

## 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	101.5375	101.172	5.052	1.89
ZF	103.2813	103.090	5.107	3.98
ZN	104.4219	104.135	5.132	5.79
2y	99.647	99.2070	5.057	2.03
5y	98.366	98.1170	5.125	4.29
10y	94.656	94.2100	5.196	7.81

\*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	94.640	5.360	4	0.010	JUN
EDAU07	94.635	5.365	95	0.260	SEP
EDAZ07	94.615	5.385	186	0.509	DEC
EDAH08	94.625	5.375	277	0.758	MAR
EDAM08	94.625	5.375	368	1.008	JUN
EDAU08	94.600	5.400	459	1.257	SEP
EDAZ08	94.565	5.435	550	1.506	DEC
EDAH09	94.530	5.470	641	1.756	MAR
EDAM09	94.485	5.515	732	2.005	JUN
EDAU09	94.445	5.555	823	2.254	SEP
EDAZ09	94.415	5.585	914	2.503	DEC
EDAH10	94.390	5.610	1005	2.753	MAR

White  
Pack

Red  
Pack

Green  
Pack

**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)

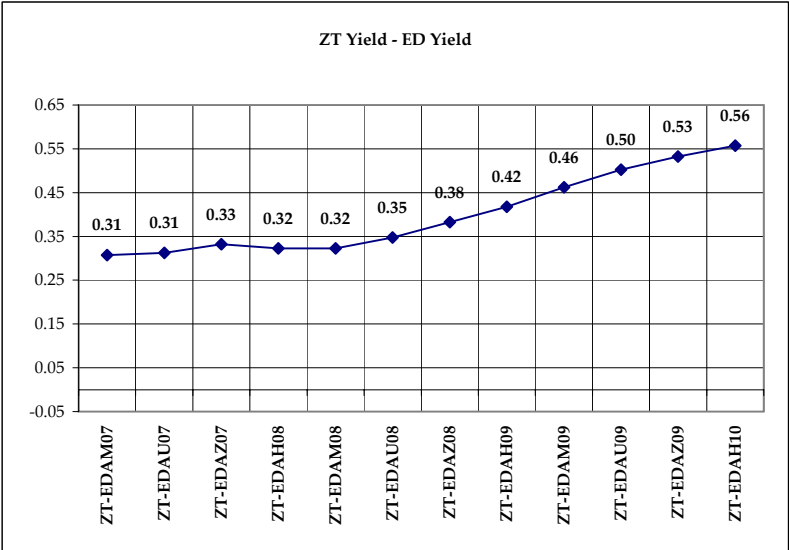
**Eurodollar Color Codes for Individual Year Strips:**

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

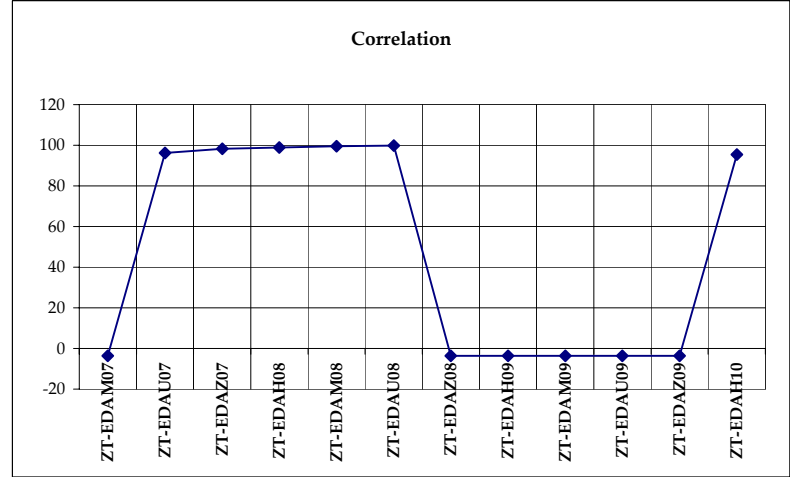
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	6.897	0.31	ZT-EDAM07	-3.651
EDAU07	6.902	0.31	ZT-EDAU07	96.223
EDAZ07	6.923	0.33	ZT-EDAZ07	98.312
EDAH08	6.912	0.32	ZT-EDAH08	98.843
EDAM08	6.912	0.32	ZT-EDAM08	99.564
EDAU08	6.937	0.35	ZT-EDAU08	99.829
EDAZ08	6.973	0.38	ZT-EDAZ08	-3.651
EDAH09	7.007	0.42	ZT-EDAH09	-3.651
EDAM09	7.052	0.46	ZT-EDAM09	-3.651
EDAU09	7.092	0.50	ZT-EDAU09	-3.651
EDAZ09	7.122	0.53	ZT-EDAZ09	-3.651
EDAH10	7.147	0.56	ZT-EDAH10	95.449

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	ZT Duration	Spread Duration	
EDAM07	0.010	1.89	1.88	ZT-EDAM07
EDAU07	0.260	1.89	1.63	ZT-EDAU07
EDAZ07	0.509	1.89	1.38	ZT-EDAZ07
EDAH08	0.758	1.89	1.14	ZT-EDAH08
EDAM08	1.008	1.89	0.89	ZT-EDAM08
EDAU08	1.257	1.89	0.64	ZT-EDAU08
EDAZ08	1.506	1.89	0.39	ZT-EDAZ08
EDAH09	1.756	1.89	0.14	ZT-EDAH09
EDAM09	2.005	1.89	(0.11)	ZT-EDAM09
EDAU09	2.254	1.89	(0.36)	ZT-EDAU09
EDAZ09	2.503	1.89	(0.61)	ZT-EDAZ09
EDAH10	2.753	1.89	(0.86)	ZT-EDAH10

