

## **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	105.6781	105.217	2.450	1.92
ZF	110.7406	110.237	3.160	4.13
ZN	113.6875	113.220	3.573	6.00
2y	100.319	100.1020	2.459	1.92
5y	101.131	101.0420	3.252	4.54
10y	99.234	99.0750	3.967	8.16

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.300	2.700	11	0.029	JUN
EDAU08	97.170	2.830	102	0.279	SEP White
EDAZ08	96.970	3.030	193	0.528	DEC Pack
EDAH09	96.840	3.160	284	0.777	MAR
EDAM09	96.640	3.360	375	1.027	JUN
EDAU09	96.420	3.580	466	1.276	SEP Red Pack
EDAZ09	96.185	3.815	557	1.525	DEC
EDAH10	96.015	3.985	648	1.775	MAR
EDAM10	95.835	4.165	739	2.024	JUN
EDAU10	95.665	4.335	830	2.273	SEP Green Pack
EDAZ10	95.525	4.475	921	2.523	DEC
EDAH11	95.430	4.570	1012	2.772	MAR
EDAM11	95.340	4.660	1103	3.021	JUN
EDAU11	95.275	4.725	1201	3.290	SEP Blue Pack
EDAZ11	95.185	4.815	1292	3.539	DEC
EDAH12	95.150	4.850	1383	3.788	MAR
EDAM12	95.185	4.815	1474	4.038	JUN
EDAU12	95.130	4.870	1565	4.287	SEP Gold Pack
EDAZ12	94.965	5.035	1656	4.536	DEC
EDAH13	94.940	5.060	1747	4.786	MAR

	Last Yield	Net Yield	Last Price	
White Pack	2.993	-3.813	9707.000	
Red Pack	3.771	-6.500	9631.500	Pack Prices
Green Pack	4.497	-5.750	9561.375	
Blue Pack	4.887	-6.250	9523.750	
Gold Pack		-3.375	9504.625	

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.

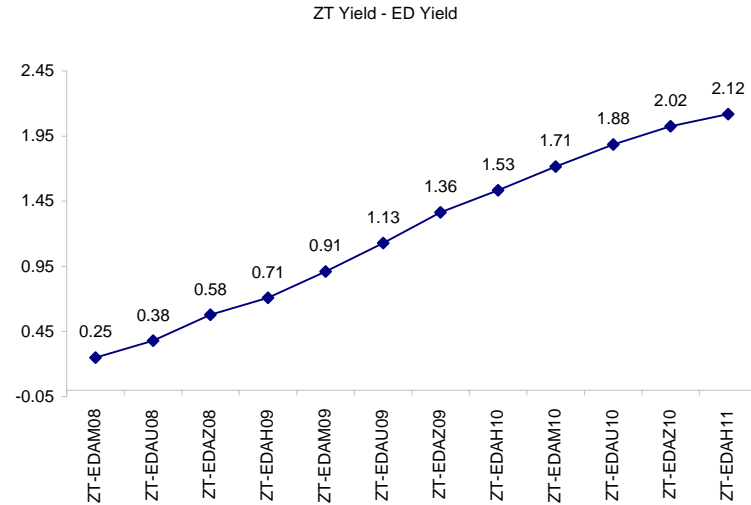
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

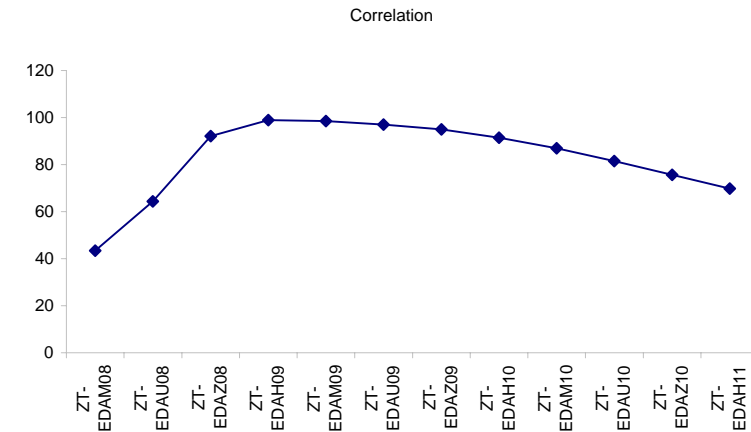
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	8.378	0.25	ZT-EDAM08	43.351
EDAU08	8.508	0.38	ZT-EDAU08	64.295
EDAZ08	8.708	0.58	ZT-EDAZ08	92.051
EDAH09	8.838	0.71	ZT-EDAH09	98.904
EDAM09	9.038	0.91	ZT-EDAM09	98.452
EDAU09	9.258	1.13	ZT-EDAU09	97.015
EDAZ09	9.493	1.36	ZT-EDAZ09	94.954
EDAH10	9.663	1.53	ZT-EDAH10	91.394
EDAM10	9.843	1.71	ZT-EDAM10	86.966
EDAU10	10.013	1.88	ZT-EDAU10	81.478
EDAZ10	10.153	2.02	ZT-EDAZ10	75.578
EDAH11	10.248	2.12	ZT-EDAH11	69.742

