

## 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	105.7344	105.235	2.755	1.90	
ZF	111.4688	111.150	3.110	3.95	
ZN	114.8438	114.270	3.515	5.90	
2y	100.944	100.3020	2.752	1.90	
5y	101.984	101.3150	3.191	4.47	
10y	103.016	103.0050	3.878	7.98	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	96.010	3.990	70	0.191	MAR	} White Pack	
EDAM08	96.505	3.495	161	0.440	JUN		
EDAU08	96.770	3.230	252	0.690	SEP		
EDAZ08	96.890	3.110	343	0.939	DEC		
EDAH09	96.910	3.090	434	1.188	MAR	} Red Pack	
EDAM09	96.830	3.170	525	1.438	JUN		
EDAU09	96.710	3.290	616	1.687	SEP		
EDAZ09	96.560	3.440	707	1.936	DEC		
EDAH10	96.395	3.605	798	2.186	MAR	} Green Pack	
EDAM10	96.205	3.795	889	2.435	JUN		
EDAU10	96.050	3.950	980	2.684	SEP		
EDAZ10	95.915	4.085	1071	2.934	DEC		
EDAH11	95.810	4.190	1162	3.183	MAR	} Blue Pack	
EDAM11	#VALUE!	#VALUE!	1253	3.432	JUN		
EDAU11	95.630	4.370	1351	3.701	SEP		
EDAZ11	95.530	4.470	1442	3.950	DEC		
EDAH12	95.445	4.555	1533	4.199	MAR	} Gold Pack	
EDAM12	95.375	4.625	1624	4.449	JUN		
EDAU12	95.300	4.700	1715	4.698	SEP		
EDAU12	95.300	4.700	1715	4.698	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	3.535	-2.000	9654.375	} Pack Prices
Q.ED.Red	3.320	-3.000	9675.250	
Q.ED.Green	3.951	-2.500	9614.125	
Q.ED.Blue	-0.500	-0.500	9567.375	
Q.ED.Gold	-0.125	-0.125	9531.500	

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

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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)

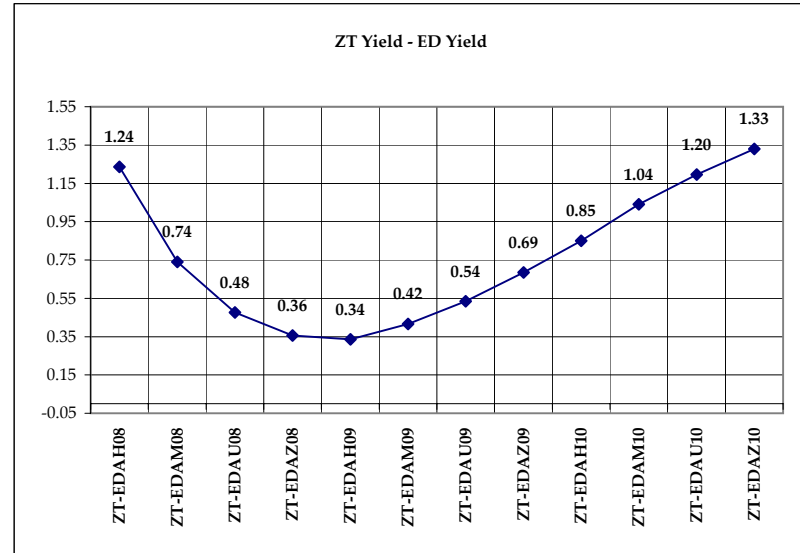
### **Eurodollar Color Codes for Individual Year Strips:**

<b>Color</b>	<b>Year</b>	<b>Contracts</b>
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)
EDAH08	9.724	1.24	ZT-EDAH08	99.455
EDAM08	9.229	0.74	ZT-EDAM08	99.874
EDAU08	8.964	0.48	ZT-EDAU08	99.808
EDAZ08	8.844	0.36	ZT-EDAZ08	99.630
EDAH09	8.824	0.34	ZT-EDAH09	99.488
EDAM09	8.904	0.42	ZT-EDAM09	99.563
EDAU09	9.024	0.54	ZT-EDAU09	99.700
EDAZ09	9.174	0.69	ZT-EDAZ09	99.700
EDAH10	9.339	0.85	ZT-EDAH10	99.579
EDAM10	9.529	1.04	ZT-EDAM10	99.463
EDAU10	9.684	1.20	ZT-EDAU10	99.421
EDAZ10	9.819	1.33	ZT-EDAZ10	99.295

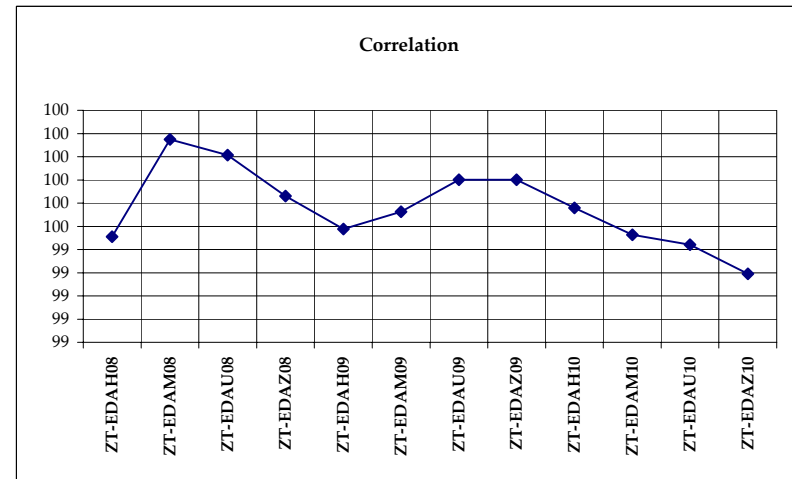
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	ZT Duration	Spread Duration	
EDAH08	0.191	1.90	ZT-EDAH08
EDAM08	0.440	1.90	ZT-EDAM08
EDAU08	0.690	1.90	ZT-EDAU08
EDAZ08	0.939	1.90	ZT-EDAZ08
EDAH09	1.188	1.90	ZT-EDAH09
EDAM09	1.438	1.90	ZT-EDAM09
EDAU09	1.687	1.90	ZT-EDAU09
EDAZ09	1.936	1.90	ZT-EDAZ09
EDAH10	2.186	1.90	ZT-EDAH10
EDAM10	2.435	1.90	ZT-EDAM10
EDAU10	2.684	1.90	ZT-EDAU10
EDAZ10	2.934	1.90	ZT-EDAZ10

