

## The Morning Email: TERM TEDS & Dirty TEDS

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Want something added? Let me know: [jgoulding@ghco.com](mailto:jgoulding@ghco.com)

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Treasury Futures and Cash				
	Last	Last	Last	
	Decimal	€ 32.00	Yield*	MDuration
ZT	108.9438	108.3020	0.710	1.81
ZF	118.7875	118.2520	1.436	1.44
ZN	123.5313	123.1700	1.634	6.21
2y	100.0375	100.0120	0.850	1.90
5y	99.1406	99.0450	1.679	4.59
10y	109.4375	109.1400	2.649	8.20

Eurodollars (ED)						
	Last	Last Imp	Days til	Fraction	Month	
	Price	Yield	Expr.	of year		
EDAH09	98.845	1.155	49	0.134	MAR	
EDAM09	98.865	1.135	140	0.383	JUN	White Pack
EDAU09	98.805	1.195	231	0.632	SEP	
EDAZ09	98.645	1.355	322	0.882	DEC	
EDAH10	98.495	1.505	413	1.131	MAR	
EDAM10	98.260	1.740	504	1.380	JUN	Red Pack
EDAU10	98.025	1.975	595	1.629	SEP	
EDAZ10	97.770	2.230	686	1.879	DEC	
EDAH11	97.600	2.400	777	2.128	MAR	
EDAM11	97.430	2.570	868	2.377	JUN	Green Pack
EDAU11	97.310	2.690	966	2.646	SEP	
EDAZ11	97.190	2.810	1057	2.895	DEC	
EDAH12	97.145	2.855	1148	3.145	MAR	
EDAM12	97.055	2.945	1239	3.394	JUN	Blue Pack
EDAU12	97.045	2.955	1330	3.643	SEP	
EDAZ12	96.930	3.070	1421	3.892	DEC	
EDAH13	96.955	3.045	1512	4.142	MAR	
EDAM13	96.895	3.105	1603	4.391	JUN	Gold Pack
EDZU13	96.800	3.200	1694	4.640	SEP	
EDZZ13	96.705	3.295	1785	4.890	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.231	-0.875	9879.000	
Red Pack	1.897	-1.625	9813.750	Pack Prices
Green Pack	2.671	-1.750	9738.250	
Blue Pack	3.020	-2.375	9704.375	
Gold Pack		0.000	9684.625	

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.

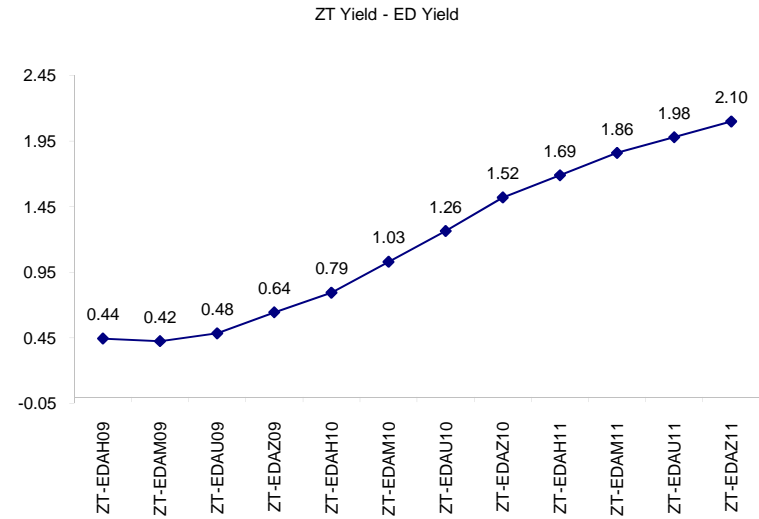
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

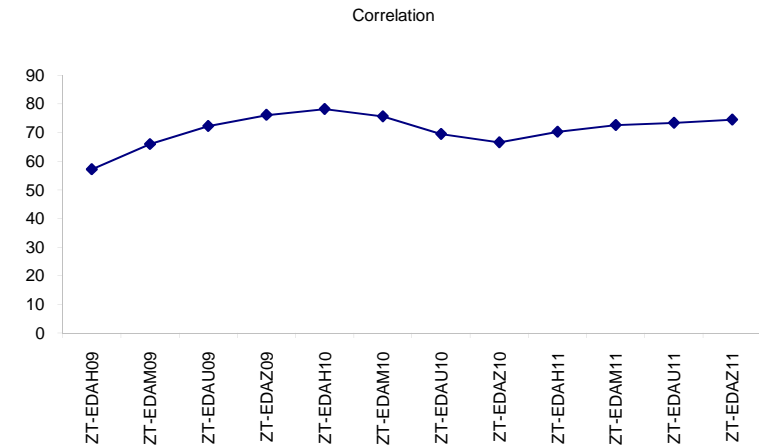
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.099	0.44	ZT-EDAH09	57.151
EDAM09	10.079	0.42	ZT-EDAM09	65.954
EDAU09	10.139	0.48	ZT-EDAU09	72.263
EDAZ09	10.299	0.64	ZT-EDAZ09	76.147
EDAH10	10.449	0.79	ZT-EDAH10	78.222
EDAM10	10.684	1.03	ZT-EDAM10	75.651
EDAU10	10.919	1.26	ZT-EDAU10	69.514
EDAZ10	11.174	1.52	ZT-EDAZ10	66.582
EDAH11	11.344	1.69	ZT-EDAH11	70.231
EDAM11	11.514	1.86	ZT-EDAM11	72.600
EDAU11	11.634	1.98	ZT-EDAU11	73.399
EDAZ11	11.754	2.10	ZT-EDAZ11	74.483

