

## 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	107.4281	107.137	1.602	1.92	
ZF	114.2094	114.067	2.378	4.11	
ZN	117.1563	117.050	3.043	6.06	
2y	100.734	100.2350	1.624	1.94	
5y	101.194	101.0620	2.494	4.64	
10y	99.656	99.2100	3.541	8.32	

Eurodollars (ED)							
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month		
EDAH08	97.175	2.825	14	0.038	MAR	White Pack	
EDAM08	97.630	2.370	105	0.287	JUN		
EDAU08	97.780	2.220	196	0.536	SEP		
EDAZ08	97.795	2.205	287	0.786	DEC	Red Pack	
EDAH09	97.745	2.255	378	1.035	MAR		
EDAM09	97.605	2.395	469	1.284	JUN		
EDAU09	97.405	2.595	560	1.534	SEP	Green Pack	
EDAZ09	97.160	2.840	651	1.783	DEC		
EDAH10	96.925	3.075	742	2.032	MAR		
EDAM10	96.695	3.305	833	2.282	JUN	Blue Pack	
EDAU10	96.490	3.510	924	2.531	SEP		
EDAZ10	96.280	3.720	1015	2.780	DEC		
EDAH11	96.120	3.880	1106	3.029	MAR	Gold Pack	
EDAM11	95.980	4.020	1197	3.279	JUN		
EDAU11	95.825	4.175	1295	3.547	SEP		
EDAZ11	95.695	4.305	1386	3.797	DEC	Gold Pack	
EDAH12	95.540	4.460	1477	4.046	MAR		
EDAM12	95.415	4.585	1568	4.295	JUN		
EDAU12	95.305	4.695	1659	4.545	SEP		
EDAU12	95.305	4.695	1659	4.545	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	2.453	-0.625	9759.500	Pack Prices
Q.ED.Red	2.573	2.125	9747.875	
Q.ED.Green	3.479	0.875	9659.750	
Q.ED.Blue	4.195	0.375	9590.500	
Q.ED.Gold	4.756	-2.750	9536.375	

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)

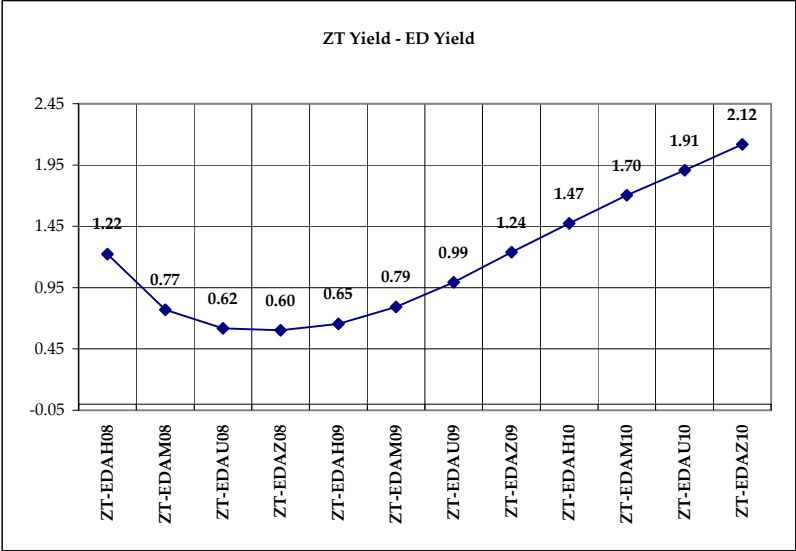
### **Eurodollar Color Codes for Individual Year Strips:**

<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	10.253	1.22	ZT-EDAH08	90.994
EDAM08	9.798	0.77	ZT-EDAM08	94.480
EDAU08	9.648	0.62	ZT-EDAU08	96.402
EDAZ08	9.633	0.60	ZT-EDAZ08	98.185
EDAH09	9.683	0.65	ZT-EDAH09	98.867
EDAM09	9.823	0.79	ZT-EDAM09	99.108
EDAU09	10.023	0.99	ZT-EDAU09	99.132
EDAZ09	10.268	1.24	ZT-EDAZ09	99.198
EDAH10	10.503	1.47	ZT-EDAH10	99.264
EDAM10	10.733	1.70	ZT-EDAM10	99.246
EDAU10	10.938	1.91	ZT-EDAU10	99.107
EDAZ10	11.148	2.12	ZT-EDAZ10	98.983

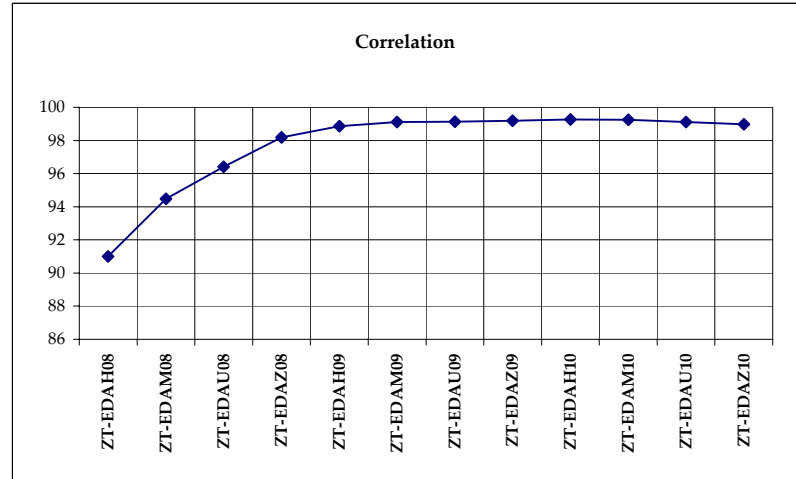
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as

