

## **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	105.1875	105.060	2.822	1.91
ZF	109.6563	109.210	3.457	4.07
ZN	112.7813	112.250	4.000	6.47
2y	100.100	100.0320	2.819	1.91
5y	99.819	99.2620	3.538	4.48
10y	98.016	98.0050	4.121	8.08

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	96.970	3.030	81	0.221	SEP	
EDAZ08	96.675	3.325	172	0.471	DEC	White Pack
EDAH09	96.485	3.515	263	0.720	MAR	
EDAM09	96.270	3.730	354	0.969	JUN	
EDAU09	96.035	3.965	445	1.219	SEP	
EDAZ09	95.765	4.235	536	1.468	DEC	Red Pack
EDAH10	95.565	4.435	627	1.717	MAR	
EDAM10	95.390	4.610	718	1.966	JUN	
EDAU10	95.265	4.735	809	2.216	SEP	
EDAZ10	95.150	4.850	900	2.465	DEC	Green Pack
EDAH11	95.105	4.895	991	2.714	MAR	
EDAM11	95.055	4.945	1082	2.964	JUN	
EDAU11	95.010	4.990	1180	3.232	SEP	
EDAZ11	94.950	5.050	1271	3.482	DEC	Blue Pack
EDAH12	94.960	5.040	1362	3.731	MAR	
EDAM12	94.935	5.065	1453	3.980	JUN	
EDAU12	94.915	5.085	1544	4.229	SEP	
EDAZ12	94.865	5.135	1635	4.479	DEC	Gold Pack
EDAH13	94.850	5.150	1726	4.728	MAR	
EDAM13	94.800	5.200	1817	4.977	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.477	3.875	9660.000	
Red Pack	4.419	1.500	9568.875	Pack Prices
Green Pack	4.984	-0.625	9514.375	
Blue Pack	5.171	0.375	9496.375	
Gold Pack		0.625	9484.250	

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.

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.

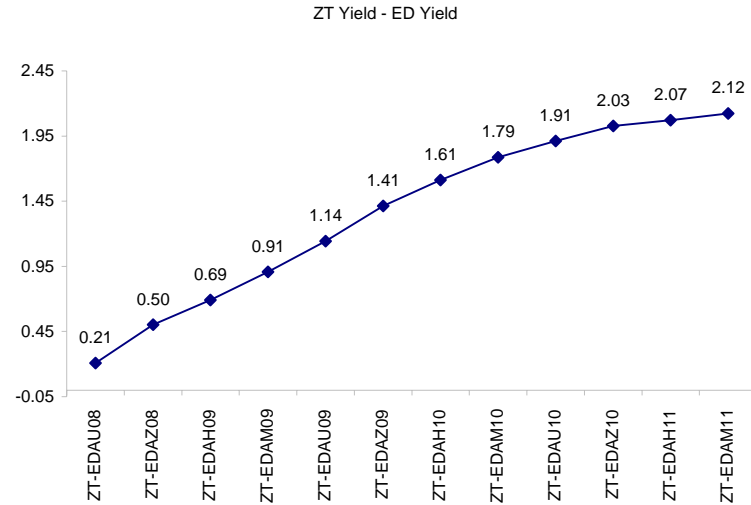
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

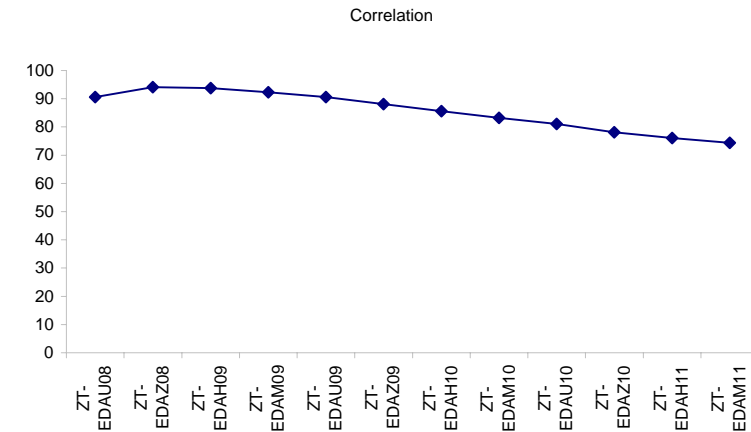
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.218	0.21	ZT-EDAU08	90.562
EDAZ08	8.513	0.50	ZT-EDAZ08	94.113
EDAH09	8.703	0.69	ZT-EDAH09	93.743
EDAM09	8.918	0.91	ZT-EDAM09	92.322
EDAU09	9.153	1.14	ZT-EDAU09	90.556
EDAZ09	9.423	1.41	ZT-EDAZ09	88.133
EDAH10	9.623	1.61	ZT-EDAH10	85.554
EDAM10	9.798	1.79	ZT-EDAM10	83.252
EDAU10	9.923	1.91	ZT-EDAU10	81.044
EDAZ10	10.038	2.03	ZT-EDAZ10	78.072
EDAH11	10.083	2.07	ZT-EDAH11	76.025
EDAM11	10.133	2.12	ZT-EDAM11	74.423

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	0.221	1.91	1.69	ZT-EDAU08		
EDAZ08	0.471	1.91	1.44	ZT-EDAZ08		
EDAH09	0.720	1.91	1.19	ZT-EDAH09		
EDAM09	0.969	1.91	0.94	ZT-EDAM09		
EDAU09	1.219	1.91	0.69	ZT-EDAU09		
EDAZ09	1.468	1.91	0.44	ZT-EDAZ09		
EDAH10	1.717	1.91	0.19	ZT-EDAH10		
EDAM10	1.966	1.91	(0.05)	ZT-EDAM10		
EDAU10	2.216	1.91	(0.30)	ZT-EDAU10		
EDAZ10	2.465	1.91	(0.55)	ZT-EDAZ10		
EDAH11	2.714	1.91	(0.80)	ZT-EDAH11		
EDAM11	2.964	1.91	(1.05)	ZT-EDAM11		

