

## **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	105.4844	105.155	2.548	1.91
ZF	110.3438	110.110	3.269	4.12
ZN	113.1094	113.035	3.869	6.53
2y	100.125	100.0400	2.560	1.91
5y	100.688	100.2200	3.346	4.53
10y	98.719	98.2300	4.029	8.14

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.253	2.748	10	0.027	JUN
EDAU08	97.075	2.925	101	0.276	SEP White
EDAZ08	96.845	3.155	192	0.525	DEC Pack
EDAH09	96.720	3.280	283	0.775	MAR
EDAM09	96.505	3.495	374	1.024	JUN
EDAU09	96.260	3.740	465	1.273	SEP Red Pack
EDAZ09	95.990	4.010	556	1.523	DEC
EDAH10	95.800	4.200	647	1.772	MAR
EDAM10	95.620	4.380	738	2.021	JUN
EDAU10	95.455	4.545	829	2.271	SEP Green
EDAZ10	95.320	4.680	920	2.520	DEC Pack
EDAH11	95.240	4.760	1011	2.769	MAR
EDAM11	95.195	4.805	1102	3.019	JUN
EDAU11	95.140	4.860	1200	3.287	SEP Blue Pack
EDAZ11	95.040	4.960	1291	3.536	DEC
EDAH12	95.035	4.965	1382	3.786	MAR
EDAM12	94.960	5.040	1473	4.035	JUN
EDAU12	94.915	5.085	1564	4.284	SEP Gold Pack
EDAZ12	94.845	5.155	1655	4.534	DEC
EDAH13	94.855	5.145	1746	4.783	MAR

	Last Yield	Net Yield	Last Price	
White Pack	3.092	-8.625	9697.313	Pack Prices
Red Pack	3.953	-12.750	9613.875	
Green Pack	4.709	-8.625	9540.875	
Blue Pack	5.027	-1.750	9510.250	
Gold Pack	5.244	-0.625	9489.375	

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)

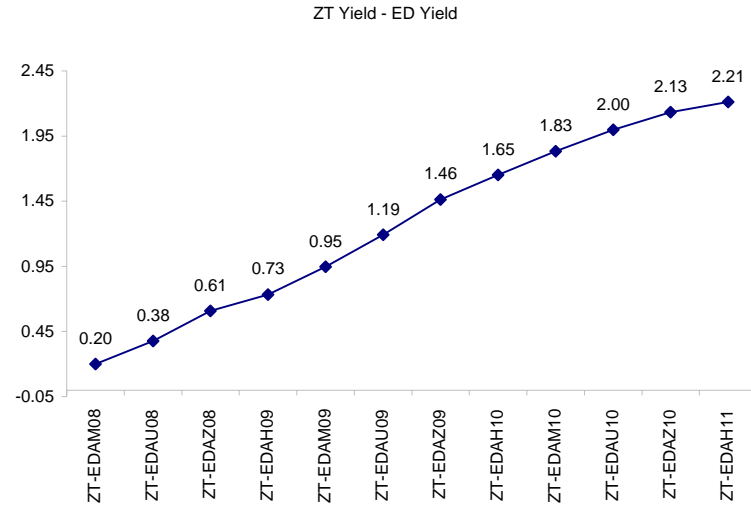
**Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	8.232	0.20	ZT-EDAM08	28.697
EDAU08	8.409	0.38	ZT-EDAU08	49.700
EDAZ08	8.639	0.61	ZT-EDAZ08	83.284
EDAH09	8.764	0.73	ZT-EDAH09	98.728
EDAM09	8.979	0.95	ZT-EDAM09	98.688
EDAU09	9.224	1.19	ZT-EDAU09	96.699
EDAZ09	9.494	1.46	ZT-EDAZ09	91.586
EDAH10	9.684	1.65	ZT-EDAH10	84.223
EDAM10	9.864	1.83	ZT-EDAM10	75.651
EDAU10	10.029	2.00	ZT-EDAU10	65.607
EDAZ10	10.164	2.13	ZT-EDAZ10	58.586
EDAH11	10.244	2.21	ZT-EDAH11	52.077

Price = Outright Decimal Price - Euro Contract Price

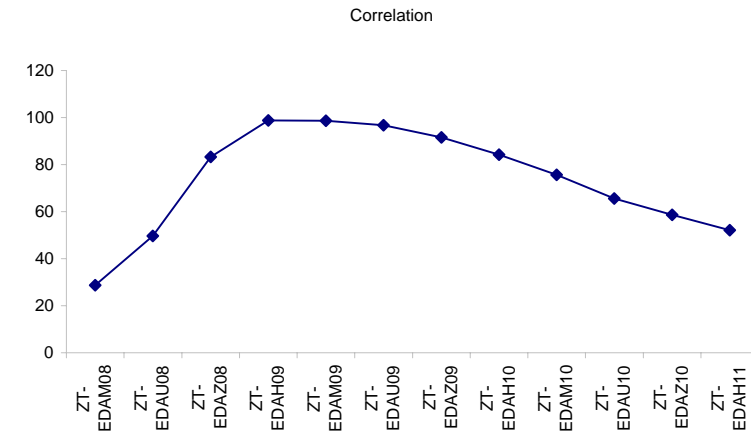
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAM08	0.027	1.91	1.88	ZT-EDAM08	
EDAU08	0.276	1.91	1.63	ZT-EDAU08	
EDAZ08	0.525	1.91	1.38	ZT-EDAZ08	
EDAH09	0.775	1.91	1.13	ZT-EDAH09	
EDAM09	1.024	1.91	0.88	ZT-EDAM09	
EDAU09	1.273	1.91	0.63	ZT-EDAU09	
EDAZ09	1.523	1.91	0.38	ZT-EDAZ09	
EDAH10	1.772	1.91	0.13	ZT-EDAH10	
EDAM10	2.021	1.91	(0.12)	ZT-EDAM10	
EDAU10	2.271	1.91	(0.36)	ZT-EDAU10	
EDAZ10	2.520	1.91	(0.61)	ZT-EDAZ10	
EDAH11	2.769	1.91	(0.86)	ZT-EDAH11	

