

## 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	107.2250	107.072	1.546	1.91	
ZF	114.3500	114.112	2.291	4.06	
ZN	119.4531	119.145	3.041	6.67	
2y	100.781	100.2500	1.589	1.90	
5y	101.647	101.2070	2.381	4.60	
10y	101.063	101.0200	3.371	8.30	

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM08	97.770	2.230	88	0.240	JUN	} White Pack
EDAU08	97.905	2.095	179	0.490	SEP	
EDAZ08	97.870	2.130	270	0.739	DEC	
EDAH09	97.850	2.150	361	0.988	MAR	} Red Pack
EDAM09	97.700	2.300	452	1.238	JUN	
EDAU09	97.495	2.505	543	1.487	SEP	
EDAZ09	97.255	2.745	634	1.736	DEC	} Green Pack
EDAH10	97.040	2.960	725	1.986	MAR	
EDAM10	96.830	3.170	816	2.235	JUN	
EDAU10	96.620	3.380	907	2.484	SEP	} Blue Pack
EDAZ10	96.430	3.570	998	2.734	DEC	
EDAH11	96.270	3.730	1089	2.983	MAR	
EDAM11	96.140	3.860	1180	3.232	JUN	} Gold Pack
EDAU11	96.000	4.000	1278	3.501	SEP	
EDAZ11	95.885	4.115	1369	3.750	DEC	
EDAH12	95.760	4.240	1460	3.999	MAR	} Gold Pack
EDAM12	95.665	4.335	1551	4.249	JUN	
EDAU12	95.565	4.435	1642	4.498	SEP	
EDAZ12	95.460	4.540	1733	4.747	DEC	
EDAH13	95.390	4.610	1824	4.997	MAR	

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	2.193	-10.375	9784.875	} Pack Prices
Q.ED.Red	2.682	-9.500	9737.250	
Q.ED.Green	3.541	-6.000	9653.750	
Q.ED.Blue	4.152	-1.625	9594.625	
Q.ED.Gold	4.594	0.375	9552.000	

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

## Overview of Hedging

3/20/2008 5:41

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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)

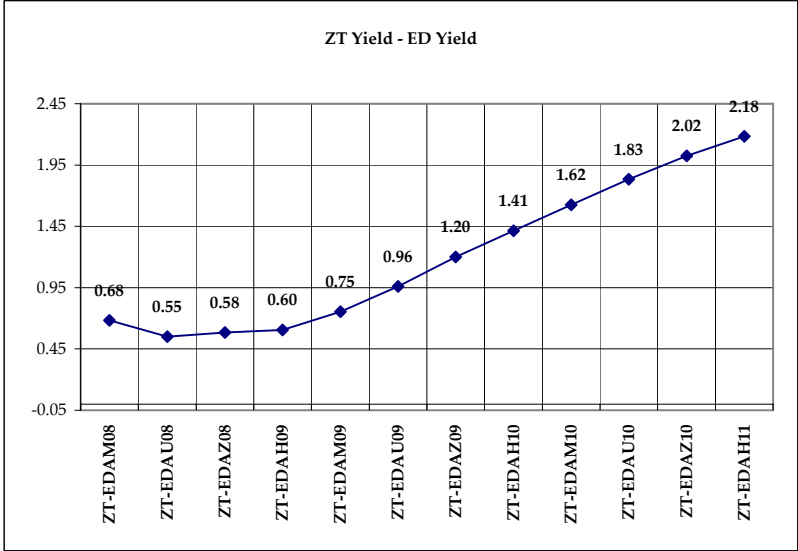
### Eurodollar Color Codes for Individual Year Strips:

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

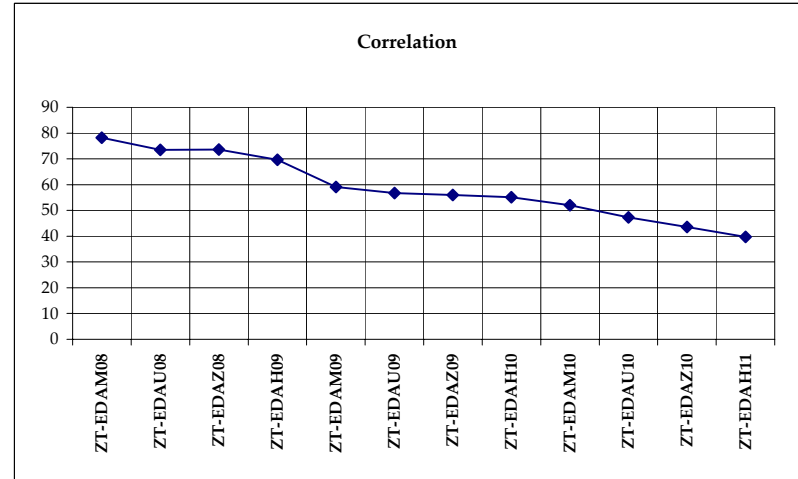
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	9.455	0.68	ZT-EDAM08	78.191
EDAU08	9.320	0.55	ZT-EDAU08	73.498
EDAZ08	9.355	0.58	ZT-EDAZ08	73.623
EDAH09	9.375	0.60	ZT-EDAH09	69.598
EDAM09	9.525	0.75	ZT-EDAM09	59.077
EDAU09	9.730	0.96	ZT-EDAU09	56.750
EDAZ09	9.970	1.20	ZT-EDAZ09	56.021
EDAH10	10.185	1.41	ZT-EDAH10	55.106
EDAM10	10.395	1.62	ZT-EDAM10	51.969
EDAU10	10.605	1.83	ZT-EDAU10	47.258
EDAZ10	10.795	2.02	ZT-EDAZ10	43.533
EDAH11	10.955	2.18	ZT-EDAH11	39.719

