

## 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	108.8906	108.2850	0.768	1.74
ZF	118.3031	118.0970	1.573	1.57
ZN	123.0625	123.0200	1.792	6.13
2y	99.8813	99.2820	0.940	1.91
5y	99.6000	99.1920	1.833	4.70
10y	99.5625	99.1800	2.802	8.66

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.743	1.257	24	0.065	MAR	
EDAM09	98.750	1.250	115	0.314	JUN	White Pack
EDAU09	98.685	1.315	206	0.564	SEP	
EDAZ09	98.530	1.470	297	0.813	DEC	
EDAH10	98.410	1.590	388	1.062	MAR	
EDAM10	98.215	1.785	479	1.312	JUN	Red Pack
EDAU10	98.020	1.980	570	1.561	SEP	
EDAZ10	97.790	2.210	661	1.810	DEC	
EDAH11	97.620	2.380	752	2.060	MAR	
EDAM11	97.410	2.590	843	2.309	JUN	Green Pack
EDAU11	97.215	2.785	941	2.577	SEP	
EDAZ11	97.015	2.985	1032	2.827	DEC	
EDAH12	96.900	3.100	1123	3.076	MAR	
EDAM12	96.770	3.230	1214	3.325	JUN	Blue Pack
EDAU12	96.675	3.325	1305	3.575	SEP	
EDAZ12	96.605	3.395	1396	3.824	DEC	
EDAH13	96.500	3.500	1487	4.073	MAR	
EDAM13	96.415	3.585	1578	4.323	JUN	Gold Pack
EDZU13	96.385	3.615	1669	4.572	SEP	
EDZZ13	96.225	3.775	1760	4.821	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.346	3.062	9867.688	
Red Pack	1.927	5.625	9810.875	Pack Prices
Green Pack	2.741	5.375	9731.500	
Blue Pack		2.750	9673.250	
Gold Pack		0.125	9637.000	

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.

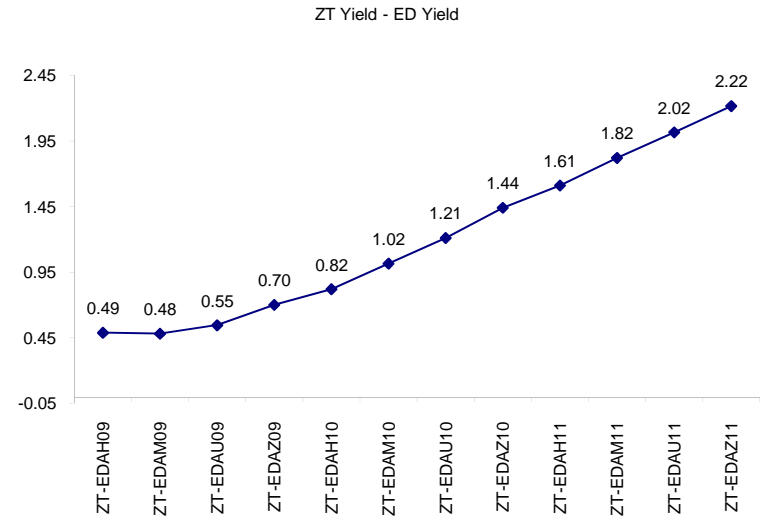
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

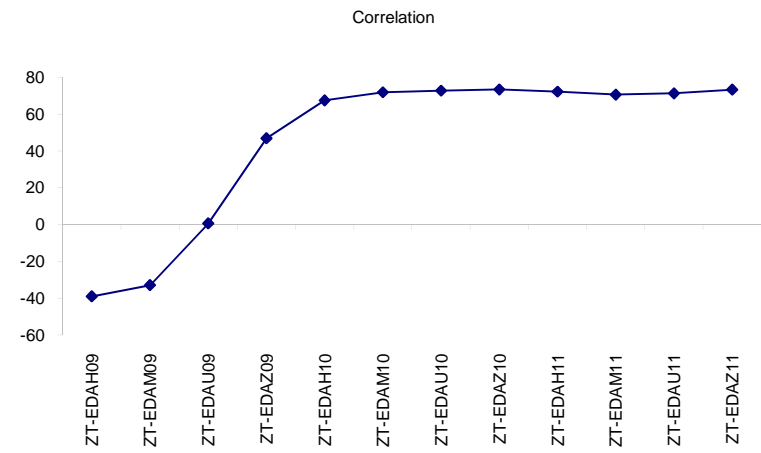
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.148	0.49	ZT-EDAH09	-39.080
EDAM09	10.141	0.48	ZT-EDAM09	-32.940
EDAU09	10.206	0.55	ZT-EDAU09	0.597
EDAZ09	10.361	0.70	ZT-EDAZ09	46.877
EDAH10	10.481	0.82	ZT-EDAH10	67.484
EDAM10	10.676	1.02	ZT-EDAM10	71.878
EDAU10	10.871	1.21	ZT-EDAU10	72.756
EDAZ10	11.101	1.44	ZT-EDAZ10	73.424
EDAH11	11.271	1.61	ZT-EDAH11	72.218
EDAM11	11.481	1.82	ZT-EDAM11	70.603
EDAU11	11.676	2.02	ZT-EDAU11	71.252
EDAZ11	11.876	2.22	ZT-EDAZ11	73.299

