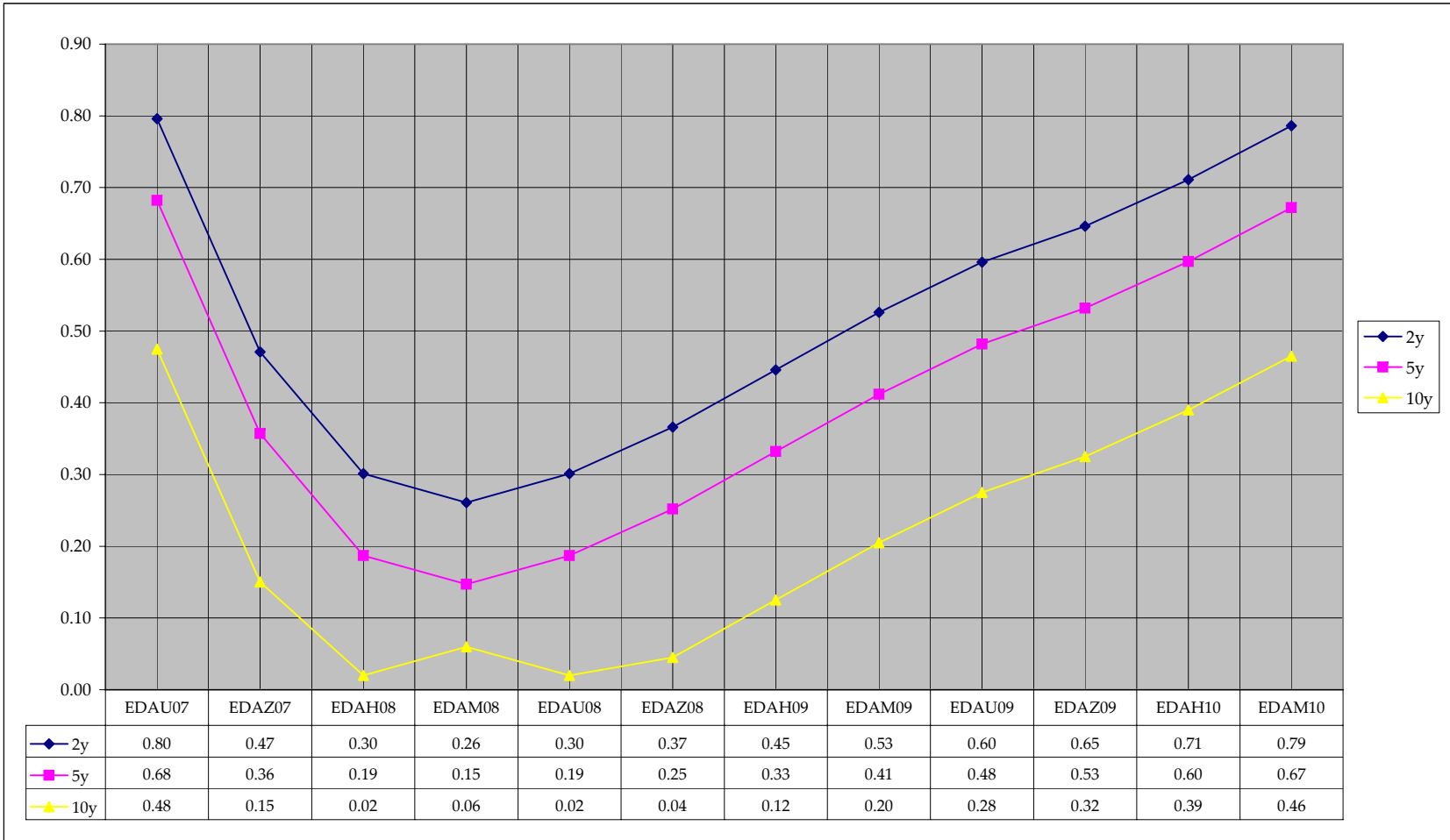
**Dirty TED Curve**

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.