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	
EDAM08	0.240	1.91	1.67	ZT-EDAM08
EDAU08	0.490	1.91	1.42	ZT-EDAU08
EDAZ08	0.739	1.91	1.17	ZT-EDAZ08
EDAH09	0.988	1.91	0.92	ZT-EDAH09
EDAM09	1.238	1.91	0.67	ZT-EDAM09
EDAU09	1.487	1.91	0.43	ZT-EDAU09
EDAZ09	1.736	1.91	0.18	ZT-EDAZ09
EDAH10	1.986	1.91	(0.07)	ZT-EDAH10
EDAM10	2.235	1.91	(0.32)	ZT-EDAM10
EDAU10	2.484	1.91	(0.57)	ZT-EDAU10
EDAZ10	2.734	1.91	(0.82)	ZT-EDAZ10
EDAH11	2.983	1.91	(1.07)	ZT-EDAH11

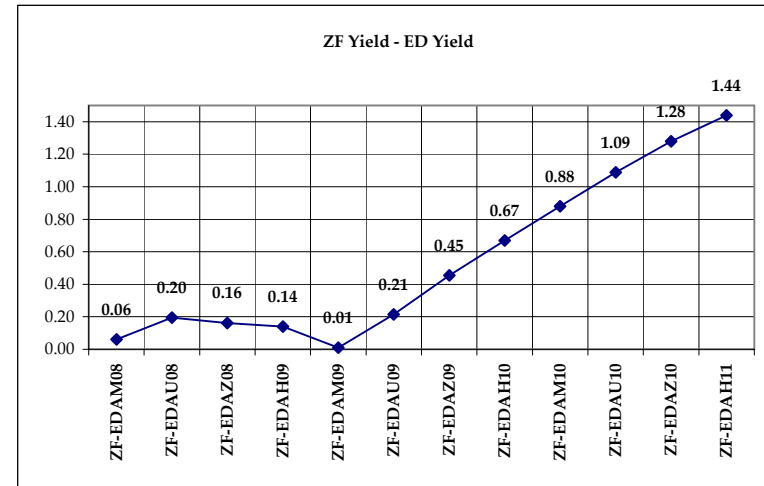
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	16.58	0.06	ZF-EDAM08	88.446
EDAU08	16.45	0.20	ZF-EDAU08	92.910
EDAZ08	16.48	0.16	ZF-EDAZ08	94.658
EDAH09	16.50	0.14	ZF-EDAH09	92.881
EDAM09	16.65	0.01	ZF-EDAM09	88.242
EDAU09	16.86	0.21	ZF-EDAU09	87.049
EDAZ09	17.10	0.45	ZF-EDAZ09	86.602
EDAH10	17.31	0.67	ZF-EDAH10	86.086
EDAM10	17.52	0.88	ZF-EDAM10	84.118
EDAU10	17.73	1.09	ZF-EDAU10	81.145
EDAZ10	17.92	1.28	ZF-EDAZ10	78.206
EDAH11	18.08	1.44	ZF-EDAH11	75.373

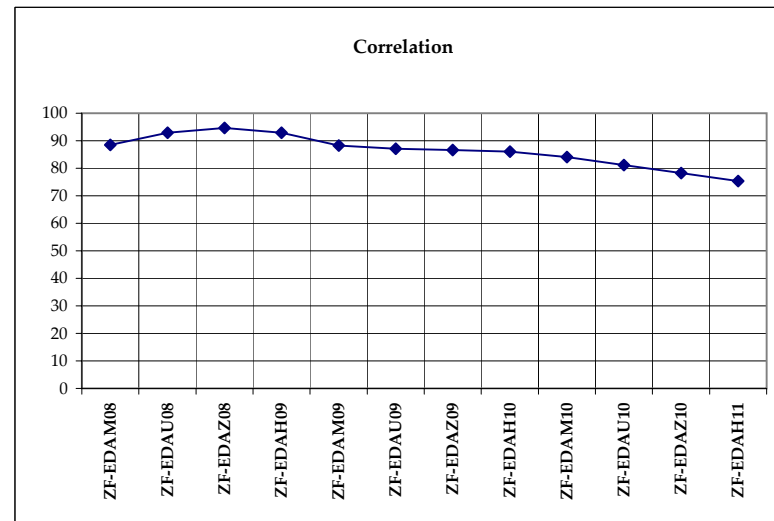
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZF Duration	Spread Duration	
EDAM08	0.240	4.06	3.82
EDAU08	0.490	4.06	3.57
EDAZ08	0.739	4.06	3.33
EDAH09	0.988	4.06	3.08
EDAM09	1.238	4.06	2.83
EDAU09	1.487	4.06	2.58
EDAZ09	1.736	4.06	2.33
EDAH10	1.986	4.06	2.08
EDAM10	2.235	4.06	1.83
EDAU10	2.484	4.06	1.58
EDAZ10	2.734	4.06	1.33
EDAH11	2.983	4.06	1.08

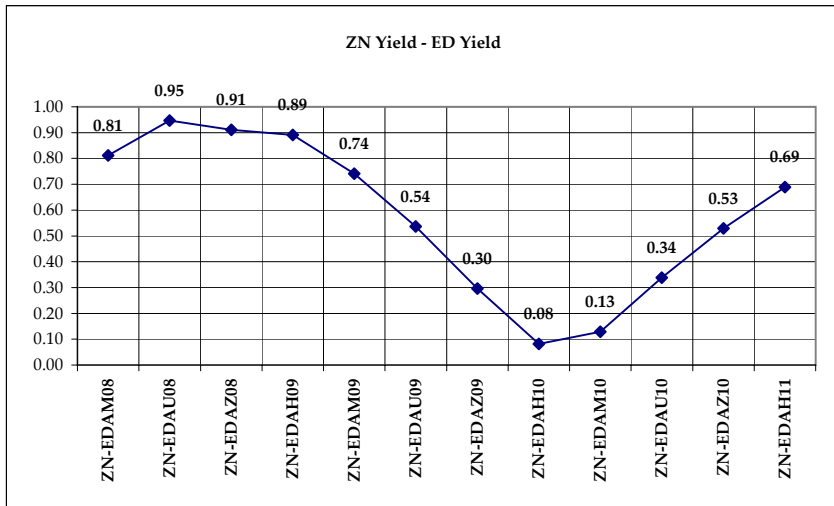
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Dirty TED: ZN vs Eurodollar Contracts