	Fraction of year	ZT Duration	Spread Duration	
EDAH08	0.038	1.92	1.88	ZT-EDAH08
EDAM08	0.287	1.92	1.63	ZT-EDAM08
EDAU08	0.536	1.92	1.39	ZT-EDAU08
EDAZ08	0.786	1.92	1.14	ZT-EDAZ08
EDAH09	1.035	1.92	0.89	ZT-EDAH09
EDAM09	1.284	1.92	0.64	ZT-EDAM09
EDAU09	1.534	1.92	0.39	ZT-EDAU09
EDAZ09	1.783	1.92	0.14	ZT-EDAZ09
EDAH10	2.032	1.92	(0.11)	ZT-EDAH10
EDAM10	2.282	1.92	(0.36)	ZT-EDAM10
EDAU10	2.531	1.92	(0.61)	ZT-EDAU10
EDAZ10	2.780	1.92	(0.86)	ZT-EDAZ10

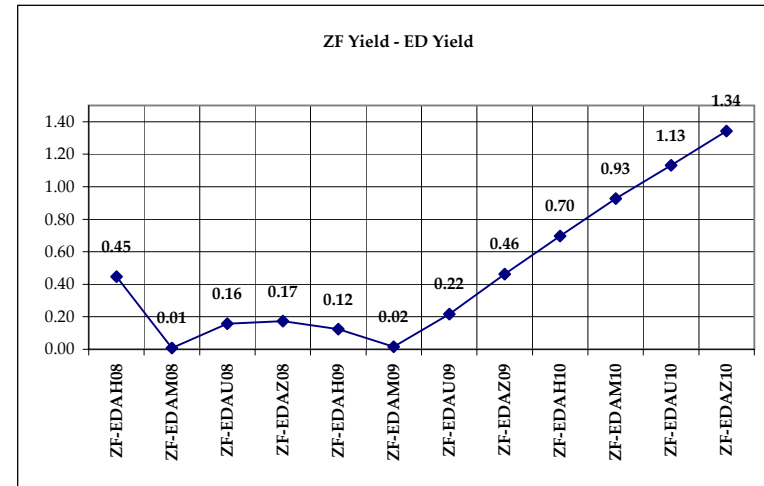
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	17.03	0.45	ZF-EDAH08	89.405
EDAM08	16.58	0.01	ZF-EDAM08	93.263
EDAU08	16.43	0.16	ZF-EDAU08	95.734
EDAZ08	16.41	0.17	ZF-EDAZ08	97.803
EDAH09	16.46	0.12	ZF-EDAH09	98.646
EDAM09	16.60	0.02	ZF-EDAM09	98.857
EDAU09	16.80	0.22	ZF-EDAU09	98.902
EDAZ09	17.05	0.46	ZF-EDAZ09	99.201
EDAH10	17.28	0.70	ZF-EDAH10	99.483
EDAM10	17.51	0.93	ZF-EDAM10	99.607
EDAU10	17.72	1.13	ZF-EDAU10	99.609
EDAZ10	17.93	1.34	ZF-EDAZ10	99.623

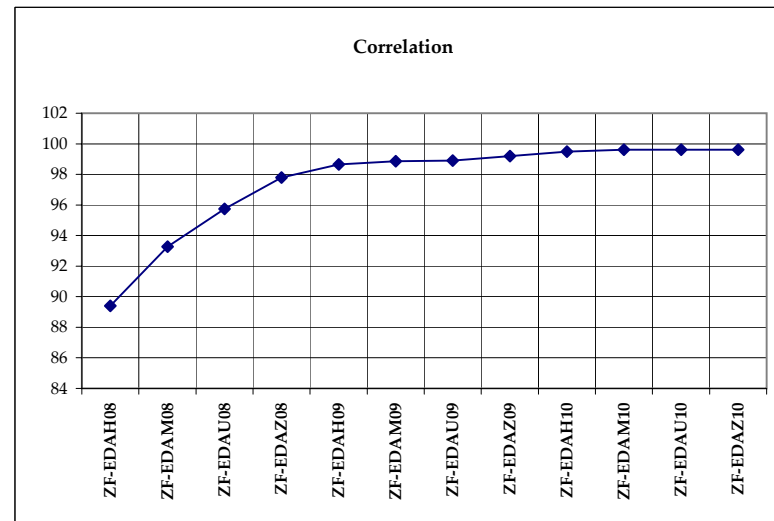
Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS(Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



GE Duration as Fraction of year

	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAH08	0.038	4.11	4.07	ZF-EDAH08
EDAM08	0.287	4.11	3.82	ZF-EDAM08
EDAU08	0.536	4.11	3.57	ZF-EDAU08
EDAZ08	0.786	4.11	3.32	ZF-EDAZ08
EDAH09	1.035	4.11	3.07	ZF-EDAH09
EDAM09	1.284	4.11	2.82	ZF-EDAM09
EDAU09	1.534	4.11	2.57	ZF-EDAU09
EDAZ09	1.783	4.11	2.33	ZF-EDAZ09
EDAH10	2.032	4.11	2.08	ZF-EDAH10
EDAM10	2.282	4.11	1.83	ZF-EDAM10
EDAU10	2.531	4.11	1.58	ZF-EDAU10
EDAZ10	2.780	4.11	1.33	ZF-EDAZ10

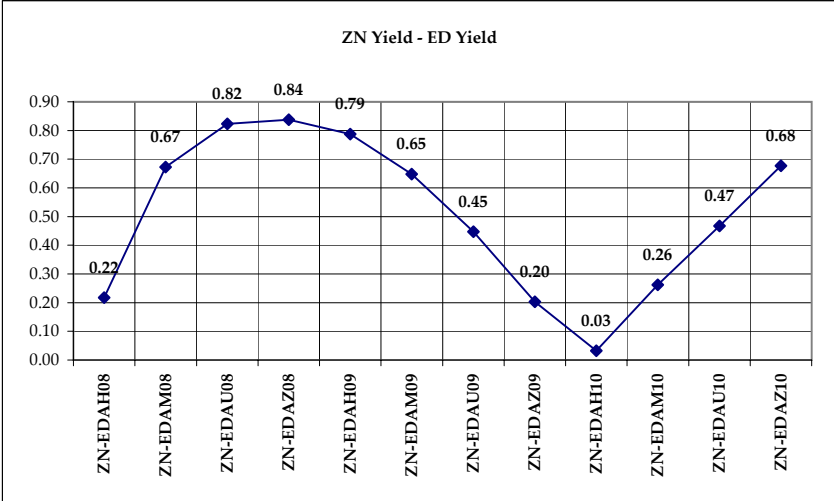
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

