

## **The Morning Email: TERM TEDS & Dirty TEDS**

### **Table of Contents**

- Pg 1** Quotes
  
- Pg 2** Dirty TED: ZT vs Eurodollar Contracts
  
- Pg 3** Dirty TED: ZF vs Eurodollar Contracts
  
- Pg 4** Dirty TED: ZN vs Eurodollar Contracts
  
- Pg 5** TERM TED: 2y vs Eurodollar Contracts
  
- Pg 6** TERM TED: 5y vs Eurodollar Contracts
  
- Pg 7** TERM TED: 10y vs Eurodollar Contracts
  
- Pg 8** Dirty TED Curve
  
- Pg 9** TED Curve
  
- Pg 10** 2y Basis TED Curve
  
- Pg 11** 5y Basis TED Curve
  
- Pg 12** 10y Basis TED Curve
  
- Pg 13** Packs
  
- Pg 14** 2y, 5y, 10y Basis Curves vs ED

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	106.8188	106.262	1.980	1.95
ZF	112.5063	112.162	2.797	4.12
ZN	115.4063	115.130	3.505	6.26
2y	100.022	100.0070	1.985	1.89
5y	100.881	100.2820	2.931	4.60
10y	102.016	102.0050	3.750	8.08

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	96.640	3.360	77	0.210	DEC	
EDAH09	97.125	2.875	168	0.460	MAR	White Pack
EDAM09	97.005	2.995	259	0.709	JUN	
EDAU09	96.850	3.150	350	0.958	SEP	
EDAZ09	96.540	3.460	441	1.208	DEC	
EDAH10	96.350	3.650	532	1.457	MAR	Red Pack
EDAM10	96.105	3.895	623	1.706	JUN	
EDAU10	95.870	4.130	714	1.955	SEP	
EDAZ10	95.650	4.350	805	2.205	DEC	
EDAH11	95.575	4.425	896	2.454	MAR	Green Pack
EDAM11	95.485	4.515	987	2.703	JUN	
EDAU11	95.445	4.555	1085	2.972	SEP	
EDAZ11	95.375	4.625	1176	3.221	DEC	
EDAH12	95.385	4.615	1267	3.471	MAR	Blue Pack
EDAM12	95.310	4.690	1358	3.720	JUN	
EDAU12	95.325	4.675	1449	3.969	SEP	
EDAZ12	95.250	4.750	1540	4.218	DEC	
EDAH13	95.220	4.780	1631	4.468	MAR	Gold Pack
EDAM13	95.155	4.845	1722	4.717	JUN	
EDZU13	95.045	4.955	1904	5.216	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	3.163	3.000	9690.500	Pack Prices
Red Pack	3.873	6.500	9621.625	
Green Pack	4.574	5.625	9553.875	
Blue Pack	4.771	2.625	9534.875	
Gold Pack	4.945	0.625	9518.125	

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.

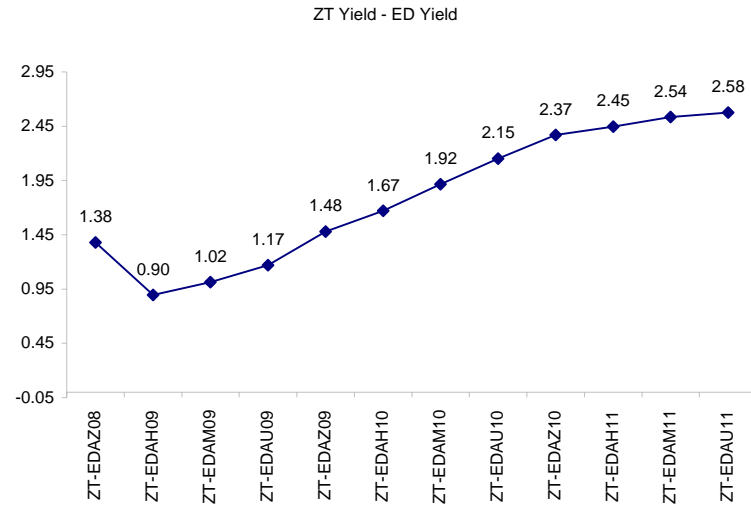
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

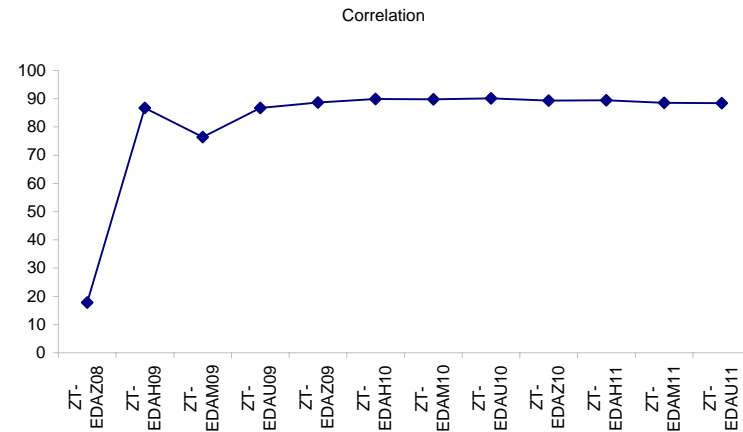
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.179	1.38	ZT-EDAZ08	17.856
EDAH09	9.694	0.90	ZT-EDAH09	86.698
EDAM09	9.814	1.02	ZT-EDAM09	76.416
EDAU09	9.969	1.17	ZT-EDAU09	86.698
EDAZ09	10.279	1.48	ZT-EDAZ09	88.697
EDAH10	10.469	1.67	ZT-EDAH10	89.923
EDAM10	10.714	1.92	ZT-EDAM10	89.823
EDAU10	10.949	2.15	ZT-EDAU10	90.165
EDAZ10	11.169	2.37	ZT-EDAZ10	89.311
EDAH11	11.244	2.45	ZT-EDAH11	89.495
EDAM11	11.334	2.54	ZT-EDAM11	88.516
EDAU11	11.374	2.58	ZT-EDAU11	88.469

