

## **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	105.7719	105.247	2.557	1.92
ZF	110.8906	110.285	3.192	4.06
ZN	114.3281	114.105	3.491	5.93
2y	100.609	100.1950	2.554	1.92
5y	100.484	100.1550	3.267	4.56
10y	99.422	99.1350	3.944	8.08

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.070	2.930	74	0.202	SEP	
EDAZ08	96.850	3.150	165	0.451	DEC	White Pack
EDAH09	96.735	3.265	256	0.701	MAR	
EDAM09	96.530	3.470	347	0.950	JUN	
EDAU09	96.275	3.725	438	1.199	SEP	
EDAZ09	95.985	4.015	529	1.449	DEC	Red Pack
EDAH10	95.780	4.220	620	1.698	MAR	
EDAM10	95.600	4.400	711	1.947	JUN	
EDAU10	95.460	4.540	802	2.197	SEP	
EDAZ10	95.345	4.655	893	2.446	DEC	Green Pack
EDAH11	95.300	4.700	984	2.695	MAR	
EDAM11	95.240	4.760	1075	2.945	JUN	
EDAU11	95.200	4.800	1173	3.213	SEP	
EDAZ11	95.120	4.880	1264	3.462	DEC	Blue Pack
EDAH12	95.110	4.890	1355	3.712	MAR	
EDAM12	95.060	4.940	1446	3.961	JUN	
EDAU12	95.030	4.970	1537	4.210	SEP	
EDAZ12	94.965	5.035	1628	4.460	DEC	Gold Pack
EDAH13	94.935	5.065	1719	4.709	MAR	
EDAM13	94.895	5.105	1810	4.958	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.275	1.000	9679.625	Pack Prices
Red Pack	4.190	1.625	9591.000	
Green Pack	4.784	0.375	9533.625	
Blue Pack	5.006	-0.875	9512.250	
Gold Pack		-1.000	9496.250	

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.

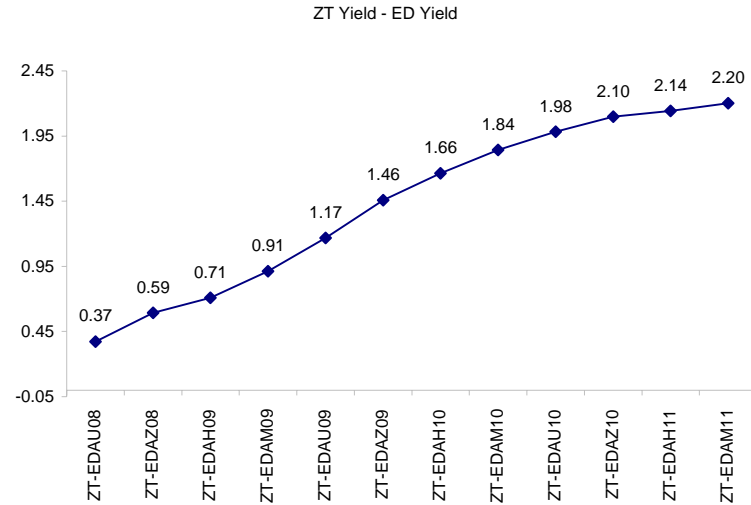
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

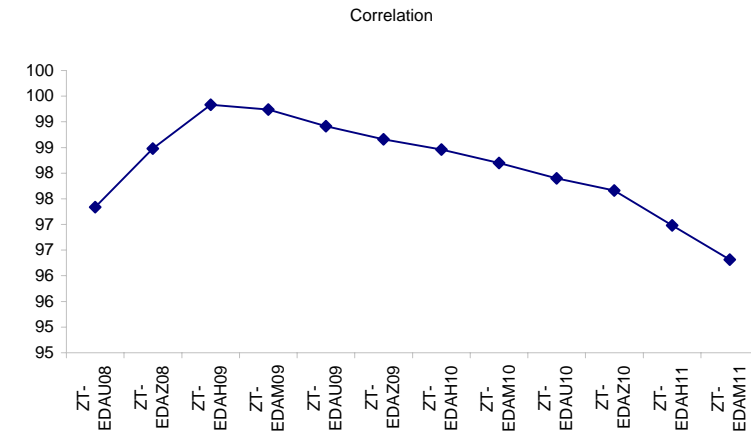
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.702	0.37	ZT-EDAU08	97.339
EDAZ08	8.922	0.59	ZT-EDAZ08	98.478
EDAH09	9.037	0.71	ZT-EDAH09	99.331
EDAM09	9.242	0.91	ZT-EDAM09	99.238
EDAU09	9.497	1.17	ZT-EDAU09	98.916
EDAZ09	9.787	1.46	ZT-EDAZ09	98.658
EDAH10	9.992	1.66	ZT-EDAH10	98.459
EDAM10	10.172	1.84	ZT-EDAM10	98.196
EDAU10	10.312	1.98	ZT-EDAU10	97.896
EDAZ10	10.427	2.10	ZT-EDAZ10	97.662
EDAH11	10.472	2.14	ZT-EDAH11	96.982
EDAM11	10.532	2.20	ZT-EDAM11	96.315