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

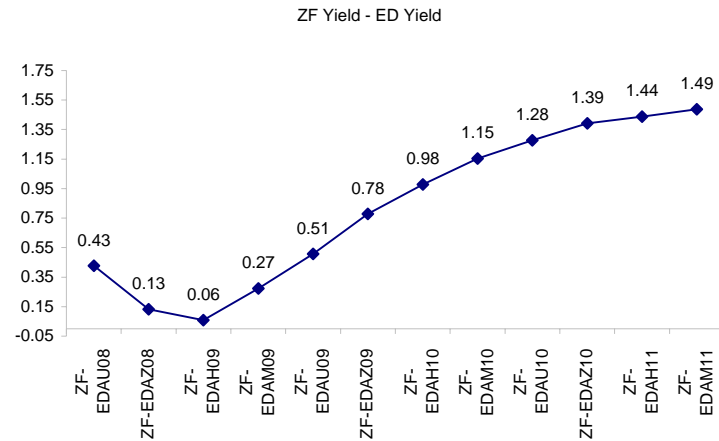


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	12.686	0.43	ZF-EDAU08	95.065
EDAZ08	12.981	0.13	ZF-EDAZ08	95.887
EDAH09	13.171	0.06	ZF-EDAH09	95.331
EDAM09	13.386	0.27	ZF-EDAM09	94.139
EDAU09	13.621	0.51	ZF-EDAU09	92.984
EDAZ09	13.891	0.78	ZF-EDAZ09	91.927
EDAH10	14.091	0.98	ZF-EDAH10	91.210
EDAM10	14.266	1.15	ZF-EDAM10	91.065
EDAU10	14.391	1.28	ZF-EDAU10	90.613
EDAZ10	14.506	1.39	ZF-EDAZ10	89.240
EDAH11	14.551	1.44	ZF-EDAH11	88.160
EDAM11	14.601	1.49	ZF-EDAM11	87.459

Price = Outright Decimal Price - Euro Contract Price

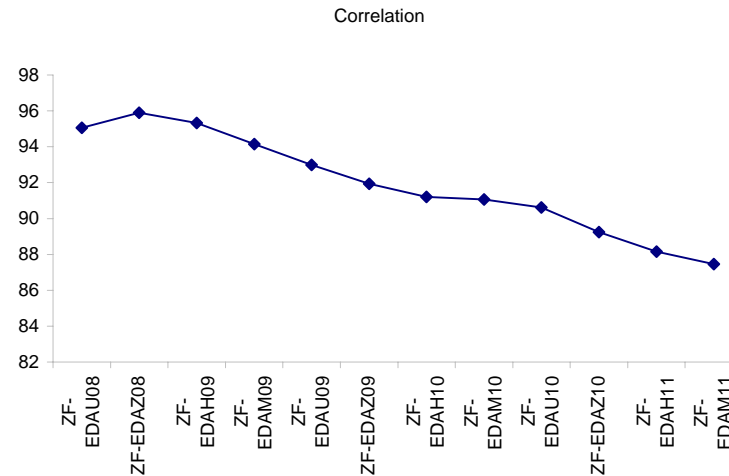
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU08	0.221	4.07	3.85	ZF-EDAU08	
EDAZ08	0.471	4.07	3.60	ZF-EDAZ08	
EDAH09	0.720	4.07	3.35	ZF-EDAH09	
EDAM09	0.969	4.07	3.10	ZF-EDAM09	
EDAU09	1.219	4.07	2.85	ZF-EDAU09	
EDAZ09	1.468	4.07	2.60	ZF-EDAZ09	
EDAH10	1.717	4.07	2.35	ZF-EDAH10	
EDAM10	1.966	4.07	2.10	ZF-EDAM10	
EDAU10	2.216	4.07	1.85	ZF-EDAU10	
EDAZ10	2.465	4.07	1.60	ZF-EDAZ10	
EDAH11	2.714	4.07	1.35	ZF-EDAH11	
EDAM11	2.964	4.07	1.10	ZF-EDAM11	

