

## **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	107.0625	107.020	1.723	1.88
ZF	113.4375	113.140	2.552	4.02
ZN	117.7656	117.245	3.307	6.61
2y	99.944	99.3020	1.775	1.95
5y	99.391	99.1250	2.631	4.58
10y	99.641	99.2050	3.541	8.24

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.635	2.365	75	0.205	JUN
EDAU08	97.795	2.205	166	0.454	SEP White
EDAZ08	97.705	2.295	257	0.703	DEC Pack
EDAH09	97.650	2.350	348	0.953	MAR
EDAM09	97.445	2.555	439	1.202	JUN
EDAU09	97.240	2.760	530	1.451	SEP Red Pack
EDAZ09	96.955	3.045	621	1.701	DEC
EDAH10	96.760	3.240	712	1.950	MAR
EDAM10	96.540	3.460	803	2.199	JUN
EDAU10	96.340	3.660	894	2.449	SEP Green
EDAZ10	96.145	3.855	985	2.698	DEC Pack
EDAH11	96.010	3.990	1076	2.947	MAR
EDAM11	95.890	4.110	1167	3.197	JUN
EDAU11	95.765	4.235	1265	3.465	SEP Blue Pack
EDAZ11	95.655	4.345	1356	3.714	DEC
EDAH12	95.565	4.435	1447	3.964	MAR
EDAM12	95.490	4.510	1538	4.213	JUN
EDAU12	95.380	4.620	1629	4.462	SEP Gold Pack
EDAZ12	95.290	4.710	1720	4.712	DEC
EDAH13	95.230	4.770	1811	4.961	MAR

	Last Yield	Net Yield	Last Price	
White Pack	2.349	-12.625	9769.625	Pack Prices
Red Pack	2.962	-18.625	9710.000	
Green Pack	3.829	-16.750	9625.875	
Blue Pack	4.389	-14.125	9571.750	
Gold Pack	4.773	-13.625	9534.750	

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.

**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.

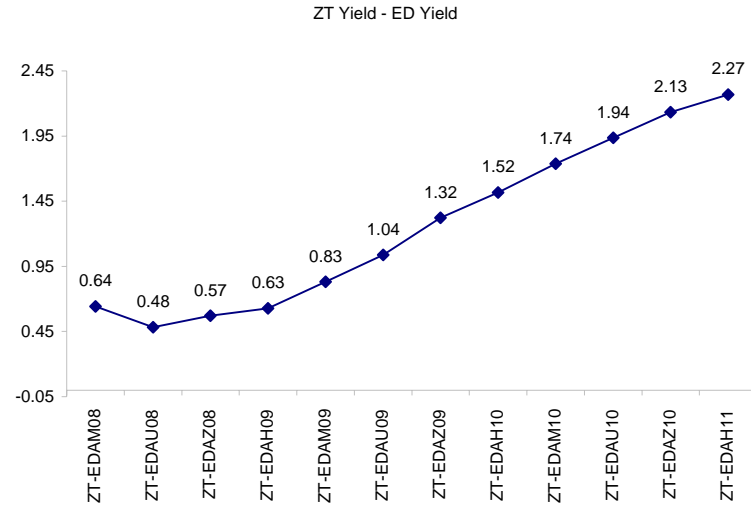
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

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.**

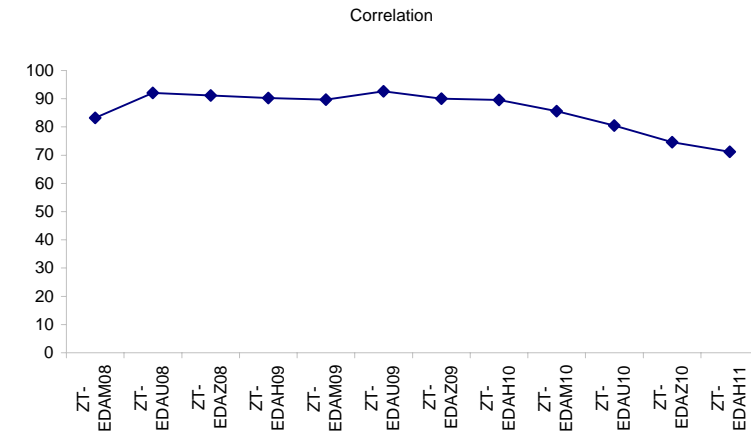
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	9.427	0.64	ZT-EDAM08	83.213
EDAU08	9.267	0.48	ZT-EDAU08	92.060
EDAZ08	9.357	0.57	ZT-EDAZ08	91.178
EDAH09	9.412	0.63	ZT-EDAH09	90.210
EDAM09	9.617	0.83	ZT-EDAM09	89.724
EDAU09	9.822	1.04	ZT-EDAU09	92.679
EDAZ09	10.108	1.32	ZT-EDAZ09	90.031
EDAH10	10.303	1.52	ZT-EDAH10	89.590
EDAM10	10.523	1.74	ZT-EDAM10	85.603
EDAU10	10.723	1.94	ZT-EDAU10	80.551
EDAZ10	10.918	2.13	ZT-EDAZ10	74.562
EDAH11	11.053	2.27	ZT-EDAH11	71.240

