

## 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	Last	Last	
	Decimal	€ 32.00	Yield*	MDuration
ZT	108.9594	108.3070	0.709	1.81
ZF	118.9688	118.3100	1.415	1.42
ZN	123.7656	123.2450	1.607	6.21
2y	100.0313	100.0100	0.858	1.90
5y	99.2875	99.0920	1.651	4.59
10y	109.6406	109.2050	2.632	8.20

Eurodollars (ED)						
	Last	Last Imp	Days til	Fraction	Month	
	Price	Yield	Expr.	of year		
EDAH09	98.870	1.130	48	0.131	MAR	
EDAM09	98.875	1.125	139	0.380	JUN	White Pack
EDAU09	98.800	1.200	230	0.629	SEP	
EDAZ09	98.630	1.370	321	0.879	DEC	
EDAH10	98.490	1.510	412	1.128	MAR	
EDAM10	98.255	1.745	503	1.377	JUN	Red Pack
EDAU10	98.025	1.975	594	1.627	SEP	
EDAZ10	97.765	2.235	685	1.876	DEC	
EDAH11	97.590	2.410	776	2.125	MAR	
EDAM11	97.415	2.585	867	2.375	JUN	Green Pack
EDAU11	97.270	2.730	965	2.643	SEP	
EDAZ11	97.150	2.850	1056	2.892	DEC	
EDAH12	97.100	2.900	1147	3.142	MAR	
EDAM12	97.045	2.955	1238	3.391	JUN	Blue Pack
EDAU12	96.995	3.005	1329	3.640	SEP	
EDAZ12	96.915	3.085	1420	3.890	DEC	
EDAH13	96.870	3.130	1511	4.139	MAR	
EDAM13	96.840	3.160	1602	4.388	JUN	Gold Pack
EDZU13	96.750	3.250	1693	4.638	SEP	
EDZZ13	96.660	3.340	1784	4.887	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.227	0.750	9879.375	
Red Pack	1.901	-0.375	9813.375	Pack Prices
Green Pack	2.698	-0.375	9735.625	
Blue Pack	3.051	-0.375	9701.375	
Gold Pack		-0.750	9678.875	

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.

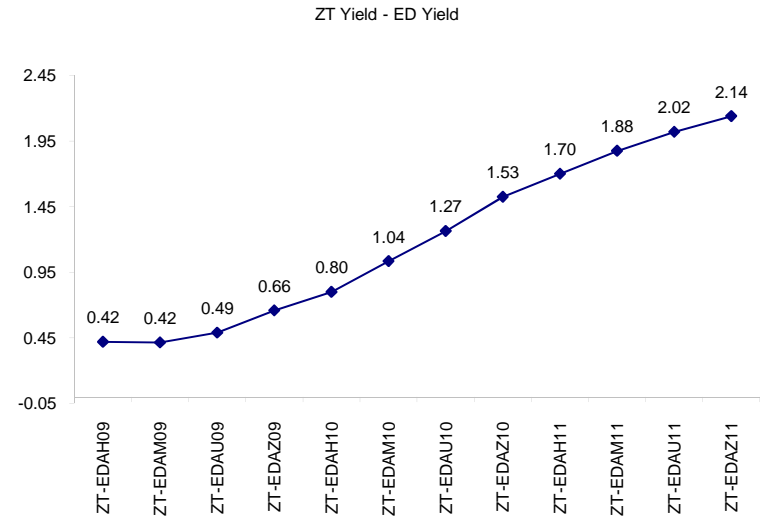
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

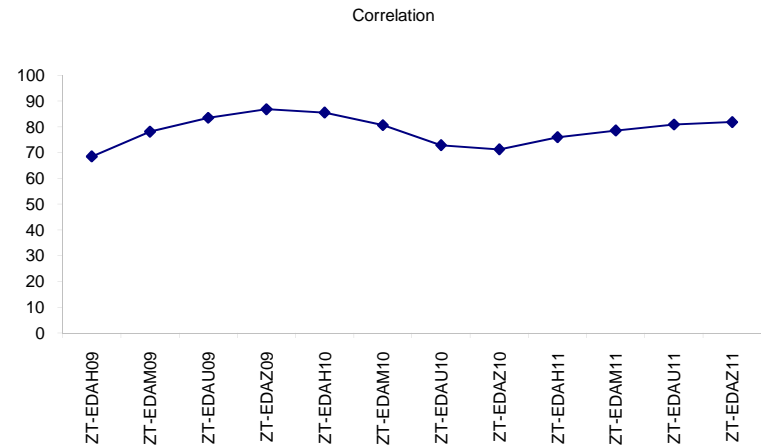
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.089	0.42	ZT-EDAH09	68.494
EDAM09	10.084	0.42	ZT-EDAM09	78.129
EDAU09	10.159	0.49	ZT-EDAU09	83.496
EDAZ09	10.329	0.66	ZT-EDAZ09	86.834
EDAH10	10.469	0.80	ZT-EDAH10	85.504
EDAM10	10.704	1.04	ZT-EDAM10	80.637
EDAU10	10.934	1.27	ZT-EDAU10	72.890
EDAZ10	11.194	1.53	ZT-EDAZ10	71.264
EDAH11	11.369	1.70	ZT-EDAH11	75.970
EDAM11	11.544	1.88	ZT-EDAM11	78.552
EDAU11	11.689	2.02	ZT-EDAU11	80.884
EDAZ11	11.809	2.14	ZT-EDAZ11	81.849