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

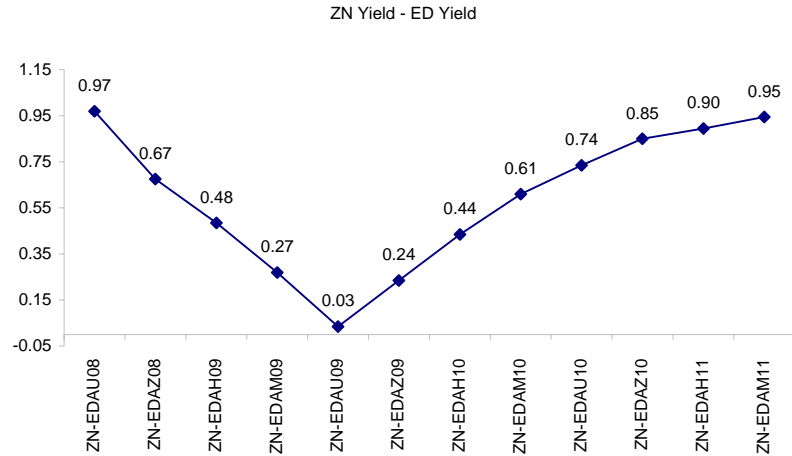


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.811	0.97	ZN-EDAU08	94.118
EDAZ08	16.106	0.67	ZN-EDAZ08	94.749
EDAH09	16.296	0.48	ZN-EDAH09	94.153
EDAM09	16.511	0.27	ZN-EDAM09	92.574
EDAU09	16.746	0.03	ZN-EDAU09	91.171
EDAZ09	17.016	0.24	ZN-EDAZ09	89.977
EDAH10	17.216	0.44	ZN-EDAH10	91.210
EDAM10	17.391	0.61	ZN-EDAM10	91.065
EDAU10	17.516	0.74	ZN-EDAU10	90.613
EDAZ10	17.631	0.85	ZN-EDAZ10	89.240
EDAH11	17.676	0.90	ZN-EDAH11	88.160
EDAM11	17.726	0.95	ZN-EDAM11	87.459

Price = Outright Decimal Price - Euro Contract Price

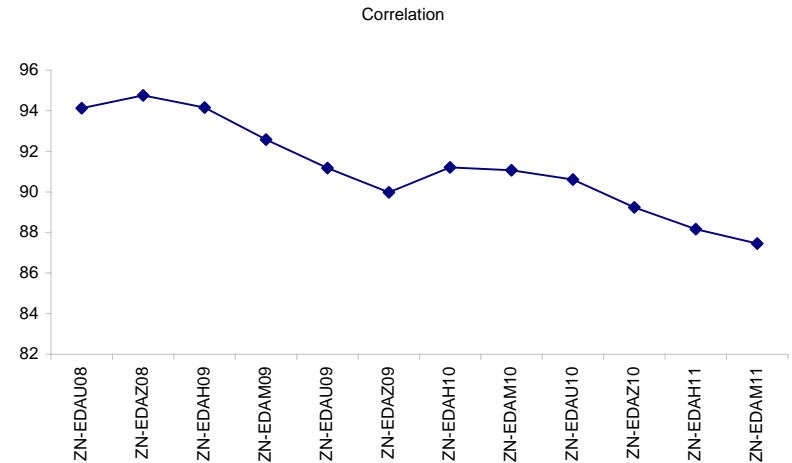
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.221	6.47	6.25	ZN-EDAU08		
EDAZ08	0.471	6.47	6.00	ZN-EDAZ08		
EDAH09	0.720	6.47	5.75	ZN-EDAH09		
EDAM09	0.969	6.47	5.50	ZN-EDAM09		
EDAU09	1.219	6.47	5.26	ZN-EDAU09		
EDAZ09	1.468	6.47	5.01	ZN-EDAZ09		
EDAH10	1.717	6.47	4.76	ZN-EDAH10		
EDAM10	1.966	6.47	4.51	ZN-EDAM10		
EDAU10	2.216	6.47	4.26	ZN-EDAU10		
EDAZ10	2.465	6.47	4.01	ZN-EDAZ10		
EDAH11	2.714	6.47	3.76	ZN-EDAH11		
EDAM11	2.964	6.47	3.51	ZN-EDAM11		

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

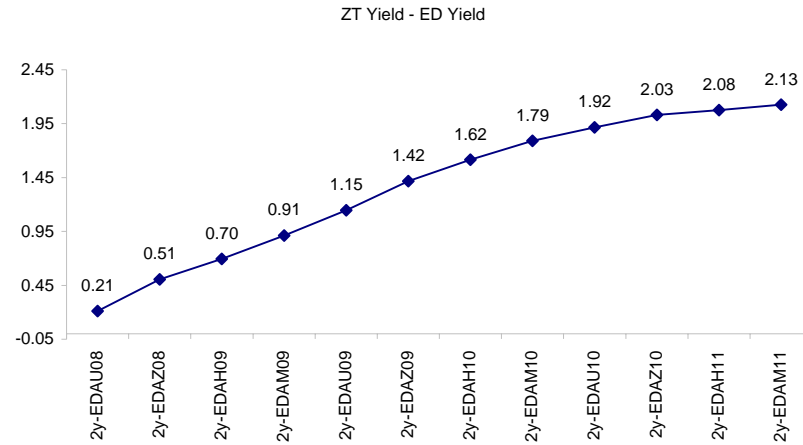


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.130	0.21	2y-EDAU08	-92.193
EDAZ08	3.425	0.51	2y-EDAZ08	-93.329
EDAH09	3.615	0.70	2y-EDAH09	-93.871
EDAM09	3.830	0.91	2y-EDAM09	-93.191
EDAU09	4.065	1.15	2y-EDAU09	-92.110
EDAZ09	4.335	1.42	2y-EDAZ09	-90.504
EDAH10	4.535	1.62	2y-EDAH10	-88.898
EDAM10	4.710	1.79	2y-EDAM10	-87.723
EDAU10	4.835	1.92	2y-EDAU10	-86.737
EDAZ10	4.950	2.03	2y-EDAZ10	-84.842
EDAH11	4.995	2.08	2y-EDAH11	-83.560
EDAM11	5.045	2.13	2y-EDAM11	-82.552