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		
EDAM08	0.205	1.88	1.67	ZT-EDAM08
EDAU08	0.454	1.88	1.42	ZT-EDAU08
EDAZ08	0.703	1.88	1.17	ZT-EDAZ08
EDAH09	0.953	1.88	0.92	ZT-EDAH09
EDAM09	1.202	1.88	0.67	ZT-EDAM09
EDAU09	1.451	1.88	0.42	ZT-EDAU09
EDAZ09	1.701	1.88	0.17	ZT-EDAZ09
EDAH10	1.950	1.88	(0.07)	ZT-EDAH10
EDAM10	2.199	1.88	(0.32)	ZT-EDAM10
EDAU10	2.449	1.88	(0.57)	ZT-EDAU10
EDAZ10	2.698	1.88	(0.82)	ZT-EDAZ10
EDAH11	2.947	1.88	(1.07)	ZT-EDAH11

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

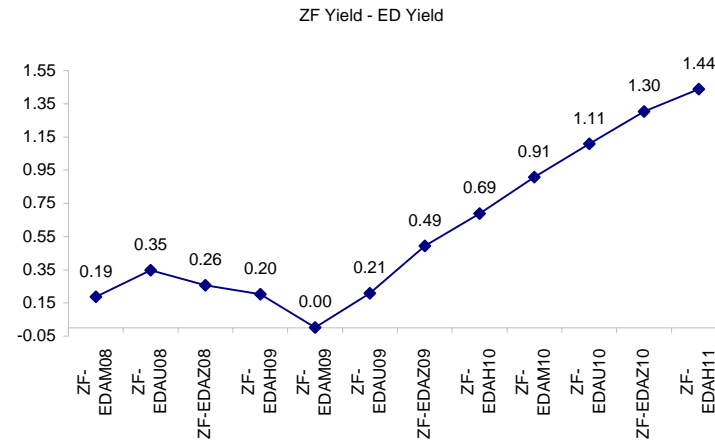


	ZF			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAM08	15.803	0.19	ZF-EDAM08	86.865
EDAU08	15.643	0.35	ZF-EDAU08	85.542
EDAZ08	15.733	0.26	ZF-EDAZ08	90.777
EDAH09	15.788	0.20	ZF-EDAH09	95.407
EDAM09	15.993	0.00	ZF-EDAM09	96.001
EDAU09	16.198	0.21	ZF-EDAU09	95.326
EDAZ09	16.483	0.49	ZF-EDAZ09	96.038
EDAH10	16.678	0.69	ZF-EDAH10	96.292
EDAM10	16.898	0.91	ZF-EDAM10	97.126
EDAU10	17.098	1.11	ZF-EDAU10	96.628
EDAZ10	17.293	1.30	ZF-EDAZ10	95.053
EDAH11	17.428	1.44	ZF-EDAH11	94.245

Price = Outright Decimal Price - Euro Contract Price

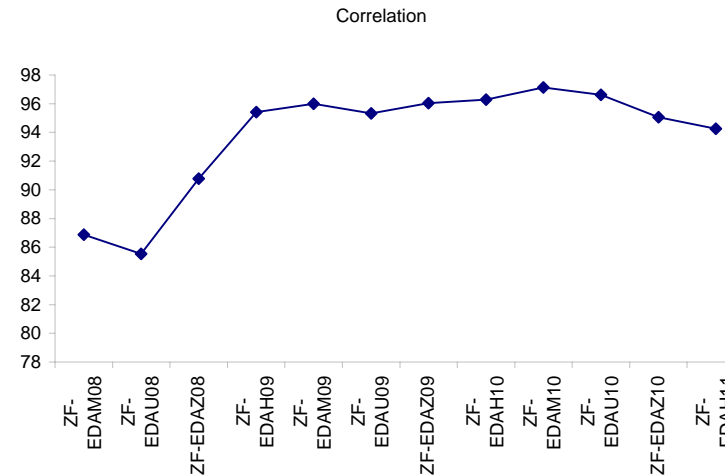
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.205	4.02	3.82	ZF-EDAM08	
EDAU08	0.454	4.02	3.57	ZF-EDAU08	
EDAZ08	0.703	4.02	3.32	ZF-EDAZ08	
EDAH09	0.953	4.02	3.07	ZF-EDAH09	
EDAM09	1.202	4.02	2.82	ZF-EDAM09	
EDAU09	1.451	4.02	2.57	ZF-EDAU09	
EDAZ09	1.701	4.02	2.32	ZF-EDAZ09	
EDAH10	1.950	4.02	2.07	ZF-EDAH10	
EDAM10	2.199	4.02	1.82	ZF-EDAM10	
EDAU10	2.449	4.02	1.57	ZF-EDAU10	
EDAZ10	2.698	4.02	1.32	ZF-EDAZ10	
EDAH11	2.947	4.02	1.08	ZF-EDAH11	

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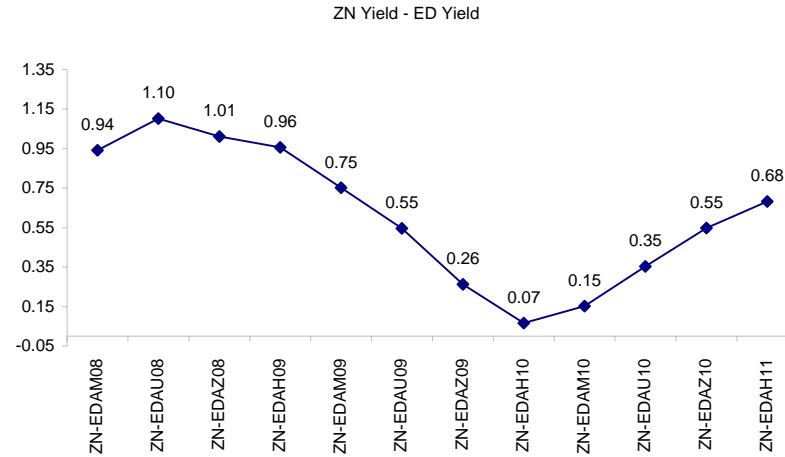