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	0.131	1.81	1.68	ZT-EDAH09		
EDAM09	0.380	1.81	1.43	ZT-EDAM09		
EDAU09	0.629	1.81	1.18	ZT-EDAU09		
EDAZ09	0.879	1.81	0.93	ZT-EDAZ09		
EDAH10	1.128	1.81	0.68	ZT-EDAH10		
EDAM10	1.377	1.81	0.43	ZT-EDAM10		
EDAU10	1.627	1.81	0.19	ZT-EDAU10		
EDAZ10	1.876	1.81	(0.06)	ZT-EDAZ10		
EDAH11	2.125	1.81	(0.31)	ZT-EDAH11		
EDAM11	2.375	1.81	(0.56)	ZT-EDAM11		
EDAU11	2.643	1.81	(0.83)	ZT-EDAU11		
EDAZ11	2.892	1.81	(1.08)	ZT-EDAZ11		

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

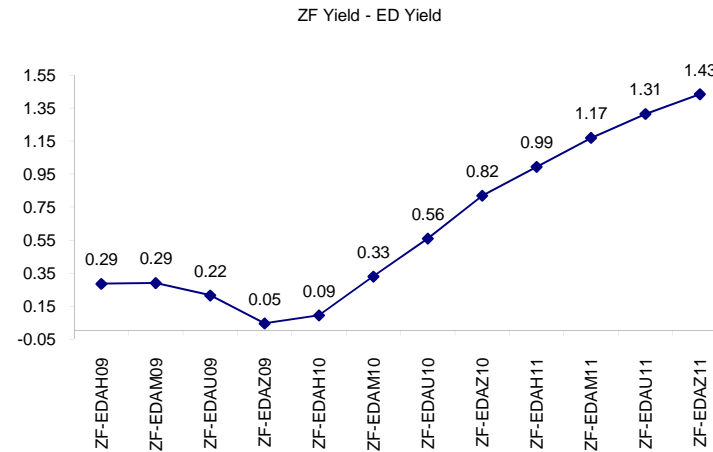


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.099	0.29	ZF-EDAH09	68.406
EDAM09	20.094	0.29	ZF-EDAM09	72.832
EDAU09	20.169	0.22	ZF-EDAU09	75.750
EDAZ09	20.339	0.05	ZF-EDAZ09	80.717
EDAH10	20.479	0.09	ZF-EDAH10	88.645
EDAM10	20.714	0.33	ZF-EDAM10	95.848
EDAU10	20.944	0.56	ZF-EDAU10	98.719
EDAZ10	21.204	0.82	ZF-EDAZ10	99.254
EDAH11	21.379	0.99	ZF-EDAH11	99.342
EDAM11	21.554	1.17	ZF-EDAM11	98.233
EDAU11	21.699	1.31	ZF-EDAU11	97.066
EDAZ11	21.819	1.43	ZF-EDAZ11	96.572

Price = Outright Decimal Price - Euro Contract Price

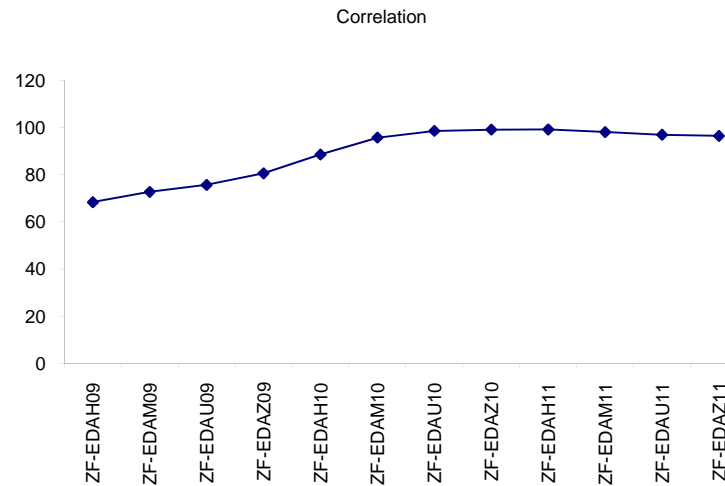
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAH09	0.131	1.42	1.28	ZF-EDAH09		
EDAM09	0.380	1.42	1.04	ZF-EDAM09		
EDAU09	0.629	1.42	0.79	ZF-EDAU09		
EDAZ09	0.879	1.42	0.54	ZF-EDAZ09		
EDAH10	1.128	1.42	0.29	ZF-EDAH10		
EDAM10	1.377	1.42	0.04	ZF-EDAM10		
EDAU10	1.627	1.42	(0.21)	ZF-EDAU10		
EDAZ10	1.876	1.42	(0.46)	ZF-EDAZ10		
EDAH11	2.125	1.42	(0.71)	ZF-EDAH11		
EDAM11	2.375	1.42	(0.96)	ZF-EDAM11		
EDAU11	2.643	1.42	(1.23)	ZF-EDAU11		
EDAZ11	2.892	1.42	(1.48)	ZF-EDAZ11		