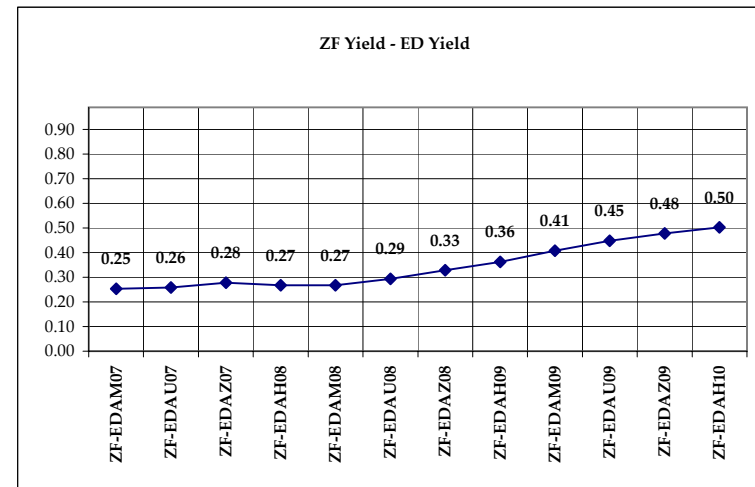
The farther away from 0 the spread duration is the riskier the trade.



## Dirty TED: ZF vs Eurodollar Contracts

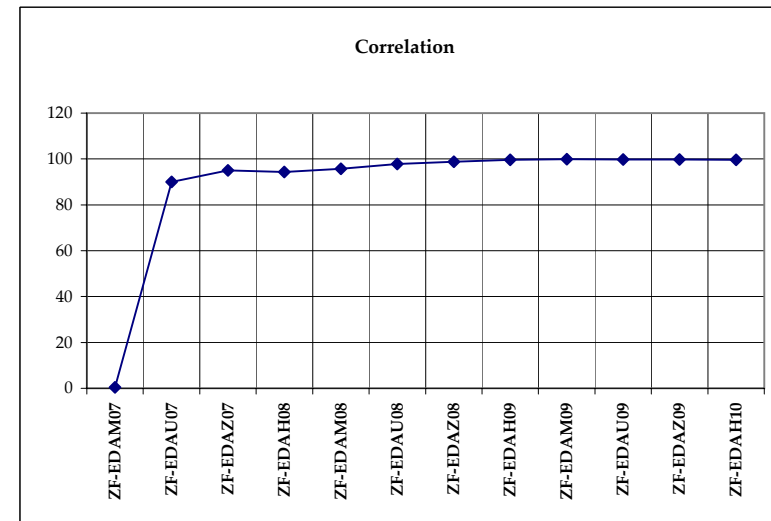
ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	8.64	0.25	ZF-EDAM07	0.423
EDAU07	8.65	0.26	ZF-EDAU07	90.042
EDAZ07	8.67	0.28	ZF-EDAZ07	95.074
EDAH08	8.66	0.27	ZF-EDAH08	94.300
EDAM08	8.66	0.27	ZF-EDAM08	95.705
EDAU08	8.68	0.29	ZF-EDAU08	97.754
EDAZ08	8.72	0.33	ZF-EDAZ08	98.758
EDAH09	8.75	0.36	ZF-EDAH09	99.624
EDAM09	8.80	0.41	ZF-EDAM09	99.908
EDAU09	8.84	0.45	ZF-EDAU09	99.832
EDAZ09	8.87	0.48	ZF-EDAZ09	99.837
EDAH10	8.89	0.50	ZF-EDAH10	99.696

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	0.010	3.98	3.97	ZF-EDAM07
EDAU07	0.260	3.98	3.72	ZF-EDAU07
EDAZ07	0.509	3.98	3.47	ZF-EDAZ07
EDAH08	0.758	3.98	3.22	ZF-EDAH08
EDAM08	1.008	3.98	2.97	ZF-EDAM08
EDAU08	1.257	3.98	2.72	ZF-EDAU08
EDAZ08	1.506	3.98	2.47	ZF-EDAZ08
EDAH09	1.756	3.98	2.22	ZF-EDAH09
EDAM09	2.005	3.98	1.97	ZF-EDAM09
EDAU09	2.254	3.98	1.72	ZF-EDAU09
EDAZ09	2.503	3.98	1.47	ZF-EDAZ09
EDAH10	2.753	3.98	1.22	ZF-EDAH10

