

## **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	106.0938	106.030	2.329	1.78
ZF	111.5781	111.185	3.025	3.92
ZN	115.0469	115.015	3.717	5.87
2y	99.475	99.1520	2.393	1.93
5y	99.788	99.2520	3.137	4.58
10y	97.219	97.0700	3.838	8.12

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.370	2.630	42	0.114	JUN
EDAU08	97.320	2.680	133	0.364	SEP White
EDAZ08	97.075	2.925	224	0.613	DEC Pack
EDAH09	96.895	3.105	315	0.862	MAR
EDAM09	96.680	3.320	406	1.112	JUN
EDAU09	96.500	3.500	497	1.361	SEP Red Pack
EDAZ09	96.305	3.695	588	1.610	DEC
EDAH10	96.180	3.820	679	1.860	MAR
EDAM10	96.035	3.965	770	2.109	JUN
EDAU10	95.910	4.090	861	2.358	SEP Green
EDAZ10	95.785	4.215	952	2.608	DEC Pack
EDAH11	95.725	4.275	1043	2.857	MAR
EDAM11	95.670	4.330	1134	3.106	JUN
EDAU11	95.560	4.440	1232	3.375	SEP Blue Pack
EDAZ11	#VALUE!	#VALUE!	1323	3.624	DEC
EDAH12	#VALUE!	#VALUE!	1414	3.873	MAR
EDAM12	#VALUE!	#VALUE!	1505	4.123	JUN
EDAU12	95.265	4.735	1596	4.372	SEP Gold Pack
EDAZ12	#VALUE!	#VALUE!	1687	4.621	DEC
EDAH13	95.180	4.820	1778	4.871	MAR

	Last Yield	Net Yield	Last Price	
White Pack	2.987	2.000	9707.500	Pack Prices
Red Pack	3.666	3.875	9641.625	
Green Pack	2.987	2.000	9707.500	
Blue Pack		1.625	9552.250	
Gold Pack	2.987	2.000	9707.500	

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.

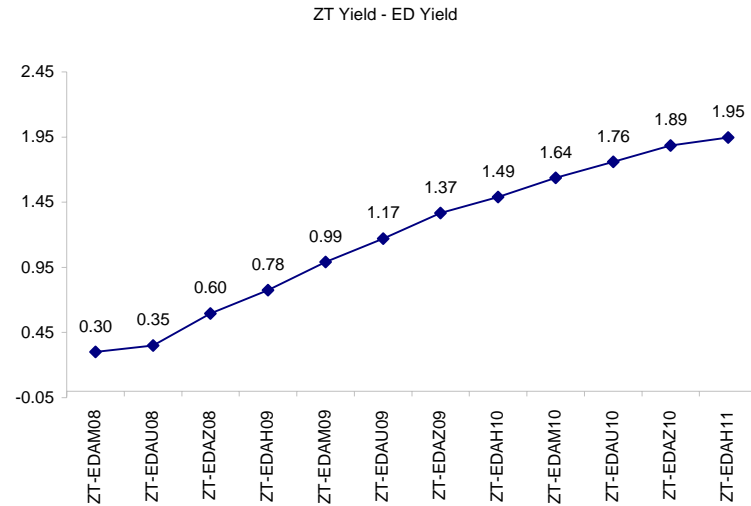
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

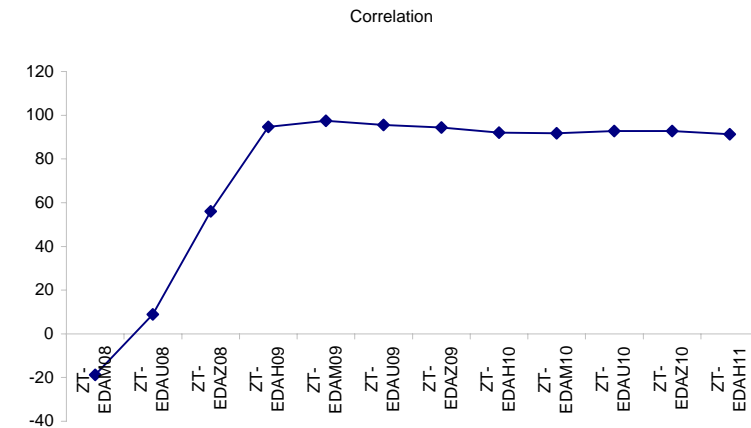
ZT				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAM08	8.724	0.30	ZT-EDAM08	-18.802
EDAU08	8.774	0.35	ZT-EDAU08	8.865
EDAZ08	9.019	0.60	ZT-EDAZ08	55.958
EDAH09	9.199	0.78	ZT-EDAH09	94.668
EDAM09	9.414	0.99	ZT-EDAM09	97.468
EDAU09	9.594	1.17	ZT-EDAU09	95.573
EDAZ09	9.789	1.37	ZT-EDAZ09	94.358
EDAH10	9.914	1.49	ZT-EDAH10	92.012
EDAM10	10.059	1.64	ZT-EDAM10	91.747
EDAU10	10.184	1.76	ZT-EDAU10	92.713
EDAZ10	10.309	1.89	ZT-EDAZ10	92.788
EDAH11	10.369	1.95	ZT-EDAH11	91.352

