

## 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	108.9844	108.3150	0.727	1.75
ZF	118.5844	118.1870	1.526	1.53
ZN	123.6875	123.2200	1.719	6.15
2y	99.9594	99.3070	0.891	1.93
5y	99.9375	99.3000	1.763	4.72
10y	99.9219	99.2950	2.755	8.68

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.683	1.318	27	0.073	MAR	
EDAM09	98.685	1.315	118	0.323	JUN	White Pack
EDAU09	98.605	1.395	209	0.572	SEP	
EDAZ09	98.445	1.555	300	0.821	DEC	
EDAH10	98.325	1.675	391	1.071	MAR	
EDAM10	98.135	1.865	482	1.320	JUN	Red Pack
EDAU10	97.945	2.055	573	1.569	SEP	
EDAZ10	97.720	2.280	664	1.818	DEC	
EDAH11	97.545	2.455	755	2.068	MAR	
EDAM11	97.325	2.675	846	2.317	JUN	Green Pack
EDAU11	97.130	2.870	944	2.586	SEP	
EDAZ11	96.945	3.055	1035	2.835	DEC	
EDAH12	96.865	3.135	1126	3.084	MAR	
EDAM12	96.720	3.280	1217	3.334	JUN	Blue Pack
EDAU12	96.630	3.370	1308	3.583	SEP	
EDAZ12	96.540	3.460	1399	3.832	DEC	
EDAH13	96.505	3.495	1490	4.082	MAR	
EDAM13	96.330	3.670	1581	4.331	JUN	Gold Pack
EDZU13	96.340	3.660	1672	4.580	SEP	
EDZZ13	96.245	3.755	1763	4.829	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.420	-3.688	9860.438	
Red Pack	2.006	0.375	9803.125	Pack Prices
Green Pack	2.822	3.750	9723.625	
Blue Pack	3.385	5.125	9668.875	
Gold Pack		6.375	9635.875	

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.

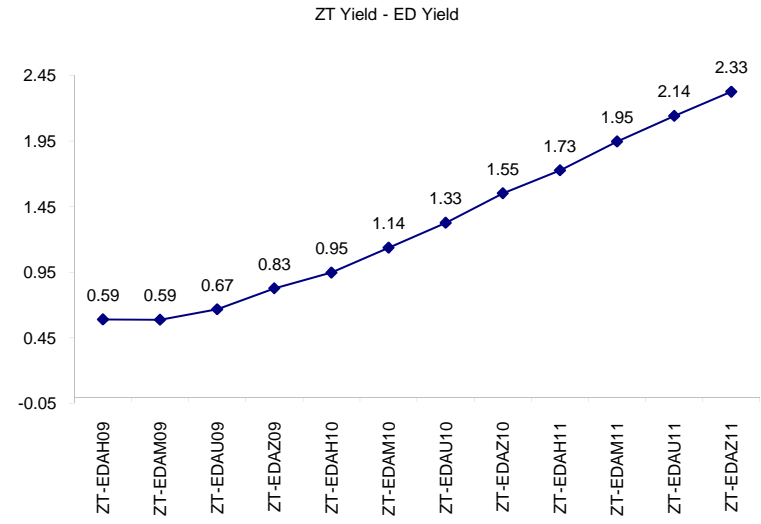
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

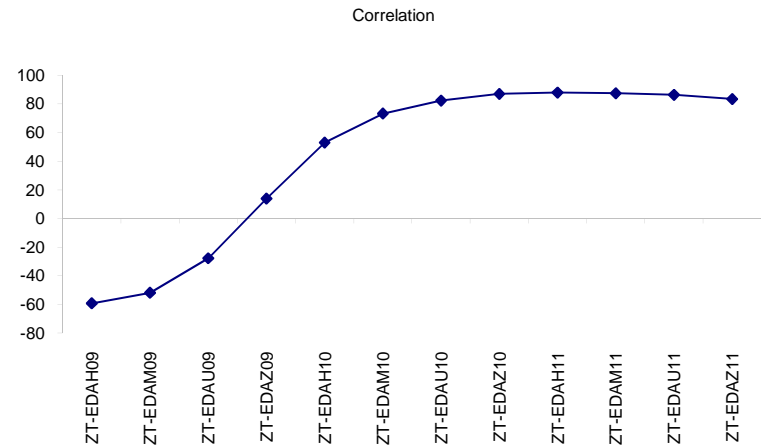
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.302	0.59	ZT-EDAH09	-59.185
EDAM09	10.299	0.59	ZT-EDAM09	-51.828
EDAU09	10.379	0.67	ZT-EDAU09	-27.720
EDAZ09	10.539	0.83	ZT-EDAZ09	13.974
EDAH10	10.659	0.95	ZT-EDAH10	53.090
EDAM10	10.849	1.14	ZT-EDAM10	73.319
EDAU10	11.039	1.33	ZT-EDAU10	82.382
EDAZ10	11.264	1.55	ZT-EDAZ10	87.007
EDAH11	11.439	1.73	ZT-EDAH11	87.982
EDAM11	11.659	1.95	ZT-EDAM11	87.427
EDAU11	11.854	2.14	ZT-EDAU11	86.419
EDAZ11	12.039	2.33	ZT-EDAZ11	83.448

