

## The Morning Email: TERM TEDS & Dirty TEDS

### Table of Contents

<b>PgA</b>	Quotes	<b>Pg9</b>	2y Basis TED Curve
<b>Pg1</b>	Dirty TED: ZT vs Eurodollar Contracts	<b>Pg10</b>	5y Basis TED Curve
<b>Pg2</b>	Dirty TED: ZF vs Eurodollar Contracts	<b>Pg11</b>	10y Basis TED Curve
<b>Pg3</b>	Dirty TED: ZN vs Eurodollar Contracts	<b>Pg12</b>	Packs
<b>Pg4</b>	TERM TED: 2y vs Eurodollar Contracts		
<b>Pg5</b>	TERM TED: 5y vs Eurodollar Contracts		
<b>Pg6</b>	TERM TED: 10y vs Eurodollar Contracts		
<b>Pg7</b>	Dirty TED Curve		
<b>Pg8</b>	TED Curve		

**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	104.9219	104.295	3.129	1.89	
ZF	109.8438	109.270	3.451	4.01	
ZN	112.7656	112.245	3.799	5.95	
2y	100.000	100.0000	3.121	1.89	
5y	99.594	99.1900	3.461	4.53	
10y	101.266	101.0850	4.091	8.02	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAZ07	95.055	4.945	4	0.010	DEC	White Pack	
EDAH08	95.645	4.355	95	0.260	MAR		
EDAM08	96.090	3.910	186	0.509	JUN		
EDAU08	96.335	3.665	277	0.758	SEP	Red Pack	
EDAZ08	96.435	3.565	368	1.008	DEC		
EDAH09	96.435	3.565	459	1.257	MAR		
EDAM09	96.330	3.670	550	1.506	JUN	Green Pack	
EDAU09	96.200	3.800	641	1.756	SEP		
EDAZ09	96.060	3.940	732	2.005	DEC		
EDAH10	95.935	4.065	823	2.254	MAR	Blue Pack	
EDAM10	95.790	4.210	914	2.503	JUN		
EDAU10	95.680	4.320	1005	2.753	SEP		
EDAZ10	95.580	4.420	1096	3.002	DEC	Gold Pack	
EDAH11	95.500	4.500	1187	3.251	MAR		
EDAM11	95.400	4.600	1278	3.501	JUN		
EDAU11	95.300	4.700	1376	3.769	SEP		
EDAZ11	95.220	4.780	1467	4.019	DEC		
EDAH12	95.095	4.905	1558	4.268	MAR		
EDAM12	95.030	4.970	1649	4.517	JUN		
EDAU12	94.960	5.040	1740	4.766	SEP		

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	4.324	-1.375	9578.125	Pack Prices
Q.ED.Red	3.735	0.375	9635.000	
Q.ED.Green	4.235	0.000	9586.625	
Q.ED.Blue		0.125	9544.875	
Q.ED.Gold		0.000	9512.625	

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

12/13/2007 5:48

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)

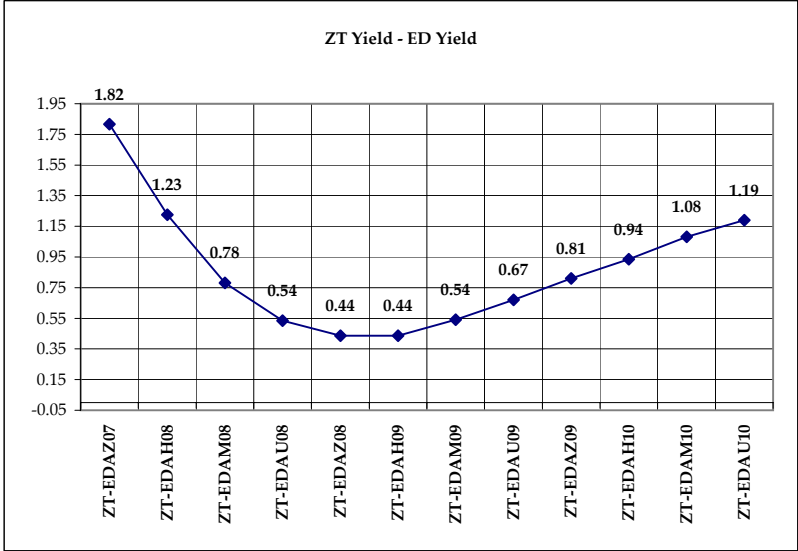
### Eurodollar Color Codes for Individual Year Strips:

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

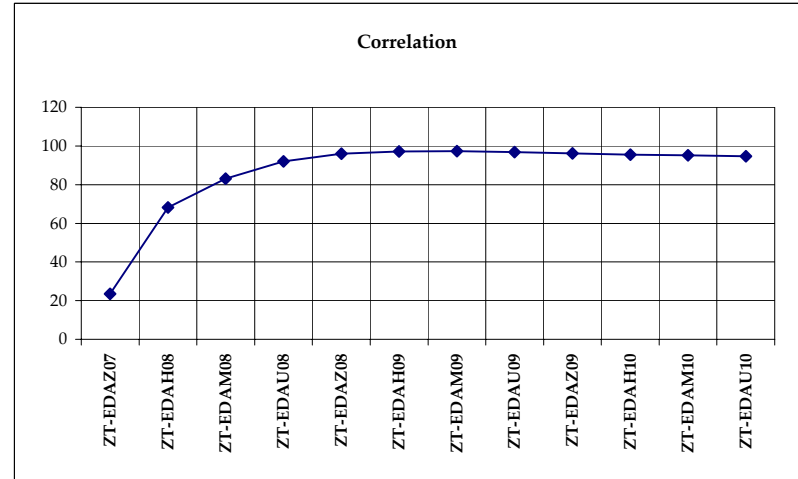
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	9.867	1.82	ZT-EDAZ07	23.543
EDAH08	9.277	1.23	ZT-EDAH08	68.218
EDAM08	8.832	0.78	ZT-EDAM08	83.032
EDAU08	8.587	0.54	ZT-EDAU08	91.945
EDAZ08	8.487	0.44	ZT-EDAZ08	95.935
EDAH09	8.487	0.44	ZT-EDAH09	97.211
EDAM09	8.592	0.54	ZT-EDAM09	97.243
EDAU09	8.722	0.67	ZT-EDAU09	96.751
EDAZ09	8.862	0.81	ZT-EDAZ09	96.188
EDAH10	8.987	0.94	ZT-EDAH10	95.551
EDAM10	9.132	1.08	ZT-EDAM10	95.102
EDAU10	9.242	1.19	ZT-EDAU10	94.607