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	0.114	1.78	1.67	ZT-EDAM08		
EDAU08	0.364	1.78	1.42	ZT-EDAU08		
EDAZ08	0.613	1.78	1.17	ZT-EDAZ08		
EDAH09	0.862	1.78	0.92	ZT-EDAH09		
EDAM09	1.112	1.78	0.67	ZT-EDAM09		
EDAU09	1.361	1.78	0.42	ZT-EDAU09		
EDAZ09	1.610	1.78	0.17	ZT-EDAZ09		
EDAH10	1.860	1.78	(0.08)	ZT-EDAH10		
EDAM10	2.109	1.78	(0.33)	ZT-EDAM10		
EDAU10	2.358	1.78	(0.58)	ZT-EDAU10		
EDAZ10	2.608	1.78	(0.83)	ZT-EDAZ10		
EDAH11	2.857	1.78	(1.08)	ZT-EDAH11		

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

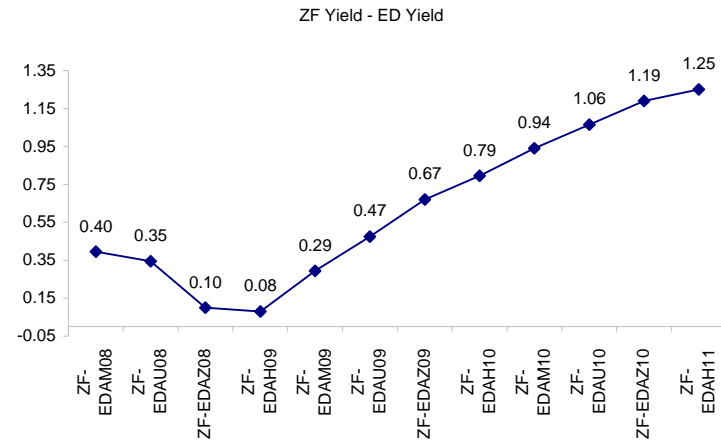


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	14.208	0.40	ZF-EDAM08	-12.865
EDAU08	14.258	0.35	ZF-EDAU08	15.633
EDAZ08	14.503	0.10	ZF-EDAZ08	62.623
EDAH09	14.683	0.08	ZF-EDAH09	98.347
EDAM09	14.898	0.29	ZF-EDAM09	98.178
EDAU09	15.078	0.47	ZF-EDAU09	94.520
EDAZ09	15.273	0.67	ZF-EDAZ09	92.325
EDAH10	15.398	0.79	ZF-EDAH10	90.234
EDAM10	15.543	0.94	ZF-EDAM10	91.530
EDAU10	15.668	1.06	ZF-EDAU10	95.127
EDAZ10	15.793	1.19	ZF-EDAZ10	97.722
EDAH11	15.853	1.25	ZF-EDAH11	98.223

Price = Outright Decimal Price - Euro Contract Price

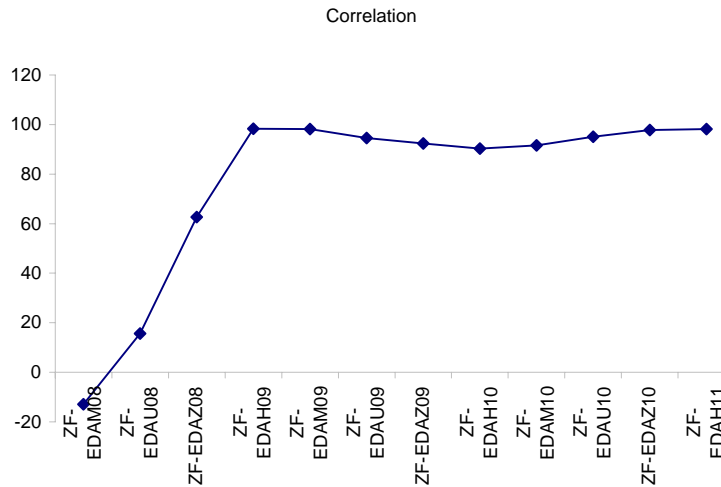
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.114	3.92	3.81	ZF-EDAM08	
EDAU08	0.364	3.92	3.56	ZF-EDAU08	
EDAZ08	0.613	3.92	3.31	ZF-EDAZ08	
EDAH09	0.862	3.92	3.06	ZF-EDAH09	
EDAM09	1.112	3.92	2.81	ZF-EDAM09	
EDAU09	1.361	3.92	2.56	ZF-EDAU09	
EDAZ09	1.610	3.92	2.31	ZF-EDAZ09	
EDAH10	1.860	3.92	2.06	ZF-EDAH10	
EDAM10	2.109	3.92	1.81	ZF-EDAM10	
EDAU10	2.358	3.92	1.56	ZF-EDAU10	
EDAZ10	2.608	3.92	1.31	ZF-EDAZ10	
EDAH11	2.857	3.92	1.06	ZF-EDAH11	