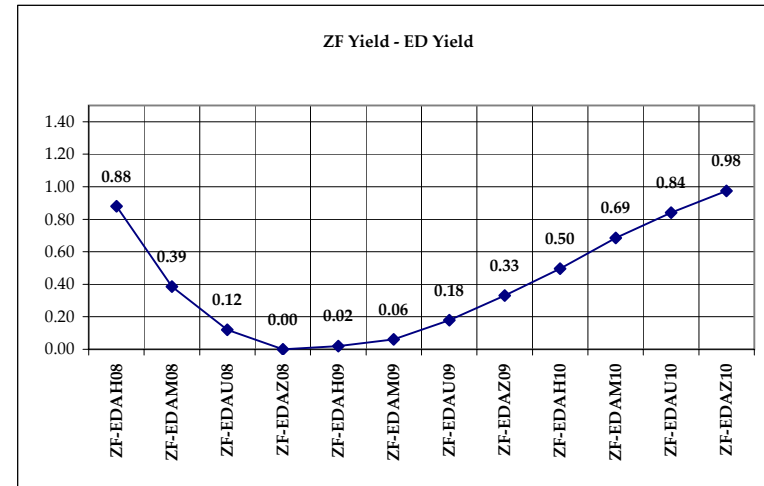
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	15.46	0.88	ZF-EDAH08	99.024
EDAM08	14.96	0.39	ZF-EDAM08	99.574
EDAU08	14.70	0.12	ZF-EDAU08	99.683
EDAZ08	14.58	0.00	ZF-EDAZ08	99.744
EDAH09	14.56	0.02	ZF-EDAH09	99.759
EDAM09	14.64	0.06	ZF-EDAM09	99.834
EDAU09	14.76	0.18	ZF-EDAU09	99.901
EDAZ09	14.91	0.33	ZF-EDAZ09	99.811
EDAH10	15.07	0.50	ZF-EDAH10	99.654
EDAM10	15.26	0.69	ZF-EDAM10	99.625
EDAU10	15.42	0.84	ZF-EDAU10	99.692
EDAZ10	15.55	0.98	ZF-EDAZ10	99.702

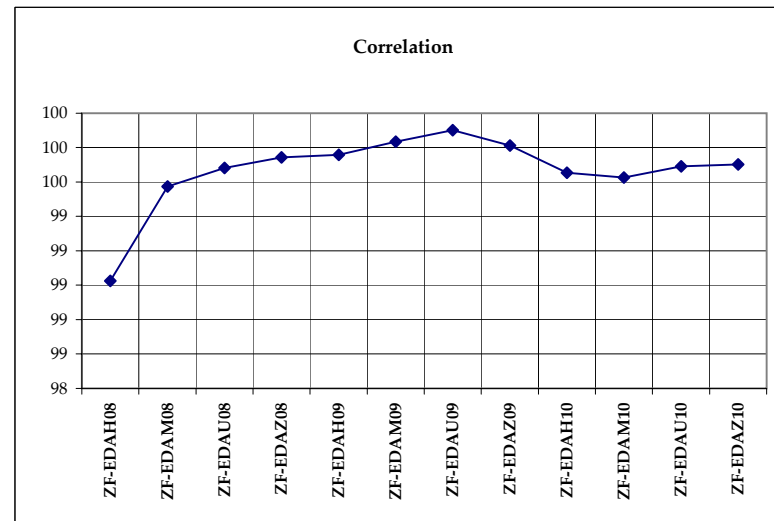
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.191	3.95	3.76	ZF-EDAH08
EDAM08	0.440	3.95	3.51	ZF-EDAM08
EDAU08	0.690	3.95	3.26	ZF-EDAU08
EDAZ08	0.939	3.95	3.01	ZF-EDAZ08
EDAH09	1.188	3.95	2.76	ZF-EDAH09
EDAM09	1.438	3.95	2.51	ZF-EDAM09
EDAU09	1.687	3.95	2.26	ZF-EDAU09
EDAZ09	1.936	3.95	2.02	ZF-EDAZ09
EDAH10	2.186	3.95	1.77	ZF-EDAH10
EDAM10	2.435	3.95	1.52	ZF-EDAM10
EDAU10	2.684	3.95	1.27	ZF-EDAU10
EDAZ10	2.934	3.95	1.02	ZF-EDAZ10

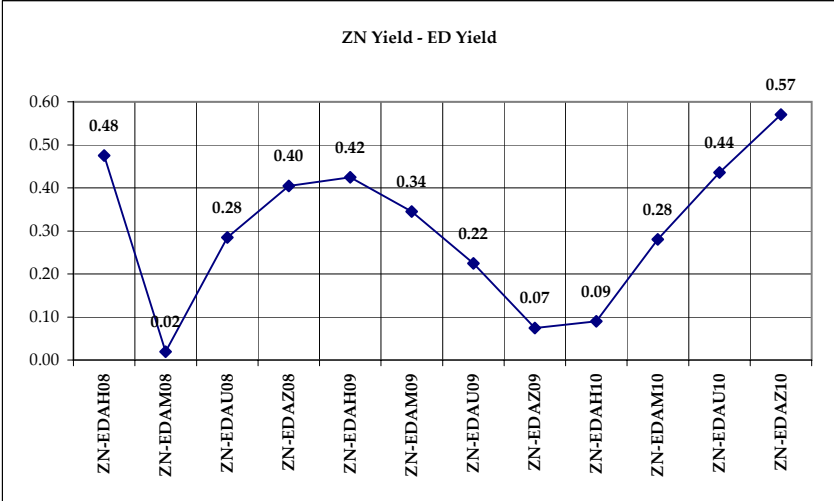
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

