

## 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.

F.I. Futures and Cash				
	Last Decimal	Last 32	Last Yield*	**MDuration
ZT	101.4375	101.140	5.120	1.86
ZF	102.8906	102.285	5.209	3.98
ZN	103.7031	103.225	5.239	5.79
2y	99.553	99.1770	5.116	2.03
5y	97.938	97.3000	5.225	4.29
10y	93.734	93.2350	5.316	7.80

\*Futures use CTD for Last Yield

\*\*Mduration = Modified Macaulay Duration

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM07	94.635	5.365	5	0.013	JUN	} White Pack
EDAU07	94.620	5.380	96	0.262	SEP	
EDAZ07	94.575	5.425	187	0.512	DEC	
EDAH08	94.575	5.425	278	0.761	MAR	} Red Pack
EDAM08	94.555	5.445	369	1.010	JUN	
EDAU08	94.515	5.485	460	1.260	SEP	
EDAZ08	94.465	5.535	551	1.509	DEC	} Green Pack
EDAH09	94.420	5.580	642	1.758	MAR	
EDAM09	94.360	5.640	733	2.008	JUN	
EDAU09	94.315	5.685	824	2.257	SEP	
EDAZ09	94.280	5.720	915	2.506	DEC	
EDAH10	94.230	5.770	1006	2.756	MAR	

**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)

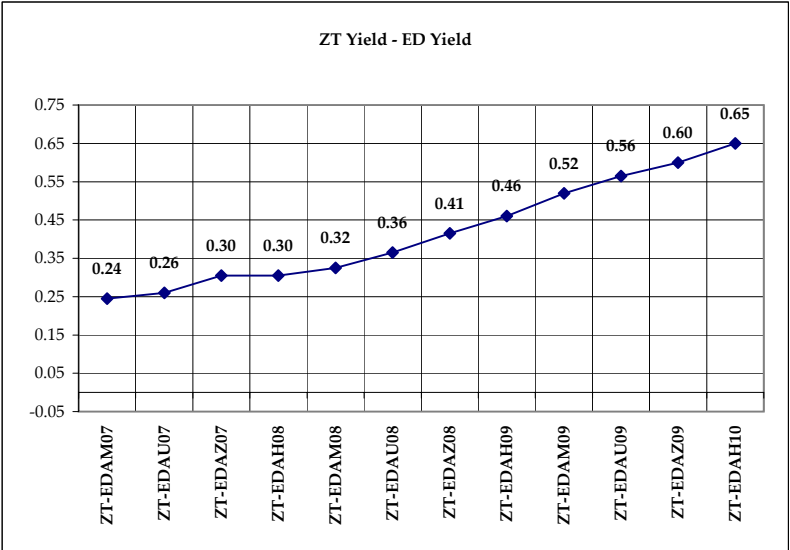
**Eurodollar Color Codes for Individual Year Strips:**

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

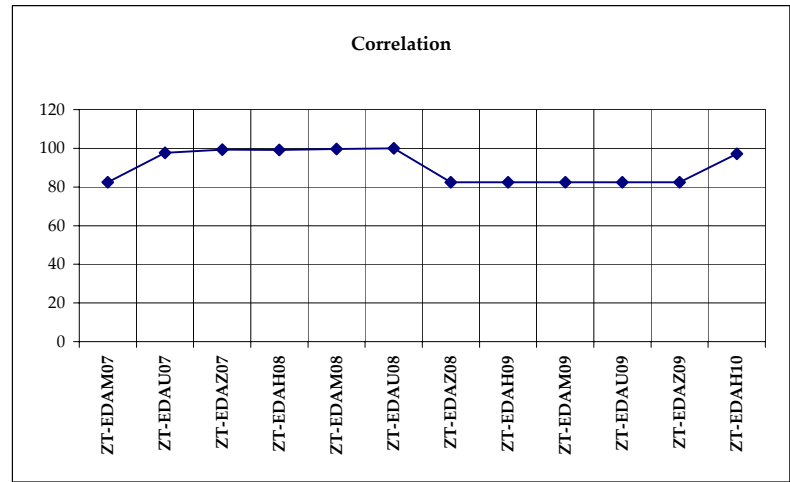
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	6.802	0.24	ZT-EDAM07	82.407
EDAU07	6.818	0.26	ZT-EDAU07	97.709
EDAZ07	6.863	0.30	ZT-EDAZ07	99.333
EDAH08	6.863	0.30	ZT-EDAH08	99.226
EDAM08	6.882	0.32	ZT-EDAM08	99.722
EDAU08	6.923	0.36	ZT-EDAU08	99.917
EDAZ08	6.973	0.41	ZT-EDAZ08	82.407
EDAH09	7.018	0.46	ZT-EDAH09	82.407
EDAM09	7.078	0.52	ZT-EDAM09	82.407
EDAU09	7.123	0.56	ZT-EDAU09	82.407
EDAZ09	7.158	0.60	ZT-EDAZ09	82.407
EDAH10	7.208	0.65	ZT-EDAH10	97.232

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		
EDAM07	0.013	1.86	1.84	ZT-EDAM07
EDAU07	0.262	1.86	1.60	ZT-EDAU07
EDAZ07	0.512	1.86	1.35	ZT-EDAZ07
EDAH08	0.761	1.86	1.10	ZT-EDAH08
EDAM08	1.010	1.86	0.85	ZT-EDAM08
EDAU08	1.260	1.86	0.60	ZT-EDAU08
EDAZ08	1.509	1.86	0.35	ZT-EDAZ08
EDAH09	1.758	1.86	0.10	ZT-EDAH09
EDAM09	2.008	1.86	(0.15)	ZT-EDAM09
EDAU09	2.257	1.86	(0.40)	ZT-EDAU09
EDAZ09	2.506	1.86	(0.65)	ZT-EDAZ09
EDAH10	2.756	1.86	(0.90)	ZT-EDAH10

