

## 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	108.7813	108.2500	0.821	1.77
ZF	117.8344	117.2670	1.665	1.66
ZN	122.0781	122.0250	1.873	6.16
2y	99.7813	99.2500	0.988	1.95
5y	99.1719	99.0550	1.926	4.73
10y	106.7969	106.2550	2.943	8.13

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.905	1.095	34	0.092	MAR	
EDAM09	98.880	1.120	125	0.342	JUN	White Pack
EDAU09	98.770	1.230	216	0.591	SEP	
EDAZ09	98.550	1.450	307	0.840	DEC	
EDAH10	98.375	1.625	398	1.090	MAR	
EDAM10	98.130	1.870	489	1.339	JUN	Red Pack
EDAU10	97.890	2.110	580	1.588	SEP	
EDAZ10	97.630	2.370	671	1.838	DEC	
EDAH11	97.435	2.565	762	2.087	MAR	
EDAM11	97.220	2.780	853	2.336	JUN	Green Pack
EDAU11	97.025	2.975	951	2.605	SEP	
EDAZ11	96.840	3.160	1042	2.854	DEC	
EDAH12	96.735	3.265	1133	3.103	MAR	
EDAM12	96.630	3.370	1224	3.353	JUN	Blue Pack
EDAU12	96.535	3.465	1315	3.602	SEP	
EDAZ12	96.450	3.550	1406	3.851	DEC	
EDAH13	96.395	3.605	1497	4.101	MAR	
EDAM13	96.320	3.680	1588	4.350	JUN	Gold Pack
EDZU13	96.160	3.840	1679	4.599	SEP	
EDZZ13	96.095	3.905	1770	4.849	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.245	3.500	9877.625	
Red Pack	2.032	7.625	9800.625	Pack Prices
Green Pack	2.931	8.750	9713.000	
Blue Pack	3.490	8.000	9658.750	
Gold Pack		5.250	9624.125	

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.

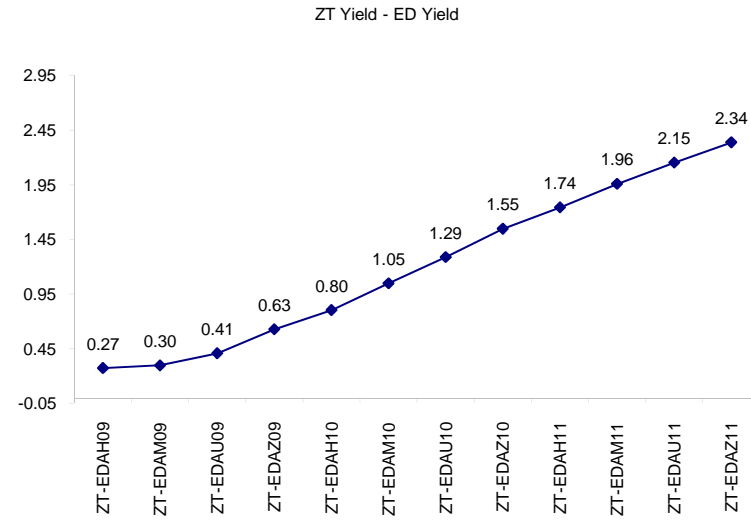
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

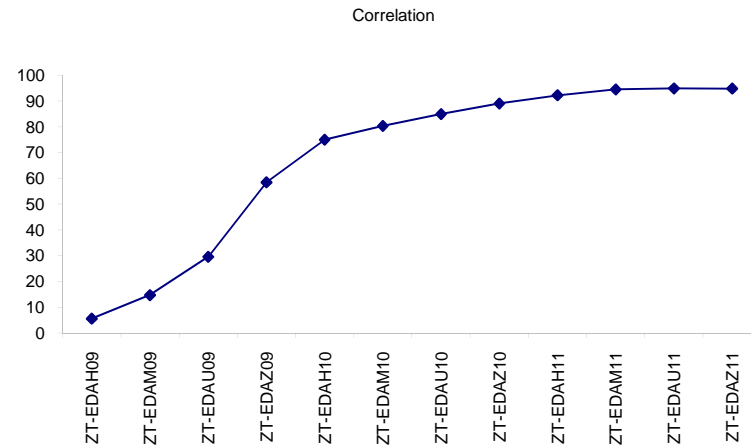
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	9.876	0.27	ZT-EDAH09	5.628
EDAM09	9.901	0.30	ZT-EDAM09	14.772
EDAU09	10.011	0.41	ZT-EDAU09	29.613
EDAZ09	10.231	0.63	ZT-EDAZ09	58.454
EDAH10	10.406	0.80	ZT-EDAH10	75.002
EDAM10	10.651	1.05	ZT-EDAM10	80.345
EDAU10	10.891	1.29	ZT-EDAU10	84.910
EDAZ10	11.151	1.55	ZT-EDAZ10	89.000
EDAH11	11.346	1.74	ZT-EDAH11	92.193
EDAM11	11.561	1.96	ZT-EDAM11	94.440
EDAU11	11.756	2.15	ZT-EDAU11	94.871
EDAZ11	11.941	2.34	ZT-EDAZ11	94.786

