

## **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	105.9906	105.317	2.482	1.83
ZF	111.2875	111.092	3.153	3.96
ZN	114.6563	114.210	3.753	6.38
2y	100.422	100.1350	2.526	1.91
5y	100.422	100.1350	3.281	4.55
10y	99.625	99.2000	4.044	8.03

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.175	2.825	39	0.106	SEP	
EDAZ08	96.970	3.030	130	0.355	DEC	White
EDAH09	96.870	3.130	221	0.605	MAR	Pack
EDAM09	96.685	3.315	312	0.854	JUN	
EDAU09	96.430	3.570	403	1.103	SEP	
EDAZ09	96.125	3.875	494	1.353	DEC	Red
EDAH10	95.880	4.120	585	1.602	MAR	Pack
EDAM10	95.665	4.335	676	1.851	JUN	
EDAU10	95.505	4.495	767	2.101	SEP	
EDAZ10	95.380	4.620	858	2.350	DEC	Green
EDAH11	95.320	4.680	949	2.599	MAR	Pack
EDAM11	95.250	4.750	1040	2.849	JUN	
EDAU11	95.205	4.795	1138	3.117	SEP	
EDAZ11	95.120	4.880	1229	3.366	DEC	Blue Pack
EDAH12	95.110	4.890	1320	3.616	MAR	
EDAM12	95.025	4.975	1411	3.865	JUN	
EDAU12	94.965	5.035	1502	4.114	SEP	
EDAZ12	94.935	5.065	1593	4.364	DEC	Gold Pack
EDAH13	94.895	5.105	1684	4.613	MAR	
EDAM13	94.820	5.180	1775	4.862	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.142	2.375	9692.500	
Red Pack	4.071	3.875	9602.500	Pack
Green Pack	4.756	3.375	9536.375	Prices
Blue Pack		1.125	9511.750	
Gold Pack		0.625	9491.000	

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.

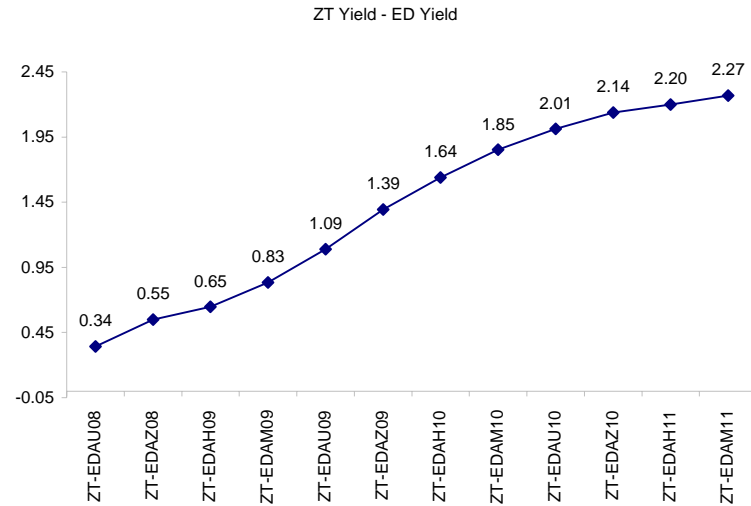
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

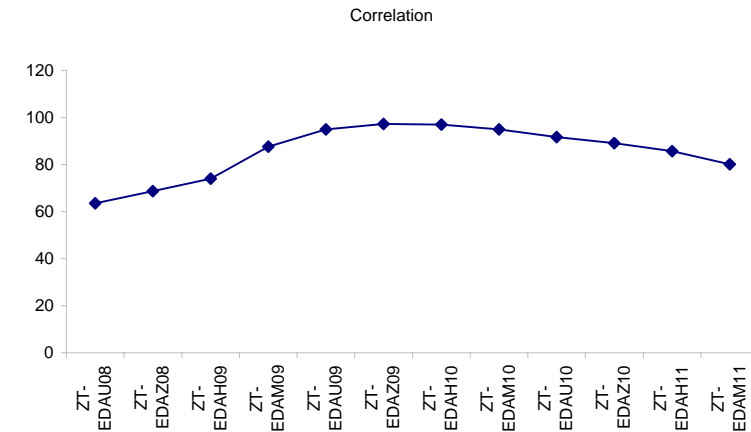
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.816	0.34	ZT-EDAU08	63.522
EDAZ08	9.021	0.55	ZT-EDAZ08	68.656
EDAH09	9.121	0.65	ZT-EDAH09	73.978
EDAM09	9.306	0.83	ZT-EDAM09	87.616
EDAU09	9.561	1.09	ZT-EDAU09	94.980
EDAZ09	9.866	1.39	ZT-EDAZ09	97.294
EDAH10	10.111	1.64	ZT-EDAH10	96.995
EDAM10	10.326	1.85	ZT-EDAM10	94.981
EDAU10	10.486	2.01	ZT-EDAU10	91.705
EDAZ10	10.611	2.14	ZT-EDAZ10	89.060
EDAH11	10.671	2.20	ZT-EDAH11	85.647
EDAM11	10.741	2.27	ZT-EDAM11	80.079