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	
EDAZ08	0.210	1.95	1.74	ZT-EDAZ08		
EDAH09	0.460	1.95	1.49	ZT-EDAH09		
EDAM09	0.709	1.95	1.24	ZT-EDAM09		
EDAU09	0.958	1.95	0.99	ZT-EDAU09		
EDAZ09	1.208	1.95	0.74	ZT-EDAZ09		
EDAH10	1.457	1.95	0.49	ZT-EDAH10		
EDAM10	1.706	1.95	0.25	ZT-EDAM10		
EDAU10	1.955	1.95	(0.00)	ZT-EDAU10		
EDAZ10	2.205	1.95	(0.25)	ZT-EDAZ10		
EDAH11	2.454	1.95	(0.50)	ZT-EDAH11		
EDAM11	2.703	1.95	(0.75)	ZT-EDAM11		
EDAU11	2.972	1.95	(1.02)	ZT-EDAU11		

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

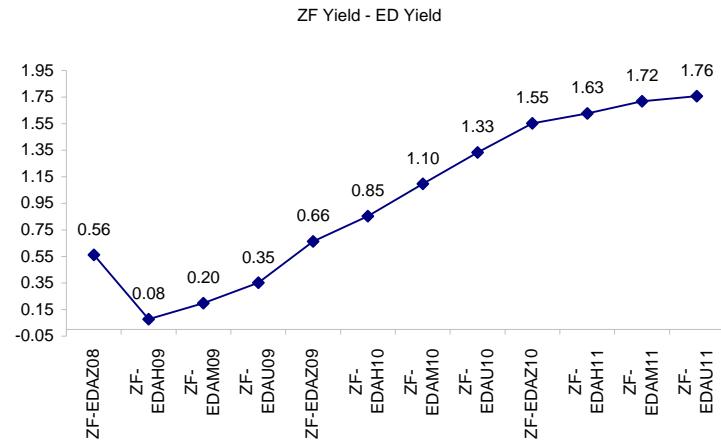


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	15.866	0.56	ZF-EDAZ08	37.600
EDAH09	15.381	0.08	ZF-EDAH09	69.255
EDAM09	15.501	0.20	ZF-EDAM09	88.197
EDAU09	15.656	0.35	ZF-EDAU09	95.199
EDAZ09	15.966	0.66	ZF-EDAZ09	96.082
EDAH10	16.156	0.85	ZF-EDAH10	96.533
EDAM10	16.401	1.10	ZF-EDAM10	96.593
EDAU10	16.636	1.33	ZF-EDAU10	97.248
EDAZ10	16.856	1.55	ZF-EDAZ10	97.224
EDAH11	16.931	1.63	ZF-EDAH11	97.213
EDAM11	17.021	1.72	ZF-EDAM11	96.659
EDAU11	17.061	1.76	ZF-EDAU11	96.562

Price = Outright Decimal Price - Euro Contract Price

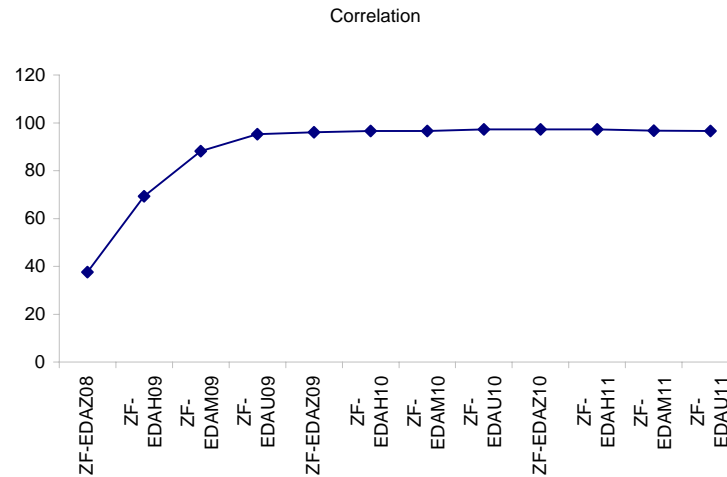
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.210	4.12	3.91	ZF-EDAZ08		
EDAH09	0.460	4.12	3.66	ZF-EDAH09		
EDAM09	0.709	4.12	3.41	ZF-EDAM09		
EDAU09	0.958	4.12	3.16	ZF-EDAU09		
EDAZ09	1.208	4.12	2.92	ZF-EDAZ09		
EDAH10	1.457	4.12	2.67	ZF-EDAH10		
EDAM10	1.706	4.12	2.42	ZF-EDAM10		
EDAU10	1.955	4.12	2.17	ZF-EDAU10		
EDAZ10	2.205	4.12	1.92	ZF-EDAZ10		
EDAH11	2.454	4.12	1.67	ZF-EDAH11		
EDAM11	2.703	4.12	1.42	ZF-EDAM11		
EDAU11	2.972	4.12	1.15	ZF-EDAU11		