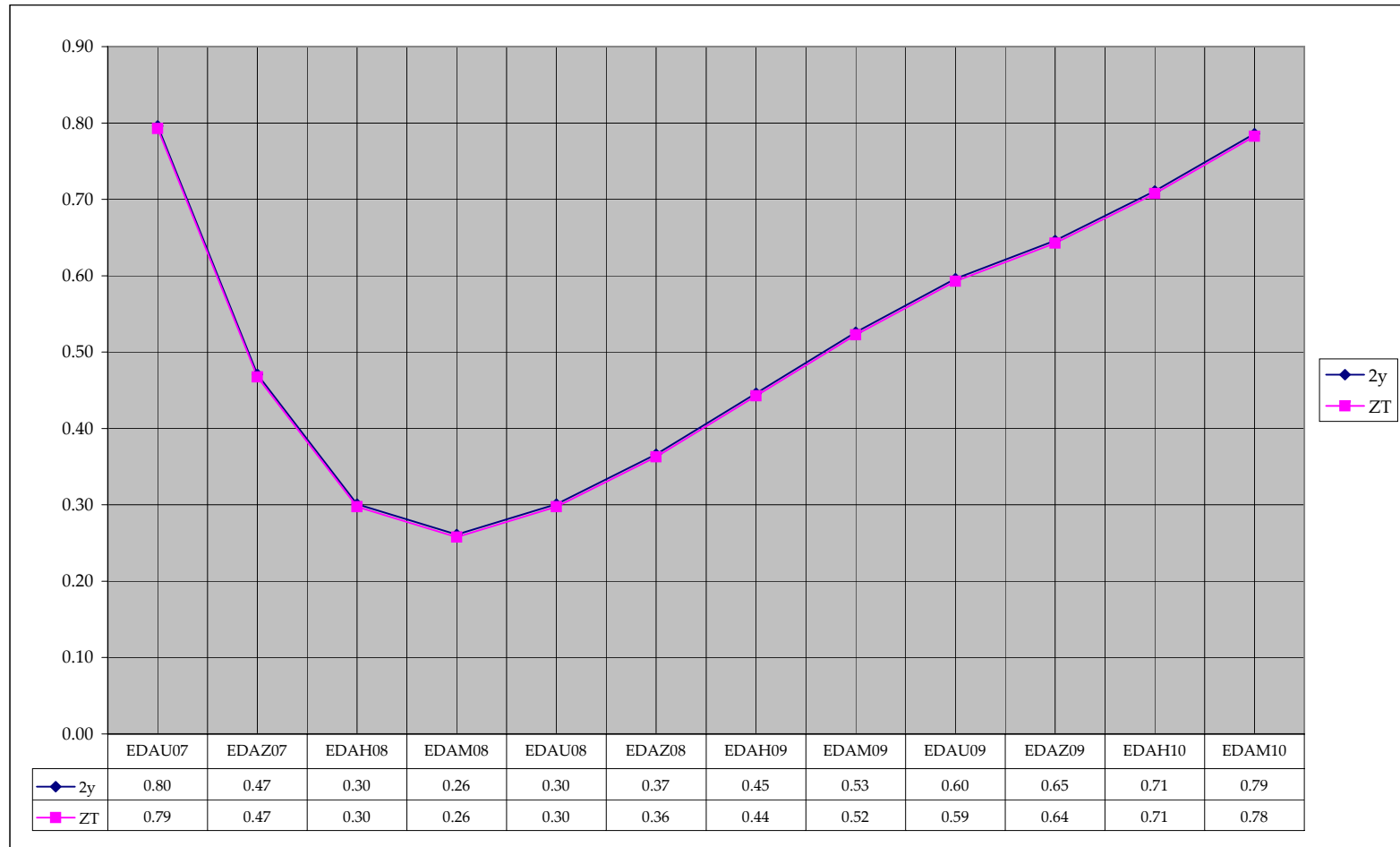


TED Curve

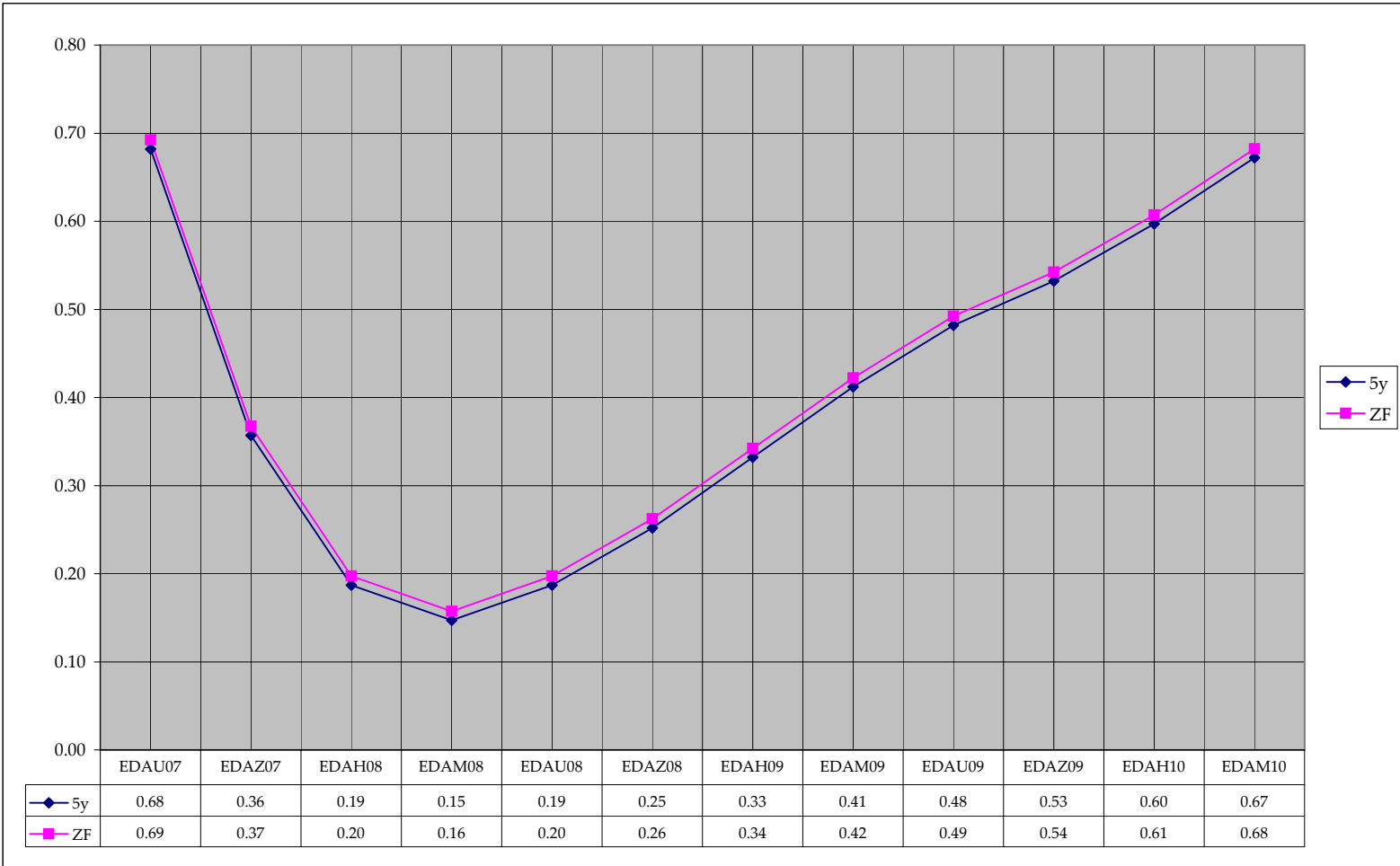
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



