

## **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	107.4844	107.155	1.637	1.96
ZF	114.5688	114.182	2.372	4.17
ZN	118.7969	118.255	3.060	6.33
2y	101.288	101.0920	1.694	1.92
5y	102.984	102.3150	2.478	4.57
10y	105.297	105.0950	3.363	8.16

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.180	2.820	-1	-0.003	SEP	
EDAZ08	97.285	2.715	90	0.246	DEC	White
EDAH09	97.665	2.335	181	0.495	MAR	Pack
EDAM09	97.665	2.335	272	0.745	JUN	
EDAU09	97.565	2.435	363	0.994	SEP	
EDAZ09	97.255	2.745	454	1.243	DEC	Red
EDAH10	97.035	2.965	545	1.492	MAR	Pack
EDAM10	96.755	3.245	636	1.742	JUN	
EDAU10	96.520	3.480	727	1.991	SEP	
EDAZ10	96.310	3.690	818	2.240	DEC	Green
EDAH11	96.175	3.825	909	2.490	MAR	Pack
EDAM11	96.105	3.895	1000	2.739	JUN	
EDAU11	96.055	3.945	1098	3.008	SEP	
EDAZ11	95.990	4.010	1189	3.257	DEC	Blue Pack
EDAH12	95.950	4.050	1280	3.506	MAR	
EDAM12	95.900	4.100	1371	3.755	JUN	
EDAU12	95.780	4.220	1462	4.005	SEP	
EDAZ12	95.725	4.275	1553	4.254	DEC	Gold Pack
EDAH13	95.710	4.290	1644	4.503	MAR	
EDAM13	95.625	4.375	1735	4.753	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	2.505	2.750	9754.500	
Red Pack	3.177	10.250	9689.125	Pack
Green Pack	3.930	9.125	9616.125	Prices
Blue Pack		7.125	9589.875	
Gold Pack		0.000	9562.625	

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.

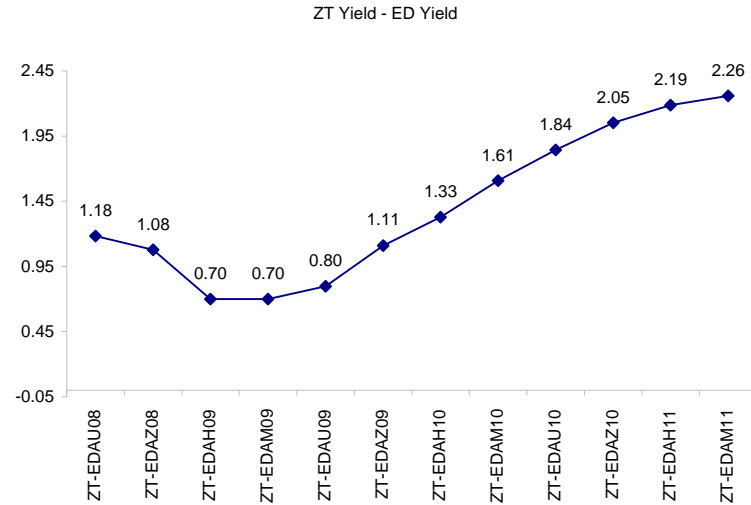
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

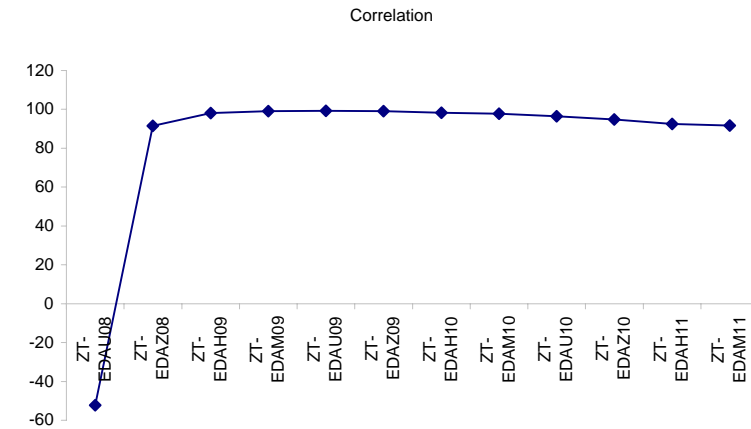
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	10.304	1.18	ZT-EDAU08	-52.301
EDAZ08	10.199	1.08	ZT-EDAZ08	91.536
EDAH09	9.819	0.70	ZT-EDAH09	98.049
EDAM09	9.819	0.70	ZT-EDAM09	99.030
EDAU09	9.919	0.80	ZT-EDAU09	99.331
EDAZ09	10.229	1.11	ZT-EDAZ09	99.010
EDAH10	10.449	1.33	ZT-EDAH10	98.252
EDAM10	10.729	1.61	ZT-EDAM10	97.685
EDAU10	10.964	1.84	ZT-EDAU10	96.506
EDAZ10	11.174	2.05	ZT-EDAZ10	94.732
EDAH11	11.309	2.19	ZT-EDAH11	92.436
EDAM11	11.379	2.26	ZT-EDAM11	91.640

