

## The Morning Email: TERM TEDS & Dirty TEDS

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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.

Treasury Futures and Cash				
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	109.0156	109.0050	0.689	1.77
ZF	118.8906	118.2850	1.451	1.45
ZN	124.1094	124.0350	1.657	6.16
2y	100.0063	100.0020	0.867	1.94
5y	100.2031	100.0650	1.704	4.73
10y	100.0156	100.0050	2.750	8.15

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.810	1.190	32	0.087	MAR	
EDAM09	98.810	1.190	123	0.336	JUN	White Pack
EDAU09	98.745	1.255	214	0.586	SEP	
EDAZ09	98.590	1.410	305	0.835	DEC	
EDAH10	98.465	1.535	396	1.084	MAR	
EDAM10	98.255	1.745	487	1.334	JUN	Red Pack
EDAU10	98.035	1.965	578	1.583	SEP	
EDAZ10	97.800	2.200	669	1.832	DEC	
EDAH11	97.630	2.370	760	2.082	MAR	
EDAM11	97.420	2.580	851	2.331	JUN	Green Pack
EDAU11	97.235	2.765	949	2.599	SEP	
EDAZ11	97.055	2.945	1040	2.849	DEC	
EDAH12	96.970	3.030	1131	3.098	MAR	
EDAM12	96.860	3.140	1222	3.347	JUN	Blue Pack
EDAU12	96.775	3.225	1313	3.597	SEP	
EDAZ12	96.695	3.305	1404	3.846	DEC	
EDAH13	96.590	3.410	1495	4.095	MAR	
EDAM13	96.535	3.465	1586	4.345	JUN	Gold Pack
EDZU13	96.445	3.555	1677	4.594	SEP	
EDZZ13	96.355	3.645	1768	4.843	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.283	2.250	9873.875	Pack Prices
Red Pack	1.896	3.125	9813.875	
Green Pack	2.720	2.875	9733.500	
Blue Pack	3.245	3.500	9682.500	
Gold Pack		0.000	9648.250	

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

Notes

\* Futures use CTD for Last Yield

IF : '#VALUE!', then, no quote being provided by exchange.

If color of cell is orange, it's simply a 'note' for me.

**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.

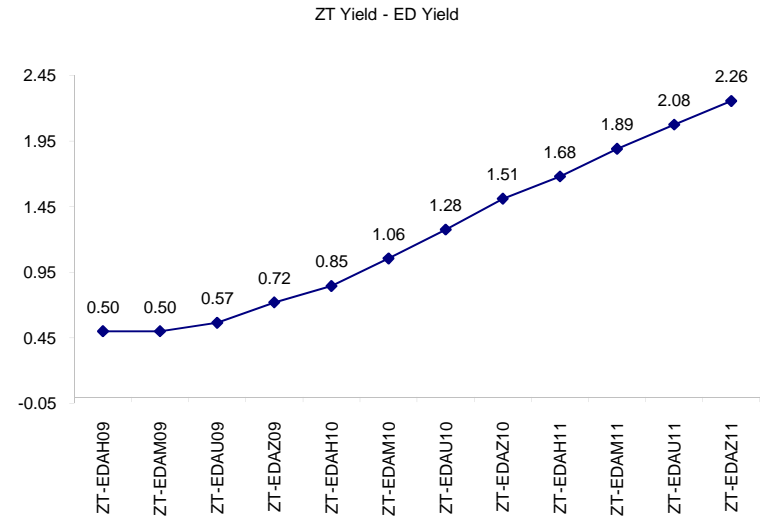
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **Correlations (Important)**

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. So, it's much easier to formulate the correlations based on yield than price.

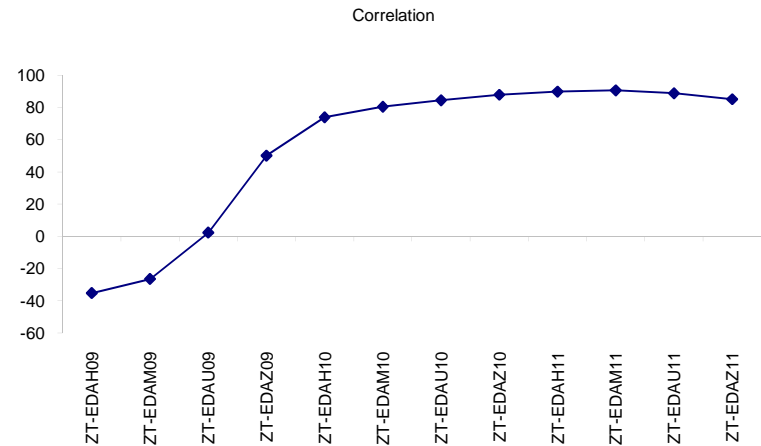
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.206	0.50	ZT-EDAH09	-35.197
EDAM09	10.206	0.50	ZT-EDAM09	-26.432
EDAU09	10.271	0.57	ZT-EDAU09	2.346
EDAZ09	10.426	0.72	ZT-EDAZ09	50.183
EDAH10	10.551	0.85	ZT-EDAH10	73.988
EDAM10	10.761	1.06	ZT-EDAM10	80.545
EDAU10	10.981	1.28	ZT-EDAU10	84.577
EDAZ10	11.216	1.51	ZT-EDAZ10	87.986
EDAH11	11.386	1.68	ZT-EDAH11	89.926
EDAM11	11.596	1.89	ZT-EDAM11	90.730
EDAU11	11.781	2.08	ZT-EDAU11	88.908
EDAZ11	11.961	2.26	ZT-EDAZ11	85.198