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	0.202	1.92	1.72	ZT-EDAU08		
EDAZ08	0.451	1.92	1.47	ZT-EDAZ08		
EDAH09	0.701	1.92	1.22	ZT-EDAH09		
EDAM09	0.950	1.92	0.97	ZT-EDAM09		
EDAU09	1.199	1.92	0.72	ZT-EDAU09		
EDAZ09	1.449	1.92	0.47	ZT-EDAZ09		
EDAH10	1.698	1.92	0.22	ZT-EDAH10		
EDAM10	1.947	1.92	(0.02)	ZT-EDAM10		
EDAU10	2.197	1.92	(0.27)	ZT-EDAU10		
EDAZ10	2.446	1.92	(0.52)	ZT-EDAZ10		
EDAH11	2.695	1.92	(0.77)	ZT-EDAH11		
EDAM11	2.945	1.92	(1.02)	ZT-EDAM11		

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

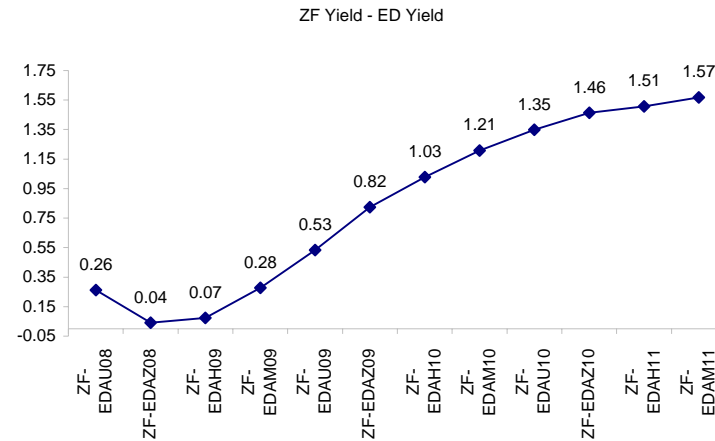


ZF				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAU08	13.821	0.26	ZF-EDAU08	96.398
EDAZ08	14.041	0.04	ZF-EDAZ08	97.799
EDAH09	14.156	0.07	ZF-EDAH09	98.894
EDAM09	14.361	0.28	ZF-EDAM09	98.642
EDAU09	14.616	0.53	ZF-EDAU09	98.133
EDAZ09	14.906	0.82	ZF-EDAZ09	97.882
EDAH10	15.111	1.03	ZF-EDAH10	97.756
EDAM10	15.291	1.21	ZF-EDAM10	97.607
EDAU10	15.431	1.35	ZF-EDAU10	97.615
EDAZ10	15.546	1.46	ZF-EDAZ10	97.798
EDAH11	15.591	1.51	ZF-EDAH11	97.690
EDAM11	15.651	1.57	ZF-EDAM11	97.419

Price = Outright Decimal Price - Euro Contract Price

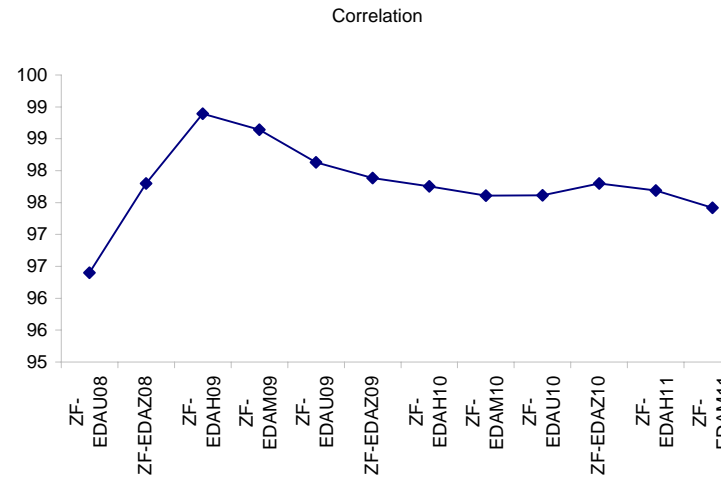
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU08	0.202	4.06	3.85	ZF-EDAU08	
EDAZ08	0.451	4.06	3.60	ZF-EDAZ08	
EDAH09	0.701	4.06	3.36	ZF-EDAH09	
EDAM09	0.950	4.06	3.11	ZF-EDAM09	
EDAU09	1.199	4.06	2.86	ZF-EDAU09	
EDAZ09	1.449	4.06	2.61	ZF-EDAZ09	
EDAH10	1.698	4.06	2.36	ZF-EDAH10	
EDAM10	1.947	4.06	2.11	ZF-EDAM10	
EDAU10	2.197	4.06	1.86	ZF-EDAU10	
EDAZ10	2.446	4.06	1.61	ZF-EDAZ10	
EDAH11	2.695	4.06	1.36	ZF-EDAH11	
EDAM11	2.945	4.06	1.11	ZF-EDAM11	

