

## **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	108.4438	108.142	0.474	1.93
ZF	118.7875	118.252	1.128	1.13
ZN	127.5000	127.160	2.315	6.84
2y	100.991	100.3170	0.732	1.93
5y	102.594	102.1900	1.450	4.71
10y	110.766	110.2450	2.508	8.34

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	98.133	1.867	3	0.008	DEC	
EDAH09	98.530	1.470	94	0.257	MAR	White Pack
EDAM09	98.500	1.500	185	0.506	JUN	
EDAU09	98.420	1.580	276	0.756	SEP	
EDAZ09	98.280	1.720	367	1.005	DEC	
EDAH10	98.190	1.810	458	1.254	MAR	Red Pack
EDAM10	98.025	1.975	549	1.503	JUN	
EDAU10	97.875	2.125	640	1.753	SEP	
EDAZ10	97.690	2.310	731	2.002	DEC	
EDAH11	97.585	2.415	822	2.251	MAR	Green Pack
EDAM11	97.405	2.595	913	2.501	JUN	
EDAU11	97.270	2.730	1011	2.769	SEP	
EDAZ11	97.130	2.870	1102	3.019	DEC	
EDAH12	97.120	2.880	1193	3.268	MAR	Blue Pack
EDAM12	97.085	2.915	1284	3.517	JUN	
EDAU12	97.000	3.000	1375	3.766	SEP	
EDAZ12	96.890	3.110	1466	4.016	DEC	
EDAH13	96.780	3.220	1557	4.265	MAR	Gold Pack
EDAM13	96.730	3.270	1648	4.514	JUN	
EDZU13	96.590	3.410	1830	5.013	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.633	4.625	9839.563	
Red Pack	1.943	9.750	9809.250	Pack Prices
Green Pack	2.564	12.500	9748.750	
Blue Pack	2.978	9.625	9708.375	
Gold Pack		1.000	9681.875	

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.

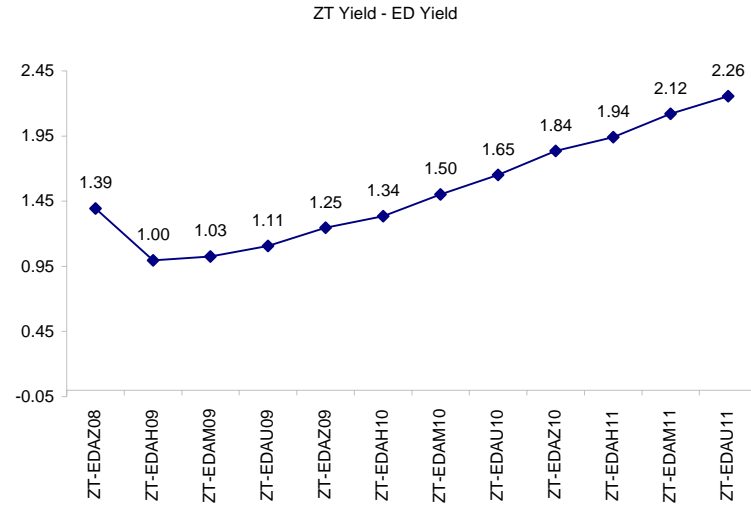
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

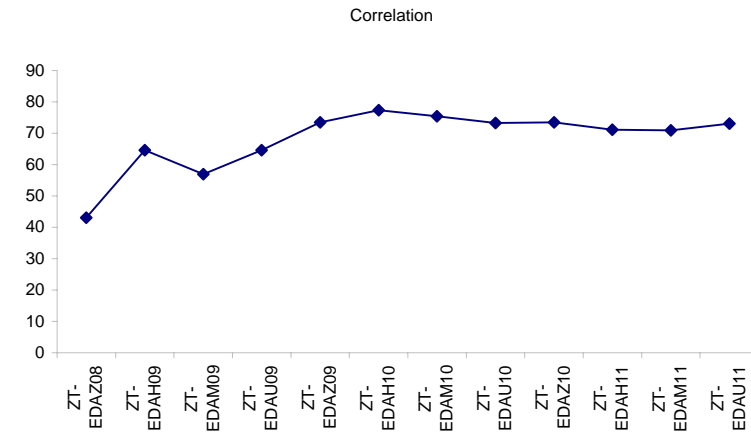
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.311	1.39	ZT-EDAZ08	43.012
EDAH09	9.914	1.00	ZT-EDAH09	64.598
EDAM09	9.944	1.03	ZT-EDAM09	56.981
EDAU09	10.024	1.11	ZT-EDAU09	64.598
EDAZ09	10.164	1.25	ZT-EDAZ09	73.492
EDAH10	10.254	1.34	ZT-EDAH10	77.343
EDAM10	10.419	1.50	ZT-EDAM10	75.373
EDAU10	10.569	1.65	ZT-EDAU10	73.285
EDAZ10	10.754	1.84	ZT-EDAZ10	73.445
EDAH11	10.859	1.94	ZT-EDAH11	71.145
EDAM11	11.039	2.12	ZT-EDAM11	70.940
EDAU11	11.174	2.26	ZT-EDAU11	73.023

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	0.008	1.93	1.93	ZT-EDAZ08		
EDAH09	0.257	1.93	1.68	ZT-EDAH09		
EDAM09	0.506	1.93	1.43	ZT-EDAM09		
EDAU09	0.756	1.93	1.18	ZT-EDAU09		
EDAZ09	1.005	1.93	0.93	ZT-EDAZ09		
EDAH10	1.254	1.93	0.68	ZT-EDAH10		
EDAM10	1.503	1.93	0.43	ZT-EDAM10		
EDAU10	1.753	1.93	0.18	ZT-EDAU10		
EDAZ10	2.002	1.93	(0.07)	ZT-EDAZ10		
EDAH11	2.251	1.93	(0.32)	ZT-EDAH11		
EDAM11	2.501	1.93	(0.57)	ZT-EDAM11		
EDAU11	2.769	1.93	(0.83)	ZT-EDAU11		