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	20.131	0.94	ZN-EDAM08	75.959
EDAU08	19.971	1.10	ZN-EDAU08	70.509
EDAZ08	20.061	1.01	ZN-EDAZ08	76.392
EDAH09	20.116	0.96	ZN-EDAH09	82.905
EDAM09	20.321	0.75	ZN-EDAM09	83.613
EDAU09	20.526	0.55	ZN-EDAU09	81.265
EDAZ09	20.811	0.26	ZN-EDAZ09	83.644
EDAH10	21.006	0.07	ZN-EDAH10	96.292
EDAM10	21.226	0.15	ZN-EDAM10	97.126
EDAU10	21.426	0.35	ZN-EDAU10	96.628
EDAZ10	21.621	0.55	ZN-EDAZ10	95.053
EDAH11	21.756	0.68	ZN-EDAH11	94.245

Price = Outright Decimal Price - Euro Contract Price

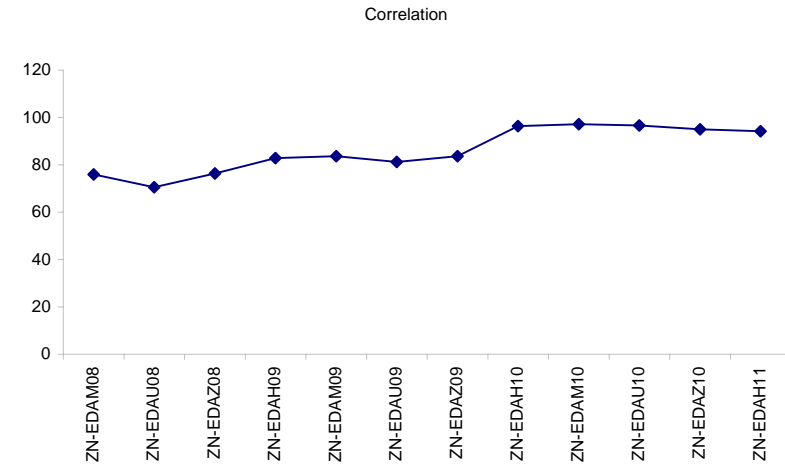
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAM08	0.205	6.61	6.41	ZN-EDAM08
EDAU08	0.454	6.61	6.16	ZN-EDAU08
EDAZ08	0.703	6.61	5.91	ZN-EDAZ08
EDAH09	0.953	6.61	5.66	ZN-EDAH09
EDAM09	1.202	6.61	5.41	ZN-EDAM09
EDAU09	1.451	6.61	5.16	ZN-EDAU09
EDAZ09	1.701	6.61	4.91	ZN-EDAZ09
EDAH10	1.950	6.61	4.66	ZN-EDAH10
EDAM10	2.199	6.61	4.41	ZN-EDAM10
EDAU10	2.449	6.61	4.16	ZN-EDAU10
EDAZ10	2.698	6.61	3.91	ZN-EDAZ10
EDAH11	2.947	6.61	3.66	ZN-EDAH11

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

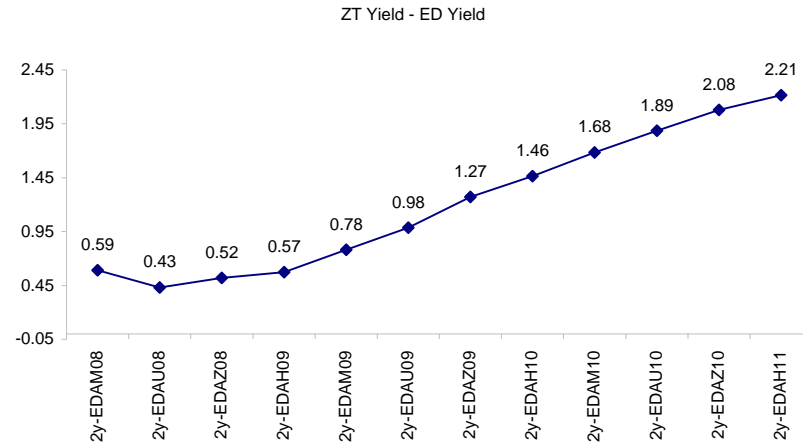


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.309	0.59	2y-EDAM08	-86.732
EDAU08	2.149	0.43	2y-EDAU08	-90.737
EDAZ08	2.239	0.52	2y-EDAZ08	-86.732
EDAH09	2.294	0.57	2y-EDAH09	-90.482
EDAM09	2.499	0.78	2y-EDAM09	-90.412
EDAU09	2.704	0.98	2y-EDAU09	-91.500
EDAZ09	2.989	1.27	2y-EDAZ09	-91.295
EDAH10	3.184	1.46	2y-EDAH10	-91.564
EDAM10	3.404	1.68	2y-EDAM10	-89.997
EDAU10	3.604	1.89	2y-EDAU10	-86.227
EDAZ10	3.799	2.08	2y-EDAZ10	-81.579
EDAH11	3.934	2.21	2y-EDAH11	-78.579

