

## **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	108.8125	108.260	0.804	1.74
ZF	118.7188	118.230	1.483	4.00
ZN	121.9531	121.305	2.657	6.31
2y	100.241	100.0770	1.124	1.97
5y	100.063	100.0200	1.984	4.70
10y	106.266	106.0850	3.015	8.33

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	97.990	2.010	19	0.051	DEC	
EDAH09	98.155	1.845	110	0.301	MAR	White Pack
EDAM09	98.125	1.875	201	0.550	JUN	
EDAU09	98.050	1.950	292	0.799	SEP	
EDAZ09	97.915	2.085	383	1.049	DEC	
EDAH10	97.890	2.110	474	1.298	MAR	Red Pack
EDAM10	97.770	2.230	565	1.547	JUN	
EDAU10	97.595	2.405	656	1.797	SEP	
EDAZ10	97.330	2.670	747	2.046	DEC	
EDAH11	97.175	2.825	838	2.295	MAR	Green Pack
EDAM11	96.970	3.030	929	2.545	JUN	
EDAU11	96.780	3.220	1027	2.813	SEP	
EDAZ11	96.590	3.410	1118	3.062	DEC	
EDAH12	96.530	3.470	1209	3.312	MAR	Blue Pack
EDAM12	96.435	3.565	1300	3.561	JUN	
EDAU12	96.365	3.635	1391	3.810	SEP	
EDAZ12	96.135	3.865	1482	4.060	DEC	
EDAH13	96.230	3.770	1573	4.309	MAR	Gold Pack
EDAM13	96.150	3.850	1664	4.558	JUN	
EDZU13	95.915	4.085	1846	5.057	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.956	1.375	9808.000	
Red Pack	2.251	6.500	9779.250	Pack Prices
Green Pack	2.999	11.750	9706.375	
Blue Pack	3.601	10.000	9648.000	
Gold Pack		3.375	9614.250	

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.

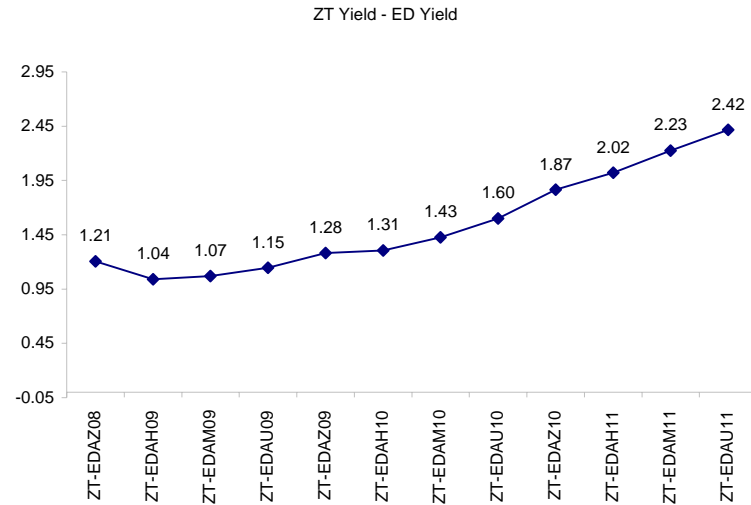
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

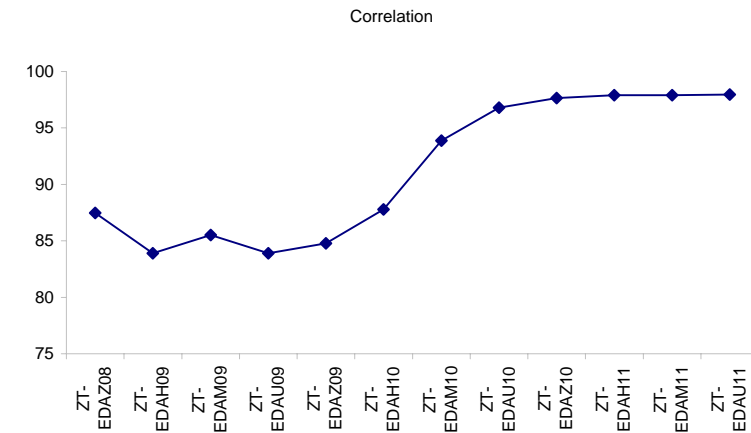
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.823	1.21	ZT-EDAZ08	87.460
EDAH09	10.658	1.04	ZT-EDAH09	83.900
EDAM09	10.688	1.07	ZT-EDAM09	85.520
EDAU09	10.763	1.15	ZT-EDAU09	83.900
EDAZ09	10.898	1.28	ZT-EDAZ09	84.774
EDAH10	10.923	1.31	ZT-EDAH10	87.773
EDAM10	11.043	1.43	ZT-EDAM10	93.867
EDAU10	11.218	1.60	ZT-EDAU10	96.810
EDAZ10	11.483	1.87	ZT-EDAZ10	97.639
EDAH11	11.638	2.02	ZT-EDAH11	97.907
EDAM11	11.843	2.23	ZT-EDAM11	97.903
EDAU11	12.033	2.42	ZT-EDAU11	97.973

