

## 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.

Jim Goulding, [jgoulding@ghco.com](mailto:jgoulding@ghco.com)

**Quotes**

	F.I. Futures and Cash			
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	101.6719	101.215	4.983	1.88
ZF	103.5313	103.170	5.063	3.96
ZN	104.8125	104.260	5.122	5.77
2y	99.813	99.2600	4.972	2.01
5y	98.631	98.2020	5.062	4.27
10y	94.969	94.3100	5.155	7.80

	Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU07	94.650	5.350	88	0.240	SEP	} White Pack
EDAZ07	94.650	5.350	179	0.490	DEC	
EDAH08	94.680	5.320	270	0.739	MAR	
EDAM08	94.700	5.300	361	0.988	JUN	} Red Pack
EDAU08	94.685	5.315	452	1.238	SEP	
EDAZ08	94.655	5.345	543	1.487	DEC	
EDAH09	94.620	5.380	634	1.736	MAR	} Green Pack
EDAM09	94.580	5.420	725	1.986	JUN	
EDAU09	94.535	5.465	816	2.235	SEP	
EDAZ09	94.485	5.515	907	2.484	DEC	
EDAH10	94.465	5.535	998	2.734	MAR	
EDAM10	94.430	5.570	1089	2.983	JUN	

Notes  
 Futures use CTD for Last Yield  
 Mduration = Modified Macaulay Duration

## 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)

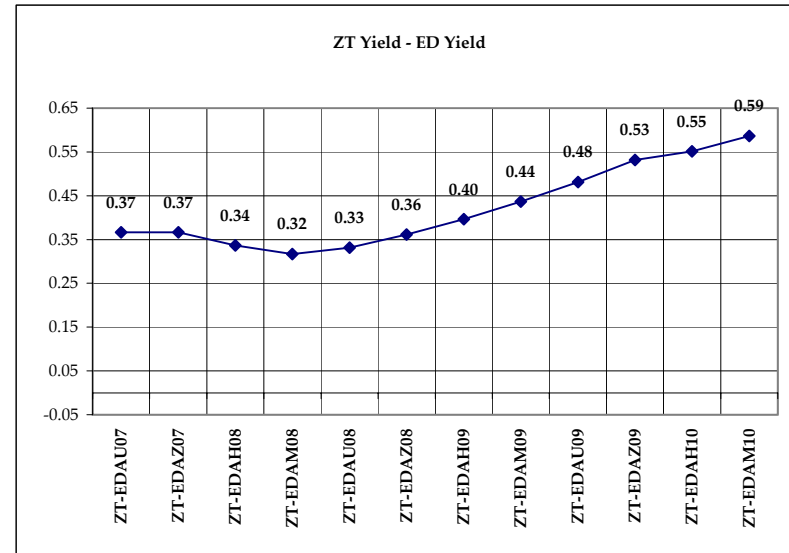
### Eurodollar Color Codes for Individual Year Strips:

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	7.022	0.37	ZT-EDAU07	92.959
EDAZ07	7.022	0.37	ZT-EDAZ07	98.016
EDAH08	6.992	0.34	ZT-EDAH08	99.048
EDAM08	6.972	0.32	ZT-EDAM08	99.333
EDAU08	6.987	0.33	ZT-EDAU08	98.986
EDAZ08	7.017	0.36	ZT-EDAZ08	98.841
EDAH09	7.052	0.40	ZT-EDAH09	97.882
EDAM09	7.092	0.44	ZT-EDAM09	96.370
EDAU09	7.137	0.48	ZT-EDAU09	94.934
EDAZ09	7.187	0.53	ZT-EDAZ09	93.653
EDAH10	7.207	0.55	ZT-EDAH10	92.226
EDAM10	7.242	0.59	ZT-EDAM10	90.945

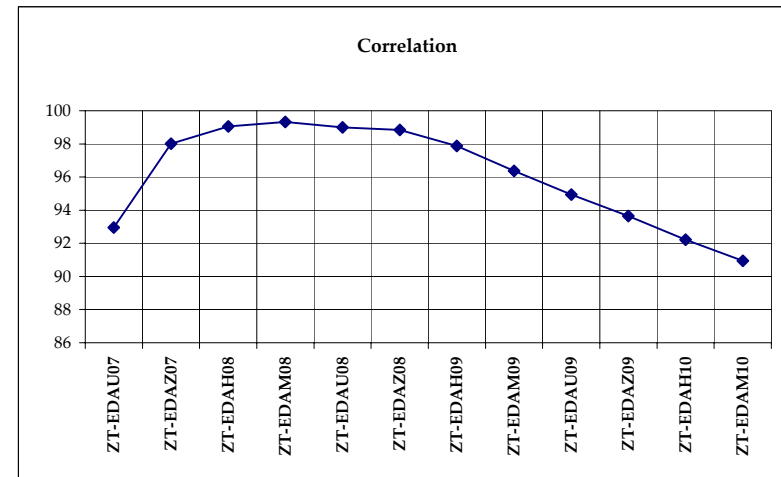
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as

	Fraction of year	ZT Duration	Spread Duration	
EDAU07	0.240	1.88	1.64	ZT-EDAU07
EDAZ07	0.490	1.88	1.39	ZT-EDAZ07
EDAH08	0.739	1.88	1.14	ZT-EDAH08
EDAM08	0.988	1.88	0.89	ZT-EDAM08
EDAU08	1.238	1.88	0.64	ZT-EDAU08
EDAZ08	1.487	1.88	0.39	ZT-EDAZ08
EDAH09	1.736	1.88	0.14	ZT-EDAH09
EDAM09	1.986	1.88	(0.11)	ZT-EDAM09
EDAU09	2.235	1.88	(0.36)	ZT-EDAU09
EDAZ09	2.484	1.88	(0.61)	ZT-EDAZ09
EDAH10	2.734	1.88	(0.86)	ZT-EDAH10
EDAM10	2.983	1.88	(1.11)	ZT-EDAM10