Price = Outright Decimal Price - Euro Contract Price

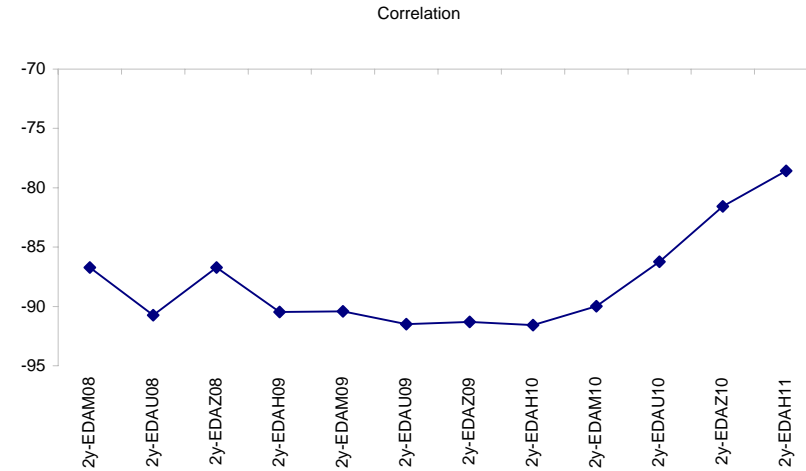
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			2Y Duration	Spread Duration	
EDAM08	0.205	1.95	1.74	2y-EDAM08		
EDAU08	0.454	1.95	1.49	2y-EDAU08		
EDAZ08	0.703	1.95	1.25	2y-EDAZ08		
EDAH09	0.953	1.95	1.00	2y-EDAH09		
EDAM09	1.202	1.95	0.75	2y-EDAM09		
EDAU09	1.451	1.95	0.50	2y-EDAU09		
EDAZ09	1.701	1.95	0.25	2y-EDAZ09		
EDAH10	1.950	1.95	(0.00)	2y-EDAH10		
EDAM10	2.199	1.95	(0.25)	2y-EDAM10		
EDAU10	2.449	1.95	(0.50)	2y-EDAU10		
EDAZ10	2.698	1.95	(0.75)	2y-EDAZ10		
EDAH11	2.947	1.95	(1.00)	2y-EDAH11		

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

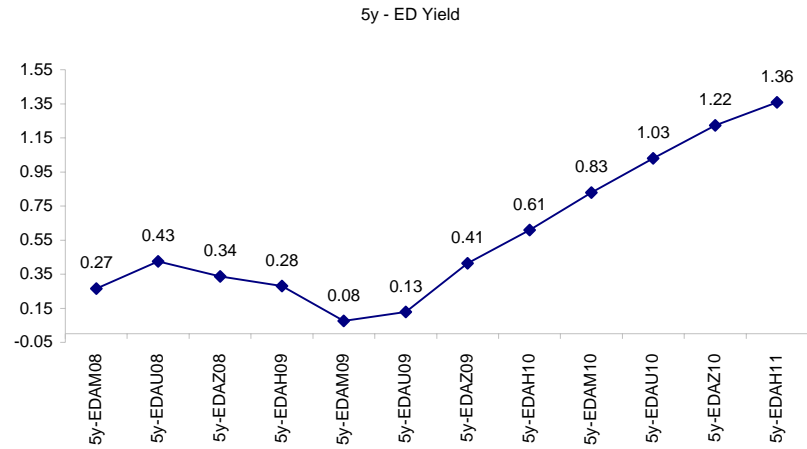


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	1.756	0.27	5y-EDAM08	-83.889
EDAU08	1.596	0.43	5y-EDAU08	-85.222
EDAZ08	1.686	0.34	5y-EDAZ08	-83.889
EDAH09	1.741	0.28	5y-EDAH09	-91.439
EDAM09	1.946	0.08	5y-EDAM09	-91.924
EDAU09	2.151	0.13	5y-EDAU09	-91.916
EDAZ09	2.436	0.41	5y-EDAZ09	-92.891
EDAH10	2.631	0.61	5y-EDAH10	-93.618
EDAM10	2.851	0.83	5y-EDAM10	-94.139
EDAU10	3.051	1.03	5y-EDAU10	-92.553
EDAZ10	3.246	1.22	5y-EDAZ10	-90.016
EDAH11	3.381	1.36	5y-EDAH11	-88.707

Price = Outright Decimal Price - Euro Contract Price

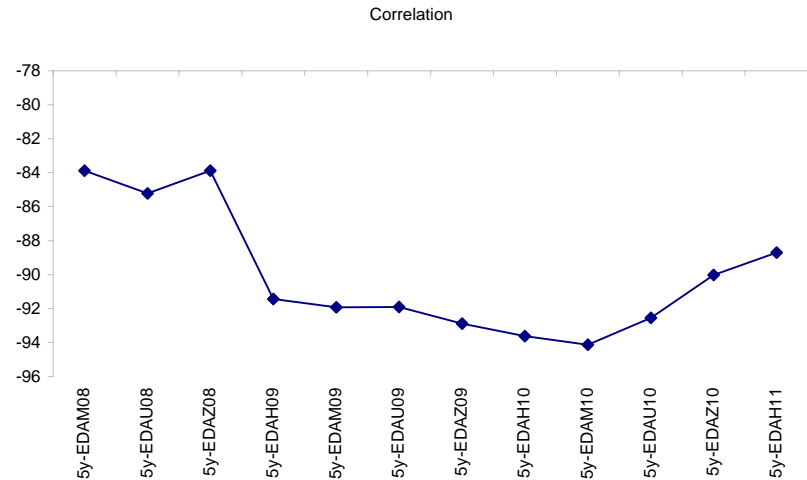
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.205	4.58	4.37	5y-EDAM08
EDAU08	0.454	4.58	4.12	5y-EDAU08
EDAZ08	0.703	4.58	3.87	5y-EDAZ08
EDAH09	0.953	4.58	3.62	5y-EDAH09
EDAM09	1.202	4.58	3.38	5y-EDAM09
EDAU09	1.451	4.58	3.13	5y-EDAU09
EDAZ09	1.701	4.58	2.88	5y-EDAZ09
EDAH10	1.950	4.58	2.63	5y-EDAH10
EDAM10	2.199	4.58	2.38	5y-EDAM10
EDAU10	2.449	4.58	2.13	5y-EDAU10
EDAZ10	2.698	4.58	1.88	5y-EDAZ10
EDAH11	2.947	4.58	1.63	5y-EDAH11