Price = Outright Decimal Price - Euro Contract Price

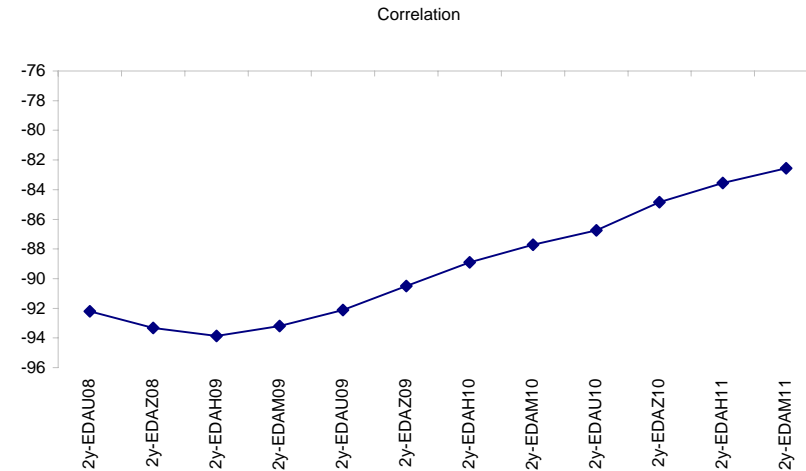
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.221	1.91	1.69	2y-EDAU08
EDAZ08	0.471	1.91	1.44	2y-EDAZ08
EDAH09	0.720	1.91	1.19	2y-EDAH09
EDAM09	0.969	1.91	0.94	2y-EDAM09
EDAU09	1.219	1.91	0.69	2y-EDAU09
EDAZ09	1.468	1.91	0.44	2y-EDAZ09
EDAH10	1.717	1.91	0.19	2y-EDAH10
EDAM10	1.966	1.91	(0.05)	2y-EDAM10
EDAU10	2.216	1.91	(0.30)	2y-EDAU10
EDAZ10	2.465	1.91	(0.55)	2y-EDAZ10
EDAH11	2.714	1.91	(0.80)	2y-EDAH11
EDAM11	2.964	1.91	(1.05)	2y-EDAM11

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

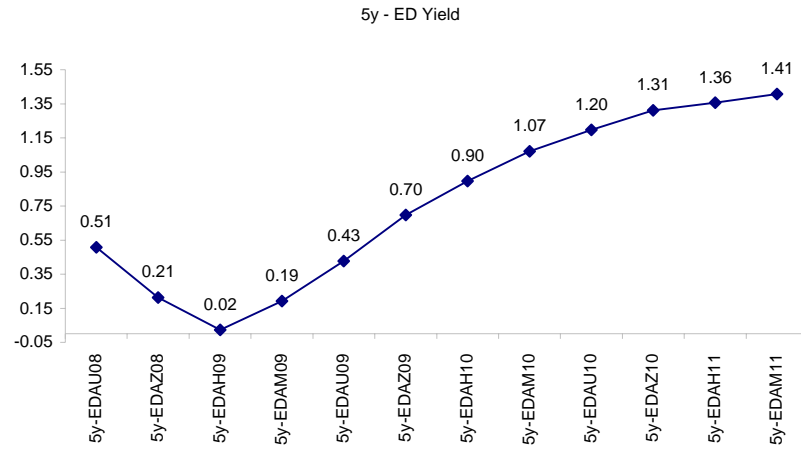


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.849	0.51	5y-EDAU08	-94.722
EDAZ08	3.144	0.21	5y-EDAZ08	-94.298
EDAH09	3.334	0.02	5y-EDAH09	-93.989
EDAM09	3.549	0.19	5y-EDAM09	-93.346
EDAU09	3.784	0.43	5y-EDAU09	-92.758
EDAZ09	4.054	0.70	5y-EDAZ09	-92.255
EDAH10	4.254	0.90	5y-EDAH10	-91.926
EDAM10	4.429	1.07	5y-EDAM10	-91.878
EDAU10	4.554	1.20	5y-EDAU10	-91.489
EDAZ10	4.669	1.31	5y-EDAZ10	-89.955
EDAH11	4.714	1.36	5y-EDAH11	-88.779
EDAM11	4.764	1.41	5y-EDAM11	-88.062

Price = Outright Decimal Price - Euro Contract Price

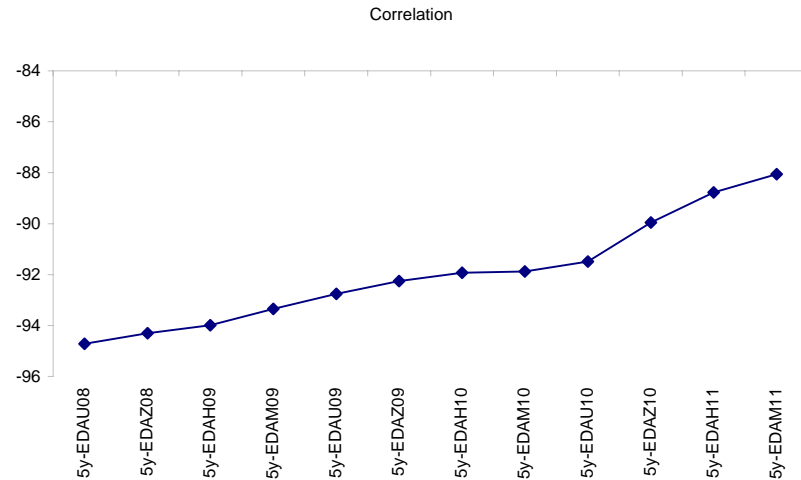
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	5Y Duration	Spread Duration		
EDAU08	0.221	4.48	4.26	5y-EDAU08
EDAZ08	0.471	4.48	4.01	5y-EDAZ08
EDAH09	0.720	4.48	3.76	5y-EDAH09
EDAM09	0.969	4.48	3.51	5y-EDAM09
EDAU09	1.219	4.48	3.26	5y-EDAU09
EDAZ09	1.468	4.48	3.01	5y-EDAZ09
EDAH10	1.717	4.48	2.76	5y-EDAH10
EDAM10	1.966	4.48	2.51	5y-EDAM10
EDAU10	2.216	4.48	2.26	5y-EDAU10
EDAZ10	2.465	4.48	2.01	5y-EDAZ10
EDAH11	2.714	4.48	1.76	5y-EDAH11
EDAM11	2.964	4.48	1.51	5y-EDAM11