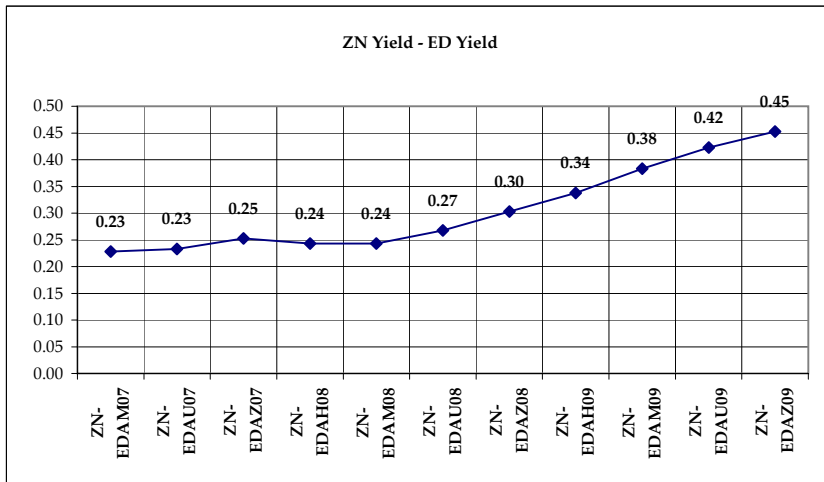
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	9.78	0.23	ZN-EDAM07	0.35
EDAU07	9.79	0.23	ZN-EDAU07	88.86
EDAZ07	9.81	0.25	ZN-EDAZ07	94.25
EDAH08	9.80	0.24	ZN-EDAH08	93.19
EDAM08	9.80	0.24	ZN-EDAM08	94.69
EDAU08	9.82	0.27	ZN-EDAU08	96.99
EDAZ08	9.86	0.30	ZN-EDAZ08	98.19
EDAH09	9.89	0.34	ZN-EDAH09	99.31
EDAM09	9.94	0.38	ZN-EDAM09	99.83
EDAU09	9.98	0.42	ZN-EDAU09	99.86
EDAZ09	10.01	0.45	ZN-EDAZ09	99.95
EDAH10	10.03	0.48	ZN-EDAH10	99.70

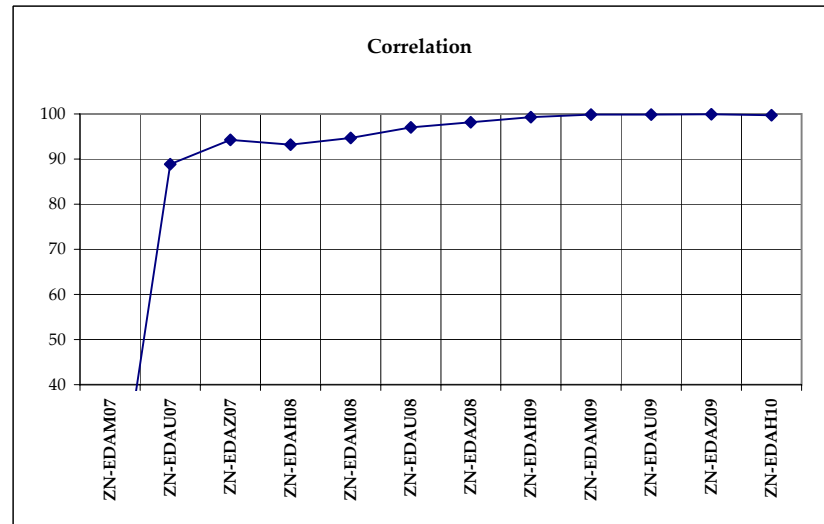
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as

	Fraction of year	ZN Duration	Spread Duration	
EDAM07	0.010	5.79	5.78	ZN-EDAM07
EDAU07	0.260	5.79	5.53	ZN-EDAU07
EDAZ07	0.509	5.79	5.28	ZN-EDAZ07
EDAH08	0.758	5.79	5.03	ZN-EDAH08
EDAM08	1.008	5.79	4.78	ZN-EDAM08
EDAU08	1.257	5.79	4.53	ZN-EDAU08
EDAZ08	1.506	5.79	4.28	ZN-EDAZ08
EDAH09	1.756	5.79	4.03	ZN-EDAH09
EDAM09	2.005	5.79	3.79	ZN-EDAM09
EDAU09	2.254	5.79	3.54	ZN-EDAU09
EDAZ09	2.503	5.79	3.29	ZN-EDAZ09
EDAH10	2.753	5.79	3.04	ZN-EDAH10

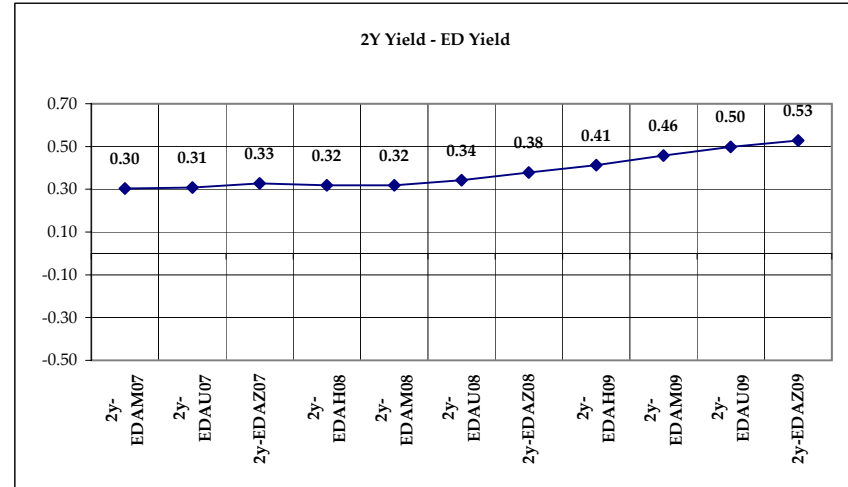
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	5.01	0.30	2y-EDAM07	-15.134
EDAU07	5.01	0.31	2y-EDAU07	-95.634
EDAZ07	5.03	0.33	2y-EDAZ07	-95.110
EDAH08	5.02	0.32	2y-EDAH08	-96.246
EDAM08	5.02	0.32	2y-EDAM08	-96.611
EDAU08	5.05	0.34	2y-EDAU08	-96.200
EDAZ08	5.08	0.38	2y-EDAZ08	-15.134
EDAH09	5.12	0.41	2y-EDAH09	-15.134
EDAM09	5.16	0.46	2y-EDAM09	-15.134
EDAU09	5.20	0.50	2y-EDAU09	-15.134
EDAZ09	5.23	0.53	2y-EDAZ09	-15.134
EDAH10	5.26	0.55	2y-EDAH10	-91.110

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.