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	0.073	1.75	1.68	1.68	ZT-EDAH09
EDAM09	0.323	1.75	1.43	1.43	ZT-EDAM09
EDAU09	0.572	1.75	1.18	1.18	ZT-EDAU09
EDAZ09	0.821	1.75	0.93	0.93	ZT-EDAZ09
EDAH10	1.071	1.75	0.68	0.68	ZT-EDAH10
EDAM10	1.320	1.75	0.43	0.43	ZT-EDAM10
EDAU10	1.569	1.75	0.19	0.19	ZT-EDAU10
EDAZ10	1.818	1.75	(0.06)	(0.06)	ZT-EDAZ10
EDAH11	2.068	1.75	(0.31)	(0.31)	ZT-EDAH11
EDAM11	2.317	1.75	(0.56)	(0.56)	ZT-EDAM11
EDAU11	2.586	1.75	(0.83)	(0.83)	ZT-EDAU11
EDAZ11	2.835	1.75	(1.08)	(1.08)	ZT-EDAZ11

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

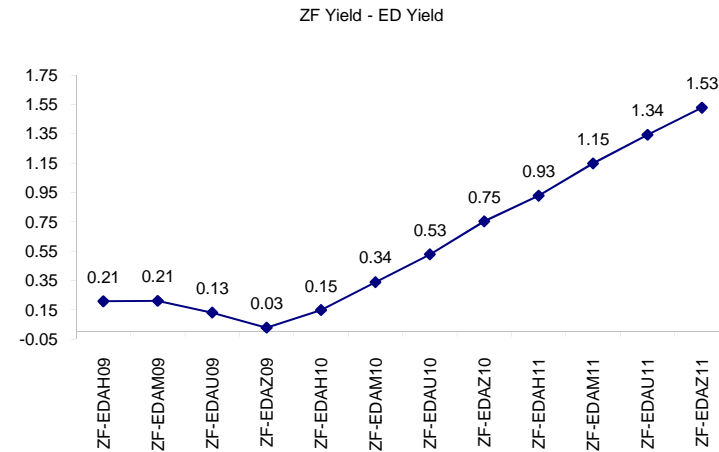


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.902	0.21	ZF-EDAH09	-54.412
EDAM09	19.899	0.21	ZF-EDAM09	-46.467
EDAU09	19.979	0.13	ZF-EDAU09	-19.516
EDAZ09	20.139	0.03	ZF-EDAZ09	23.808
EDAH10	20.259	0.15	ZF-EDAH10	60.863
EDAM10	20.449	0.34	ZF-EDAM10	78.664
EDAU10	20.639	0.53	ZF-EDAU10	86.682
EDAZ10	20.864	0.75	ZF-EDAZ10	91.175
EDAH11	21.039	0.93	ZF-EDAH11	93.005
EDAM11	21.259	1.15	ZF-EDAM11	93.522
EDAU11	21.454	1.34	ZF-EDAU11	93.439
EDAZ11	21.639	1.53	ZF-EDAZ11	91.259

Price = Outright Decimal Price - Euro Contract Price

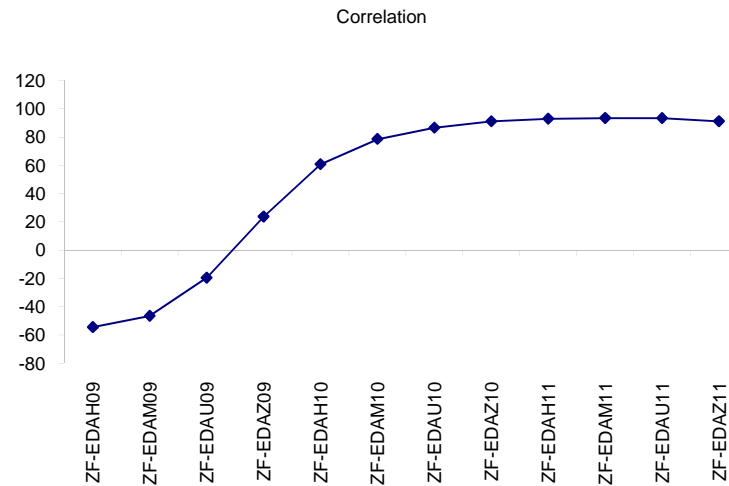
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.073	1.53	1.45	1.45	ZF-EDAH09
EDAM09	0.323	1.53	1.20	1.20	ZF-EDAM09
EDAU09	0.572	1.53	0.95	0.95	ZF-EDAU09
EDAZ09	0.821	1.53	0.71	0.71	ZF-EDAZ09
EDAH10	1.071	1.53	0.46	0.46	ZF-EDAH10
EDAM10	1.320	1.53	0.21	0.21	ZF-EDAM10
EDAU10	1.569	1.53	(0.04)	(0.04)	ZF-EDAU10
EDAZ10	1.818	1.53	(0.29)	(0.29)	ZF-EDAZ10
EDAH11	2.068	1.53	(0.54)	(0.54)	ZF-EDAH11
EDAM11	2.317	1.53	(0.79)	(0.79)	ZF-EDAM11
EDAU11	2.586	1.53	(1.06)	(1.06)	ZF-EDAU11
EDAZ11	2.835	1.53	(1.31)	(1.31)	ZF-EDAZ11