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	0.029	1.92	1.89	ZT-EDAM08		
EDAU08	0.279	1.92	1.64	ZT-EDAU08		
EDAZ08	0.528	1.92	1.39	ZT-EDAZ08		
EDAH09	0.777	1.92	1.14	ZT-EDAH09		
EDAM09	1.027	1.92	0.89	ZT-EDAM09		
EDAU09	1.276	1.92	0.64	ZT-EDAU09		
EDAZ09	1.525	1.92	0.39	ZT-EDAZ09		
EDAH10	1.775	1.92	0.14	ZT-EDAH10		
EDAM10	2.024	1.92	(0.11)	ZT-EDAM10		
EDAU10	2.273	1.92	(0.36)	ZT-EDAU10		
EDAZ10	2.523	1.92	(0.61)	ZT-EDAZ10		
EDAH11	2.772	1.92	(0.86)	ZT-EDAH11		

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

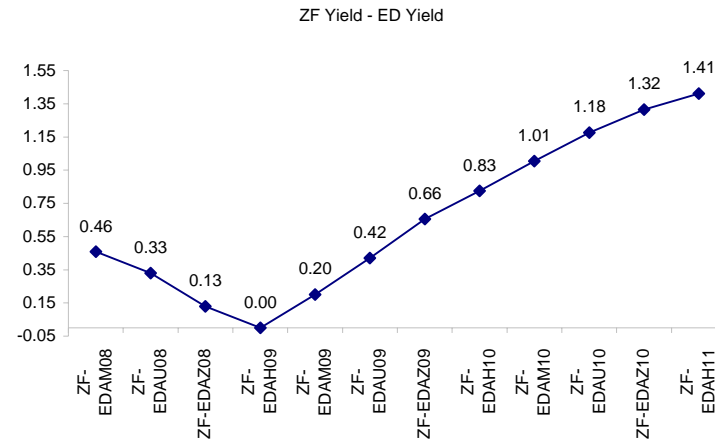


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	13.441	0.46	ZF-EDAM08	67.878
EDAU08	13.571	0.33	ZF-EDAU08	83.324
EDAZ08	13.771	0.13	ZF-EDAZ08	97.784
EDAH09	13.901	0.00	ZF-EDAH09	96.748
EDAM09	14.101	0.20	ZF-EDAM09	97.586
EDAU09	14.321	0.42	ZF-EDAU09	98.568
EDAZ09	14.556	0.66	ZF-EDAZ09	99.257
EDAH10	14.726	0.83	ZF-EDAH10	99.163
EDAM10	14.906	1.01	ZF-EDAM10	98.079
EDAU10	15.076	1.18	ZF-EDAU10	96.023
EDAZ10	15.216	1.32	ZF-EDAZ10	93.023
EDAH11	15.311	1.41	ZF-EDAH11	89.286

Price = Outright Decimal Price - Euro Contract Price

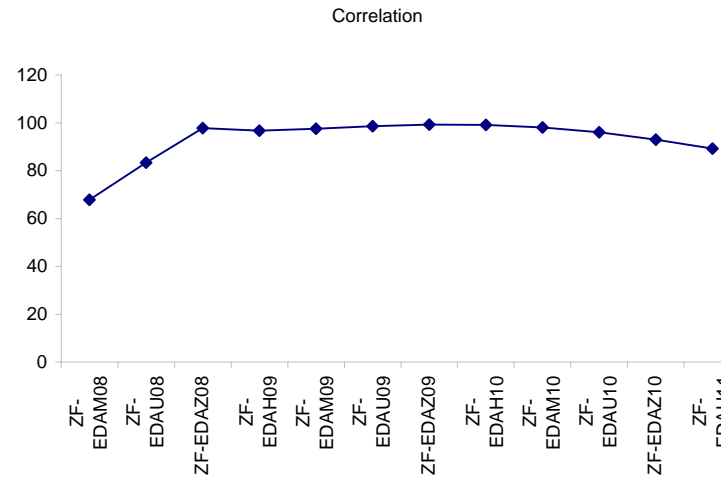
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.029	4.13	4.10	ZF-EDAM08	
EDAU08	0.279	4.13	3.85	ZF-EDAU08	
EDAZ08	0.528	4.13	3.60	ZF-EDAZ08	
EDAH09	0.777	4.13	3.36	ZF-EDAH09	
EDAM09	1.027	4.13	3.11	ZF-EDAM09	
EDAU09	1.276	4.13	2.86	ZF-EDAU09	
EDAZ09	1.525	4.13	2.61	ZF-EDAZ09	
EDAH10	1.775	4.13	2.36	ZF-EDAH10	
EDAM10	2.024	4.13	2.11	ZF-EDAM10	
EDAU10	2.273	4.13	1.86	ZF-EDAU10	
EDAZ10	2.523	4.13	1.61	ZF-EDAZ10	
EDAH11	2.772	4.13	1.36	ZF-EDAH11	

