

## 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	108.9531	108.3050	0.725	1.77
ZF	118.6625	118.2120	1.463	1.46
ZN	123.4688	123.1500	1.696	6.16
2y	99.9688	99.3100	0.895	1.95
5y	100.0063	100.0020	1.745	4.73
10y	108.1406	108.0450		8.15

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.835	1.165	33	0.090	MAR	
EDAM09	98.825	1.175	124	0.339	JUN	White Pack
EDAU09	98.735	1.265	215	0.588	SEP	
EDAZ09	98.555	1.445	306	0.838	DEC	
EDAH10	98.405	1.595	397	1.087	MAR	
EDAM10	98.180	1.820	488	1.336	JUN	Red Pack
EDAU10	97.960	2.040	579	1.586	SEP	
EDAZ10	97.725	2.275	670	1.835	DEC	
EDAH11	97.550	2.450	761	2.084	MAR	
EDAM11	97.345	2.655	852	2.334	JUN	Green Pack
EDAU11	97.165	2.835	950	2.602	SEP	
EDAZ11	96.980	3.020	1041	2.851	DEC	
EDAH12	96.875	3.125	1132	3.101	MAR	
EDAM12	96.780	3.220	1223	3.350	JUN	Blue Pack
EDAU12	96.705	3.295	1314	3.599	SEP	
EDAZ12	96.620	3.380	1405	3.849	DEC	
EDAH13	96.585	3.415	1496	4.098	MAR	
EDAM13	96.495	3.505	1587	4.347	JUN	Gold Pack
EDZU13	96.420	3.580	1678	4.597	SEP	
EDZZ13	96.310	3.690	1769	4.846	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.284	5.500	9873.750	Pack Prices
Red Pack	1.969	6.375	9806.750	
Green Pack	2.797	5.750	9726.000	
Blue Pack	3.327	4.500	9674.500	
Gold Pack		3.750	9644.000	

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.

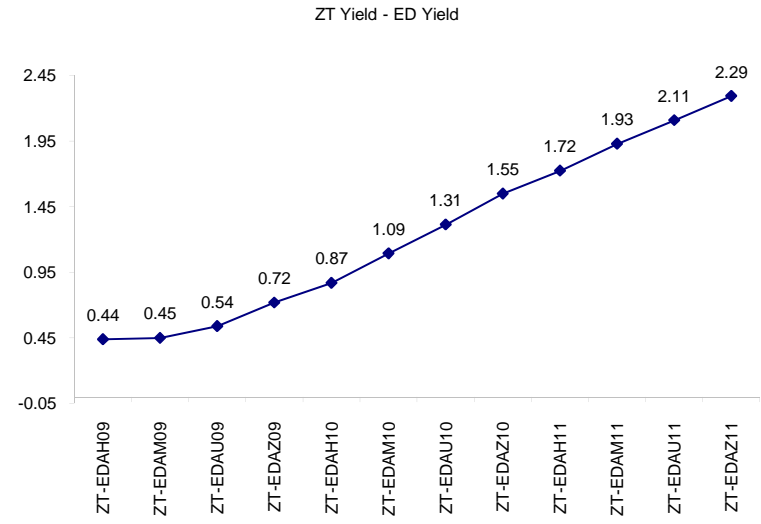
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

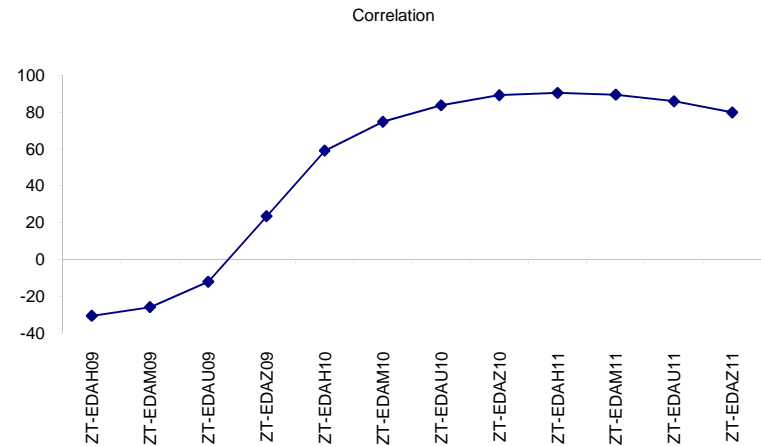
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.118	0.44	ZT-EDAH09	-30.639
EDAM09	10.128	0.45	ZT-EDAM09	-25.892
EDAU09	10.218	0.54	ZT-EDAU09	-12.120
EDAZ09	10.398	0.72	ZT-EDAZ09	23.416
EDAH10	10.548	0.87	ZT-EDAH10	59.050
EDAM10	10.773	1.09	ZT-EDAM10	74.700
EDAU10	10.993	1.31	ZT-EDAU10	83.659
EDAZ10	11.228	1.55	ZT-EDAZ10	89.140
EDAH11	11.403	1.72	ZT-EDAH11	90.404
EDAM11	11.608	1.93	ZT-EDAM11	89.426
EDAU11	11.788	2.11	ZT-EDAU11	85.826
EDAZ11	11.973	2.29	ZT-EDAZ11	79.821