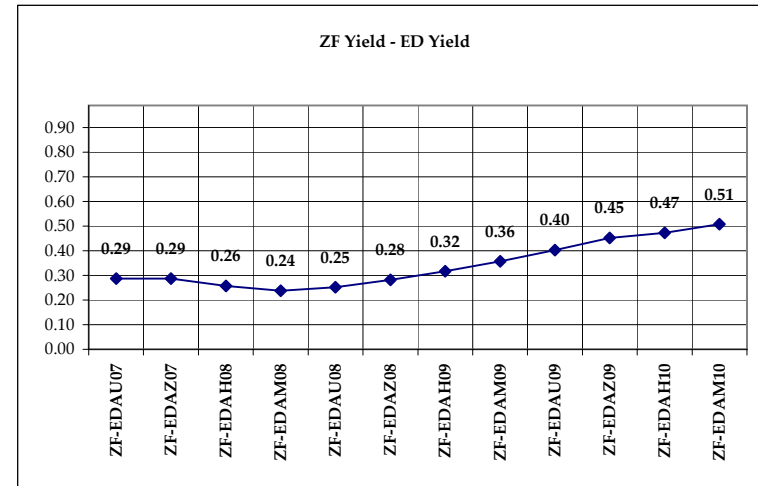
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	8.88	0.29	ZF-EDAU07	88.184
EDAZ07	8.88	0.29	ZF-EDAZ07	96.801
EDAH08	8.85	0.26	ZF-EDAH08	98.040
EDAM08	8.83	0.24	ZF-EDAM08	98.532
EDAU08	8.85	0.25	ZF-EDAU08	99.008
EDAZ08	8.88	0.28	ZF-EDAZ08	99.483
EDAH09	8.91	0.32	ZF-EDAH09	99.688
EDAM09	8.95	0.36	ZF-EDAM09	99.480
EDAU09	9.00	0.40	ZF-EDAU09	98.883
EDAZ09	9.05	0.45	ZF-EDAZ09	98.404
EDAH10	9.07	0.47	ZF-EDAH10	97.669
EDAM10	9.10	0.51	ZF-EDAM10	96.659

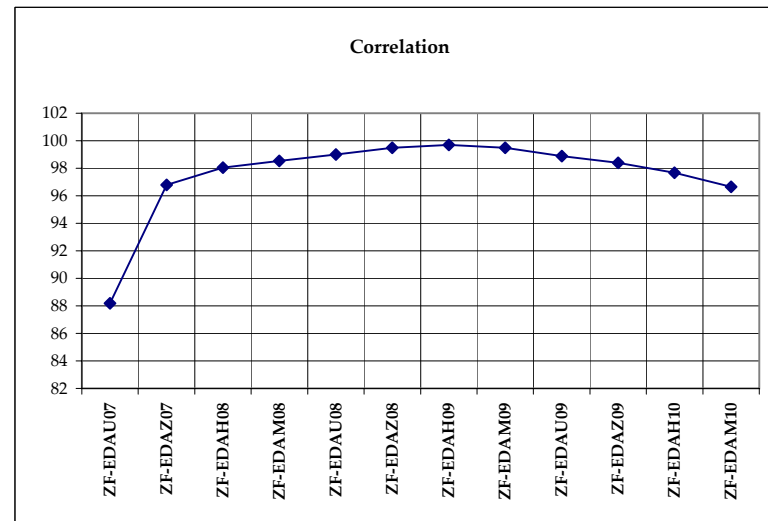
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	Fraction of year	ZF Duration	Spread Duration	
EDAU07	0.240	3.96	3.72	ZF-EDAU07
EDAZ07	0.490	3.96	3.47	ZF-EDAZ07
EDAH08	0.739	3.96	3.22	ZF-EDAH08
EDAM08	0.988	3.96	2.97	ZF-EDAM08
EDAU08	1.238	3.96	2.72	ZF-EDAU08
EDAZ08	1.487	3.96	2.47	ZF-EDAZ08
EDAH09	1.736	3.96	2.22	ZF-EDAH09
EDAM09	1.986	3.96	1.97	ZF-EDAM09
EDAU09	2.235	3.96	1.72	ZF-EDAU09
EDAZ09	2.484	3.96	1.47	ZF-EDAZ09
EDAH10	2.734	3.96	1.22	ZF-EDAH10
EDAM10	2.983	3.96	0.98	ZF-EDAM10

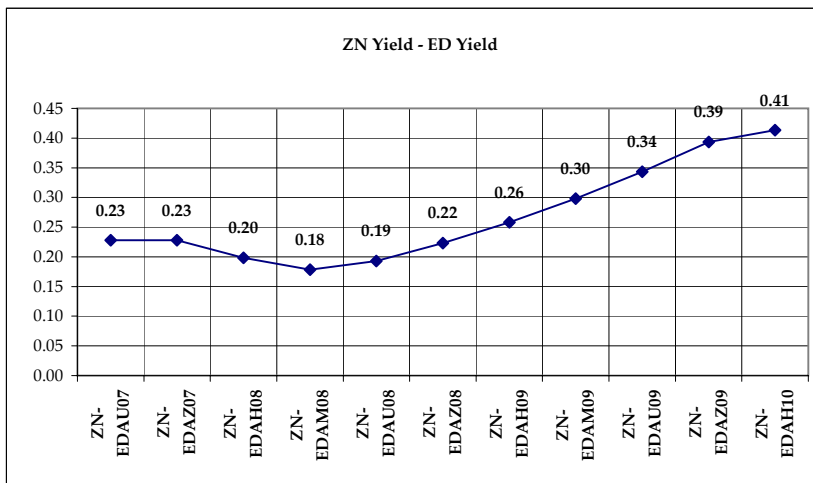
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	10.16	0.23	ZN-EDAU07	87.21
EDAZ07	10.16	0.23	ZN-EDAZ07	95.23
EDAH08	10.13	0.20	ZN-EDAH08	96.41
EDAM08	10.11	0.18	ZN-EDAM08	97.14
EDAU08	10.13	0.19	ZN-EDAU08	97.68
EDAZ08	10.16	0.22	ZN-EDAZ08	98.61
EDAH09	10.19	0.26	ZN-EDAH09	98.95
EDAM09	10.23	0.30	ZN-EDAM09	99.08
EDAU09	10.28	0.34	ZN-EDAU09	98.56
EDAZ09	10.33	0.39	ZN-EDAZ09	98.52
EDAH10	10.35	0.41	ZN-EDAH10	97.67
EDAM10	10.38	0.45	ZN-EDAM10	96.66