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

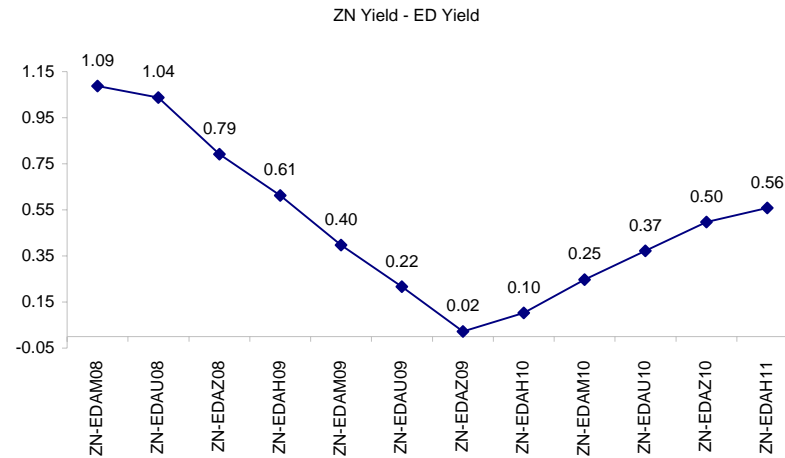


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	17.677	1.09	ZN-EDAM08	-37.510
EDAU08	17.727	1.04	ZN-EDAU08	-11.868
EDAZ08	17.972	0.79	ZN-EDAZ08	37.471
EDAH09	18.152	0.61	ZN-EDAH09	89.143
EDAM09	18.367	0.40	ZN-EDAM09	97.494
EDAU09	18.547	0.22	ZN-EDAU09	97.818
EDAZ09	18.742	0.02	ZN-EDAZ09	96.916
EDAH10	18.867	0.10	ZN-EDAH10	90.234
EDAM10	19.012	0.25	ZN-EDAM10	91.530
EDAU10	19.137	0.37	ZN-EDAU10	95.127
EDAZ10	19.262	0.50	ZN-EDAZ10	97.722
EDAH11	19.322	0.56	ZN-EDAH11	98.223

Price = Outright Decimal Price - Euro Contract Price

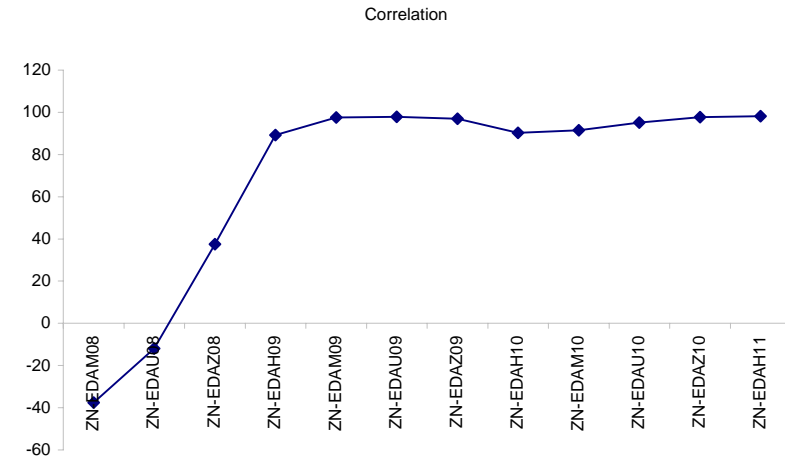
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAM08	0.114	5.87	5.75	ZN-EDAM08		
EDAU08	0.364	5.87	5.50	ZN-EDAU08		
EDAZ08	0.613	5.87	5.25	ZN-EDAZ08		
EDAH09	0.862	5.87	5.00	ZN-EDAH09		
EDAM09	1.112	5.87	4.75	ZN-EDAM09		
EDAU09	1.361	5.87	4.50	ZN-EDAU09		
EDAZ09	1.610	5.87	4.25	ZN-EDAZ09		
EDAH10	1.860	5.87	4.01	ZN-EDAH10		
EDAM10	2.109	5.87	3.76	ZN-EDAM10		
EDAU10	2.358	5.87	3.51	ZN-EDAU10		
EDAZ10	2.608	5.87	3.26	ZN-EDAZ10		
EDAH11	2.857	5.87	3.01	ZN-EDAH11		

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

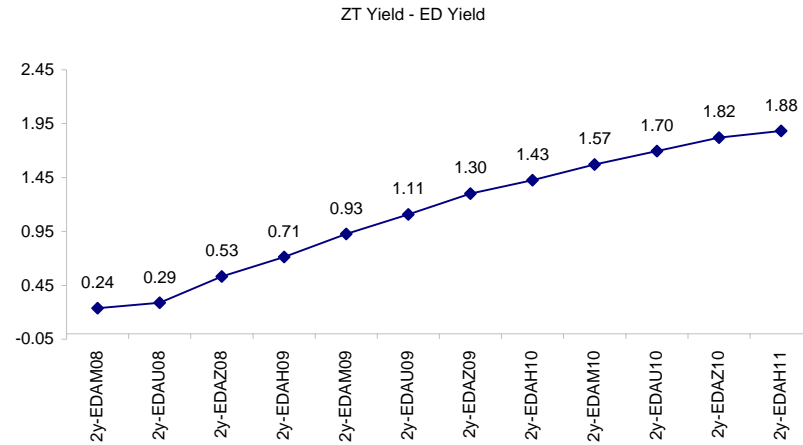


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.105	0.24	2y-EDAM08	41.671
EDAU08	2.155	0.29	2y-EDAU08	14.101
EDAZ08	2.400	0.53	2y-EDAZ08	-36.852
EDAH09	2.580	0.71	2y-EDAH09	-87.906
EDAM09	2.795	0.93	2y-EDAM09	-96.080
EDAU09	2.975	1.11	2y-EDAU09	-97.739
EDAZ09	3.170	1.30	2y-EDAZ09	-97.775
EDAH10	3.295	1.43	2y-EDAH10	-96.841
EDAM10	3.440	1.57	2y-EDAM10	-95.936
EDAU10	3.565	1.70	2y-EDAU10	-94.266
EDAZ10	3.690	1.82	2y-EDAZ10	-91.101
EDAH11	3.750	1.88	2y-EDAH11	-85.593

