

## **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	106.3344	106.107	2.179	1.99
ZF	112.6313	112.202	2.827	4.19
ZN	116.5313	116.170	3.384	6.34
2y	100.241	100.0770	2.250	1.92
5y	100.850	100.2720	2.940	4.59
10y	102.453	102.1450	3.701	8.16

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.178	2.822	11	0.029	SEP	
EDAZ08	97.045	2.955	102	0.279	DEC	White
EDAH09	97.120	2.880	193	0.528	MAR	Pack
EDAM09	97.020	2.980	284	0.777	JUN	
EDAU09	96.845	3.155	375	1.027	SEP	
EDAZ09	96.575	3.425	466	1.276	DEC	Red
EDAH10	96.390	3.610	557	1.525	MAR	Pack
EDAM10	96.185	3.815	648	1.775	JUN	
EDAU10	96.020	3.980	739	2.024	SEP	
EDAZ10	95.855	4.145	830	2.273	DEC	Green
EDAH11	95.775	4.225	921	2.523	MAR	Pack
EDAM11	95.690	4.310	1012	2.772	JUN	
EDAU11	95.620	4.380	1110	3.040	SEP	
EDAZ11	95.560	4.440	1201	3.290	DEC	Blue Pack
EDAH12	95.520	4.480	1292	3.539	MAR	
EDAM12	95.470	4.530	1383	3.788	JUN	
EDAU12	95.390	4.610	1474	4.038	SEP	
EDAZ12	95.330	4.670	1565	4.287	DEC	Gold Pack
EDAH13	95.290	4.710	1656	4.536	MAR	
EDAM13	95.260	4.740	1747	4.786	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	2.971	-0.812	9709.063	
Red Pack	3.581	0.875	9649.875	Pack
Green Pack	4.267	1.000	9583.500	Prices
Blue Pack		0.250	9554.250	
Gold Pack		0.000	9534.875	

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.

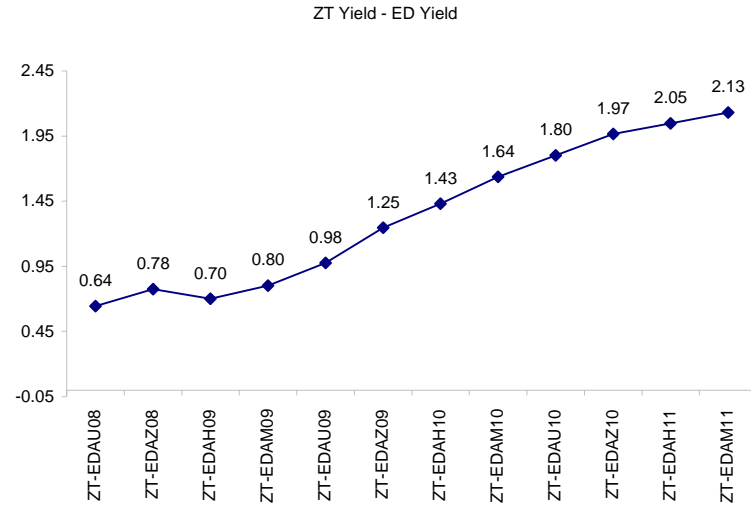
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

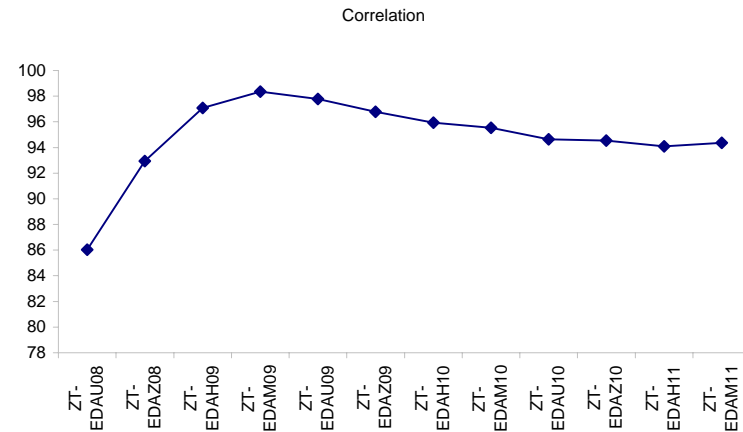
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	9.157	0.64	ZT-EDAU08	86.036
EDAZ08	9.289	0.78	ZT-EDAZ08	92.951
EDAH09	9.214	0.70	ZT-EDAH09	97.079
EDAM09	9.314	0.80	ZT-EDAM09	98.343
EDAU09	9.489	0.98	ZT-EDAU09	97.790
EDAZ09	9.759	1.25	ZT-EDAZ09	96.791
EDAH10	9.944	1.43	ZT-EDAH10	95.937
EDAM10	10.149	1.64	ZT-EDAM10	95.528
EDAU10	10.314	1.80	ZT-EDAU10	94.643
EDAZ10	10.479	1.97	ZT-EDAZ10	94.525
EDAH11	10.559	2.05	ZT-EDAH11	94.084
EDAM11	10.644	2.13	ZT-EDAM11	94.368