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

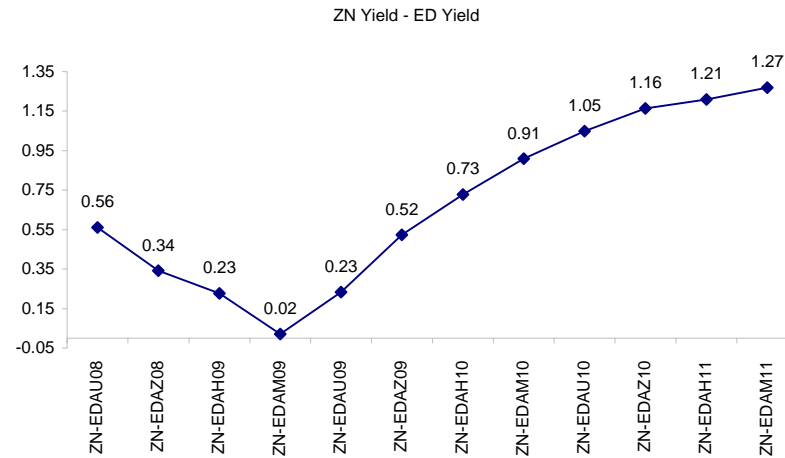


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	17.258	0.56	ZN-EDAU08	95.915
EDAZ08	17.478	0.34	ZN-EDAZ08	97.498
EDAH09	17.593	0.23	ZN-EDAH09	98.135
EDAM09	17.798	0.02	ZN-EDAM09	97.578
EDAU09	18.053	0.23	ZN-EDAU09	96.937
EDAZ09	18.343	0.52	ZN-EDAZ09	96.655
EDAH10	18.548	0.73	ZN-EDAH10	97.756
EDAM10	18.728	0.91	ZN-EDAM10	97.607
EDAU10	18.868	1.05	ZN-EDAU10	97.615
EDAZ10	18.983	1.16	ZN-EDAZ10	97.798
EDAH11	19.028	1.21	ZN-EDAH11	97.690
EDAM11	19.088	1.27	ZN-EDAM11	97.419

Price = Outright Decimal Price - Euro Contract Price

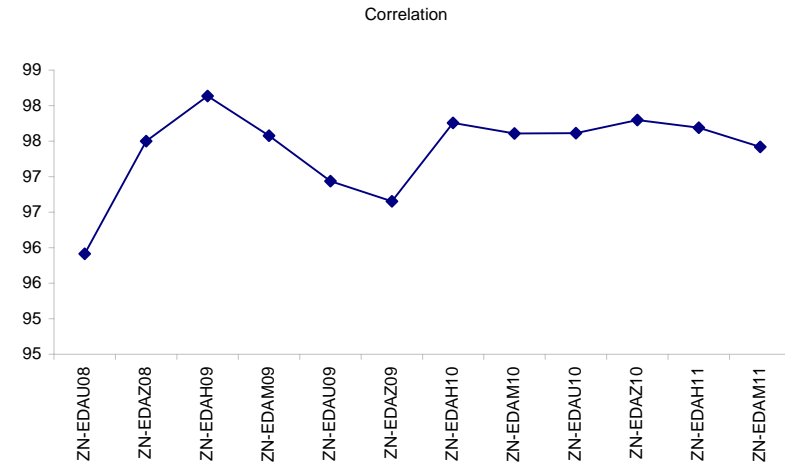
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.202	5.93	5.73	ZN-EDAU08		
EDAZ08	0.451	5.93	5.48	ZN-EDAZ08		
EDAH09	0.701	5.93	5.23	ZN-EDAH09		
EDAM09	0.950	5.93	4.98	ZN-EDAM09		
EDAU09	1.199	5.93	4.73	ZN-EDAU09		
EDAZ09	1.449	5.93	4.48	ZN-EDAZ09		
EDAH10	1.698	5.93	4.23	ZN-EDAH10		
EDAM10	1.947	5.93	3.98	ZN-EDAM10		
EDAU10	2.197	5.93	3.73	ZN-EDAU10		
EDAZ10	2.446	5.93	3.49	ZN-EDAZ10		
EDAH11	2.695	5.93	3.24	ZN-EDAH11		
EDAM11	2.945	5.93	2.99	ZN-EDAM11		

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

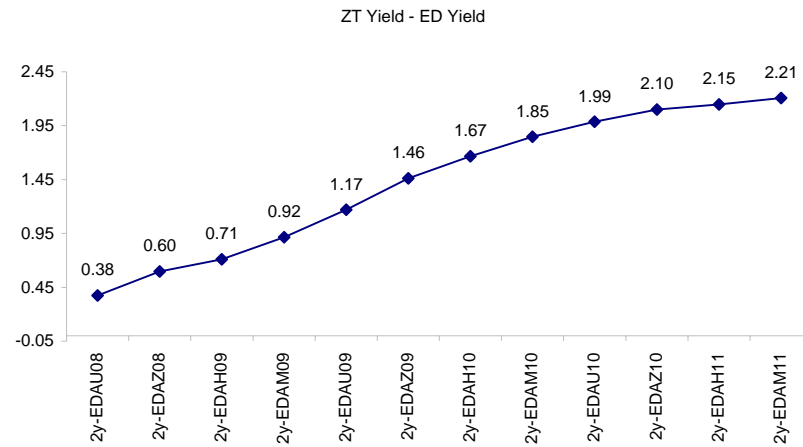


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.539	0.38	2y-EDAU08	-97.873
EDAZ08	3.759	0.60	2y-EDAZ08	-99.078
EDAH09	3.874	0.71	2y-EDAH09	-99.360
EDAM09	4.079	0.92	2y-EDAM09	-98.885
EDAU09	4.334	1.17	2y-EDAU09	-98.390
EDAZ09	4.624	1.46	2y-EDAZ09	-98.043
EDAH10	4.829	1.67	2y-EDAH10	-97.750
EDAM10	5.009	1.85	2y-EDAM10	-97.388
EDAU10	5.149	1.99	2y-EDAU10	-96.981
EDAZ10	5.264	2.10	2y-EDAZ10	-96.500
EDAH11	5.309	2.15	2y-EDAH11	-95.564
EDAM11	5.369	2.21	2y-EDAM11	-94.886

