

## **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	106.5531	106.177	2.201	1.79
ZF	112.5469	112.175	2.872	3.93
ZN	116.5469	116.175	3.546	6.65
2y	100.928	100.2970	2.258	1.88
5y	101.584	101.1870	3.025	4.52
10y	101.609	101.1950	3.805	8.18

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.165	2.835	25	0.068	SEP	
EDAZ08	97.035	2.965	116	0.317	DEC	White Pack
EDAH09	97.085	2.915	207	0.566	MAR	
EDAM09	96.980	3.020	298	0.816	JUN	
EDAU09	96.775	3.225	389	1.065	SEP	
EDAZ09	96.485	3.515	480	1.314	DEC	Red Pack
EDAH10	96.255	3.745	571	1.564	MAR	
EDAM10	96.040	3.960	662	1.813	JUN	
EDAU10	95.850	4.150	753	2.062	SEP	
EDAZ10	95.680	4.320	844	2.312	DEC	Green Pack
EDAH11	95.605	4.395	935	2.561	MAR	
EDAM11	95.520	4.480	1026	2.810	JUN	
EDAU11	95.500	4.500	1124	3.079	SEP	
EDAZ11	95.410	4.590	1215	3.328	DEC	Blue Pack
EDAH12	95.410	4.590	1306	3.577	MAR	
EDAM12	95.340	4.660	1397	3.827	JUN	
EDAU12	95.300	4.700	1488	4.076	SEP	
EDAZ12	95.245	4.755	1579	4.325	DEC	Gold Pack
EDAH13	95.215	4.785	1670	4.575	MAR	
EDAM13	95.160	4.840	1761	4.824	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	2.996	-0.688	9706.625	
Red Pack	3.695	0.625	9638.875	Pack Prices
Green Pack	4.445	0.125	9566.375	
Blue Pack		1.750	9540.875	
Gold Pack		0.000	9519.750	

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.

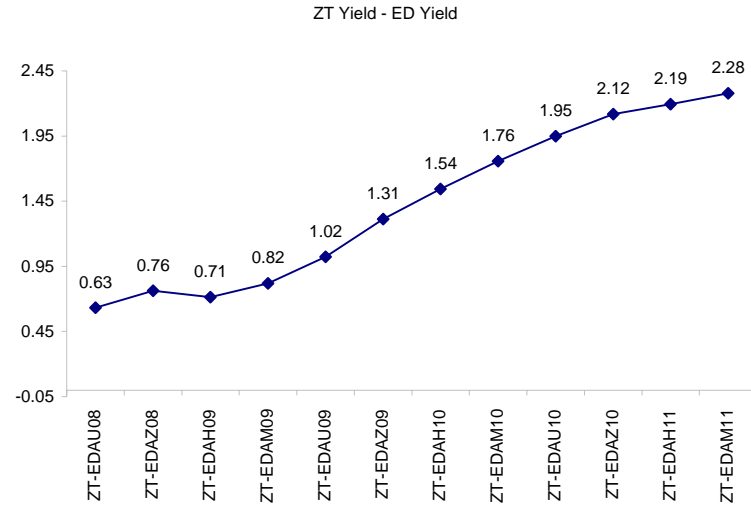
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

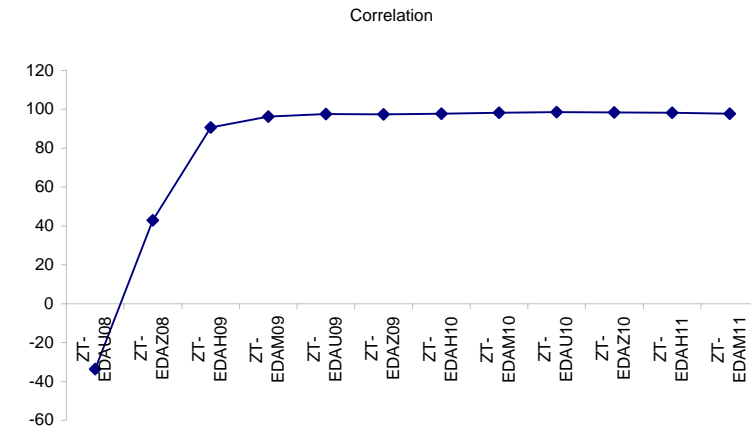
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	9.388	0.63	ZT-EDAU08	-33.728
EDAZ08	9.518	0.76	ZT-EDAZ08	42.892
EDAH09	9.468	0.71	ZT-EDAH09	90.663
EDAM09	9.573	0.82	ZT-EDAM09	96.220
EDAU09	9.778	1.02	ZT-EDAU09	97.599
EDAZ09	10.068	1.31	ZT-EDAZ09	97.462
EDAH10	10.298	1.54	ZT-EDAH10	97.833
EDAM10	10.513	1.76	ZT-EDAM10	98.317
EDAU10	10.703	1.95	ZT-EDAU10	98.614
EDAZ10	10.873	2.12	ZT-EDAZ10	98.494
EDAH11	10.948	2.19	ZT-EDAH11	98.181
EDAM11	11.033	2.28	ZT-EDAM11	97.783