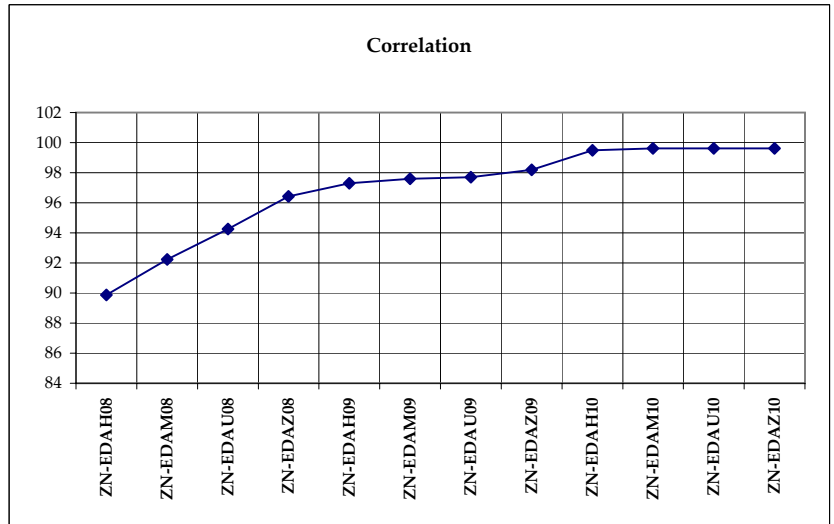
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	19.98	0.22	ZN-EDAH08	89.88
EDAM08	19.53	0.67	ZN-EDAM08	92.22
EDAU08	19.38	0.82	ZN-EDAU08	94.26
EDAZ08	19.36	0.84	ZN-EDAZ08	96.42
EDAH09	19.41	0.79	ZN-EDAH09	97.30
EDAM09	19.55	0.65	ZN-EDAM09	97.59
EDAU09	19.75	0.45	ZN-EDAU09	97.71
EDAZ09	20.00	0.20	ZN-EDAZ09	98.18
EDAH10	20.23	0.03	ZN-EDAH10	99.48
EDAM10	20.46	0.26	ZN-EDAM10	99.61
EDAU10	20.67	0.47	ZN-EDAU10	99.61
EDAZ10	20.88	0.68	ZN-EDAZ10	99.62

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	0.038	6.06	6.02	ZN-EDAH08
EDAM08	0.287	6.06	5.77	ZN-EDAM08
EDAU08	0.536	6.06	5.53	ZN-EDAU08
EDAZ08	0.786	6.06	5.28	ZN-EDAZ08
EDAH09	1.035	6.06	5.03	ZN-EDAH09
EDAM09	1.284	6.06	4.78	ZN-EDAM09
EDAU09	1.534	6.06	4.53	ZN-EDAU09
EDAZ09	1.783	6.06	4.28	ZN-EDAZ09
EDAH10	2.032	6.06	4.03	ZN-EDAH10
EDAM10	2.282	6.06	3.78	ZN-EDAM10
EDAU10	2.531	6.06	3.53	ZN-EDAU10
EDAZ10	2.780	6.06	3.28	ZN-EDAZ10

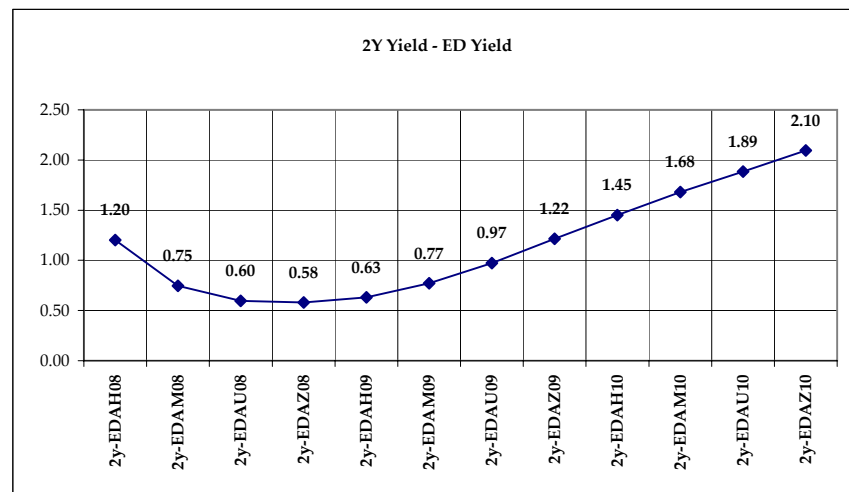
The farther away from 0 the spread duration is the riskier the trade.



**TERM TED: 2y vs Eurodollar Contracts**

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	3.56	1.20	2y-EDAH08	-91.608
EDAM08	3.10	0.75	2y-EDAM08	-95.890
EDAU08	2.95	0.60	2y-EDAU08	-97.872
EDAZ08	2.94	0.58	2y-EDAZ08	-95.890
EDAH09	2.99	0.63	2y-EDAH09	-99.334
EDAM09	3.13	0.77	2y-EDAM09	-99.286
EDAU09	3.33	0.97	2y-EDAU09	-99.226
EDAZ09	3.57	1.22	2y-EDAZ09	-99.257
EDAH10	3.81	1.45	2y-EDAH10	-99.237
EDAM10	4.04	1.68	2y-EDAM10	-99.341
EDAU10	4.24	1.89	2y-EDAU10	-99.324
EDAZ10	4.45	2.10	2y-EDAZ10	-99.396

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.