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	0.029	1.99	1.96	ZT-EDAU08		
EDAZ08	0.279	1.99	1.71	ZT-EDAZ08		
EDAH09	0.528	1.99	1.46	ZT-EDAH09		
EDAM09	0.777	1.99	1.21	ZT-EDAM09		
EDAU09	1.027	1.99	0.96	ZT-EDAU09		
EDAZ09	1.276	1.99	0.71	ZT-EDAZ09		
EDAH10	1.525	1.99	0.46	ZT-EDAH10		
EDAM10	1.775	1.99	0.21	ZT-EDAM10		
EDAU10	2.024	1.99	(0.04)	ZT-EDAU10		
EDAZ10	2.273	1.99	(0.28)	ZT-EDAZ10		
EDAH11	2.523	1.99	(0.53)	ZT-EDAH11		
EDAM11	2.772	1.99	(0.78)	ZT-EDAM11		

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

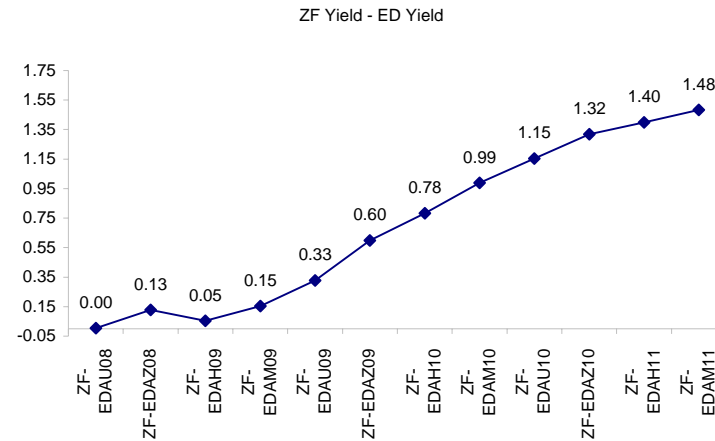


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.454	0.00	ZF-EDAU08	81.299
EDAZ08	15.586	0.13	ZF-EDAZ08	84.062
EDAH09	15.511	0.05	ZF-EDAH09	91.530
EDAM09	15.611	0.15	ZF-EDAM09	94.235
EDAU09	15.786	0.33	ZF-EDAU09	96.009
EDAZ09	16.056	0.60	ZF-EDAZ09	96.470
EDAH10	16.241	0.78	ZF-EDAH10	96.991
EDAM10	16.446	0.99	ZF-EDAM10	96.719
EDAU10	16.611	1.15	ZF-EDAU10	96.686
EDAZ10	16.776	1.32	ZF-EDAZ10	97.076
EDAH11	16.856	1.40	ZF-EDAH11	96.896
EDAM11	16.941	1.48	ZF-EDAM11	97.699

Price = Outright Decimal Price - Euro Contract Price

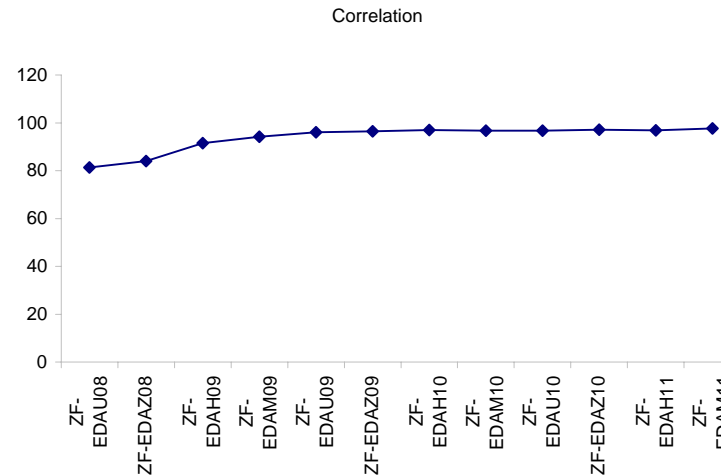
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.029	4.19	4.16	ZF-EDAU08		
EDAZ08	0.279	4.19	3.91	ZF-EDAZ08		
EDAH09	0.528	4.19	3.66	ZF-EDAH09		
EDAM09	0.777	4.19	3.41	ZF-EDAM09		
EDAU09	1.027	4.19	3.16	ZF-EDAU09		
EDAZ09	1.276	4.19	2.91	ZF-EDAZ09		
EDAH10	1.525	4.19	2.66	ZF-EDAH10		
EDAM10	1.775	4.19	2.42	ZF-EDAM10		
EDAU10	2.024	4.19	2.17	ZF-EDAU10		
EDAZ10	2.273	4.19	1.92	ZF-EDAZ10		
EDAH11	2.523	4.19	1.67	ZF-EDAH11		
EDAM11	2.772	4.19	1.42	ZF-EDAM11		

