

## **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	106.2875	106.092	2.202	1.77
ZF	111.9125	111.292	2.939	3.92
ZN	115.2969	115.095	3.737	5.86
2y	99.688	99.2200	2.284	1.92
5y	100.266	100.0850	3.066	4.51
10y	100.125	100.0400	3.858	8.09

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.380	2.620	39	0.106	JUN
EDAU08	97.370	2.630	130	0.356	SEP White
EDAZ08	97.170	2.830	221	0.605	DEC Pack
EDAH09	97.025	2.975	312	0.854	MAR
EDAM09	96.850	3.150	403	1.103	JUN
EDAU09	96.670	3.330	494	1.353	SEP Red Pack
EDAZ09	96.470	3.530	585	1.602	DEC
EDAH10	96.325	3.675	676	1.851	MAR
EDAM10	96.150	3.850	767	2.101	JUN
EDAU10	95.990	4.010	858	2.350	SEP Green
EDAZ10	95.820	4.180	949	2.599	DEC Pack
EDAH11	95.730	4.270	1040	2.849	MAR
EDAM11	95.620	4.380	1131	3.098	JUN
EDAU11	95.545	4.455	1229	3.366	SEP Blue Pack
EDAZ11	95.440	4.560	1320	3.616	DEC
EDAH12	95.405	4.595	1411	3.865	MAR
EDAM12	95.345	4.655	1502	4.114	JUN
EDAU12	95.285	4.715	1593	4.364	SEP Gold Pack
EDAZ12	95.205	4.795	1684	4.613	DEC
EDAH13	95.175	4.825	1775	4.862	MAR

	Last Yield	Net Yield	Last Price	
White Pack	2.822	2.750	9723.625	
Red Pack	3.499	5.000	9657.875	Pack
Green Pack	4.177	3.750	9592.250	Prices
Blue Pack	4.612	2.500	9550.250	
Gold Pack	4.871	3.750	9525.250	

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.

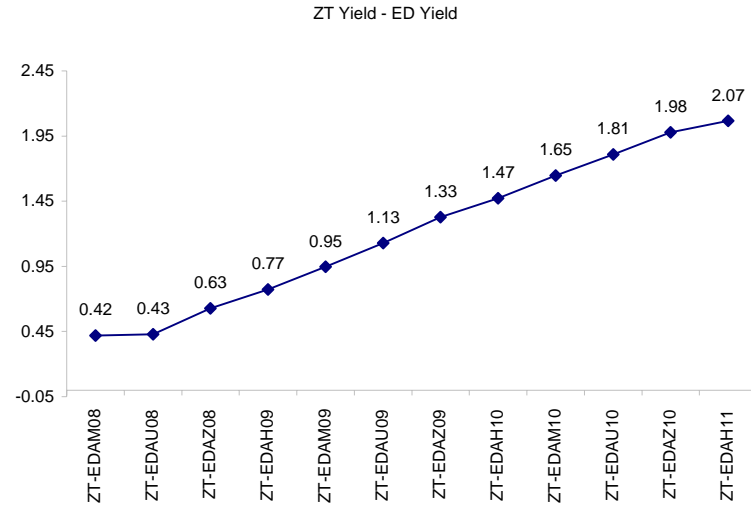
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

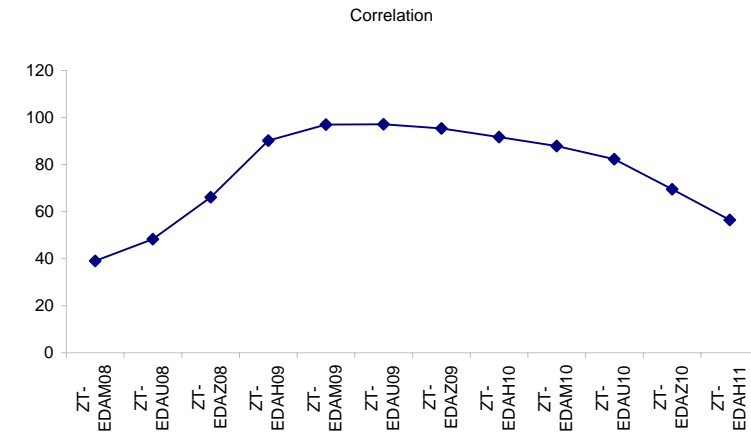
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	8.908	0.42	ZT-EDAM08	39.114
EDAU08	8.917	0.43	ZT-EDAU08	48.323
EDAZ08	9.117	0.63	ZT-EDAZ08	66.174
EDAH09	9.262	0.77	ZT-EDAH09	90.210
EDAM09	9.437	0.95	ZT-EDAM09	97.038
EDAU09	9.617	1.13	ZT-EDAU09	97.149
EDAZ09	9.818	1.33	ZT-EDAZ09	95.383
EDAH10	9.962	1.47	ZT-EDAH10	91.754
EDAM10	10.138	1.65	ZT-EDAM10	87.936
EDAU10	10.298	1.81	ZT-EDAU10	82.327
EDAZ10	10.468	1.98	ZT-EDAZ10	69.532
EDAH11	10.558	2.07	ZT-EDAH11	56.492

