

## **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	106.2656	106.085	2.264	1.74
ZF	112.2500	112.080	2.891	3.88
ZN	115.8906	115.285	3.612	5.83
2y	99.631	99.2020	2.320	1.89
5y	100.491	100.1570	3.017	4.48
10y	100.766	100.2450	3.780	8.08

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.413	2.587	26	0.071	JUN
EDAU08	97.365	2.635	117	0.320	SEP White
EDAZ08	97.165	2.835	208	0.569	DEC Pack
EDAH09	97.020	2.980	299	0.819	MAR
EDAM09	96.840	3.160	390	1.068	JUN
EDAU09	96.650	3.350	481	1.317	SEP Red Pack
EDAZ09	96.450	3.550	572	1.566	DEC
EDAH10	96.315	3.685	663	1.816	MAR
EDAM10	96.165	3.835	754	2.065	JUN
EDAU10	96.030	3.970	845	2.314	SEP Green
EDAZ10	95.880	4.120	936	2.564	DEC Pack
EDAH11	95.780	4.220	1027	2.813	MAR
EDAM11	95.725	4.275	1118	3.062	JUN
EDAU11	95.665	4.335	1216	3.331	SEP Blue Pack
EDAZ11	95.580	4.420	1307	3.580	DEC
EDAH12	95.540	4.460	1398	3.829	MAR
EDAM12	95.495	4.505	1489	4.079	JUN
EDAU12	95.425	4.575	1580	4.328	SEP Gold Pack
EDAZ12	95.375	4.625	1671	4.577	DEC
EDAH13	95.310	4.690	1762	4.827	MAR

	Last Yield	Net Yield	Last Price	
White Pack	2.817	-0.562	9724.063	
Red Pack	3.514	0.250	9656.375	Pack
Green Pack	4.134	-0.250	9596.375	Prices
Blue Pack	4.482	0.125	9562.750	
Gold Pack		-0.250	9539.250	

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.

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#### Correlations (Important)

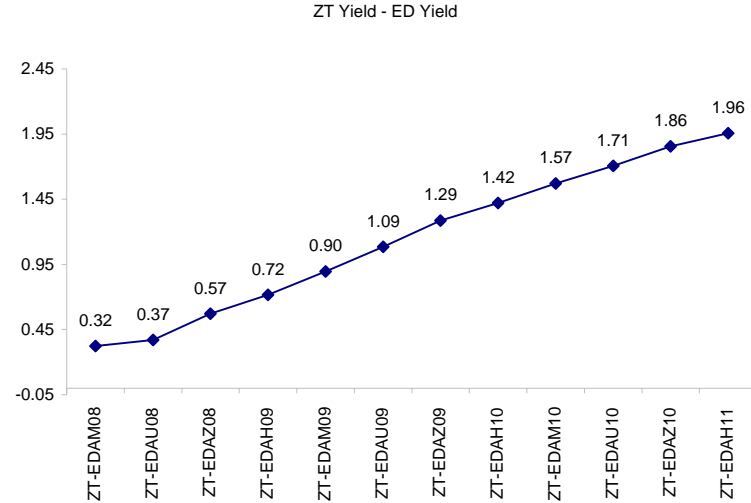
**Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based on yield than price.**

ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	8.853	0.32	ZT-EDAM08	87.996
EDAU08	8.901	0.37	ZT-EDAU08	95.521
EDAZ08	9.101	0.57	ZT-EDAZ08	98.668
EDAH09	9.246	0.72	ZT-EDAH09	99.586
EDAM09	9.426	0.90	ZT-EDAM09	99.545
EDAU09	9.616	1.09	ZT-EDAU09	99.065
EDAZ09	9.816	1.29	ZT-EDAZ09	98.783
EDAH10	9.951	1.42	ZT-EDAH10	98.651
EDAM10	10.101	1.57	ZT-EDAM10	98.419
EDAU10	10.236	1.71	ZT-EDAU10	97.778
EDAZ10	10.386	1.86	ZT-EDAZ10	96.779
EDAH11	10.486	1.96	ZT-EDAH11	95.079

Price = Outright Decimal Price - Euro Contract Price

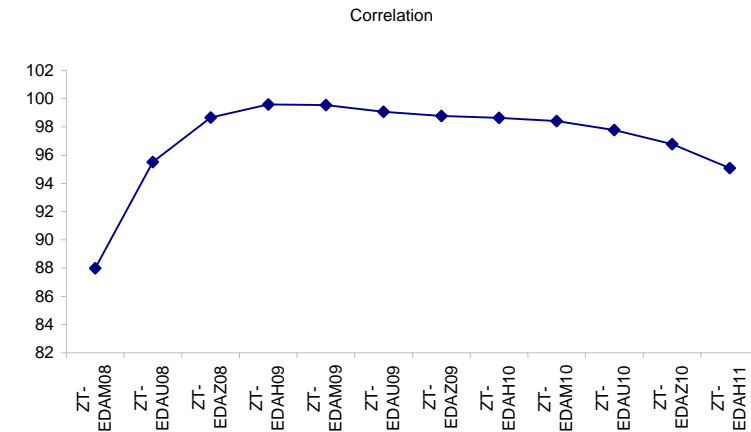
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZT Duration	Spread Duration	
EDAM08	0.071	1.74	1.67	ZT-EDAM08		
EDAU08	0.320	1.74	1.42	ZT-EDAU08		
EDAZ08	0.569	1.74	1.17	ZT-EDAZ08		
EDAH09	0.819	1.74	0.92	ZT-EDAH09		
EDAM09	1.068	1.74	0.67	ZT-EDAM09		
EDAU09	1.317	1.74	0.42	ZT-EDAU09		
EDAZ09	1.566	1.74	0.17	ZT-EDAZ09		
EDAH10	1.816	1.74	(0.08)	ZT-EDAH10		
EDAM10	2.065	1.74	(0.33)	ZT-EDAM10		
EDAU10	2.314	1.74	(0.58)	ZT-EDAU10		
EDAZ10	2.564	1.74	(0.83)	ZT-EDAZ10		
EDAH11	2.813	1.74	(1.07)	ZT-EDAH11		