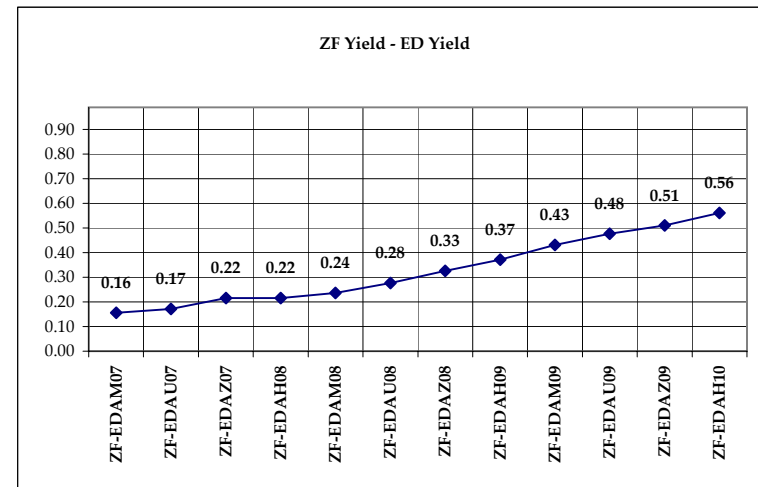
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

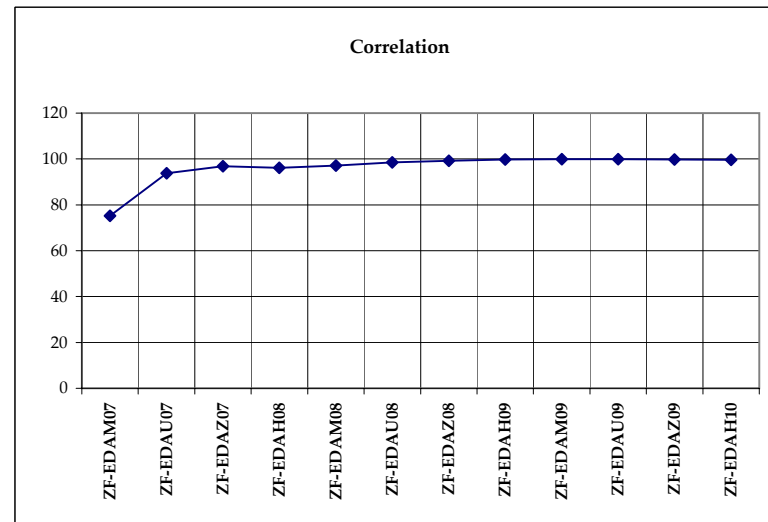
ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	8.26	0.16	ZF-EDAM07	75.193
EDAU07	8.27	0.17	ZF-EDAU07	93.745
EDAZ07	8.32	0.22	ZF-EDAZ07	96.848
EDAH08	8.32	0.22	ZF-EDAH08	96.100
EDAM08	8.34	0.24	ZF-EDAM08	97.117
EDAU08	8.38	0.28	ZF-EDAU08	98.496
EDAZ08	8.43	0.33	ZF-EDAZ08	99.188
EDAH09	8.47	0.37	ZF-EDAH09	99.786
EDAM09	8.53	0.43	ZF-EDAM09	99.930
EDAU09	8.58	0.48	ZF-EDAU09	99.856
EDAZ09	8.61	0.51	ZF-EDAZ09	99.800
EDAH10	8.66	0.56	ZF-EDAH10	99.693

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	
EDAM07	0.013	3.98	3.96	ZF-EDAM07
EDAU07	0.262	3.98	3.71	ZF-EDAU07
EDAZ07	0.512	3.98	3.46	ZF-EDAZ07
EDAH08	0.761	3.98	3.21	ZF-EDAH08
EDAM08	1.010	3.98	2.96	ZF-EDAM08
EDAU08	1.260	3.98	2.72	ZF-EDAU08
EDAZ08	1.509	3.98	2.47	ZF-EDAZ08
EDAH09	1.758	3.98	2.22	ZF-EDAH09
EDAM09	2.008	3.98	1.97	ZF-EDAM09
EDAU09	2.257	3.98	1.72	ZF-EDAU09
EDAZ09	2.506	3.98	1.47	ZF-EDAZ09
EDAH10	2.756	3.98	1.22	ZF-EDAH10

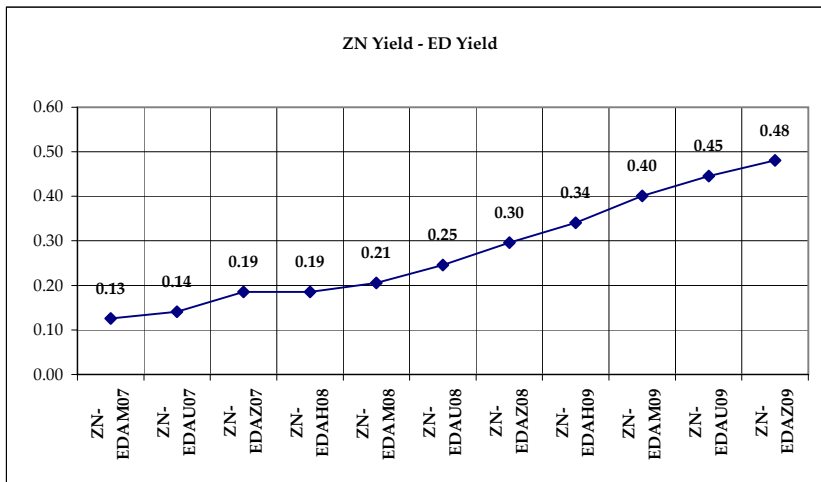
The farther away from 0 the spread duration is the riskier the trade.