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				
	ZT Duration	Spread Duration		
EDAU08	-0.003	1.96	1.97	ZT-EDAU08
EDAZ08	0.246	1.96	1.72	ZT-EDAZ08
EDAH09	0.495	1.96	1.47	ZT-EDAH09
EDAM09	0.745	1.96	1.22	ZT-EDAM09
EDAU09	0.994	1.96	0.97	ZT-EDAU09
EDAZ09	1.243	1.96	0.72	ZT-EDAZ09
EDAH10	1.492	1.96	0.47	ZT-EDAH10
EDAM10	1.742	1.96	0.22	ZT-EDAM10
EDAU10	1.991	1.96	(0.03)	ZT-EDAU10
EDAZ10	2.240	1.96	(0.28)	ZT-EDAZ10
EDAH11	2.490	1.96	(0.53)	ZT-EDAH11
EDAM11	2.739	1.96	(0.78)	ZT-EDAM11

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

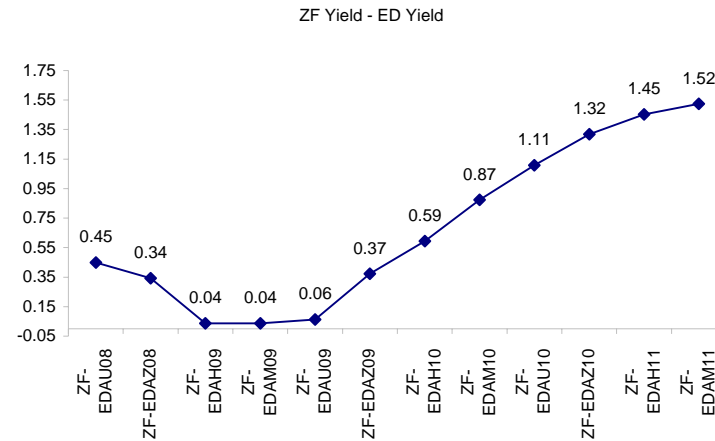


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	17.389	0.45	ZF-EDAU08	-49.452
EDAZ08	17.284	0.34	ZF-EDAZ08	88.091
EDAH09	16.904	0.04	ZF-EDAH09	95.364
EDAM09	16.904	0.04	ZF-EDAM09	96.757
EDAU09	17.004	0.06	ZF-EDAU09	97.170
EDAZ09	17.314	0.37	ZF-EDAZ09	96.785
EDAH10	17.534	0.59	ZF-EDAH10	95.858
EDAM10	17.814	0.87	ZF-EDAM10	95.680
EDAU10	18.049	1.11	ZF-EDAU10	94.939
EDAZ10	18.259	1.32	ZF-EDAZ10	93.894
EDAH11	18.394	1.45	ZF-EDAH11	91.573
EDAM11	18.464	1.52	ZF-EDAM11	90.990

Price = Outright Decimal Price - Euro Contract Price

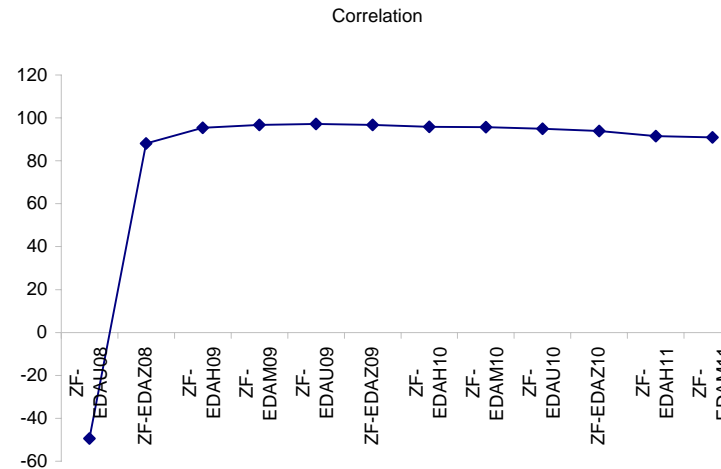
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	-0.003	4.17	4.17	ZF-EDAU08		
EDAZ08	0.246	4.17	3.92	ZF-EDAZ08		
EDAH09	0.495	4.17	3.67	ZF-EDAH09		
EDAM09	0.745	4.17	3.42	ZF-EDAM09		
EDAU09	0.994	4.17	3.18	ZF-EDAU09		
EDAZ09	1.243	4.17	2.93	ZF-EDAZ09		
EDAH10	1.492	4.17	2.68	ZF-EDAH10		
EDAM10	1.742	4.17	2.43	ZF-EDAM10		
EDAU10	1.991	4.17	2.18	ZF-EDAU10		
EDAZ10	2.240	4.17	1.93	ZF-EDAZ10		
EDAH11	2.490	4.17	1.68	ZF-EDAH11		
EDAM11	2.739	4.17	1.43	ZF-EDAM11		