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		
EDAZ07	0.010	1.89	1.88	ZT-EDAZ07
EDAH08	0.260	1.89	1.63	ZT-EDAH08
EDAM08	0.509	1.89	1.38	ZT-EDAM08
EDAU08	0.758	1.89	1.13	ZT-EDAU08
EDAZ08	1.008	1.89	0.88	ZT-EDAZ08
EDAH09	1.257	1.89	0.63	ZT-EDAH09
EDAM09	1.506	1.89	0.38	ZT-EDAM09
EDAU09	1.756	1.89	0.13	ZT-EDAU09
EDAZ09	2.005	1.89	(0.12)	ZT-EDAZ09
EDAH10	2.254	1.89	(0.37)	ZT-EDAH10
EDAM10	2.503	1.89	(0.61)	ZT-EDAM10
EDAU10	2.753	1.89	(0.86)	ZT-EDAU10

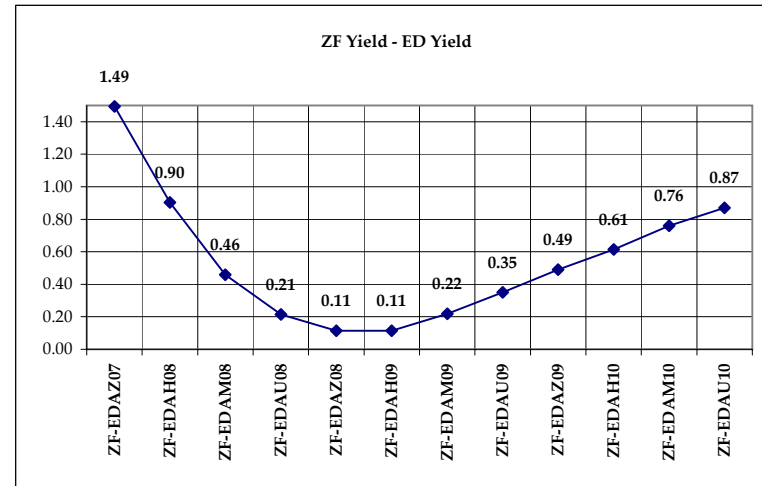
The farther away from 0 the spread duration is the riskier the trade.



**Dirty TED: ZF vs Eurodollar Contracts**

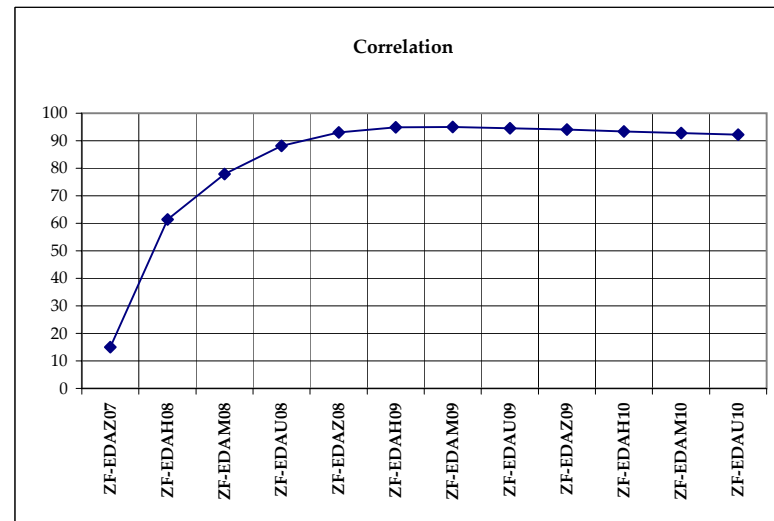
ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	14.79	1.49	ZF-EDAZ07	14.995
EDAH08	14.20	0.90	ZF-EDAH08	61.435
EDAM08	13.75	0.46	ZF-EDAM08	77.882
EDAU08	13.51	0.21	ZF-EDAU08	88.192
EDAZ08	13.41	0.11	ZF-EDAZ08	93.068
EDAH09	13.41	0.11	ZF-EDAH09	94.888
EDAM09	13.51	0.22	ZF-EDAM09	95.047
EDAU09	13.64	0.35	ZF-EDAU09	94.528
EDAZ09	13.78	0.49	ZF-EDAZ09	94.013
EDAH10	13.91	0.61	ZF-EDAH10	93.350
EDAM10	14.05	0.76	ZF-EDAM10	92.806
EDAU10	14.16	0.87	ZF-EDAU10	92.156

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		
EDAZ07	0.010	4.01	4.00	ZF-EDAZ07
EDAH08	0.260	4.01	3.75	ZF-EDAH08
EDAM08	0.509	4.01	3.50	ZF-EDAM08
EDAU08	0.758	4.01	3.25	ZF-EDAU08
EDAZ08	1.008	4.01	3.00	ZF-EDAZ08
EDAH09	1.257	4.01	2.75	ZF-EDAH09
EDAM09	1.506	4.01	2.50	ZF-EDAM09
EDAU09	1.756	4.01	2.25	ZF-EDAU09
EDAZ09	2.005	4.01	2.00	ZF-EDAZ09
EDAH10	2.254	4.01	1.76	ZF-EDAH10
EDAM10	2.503	4.01	1.51	ZF-EDAM10
EDAU10	2.753	4.01	1.26	ZF-EDAU10