Price = Outright Decimal Price - Euro Contract Price

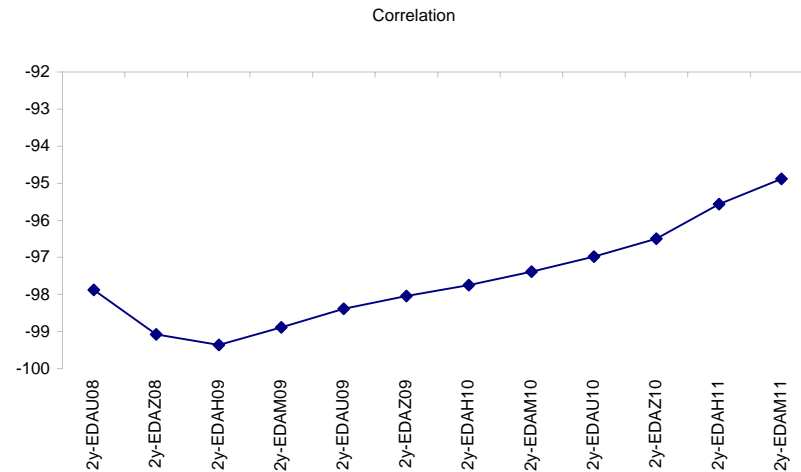
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.202	1.92	1.72	2y-EDAU08
EDAZ08	0.451	1.92	1.47	2y-EDAZ08
EDAH09	0.701	1.92	1.22	2y-EDAH09
EDAM09	0.950	1.92	0.97	2y-EDAM09
EDAU09	1.199	1.92	0.72	2y-EDAU09
EDAZ09	1.449	1.92	0.47	2y-EDAZ09
EDAH10	1.698	1.92	0.22	2y-EDAH10
EDAM10	1.947	1.92	(0.02)	2y-EDAM10
EDAU10	2.197	1.92	(0.27)	2y-EDAU10
EDAZ10	2.446	1.92	(0.52)	2y-EDAZ10
EDAH11	2.695	1.92	(0.77)	2y-EDAH11
EDAM11	2.945	1.92	(1.02)	2y-EDAM11

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

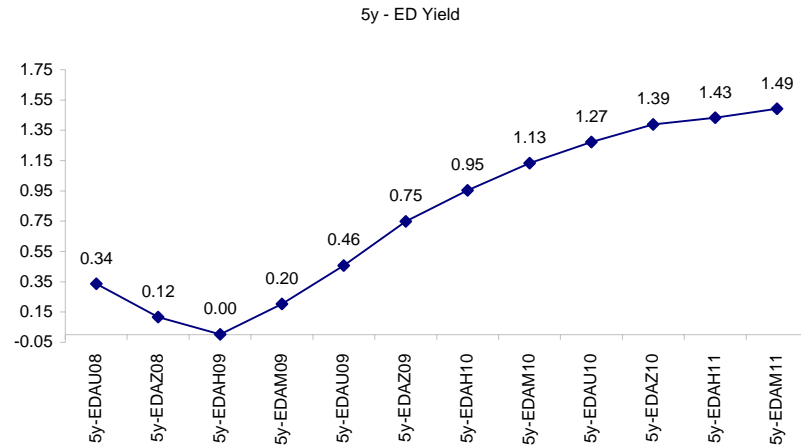


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.414	0.34	5y-EDAU08	-97.542
EDAZ08	3.634	0.12	5y-EDAZ08	-98.616
EDAH09	3.749	0.00	5y-EDAH09	-98.914
EDAM09	3.954	0.20	5y-EDAM09	-98.179
EDAU09	4.209	0.46	5y-EDAU09	-97.415
EDAZ09	4.499	0.75	5y-EDAZ09	-97.004
EDAH10	4.704	0.95	5y-EDAH10	-96.771
EDAM10	4.884	1.13	5y-EDAM10	-96.492
EDAU10	5.024	1.27	5y-EDAU10	-96.301
EDAZ10	5.139	1.39	5y-EDAZ10	-96.200
EDAH11	5.184	1.43	5y-EDAH11	-95.747
EDAM11	5.244	1.49	5y-EDAM11	-95.352

Price = Outright Decimal Price - Euro Contract Price

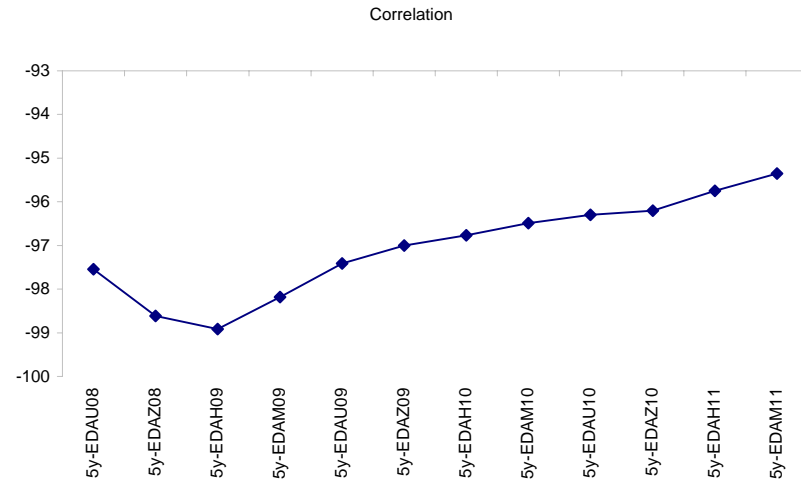
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.202	4.56	4.36	5y-EDAU08
EDAZ08	0.451	4.56	4.11	5y-EDAZ08
EDAH09	0.701	4.56	3.86	5y-EDAH09
EDAM09	0.950	4.56	3.61	5y-EDAM09
EDAU09	1.199	4.56	3.36	5y-EDAU09
EDAZ09	1.449	4.56	3.11	5y-EDAZ09
EDAH10	1.698	4.56	2.86	5y-EDAH10
EDAM10	1.947	4.56	2.61	5y-EDAM10
EDAU10	2.197	4.56	2.36	5y-EDAU10
EDAZ10	2.446	4.56	2.11	5y-EDAZ10
EDAH11	2.695	4.56	1.86	5y-EDAH11
EDAM11	2.945	4.56	1.61	5y-EDAM11

