

## **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	106.1094	106.035	2.281	2.00
ZF	112.0000	112.000	2.960	4.20
ZN	115.7500	115.240	3.444	6.34
2y	100.006	100.0020	2.368	1.93
5y	100.234	100.0750	3.071	4.59
10y	101.766	101.2450	3.785	8.16

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.180	2.820	17	0.046	SEP	
EDAZ08	97.020	2.980	108	0.295	DEC	White
EDAH09	97.055	2.945	199	0.545	MAR	Pack
EDAM09	96.935	3.065	290	0.794	JUN	
EDAU09	96.735	3.265	381	1.043	SEP	
EDAZ09	96.455	3.545	472	1.292	DEC	Red
EDAH10	96.240	3.760	563	1.542	MAR	Pack
EDAM10	96.030	3.970	654	1.791	JUN	
EDAU10	95.850	4.150	745	2.040	SEP	
EDAZ10	95.700	4.300	836	2.290	DEC	Green
EDAH11	95.615	4.385	927	2.539	MAR	Pack
EDAM11	95.540	4.460	1018	2.788	JUN	
EDAU11	95.485	4.515	1116	3.057	SEP	
EDAZ11	95.410	4.590	1207	3.306	DEC	Blue Pack
EDAH12	95.375	4.625	1298	3.556	MAR	
EDAM12	95.325	4.675	1389	3.805	JUN	
EDAU12	95.310	4.690	1480	4.054	SEP	
EDAZ12	95.260	4.740	1571	4.303	DEC	Gold Pack
EDAH13	95.235	4.765	1662	4.553	MAR	
EDAM13	95.190	4.810	1753	4.802	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.016	0.062	9704.750	
Red Pack	3.719	1.000	9636.500	Pack
Green Pack	4.432	1.125	9567.625	Prices
Blue Pack		-0.250	9540.500	
Gold Pack		0.000	9523.625	

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.

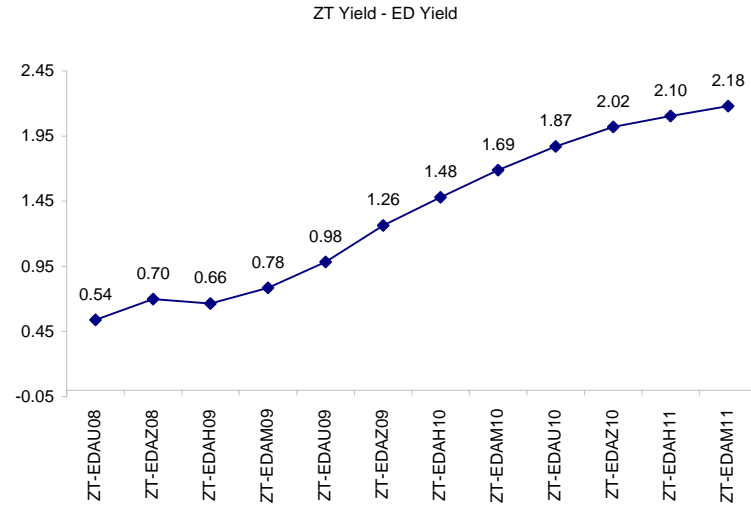
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

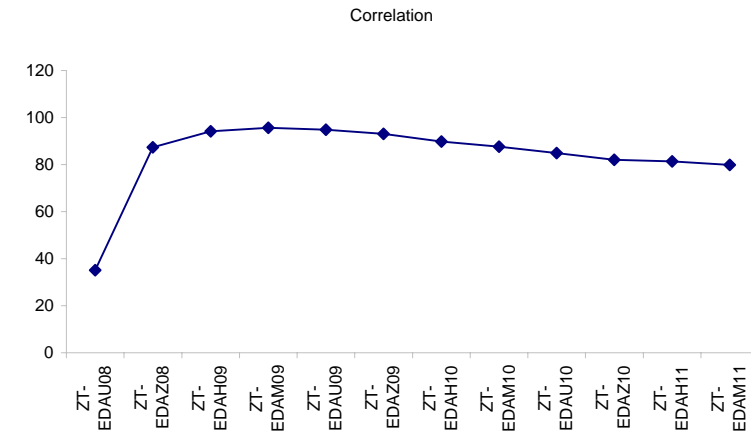
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.929	0.54	ZT-EDAU08	35.062
EDAZ08	9.089	0.70	ZT-EDAZ08	87.313
EDAH09	9.054	0.66	ZT-EDAH09	94.182
EDAM09	9.174	0.78	ZT-EDAM09	95.623
EDAU09	9.374	0.98	ZT-EDAU09	94.799
EDAZ09	9.654	1.26	ZT-EDAZ09	93.075
EDAH10	9.869	1.48	ZT-EDAH10	89.756
EDAM10	10.079	1.69	ZT-EDAM10	87.637
EDAU10	10.259	1.87	ZT-EDAU10	84.877
EDAZ10	10.409	2.02	ZT-EDAZ10	82.061
EDAH11	10.494	2.10	ZT-EDAH11	81.295
EDAM11	10.569	2.18	ZT-EDAM11	79.853

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	0.046	2.00	1.95	ZT-EDAU08		
EDAZ08	0.295	2.00	1.70	ZT-EDAZ08		
EDAH09	0.545	2.00	1.45	ZT-EDAH09		
EDAM09	0.794	2.00	1.20	ZT-EDAM09		
EDAU09	1.043	2.00	0.96	ZT-EDAU09		
EDAZ09	1.292	2.00	0.71	ZT-EDAZ09		
EDAH10	1.542	2.00	0.46	ZT-EDAH10		
EDAM10	1.791	2.00	0.21	ZT-EDAM10		
EDAU10	2.040	2.00	(0.04)	ZT-EDAU10		
EDAZ10	2.290	2.00	(0.29)	ZT-EDAZ10		
EDAH11	2.539	2.00	(0.54)	ZT-EDAH11		
EDAM11	2.788	2.00	(0.79)	ZT-EDAM11		