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

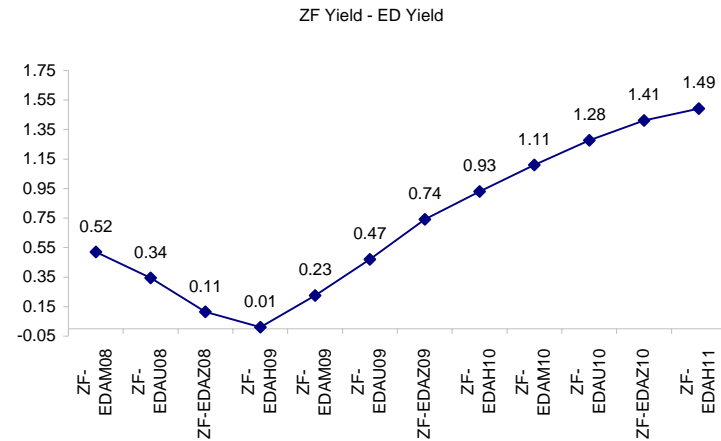


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	13.091	0.52	ZF-EDAM08	53.586
EDAU08	13.269	0.34	ZF-EDAU08	66.288
EDAZ08	13.499	0.11	ZF-EDAZ08	89.396
EDAH09	13.624	0.01	ZF-EDAH09	95.027
EDAM09	13.839	0.23	ZF-EDAM09	96.512
EDAU09	14.084	0.47	ZF-EDAU09	97.858
EDAZ09	14.354	0.74	ZF-EDAZ09	97.366
EDAH10	14.544	0.93	ZF-EDAH10	94.638
EDAM10	14.724	1.11	ZF-EDAM10	90.228
EDAU10	14.889	1.28	ZF-EDAU10	83.851
EDAZ10	15.024	1.41	ZF-EDAZ10	79.514
EDAH11	15.104	1.49	ZF-EDAH11	75.298

Price = Outright Decimal Price - Euro Contract Price

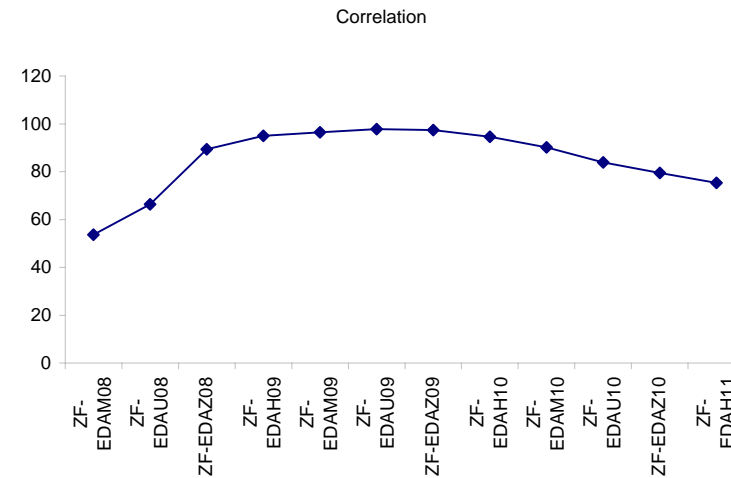
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.027	4.12	4.09	ZF-EDAM08	
EDAU08	0.276	4.12	3.85	ZF-EDAU08	
EDAZ08	0.525	4.12	3.60	ZF-EDAZ08	
EDAH09	0.775	4.12	3.35	ZF-EDAH09	
EDAM09	1.024	4.12	3.10	ZF-EDAM09	
EDAU09	1.273	4.12	2.85	ZF-EDAU09	
EDAZ09	1.523	4.12	2.60	ZF-EDAZ09	
EDAH10	1.772	4.12	2.35	ZF-EDAH10	
EDAM10	2.021	4.12	2.10	ZF-EDAM10	
EDAU10	2.271	4.12	1.85	ZF-EDAU10	
EDAZ10	2.520	4.12	1.60	ZF-EDAZ10	
EDAH11	2.769	4.12	1.35	ZF-EDAH11	