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

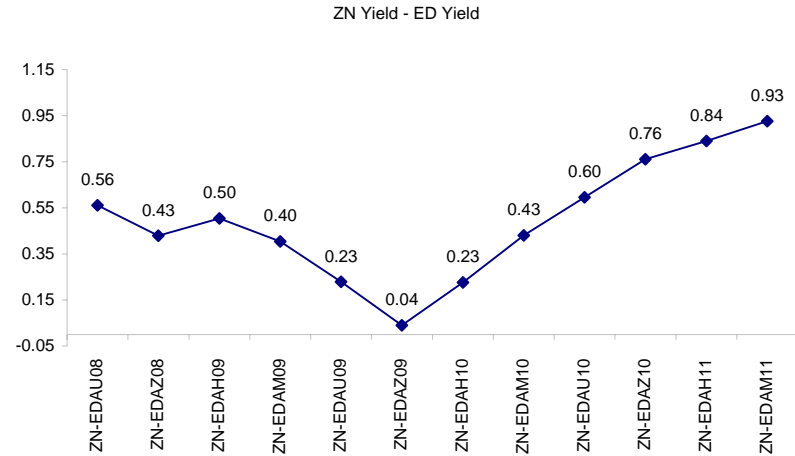


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	19.354	0.56	ZN-EDAU08	80.979
EDAZ08	19.486	0.43	ZN-EDAZ08	84.924
EDAH09	19.411	0.50	ZN-EDAH09	92.600
EDAM09	19.511	0.40	ZN-EDAM09	95.271
EDAU09	19.686	0.23	ZN-EDAU09	96.777
EDAZ09	19.956	0.04	ZN-EDAZ09	96.788
EDAH10	20.141	0.23	ZN-EDAH10	96.991
EDAM10	20.346	0.43	ZN-EDAM10	96.719
EDAU10	20.511	0.60	ZN-EDAU10	96.686
EDAZ10	20.676	0.76	ZN-EDAZ10	97.076
EDAH11	20.756	0.84	ZN-EDAH11	96.896
EDAM11	20.841	0.93	ZN-EDAM11	97.699

Price = Outright Decimal Price - Euro Contract Price

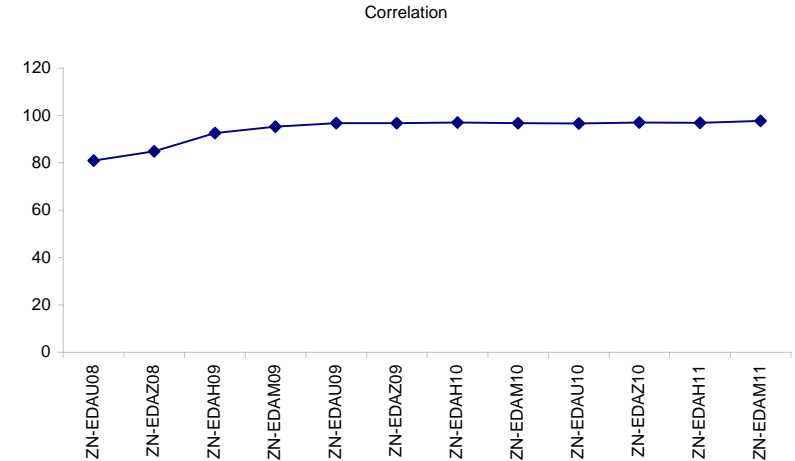
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.029	6.34	6.31	ZN-EDAU08		
EDAZ08	0.279	6.34	6.06	ZN-EDAZ08		
EDAH09	0.528	6.34	5.81	ZN-EDAH09		
EDAM09	0.777	6.34	5.56	ZN-EDAM09		
EDAU09	1.027	6.34	5.31	ZN-EDAU09		
EDAZ09	1.276	6.34	5.06	ZN-EDAZ09		
EDAH10	1.525	6.34	4.81	ZN-EDAH10		
EDAM10	1.775	6.34	4.56	ZN-EDAM10		
EDAU10	2.024	6.34	4.31	ZN-EDAU10		
EDAZ10	2.273	6.34	4.06	ZN-EDAZ10		
EDAH11	2.523	6.34	3.81	ZN-EDAH11		
EDAM11	2.772	6.34	3.56	ZN-EDAM11		

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

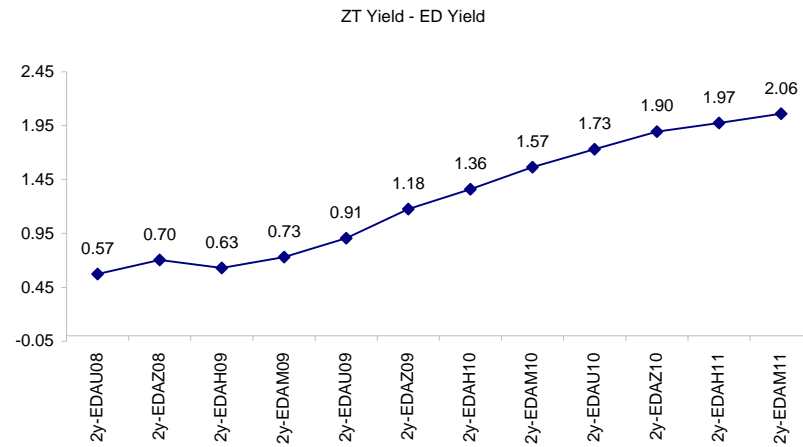


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.063	0.57	2y-EDAU08	-69.216
EDAZ08	3.196	0.70	2y-EDAZ08	-83.553
EDAH09	3.121	0.63	2y-EDAH09	-89.201
EDAM09	3.221	0.73	2y-EDAM09	-89.941
EDAU09	3.396	0.91	2y-EDAU09	-87.782
EDAZ09	3.666	1.18	2y-EDAZ09	-85.250
EDAH10	3.851	1.36	2y-EDAH10	-82.195
EDAM10	4.056	1.57	2y-EDAM10	-79.894
EDAU10	4.221	1.73	2y-EDAU10	-78.104
EDAZ10	4.386	1.90	2y-EDAZ10	-78.303
EDAH11	4.466	1.97	2y-EDAH11	-77.832
EDAM11	4.551	2.06	2y-EDAM11	-78.433