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

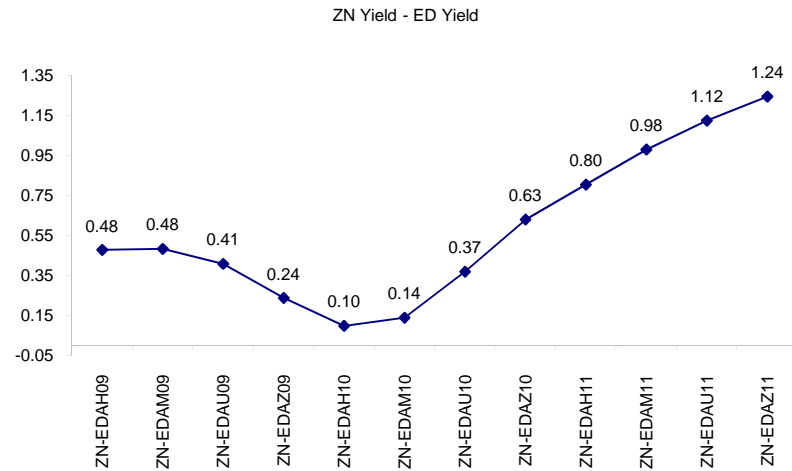


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.896	0.48	ZN-EDAH09	75.032
EDAM09	24.891	0.48	ZN-EDAM09	79.163
EDAU09	24.966	0.41	ZN-EDAU09	80.727
EDAZ09	25.136	0.24	ZN-EDAZ09	83.424
EDAH10	25.276	0.10	ZN-EDAH10	89.347
EDAM10	25.511	0.14	ZN-EDAM10	94.057
EDAU10	25.741	0.37	ZN-EDAU10	95.316
EDAZ10	26.001	0.63	ZN-EDAZ10	95.988
EDAH11	26.176	0.80	ZN-EDAH11	98.608
EDAM11	26.351	0.98	ZN-EDAM11	99.397
EDAU11	26.496	1.12	ZN-EDAU11	99.278
EDAZ11	26.616	1.24	ZN-EDAZ11	99.243

Price = Outright Decimal Price - Euro Contract Price

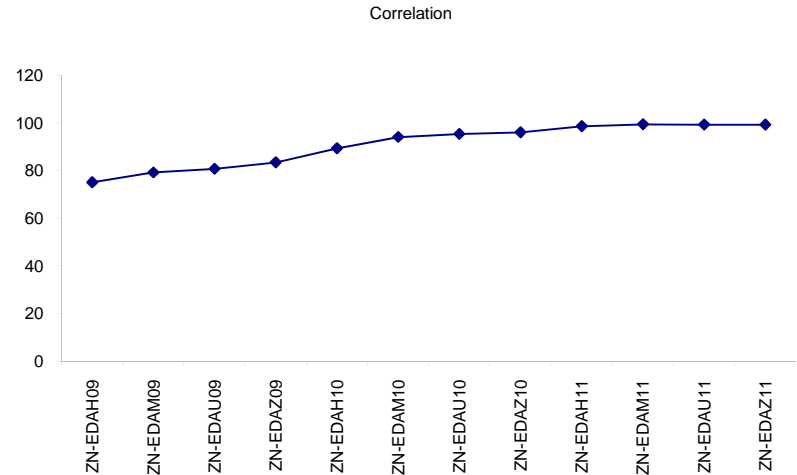
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAH09	0.131	6.21	6.08	ZN-EDAH09		
EDAM09	0.380	6.21	5.83	ZN-EDAM09		
EDAU09	0.629	6.21	5.58	ZN-EDAU09		
EDAZ09	0.879	6.21	5.33	ZN-EDAZ09		
EDAH10	1.128	6.21	5.08	ZN-EDAH10		
EDAM10	1.377	6.21	4.83	ZN-EDAM10		
EDAU10	1.627	6.21	4.59	ZN-EDAU10		
EDAZ10	1.876	6.21	4.34	ZN-EDAZ10		
EDAH11	2.125	6.21	4.09	ZN-EDAH11		
EDAM11	2.375	6.21	3.84	ZN-EDAM11		
EDAU11	2.643	6.21	3.57	ZN-EDAU11		
EDAZ11	2.892	6.21	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	1.161	0.27	2y-EDAH09	-59.582
EDAM09	1.156	0.27	2y-EDAM09	-69.311
EDAU09	1.231	0.34	2y-EDAU09	-74.990
EDAZ09	1.401	0.51	2y-EDAZ09	-79.248
EDAH10	1.541	0.65	2y-EDAH10	-81.579
EDAM10	1.776	0.89	2y-EDAM10	-82.260
EDAU10	2.006	1.12	2y-EDAU10	-79.673
EDAZ10	2.266	1.38	2y-EDAZ10	-80.017
EDAH11	2.441	1.55	2y-EDAH11	-82.767
EDAM11	2.616	1.73	2y-EDAM11	-84.189
EDAU11	2.761	1.87	2y-EDAU11	-85.882
EDAZ11	2.881	1.99	2y-EDAZ11	-86.500