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

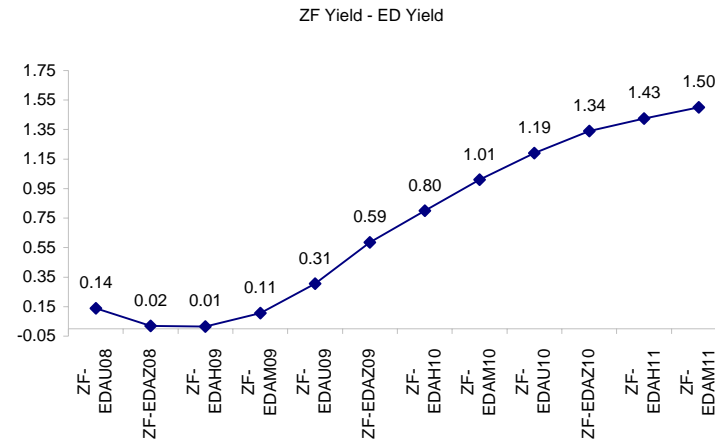


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	14.820	0.14	ZF-EDAU08	42.518
EDAZ08	14.980	0.02	ZF-EDAZ08	83.046
EDAH09	14.945	0.01	ZF-EDAH09	88.616
EDAM09	15.065	0.11	ZF-EDAM09	89.569
EDAU09	15.265	0.31	ZF-EDAU09	90.571
EDAZ09	15.545	0.59	ZF-EDAZ09	89.701
EDAH10	15.760	0.80	ZF-EDAH10	88.555
EDAM10	15.970	1.01	ZF-EDAM10	87.110
EDAU10	16.150	1.19	ZF-EDAU10	85.627
EDAZ10	16.300	1.34	ZF-EDAZ10	85.256
EDAH11	16.385	1.43	ZF-EDAH11	85.838
EDAM11	16.460	1.50	ZF-EDAM11	87.131

Price = Outright Decimal Price - Euro Contract Price

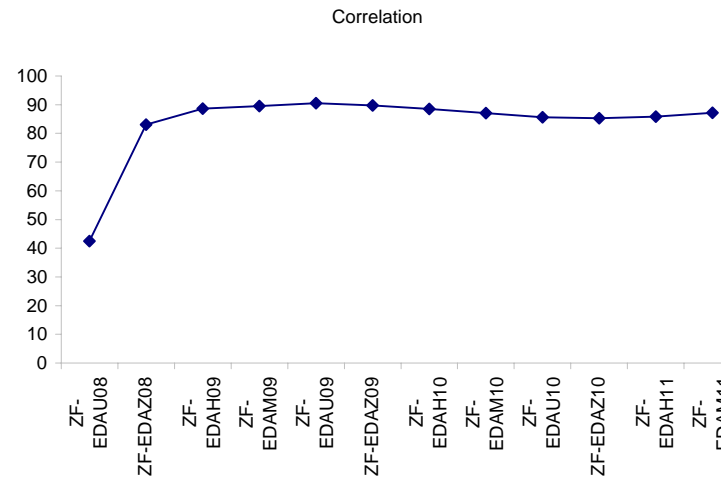
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



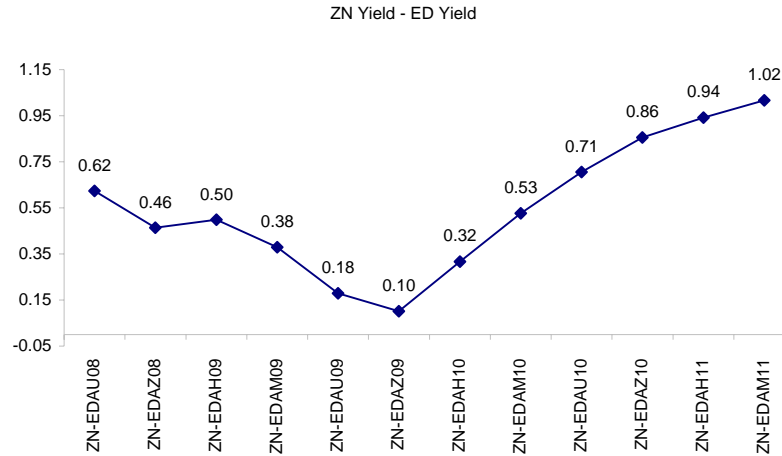
ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.046	4.20	4.15	ZF-EDAU08		
EDAZ08	0.295	4.20	3.90	ZF-EDAZ08		
EDAH09	0.545	4.20	3.65	ZF-EDAH09		
EDAM09	0.794	4.20	3.40	ZF-EDAM09		
EDAU09	1.043	4.20	3.15	ZF-EDAU09		
EDAZ09	1.292	4.20	2.90	ZF-EDAZ09		
EDAH10	1.542	4.20	2.66	ZF-EDAH10		
EDAM10	1.791	4.20	2.41	ZF-EDAM10		
EDAU10	2.040	4.20	2.16	ZF-EDAU10		
EDAZ10	2.290	4.20	1.91	ZF-EDAZ10		
EDAH11	2.539	4.20	1.66	ZF-EDAH11		
EDAM11	2.788	4.20	1.41	ZF-EDAM11		