Price = Outright Decimal Price - Euro Contract Price

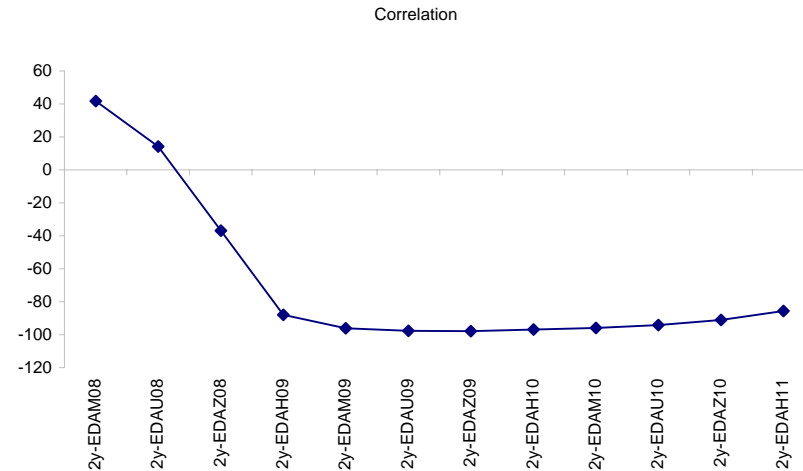
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			2Y Duration	Spread Duration	
EDAM08	0.114	1.93	1.81	2y-EDAM08		
EDAU08	0.364	1.93	1.57	2y-EDAU08		
EDAZ08	0.613	1.93	1.32	2y-EDAZ08		
EDAH09	0.862	1.93	1.07	2y-EDAH09		
EDAM09	1.112	1.93	0.82	2y-EDAM09		
EDAU09	1.361	1.93	0.57	2y-EDAU09		
EDAZ09	1.610	1.93	0.32	2y-EDAZ09		
EDAH10	1.860	1.93	0.07	2y-EDAH10		
EDAM10	2.109	1.93	(0.18)	2y-EDAM10		
EDAU10	2.358	1.93	(0.43)	2y-EDAU10		
EDAZ10	2.608	1.93	(0.68)	2y-EDAZ10		
EDAH11	2.857	1.93	(0.93)	2y-EDAH11		

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

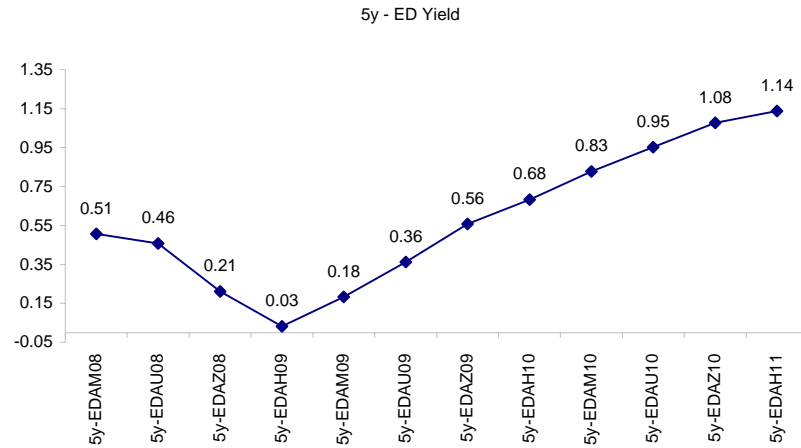


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.417	0.51	5y-EDAM08	37.634
EDAU08	2.467	0.46	5y-EDAU08	9.899
EDAZ08	2.712	0.21	5y-EDAZ08	37.634
EDAH09	2.892	0.03	5y-EDAH09	-90.361
EDAM09	3.107	0.18	5y-EDAM09	-97.303
EDAU09	3.287	0.36	5y-EDAU09	-97.653
EDAZ09	3.482	0.56	5y-EDAZ09	-96.617
EDAH10	3.607	0.68	5y-EDAH10	-95.934
EDAM10	3.752	0.83	5y-EDAM10	-96.310
EDAU10	3.877	0.95	5y-EDAU10	-96.836
EDAZ10	4.002	1.08	5y-EDAZ10	-95.388
EDAH11	4.062	1.14	5y-EDAH11	-91.280

Price = Outright Decimal Price - Euro Contract Price

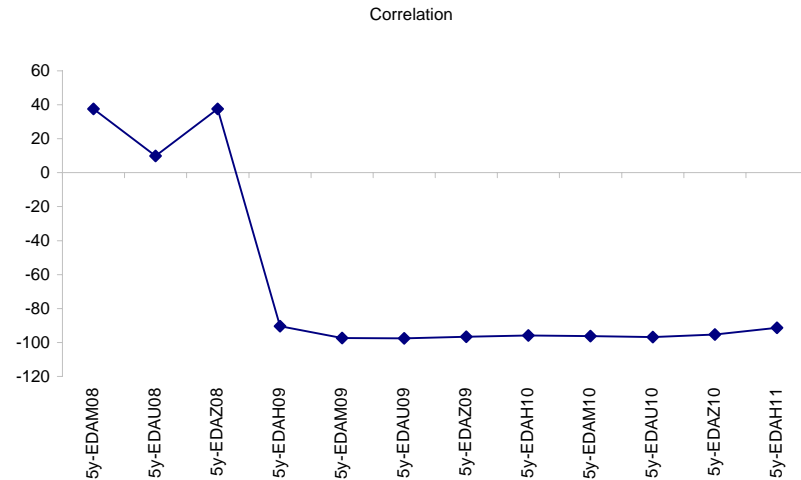
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.114	4.58	4.46	5y-EDAM08
EDAU08	0.364	4.58	4.22	5y-EDAU08
EDAZ08	0.613	4.58	3.97	5y-EDAZ08
EDAH09	0.862	4.58	3.72	5y-EDAH09
EDAM09	1.112	4.58	3.47	5y-EDAM09
EDAU09	1.361	4.58	3.22	5y-EDAU09
EDAZ09	1.610	4.58	2.97	5y-EDAZ09
EDAH10	1.860	4.58	2.72	5y-EDAH10
EDAM10	2.109	4.58	2.47	5y-EDAM10
EDAU10	2.358	4.58	2.22	5y-EDAU10
EDAZ10	2.608	4.58	1.97	5y-EDAZ10
EDAH11	2.857	4.58	1.72	5y-EDAH11