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

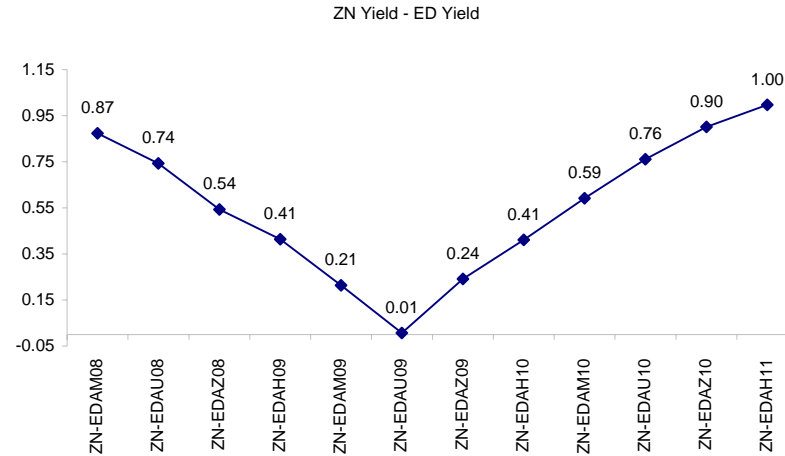


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	16.388	0.87	ZN-EDAM08	65.802
EDAU08	16.518	0.74	ZN-EDAU08	81.392
EDAZ08	16.718	0.54	ZN-EDAZ08	97.633
EDAH09	16.848	0.41	ZN-EDAH09	97.662
EDAM09	17.048	0.21	ZN-EDAM09	98.510
EDAU09	17.268	0.01	ZN-EDAU09	99.211
EDAZ09	17.503	0.24	ZN-EDAZ09	99.497
EDAH10	17.673	0.41	ZN-EDAH10	99.163
EDAM10	17.853	0.59	ZN-EDAM10	98.079
EDAU10	18.023	0.76	ZN-EDAU10	96.023
EDAZ10	18.163	0.90	ZN-EDAZ10	93.023
EDAH11	18.258	1.00	ZN-EDAH11	89.286

Price = Outright Decimal Price - Euro Contract Price

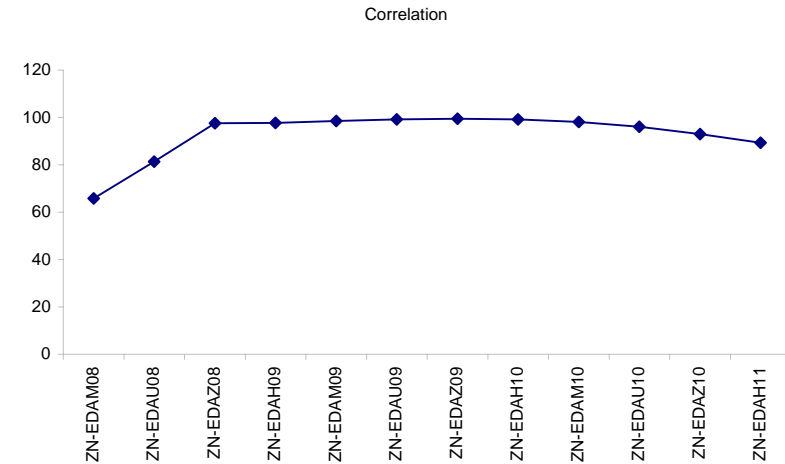
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAM08	0.029	6.00	5.97	ZN-EDAM08
EDAU08	0.279	6.00	5.72	ZN-EDAU08
EDAZ08	0.528	6.00	5.47	ZN-EDAZ08
EDAH09	0.777	6.00	5.22	ZN-EDAH09
EDAM09	1.027	6.00	4.97	ZN-EDAM09
EDAU09	1.276	6.00	4.72	ZN-EDAU09
EDAZ09	1.525	6.00	4.48	ZN-EDAZ09
EDAH10	1.775	6.00	4.23	ZN-EDAH10
EDAM10	2.024	6.00	3.98	ZN-EDAM10
EDAU10	2.273	6.00	3.73	ZN-EDAU10
EDAZ10	2.523	6.00	3.48	ZN-EDAZ10
EDAH11	2.772	6.00	3.23	ZN-EDAH11

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

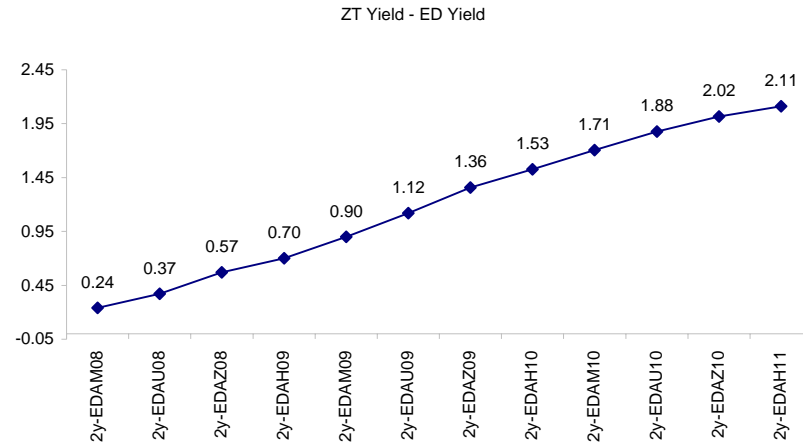


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.019	0.24	2y-EDAM08	-53.146
EDAU08	3.149	0.37	2y-EDAU08	-74.937
EDAZ08	3.349	0.57	2y-EDAZ08	-95.358
EDAH09	3.479	0.70	2y-EDAH09	-97.188
EDAM09	3.679	0.90	2y-EDAM09	-97.663
EDAU09	3.899	1.12	2y-EDAU09	-97.419
EDAZ09	4.134	1.36	2y-EDAZ09	-96.598
EDAH10	4.304	1.53	2y-EDAH10	-94.322
EDAM10	4.484	1.71	2y-EDAM10	-91.069
EDAU10	4.654	1.88	2y-EDAU10	-87.301
EDAZ10	4.794	2.02	2y-EDAZ10	-82.820
EDAH11	4.889	2.11	2y-EDAH11	-80.088