## Dirty TED: ZN vs Eurodollar Contracts

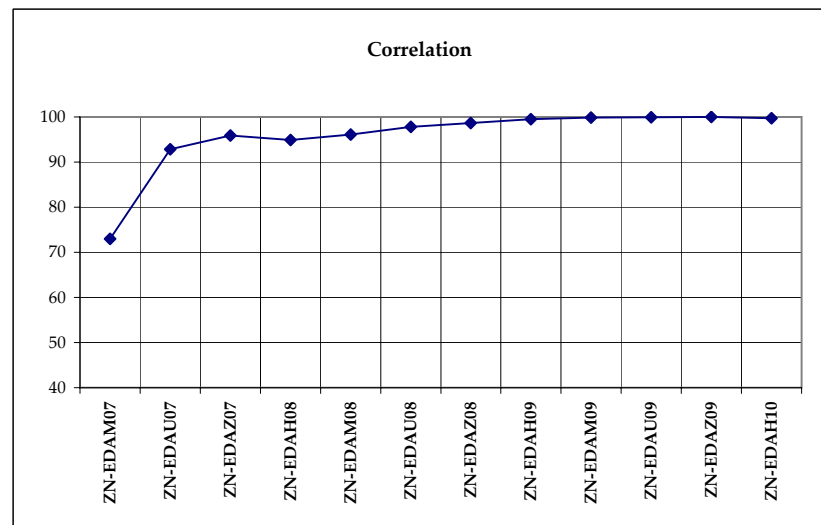
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	9.07	0.13	ZN-EDAM07	72.94
EDAU07	9.08	0.14	ZN-EDAU07	92.86
EDAZ07	9.13	0.19	ZN-EDAZ07	95.89
EDAH08	9.13	0.19	ZN-EDAH08	94.87
EDAM08	9.15	0.21	ZN-EDAM08	96.13
EDAU08	9.19	0.25	ZN-EDAU08	97.79
EDAZ08	9.24	0.30	ZN-EDAZ08	98.67
EDAH09	9.28	0.34	ZN-EDAH09	99.52
EDAM09	9.34	0.40	ZN-EDAM09	99.86
EDAU09	9.39	0.45	ZN-EDAU09	99.92
EDAZ09	9.42	0.48	ZN-EDAZ09	99.97
EDAH10	9.47	0.53	ZN-EDAH10	99.69

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	
EDAM07	0.013	5.79	5.77	ZN-EDAM07
EDAU07	0.262	5.79	5.52	ZN-EDAU07
EDAZ07	0.512	5.79	5.27	ZN-EDAZ07
EDAH08	0.761	5.79	5.03	ZN-EDAH08
EDAM08	1.010	5.79	4.78	ZN-EDAM08
EDAU08	1.260	5.79	4.53	ZN-EDAU08
EDAZ08	1.509	5.79	4.28	ZN-EDAZ08
EDAH09	1.758	5.79	4.03	ZN-EDAH09
EDAM09	2.008	5.79	3.78	ZN-EDAM09
EDAU09	2.257	5.79	3.53	ZN-EDAU09
EDAZ09	2.506	5.79	3.28	ZN-EDAZ09
EDAH10	2.756	5.79	3.03	ZN-EDAH10

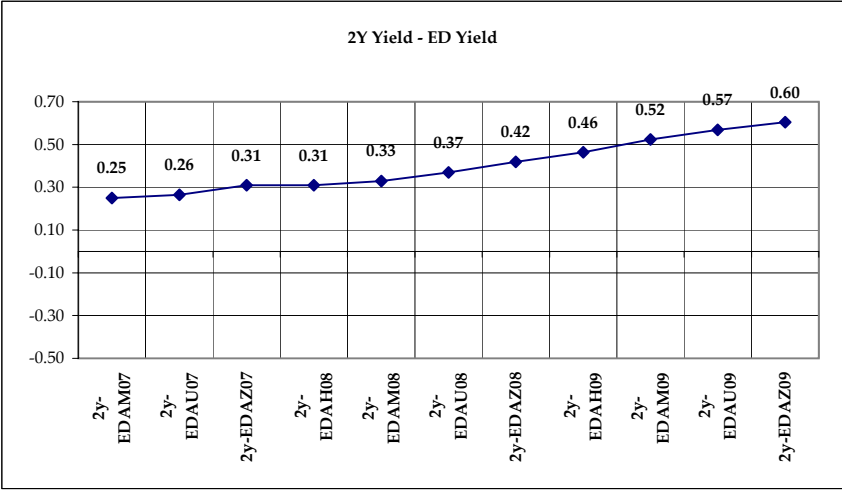
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	4.92	0.25	2y-EDAM07	-80.767
EDAU07	4.93	0.26	2y-EDAU07	-96.976
EDAZ07	4.98	0.31	2y-EDAZ07	-96.868
EDAH08	4.98	0.31	2y-EDAH08	-97.574
EDAM08	5.00	0.33	2y-EDAM08	-98.024
EDAU08	5.04	0.37	2y-EDAU08	-97.932
EDAZ08	5.09	0.42	2y-EDAZ08	-80.767
EDAH09	5.13	0.46	2y-EDAH09	-80.767
EDAM09	5.19	0.52	2y-EDAM09	-80.767
EDAU09	5.24	0.57	2y-EDAU09	-80.767
EDAZ09	5.27	0.60	2y-EDAZ09	-80.767
EDAH10	5.32	0.65	2y-EDAH10	-94.279

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.