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	0.134	1.81	1.68	ZT-EDAH09
EDAM09	0.383	1.81	1.43	ZT-EDAM09
EDAU09	0.632	1.81	1.18	ZT-EDAU09
EDAZ09	0.882	1.81	0.93	ZT-EDAZ09
EDAH10	1.131	1.81	0.68	ZT-EDAH10
EDAM10	1.380	1.81	0.43	ZT-EDAM10
EDAU10	1.629	1.81	0.19	ZT-EDAU10
EDAZ10	1.879	1.81	(0.06)	ZT-EDAZ10
EDAH11	2.128	1.81	(0.31)	ZT-EDAH11
EDAM11	2.377	1.81	(0.56)	ZT-EDAM11
EDAU11	2.646	1.81	(0.83)	ZT-EDAU11
EDAZ11	2.895	1.81	(1.08)	ZT-EDAZ11

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

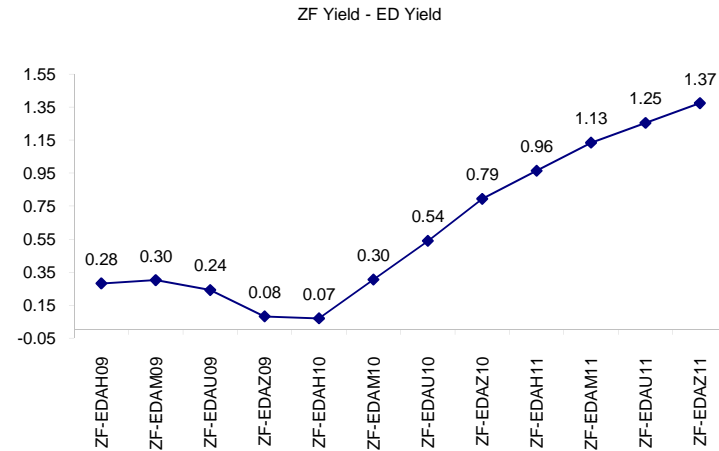


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.943	0.28	ZF-EDAH09	64.701
EDAM09	19.923	0.30	ZF-EDAM09	69.762
EDAU09	19.983	0.24	ZF-EDAU09	73.784
EDAZ09	20.143	0.08	ZF-EDAZ09	79.451
EDAH10	20.293	0.07	ZF-EDAH10	88.132
EDAM10	20.528	0.30	ZF-EDAM10	95.653
EDAU10	20.763	0.54	ZF-EDAU10	98.317
EDAZ10	21.018	0.79	ZF-EDAZ10	98.727
EDAH11	21.188	0.96	ZF-EDAH11	99.399
EDAM11	21.358	1.13	ZF-EDAM11	98.730
EDAU11	21.478	1.25	ZF-EDAU11	98.122
EDAZ11	21.598	1.37	ZF-EDAZ11	97.784

Price = Outright Decimal Price - Euro Contract Price

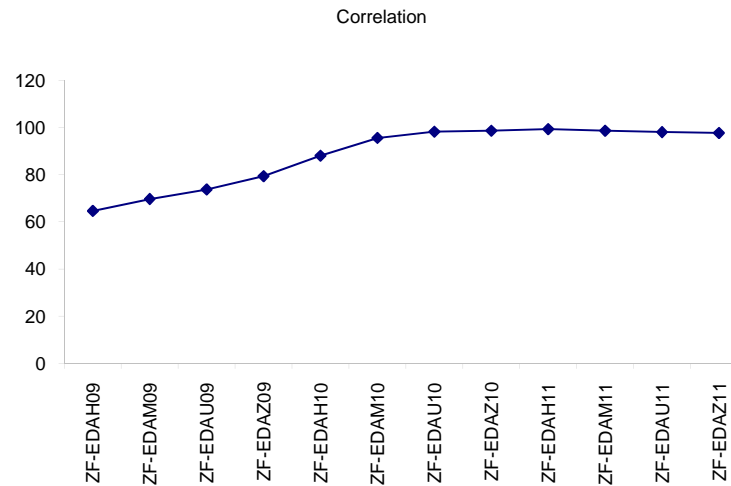
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAH09	0.134	1.44	1.30	ZF-EDAH09		
EDAM09	0.383	1.44	1.05	ZF-EDAM09		
EDAU09	0.632	1.44	0.80	ZF-EDAU09		
EDAZ09	0.882	1.44	0.55	ZF-EDAZ09		
EDAH10	1.131	1.44	0.31	ZF-EDAH10		
EDAM10	1.380	1.44	0.06	ZF-EDAM10		
EDAU10	1.629	1.44	(0.19)	ZF-EDAU10		
EDAZ10	1.879	1.44	(0.44)	ZF-EDAZ10		
EDAH11	2.128	1.44	(0.69)	ZF-EDAH11		
EDAM11	2.377	1.44	(0.94)	ZF-EDAM11		
EDAU11	2.646	1.44	(1.21)	ZF-EDAU11		
EDAZ11	2.895	1.44	(1.46)	ZF-EDAZ11		