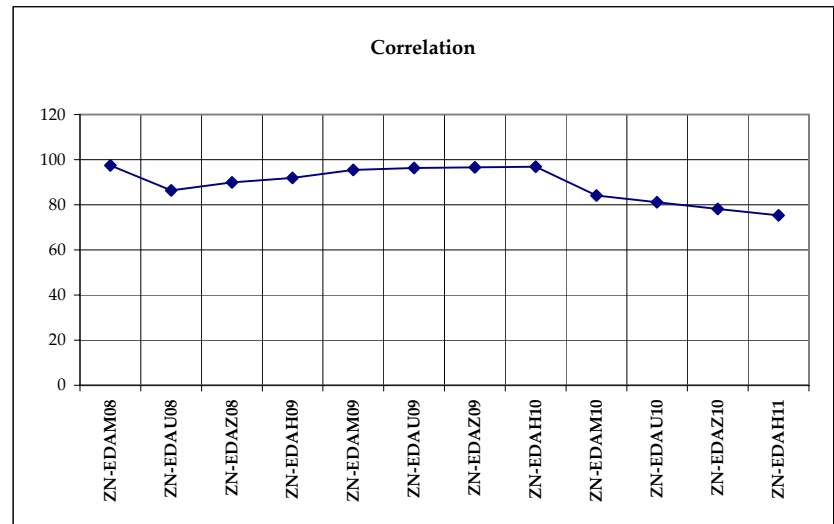
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	21.68	0.81	ZN-EDAM08	97.43
EDAU08	21.55	0.95	ZN-EDAU08	86.45
EDAZ08	21.58	0.91	ZN-EDAZ08	89.87
EDAH09	21.60	0.89	ZN-EDAH09	91.90
EDAM09	21.75	0.74	ZN-EDAM09	95.46
EDAU09	21.96	0.54	ZN-EDAU09	96.26
EDAZ09	22.20	0.30	ZN-EDAZ09	96.54
EDAH10	22.41	0.08	ZN-EDAH10	96.83
EDAM10	22.62	0.13	ZN-EDAM10	84.12
EDAU10	22.83	0.34	ZN-EDAU10	81.14
EDAZ10	23.02	0.53	ZN-EDAZ10	78.21
EDAH11	23.18	0.69	ZN-EDAH11	75.37

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	
EDAM08	0.240	6.67	6.43	ZN-EDAM08
EDAU08	0.490	6.67	6.18	ZN-EDAU08
EDAZ08	0.739	6.67	5.93	ZN-EDAZ08
EDAH09	0.988	6.67	5.68	ZN-EDAH09
EDAM09	1.238	6.67	5.43	ZN-EDAM09
EDAU09	1.487	6.67	5.18	ZN-EDAU09
EDAZ09	1.736	6.67	4.93	ZN-EDAZ09
EDAH10	1.986	6.67	4.68	ZN-EDAH10
EDAM10	2.235	6.67	4.43	ZN-EDAM10
EDAU10	2.484	6.67	4.19	ZN-EDAU10
EDAZ10	2.734	6.67	3.94	ZN-EDAZ10
EDAH11	2.983	6.67	3.69	ZN-EDAH11

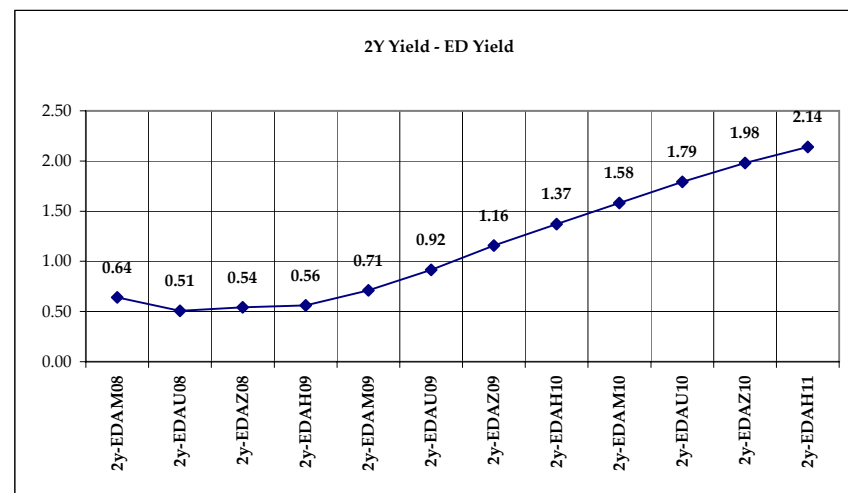
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.01	0.64	2y-EDAM08	-74.567
EDAU08	2.88	0.51	2y-EDAU08	-83.532
EDAZ08	2.91	0.54	2y-EDAZ08	-86.661
EDAH09	2.93	0.56	2y-EDAH09	-83.532
EDAM09	3.08	0.71	2y-EDAM09	-77.723
EDAU09	3.29	0.92	2y-EDAU09	-76.644
EDAZ09	3.53	1.16	2y-EDAZ09	-76.749
EDAH10	3.74	1.37	2y-EDAH10	-76.543
EDAM10	3.95	1.58	2y-EDAM10	-74.504
EDAU10	4.16	1.79	2y-EDAU10	-71.163
EDAZ10	4.35	1.98	2y-EDAZ10	-68.111
EDAH11	4.51	2.14	2y-EDAH11	-65.193

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.