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	0.051	1.74	1.69	ZT-EDAZ08		
EDAH09	0.301	1.74	1.44	ZT-EDAH09		
EDAM09	0.550	1.74	1.19	ZT-EDAM09		
EDAU09	0.799	1.74	0.94	ZT-EDAU09		
EDAZ09	1.049	1.74	0.69	ZT-EDAZ09		
EDAH10	1.298	1.74	0.44	ZT-EDAH10		
EDAM10	1.547	1.74	0.19	ZT-EDAM10		
EDAU10	1.797	1.74	(0.06)	ZT-EDAU10		
EDAZ10	2.046	1.74	(0.31)	ZT-EDAZ10		
EDAH11	2.295	1.74	(0.56)	ZT-EDAH11		
EDAM11	2.545	1.74	(0.81)	ZT-EDAM11		
EDAU11	2.813	1.74	(1.08)	ZT-EDAU11		

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

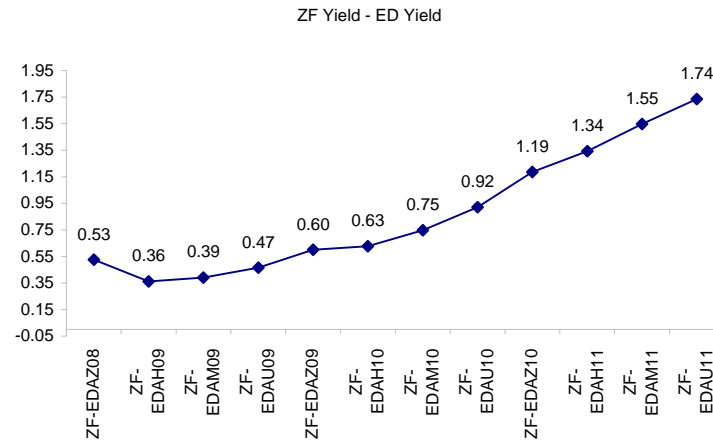


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	20.729	0.53	ZF-EDAZ08	87.118
EDAH09	20.564	0.36	ZF-EDAH09	82.882
EDAM09	20.594	0.39	ZF-EDAM09	81.155
EDAU09	20.669	0.47	ZF-EDAU09	79.061
EDAZ09	20.804	0.60	ZF-EDAZ09	80.203
EDAH10	20.829	0.63	ZF-EDAH10	83.957
EDAM10	20.949	0.75	ZF-EDAM10	91.617
EDAU10	21.124	0.92	ZF-EDAU10	95.971
EDAZ10	21.389	1.19	ZF-EDAZ10	97.444
EDAH11	21.544	1.34	ZF-EDAH11	97.894
EDAM11	21.749	1.55	ZF-EDAM11	97.766
EDAU11	21.939	1.74	ZF-EDAU11	97.647

Price = Outright Decimal Price - Euro Contract Price

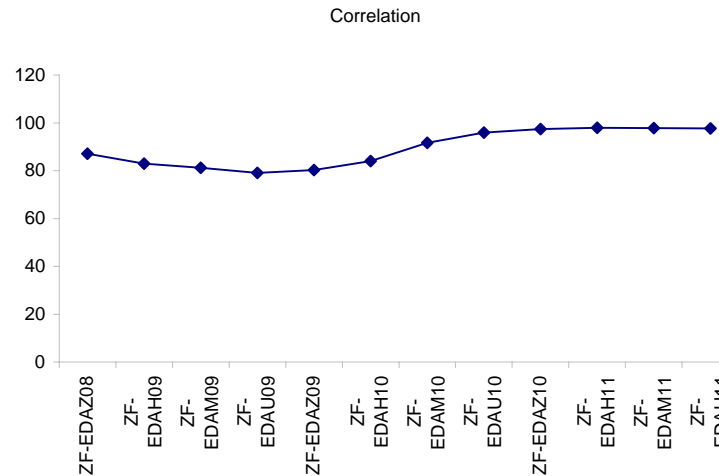
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAZ08	0.051	4.00	3.95	ZF-EDAZ08	
EDAH09	0.301	4.00	3.70	ZF-EDAH09	
EDAM09	0.550	4.00	3.45	ZF-EDAM09	
EDAU09	0.799	4.00	3.20	ZF-EDAU09	
EDAZ09	1.049	4.00	2.95	ZF-EDAZ09	
EDAH10	1.298	4.00	2.70	ZF-EDAH10	
EDAM10	1.547	4.00	2.45	ZF-EDAM10	
EDAU10	1.797	4.00	2.20	ZF-EDAU10	
EDAZ10	2.046	4.00	1.95	ZF-EDAZ10	
EDAH11	2.295	4.00	1.70	ZF-EDAH11	
EDAM11	2.545	4.00	1.45	ZF-EDAM11	
EDAU11	2.813	4.00	1.19	ZF-EDAU11	