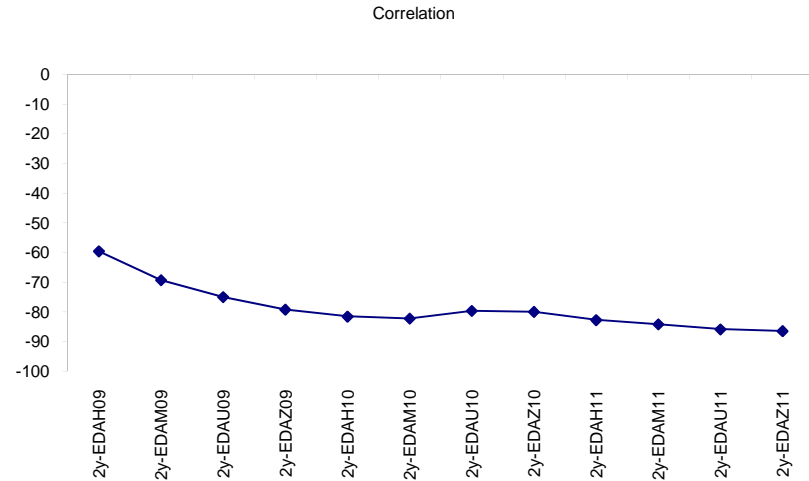
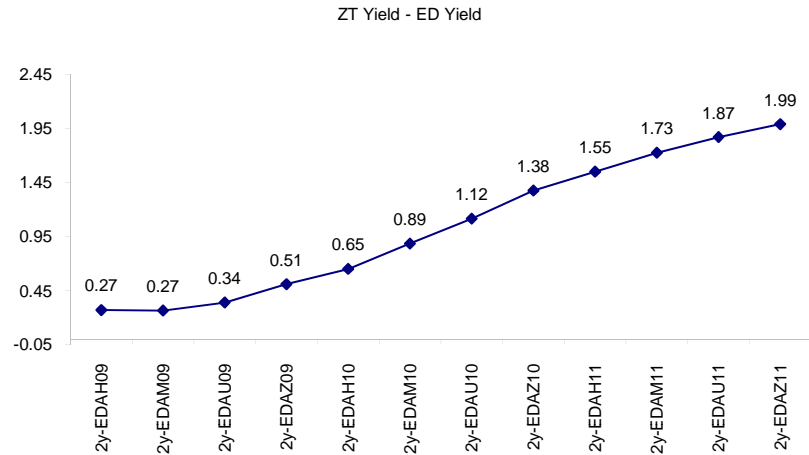
Price = Outright Decimal Price - Euro Contract Price

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	0.131	1.90	1.77	2y-EDAH09
EDAM09	0.380	1.90	1.52	2y-EDAM09
EDAU09	0.629	1.90	1.27	2y-EDAU09
EDAZ09	0.879	1.90	1.02	2y-EDAZ09
EDAH10	1.128	1.90	0.77	2y-EDAH10
EDAM10	1.377	1.90	0.52	2y-EDAM10
EDAU10	1.627	1.90	0.27	2y-EDAU10
EDAZ10	1.876	1.90	0.03	2y-EDAZ10
EDAH11	2.125	1.90	(0.22)	2y-EDAH11
EDAM11	2.375	1.90	(0.47)	2y-EDAM11
EDAU11	2.643	1.90	(0.74)	2y-EDAU11
EDAZ11	2.892	1.90	(0.99)	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	0.417	0.52	5y-EDAH09	-76.616
EDAM09	0.412	0.53	5y-EDAM09	-80.207
EDAU09	0.487	0.45	5y-EDAU09	-80.705
EDAZ09	0.657	0.28	5y-EDAZ09	-82.676
EDAH10	0.797	0.14	5y-EDAH10	-88.680
EDAM10	1.033	0.09	5y-EDAM10	-94.586
EDAU10	1.262	0.32	5y-EDAU10	-97.848
EDAZ10	1.522	0.58	5y-EDAZ10	-98.990
EDAH11	1.697	0.76	5y-EDAH11	-98.866
EDAM11	1.872	0.93	5y-EDAM11	-98.252
EDAU11	2.018	1.08	5y-EDAU11	-97.824
EDAZ11	2.137	1.20	5y-EDAZ11	-97.478

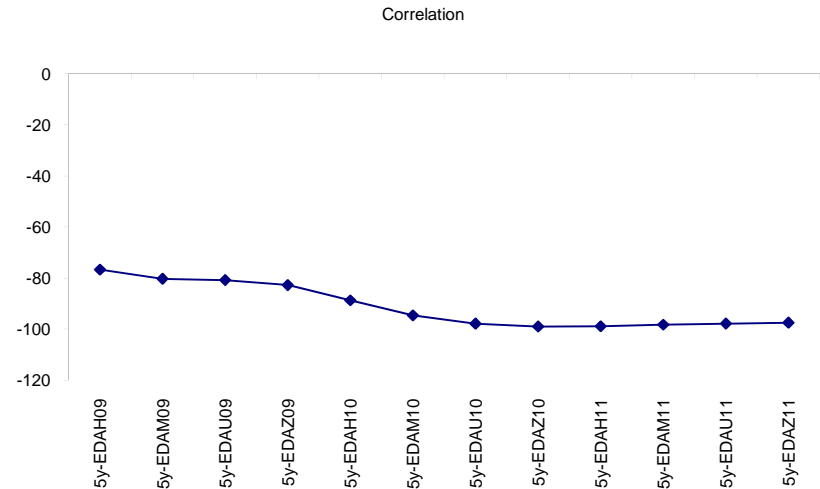
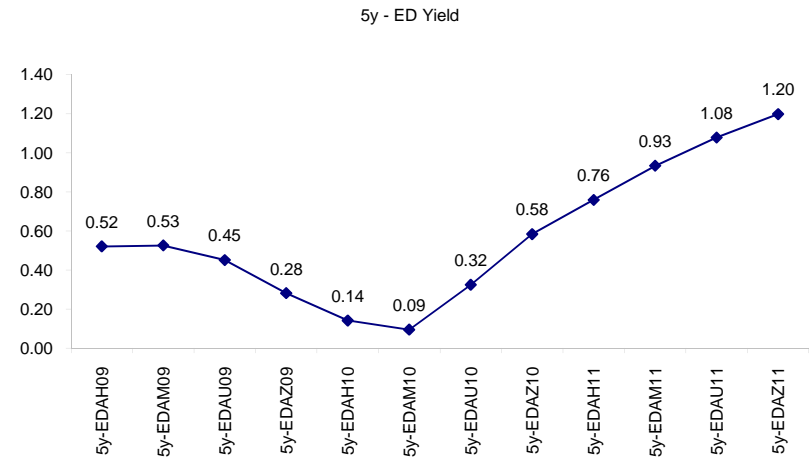
Price = Outright Decimal Price - Euro Contract Price