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

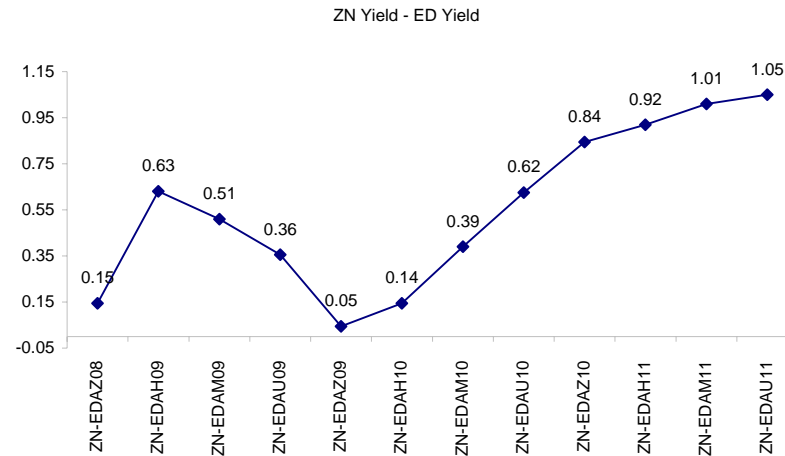


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	18.766	0.15	ZN-EDAZ08	47.246
EDAH09	18.281	0.63	ZN-EDAH09	73.316
EDAM09	18.401	0.51	ZN-EDAM09	91.960
EDAU09	18.556	0.36	ZN-EDAU09	98.170
EDAZ09	18.866	0.05	ZN-EDAZ09	98.610
EDAH10	19.056	0.14	ZN-EDAH10	98.715
EDAM10	19.301	0.39	ZN-EDAM10	96.593
EDAU10	19.536	0.62	ZN-EDAU10	97.248
EDAZ10	19.756	0.84	ZN-EDAZ10	97.224
EDAH11	19.831	0.92	ZN-EDAH11	97.213
EDAM11	19.921	1.01	ZN-EDAM11	96.659
EDAU11	19.961	1.05	ZN-EDAU11	96.562

Price = Outright Decimal Price - Euro Contract Price

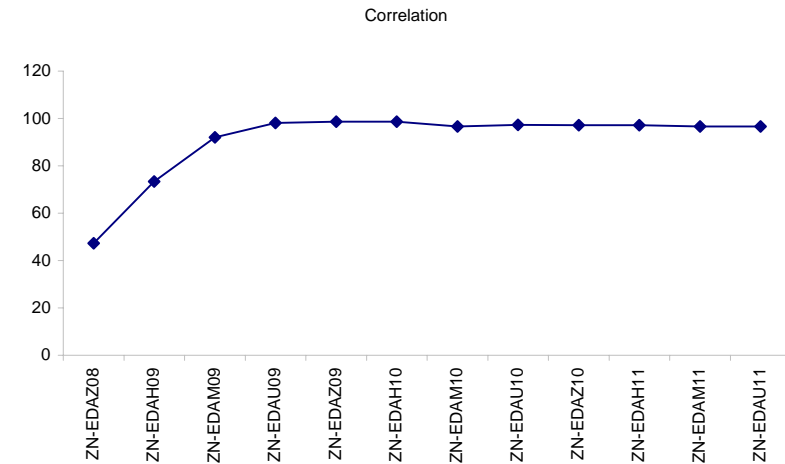
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.210	6.26	6.05	ZN-EDAZ08		
EDAH09	0.460	6.26	5.80	ZN-EDAH09		
EDAM09	0.709	6.26	5.55	ZN-EDAM09		
EDAU09	0.958	6.26	5.30	ZN-EDAU09		
EDAZ09	1.208	6.26	5.05	ZN-EDAZ09		
EDAH10	1.457	6.26	4.80	ZN-EDAH10		
EDAM10	1.706	6.26	4.55	ZN-EDAM10		
EDAU10	1.955	6.26	4.30	ZN-EDAU10		
EDAZ10	2.205	6.26	4.06	ZN-EDAZ10		
EDAH11	2.454	6.26	3.81	ZN-EDAH11		
EDAM11	2.703	6.26	3.56	ZN-EDAM11		
EDAU11	2.972	6.26	3.29	ZN-EDAU11		

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

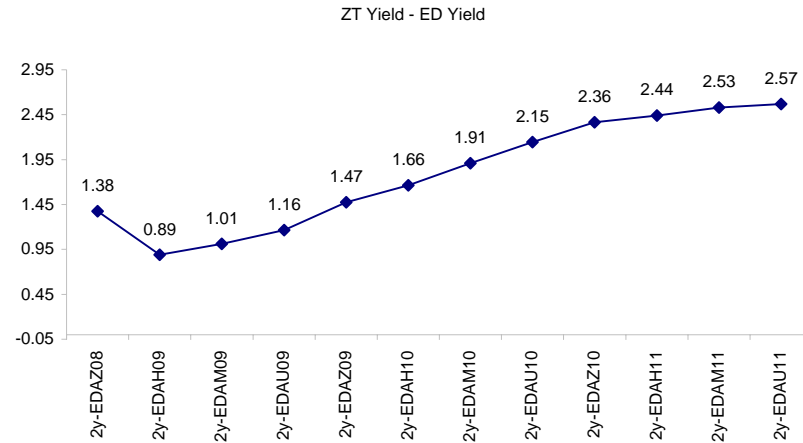


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.382	1.38	2y-EDAZ08	-29.666
EDAH09	2.897	0.89	2y-EDAH09	-39.850
EDAM09	3.017	1.01	2y-EDAM09	-80.942
EDAU09	3.172	1.16	2y-EDAU09	-87.522
EDAZ09	3.482	1.47	2y-EDAZ09	-88.382
EDAH10	3.672	1.66	2y-EDAH10	-88.799
EDAM10	3.917	1.91	2y-EDAM10	-88.764
EDAU10	4.152	2.15	2y-EDAU10	-90.286
EDAZ10	4.372	2.36	2y-EDAZ10	-92.062
EDAH11	4.447	2.44	2y-EDAH11	-91.937
EDAM11	4.537	2.53	2y-EDAM11	-92.002
EDAU11	4.577	2.57	2y-EDAU11	-92.063