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	0.106	1.77	1.67	ZT-EDAM08		
EDAU08	0.356	1.77	1.42	ZT-EDAU08		
EDAZ08	0.605	1.77	1.17	ZT-EDAZ08		
EDAH09	0.854	1.77	0.92	ZT-EDAH09		
EDAM09	1.103	1.77	0.67	ZT-EDAM09		
EDAU09	1.353	1.77	0.42	ZT-EDAU09		
EDAZ09	1.602	1.77	0.17	ZT-EDAZ09		
EDAH10	1.851	1.77	(0.08)	ZT-EDAH10		
EDAM10	2.101	1.77	(0.33)	ZT-EDAM10		
EDAU10	2.350	1.77	(0.58)	ZT-EDAU10		
EDAZ10	2.599	1.77	(0.83)	ZT-EDAZ10		
EDAH11	2.849	1.77	(1.07)	ZT-EDAH11		

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

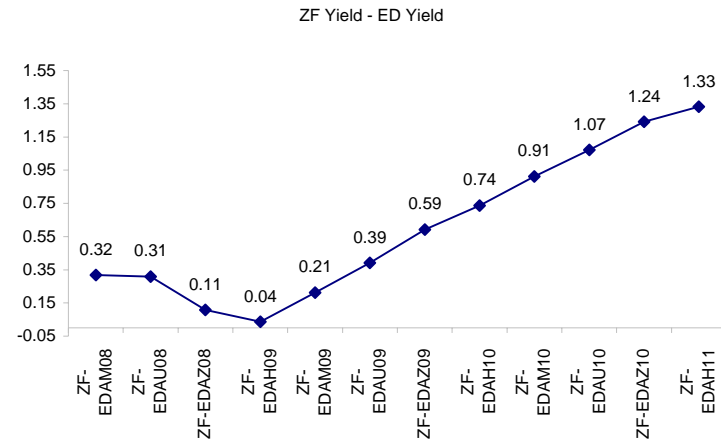


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	14.533	0.32	ZF-EDAM08	54.904
EDAU08	14.543	0.31	ZF-EDAU08	61.305
EDAZ08	14.743	0.11	ZF-EDAZ08	74.672
EDAH09	14.888	0.04	ZF-EDAH09	94.090
EDAM09	15.063	0.21	ZF-EDAM09	94.781
EDAU09	15.243	0.39	ZF-EDAU09	90.060
EDAZ09	15.443	0.59	ZF-EDAZ09	85.530
EDAH10	15.588	0.74	ZF-EDAH10	82.176
EDAM10	15.763	0.91	ZF-EDAM10	83.633
EDAU10	15.923	1.07	ZF-EDAU10	87.956
EDAZ10	16.093	1.24	ZF-EDAZ10	84.981
EDAH11	16.183	1.33	ZF-EDAH11	78.121

Price = Outright Decimal Price - Euro Contract Price

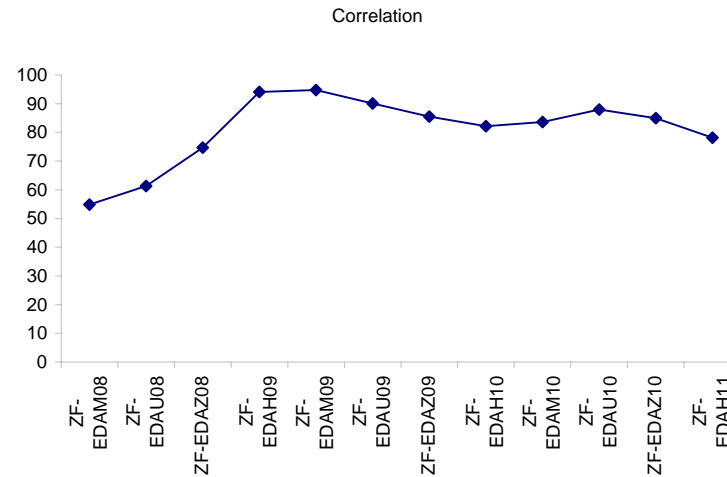
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.106	3.92	3.81	ZF-EDAM08	
EDAU08	0.356	3.92	3.56	ZF-EDAU08	
EDAZ08	0.605	3.92	3.31	ZF-EDAZ08	
EDAH09	0.854	3.92	3.06	ZF-EDAH09	
EDAM09	1.103	3.92	2.81	ZF-EDAM09	
EDAU09	1.353	3.92	2.56	ZF-EDAU09	
EDAZ09	1.602	3.92	2.31	ZF-EDAZ09	
EDAH10	1.851	3.92	2.06	ZF-EDAH10	
EDAM10	2.101	3.92	1.81	ZF-EDAM10	
EDAU10	2.350	3.92	1.57	ZF-EDAU10	
EDAZ10	2.599	3.92	1.32	ZF-EDAZ10	
EDAH11	2.849	3.92	1.07	ZF-EDAH11	