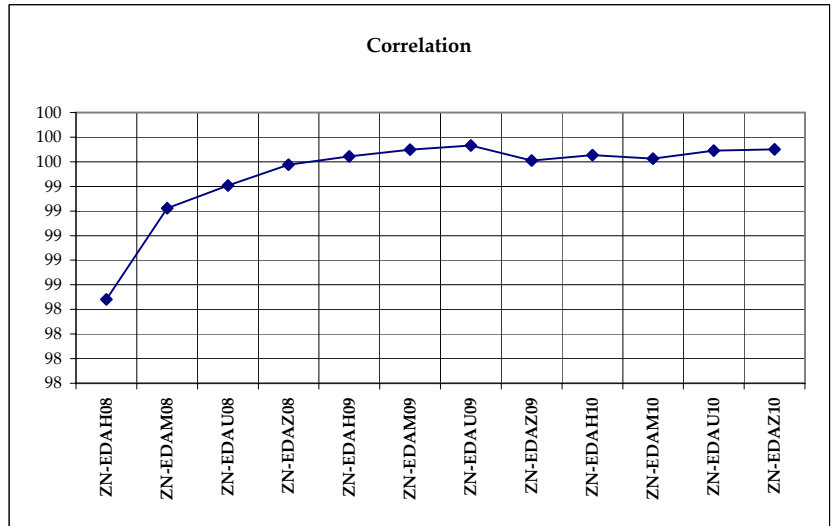
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	18.83	0.48	ZN-EDAH08	98.48
EDAM08	18.34	0.02	ZN-EDAM08	99.22
EDAU08	18.07	0.28	ZN-EDAU08	99.41
EDAZ08	17.95	0.40	ZN-EDAZ08	99.58
EDAH09	17.93	0.42	ZN-EDAH09	99.64
EDAM09	18.01	0.34	ZN-EDAM09	99.70
EDAU09	18.13	0.22	ZN-EDAU09	99.73
EDAZ09	18.28	0.07	ZN-EDAZ09	99.61
EDAH10	18.45	0.09	ZN-EDAH10	99.65
EDAM10	18.64	0.28	ZN-EDAM10	99.63
EDAU10	18.79	0.44	ZN-EDAU10	99.69
EDAZ10	18.93	0.57	ZN-EDAZ10	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	
EDAH08	0.191	5.90	5.71	ZN-EDAH08
EDAM08	0.440	5.90	5.46	ZN-EDAM08
EDAU08	0.690	5.90	5.21	ZN-EDAU08
EDAZ08	0.939	5.90	4.96	ZN-EDAZ08
EDAH09	1.188	5.90	4.71	ZN-EDAH09
EDAM09	1.438	5.90	4.46	ZN-EDAM09
EDAU09	1.687	5.90	4.21	ZN-EDAU09
EDAZ09	1.936	5.90	3.96	ZN-EDAZ09
EDAH10	2.186	5.90	3.71	ZN-EDAH10
EDAM10	2.435	5.90	3.46	ZN-EDAM10
EDAU10	2.684	5.90	3.21	ZN-EDAU10
EDAZ10	2.934	5.90	2.97	ZN-EDAZ10

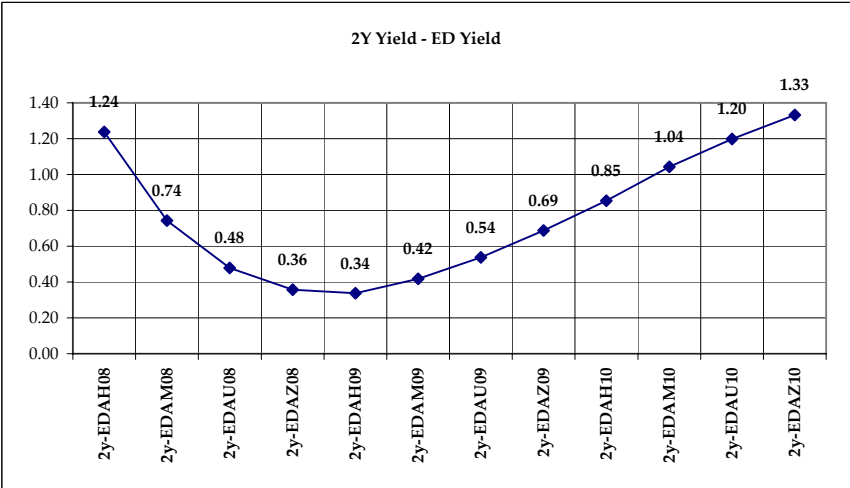
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

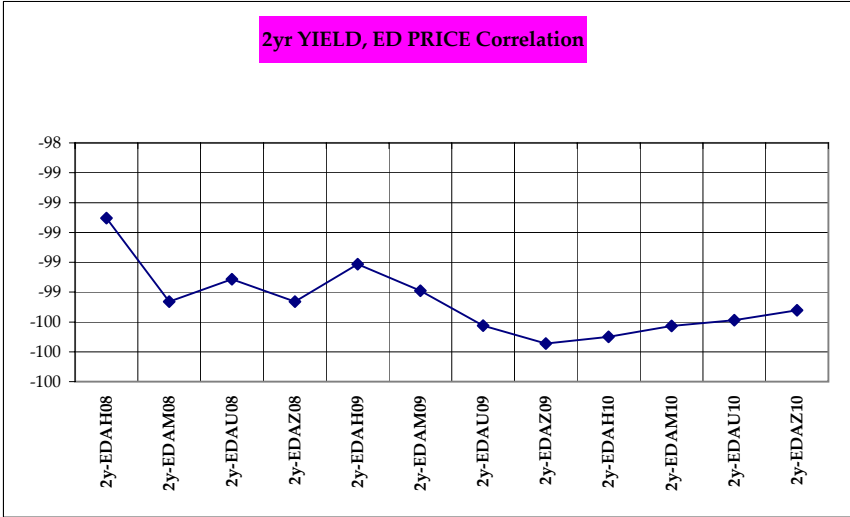
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.93	1.24	2y-EDAH08	-98.903
EDAM08	4.44	0.74	2y-EDAM08	-99.463
EDAU08	4.17	0.48	2y-EDAU08	-99.313
EDAZ08	4.05	0.36	2y-EDAZ08	-99.463
EDAH09	4.03	0.34	2y-EDAH09	-99.213
EDAM09	4.11	0.42	2y-EDAM09	-99.390
EDAU09	4.23	0.54	2y-EDAU09	-99.625
EDAZ09	4.38	0.69	2y-EDAZ09	-99.746
EDAH10	4.55	0.85	2y-EDAH10	-99.699
EDAM10	4.74	1.04	2y-EDAM10	-99.626
EDAU10	4.89	1.20	2y-EDAU10	-99.588
EDAZ10	5.03	1.33	2y-EDAZ10	-99.523