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

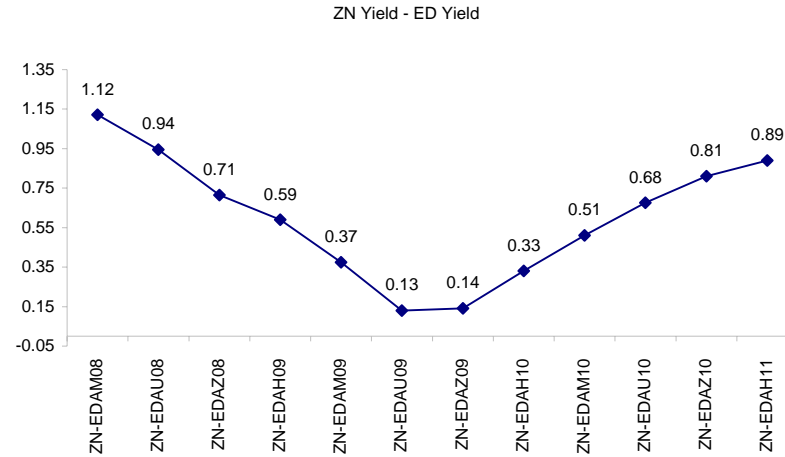


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	15.857	1.12	ZN-EDAM08	52.623
EDAU08	16.034	0.94	ZN-EDAU08	63.692
EDAZ08	16.264	0.71	ZN-EDAZ08	87.361
EDAH09	16.389	0.59	ZN-EDAH09	94.215
EDAM09	16.604	0.37	ZN-EDAM09	96.050
EDAU09	16.849	0.13	ZN-EDAU09	97.242
EDAZ09	17.119	0.14	ZN-EDAZ09	96.389
EDAH10	17.309	0.33	ZN-EDAH10	94.638
EDAM10	17.489	0.51	ZN-EDAM10	90.228
EDAU10	17.654	0.68	ZN-EDAU10	83.851
EDAZ10	17.789	0.81	ZN-EDAZ10	79.514
EDAH11	17.869	0.89	ZN-EDAH11	75.298

Price = Outright Decimal Price - Euro Contract Price

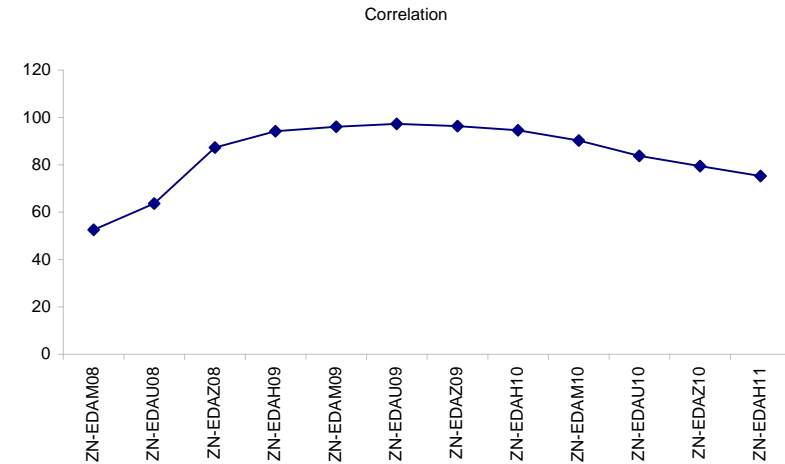
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAM08	0.027	6.53	6.51	ZN-EDAM08
EDAU08	0.276	6.53	6.26	ZN-EDAU08
EDAZ08	0.525	6.53	6.01	ZN-EDAZ08
EDAH09	0.775	6.53	5.76	ZN-EDAH09
EDAM09	1.024	6.53	5.51	ZN-EDAM09
EDAU09	1.273	6.53	5.26	ZN-EDAU09
EDAZ09	1.523	6.53	5.01	ZN-EDAZ09
EDAH10	1.772	6.53	4.76	ZN-EDAH10
EDAM10	2.021	6.53	4.51	ZN-EDAM10
EDAU10	2.271	6.53	4.26	ZN-EDAU10
EDAZ10	2.520	6.53	4.01	ZN-EDAZ10
EDAH11	2.769	6.53	3.76	ZN-EDAH11

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

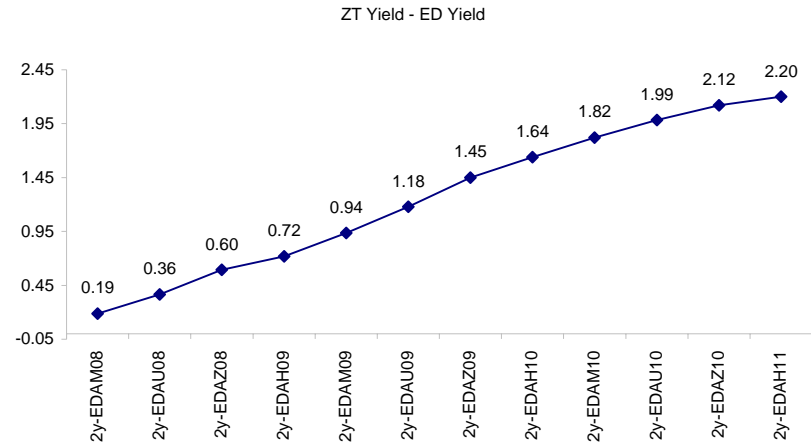


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.873	0.19	2y-EDAM08	-52.998
EDAU08	3.050	0.36	2y-EDAU08	-65.941
EDAZ08	3.280	0.60	2y-EDAZ08	-89.167
EDAH09	3.405	0.72	2y-EDAH09	-96.155
EDAM09	3.620	0.94	2y-EDAM09	-96.989
EDAU09	3.865	1.18	2y-EDAU09	-97.431
EDAZ09	4.135	1.45	2y-EDAZ09	-96.036
EDAH10	4.325	1.64	2y-EDAH10	-92.651
EDAM10	4.505	1.82	2y-EDAM10	-87.946
EDAU10	4.670	1.99	2y-EDAU10	-81.769
EDAZ10	4.805	2.12	2y-EDAZ10	-77.467
EDAH11	4.885	2.20	2y-EDAH11	-74.454