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

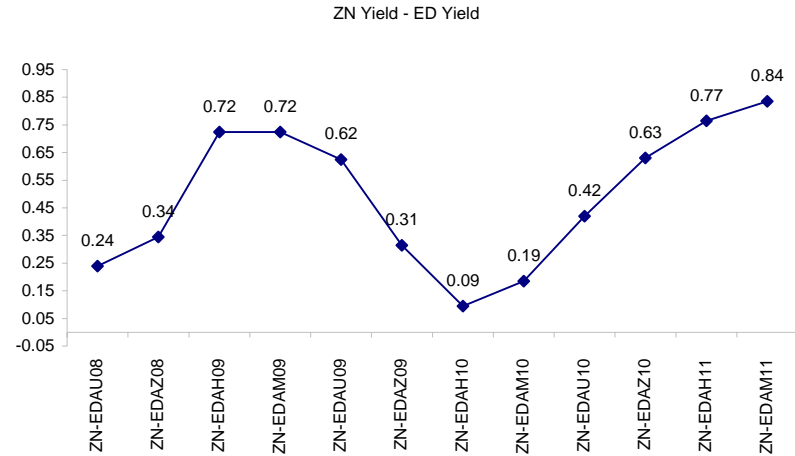


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	21.617	0.24	ZN-EDAU08	-41.368
EDAZ08	21.512	0.34	ZN-EDAZ08	85.722
EDAH09	21.132	0.72	ZN-EDAH09	91.529
EDAM09	21.132	0.72	ZN-EDAM09	92.841
EDAU09	21.232	0.62	ZN-EDAU09	92.873
EDAZ09	21.542	0.31	ZN-EDAZ09	92.277
EDAH10	21.762	0.09	ZN-EDAH10	95.858
EDAM10	22.042	0.19	ZN-EDAM10	95.680
EDAU10	22.277	0.42	ZN-EDAU10	94.939
EDAZ10	22.487	0.63	ZN-EDAZ10	93.894
EDAH11	22.622	0.77	ZN-EDAH11	91.573
EDAM11	22.692	0.84	ZN-EDAM11	90.990

Price = Outright Decimal Price - Euro Contract Price

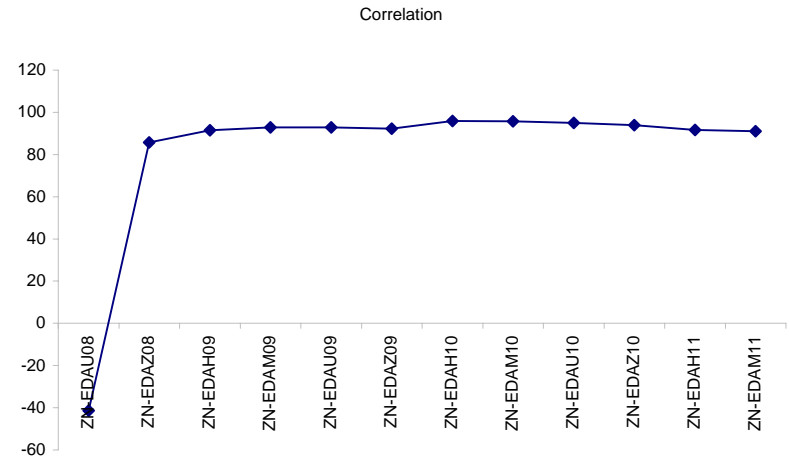
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	-0.003	6.33	6.33	ZN-EDAU08		
EDAZ08	0.246	6.33	6.08	ZN-EDAZ08		
EDAH09	0.495	6.33	5.83	ZN-EDAH09		
EDAM09	0.745	6.33	5.59	ZN-EDAM09		
EDAU09	0.994	6.33	5.34	ZN-EDAU09		
EDAZ09	1.243	6.33	5.09	ZN-EDAZ09		
EDAH10	1.492	6.33	4.84	ZN-EDAH10		
EDAM10	1.742	6.33	4.59	ZN-EDAM10		
EDAU10	1.991	6.33	4.34	ZN-EDAU10		
EDAZ10	2.240	6.33	4.09	ZN-EDAZ10		
EDAH11	2.490	6.33	3.84	ZN-EDAH11		
EDAM11	2.739	6.33	3.59	ZN-EDAM11		

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

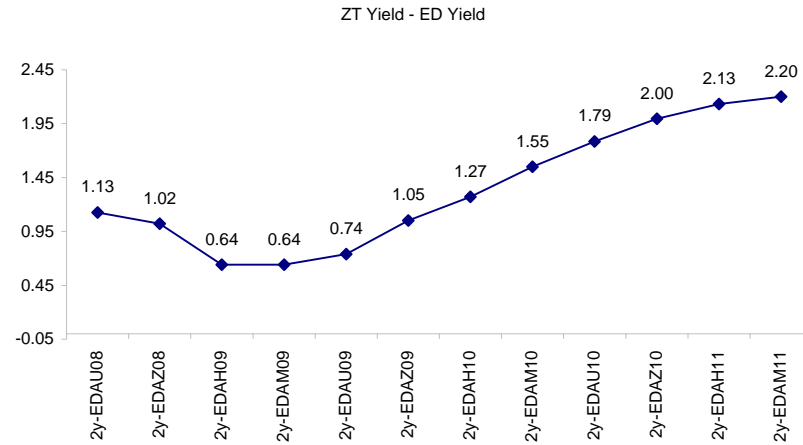


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	4.107	1.13	2y-EDAU08	46.414
EDAZ08	4.003	1.02	2y-EDAZ08	-91.945
EDAH09	3.622	0.64	2y-EDAH09	-97.375
EDAM09	3.622	0.64	2y-EDAM09	-97.895
EDAU09	3.723	0.74	2y-EDAU09	-97.913
EDAZ09	4.033	1.05	2y-EDAZ09	-97.525
EDAH10	4.253	1.27	2y-EDAH10	-96.821
EDAM10	4.533	1.55	2y-EDAM10	-96.245
EDAU10	4.768	1.79	2y-EDAU10	-95.226
EDAZ10	4.977	2.00	2y-EDAZ10	-93.588
EDAH11	5.113	2.13	2y-EDAH11	-91.864
EDAM11	5.182	2.20	2y-EDAM11	-90.953