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

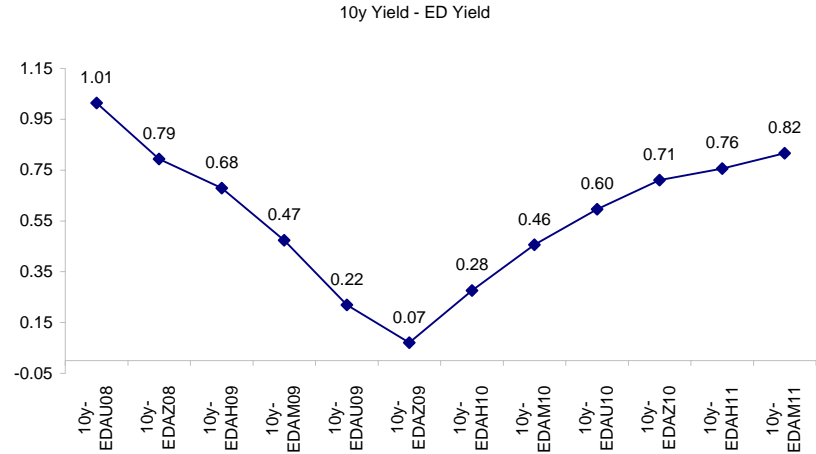


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.414	1.01	10y-EDAU08	-97.473
EDAZ08	3.634	0.79	10y-EDAZ08	-97.954
EDAH09	3.749	0.68	10y-EDAH09	-97.294
EDAM09	3.954	0.47	10y-EDAM09	-95.864
EDAU09	4.209	0.22	10y-EDAU09	-94.660
EDAZ09	4.499	0.07	10y-EDAZ09	-94.071
EDAH10	4.704	0.28	10y-EDAH10	-93.813
EDAM10	4.884	0.46	10y-EDAM10	-93.495
EDAU10	5.024	0.60	10y-EDAU10	-93.311
EDAZ10	5.139	0.71	10y-EDAZ10	-93.135
EDAH11	5.184	0.76	10y-EDAH11	-92.556
EDAM11	5.244	0.82	10y-EDAM11	-92.201

Price = Outright Decimal Price - Euro Contract Price

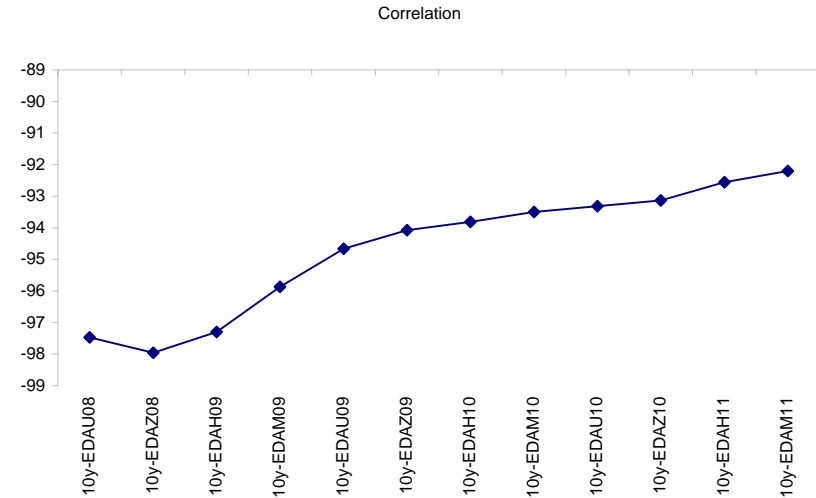
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.202	8.08	7.88	10y-EDAU08
EDAZ08	0.451	8.08	7.63	10y-EDAZ08
EDAH09	0.701	8.08	7.38	10y-EDAH09
EDAM09	0.950	8.08	7.13	10y-EDAM09
EDAU09	1.199	8.08	6.88	10y-EDAU09
EDAZ09	1.449	8.08	6.64	10y-EDAZ09
EDAH10	1.698	8.08	6.39	10y-EDAH10
EDAM10	1.947	8.08	6.14	10y-EDAM10
EDAU10	2.197	8.08	5.89	10y-EDAU10
EDAZ10	2.446	8.08	5.64	10y-EDAZ10
EDAH11	2.695	8.08	5.39	10y-EDAH11
EDAM11	2.945	8.08	5.14	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.