Price = Outright Decimal Price - Euro Contract Price

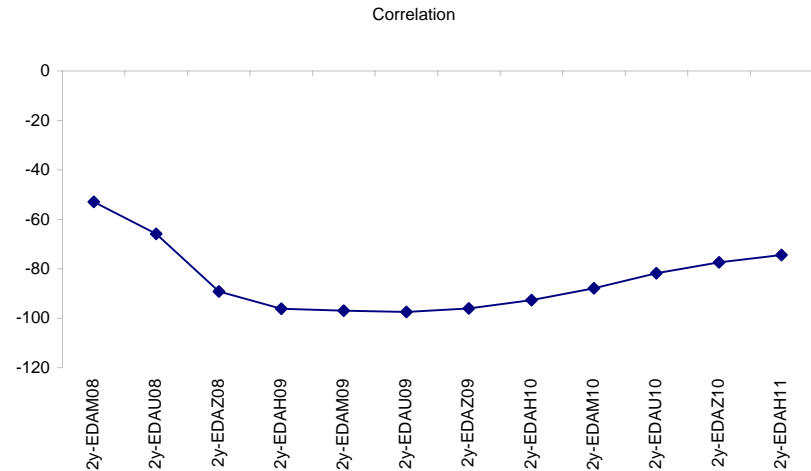
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAM08	0.027	1.91	1.89	2y-EDAM08
EDAU08	0.276	1.91	1.64	2y-EDAU08
EDAZ08	0.525	1.91	1.39	2y-EDAZ08
EDAH09	0.775	1.91	1.14	2y-EDAH09
EDAM09	1.024	1.91	0.89	2y-EDAM09
EDAU09	1.273	1.91	0.64	2y-EDAU09
EDAZ09	1.523	1.91	0.39	2y-EDAZ09
EDAH10	1.772	1.91	0.14	2y-EDAH10
EDAM10	2.021	1.91	(0.11)	2y-EDAM10
EDAU10	2.271	1.91	(0.36)	2y-EDAU10
EDAZ10	2.520	1.91	(0.61)	2y-EDAZ10
EDAH11	2.769	1.91	(0.86)	2y-EDAH11

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

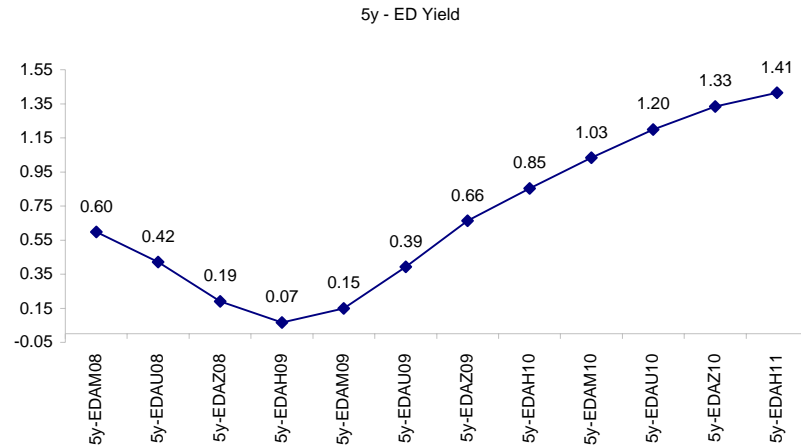


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.435	0.60	5y-EDAM08	-76.864
EDAU08	3.613	0.42	5y-EDAU08	-79.903
EDAZ08	3.843	0.19	5y-EDAZ08	-76.864
EDAH09	3.968	0.07	5y-EDAH09	-81.218
EDAM09	4.183	0.15	5y-EDAM09	-82.532
EDAU09	4.427	0.39	5y-EDAU09	-86.645
EDAZ09	4.697	0.66	5y-EDAZ09	-91.071
EDAH10	4.888	0.85	5y-EDAH10	-93.364
EDAM10	5.068	1.03	5y-EDAM10	-94.065
EDAU10	5.233	1.20	5y-EDAU10	-93.013
EDAZ10	5.367	1.33	5y-EDAZ10	-92.295
EDAH11	5.448	1.41	5y-EDAH11	-91.409

Price = Outright Decimal Price - Euro Contract Price

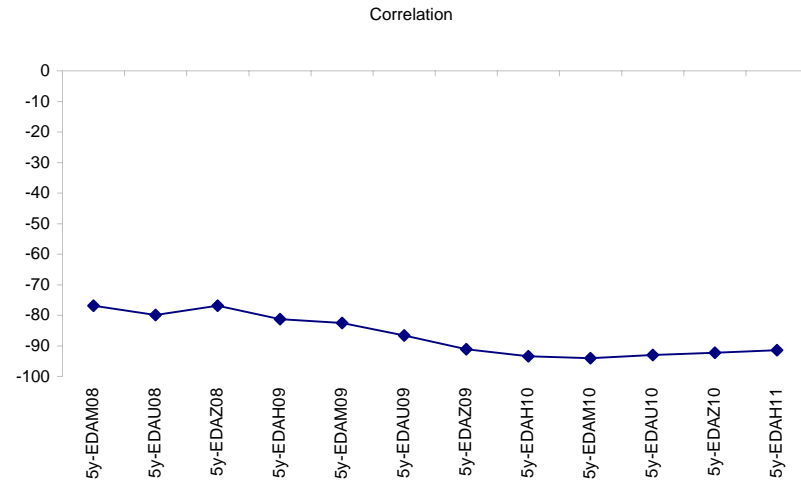
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.027	4.53	4.50	5y-EDAM08
EDAU08	0.276	4.53	4.26	5y-EDAU08
EDAZ08	0.525	4.53	4.01	5y-EDAZ08
EDAH09	0.775	4.53	3.76	5y-EDAH09
EDAM09	1.024	4.53	3.51	5y-EDAM09
EDAU09	1.273	4.53	3.26	5y-EDAU09
EDAZ09	1.523	4.53	3.01	5y-EDAZ09
EDAH10	1.772	4.53	2.76	5y-EDAH10
EDAM10	2.021	4.53	2.51	5y-EDAM10
EDAU10	2.271	4.53	2.26	5y-EDAU10
EDAZ10	2.520	4.53	2.01	5y-EDAZ10
EDAH11	2.769	4.53	1.76	5y-EDAH11