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				
	Fraction of year	ZT Duration	Spread Duration	
EDAH09	0.090	1.77	1.68	ZT-EDAH09
EDAM09	0.339	1.77	1.43	ZT-EDAM09
EDAU09	0.588	1.77	1.18	ZT-EDAU09
EDAZ09	0.838	1.77	0.93	ZT-EDAZ09
EDAH10	1.087	1.77	0.68	ZT-EDAH10
EDAM10	1.336	1.77	0.43	ZT-EDAM10
EDAU10	1.586	1.77	0.19	ZT-EDAU10
EDAZ10	1.835	1.77	(0.06)	ZT-EDAZ10
EDAH11	2.084	1.77	(0.31)	ZT-EDAH11
EDAM11	2.334	1.77	(0.56)	ZT-EDAM11
EDAU11	2.602	1.77	(0.83)	ZT-EDAU11
EDAZ11	2.851	1.77	(1.08)	ZT-EDAZ11

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

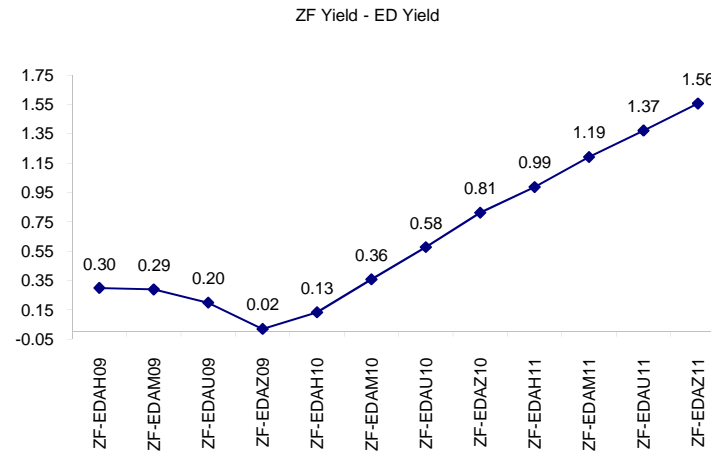


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.828	0.30	ZF-EDAH09	-45.641
EDAM09	19.838	0.29	ZF-EDAM09	-41.287
EDAU09	19.928	0.20	ZF-EDAU09	-27.708
EDAZ09	20.108	0.02	ZF-EDAZ09	8.770
EDAH10	20.258	0.13	ZF-EDAH10	47.435
EDAM10	20.483	0.36	ZF-EDAM10	64.698
EDAU10	20.703	0.58	ZF-EDAU10	77.060
EDAZ10	20.938	0.81	ZF-EDAZ10	86.033
EDAH11	21.113	0.99	ZF-EDAH11	91.224
EDAM11	21.318	1.19	ZF-EDAM11	96.428
EDAU11	21.498	1.37	ZF-EDAU11	96.746
EDAZ11	21.683	1.56	ZF-EDAZ11	93.267

Price = Outright Decimal Price - Euro Contract Price

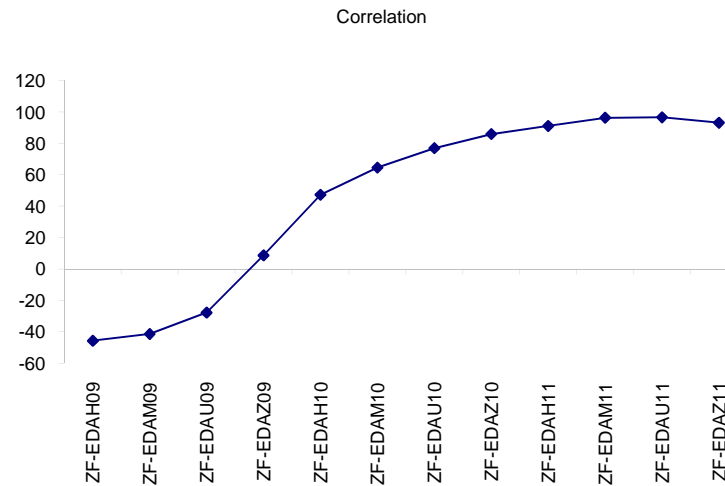
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAH09	0.090	1.46	1.37	ZF-EDAH09		
EDAM09	0.339	1.46	1.12	ZF-EDAM09		
EDAU09	0.588	1.46	0.87	ZF-EDAU09		
EDAZ09	0.838	1.46	0.63	ZF-EDAZ09		
EDAH10	1.087	1.46	0.38	ZF-EDAH10		
EDAM10	1.336	1.46	0.13	ZF-EDAM10		
EDAU10	1.586	1.46	(0.12)	ZF-EDAU10		
EDAZ10	1.835	1.46	(0.37)	ZF-EDAZ10		
EDAH11	2.084	1.46	(0.62)	ZF-EDAH11		
EDAM11	2.334	1.46	(0.87)	ZF-EDAM11		
EDAU11	2.602	1.46	(1.14)	ZF-EDAU11		
EDAZ11	2.851	1.46	(1.39)	ZF-EDAZ11		