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

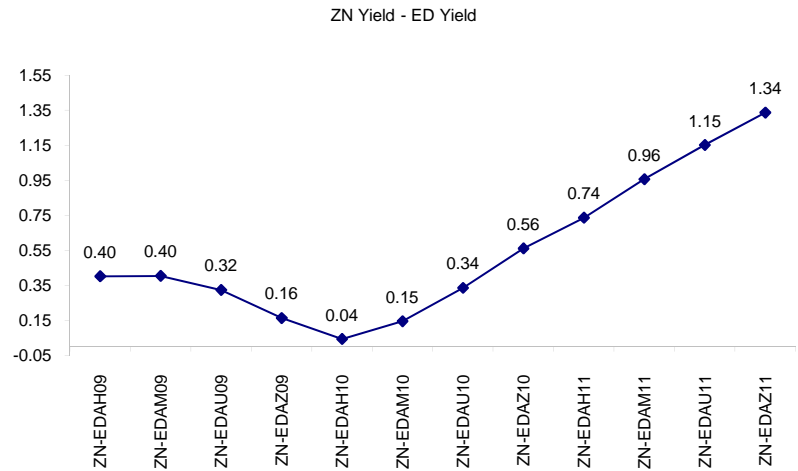


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	25.005	0.40	ZN-EDAH09	-56.832
EDAM09	25.003	0.40	ZN-EDAM09	-47.974
EDAU09	25.083	0.32	ZN-EDAU09	-18.968
EDAZ09	25.243	0.16	ZN-EDAZ09	26.338
EDAH10	25.363	0.04	ZN-EDAH10	64.833
EDAM10	25.553	0.15	ZN-EDAM10	83.140
EDAU10	25.743	0.34	ZN-EDAU10	91.028
EDAZ10	25.968	0.56	ZN-EDAZ10	94.755
EDAH11	26.143	0.74	ZN-EDAH11	96.378
EDAM11	26.363	0.96	ZN-EDAM11	96.827
EDAU11	26.558	1.15	ZN-EDAU11	96.419
EDAZ11	26.743	1.34	ZN-EDAZ11	94.472

Price = Outright Decimal Price - Euro Contract Price

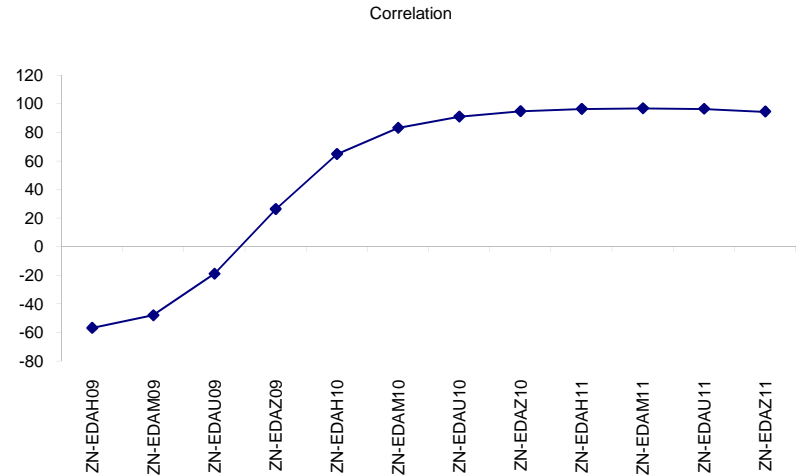
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Duration	Spread Duration	
	Fraction of year	of year	Duration			
EDAH09	0.073		6.15	6.07	ZN-EDAH09	
EDAM09	0.323		6.15	5.82	ZN-EDAM09	
EDAU09	0.572		6.15	5.57	ZN-EDAU09	
EDAZ09	0.821		6.15	5.33	ZN-EDAZ09	
EDAH10	1.071		6.15	5.08	ZN-EDAH10	
EDAM10	1.320		6.15	4.83	ZN-EDAM10	
EDAU10	1.569		6.15	4.58	ZN-EDAU10	
EDAZ10	1.818		6.15	4.33	ZN-EDAZ10	
EDAH11	2.068		6.15	4.08	ZN-EDAH11	
EDAM11	2.317		6.15	3.83	ZN-EDAM11	
EDAU11	2.586		6.15	3.56	ZN-EDAU11	
EDAZ11	2.835		6.15	3.31	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	1.277	0.43	2y-EDAH09	54.306
EDAM09	1.274	0.42	2y-EDAM09	46.695
EDAU09	1.354	0.50	2y-EDAU09	23.242
EDAZ09	1.514	0.66	2y-EDAZ09	-13.994
EDAH10	1.634	0.78	2y-EDAH10	-45.253
EDAM10	1.824	0.97	2y-EDAM10	-61.964
EDAU10	2.014	1.16	2y-EDAU10	-71.658
EDAZ10	2.239	1.39	2y-EDAZ10	-77.987
EDAH11	2.414	1.56	2y-EDAH11	-81.156
EDAM11	2.634	1.78	2y-EDAM11	-82.745
EDAU11	2.829	1.98	2y-EDAU11	-83.266
EDAZ11	3.014	2.16	2y-EDAZ11	-81.227