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

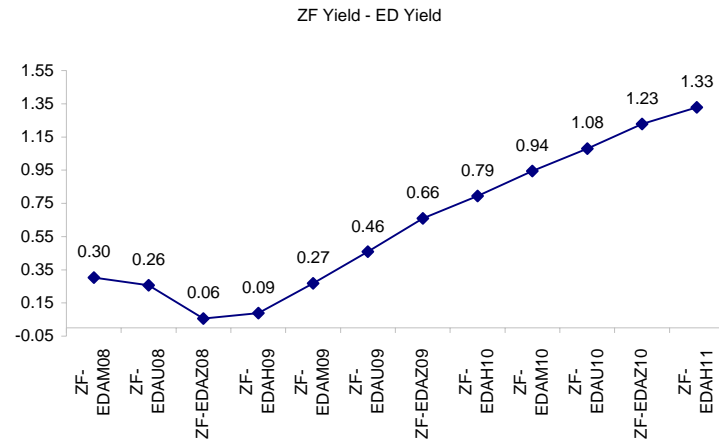


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	14.838	0.30	ZF-EDAM08	88.847
EDAU08	14.885	0.26	ZF-EDAU08	95.475
EDAZ08	15.085	0.06	ZF-EDAZ08	97.366
EDAH09	15.230	0.09	ZF-EDAH09	98.210
EDAM09	15.410	0.27	ZF-EDAM09	97.990
EDAU09	15.600	0.46	ZF-EDAU09	97.124
EDAZ09	15.800	0.66	ZF-EDAZ09	96.959
EDAH10	15.935	0.79	ZF-EDAH10	97.234
EDAM10	16.085	0.94	ZF-EDAM10	97.926
EDAU10	16.220	1.08	ZF-EDAU10	98.260
EDAZ10	16.370	1.23	ZF-EDAZ10	98.501
EDAH11	16.470	1.33	ZF-EDAH11	98.421

Price = Outright Decimal Price - Euro Contract Price

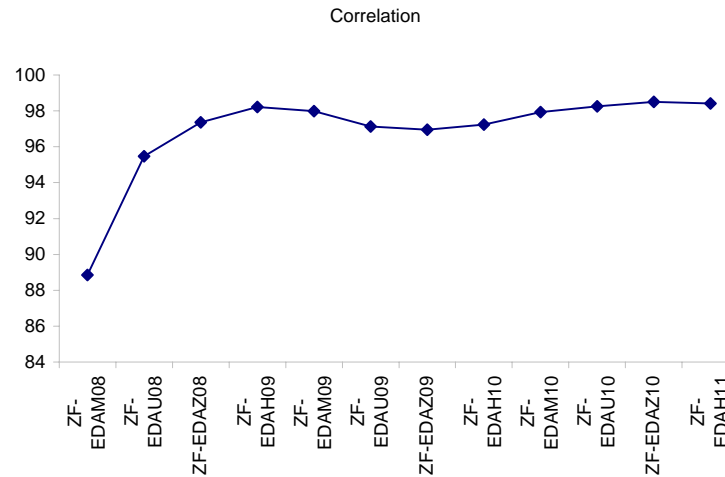
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.071	3.88	3.81	ZF-EDAM08	
EDAU08	0.320	3.88	3.56	ZF-EDAU08	
EDAZ08	0.569	3.88	3.31	ZF-EDAZ08	
EDAH09	0.819	3.88	3.06	ZF-EDAH09	
EDAM09	1.068	3.88	2.81	ZF-EDAM09	
EDAU09	1.317	3.88	2.56	ZF-EDAU09	
EDAZ09	1.566	3.88	2.32	ZF-EDAZ09	
EDAH10	1.816	3.88	2.07	ZF-EDAH10	
EDAM10	2.065	3.88	1.82	ZF-EDAM10	
EDAU10	2.314	3.88	1.57	ZF-EDAU10	
EDAZ10	2.564	3.88	1.32	ZF-EDAZ10	
EDAH11	2.813	3.88	1.07	ZF-EDAH11	

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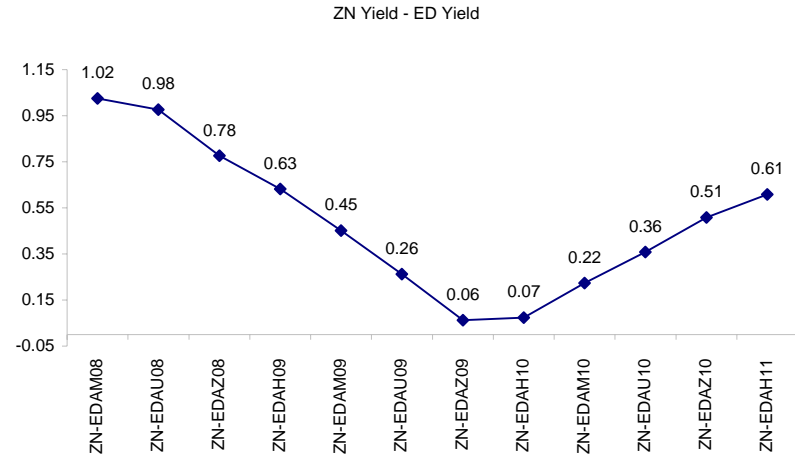