Price = Outright Decimal Price - Euro Contract Price

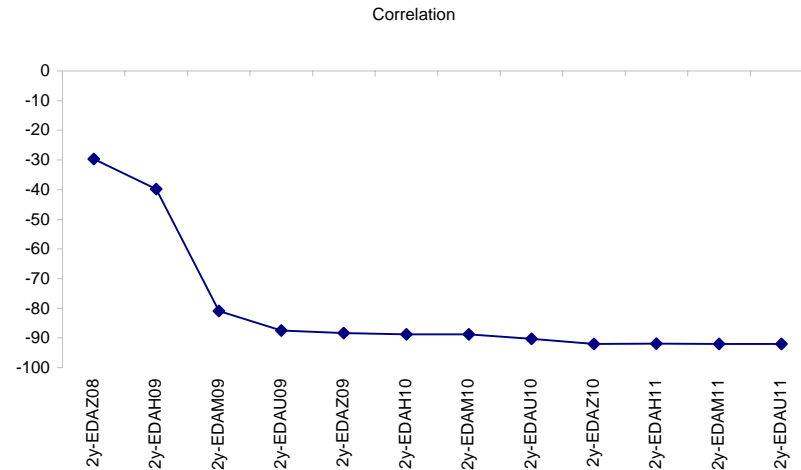
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.210	1.89	1.68	2y-EDAZ08	
EDAH09	0.460	1.89	1.43	2y-EDAH09	
EDAM09	0.709	1.89	1.18	2y-EDAM09	
EDAU09	0.958	1.89	0.93	2y-EDAU09	
EDAZ09	1.208	1.89	0.68	2y-EDAZ09	
EDAH10	1.457	1.89	0.43	2y-EDAH10	
EDAM10	1.706	1.89	0.18	2y-EDAM10	
EDAU10	1.955	1.89	(0.07)	2y-EDAU10	
EDAZ10	2.205	1.89	(0.32)	2y-EDAZ10	
EDAH11	2.454	1.89	(0.57)	2y-EDAH11	
EDAM11	2.703	1.89	(0.82)	2y-EDAM11	
EDAU11	2.972	1.89	(1.09)	2y-EDAU11	

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

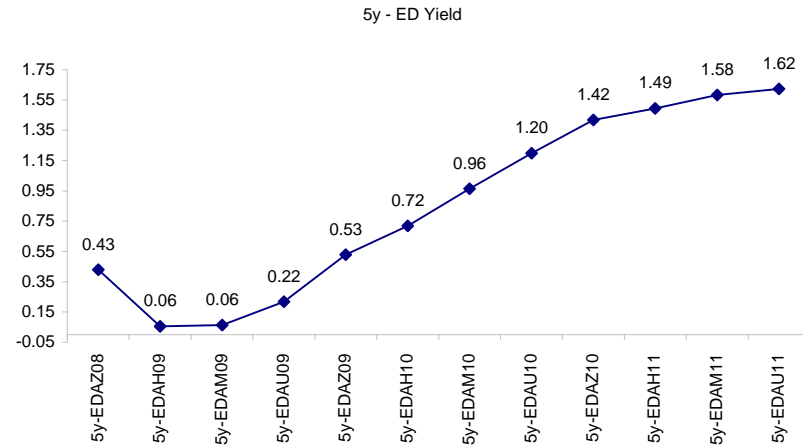


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.241	0.43	5y-EDAZ08	-42.821
EDAH09	3.756	0.06	5y-EDAH09	-48.264
EDAM09	3.876	0.06	5y-EDAM09	-86.421
EDAU09	4.031	0.22	5y-EDAU09	-91.197
EDAZ09	4.341	0.53	5y-EDAZ09	-91.659
EDAH10	4.531	0.72	5y-EDAH10	-91.655
EDAM10	4.776	0.96	5y-EDAM10	-91.796
EDAU10	5.011	1.20	5y-EDAU10	-93.611
EDAZ10	5.231	1.42	5y-EDAZ10	-96.120
EDAH11	5.306	1.49	5y-EDAH11	-96.018
EDAM11	5.396	1.58	5y-EDAM11	-96.567
EDAU11	5.436	1.62	5y-EDAU11	-96.640

Price = Outright Decimal Price - Euro Contract Price

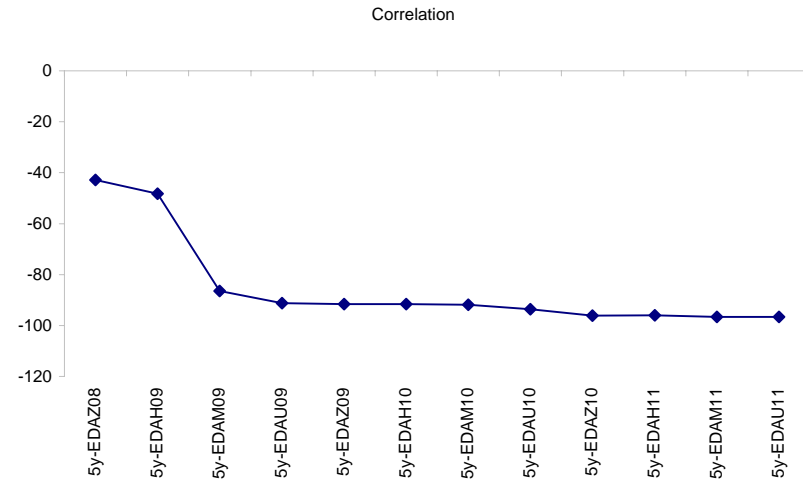
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAZ08	0.210	4.60	4.39	5y-EDAZ08
EDAH09	0.460	4.60	4.14	5y-EDAH09
EDAM09	0.709	4.60	3.89	5y-EDAM09
EDAU09	0.958	4.60	3.64	5y-EDAU09
EDAZ09	1.208	4.60	3.39	5y-EDAZ09
EDAH10	1.457	4.60	3.15	5y-EDAH10
EDAM10	1.706	4.60	2.90	5y-EDAM10
EDAU10	1.955	4.60	2.65	5y-EDAU10
EDAZ10	2.205	4.60	2.40	5y-EDAZ10
EDAH11	2.454	4.60	2.15	5y-EDAH11
EDAM11	2.703	4.60	1.90	5y-EDAM11
EDAU11	2.972	4.60	1.63	5y-EDAU11