Price = Outright Decimal Price - Euro Contract Price

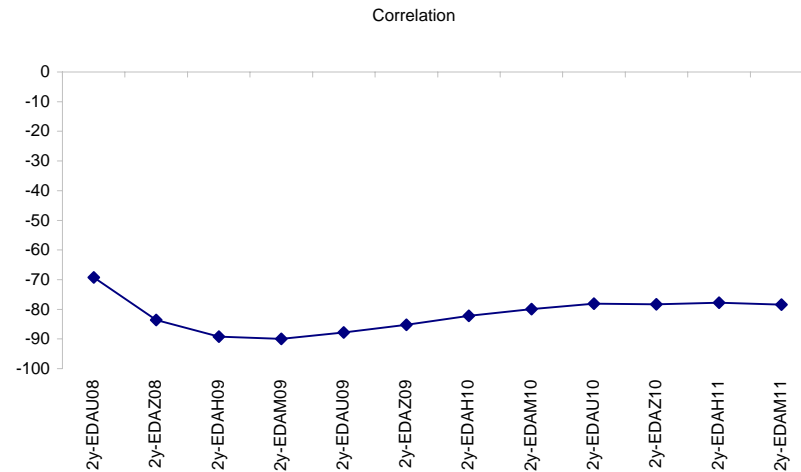
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.029	1.92	1.89	2y-EDAU08	
EDAZ08	0.279	1.92	1.64	2y-EDAZ08	
EDAH09	0.528	1.92	1.39	2y-EDAH09	
EDAM09	0.777	1.92	1.14	2y-EDAM09	
EDAU09	1.027	1.92	0.89	2y-EDAU09	
EDAZ09	1.276	1.92	0.64	2y-EDAZ09	
EDAH10	1.525	1.92	0.39	2y-EDAH10	
EDAM10	1.775	1.92	0.14	2y-EDAM10	
EDAU10	2.024	1.92	(0.11)	2y-EDAU10	
EDAZ10	2.273	1.92	(0.36)	2y-EDAZ10	
EDAH11	2.523	1.92	(0.61)	2y-EDAH11	
EDAM11	2.772	1.92	(0.86)	2y-EDAM11	

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

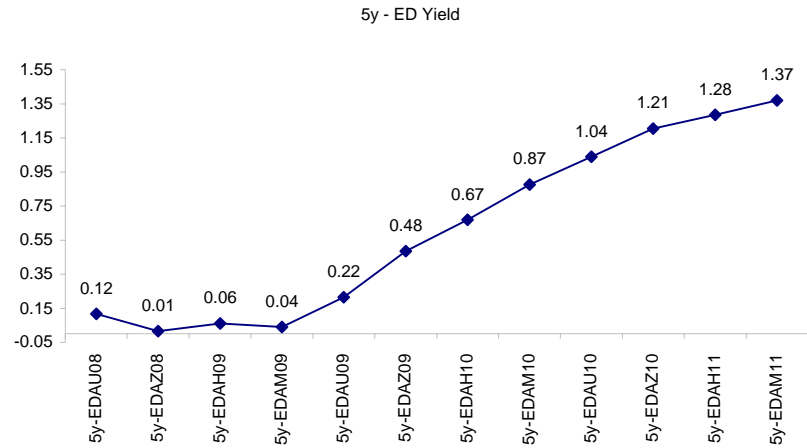


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.673	0.12	5y-EDAU08	-74.870
EDAZ08	3.805	0.01	5y-EDAZ08	-81.580
EDAH09	3.730	0.06	5y-EDAH09	-89.818
EDAM09	3.830	0.04	5y-EDAM09	-91.829
EDAU09	4.005	0.22	5y-EDAU09	-93.422
EDAZ09	4.275	0.48	5y-EDAZ09	-93.031
EDAH10	4.460	0.67	5y-EDAH10	-91.918
EDAM10	4.665	0.87	5y-EDAM10	-90.130
EDAU10	4.830	1.04	5y-EDAU10	-88.974
EDAZ10	4.995	1.21	5y-EDAZ10	-89.215
EDAH11	5.075	1.28	5y-EDAH11	-89.130
EDAM11	5.160	1.37	5y-EDAM11	-90.348

Price = Outright Decimal Price - Euro Contract Price

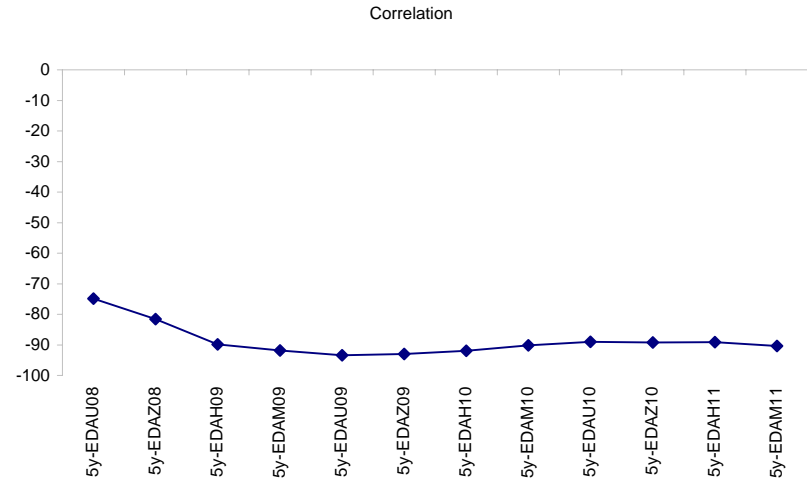
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.029	4.59	4.56	5y-EDAU08
EDAZ08	0.279	4.59	4.31	5y-EDAZ08
EDAH09	0.528	4.59	4.06	5y-EDAH09
EDAM09	0.777	4.59	3.81	5y-EDAM09
EDAU09	1.027	4.59	3.56	5y-EDAU09
EDAZ09	1.276	4.59	3.31	5y-EDAZ09
EDAH10	1.525	4.59	3.06	5y-EDAH10
EDAM10	1.775	4.59	2.81	5y-EDAM10
EDAU10	2.024	4.59	2.56	5y-EDAU10
EDAZ10	2.273	4.59	2.31	5y-EDAZ10
EDAH11	2.523	4.59	2.07	5y-EDAH11
EDAM11	2.772	4.59	1.82	5y-EDAM11