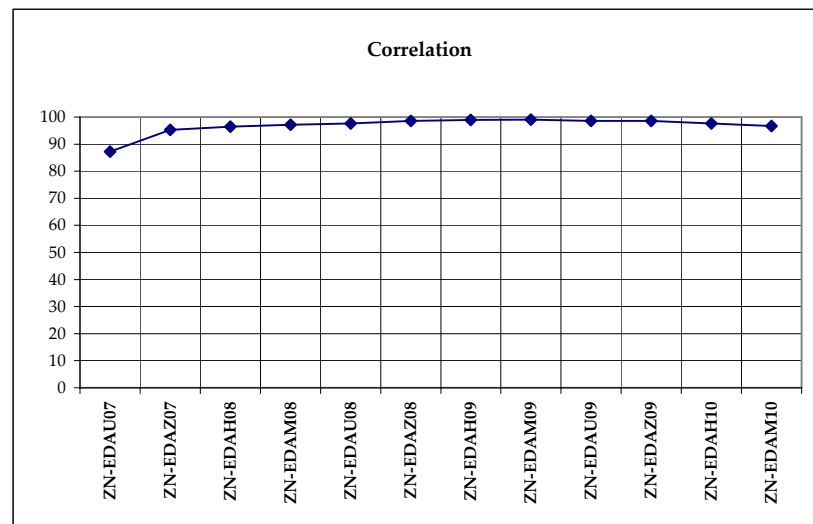
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZN Duration	Spread Duration	
EDAU07	0.240	5.77	5.53	ZN-EDAU07
EDAZ07	0.490	5.77	5.28	ZN-EDAZ07
EDAH08	0.739	5.77	5.03	ZN-EDAH08
EDAM08	0.988	5.77	4.78	ZN-EDAM08
EDAU08	1.238	5.77	4.53	ZN-EDAU08
EDAZ08	1.487	5.77	4.29	ZN-EDAZ08
EDAH09	1.736	5.77	4.04	ZN-EDAH09
EDAM09	1.986	5.77	3.79	ZN-EDAM09
EDAU09	2.235	5.77	3.54	ZN-EDAU09
EDAZ09	2.484	5.77	3.29	ZN-EDAZ09
EDAH10	2.734	5.77	3.04	ZN-EDAH10
EDAM10	2.983	5.77	2.79	ZN-EDAM10

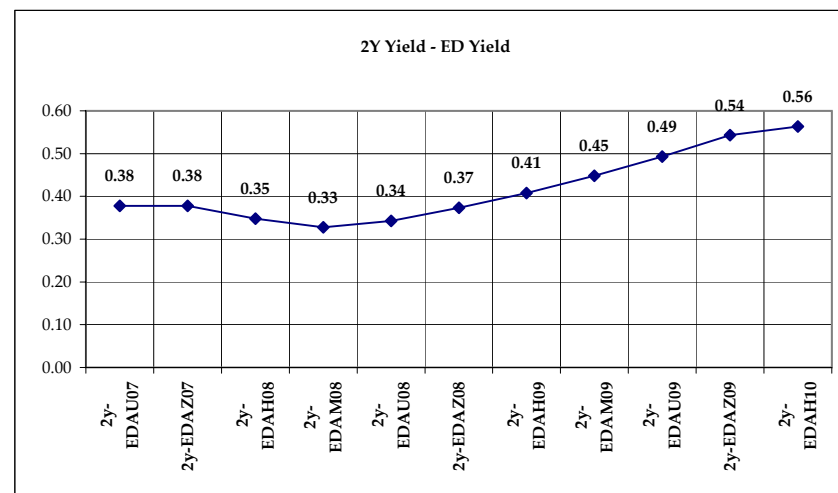
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.16	0.38	2y-EDAU07	-86.385
EDAZ07	5.16	0.38	2y-EDAZ07	-95.274
EDAH08	5.13	0.35	2y-EDAH08	-94.762
EDAM08	5.11	0.33	2y-EDAM08	-94.982
EDAU08	5.13	0.34	2y-EDAU08	-95.337
EDAZ08	5.16	0.37	2y-EDAZ08	-94.982
EDAH09	5.19	0.41	2y-EDAH09	-96.921
EDAM09	5.23	0.45	2y-EDAM09	-97.842
EDAU09	5.28	0.49	2y-EDAU09	-97.500
EDAZ09	5.33	0.54	2y-EDAZ09	-96.724
EDAH10	5.35	0.56	2y-EDAH10	-96.683
EDAM10	5.38	0.60	2y-EDAM10	-96.250

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.