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			ZT Duration	Spread Duration	
EDAH09	0.092	1.77	1.68	ZT-EDAH09		
EDAM09	0.342	1.77	1.43	ZT-EDAM09		
EDAU09	0.591	1.77	1.18	ZT-EDAU09		
EDAZ09	0.840	1.77	0.93	ZT-EDAZ09		
EDAH10	1.090	1.77	0.68	ZT-EDAH10		
EDAM10	1.339	1.77	0.43	ZT-EDAM10		
EDAU10	1.588	1.77	0.18	ZT-EDAU10		
EDAZ10	1.838	1.77	(0.07)	ZT-EDAZ10		
EDAH11	2.087	1.77	(0.31)	ZT-EDAH11		
EDAM11	2.336	1.77	(0.56)	ZT-EDAM11		
EDAU11	2.605	1.77	(0.83)	ZT-EDAU11		
EDAZ11	2.854	1.77	(1.08)	ZT-EDAZ11		

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

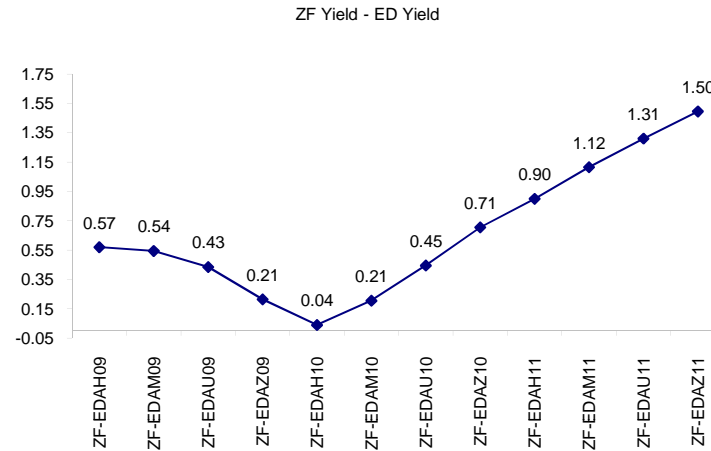


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	18.929	0.57	ZF-EDAH09	-13.293
EDAM09	18.954	0.54	ZF-EDAM09	-4.893
EDAU09	19.064	0.43	ZF-EDAU09	9.537
EDAZ09	19.284	0.21	ZF-EDAZ09	39.205
EDAH10	19.459	0.04	ZF-EDAH10	58.787
EDAM10	19.704	0.21	ZF-EDAM10	66.190
EDAU10	19.944	0.45	ZF-EDAU10	73.964
EDAZ10	20.204	0.71	ZF-EDAZ10	81.904
EDAH11	20.399	0.90	ZF-EDAH11	88.682
EDAM11	20.614	1.12	ZF-EDAM11	95.141
EDAU11	20.809	1.31	ZF-EDAU11	97.683
EDAZ11	20.994	1.50	ZF-EDAZ11	97.808

Price = Outright Decimal Price - Euro Contract Price

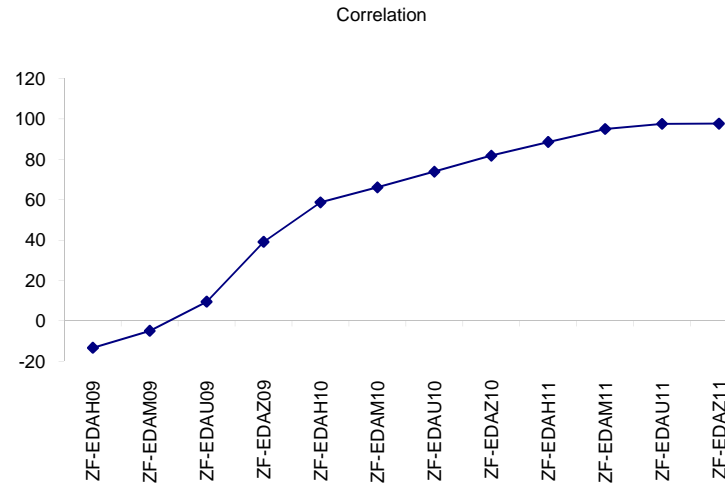
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.092	1.66	1.66	1.57	ZF-EDAH09
EDAM09	0.342	1.66	1.66	1.32	ZF-EDAM09
EDAU09	0.591	1.66	1.66	1.07	ZF-EDAU09
EDAZ09	0.840	1.66	1.66	0.82	ZF-EDAZ09
EDAH10	1.090	1.66	1.66	0.57	ZF-EDAH10
EDAM10	1.339	1.66	1.66	0.33	ZF-EDAM10
EDAU10	1.588	1.66	1.66	0.08	ZF-EDAU10
EDAZ10	1.838	1.66	1.66	(0.17)	ZF-EDAZ10
EDAH11	2.087	1.66	1.66	(0.42)	ZF-EDAH11
EDAM11	2.336	1.66	1.66	(0.67)	ZF-EDAM11
EDAU11	2.605	1.66	1.66	(0.94)	ZF-EDAU11
EDAZ11	2.854	1.66	1.66	(1.19)	ZF-EDAZ11