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

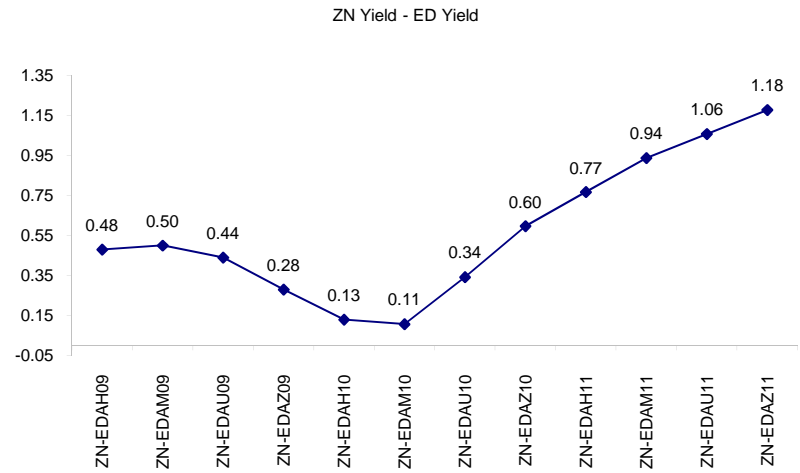


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	24.686	0.48	ZN-EDAH09	68.140
EDAM09	24.666	0.50	ZN-EDAM09	73.079
EDAU09	24.726	0.44	ZN-EDAU09	76.101
EDAZ09	24.886	0.28	ZN-EDAZ09	79.651
EDAH10	25.036	0.13	ZN-EDAH10	87.207
EDAM10	25.271	0.11	ZN-EDAM10	93.261
EDAU10	25.506	0.34	ZN-EDAU10	95.089
EDAZ10	25.761	0.60	ZN-EDAZ10	95.461
EDAH11	25.931	0.77	ZN-EDAH11	98.169
EDAM11	26.101	0.94	ZN-EDAM11	99.224
EDAU11	26.221	1.06	ZN-EDAU11	99.344
EDAZ11	26.341	1.18	ZN-EDAZ11	99.389

Price = Outright Decimal Price - Euro Contract Price

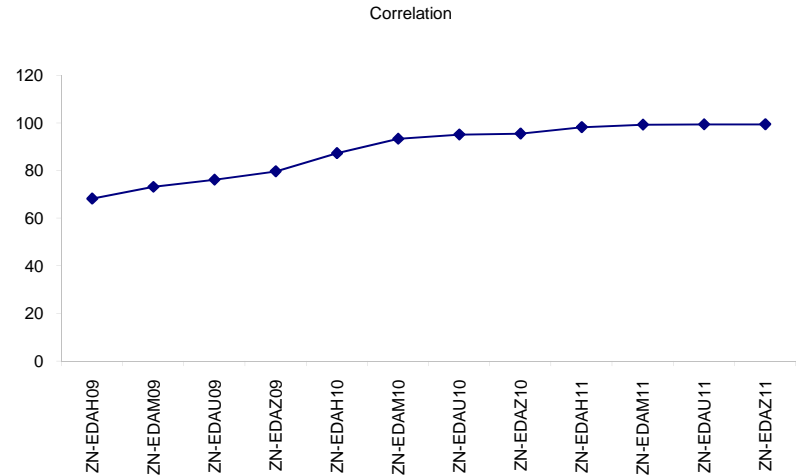
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Duration	Spread Duration	Contract
	Fraction of year	Duration				
EDAH09	0.134	6.21	6.08	6.21	6.08	ZN-EDAH09
EDAM09	0.383	6.21	5.83	6.21	5.83	ZN-EDAM09
EDAU09	0.632	6.21	5.58	6.21	5.58	ZN-EDAU09
EDAZ09	0.882	6.21	5.33	6.21	5.33	ZN-EDAZ09
EDAH10	1.131	6.21	5.08	6.21	5.08	ZN-EDAH10
EDAM10	1.380	6.21	4.83	6.21	4.83	ZN-EDAM10
EDAU10	1.629	6.21	4.58	6.21	4.58	ZN-EDAU10
EDAZ10	1.879	6.21	4.33	6.21	4.33	ZN-EDAZ10
EDAH11	2.128	6.21	4.08	6.21	4.08	ZN-EDAH11
EDAM11	2.377	6.21	3.84	6.21	3.84	ZN-EDAM11
EDAU11	2.646	6.21	3.57	6.21	3.57	ZN-EDAU11
EDAZ11	2.895	6.21	3.32	6.21	3.32	ZN-EDAZ11

