

## The Morning Email: TERM TEDS & Dirty TEDS

### Table of Contents

<b>Pg 1</b>	Quotes
<b>Pg 2</b>	Dirty TED: ZT vs Eurodollar Contracts
<b>Pg 3</b>	Dirty TED: ZF vs Eurodollar Contracts
<b>Pg 4</b>	Dirty TED: ZN vs Eurodollar Contracts
<b>Pg 5</b>	TERM TED: 2y vs Eurodollar Contracts
<b>Pg 6</b>	TERM TED: 5y vs Eurodollar Contracts
<b>Pg 7</b>	TERM TED: 10y vs Eurodollar Contracts
<b>Pg 8</b>	Dirty TED Curve
<b>Pg 9</b>	TED Curve
<b>Pg 10</b>	2y Basis TED Curve
<b>Pg 11</b>	5y Basis TED Curve
<b>Pg 12</b>	10y Basis TED Curve
<b>Pg 13</b>	Packs

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	108.8188	108.2620	0.808	1.74
ZF	118.0844	118.0270	1.627	1.63
ZN	122.7656	122.2450	1.836	6.12
2y	99.8031	99.2570	0.973	1.91
5y	99.3813	99.1220	1.882	4.70
10y	99.2500	99.0800	2.840	8.66

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.758	1.242	21	0.057	MAR	
EDAM09	98.760	1.240	112	0.306	JUN	White Pack
EDAU09	98.690	1.310	203	0.555	SEP	
EDAZ09	98.520	1.480	294	0.805	DEC	
EDAH10	98.385	1.615	385	1.054	MAR	
EDAM10	98.180	1.820	476	1.303	JUN	Red Pack
EDAU10	97.965	2.035	567	1.553	SEP	
EDAZ10	97.735	2.265	658	1.802	DEC	
EDAH11	97.565	2.435	749	2.051	MAR	
EDAM11	97.360	2.640	840	2.301	JUN	Green Pack
EDAU11	97.170	2.830	938	2.569	SEP	
EDAZ11	96.985	3.015	1029	2.818	DEC	
EDAH12	96.890	3.110	1120	3.068	MAR	
EDAM12	96.785	3.215	1211	3.317	JUN	Blue Pack
EDAU12	96.745	3.255	1302	3.566	SEP	
EDAZ12	96.565	3.435	1393	3.816	DEC	
EDAH13	96.595	3.405	1484	4.065	MAR	
EDAM13	96.515	3.485	1575	4.314	JUN	Gold Pack
EDZU13	96.435	3.565	1666	4.564	SEP	
EDZZ13	96.350	3.650	1757	4.813	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.341	-1.125	9868.188	
Red Pack	1.970	-4.625	9806.625	Pack Prices
Green Pack	2.787	-5.875	9727.000	
Blue Pack		-4.000	9674.500	
Gold Pack		0.000	9645.375	

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.

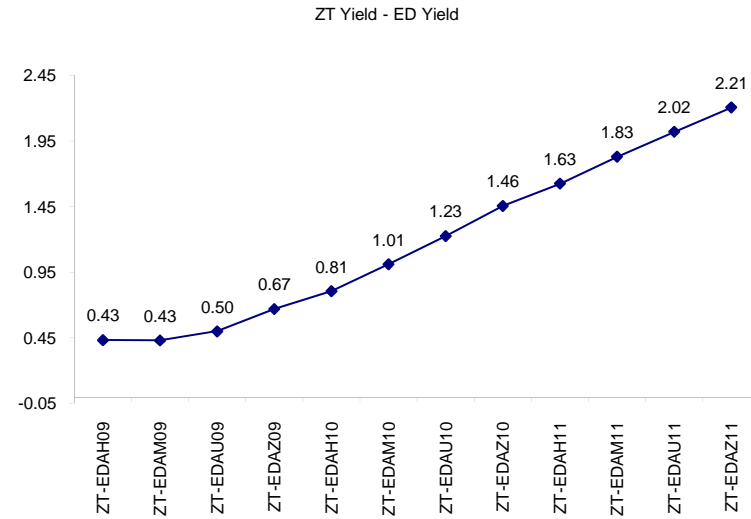
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

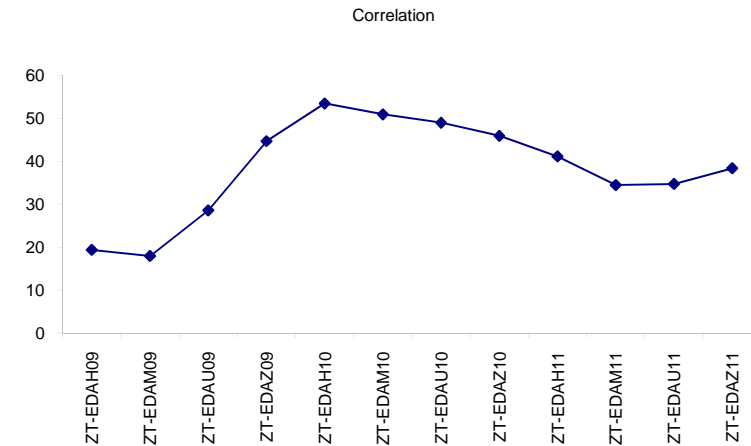
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.061	0.43	ZT-EDAH09	19.327
EDAM09	10.059	0.43	ZT-EDAM09	17.908
EDAU09	10.129	0.50	ZT-EDAU09	28.537
EDAZ09	10.299	0.67	ZT-EDAZ09	44.665
EDAH10	10.434	0.81	ZT-EDAH10	53.446
EDAM10	10.639	1.01	ZT-EDAM10	50.904
EDAU10	10.854	1.23	ZT-EDAU10	48.960
EDAZ10	11.084	1.46	ZT-EDAZ10	45.884
EDAH11	11.254	1.63	ZT-EDAH11	41.092
EDAM11	11.459	1.83	ZT-EDAM11	34.434
EDAU11	11.649	2.02	ZT-EDAU11	34.680
EDAZ11	11.834	2.21	ZT-EDAZ11	38.331