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

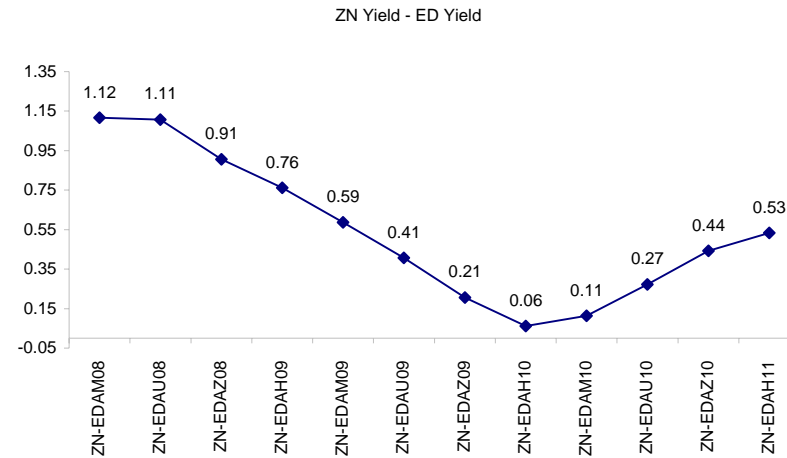


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	17.917	1.12	ZN-EDAM08	-7.250
EDAU08	17.927	1.11	ZN-EDAU08	-1.839
EDAZ08	18.127	0.91	ZN-EDAZ08	11.004
EDAH09	18.272	0.76	ZN-EDAH09	46.518
EDAM09	18.447	0.59	ZN-EDAM09	59.360
EDAU09	18.627	0.41	ZN-EDAU09	62.835
EDAZ09	18.827	0.21	ZN-EDAZ09	62.670
EDAH10	18.972	0.06	ZN-EDAH10	82.176
EDAM10	19.147	0.11	ZN-EDAM10	83.633
EDAU10	19.307	0.27	ZN-EDAU10	87.956
EDAZ10	19.477	0.44	ZN-EDAZ10	84.981
EDAH11	19.567	0.53	ZN-EDAH11	78.121

Price = Outright Decimal Price - Euro Contract Price

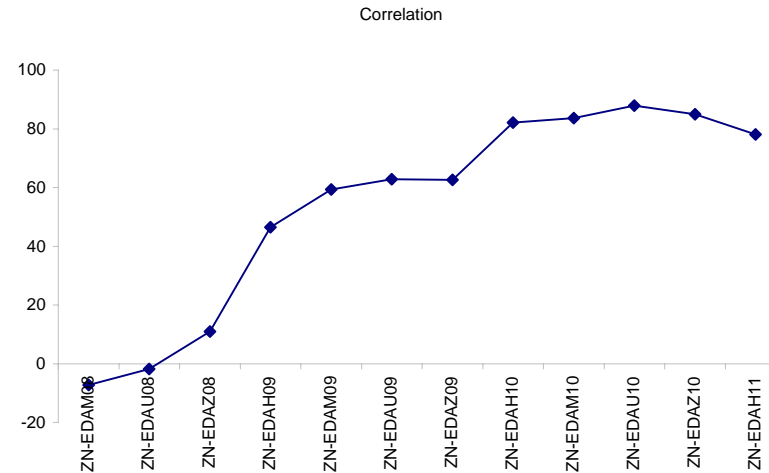
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAM08	0.106	5.86	5.75	ZN-EDAM08		
EDAU08	0.356	5.86	5.50	ZN-EDAU08		
EDAZ08	0.605	5.86	5.25	ZN-EDAZ08		
EDAH09	0.854	5.86	5.00	ZN-EDAH09		
EDAM09	1.103	5.86	4.75	ZN-EDAM09		
EDAU09	1.353	5.86	4.50	ZN-EDAU09		
EDAZ09	1.602	5.86	4.25	ZN-EDAZ09		
EDAH10	1.851	5.86	4.01	ZN-EDAH10		
EDAM10	2.101	5.86	3.76	ZN-EDAM10		
EDAU10	2.350	5.86	3.51	ZN-EDAU10		
EDAZ10	2.599	5.86	3.26	ZN-EDAZ10		
EDAH11	2.849	5.86	3.01	ZN-EDAH11		

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

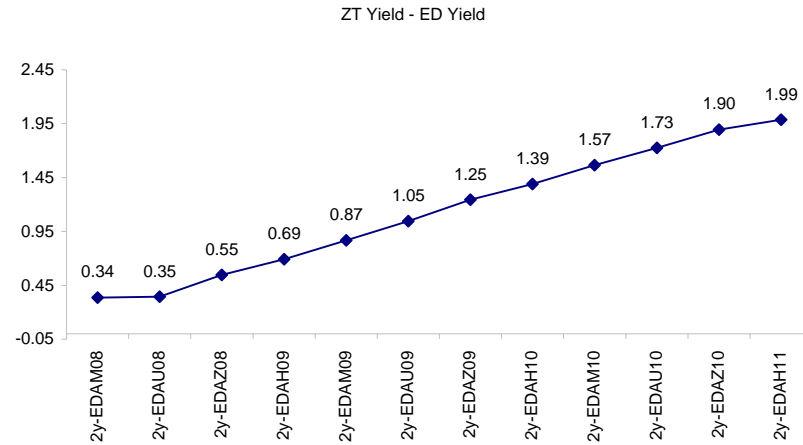


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.308	0.34	2y-EDAM08	-17.518
EDAU08	2.318	0.35	2y-EDAU08	-28.135
EDAZ08	2.518	0.55	2y-EDAZ08	-49.224
EDAH09	2.662	0.69	2y-EDAH09	-79.236
EDAM09	2.837	0.87	2y-EDAM09	-90.962
EDAU09	3.018	1.05	2y-EDAU09	-94.690
EDAZ09	3.218	1.25	2y-EDAZ09	-95.405
EDAH10	3.363	1.39	2y-EDAH10	-94.141
EDAM10	3.537	1.57	2y-EDAM10	-90.114
EDAU10	3.697	1.73	2y-EDAU10	-81.158
EDAZ10	3.867	1.90	2y-EDAZ10	-65.453
EDAH11	3.958	1.99	2y-EDAH11	-50.916