Price = Outright Decimal Price - Euro Contract Price

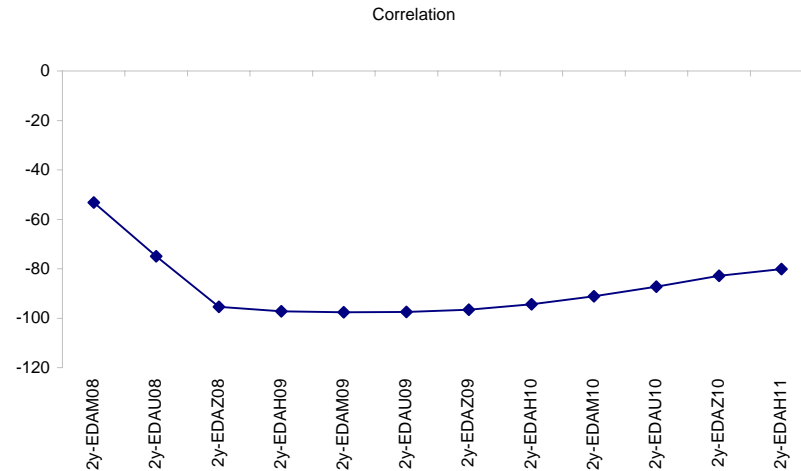
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAM08	0.029	1.92	1.89	2y-EDAM08
EDAU08	0.279	1.92	1.64	2y-EDAU08
EDAZ08	0.528	1.92	1.39	2y-EDAZ08
EDAH09	0.777	1.92	1.14	2y-EDAH09
EDAM09	1.027	1.92	0.89	2y-EDAM09
EDAU09	1.276	1.92	0.65	2y-EDAU09
EDAZ09	1.525	1.92	0.40	2y-EDAZ09
EDAH10	1.775	1.92	0.15	2y-EDAH10
EDAM10	2.024	1.92	(0.10)	2y-EDAM10
EDAU10	2.273	1.92	(0.35)	2y-EDAU10
EDAZ10	2.523	1.92	(0.60)	2y-EDAZ10
EDAH11	2.772	1.92	(0.85)	2y-EDAH11

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

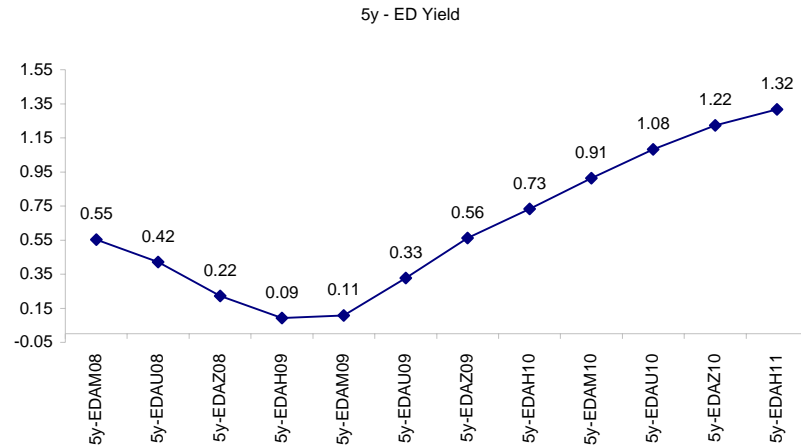


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.831	0.55	5y-EDAM08	-78.823
EDAU08	3.961	0.42	5y-EDAU08	-88.796
EDAZ08	4.161	0.22	5y-EDAZ08	-78.823
EDAH09	4.291	0.09	5y-EDAH09	-84.169
EDAM09	4.491	0.11	5y-EDAM09	-86.026
EDAU09	4.711	0.33	5y-EDAU09	-88.970
EDAZ09	4.946	0.56	5y-EDAZ09	-92.158
EDAH10	5.116	0.73	5y-EDAH10	-94.876
EDAM10	5.296	0.91	5y-EDAM10	-96.447
EDAU10	5.466	1.08	5y-EDAU10	-97.392
EDAZ10	5.606	1.22	5y-EDAZ10	-96.934
EDAH11	5.701	1.32	5y-EDAH11	-96.462

Price = Outright Decimal Price - Euro Contract Price

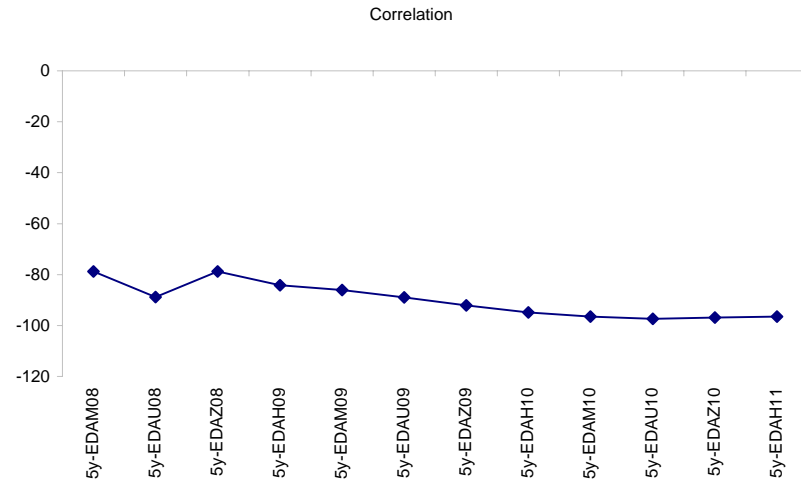
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.029	4.54	4.51	5y-EDAM08
EDAU08	0.279	4.54	4.26	5y-EDAU08
EDAZ08	0.528	4.54	4.01	5y-EDAZ08
EDAH09	0.777	4.54	3.77	5y-EDAH09
EDAM09	1.027	4.54	3.52	5y-EDAM09
EDAU09	1.276	4.54	3.27	5y-EDAU09
EDAZ09	1.525	4.54	3.02	5y-EDAZ09
EDAH10	1.775	4.54	2.77	5y-EDAH10
EDAM10	2.024	4.54	2.52	5y-EDAM10
EDAU10	2.273	4.54	2.27	5y-EDAU10
EDAZ10	2.523	4.54	2.02	5y-EDAZ10
EDAH11	2.772	4.54	1.77	5y-EDAH11