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

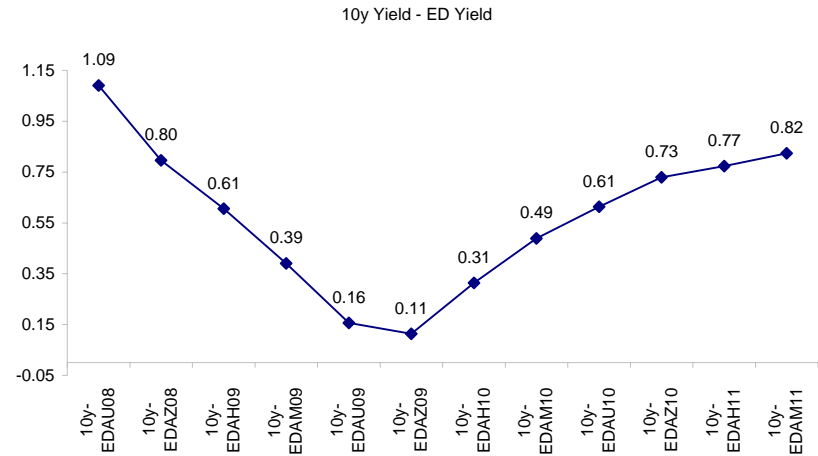


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.849	1.09	10y-EDAU08	-93.336
EDAZ08	3.144	0.80	10y-EDAZ08	-93.152
EDAH09	3.334	0.61	10y-EDAH09	-91.759
EDAM09	3.549	0.39	10y-EDAM09	-89.853
EDAU09	3.784	0.16	10y-EDAU09	-88.320
EDAZ09	4.054	0.11	10y-EDAZ09	-87.091
EDAH10	4.254	0.31	10y-EDAH10	-86.589
EDAM10	4.429	0.49	10y-EDAM10	-86.981
EDAU10	4.554	0.61	10y-EDAU10	-87.012
EDAZ10	4.669	0.73	10y-EDAZ10	-85.857
EDAH11	4.714	0.77	10y-EDAH11	-84.944
EDAM11	4.764	0.82	10y-EDAM11	-84.565

Price = Outright Decimal Price - Euro Contract Price

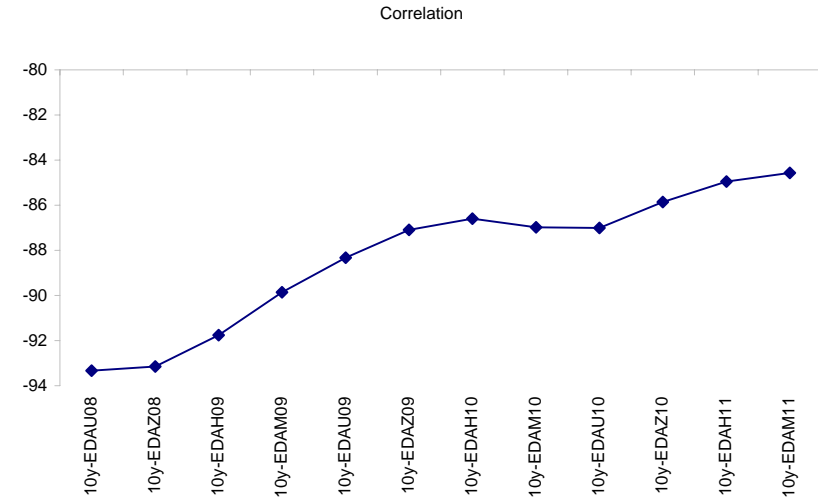
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.221	8.08	7.86	10y-EDAU08
EDAZ08	0.471	8.08	7.61	10y-EDAZ08
EDAH09	0.720	8.08	7.36	10y-EDAH09
EDAM09	0.969	8.08	7.11	10y-EDAM09
EDAU09	1.219	8.08	6.86	10y-EDAU09
EDAZ09	1.468	8.08	6.61	10y-EDAZ09
EDAH10	1.717	8.08	6.36	10y-EDAH10
EDAM10	1.966	8.08	6.11	10y-EDAM10
EDAU10	2.216	8.08	5.87	10y-EDAU10
EDAZ10	2.465	8.08	5.62	10y-EDAZ10
EDAH11	2.714	8.08	5.37	10y-EDAH11
EDAM11	2.964	8.08	5.12	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.