Price = Outright Decimal Price - Euro Contract Price

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

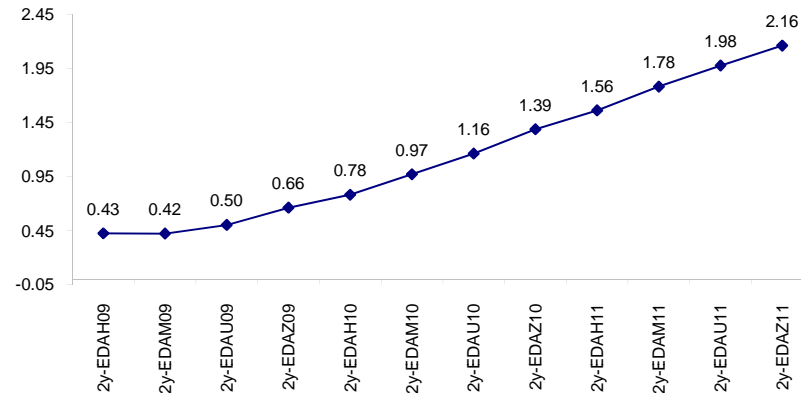
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

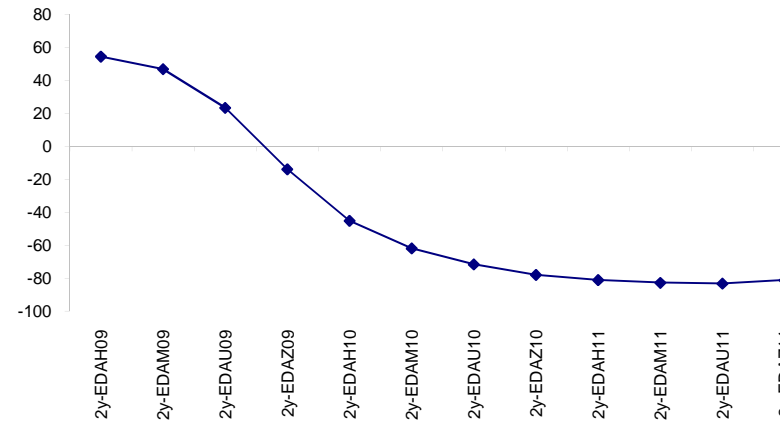
	Fraction of year	2Y Duration	Spread Duration	
EDAH09	0.073	1.93	1.86	2y-EDAH09
EDAM09	0.323	1.93	1.61	2y-EDAM09
EDAU09	0.572	1.93	1.36	2y-EDAU09
EDAZ09	0.821	1.93	1.11	2y-EDAZ09
EDAH10	1.071	1.93	0.86	2y-EDAH10
EDAM10	1.320	1.93	0.61	2y-EDAM10
EDAU10	1.569	1.93	0.36	2y-EDAU10
EDAZ10	1.818	1.93	0.11	2y-EDAZ10
EDAH11	2.068	1.93	(0.14)	2y-EDAH11
EDAM11	2.317	1.93	(0.39)	2y-EDAM11
EDAU11	2.586	1.93	(0.66)	2y-EDAU11
EDAZ11	2.835	1.93	(0.91)	2y-EDAZ11

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

ZT Yield - ED Yield



Correlation



	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.255	0.45	5y-EDAH09	47.984
EDAM09	1.252	0.45	5y-EDAM09	40.260
EDAU09	1.332	0.37	5y-EDAU09	16.176
EDAZ09	1.492	0.21	5y-EDAZ09	-20.331
EDAH10	1.612	0.09	5y-EDAH10	-50.897
EDAM10	1.802	0.10	5y-EDAM10	-66.717
EDAU10	1.992	0.29	5y-EDAU10	-75.471
EDAZ10	2.217	0.52	5y-EDAZ10	-81.164
EDAH11	2.392	0.69	5y-EDAH11	-83.875
EDAM11	2.612	0.91	5y-EDAM11	-85.030
EDAU11	2.807	1.11	5y-EDAU11	-84.918
EDAZ11	2.992	1.29	5y-EDAZ11	-82.150

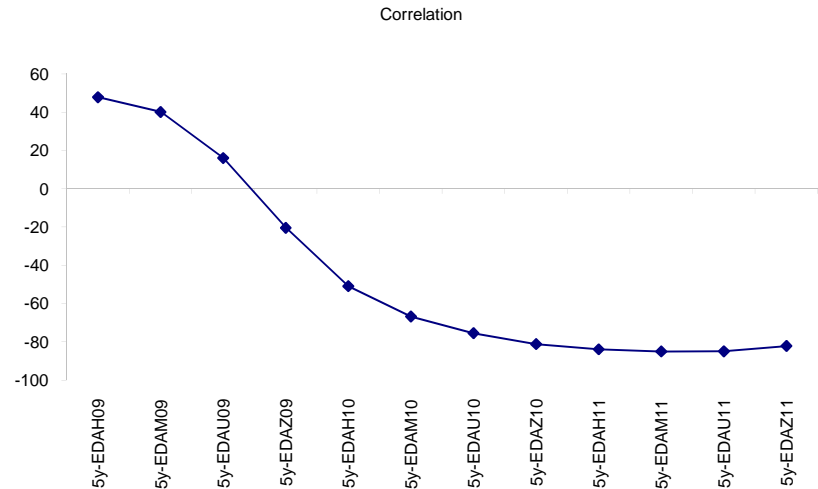
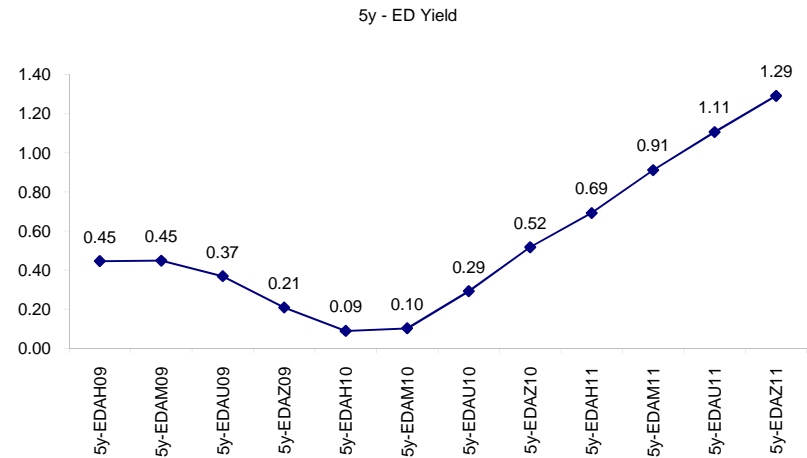
Price = Outright Decimal Price - Euro Contract Price