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	0.106	1.83	1.72	ZT-EDAU08		
EDAZ08	0.355	1.83	1.47	ZT-EDAZ08		
EDAH09	0.605	1.83	1.22	ZT-EDAH09		
EDAM09	0.854	1.83	0.98	ZT-EDAM09		
EDAU09	1.103	1.83	0.73	ZT-EDAU09		
EDAZ09	1.353	1.83	0.48	ZT-EDAZ09		
EDAH10	1.602	1.83	0.23	ZT-EDAH10		
EDAM10	1.851	1.83	(0.02)	ZT-EDAM10		
EDAU10	2.101	1.83	(0.27)	ZT-EDAU10		
EDAZ10	2.350	1.83	(0.52)	ZT-EDAZ10		
EDAH11	2.599	1.83	(0.77)	ZT-EDAH11		
EDAM11	2.849	1.83	(1.02)	ZT-EDAM11		

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

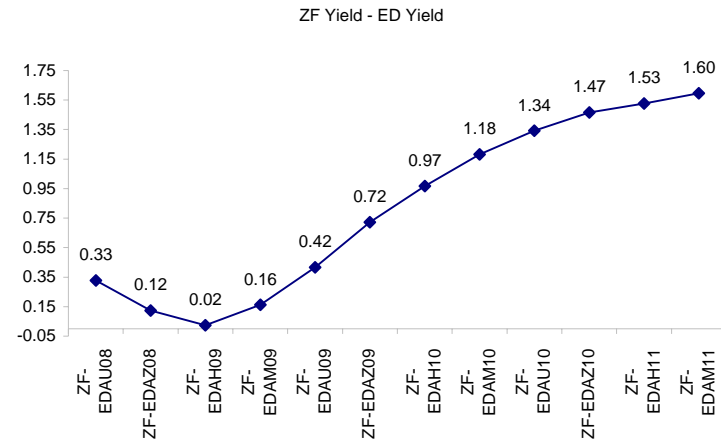


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	14.113	0.33	ZF-EDAU08	64.658
EDAZ08	14.318	0.12	ZF-EDAZ08	65.458
EDAH09	14.418	0.02	ZF-EDAH09	69.177
EDAM09	14.603	0.16	ZF-EDAM09	85.333
EDAU09	14.858	0.42	ZF-EDAU09	94.688
EDAZ09	15.163	0.72	ZF-EDAZ09	98.047
EDAH10	15.408	0.97	ZF-EDAH10	98.464
EDAM10	15.623	1.18	ZF-EDAM10	96.946
EDAU10	15.783	1.34	ZF-EDAU10	94.081
EDAZ10	15.908	1.47	ZF-EDAZ10	91.631
EDAH11	15.968	1.53	ZF-EDAH11	88.666
EDAM11	16.038	1.60	ZF-EDAM11	83.496

Price = Outright Decimal Price - Euro Contract Price

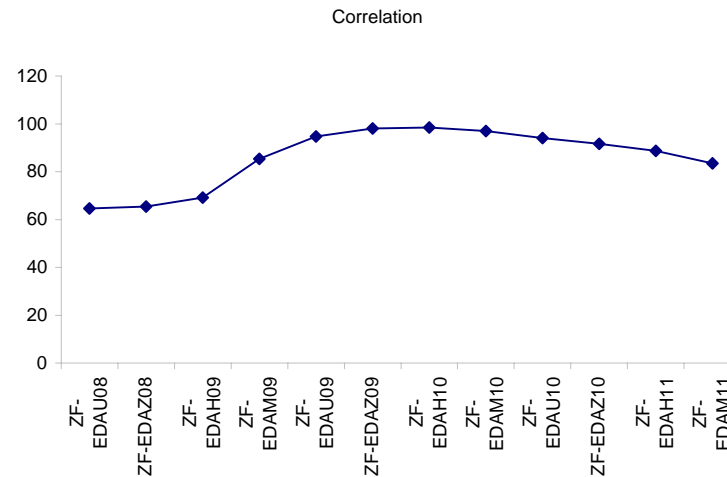
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.106	3.96	3.86	ZF-EDAU08		
EDAZ08	0.355	3.96	3.61	ZF-EDAZ08		
EDAH09	0.605	3.96	3.36	ZF-EDAH09		
EDAM09	0.854	3.96	3.11	ZF-EDAM09		
EDAU09	1.103	3.96	2.86	ZF-EDAU09		
EDAZ09	1.353	3.96	2.61	ZF-EDAZ09		
EDAH10	1.602	3.96	2.36	ZF-EDAH10		
EDAM10	1.851	3.96	2.11	ZF-EDAM10		
EDAU10	2.101	3.96	1.86	ZF-EDAU10		
EDAZ10	2.350	3.96	1.61	ZF-EDAZ10		
EDAH11	2.599	3.96	1.36	ZF-EDAH11		
EDAM11	2.849	3.96	1.11	ZF-EDAM11		