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

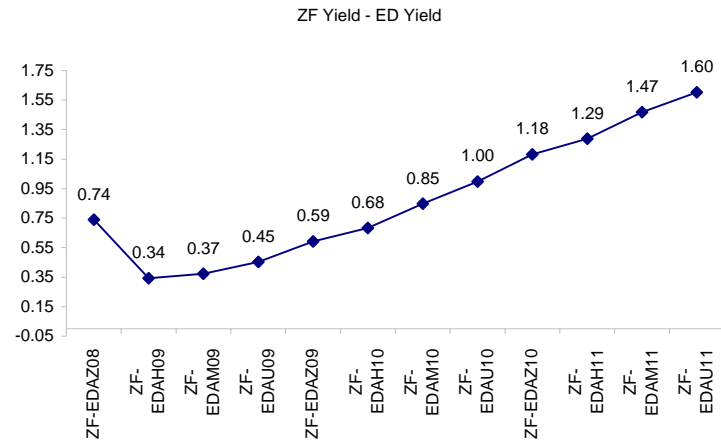


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	20.655	0.74	ZF-EDAZ08	57.337
EDAH09	20.258	0.34	ZF-EDAH09	58.098
EDAM09	20.288	0.37	ZF-EDAM09	63.755
EDAU09	20.368	0.45	ZF-EDAU09	66.852
EDAZ09	20.508	0.59	ZF-EDAZ09	65.275
EDAH10	20.598	0.68	ZF-EDAH10	59.776
EDAM10	20.763	0.85	ZF-EDAM10	52.320
EDAU10	20.913	1.00	ZF-EDAU10	52.250
EDAZ10	21.098	1.18	ZF-EDAZ10	59.846
EDAH11	21.203	1.29	ZF-EDAH11	61.713
EDAM11	21.383	1.47	ZF-EDAM11	65.427
EDAU11	21.518	1.60	ZF-EDAU11	73.894

Price = Outright Decimal Price - Euro Contract Price

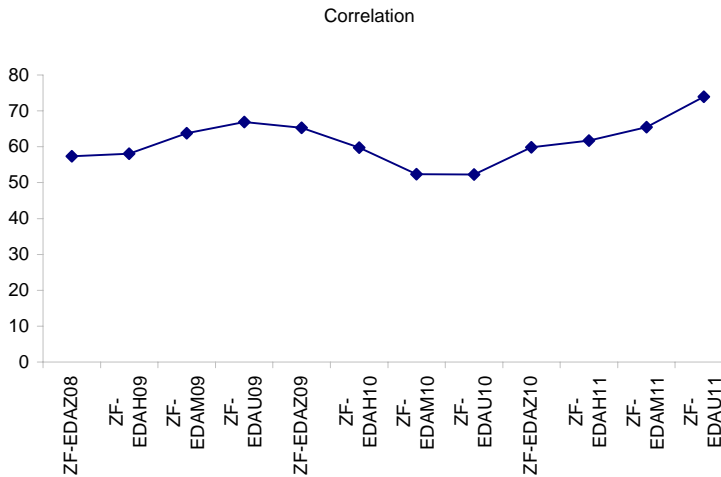
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.008	1.13	1.12	ZF-EDAZ08		
EDAH09	0.257	1.13	0.87	ZF-EDAH09		
EDAM09	0.506	1.13	0.62	ZF-EDAM09		
EDAU09	0.756	1.13	0.37	ZF-EDAU09		
EDAZ09	1.005	1.13	0.12	ZF-EDAZ09		
EDAH10	1.254	1.13	(0.13)	ZF-EDAH10		
EDAM10	1.503	1.13	(0.38)	ZF-EDAM10		
EDAU10	1.753	1.13	(0.63)	ZF-EDAU10		
EDAZ10	2.002	1.13	(0.87)	ZF-EDAZ10		
EDAH11	2.251	1.13	(1.12)	ZF-EDAH11		
EDAM11	2.501	1.13	(1.37)	ZF-EDAM11		
EDAU11	2.769	1.13	(1.64)	ZF-EDAU11		