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	0.073		4.72	4.64	5y-EDAH09
EDAM09	0.323		4.72	4.40	5y-EDAM09
EDAU09	0.572		4.72	4.15	5y-EDAU09
EDAZ09	0.821		4.72	3.90	5y-EDAZ09
EDAH10	1.071		4.72	3.65	5y-EDAH10
EDAM10	1.320		4.72	3.40	5y-EDAM10
EDAU10	1.569		4.72	3.15	5y-EDAU10
EDAZ10	1.818		4.72	2.90	5y-EDAZ10
EDAH11	2.068		4.72	2.65	5y-EDAH11
EDAM11	2.317		4.72	2.40	5y-EDAM11
EDAU11	2.586		4.72	2.13	5y-EDAU11
EDAZ11	2.835		4.72	1.88	5y-EDAZ11

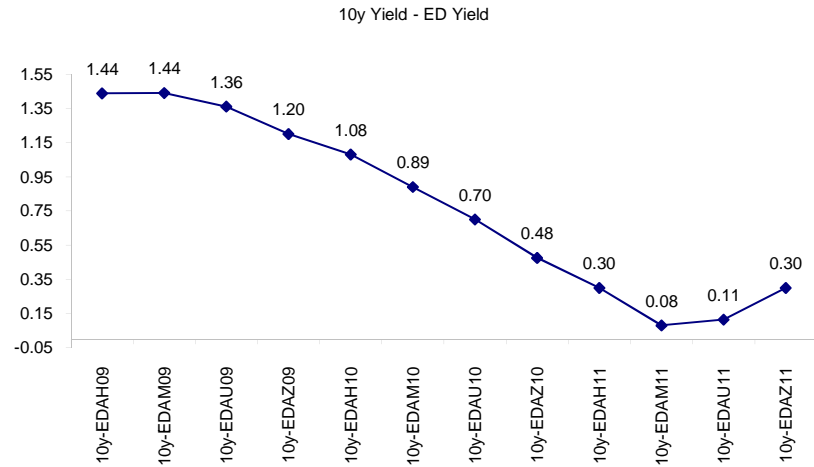
The farther away from 0 the spread duration is the riskier the trade.





	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.255	1.44	10y-EDAH09	58.696
EDAM09	1.252	1.44	10y-EDAM09	50.582
EDAU09	1.332	1.36	10y-EDAU09	24.844
EDAZ09	1.492	1.20	10y-EDAZ09	-15.387
EDAH10	1.612	1.08	10y-EDAH10	-48.501
EDAM10	1.802	0.89	10y-EDAM10	-66.179
EDAU10	1.992	0.70	10y-EDAU10	-76.128
EDAZ10	2.217	0.48	10y-EDAZ10	-82.336
EDAH11	2.392	0.30	10y-EDAH11	-85.574
EDAM11	2.612	0.08	10y-EDAM11	-87.228
EDAU11	2.807	0.11	10y-EDAU11	-87.765
EDAZ11	2.992	0.30	10y-EDAZ11	-86.006

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	0.073	8.68	8.61	10y-EDAH09
EDAM09	0.323	8.68	8.36	10y-EDAM09
EDAU09	0.572	8.68	8.11	10y-EDAU09
EDAZ09	0.821	8.68	7.86	10y-EDAZ09
EDAH10	1.071	8.68	7.61	10y-EDAH10
EDAM10	1.320	8.68	7.36	10y-EDAM10
EDAU10	1.569	8.68	7.11	10y-EDAU10
EDAZ10	1.818	8.68	6.86	10y-EDAZ10
EDAH11	2.068	8.68	6.61	10y-EDAH11
EDAM11	2.317	8.68	6.37	10y-EDAM11
EDAU11	2.586	8.68	6.10	10y-EDAU11
EDAZ11	2.835	8.68	5.85	10y-EDAZ11