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

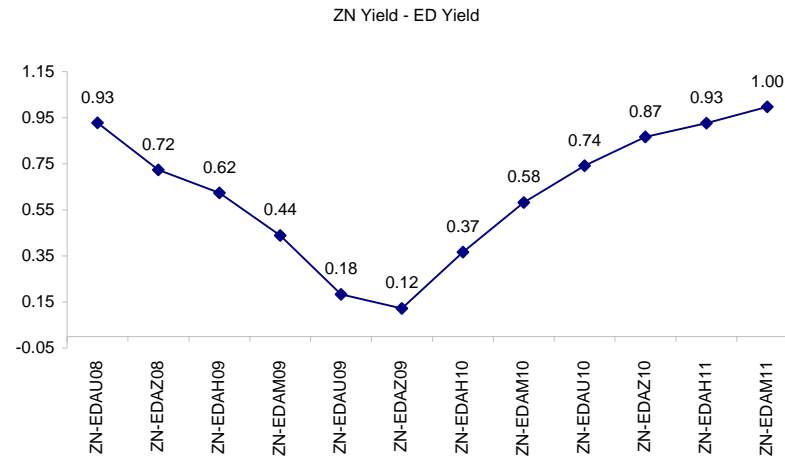


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	17.481	0.93	ZN-EDAU08	67.217
EDAZ08	17.686	0.72	ZN-EDAZ08	67.955
EDAH09	17.786	0.62	ZN-EDAH09	71.325
EDAM09	17.971	0.44	ZN-EDAM09	87.265
EDAU09	18.226	0.18	ZN-EDAU09	96.026
EDAZ09	18.531	0.12	ZN-EDAZ09	98.815
EDAH10	18.776	0.37	ZN-EDAH10	98.464
EDAM10	18.991	0.58	ZN-EDAM10	96.946
EDAU10	19.151	0.74	ZN-EDAU10	94.081
EDAZ10	19.276	0.87	ZN-EDAZ10	91.631
EDAH11	19.336	0.93	ZN-EDAH11	88.666
EDAM11	19.406	1.00	ZN-EDAM11	83.496

Price = Outright Decimal Price - Euro Contract Price

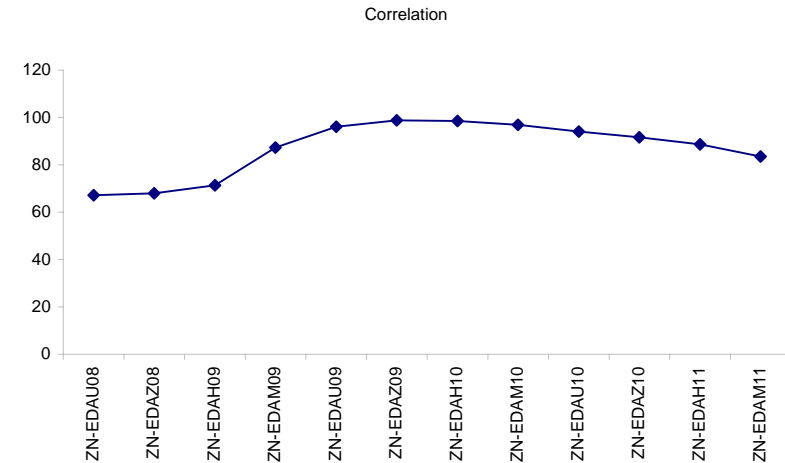
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.106	6.38	6.28	ZN-EDAU08		
EDAZ08	0.355	6.38	6.03	ZN-EDAZ08		
EDAH09	0.605	6.38	5.78	ZN-EDAH09		
EDAM09	0.854	6.38	5.53	ZN-EDAM09		
EDAU09	1.103	6.38	5.28	ZN-EDAU09		
EDAZ09	1.353	6.38	5.03	ZN-EDAZ09		
EDAH10	1.602	6.38	4.78	ZN-EDAH10		
EDAM10	1.851	6.38	4.53	ZN-EDAM10		
EDAU10	2.101	6.38	4.28	ZN-EDAU10		
EDAZ10	2.350	6.38	4.03	ZN-EDAZ10		
EDAH11	2.599	6.38	3.78	ZN-EDAH11		
EDAM11	2.849	6.38	3.53	ZN-EDAM11		