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	
EDAU08	0.068	1.79	1.73	ZT-EDAU08		
EDAZ08	0.317	1.79	1.48	ZT-EDAZ08		
EDAH09	0.566	1.79	1.23	ZT-EDAH09		
EDAM09	0.816	1.79	0.98	ZT-EDAM09		
EDAU09	1.065	1.79	0.73	ZT-EDAU09		
EDAZ09	1.314	1.79	0.48	ZT-EDAZ09		
EDAH10	1.564	1.79	0.23	ZT-EDAH10		
EDAM10	1.813	1.79	(0.02)	ZT-EDAM10		
EDAU10	2.062	1.79	(0.27)	ZT-EDAU10		
EDAZ10	2.312	1.79	(0.52)	ZT-EDAZ10		
EDAH11	2.561	1.79	(0.77)	ZT-EDAH11		
EDAM11	2.810	1.79	(1.02)	ZT-EDAM11		

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

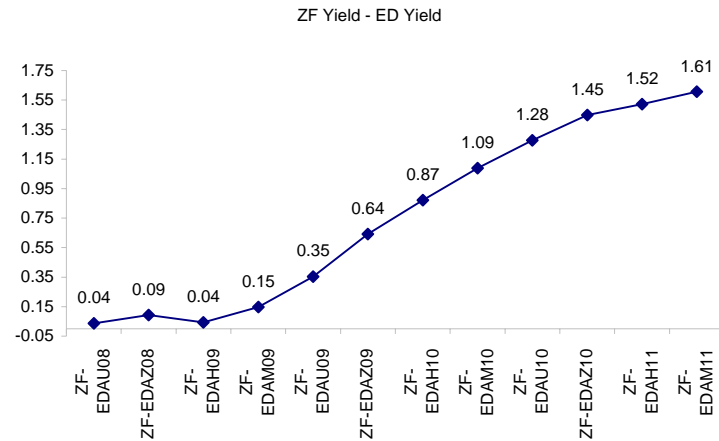


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.382	0.04	ZF-EDAU08	-40.003
EDAZ08	15.512	0.09	ZF-EDAZ08	37.564
EDAH09	15.462	0.04	ZF-EDAH09	87.865
EDAM09	15.567	0.15	ZF-EDAM09	94.377
EDAU09	15.772	0.35	ZF-EDAU09	96.570
EDAZ09	16.062	0.64	ZF-EDAZ09	97.074
EDAH10	16.292	0.87	ZF-EDAH10	97.789
EDAM10	16.507	1.09	ZF-EDAM10	98.279
EDAU10	16.697	1.28	ZF-EDAU10	98.617
EDAZ10	16.867	1.45	ZF-EDAZ10	98.603
EDAH11	16.942	1.52	ZF-EDAH11	98.466
EDAM11	17.027	1.61	ZF-EDAM11	98.347

Price = Outright Decimal Price - Euro Contract Price

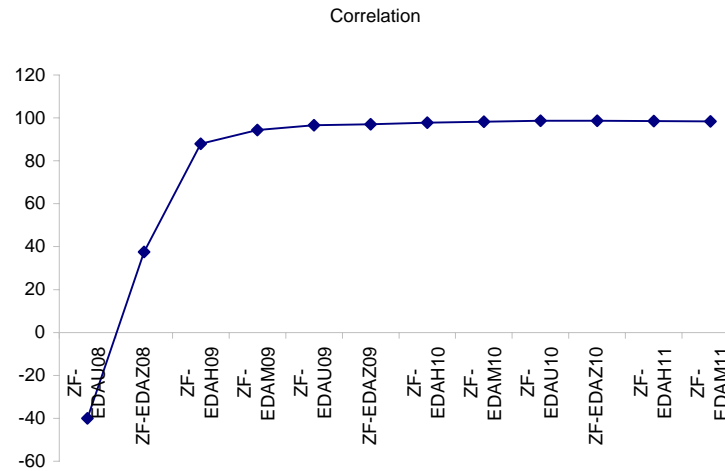
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.068	3.93	3.87	ZF-EDAU08		
EDAZ08	0.317	3.93	3.62	ZF-EDAZ08		
EDAH09	0.566	3.93	3.37	ZF-EDAH09		
EDAM09	0.816	3.93	3.12	ZF-EDAM09		
EDAU09	1.065	3.93	2.87	ZF-EDAU09		
EDAZ09	1.314	3.93	2.62	ZF-EDAZ09		
EDAH10	1.564	3.93	2.37	ZF-EDAH10		
EDAM10	1.813	3.93	2.12	ZF-EDAM10		
EDAU10	2.062	3.93	1.87	ZF-EDAU10		
EDAZ10	2.312	3.93	1.62	ZF-EDAZ10		
EDAH11	2.561	3.93	1.37	ZF-EDAH11		
EDAM11	2.810	3.93	1.12	ZF-EDAM11		