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

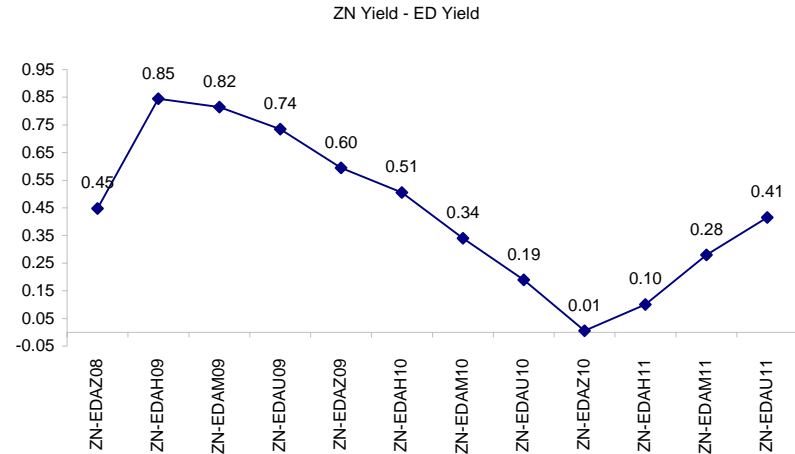


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	29.368	0.45	ZN-EDAZ08	58.590
EDAH09	28.970	0.85	ZN-EDAH09	59.158
EDAM09	29.000	0.82	ZN-EDAM09	63.986
EDAU09	29.080	0.74	ZN-EDAU09	64.763
EDAZ09	29.220	0.60	ZN-EDAZ09	60.430
EDAH10	29.310	0.51	ZN-EDAH10	50.952
EDAM10	29.475	0.34	ZN-EDAM10	52.320
EDAU10	29.625	0.19	ZN-EDAU10	52.250
EDAZ10	29.810	0.01	ZN-EDAZ10	59.846
EDAH11	29.915	0.10	ZN-EDAH11	61.713
EDAM11	30.095	0.28	ZN-EDAM11	65.427
EDAU11	30.230	0.41	ZN-EDAU11	73.894

Price = Outright Decimal Price - Euro Contract Price

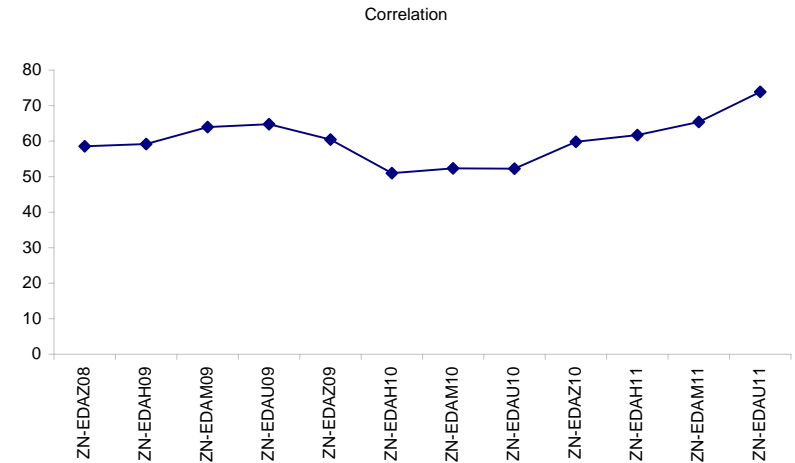
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.008	6.84	6.83	ZN-EDAZ08		
EDAH09	0.257	6.84	6.58	ZN-EDAH09		
EDAM09	0.506	6.84	6.34	ZN-EDAM09		
EDAU09	0.756	6.84	6.09	ZN-EDAU09		
EDAZ09	1.005	6.84	5.84	ZN-EDAZ09		
EDAH10	1.254	6.84	5.59	ZN-EDAH10		
EDAM10	1.503	6.84	5.34	ZN-EDAM10		
EDAU10	1.753	6.84	5.09	ZN-EDAU10		
EDAZ10	2.002	6.84	4.84	ZN-EDAZ10		
EDAH11	2.251	6.84	4.59	ZN-EDAH11		
EDAM11	2.501	6.84	4.34	ZN-EDAM11		
EDAU11	2.769	6.84	4.07	ZN-EDAU11		

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

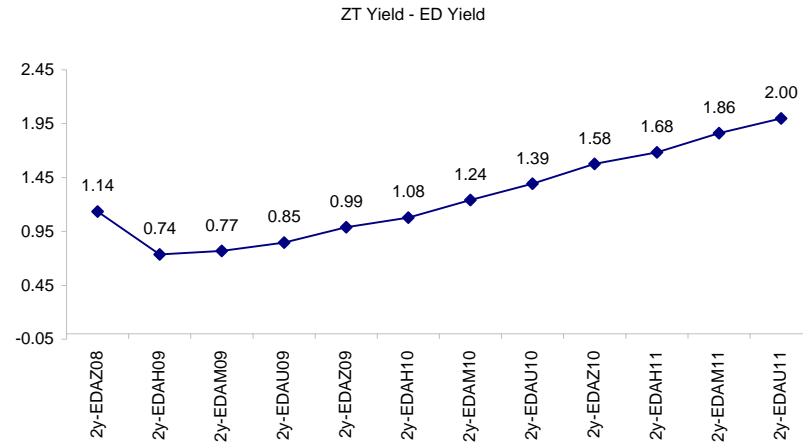


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	2.858	1.14	2y-EDAZ08	-85.005
EDAH09	2.461	0.74	2y-EDAH09	-87.982
EDAM09	2.491	0.77	2y-EDAM09	-90.819
EDAU09	2.571	0.85	2y-EDAU09	-90.957
EDAZ09	2.711	0.99	2y-EDAZ09	-86.601
EDAH10	2.801	1.08	2y-EDAH10	-74.753
EDAM10	2.966	1.24	2y-EDAM10	-59.335
EDAU10	3.116	1.39	2y-EDAU10	-54.673
EDAZ10	3.301	1.58	2y-EDAZ10	-61.382
EDAH11	3.406	1.68	2y-EDAH11	-61.050
EDAM11	3.586	1.86	2y-EDAM11	-64.261
EDAU11	3.721	2.00	2y-EDAU11	-74.237