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

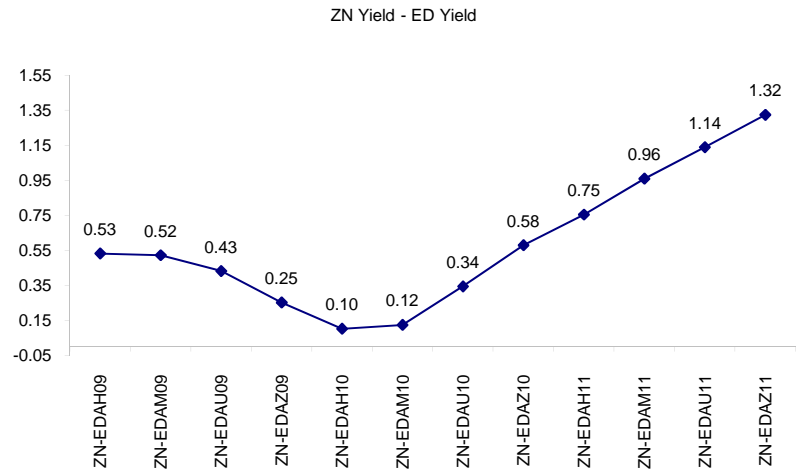


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.634	0.53	ZN-EDAH09	-47.223
EDAM09	24.644	0.52	ZN-EDAM09	-42.613
EDAU09	24.734	0.43	ZN-EDAU09	-29.042
EDAZ09	24.914	0.25	ZN-EDAZ09	7.459
EDAH10	25.064	0.10	ZN-EDAH10	45.532
EDAM10	25.289	0.12	ZN-EDAM10	62.746
EDAU10	25.509	0.34	ZN-EDAU10	75.319
EDAZ10	25.744	0.58	ZN-EDAZ10	84.461
EDAH11	25.919	0.75	ZN-EDAH11	89.991
EDAM11	26.124	0.96	ZN-EDAM11	96.263
EDAU11	26.304	1.14	ZN-EDAU11	97.484
EDAZ11	26.489	1.32	ZN-EDAZ11	94.895

Price = Outright Decimal Price - Euro Contract Price

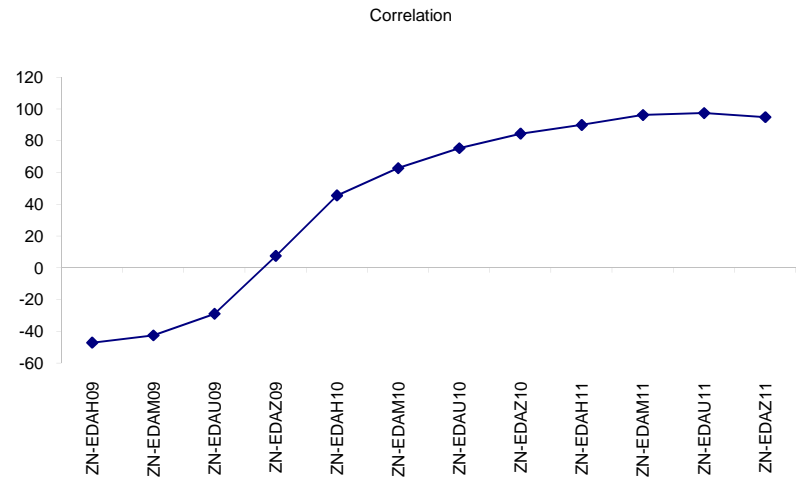
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration		Spread Duration	
EDAH09	0.090	6.16	6.07	ZN-EDAH09			
EDAM09	0.339	6.16	5.83	ZN-EDAM09			
EDAU09	0.588	6.16	5.58	ZN-EDAU09			
EDAZ09	0.838	6.16	5.33	ZN-EDAZ09			
EDAH10	1.087	6.16	5.08	ZN-EDAH10			
EDAM10	1.336	6.16	4.83	ZN-EDAM10			
EDAU10	1.586	6.16	4.58	ZN-EDAU10			
EDAZ10	1.835	6.16	4.33	ZN-EDAZ10			
EDAH11	2.084	6.16	4.08	ZN-EDAH11			
EDAM11	2.334	6.16	3.83	ZN-EDAM11			
EDAU11	2.602	6.16	3.56	ZN-EDAU11			
EDAZ11	2.851	6.16	3.31	ZN-EDAZ11			

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

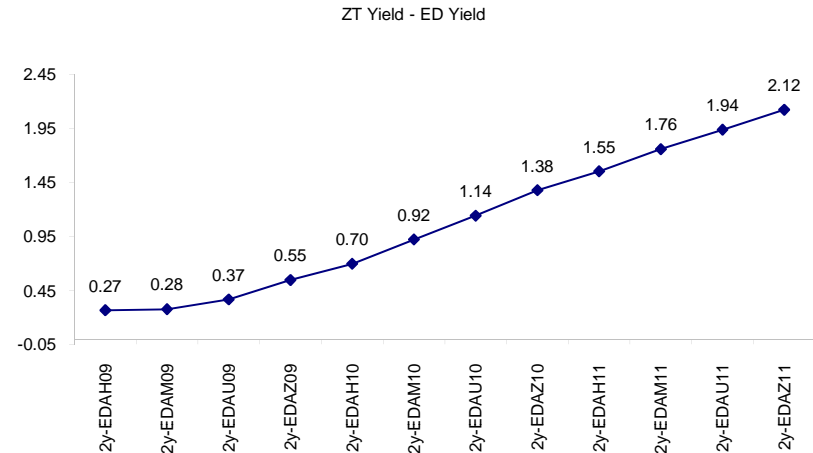


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.134	0.27	2y-EDAH09	49.896
EDAM09	1.144	0.28	2y-EDAM09	47.234
EDAU09	1.234	0.37	2y-EDAU09	37.384
EDAZ09	1.414	0.55	2y-EDAZ09	6.802
EDAH10	1.564	0.70	2y-EDAH10	-32.462
EDAM10	1.789	0.92	2y-EDAM10	-53.404
EDAU10	2.009	1.14	2y-EDAU10	-68.595
EDAZ10	2.244	1.38	2y-EDAZ10	-80.631
EDAH11	2.419	1.55	2y-EDAH11	-86.789
EDAM11	2.624	1.76	2y-EDAM11	-90.638
EDAU11	2.804	1.94	2y-EDAU11	-89.515
EDAZ11	2.989	2.12	2y-EDAZ11	-84.315