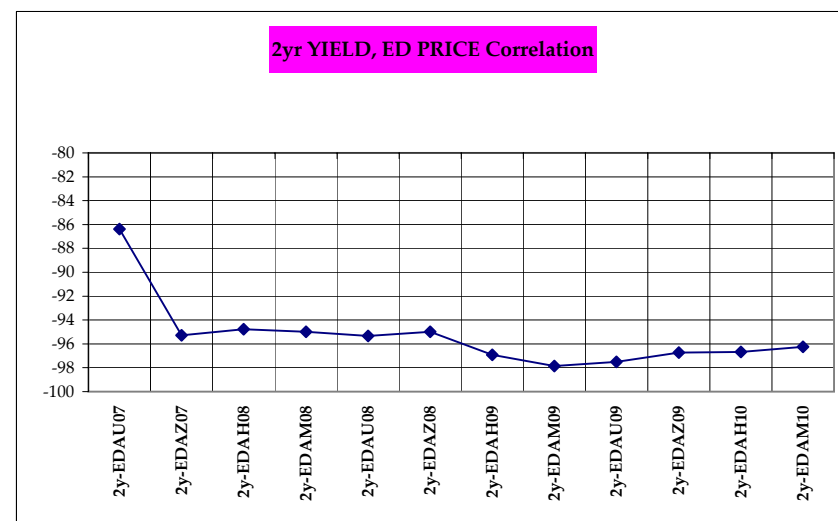


GE Duration as Fraction of year

	2Y Duration	Spread Duration	
EDAU07	0.240	1.77	2y-EDAU07
EDAZ07	0.490	1.52	2y-EDAZ07
EDAH08	0.739	1.27	2y-EDAH08
EDAM08	0.988	1.02	2y-EDAM08
EDAU08	1.238	0.77	2y-EDAU08
EDAZ08	1.487	0.53	2y-EDAZ08
EDAH09	1.736	0.28	2y-EDAH09
EDAM09	1.986	0.03	2y-EDAM09
EDAU09	2.235	(0.22)	2y-EDAU09
EDAZ09	2.484	(0.47)	2y-EDAZ09
EDAH10	2.734	(0.72)	2y-EDAH10
EDAM10	2.983	(0.97)	2y-EDAM10

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

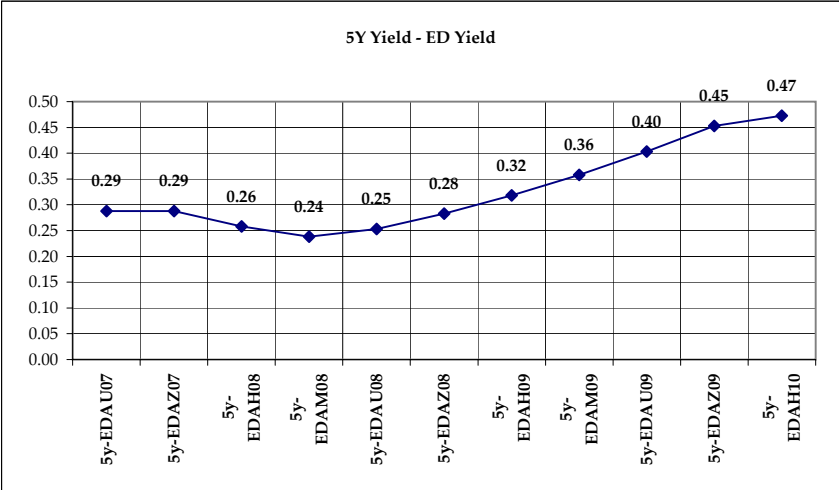
2yr YIELD, ED PRICE Correlation



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	3.98	0.29	5y-EDAU07	-80.687
EDAZ07	3.98	0.29	5y-EDAZ07	-90.229
EDAH08	3.95	0.26	5y-EDAH08	-91.850
EDAM08	3.93	0.24	5y-EDAM08	-93.019
EDAU08	3.95	0.25	5y-EDAU08	-93.825
EDAZ08	3.98	0.28	5y-EDAZ08	-93.019
EDAH09	4.01	0.32	5y-EDAH09	-96.322
EDAM09	4.05	0.36	5y-EDAM09	-97.575
EDAU09	4.10	0.40	5y-EDAU09	-97.891
EDAZ09	4.15	0.45	5y-EDAZ09	-98.297
EDAH10	4.17	0.47	5y-EDAH10	-98.450
EDAM10	4.20	0.51	5y-EDAM10	-97.812

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.

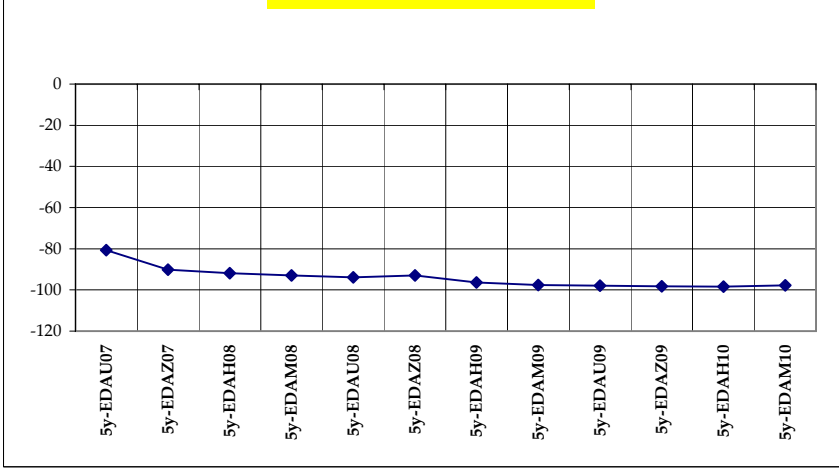


**GE Duration as Fraction of year**

	5Y Duration	Spread Duration	
EDAU07	0.240	4.27	5y-EDAU07
EDAZ07	0.490	4.27	5y-EDAZ07
EDAH08	0.739	4.27	5y-EDAH08
EDAM08	0.988	4.27	5y-EDAM08
EDAU08	1.238	4.27	5y-EDAU08
EDAZ08	1.487	4.27	5y-EDAZ08
EDAH09	1.736	4.27	5y-EDAH09
EDAM09	1.986	4.27	5y-EDAM09
EDAU09	2.235	4.27	5y-EDAU09
EDAZ09	2.484	4.27	5y-EDAZ09
EDAH10	2.734	4.27	5y-EDAH10
EDAM10	2.983	4.27	5y-EDAM10