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



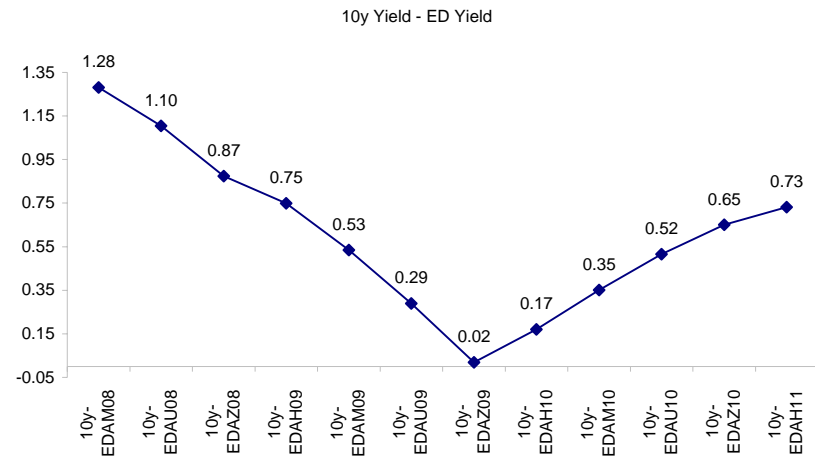


10y				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAM08	3.435	1.28	10y-EDAM08	-85.236
EDAU08	3.613	1.10	10y-EDAU08	-83.406
EDAZ08	3.843	0.87	10y-EDAZ08	-85.236
EDAH09	3.968	0.75	10y-EDAH09	-69.450
EDAM09	4.183	0.53	10y-EDAM09	-70.659
EDAU09	4.427	0.29	10y-EDAU09	-76.320
EDAZ09	4.697	0.02	10y-EDAZ09	-83.450
EDAH10	4.888	0.17	10y-EDAH10	-88.226
EDAM10	5.068	0.35	10y-EDAM10	-91.659
EDAU10	5.233	0.52	10y-EDAU10	-93.315
EDAZ10	5.367	0.65	10y-EDAZ10	-94.386
EDAH11	5.448	0.73	10y-EDAH11	-94.524

Price = Outright Decimal Price - Euro Contract Price

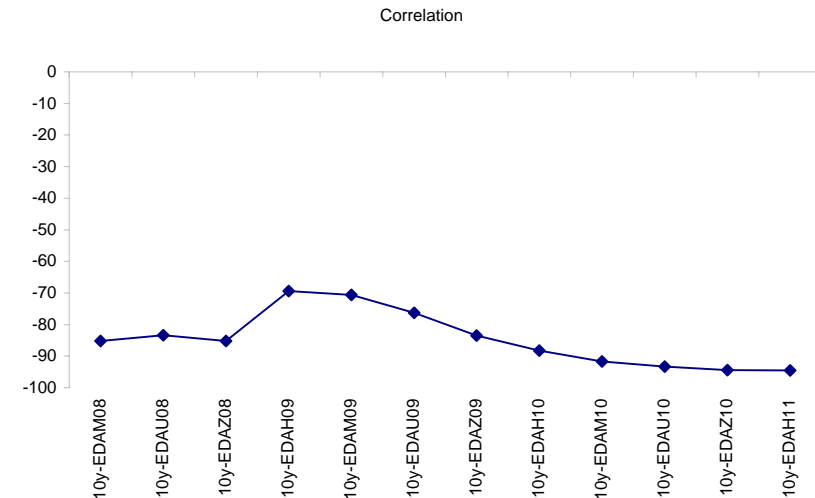
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as				Spread Duration	Contract
Fraction of year	10Y Duration	Spread Duration			
EDAM08	0.027	8.14	8.11	10y-EDAM08	
EDAU08	0.276	8.14	7.86	10y-EDAU08	
EDAZ08	0.525	8.14	7.61	10y-EDAZ08	
EDAH09	0.775	8.14	7.37	10y-EDAH09	
EDAM09	1.024	8.14	7.12	10y-EDAM09	
EDAU09	1.273	8.14	6.87	10y-EDAU09	
EDAZ09	1.523	8.14	6.62	10y-EDAZ09	
EDAH10	1.772	8.14	6.37	10y-EDAH10	
EDAM10	2.021	8.14	6.12	10y-EDAM10	
EDAU10	2.271	8.14	5.87	10y-EDAU10	
EDAZ10	2.520	8.14	5.62	10y-EDAZ10	
EDAH11	2.769	8.14	5.37	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.