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

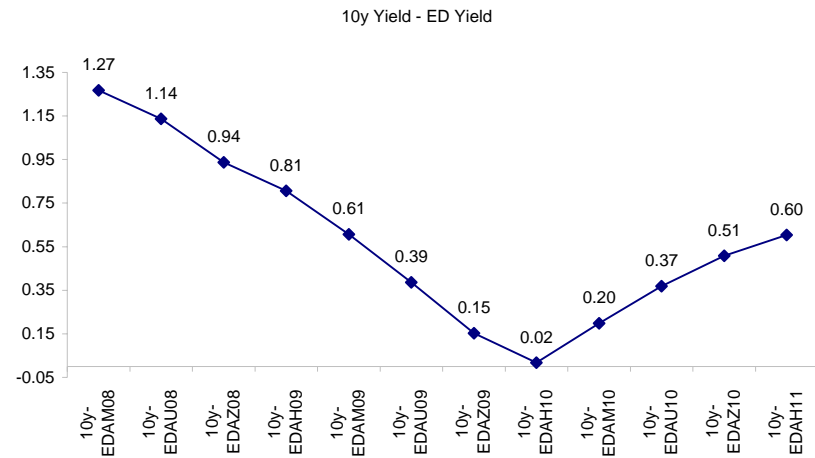


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.831	1.27	10y-EDAM08	-86.613
EDAU08	3.961	1.14	10y-EDAU08	-92.255
EDAZ08	4.161	0.94	10y-EDAZ08	-86.613
EDAH09	4.291	0.81	10y-EDAH09	-74.504
EDAM09	4.491	0.61	10y-EDAM09	-76.485
EDAU09	4.711	0.39	10y-EDAU09	-80.416
EDAZ09	4.946	0.15	10y-EDAZ09	-84.900
EDAH10	5.116	0.02	10y-EDAH10	-89.136
EDAM10	5.296	0.20	10y-EDAM10	-92.639
EDAU10	5.466	0.37	10y-EDAU10	-95.584
EDAZ10	5.606	0.51	10y-EDAZ10	-97.029
EDAH11	5.701	0.60	10y-EDAH11	-97.417

Price = Outright Decimal Price - Euro Contract Price

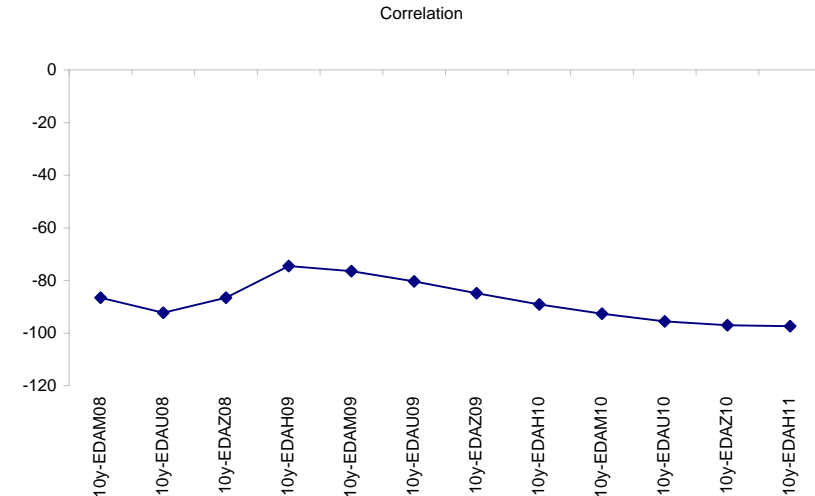
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.029	8.16	8.13	10y-EDAM08
EDAU08	0.279	8.16	7.88	10y-EDAU08
EDAZ08	0.528	8.16	7.63	10y-EDAZ08
EDAH09	0.777	8.16	7.38	10y-EDAH09
EDAM09	1.027	8.16	7.13	10y-EDAM09
EDAU09	1.276	8.16	6.88	10y-EDAU09
EDAZ09	1.525	8.16	6.63	10y-EDAZ09
EDAH10	1.775	8.16	6.38	10y-EDAH10
EDAM10	2.024	8.16	6.13	10y-EDAM10
EDAU10	2.273	8.16	5.88	10y-EDAU10
EDAZ10	2.523	8.16	5.63	10y-EDAZ10
EDAH11	2.772	8.16	5.38	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.