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

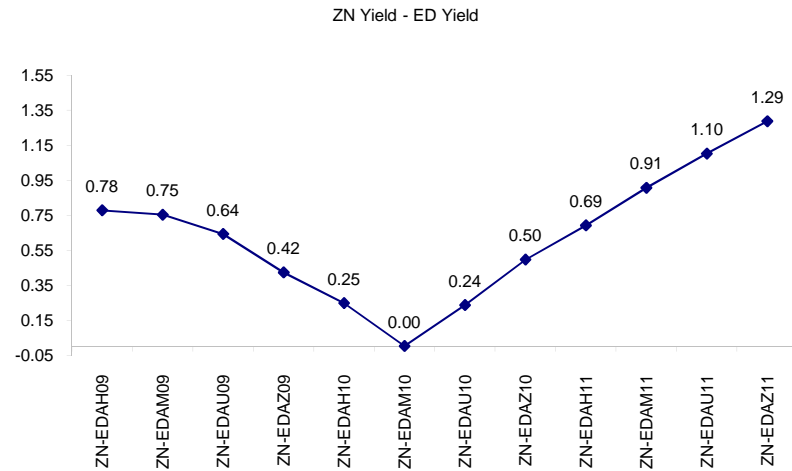


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	23.173	0.78	ZN-EDAH09	-11.704
EDAM09	23.198	0.75	ZN-EDAM09	-3.179
EDAU09	23.308	0.64	ZN-EDAU09	11.049
EDAZ09	23.528	0.42	ZN-EDAZ09	40.321
EDAH10	23.703	0.25	ZN-EDAH10	59.425
EDAM10	23.948	0.00	ZN-EDAM10	66.792
EDAU10	24.188	0.24	ZN-EDAU10	74.544
EDAZ10	24.448	0.50	ZN-EDAZ10	82.335
EDAH11	24.643	0.69	ZN-EDAH11	88.910
EDAM11	24.858	0.91	ZN-EDAM11	95.429
EDAU11	25.053	1.10	ZN-EDAU11	98.118
EDAZ11	25.238	1.29	ZN-EDAZ11	98.510

Price = Outright Decimal Price - Euro Contract Price

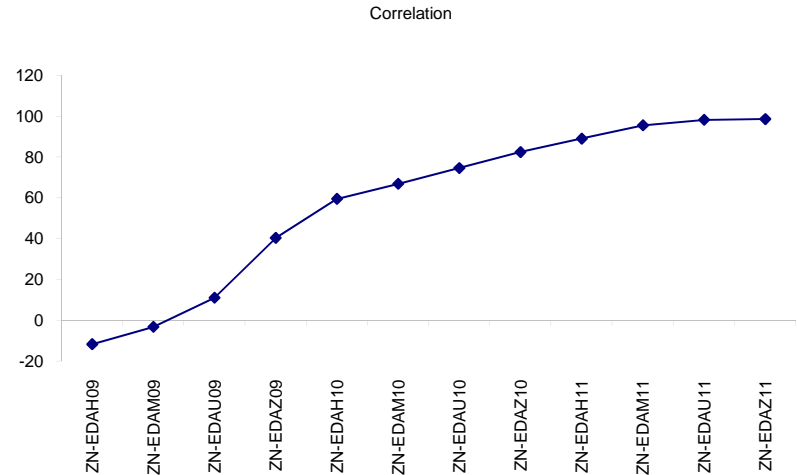
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Duration	Spread Duration	
	Fraction of year	Duration				
EDAH09	0.092	6.16	6.06	6.06	ZN-EDAH09	
EDAM09	0.342	6.16	5.81	5.81	ZN-EDAM09	
EDAU09	0.591	6.16	5.56	5.56	ZN-EDAU09	
EDAZ09	0.840	6.16	5.31	5.31	ZN-EDAZ09	
EDAH10	1.090	6.16	5.07	5.07	ZN-EDAH10	
EDAM10	1.339	6.16	4.82	4.82	ZN-EDAM10	
EDAU10	1.588	6.16	4.57	4.57	ZN-EDAU10	
EDAZ10	1.838	6.16	4.32	4.32	ZN-EDAZ10	
EDAH11	2.087	6.16	4.07	4.07	ZN-EDAH11	
EDAM11	2.336	6.16	3.82	3.82	ZN-EDAM11	
EDAU11	2.605	6.16	3.55	3.55	ZN-EDAU11	
EDAZ11	2.854	6.16	3.30	3.30	ZN-EDAZ11	

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

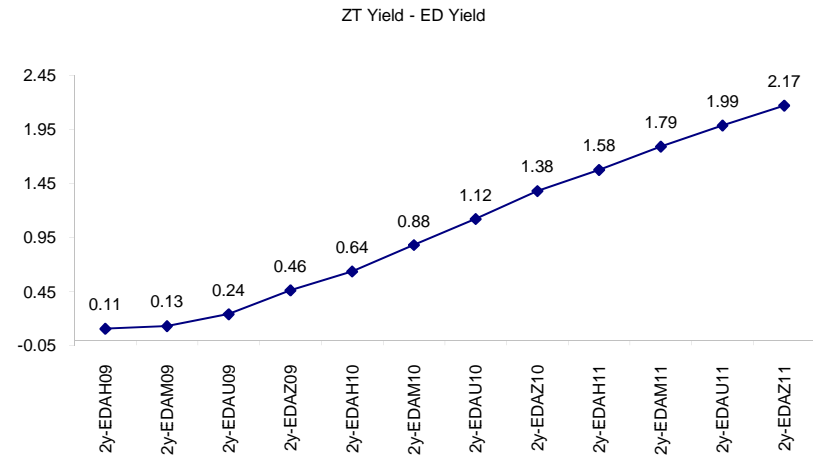


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.876	0.11	2y-EDAH09	26.207
EDAM09	0.901	0.13	2y-EDAM09	18.265
EDAU09	1.011	0.24	2y-EDAU09	4.778
EDAZ09	1.231	0.46	2y-EDAZ09	-24.692
EDAH10	1.406	0.64	2y-EDAH10	-46.103
EDAM10	1.651	0.88	2y-EDAM10	-54.960
EDAU10	1.891	1.12	2y-EDAU10	-64.199
EDAZ10	2.151	1.38	2y-EDAZ10	-74.355
EDAH11	2.346	1.58	2y-EDAH11	-83.543
EDAM11	2.561	1.79	2y-EDAM11	-92.128
EDAU11	2.756	1.99	2y-EDAU11	-95.862
EDAZ11	2.941	2.17	2y-EDAZ11	-96.534