Price = Outright Decimal Price - Euro Contract Price

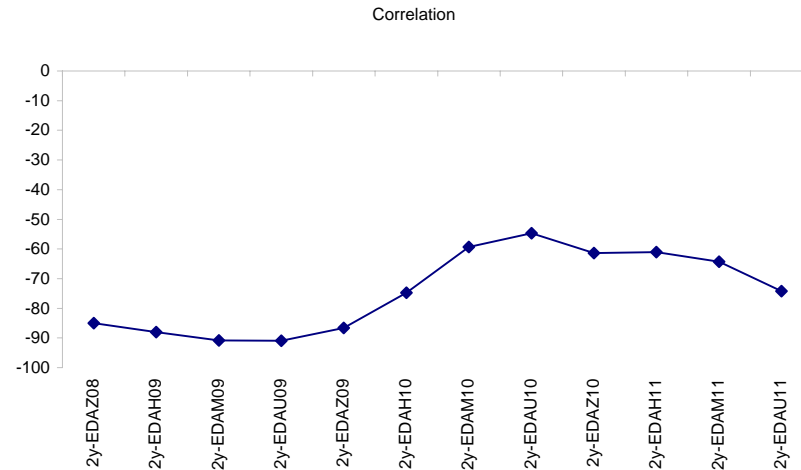
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.008	1.93	1.93	1.93	2y-EDAZ08
EDAH09	0.257	1.93	1.68	1.68	2y-EDAH09
EDAM09	0.506	1.93	1.43	1.43	2y-EDAM09
EDAU09	0.756	1.93	1.18	1.18	2y-EDAU09
EDAZ09	1.005	1.93	0.93	0.93	2y-EDAZ09
EDAH10	1.254	1.93	0.68	0.68	2y-EDAH10
EDAM10	1.503	1.93	0.43	0.43	2y-EDAM10
EDAU10	1.753	1.93	0.18	0.18	2y-EDAU10
EDAZ10	2.002	1.93	(0.07)	(0.07)	2y-EDAZ10
EDAH11	2.251	1.93	(0.32)	(0.32)	2y-EDAH11
EDAM11	2.501	1.93	(0.57)	(0.57)	2y-EDAM11
EDAU11	2.769	1.93	(0.84)	(0.84)	2y-EDAU11

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

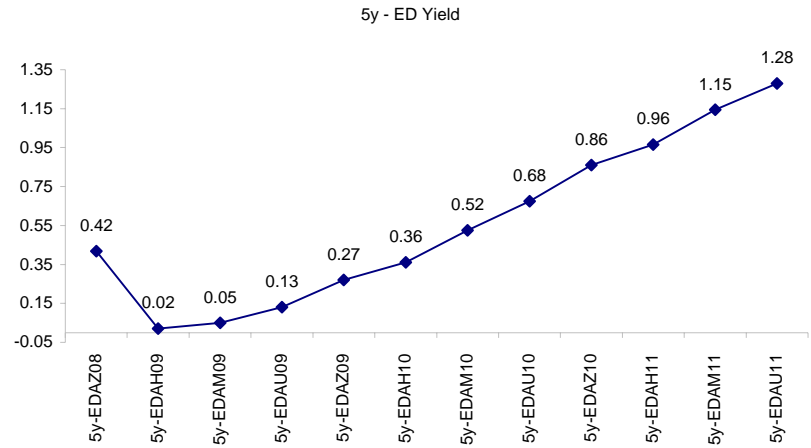


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.461	0.42	5y-EDAZ08	-73.414
EDAH09	4.064	0.02	5y-EDAH09	-74.552
EDAM09	4.094	0.05	5y-EDAM09	-79.354
EDAU09	4.174	0.13	5y-EDAU09	-80.909
EDAZ09	4.314	0.27	5y-EDAZ09	-77.129
EDAH10	4.404	0.36	5y-EDAH10	-68.074
EDAM10	4.569	0.52	5y-EDAM10	-56.329
EDAU10	4.719	0.68	5y-EDAU10	-54.015
EDAZ10	4.904	0.86	5y-EDAZ10	-61.606
EDAH11	5.009	0.96	5y-EDAH11	-62.638
EDAM11	5.189	1.15	5y-EDAM11	-66.227
EDAU11	5.324	1.28	5y-EDAU11	-75.095

Price = Outright Decimal Price - Euro Contract Price

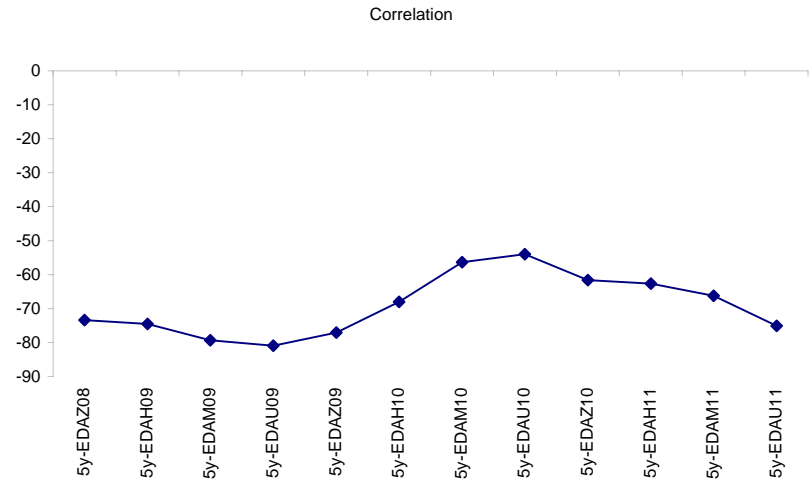
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAZ08	0.008	4.71	4.70	5y-EDAZ08
EDAH09	0.257	4.71	4.45	5y-EDAH09
EDAM09	0.506	4.71	4.20	5y-EDAM09
EDAU09	0.756	4.71	3.96	5y-EDAU09
EDAZ09	1.005	4.71	3.71	5y-EDAZ09
EDAH10	1.254	4.71	3.46	5y-EDAH10
EDAM10	1.503	4.71	3.21	5y-EDAM10
EDAU10	1.753	4.71	2.96	5y-EDAU10
EDAZ10	2.002	4.71	2.71	5y-EDAZ10
EDAH11	2.251	4.71	2.46	5y-EDAH11
EDAM11	2.501	4.71	2.21	5y-EDAM11
EDAU11	2.769	4.71	1.94	5y-EDAU11