Price = Outright Decimal Price - Euro Contract Price

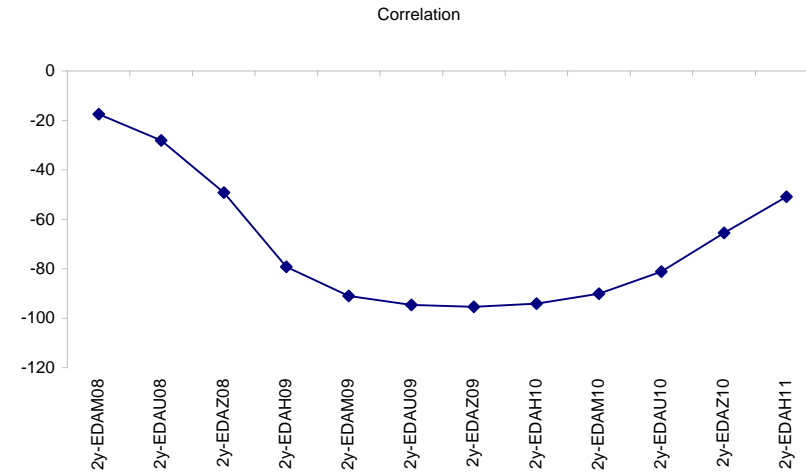
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAM08	0.106	1.92	1.82	2y-EDAM08
EDAU08	0.356	1.92	1.57	2y-EDAU08
EDAZ08	0.605	1.92	1.32	2y-EDAZ08
EDAH09	0.854	1.92	1.07	2y-EDAH09
EDAM09	1.103	1.92	0.82	2y-EDAM09
EDAU09	1.353	1.92	0.57	2y-EDAU09
EDAZ09	1.602	1.92	0.32	2y-EDAZ09
EDAH10	1.851	1.92	0.07	2y-EDAH10
EDAM10	2.101	1.92	(0.18)	2y-EDAM10
EDAU10	2.350	1.92	(0.43)	2y-EDAU10
EDAZ10	2.599	1.92	(0.68)	2y-EDAZ10
EDAH11	2.849	1.92	(0.93)	2y-EDAH11

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

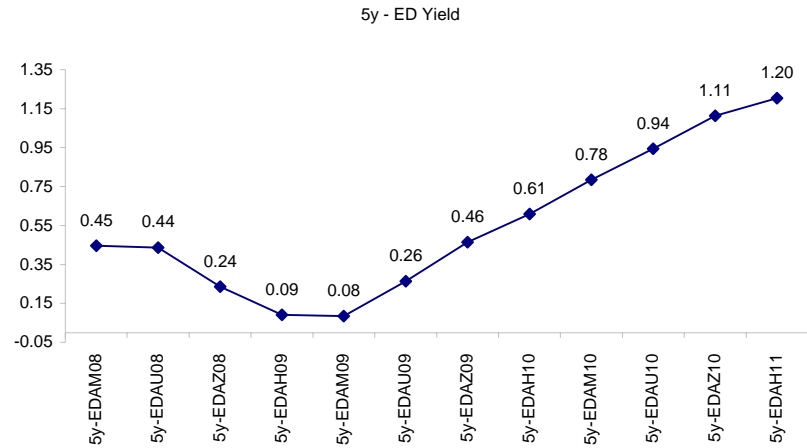


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.886	0.45	5y-EDAM08	-22.552
EDAU08	2.896	0.44	5y-EDAU08	-31.396
EDAZ08	3.096	0.24	5y-EDAZ08	-22.552
EDAH09	3.241	0.09	5y-EDAH09	-79.229
EDAM09	3.416	0.08	5y-EDAM09	-88.538
EDAU09	3.596	0.26	5y-EDAU09	-89.164
EDAZ09	3.796	0.46	5y-EDAZ09	-87.876
EDAH10	3.941	0.61	5y-EDAH10	-88.871
EDAM10	4.116	0.78	5y-EDAM10	-91.624
EDAU10	4.276	0.94	5y-EDAU10	-92.522
EDAZ10	4.446	1.11	5y-EDAZ10	-86.299
EDAH11	4.536	1.20	5y-EDAH11	-77.454

Price = Outright Decimal Price - Euro Contract Price

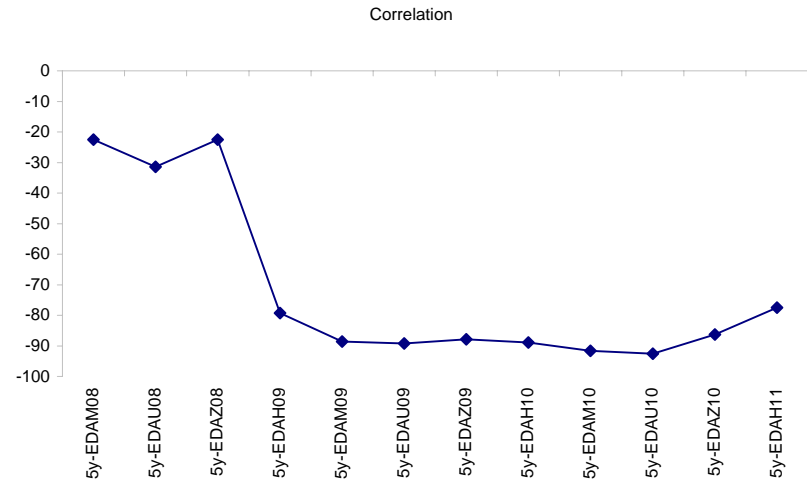
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.106	4.51	4.40	5y-EDAM08
EDAU08	0.356	4.51	4.15	5y-EDAU08
EDAZ08	0.605	4.51	3.90	5y-EDAZ08
EDAH09	0.854	4.51	3.65	5y-EDAH09
EDAM09	1.103	4.51	3.41	5y-EDAM09
EDAU09	1.353	4.51	3.16	5y-EDAU09
EDAZ09	1.602	4.51	2.91	5y-EDAZ09
EDAH10	1.851	4.51	2.66	5y-EDAH10
EDAM10	2.101	4.51	2.41	5y-EDAM10
EDAU10	2.350	4.51	2.16	5y-EDAU10
EDAZ10	2.599	4.51	1.91	5y-EDAZ10
EDAH11	2.849	4.51	1.66	5y-EDAH11