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

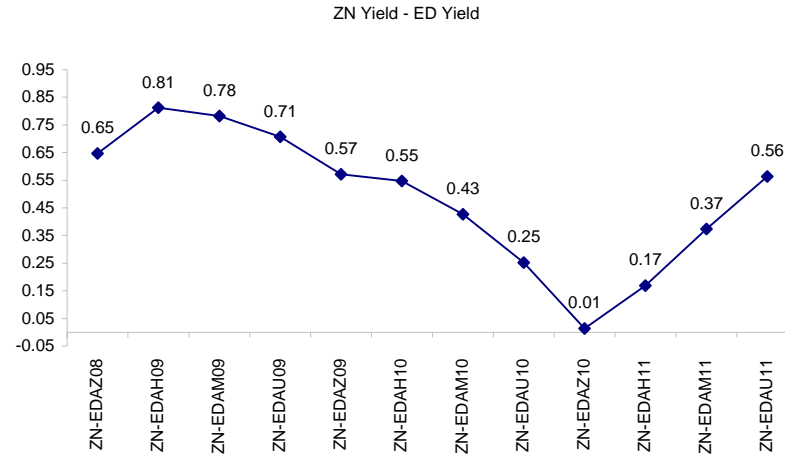


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	23.963	0.65	ZN-EDAZ08	84.459
EDAH09	23.798	0.81	ZN-EDAH09	79.620
EDAM09	23.828	0.78	ZN-EDAM09	76.824
EDAU09	23.903	0.71	ZN-EDAU09	74.009
EDAZ09	24.038	0.57	ZN-EDAZ09	75.154
EDAH10	24.063	0.55	ZN-EDAH10	79.697
EDAM10	24.183	0.43	ZN-EDAM10	91.617
EDAU10	24.358	0.25	ZN-EDAU10	95.971
EDAZ10	24.623	0.01	ZN-EDAZ10	97.444
EDAH11	24.778	0.17	ZN-EDAH11	97.894
EDAM11	24.983	0.37	ZN-EDAM11	97.766
EDAU11	25.173	0.56	ZN-EDAU11	97.647

Price = Outright Decimal Price - Euro Contract Price

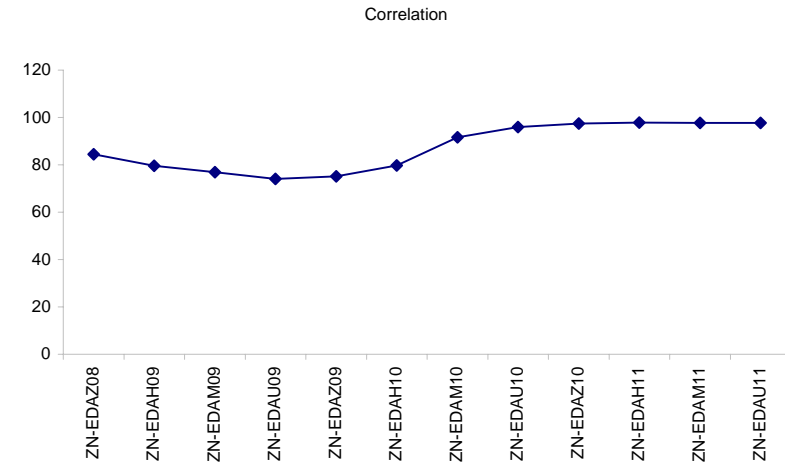
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.051	6.31	6.26	ZN-EDAZ08		
EDAH09	0.301	6.31	6.01	ZN-EDAH09		
EDAM09	0.550	6.31	5.76	ZN-EDAM09		
EDAU09	0.799	6.31	5.51	ZN-EDAU09		
EDAZ09	1.049	6.31	5.26	ZN-EDAZ09		
EDAH10	1.298	6.31	5.01	ZN-EDAH10		
EDAM10	1.547	6.31	4.76	ZN-EDAM10		
EDAU10	1.797	6.31	4.51	ZN-EDAU10		
EDAZ10	2.046	6.31	4.26	ZN-EDAZ10		
EDAH11	2.295	6.31	4.01	ZN-EDAH11		
EDAM11	2.545	6.31	3.76	ZN-EDAM11		
EDAU11	2.813	6.31	3.49	ZN-EDAU11		

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

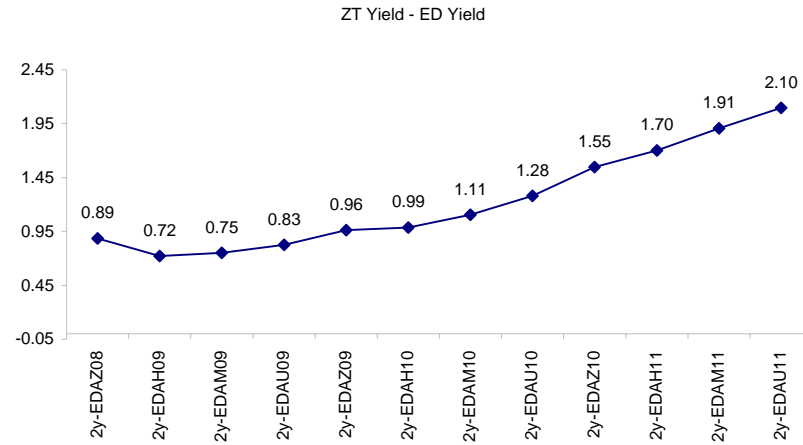


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	2.251	0.89	2y-EDAZ08	-74.178
EDAH09	2.086	0.72	2y-EDAH09	-76.872
EDAM09	2.116	0.75	2y-EDAM09	-74.151
EDAU09	2.191	0.83	2y-EDAU09	-75.590
EDAZ09	2.326	0.96	2y-EDAZ09	-77.808
EDAH10	2.351	0.99	2y-EDAH10	-77.938
EDAM10	2.471	1.11	2y-EDAM10	-75.363
EDAU10	2.646	1.28	2y-EDAU10	-72.573
EDAZ10	2.911	1.55	2y-EDAZ10	-69.053
EDAH11	3.066	1.70	2y-EDAH11	-64.833
EDAM11	3.271	1.91	2y-EDAM11	-62.839
EDAU11	3.461	2.10	2y-EDAU11	-61.402