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	18.478	1.02	ZN-EDAM08	86.862
EDAU08	18.526	0.98	ZN-EDAU08	93.857
EDAZ08	18.726	0.78	ZN-EDAZ08	95.845
EDAH09	18.871	0.63	ZN-EDAH09	96.985
EDAM09	19.051	0.45	ZN-EDAM09	97.013
EDAU09	19.241	0.26	ZN-EDAU09	96.258
EDAZ09	19.441	0.06	ZN-EDAZ09	96.163
EDAH10	19.576	0.07	ZN-EDAH10	97.234
EDAM10	19.726	0.22	ZN-EDAM10	97.926
EDAU10	19.861	0.36	ZN-EDAU10	98.260
EDAZ10	20.011	0.51	ZN-EDAZ10	98.501
EDAH11	20.111	0.61	ZN-EDAH11	98.421

Price = Outright Decimal Price - Euro Contract Price

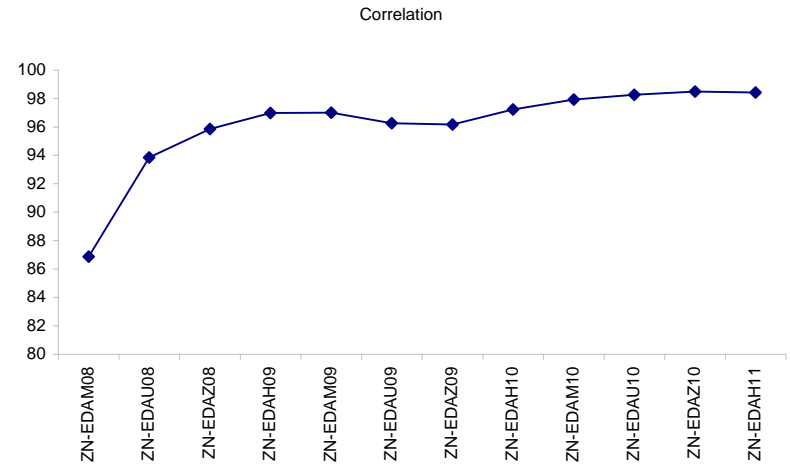
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAM08	0.071	5.83	5.76	ZN-EDAM08
EDAU08	0.320	5.83	5.51	ZN-EDAU08
EDAZ08	0.569	5.83	5.26	ZN-EDAZ08
EDAH09	0.819	5.83	5.01	ZN-EDAH09
EDAM09	1.068	5.83	4.76	ZN-EDAM09
EDAU09	1.317	5.83	4.51	ZN-EDAU09
EDAZ09	1.566	5.83	4.26	ZN-EDAZ09
EDAH10	1.816	5.83	4.01	ZN-EDAH10
EDAM10	2.065	5.83	3.76	ZN-EDAM10
EDAU10	2.314	5.83	3.51	ZN-EDAU10
EDAZ10	2.564	5.83	3.26	ZN-EDAZ10
EDAH11	2.813	5.83	3.01	ZN-EDAH11

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

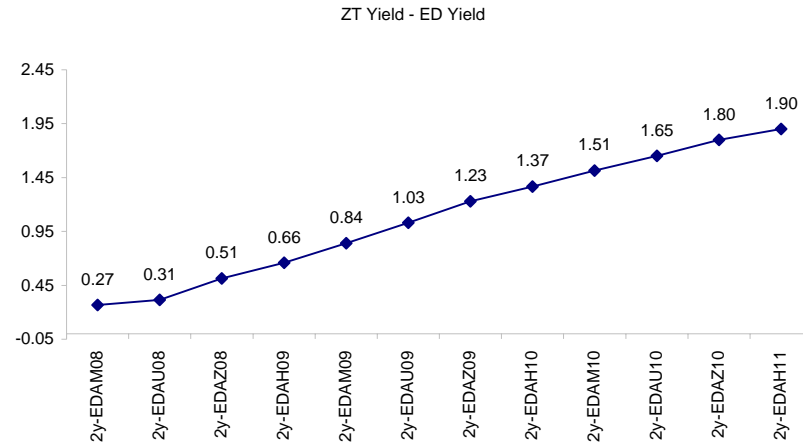


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.219	0.27	2y-EDAM08	-83.711
EDAU08	2.266	0.31	2y-EDAU08	-92.526
EDAZ08	2.466	0.51	2y-EDAZ08	-96.526
EDAH09	2.611	0.66	2y-EDAH09	-97.516
EDAM09	2.791	0.84	2y-EDAM09	-97.805
EDAU09	2.981	1.03	2y-EDAU09	-97.954
EDAZ09	3.181	1.23	2y-EDAZ09	-97.776
EDAH10	3.316	1.37	2y-EDAH10	-97.455
EDAM10	3.466	1.51	2y-EDAM10	-96.573
EDAU10	3.601	1.65	2y-EDAU10	-95.230
EDAZ10	3.751	1.80	2y-EDAZ10	-93.229
EDAH11	3.851	1.90	2y-EDAH11	-90.227