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	0.131		4.59	4.46	5y-EDAH09
EDAM09	0.380		4.59	4.21	5y-EDAM09
EDAU09	0.629		4.59	3.96	5y-EDAU09
EDAZ09	0.879		4.59	3.71	5y-EDAZ09
EDAH10	1.128		4.59	3.46	5y-EDAH10
EDAM10	1.377		4.59	3.21	5y-EDAM10
EDAU10	1.627		4.59	2.96	5y-EDAU10
EDAZ10	1.876		4.59	2.71	5y-EDAZ10
EDAH11	2.125		4.59	2.46	5y-EDAH11
EDAM11	2.375		4.59	2.21	5y-EDAM11
EDAU11	2.643		4.59	1.94	5y-EDAU11
EDAZ11	2.892		4.59	1.69	5y-EDAZ11

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



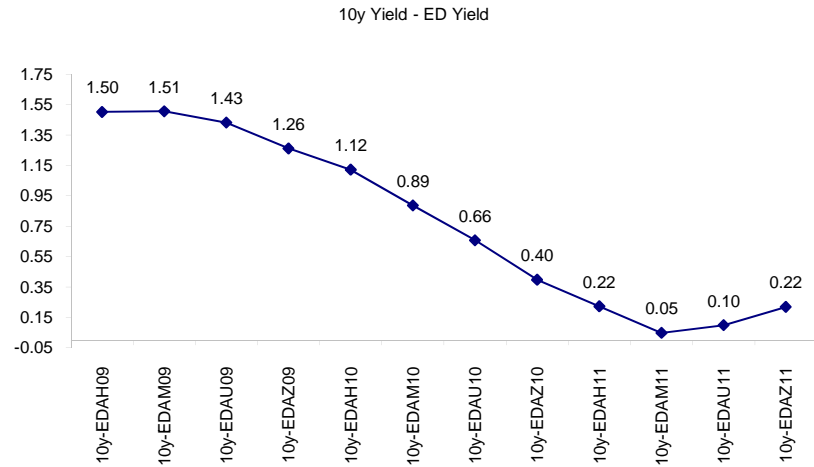


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.417	1.50	10y-EDAH09	-77.060
EDAM09	0.412	1.51	10y-EDAM09	-80.500
EDAU09	0.487	1.43	10y-EDAU09	-80.613
EDAZ09	0.657	1.26	10y-EDAZ09	-81.879
EDAH10	0.797	1.12	10y-EDAH10	-87.725
EDAM10	1.033	0.89	10y-EDAM10	-93.620
EDAU10	1.262	0.66	10y-EDAU10	-97.254
EDAZ10	1.522	0.40	10y-EDAZ10	-98.851
EDAH11	1.697	0.22	10y-EDAH11	-99.370
EDAM11	1.872	0.05	10y-EDAM11	-99.231
EDAU11	2.018	0.10	10y-EDAU11	-98.972
EDAZ11	2.137	0.22	10y-EDAZ11	-98.813

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	0.131	8.20	8.07	10y-EDAH09
EDAM09	0.380	8.20	7.82	10y-EDAM09
EDAU09	0.629	8.20	7.57	10y-EDAU09
EDAZ09	0.879	8.20	7.33	10y-EDAZ09
EDAH10	1.128	8.20	7.08	10y-EDAH10
EDAM10	1.377	8.20	6.83	10y-EDAM10
EDAU10	1.627	8.20	6.58	10y-EDAU10
EDAZ10	1.876	8.20	6.33	10y-EDAZ10
EDAH11	2.125	8.20	6.08	10y-EDAH11
EDAM11	2.375	8.20	5.83	10y-EDAM11
EDAU11	2.643	8.20	5.56	10y-EDAU11
EDAZ11	2.892	8.20	5.31	10y-EDAZ11