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

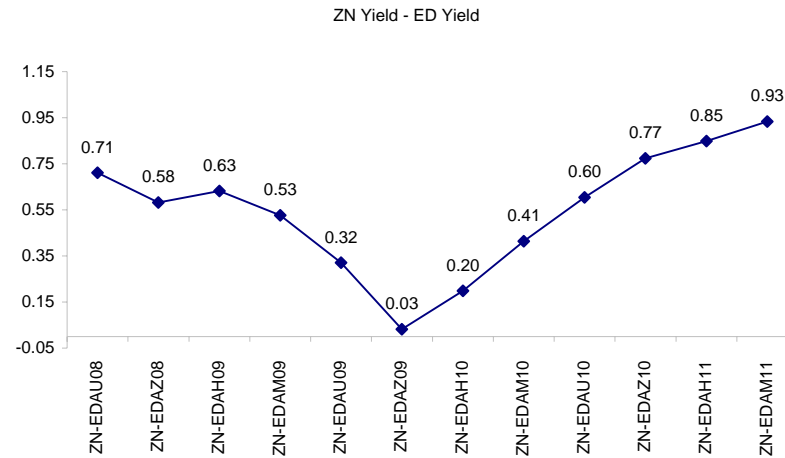


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	19.382	0.71	ZN-EDAU08	-44.257
EDAZ08	19.512	0.58	ZN-EDAZ08	35.125
EDAH09	19.462	0.63	ZN-EDAH09	86.006
EDAM09	19.567	0.53	ZN-EDAM09	92.867
EDAU09	19.772	0.32	ZN-EDAU09	95.357
EDAZ09	20.062	0.03	ZN-EDAZ09	96.089
EDAH10	20.292	0.20	ZN-EDAH10	97.789
EDAM10	20.507	0.41	ZN-EDAM10	98.279
EDAU10	20.697	0.60	ZN-EDAU10	98.617
EDAZ10	20.867	0.77	ZN-EDAZ10	98.603
EDAH11	20.942	0.85	ZN-EDAH11	98.466
EDAM11	21.027	0.93	ZN-EDAM11	98.347

Price = Outright Decimal Price - Euro Contract Price

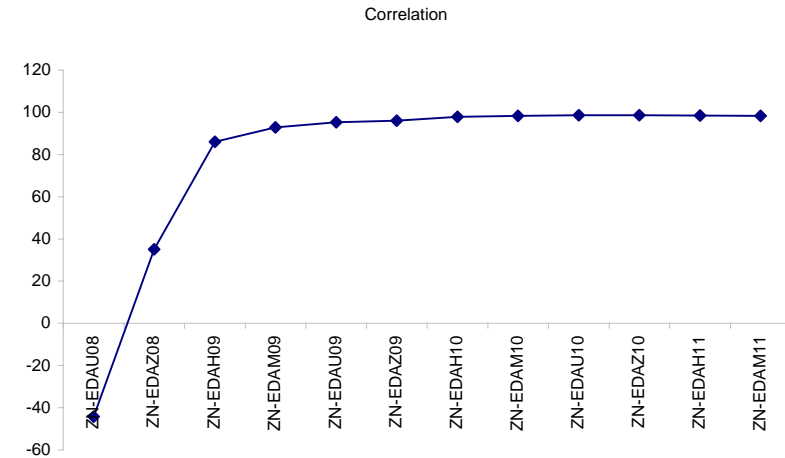
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.068	6.65	6.58	ZN-EDAU08		
EDAZ08	0.317	6.65	6.33	ZN-EDAZ08		
EDAH09	0.566	6.65	6.08	ZN-EDAH09		
EDAM09	0.816	6.65	5.83	ZN-EDAM09		
EDAU09	1.065	6.65	5.58	ZN-EDAU09		
EDAZ09	1.314	6.65	5.33	ZN-EDAZ09		
EDAH10	1.564	6.65	5.08	ZN-EDAH10		
EDAM10	1.813	6.65	4.84	ZN-EDAM10		
EDAU10	2.062	6.65	4.59	ZN-EDAU10		
EDAZ10	2.312	6.65	4.34	ZN-EDAZ10		
EDAH11	2.561	6.65	4.09	ZN-EDAH11		
EDAM11	2.810	6.65	3.84	ZN-EDAM11		

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

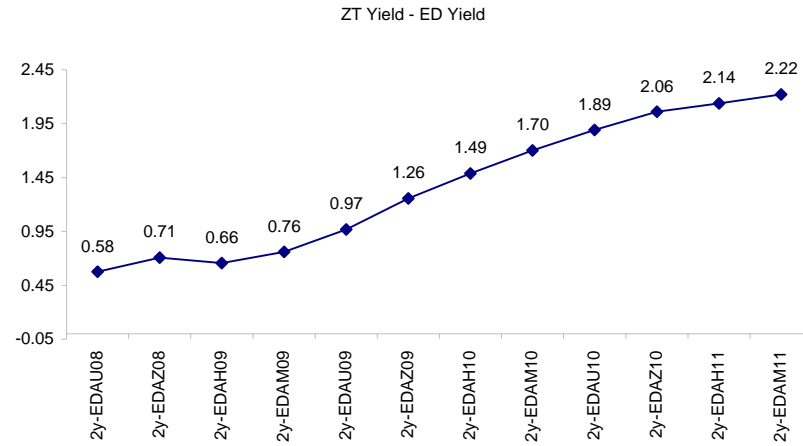


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.763	0.58	2y-EDAU08	33.508
EDAZ08	3.893	0.71	2y-EDAZ08	-43.682
EDAH09	3.843	0.66	2y-EDAH09	-91.018
EDAM09	3.948	0.76	2y-EDAM09	-96.143
EDAU09	4.153	0.97	2y-EDAU09	-97.286
EDAZ09	4.443	1.26	2y-EDAZ09	-97.155
EDAH10	4.673	1.49	2y-EDAH10	-97.467
EDAM10	4.888	1.70	2y-EDAM10	-97.769
EDAU10	5.078	1.89	2y-EDAU10	-97.844
EDAZ10	5.248	2.06	2y-EDAZ10	-97.361
EDAH11	5.323	2.14	2y-EDAH11	-96.774
EDAM11	5.408	2.22	2y-EDAM11	-96.192