Price = Outright Decimal Price - Euro Contract Price

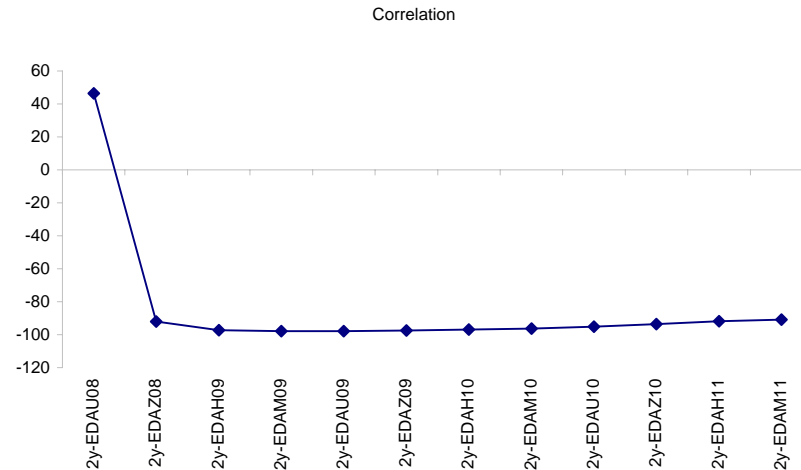
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	-0.003	1.92	1.93	2y-EDAU08	
EDAZ08	0.246	1.92	1.68	2y-EDAZ08	
EDAH09	0.495	1.92	1.43	2y-EDAH09	
EDAM09	0.745	1.92	1.18	2y-EDAM09	
EDAU09	0.994	1.92	0.93	2y-EDAU09	
EDAZ09	1.243	1.92	0.68	2y-EDAZ09	
EDAH10	1.492	1.92	0.43	2y-EDAH10	
EDAM10	1.742	1.92	0.18	2y-EDAM10	
EDAU10	1.991	1.92	(0.07)	2y-EDAU10	
EDAZ10	2.240	1.92	(0.32)	2y-EDAZ10	
EDAH11	2.490	1.92	(0.56)	2y-EDAH11	
EDAM11	2.739	1.92	(0.81)	2y-EDAM11	

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

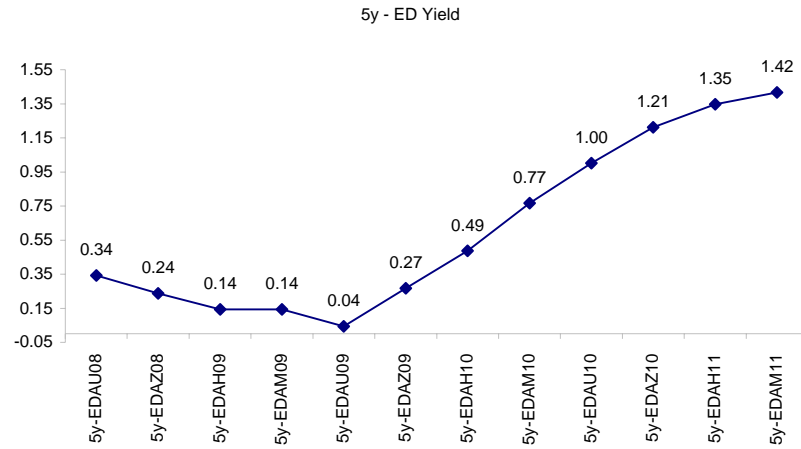


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	5.804	0.34	5y-EDAU08	43.622
EDAZ08	5.699	0.24	5y-EDAZ08	-91.592
EDAH09	5.319	0.14	5y-EDAH09	-96.570
EDAM09	5.319	0.14	5y-EDAM09	-97.206
EDAU09	5.419	0.04	5y-EDAU09	-97.129
EDAZ09	5.729	0.27	5y-EDAZ09	-96.683
EDAH10	5.949	0.49	5y-EDAH10	-95.887
EDAM10	6.229	0.77	5y-EDAM10	-95.633
EDAU10	6.464	1.00	5y-EDAU10	-94.940
EDAZ10	6.674	1.21	5y-EDAZ10	-93.787
EDAH11	6.809	1.35	5y-EDAH11	-92.383
EDAM11	6.879	1.42	5y-EDAM11	-91.463

Price = Outright Decimal Price - Euro Contract Price

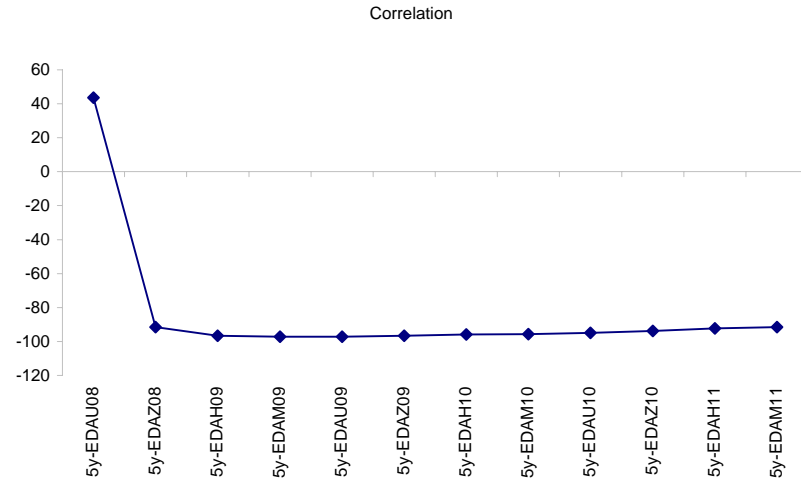
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAU08	-0.003	4.57	4.57	5y-EDAU08	
EDAZ08	0.246	4.57	4.32	5y-EDAZ08	
EDAH09	0.495	4.57	4.07	5y-EDAH09	
EDAM09	0.745	4.57	3.83	5y-EDAM09	
EDAU09	0.994	4.57	3.58	5y-EDAU09	
EDAZ09	1.243	4.57	3.33	5y-EDAZ09	
EDAH10	1.492	4.57	3.08	5y-EDAH10	
EDAM10	1.742	4.57	2.83	5y-EDAM10	
EDAU10	1.991	4.57	2.58	5y-EDAU10	
EDAZ10	2.240	4.57	2.33	5y-EDAZ10	
EDAH11	2.490	4.57	2.08	5y-EDAH11	
EDAM11	2.739	4.57	1.83	5y-EDAM11	