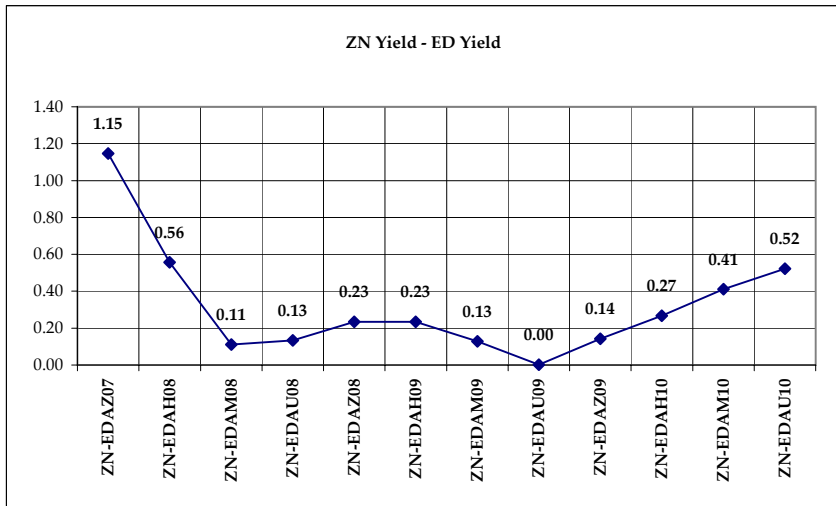
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

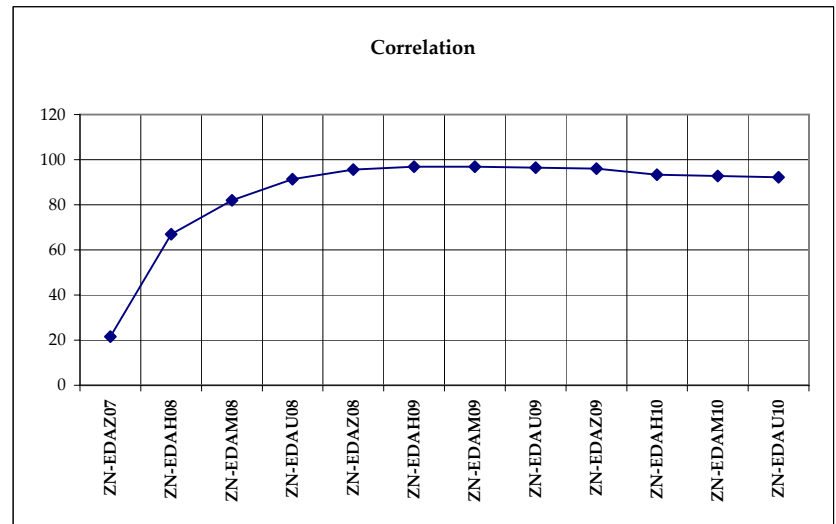
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	17.71	1.15	ZN-EDAZ07	21.59
EDAH08	17.12	0.56	ZN-EDAH08	66.90
EDAM08	16.68	0.11	ZN-EDAM08	81.96
EDAU08	16.43	0.13	ZN-EDAU08	91.33
EDAZ08	16.33	0.23	ZN-EDAZ08	95.54
EDAH09	16.33	0.23	ZN-EDAH09	96.85
EDAM09	16.44	0.13	ZN-EDAM09	96.86
EDAU09	16.57	0.00	ZN-EDAU09	96.39
EDAZ09	16.71	0.14	ZN-EDAZ09	96.01
EDAH10	16.83	0.27	ZN-EDAH10	93.35
EDAM10	16.98	0.41	ZN-EDAM10	92.81
EDAU10	17.09	0.52	ZN-EDAU10	92.16

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	
EDAZ07	0.010	5.95	5.94	ZN-EDAZ07
EDAH08	0.260	5.95	5.69	ZN-EDAH08
EDAM08	0.509	5.95	5.44	ZN-EDAM08
EDAU08	0.758	5.95	5.19	ZN-EDAU08
EDAZ08	1.008	5.95	4.94	ZN-EDAZ08
EDAH09	1.257	5.95	4.69	ZN-EDAH09
EDAM09	1.506	5.95	4.44	ZN-EDAM09
EDAU09	1.756	5.95	4.19	ZN-EDAU09
EDAZ09	2.005	5.95	3.94	ZN-EDAZ09
EDAH10	2.254	5.95	3.70	ZN-EDAH10
EDAM10	2.503	5.95	3.45	ZN-EDAM10
EDAU10	2.753	5.95	3.20	ZN-EDAU10

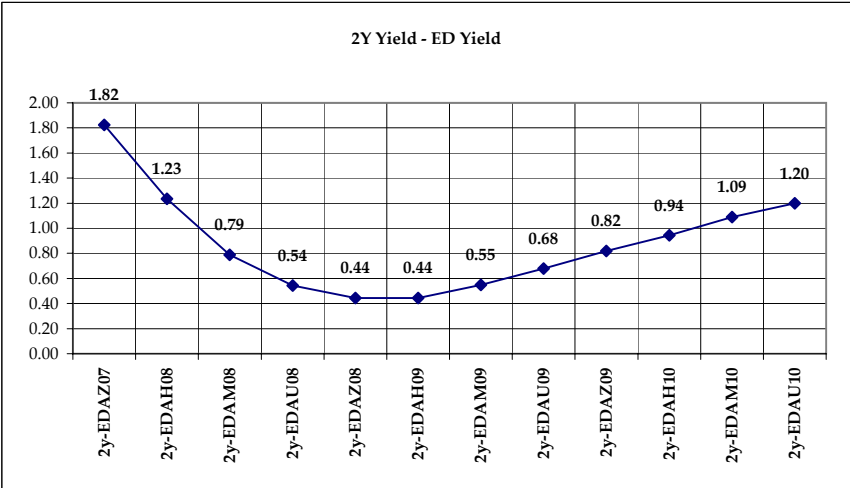
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.94	1.82	2y-EDAZ07	-8.894
EDAH08	4.36	1.23	2y-EDAH08	-57.558
EDAM08	3.91	0.79	2y-EDAM08	-74.186
EDAU08	3.66	0.54	2y-EDAU08	-84.762
EDAZ08	3.57	0.44	2y-EDAZ08	-74.186
EDAH09	3.57	0.44	2y-EDAH09	-90.033
EDAM09	3.67	0.55	2y-EDAM09	-89.940
EDAU09	3.80	0.68	2y-EDAU09	-89.098
EDAZ09	3.94	0.82	2y-EDAZ09	-87.939
EDAH10	4.07	0.94	2y-EDAH10	-86.924
EDAM10	4.21	1.09	2y-EDAM10	-86.738
EDAU10	4.32	1.20	2y-EDAU10	-86.192

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.