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

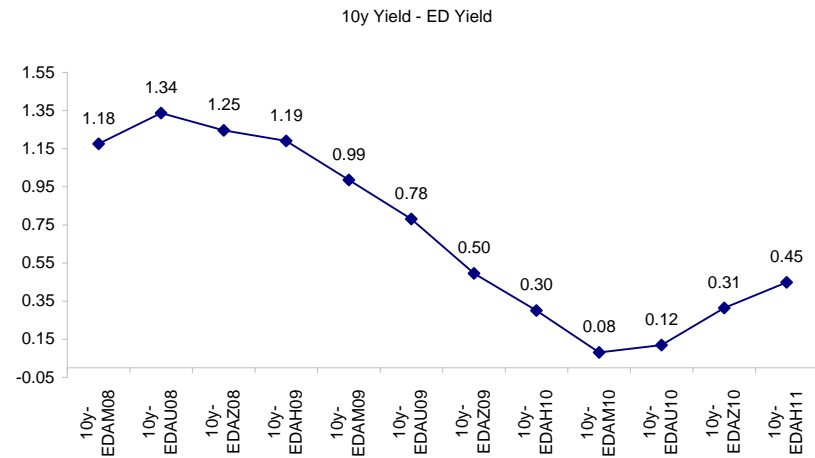


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	1.756	1.18	10y-EDAM08	-62.307
EDAU08	1.596	1.34	10y-EDAU08	-66.764
EDAZ08	1.686	1.25	10y-EDAZ08	-62.307
EDAH09	1.741	1.19	10y-EDAH09	-76.152
EDAM09	1.946	0.99	10y-EDAM09	-77.109
EDAU09	2.151	0.78	10y-EDAU09	-77.855
EDAZ09	2.436	0.50	10y-EDAZ09	-78.783
EDAH10	2.631	0.30	10y-EDAH10	-80.148
EDAM10	2.851	0.08	10y-EDAM10	-81.616
EDAU10	3.051	0.12	10y-EDAU10	-81.214
EDAZ10	3.246	0.31	10y-EDAZ10	-79.990
EDAH11	3.381	0.45	10y-EDAH11	-80.912

Price = Outright Decimal Price - Euro Contract Price

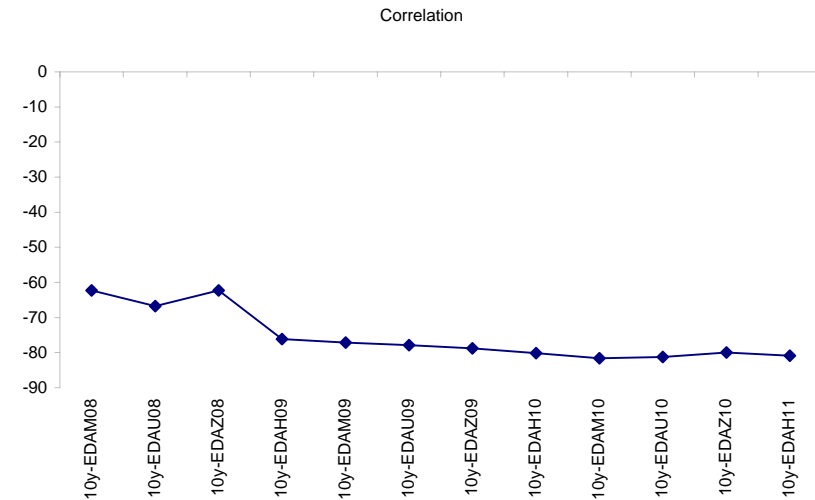
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.205	8.24	8.04	10y-EDAM08
EDAU08	0.454	8.24	7.79	10y-EDAU08
EDAZ08	0.703	8.24	7.54	10y-EDAZ08
EDAH09	0.953	8.24	7.29	10y-EDAH09
EDAM09	1.202	8.24	7.04	10y-EDAM09
EDAU09	1.451	8.24	6.79	10y-EDAU09
EDAZ09	1.701	8.24	6.54	10y-EDAZ09
EDAH10	1.950	8.24	6.29	10y-EDAH10
EDAM10	2.199	8.24	6.04	10y-EDAM10
EDAU10	2.449	8.24	5.79	10y-EDAU10
EDAZ10	2.698	8.24	5.54	10y-EDAZ10
EDAH11	2.947	8.24	5.29	10y-EDAH11

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.