Price = Outright Decimal Price - Euro Contract Price

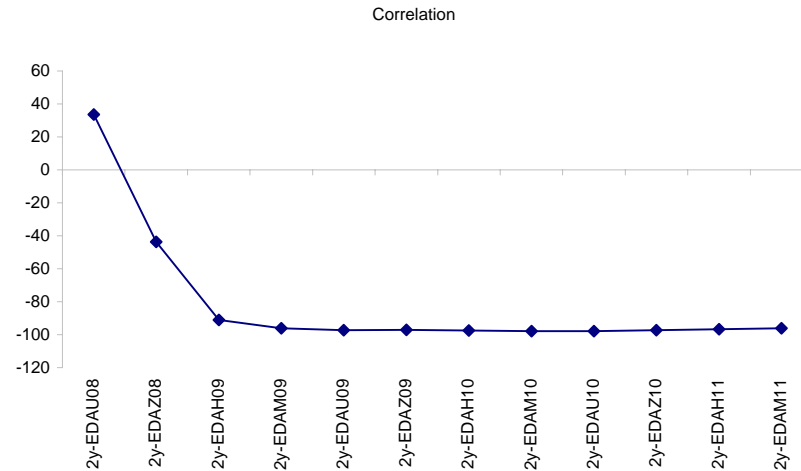
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.068	1.88	1.81	2y-EDAU08	
EDAZ08	0.317	1.88	1.56	2y-EDAZ08	
EDAH09	0.566	1.88	1.31	2y-EDAH09	
EDAM09	0.816	1.88	1.06	2y-EDAM09	
EDAU09	1.065	1.88	0.81	2y-EDAU09	
EDAZ09	1.314	1.88	0.56	2y-EDAZ09	
EDAH10	1.564	1.88	0.32	2y-EDAH10	
EDAM10	1.813	1.88	0.07	2y-EDAM10	
EDAU10	2.062	1.88	(0.18)	2y-EDAU10	
EDAZ10	2.312	1.88	(0.43)	2y-EDAZ10	
EDAH11	2.561	1.88	(0.68)	2y-EDAH11	
EDAM11	2.810	1.88	(0.93)	2y-EDAM11	

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

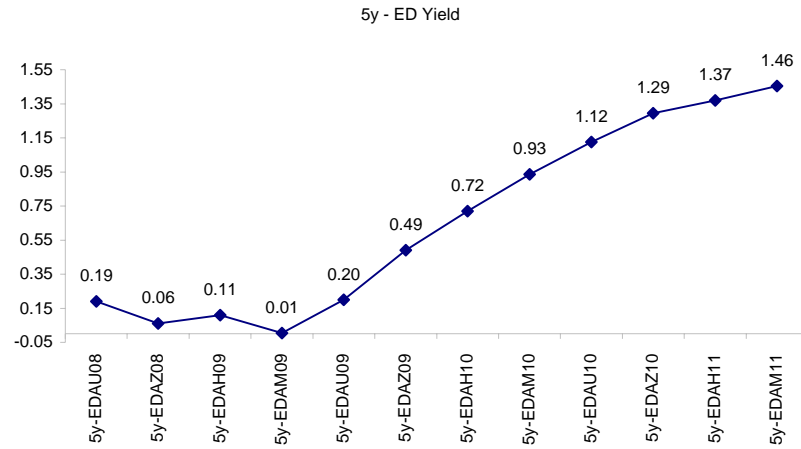


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	4.419	0.19	5y-EDAU08	38.061
EDAZ08	4.549	0.06	5y-EDAZ08	-40.392
EDAH09	4.499	0.11	5y-EDAH09	-88.801
EDAM09	4.604	0.01	5y-EDAM09	-94.710
EDAU09	4.809	0.20	5y-EDAU09	-96.418
EDAZ09	5.099	0.49	5y-EDAZ09	-96.695
EDAH10	5.329	0.72	5y-EDAH10	-97.267
EDAM10	5.544	0.93	5y-EDAM10	-97.725
EDAU10	5.734	1.12	5y-EDAU10	-98.088
EDAZ10	5.904	1.29	5y-EDAZ10	-98.060
EDAH11	5.979	1.37	5y-EDAH11	-97.972
EDAM11	6.064	1.46	5y-EDAM11	-97.857

Price = Outright Decimal Price - Euro Contract Price

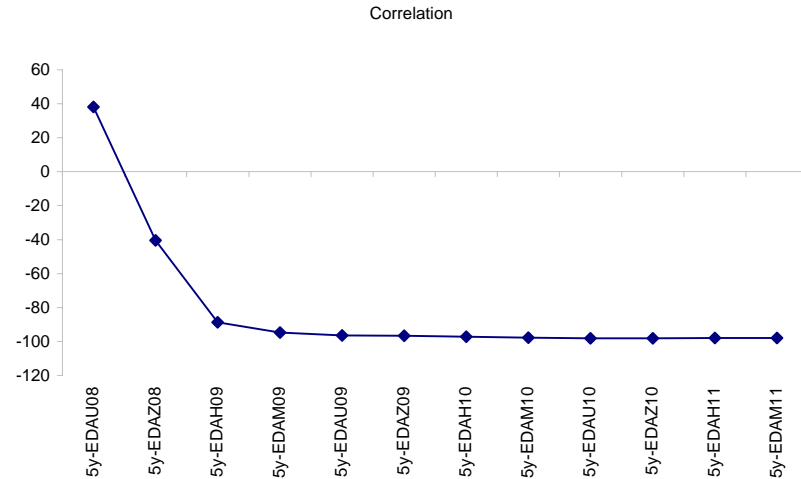
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.068	4.52	4.45	5y-EDAU08
EDAZ08	0.317	4.52	4.20	5y-EDAZ08
EDAH09	0.566	4.52	3.95	5y-EDAH09
EDAM09	0.816	4.52	3.70	5y-EDAM09
EDAU09	1.065	4.52	3.45	5y-EDAU09
EDAZ09	1.314	4.52	3.20	5y-EDAZ09
EDAH10	1.564	4.52	2.95	5y-EDAH10
EDAM10	1.813	4.52	2.70	5y-EDAM10
EDAU10	2.062	4.52	2.46	5y-EDAU10
EDAZ10	2.312	4.52	2.21	5y-EDAZ10
EDAH11	2.561	4.52	1.96	5y-EDAH11
EDAM11	2.810	4.52	1.71	5y-EDAM11