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



	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAH09	0.087	1.77	1.68	1.68	ZT-EDAH09
EDAM09	0.336	1.77	1.43	1.43	ZT-EDAM09
EDAU09	0.586	1.77	1.18	1.18	ZT-EDAU09
EDAZ09	0.835	1.77	0.93	0.93	ZT-EDAZ09
EDAH10	1.084	1.77	0.68	0.68	ZT-EDAH10
EDAM10	1.334	1.77	0.43	0.43	ZT-EDAM10
EDAU10	1.583	1.77	0.19	0.19	ZT-EDAU10
EDAZ10	1.832	1.77	(0.06)	(0.06)	ZT-EDAZ10
EDAH11	2.082	1.77	(0.31)	(0.31)	ZT-EDAH11
EDAM11	2.331	1.77	(0.56)	(0.56)	ZT-EDAM11
EDAU11	2.599	1.77	(0.83)	(0.83)	ZT-EDAU11
EDAZ11	2.849	1.77	(1.08)	(1.08)	ZT-EDAZ11

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

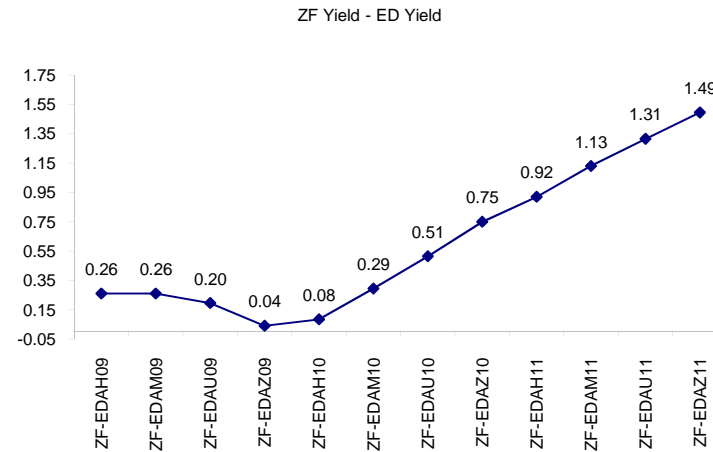


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.081	0.26	ZF-EDAH09	-54.458
EDAM09	20.081	0.26	ZF-EDAM09	-46.689
EDAU09	20.146	0.20	ZF-EDAU09	-17.922
EDAZ09	20.301	0.04	ZF-EDAZ09	34.161
EDAH10	20.426	0.08	ZF-EDAH10	64.041
EDAM10	20.636	0.29	ZF-EDAM10	72.745
EDAU10	20.856	0.51	ZF-EDAU10	79.460
EDAZ10	21.091	0.75	ZF-EDAZ10	85.561
EDAH11	21.261	0.92	ZF-EDAH11	90.231
EDAM11	21.471	1.13	ZF-EDAM11	95.548
EDAU11	21.656	1.31	ZF-EDAU11	97.052
EDAZ11	21.836	1.49	ZF-EDAZ11	95.425

Price = Outright Decimal Price - Euro Contract Price

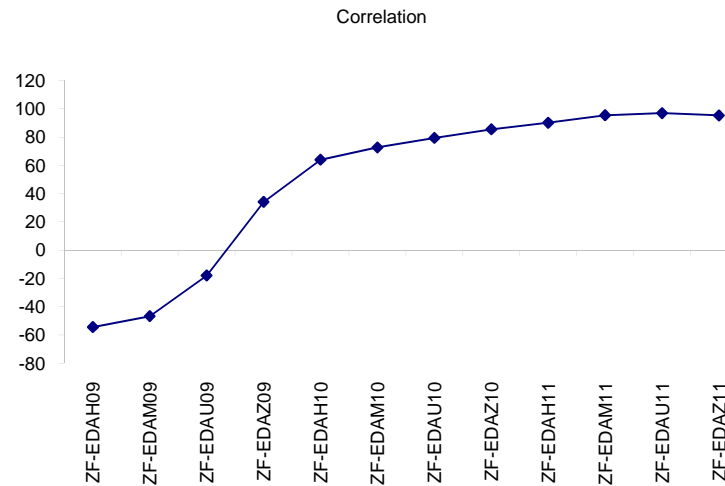
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

\*Correlation = ED Correlation to Treasury Future over 10 days



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.087	1.45	1.36	1.36	ZF-EDAH09
EDAM09	0.336	1.45	1.11	1.11	ZF-EDAM09
EDAU09	0.586	1.45	0.86	0.86	ZF-EDAU09
EDAZ09	0.835	1.45	0.62	0.62	ZF-EDAZ09
EDAH10	1.084	1.45	0.37	0.37	ZF-EDAH10
EDAM10	1.334	1.45	0.12	0.12	ZF-EDAM10
EDAU10	1.583	1.45	(0.13)	(0.13)	ZF-EDAU10
EDAZ10	1.832	1.45	(0.38)	(0.38)	ZF-EDAZ10
EDAH11	2.082	1.45	(0.63)	(0.63)	ZF-EDAH11
EDAM11	2.331	1.45	(0.88)	(0.88)	ZF-EDAM11
EDAU11	2.599	1.45	(1.15)	(1.15)	ZF-EDAU11
EDAZ11	2.849	1.45	(1.40)	(1.40)	ZF-EDAZ11