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	0.057	1.74	1.68	ZT-EDAH09		
EDAM09	0.306	1.74	1.43	ZT-EDAM09		
EDAU09	0.555	1.74	1.18	ZT-EDAU09		
EDAZ09	0.805	1.74	0.93	ZT-EDAZ09		
EDAH10	1.054	1.74	0.68	ZT-EDAH10		
EDAM10	1.303	1.74	0.43	ZT-EDAM10		
EDAU10	1.553	1.74	0.18	ZT-EDAU10		
EDAZ10	1.802	1.74	(0.07)	ZT-EDAZ10		
EDAH11	2.051	1.74	(0.31)	ZT-EDAH11		
EDAM11	2.301	1.74	(0.56)	ZT-EDAM11		
EDAU11	2.569	1.74	(0.83)	ZT-EDAU11		
EDAZ11	2.818	1.74	(1.08)	ZT-EDAZ11		

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

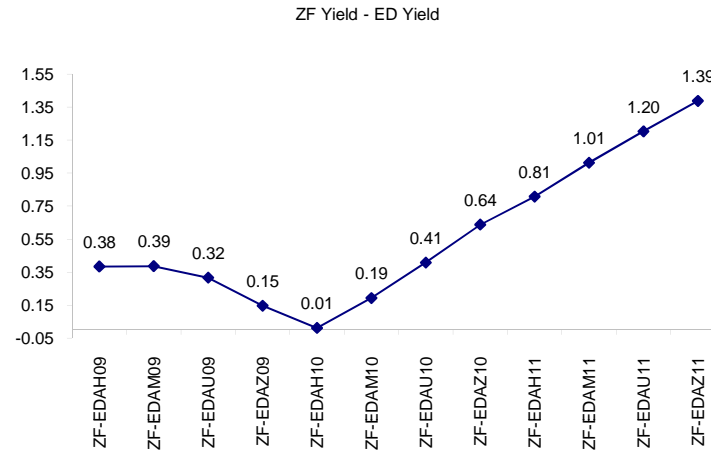


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.327	0.38	ZF-EDAH09	4.217
EDAM09	19.324	0.39	ZF-EDAM09	12.865
EDAU09	19.394	0.32	ZF-EDAU09	37.296
EDAZ09	19.564	0.15	ZF-EDAZ09	60.782
EDAH10	19.699	0.01	ZF-EDAH10	71.216
EDAM10	19.904	0.19	ZF-EDAM10	69.789
EDAU10	20.119	0.41	ZF-EDAU10	68.546
EDAZ10	20.349	0.64	ZF-EDAZ10	67.706
EDAH11	20.519	0.81	ZF-EDAH11	66.236
EDAM11	20.724	1.01	ZF-EDAM11	63.416
EDAU11	20.914	1.20	ZF-EDAU11	65.862
EDAZ11	21.099	1.39	ZF-EDAZ11	69.262

Price = Outright Decimal Price - Euro Contract Price

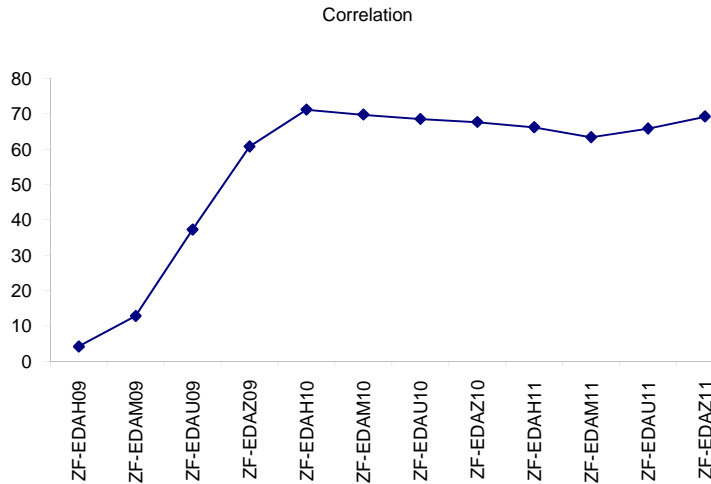
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.057	1.63	1.63	1.57	ZF-EDAH09
EDAM09	0.306	1.63	1.63	1.32	ZF-EDAM09
EDAU09	0.555	1.63	1.63	1.07	ZF-EDAU09
EDAZ09	0.805	1.63	1.63	0.82	ZF-EDAZ09
EDAH10	1.054	1.63	1.63	0.57	ZF-EDAH10
EDAM10	1.303	1.63	1.63	0.32	ZF-EDAM10
EDAU10	1.553	1.63	1.63	0.07	ZF-EDAU10
EDAZ10	1.802	1.63	1.63	(0.18)	ZF-EDAZ10
EDAH11	2.051	1.63	1.63	(0.42)	ZF-EDAH11
EDAM11	2.301	1.63	1.63	(0.67)	ZF-EDAM11
EDAU11	2.569	1.63	1.63	(0.94)	ZF-EDAU11
EDAZ11	2.818	1.63	1.63	(1.19)	ZF-EDAZ11