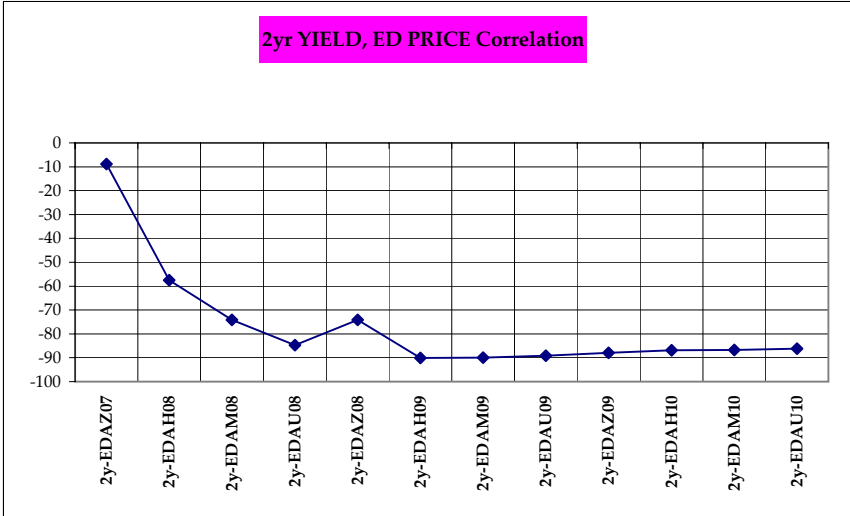


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAZ07	0.010	1.89	2y-EDAZ07
EDAH08	0.260	1.89	2y-EDAH08
EDAM08	0.509	1.89	2y-EDAM08
EDAU08	0.758	1.89	2y-EDAU08
EDAZ08	1.008	1.89	2y-EDAZ08
EDAH09	1.257	1.89	2y-EDAH09
EDAM09	1.506	1.89	2y-EDAM09
EDAU09	1.756	1.89	2y-EDAU09
EDAZ09	2.005	1.89	2y-EDAZ09
EDAH10	2.254	1.89	2y-EDAH10
EDAM10	2.503	1.89	2y-EDAM10
EDAU10	2.753	1.89	2y-EDAU10

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

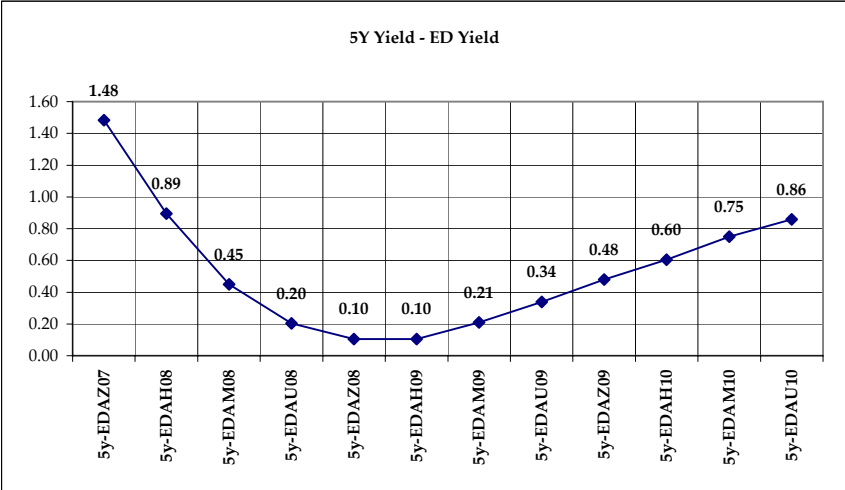
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.54	1.48	5y-EDAZ07	-11.437
EDAH08	3.95	0.89	5y-EDAH08	-59.714
EDAM08	3.50	0.45	5y-EDAM08	-75.628
EDAU08	3.26	0.20	5y-EDAU08	-86.441
EDAZ08	3.16	0.10	5y-EDAZ08	-75.628
EDAH09	3.16	0.10	5y-EDAH09	-92.624
EDAM09	3.26	0.21	5y-EDAM09	-92.551
EDAU09	3.39	0.34	5y-EDAU09	-91.970
EDAZ09	3.53	0.48	5y-EDAZ09	-91.313
EDAH10	3.66	0.60	5y-EDAH10	-90.796
EDAM10	3.80	0.75	5y-EDAM10	-90.473
EDAU10	3.91	0.86	5y-EDAU10	-89.883

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.

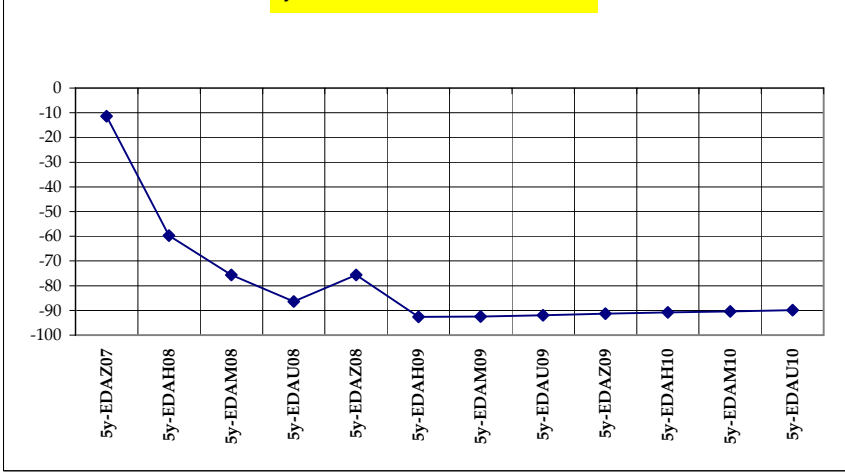


**GE Duration as**

	Fraction of year	5Y Duration	Spread Duration	
EDAZ07	0.010	4.53	4.51	5y-EDAZ07
EDAH08	0.260	4.53	4.27	5y-EDAH08
EDAM08	0.509	4.53	4.02	5y-EDAM08
EDAU08	0.758	4.53	3.77	5y-EDAU08
EDAZ08	1.008	4.53	3.52	5y-EDAZ08
EDAH09	1.257	4.53	3.27	5y-EDAH09
EDAM09	1.506	4.53	3.02	5y-EDAM09
EDAU09	1.756	4.53	2.77	5y-EDAU09
EDAZ09	2.005	4.53	2.52	5y-EDAZ09
EDAH10	2.254	4.53	2.27	5y-EDAH10
EDAM10	2.503	4.53	2.02	5y-EDAM10
EDAU10	2.753	4.53	1.77	5y-EDAU10