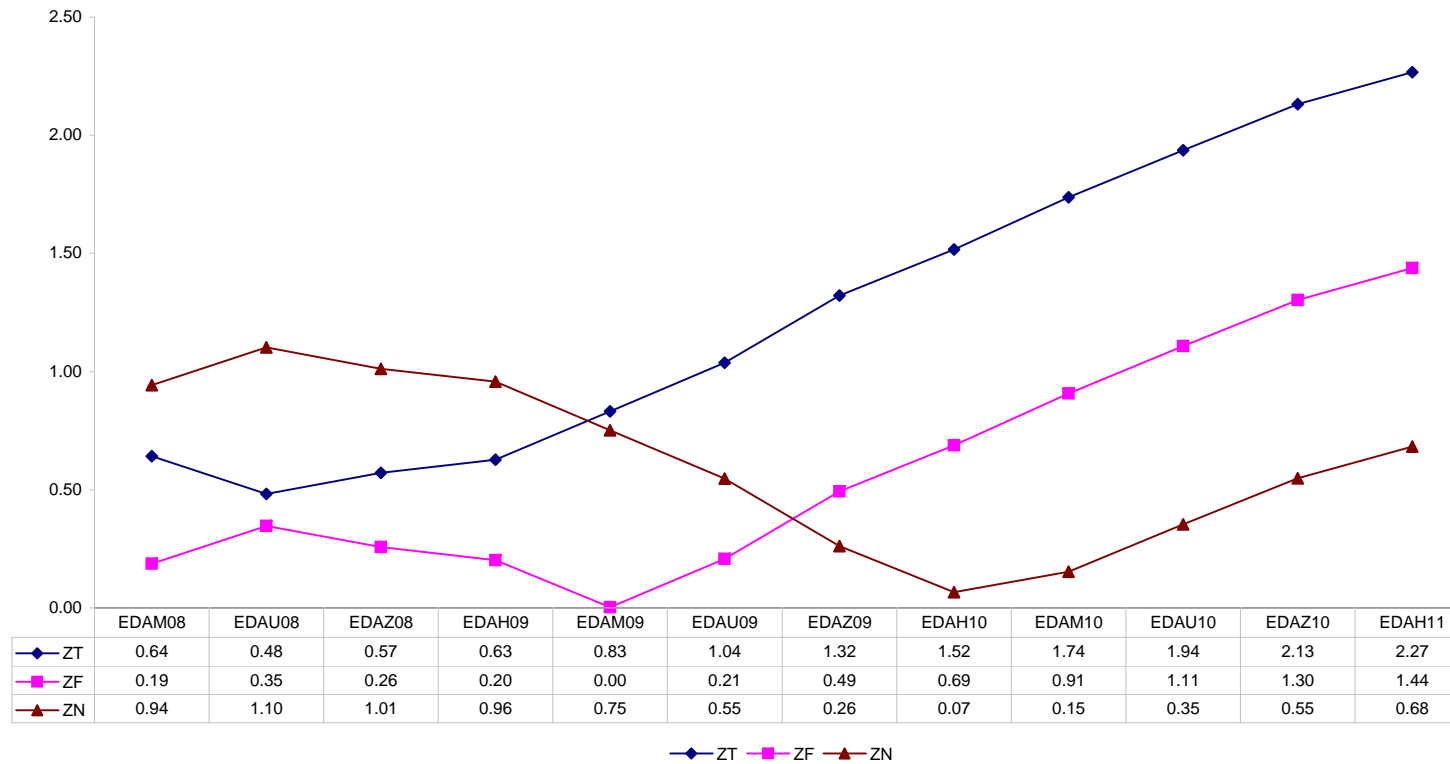
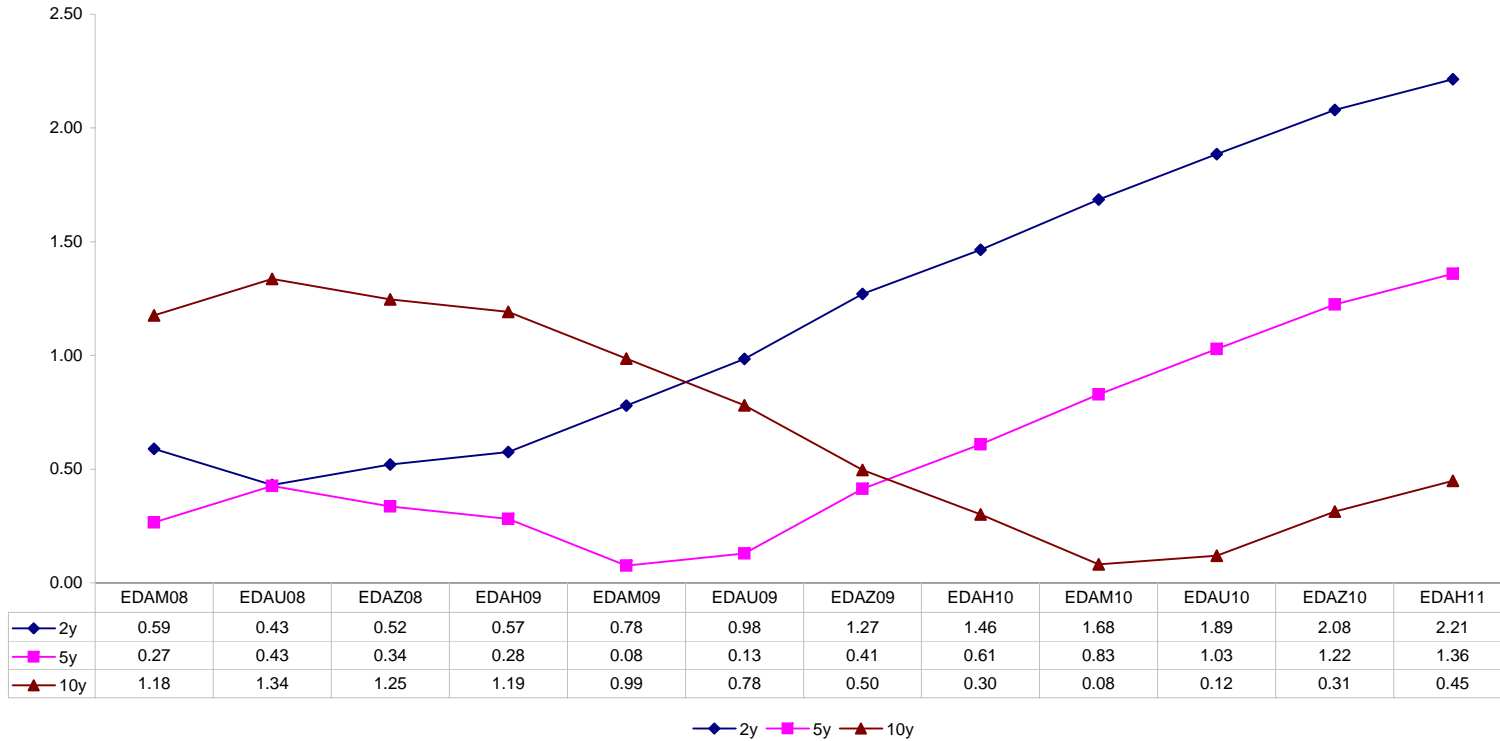
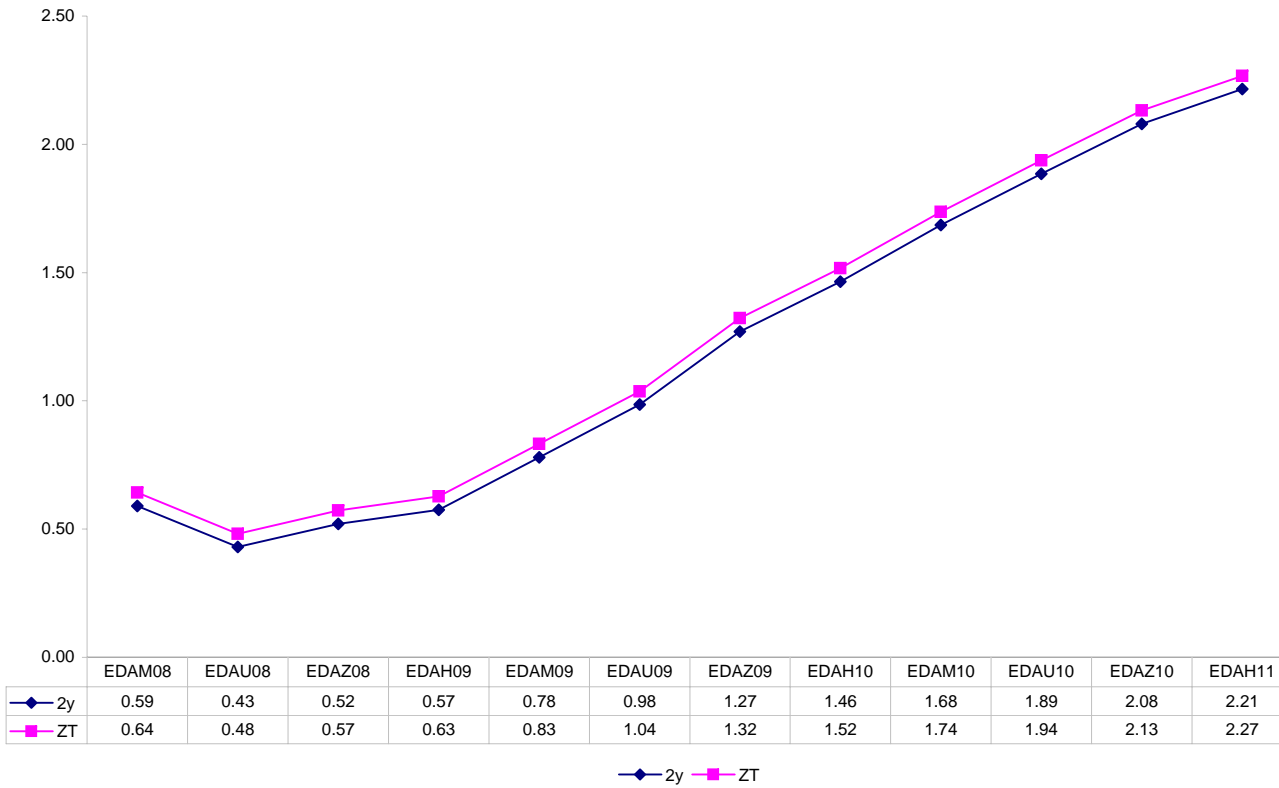