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

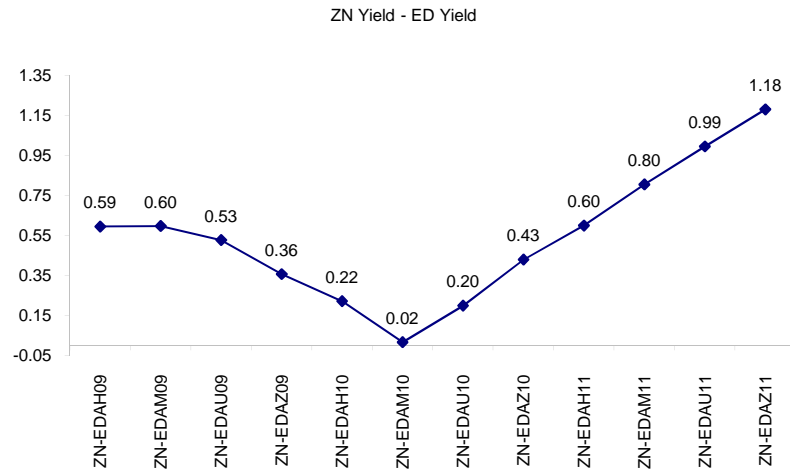


	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.008	0.59	ZN-EDAH09	-5.637
EDAM09	24.006	0.60	ZN-EDAM09	6.889
EDAU09	24.076	0.53	ZN-EDAU09	39.808
EDAZ09	24.246	0.36	ZN-EDAZ09	68.319
EDAH10	24.381	0.22	ZN-EDAH10	82.572
EDAM10	24.586	0.02	ZN-EDAM10	83.498
EDAU10	24.801	0.20	ZN-EDAU10	82.692
EDAZ10	25.031	0.43	ZN-EDAZ10	81.684
EDAH11	25.201	0.60	ZN-EDAH11	80.334
EDAM11	25.406	0.80	ZN-EDAM11	77.924
EDAU11	25.596	0.99	ZN-EDAU11	79.463
EDAZ11	25.781	1.18	ZN-EDAZ11	82.463

Price = Outright Decimal Price - Euro Contract Price

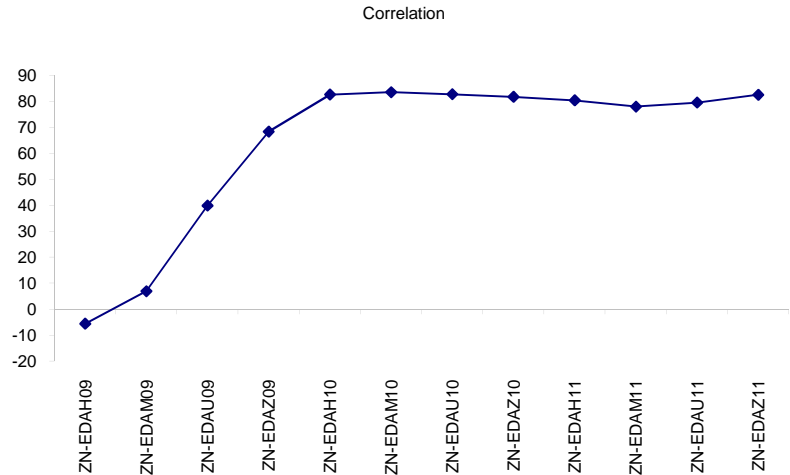
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



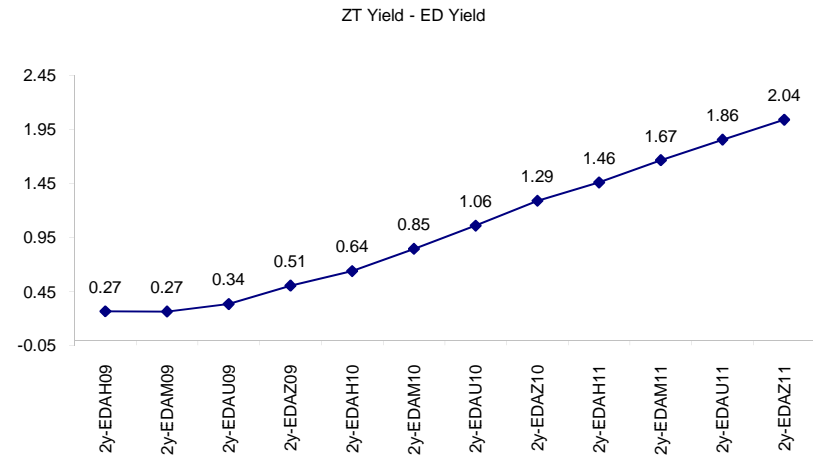
	ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration	
EDAH09	0.057	6.12	6.07	ZN-EDAH09
EDAM09	0.306	6.12	5.82	ZN-EDAM09
EDAU09	0.555	6.12	5.57	ZN-EDAU09
EDAZ09	0.805	6.12	5.32	ZN-EDAZ09
EDAH10	1.054	6.12	5.07	ZN-EDAH10
EDAM10	1.303	6.12	4.82	ZN-EDAM10
EDAU10	1.553	6.12	4.57	ZN-EDAU10
EDAZ10	1.802	6.12	4.32	ZN-EDAZ10
EDAH11	2.051	6.12	4.07	ZN-EDAH11
EDAM11	2.301	6.12	3.82	ZN-EDAM11
EDAU11	2.569	6.12	3.55	ZN-EDAU11
EDAZ11	2.818	6.12	3.30	ZN-EDAZ11