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

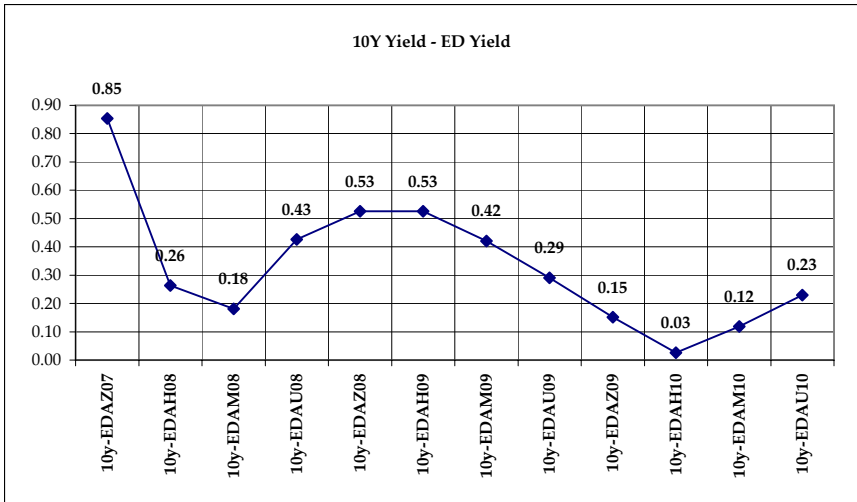
**5yr YIELD, ED PRICE Correlation**



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

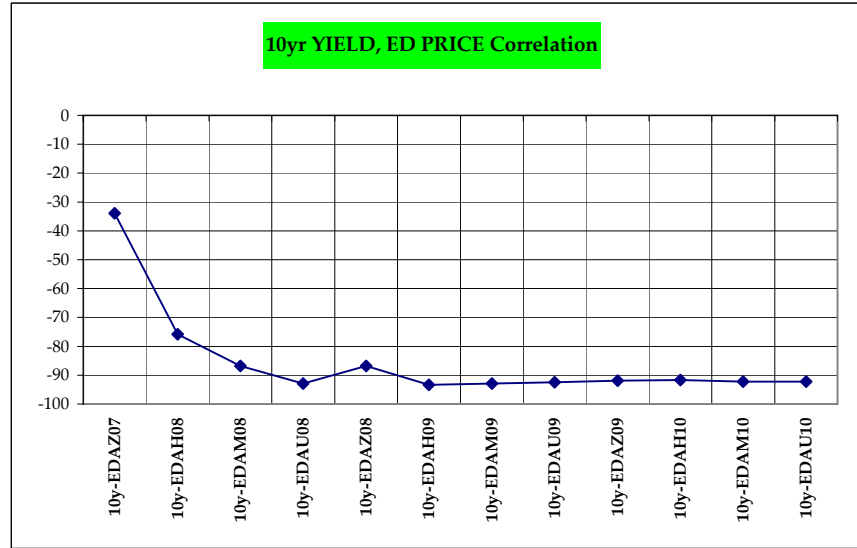
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.54	0.85	10y-EDAZ07	-33.912
EDAH08	3.95	0.26	10y-EDAH08	-75.790
EDAM08	3.50	0.18	10y-EDAM08	-86.772
EDAU08	3.26	0.43	10y-EDAU08	-92.916
EDAZ08	3.16	0.53	10y-EDAZ08	-86.772
EDAH09	3.16	0.53	10y-EDAH09	-93.393
EDAM09	3.26	0.42	10y-EDAM09	-92.938
EDAU09	3.39	0.29	10y-EDAU09	-92.421
EDAZ09	3.53	0.15	10y-EDAZ09	-91.934
EDAH10	3.66	0.03	10y-EDAH10	-91.639
EDAM10	3.80	0.12	10y-EDAM10	-92.254
EDAU10	3.91	0.23	10y-EDAU10	-92.211

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	
EDAZ07	0.010	8.02	8.01	10y-EDAZ07
EDAH08	0.260	8.02	7.76	10y-EDAH08
EDAM08	0.509	8.02	7.51	10y-EDAM08
EDAU08	0.758	8.02	7.26	10y-EDAU08
EDAZ08	1.008	8.02	7.01	10y-EDAZ08
EDAH09	1.257	8.02	6.76	10y-EDAH09
EDAM09	1.506	8.02	6.51	10y-EDAM09
EDAU09	1.756	8.02	6.26	10y-EDAU09
EDAZ09	2.005	8.02	6.01	10y-EDAZ09
EDAH10	2.254	8.02	5.76	10y-EDAH10
EDAM10	2.503	8.02	5.52	10y-EDAM10
EDAU10	2.753	8.02	5.27	10y-EDAU10