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



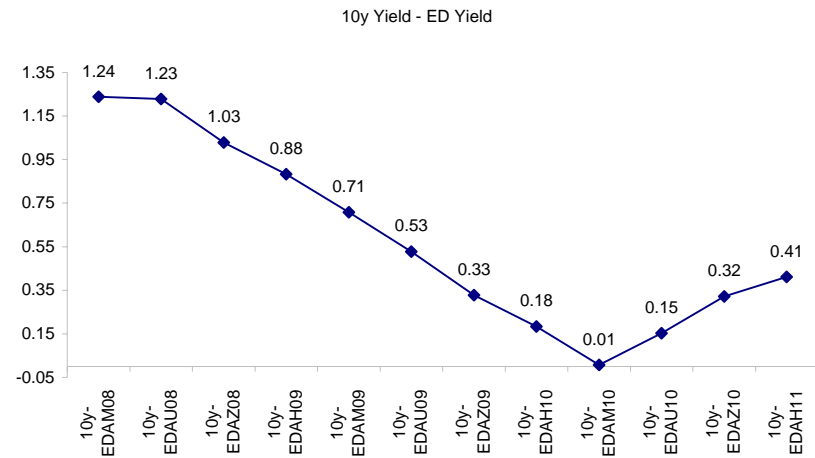


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.886	1.24	10y-EDAM08	5.459
EDAU08	2.896	1.23	10y-EDAU08	0.566
EDAZ08	3.096	1.03	10y-EDAZ08	5.459
EDAH09	3.241	0.88	10y-EDAH09	-38.281
EDAM09	3.416	0.71	10y-EDAM09	-47.603
EDAU09	3.596	0.53	10y-EDAU09	-48.922
EDAZ09	3.796	0.33	10y-EDAZ09	-48.069
EDAH10	3.941	0.18	10y-EDAH10	-55.478
EDAM10	4.116	0.01	10y-EDAM10	-67.606
EDAU10	4.276	0.15	10y-EDAU10	-79.242
EDAZ10	4.446	0.32	10y-EDAZ10	-86.735
EDAH11	4.536	0.41	10y-EDAH11	-88.512

Price = Outright Decimal Price - Euro Contract Price

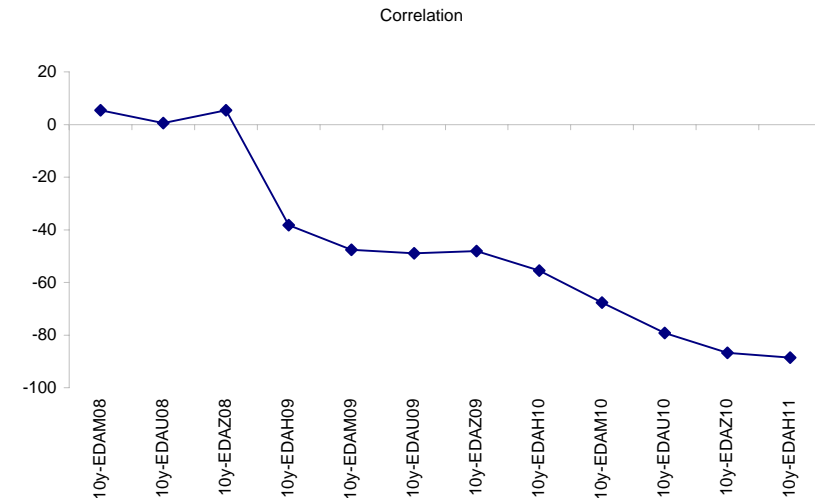
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.106	8.09	7.98	10y-EDAM08
EDAU08	0.356	8.09	7.73	10y-EDAU08
EDAZ08	0.605	8.09	7.48	10y-EDAZ08
EDAH09	0.854	8.09	7.23	10y-EDAH09
EDAM09	1.103	8.09	6.98	10y-EDAM09
EDAU09	1.353	8.09	6.73	10y-EDAU09
EDAZ09	1.602	8.09	6.48	10y-EDAZ09
EDAH10	1.851	8.09	6.24	10y-EDAH10
EDAM10	2.101	8.09	5.99	10y-EDAM10
EDAU10	2.350	8.09	5.74	10y-EDAU10
EDAZ10	2.599	8.09	5.49	10y-EDAZ10
EDAH11	2.849	8.09	5.24	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.