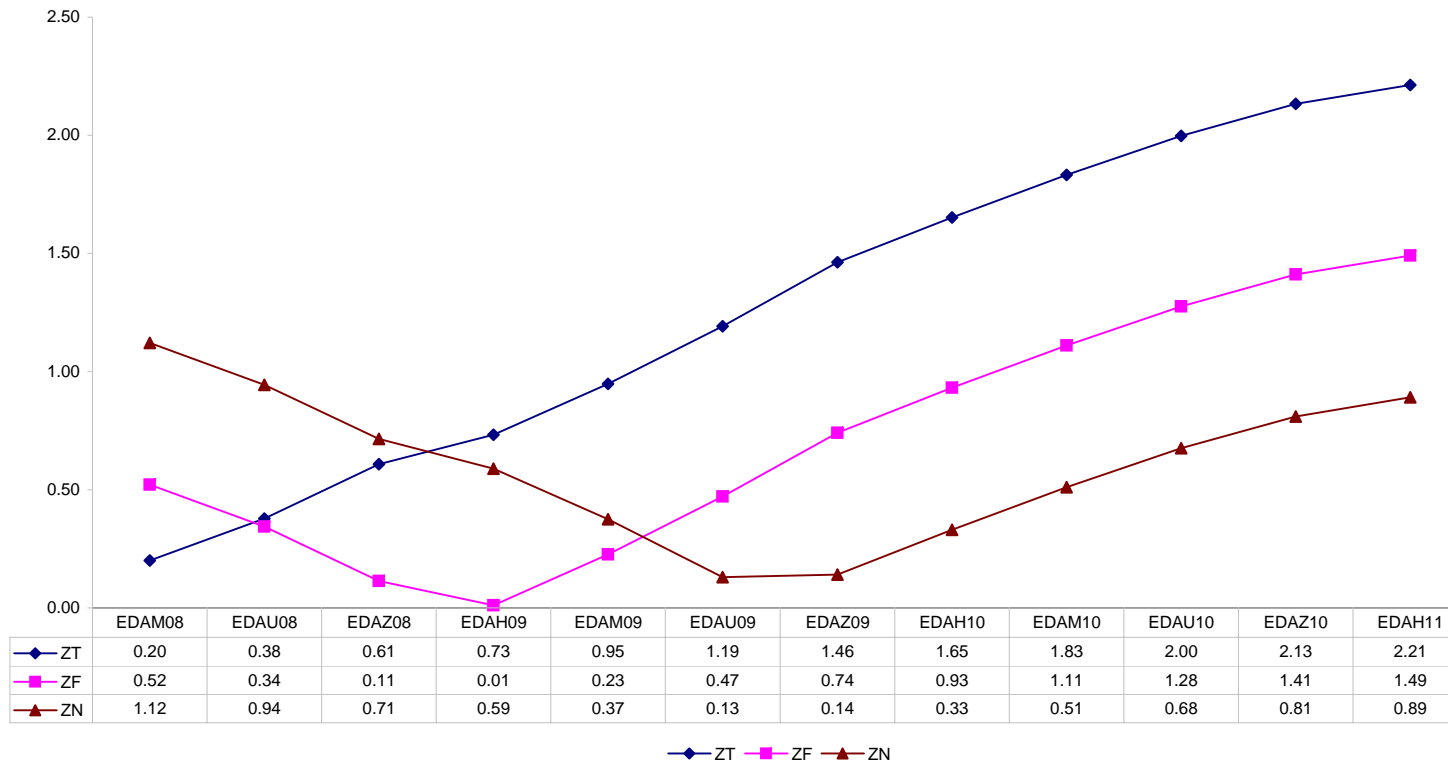
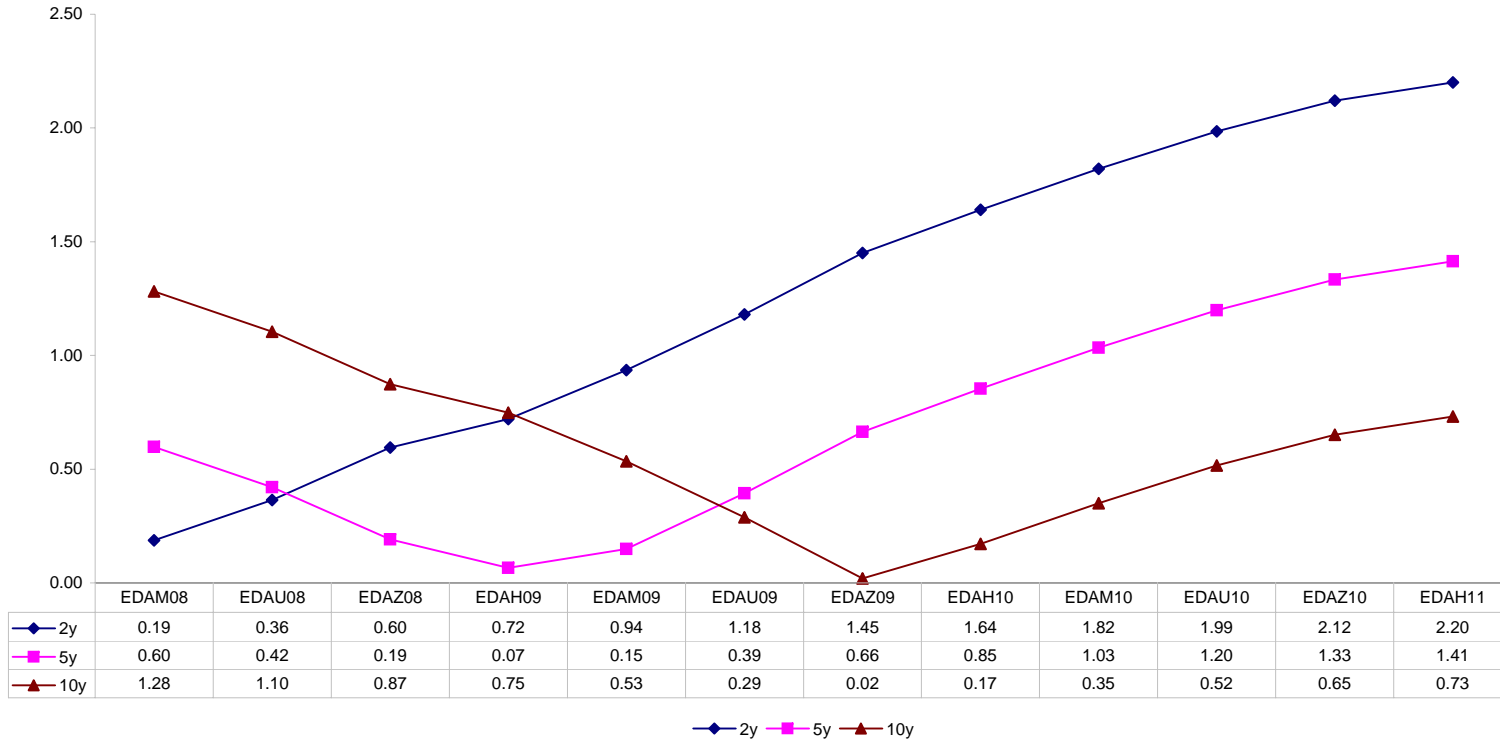
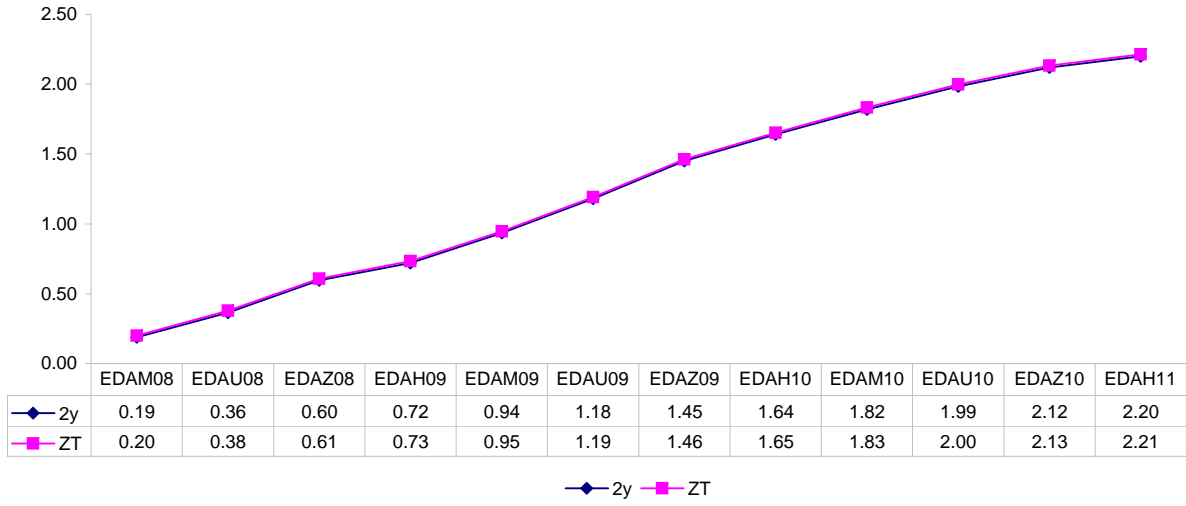