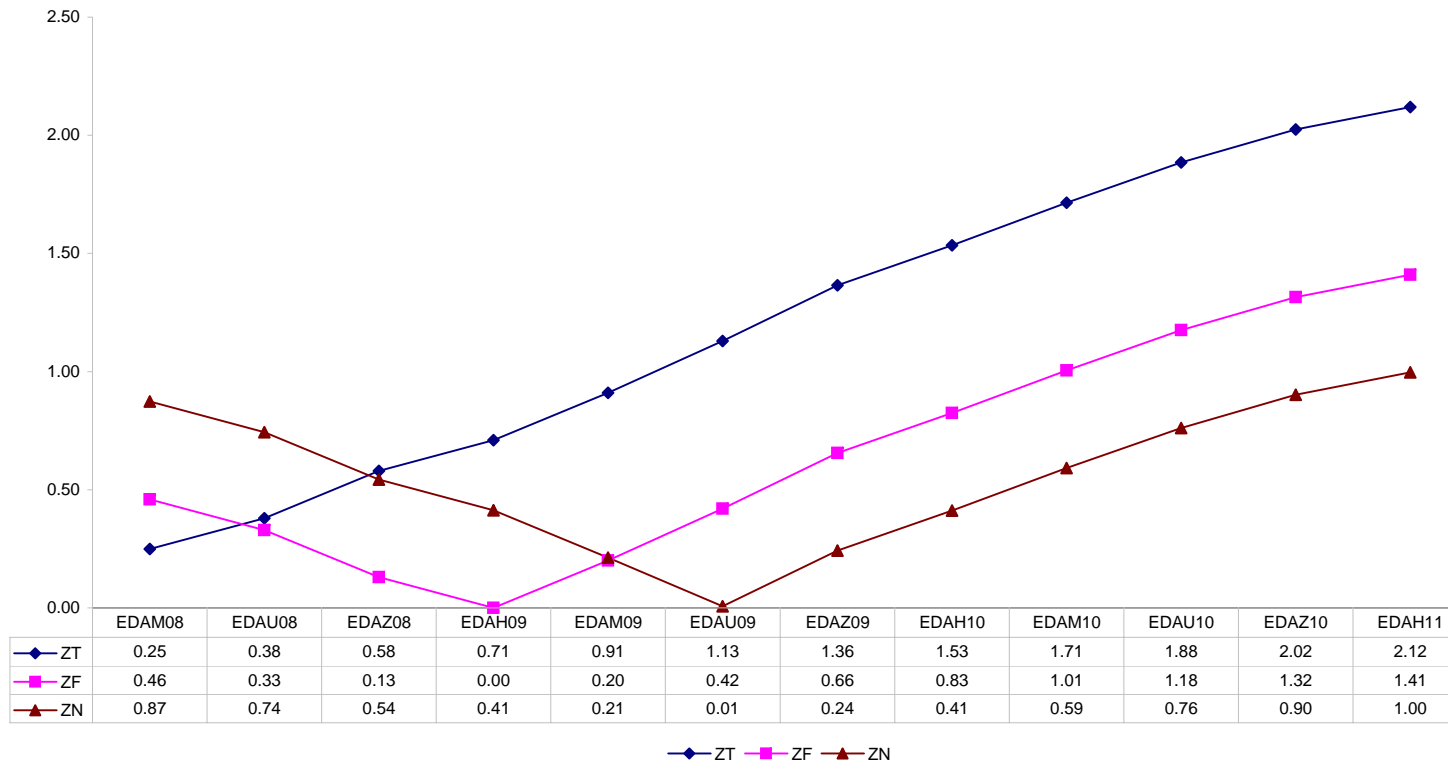
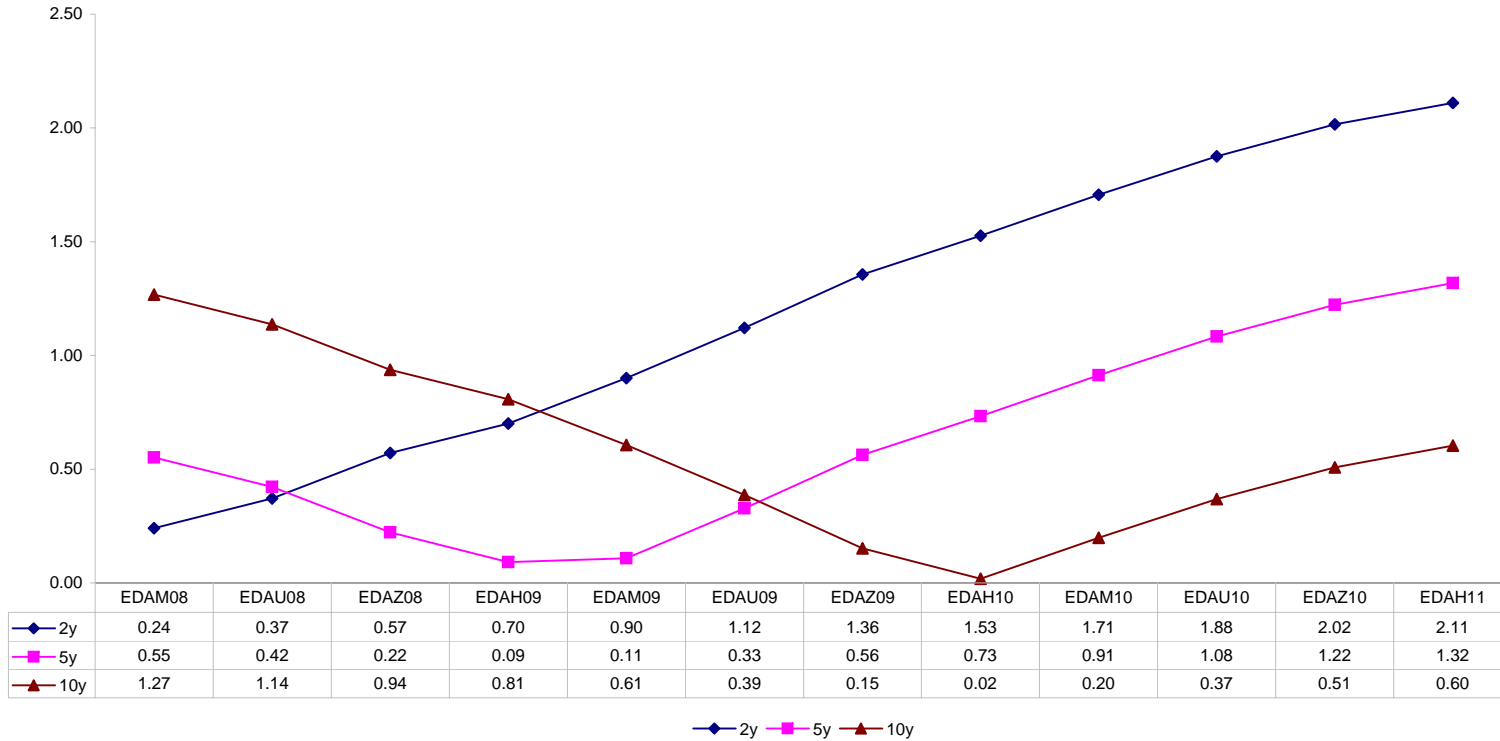
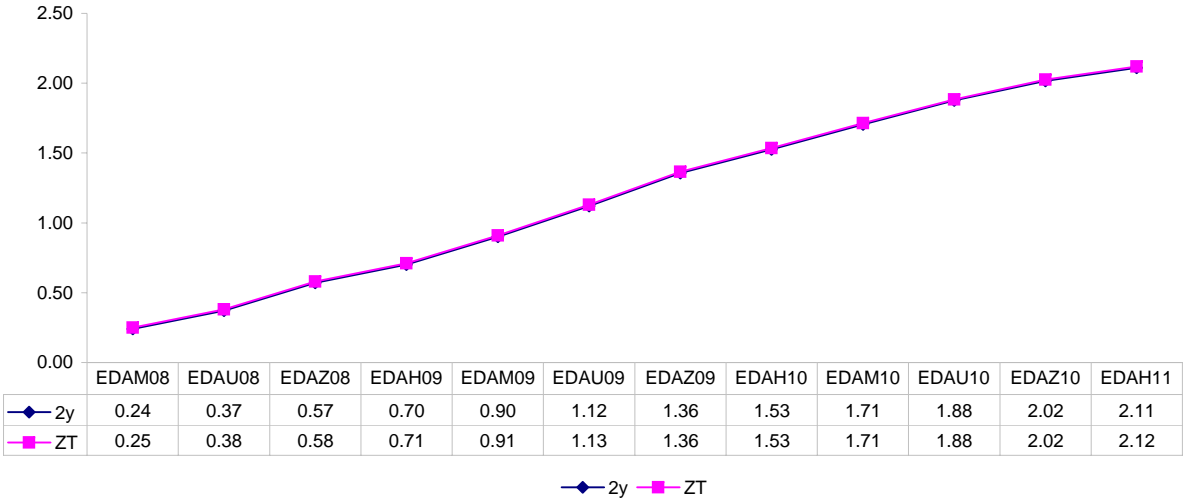