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

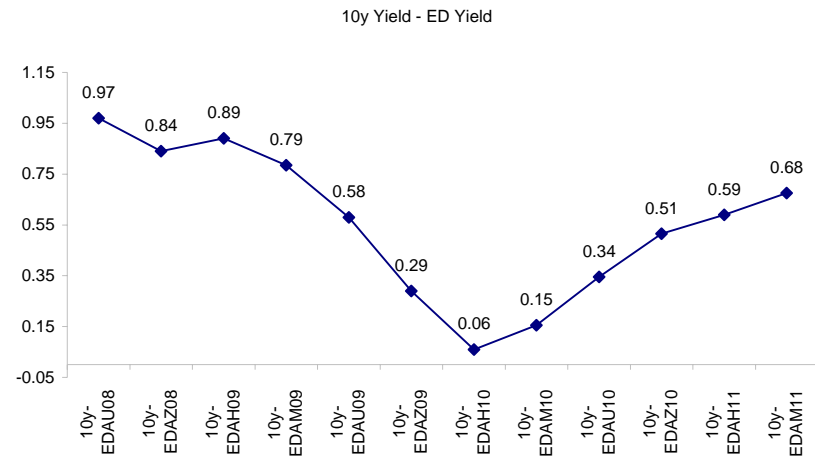


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	4.419	0.97	10y-EDAU08	47.642
EDAZ08	4.549	0.84	10y-EDAZ08	-27.331
EDAH09	4.499	0.89	10y-EDAH09	-81.457
EDAM09	4.604	0.79	10y-EDAM09	-89.414
EDAU09	4.809	0.58	10y-EDAU09	-92.344
EDAZ09	5.099	0.29	10y-EDAZ09	-93.019
EDAH10	5.329	0.06	10y-EDAH10	-94.051
EDAM10	5.544	0.15	10y-EDAM10	-94.796
EDAU10	5.734	0.34	10y-EDAU10	-95.370
EDAZ10	5.904	0.51	10y-EDAZ10	-95.735
EDAH11	5.979	0.59	10y-EDAH11	-96.143
EDAM11	6.064	0.68	10y-EDAM11	-96.344

Price = Outright Decimal Price - Euro Contract Price

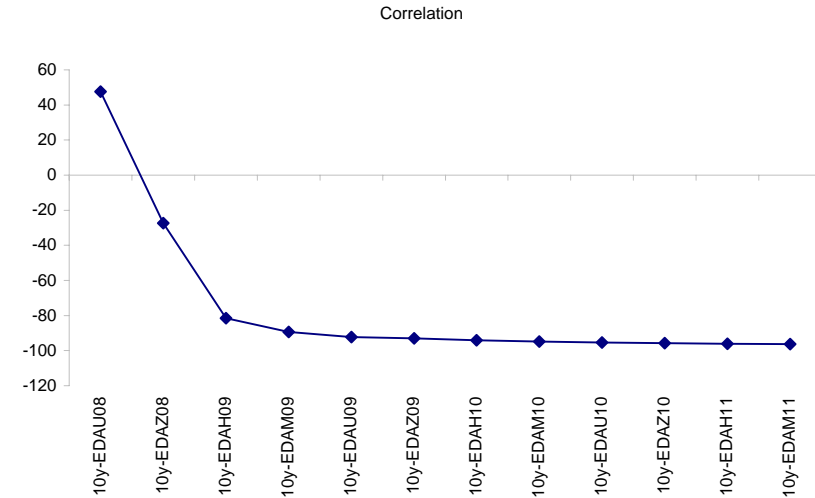
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.068	8.18	8.11	10y-EDAU08
EDAZ08	0.317	8.18	7.86	10y-EDAZ08
EDAH09	0.566	8.18	7.61	10y-EDAH09
EDAM09	0.816	8.18	7.36	10y-EDAM09
EDAU09	1.065	8.18	7.12	10y-EDAU09
EDAZ09	1.314	8.18	6.87	10y-EDAZ09
EDAH10	1.564	8.18	6.62	10y-EDAH10
EDAM10	1.813	8.18	6.37	10y-EDAM10
EDAU10	2.062	8.18	6.12	10y-EDAU10
EDAZ10	2.312	8.18	5.87	10y-EDAZ10
EDAH11	2.561	8.18	5.62	10y-EDAH11
EDAM11	2.810	8.18	5.37	10y-EDAM11

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.