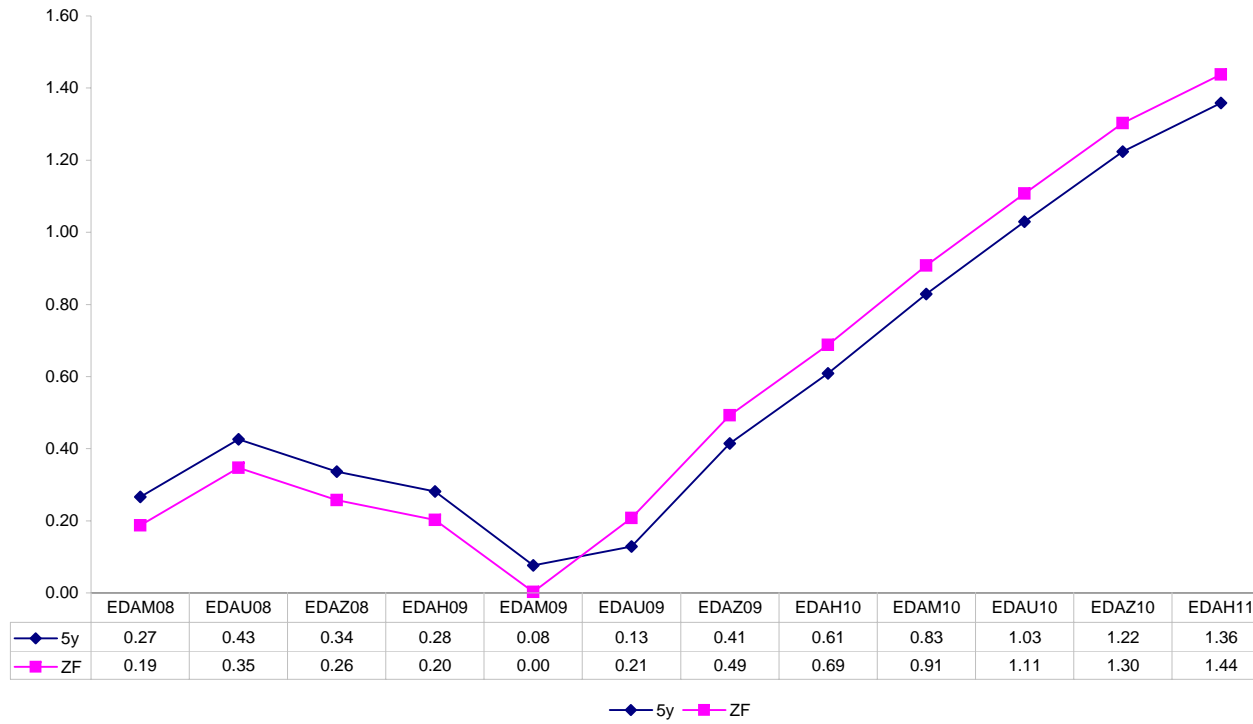
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