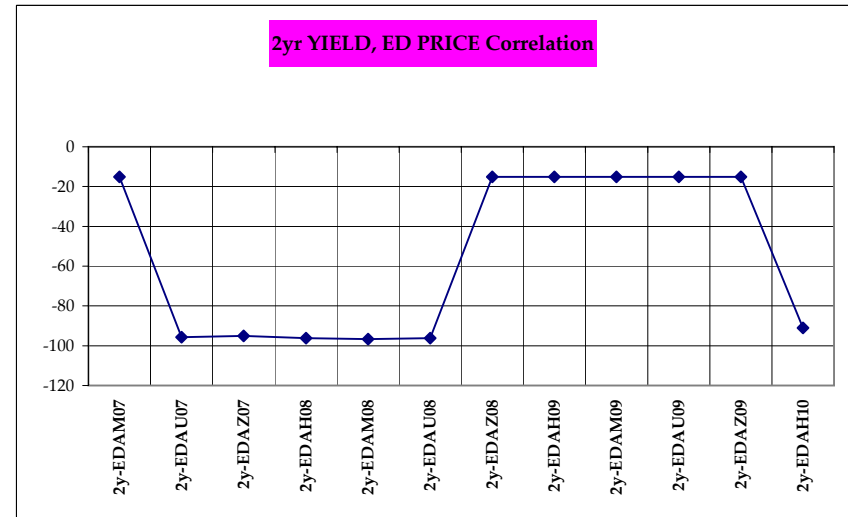


GE Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAM07	0.010	2.03	2.02	2y-EDAM07
EDAU07	0.260	2.03	1.77	2y-EDAU07
EDAZ07	0.509	2.03	1.52	2y-EDAZ07
EDAH08	0.758	2.03	1.27	2y-EDAH08
EDAM08	1.008	2.03	1.02	2y-EDAM08
EDAU08	1.257	2.03	0.77	2y-EDAU08
EDAZ08	1.506	2.03	0.52	2y-EDAZ08
EDAH09	1.756	2.03	0.28	2y-EDAH09
EDAM09	2.005	2.03	0.03	2y-EDAM09
EDAU09	2.254	2.03	(0.22)	2y-EDAU09
EDAZ09	2.503	2.03	(0.47)	2y-EDAZ09
EDAH10	2.753	2.03	(0.72)	2y-EDAH10

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

2yr YIELD, ED PRICE Correlation



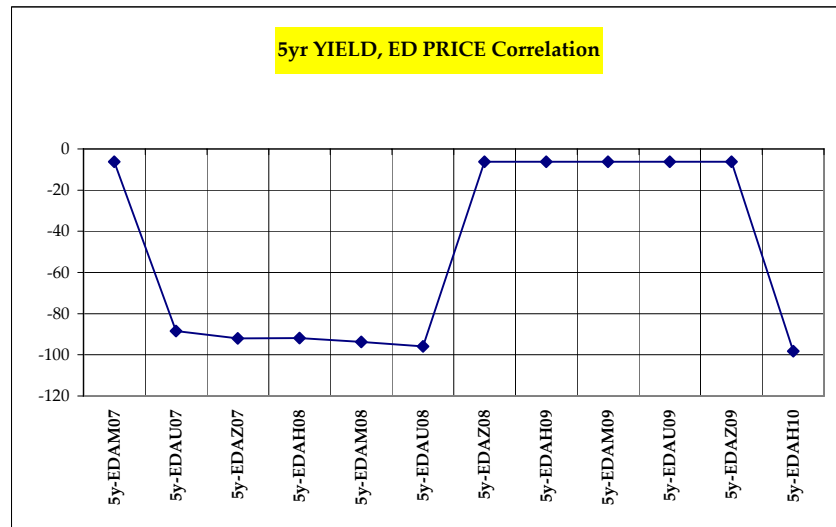
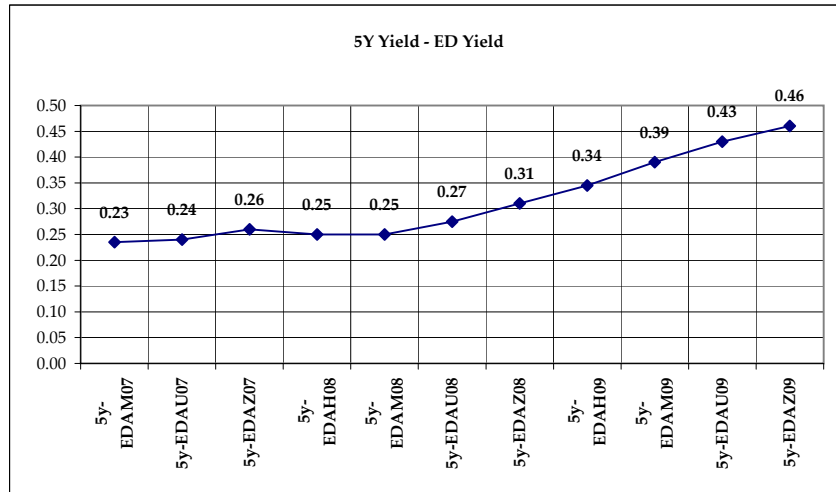
TERM TED: 5y vs Eurodollar Contracts