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

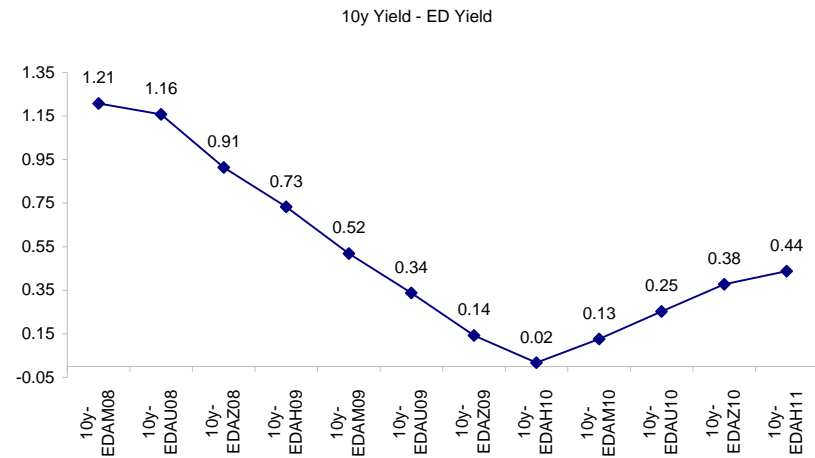


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.417	1.21	10y-EDAM08	18.454
EDAU08	2.467	1.16	10y-EDAU08	-7.766
EDAZ08	2.712	0.91	10y-EDAZ08	18.454
EDAH09	2.892	0.73	10y-EDAH09	-93.464
EDAM09	3.107	0.52	10y-EDAM09	-96.711
EDAU09	3.287	0.34	10y-EDAU09	-94.084
EDAZ09	3.482	0.14	10y-EDAZ09	-92.044
EDAH10	3.607	0.02	10y-EDAH10	-90.361
EDAM10	3.752	0.13	10y-EDAM10	-91.575
EDAU10	3.877	0.25	10y-EDAU10	-94.745
EDAZ10	4.002	0.38	10y-EDAZ10	-96.304
EDAH11	4.062	0.44	10y-EDAH11	-95.515

Price = Outright Decimal Price - Euro Contract Price

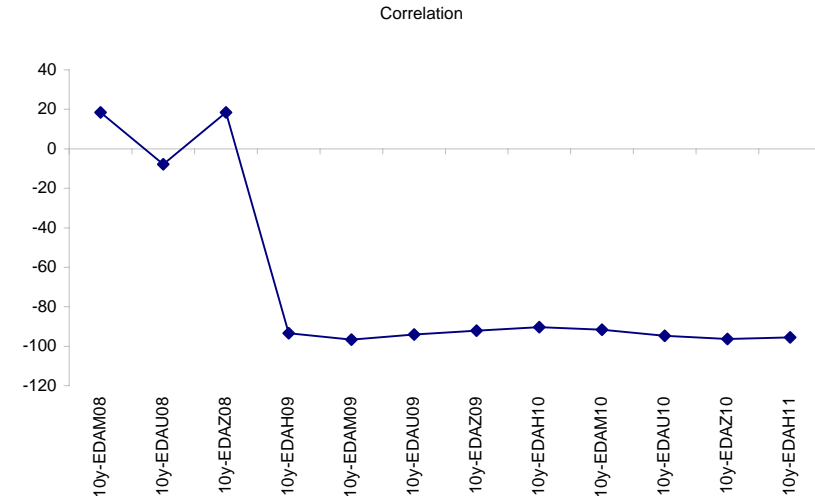
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.114	8.12	8.00	10y-EDAM08
EDAU08	0.364	8.12	7.76	10y-EDAU08
EDAZ08	0.613	8.12	7.51	10y-EDAZ08
EDAH09	0.862	8.12	7.26	10y-EDAH09
EDAM09	1.112	8.12	7.01	10y-EDAM09
EDAU09	1.361	8.12	6.76	10y-EDAU09
EDAZ09	1.610	8.12	6.51	10y-EDAZ09
EDAH10	1.860	8.12	6.26	10y-EDAH10
EDAM10	2.109	8.12	6.01	10y-EDAM10
EDAU10	2.358	8.12	5.76	10y-EDAU10
EDAZ10	2.608	8.12	5.51	10y-EDAZ10
EDAH11	2.857	8.12	5.26	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.