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

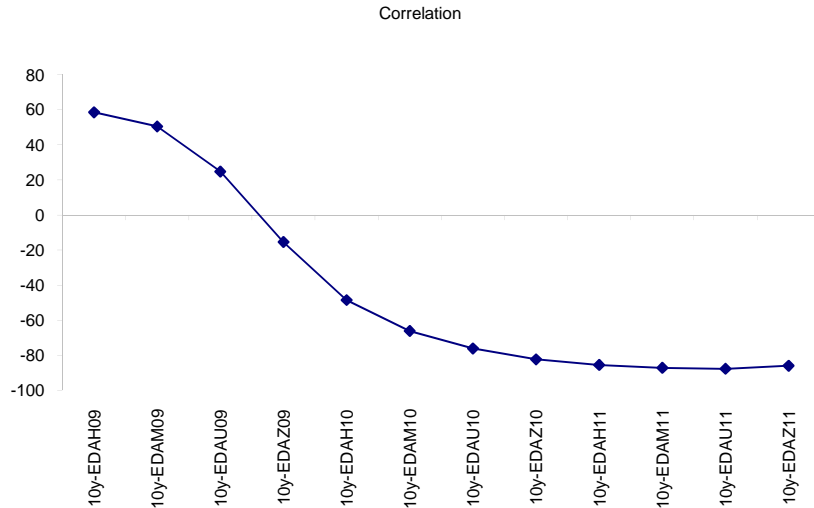


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