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	0.065	1.74	1.68	ZT-EDAH09	
EDAM09	0.314	1.74	1.43	ZT-EDAM09	
EDAU09	0.564	1.74	1.18	ZT-EDAU09	
EDAZ09	0.813	1.74	0.93	ZT-EDAZ09	
EDAH10	1.062	1.74	0.68	ZT-EDAH10	
EDAM10	1.312	1.74	0.43	ZT-EDAM10	
EDAU10	1.561	1.74	0.18	ZT-EDAU10	
EDAZ10	1.810	1.74	(0.07)	ZT-EDAZ10	
EDAH11	2.060	1.74	(0.32)	ZT-EDAH11	
EDAM11	2.309	1.74	(0.57)	ZT-EDAM11	
EDAU11	2.577	1.74	(0.84)	ZT-EDAU11	
EDAZ11	2.827	1.74	(1.09)	ZT-EDAZ11	

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

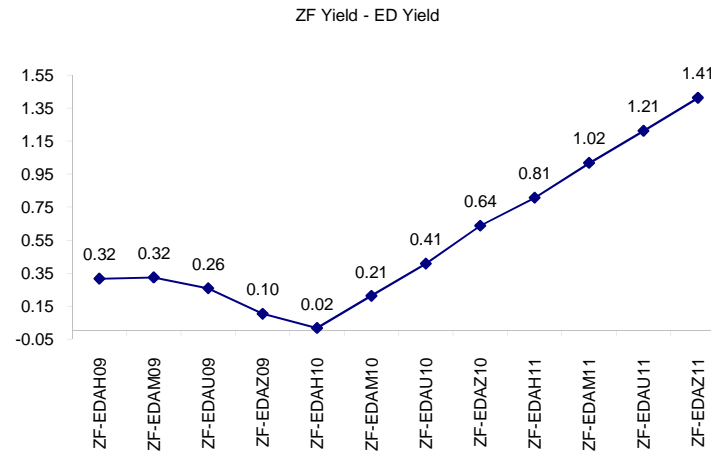


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.561	0.32	ZF-EDAH09	-48.805
EDAM09	19.553	0.32	ZF-EDAM09	-39.089
EDAU09	19.618	0.26	ZF-EDAU09	3.241
EDAZ09	19.773	0.10	ZF-EDAZ09	56.155
EDAH10	19.893	0.02	ZF-EDAH10	77.807
EDAM10	20.088	0.21	ZF-EDAM10	81.878
EDAU10	20.283	0.41	ZF-EDAU10	82.036
EDAZ10	20.513	0.64	ZF-EDAZ10	83.134
EDAH11	20.683	0.81	ZF-EDAH11	83.015
EDAM11	20.893	1.02	ZF-EDAM11	82.686
EDAU11	21.088	1.21	ZF-EDAU11	84.348
EDAZ11	21.288	1.41	ZF-EDAZ11	86.786

Price = Outright Decimal Price - Euro Contract Price

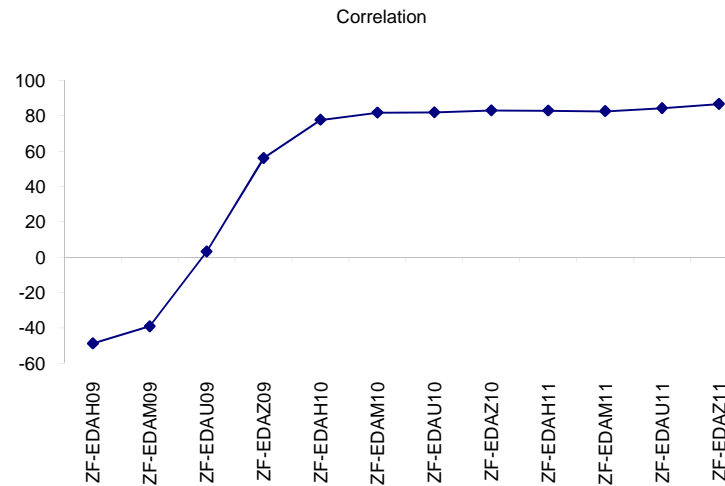
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.065	1.57	1.51	1.51	ZF-EDAH09
EDAM09	0.314	1.57	1.26	1.26	ZF-EDAM09
EDAU09	0.564	1.57	1.01	1.01	ZF-EDAU09
EDAZ09	0.813	1.57	0.76	0.76	ZF-EDAZ09
EDAH10	1.062	1.57	0.51	0.51	ZF-EDAH10
EDAM10	1.312	1.57	0.26	0.26	ZF-EDAM10
EDAU10	1.561	1.57	0.01	0.01	ZF-EDAU10
EDAZ10	1.810	1.57	(0.24)	(0.24)	ZF-EDAZ10
EDAH11	2.060	1.57	(0.49)	(0.49)	ZF-EDAH11
EDAM11	2.309	1.57	(0.74)	(0.74)	ZF-EDAM11
EDAU11	2.577	1.57	(1.00)	(1.00)	ZF-EDAU11
EDAZ11	2.827	1.57	(1.25)	(1.25)	ZF-EDAZ11