Price = Outright Decimal Price - Euro Contract Price

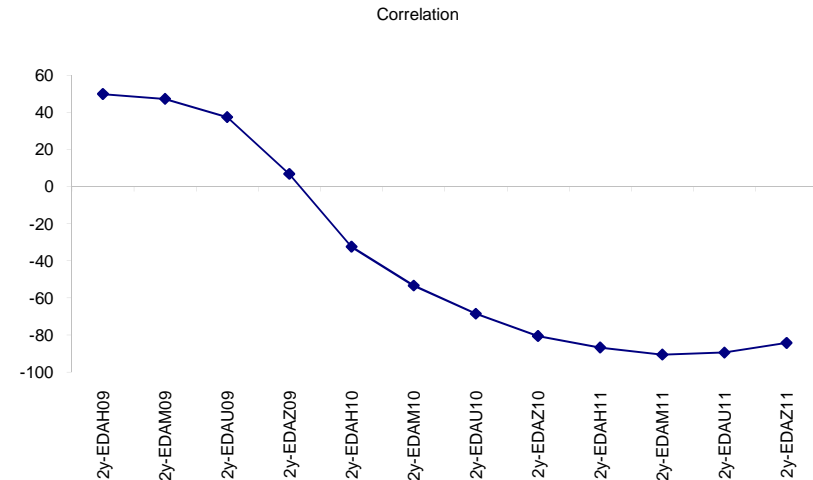
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.090	1.95	1.86	2y-EDAH09	
EDAM09	0.339	1.95	1.61	2y-EDAM09	
EDAU09	0.588	1.95	1.36	2y-EDAU09	
EDAZ09	0.838	1.95	1.11	2y-EDAZ09	
EDAH10	1.087	1.95	0.86	2y-EDAH10	
EDAM10	1.336	1.95	0.61	2y-EDAM10	
EDAU10	1.586	1.95	0.36	2y-EDAU10	
EDAZ10	1.835	1.95	0.11	2y-EDAZ10	
EDAH11	2.084	1.95	(0.14)	2y-EDAH11	
EDAM11	2.334	1.95	(0.39)	2y-EDAM11	
EDAU11	2.602	1.95	(0.66)	2y-EDAU11	
EDAZ11	2.851	1.95	(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	1.171	0.58	5y-EDAH09	35.175
EDAM09	1.181	0.57	5y-EDAM09	31.763
EDAU09	1.271	0.48	5y-EDAU09	20.922
EDAZ09	1.451	0.30	5y-EDAZ09	-9.079
EDAH10	1.601	0.15	5y-EDAH10	-43.977
EDAM10	1.826	0.08	5y-EDAM10	-61.955
EDAU10	2.046	0.30	5y-EDAU10	-74.919
EDAZ10	2.281	0.53	5y-EDAZ10	-83.826
EDAH11	2.456	0.71	5y-EDAH11	-87.052
EDAM11	2.661	0.91	5y-EDAM11	-89.091
EDAU11	2.841	1.09	5y-EDAU11	-87.104
EDAZ11	3.026	1.28	5y-EDAZ11	-81.461

Price = Outright Decimal Price - Euro Contract Price

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

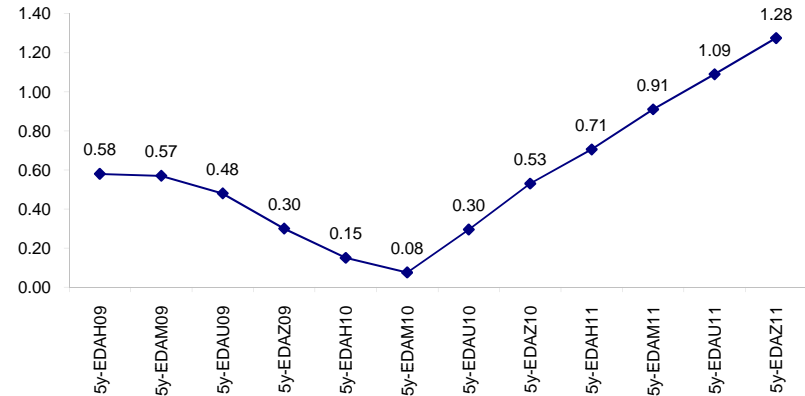
\*Correlation = ED Correlation to Treasury Future over 10 days