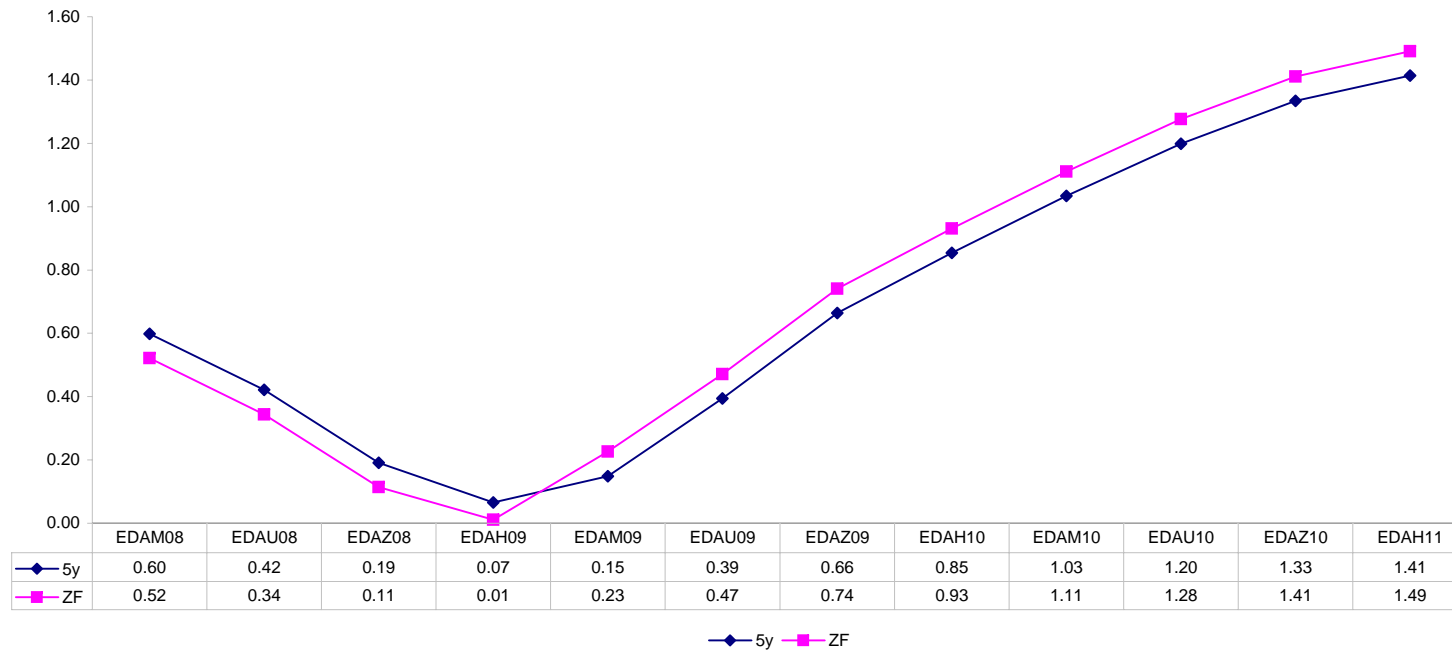
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