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

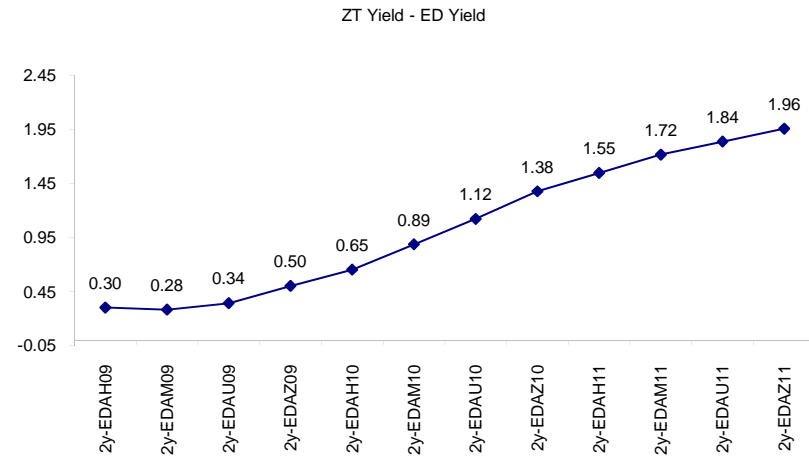


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.193	0.30	2y-EDAH09	-48.646
EDAM09	1.172	0.28	2y-EDAM09	-57.008
EDAU09	1.232	0.34	2y-EDAU09	-63.370
EDAZ09	1.393	0.50	2y-EDAZ09	-67.516
EDAH10	1.542	0.65	2y-EDAH10	-72.107
EDAM10	1.777	0.89	2y-EDAM10	-75.912
EDAU10	2.012	1.12	2y-EDAU10	-75.857
EDAZ10	2.268	1.38	2y-EDAZ10	-75.559
EDAH11	2.437	1.55	2y-EDAH11	-78.117
EDAM11	2.607	1.72	2y-EDAM11	-79.597
EDAU11	2.727	1.84	2y-EDAU11	-79.997
EDAZ11	2.848	1.96	2y-EDAZ11	-80.622

Price = Outright Decimal Price - Euro Contract Price

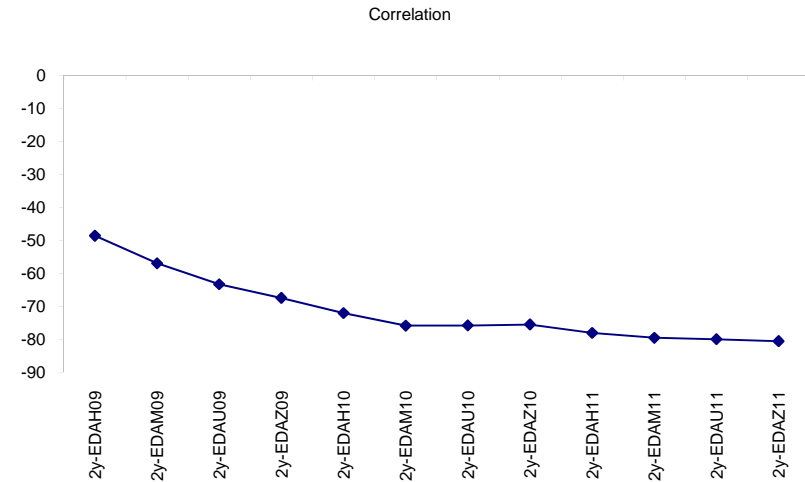
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAH09	0.134	1.90	1.77	2y-EDAH09
EDAM09	0.383	1.90	1.52	2y-EDAM09
EDAU09	0.632	1.90	1.27	2y-EDAU09
EDAZ09	0.882	1.90	1.02	2y-EDAZ09
EDAH10	1.131	1.90	0.77	2y-EDAH10
EDAM10	1.380	1.90	0.52	2y-EDAM10
EDAU10	1.629	1.90	0.27	2y-EDAU10
EDAZ10	1.879	1.90	0.03	2y-EDAZ10
EDAH11	2.128	1.90	(0.22)	2y-EDAH11
EDAM11	2.377	1.90	(0.47)	2y-EDAM11
EDAU11	2.646	1.90	(0.74)	2y-EDAU11
EDAZ11	2.895	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	0.296	0.52	5y-EDAH09	-71.339
EDAM09	0.276	0.54	5y-EDAM09	-75.437
EDAU09	0.336	0.48	5y-EDAU09	-77.156
EDAZ09	0.496	0.32	5y-EDAZ09	-79.582
EDAH10	0.646	0.17	5y-EDAH10	-86.278
EDAM10	0.881	0.06	5y-EDAM10	-93.421
EDAU10	1.116	0.30	5y-EDAU10	-97.344
EDAZ10	1.371	0.55	5y-EDAZ10	-98.577
EDAH11	1.541	0.72	5y-EDAH11	-98.674
EDAM11	1.711	0.89	5y-EDAM11	-98.112
EDAU11	1.831	1.01	5y-EDAU11	-97.988
EDAZ11	1.951	1.13	5y-EDAZ11	-97.782

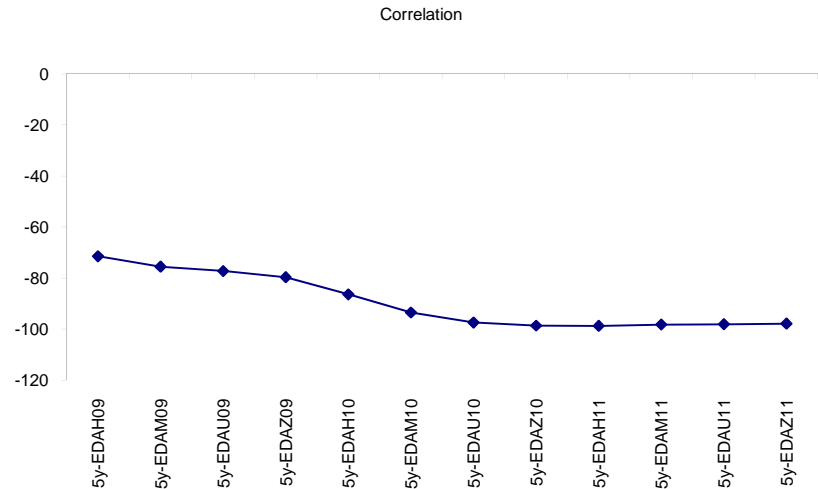
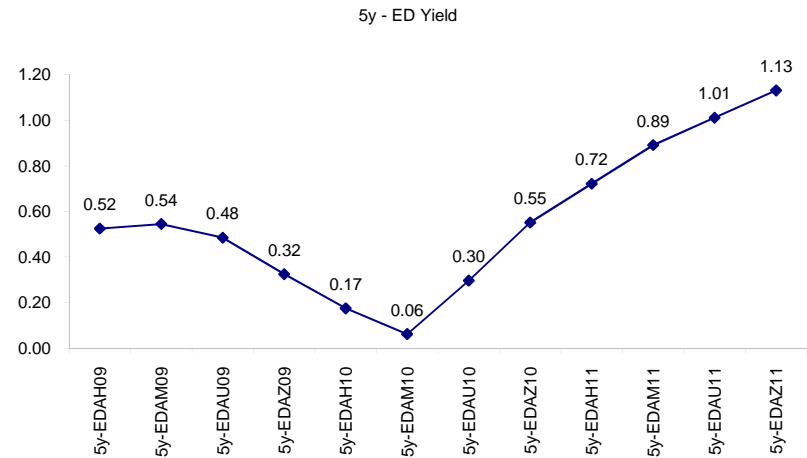
Price = Outright Decimal Price - Euro Contract Price