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



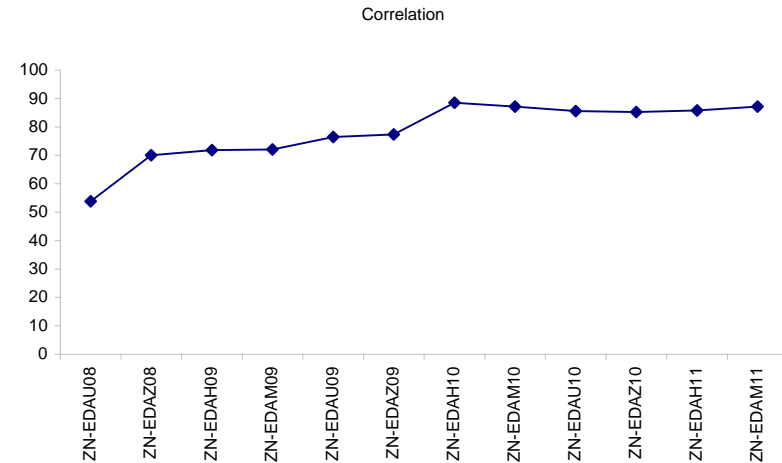
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	18.570	0.62	ZN-EDAU08	53.773
EDAZ08	18.730	0.46	ZN-EDAZ08	70.004
EDAH09	18.695	0.50	ZN-EDAH09	71.862
EDAM09	18.815	0.38	ZN-EDAM09	72.121
EDAU09	19.015	0.18	ZN-EDAU09	76.447
EDAZ09	19.295	0.10	ZN-EDAZ09	77.381
EDAH10	19.510	0.32	ZN-EDAH10	88.555
EDAM10	19.720	0.53	ZN-EDAM10	87.110
EDAU10	19.900	0.71	ZN-EDAU10	85.627
EDAZ10	20.050	0.86	ZN-EDAZ10	85.256
EDAH11	20.135	0.94	ZN-EDAH11	85.838
EDAM11	20.210	1.02	ZN-EDAM11	87.131

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				ZN Duration	Spread Duration	
EDAU08	0.046	6.34	6.30	ZN-EDAU08		
EDAZ08	0.295	6.34	6.05	ZN-EDAZ08		
EDAH09	0.545	6.34	5.80	ZN-EDAH09		
EDAM09	0.794	6.34	5.55	ZN-EDAM09		
EDAU09	1.043	6.34	5.30	ZN-EDAU09		
EDAZ09	1.292	6.34	5.05	ZN-EDAZ09		
EDAH10	1.542	6.34	4.80	ZN-EDAH10		
EDAM10	1.791	6.34	4.55	ZN-EDAM10		
EDAU10	2.040	6.34	4.30	ZN-EDAU10		
EDAZ10	2.290	6.34	4.05	ZN-EDAZ10		
EDAH11	2.539	6.34	3.80	ZN-EDAH11		
EDAM11	2.788	6.34	3.55	ZN-EDAM11		

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

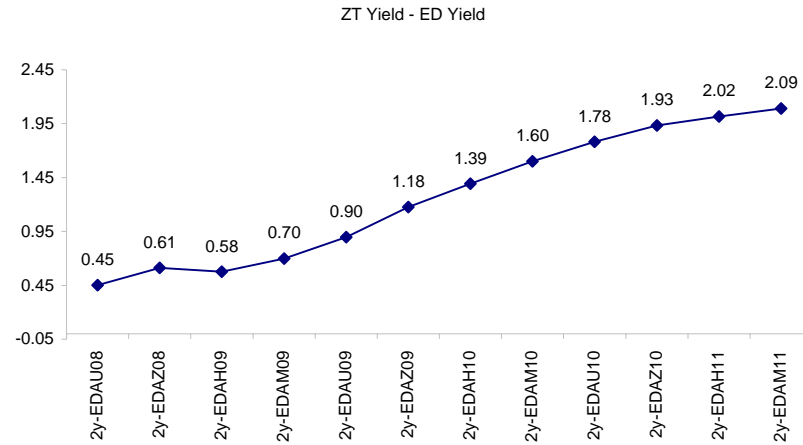


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.826	0.45	2y-EDAU08	5.359
EDAZ08	2.986	0.61	2y-EDAZ08	-57.997
EDAH09	2.951	0.58	2y-EDAH09	-66.681
EDAM09	3.071	0.70	2y-EDAM09	-68.286
EDAU09	3.271	0.90	2y-EDAU09	-62.252
EDAZ09	3.551	1.18	2y-EDAZ09	-57.674
EDAH10	3.766	1.39	2y-EDAH10	-48.817
EDAM10	3.976	1.60	2y-EDAM10	-43.118
EDAU10	4.156	1.78	2y-EDAU10	-37.845
EDAZ10	4.306	1.93	2y-EDAZ10	-33.091
EDAH11	4.391	2.02	2y-EDAH11	-31.475
EDAM11	4.466	2.09	2y-EDAM11	-28.257