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

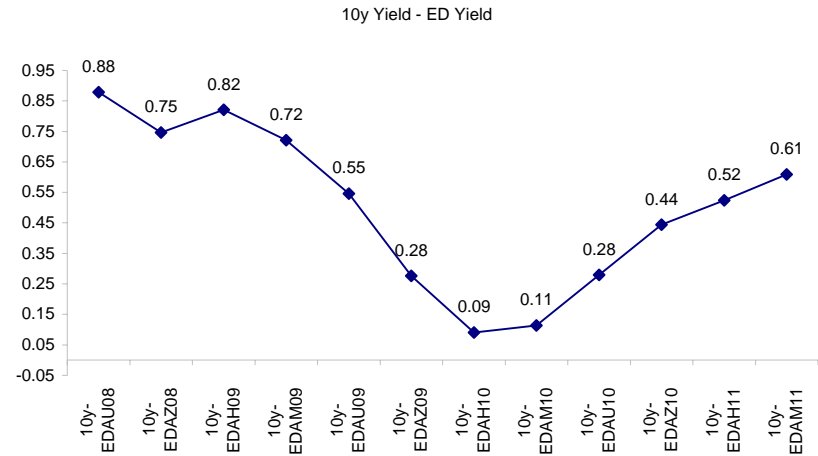


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.673	0.88	10y-EDAU08	-78.952
EDAZ08	3.805	0.75	10y-EDAZ08	-81.231
EDAH09	3.730	0.82	10y-EDAH09	-88.131
EDAM09	3.830	0.72	10y-EDAM09	-90.145
EDAU09	4.005	0.55	10y-EDAU09	-92.360
EDAZ09	4.275	0.28	10y-EDAZ09	-92.325
EDAH10	4.460	0.09	10y-EDAH10	-91.729
EDAM10	4.665	0.11	10y-EDAM10	-90.219
EDAU10	4.830	0.28	10y-EDAU10	-88.954
EDAZ10	4.995	0.44	10y-EDAZ10	-89.123
EDAH11	5.075	0.52	10y-EDAH11	-89.023
EDAM11	5.160	0.61	10y-EDAM11	-90.619

Price = Outright Decimal Price - Euro Contract Price

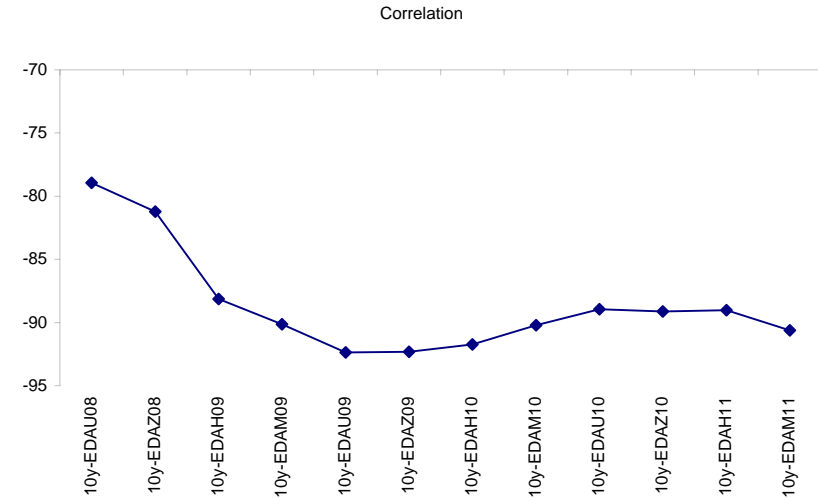
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.029	8.16	8.13	10y-EDAU08
EDAZ08	0.279	8.16	7.88	10y-EDAZ08
EDAH09	0.528	8.16	7.63	10y-EDAH09
EDAM09	0.777	8.16	7.38	10y-EDAM09
EDAU09	1.027	8.16	7.13	10y-EDAU09
EDAZ09	1.276	8.16	6.88	10y-EDAZ09
EDAH10	1.525	8.16	6.63	10y-EDAH10
EDAM10	1.775	8.16	6.38	10y-EDAM10
EDAU10	2.024	8.16	6.13	10y-EDAU10
EDAZ10	2.273	8.16	5.88	10y-EDAZ10
EDAH11	2.523	8.16	5.63	10y-EDAH11
EDAM11	2.772	8.16	5.38	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.