Price = Outright Decimal Price - Euro Contract Price

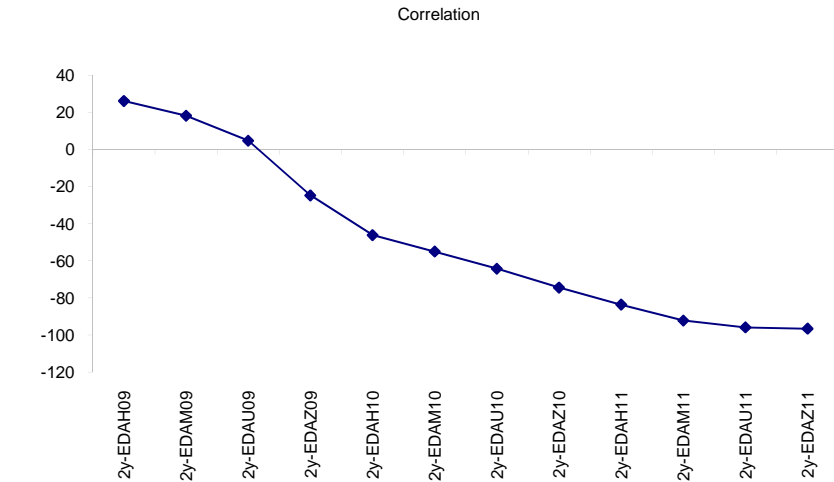
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.092	1.95	1.85	2y-EDAH09	
EDAM09	0.342	1.95	1.61	2y-EDAM09	
EDAU09	0.591	1.95	1.36	2y-EDAU09	
EDAZ09	0.840	1.95	1.11	2y-EDAZ09	
EDAH10	1.090	1.95	0.86	2y-EDAH10	
EDAM10	1.339	1.95	0.61	2y-EDAM10	
EDAU10	1.588	1.95	0.36	2y-EDAU10	
EDAZ10	1.838	1.95	0.11	2y-EDAZ10	
EDAH11	2.087	1.95	(0.14)	2y-EDAH11	
EDAM11	2.336	1.95	(0.39)	2y-EDAM11	
EDAU11	2.605	1.95	(0.66)	2y-EDAU11	
EDAZ11	2.854	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	0.267	0.83	5y-EDAH09	-3.689
EDAM09	0.292	0.81	5y-EDAM09	-12.128
EDAU09	0.402	0.70	5y-EDAU09	-25.378
EDAZ09	0.622	0.48	5y-EDAZ09	-51.573
EDAH10	0.797	0.30	5y-EDAH10	-67.965
EDAM10	1.042	0.06	5y-EDAM10	-74.166
EDAU10	1.282	0.18	5y-EDAU10	-80.587
EDAZ10	1.542	0.44	5y-EDAZ10	-86.459
EDAH11	1.737	0.64	5y-EDAH11	-90.751
EDAM11	1.952	0.85	5y-EDAM11	-95.033
EDAU11	2.147	1.05	5y-EDAU11	-96.445
EDAZ11	2.332	1.23	5y-EDAZ11	-96.209

Price = Outright Decimal Price - Euro Contract Price

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

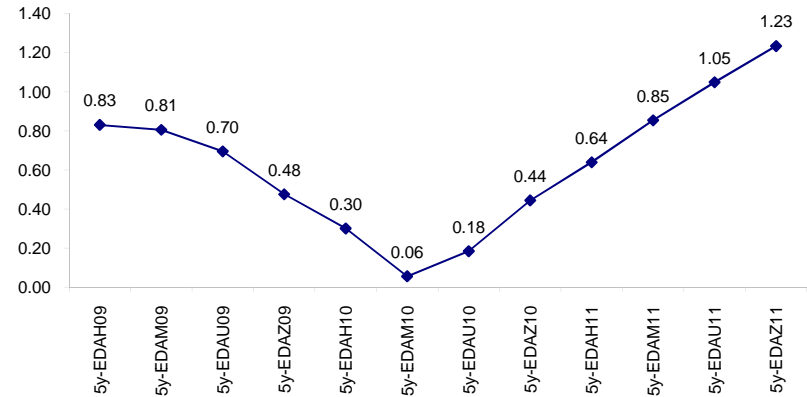
\*Correlation = ED Correlation to Treasury Future over 10 days