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

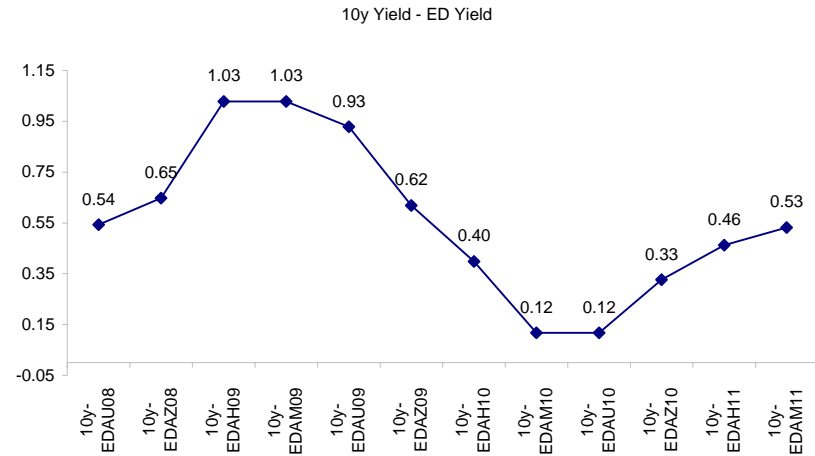


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	5.804	0.54	10y-EDAU08	32.248
EDAZ08	5.699	0.65	10y-EDAZ08	-93.812
EDAH09	5.319	1.03	10y-EDAH09	-96.089
EDAM09	5.319	1.03	10y-EDAM09	-96.067
EDAU09	5.419	0.93	10y-EDAU09	-95.289
EDAZ09	5.729	0.62	10y-EDAZ09	-94.973
EDAH10	5.949	0.40	10y-EDAH10	-94.616
EDAM10	6.229	0.12	10y-EDAM10	-95.065
EDAU10	6.464	0.12	10y-EDAU10	-95.287
EDAZ10	6.674	0.33	10y-EDAZ10	-95.200
EDAH11	6.809	0.46	10y-EDAH11	-94.865
EDAM11	6.879	0.53	10y-EDAM11	-94.447

Price = Outright Decimal Price - Euro Contract Price

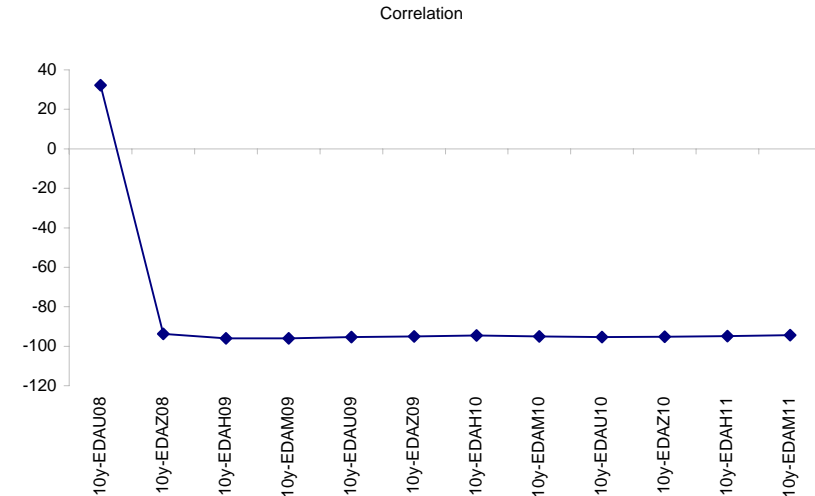
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	-0.003	8.16	8.17	10y-EDAU08
EDAZ08	0.246	8.16	7.92	10y-EDAZ08
EDAH09	0.495	8.16	7.67	10y-EDAH09
EDAM09	0.745	8.16	7.42	10y-EDAM09
EDAU09	0.994	8.16	7.17	10y-EDAU09
EDAZ09	1.243	8.16	6.92	10y-EDAZ09
EDAH10	1.492	8.16	6.67	10y-EDAH10
EDAM10	1.742	8.16	6.42	10y-EDAM10
EDAU10	1.991	8.16	6.17	10y-EDAU10
EDAZ10	2.240	8.16	5.92	10y-EDAZ10
EDAH11	2.490	8.16	5.67	10y-EDAH11
EDAM11	2.739	8.16	5.42	10y-EDAM11

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.