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	0.134		4.59	4.45	5y-EDAH09
EDAM09	0.383		4.59	4.21	5y-EDAM09
EDAU09	0.632		4.59	3.96	5y-EDAU09
EDAZ09	0.882		4.59	3.71	5y-EDAZ09
EDAH10	1.131		4.59	3.46	5y-EDAH10
EDAM10	1.380		4.59	3.21	5y-EDAM10
EDAU10	1.629		4.59	2.96	5y-EDAU10
EDAZ10	1.879		4.59	2.71	5y-EDAZ10
EDAH11	2.128		4.59	2.46	5y-EDAH11
EDAM11	2.377		4.59	2.21	5y-EDAM11
EDAU11	2.646		4.59	1.94	5y-EDAU11
EDAZ11	2.895		4.59	1.69	5y-EDAZ11

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



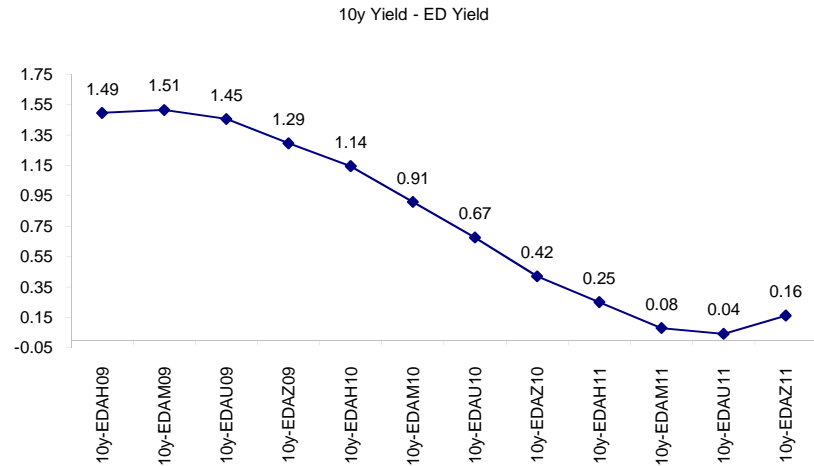


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.296	1.49	10y-EDAH09	-72.992
EDAM09	0.276	1.51	10y-EDAM09	-76.482
EDAU09	0.336	1.45	10y-EDAU09	-77.415
EDAZ09	0.496	1.29	10y-EDAZ09	-78.899
EDAH10	0.646	1.14	10y-EDAH10	-85.552
EDAM10	0.881	0.91	10y-EDAM10	-92.752
EDAU10	1.116	0.67	10y-EDAU10	-97.025
EDAZ10	1.371	0.42	10y-EDAZ10	-98.615
EDAH11	1.541	0.25	10y-EDAH11	-99.110
EDAM11	1.711	0.08	10y-EDAM11	-98.927
EDAU11	1.831	0.04	10y-EDAU11	-99.110
EDAZ11	1.951	0.16	10y-EDAZ11	-99.118

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	0.134	8.20	8.07	10y-EDAH09
EDAM09	0.383	8.20	7.82	10y-EDAM09
EDAU09	0.632	8.20	7.57	10y-EDAU09
EDAZ09	0.882	8.20	7.32	10y-EDAZ09
EDAH10	1.131	8.20	7.07	10y-EDAH10
EDAM10	1.380	8.20	6.82	10y-EDAM10
EDAU10	1.629	8.20	6.58	10y-EDAU10
EDAZ10	1.879	8.20	6.33	10y-EDAZ10
EDAH11	2.128	8.20	6.08	10y-EDAH11
EDAM11	2.377	8.20	5.83	10y-EDAM11
EDAU11	2.646	8.20	5.56	10y-EDAU11
EDAZ11	2.895	8.20	5.31	10y-EDAZ11