ED Duration as

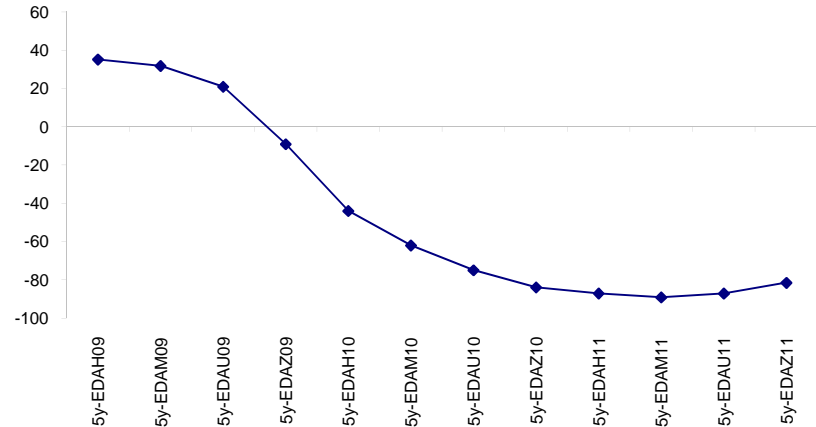
	Fraction of year	5Y Duration	Spread Duration	
EDAH09	0.090	4.73	4.65	5y-EDAH09
EDAM09	0.339	4.73	4.40	5y-EDAM09
EDAU09	0.588	4.73	4.15	5y-EDAU09
EDAZ09	0.838	4.73	3.90	5y-EDAZ09
EDAH10	1.087	4.73	3.65	5y-EDAH10
EDAM10	1.336	4.73	3.40	5y-EDAM10
EDAU10	1.586	4.73	3.15	5y-EDAU10
EDAZ10	1.835	4.73	2.90	5y-EDAZ10
EDAH11	2.084	4.73	2.65	5y-EDAH11
EDAM11	2.334	4.73	2.40	5y-EDAM11
EDAU11	2.602	4.73	2.13	5y-EDAU11
EDAZ11	2.851	4.73	1.88	5y-EDAZ11

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

5y - ED Yield

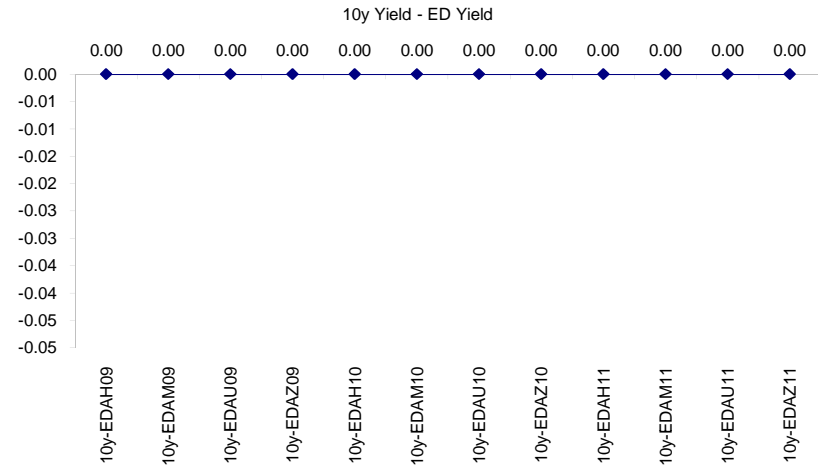


Correlation



	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.171	#VALUE!	10y-EDAH09	56.479
EDAM09	1.181	#VALUE!	10y-EDAM09	53.103
EDAU09	1.271	#VALUE!	10y-EDAU09	41.741
EDAZ09	1.451	#VALUE!	10y-EDAZ09	8.044
EDAH10	1.601	#VALUE!	10y-EDAH10	-30.788
EDAM10	1.826	#VALUE!	10y-EDAM10	-49.861
EDAU10	2.046	#VALUE!	10y-EDAU10	-64.794
EDAZ10	2.281	#VALUE!	10y-EDAZ10	-76.607
EDAH11	2.456	#VALUE!	10y-EDAH11	-84.495
EDAM11	2.661	#VALUE!	10y-EDAM11	-92.840
EDAU11	2.841	#VALUE!	10y-EDAU11	-95.366
EDAZ11	3.026	#VALUE!	10y-EDAZ11	-93.842

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	0.090	8.15	8.06	10y-EDAH09
EDAM09	0.339	8.15	7.81	10y-EDAM09
EDAU09	0.588	8.15	7.56	10y-EDAU09
EDAZ09	0.838	8.15	7.31	10y-EDAZ09
EDAH10	1.087	8.15	7.06	10y-EDAH10
EDAM10	1.336	8.15	6.81	10y-EDAM10
EDAU10	1.586	8.15	6.56	10y-EDAU10
EDAZ10	1.835	8.15	6.31	10y-EDAZ10
EDAH11	2.084	8.15	6.06	10y-EDAH11
EDAM11	2.334	8.15	5.81	10y-EDAM11
EDAU11	2.602	8.15	5.54	10y-EDAU11
EDAZ11	2.851	8.15	5.29	10y-EDAZ11