Price = Outright Decimal Price - Euro Contract Price

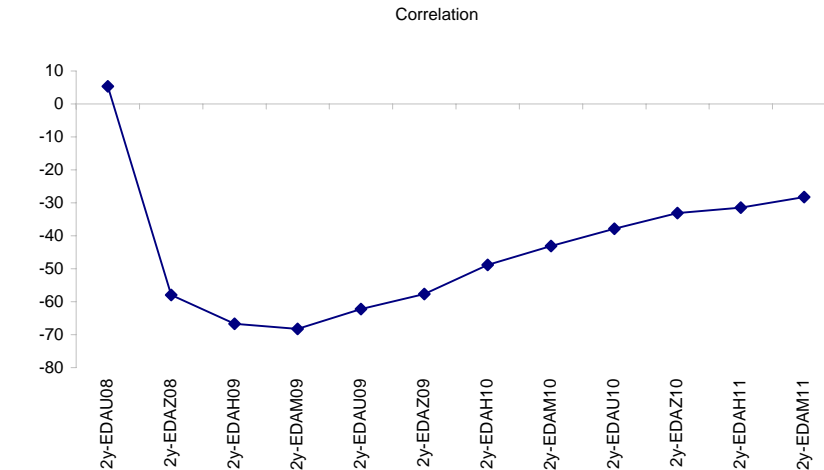
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.046	1.93	1.88	1.88	2y-EDAU08
EDAZ08	0.295	1.93	1.63	1.63	2y-EDAZ08
EDAH09	0.545	1.93	1.38	1.38	2y-EDAH09
EDAM09	0.794	1.93	1.13	1.13	2y-EDAM09
EDAU09	1.043	1.93	0.88	0.88	2y-EDAU09
EDAZ09	1.292	1.93	0.63	0.63	2y-EDAZ09
EDAH10	1.542	1.93	0.38	0.38	2y-EDAH10
EDAM10	1.791	1.93	0.13	(0.11)	2y-EDAM10
EDAU10	2.040	1.93	(0.36)	(0.36)	2y-EDAU10
EDAZ10	2.290	1.93	(0.61)	(0.61)	2y-EDAZ10
EDAH11	2.539	1.93	(0.86)	(0.86)	2y-EDAH11
EDAM11	2.788	1.93	(0.86)	(0.86)	2y-EDAM11

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

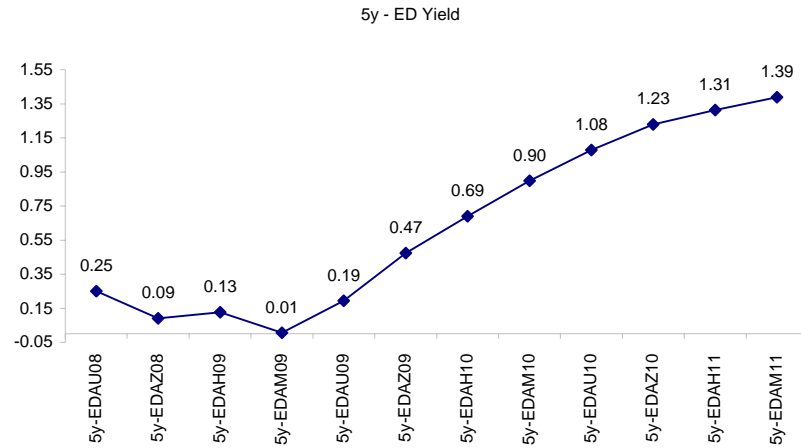


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.054	0.25	5y-EDAU08	-18.588
EDAZ08	3.214	0.09	5y-EDAZ08	-72.992
EDAH09	3.179	0.13	5y-EDAH09	-80.412
EDAM09	3.299	0.01	5y-EDAM09	-81.412
EDAU09	3.499	0.19	5y-EDAU09	-79.514
EDAZ09	3.779	0.47	5y-EDAZ09	-76.301
EDAH10	3.994	0.69	5y-EDAH10	-71.576
EDAM10	4.204	0.90	5y-EDAM10	-67.166
EDAU10	4.384	1.08	5y-EDAU10	-64.248
EDAZ10	4.534	1.23	5y-EDAZ10	-62.187
EDAH11	4.619	1.31	5y-EDAH11	-62.830
EDAM11	4.694	1.39	5y-EDAM11	-63.203

Price = Outright Decimal Price - Euro Contract Price

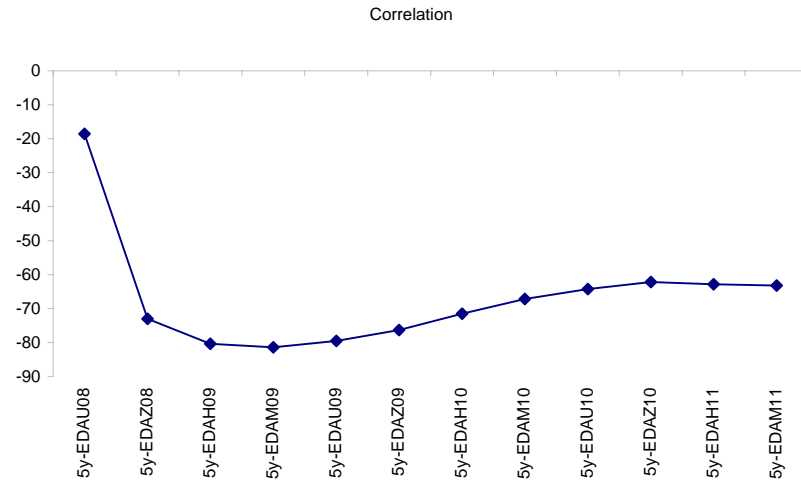
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	5Y Duration	Spread Duration		
EDAU08	0.046	4.59	4.55	5y-EDAU08
EDAZ08	0.295	4.59	4.30	5y-EDAZ08
EDAH09	0.545	4.59	4.05	5y-EDAH09
EDAM09	0.794	4.59	3.80	5y-EDAM09
EDAU09	1.043	4.59	3.55	5y-EDAU09
EDAZ09	1.292	4.59	3.30	5y-EDAZ09
EDAH10	1.542	4.59	3.05	5y-EDAH10
EDAM10	1.791	4.59	2.80	5y-EDAM10
EDAU10	2.040	4.59	2.55	5y-EDAU10
EDAZ10	2.290	4.59	2.31	5y-EDAZ10
EDAH11	2.539	4.59	2.06	5y-EDAH11
EDAM11	2.788	4.59	1.81	5y-EDAM11