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

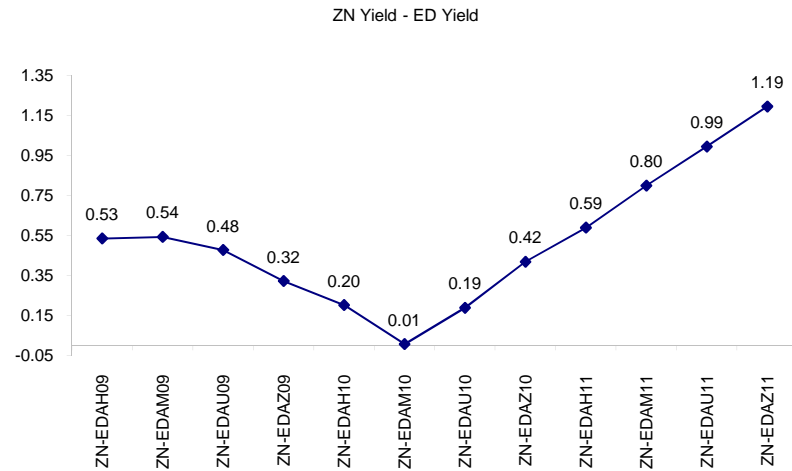


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.320	0.53	ZN-EDAH09	-53.141
EDAM09	24.313	0.54	ZN-EDAM09	-41.990
EDAU09	24.378	0.48	ZN-EDAU09	4.795
EDAZ09	24.533	0.32	ZN-EDAZ09	61.260
EDAH10	24.653	0.20	ZN-EDAH10	84.904
EDAM10	24.848	0.01	ZN-EDAM10	89.637
EDAU10	25.043	0.19	ZN-EDAU10	89.598
EDAZ10	25.273	0.42	ZN-EDAZ10	89.949
EDAH11	25.443	0.59	ZN-EDAH11	89.497
EDAM11	25.653	0.80	ZN-EDAM11	89.029
EDAU11	25.848	0.99	ZN-EDAU11	90.168
EDAZ11	26.048	1.19	ZN-EDAZ11	92.326

Price = Outright Decimal Price - Euro Contract Price

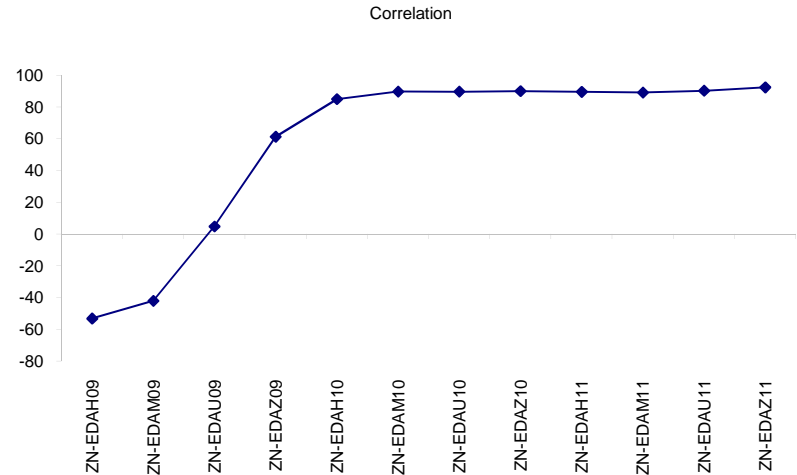
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				
	Fraction of year	ZN Duration	Spread Duration	
EDAH09	0.065	6.13	6.06	ZN-EDAH09
EDAM09	0.314	6.13	5.81	ZN-EDAM09
EDAU09	0.564	6.13	5.56	ZN-EDAU09
EDAZ09	0.813	6.13	5.31	ZN-EDAZ09
EDAH10	1.062	6.13	5.07	ZN-EDAH10
EDAM10	1.312	6.13	4.82	ZN-EDAM10
EDAU10	1.561	6.13	4.57	ZN-EDAU10
EDAZ10	1.810	6.13	4.32	ZN-EDAZ10
EDAH11	2.060	6.13	4.07	ZN-EDAH11
EDAM11	2.309	6.13	3.82	ZN-EDAM11
EDAU11	2.577	6.13	3.55	ZN-EDAU11
EDAZ11	2.827	6.13	3.30	ZN-EDAZ11

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

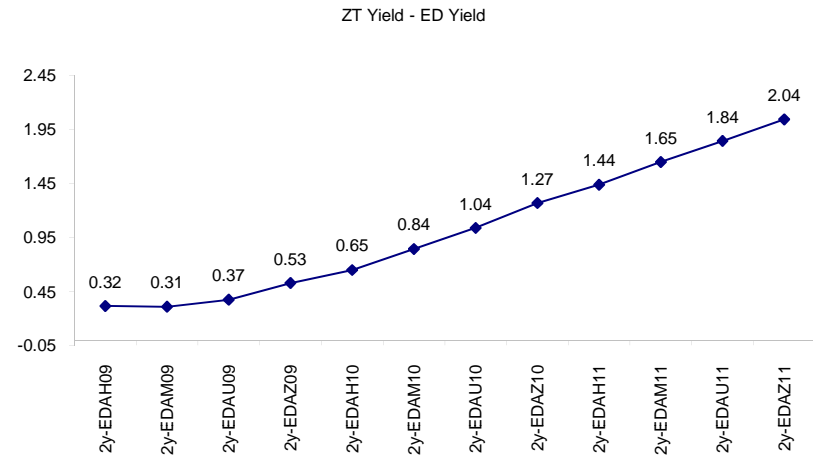


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.139	0.32	2y-EDAH09	48.987
EDAM09	1.131	0.31	2y-EDAM09	44.461
EDAU09	1.196	0.37	2y-EDAU09	16.200
EDAZ09	1.351	0.53	2y-EDAZ09	-36.579
EDAH10	1.471	0.65	2y-EDAH10	-65.330
EDAM10	1.666	0.84	2y-EDAM10	-70.346
EDAU10	1.861	1.04	2y-EDAU10	-70.845
EDAZ10	2.091	1.27	2y-EDAZ10	-71.529
EDAH11	2.261	1.44	2y-EDAH11	-71.883
EDAM11	2.471	1.65	2y-EDAM11	-72.690
EDAU11	2.666	1.84	2y-EDAU11	-74.942
EDAZ11	2.866	2.04	2y-EDAZ11	-77.974