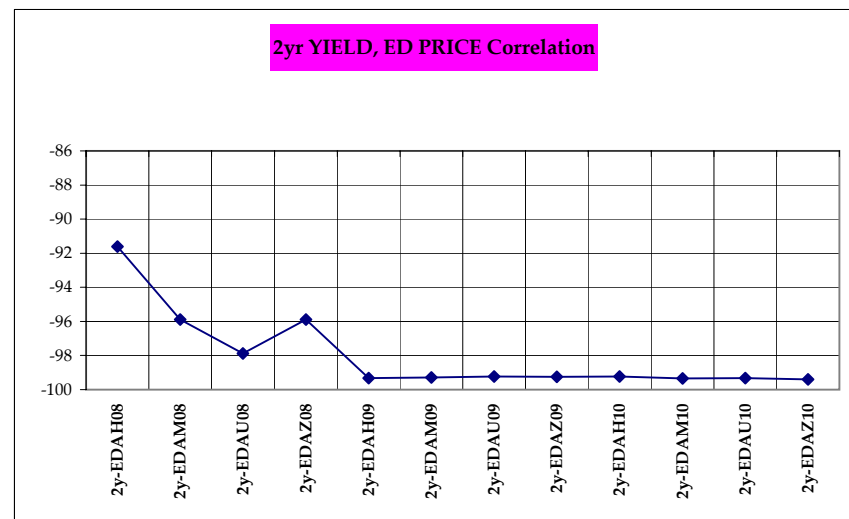


**GE Duration as Fraction of year**

	2Y Duration	Spread Duration	
EDAH08	0.038	1.94	2y-EDAH08
EDAM08	0.287	1.94	2y-EDAM08
EDAU08	0.536	1.94	2y-EDAU08
EDAZ08	0.786	1.94	2y-EDAZ08
EDAH09	1.035	1.94	2y-EDAH09
EDAM09	1.284	1.94	2y-EDAM09
EDAU09	1.534	1.94	2y-EDAU09
EDAZ09	1.783	1.94	2y-EDAZ09
EDAH10	2.032	1.94	2y-EDAH10
EDAM10	2.282	1.94	2y-EDAM10
EDAU10	2.531	1.94	2y-EDAU10
EDAZ10	2.780	1.94	2y-EDAZ10

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

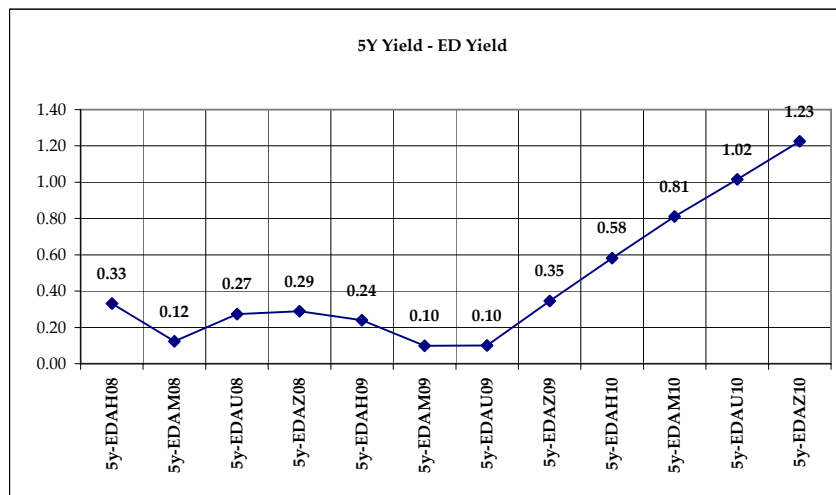
**2yr YIELD, ED PRICE Correlation**



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

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.02	0.33	5y-EDAH08	-90.340
EDAM08	3.56	0.12	5y-EDAM08	-93.349
EDAU08	3.41	0.27	5y-EDAU08	-95.412
EDAZ08	3.40	0.29	5y-EDAZ08	-93.349
EDAH09	3.45	0.24	5y-EDAH09	-97.633
EDAM09	3.59	0.10	5y-EDAM09	-97.679
EDAU09	3.79	0.10	5y-EDAU09	-97.672
EDAZ09	4.03	0.35	5y-EDAZ09	-98.010
EDAH10	4.27	0.58	5y-EDAH10	-98.334
EDAM10	4.50	0.81	5y-EDAM10	-98.674
EDAU10	4.70	1.02	5y-EDAU10	-98.869
EDAZ10	4.91	1.23	5y-EDAZ10	-99.139

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.

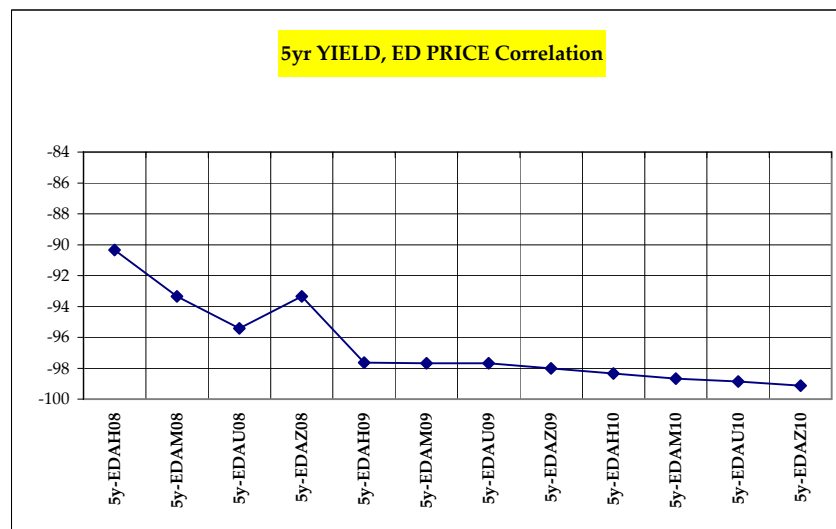


**GE Duration as**

	Fraction of year	5Y Duration	Spread Duration	
EDAH08	0.038	4.64	4.60	5y-EDAH08
EDAM08	0.287	4.64	4.35	5y-EDAM08
EDAU08	0.536	4.64	4.10	5y-EDAU08
EDAZ08	0.786	4.64	3.85	5y-EDAZ08
EDAH09	1.035	4.64	3.60	5y-EDAH09
EDAM09	1.284	4.64	3.35	5y-EDAM09
EDAU09	1.534	4.64	3.11	5y-EDAU09
EDAZ09	1.783	4.64	2.86	5y-EDAZ09
EDAH10	2.032	4.64	2.61	5y-EDAH10
EDAM10	2.282	4.64	2.36	5y-EDAM10
EDAU10	2.531	4.64	2.11	5y-EDAU10
EDAZ10	2.780	4.64	1.86	5y-EDAZ10