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	
EDAH08	0.191	1.90	1.71	2y-EDAH08
EDAM08	0.440	1.90	1.46	2y-EDAM08
EDAU08	0.690	1.90	1.21	2y-EDAU08
EDAZ08	0.939	1.90	0.97	2y-EDAZ08
EDAH09	1.188	1.90	0.72	2y-EDAH09
EDAM09	1.438	1.90	0.47	2y-EDAM09
EDAU09	1.687	1.90	0.22	2y-EDAU09
EDAZ09	1.936	1.90	(0.03)	2y-EDAZ09
EDAH10	2.186	1.90	(0.28)	2y-EDAH10
EDAM10	2.435	1.90	(0.53)	2y-EDAM10
EDAU10	2.684	1.90	(0.78)	2y-EDAU10
EDAZ10	2.934	1.90	(1.03)	2y-EDAZ10

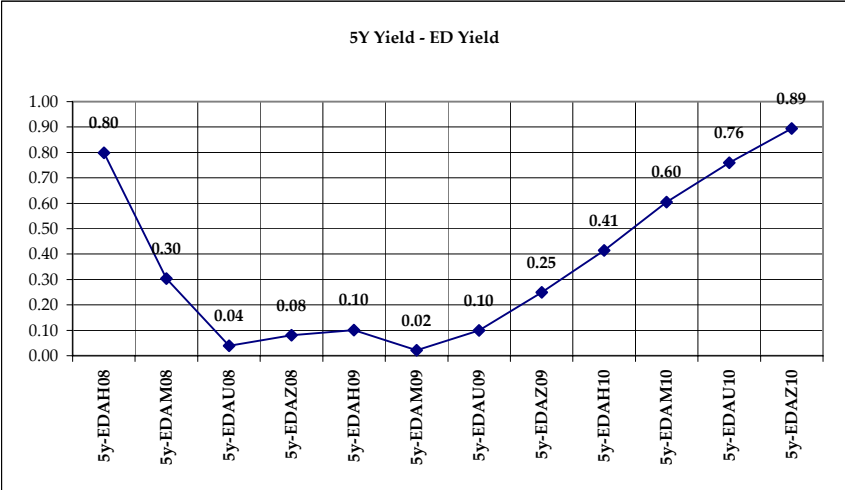
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	5.97	0.80	5y-EDAH08	-98.577
EDAM08	5.48	0.30	5y-EDAM08	-99.332
EDAU08	5.21	0.04	5y-EDAU08	-99.445
EDAZ08	5.09	0.08	5y-EDAZ08	-99.332
EDAH09	5.07	0.10	5y-EDAH09	-99.587
EDAM09	5.15	0.02	5y-EDAM09	-99.683
EDAU09	5.27	0.10	5y-EDAU09	-99.767
EDAZ09	5.42	0.25	5y-EDAZ09	-99.711
EDAH10	5.59	0.41	5y-EDAH10	-99.569
EDAM10	5.78	0.60	5y-EDAM10	-99.546
EDAU10	5.93	0.76	5y-EDAU10	-99.607
EDAZ10	6.07	0.89	5y-EDAZ10	-99.662

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.

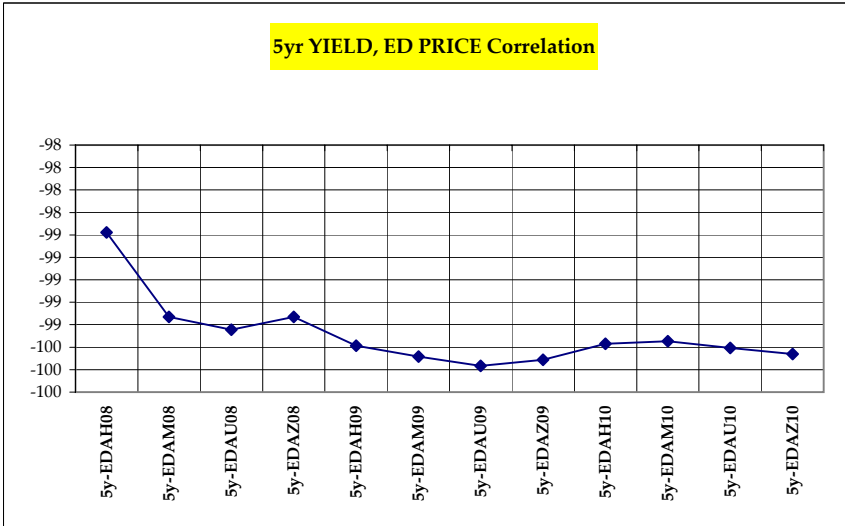


GE Duration as Fraction of year

	5Y Duration	Spread Duration	
EDAH08	0.191	4.47	5y-EDAH08
EDAM08	0.440	4.47	5y-EDAM08
EDAU08	0.690	4.47	5y-EDAU08
EDAZ08	0.939	4.47	5y-EDAZ08
EDAH09	1.188	4.47	5y-EDAH09
EDAM09	1.438	4.47	5y-EDAM09
EDAU09	1.687	4.47	5y-EDAU09
EDAZ09	1.936	4.47	5y-EDAZ09
EDAH10	2.186	4.47	5y-EDAH10
EDAM10	2.435	4.47	5y-EDAM10
EDAU10	2.684	4.47	5y-EDAU10
EDAZ10	2.934	4.47	5y-EDAZ10