Price = Outright Decimal Price - Euro Contract Price

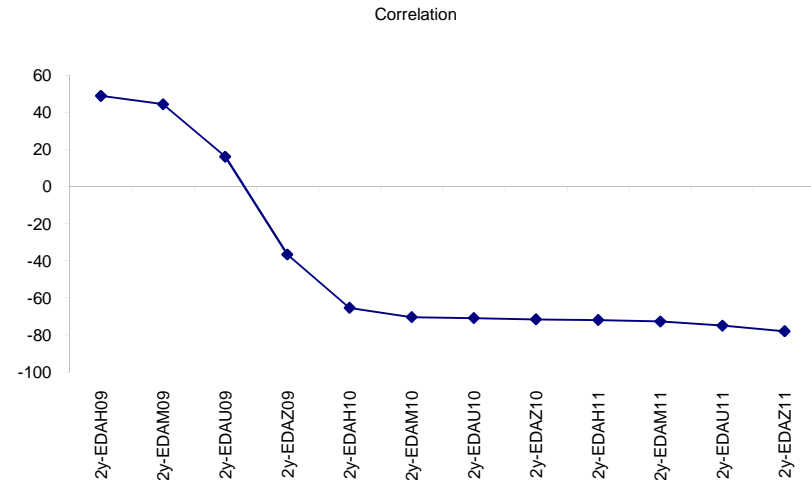
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.065	1.91	1.85	2y-EDAH09	
EDAM09	0.314	1.91	1.60	2y-EDAM09	
EDAU09	0.564	1.91	1.35	2y-EDAU09	
EDAZ09	0.813	1.91	1.10	2y-EDAZ09	
EDAH10	1.062	1.91	0.85	2y-EDAH10	
EDAM10	1.312	1.91	0.60	2y-EDAM10	
EDAU10	1.561	1.91	0.35	2y-EDAU10	
EDAZ10	1.810	1.91	0.10	2y-EDAZ10	
EDAH11	2.060	1.91	(0.15)	2y-EDAH11	
EDAM11	2.309	1.91	(0.39)	2y-EDAM11	
EDAU11	2.577	1.91	(0.66)	2y-EDAU11	
EDAZ11	2.827	1.91	(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	0.858	0.58	5y-EDAH09	59.741
EDAM09	0.850	0.58	5y-EDAM09	54.965
EDAU09	0.915	0.52	5y-EDAU09	25.894
EDAZ09	1.070	0.36	5y-EDAZ09	-30.530
EDAH10	1.190	0.24	5y-EDAH10	-64.753
EDAM10	1.385	0.05	5y-EDAM10	-73.366
EDAU10	1.580	0.15	5y-EDAU10	-75.646
EDAZ10	1.810	0.38	5y-EDAZ10	-77.610
EDAH11	1.980	0.55	5y-EDAH11	-78.469
EDAM11	2.190	0.76	5y-EDAM11	-79.474
EDAU11	2.385	0.95	5y-EDAU11	-81.564
EDAZ11	2.585	1.15	5y-EDAZ11	-84.116

Price = Outright Decimal Price - Euro Contract Price

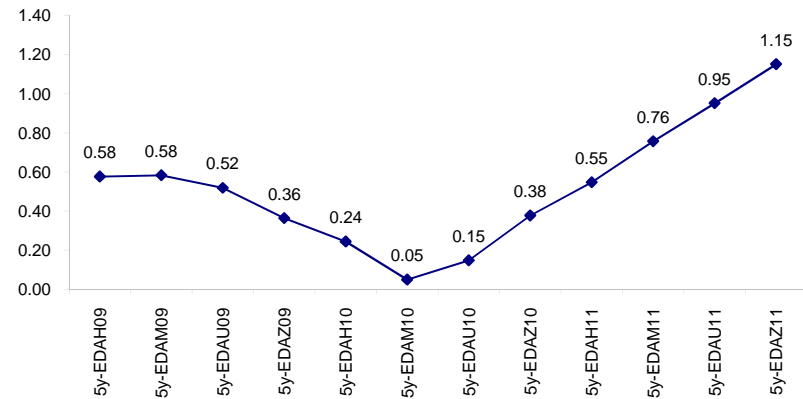
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