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

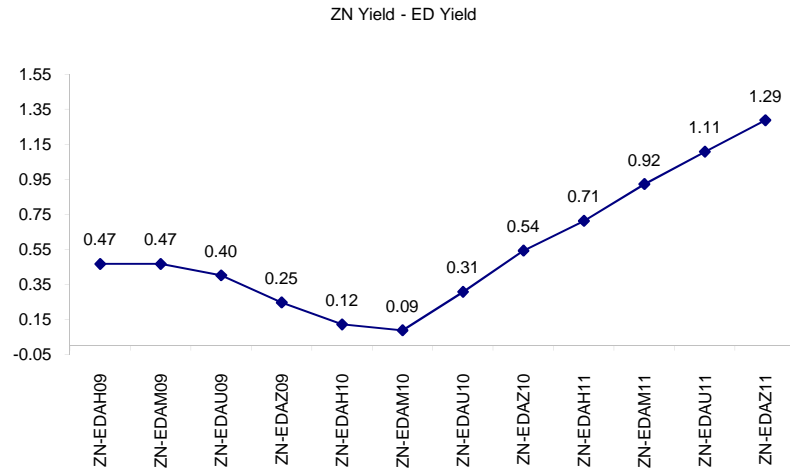


	ZN			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAH09	25.299	0.47	ZN-EDAH09	-51.174
EDAM09	25.299	0.47	ZN-EDAM09	-42.824
EDAU09	25.364	0.40	ZN-EDAU09	-12.560
EDAZ09	25.519	0.25	ZN-EDAZ09	40.085
EDAH10	25.644	0.12	ZN-EDAH10	69.483
EDAM10	25.854	0.09	ZN-EDAM10	78.061
EDAU10	26.074	0.31	ZN-EDAU10	84.281
EDAZ10	26.309	0.54	ZN-EDAZ10	89.671
EDAH11	26.479	0.71	ZN-EDAH11	93.678
EDAM11	26.689	0.92	ZN-EDAM11	97.934
EDAU11	26.874	1.11	ZN-EDAU11	98.529
EDAZ11	27.054	1.29	ZN-EDAZ11	96.349

Price = Outright Decimal Price - Euro Contract Price

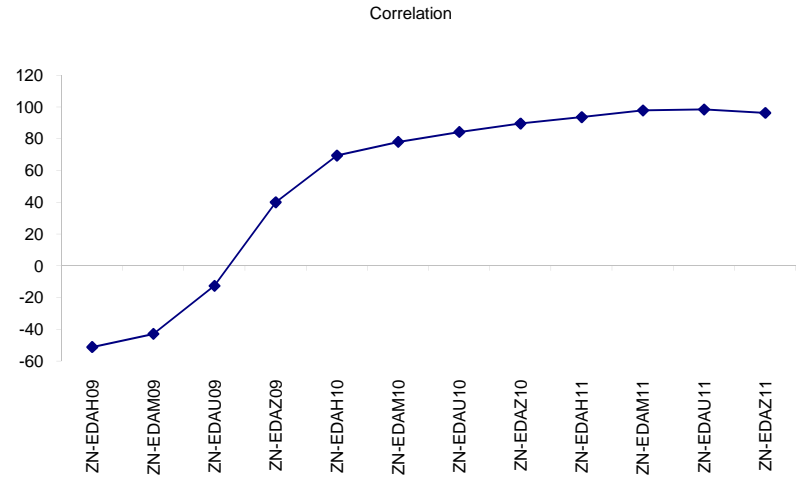
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

\*Correlation = ED Correlation to Treasury Future over 10 days



	ED Duration as Fraction of year			ZN Duration	Spread Duration	
EDAH09	0.087	6.16	6.08		ZN-EDAH09	
EDAM09	0.336	6.16	5.83		ZN-EDAM09	
EDAU09	0.586	6.16	5.58		ZN-EDAU09	
EDAZ09	0.835	6.16	5.33		ZN-EDAZ09	
EDAH10	1.084	6.16	5.08		ZN-EDAH10	
EDAM10	1.334	6.16	4.83		ZN-EDAM10	
EDAU10	1.583	6.16	4.58		ZN-EDAU10	
EDAZ10	1.832	6.16	4.33		ZN-EDAZ10	
EDAH11	2.082	6.16	4.08		ZN-EDAH11	
EDAM11	2.331	6.16	3.83		ZN-EDAM11	
EDAU11	2.599	6.16	3.57		ZN-EDAU11	
EDAZ11	2.849	6.16	3.32		ZN-EDAZ11	

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

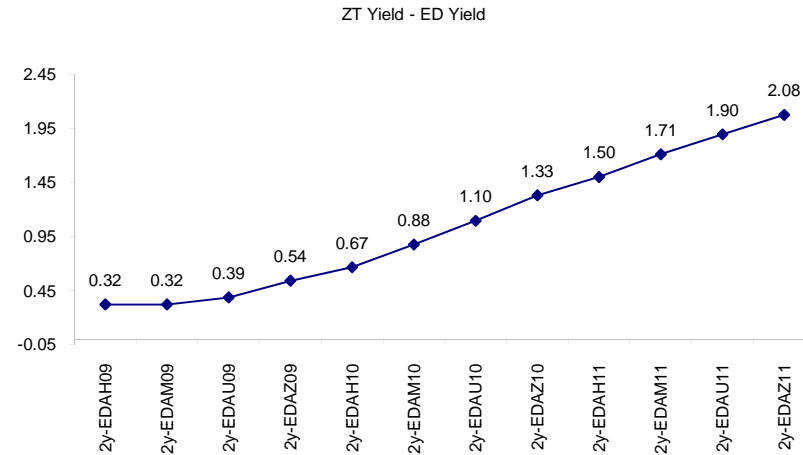


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.196	0.32	2y-EDAH09	50.343
EDAM09	1.196	0.32	2y-EDAM09	44.148
EDAU09	1.261	0.39	2y-EDAU09	19.097
EDAZ09	1.416	0.54	2y-EDAZ09	-28.302
EDAH10	1.541	0.67	2y-EDAH10	-57.976
EDAM10	1.751	0.88	2y-EDAM10	-67.857
EDAU10	1.971	1.10	2y-EDAU10	-75.368
EDAZ10	2.206	1.33	2y-EDAZ10	-82.024
EDAH11	2.376	1.50	2y-EDAH11	-86.342
EDAM11	2.586	1.71	2y-EDAM11	-90.907
EDAU11	2.771	1.90	2y-EDAU11	-91.852
EDAZ11	2.951	2.08	2y-EDAZ11	-89.722