Price = Outright Decimal Price - Euro Contract Price

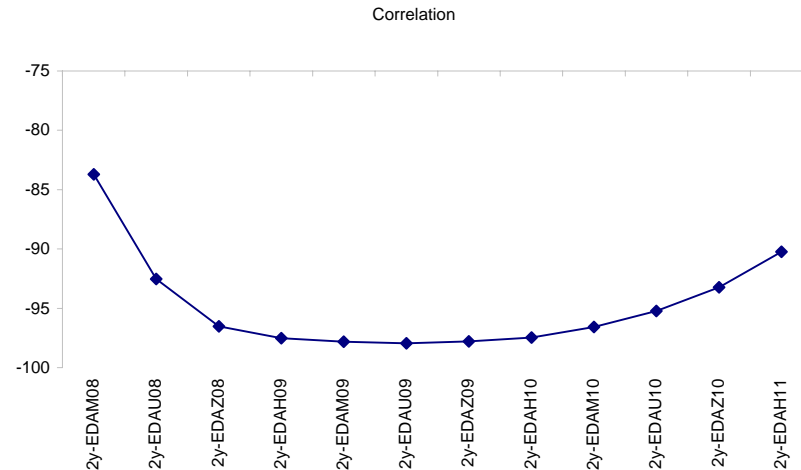
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAM08	0.071	1.89	1.82	2y-EDAM08	
EDAU08	0.320	1.89	1.57	2y-EDAU08	
EDAZ08	0.569	1.89	1.32	2y-EDAZ08	
EDAH09	0.819	1.89	1.07	2y-EDAH09	
EDAM09	1.068	1.89	0.82	2y-EDAM09	
EDAU09	1.317	1.89	0.57	2y-EDAU09	
EDAZ09	1.566	1.89	0.32	2y-EDAZ09	
EDAH10	1.816	1.89	0.07	2y-EDAH10	
EDAM10	2.065	1.89	(0.18)	2y-EDAM10	
EDAU10	2.314	1.89	(0.43)	2y-EDAU10	
EDAZ10	2.564	1.89	(0.68)	2y-EDAZ10	
EDAH11	2.813	1.89	(0.93)	2y-EDAH11	

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

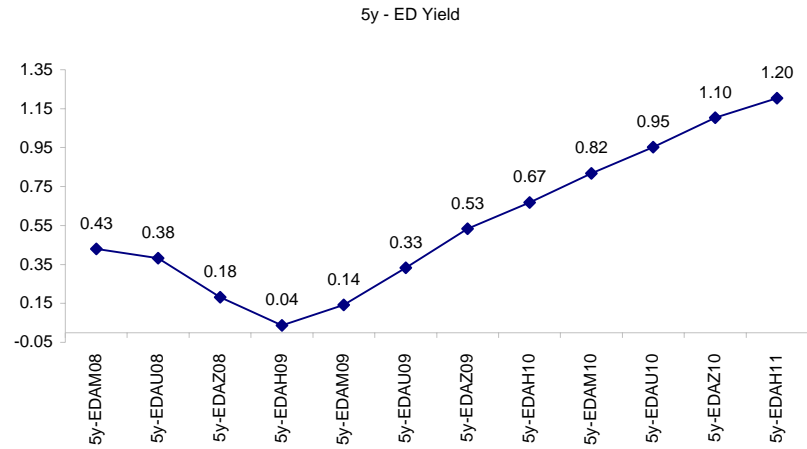


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.078	0.43	5y-EDAM08	-88.246
EDAU08	3.126	0.38	5y-EDAU08	-96.236
EDAZ08	3.326	0.18	5y-EDAZ08	-88.246
EDAH09	3.471	0.04	5y-EDAH09	-98.672
EDAM09	3.651	0.14	5y-EDAM09	-98.186
EDAU09	3.841	0.33	5y-EDAU09	-97.786
EDAZ09	4.041	0.53	5y-EDAZ09	-97.783
EDAH10	4.176	0.67	5y-EDAH10	-98.200
EDAM10	4.326	0.82	5y-EDAM10	-98.525
EDAU10	4.461	0.95	5y-EDAU10	-98.590
EDAZ10	4.611	1.10	5y-EDAZ10	-98.031
EDAH11	4.711	1.20	5y-EDAH11	-96.953

Price = Outright Decimal Price - Euro Contract Price

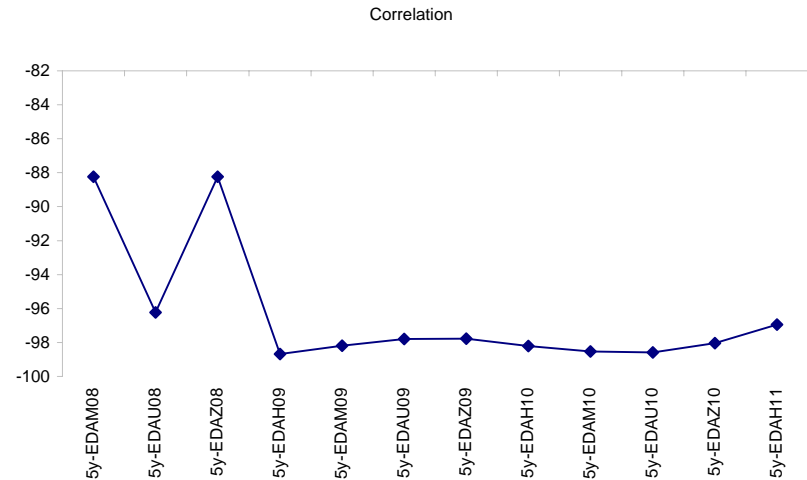
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.071	4.48	4.40	5y-EDAM08
EDAU08	0.320	4.48	4.16	5y-EDAU08
EDAZ08	0.569	4.48	3.91	5y-EDAZ08
EDAH09	0.819	4.48	3.66	5y-EDAH09
EDAM09	1.068	4.48	3.41	5y-EDAM09
EDAU09	1.317	4.48	3.16	5y-EDAU09
EDAZ09	1.566	4.48	2.91	5y-EDAZ09
EDAH10	1.816	4.48	2.66	5y-EDAH10
EDAM10	2.065	4.48	2.41	5y-EDAM10
EDAU10	2.314	4.48	2.16	5y-EDAU10
EDAZ10	2.564	4.48	1.91	5y-EDAZ10
EDAH11	2.813	4.48	1.66	5y-EDAH11