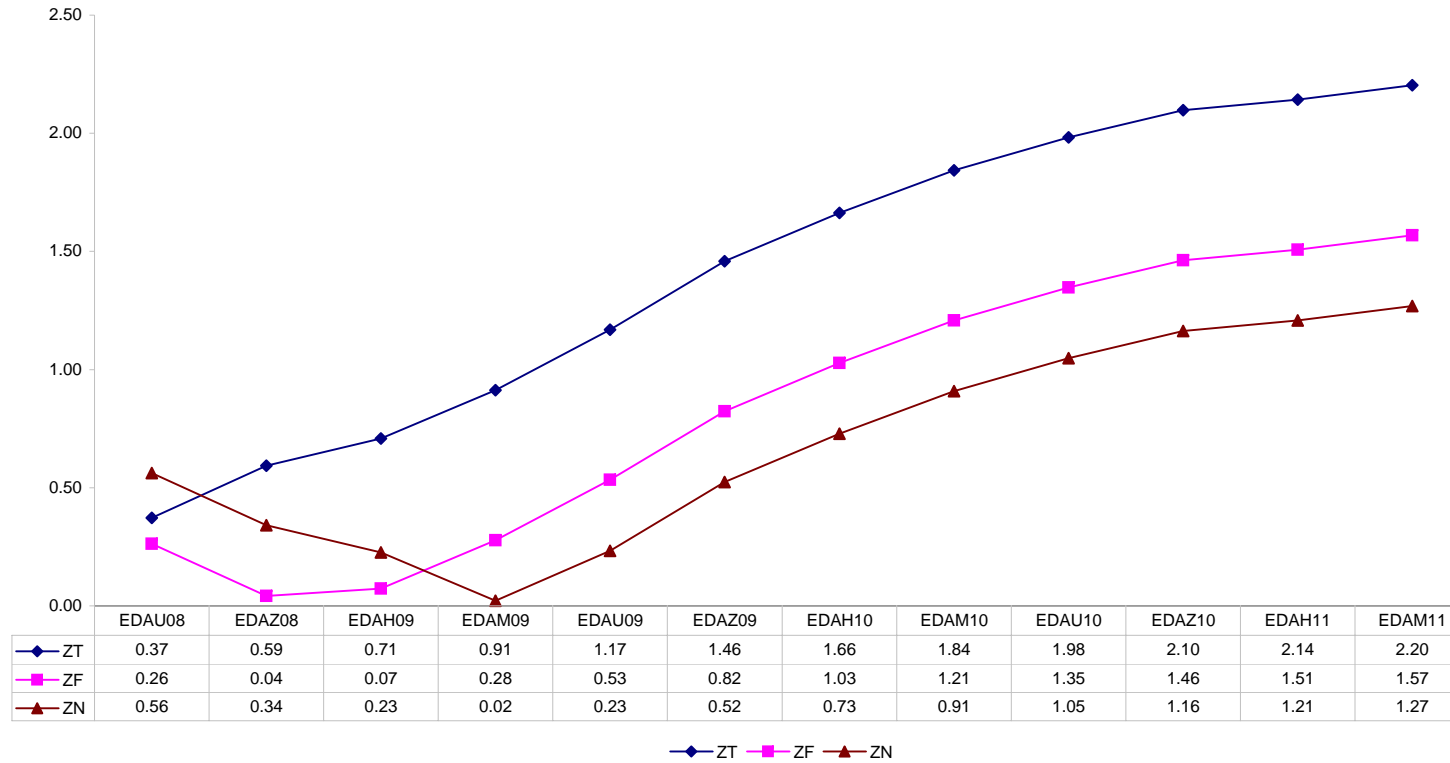
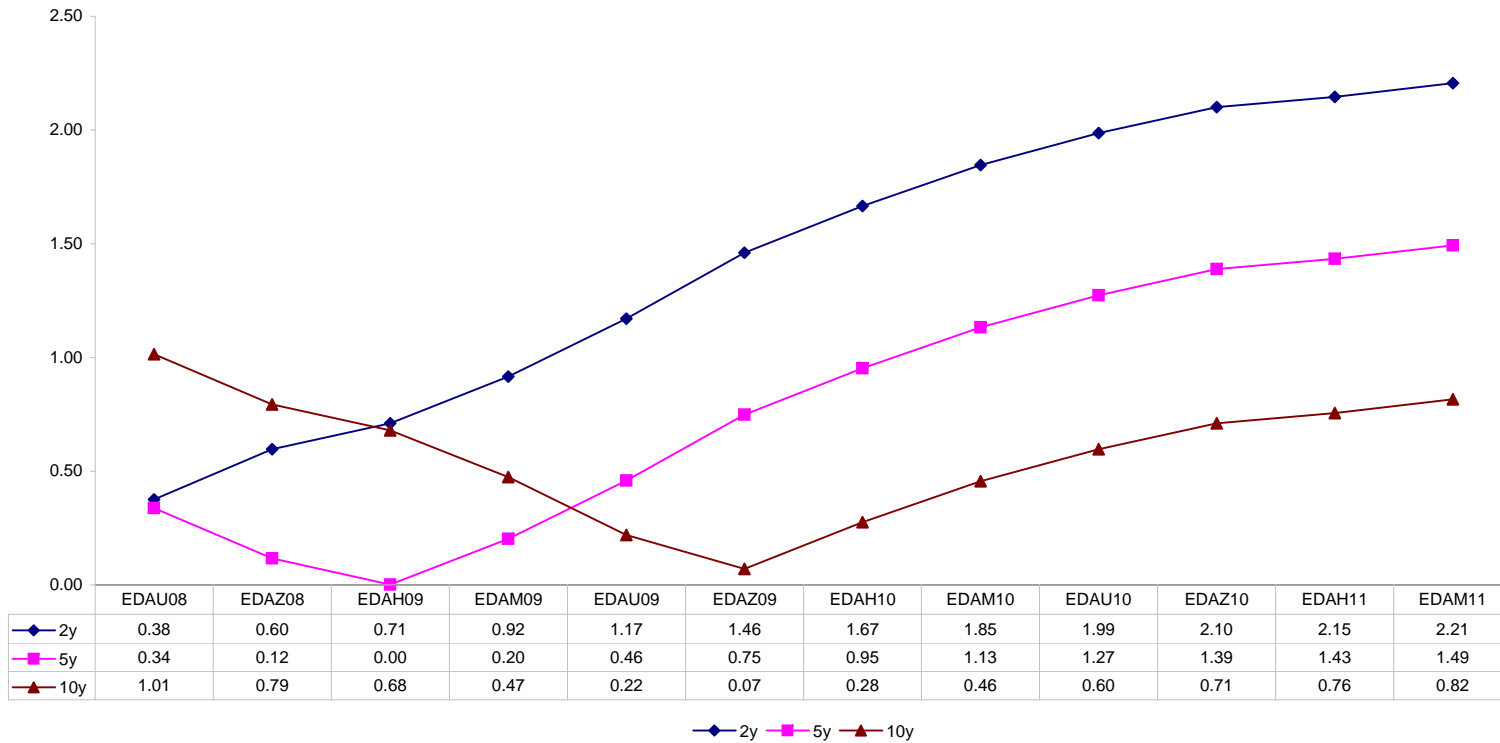
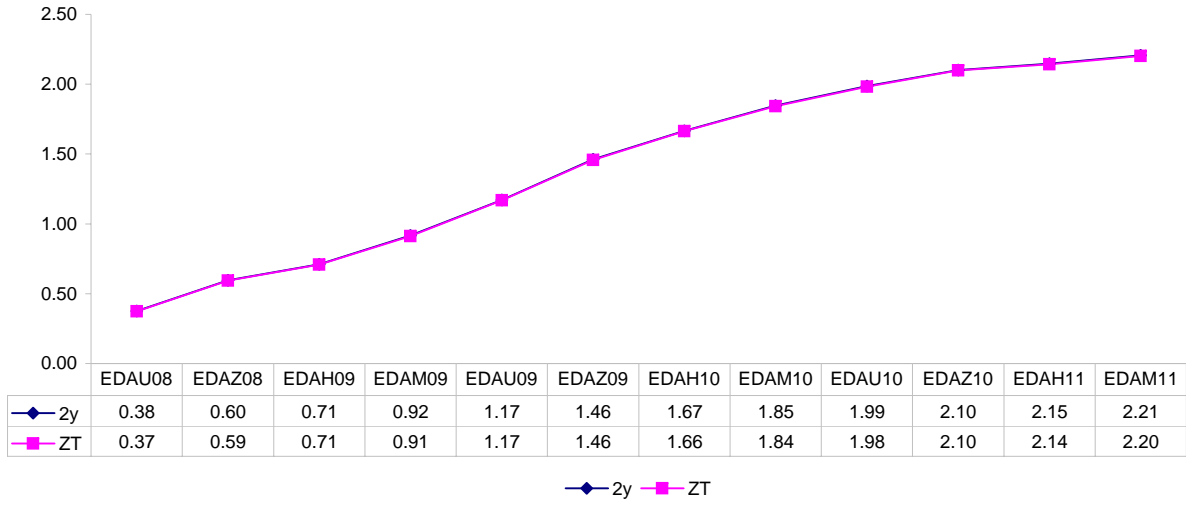