Price = Outright Decimal Price - Euro Contract Price

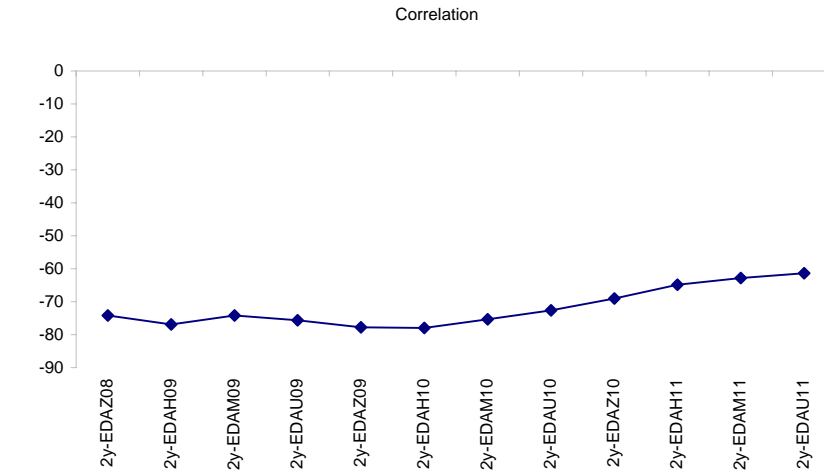
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.051	1.97	1.91	2y-EDAZ08	
EDAH09	0.301	1.97	1.67	2y-EDAH09	
EDAM09	0.550	1.97	1.42	2y-EDAM09	
EDAU09	0.799	1.97	1.17	2y-EDAU09	
EDAZ09	1.049	1.97	0.92	2y-EDAZ09	
EDAH10	1.298	1.97	0.67	2y-EDAH10	
EDAM10	1.547	1.97	0.42	2y-EDAM10	
EDAU10	1.797	1.97	0.17	2y-EDAU10	
EDAZ10	2.046	1.97	(0.08)	2y-EDAZ10	
EDAH11	2.295	1.97	(0.33)	2y-EDAH11	
EDAM11	2.545	1.97	(0.58)	2y-EDAM11	
EDAU11	2.813	1.97	(0.85)	2y-EDAU11	

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

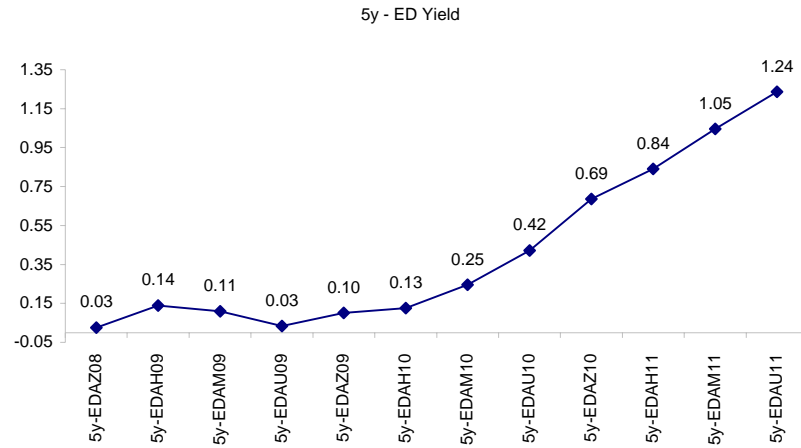


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	2.072	0.03	5y-EDAZ08	-89.636
EDAH09	1.907	0.14	5y-EDAH09	-91.508
EDAM09	1.937	0.11	5y-EDAM09	-88.301
EDAU09	2.012	0.03	5y-EDAU09	-86.686
EDAZ09	2.147	0.10	5y-EDAZ09	-88.326
EDAH10	2.172	0.13	5y-EDAH10	-91.380
EDAM10	2.292	0.25	5y-EDAM10	-95.143
EDAU10	2.467	0.42	5y-EDAU10	-96.561
EDAZ10	2.732	0.69	5y-EDAZ10	-96.459
EDAH11	2.887	0.84	5y-EDAH11	-95.389
EDAM11	3.092	1.05	5y-EDAM11	-94.749
EDAU11	3.282	1.24	5y-EDAU11	-94.131

Price = Outright Decimal Price - Euro Contract Price

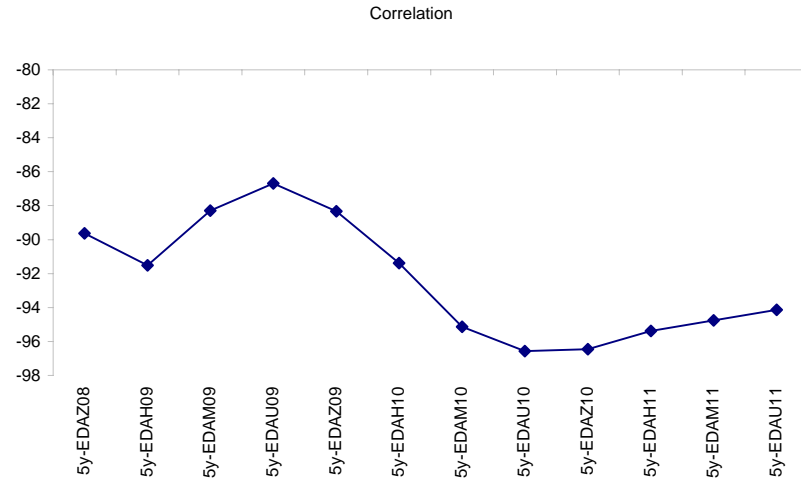
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAZ08	0.051	4.70	4.65	5y-EDAZ08
EDAH09	0.301	4.70	4.40	5y-EDAH09
EDAM09	0.550	4.70	4.15	5y-EDAM09
EDAU09	0.799	4.70	3.90	5y-EDAU09
EDAZ09	1.049	4.70	3.65	5y-EDAZ09
EDAH10	1.298	4.70	3.40	5y-EDAH10
EDAM10	1.547	4.70	3.15	5y-EDAM10
EDAU10	1.797	4.70	2.90	5y-EDAU10
EDAZ10	2.046	4.70	2.65	5y-EDAZ10
EDAH11	2.295	4.70	2.40	5y-EDAH11
EDAM11	2.545	4.70	2.15	5y-EDAM11
EDAU11	2.813	4.70	1.88	5y-EDAU11