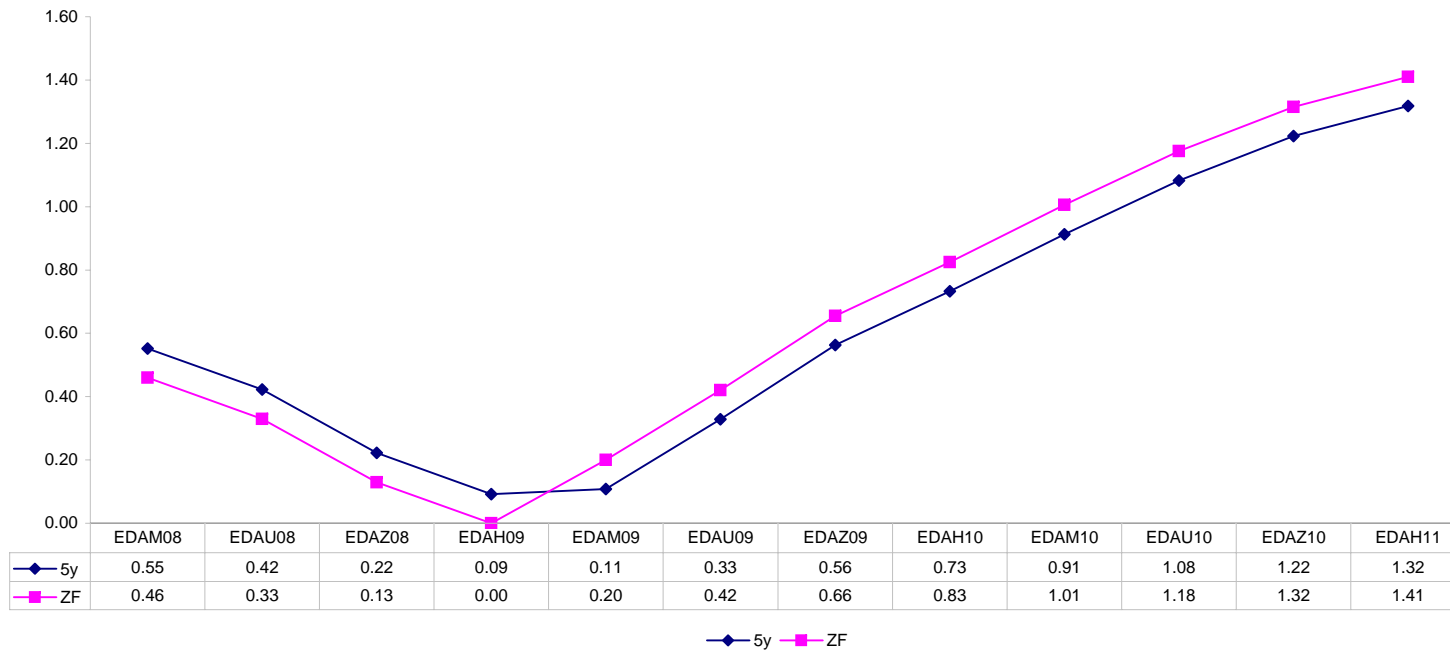
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