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



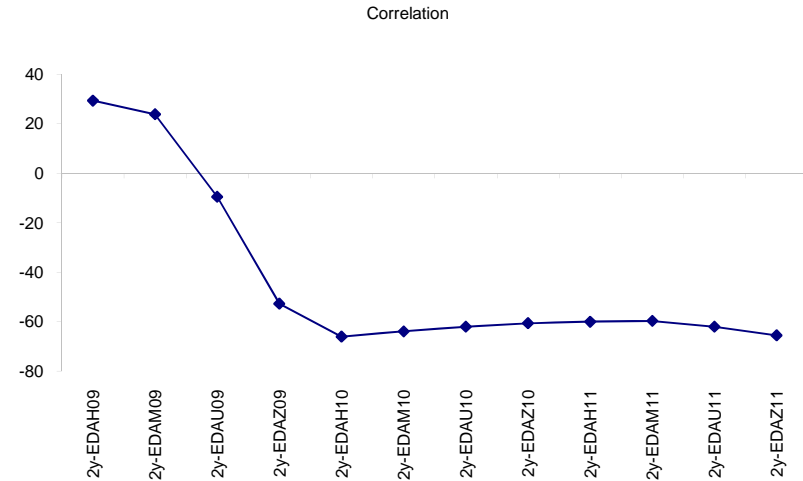
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.046	0.27	2y-EDAH09	29.354
EDAM09	1.043	0.27	2y-EDAM09	23.824
EDAU09	1.113	0.34	2y-EDAU09	-9.537
EDAZ09	1.283	0.51	2y-EDAZ09	-52.731
EDAH10	1.418	0.64	2y-EDAH10	-66.039
EDAM10	1.623	0.85	2y-EDAM10	-63.900
EDAU10	1.838	1.06	2y-EDAU10	-62.022
EDAZ10	2.068	1.29	2y-EDAZ10	-60.618
EDAH11	2.238	1.46	2y-EDAH11	-60.012
EDAM11	2.443	1.67	2y-EDAM11	-59.646
EDAU11	2.633	1.86	2y-EDAU11	-62.022
EDAZ11	2.818	2.04	2y-EDAZ11	-65.519

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	0.057	1.91	1.85	2y-EDAH09	
EDAM09	0.306	1.91	1.61	2y-EDAM09	
EDAU09	0.555	1.91	1.36	2y-EDAU09	
EDAZ09	0.805	1.91	1.11	2y-EDAZ09	
EDAH10	1.054	1.91	0.86	2y-EDAH10	
EDAM10	1.303	1.91	0.61	2y-EDAM10	
EDAU10	1.553	1.91	0.36	2y-EDAU10	
EDAZ10	1.802	1.91	0.11	2y-EDAZ10	
EDAH11	2.051	1.91	(0.14)	2y-EDAH11	
EDAM11	2.301	1.91	(0.39)	2y-EDAM11	
EDAU11	2.569	1.91	(0.66)	2y-EDAU11	
EDAZ11	2.818	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	0.624	0.64	5y-EDAH09	40.554
EDAM09	0.621	0.64	5y-EDAM09	33.104
EDAU09	0.691	0.57	5y-EDAU09	-4.344
EDAZ09	0.861	0.40	5y-EDAZ09	-52.953
EDAH10	0.996	0.27	5y-EDAH10	-69.781
EDAM10	1.201	0.06	5y-EDAM10	-70.090
EDAU10	1.416	0.15	5y-EDAU10	-69.431
EDAZ10	1.646	0.38	5y-EDAZ10	-69.167
EDAH11	1.816	0.55	5y-EDAH11	-69.211
EDAM11	2.021	0.76	5y-EDAM11	-69.254
EDAU11	2.211	0.95	5y-EDAU11	-71.575
EDAZ11	2.396	1.13	5y-EDAZ11	-74.447

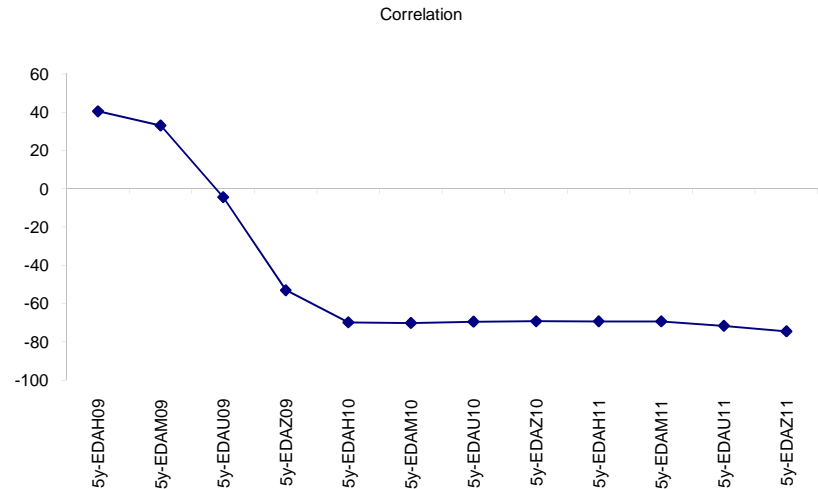
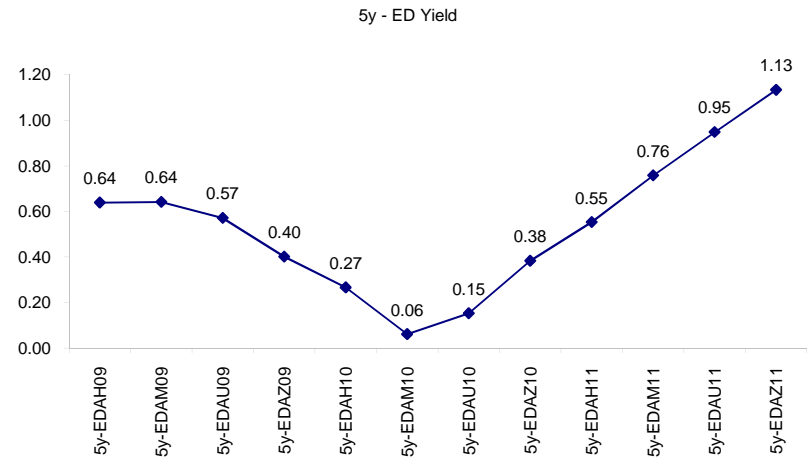
Price = Outright Decimal Price - Euro Contract Price