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



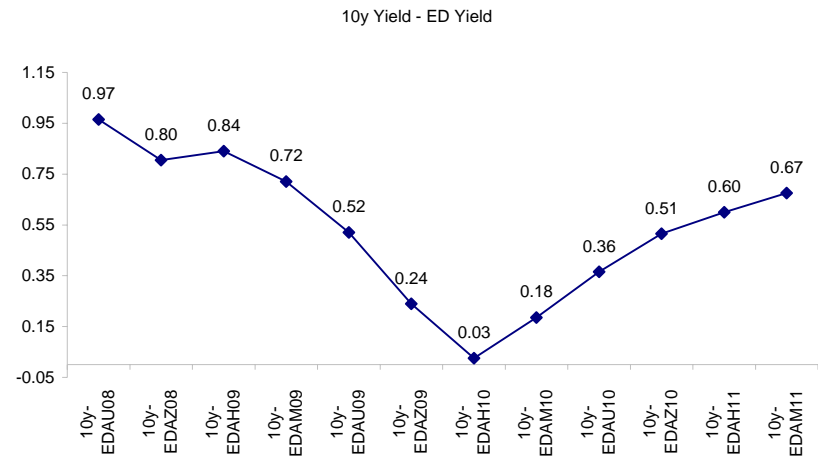


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.054	0.97	10y-EDAU08	-41.809
EDAZ08	3.214	0.80	10y-EDAZ08	-63.891
EDAH09	3.179	0.84	10y-EDAH09	-68.208
EDAM09	3.299	0.72	10y-EDAM09	-69.069
EDAU09	3.499	0.52	10y-EDAU09	-72.374
EDAZ09	3.779	0.24	10y-EDAZ09	-71.940
EDAH10	3.994	0.03	10y-EDAH10	-73.727
EDAM10	4.204	0.18	10y-EDAM10	-72.380
EDAU10	4.384	0.36	10y-EDAU10	-72.378
EDAZ10	4.534	0.51	10y-EDAZ10	-74.221
EDAH11	4.619	0.60	10y-EDAH11	-76.493
EDAM11	4.694	0.67	10y-EDAM11	-80.920

Price = Outright Decimal Price - Euro Contract Price

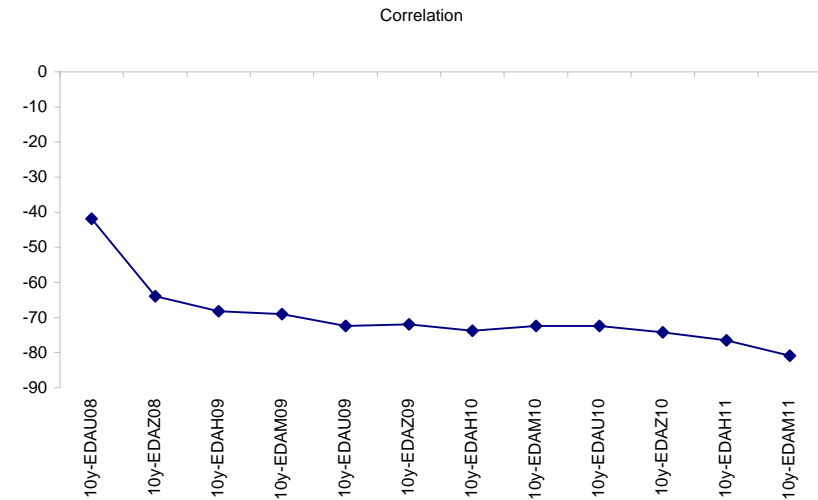
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.046	8.16	8.11	10y-EDAU08
EDAZ08	0.295	8.16	7.86	10y-EDAZ08
EDAH09	0.545	8.16	7.61	10y-EDAH09
EDAM09	0.794	8.16	7.36	10y-EDAM09
EDAU09	1.043	8.16	7.11	10y-EDAU09
EDAZ09	1.292	8.16	6.86	10y-EDAZ09
EDAH10	1.542	8.16	6.61	10y-EDAH10
EDAM10	1.791	8.16	6.37	10y-EDAM10
EDAU10	2.040	8.16	6.12	10y-EDAU10
EDAZ10	2.290	8.16	5.87	10y-EDAZ10
EDAH11	2.539	8.16	5.62	10y-EDAH11
EDAM11	2.788	8.16	5.37	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.