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

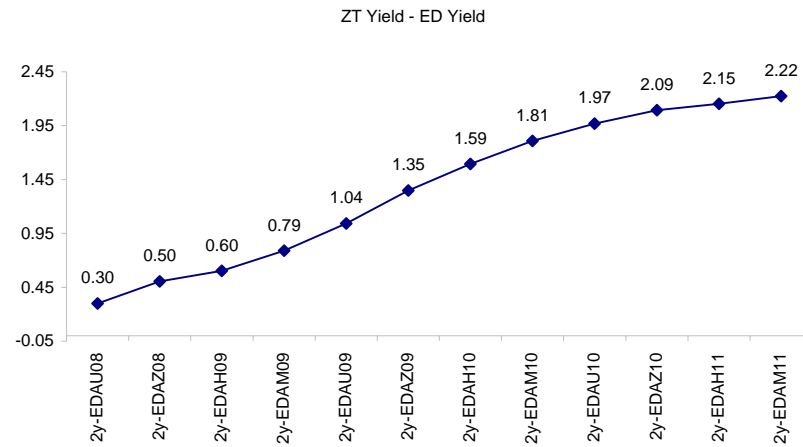


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.247	0.30	2y-EDAU08	-57.698
EDAZ08	3.452	0.50	2y-EDAZ08	-64.195
EDAH09	3.552	0.60	2y-EDAH09	-71.461
EDAM09	3.737	0.79	2y-EDAM09	-86.347
EDAU09	3.992	1.04	2y-EDAU09	-93.178
EDAZ09	4.297	1.35	2y-EDAZ09	-95.793
EDAH10	4.542	1.59	2y-EDAH10	-96.637
EDAM10	4.757	1.81	2y-EDAM10	-96.154
EDAU10	4.917	1.97	2y-EDAU10	-94.420
EDAZ10	5.042	2.09	2y-EDAZ10	-92.961
EDAH11	5.102	2.15	2y-EDAH11	-90.434
EDAM11	5.172	2.22	2y-EDAM11	-86.105

Price = Outright Decimal Price - Euro Contract Price

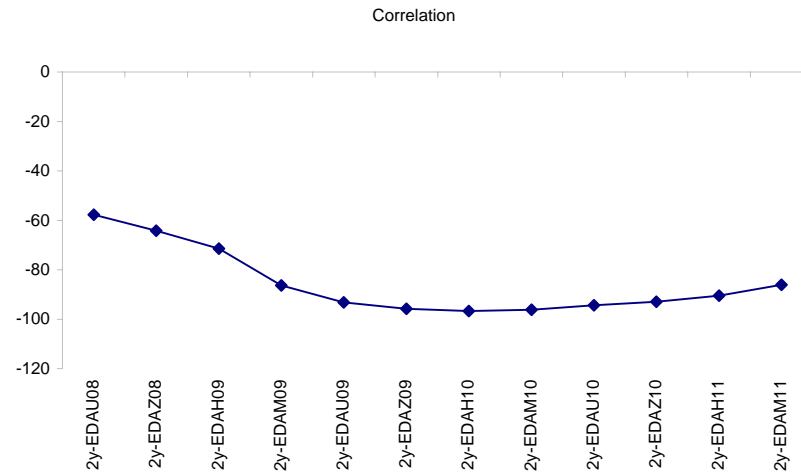
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.106	1.91	1.81	2y-EDAU08	
EDAZ08	0.355	1.91	1.56	2y-EDAZ08	
EDAH09	0.605	1.91	1.31	2y-EDAH09	
EDAM09	0.854	1.91	1.06	2y-EDAM09	
EDAU09	1.103	1.91	0.81	2y-EDAU09	
EDAZ09	1.353	1.91	0.56	2y-EDAZ09	
EDAH10	1.602	1.91	0.31	2y-EDAH10	
EDAM10	1.851	1.91	0.06	2y-EDAM10	
EDAU10	2.101	1.91	(0.19)	2y-EDAU10	
EDAZ10	2.350	1.91	(0.44)	2y-EDAZ10	
EDAH11	2.599	1.91	(0.69)	2y-EDAH11	
EDAM11	2.849	1.91	(0.93)	2y-EDAM11	

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

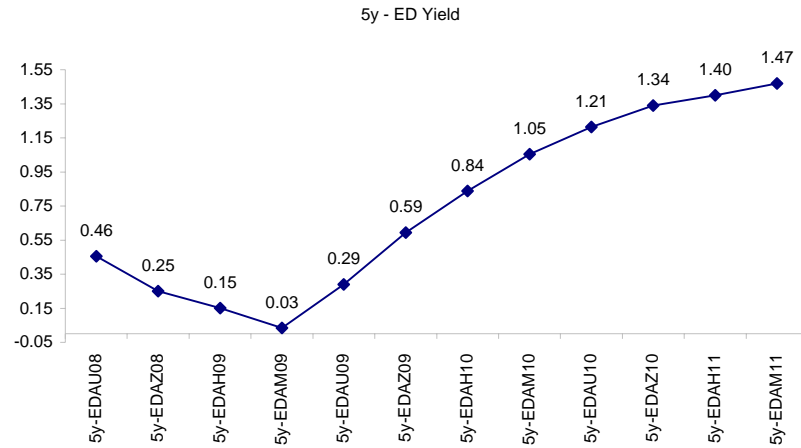


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.247	0.46	5y-EDAU08	-59.561
EDAZ08	3.452	0.25	5y-EDAZ08	-64.437
EDAH09	3.552	0.15	5y-EDAH09	-71.771
EDAM09	3.737	0.03	5y-EDAM09	-86.863
EDAU09	3.992	0.29	5y-EDAU09	-93.589
EDAZ09	4.297	0.59	5y-EDAZ09	-96.074
EDAH10	4.542	0.84	5y-EDAH10	-97.059
EDAM10	4.757	1.05	5y-EDAM10	-97.310
EDAU10	4.917	1.21	5y-EDAU10	-96.187
EDAZ10	5.042	1.34	5y-EDAZ10	-94.764
EDAH11	5.102	1.40	5y-EDAH11	-92.773
EDAM11	5.172	1.47	5y-EDAM11	-88.825