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



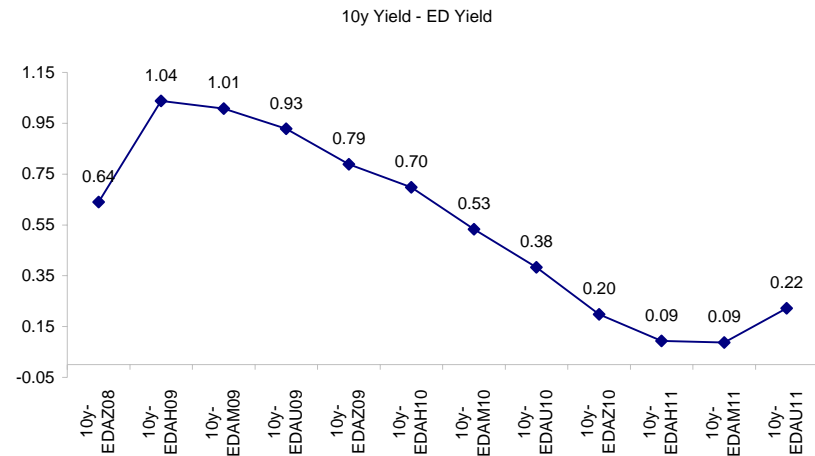


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.461	0.64	10y-EDAZ08	-63.496
EDAH09	4.064	1.04	10y-EDAH09	-66.010
EDAM09	4.094	1.01	10y-EDAM09	-71.262
EDAU09	4.174	0.93	10y-EDAU09	-73.686
EDAZ09	4.314	0.79	10y-EDAZ09	-71.252
EDAH10	4.404	0.70	10y-EDAH10	-63.776
EDAM10	4.569	0.53	10y-EDAM10	-53.978
EDAU10	4.719	0.38	10y-EDAU10	-52.334
EDAZ10	4.904	0.20	10y-EDAZ10	-59.544
EDAH11	5.009	0.09	10y-EDAH11	-60.919
EDAM11	5.189	0.09	10y-EDAM11	-64.810
EDAU11	5.324	0.22	10y-EDAU11	-74.006

Price = Outright Decimal Price - Euro Contract Price

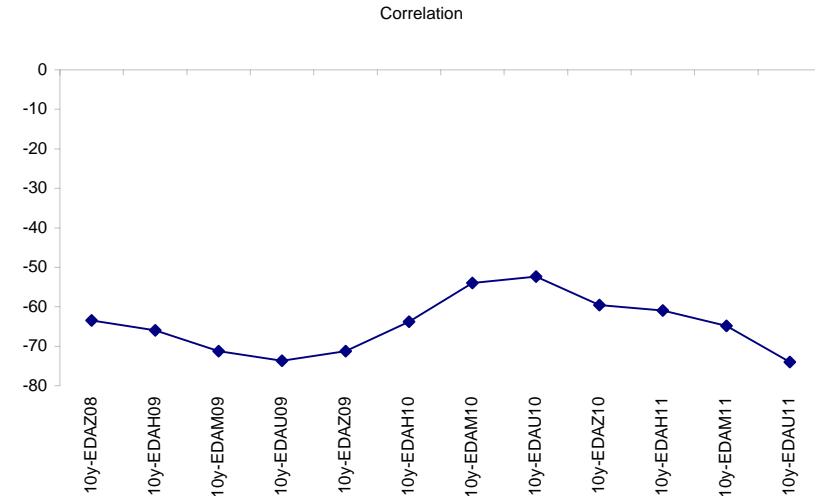
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.008	8.34	8.33	10y-EDAZ08
EDAH09	0.257	8.34	8.08	10y-EDAH09
EDAM09	0.506	8.34	7.83	10y-EDAM09
EDAU09	0.756	8.34	7.58	10y-EDAU09
EDAZ09	1.005	8.34	7.33	10y-EDAZ09
EDAH10	1.254	8.34	7.08	10y-EDAH10
EDAM10	1.503	8.34	6.84	10y-EDAM10
EDAU10	1.753	8.34	6.59	10y-EDAU10
EDAZ10	2.002	8.34	6.34	10y-EDAZ10
EDAH11	2.251	8.34	6.09	10y-EDAH11
EDAM11	2.501	8.34	5.84	10y-EDAM11
EDAU11	2.769	8.34	5.57	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.