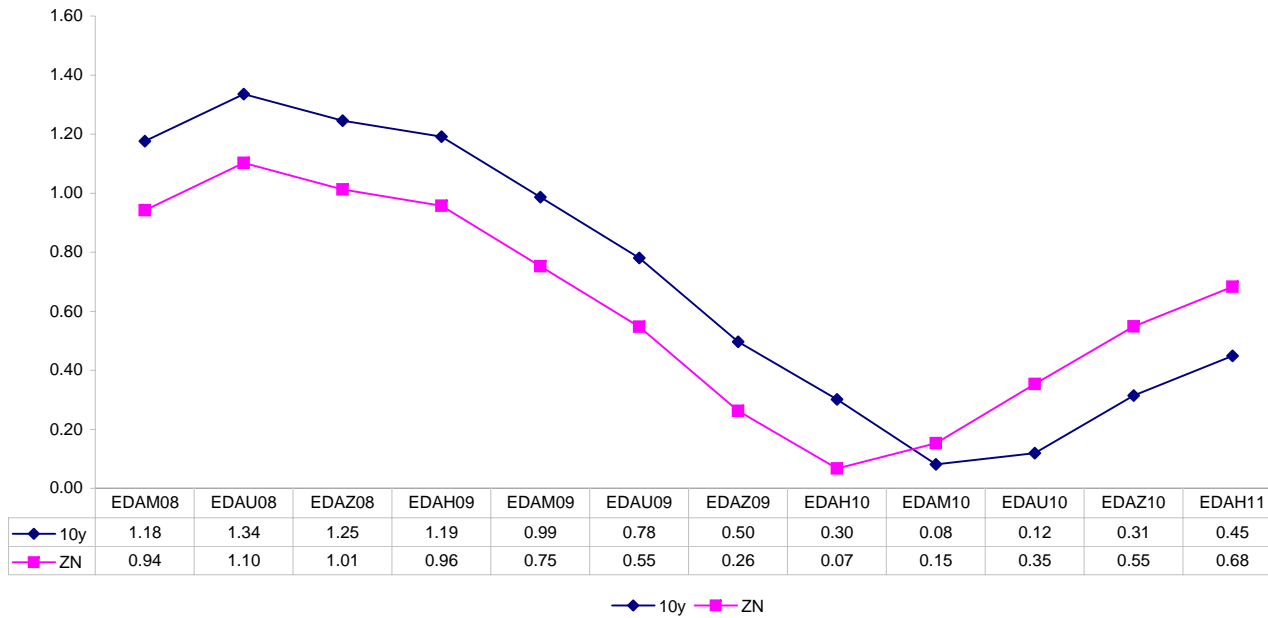
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.349	-12.625	9769.625
Red Pack	2.962	-18.625	9710.000
Green Pack	3.829	-16.750	9625.875
Blue Pack	4.389	-14.125	9571.750
Gold Pack	4.773	-13.625	9534.750