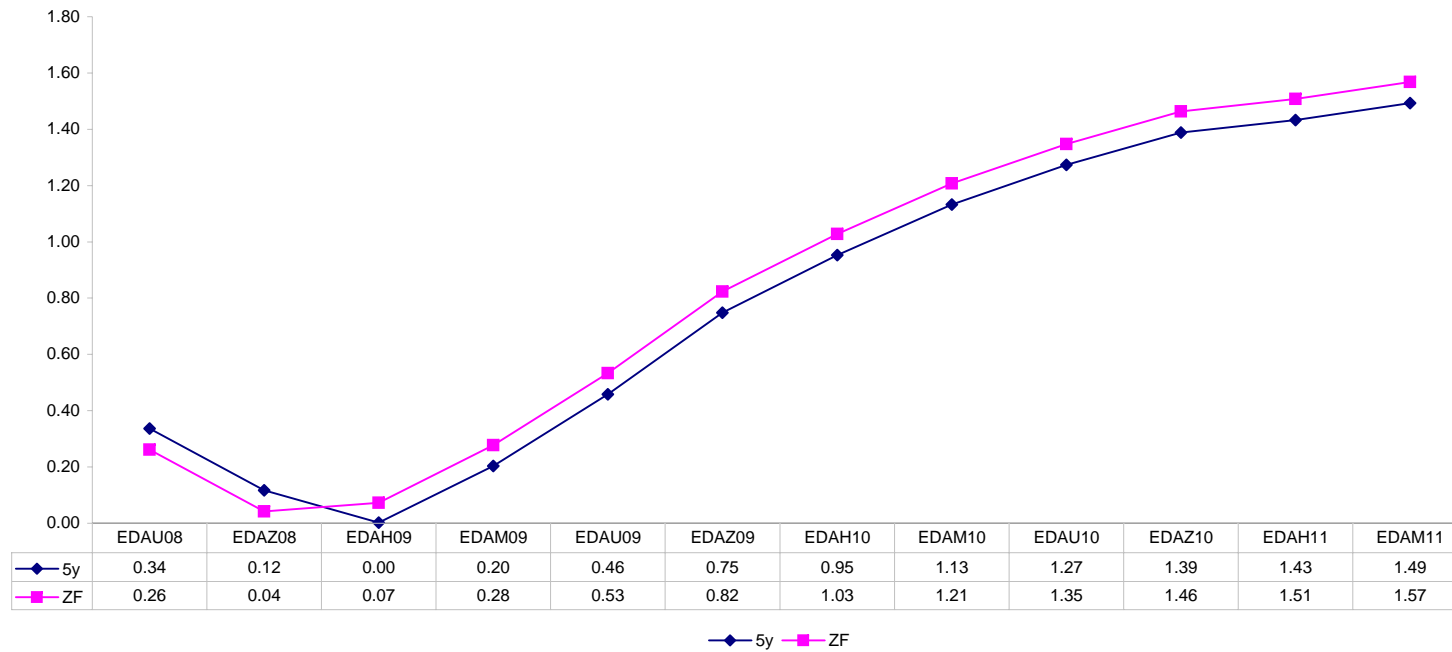
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