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



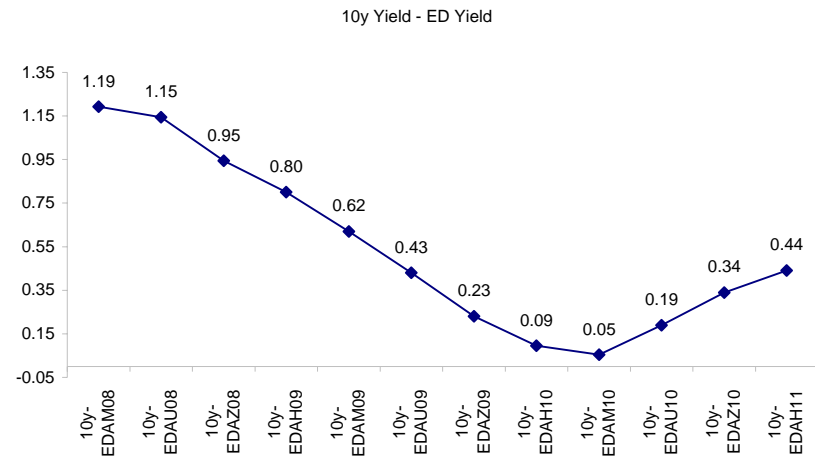


10y				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAM08	3.078	1.19	10y-EDAM08	-89.904
EDAU08	3.126	1.15	10y-EDAU08	-95.207
EDAZ08	3.326	0.95	10y-EDAZ08	-89.904
EDAH09	3.471	0.80	10y-EDAH09	-93.943
EDAM09	3.651	0.62	10y-EDAM09	-92.116
EDAU09	3.841	0.43	10y-EDAU09	-90.734
EDAZ09	4.041	0.23	10y-EDAZ09	-90.719
EDAH10	4.176	0.09	10y-EDAH10	-91.767
EDAM10	4.326	0.05	10y-EDAM10	-93.254
EDAU10	4.461	0.19	10y-EDAU10	-94.674
EDAZ10	4.611	0.34	10y-EDAZ10	-95.582
EDAH11	4.711	0.44	10y-EDAH11	-96.937

Price = Outright Decimal Price - Euro Contract Price

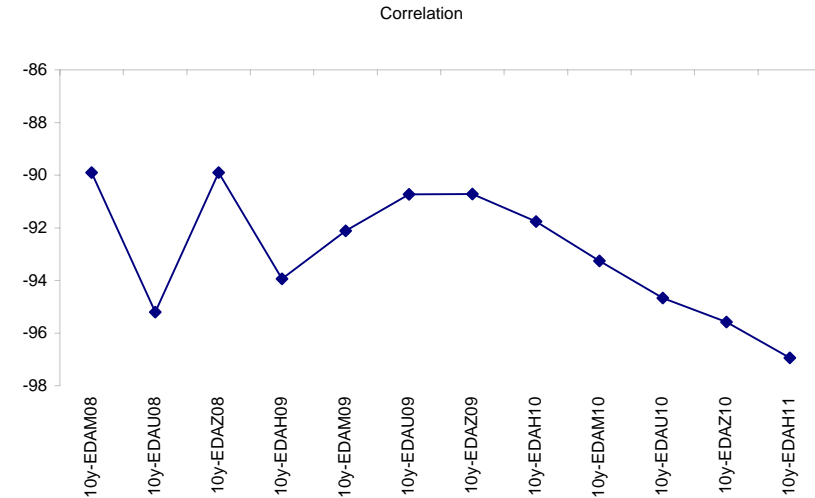
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				10Y Duration	Spread Duration	
EDAM	EDAU	EDAZ	EDAH			
EDAM08	0.071	8.08	8.01	10y-EDAM08		
EDAU08	0.320	8.08	7.76	10y-EDAU08		
EDAZ08	0.569	8.08	7.51	10y-EDAZ08		
EDAH09	0.819	8.08	7.26	10y-EDAH09		
EDAM09	1.068	8.08	7.01	10y-EDAM09		
EDAU09	1.317	8.08	6.76	10y-EDAU09		
EDAZ09	1.566	8.08	6.52	10y-EDAZ09		
EDAH10	1.816	8.08	6.27	10y-EDAH10		
EDAM10	2.065	8.08	6.02	10y-EDAM10		
EDAU10	2.314	8.08	5.77	10y-EDAU10		
EDAZ10	2.564	8.08	5.52	10y-EDAZ10		
EDAH11	2.813	8.08	5.27	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.