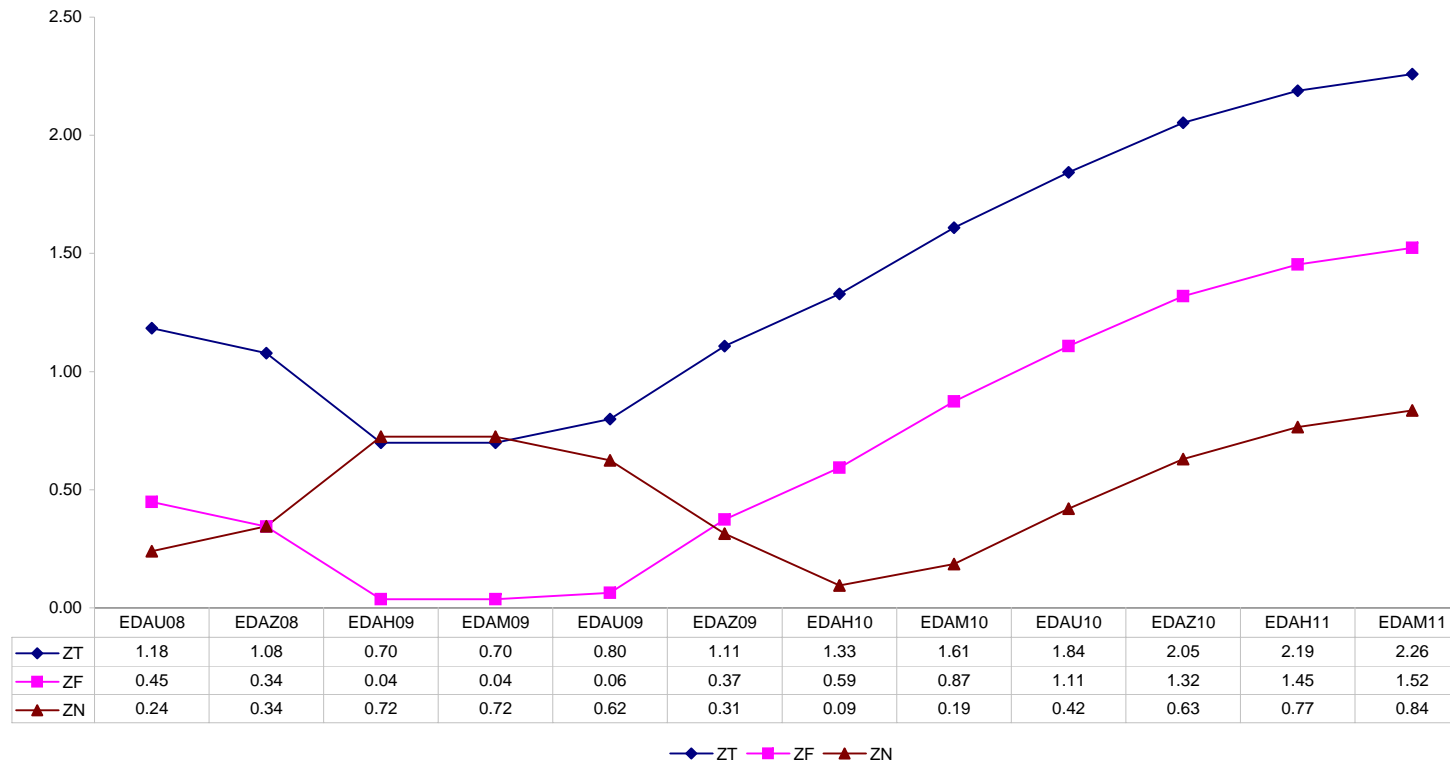
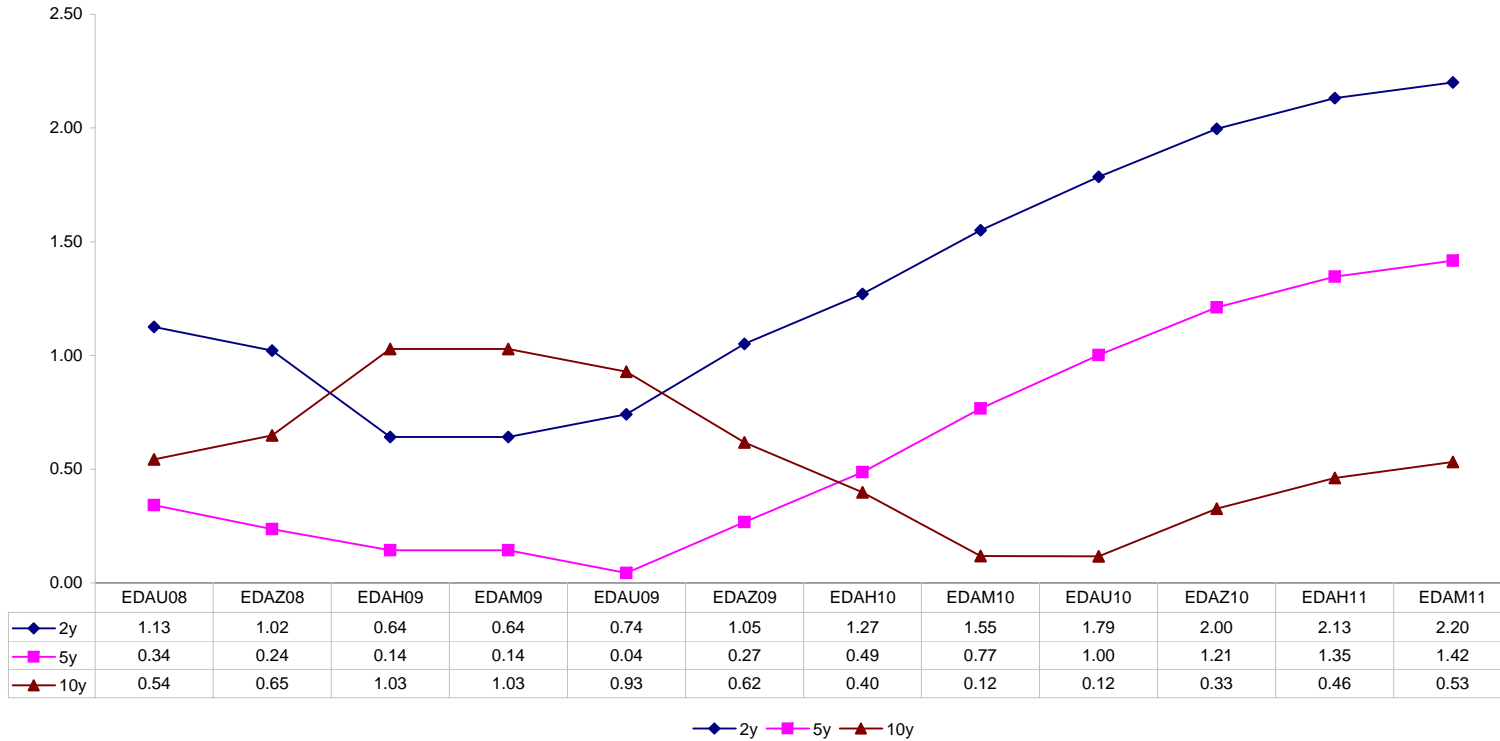
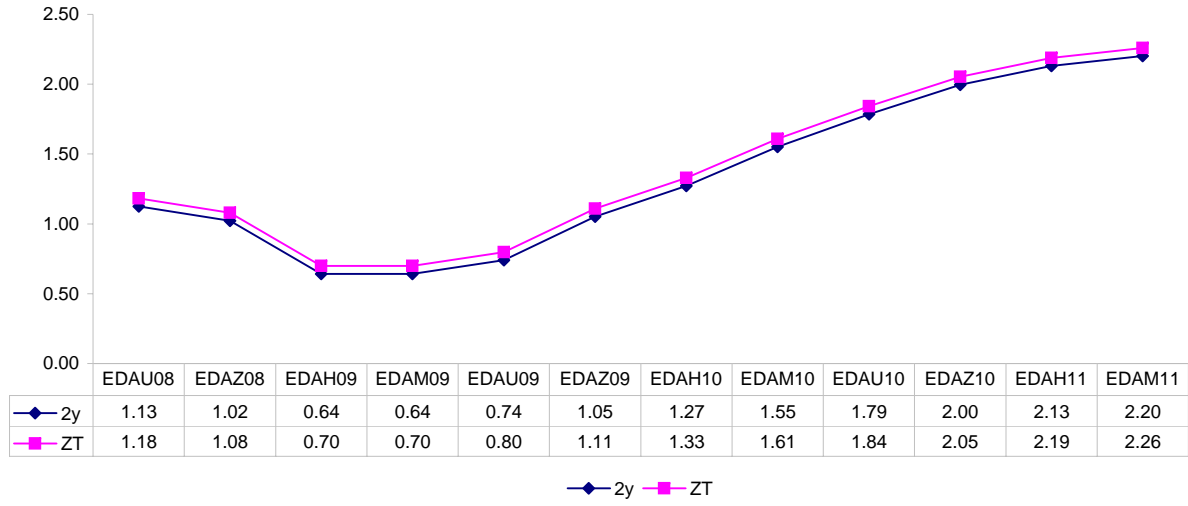