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	3.73	0.23	5y-EDAM07	-6.258
EDAU07	3.73	0.24	5y-EDAU07	-88.441
EDAZ07	3.75	0.26	5y-EDAZ07	-91.964
EDAH08	3.74	0.25	5y-EDAH08	-91.805
EDAM08	3.74	0.25	5y-EDAM08	-93.707
EDAU08	3.77	0.27	5y-EDAU08	-95.937
EDAZ08	3.80	0.31	5y-EDAZ08	-6.258
EDAH09	3.84	0.34	5y-EDAH09	-6.258
EDAM09	3.88	0.39	5y-EDAM09	-6.258
EDAU09	3.92	0.43	5y-EDAU09	-6.258
EDAZ09	3.95	0.46	5y-EDAZ09	-6.258
EDAH10	3.98	0.48	5y-EDAH10	-98.263

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	
EDAM07	0.010	4.29	4.28	5y-EDAM07
EDAU07	0.260	4.29	4.03	5y-EDAU07
EDAZ07	0.509	4.29	3.78	5y-EDAZ07
EDAH08	0.758	4.29	3.53	5y-EDAH08
EDAM08	1.008	4.29	3.28	5y-EDAM08
EDAU08	1.257	4.29	3.03	5y-EDAU08
EDAZ08	1.506	4.29	2.78	5y-EDAZ08
EDAH09	1.756	4.29	2.53	5y-EDAH09
EDAM09	2.005	4.29	2.28	5y-EDAM09
EDAU09	2.254	4.29	2.04	5y-EDAU09
EDAZ09	2.503	4.29	1.79	5y-EDAZ09
EDAH10	2.753	4.29	1.54	5y-EDAH10

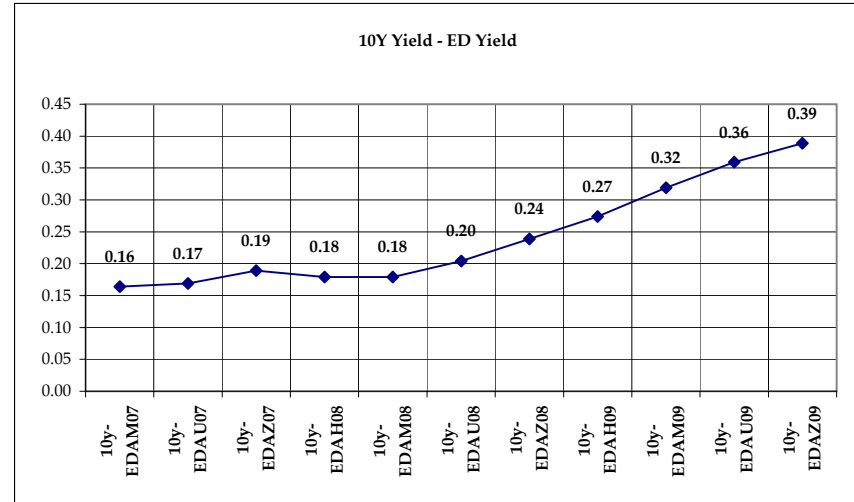
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM07	3.73	0.16	10y-EDAM07	-4.823
EDAU07	3.73	0.17	10y-EDAU07	-86.086
EDAZ07	3.75	0.19	10y-EDAZ07	-90.779
EDAH08	3.74	0.18	10y-EDAH08	-90.059
EDAM08	3.74	0.18	10y-EDAM08	-92.045
EDAU08	3.77	0.20	10y-EDAU08	-94.682
EDAZ08	3.80	0.24	10y-EDAZ08	-4.823
EDAH09	3.84	0.27	10y-EDAH09	-4.823
EDAM09	3.88	0.32	10y-EDAM09	-4.823
EDAU09	3.92	0.36	10y-EDAU09	-4.823
EDAZ09	3.95	0.39	10y-EDAZ09	-4.823
EDAH10	3.98	0.41	10y-EDAH10	-98.903

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.