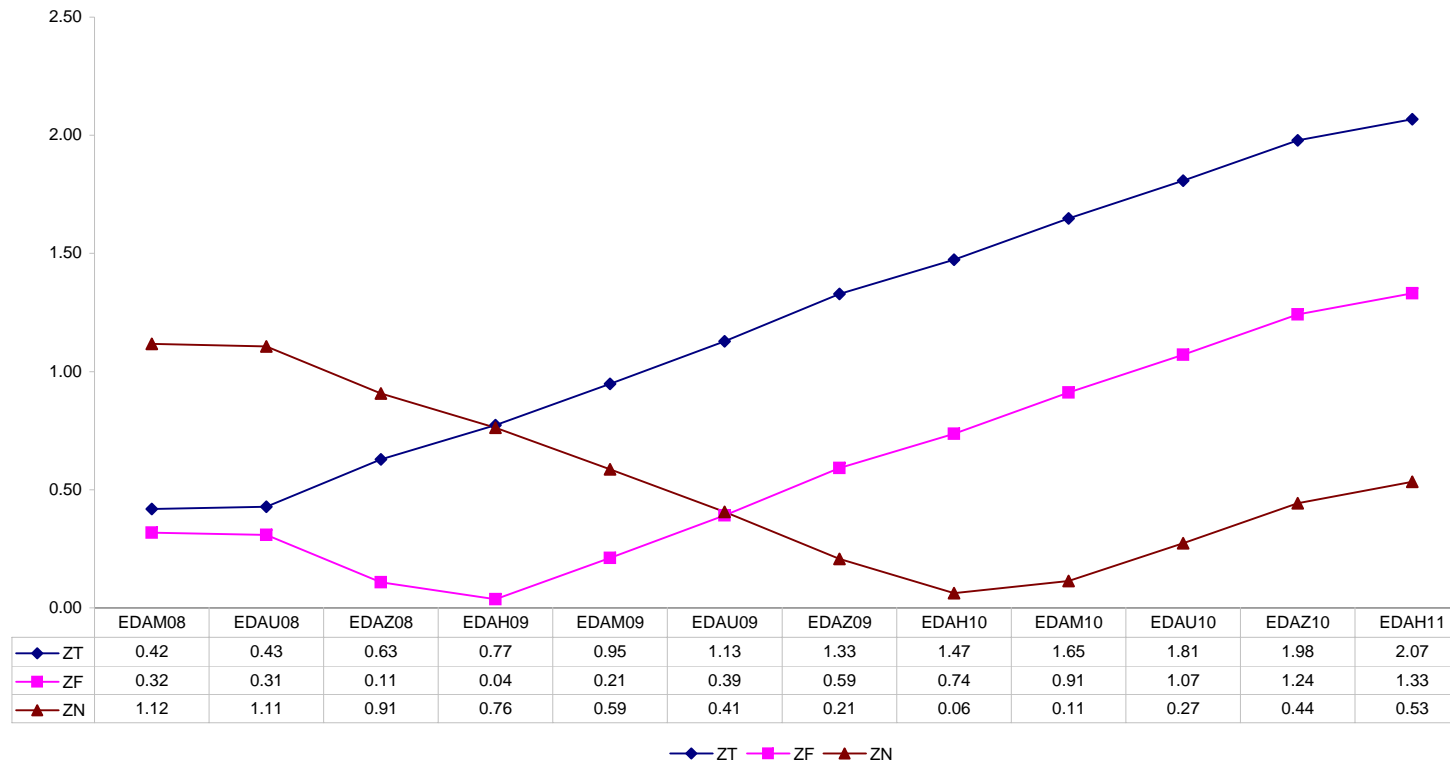
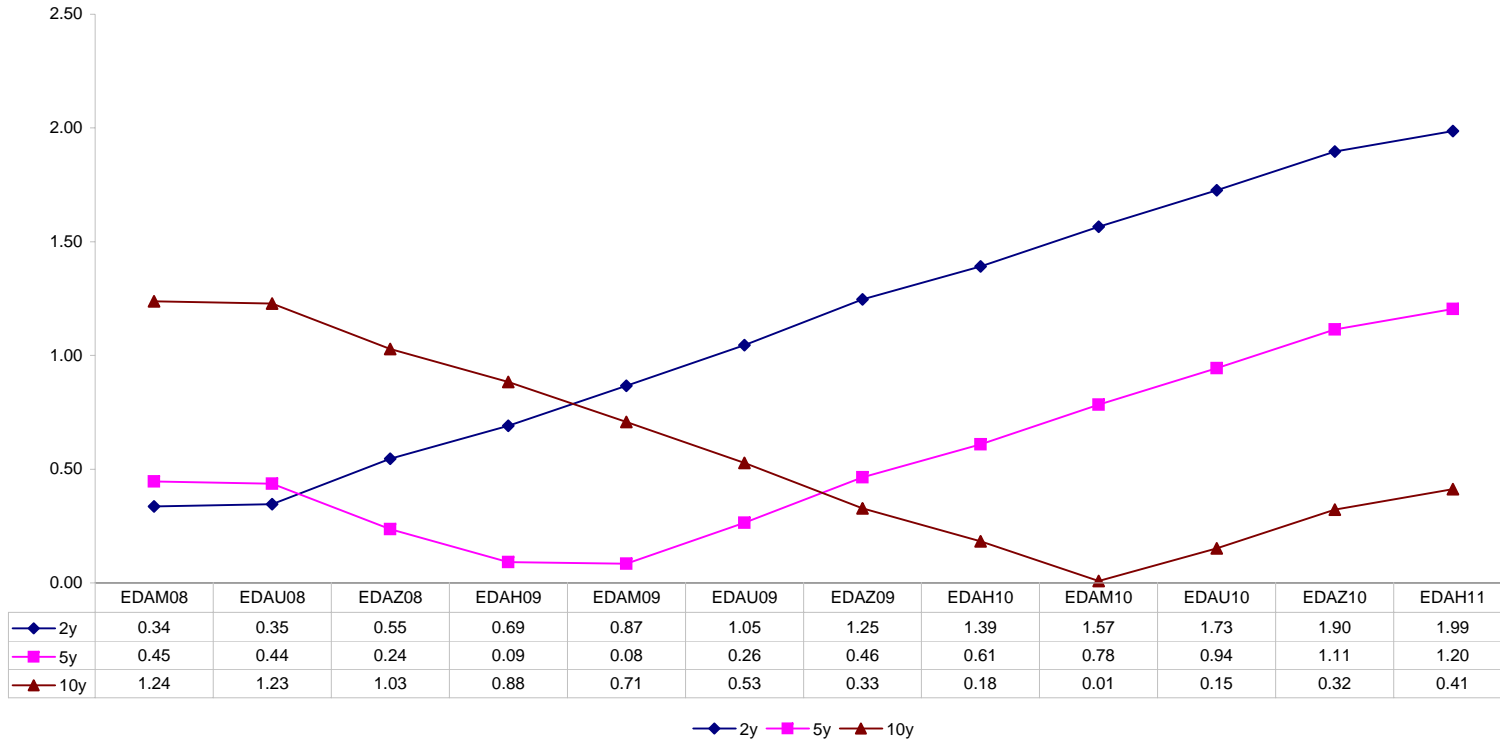
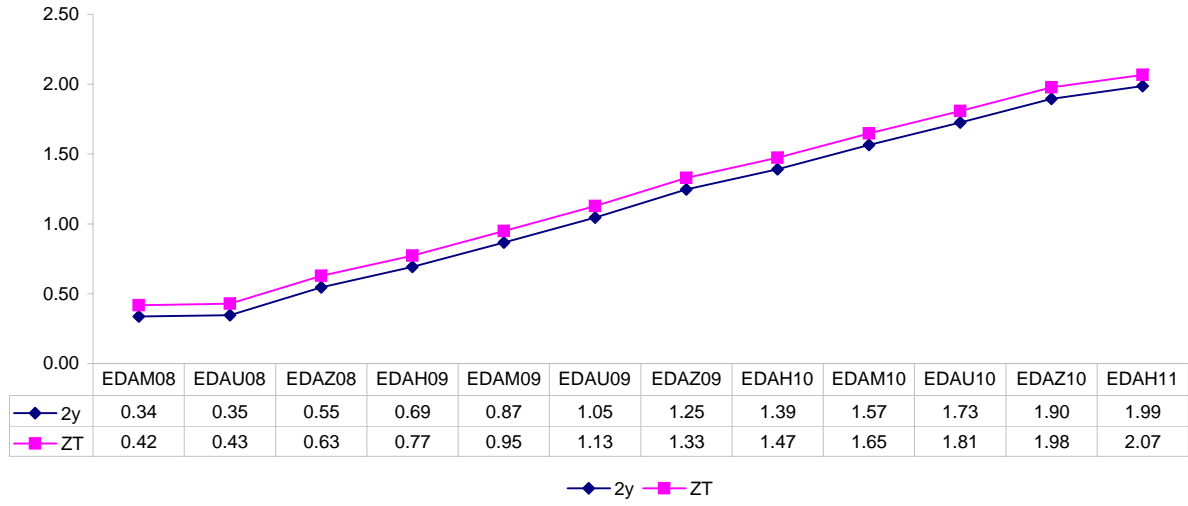