Price = Outright Decimal Price - Euro Contract Price

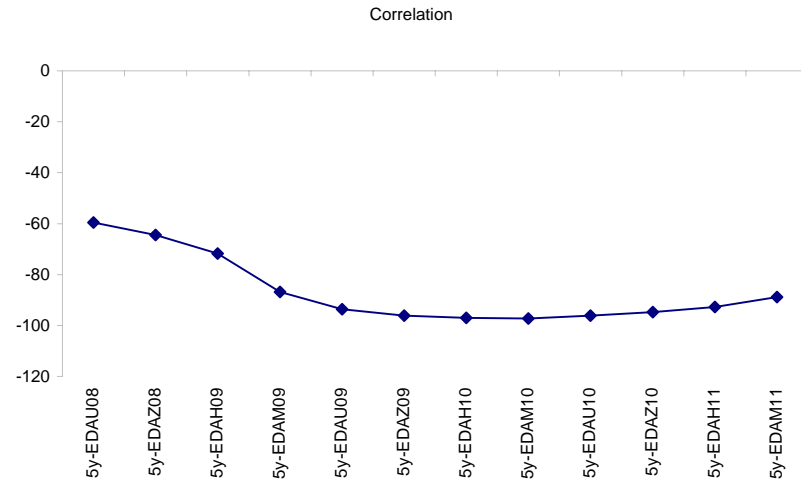
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.106	4.55	4.44	5y-EDAU08
EDAZ08	0.355	4.55	4.19	5y-EDAZ08
EDAH09	0.605	4.55	3.94	5y-EDAH09
EDAM09	0.854	4.55	3.69	5y-EDAM09
EDAU09	1.103	4.55	3.44	5y-EDAU09
EDAZ09	1.353	4.55	3.19	5y-EDAZ09
EDAH10	1.602	4.55	2.95	5y-EDAH10
EDAM10	1.851	4.55	2.70	5y-EDAM10
EDAU10	2.101	4.55	2.45	5y-EDAU10
EDAZ10	2.350	4.55	2.20	5y-EDAZ10
EDAH11	2.599	4.55	1.95	5y-EDAH11
EDAM11	2.849	4.55	1.70	5y-EDAM11

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

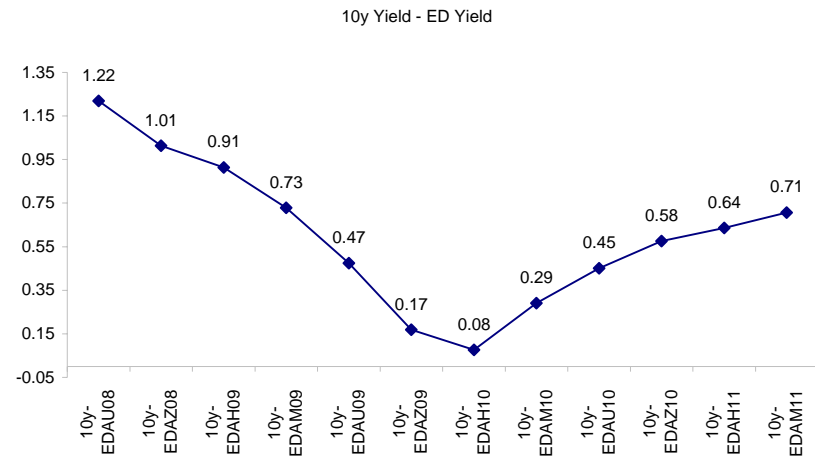


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.247	1.22	10y-EDAU08	-41.431
EDAZ08	3.452	1.01	10y-EDAZ08	-52.289
EDAH09	3.552	0.91	10y-EDAH09	-67.078
EDAM09	3.737	0.73	10y-EDAM09	-81.042
EDAU09	3.992	0.47	10y-EDAU09	-83.122
EDAZ09	4.297	0.17	10y-EDAZ09	-83.100
EDAH10	4.542	0.08	10y-EDAH10	-85.465
EDAM10	4.757	0.29	10y-EDAM10	-89.770
EDAU10	4.917	0.45	10y-EDAU10	-93.520
EDAZ10	5.042	0.58	10y-EDAZ10	-94.479
EDAH11	5.102	0.64	10y-EDAH11	-95.537
EDAM11	5.172	0.71	10y-EDAM11	-96.220