ED Duration as

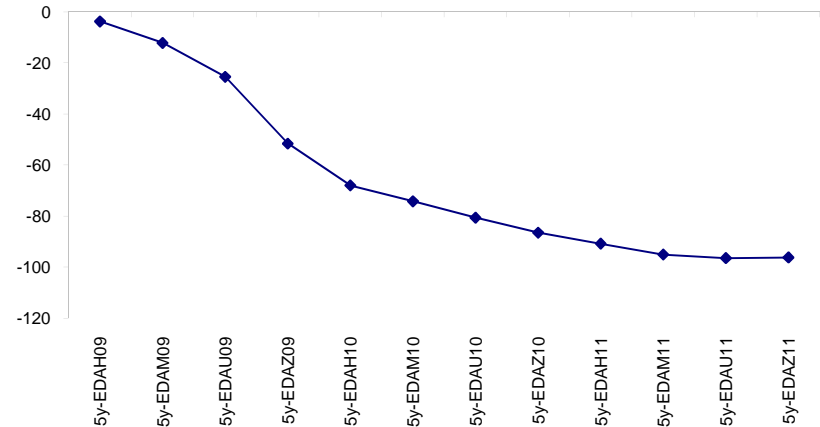
	Fraction of year	5Y Duration	Spread Duration	
EDAH09	0.092	4.73	4.64	5y-EDAH09
EDAM09	0.342	4.73	4.39	5y-EDAM09
EDAU09	0.591	4.73	4.14	5y-EDAU09
EDAZ09	0.840	4.73	3.89	5y-EDAZ09
EDAH10	1.090	4.73	3.64	5y-EDAH10
EDAM10	1.339	4.73	3.39	5y-EDAM10
EDAU10	1.588	4.73	3.14	5y-EDAU10
EDAZ10	1.838	4.73	2.89	5y-EDAZ10
EDAH11	2.087	4.73	2.65	5y-EDAH11
EDAM11	2.336	4.73	2.40	5y-EDAM11
EDAU11	2.605	4.73	2.13	5y-EDAU11
EDAZ11	2.854	4.73	1.88	5y-EDAZ11

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

5y - ED Yield



Correlation

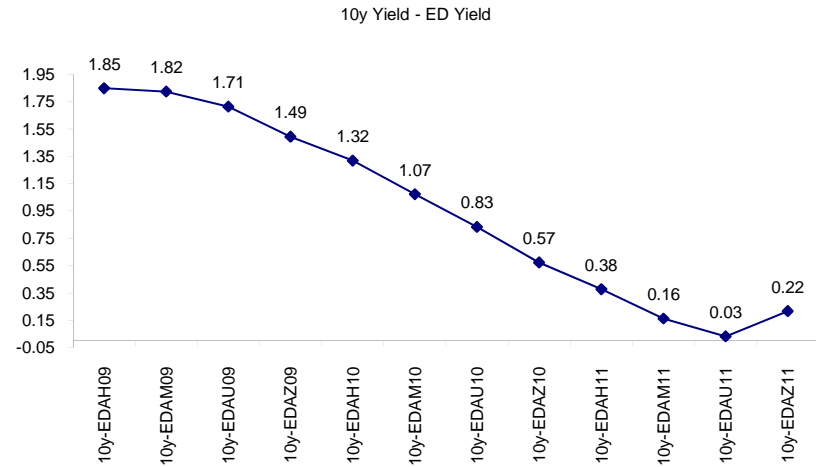


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.267	1.85	10y-EDAH09	7.160
EDAM09	0.292	1.82	10y-EDAM09	-1.108
EDAU09	0.402	1.71	10y-EDAU09	-14.430
EDAZ09	0.622	1.49	10y-EDAZ09	-42.198
EDAH10	0.797	1.32	10y-EDAH10	-60.994
EDAM10	1.042	1.07	10y-EDAM10	-68.414
EDAU10	1.282	0.83	10y-EDAU10	-75.948
EDAZ10	1.542	0.57	10y-EDAZ10	-83.562
EDAH11	1.737	0.38	10y-EDAH11	-89.876
EDAM11	1.952	0.16	10y-EDAM11	-95.682
EDAU11	2.147	0.03	10y-EDAU11	-97.931
EDAZ11	2.332	0.22	10y-EDAZ11	-98.057

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	0.092	8.13	8.04	10y-EDAH09		
EDAM09	0.342	8.13	7.79	10y-EDAM09		
EDAU09	0.591	8.13	7.54	10y-EDAU09		
EDAZ09	0.840	8.13	7.29	10y-EDAZ09		
EDAH10	1.090	8.13	7.04	10y-EDAH10		
EDAM10	1.339	8.13	6.79	10y-EDAM10		
EDAU10	1.588	8.13	6.54	10y-EDAU10		
EDAZ10	1.838	8.13	6.29	10y-EDAZ10		
EDAH11	2.087	8.13	6.04	10y-EDAH11		
EDAM11	2.336	8.13	5.79	10y-EDAM11		
EDAU11	2.605	8.13	5.53	10y-EDAU11		
EDAZ11	2.854	8.13	5.28	10y-EDAZ11		