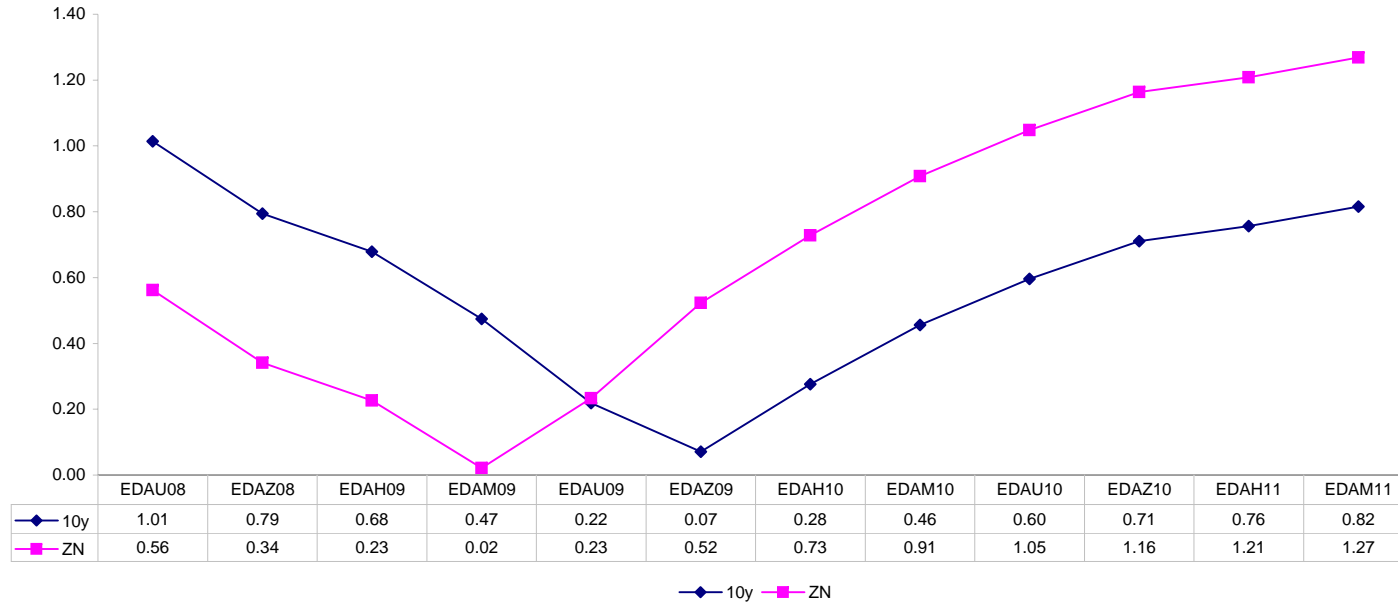
2y Basis TED Curve



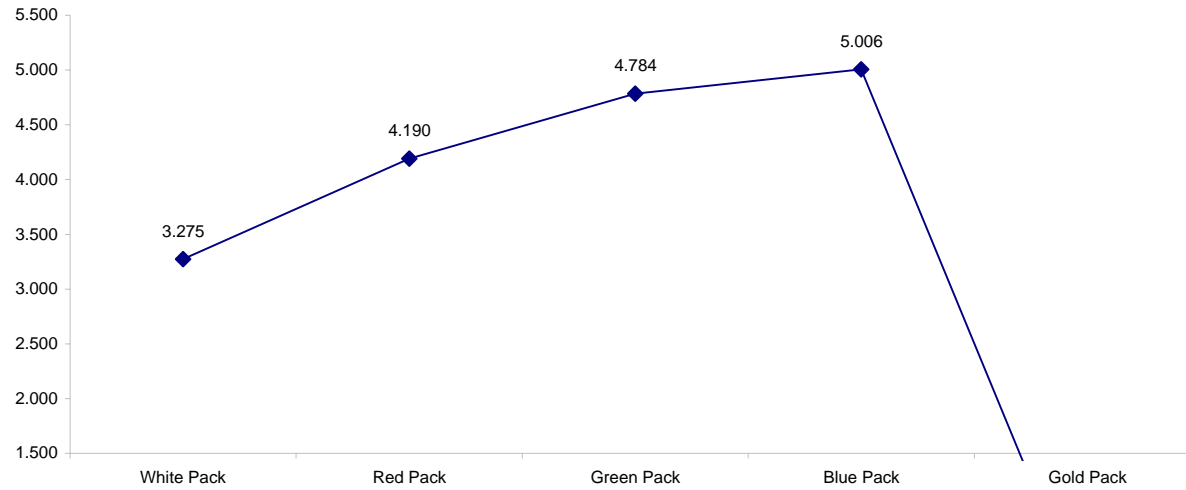
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.275	1.000	9679.625
Red Pack	4.190	1.625	9591.000
Green Pack	4.784	0.375	9533.625
Blue Pack	5.006	-0.875	9512.250
Gold Pack		-1.000	9496.250



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