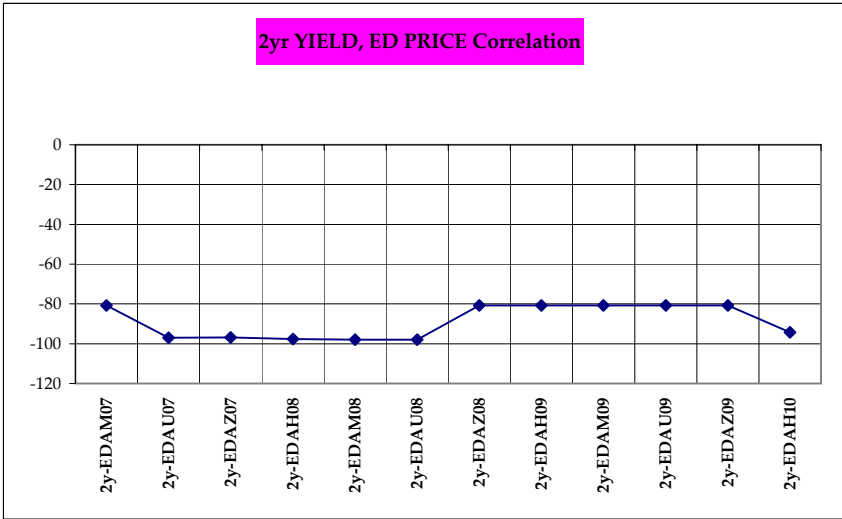


GE Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAM07	0.013	2.03	2.02	2y-EDAM07
EDAU07	0.262	2.03	1.77	2y-EDAU07
EDAZ07	0.512	2.03	1.52	2y-EDAZ07
EDAH08	0.761	2.03	1.27	2y-EDAH08
EDAM08	1.010	2.03	1.02	2y-EDAM08
EDAU08	1.260	2.03	0.77	2y-EDAU08
EDAZ08	1.509	2.03	0.52	2y-EDAZ08
EDAH09	1.758	2.03	0.27	2y-EDAH09
EDAM09	2.008	2.03	0.02	2y-EDAM09
EDAU09	2.257	2.03	(0.22)	2y-EDAU09
EDAZ09	2.506	2.03	(0.47)	2y-EDAZ09
EDAH10	2.756	2.03	(0.72)	2y-EDAH10

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

2yr YIELD, ED PRICE Correlation



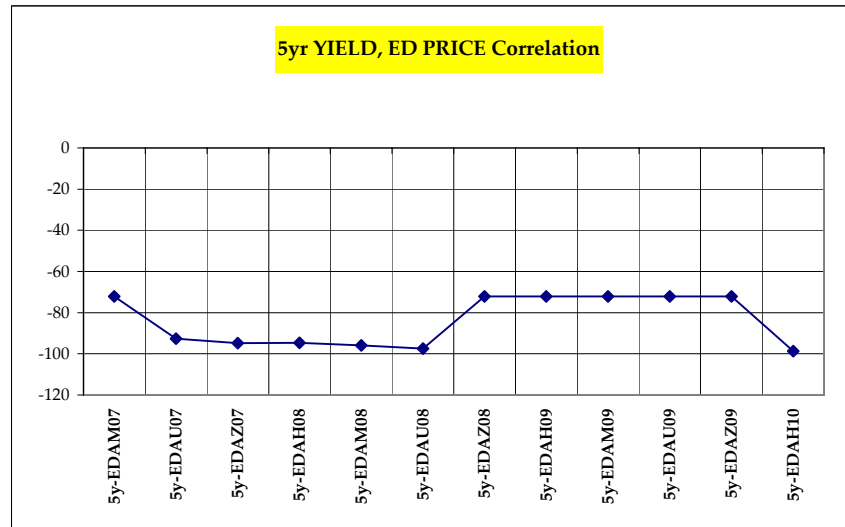
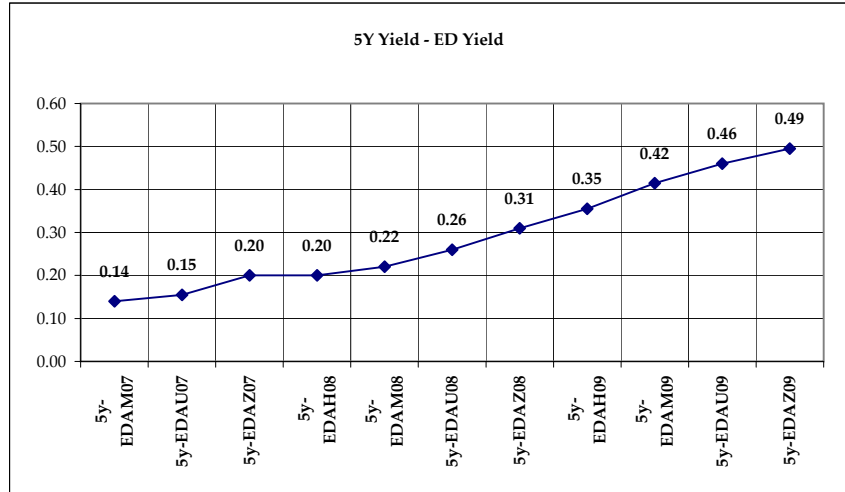
TERM TED: 5y vs Eurodollar Contracts

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	3.30	0.14	5y-EDAM07	-72.176
EDAU07	3.32	0.15	5y-EDAU07	-92.679
EDAZ07	3.36	0.20	5y-EDAZ07	-94.867
EDAH08	3.36	0.20	5y-EDAH08	-94.587
EDAM08	3.38	0.22	5y-EDAM08	-95.885
EDAU08	3.42	0.26	5y-EDAU08	-97.415
EDAZ08	3.47	0.31	5y-EDAZ08	-72.176
EDAH09	3.52	0.35	5y-EDAH09	-72.176
EDAM09	3.58	0.42	5y-EDAM09	-72.176
EDAU09	3.62	0.46	5y-EDAU09	-72.176
EDAZ09	3.66	0.49	5y-EDAZ09	-72.176
EDAH10	3.71	0.54	5y-EDAH10	-98.644

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				
	Fraction of year	5Y Duration	Spread Duration	
EDAM07	0.013	4.29	4.28	5y-EDAM07
EDAU07	0.262	4.29	4.03	5y-EDAU07
EDAZ07	0.512	4.29	3.78	5y-EDAZ07
EDAH08	0.761	4.29	3.53	5y-EDAH08
EDAM08	1.010	4.29	3.28	5y-EDAM08
EDAU08	1.260	4.29	3.03	5y-EDAU08
EDAZ08	1.509	4.29	2.78	5y-EDAZ08
EDAH09	1.758	4.29	2.53	5y-EDAH09
EDAM09	2.008	4.29	2.28	5y-EDAM09
EDAU09	2.257	4.29	2.03	5y-EDAU09
EDAZ09	2.506	4.29	1.78	5y-EDAZ09
EDAH10	2.756	4.29	1.53	5y-EDAH10