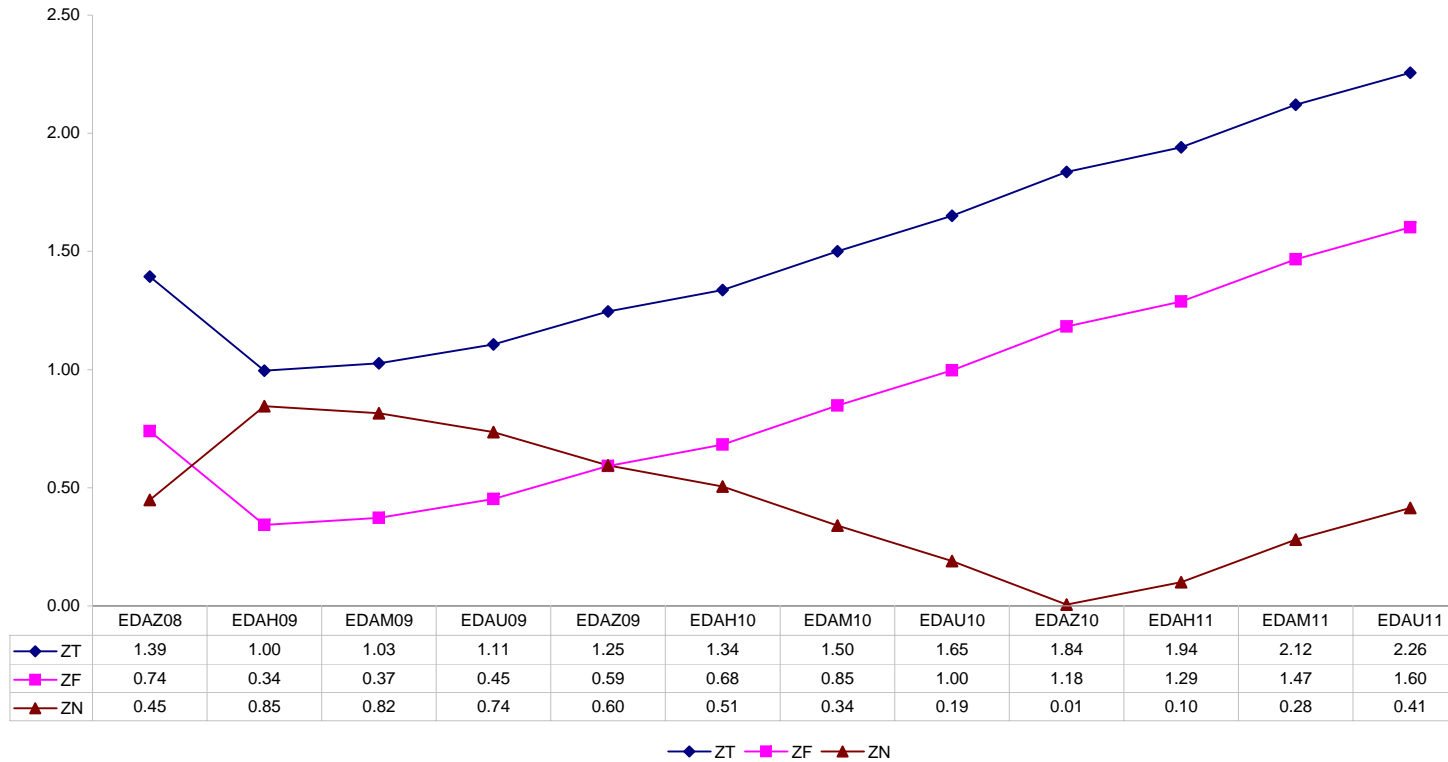
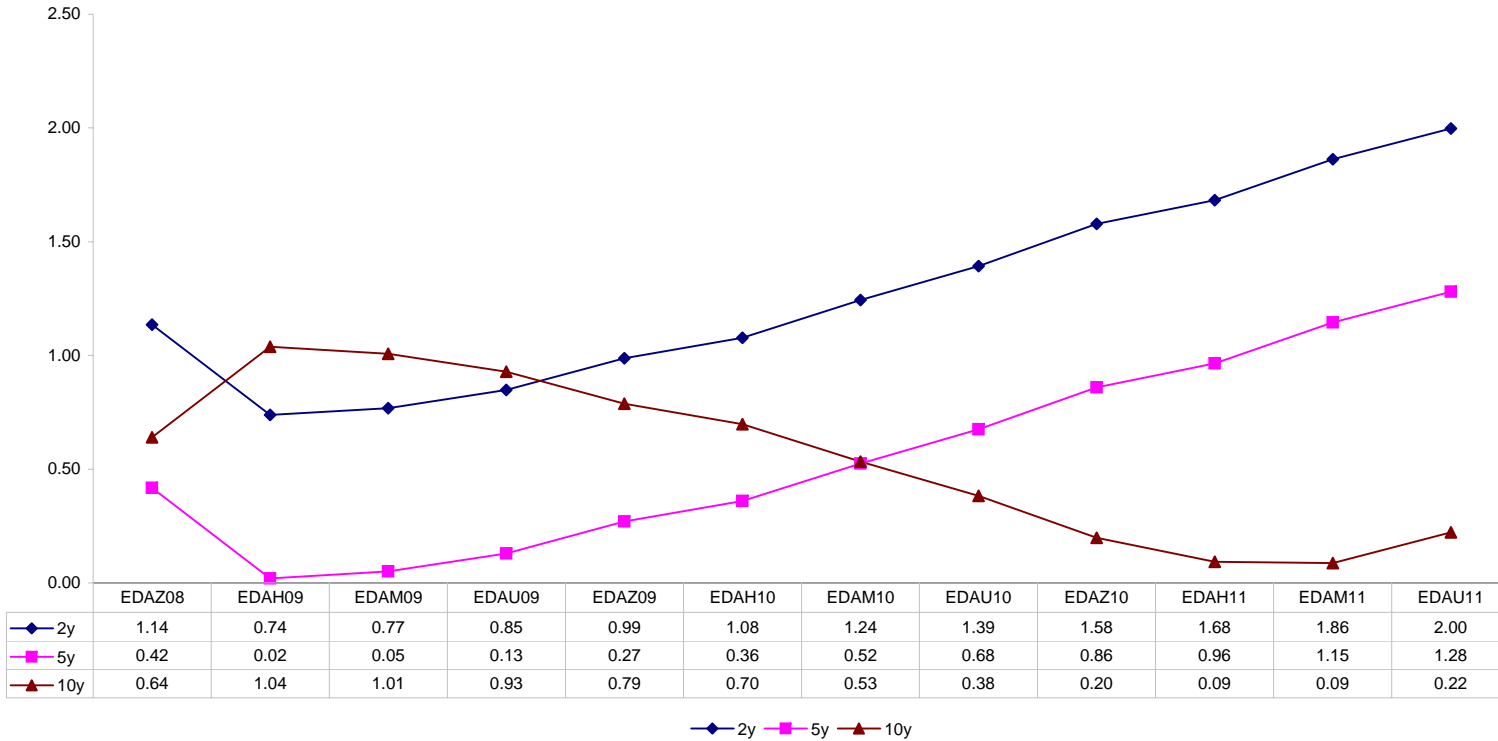
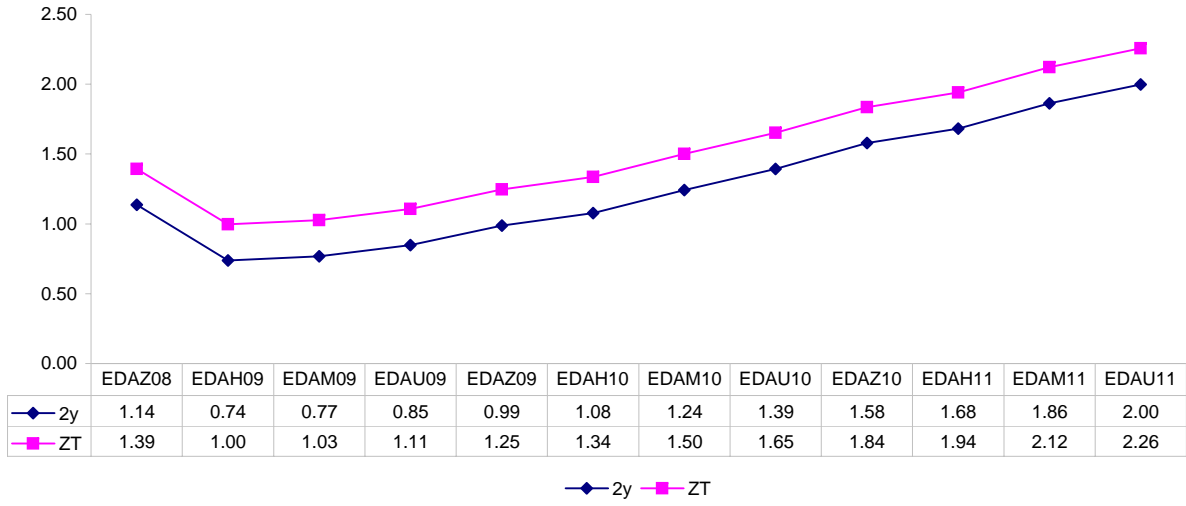