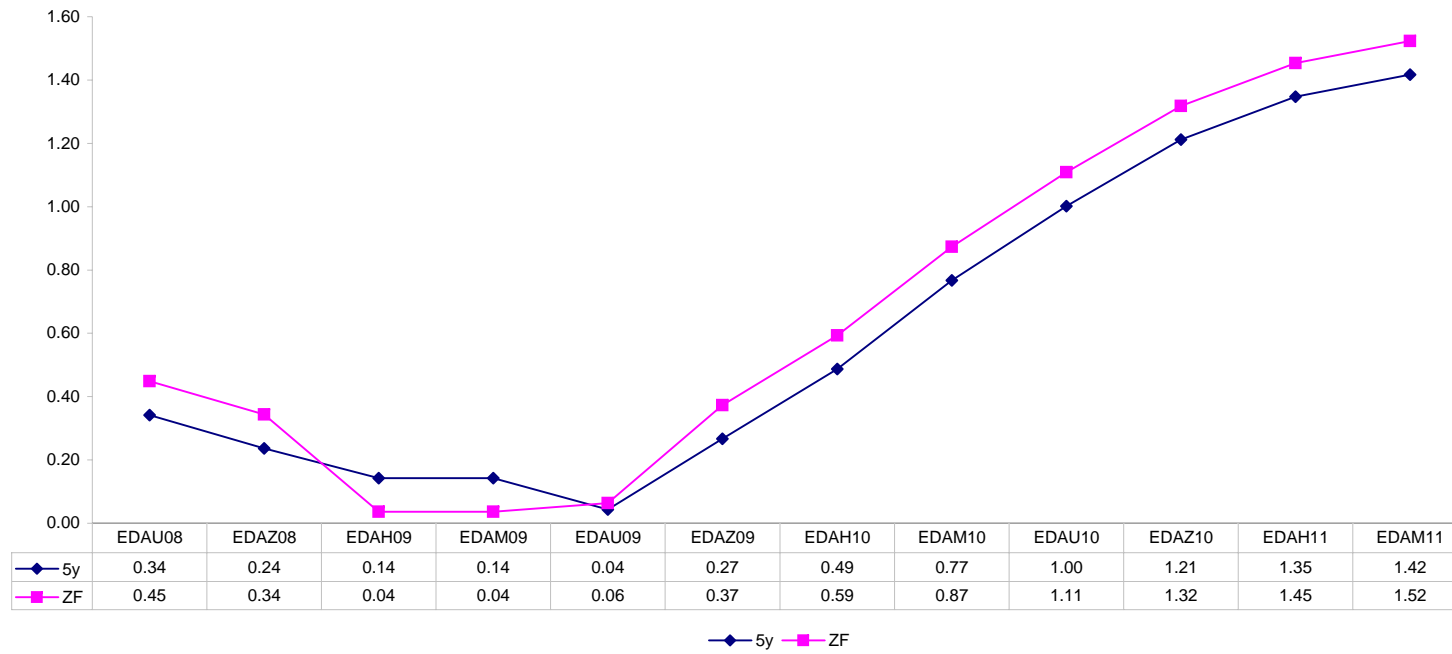
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