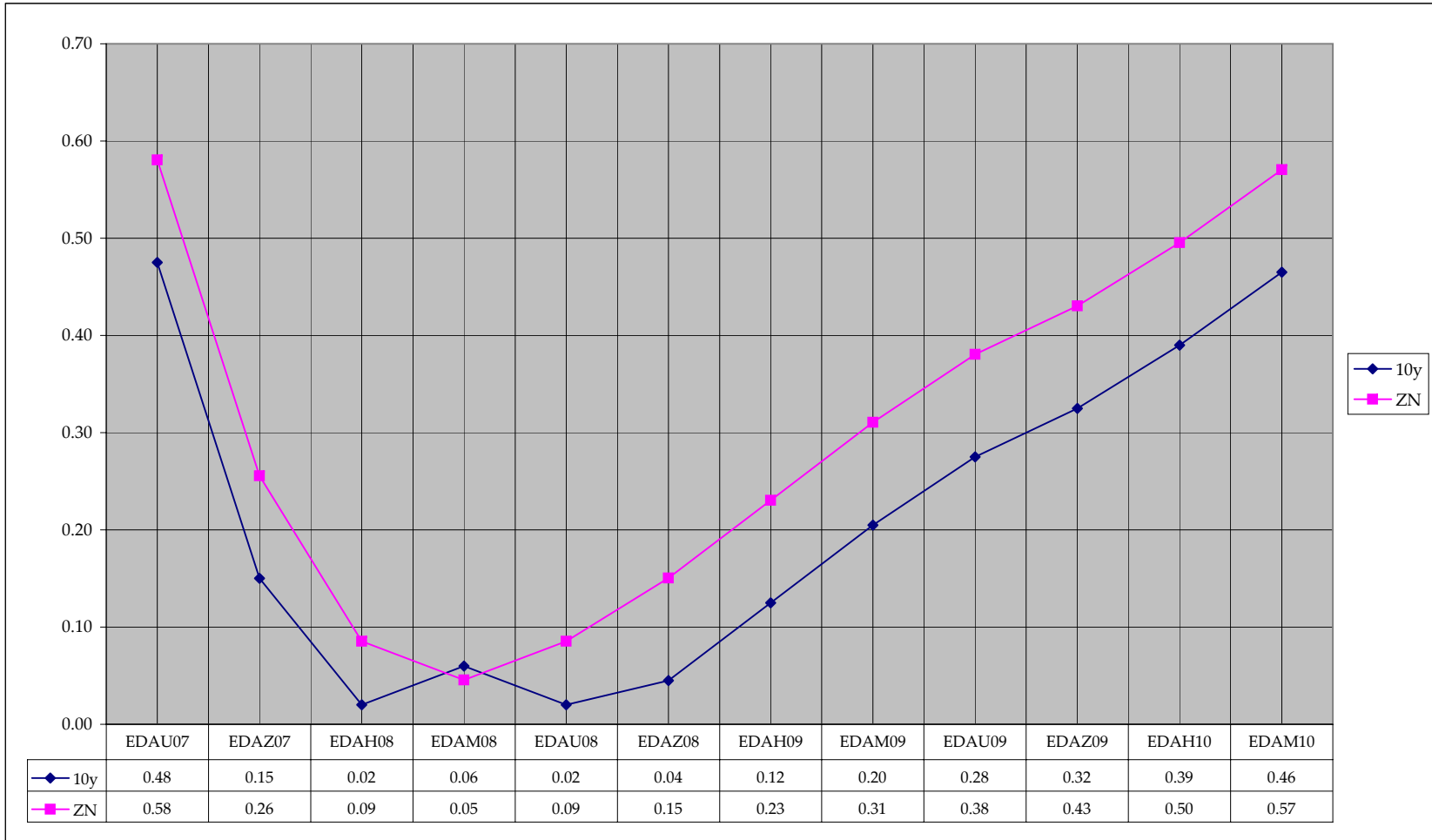
## 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



### Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	5.005	5.000	9512.375
Q.ED.Red	4.956	3.250	9517.125
Q.ED.Green	5.242	2.500	9489.625
Q.ED.Blue	-0.250		9465.625
Q.ED.Gold		0.000	9447.625
Q.ED.Purple		0.000	9447.625