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

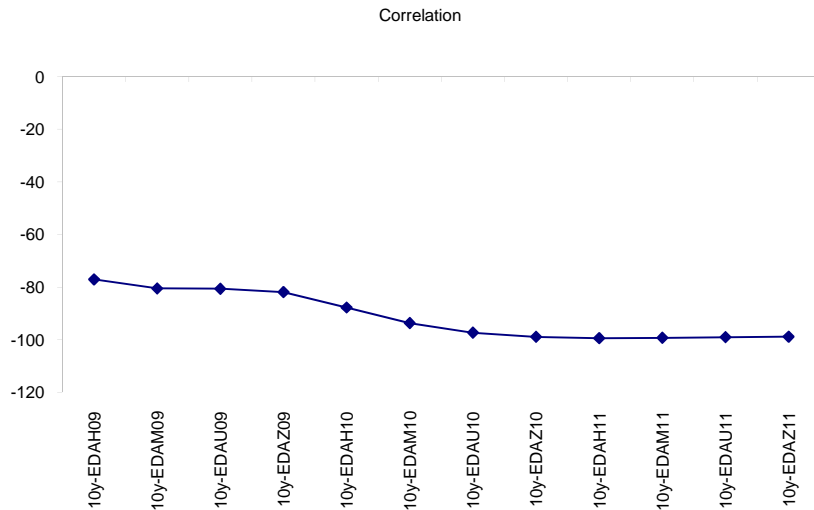


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