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

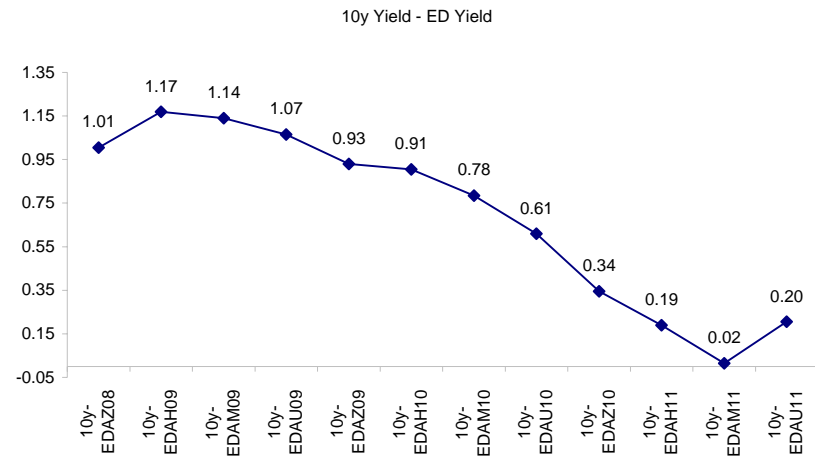


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	2.072	1.01	10y-EDAZ08	-87.749
EDAH09	1.907	1.17	10y-EDAH09	-83.987
EDAM09	1.937	1.14	10y-EDAM09	-79.580
EDAU09	2.012	1.07	10y-EDAU09	-76.542
EDAZ09	2.147	0.93	10y-EDAZ09	-77.925
EDAH10	2.172	0.91	10y-EDAH10	-82.406
EDAM10	2.292	0.78	10y-EDAM10	-90.669
EDAU10	2.467	0.61	10y-EDAU10	-95.431
EDAZ10	2.732	0.34	10y-EDAZ10	-97.339
EDAH11	2.887	0.19	10y-EDAH11	-98.269
EDAM11	3.092	0.02	10y-EDAM11	-98.497
EDAU11	3.282	0.20	10y-EDAU11	-98.517

Price = Outright Decimal Price - Euro Contract Price

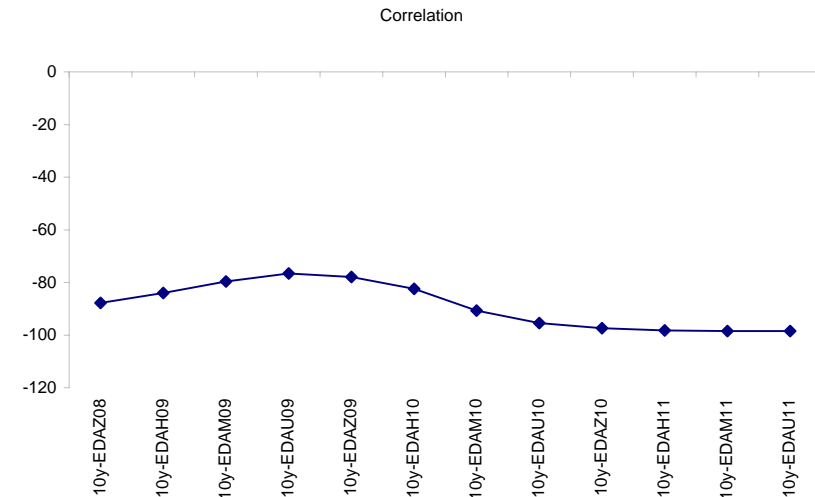
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.051	8.33	8.28	10y-EDAZ08
EDAH09	0.301	8.33	8.03	10y-EDAH09
EDAM09	0.550	8.33	7.78	10y-EDAM09
EDAU09	0.799	8.33	7.53	10y-EDAU09
EDAZ09	1.049	8.33	7.28	10y-EDAZ09
EDAH10	1.298	8.33	7.03	10y-EDAH10
EDAM10	1.547	8.33	6.78	10y-EDAM10
EDAU10	1.797	8.33	6.53	10y-EDAU10
EDAZ10	2.046	8.33	6.28	10y-EDAZ10
EDAH11	2.295	8.33	6.03	10y-EDAH11
EDAM11	2.545	8.33	5.78	10y-EDAM11
EDAU11	2.813	8.33	5.52	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.