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

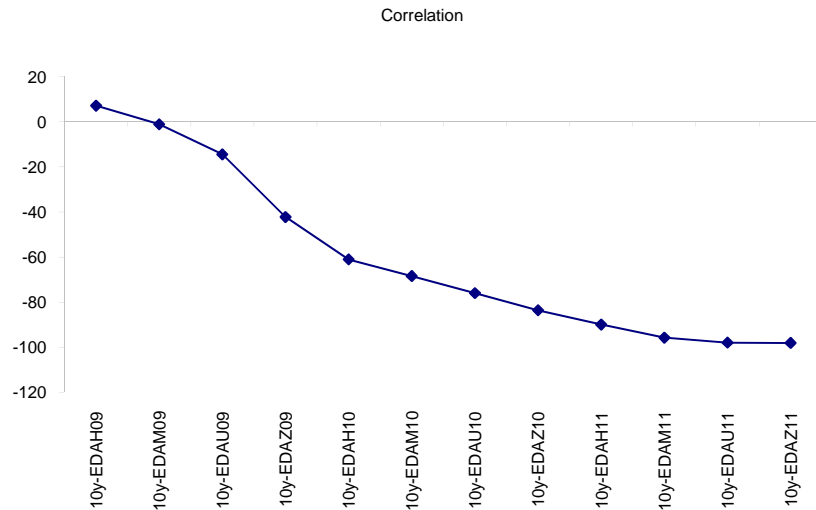


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