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

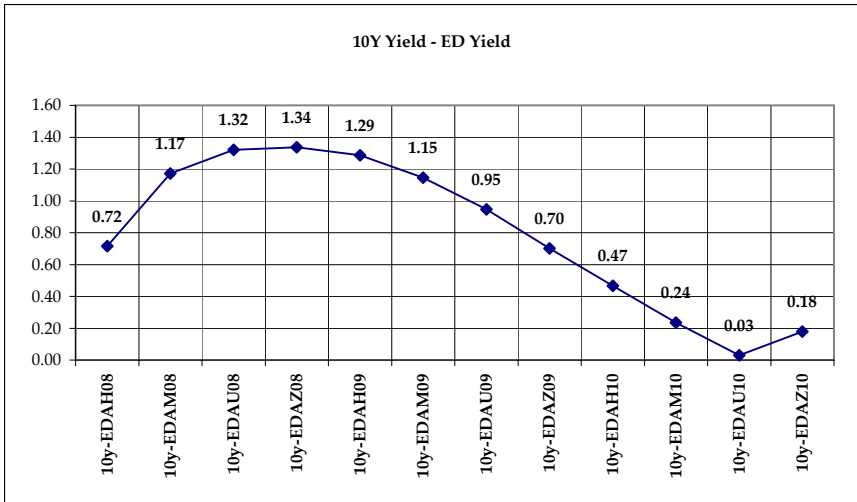
**5yr YIELD, ED PRICE Correlation**



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

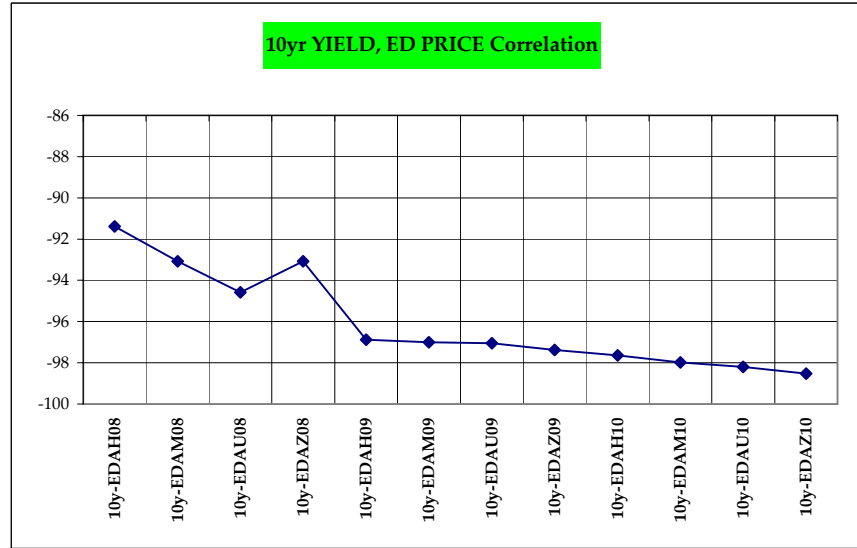
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH08	4.02	0.72	10y-EDAH08	-91.382
EDAM08	3.56	1.17	10y-EDAM08	-93.079
EDAU08	3.41	1.32	10y-EDAU08	-94.577
EDAZ08	3.40	1.34	10y-EDAZ08	-93.079
EDAH09	3.45	1.29	10y-EDAH09	-96.874
EDAM09	3.59	1.15	10y-EDAM09	-97.010
EDAU09	3.79	0.95	10y-EDAU09	-97.047
EDAZ09	4.03	0.70	10y-EDAZ09	-97.370
EDAH10	4.27	0.47	10y-EDAH10	-97.646
EDAM10	4.50	0.24	10y-EDAM10	-97.985
EDAU10	4.70	0.03	10y-EDAU10	-98.204
EDAZ10	4.91	0.18	10y-EDAZ10	-98.526

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	0.038	8.32	8.28	10y-EDAH08
EDAM08	0.287	8.32	8.04	10y-EDAM08
EDAU08	0.536	8.32	7.79	10y-EDAU08
EDAZ08	0.786	8.32	7.54	10y-EDAZ08
EDAH09	1.035	8.32	7.29	10y-EDAH09
EDAM09	1.284	8.32	7.04	10y-EDAM09
EDAU09	1.534	8.32	6.79	10y-EDAU09
EDAZ09	1.783	8.32	6.54	10y-EDAZ09
EDAH10	2.032	8.32	6.29	10y-EDAH10
EDAM10	2.282	8.32	6.04	10y-EDAM10
EDAU10	2.531	8.32	5.79	10y-EDAU10
EDAZ10	2.780	8.32	5.54	10y-EDAZ10