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

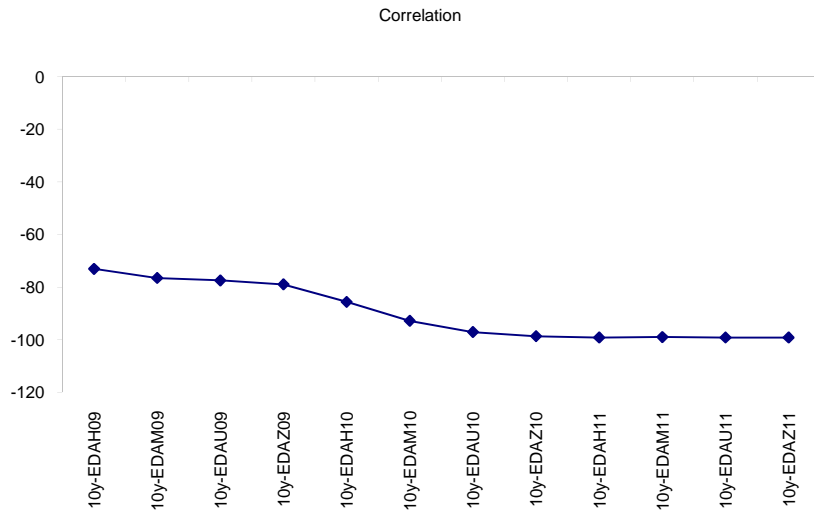


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