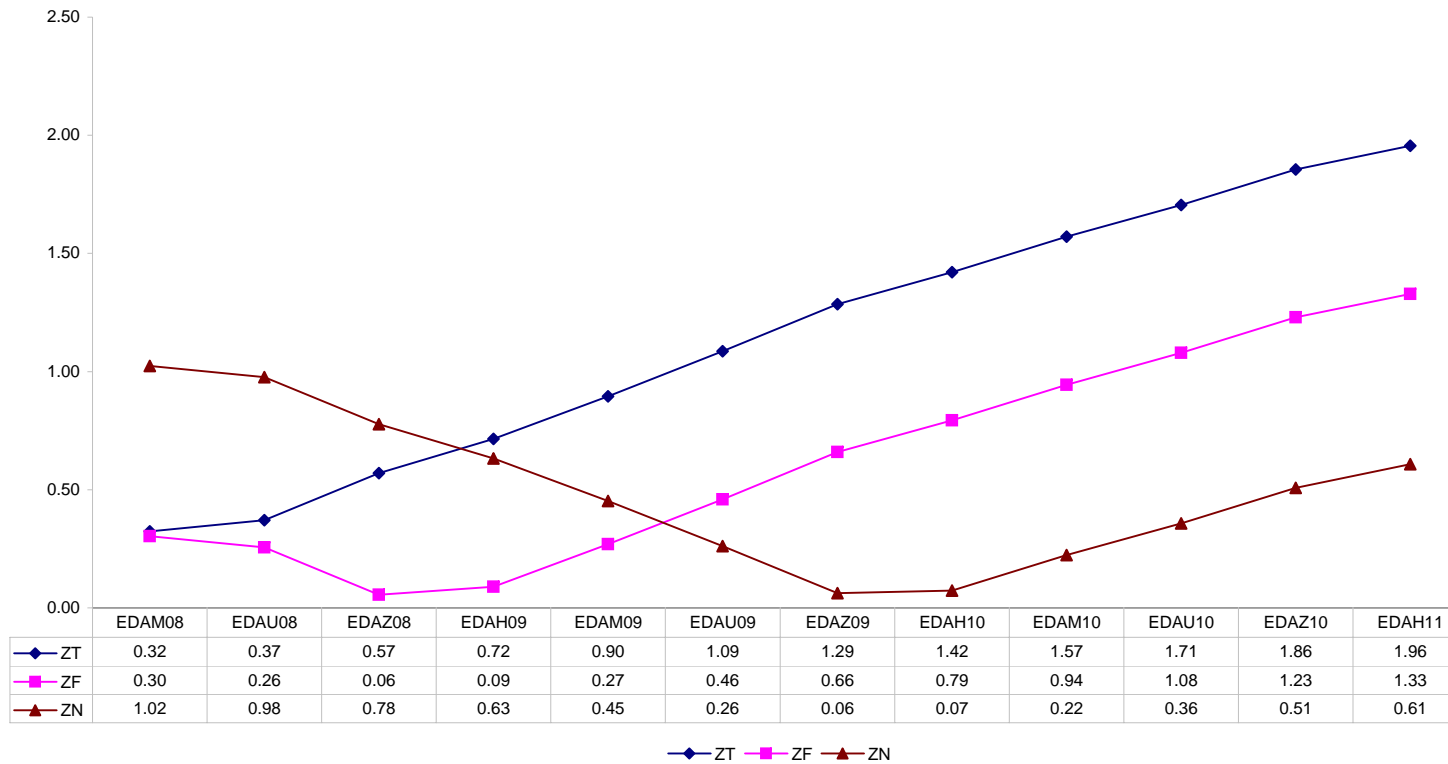
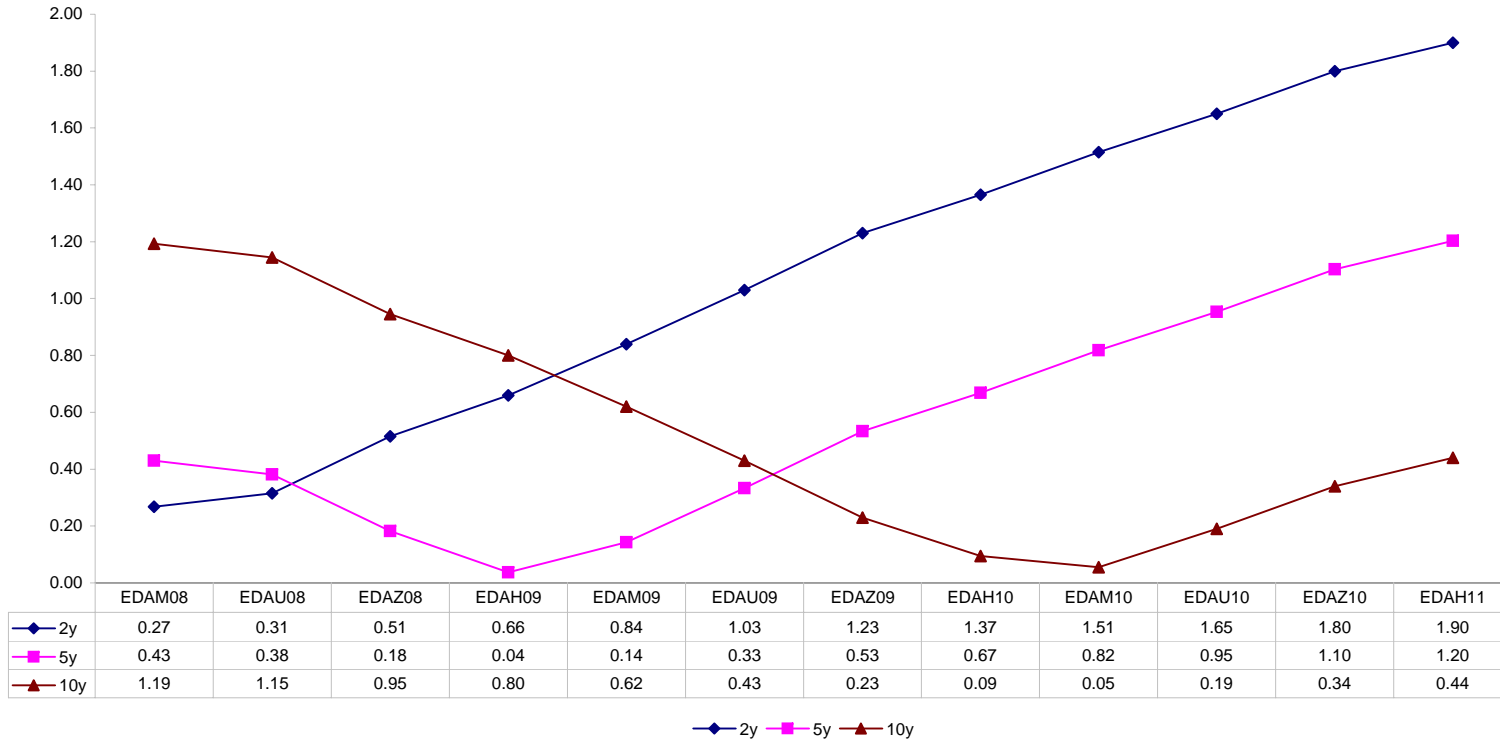
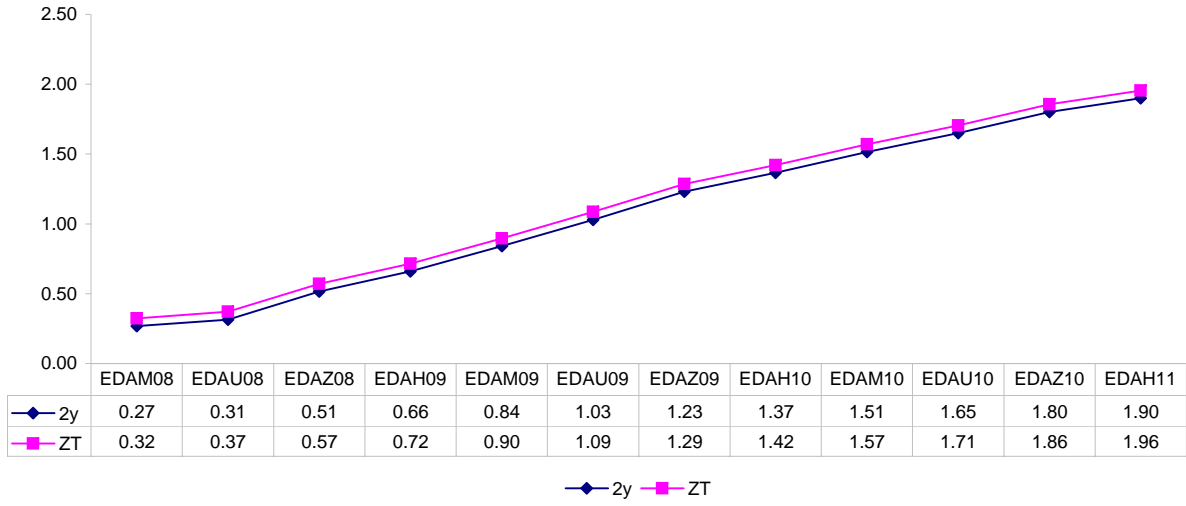