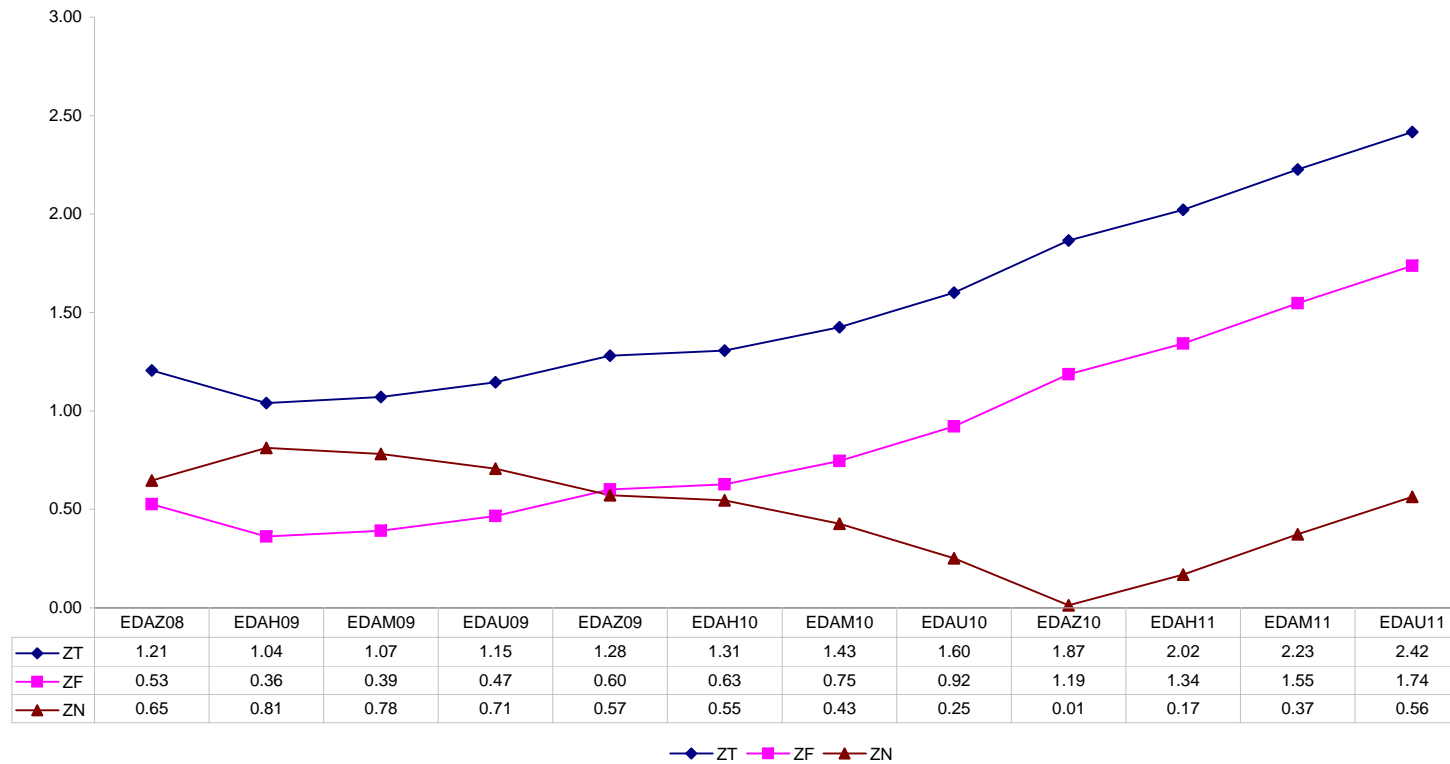
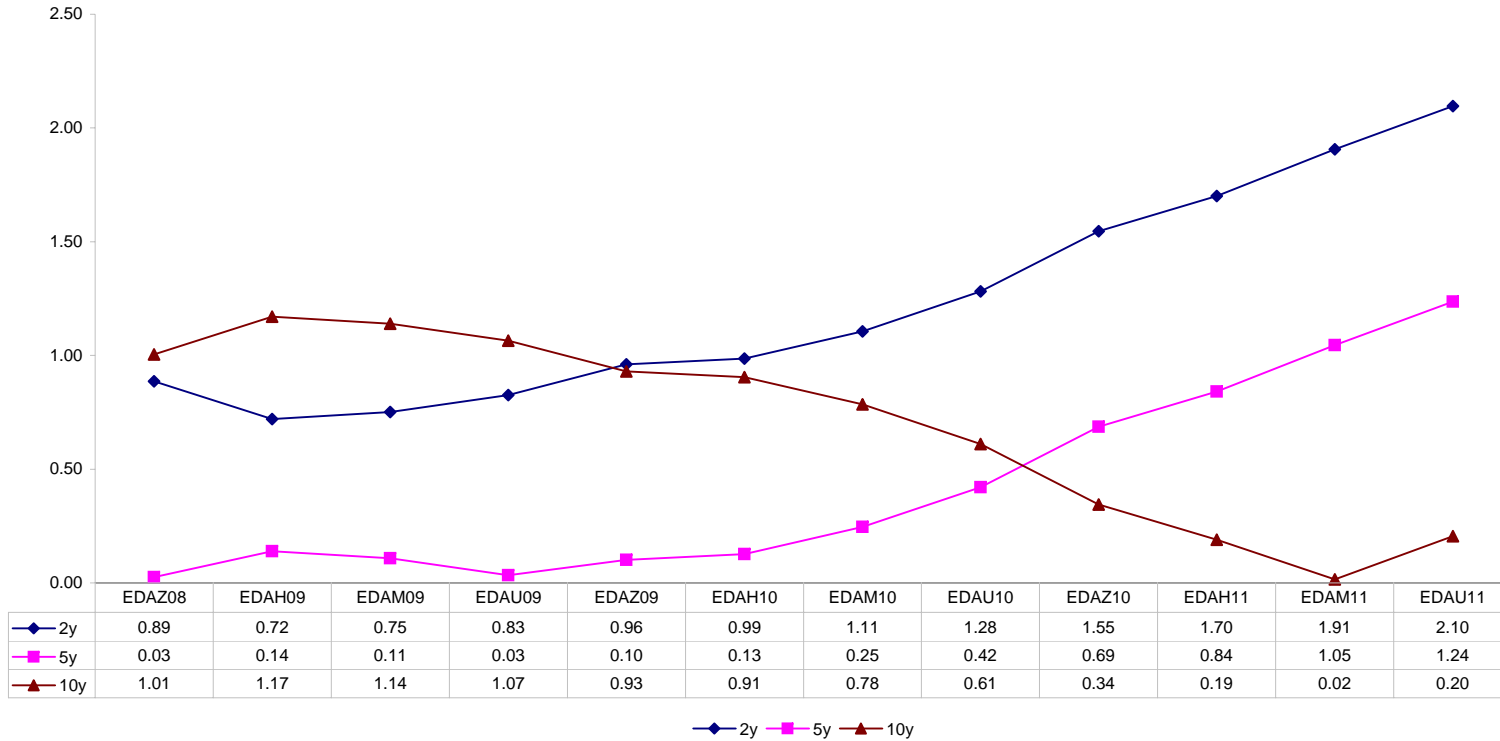
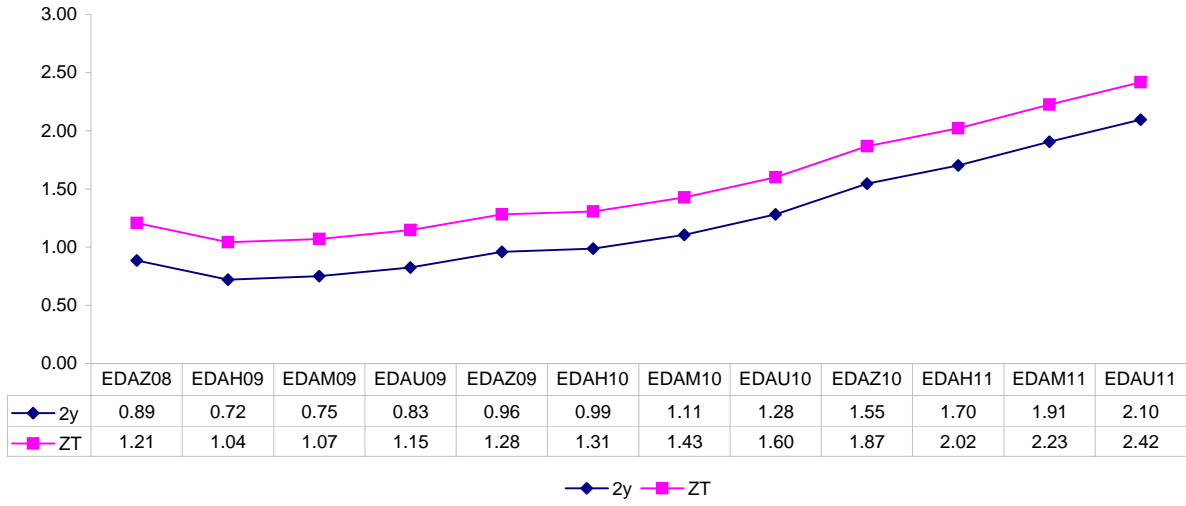