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

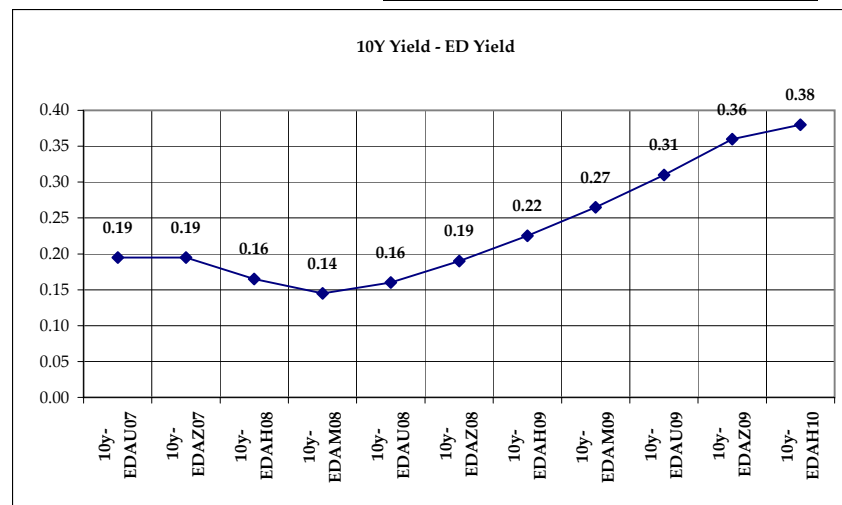
**5yr YIELD, ED PRICE Correlation**



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

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	3.98	0.19	10y-EDAU07	-72.885
EDAZ07	3.98	0.19	10y-EDAZ07	-82.607
EDAH08	3.95	0.16	10y-EDAH08	-84.695
EDAM08	3.93	0.14	10y-EDAM08	-86.487
EDAU08	3.95	0.16	10y-EDAU08	-87.534
EDAZ08	3.98	0.19	10y-EDAZ08	-86.487
EDAH09	4.01	0.22	10y-EDAH09	-91.127
EDAM09	4.05	0.27	10y-EDAM09	-93.182
EDAU09	4.10	0.31	10y-EDAU09	-93.718
EDAZ09	4.15	0.36	10y-EDAZ09	-95.090
EDAH10	4.17	0.38	10y-EDAH10	-95.712
EDAM10	4.20	0.41	10y-EDAM10	-95.124

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.

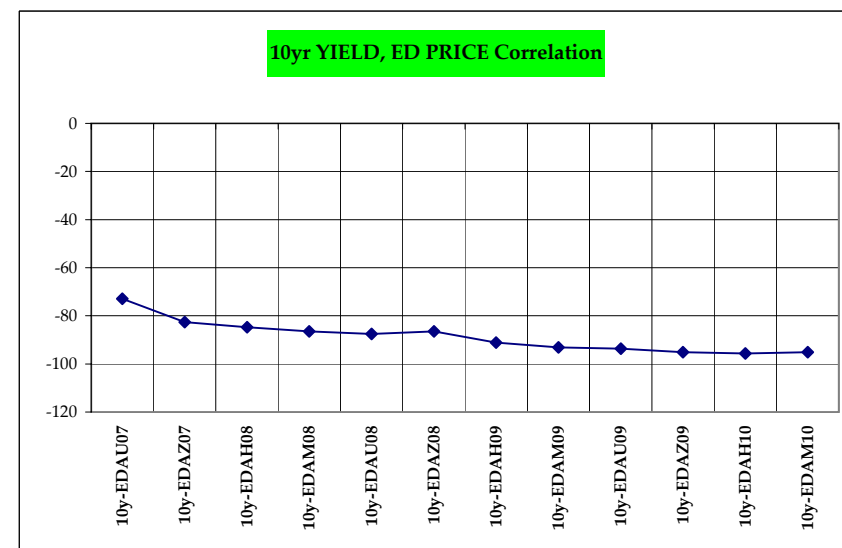


**GE Duration as**

	Fraction of year	10Y Duration	Spread Duration	
EDAU07	0.240	7.80	7.56	10y-EDAU07
EDAZ07	0.490	7.80	7.31	10y-EDAZ07
EDAH08	0.739	7.80	7.06	10y-EDAH08
EDAM08	0.988	7.80	6.81	10y-EDAM08
EDAU08	1.238	7.80	6.56	10y-EDAU08
EDAZ08	1.487	7.80	6.31	10y-EDAZ08
EDAH09	1.736	7.80	6.06	10y-EDAH09
EDAM09	1.986	7.80	5.81	10y-EDAM09
EDAU09	2.235	7.80	5.56	10y-EDAU09
EDAZ09	2.484	7.80	5.31	10y-EDAZ09
EDAH10	2.734	7.80	5.07	10y-EDAH10
EDAM10	2.983	7.80	4.82	10y-EDAM10