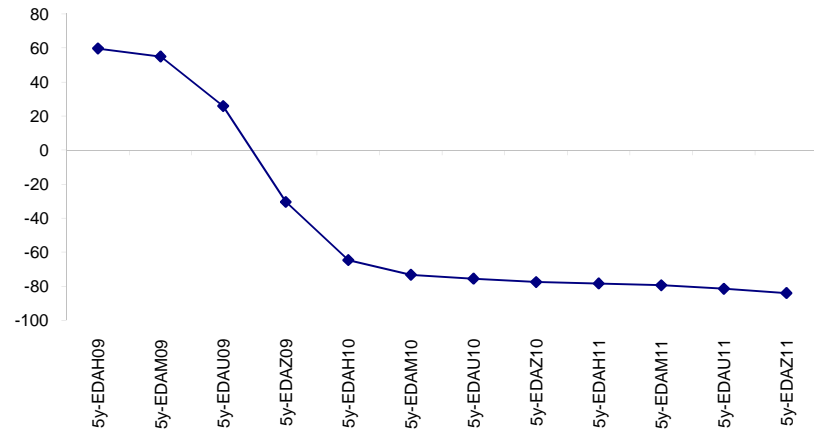
	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAH09	0.065		4.70	4.64	5y-EDAH09
EDAM09	0.314		4.70	4.39	5y-EDAM09
EDAU09	0.564		4.70	4.14	5y-EDAU09
EDAZ09	0.813		4.70	3.89	5y-EDAZ09
EDAH10	1.062		4.70	3.64	5y-EDAH10
EDAM10	1.312		4.70	3.39	5y-EDAM10
EDAU10	1.561		4.70	3.14	5y-EDAU10
EDAZ10	1.810		4.70	2.89	5y-EDAZ10
EDAH11	2.060		4.70	2.64	5y-EDAH11
EDAM11	2.309		4.70	2.39	5y-EDAM11
EDAU11	2.577		4.70	2.12	5y-EDAU11
EDAZ11	2.827		4.70	1.88	5y-EDAZ11

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

5y - ED Yield

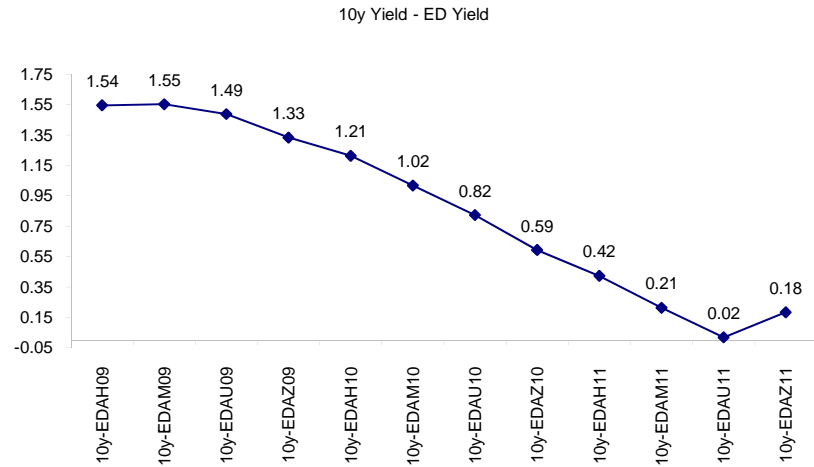


Correlation



	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.858	1.54	10y-EDAH09	76.044
EDAM09	0.850	1.55	10y-EDAM09	69.577
EDAU09	0.915	1.49	10y-EDAU09	38.392
EDAZ09	1.070	1.33	10y-EDAZ09	-23.437
EDAH10	1.190	1.21	10y-EDAH10	-65.099
EDAM10	1.385	1.02	10y-EDAM10	-79.039
EDAU10	1.580	0.82	10y-EDAU10	-83.817
EDAZ10	1.810	0.59	10y-EDAZ10	-86.980
EDAH11	1.980	0.42	10y-EDAH11	-88.234
EDAM11	2.190	0.21	10y-EDAM11	-89.349
EDAU11	2.385	0.02	10y-EDAU11	-90.813
EDAZ11	2.585	0.18	10y-EDAZ11	-91.641

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	0.065	8.66	8.60	10y-EDAH09
EDAM09	0.314	8.66	8.35	10y-EDAM09
EDAU09	0.564	8.66	8.10	10y-EDAU09
EDAZ09	0.813	8.66	7.85	10y-EDAZ09
EDAH10	1.062	8.66	7.60	10y-EDAH10
EDAM10	1.312	8.66	7.35	10y-EDAM10
EDAU10	1.561	8.66	7.10	10y-EDAU10
EDAZ10	1.810	8.66	6.85	10y-EDAZ10
EDAH11	2.060	8.66	6.60	10y-EDAH11
EDAM11	2.309	8.66	6.35	10y-EDAM11
EDAU11	2.577	8.66	6.09	10y-EDAU11
EDAZ11	2.827	8.66	5.84	10y-EDAZ11