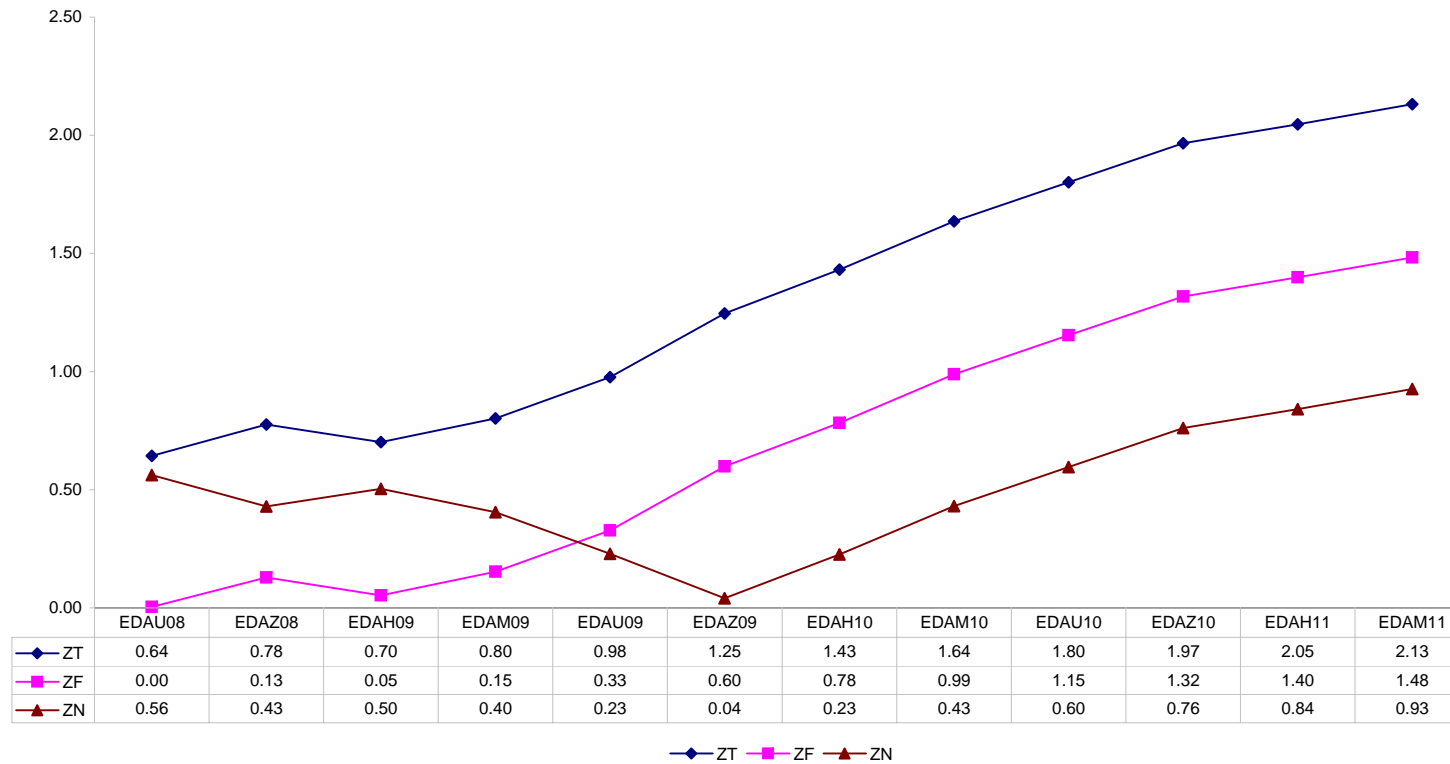
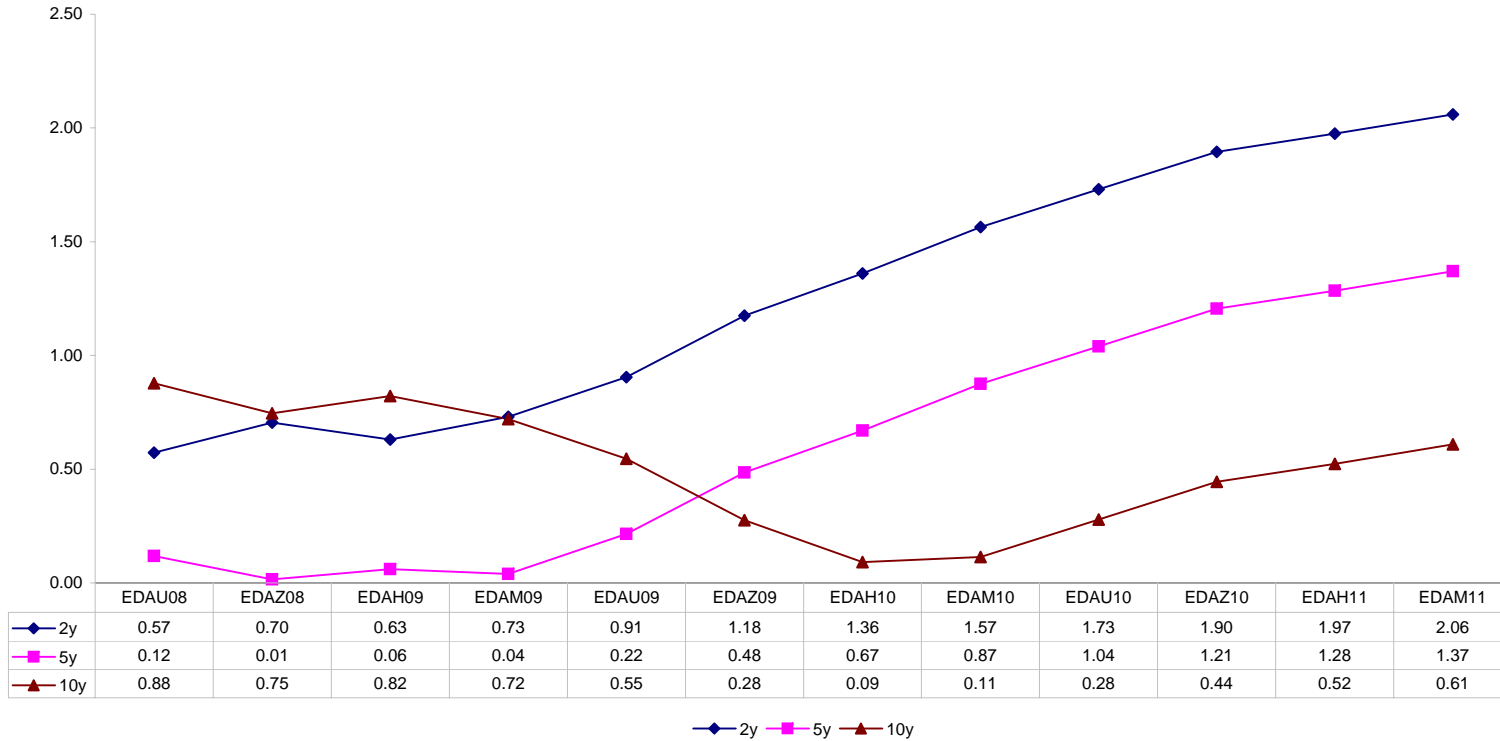
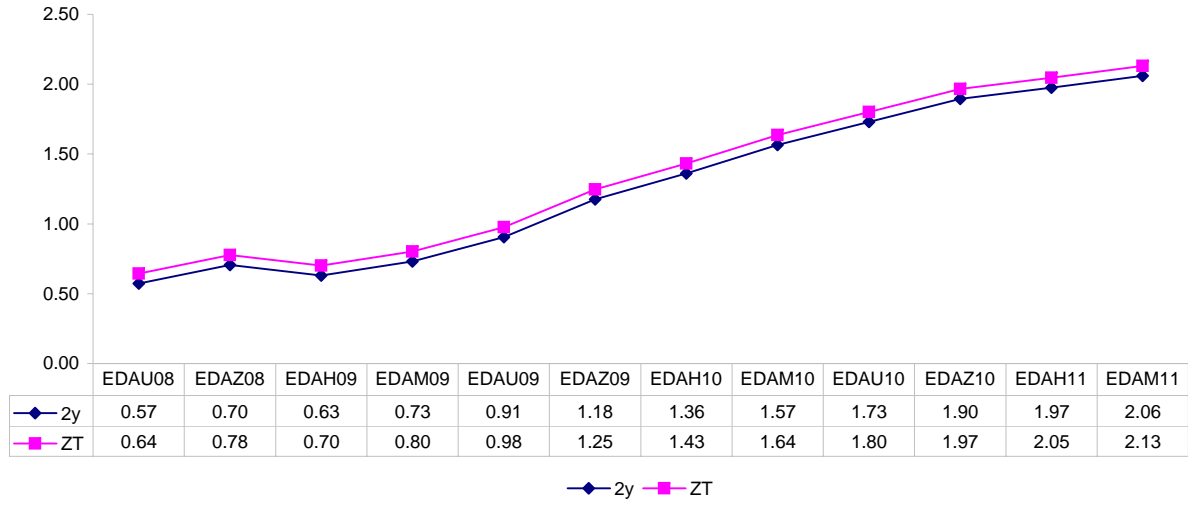