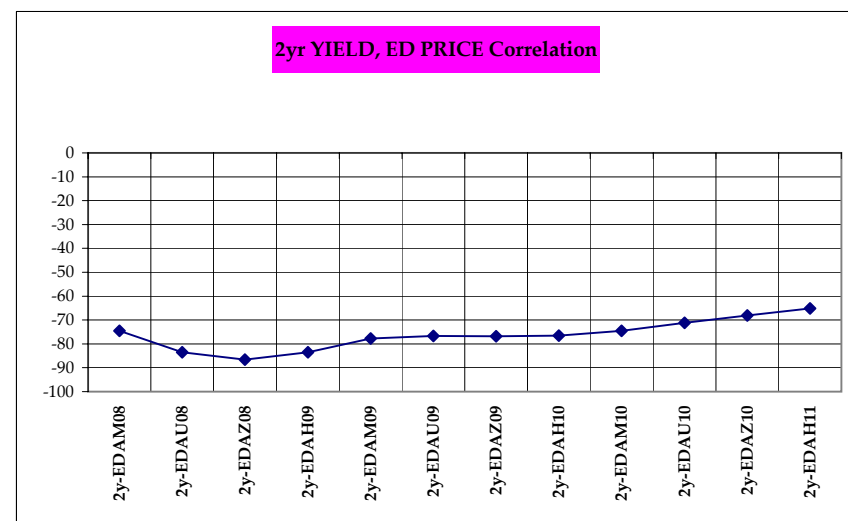


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAM08	0.240	1.90	2y-EDAM08
EDAU08	0.490	1.90	2y-EDAU08
EDAZ08	0.739	1.90	2y-EDAZ08
EDAH09	0.988	1.90	2y-EDAH09
EDAM09	1.238	1.90	2y-EDAM09
EDAU09	1.487	1.90	2y-EDAU09
EDAZ09	1.736	1.90	2y-EDAZ09
EDAH10	1.986	1.90	2y-EDAH10
EDAM10	2.235	1.90	2y-EDAM10
EDAU10	2.484	1.90	2y-EDAU10
EDAZ10	2.734	1.90	2y-EDAZ10
EDAH11	2.983	1.90	2y-EDAH11

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

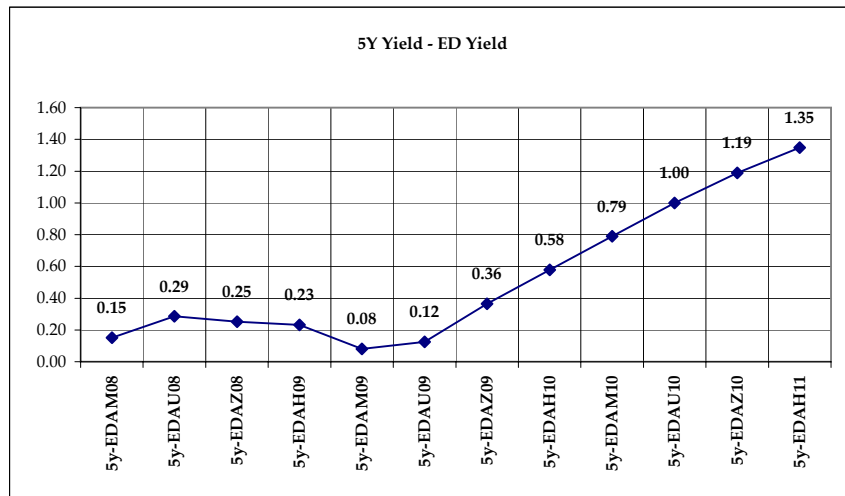
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.88	0.15	5y-EDAM08	-83.565
EDAU08	3.74	0.29	5y-EDAU08	-81.220
EDAZ08	3.78	0.25	5y-EDAZ08	-85.999
EDAH09	3.80	0.23	5y-EDAH09	-81.220
EDAM09	3.95	0.08	5y-EDAM09	-82.373
EDAU09	4.15	0.12	5y-EDAU09	-82.528
EDAZ09	4.39	0.36	5y-EDAZ09	-83.423
EDAH10	4.61	0.58	5y-EDAH10	-84.016
EDAM10	4.82	0.79	5y-EDAM10	-83.337
EDAU10	5.03	1.00	5y-EDAU10	-81.805
EDAZ10	5.22	1.19	5y-EDAZ10	-79.999
EDAH11	5.38	1.35	5y-EDAH11	-78.366

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.

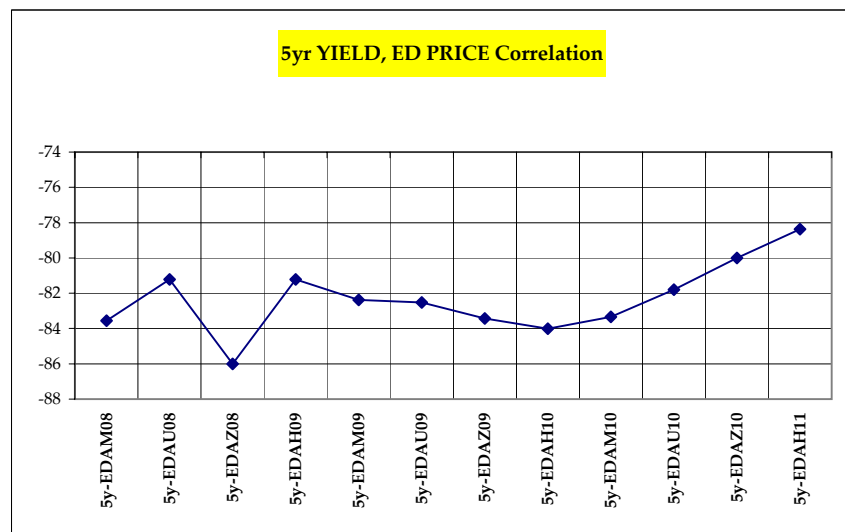


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAM08	0.240	4.60	5y-EDAM08
EDAU08	0.490	4.60	5y-EDAU08
EDAZ08	0.739	4.60	5y-EDAZ08
EDAH09	0.988	4.60	5y-EDAH09
EDAM09	1.238	4.60	5y-EDAM09
EDAU09	1.487	4.60	5y-EDAU09
EDAZ09	1.736	4.60	5y-EDAZ09
EDAH10	1.986	4.60	5y-EDAH10
EDAM10	2.235	4.60	5y-EDAM10
EDAU10	2.484	4.60	5y-EDAU10
EDAZ10	2.734	4.60	5y-EDAZ10
EDAH11	2.983	4.60	5y-EDAH11