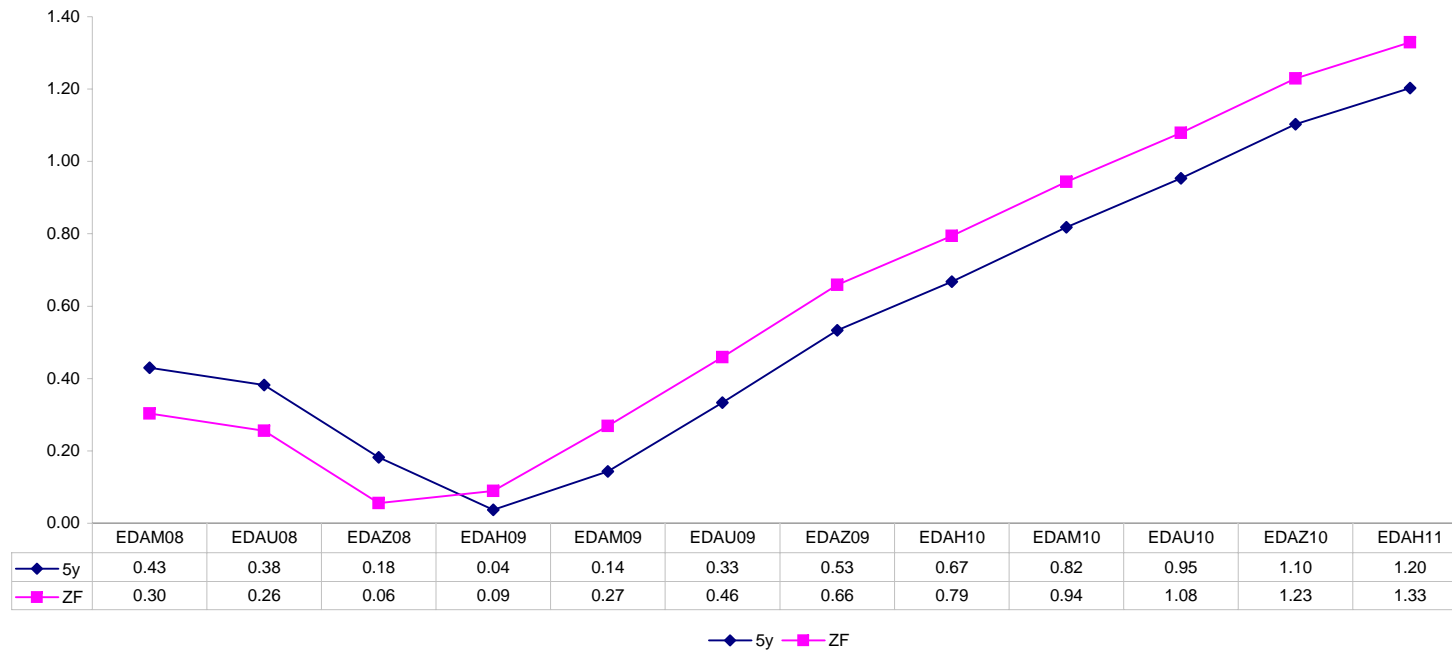
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