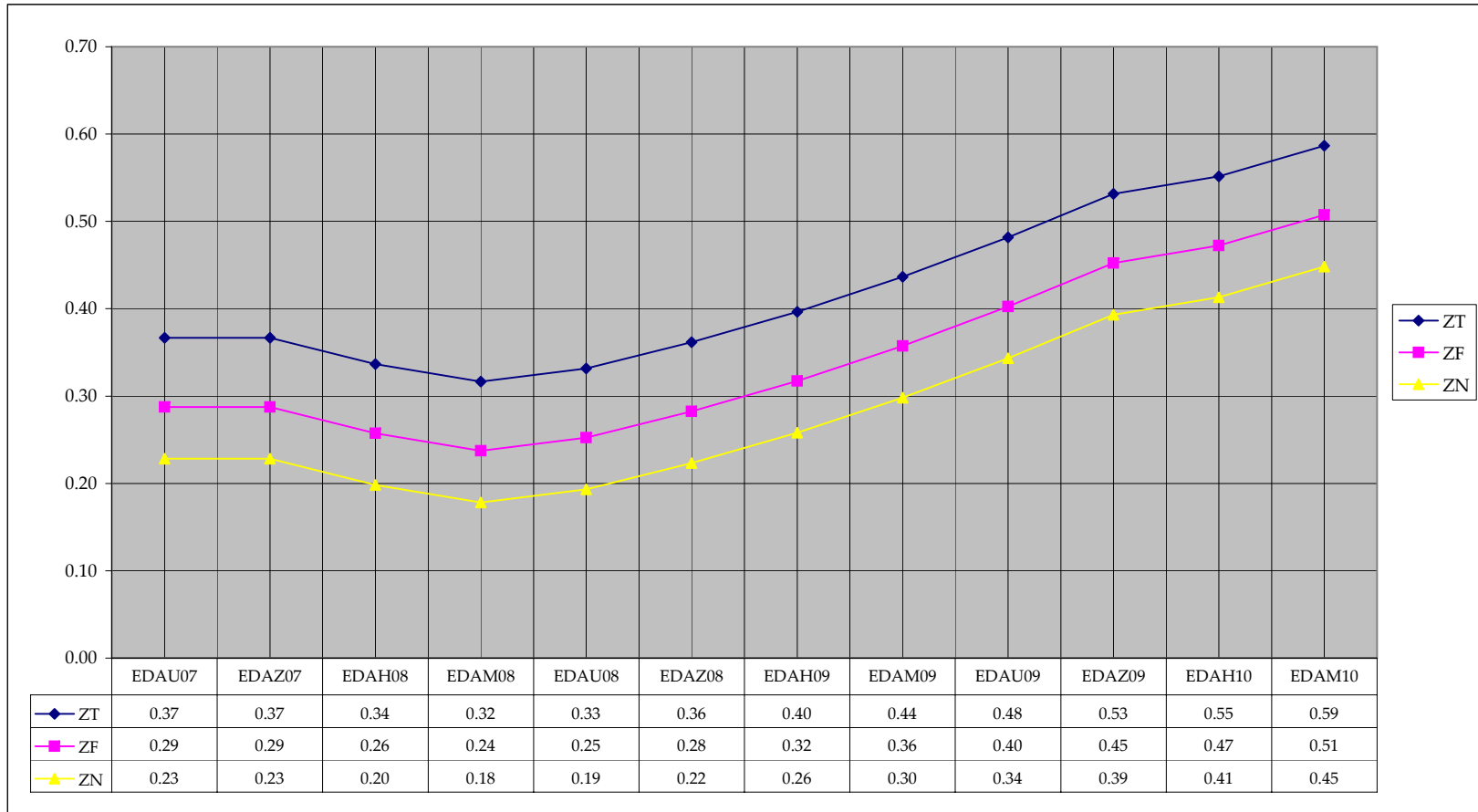
The farther away from 0 the spread duration is the riskier the trade.

**10yr YIELD, ED PRICE Correlation**



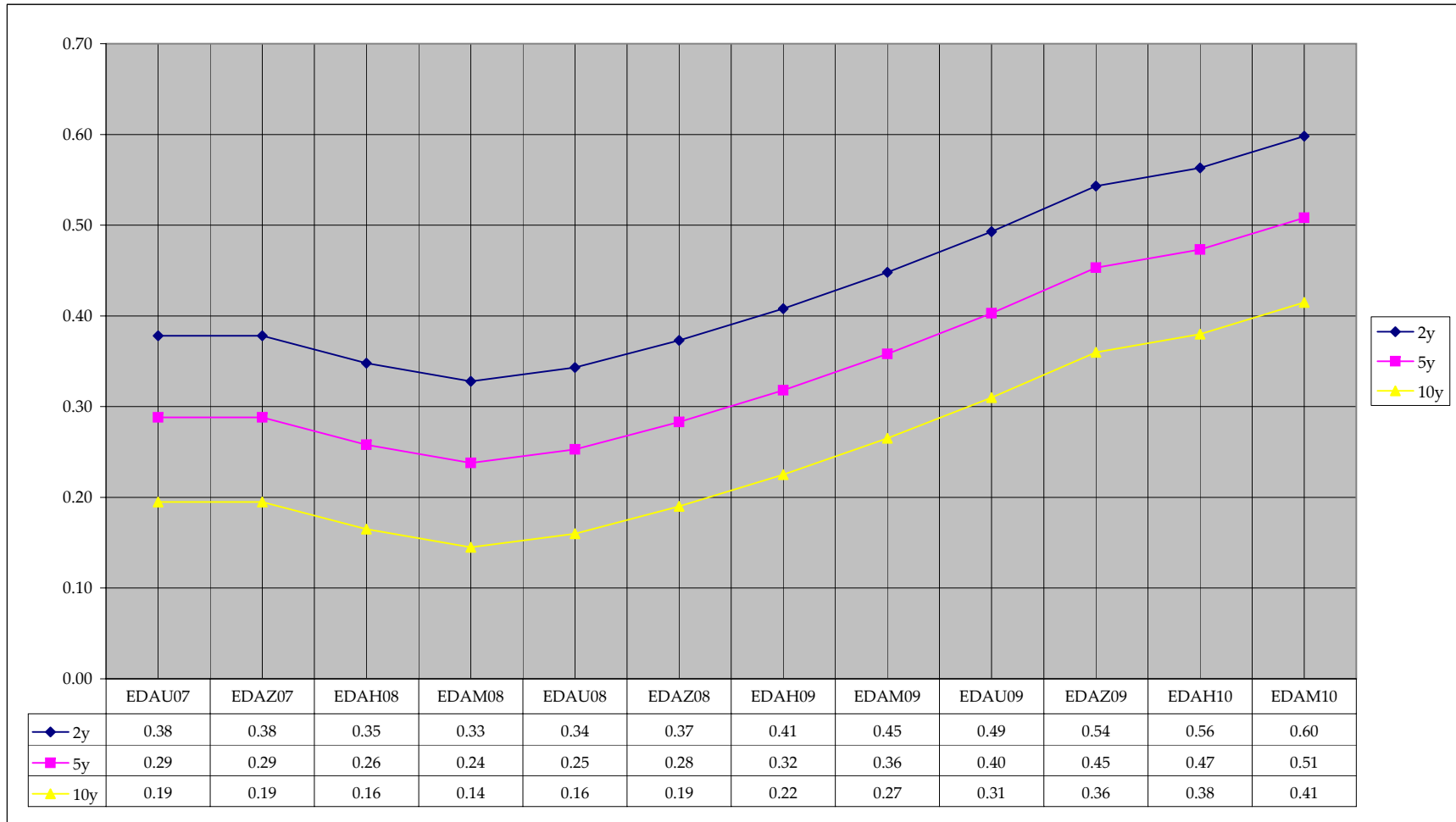
**Dirty TED Curve**

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.