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

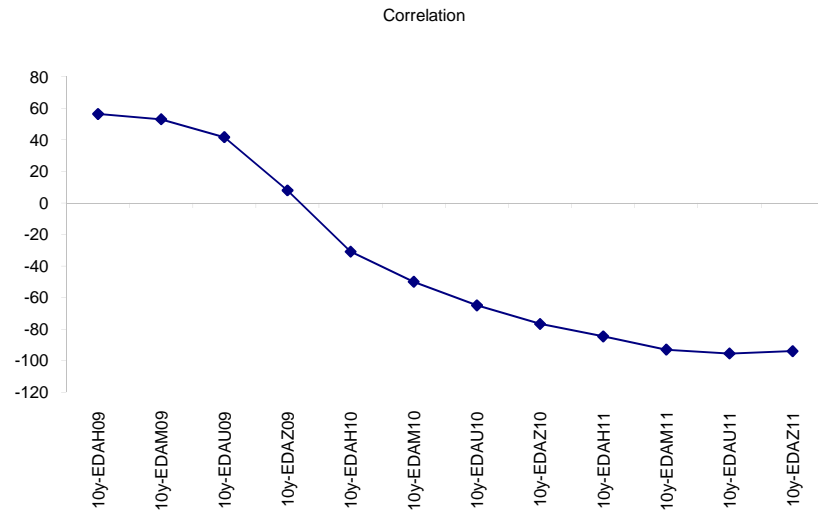


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