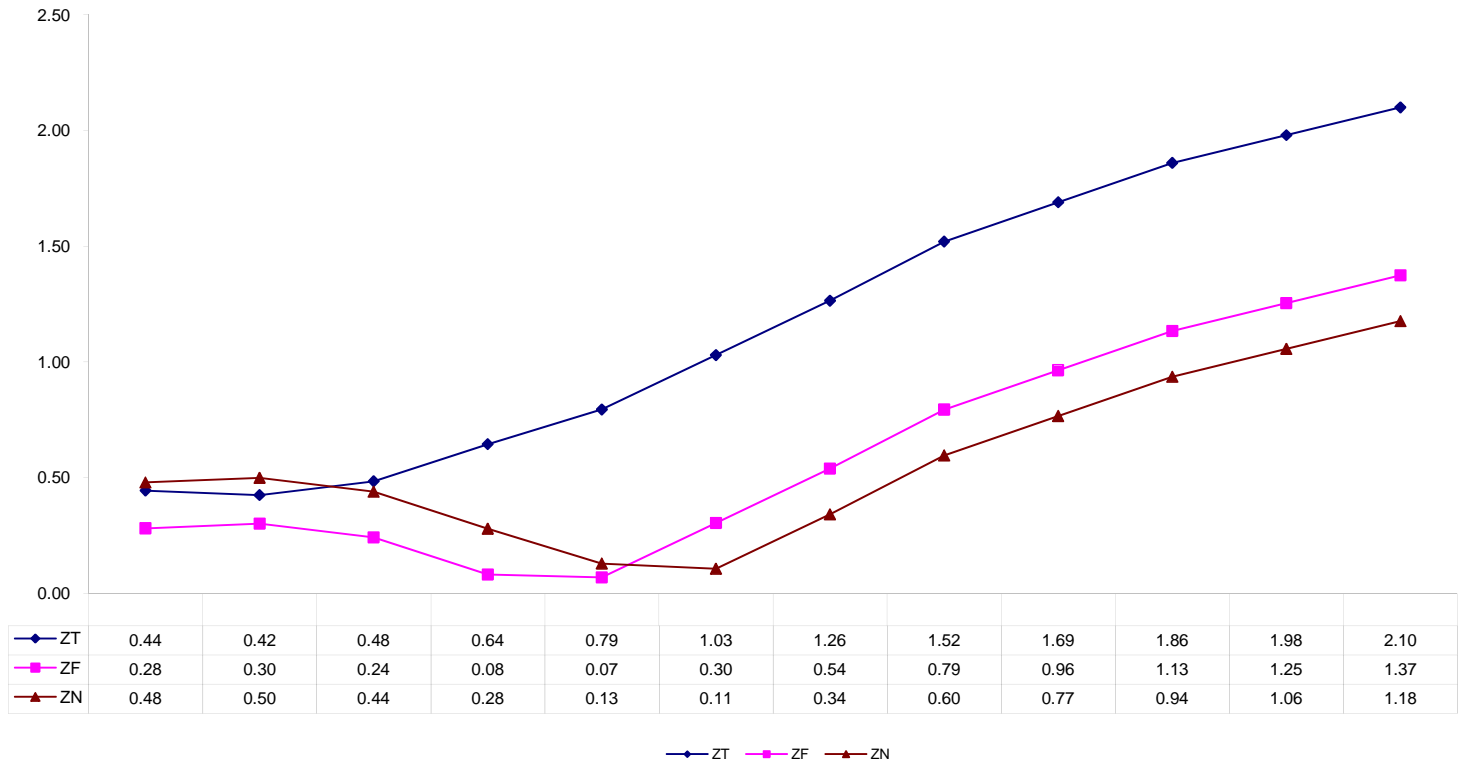
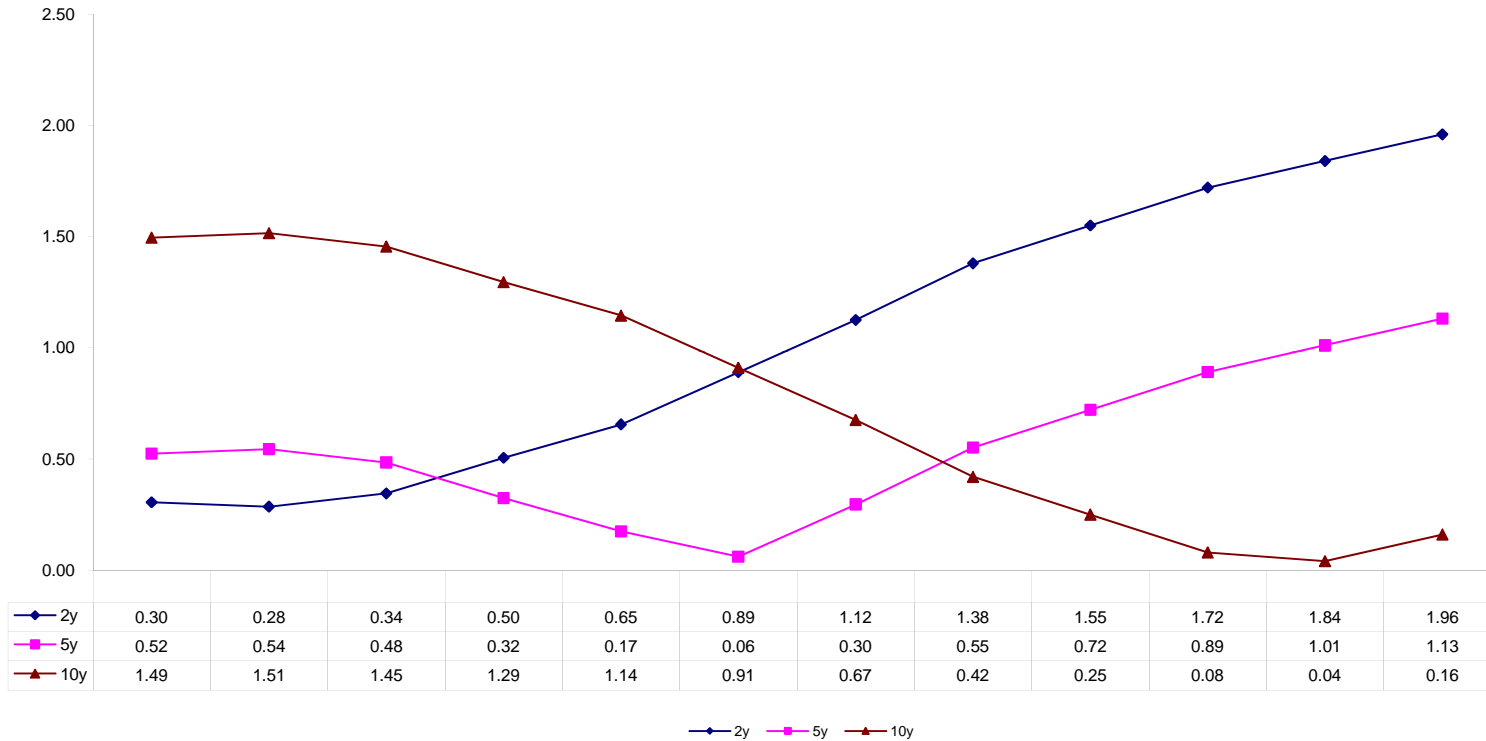
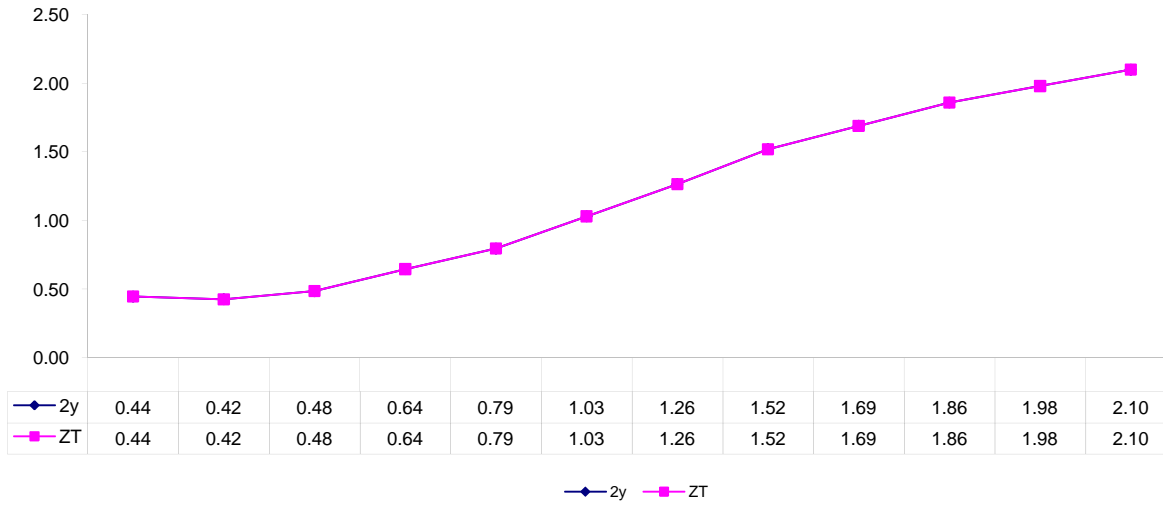
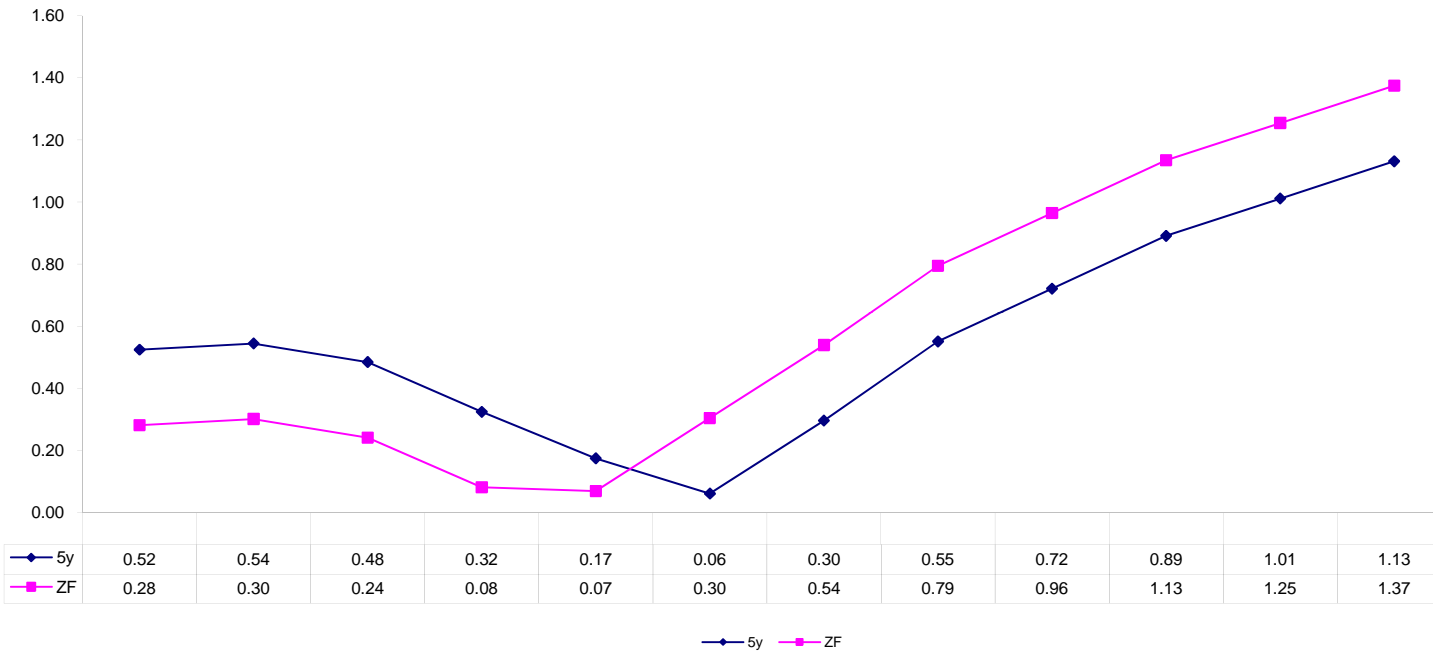