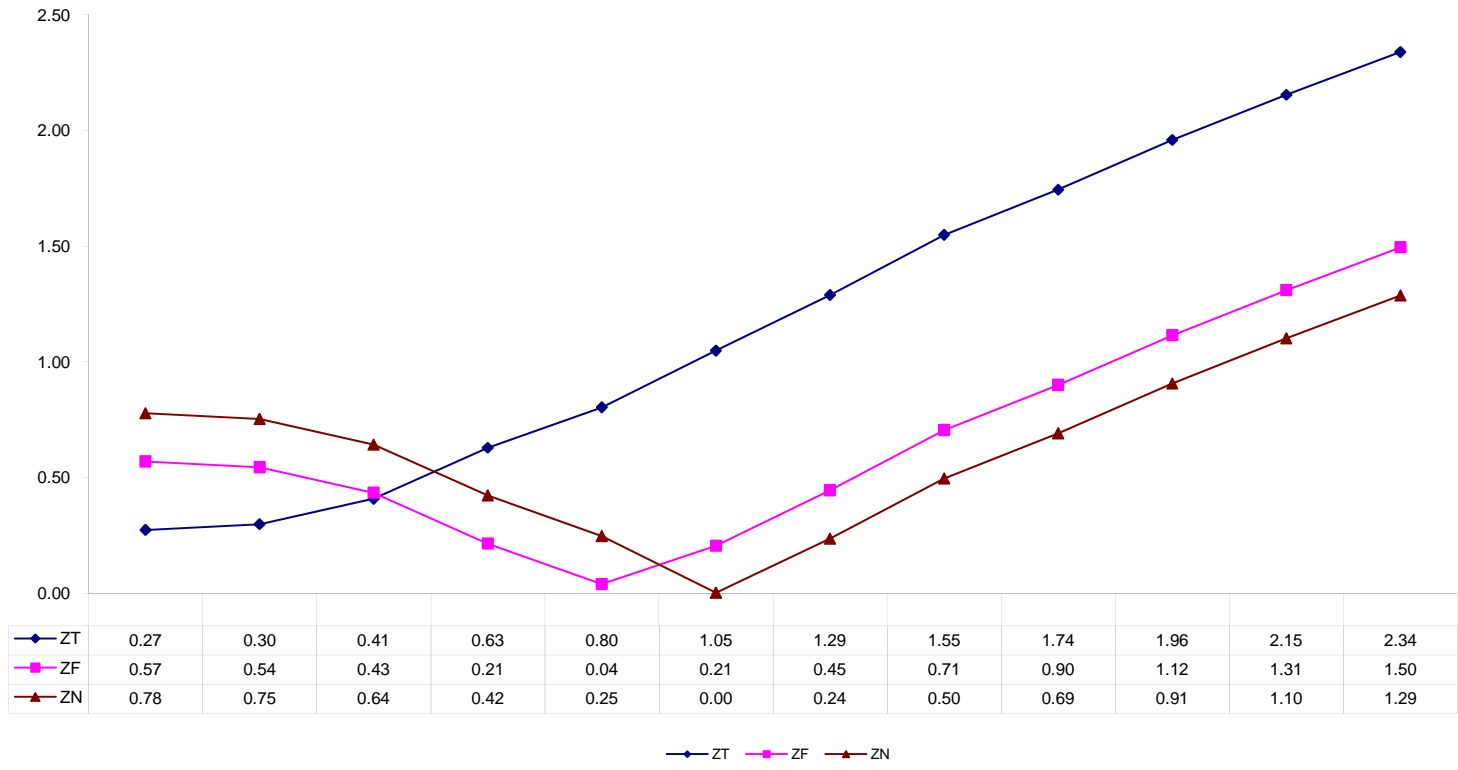
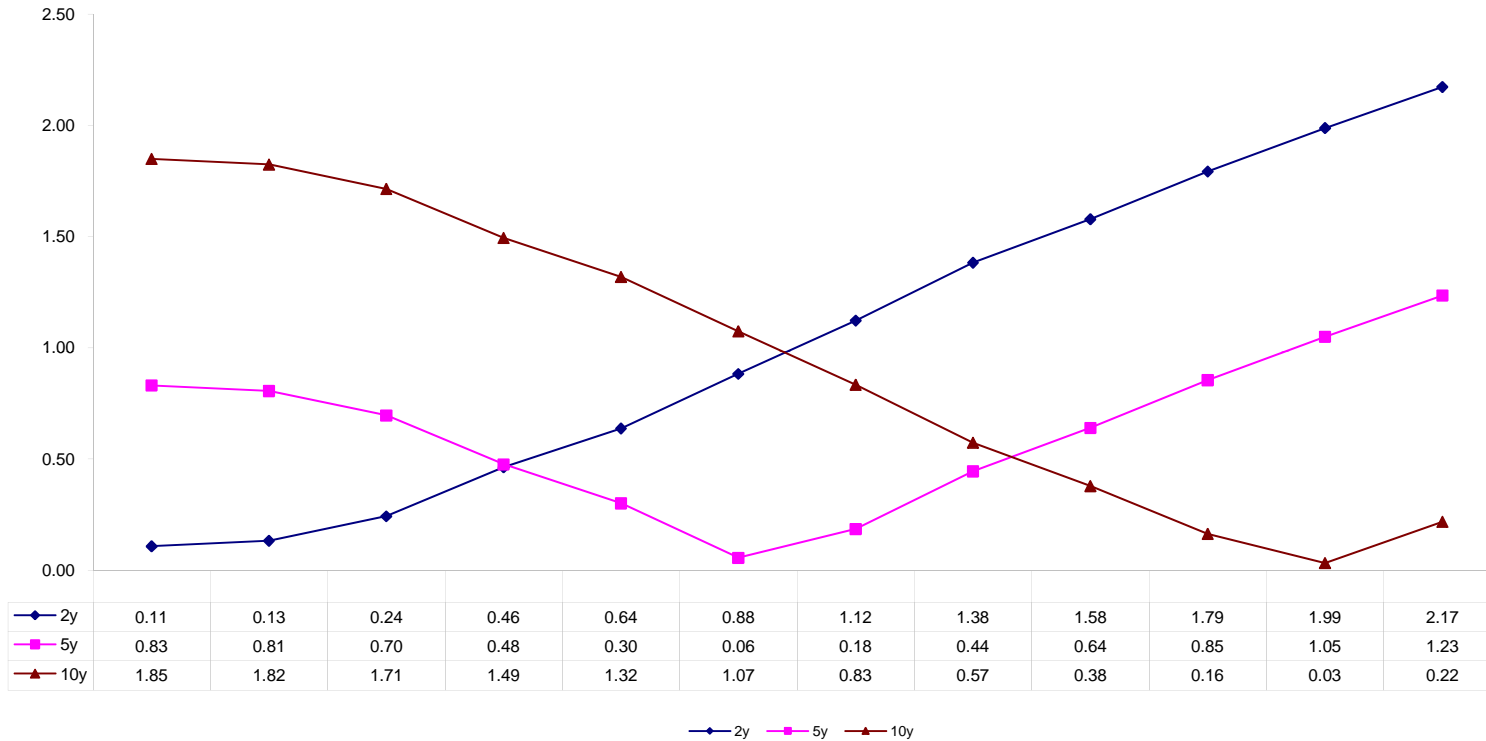
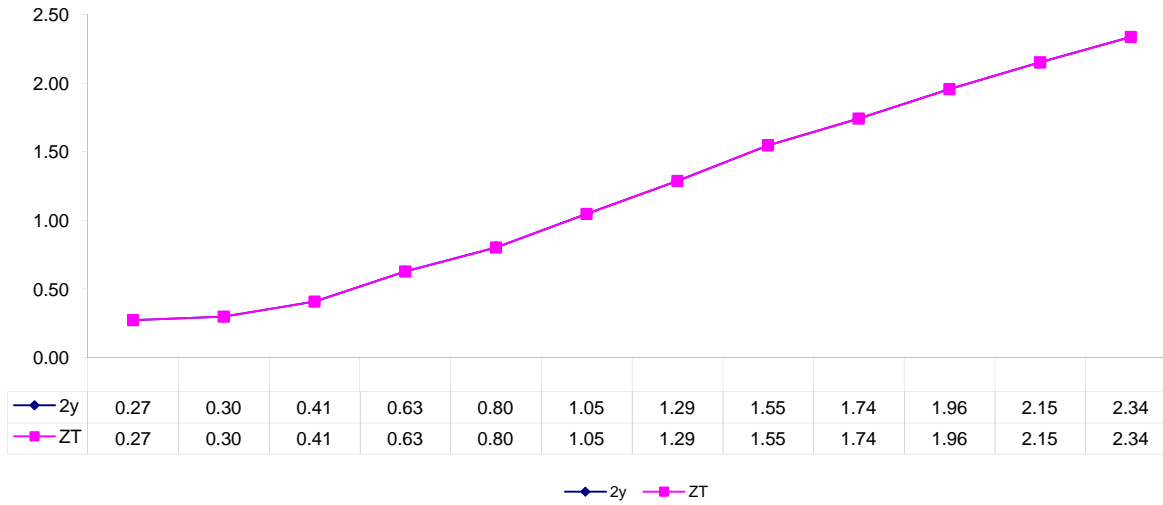
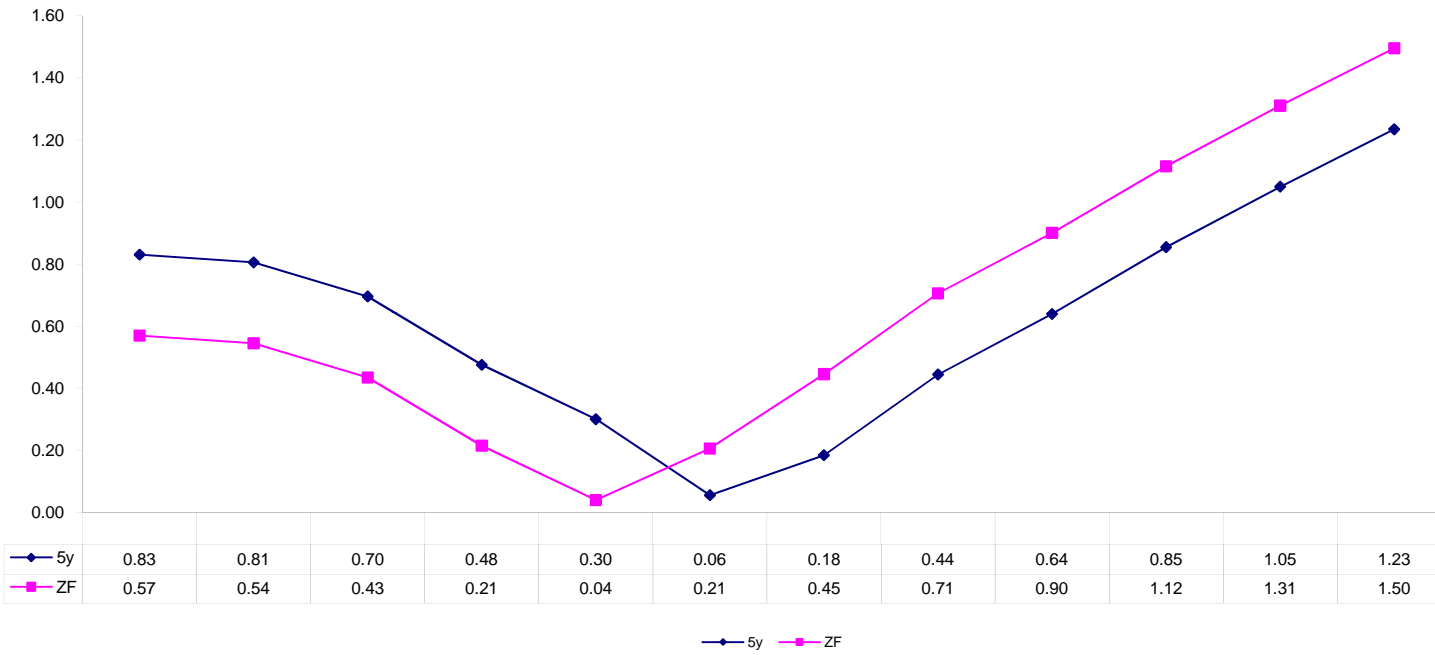