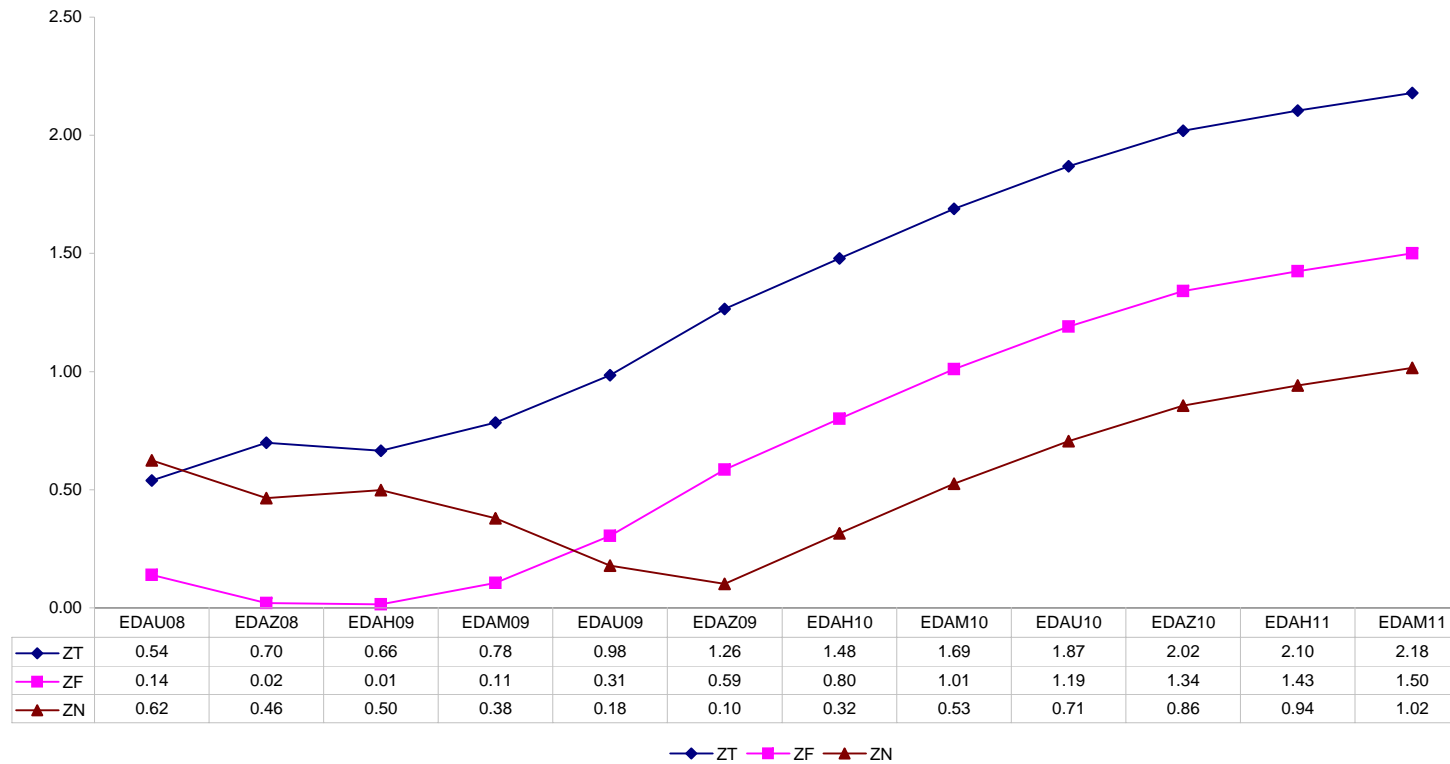
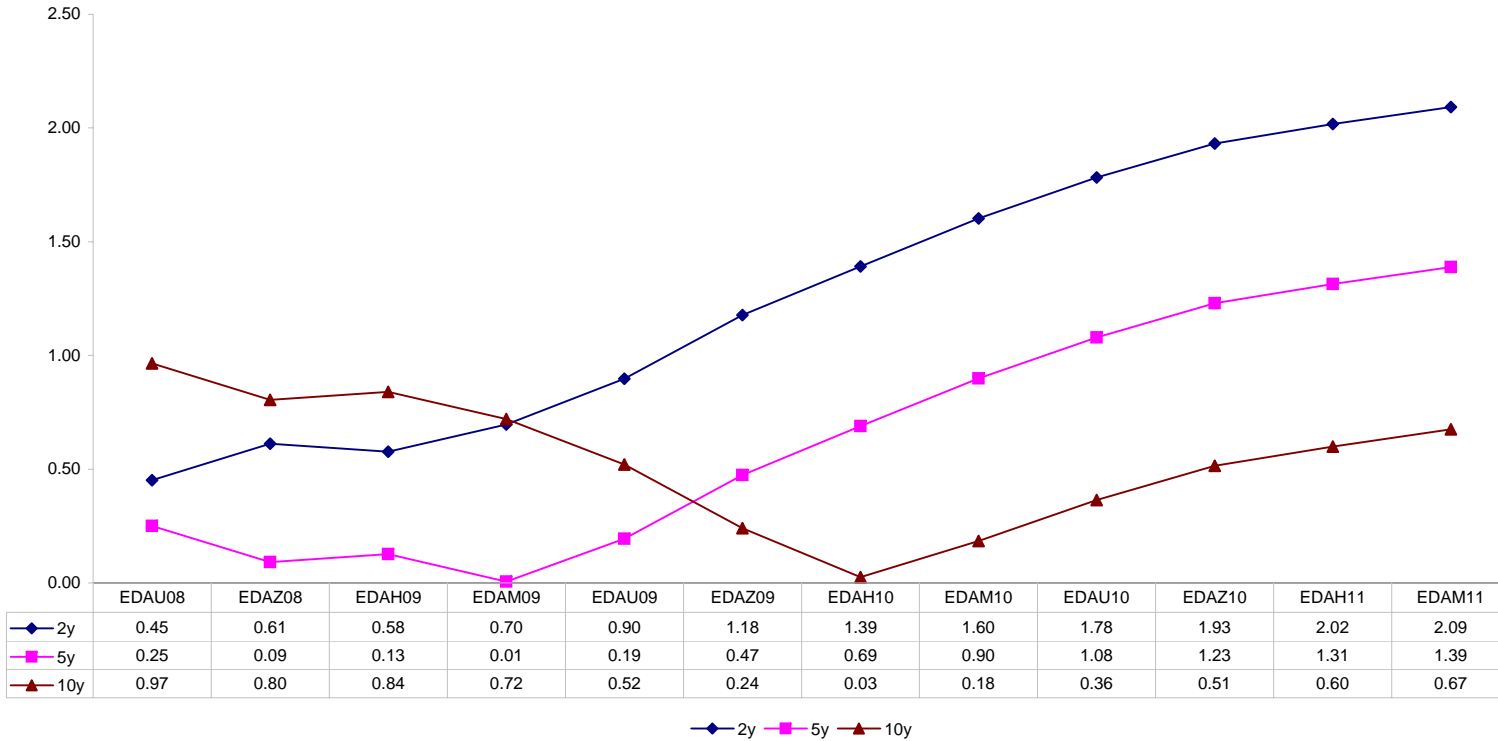
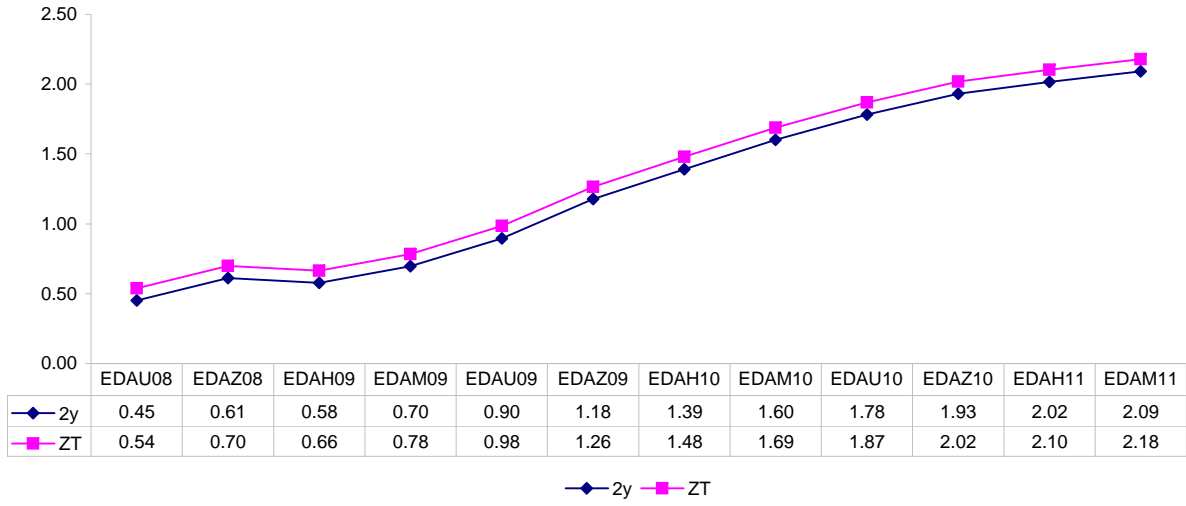