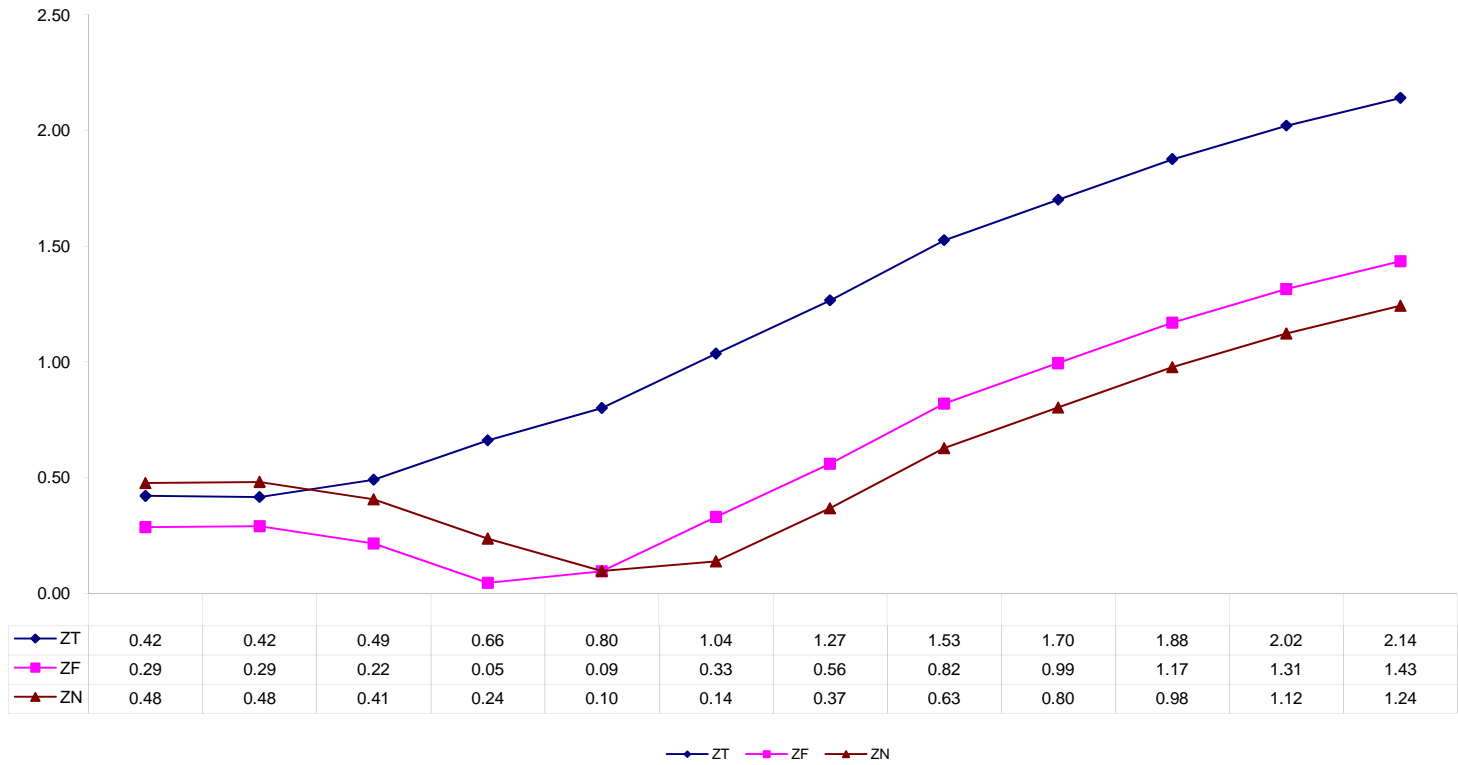
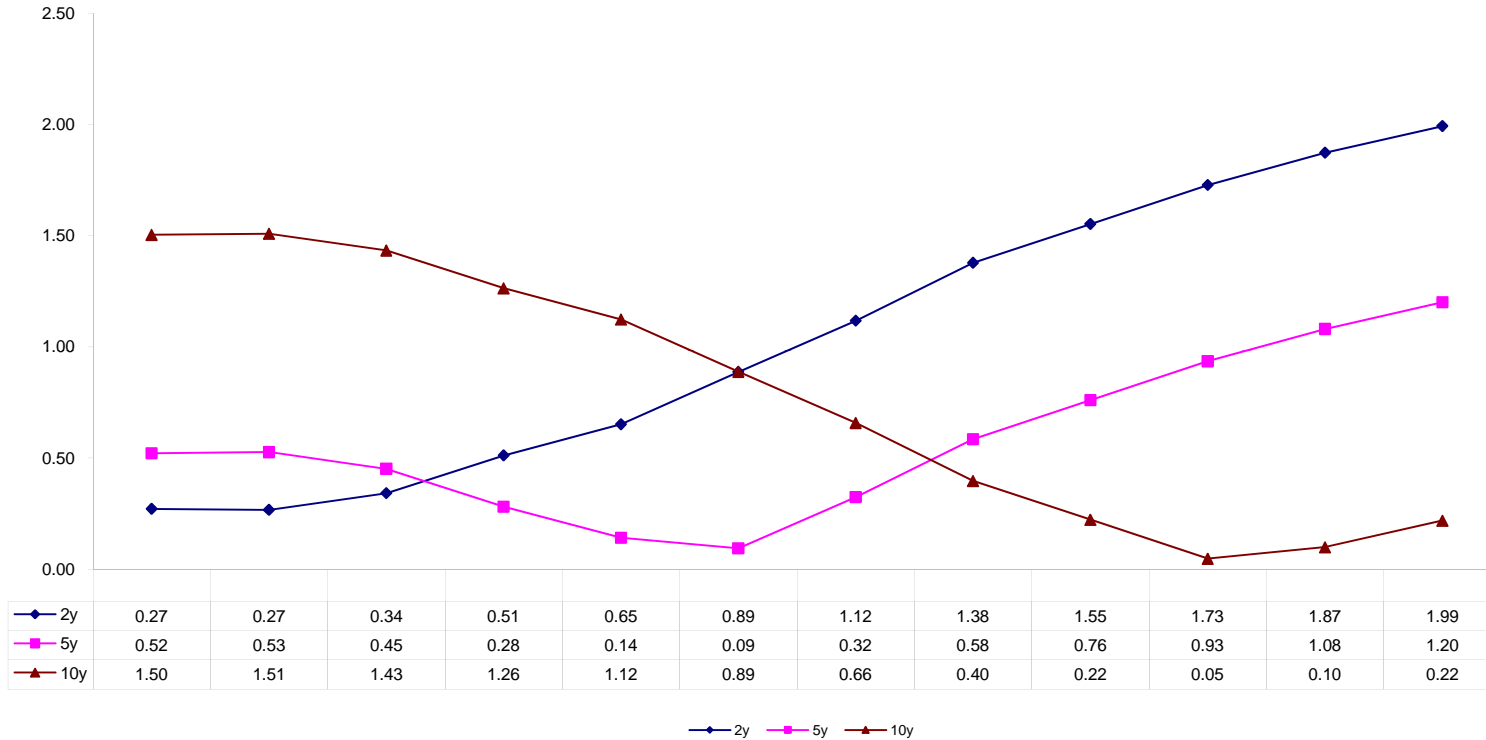
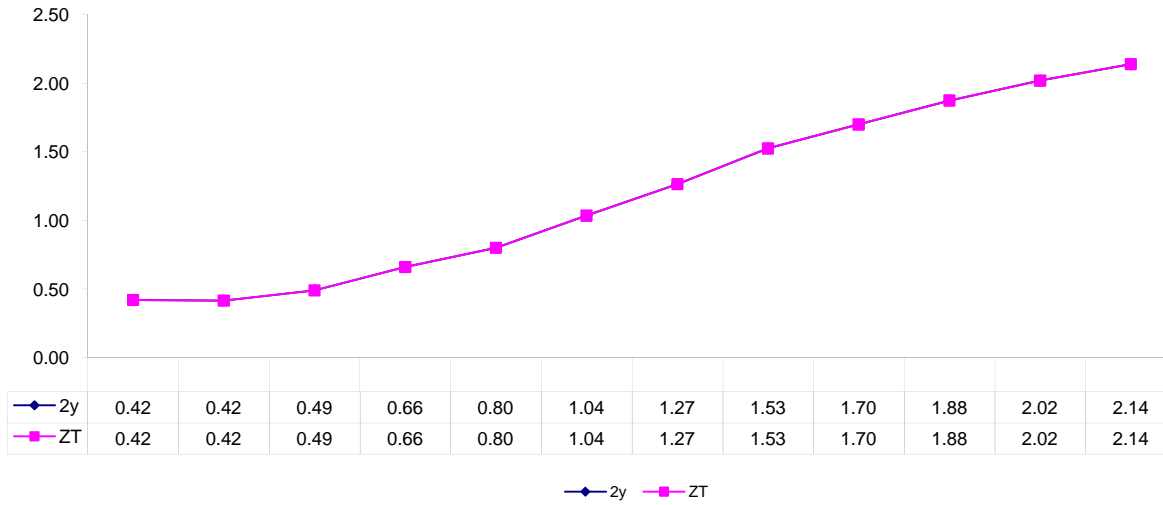
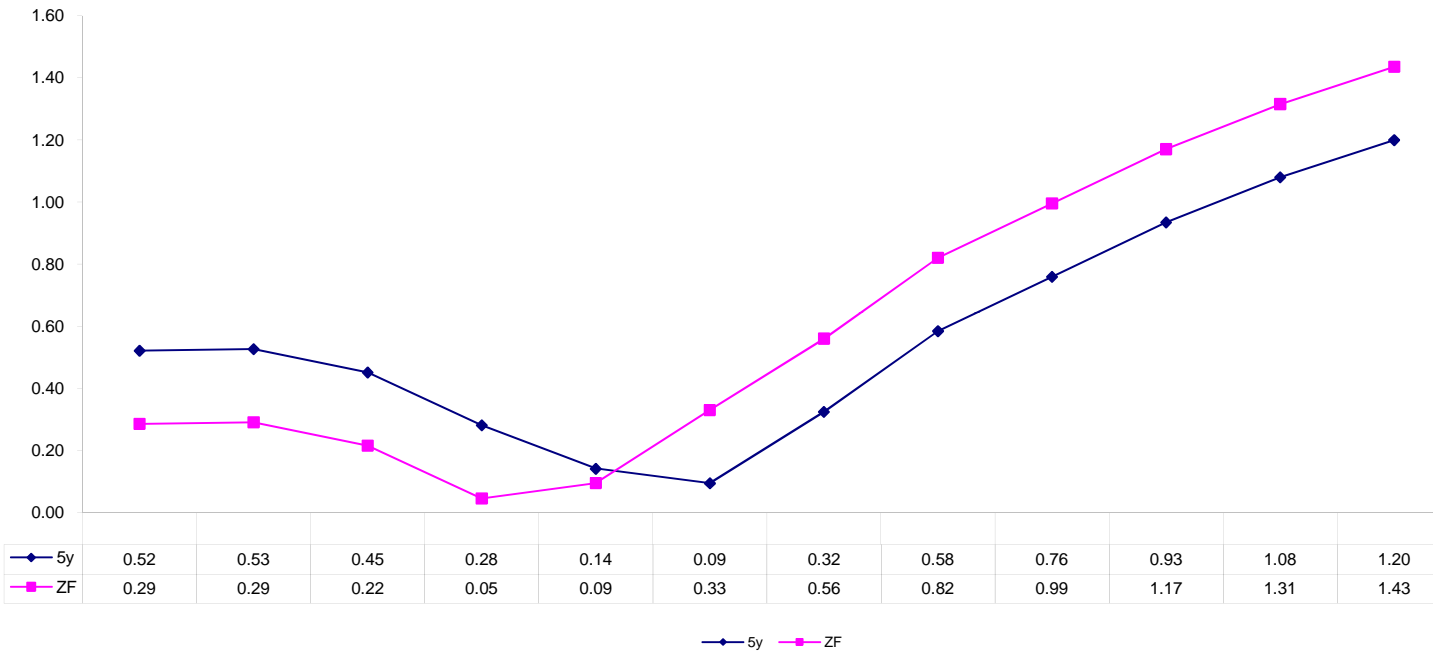