Price = Outright Decimal Price - Euro Contract Price

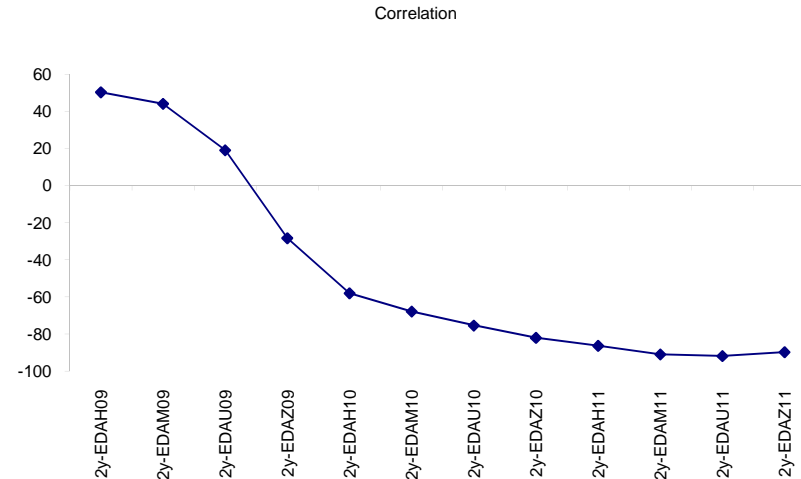
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

\*Correlation = ED Correlation to Treasury Future over 10 days.



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.087	1.94	1.86	2y-EDAH09	
EDAM09	0.336	1.94	1.61	2y-EDAM09	
EDAU09	0.586	1.94	1.36	2y-EDAU09	
EDAZ09	0.835	1.94	1.11	2y-EDAZ09	
EDAH10	1.084	1.94	0.86	2y-EDAH10	
EDAM10	1.334	1.94	0.61	2y-EDAM10	
EDAU10	1.583	1.94	0.36	2y-EDAU10	
EDAZ10	1.832	1.94	0.11	2y-EDAZ10	
EDAH11	2.082	1.94	(0.14)	2y-EDAH11	
EDAM11	2.331	1.94	(0.39)	2y-EDAM11	
EDAU11	2.599	1.94	(0.66)	2y-EDAU11	
EDAZ11	2.849	1.94	(0.91)	2y-EDAZ11	

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



	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.393	0.51	5y-EDAH09	44.023
EDAM09	1.393	0.51	5y-EDAM09	37.197
EDAU09	1.458	0.45	5y-EDAU09	10.842
EDAZ09	1.613	0.29	5y-EDAZ09	-35.626
EDAH10	1.738	0.17	5y-EDAH10	-63.772
EDAM10	1.948	0.04	5y-EDAM10	-73.154
EDAU10	2.168	0.26	5y-EDAU10	-80.161
EDAZ10	2.403	0.50	5y-EDAZ10	-86.044
EDAH11	2.573	0.67	5y-EDAH11	-89.412
EDAM11	2.783	0.88	5y-EDAM11	-92.052
EDAU11	2.968	1.06	5y-EDAU11	-91.180
EDAZ11	3.148	1.24	5y-EDAZ11	-87.443

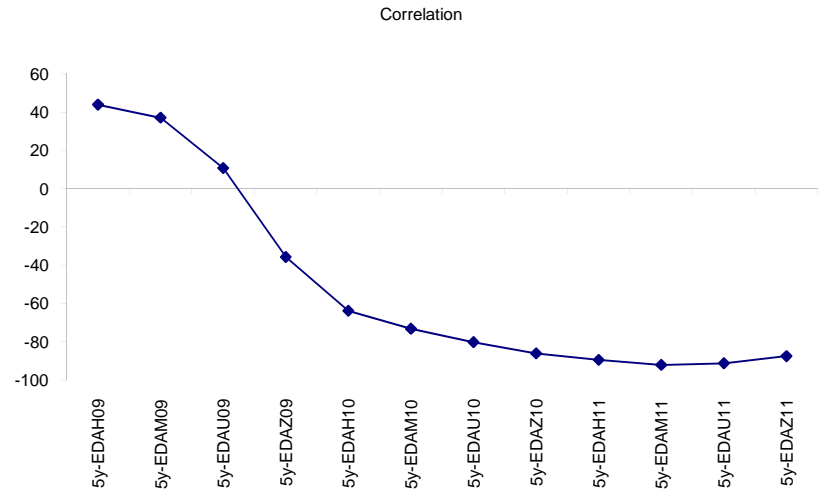
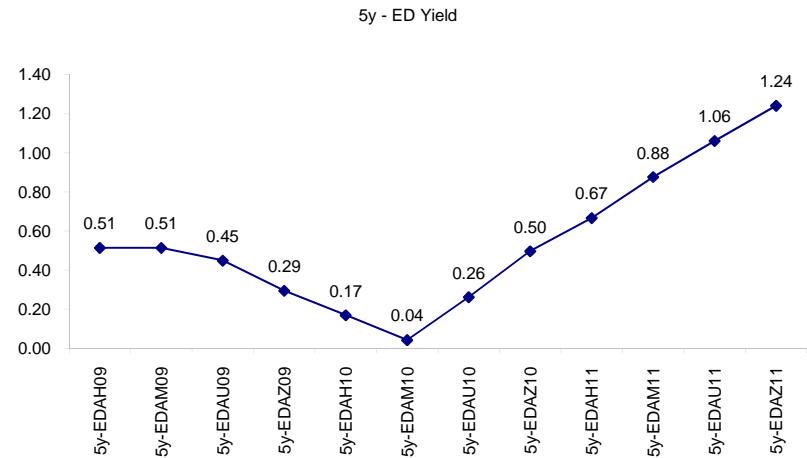
Price = Outright Decimal Price - Euro Contract Price