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

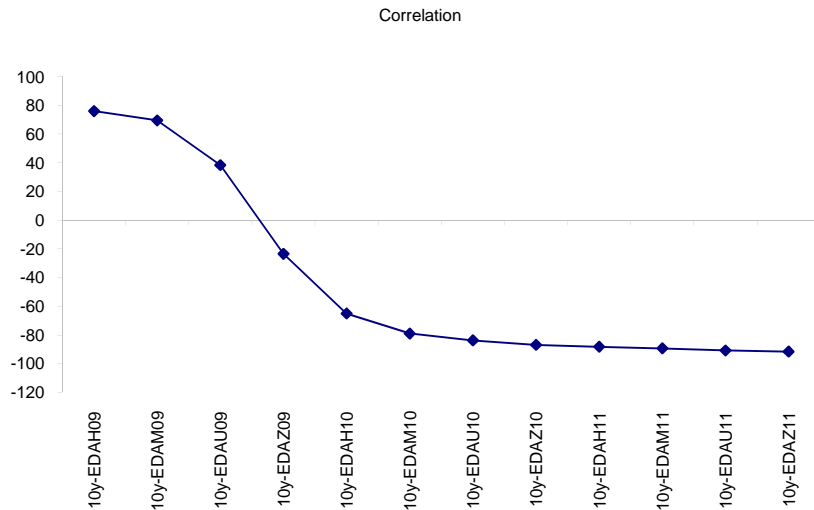


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