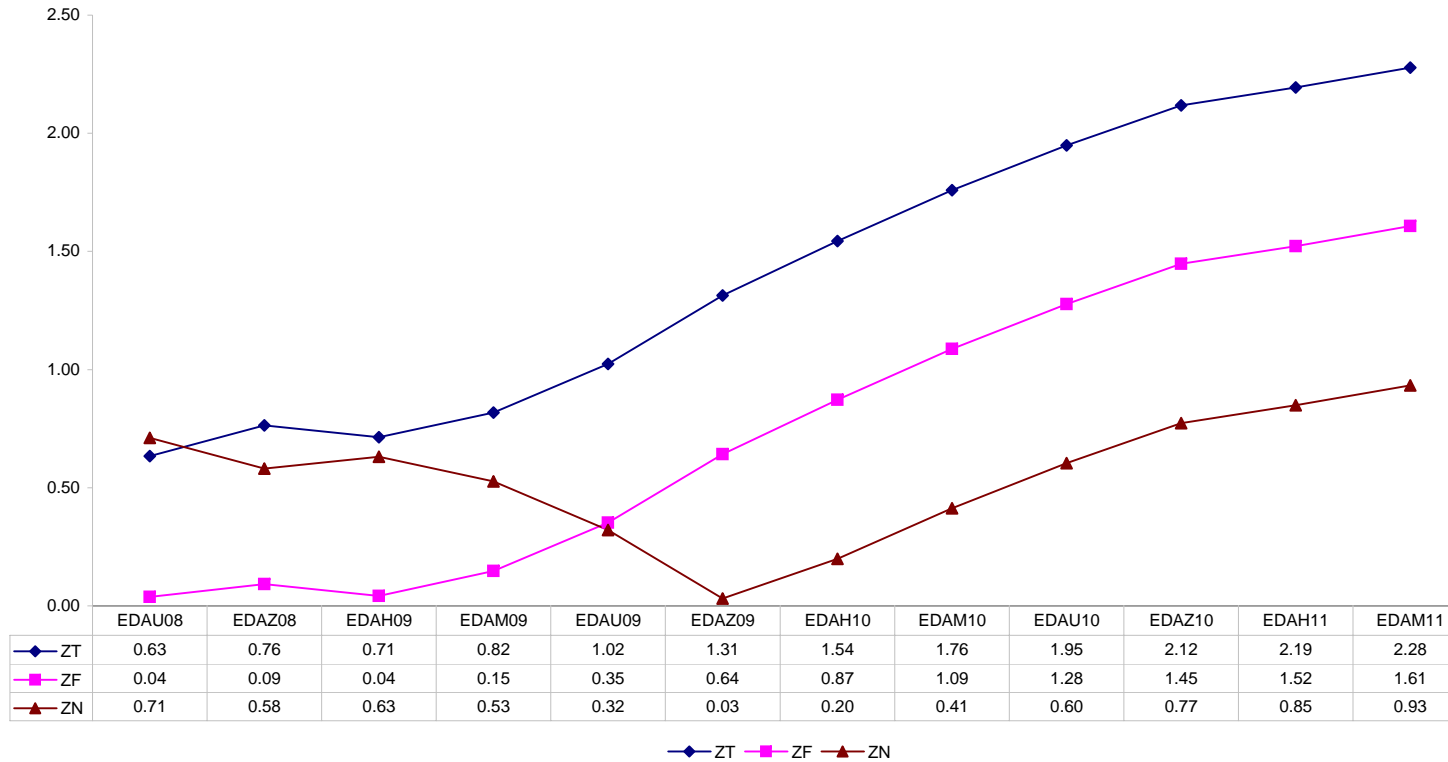
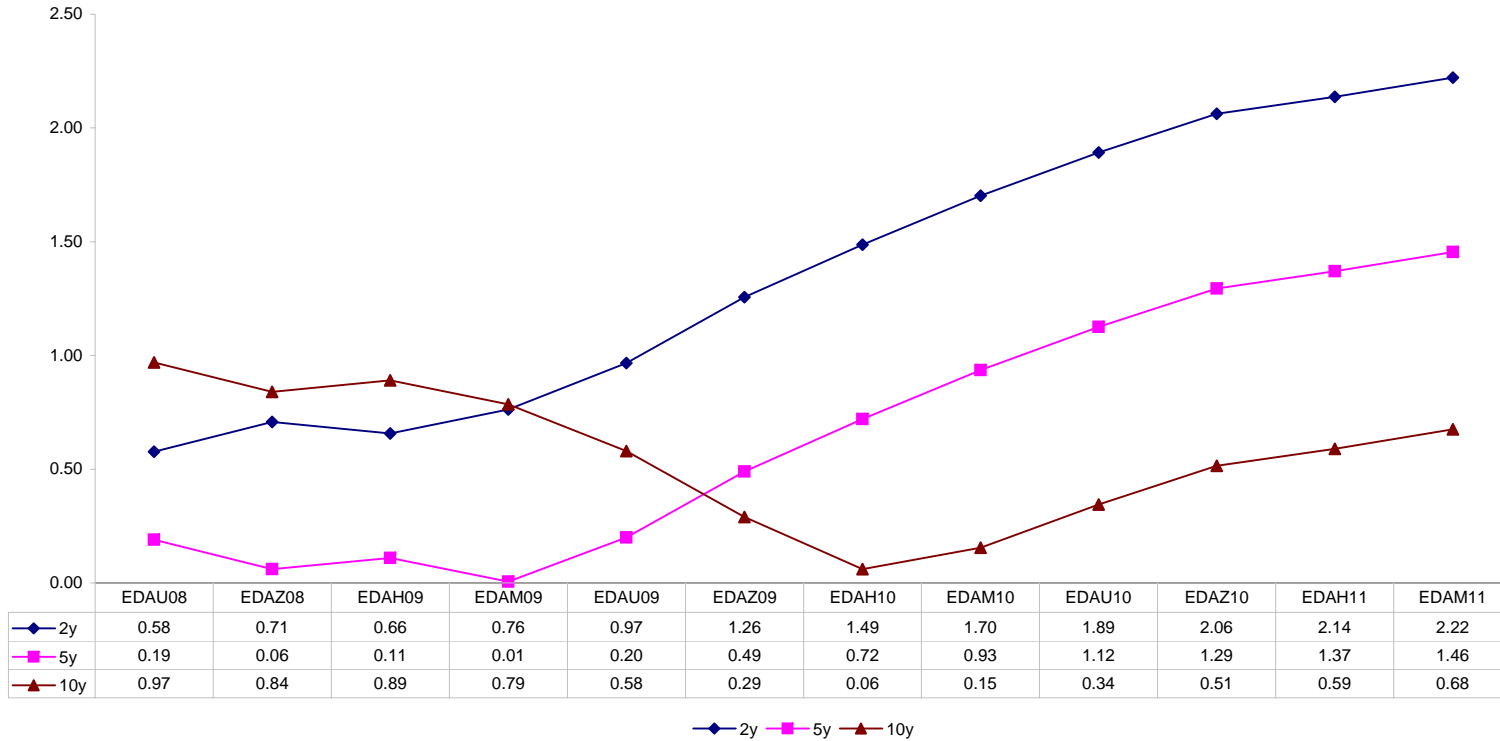
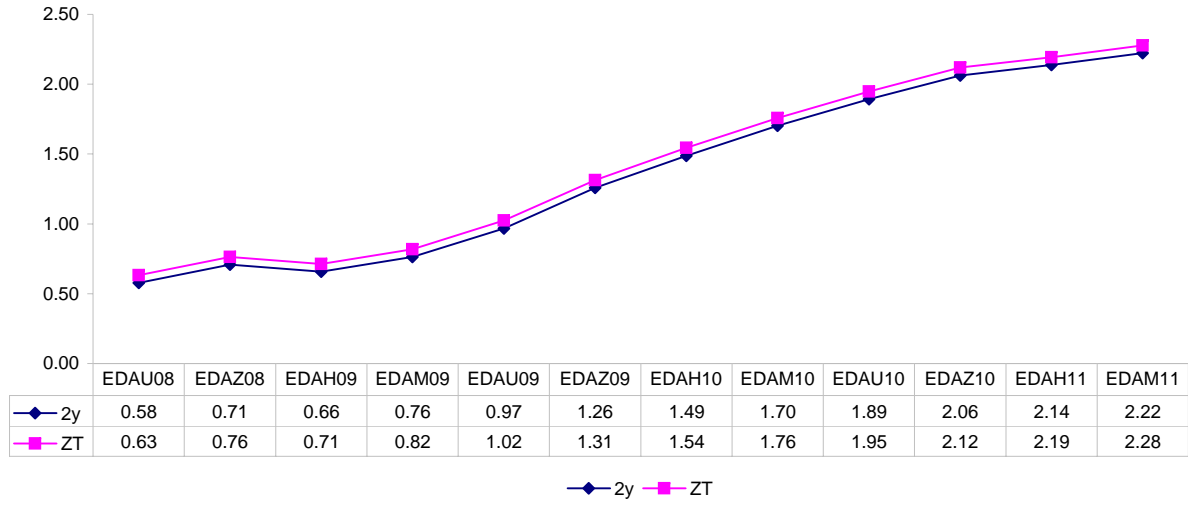