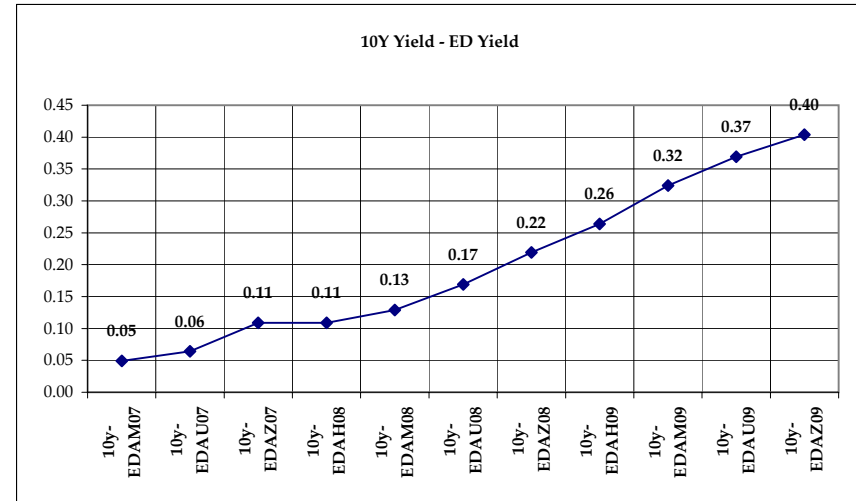
The farther away from 0 the spread duration is the riskier the trade.



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

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	3.30	0.05	10y-EDAM07	-69.119
EDAU07	3.32	0.06	10y-EDAU07	-91.121
EDAZ07	3.36	0.11	10y-EDAZ07	-93.808
EDAH08	3.36	0.11	10y-EDAH08	-93.090
EDAM08	3.38	0.13	10y-EDAM08	-94.564
EDAU08	3.42	0.17	10y-EDAU08	-96.434
EDAZ08	3.47	0.22	10y-EDAZ08	-69.119
EDAH09	3.52	0.26	10y-EDAH09	-69.119
EDAM09	3.58	0.32	10y-EDAM09	-69.119
EDAU09	3.62	0.37	10y-EDAU09	-69.119
EDAZ09	3.66	0.40	10y-EDAZ09	-69.119
EDAH10	3.71	0.45	10y-EDAH10	-99.120

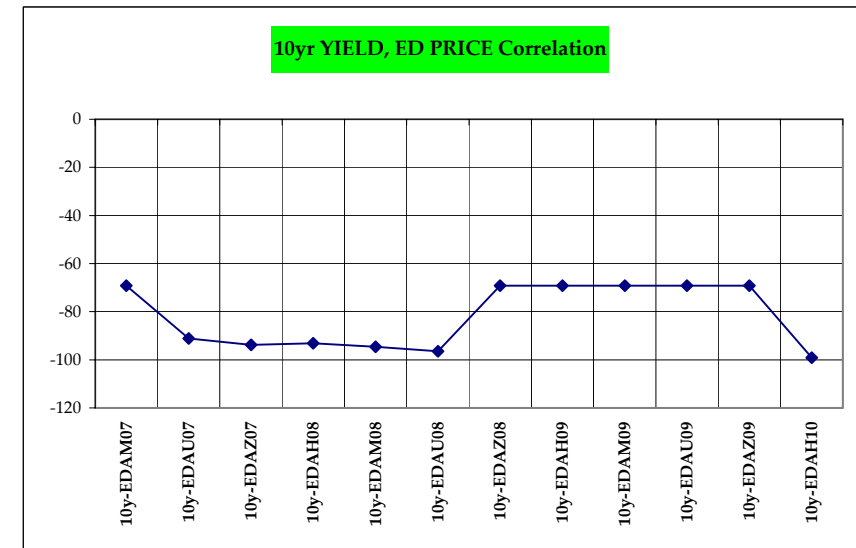
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days  
 These are measuring YIELD correlations.



**GE Duration as**

	Fraction of year	10Y Duration	Spread Duration	
EDAM07	0.013	7.80	7.79	10y-EDAM07
EDAU07	0.262	7.80	7.54	10y-EDAU07
EDAZ07	0.512	7.80	7.29	10y-EDAZ07
EDAH08	0.761	7.80	7.04	10y-EDAH08
EDAM08	1.010	7.80	6.79	10y-EDAM08
EDAU08	1.260	7.80	6.54	10y-EDAU08
EDAZ08	1.509	7.80	6.29	10y-EDAZ08
EDAH09	1.758	7.80	6.04	10y-EDAH09
EDAM09	2.008	7.80	5.79	10y-EDAM09
EDAU09	2.257	7.80	5.54	10y-EDAU09
EDAZ09	2.506	7.80	5.29	10y-EDAZ09
EDAH10	2.756	7.80	5.04	10y-EDAH10