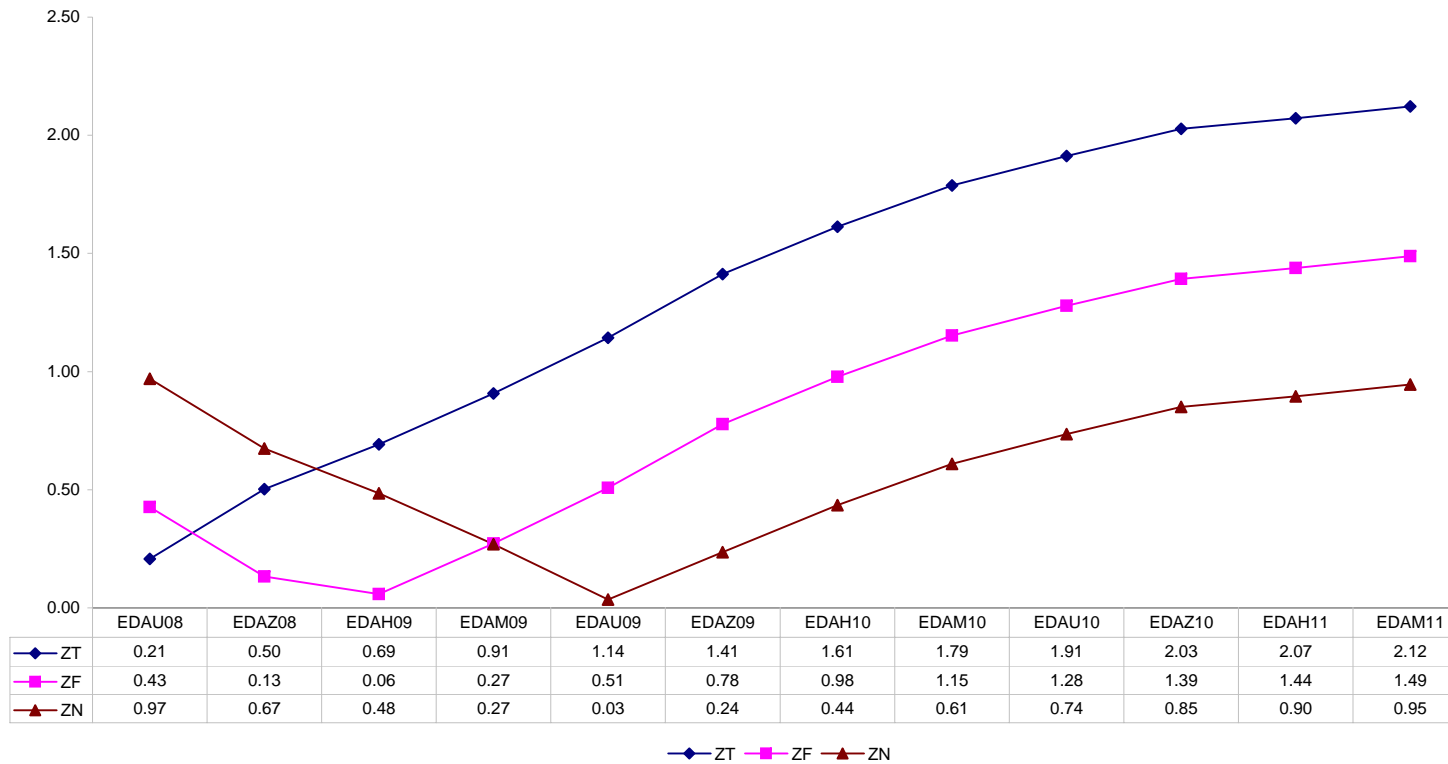
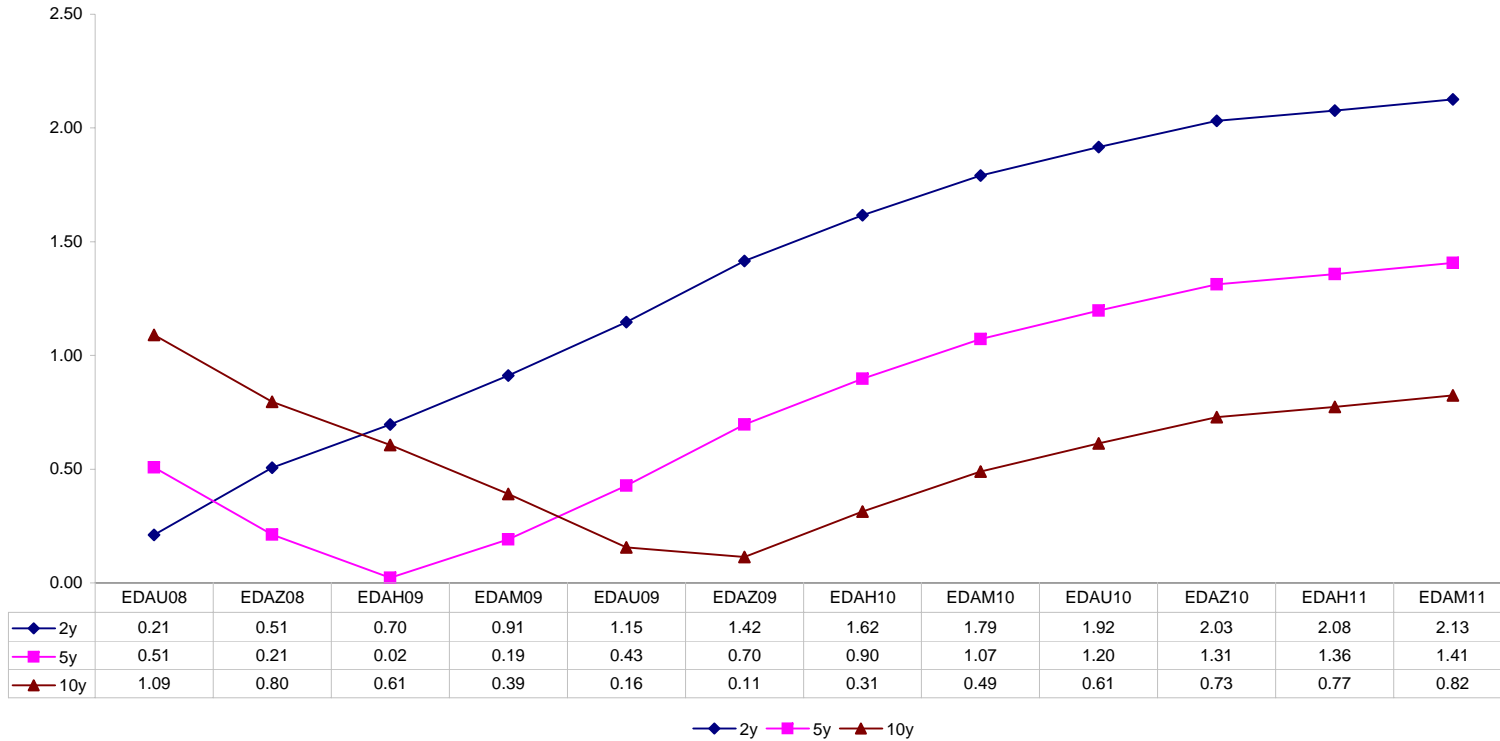
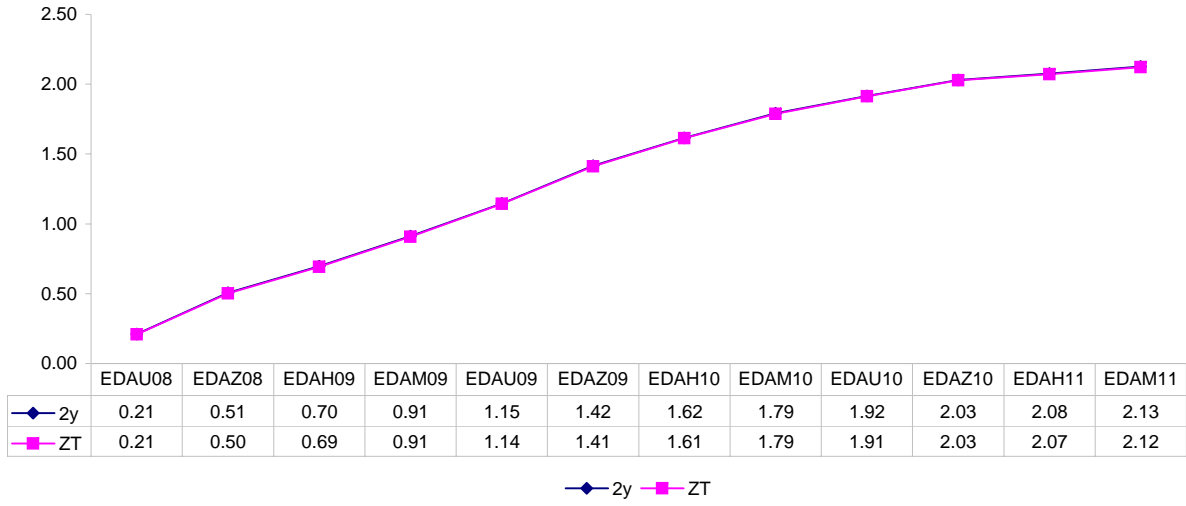