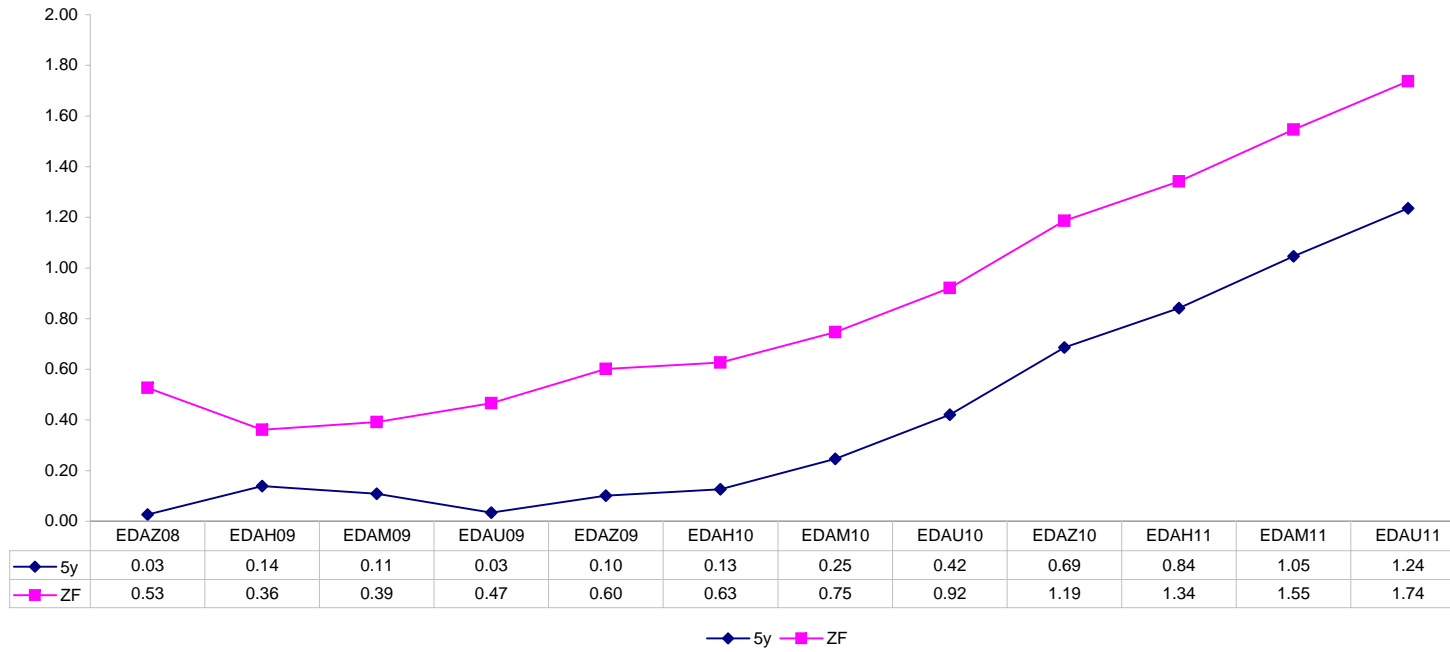
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