Yield = ABS (Proxy Yield - Implied Euro Contract yield)

\*Correlation = ED Correlation to Treasury Future over 10 days

	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAH09	0.087		4.73	4.65	5y-EDAH09
EDAM09	0.336		4.73	4.40	5y-EDAM09
EDAU09	0.586		4.73	4.15	5y-EDAU09
EDAZ09	0.835		4.73	3.90	5y-EDAZ09
EDAH10	1.084		4.73	3.65	5y-EDAH10
EDAM10	1.334		4.73	3.40	5y-EDAM10
EDAU10	1.583		4.73	3.15	5y-EDAU10
EDAZ10	1.832		4.73	2.90	5y-EDAZ10
EDAH11	2.082		4.73	2.65	5y-EDAH11
EDAM11	2.331		4.73	2.40	5y-EDAM11
EDAU11	2.599		4.73	2.13	5y-EDAU11
EDAZ11	2.849		4.73	1.88	5y-EDAZ11

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

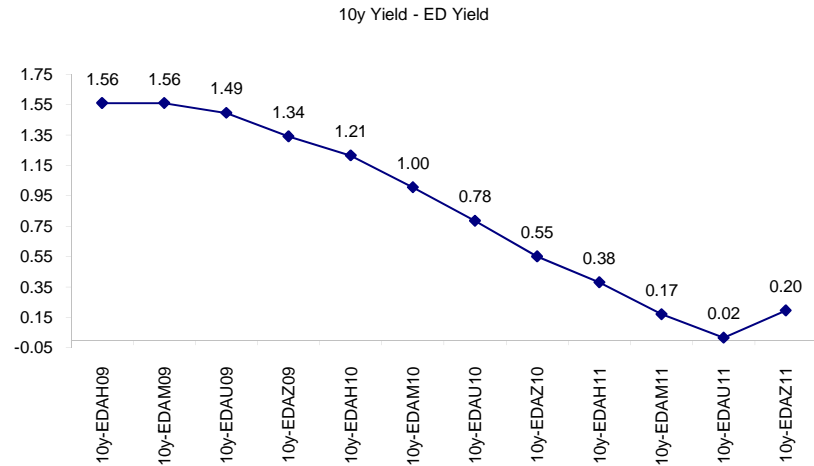


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.393	1.56	10y-EDAH09	61.572
EDAM09	1.393	1.56	10y-EDAM09	55.226
EDAU09	1.458	1.49	10y-EDAU09	28.378
EDAZ09	1.613	1.34	10y-EDAZ09	-23.169
EDAH10	1.738	1.21	10y-EDAH10	-55.180
EDAM10	1.948	1.00	10y-EDAM10	-65.327
EDAU10	2.168	0.78	10y-EDAU10	-73.531
EDAZ10	2.403	0.55	10y-EDAZ10	-80.800
EDAH11	2.573	0.38	10y-EDAH11	-86.395
EDAM11	2.783	0.17	10y-EDAM11	-93.165
EDAU11	2.968	0.02	10y-EDAU11	-95.916
EDAZ11	3.148	0.20	10y-EDAZ11	-95.508

Price = Outright Decimal Price - Euro Contract Price

Yield = ABS (Proxy Yield - Implied Euro Contract yield)

\*Correlation = ED Correlation to Treasury Future over 10 days



	ED Duration as Fraction of year			
	10Y Duration	Spread Duration		
EDAH09	0.087	8.15	8.06	10y-EDAH09
EDAM09	0.336	8.15	7.82	10y-EDAM09
EDAU09	0.586	8.15	7.57	10y-EDAU09
EDAZ09	0.835	8.15	7.32	10y-EDAZ09
EDAH10	1.084	8.15	7.07	10y-EDAH10
EDAM10	1.334	8.15	6.82	10y-EDAM10
EDAU10	1.583	8.15	6.57	10y-EDAU10
EDAZ10	1.832	8.15	6.32	10y-EDAZ10
EDAH11	2.082	8.15	6.07	10y-EDAH11
EDAM11	2.331	8.15	5.82	10y-EDAM11
EDAU11	2.599	8.15	5.55	10y-EDAU11
EDAZ11	2.849	8.15	5.30	10y-EDAZ11