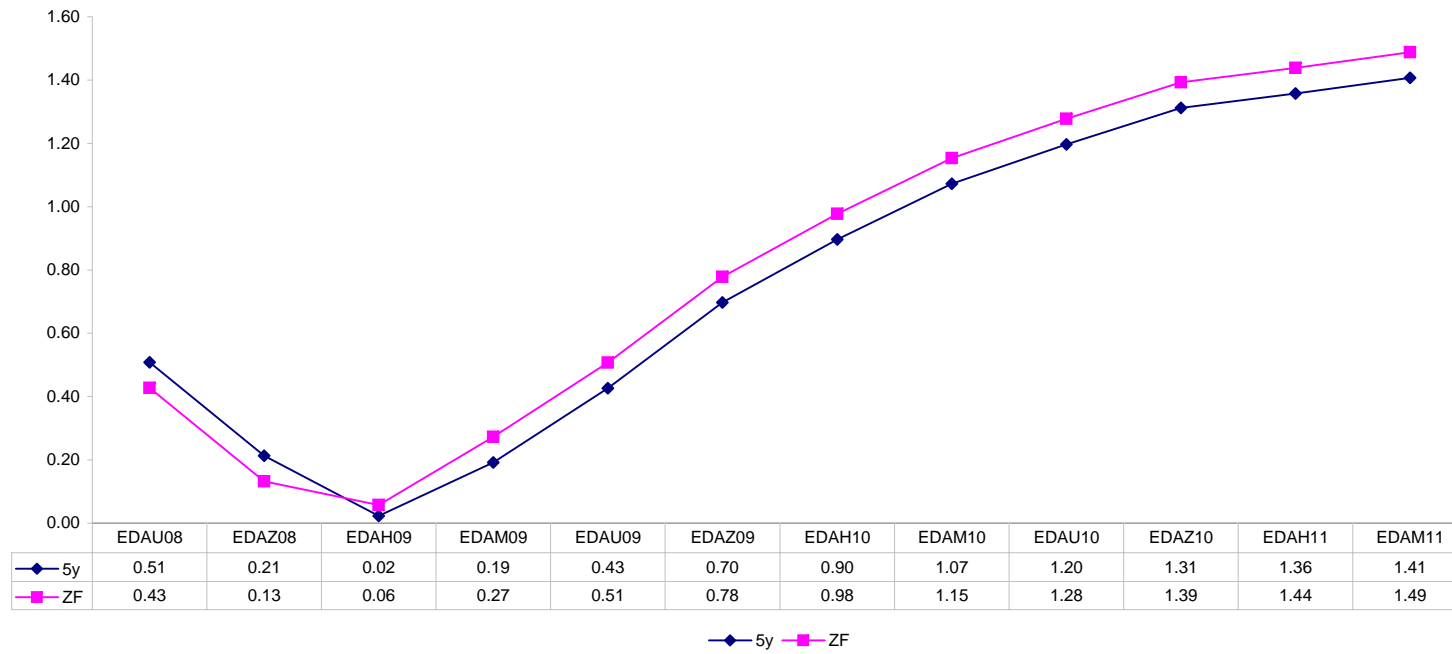
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