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

**5yr YIELD, ED PRICE Correlation**



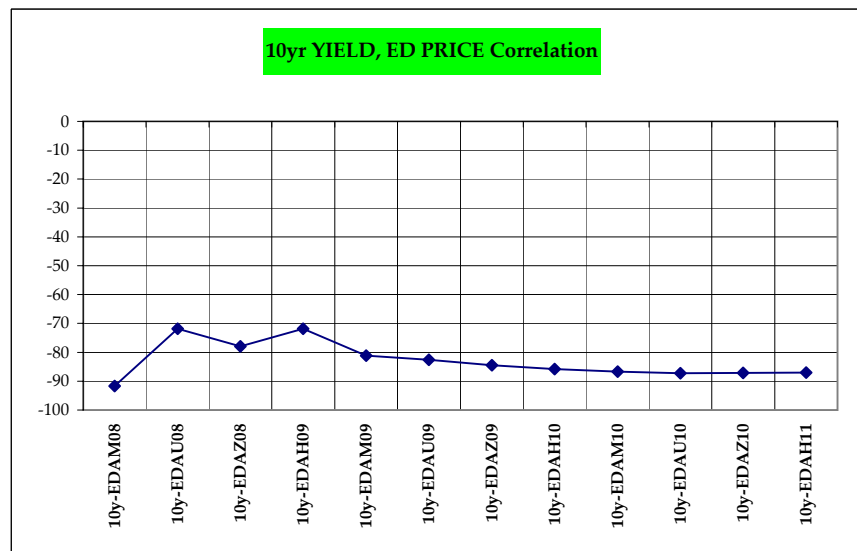
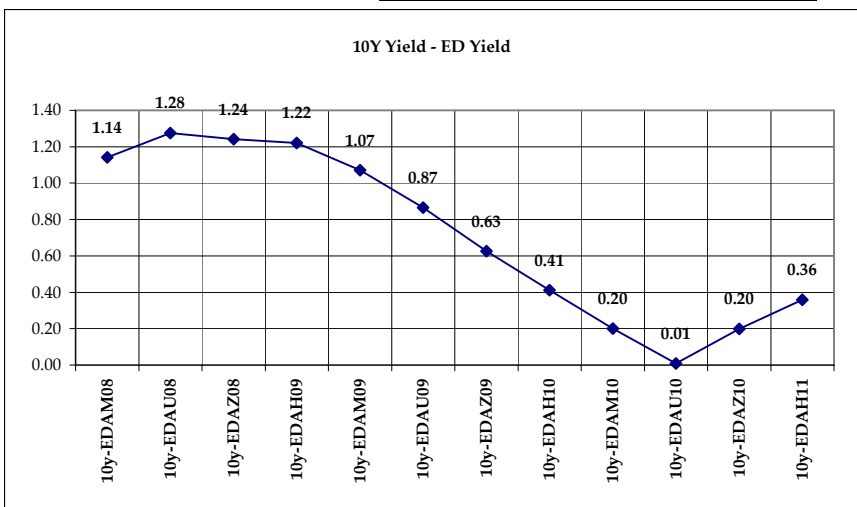
**TERM TED: 10y vs Eurodollar Contracts**

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.88	1.14	10y-EDAM08	-91.688
EDAU08	3.74	1.28	10y-EDAU08	-71.809
EDAZ08	3.78	1.24	10y-EDAZ08	-77.919
EDAH09	3.80	1.22	10y-EDAH09	-71.809
EDAM09	3.95	1.07	10y-EDAM09	-81.166
EDAU09	4.15	0.87	10y-EDAU09	-82.617
EDAZ09	4.39	0.63	10y-EDAZ09	-84.431
EDAH10	4.61	0.41	10y-EDAH10	-85.785
EDAM10	4.82	0.20	10y-EDAM10	-86.717
EDAU10	5.03	0.01	10y-EDAU10	-87.247
EDAZ10	5.22	0.20	10y-EDAZ10	-87.120
EDAH11	5.38	0.36	10y-EDAH11	-87.045

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.