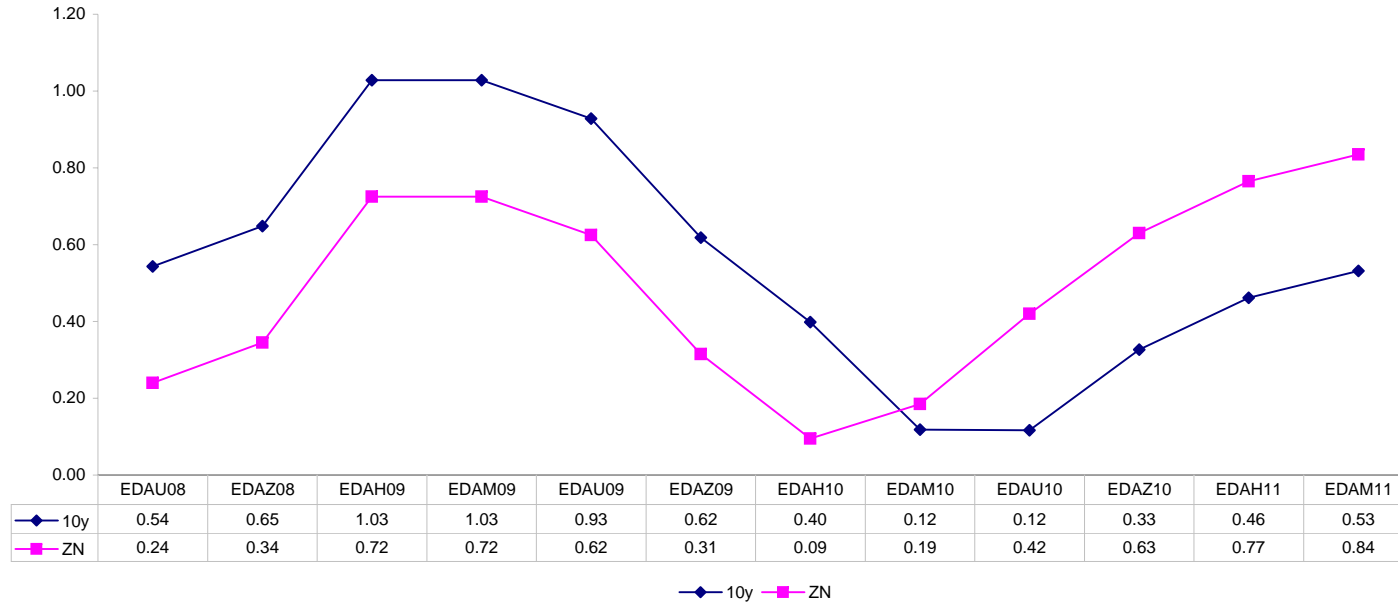
2y Basis TED Curve



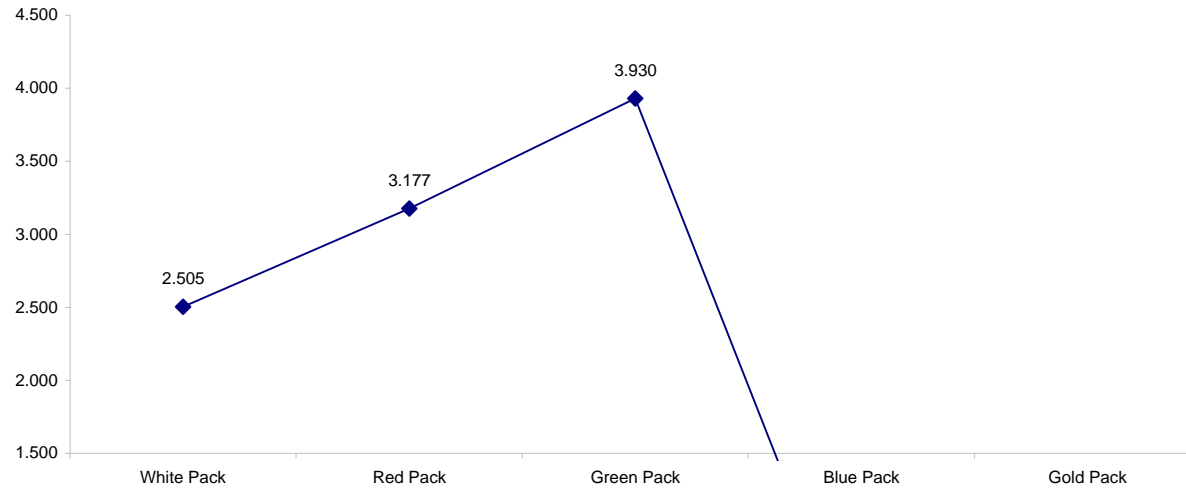
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.505	2.750	9754.500
Red Pack	3.177	10.250	9689.125
Green Pack	3.930	9.125	9616.125
Blue Pack		7.125	9589.875
Gold Pack		0.000	9562.625



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