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

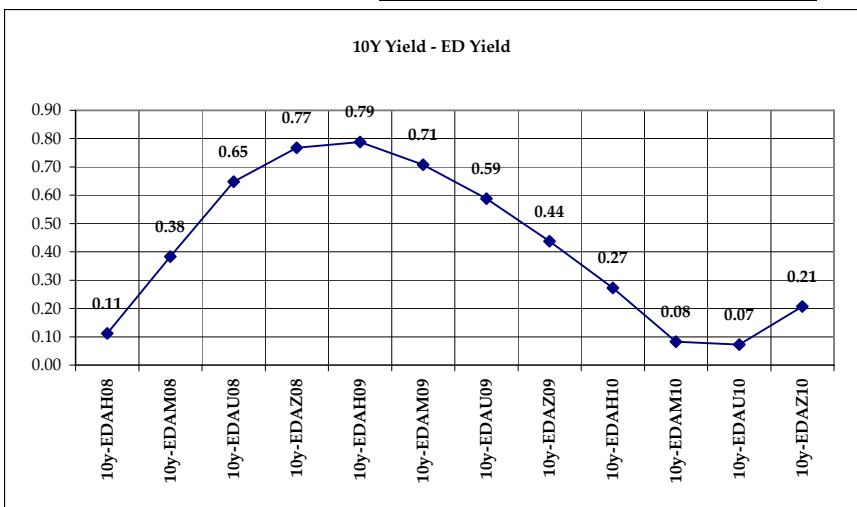
5yr YIELD, ED PRICE Correlation



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

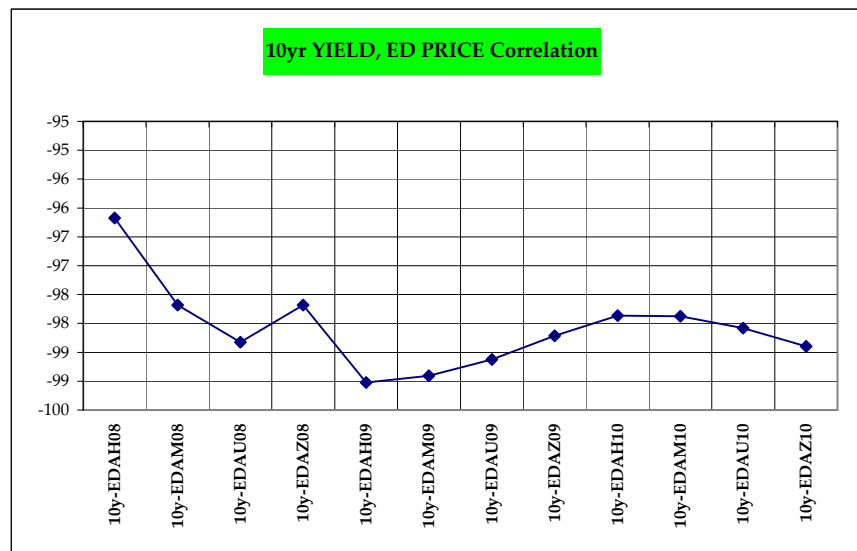
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	5.97	0.11	10y-EDAH08	-96.173
EDAM08	5.48	0.38	10y-EDAM08	-97.683
EDAU08	5.21	0.65	10y-EDAU08	-98.323
EDAZ08	5.09	0.77	10y-EDAZ08	-97.683
EDAH09	5.07	0.79	10y-EDAH09	-99.021
EDAM09	5.15	0.71	10y-EDAM09	-98.907
EDAU09	5.27	0.59	10y-EDAU09	-98.626
EDAZ09	5.42	0.44	10y-EDAZ09	-98.216
EDAH10	5.59	0.27	10y-EDAH10	-97.865
EDAM10	5.78	0.08	10y-EDAM10	-97.876
EDAU10	5.93	0.07	10y-EDAU10	-98.081
EDAZ10	6.07	0.21	10y-EDAZ10	-98.395

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	
EDAH08	0.191	7.98	7.79	10y-EDAH08
EDAM08	0.440	7.98	7.54	10y-EDAM08
EDAU08	0.690	7.98	7.29	10y-EDAU08
EDAZ08	0.939	7.98	7.04	10y-EDAZ08
EDAH09	1.188	7.98	6.79	10y-EDAH09
EDAM09	1.438	7.98	6.54	10y-EDAM09
EDAU09	1.687	7.98	6.29	10y-EDAU09
EDAZ09	1.936	7.98	6.04	10y-EDAZ09
EDAH10	2.186	7.98	5.79	10y-EDAH10
EDAM10	2.435	7.98	5.54	10y-EDAM10
EDAU10	2.684	7.98	5.29	10y-EDAU10
EDAZ10	2.934	7.98	5.04	10y-EDAZ10