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

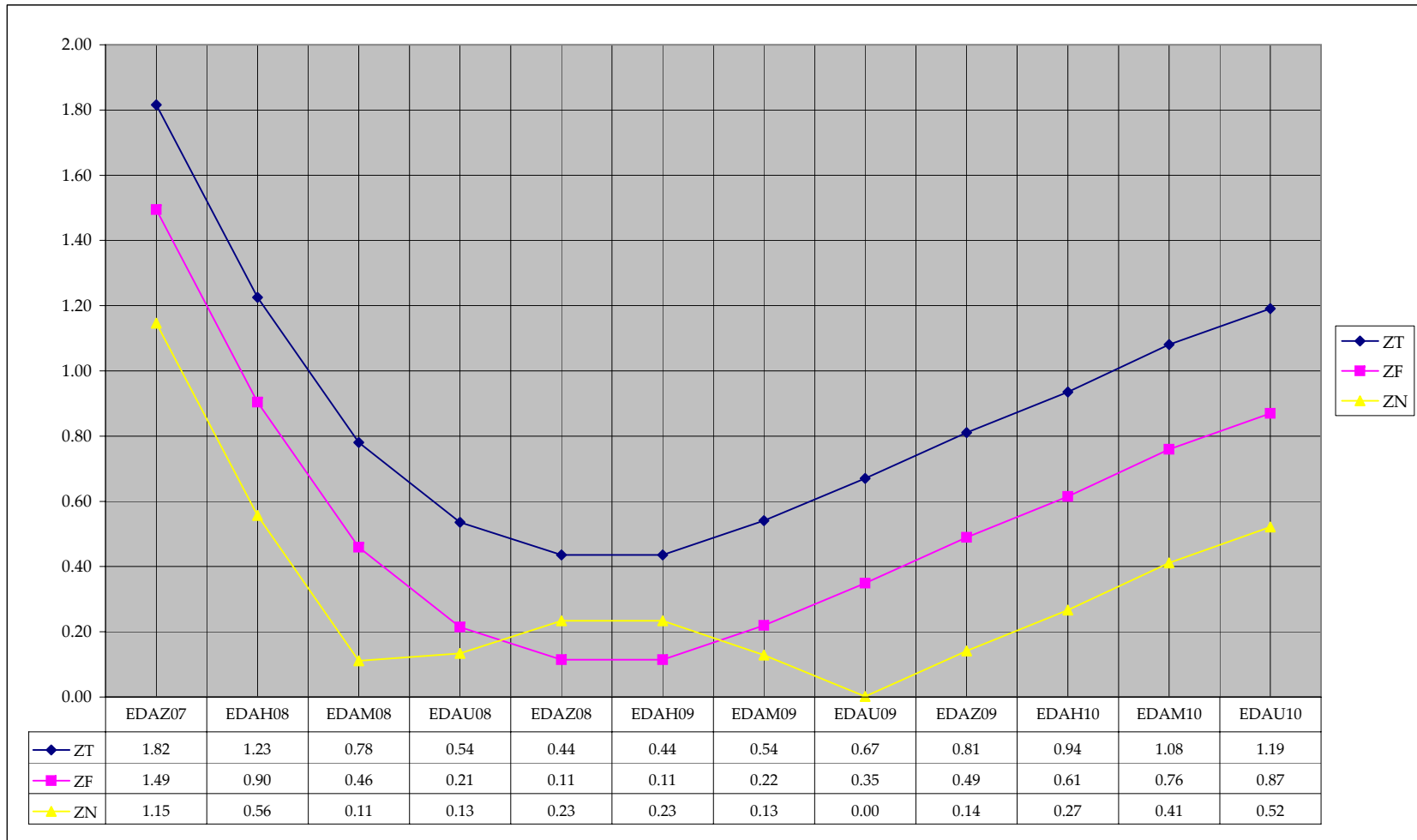


### Dirty TED Curve

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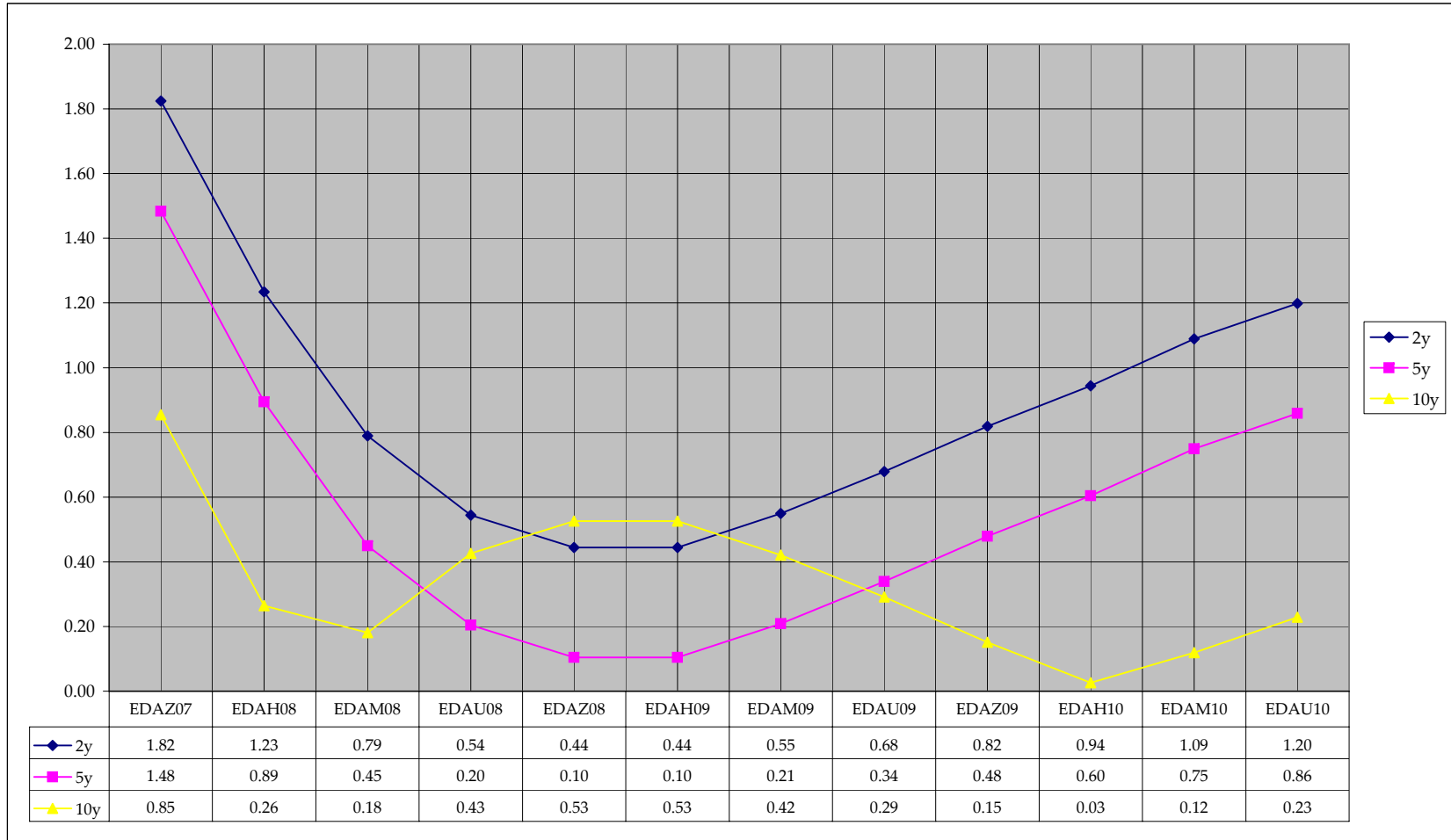
Page 7

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.