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

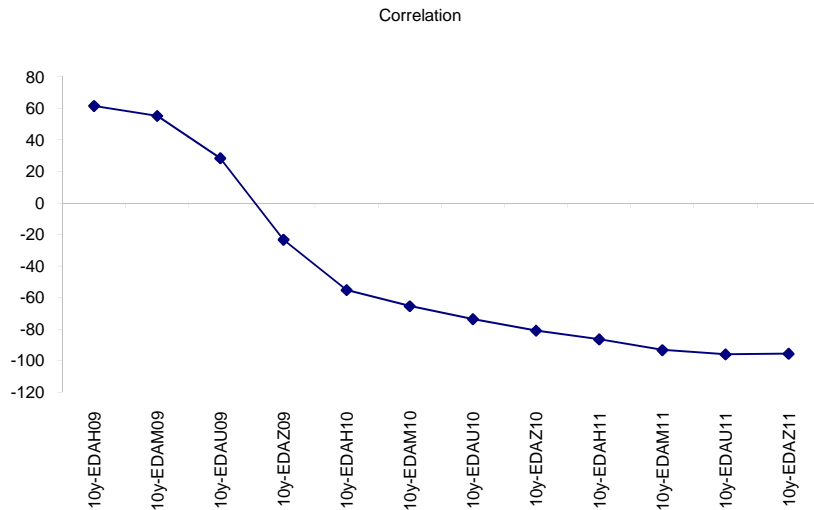


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