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

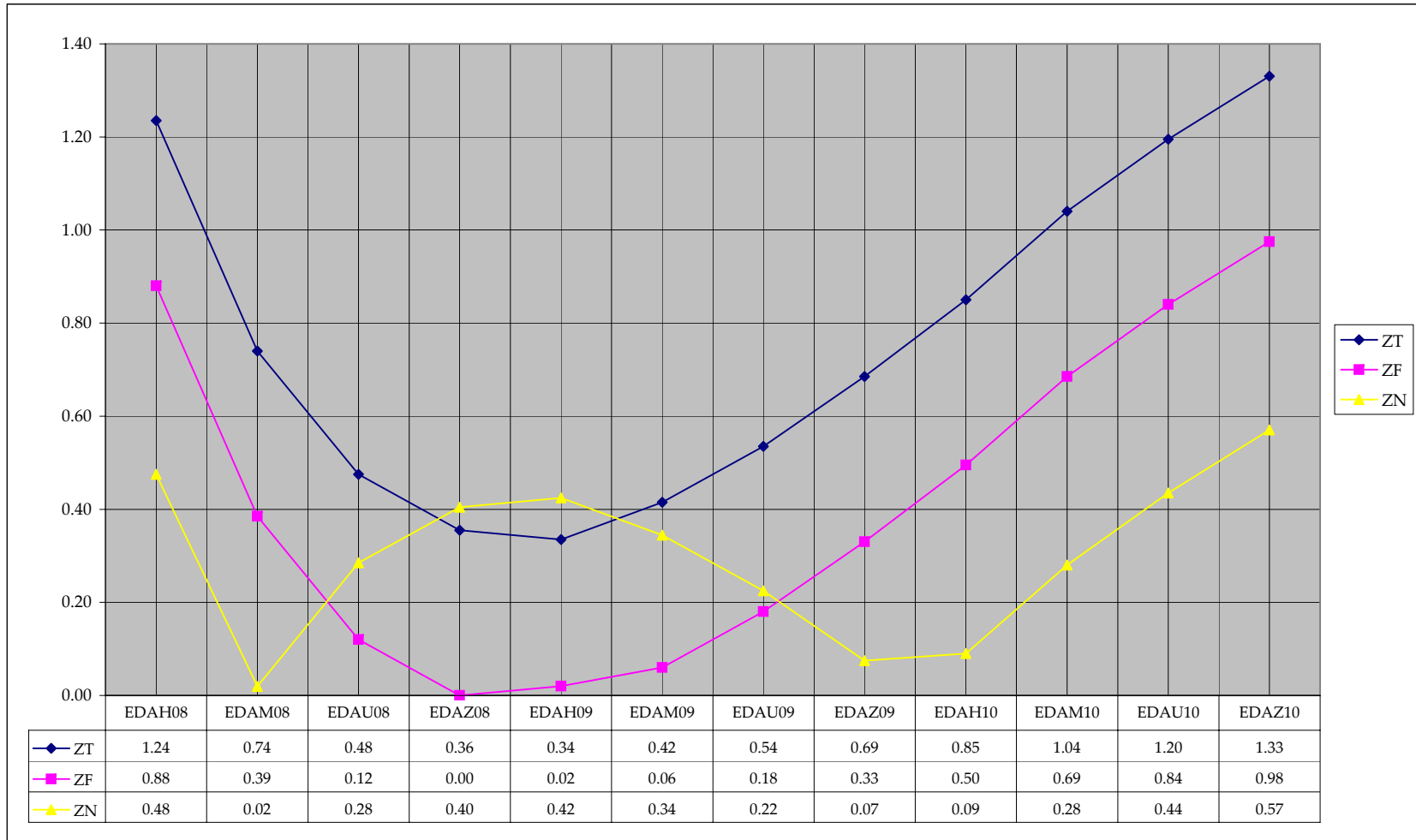


### Dirty TED Curve

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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.