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

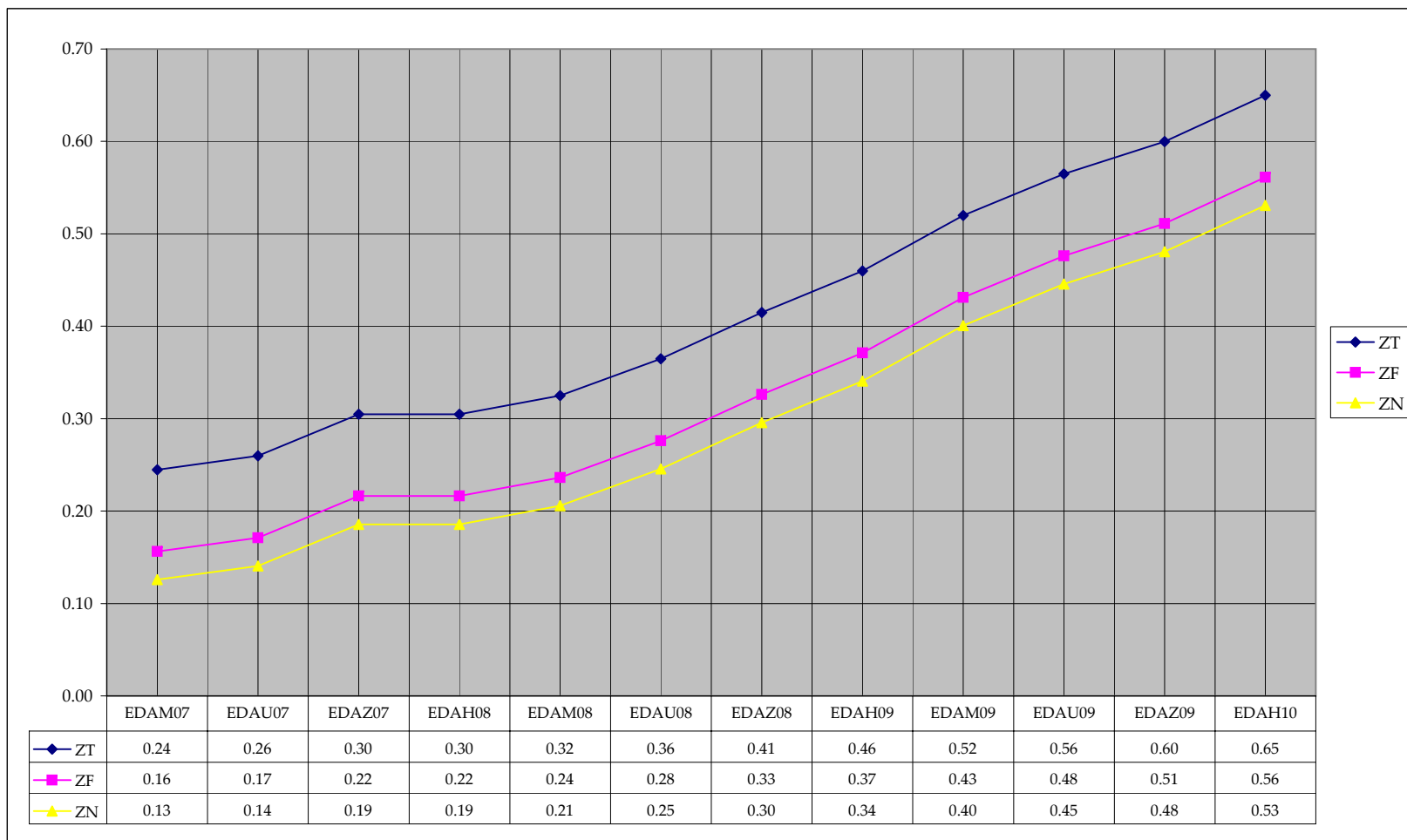


### Dirty TED Curve

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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.