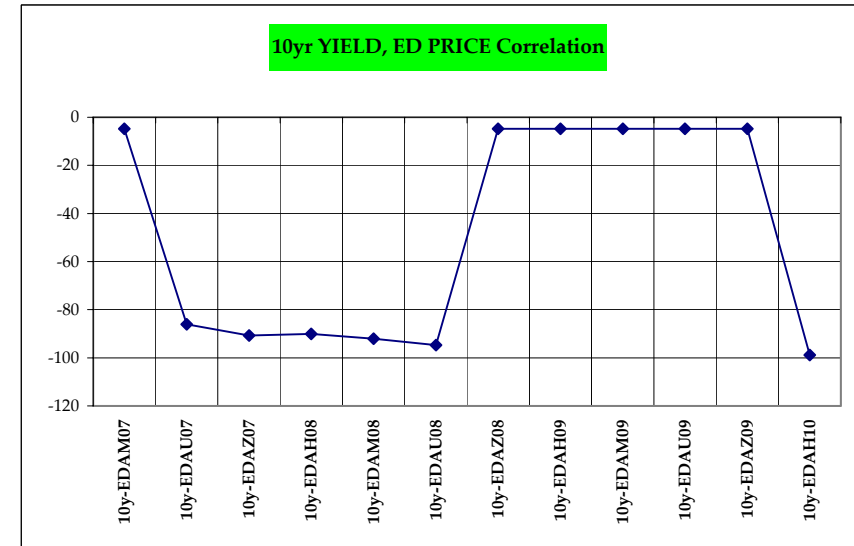


GE Duration as

	Fraction of year	10Y Duration	Spread Duration	
EDAM07	0.010	7.81	7.80	10y-EDAM07
EDAU07	0.260	7.81	7.55	10y-EDAU07
EDAZ07	0.509	7.81	7.30	10y-EDAZ07
EDAH08	0.758	7.81	7.05	10y-EDAH08
EDAM08	1.008	7.81	6.80	10y-EDAM08
EDAU08	1.257	7.81	6.56	10y-EDAU08
EDAZ08	1.506	7.81	6.31	10y-EDAZ08
EDAH09	1.756	7.81	6.06	10y-EDAH09
EDAM09	2.005	7.81	5.81	10y-EDAM09
EDAU09	2.254	7.81	5.56	10y-EDAU09
EDAZ09	2.503	7.81	5.31	10y-EDAZ09
EDAH10	2.753	7.81	5.06	10y-EDAH10

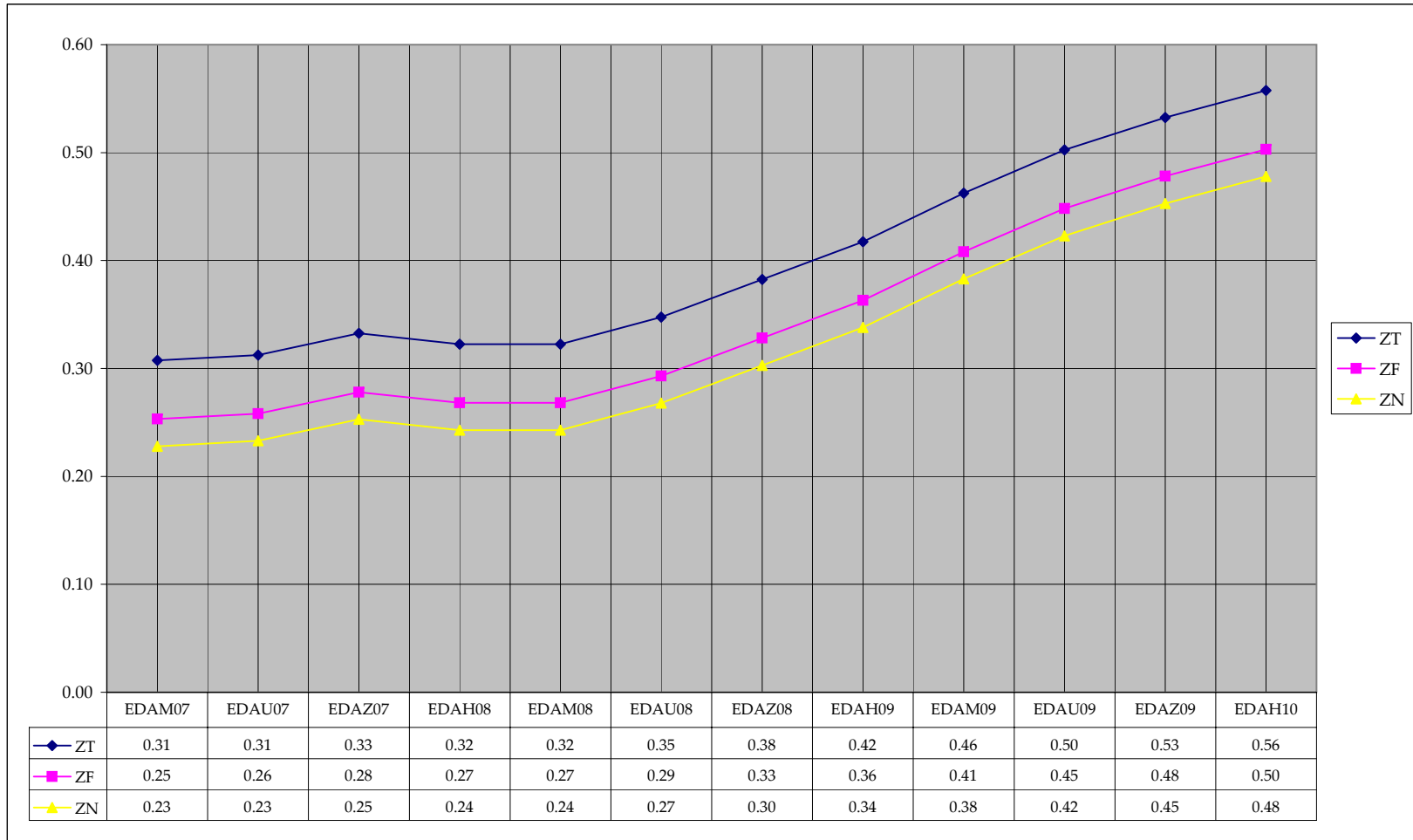
The farther away from 0 the spread duration is the riskier the trade.