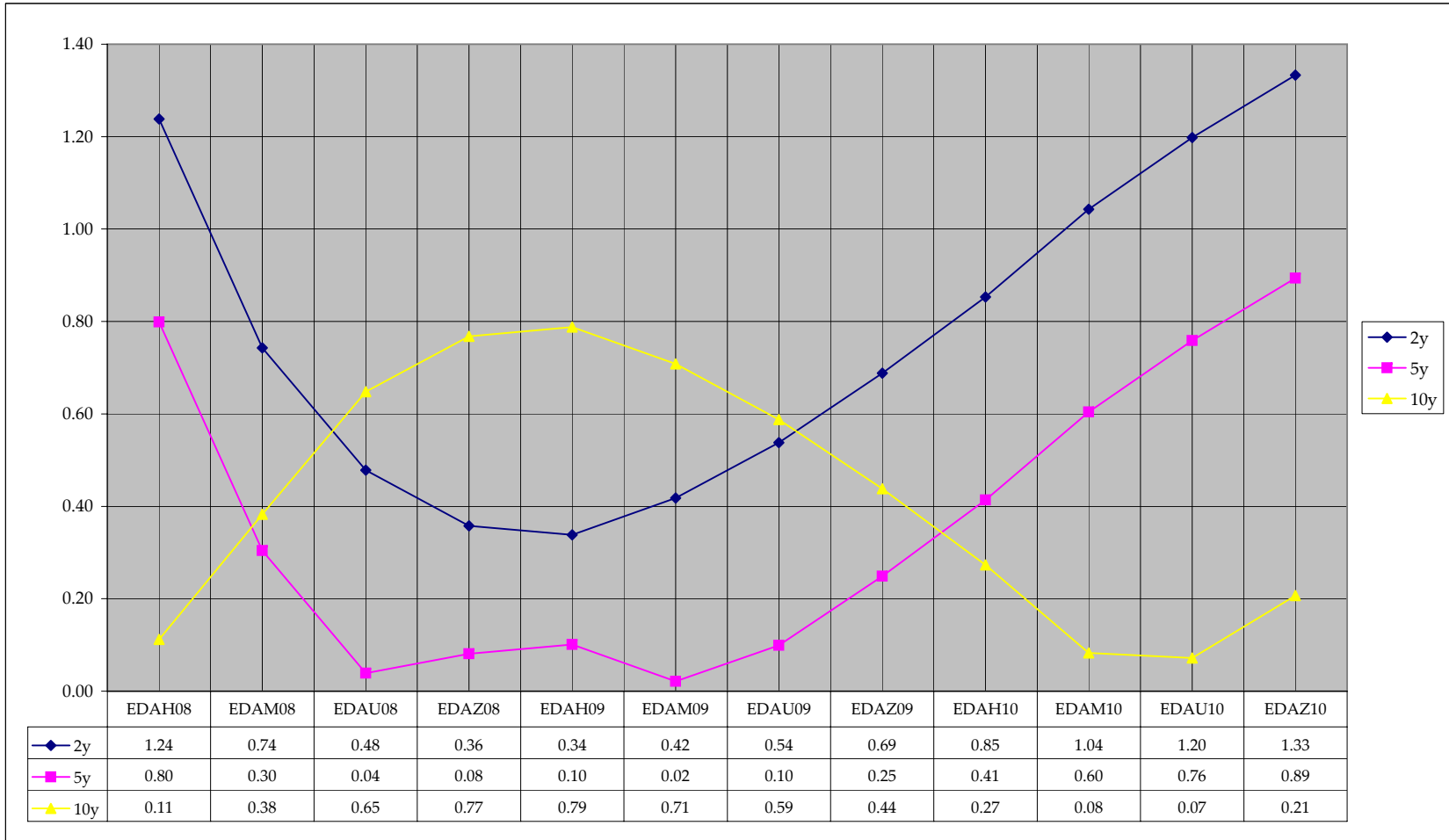


TED Curve

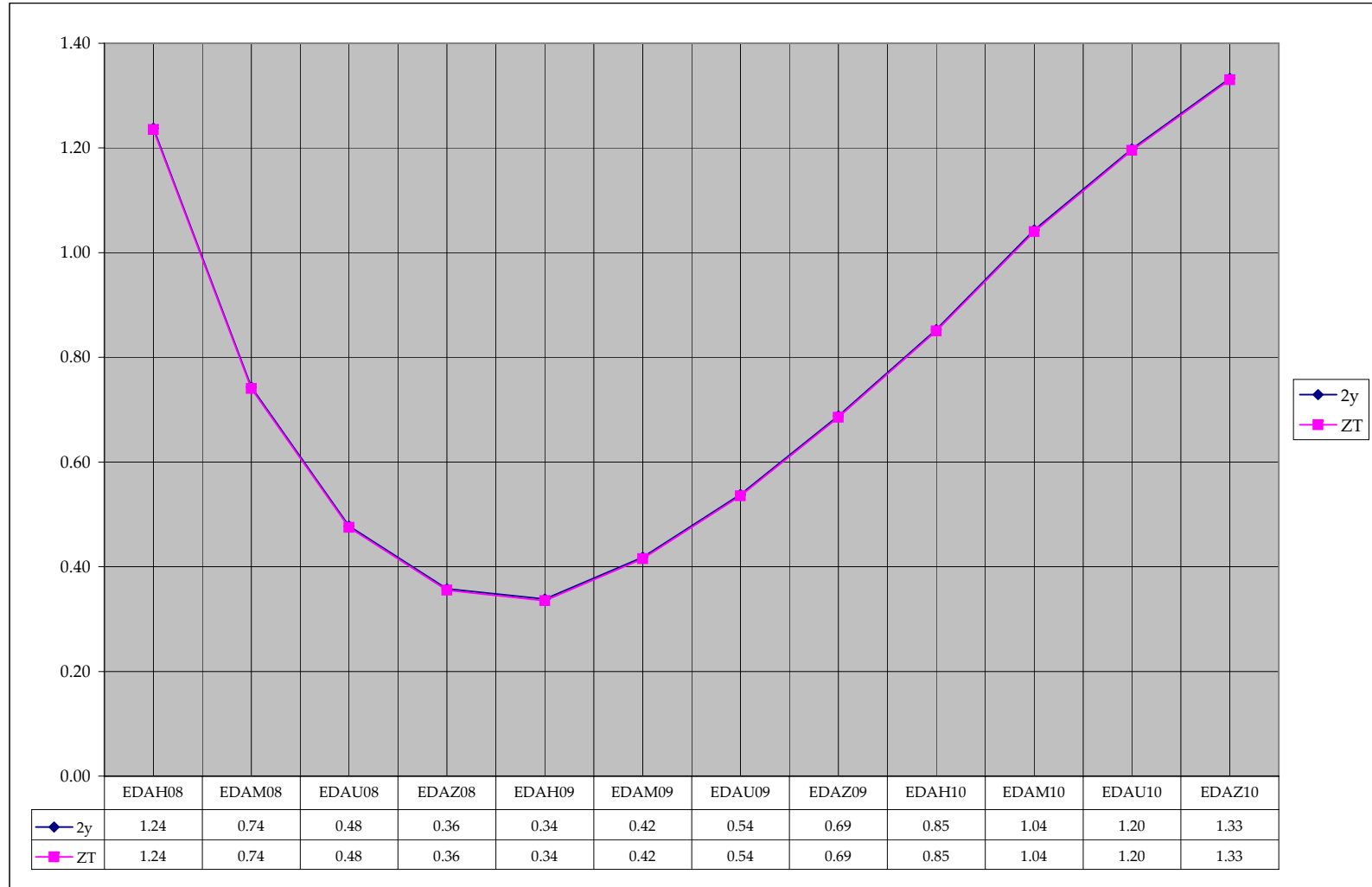
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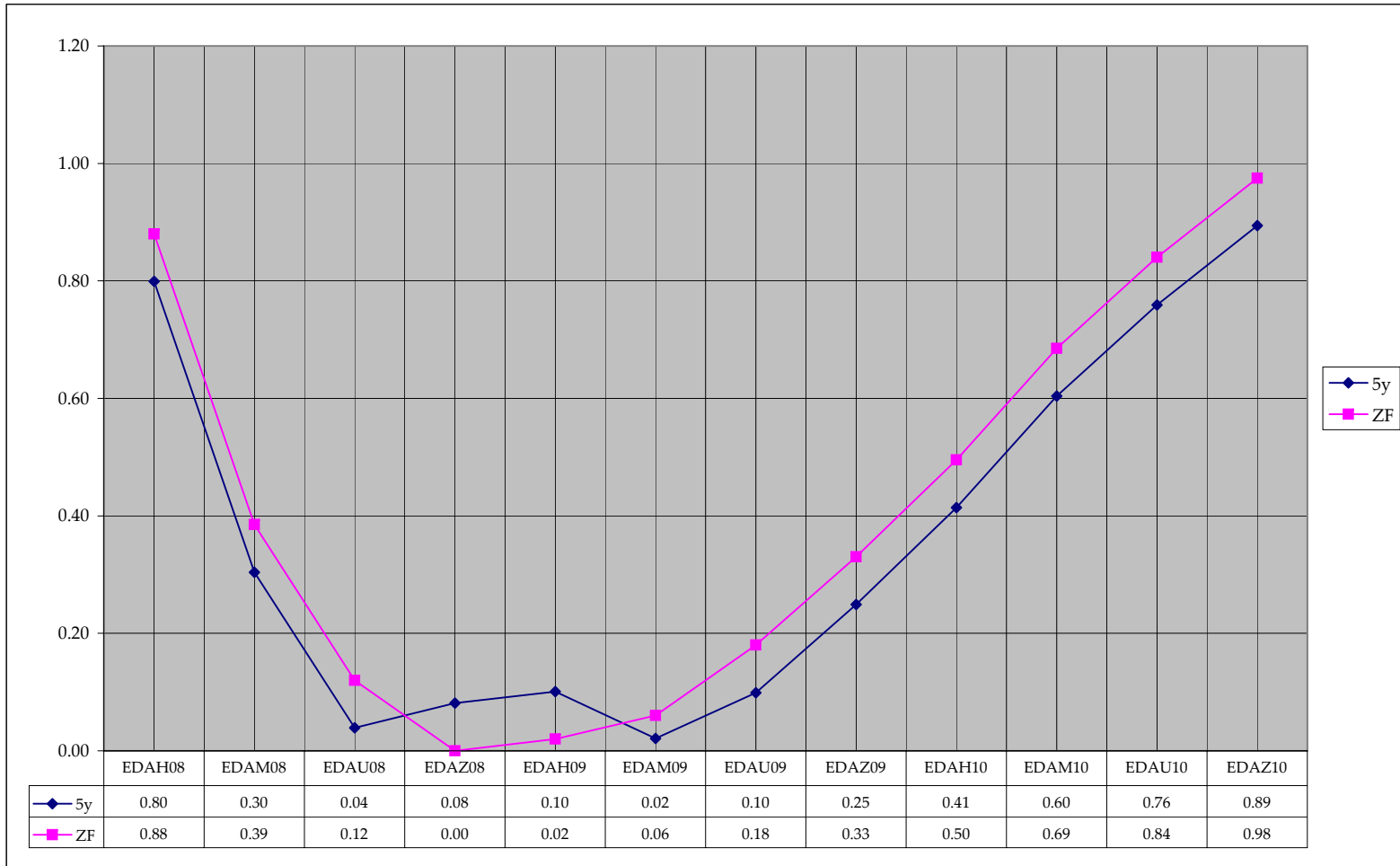
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