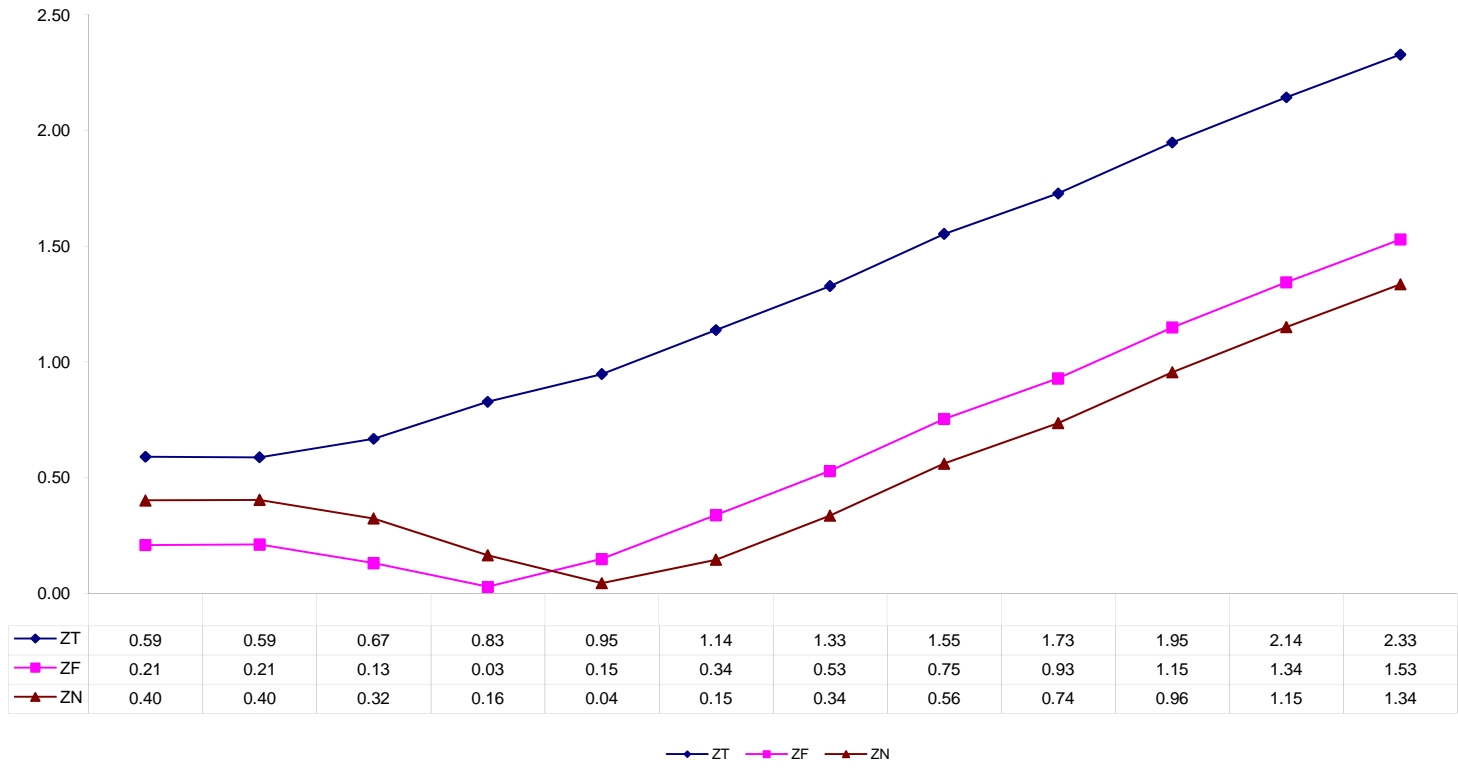
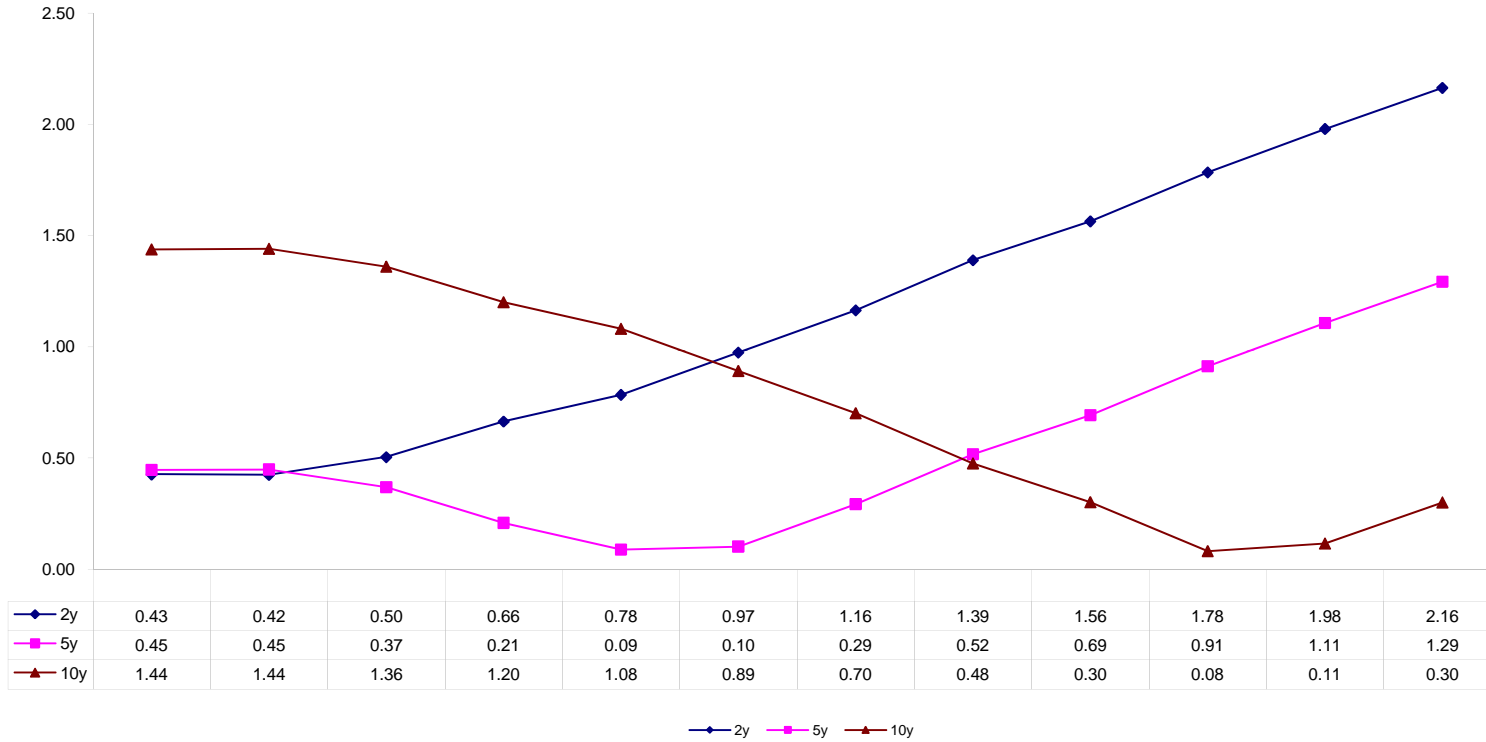
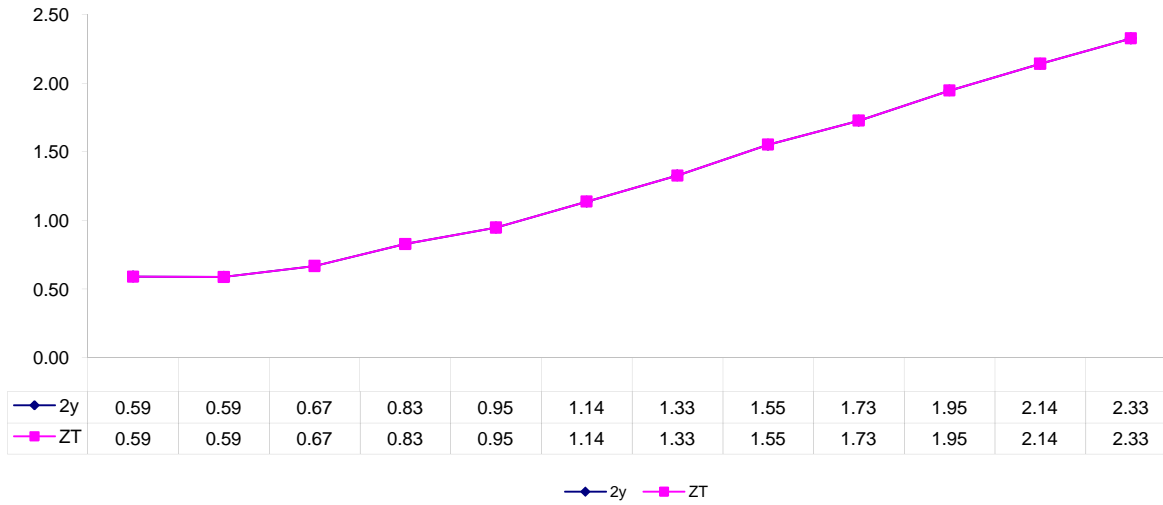
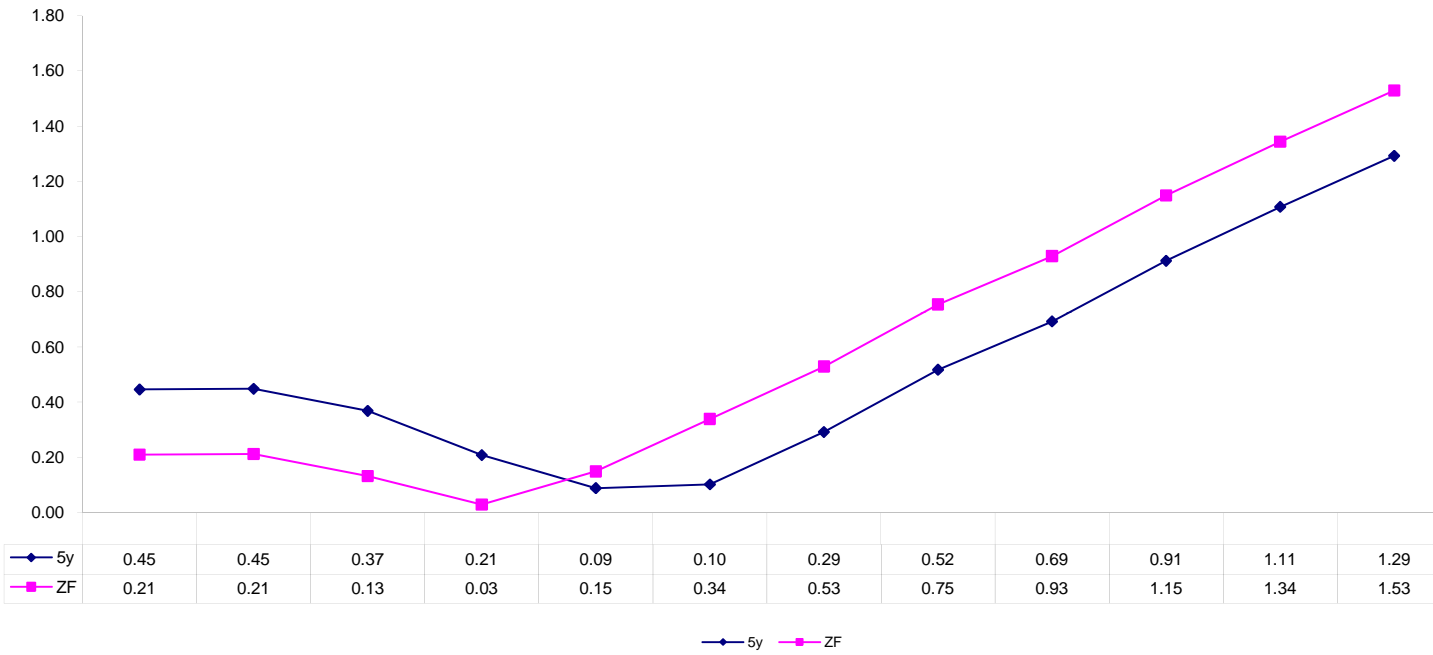