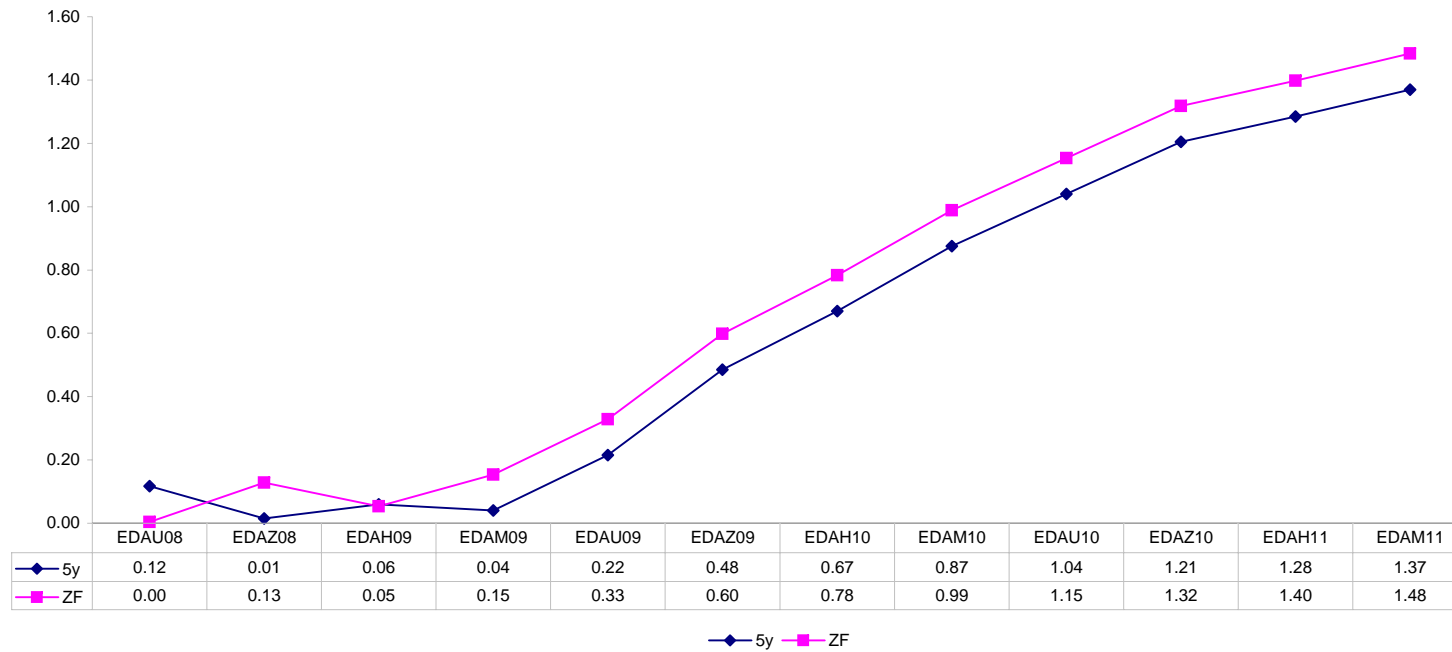
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