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



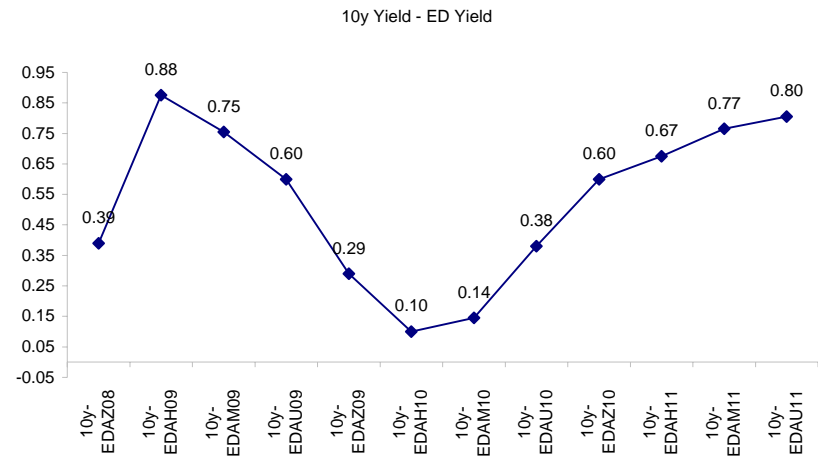


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.241	0.39	10y-EDAZ08	-58.330
EDAH09	3.756	0.88	10y-EDAH09	-55.495
EDAM09	3.876	0.75	10y-EDAM09	-92.257
EDAU09	4.031	0.60	10y-EDAU09	-93.494
EDAZ09	4.341	0.29	10y-EDAZ09	-92.940
EDAH10	4.531	0.10	10y-EDAH10	-92.173
EDAM10	4.776	0.14	10y-EDAM10	-92.275
EDAU10	5.011	0.38	10y-EDAU10	-93.936
EDAZ10	5.231	0.60	10y-EDAZ10	-96.416
EDAH11	5.306	0.67	10y-EDAH11	-95.789
EDAM11	5.396	0.77	10y-EDAM11	-96.440
EDAU11	5.436	0.80	10y-EDAU11	-96.323

Price = Outright Decimal Price - Euro Contract Price

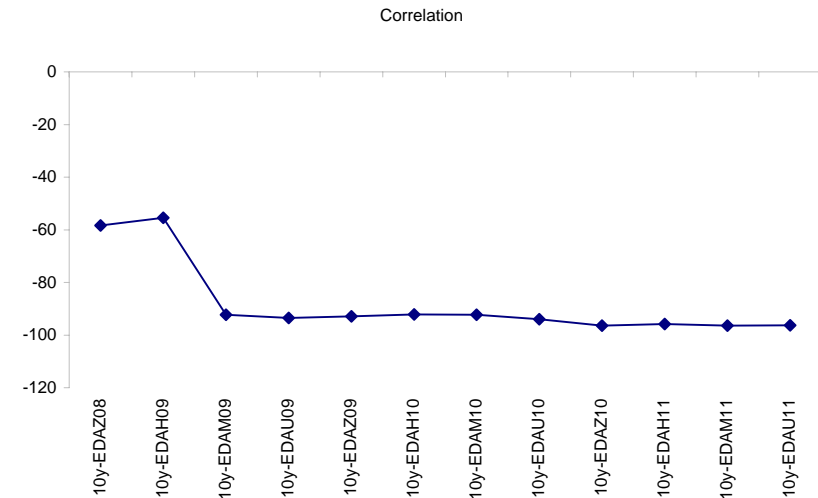
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.210	8.08	7.87	10y-EDAZ08
EDAH09	0.460	8.08	7.62	10y-EDAH09
EDAM09	0.709	8.08	7.37	10y-EDAM09
EDAU09	0.958	8.08	7.12	10y-EDAU09
EDAZ09	1.208	8.08	6.88	10y-EDAZ09
EDAH10	1.457	8.08	6.63	10y-EDAH10
EDAM10	1.706	8.08	6.38	10y-EDAM10
EDAU10	1.955	8.08	6.13	10y-EDAU10
EDAZ10	2.205	8.08	5.88	10y-EDAZ10
EDAH11	2.454	8.08	5.63	10y-EDAH11
EDAM11	2.703	8.08	5.38	10y-EDAM11
EDAU11	2.972	8.08	5.11	10y-EDAU11

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



Dirty TED Curve

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.