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	0.057	4.70	4.64	5y-EDAH09		
EDAM09	0.306	4.70	4.39	5y-EDAM09		
EDAU09	0.555	4.70	4.14	5y-EDAU09		
EDAZ09	0.805	4.70	3.89	5y-EDAZ09		
EDAH10	1.054	4.70	3.64	5y-EDAH10		
EDAM10	1.303	4.70	3.39	5y-EDAM10		
EDAU10	1.553	4.70	3.15	5y-EDAU10		
EDAZ10	1.802	4.70	2.90	5y-EDAZ10		
EDAH11	2.051	4.70	2.65	5y-EDAH11		
EDAM11	2.301	4.70	2.40	5y-EDAM11		
EDAU11	2.569	4.70	2.13	5y-EDAU11		
EDAZ11	2.818	4.70	1.88	5y-EDAZ11		

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



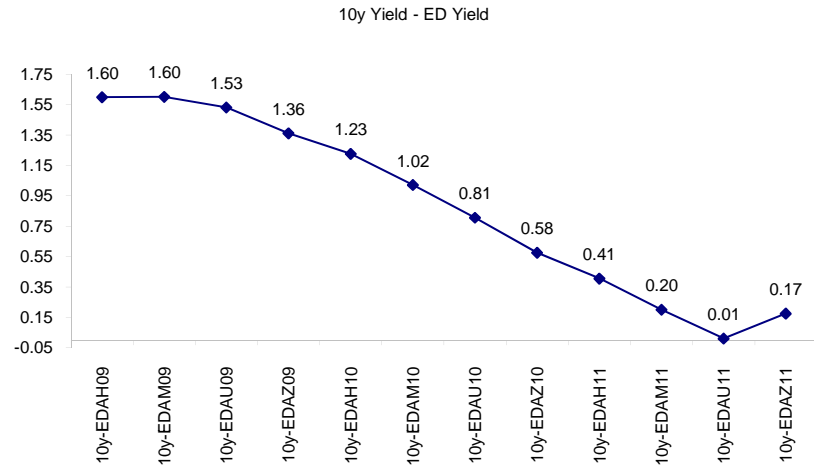


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.624	1.60	10y-EDAH09	63.994
EDAM09	0.621	1.60	10y-EDAM09	52.919
EDAU09	0.691	1.53	10y-EDAU09	9.011
EDAZ09	0.861	1.36	10y-EDAZ09	-48.599
EDAH10	0.996	1.23	10y-EDAH10	-72.813
EDAM10	1.201	1.02	10y-EDAM10	-79.437
EDAU10	1.416	0.81	10y-EDAU10	-81.463
EDAZ10	1.646	0.58	10y-EDAZ10	-83.549
EDAH11	1.816	0.41	10y-EDAH11	-84.590
EDAM11	2.021	0.20	10y-EDAM11	-85.508
EDAU11	2.211	0.01	10y-EDAU11	-87.334
EDAZ11	2.396	0.17	10y-EDAZ11	-88.379

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	0.057	8.66	8.60	10y-EDAH09		
EDAM09	0.306	8.66	8.35	10y-EDAM09		
EDAU09	0.555	8.66	8.10	10y-EDAU09		
EDAZ09	0.805	8.66	7.85	10y-EDAZ09		
EDAH10	1.054	8.66	7.60	10y-EDAH10		
EDAM10	1.303	8.66	7.35	10y-EDAM10		
EDAU10	1.553	8.66	7.10	10y-EDAU10		
EDAZ10	1.802	8.66	6.85	10y-EDAZ10		
EDAH11	2.051	8.66	6.61	10y-EDAH11		
EDAM11	2.301	8.66	6.36	10y-EDAM11		
EDAU11	2.569	8.66	6.09	10y-EDAU11		
EDAZ11	2.818	8.66	5.84	10y-EDAZ11		