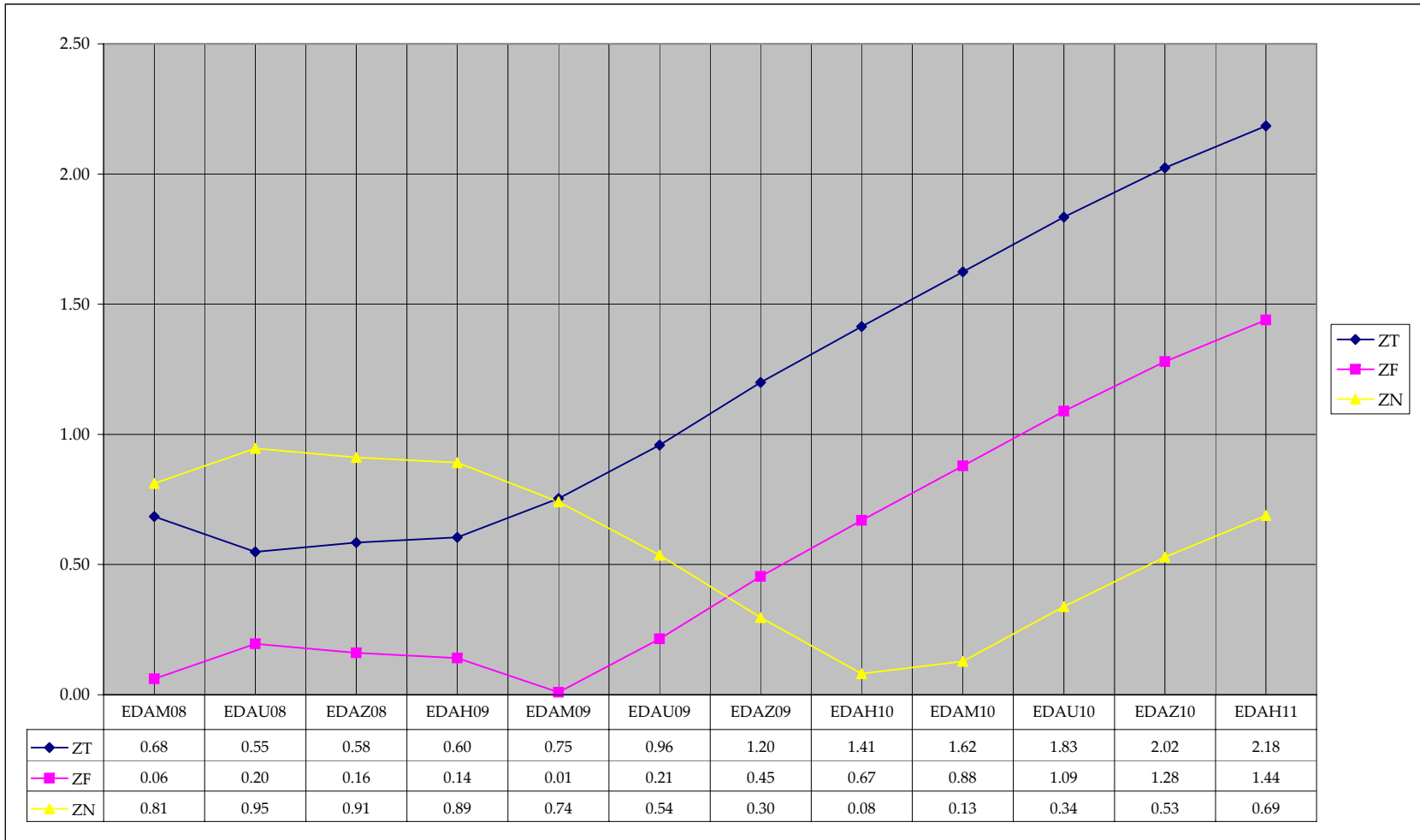
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.240	8.30	8.06	10y-EDAM08
EDAU08	0.490	8.30	7.81	10y-EDAU08
EDAZ08	0.739	8.30	7.56	10y-EDAZ08
EDAH09	0.988	8.30	7.31	10y-EDAH09
EDAM09	1.238	8.30	7.06	10y-EDAM09
EDAU09	1.487	8.30	6.81	10y-EDAU09
EDAZ09	1.736	8.30	6.56	10y-EDAZ09
EDAH10	1.986	8.30	6.31	10y-EDAH10
EDAM10	2.235	8.30	6.06	10y-EDAM10
EDAU10	2.484	8.30	5.81	10y-EDAU10
EDAZ10	2.734	8.30	5.56	10y-EDAZ10
EDAH11	2.983	8.30	5.31	10y-EDAH11

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



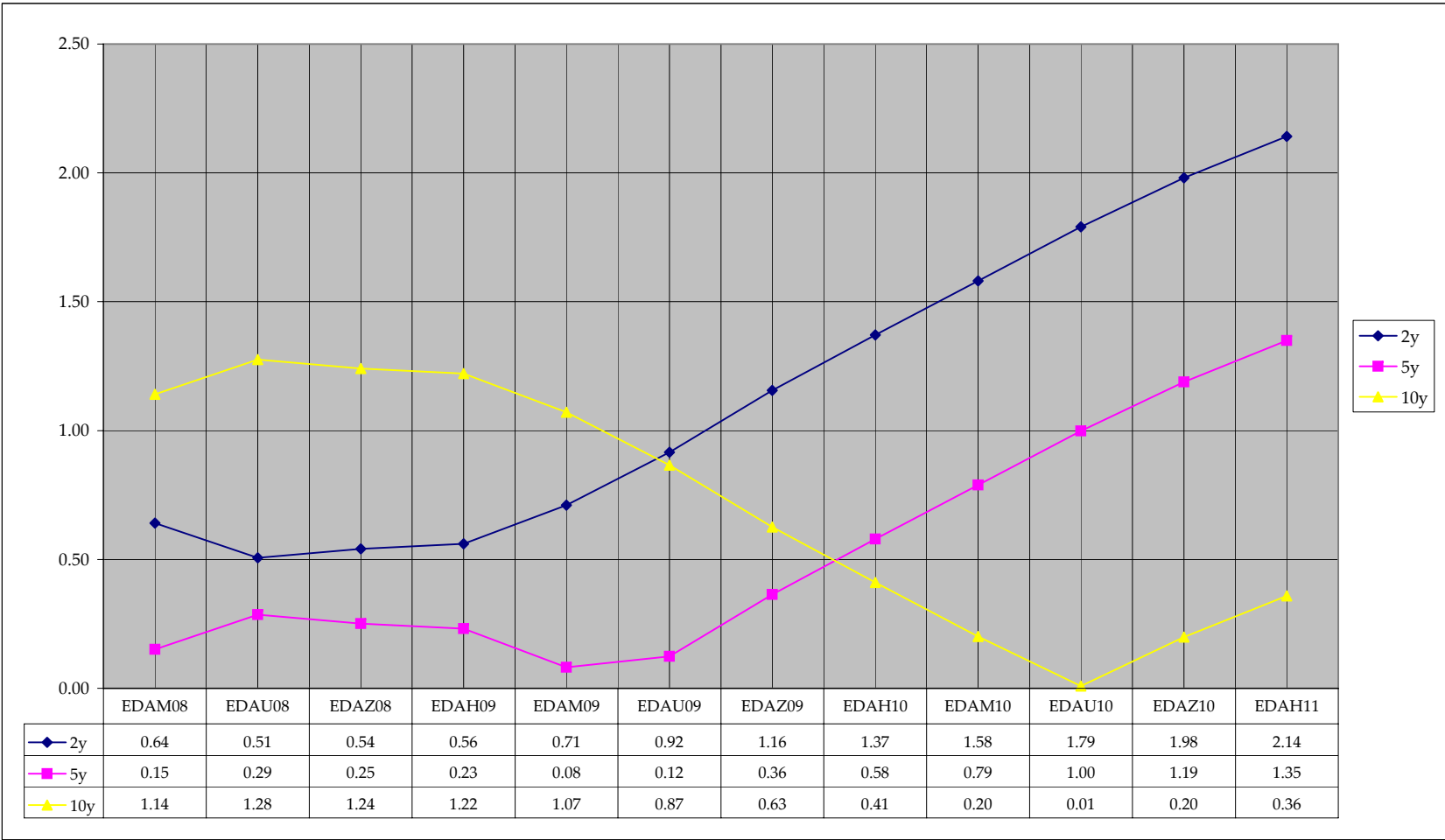
**Dirty TED Curve**

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.