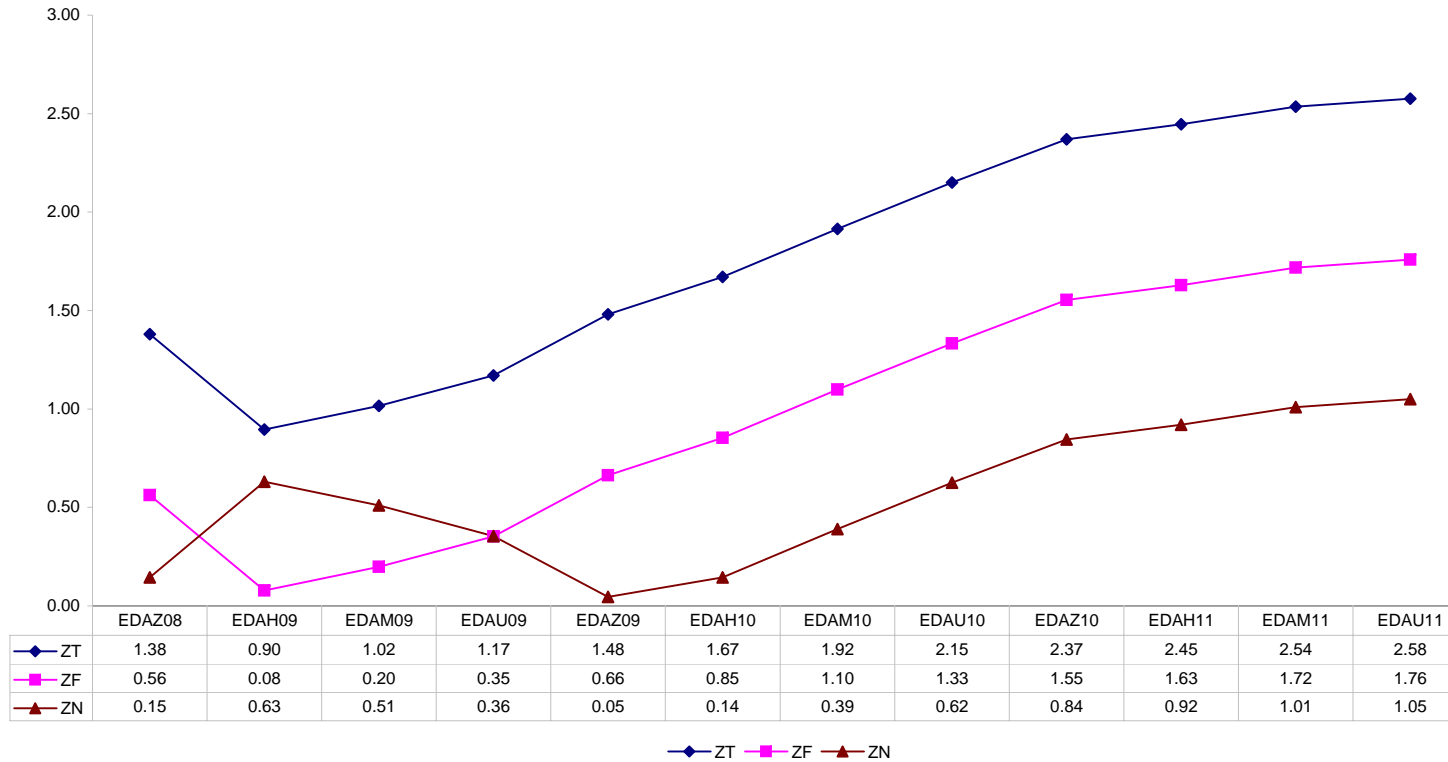
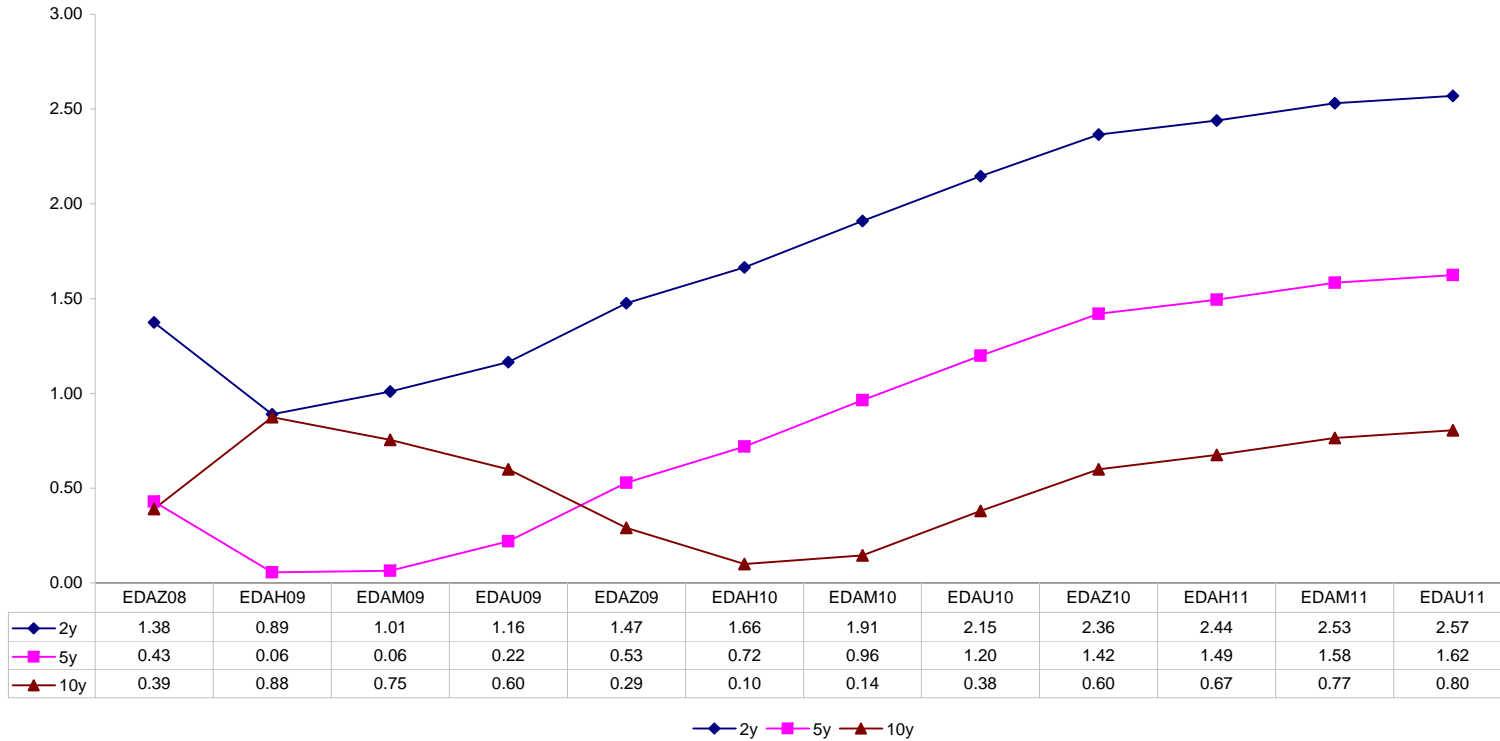
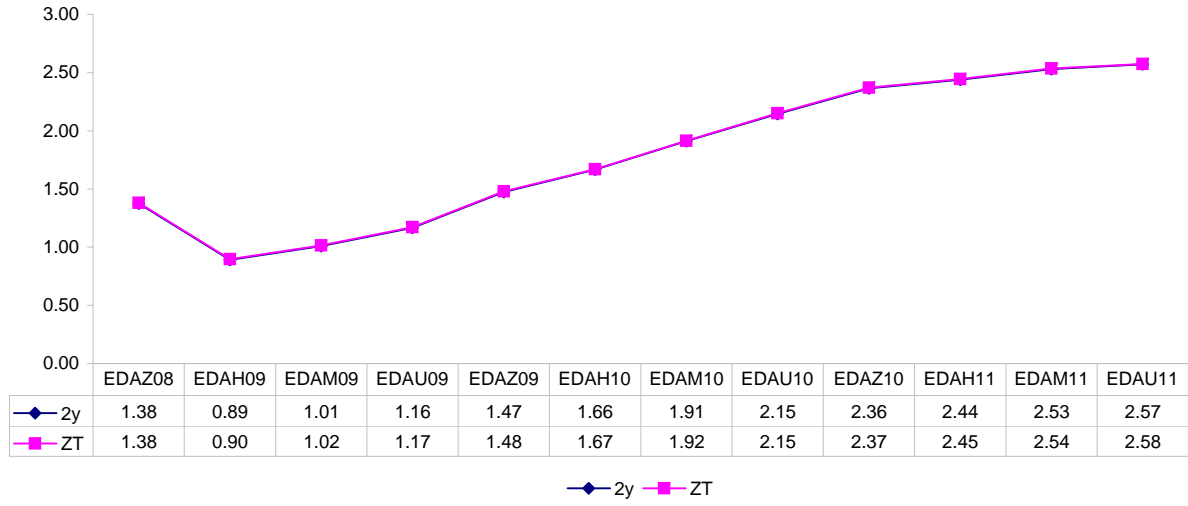