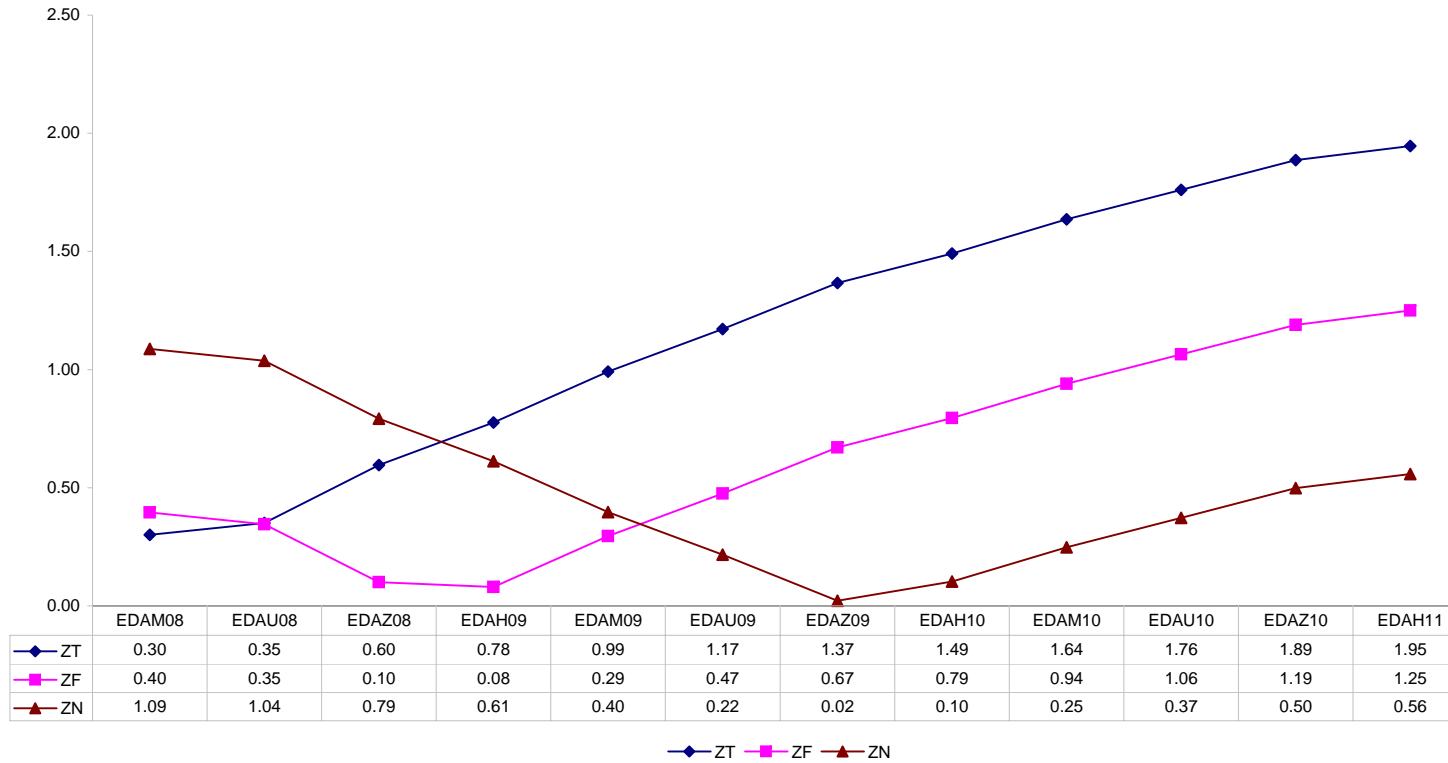
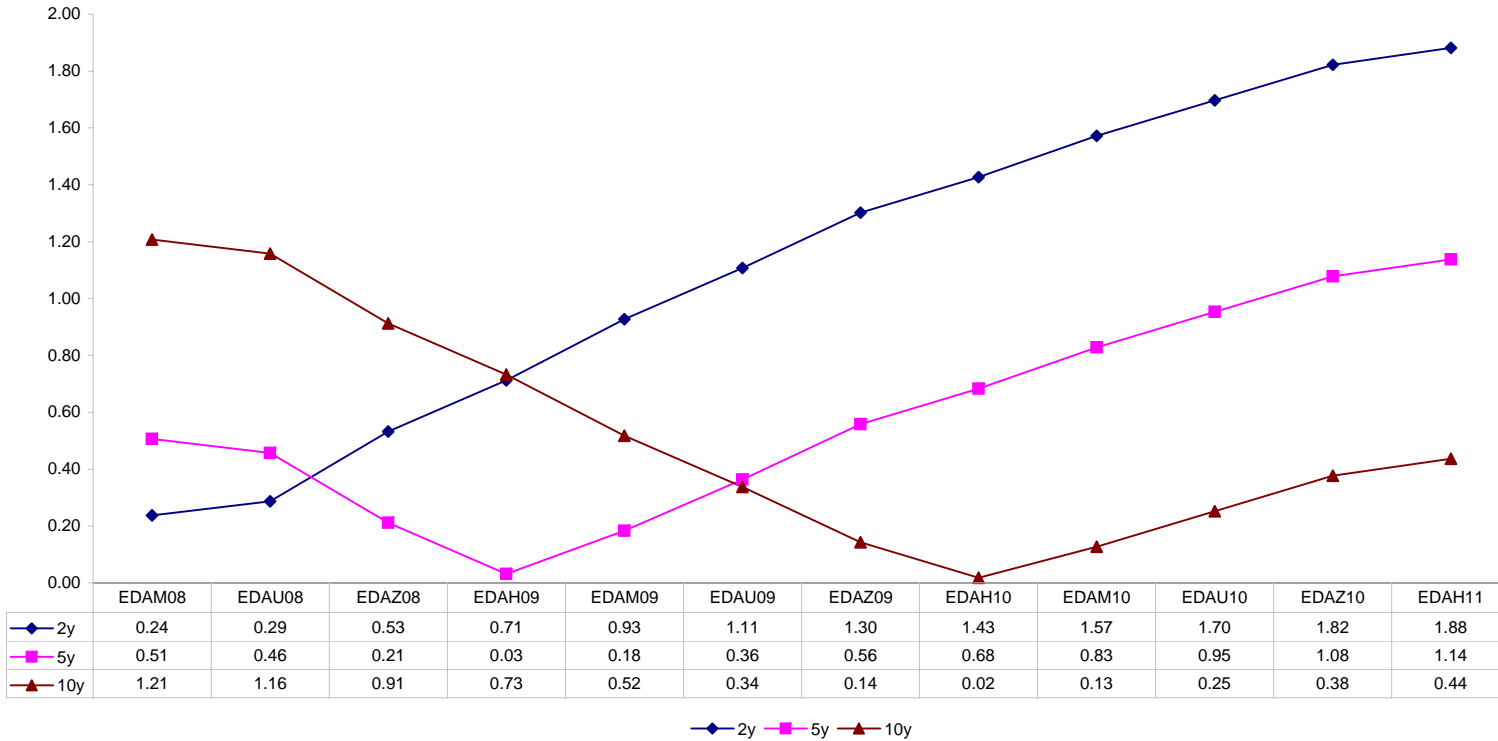
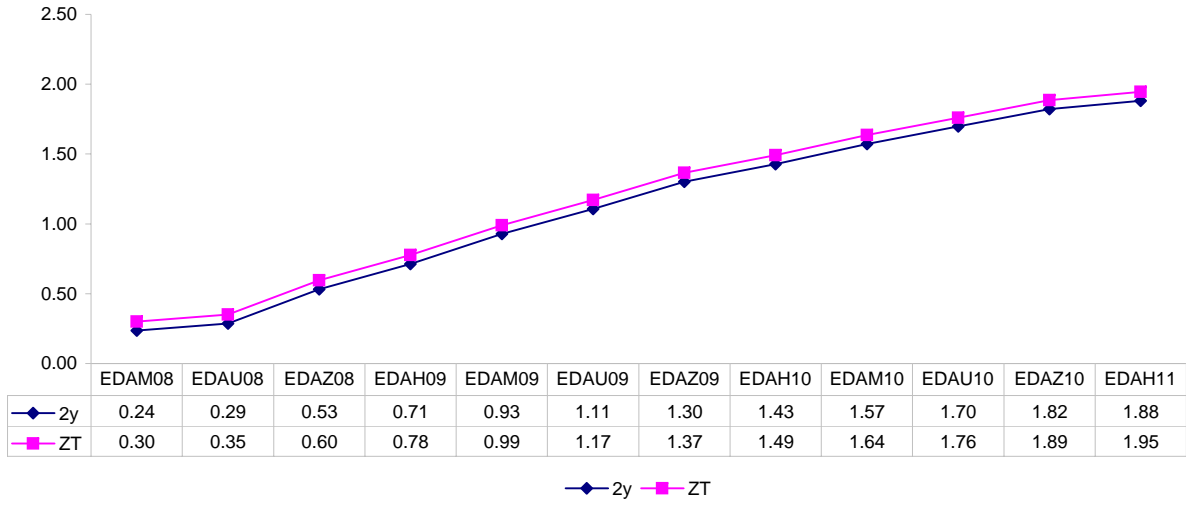