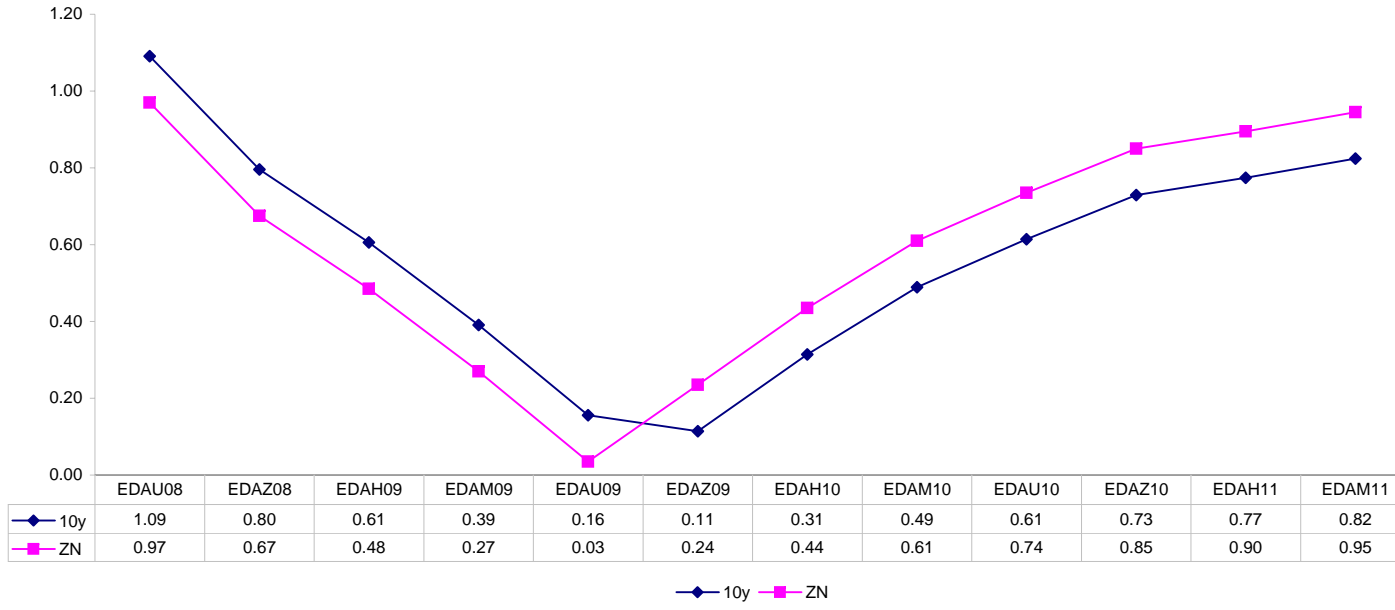
2y Basis TED Curve



5y Basis TED Curve

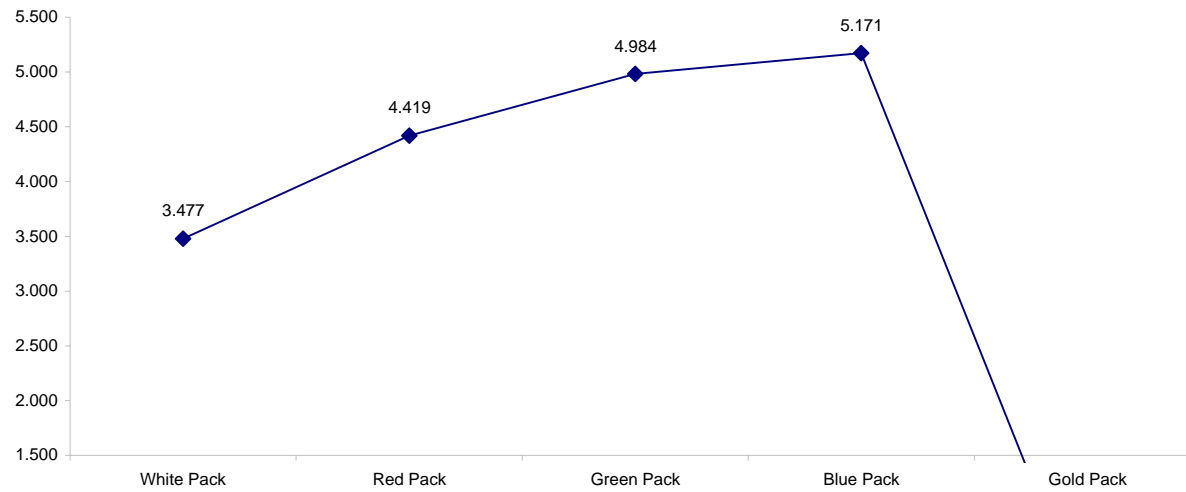


10y Basis TED Curve



### Packs

	Last Yield	Net Last Yield	Last Price
White Pack	3.477	3.875	9660.000
Red Pack	4.419	1.500	9568.875
Green Pack	4.984	-0.625	9514.375
Blue Pack	5.171	0.375	9496.375
Gold Pack		0.625	9484.250



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