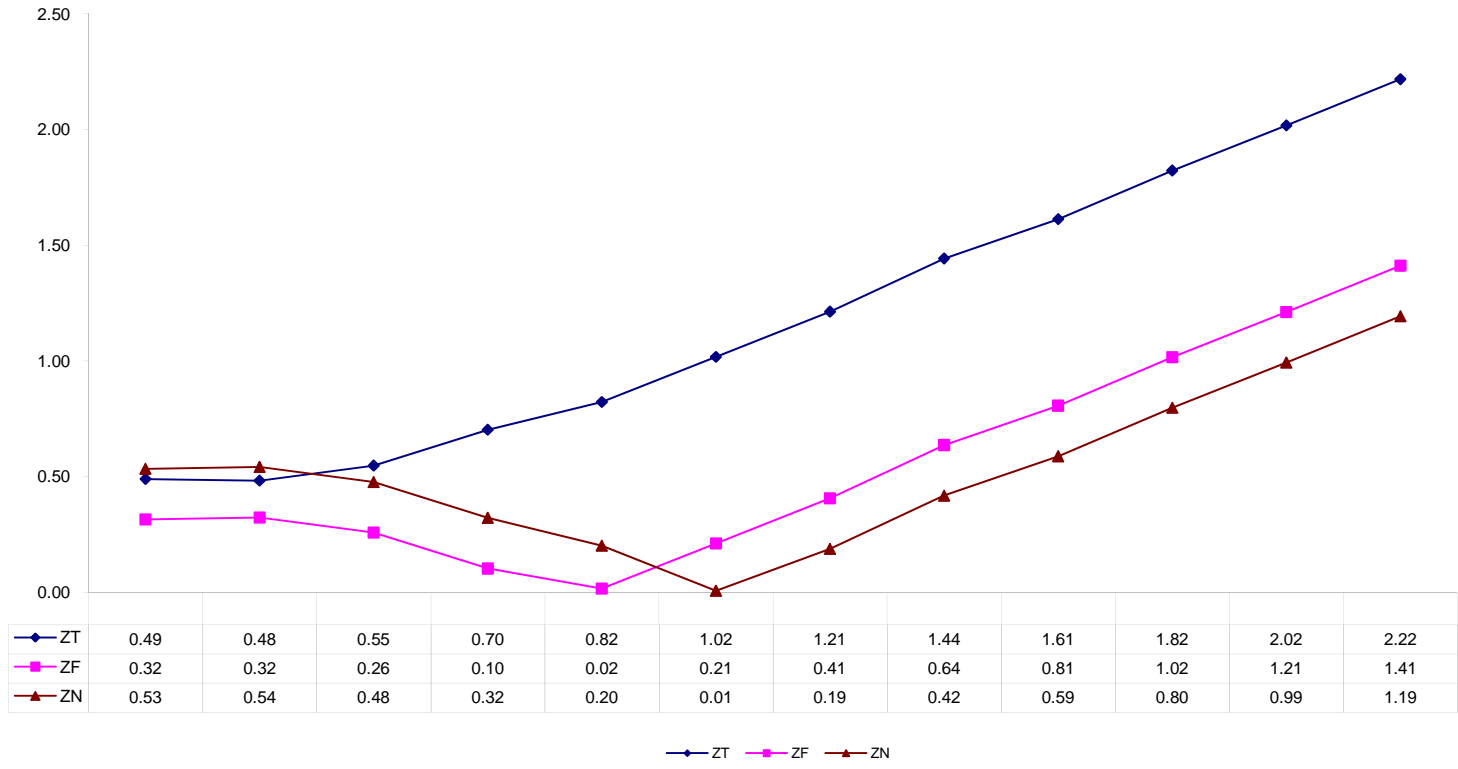
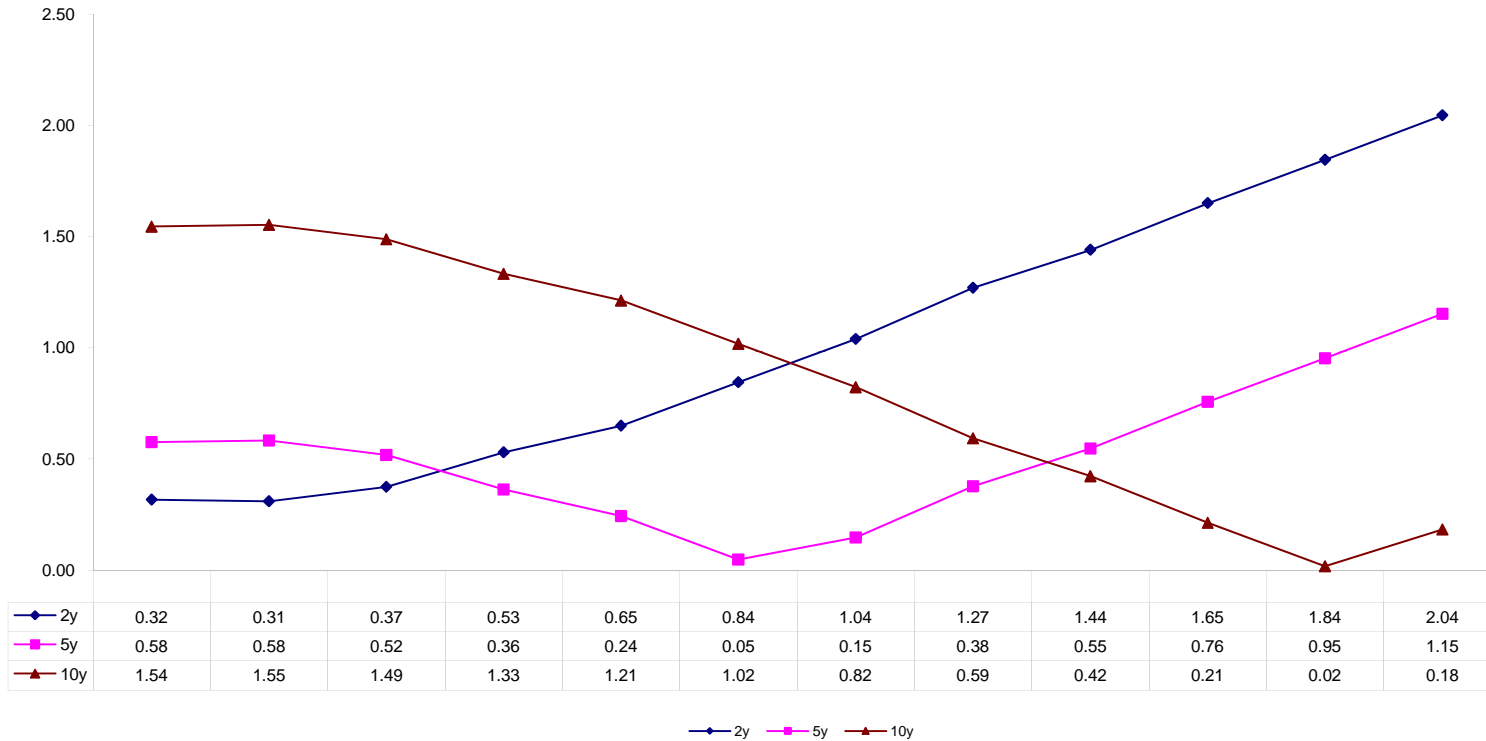
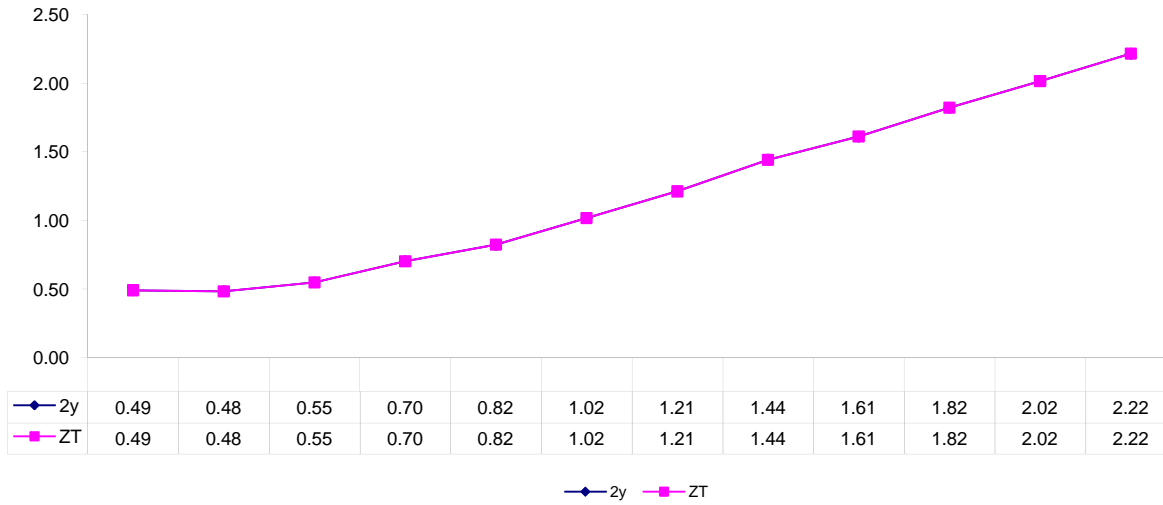
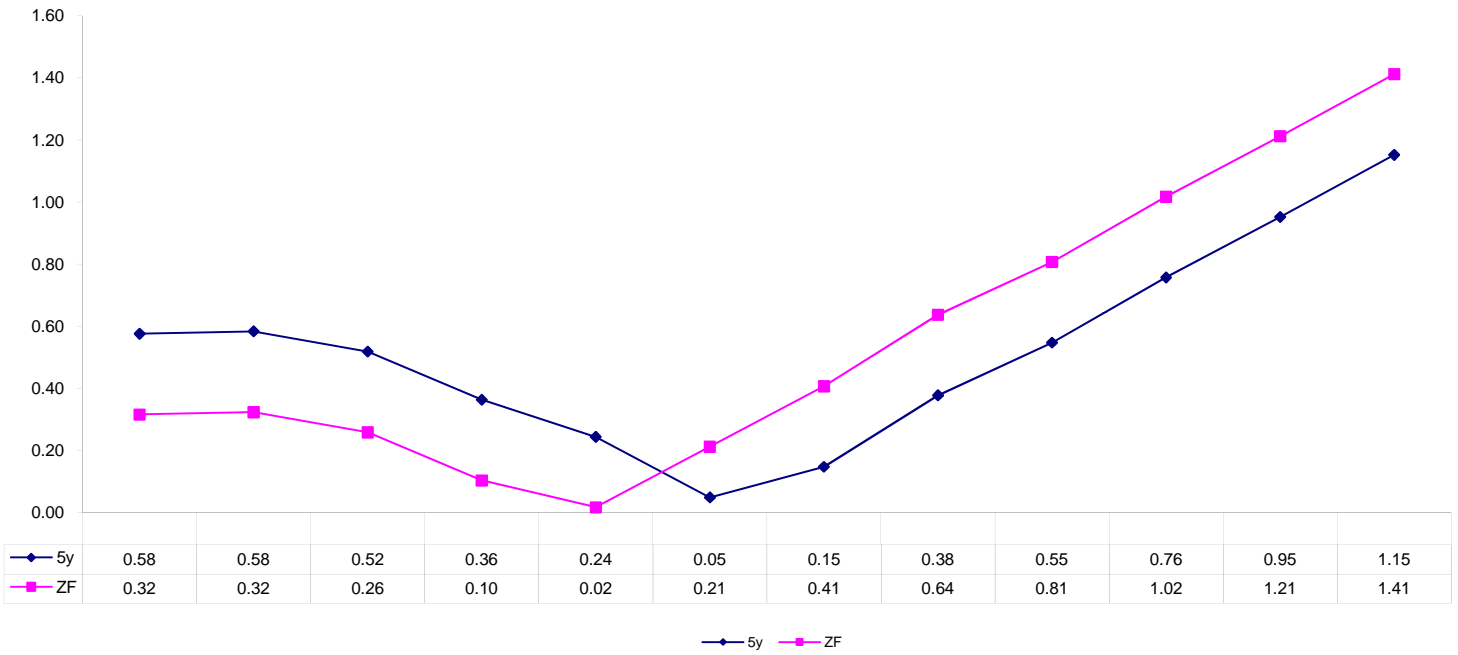