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

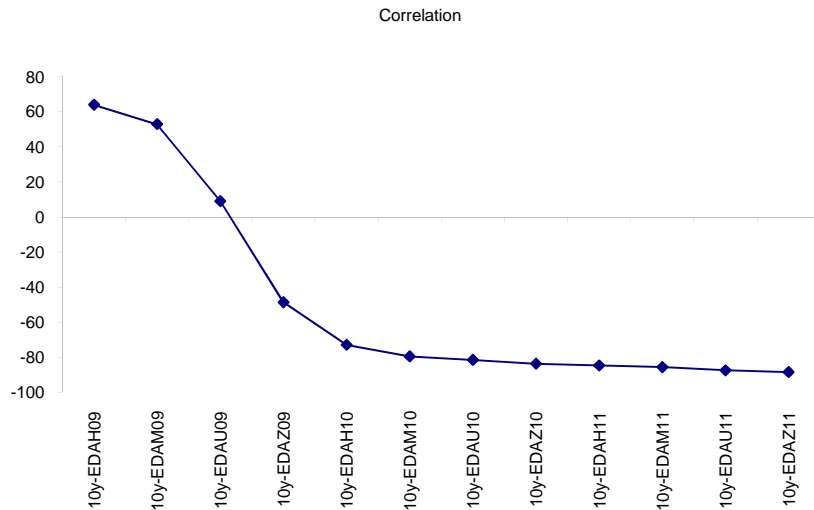


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