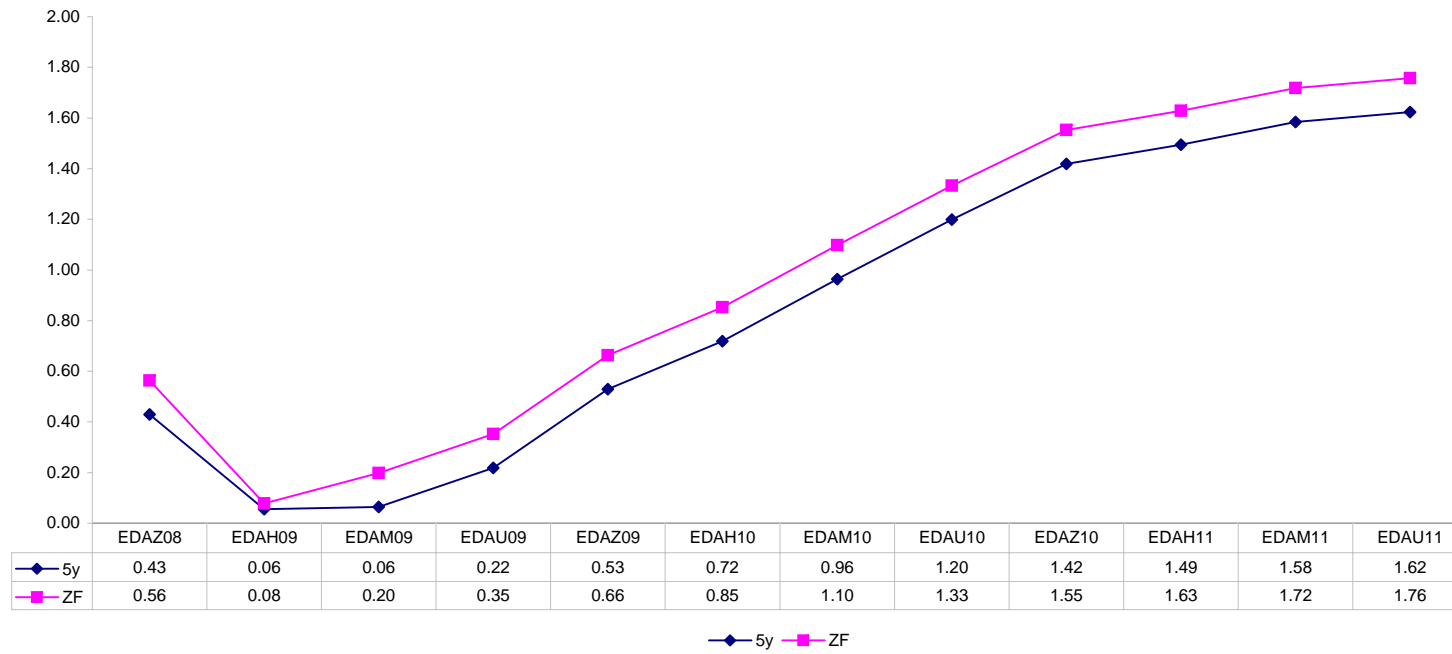
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