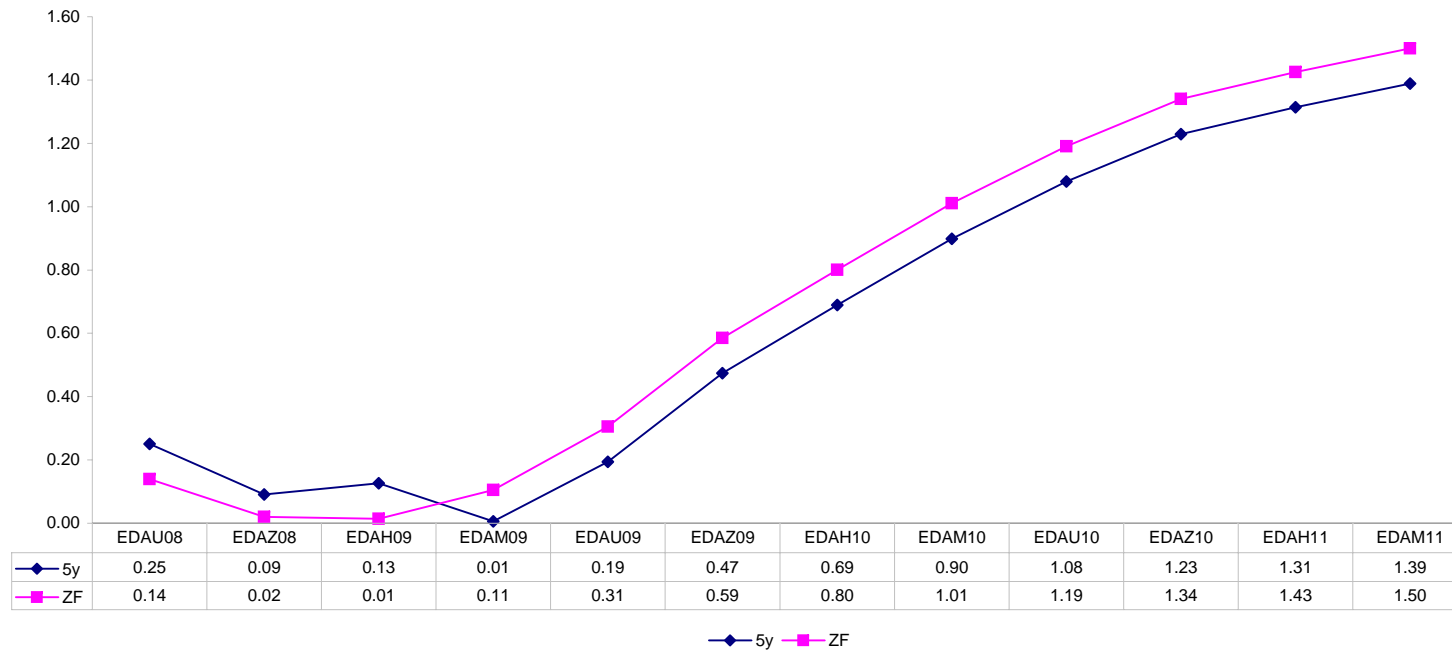
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