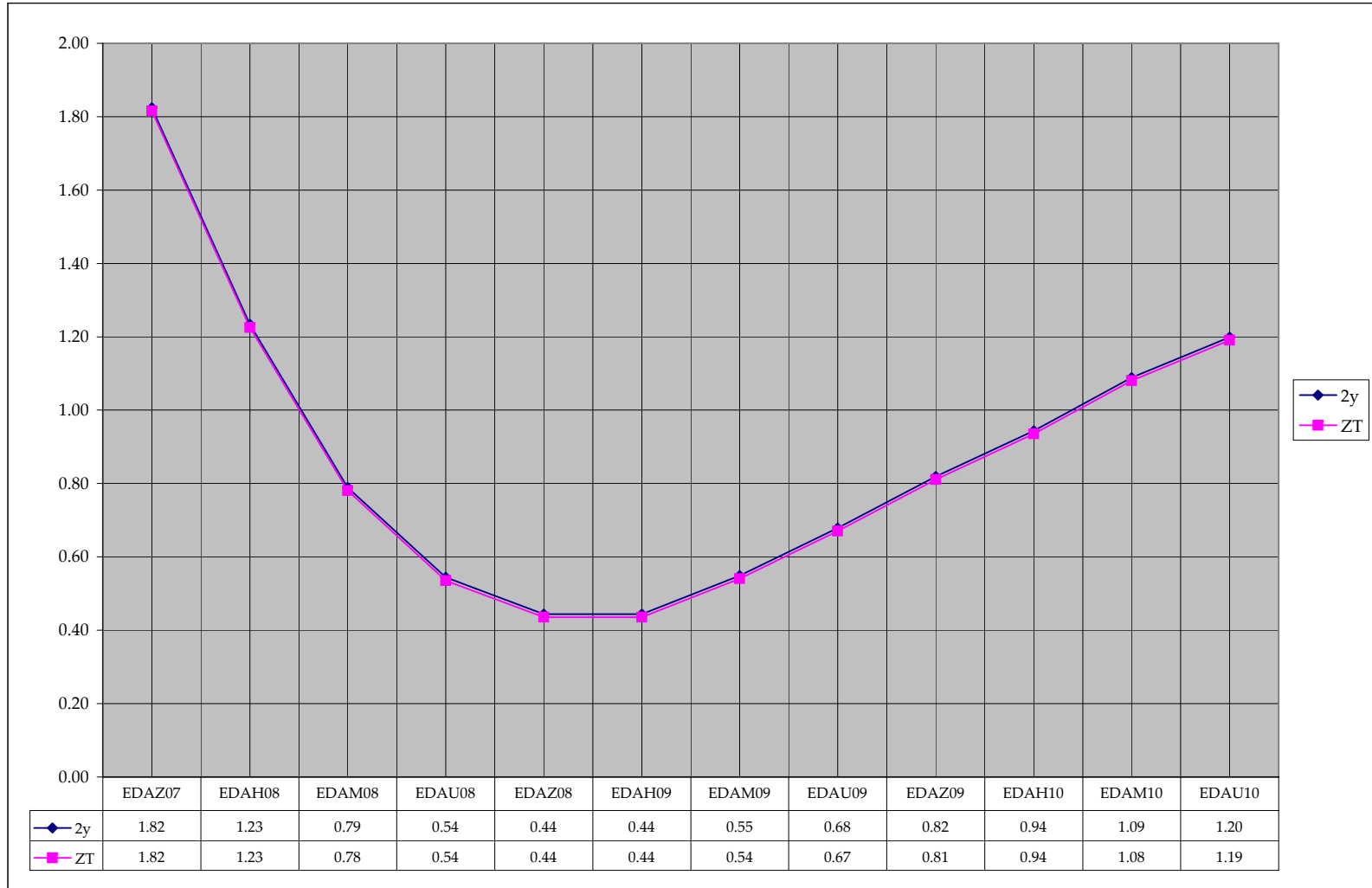


TED Curve

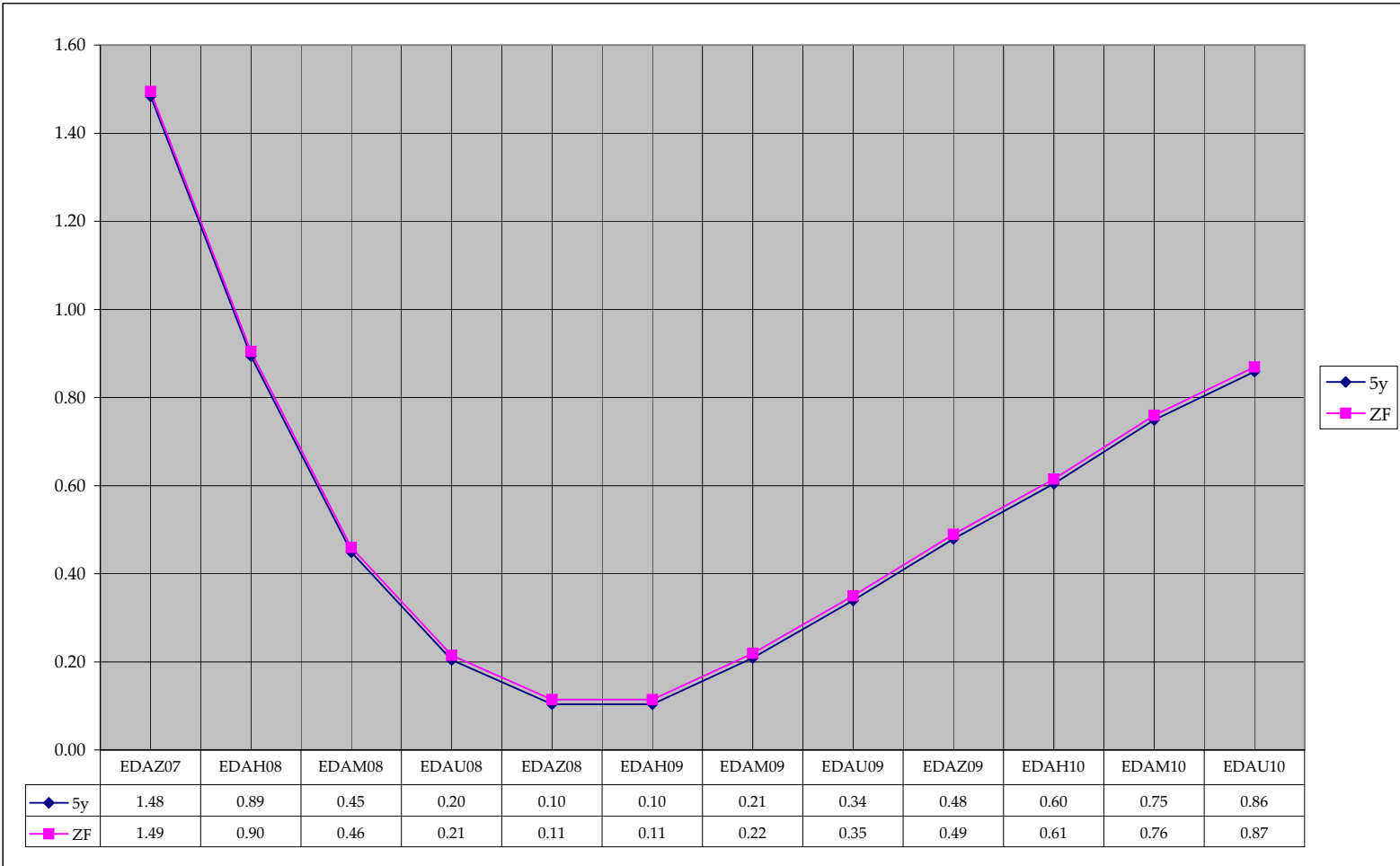
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



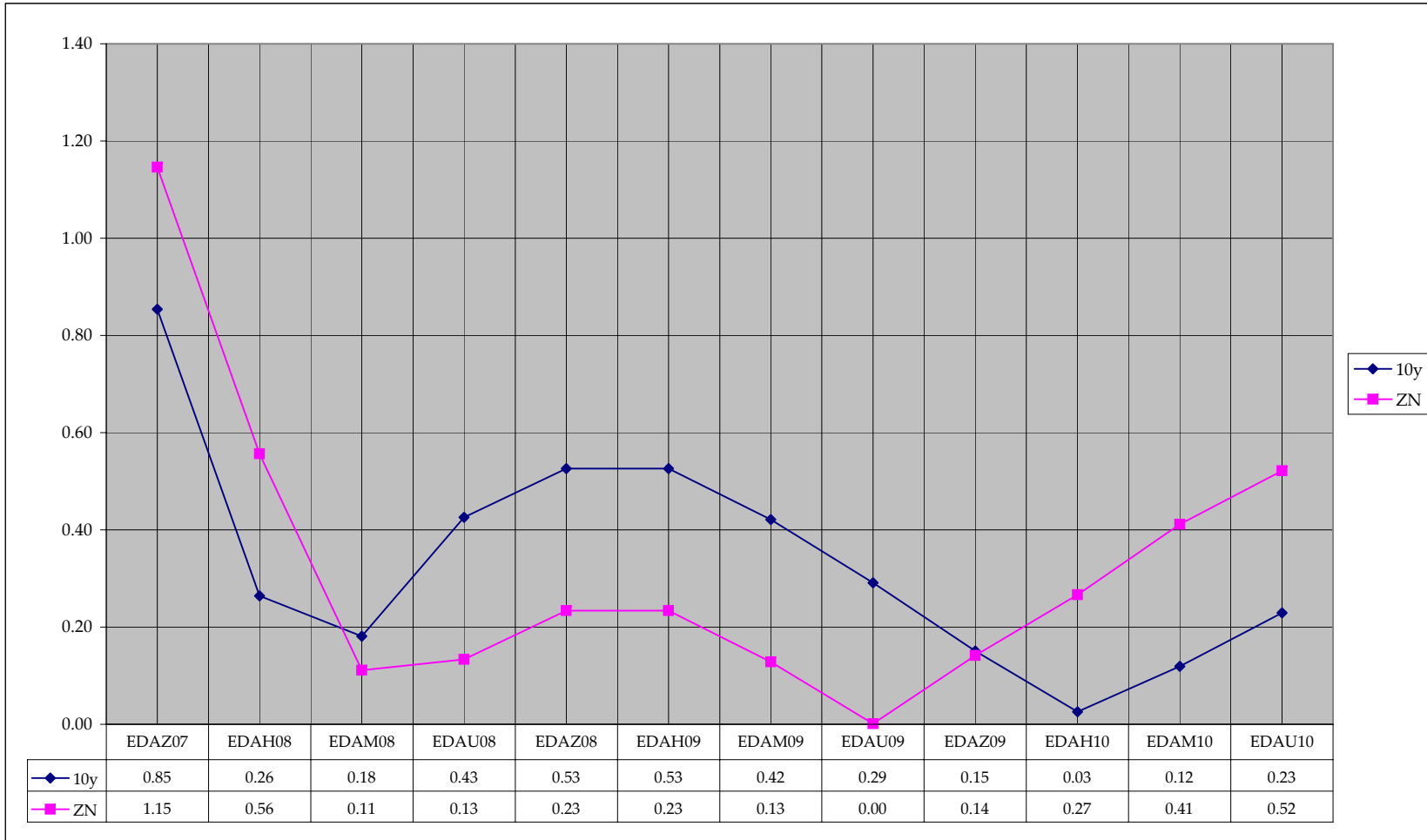
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.324	-1.375	9578.125
Q.ED.Red	3.735	0.375	9635.000
Q.ED.Green	4.235	0.000	9586.625
Q.ED.Blue		0.125	9544.875
Q.ED.Gold		0.000	9512.625