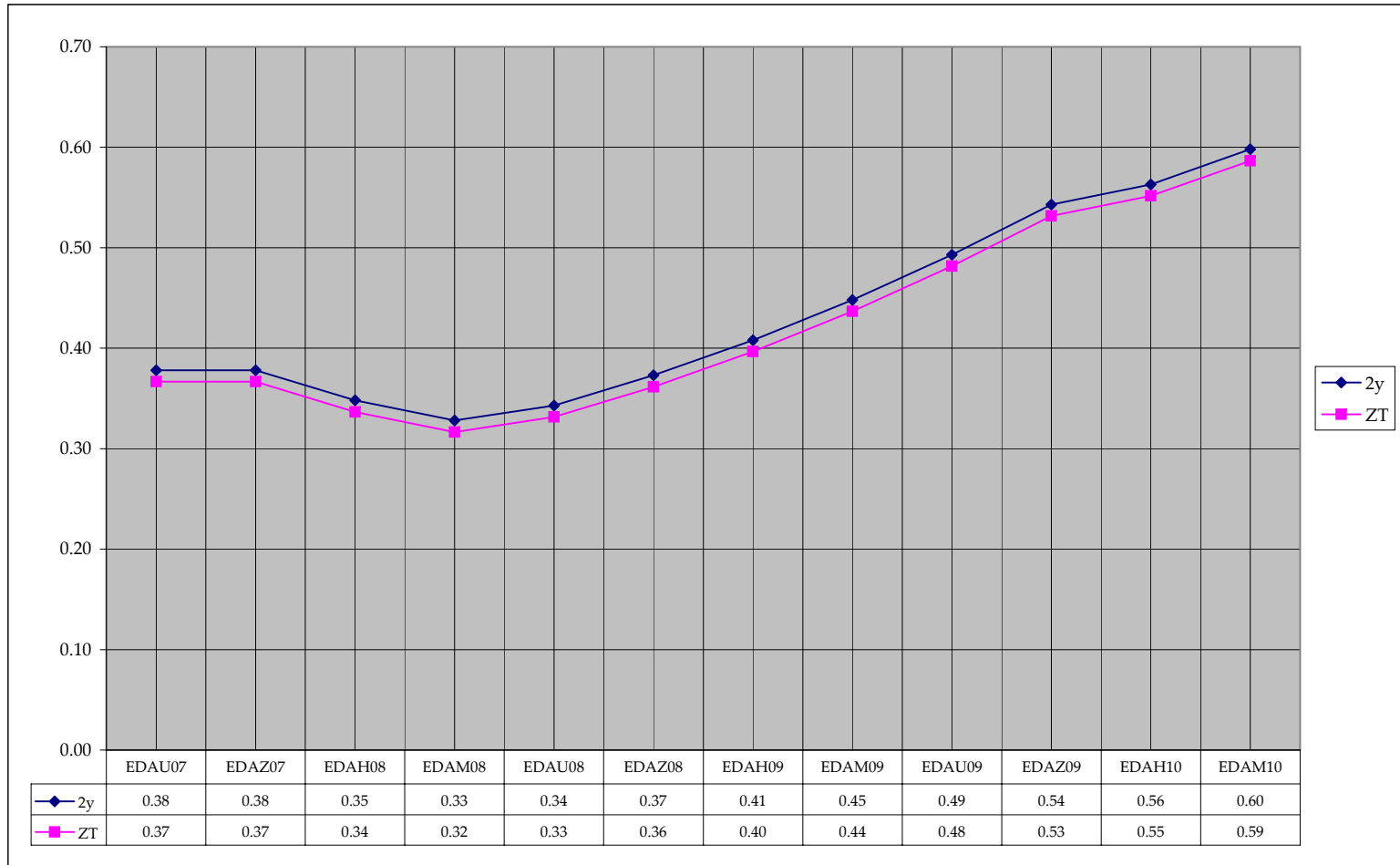


TED Curve

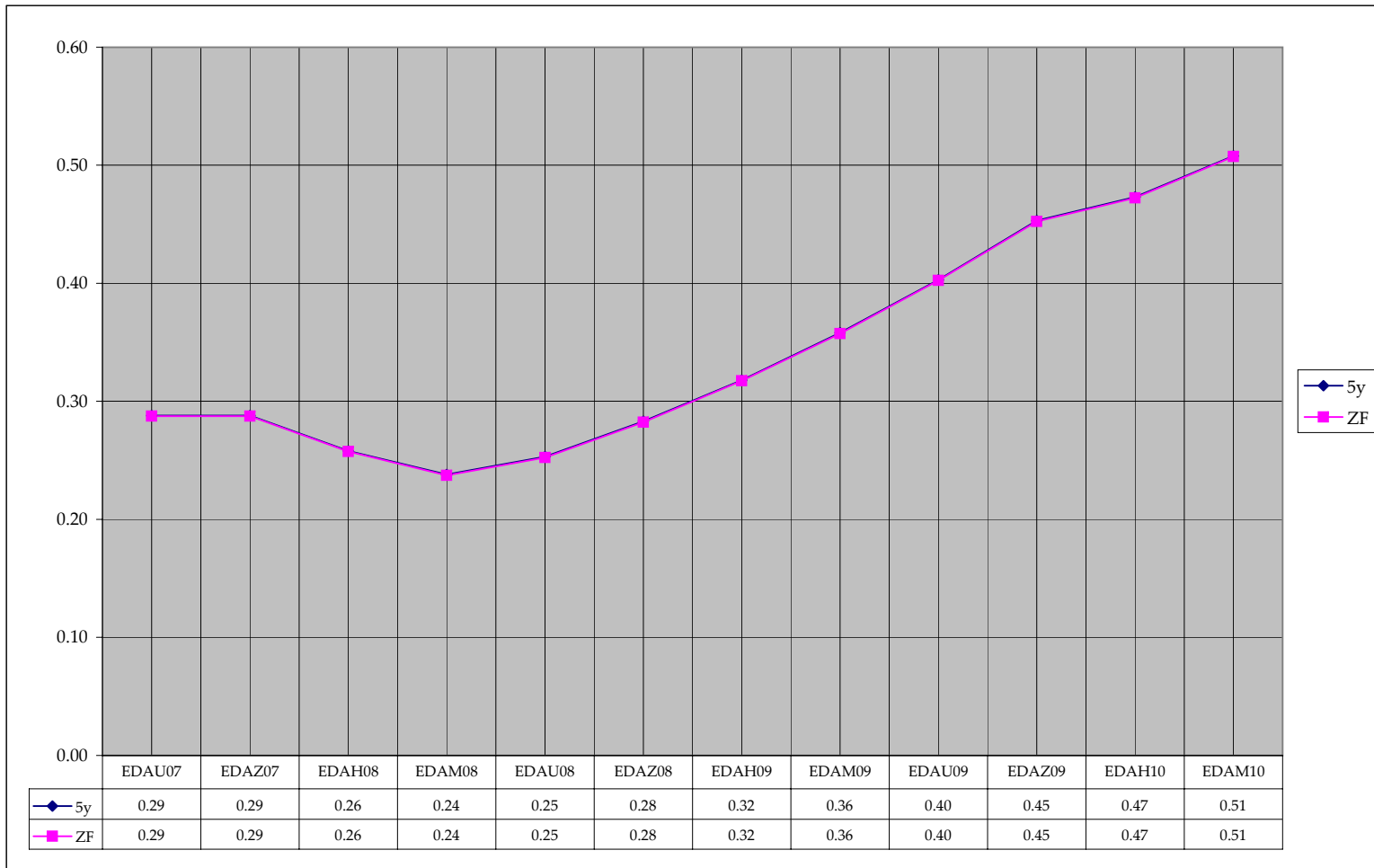
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