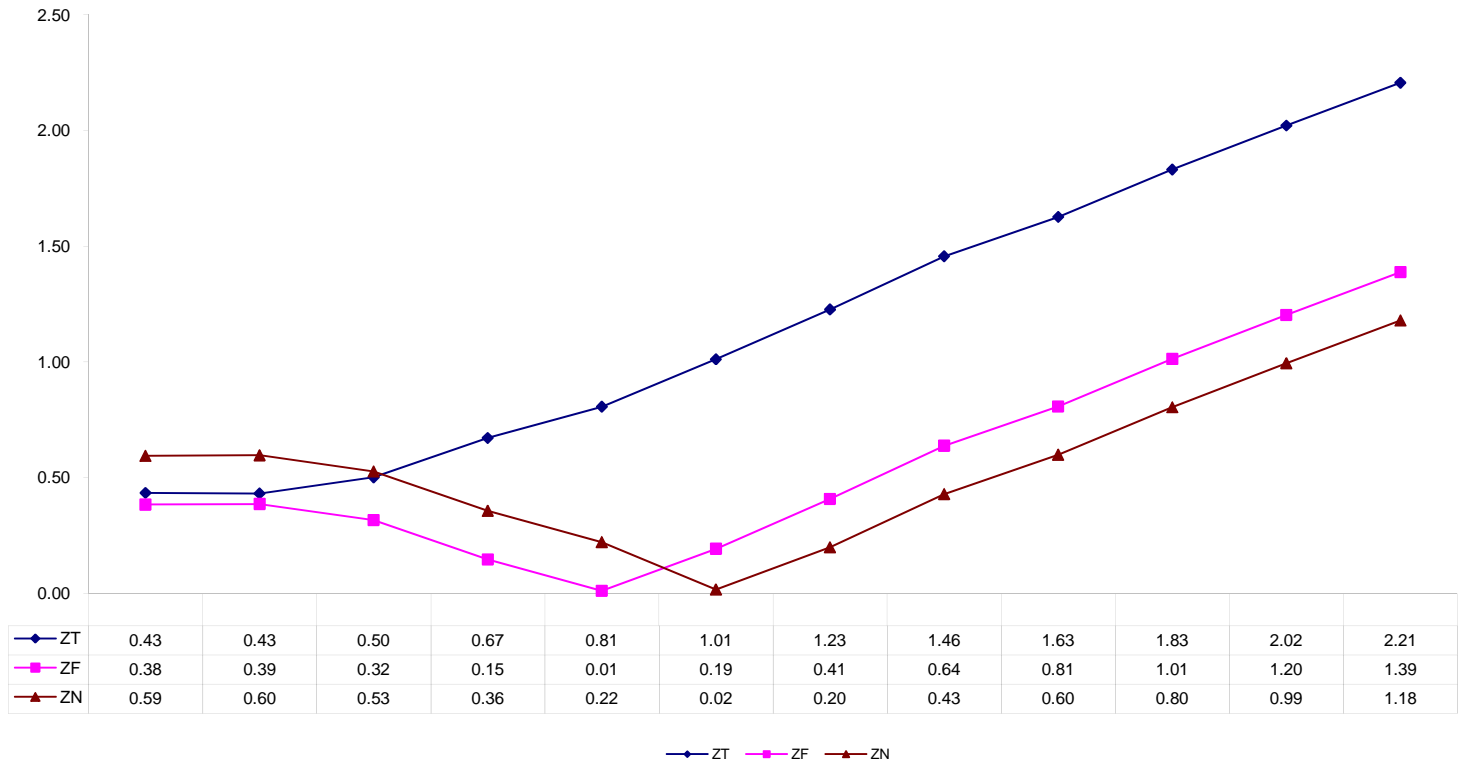
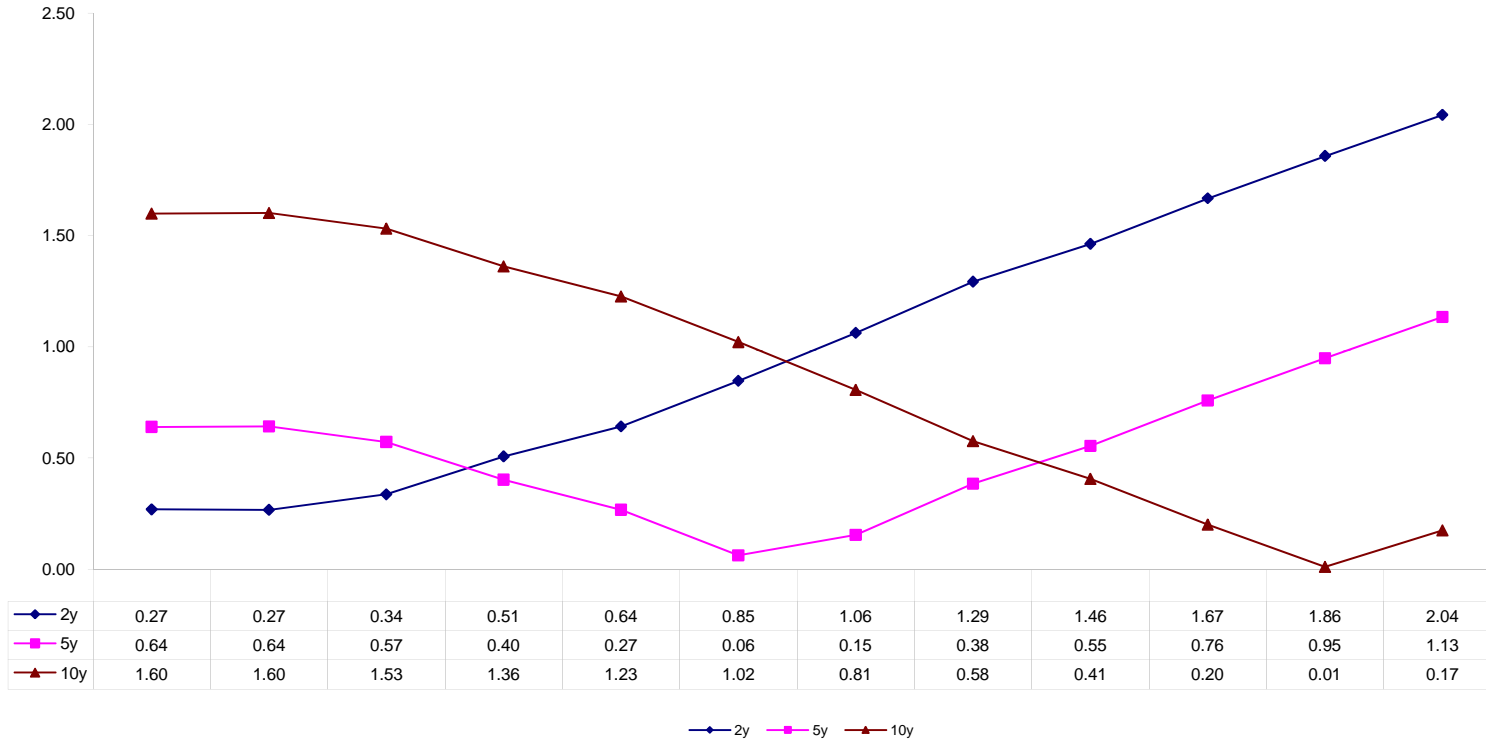
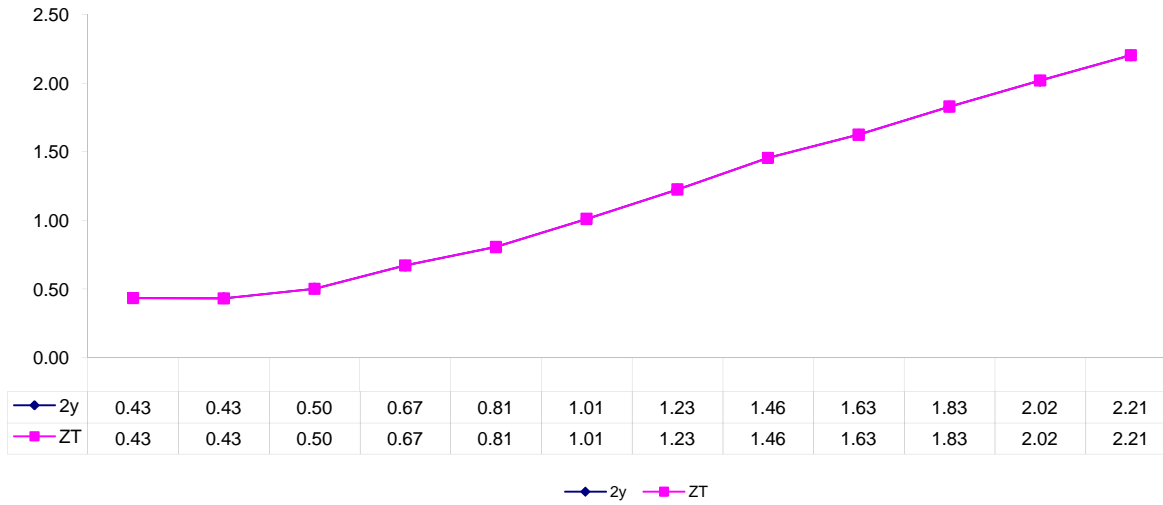
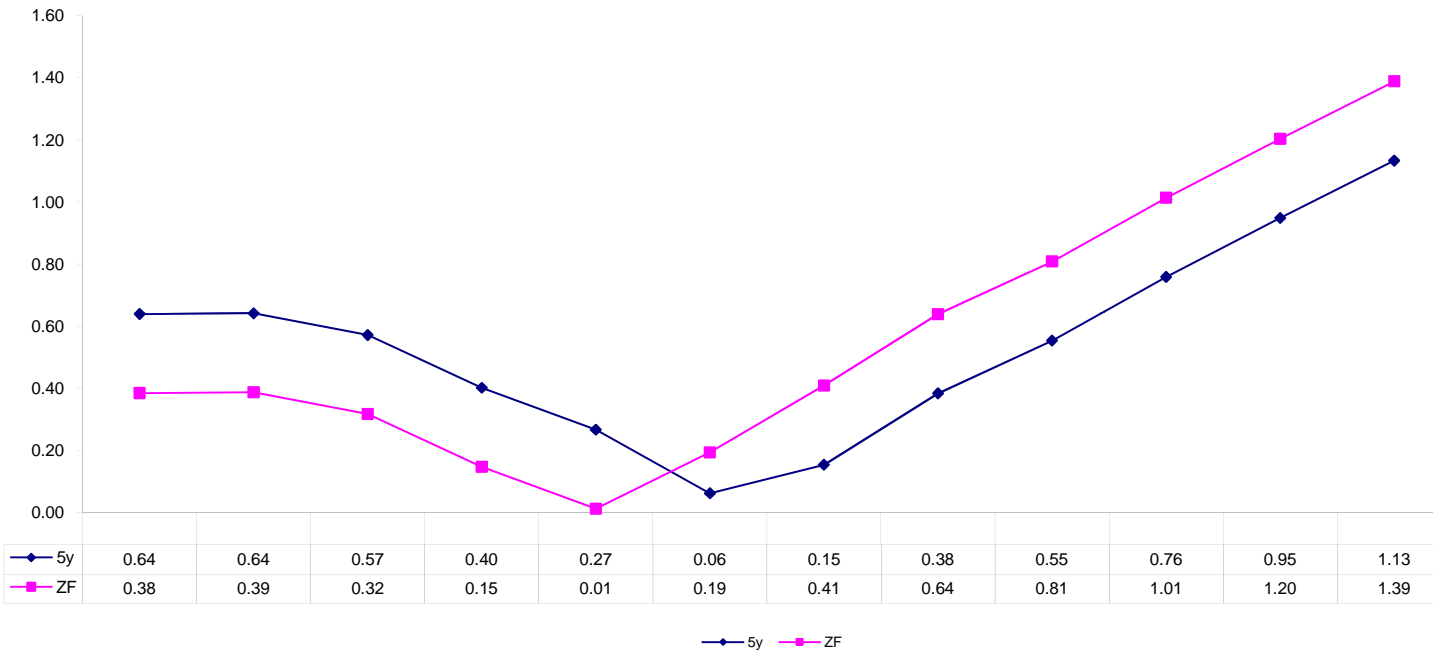