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

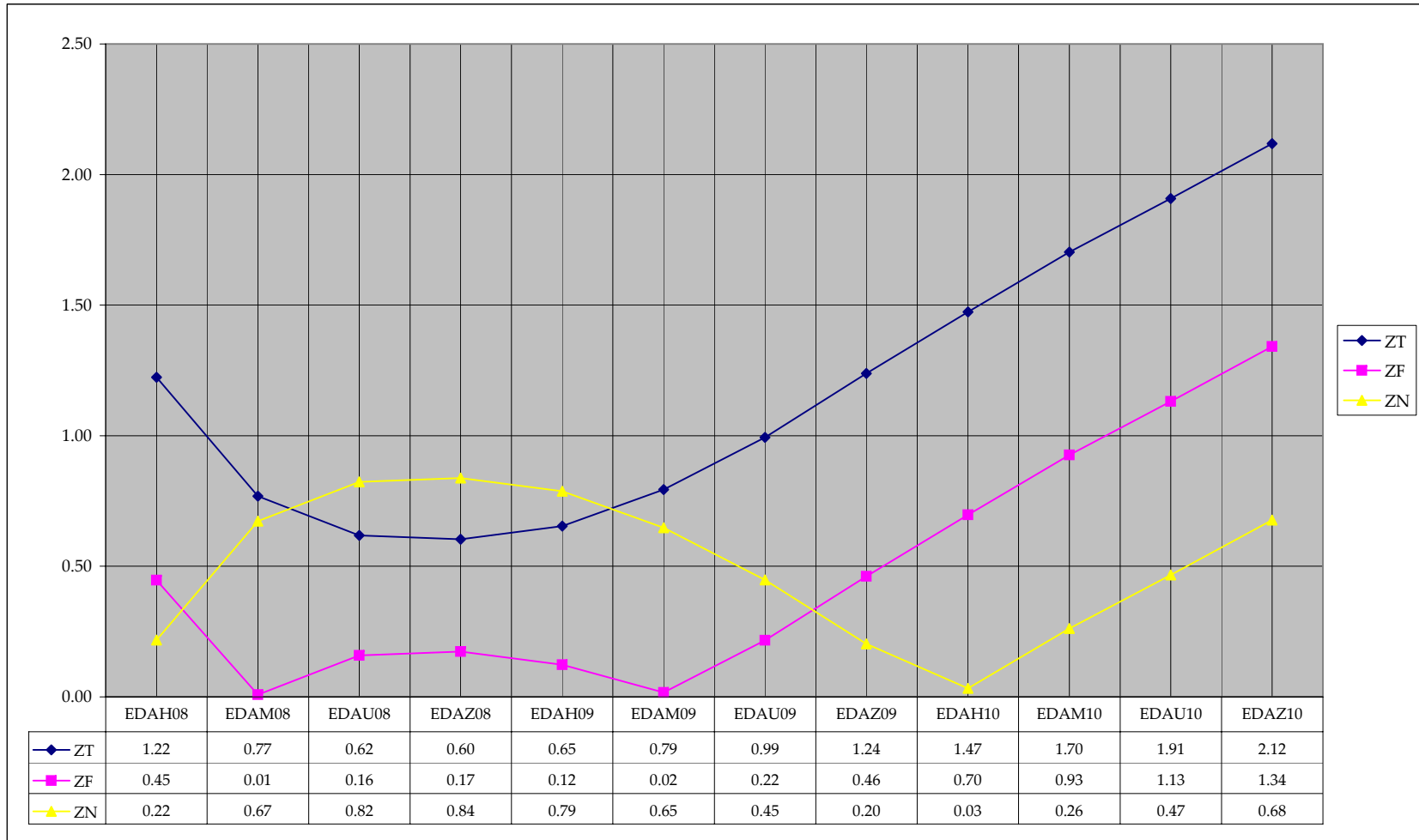


### Dirty TED Curve

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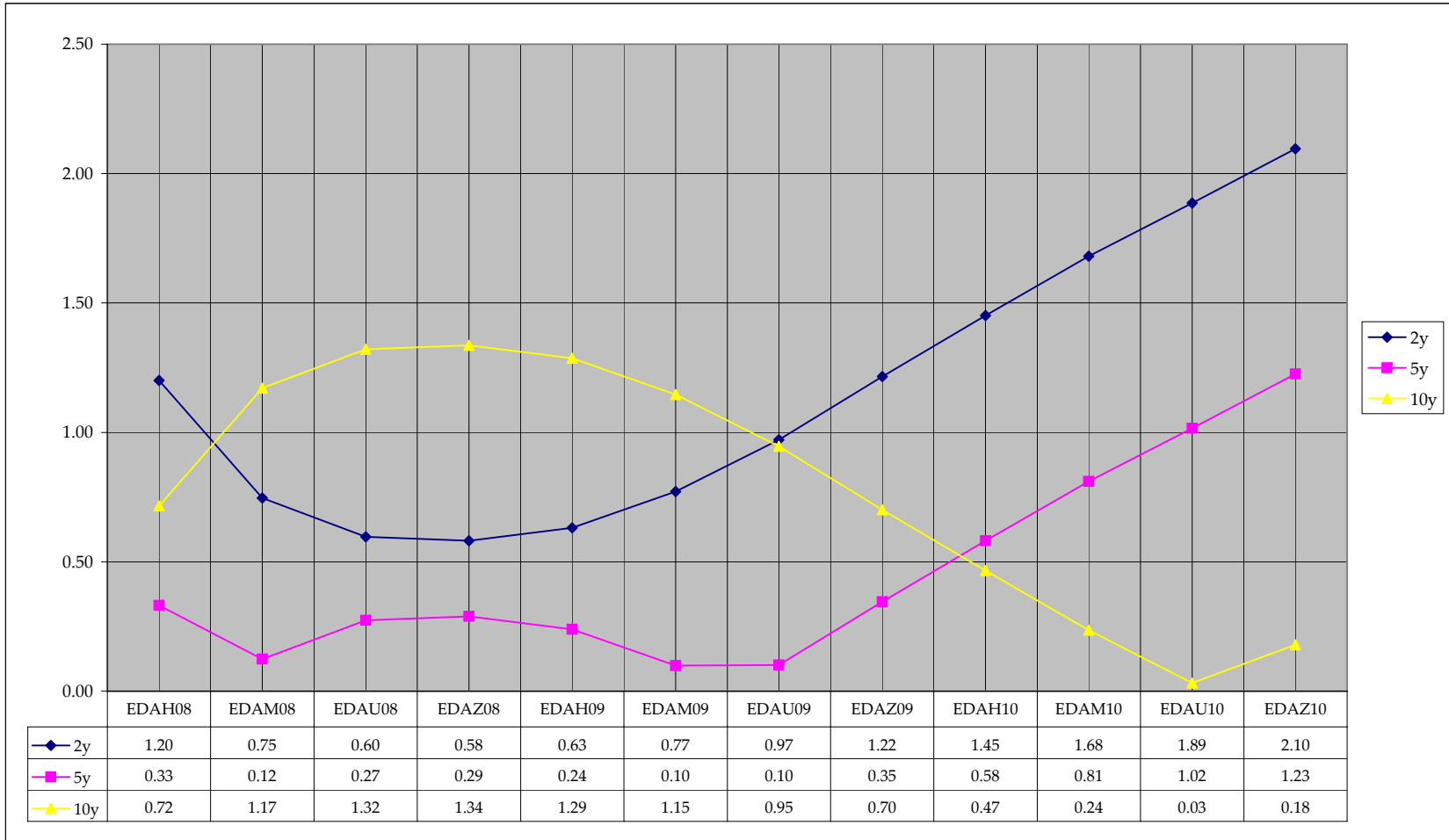
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Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis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