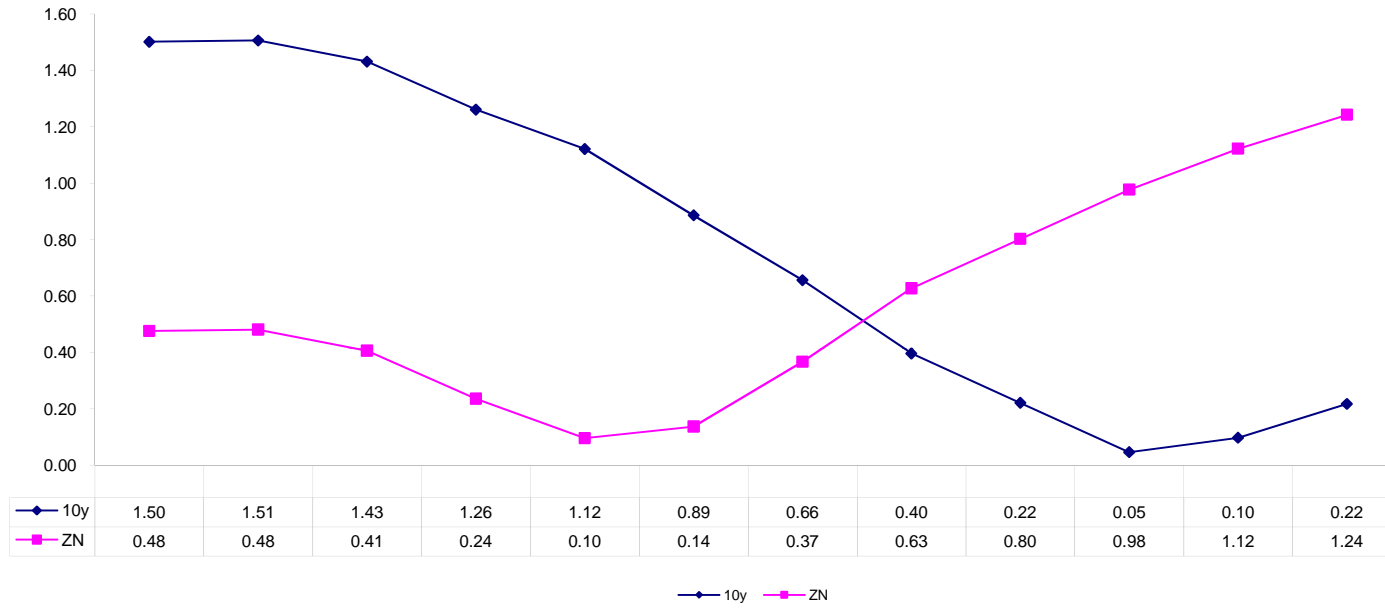
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.227	0.750	9879.375
Red Pack	1.901	-0.375	9813.375
Green Pack	2.698	-0.375	9735.625
Blue Pack	3.051	-0.375	9701.375
Gold Pack		-0.750	9678.875