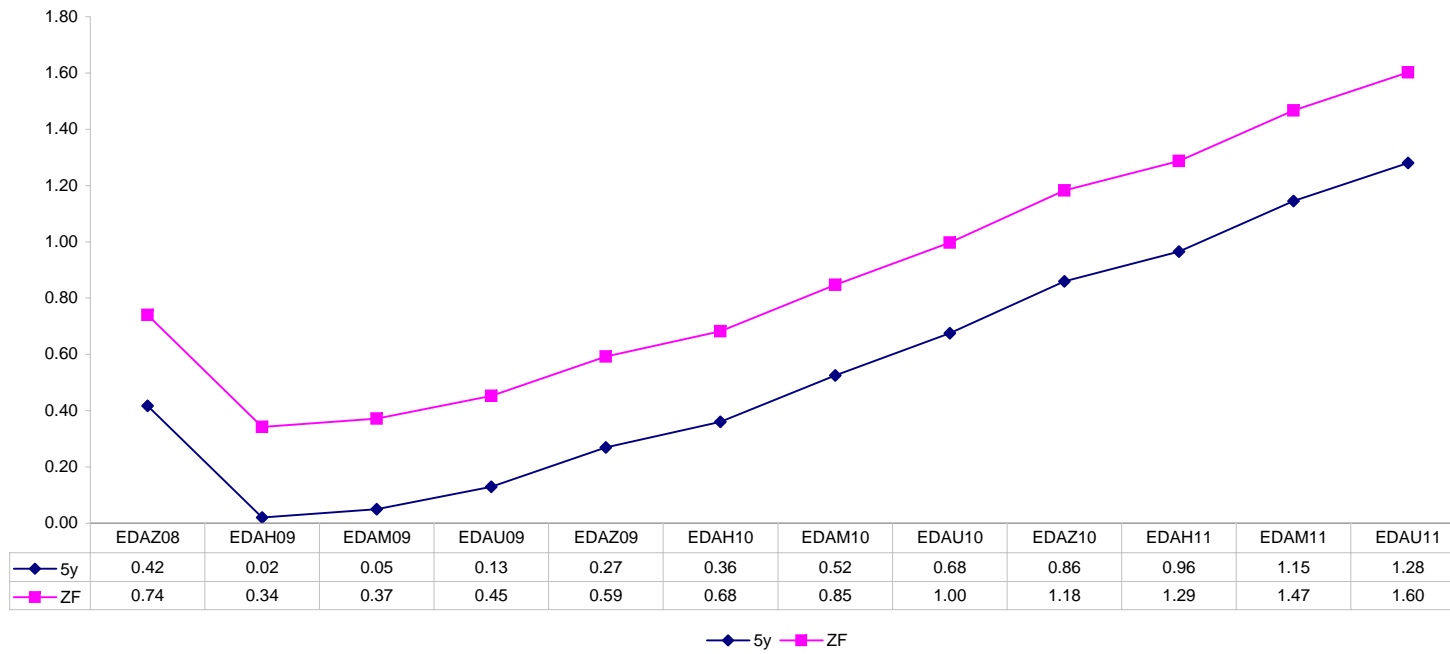
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