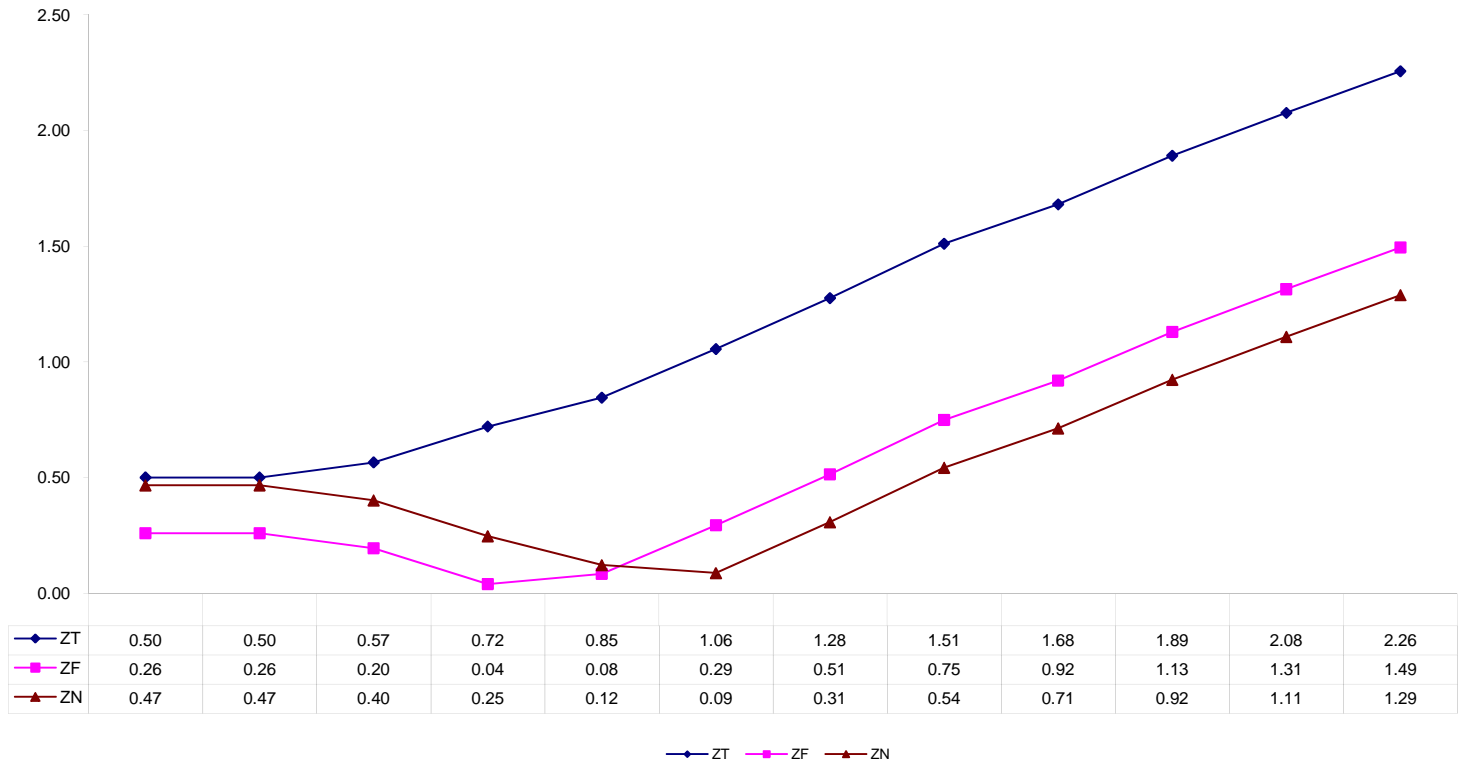
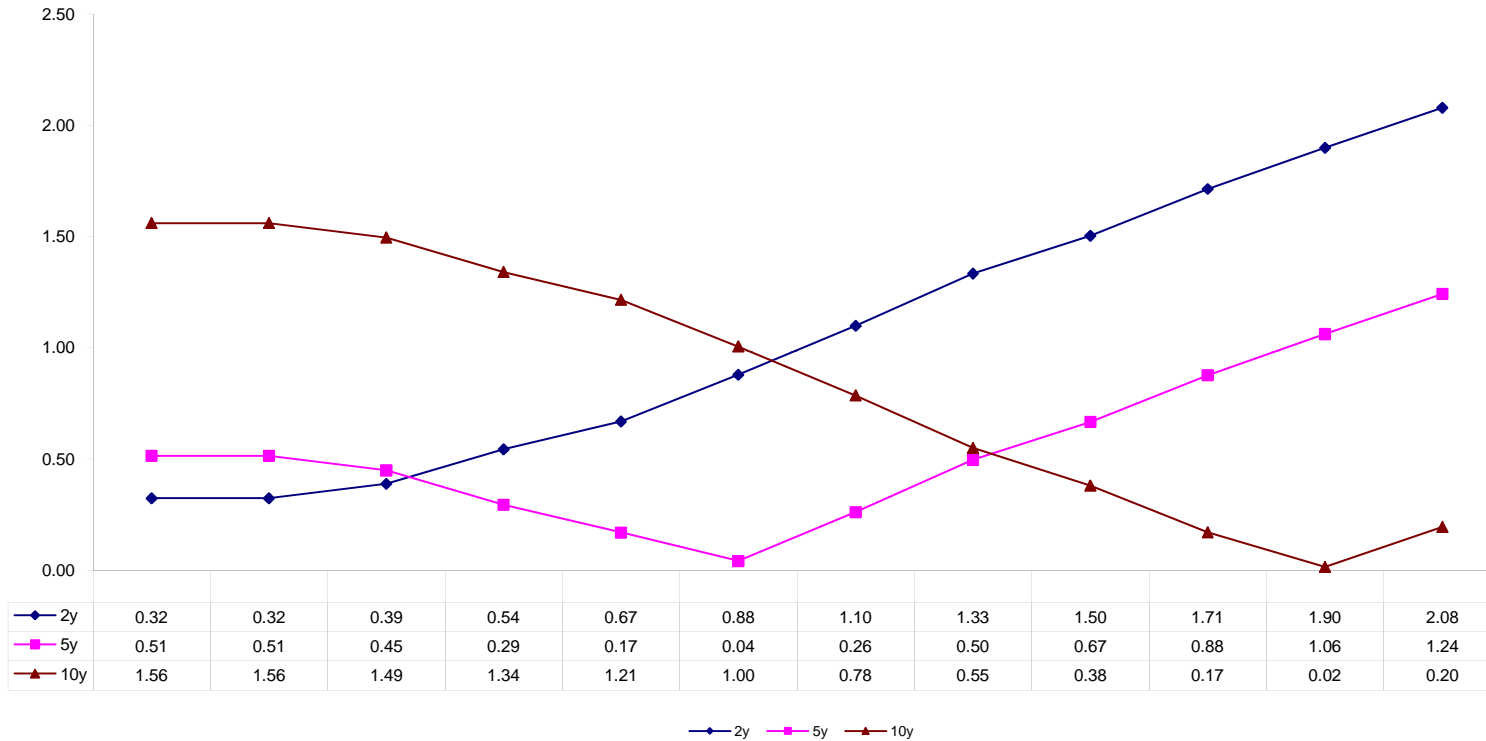
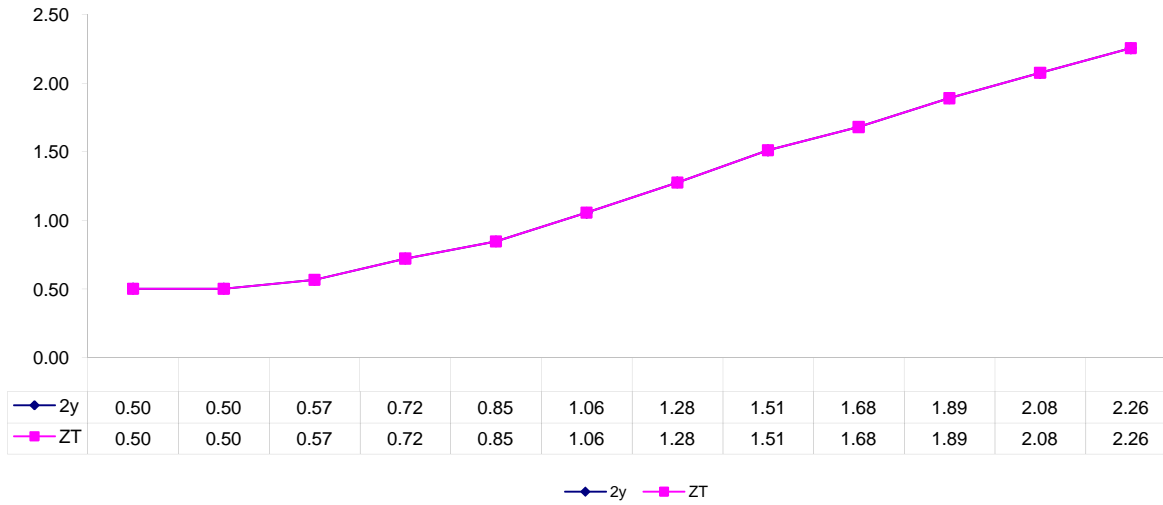
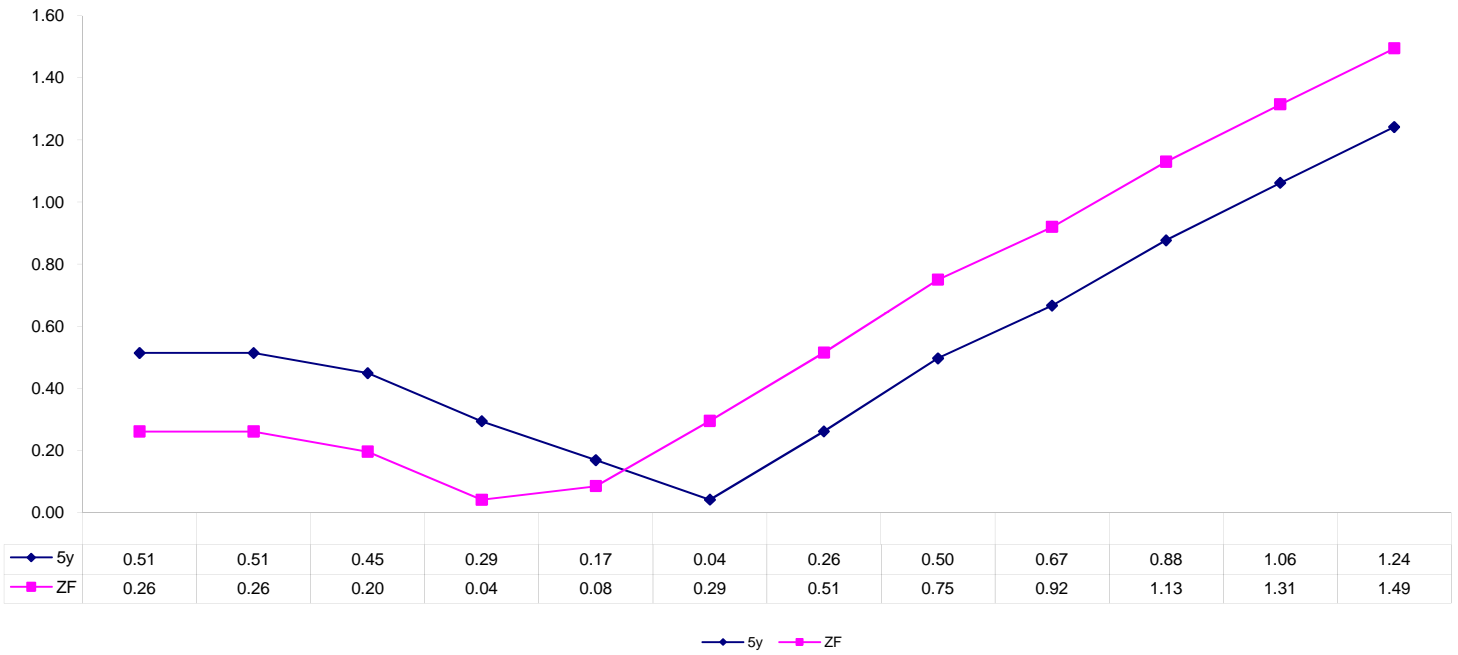