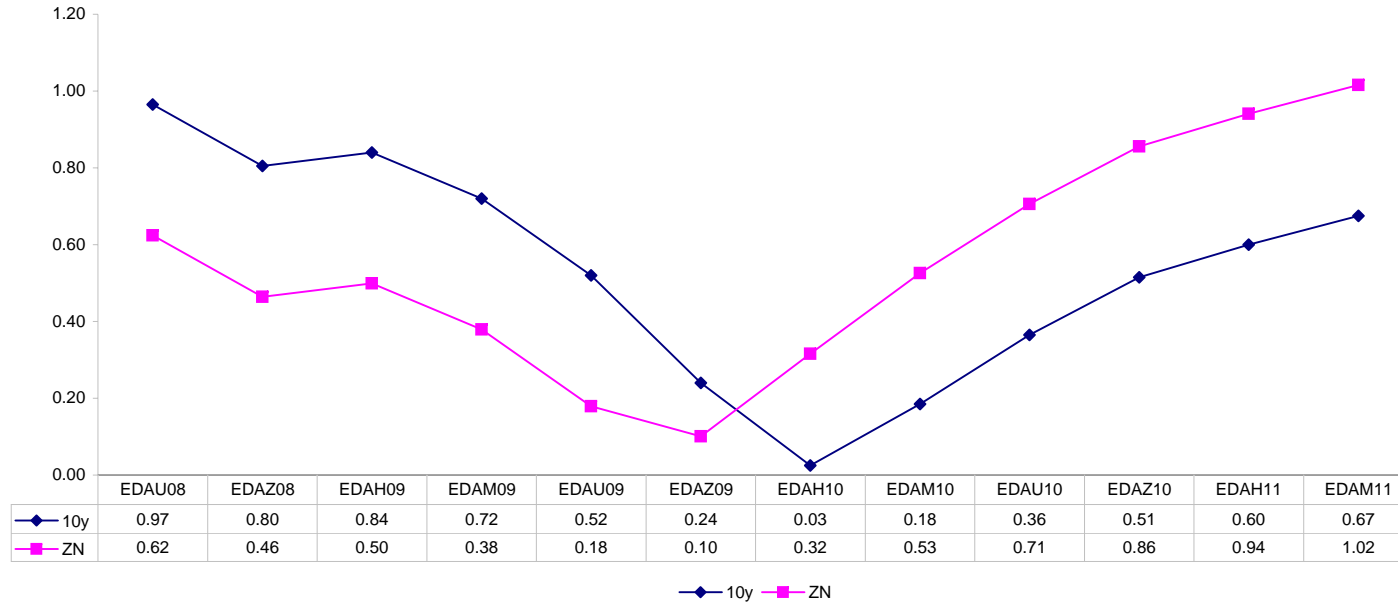
2y Basis TED Curve



5y Basis TED Curve

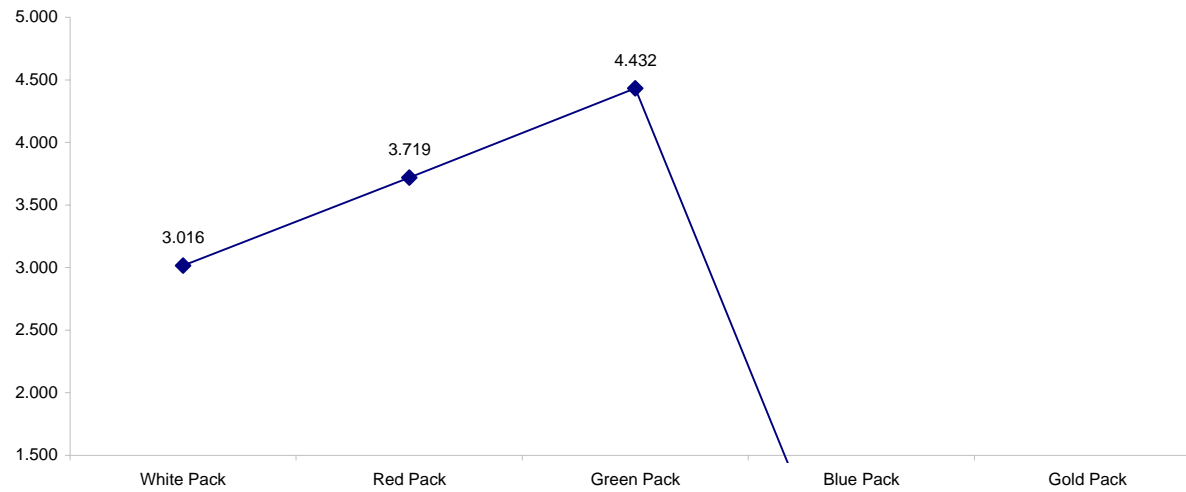


10y Basis TED Curve



### Packs

	Last Yield	Net Last Yield	Last Price
White Pack	3.016	0.062	9704.750
Red Pack	3.719	1.000	9636.500
Green Pack	4.432	1.125	9567.625
Blue Pack		-0.250	9540.500
Gold Pack		0.000	9523.625



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