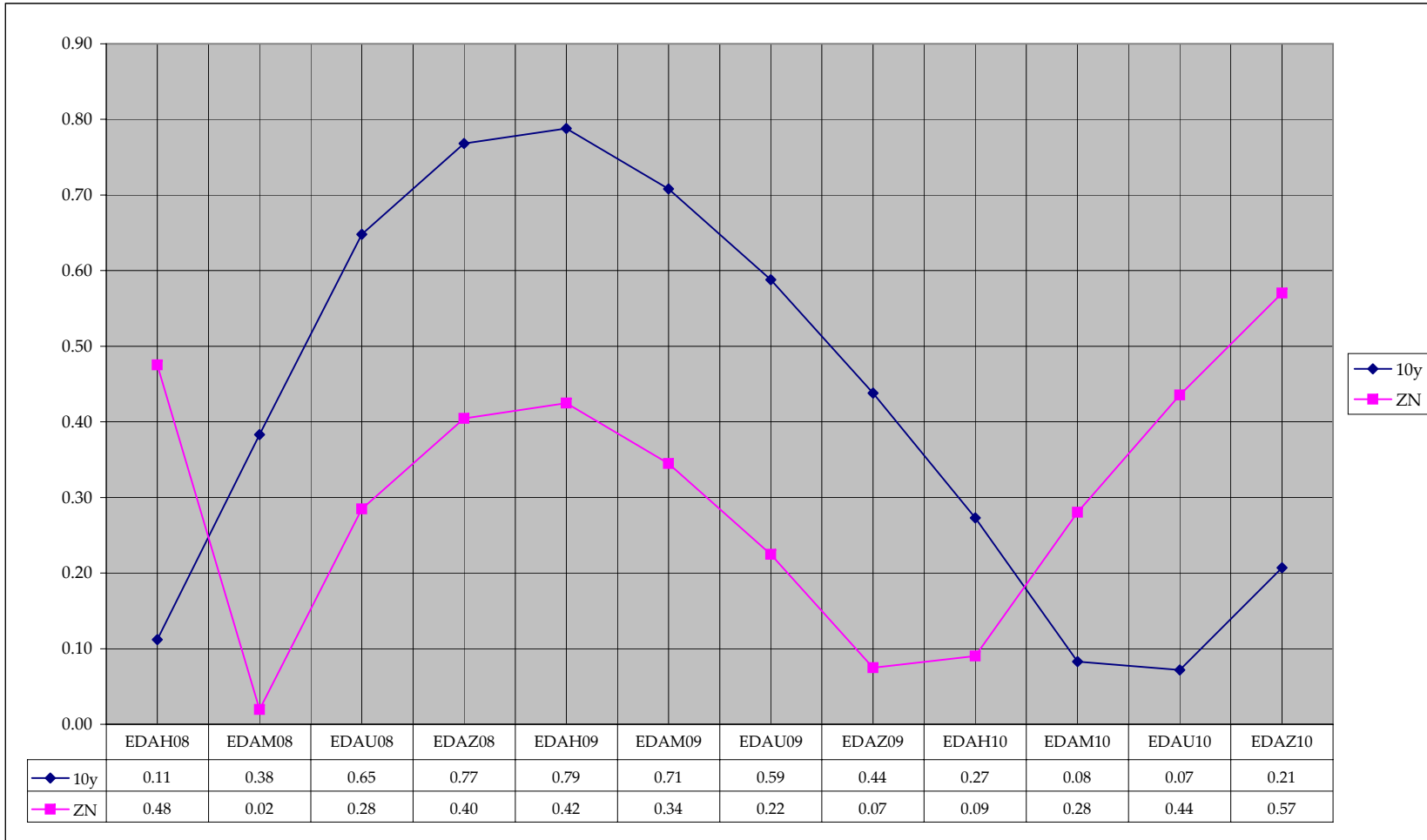
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	3.535	-2.000	9654.375
Q.ED.Red	3.320	-3.000	9675.250
Q.ED.Green	3.951	-2.500	9614.125
Q.ED.Blue		-0.500	9567.375
Q.ED.Gold		-0.125	9531.500