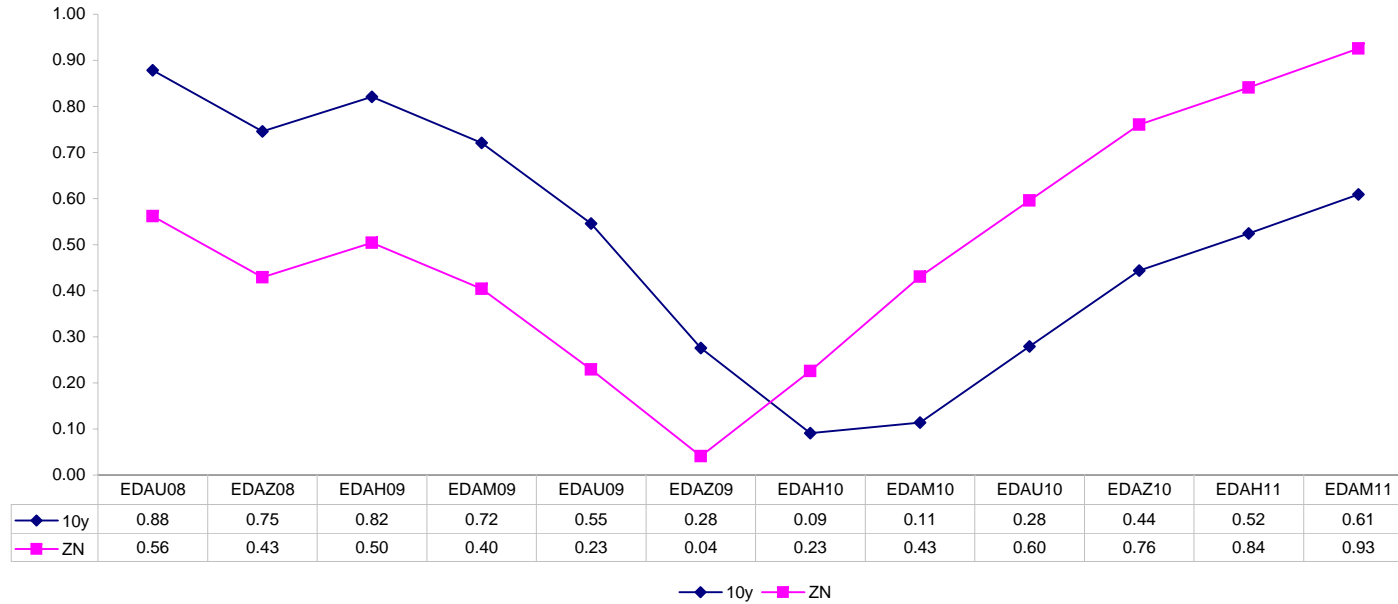
2y Basis TED Curve



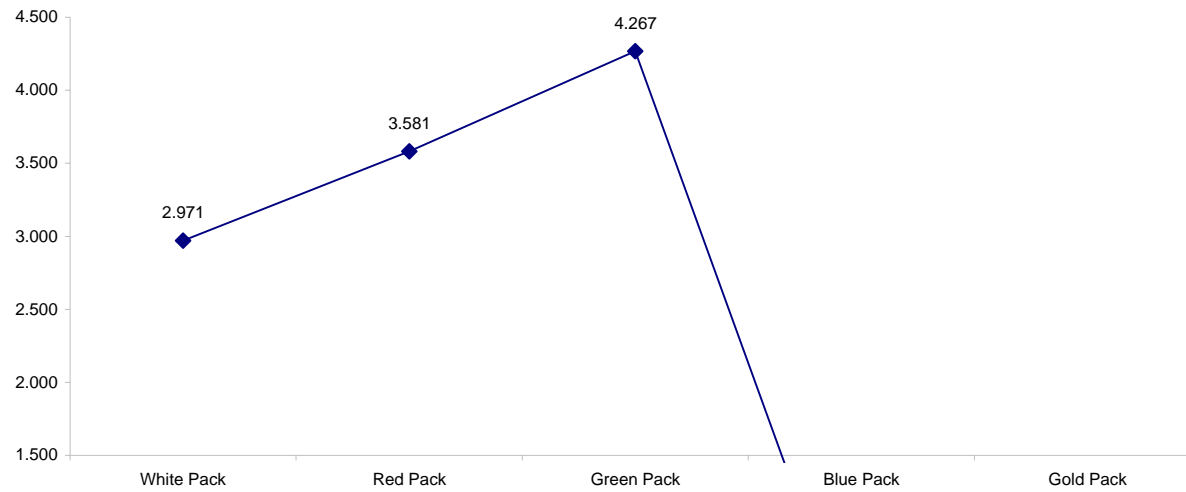
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.971	-0.812	9709.063
Red Pack	3.581	0.875	9649.875
Green Pack	4.267	1.000	9583.500
Blue Pack		0.250	9554.250
Gold Pack		0.000	9534.875



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