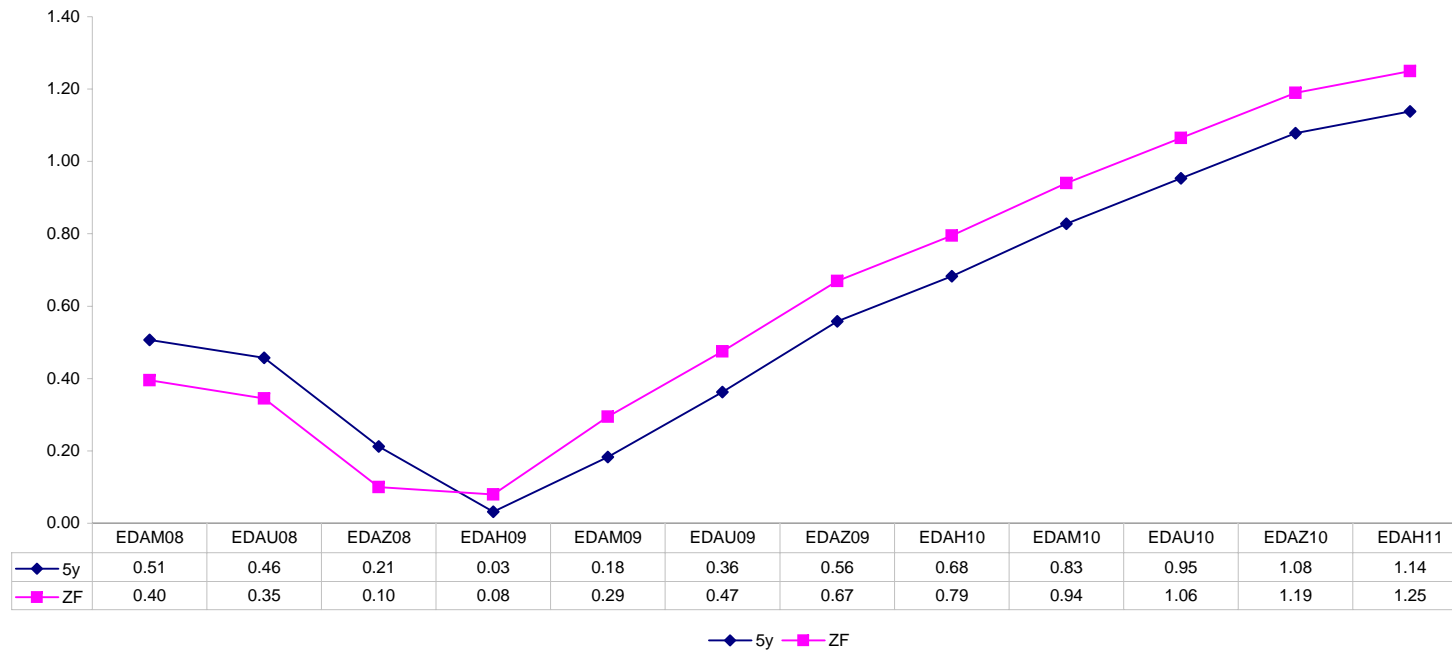
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