10yr YIELD, ED PRICE Correlation



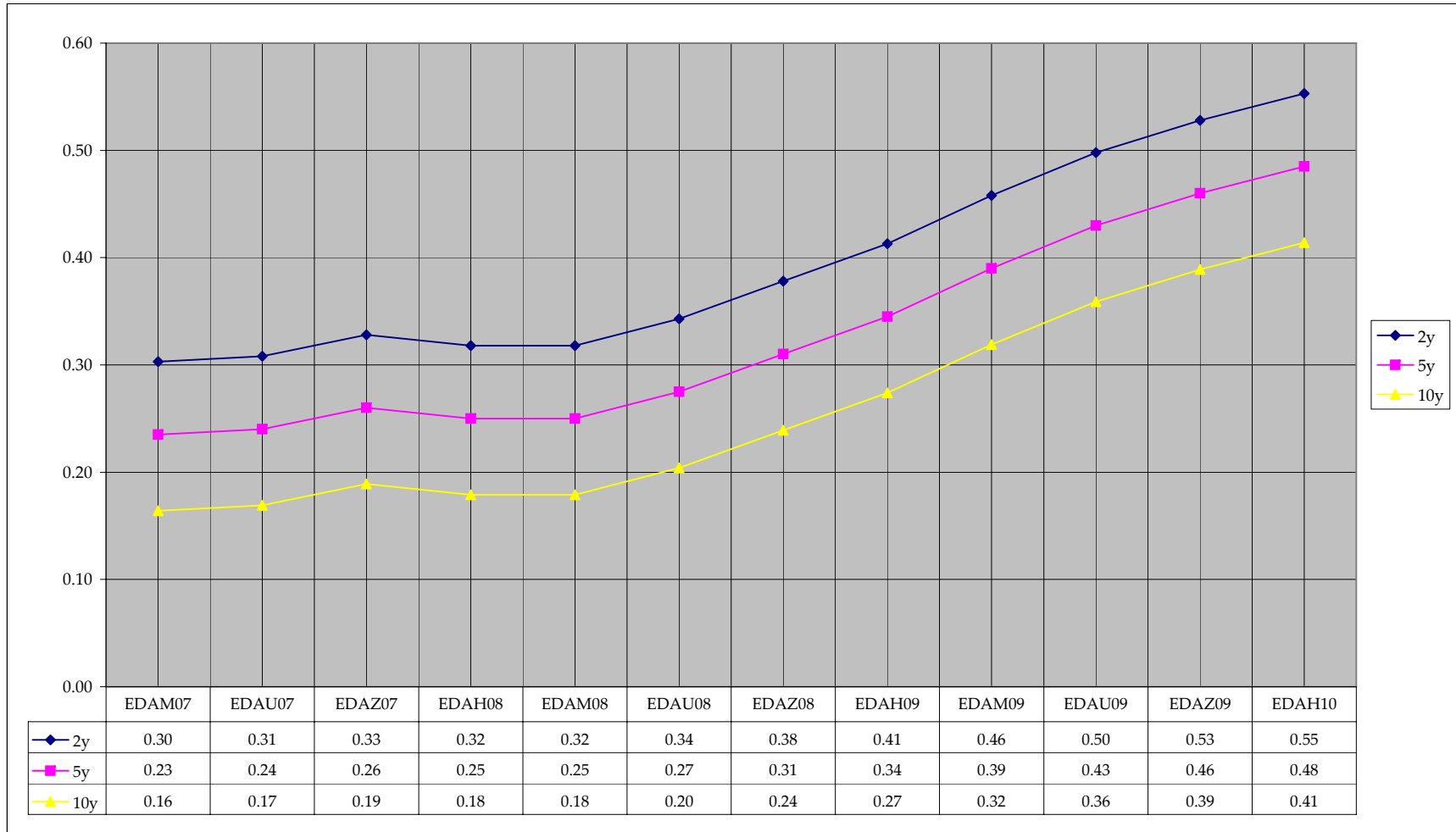
**Dirty TED Curve**

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.