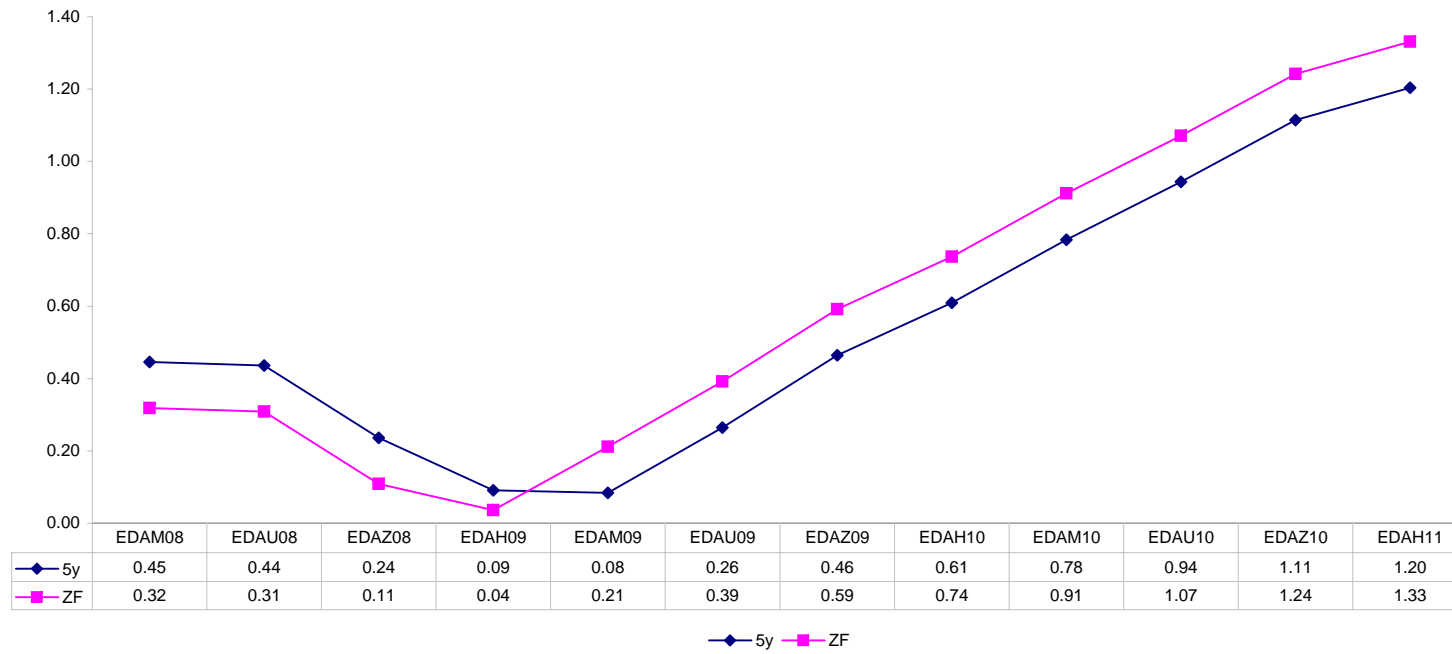
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