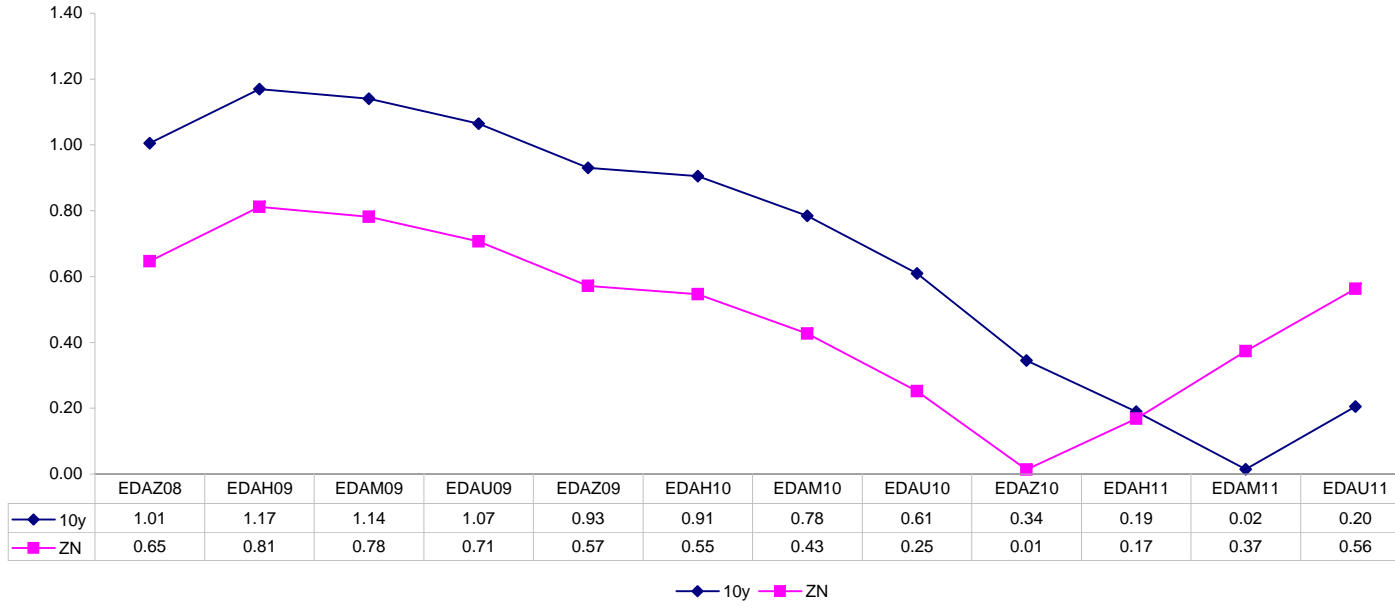
2y Basis TED Curve



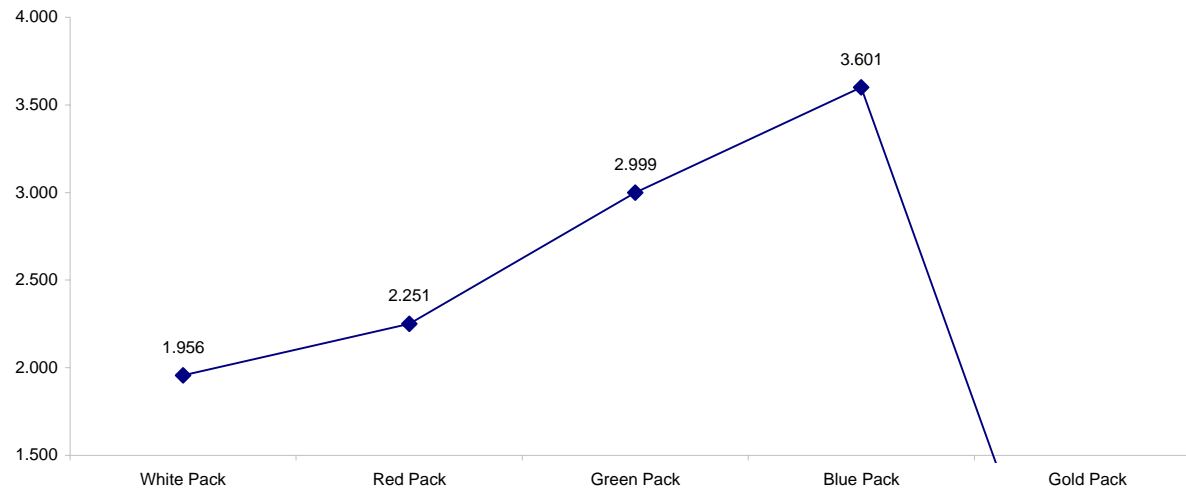
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.956	1.375	9808.000
Red Pack	2.251	6.500	9779.250
Green Pack	2.999	11.750	9706.375
Blue Pack	3.601	10.000	9648.000
Gold Pack		3.375	9614.250



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