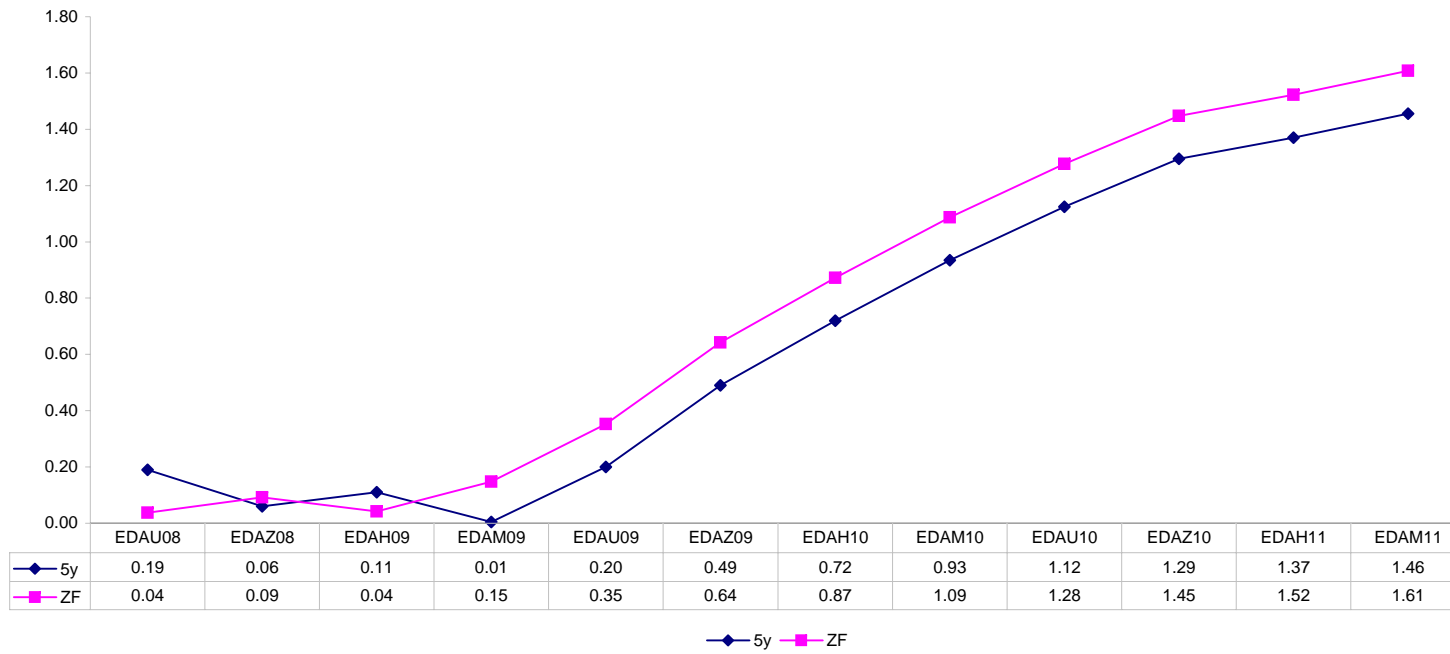
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