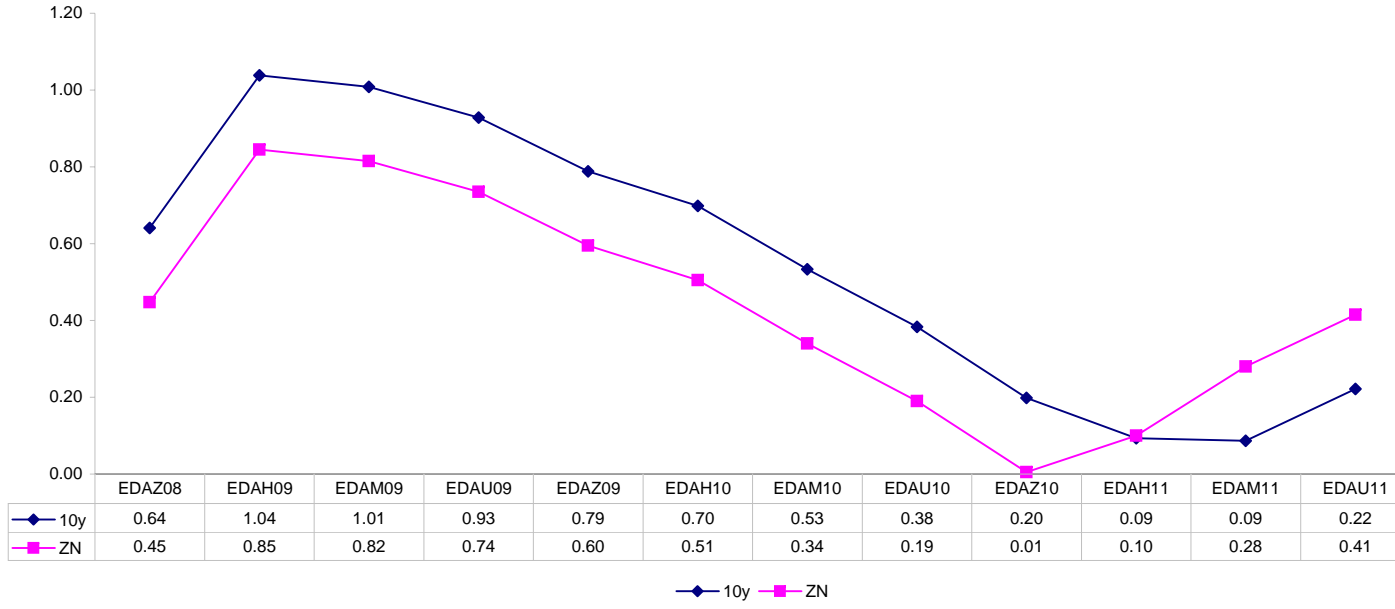
2y Basis TED Curve



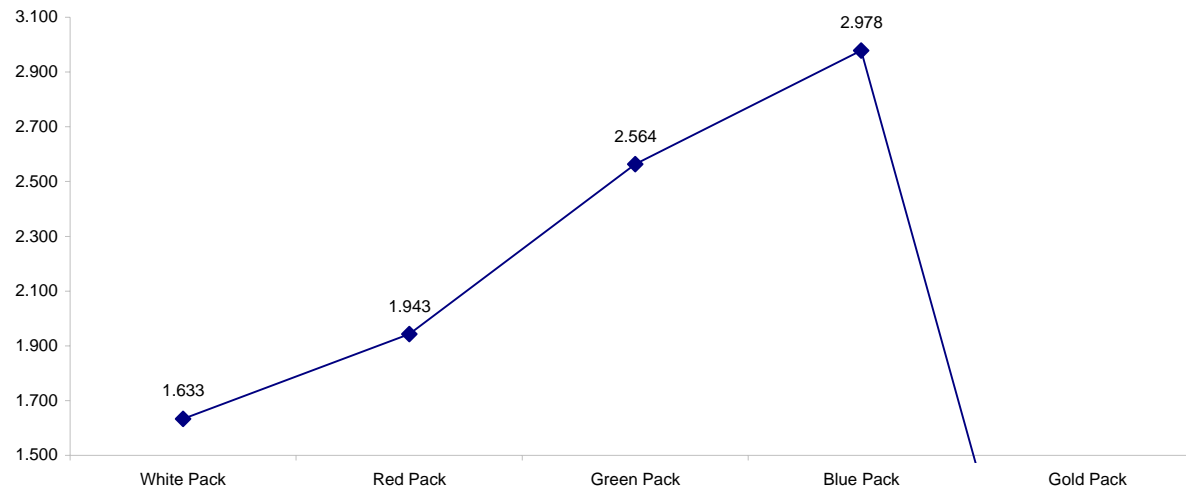
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.633	4.625	9839.563
Red Pack	1.943	9.750	9809.250
Green Pack	2.564	12.500	9748.750
Blue Pack	2.978	9.625	9708.375
Gold Pack		1.000	9681.875



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