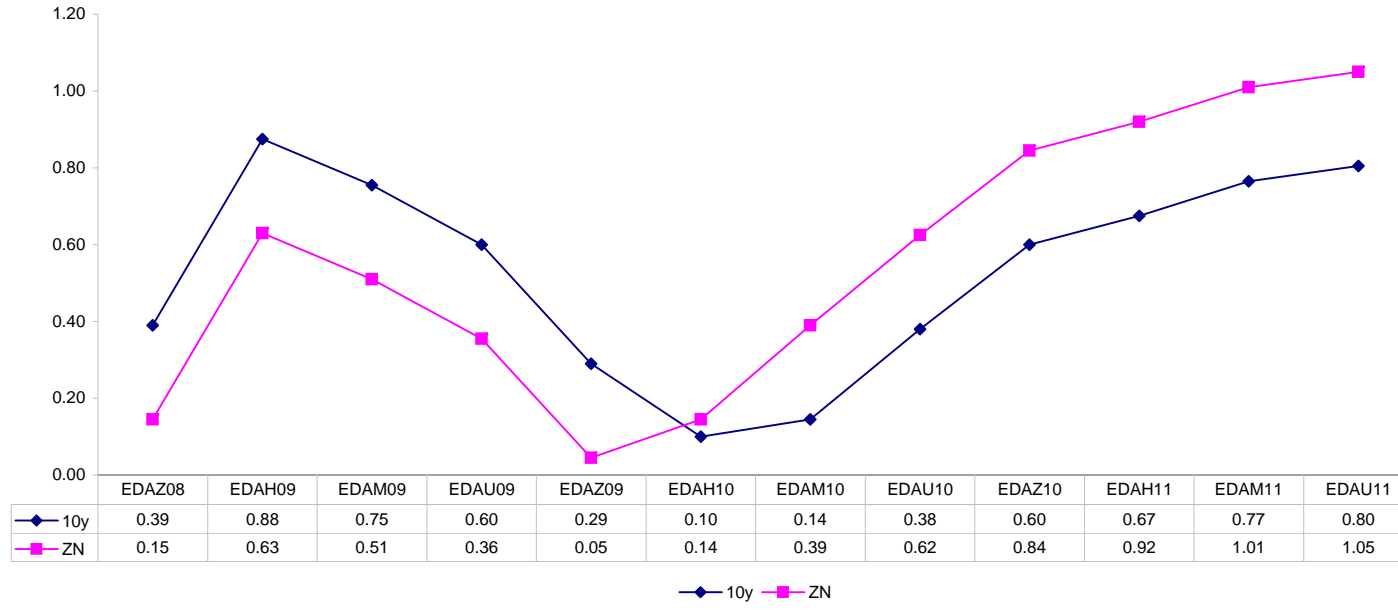
2y Basis TED Curve



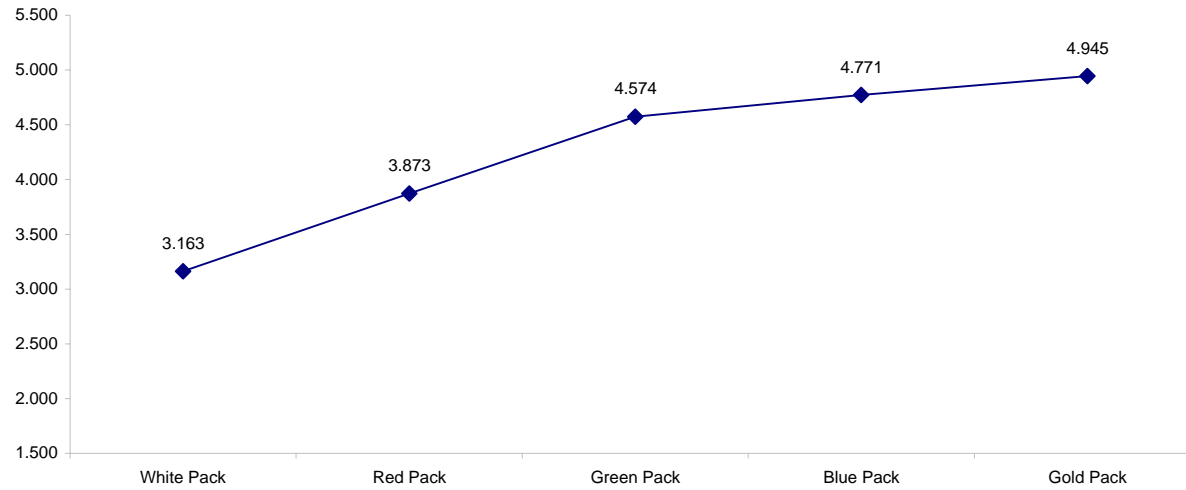
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.163	3.000	9690.500
Red Pack	3.873	6.500	9621.625
Green Pack	4.574	5.625	9553.875
Blue Pack	4.771	2.625	9534.875
Gold Pack	4.945	0.625	9518.125



2y, 5y, 10y Basis Curves vs ED