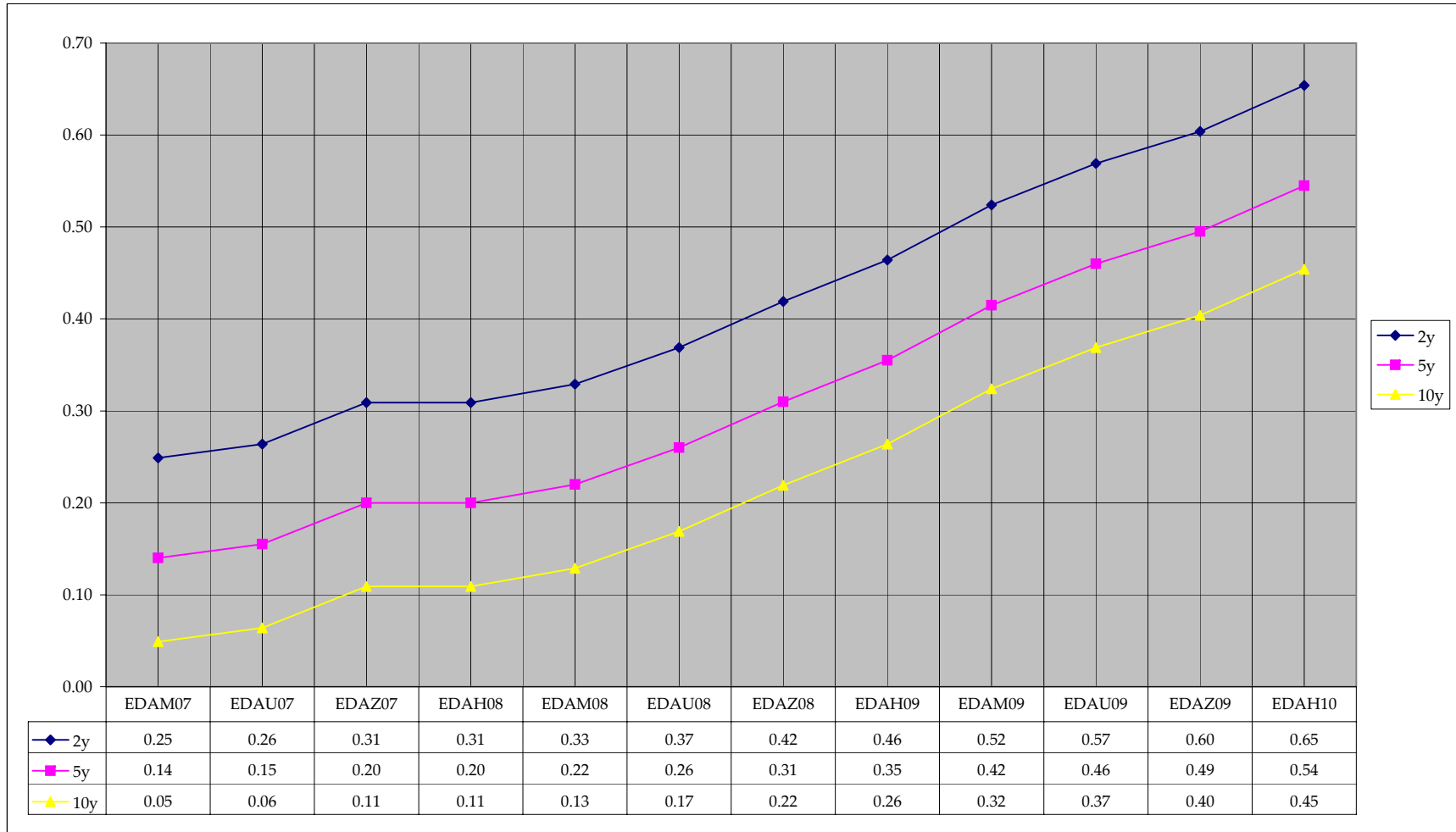


TED Curve

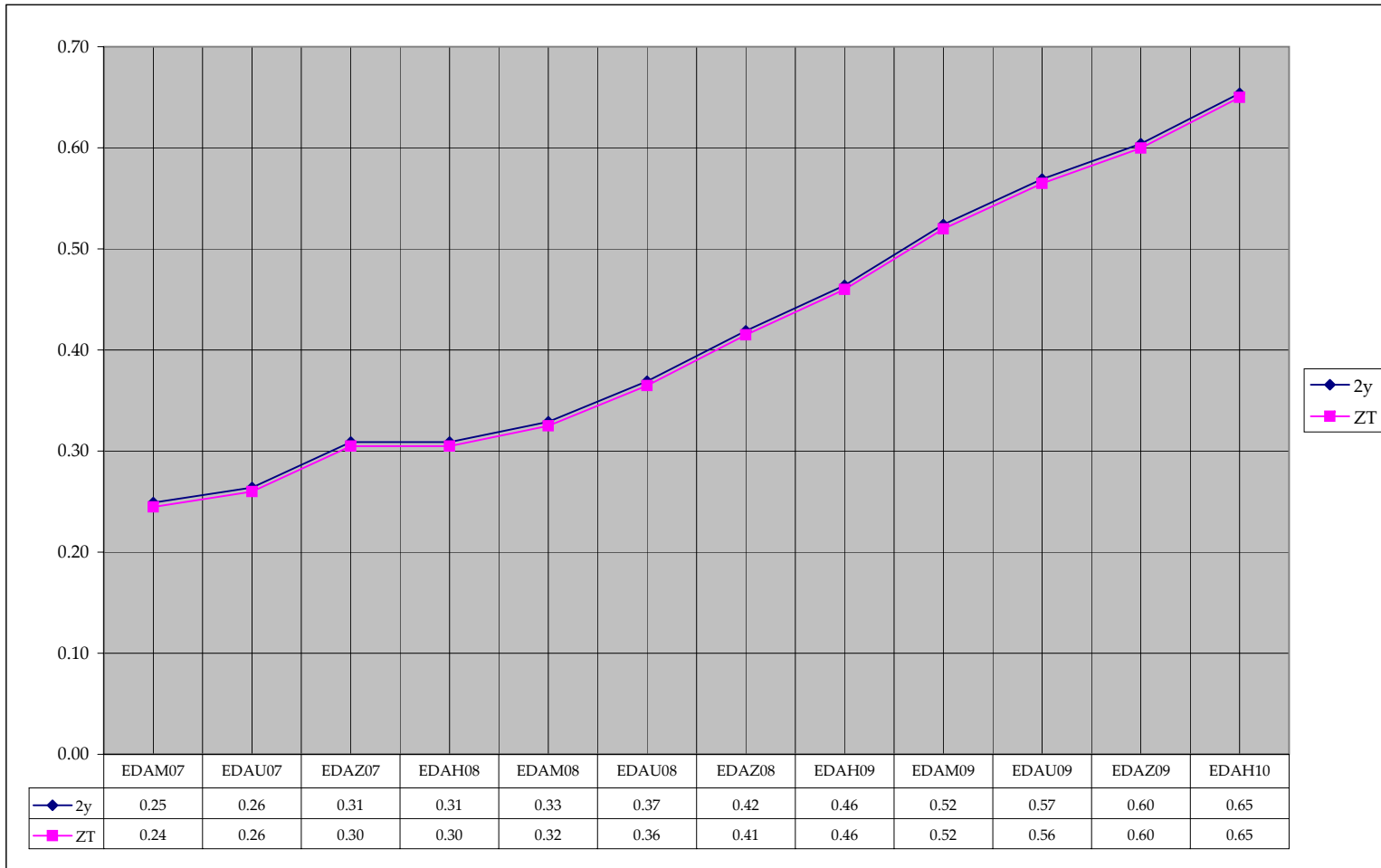
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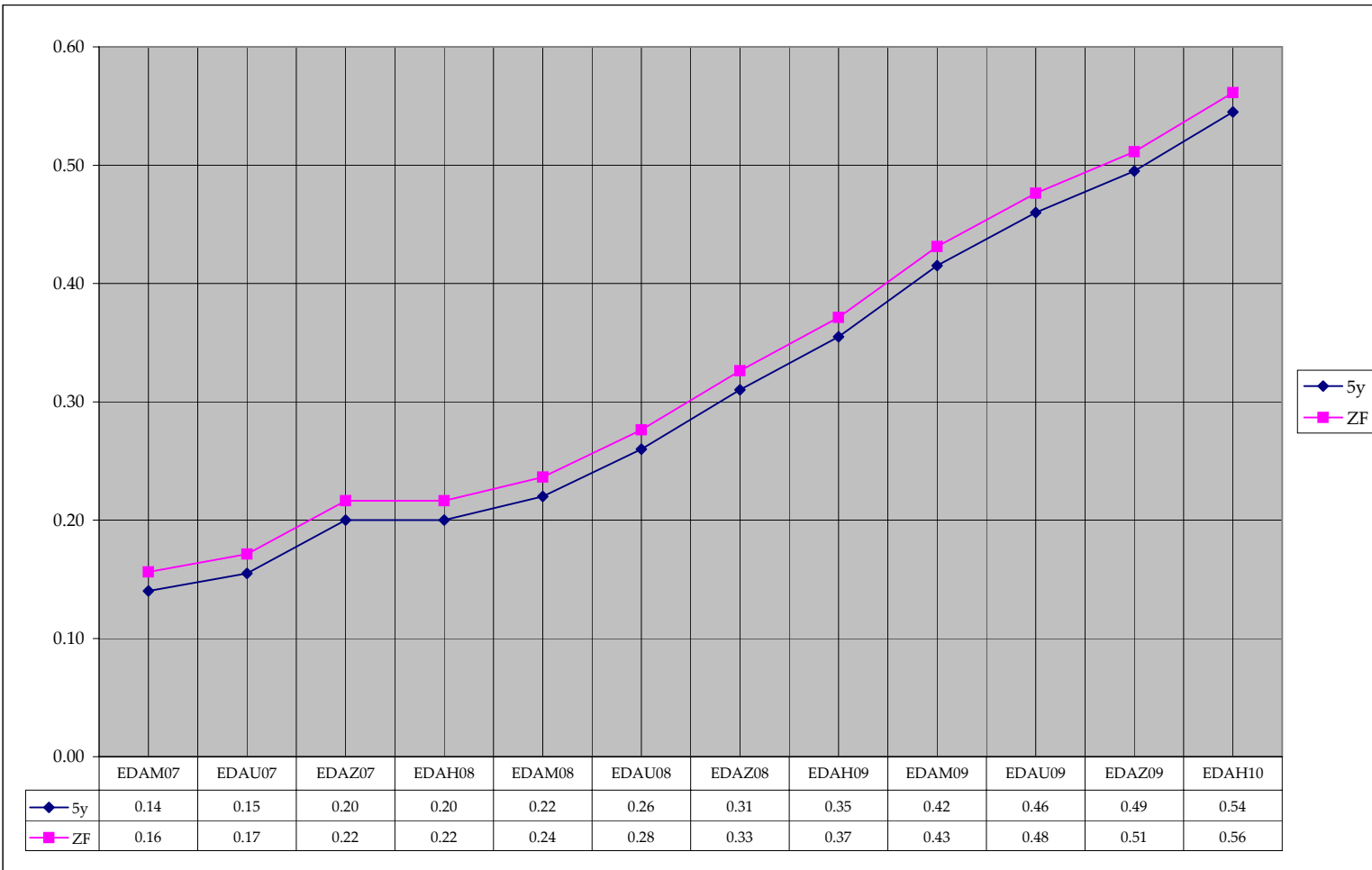
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve