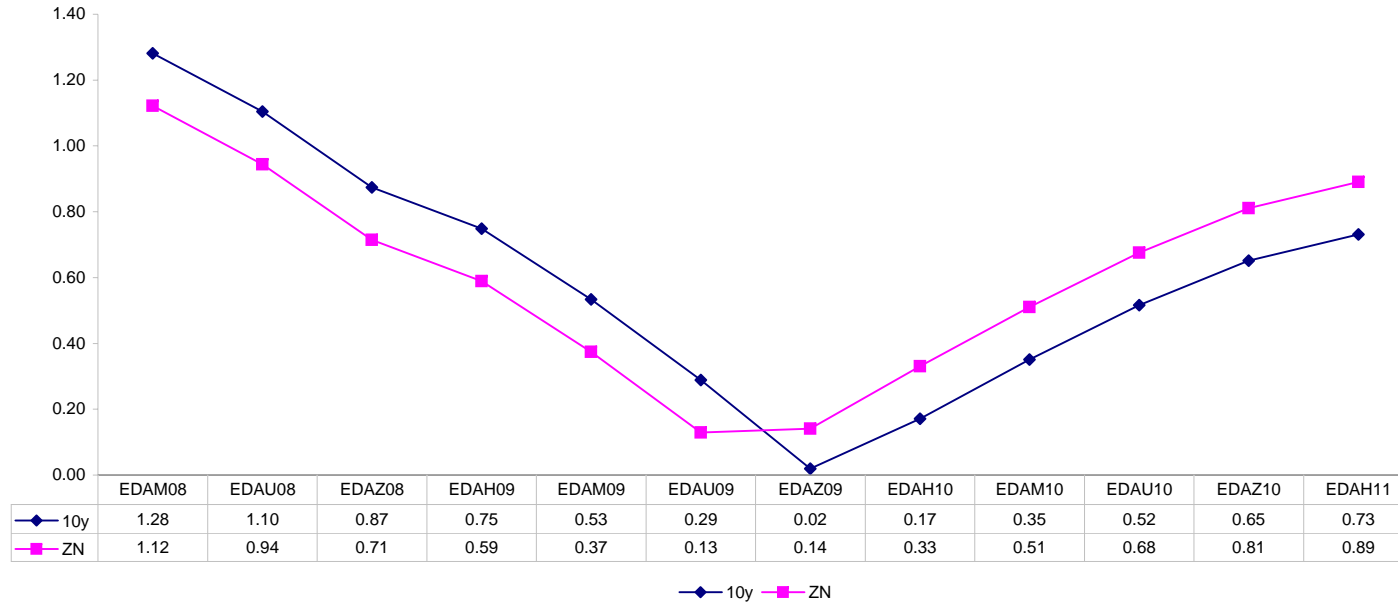
2y Basis TED Curve



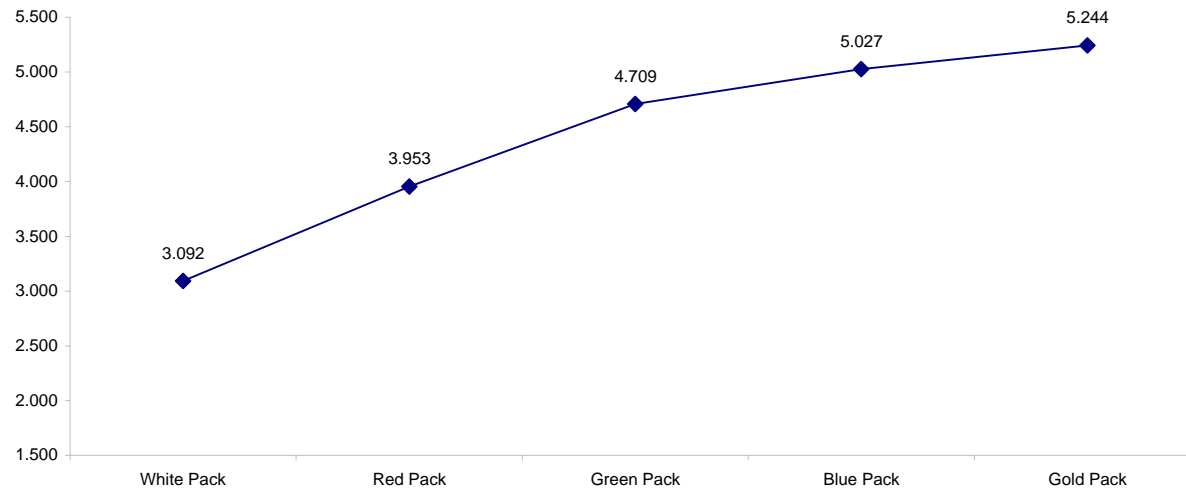
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.092	-8.625	9697.313
Red Pack	3.953	-12.750	9613.875
Green Pack	4.709	-8.625	9540.875
Blue Pack	5.027	-1.750	9510.250
Gold Pack	5.244	-0.625	9489.375



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