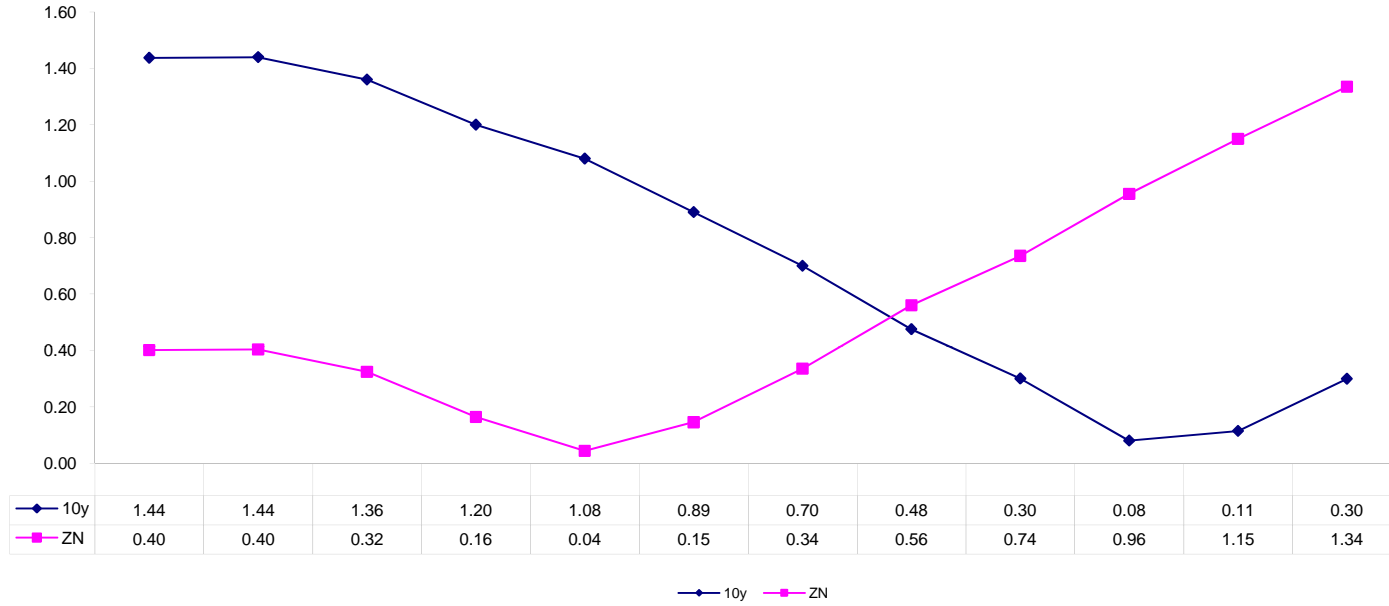
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.420	-3.688	9860.438
Red Pack	2.006	0.375	9803.125
Green Pack	2.822	3.750	9723.625
Blue Pack	3.385	5.125	9668.875
Gold Pack		6.375	9635.875