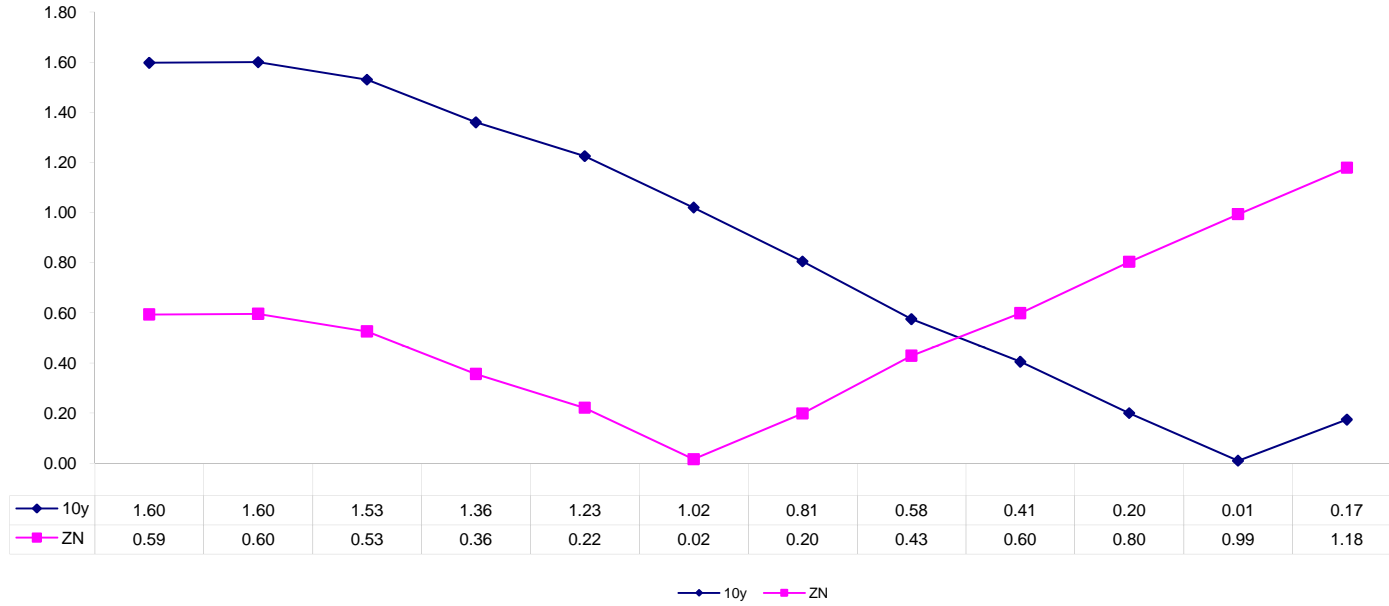
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



### 2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.341	-1.125	9868.188
Red Pack	1.970	-4.625	9806.625
Green Pack	2.787	-5.875	9727.000
Blue Pack		-4.000	9674.500
Gold Pack		0.000	9645.375