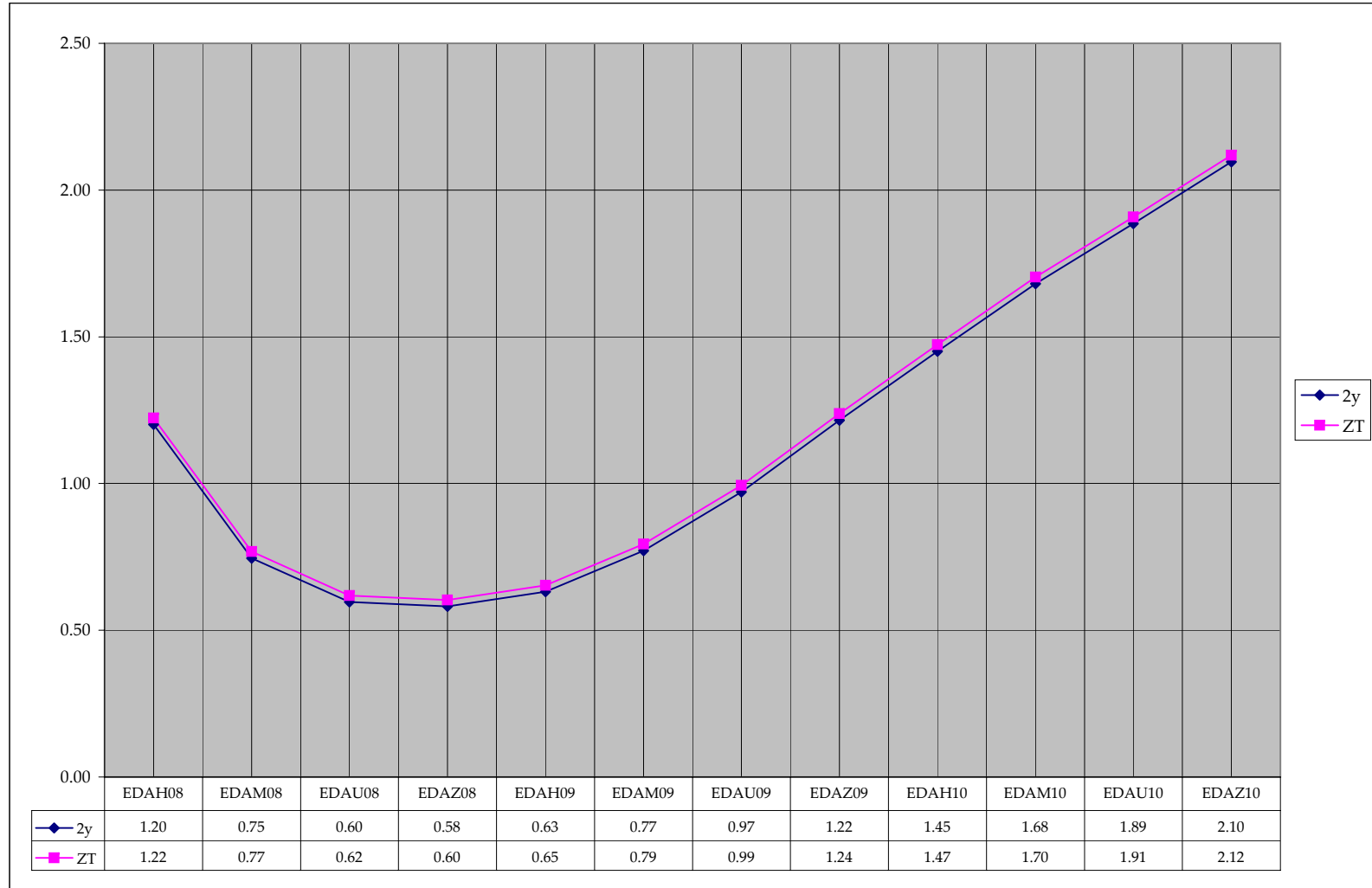


TED Curve

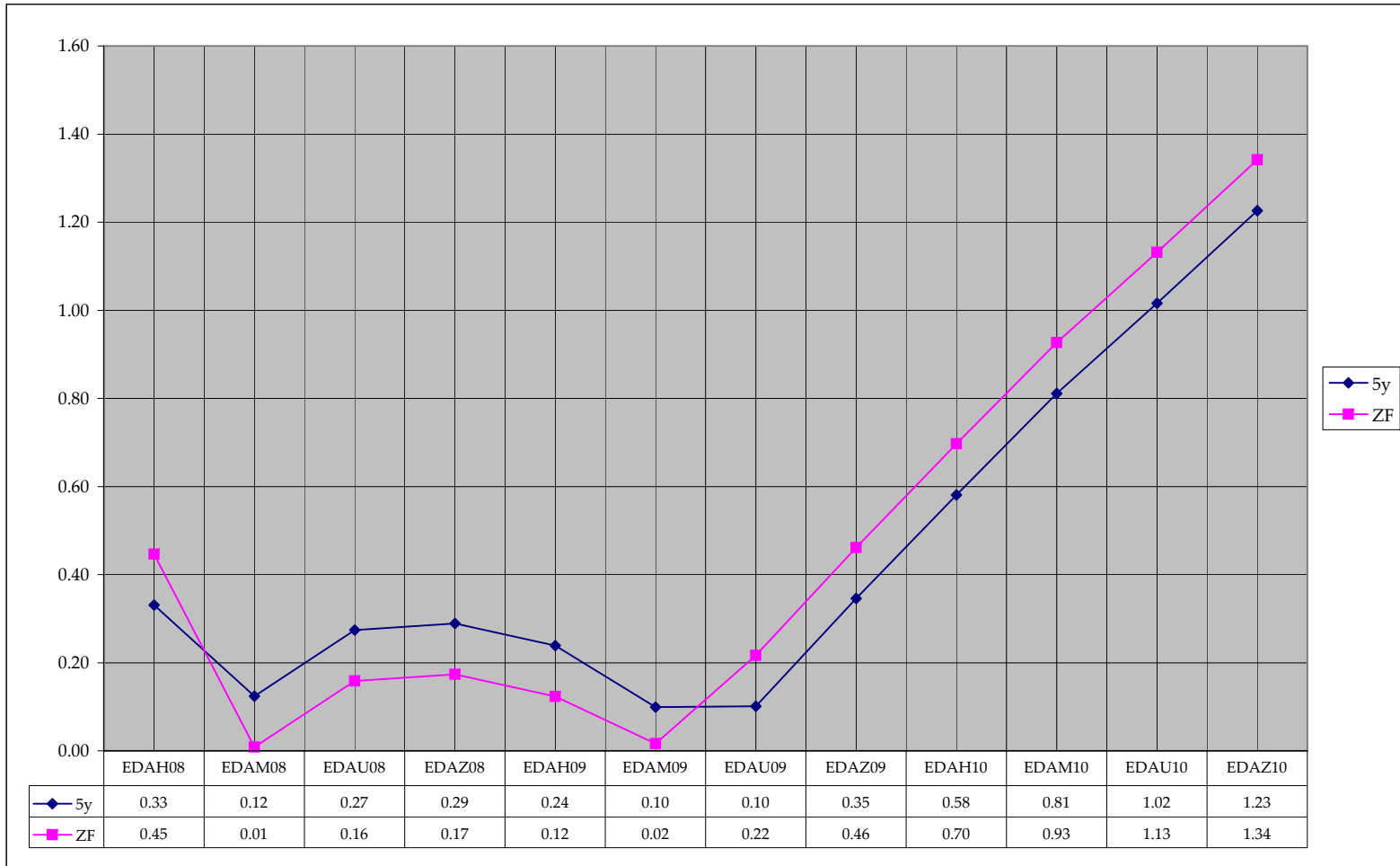
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



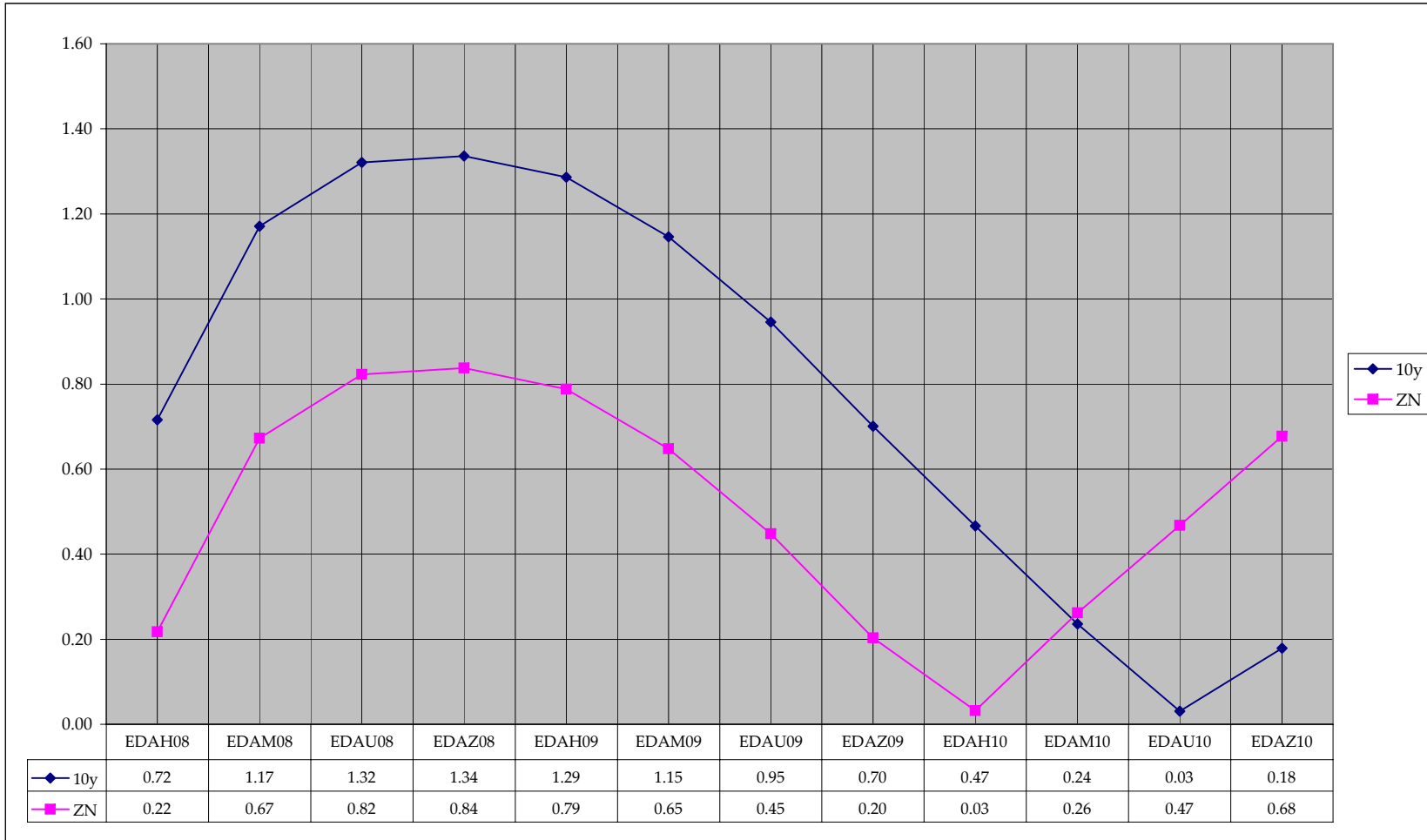
## 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



# Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	2.453	-0.625	9759.500
Q.ED.Red	2.573	2.125	9747.875
Q.ED.Green	3.479	0.875	9659.750
Q.ED.Blue	4.195	0.375	9590.500
Q.ED.Gold	4.756	-2.750	9536.375