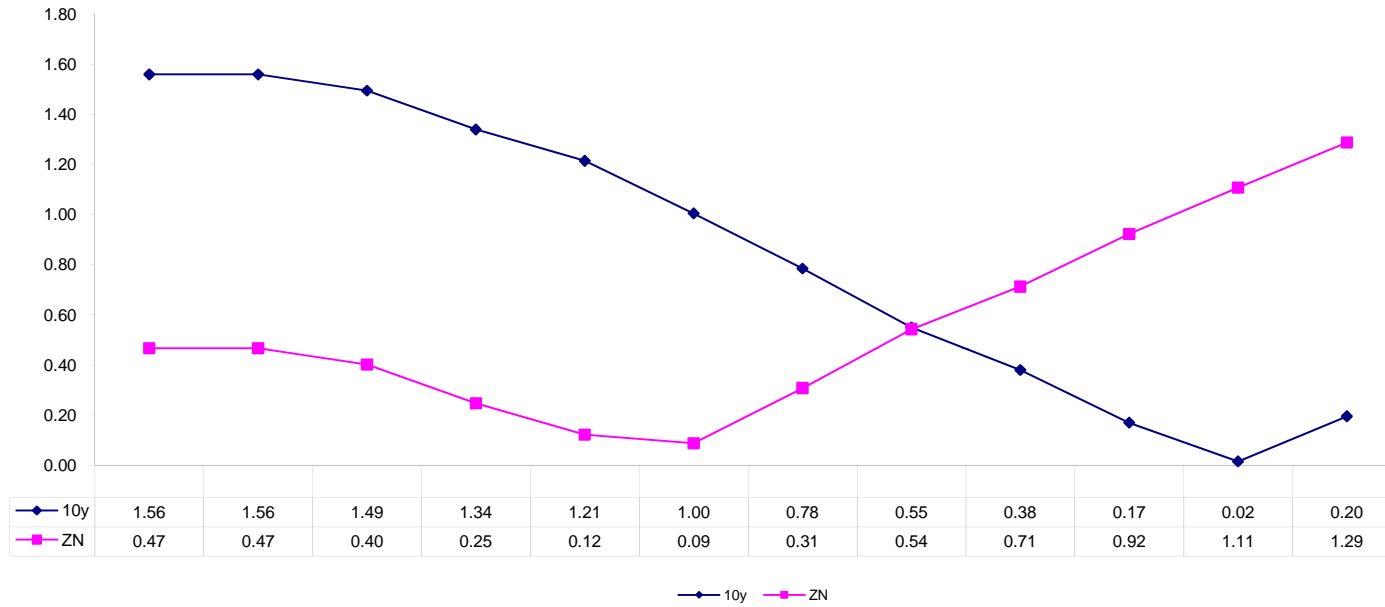
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.283	2.250	9873.875
Red Pack	1.896	3.125	9813.875
Green Pack	2.720	2.875	9733.500
Blue Pack	3.245	3.500	9682.500
Gold Pack		0.000	9648.250