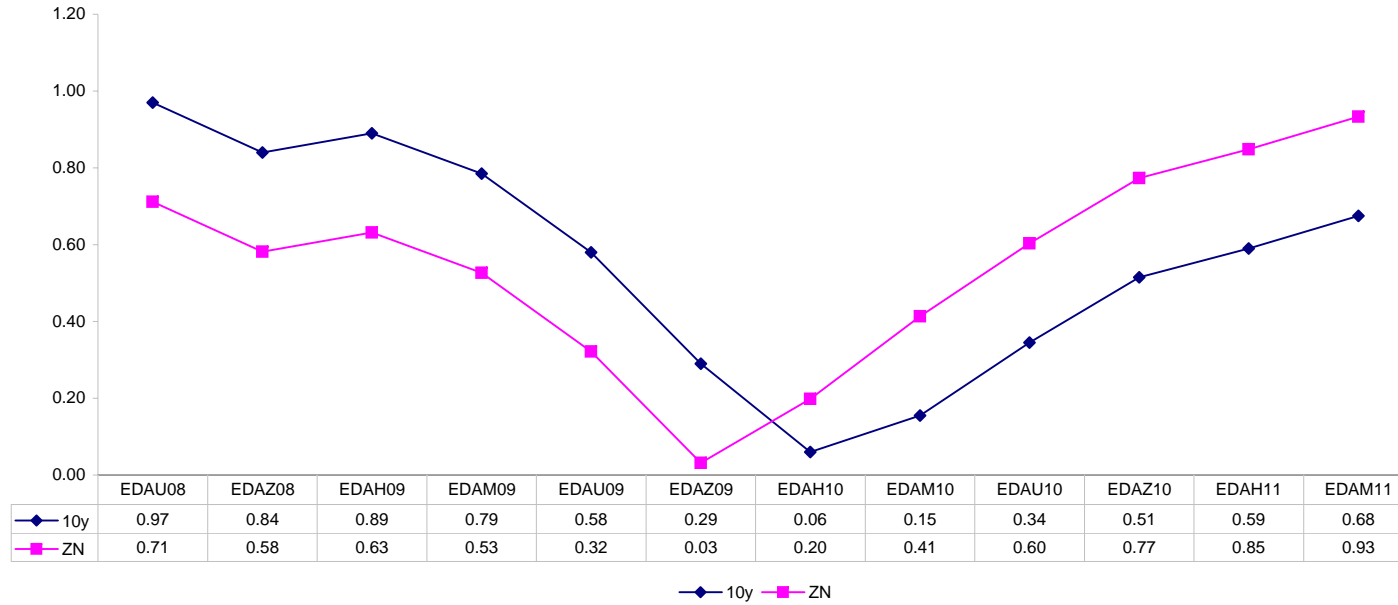
2y Basis TED Curve



5y Basis TED Curve

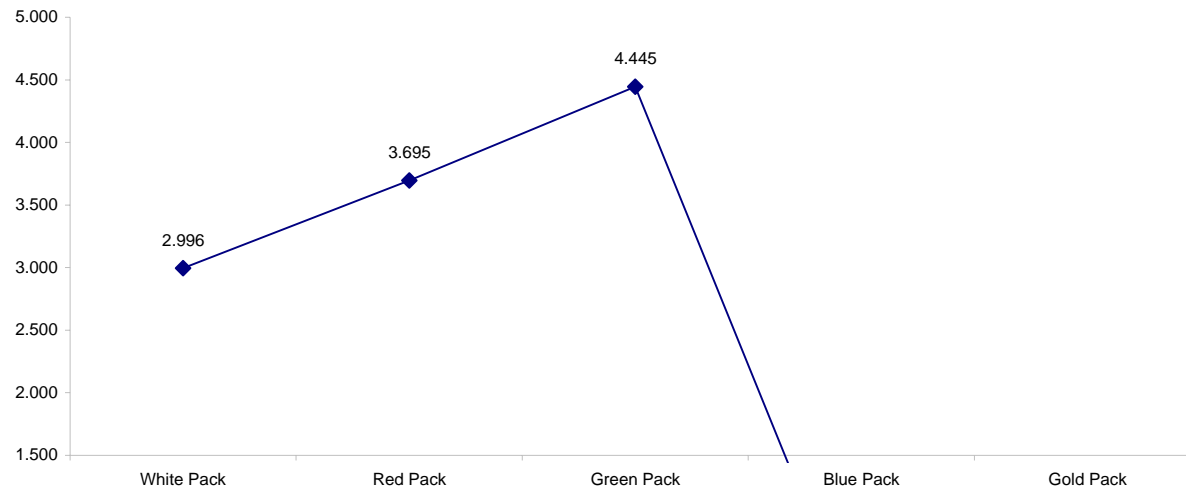


10y Basis TED Curve



### Packs

	Last Yield	Net Last Yield	Last Price
White Pack	2.996	-0.688	9706.625
Red Pack	3.695	0.625	9638.875
Green Pack	4.445	0.125	9566.375
Blue Pack		1.750	9540.875
Gold Pack		0.000	9519.750



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