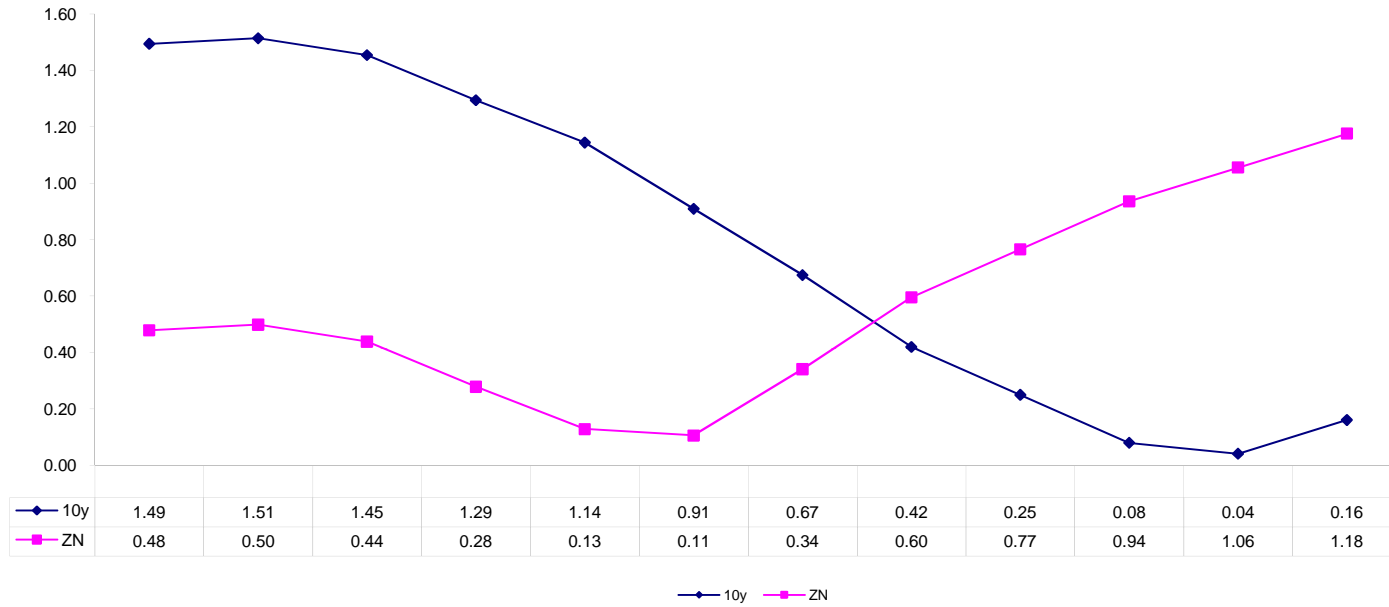
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



### 2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.231	-0.875	9879.000
Red Pack	1.897	-1.625	9813.750
Green Pack	2.671	-1.750	9738.250
Blue Pack	3.020	-2.375	9704.375
Gold Pack		0.000	9684.625