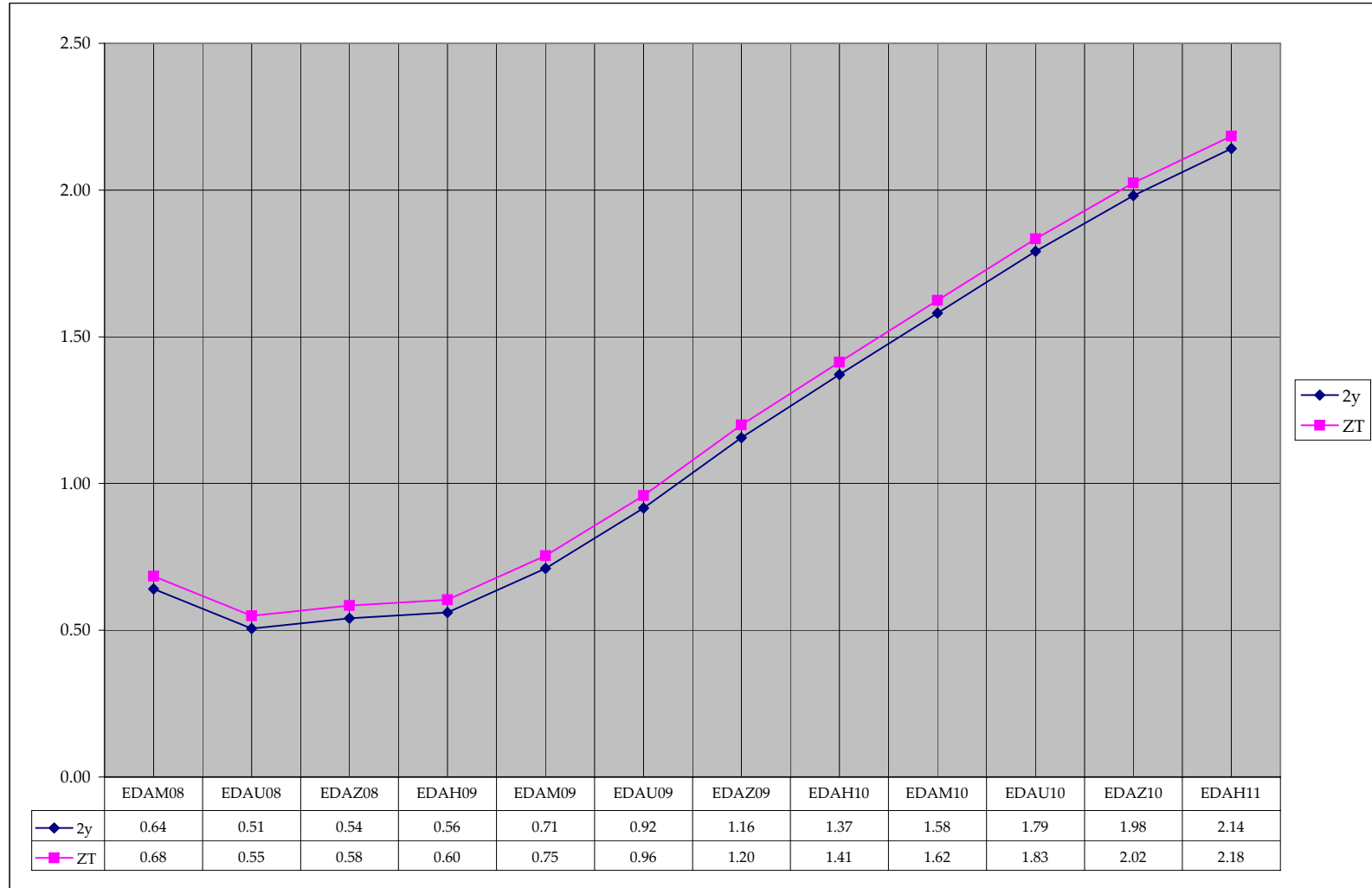


TED Curve

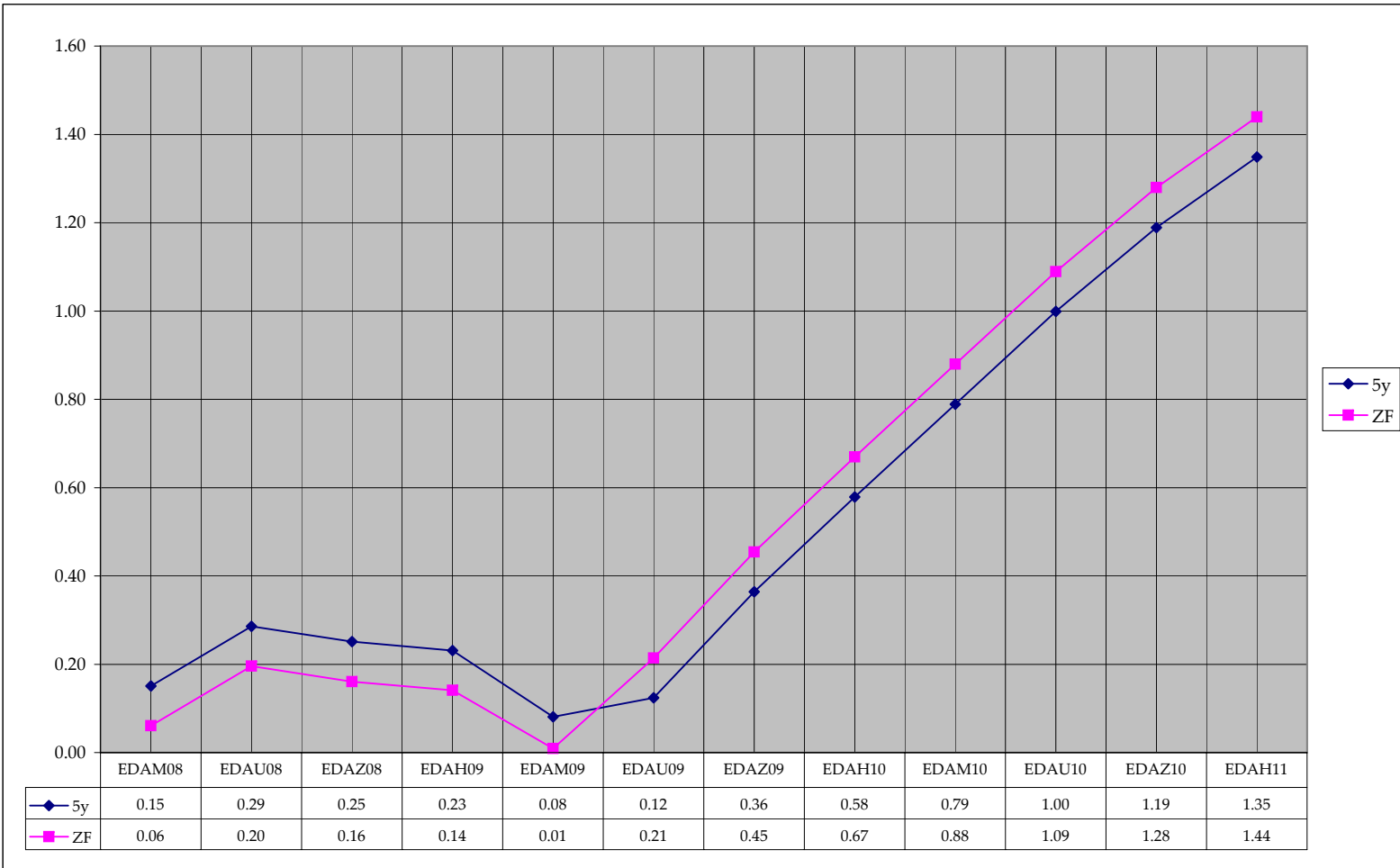
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



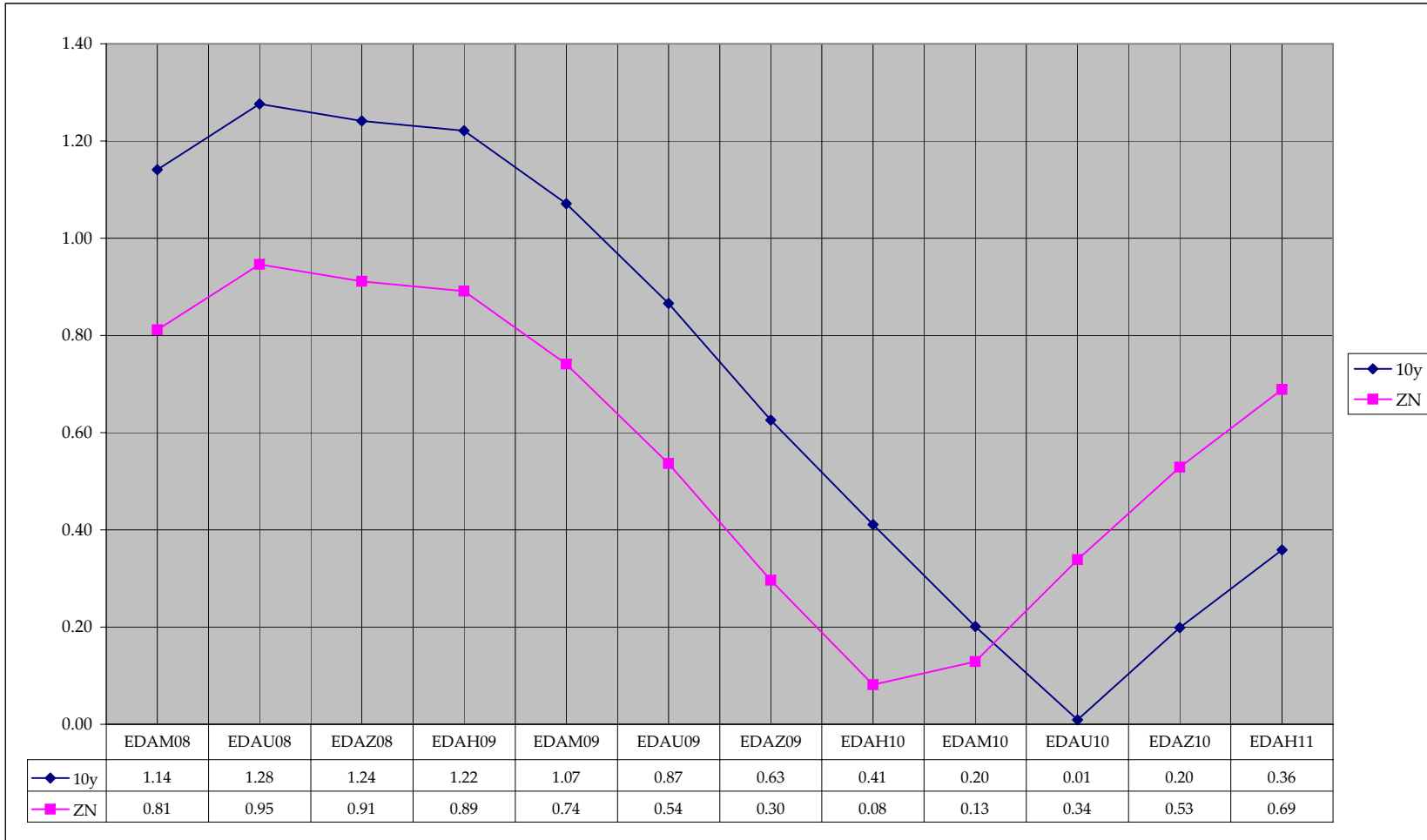
## 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.193	-10.375	9784.875
Q.ED.Red	2.682	-9.500	9737.250
Q.ED.Green	3.541	-6.000	9653.750
Q.ED.Blue	4.152	-1.625	9594.625
Q.ED.Gold	4.594	0.375	9552.000