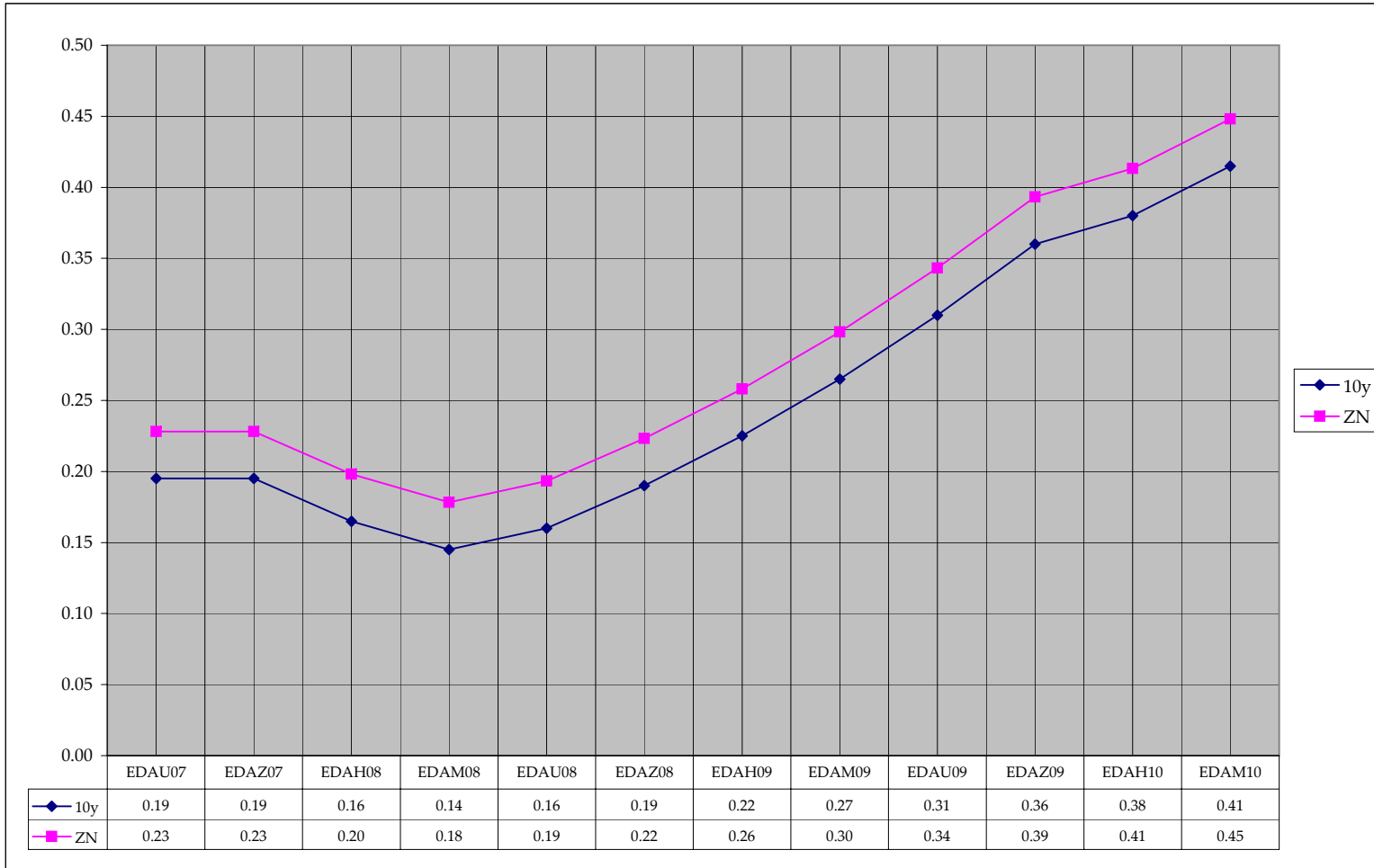
## 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



Jim Goulding, jgoulding@ghco.com