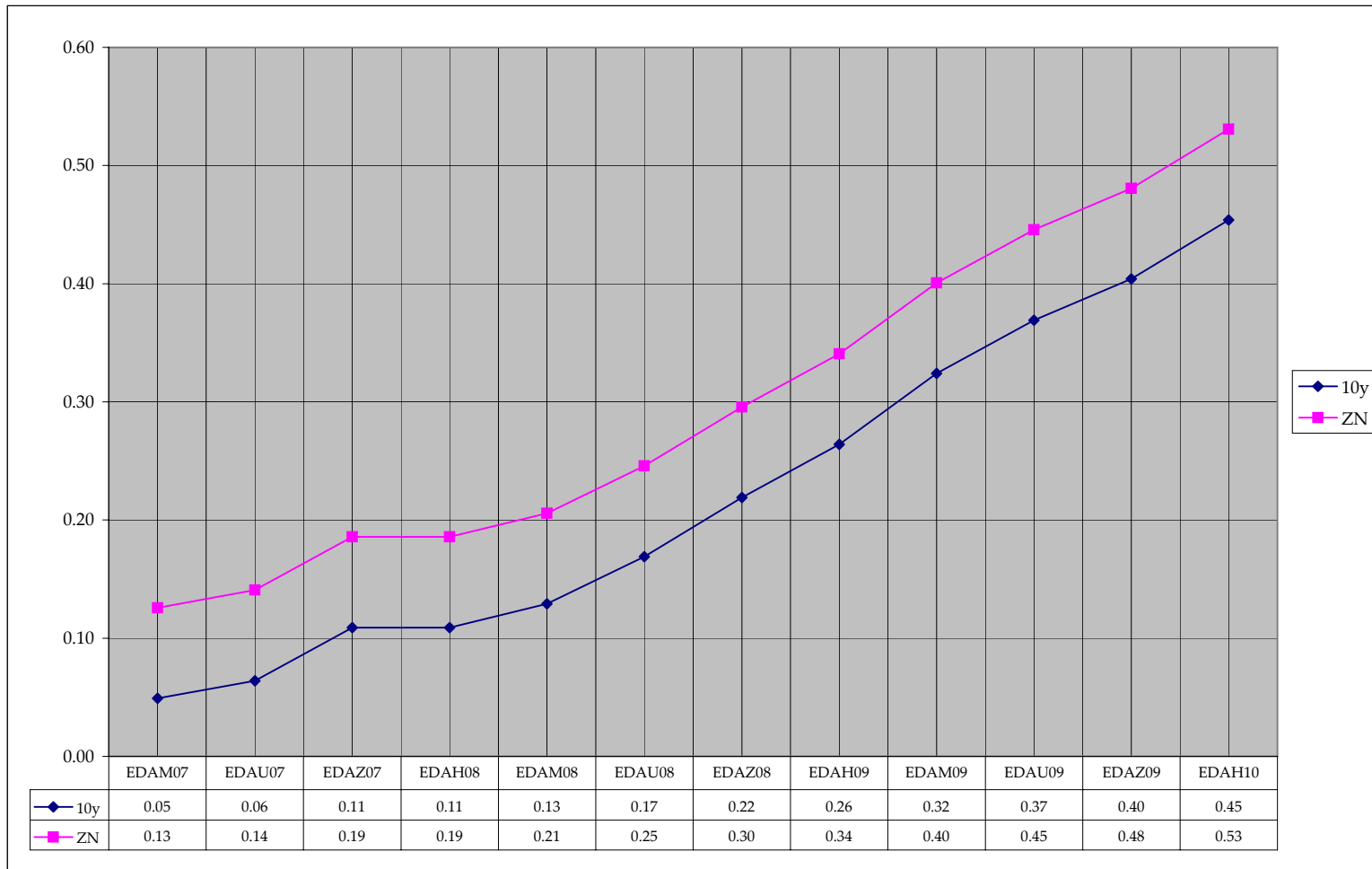


5y Basis TED Curve



Jim Goulding, jgoulding@ghco.com

## 10y Basis TED Curve



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