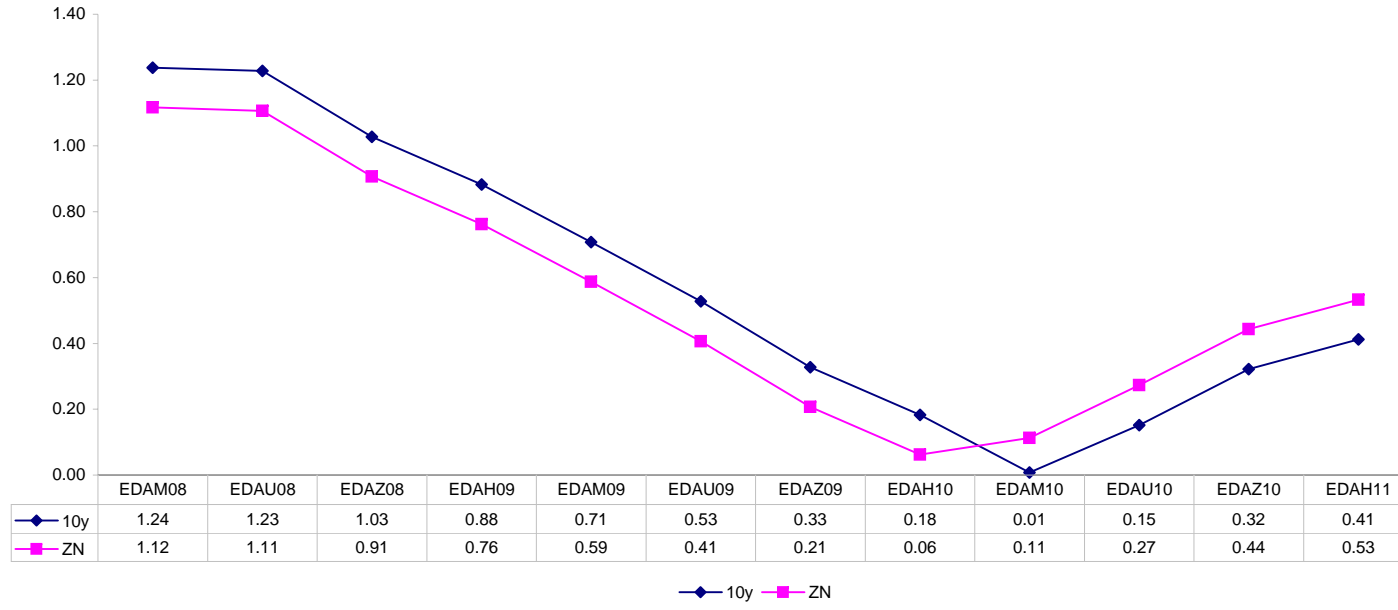
2y Basis TED Curve



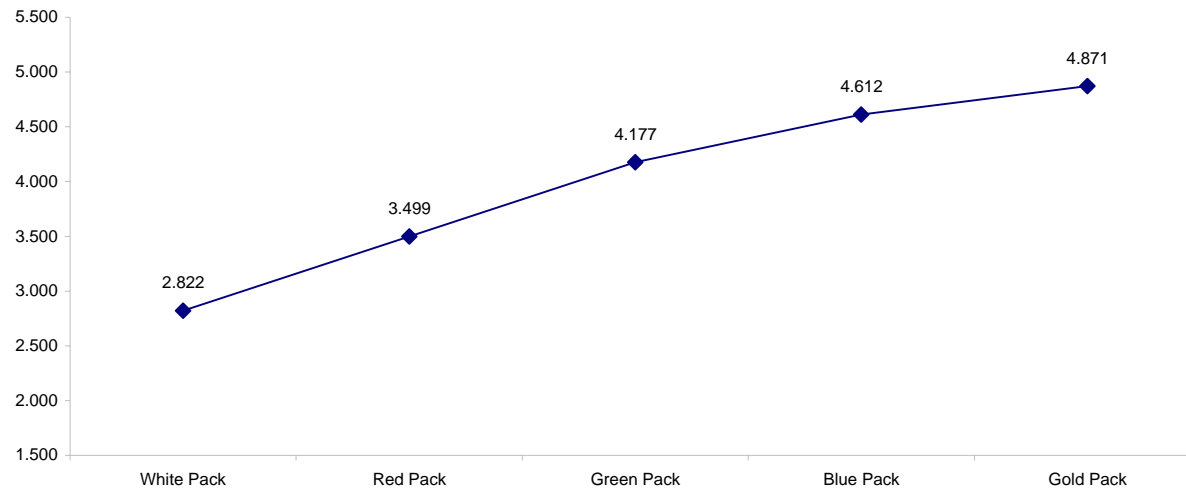
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.822	2.750	9723.625
Red Pack	3.499	5.000	9657.875
Green Pack	4.177	3.750	9592.250
Blue Pack	4.612	2.500	9550.250
Gold Pack	4.871	3.750	9525.250



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