Price = Outright Decimal Price - Euro Contract Price

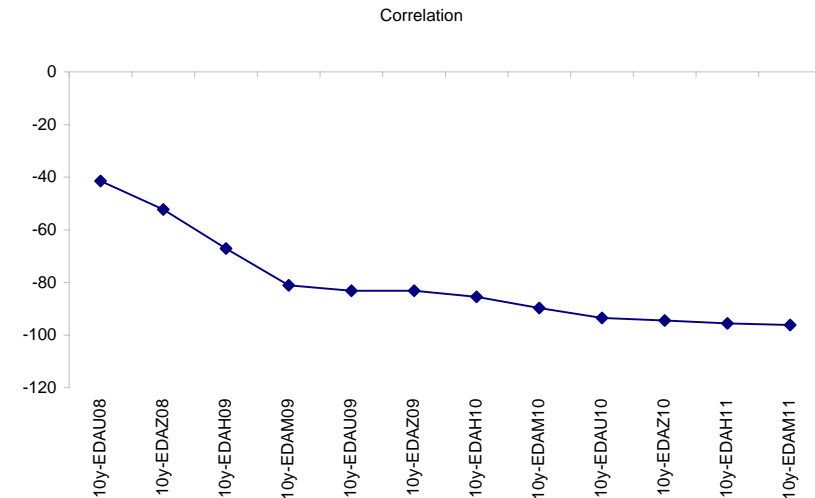
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.106	8.03	7.92	10y-EDAU08
EDAZ08	0.355	8.03	7.67	10y-EDAZ08
EDAH09	0.605	8.03	7.42	10y-EDAH09
EDAM09	0.854	8.03	7.17	10y-EDAM09
EDAU09	1.103	8.03	6.93	10y-EDAU09
EDAZ09	1.353	8.03	6.68	10y-EDAZ09
EDAH10	1.602	8.03	6.43	10y-EDAH10
EDAM10	1.851	8.03	6.18	10y-EDAM10
EDAU10	2.101	8.03	5.93	10y-EDAU10
EDAZ10	2.350	8.03	5.68	10y-EDAZ10
EDAH11	2.599	8.03	5.43	10y-EDAH11
EDAM11	2.849	8.03	5.18	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.