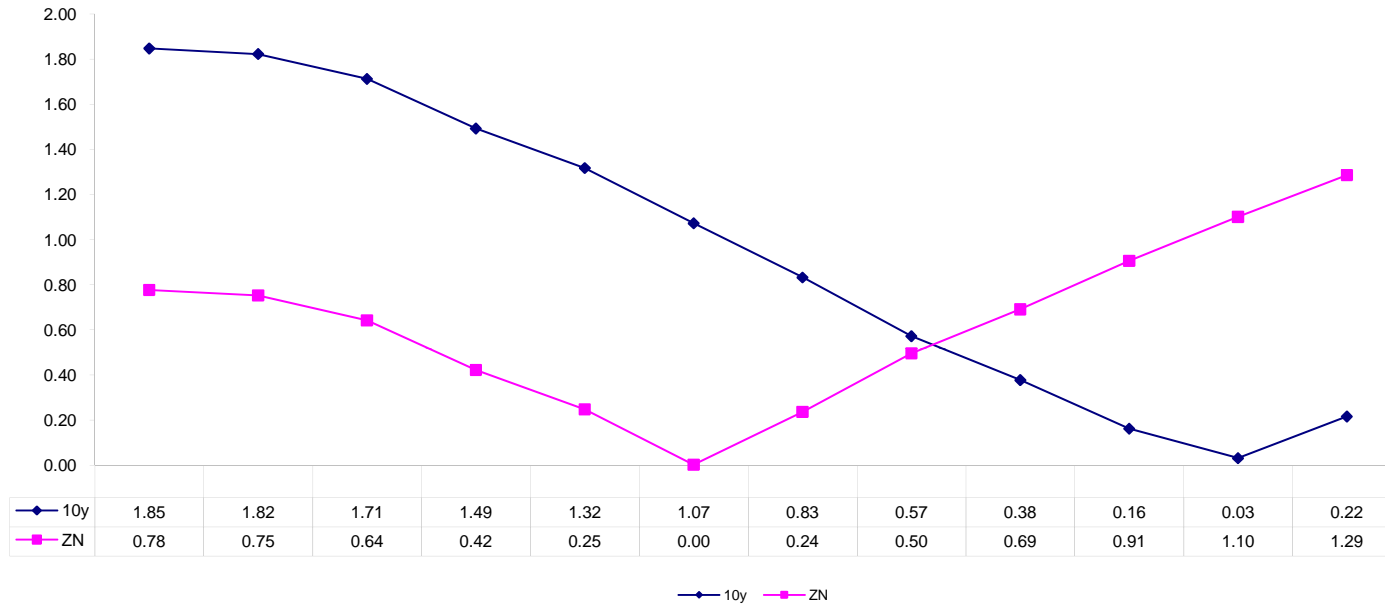
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.245	3.500	9877.625
Red Pack	2.032	7.625	9800.625
Green Pack	2.931	8.750	9713.000
Blue Pack	3.490	8.000	9658.750
Gold Pack		5.250	9624.125