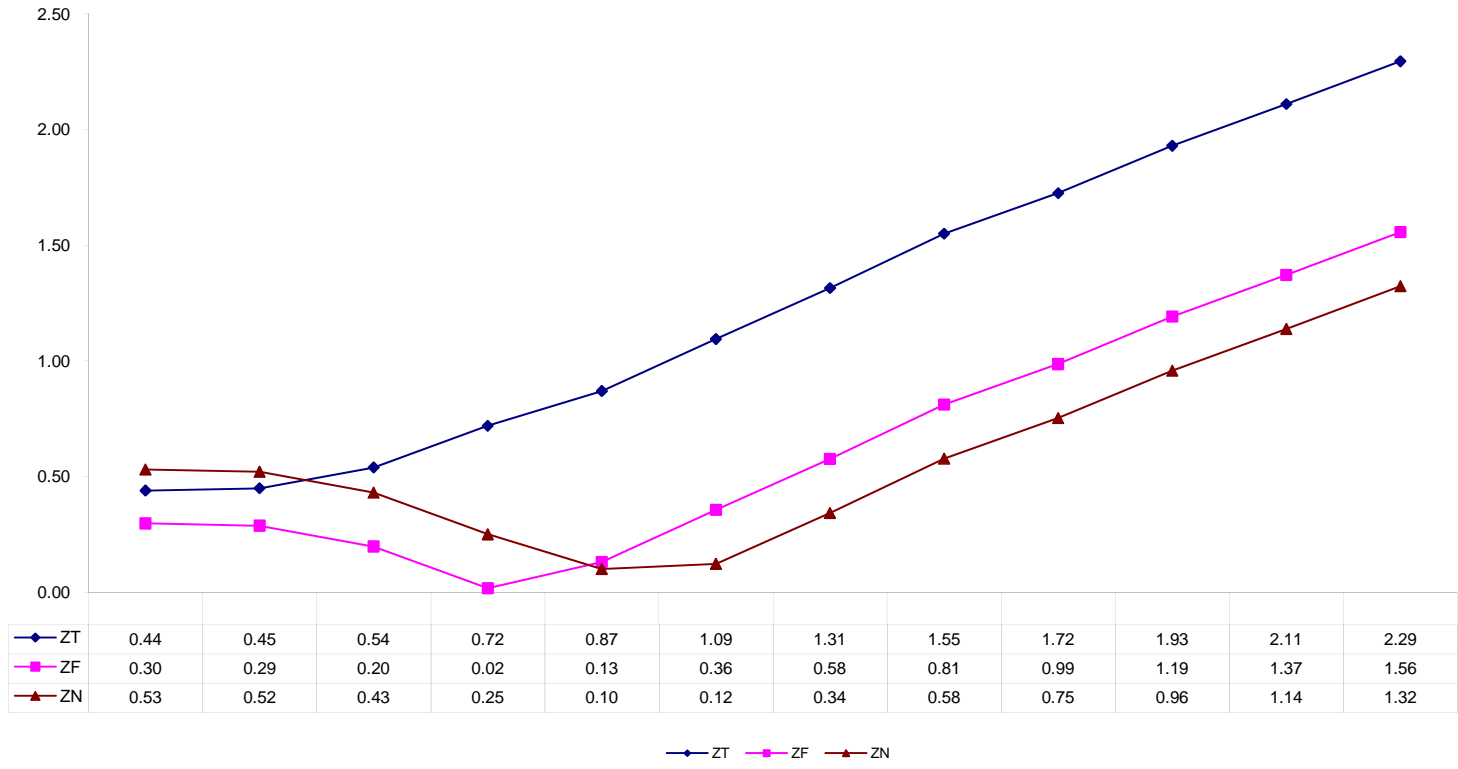
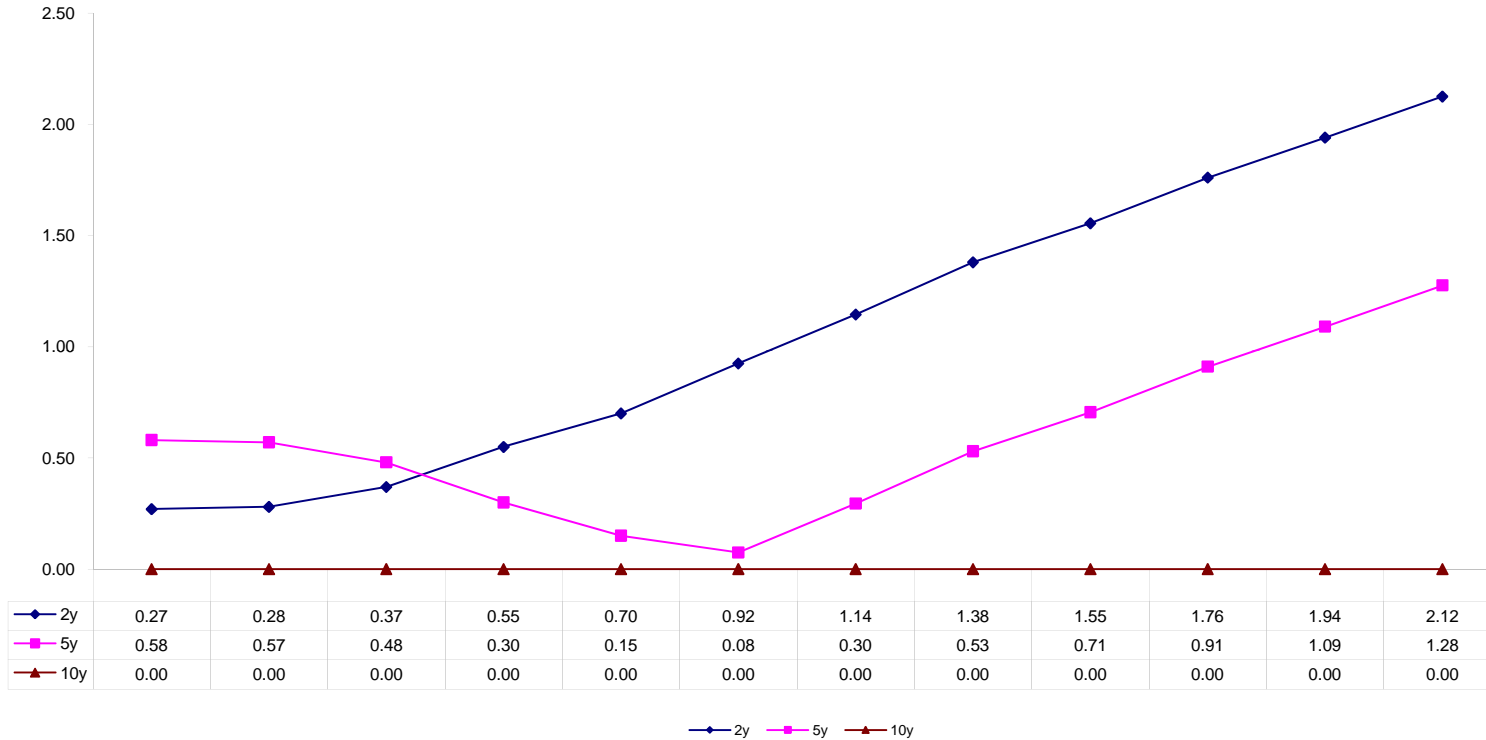
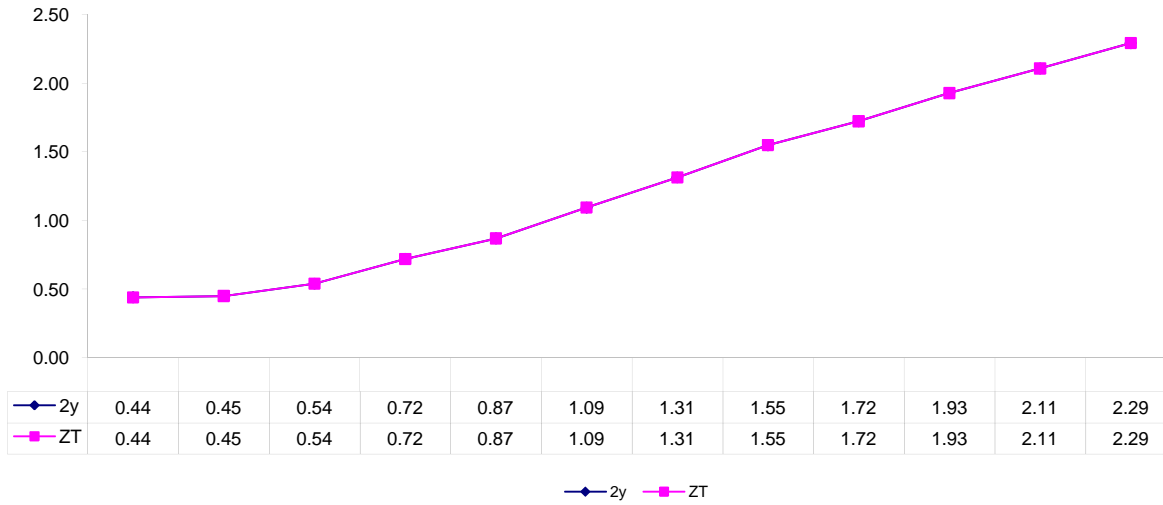
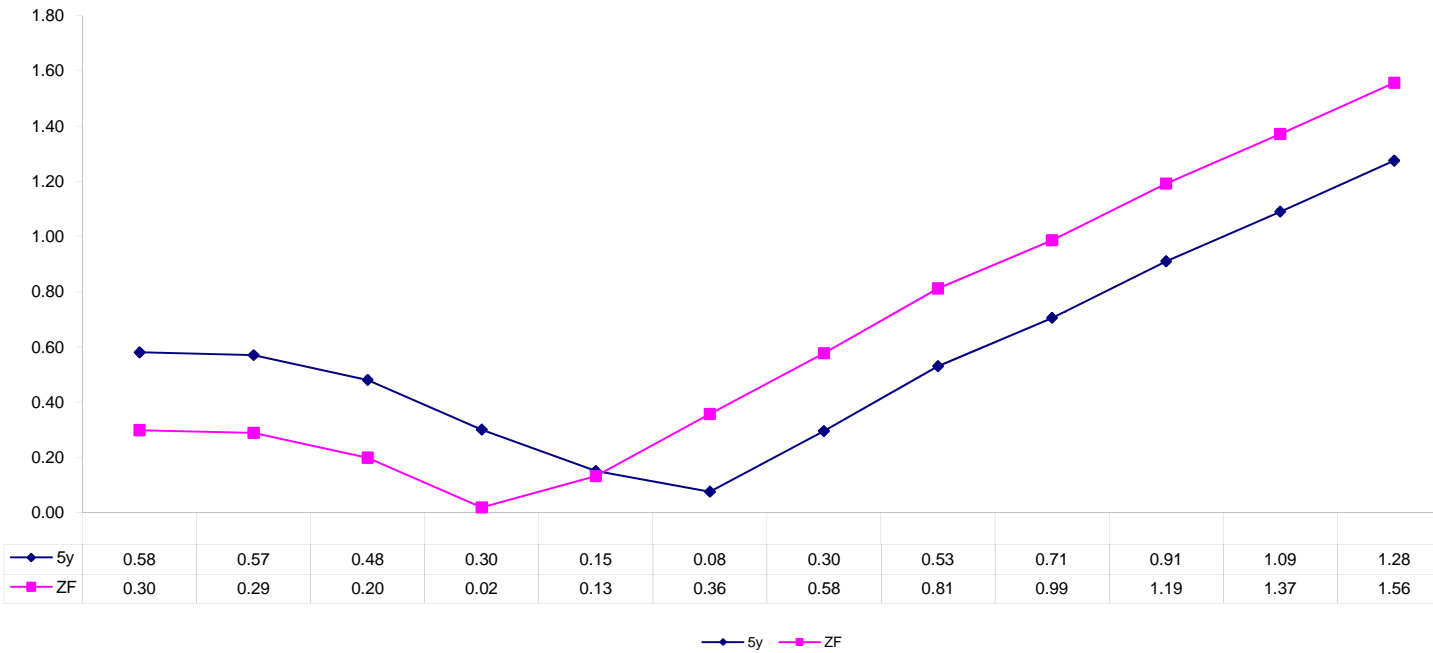