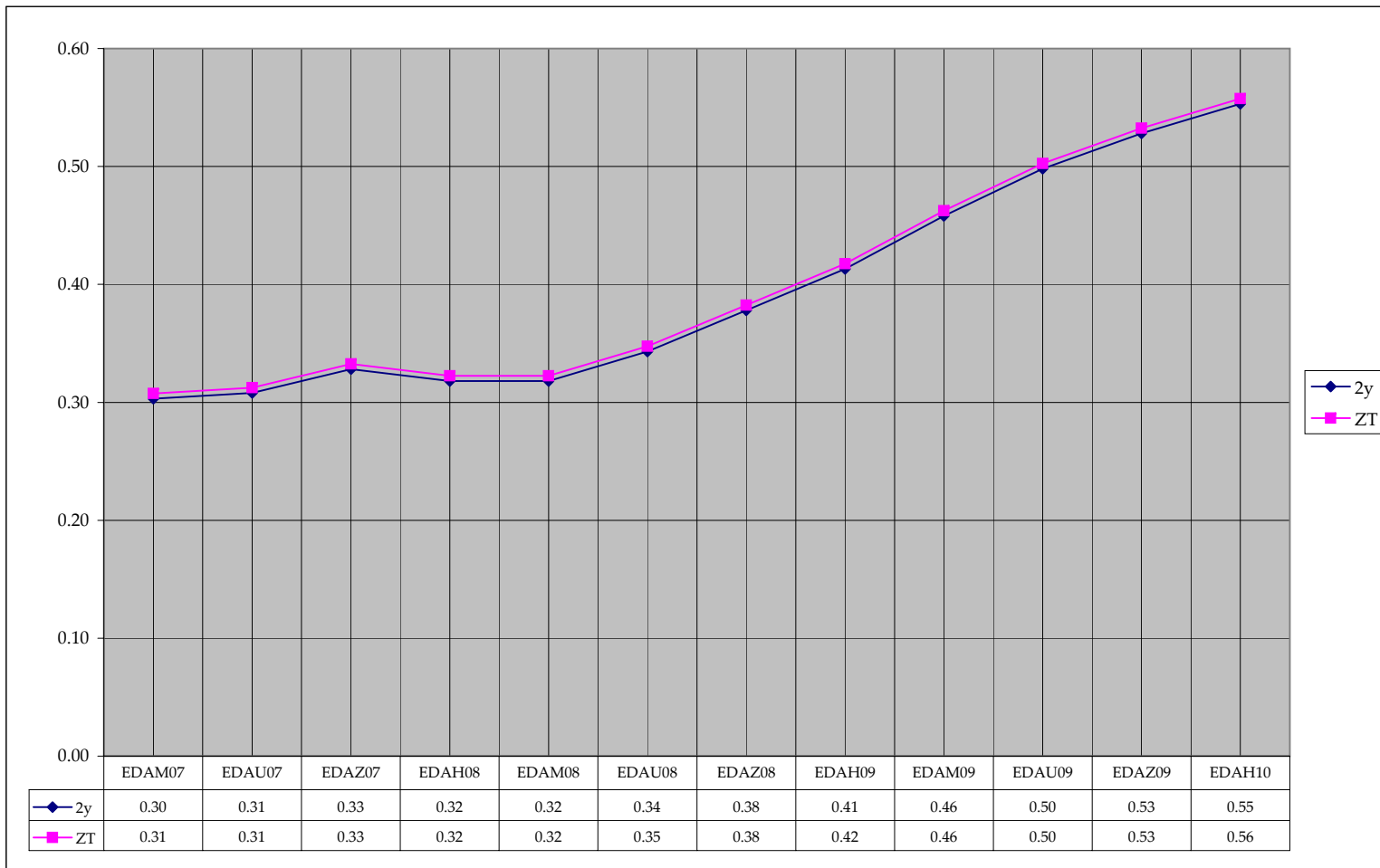


TED Curve

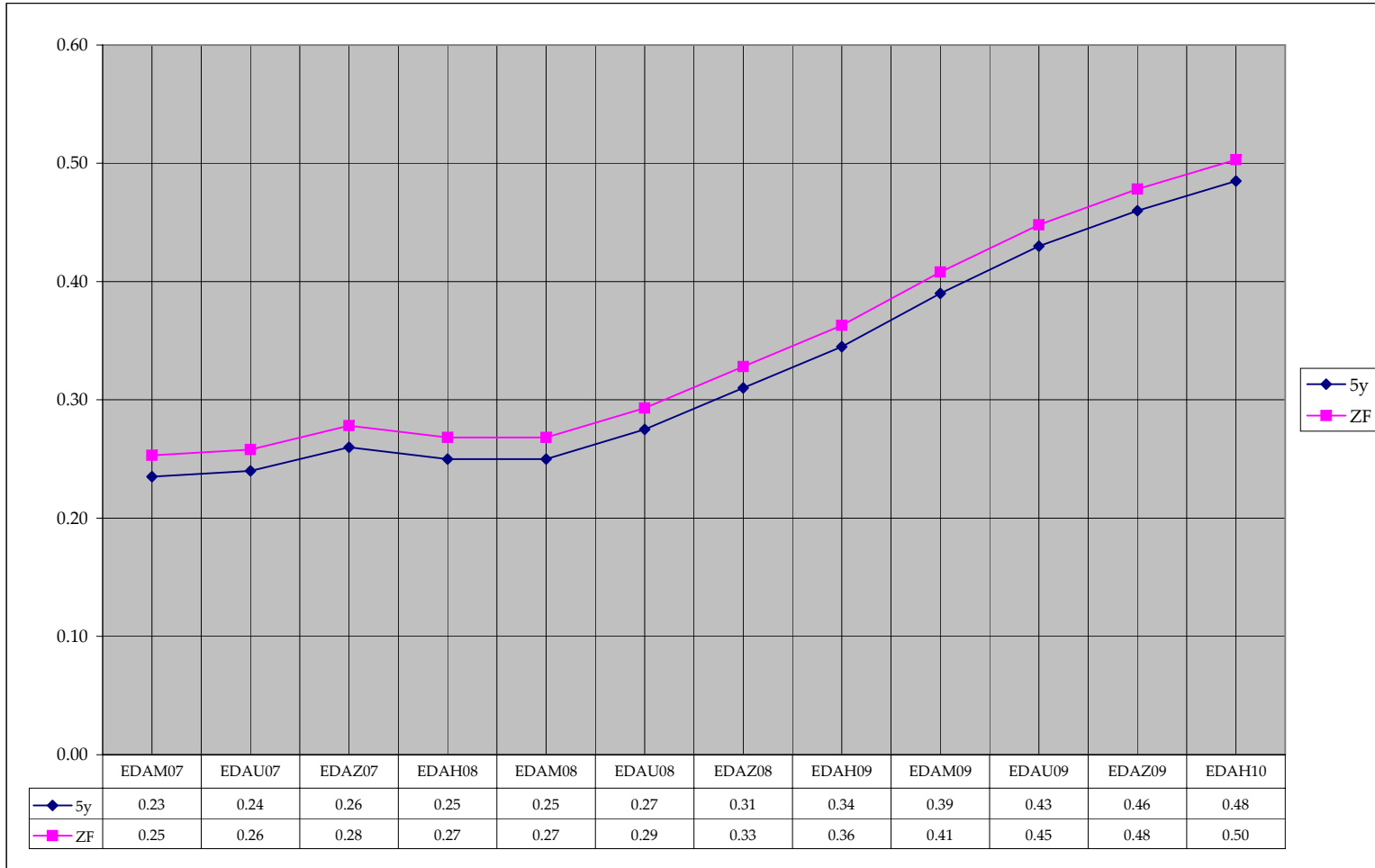
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



## 2y Basis TED Curve



## 5y Basis TED Curve



## 10y Basis TED Curve