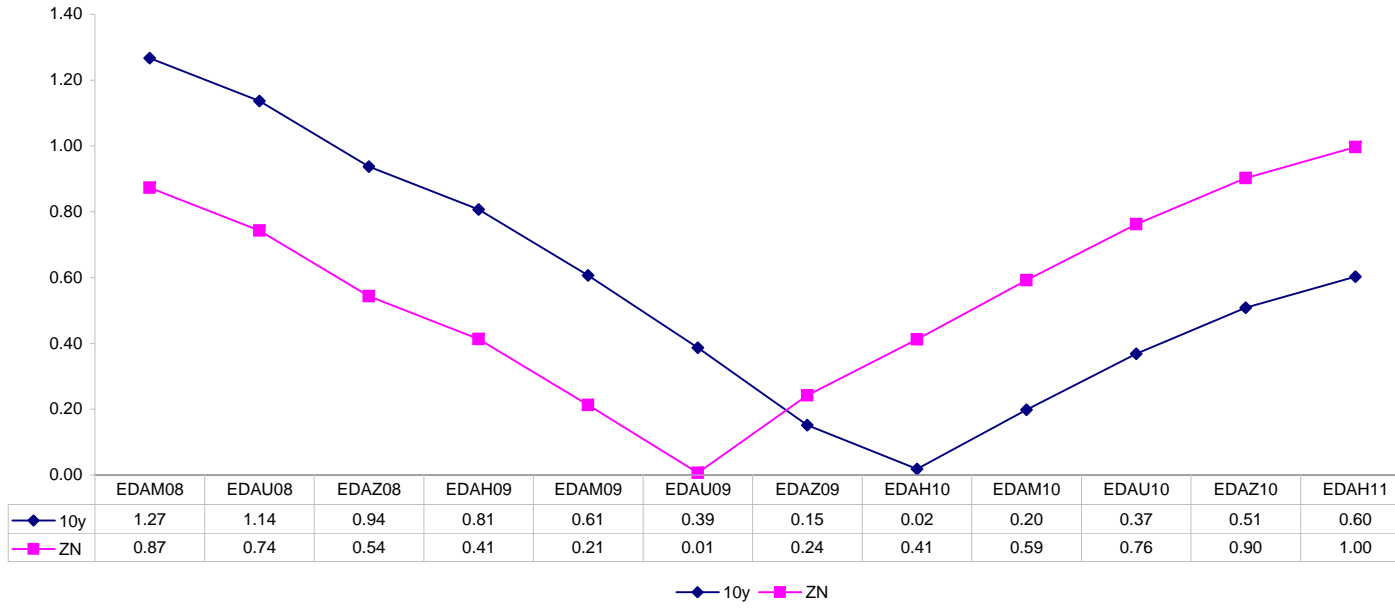
2y Basis TED Curve



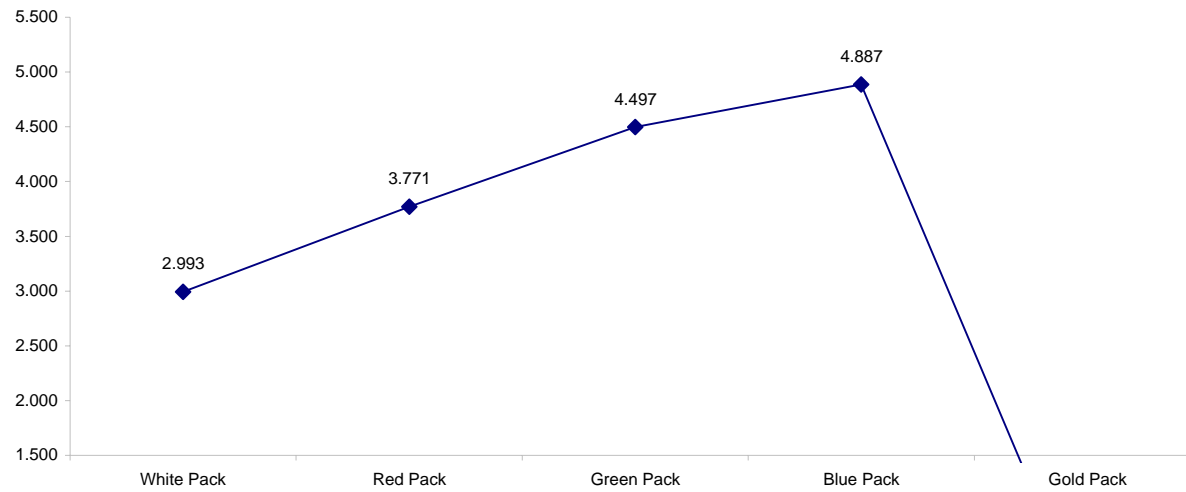
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.993	-3.813	9707.000
Red Pack	3.771	-6.500	9631.500
Green Pack	4.497	-5.750	9561.375
Blue Pack	4.887	-6.250	9523.750
Gold Pack		-3.375	9504.625



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