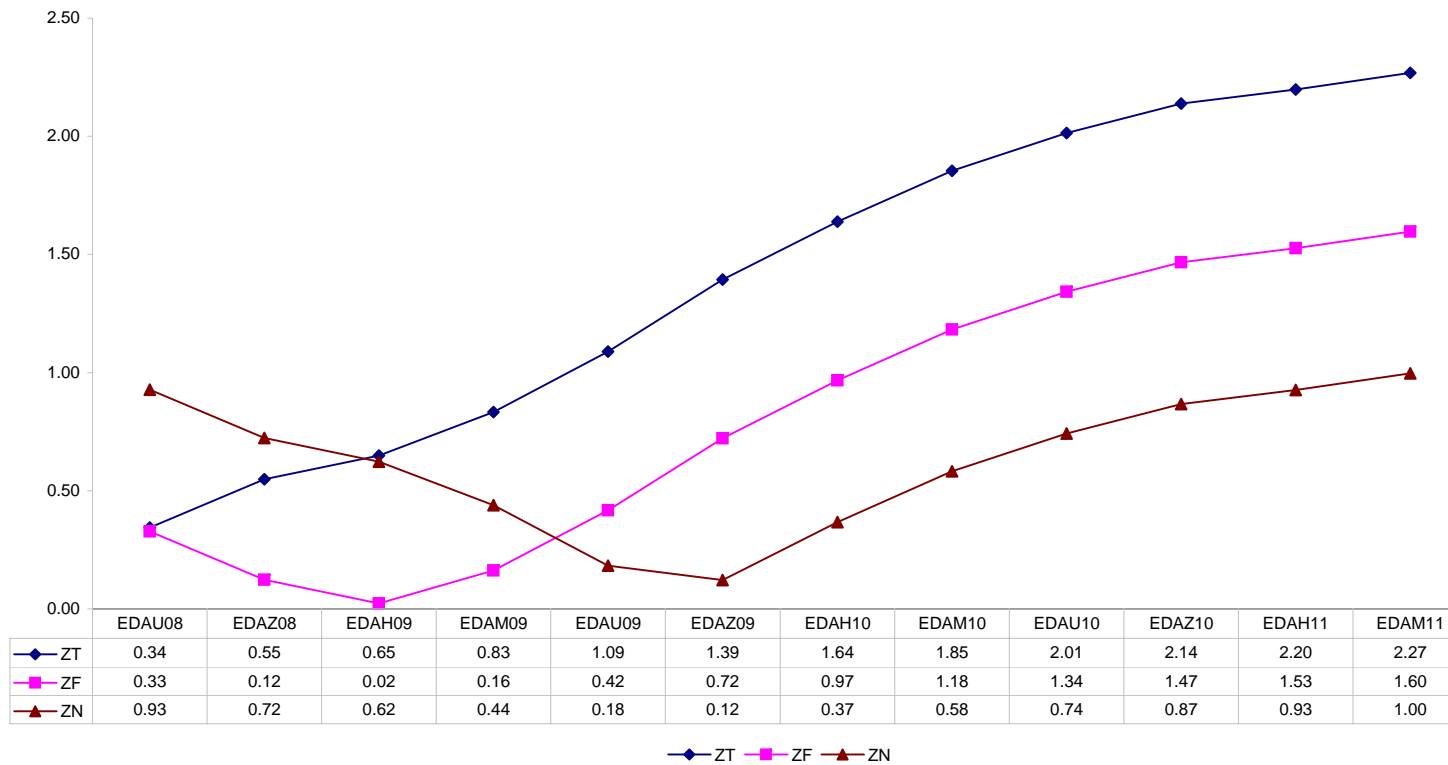
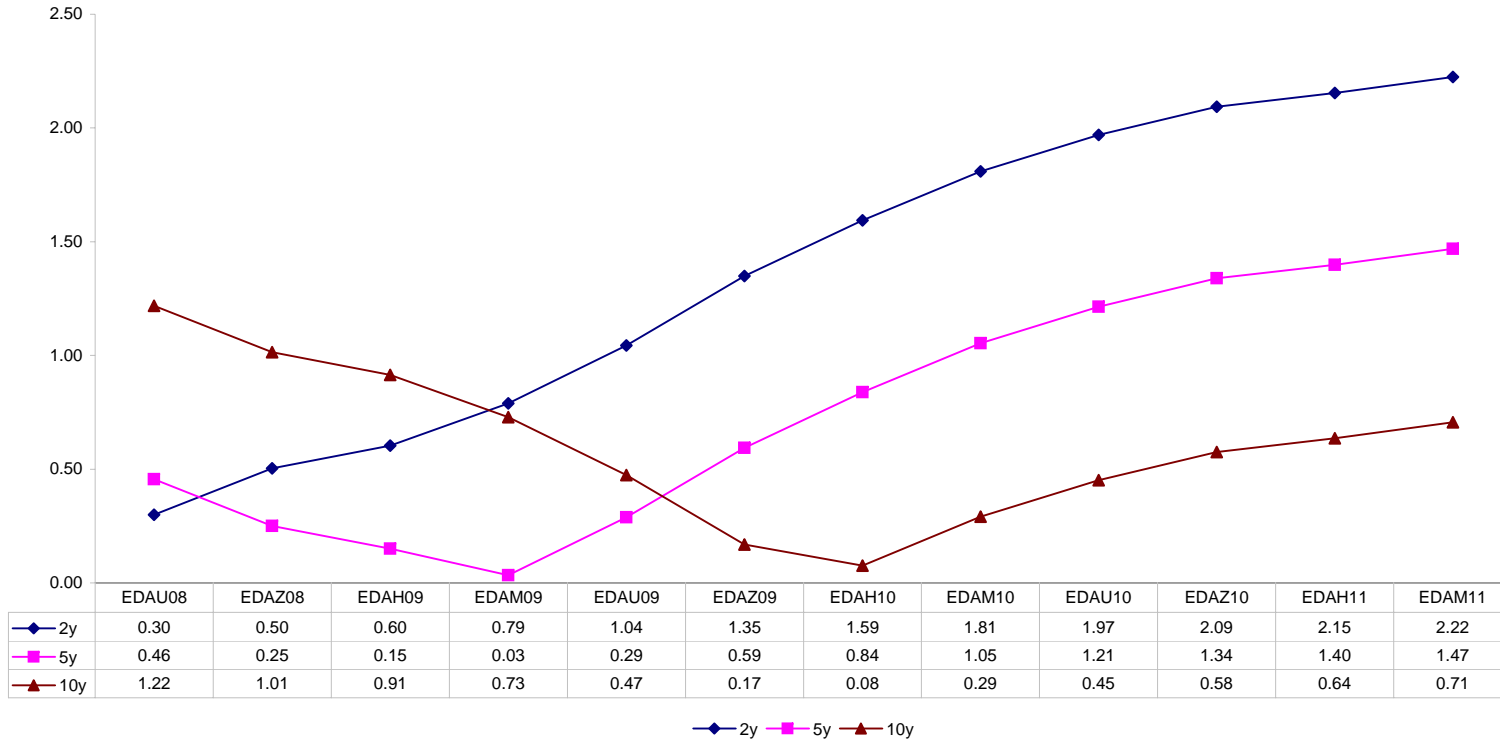
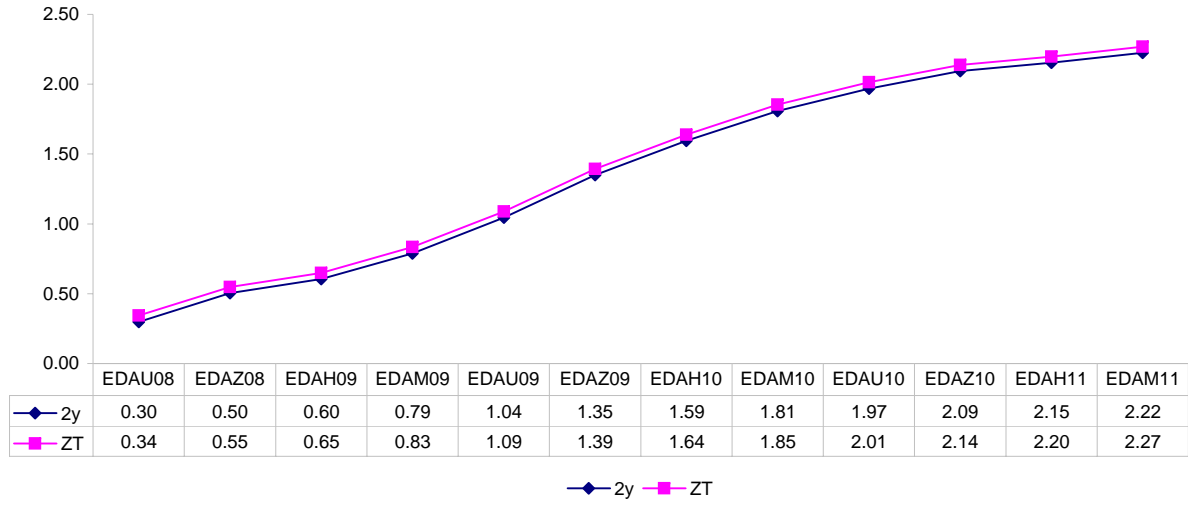


Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



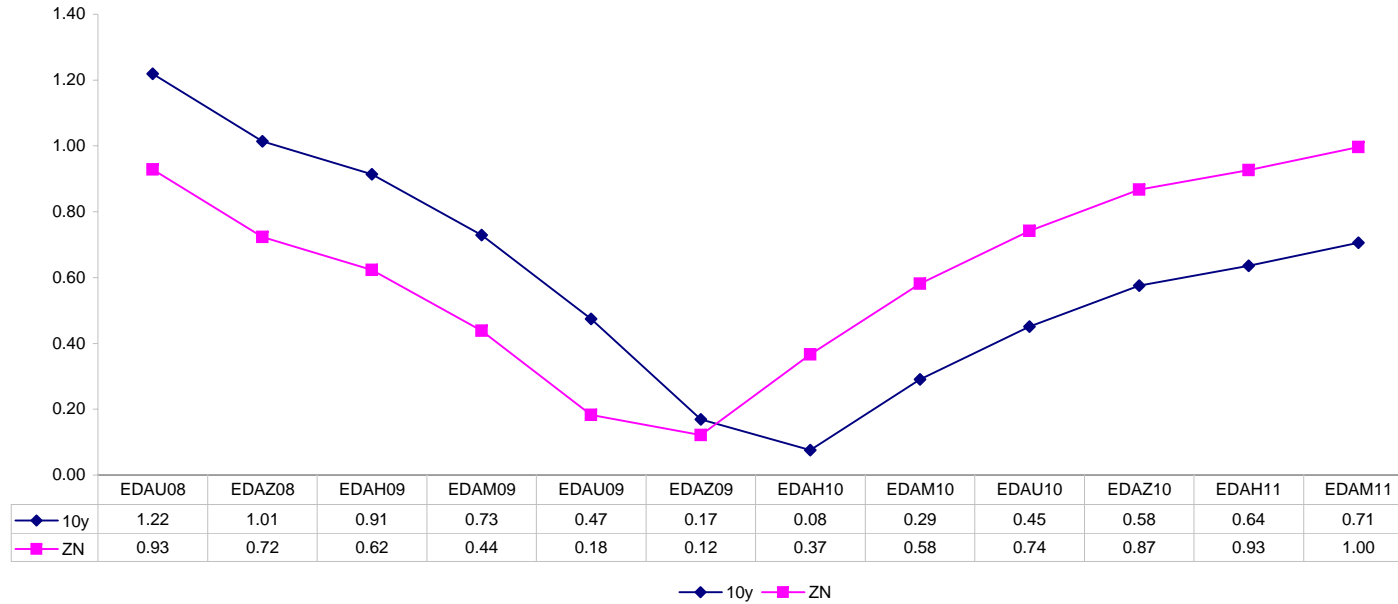
2y Basis TED Curve



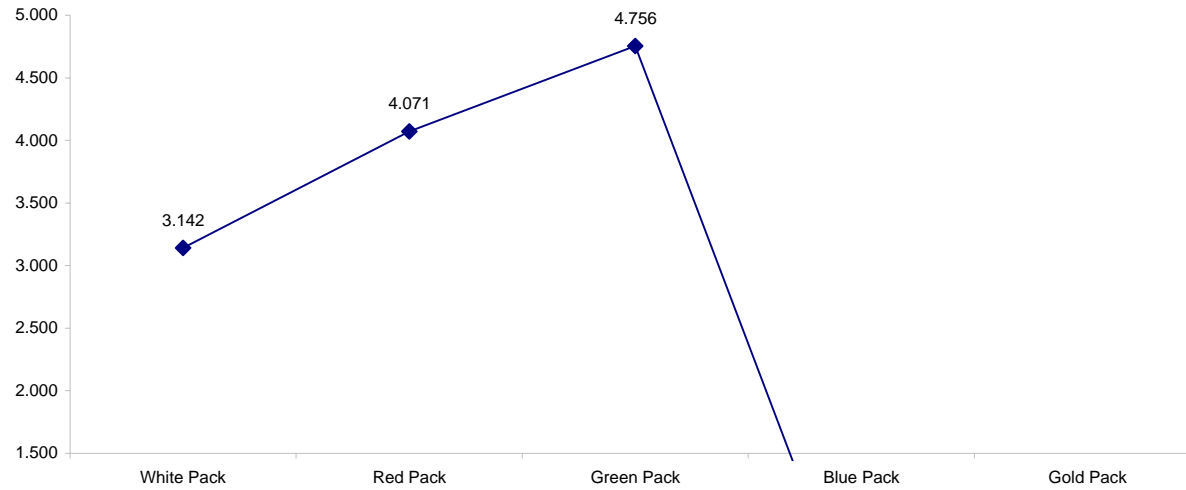
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.142	2.375	9692.500
Red Pack	4.071	3.875	9602.500
Green Pack	4.756	3.375	9536.375
Blue Pack		1.125	9511.750
Gold Pack		0.625	9491.000



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