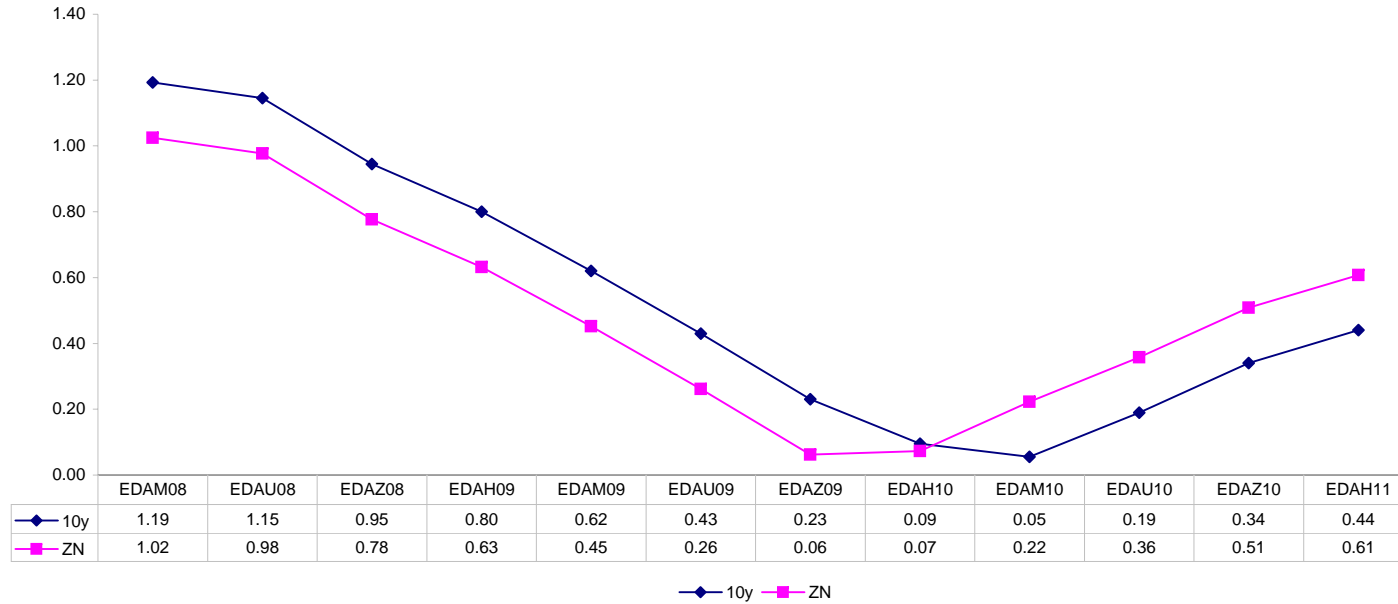
2y Basis TED Curve



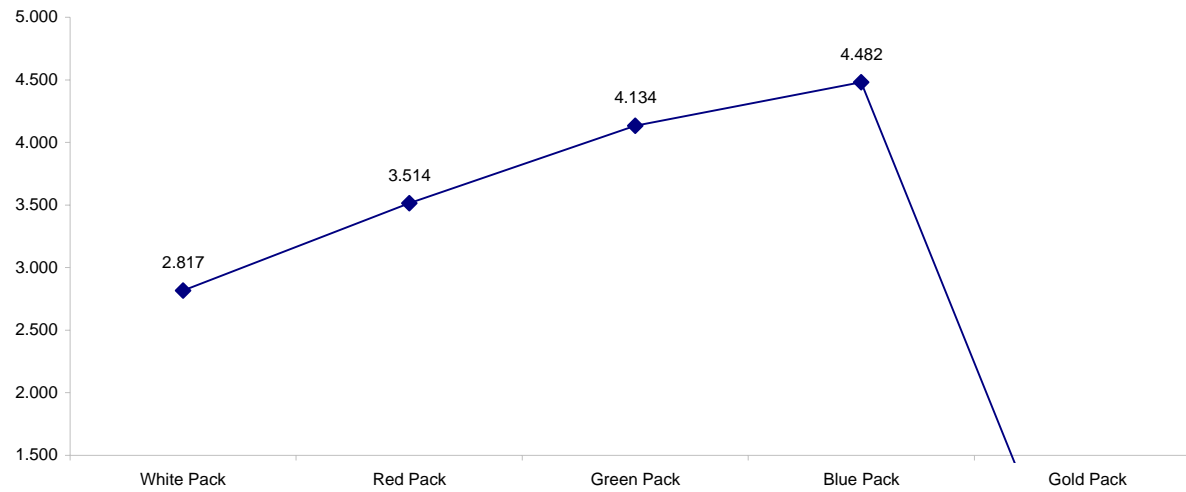
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.817	-0.562	9724.063
Red Pack	3.514	0.250	9656.375
Green Pack	4.134	-0.250	9596.375
Blue Pack	4.482	0.125	9562.750
Gold Pack		-0.250	9539.250



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