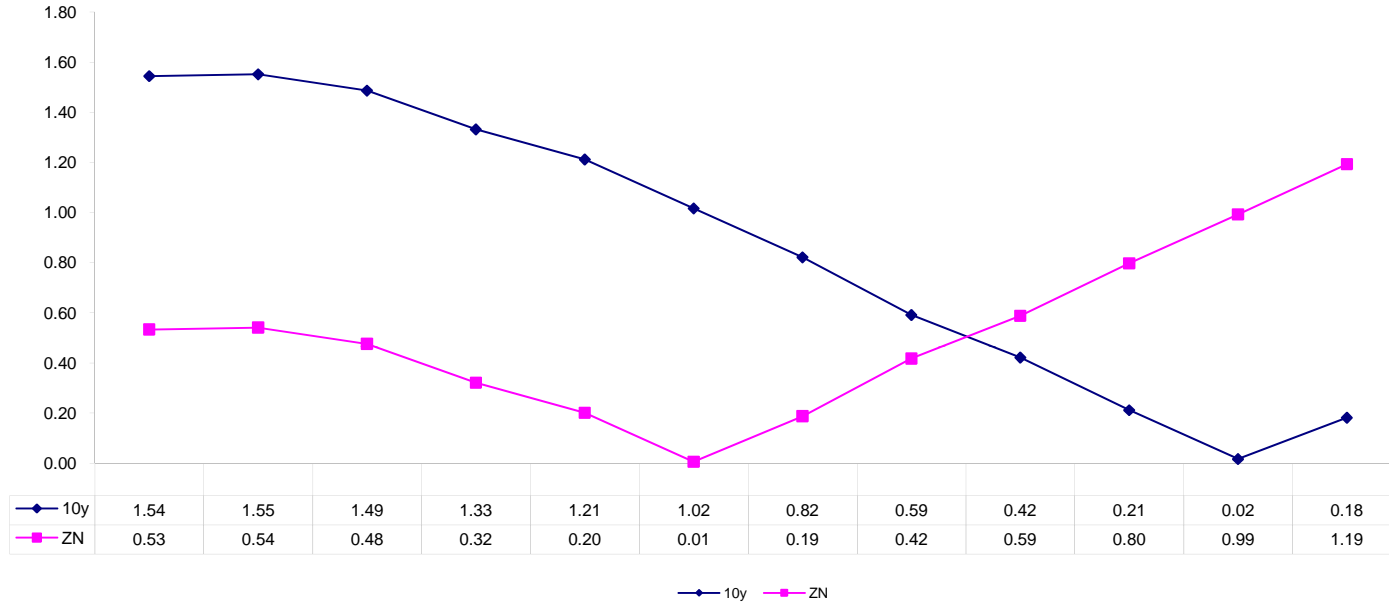
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.346	3.062	9867.688
Red Pack	1.927	5.625	9810.875
Green Pack	2.741	5.375	9731.500
Blue Pack	2.750		9673.250
Gold Pack		0.125	9637.000