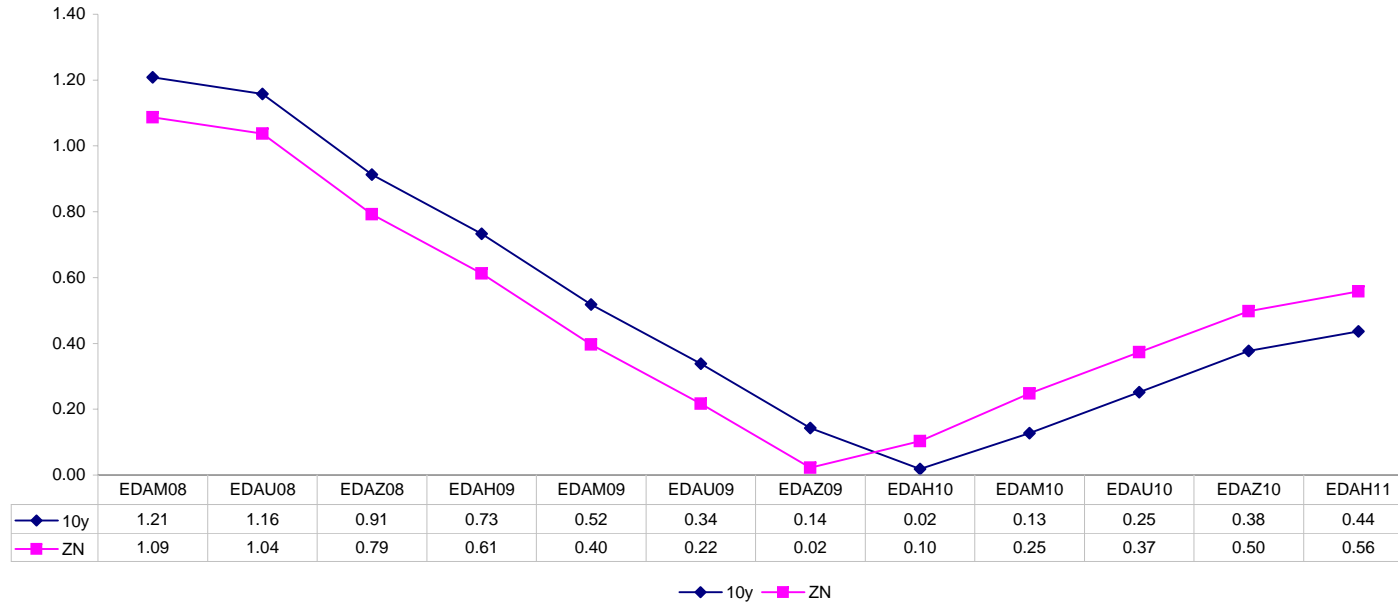
2y Basis TED Curve



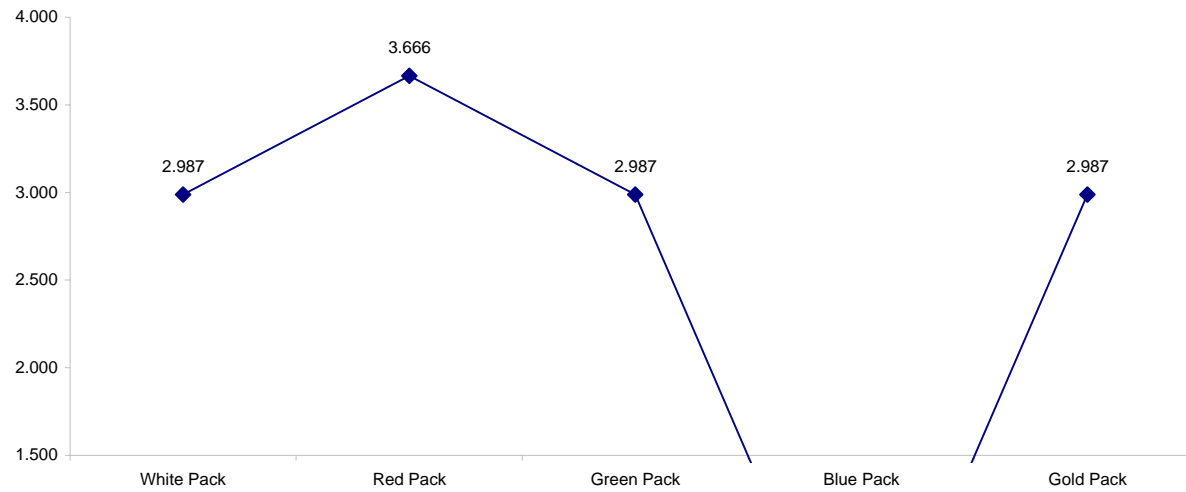
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.987	2.000	9707.500
Red Pack	3.666	3.875	9641.625
Green Pack	2.987	2.000	9707.500
Blue Pack		1.625	9552.250
Gold Pack	2.987	2.000	9707.500



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