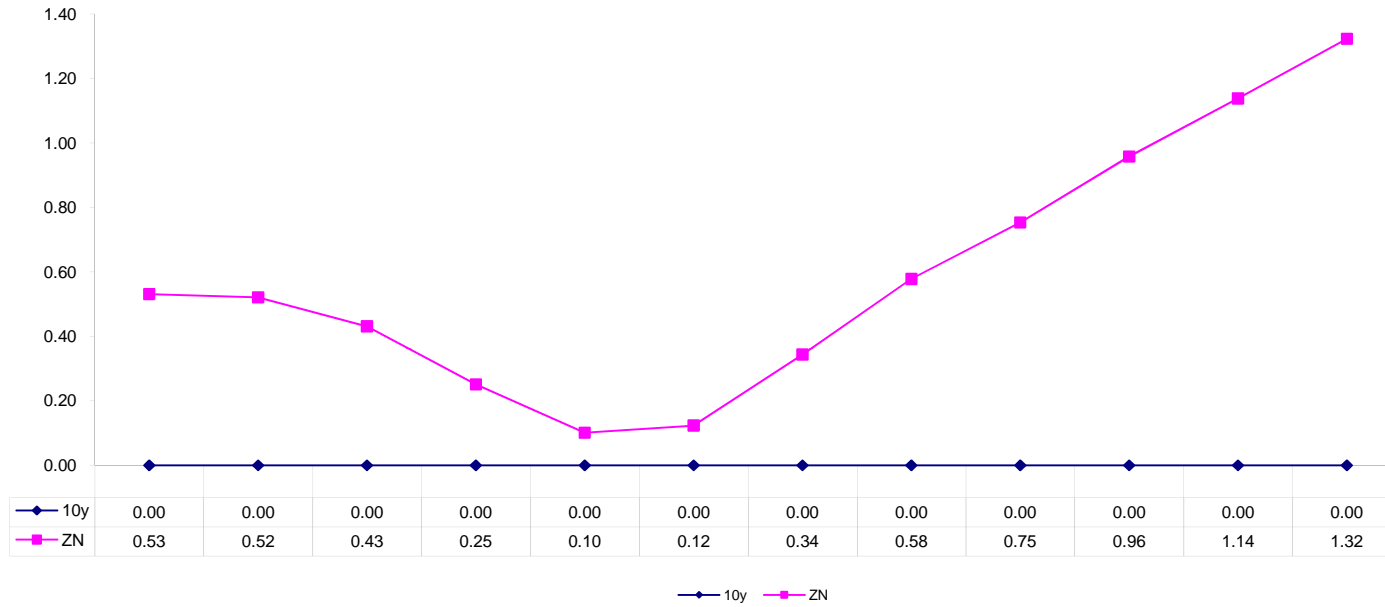
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.284	5.500	9873.750
Red Pack	1.969	6.375	9806.750
Green Pack	2.797	5.750	9726.000
Blue Pack	3.327	4.500	9674.500
Gold Pack		3.750	9644.000

