

## **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	106.1781	106.057	2.352	1.89
ZF	111.8656	111.277	2.988	4.03
ZN	115.5781	115.185	3.581	6.45
2y	100.984	100.3150	2.358	1.89
5y	101.319	101.1020	3.086	4.53
10y	100.453	100.1450	3.819	8.06

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.160	2.840	61	0.166	SEP	
EDAZ08	97.045	2.955	152	0.416	DEC	White
EDAH09	97.030	2.970	243	0.665	MAR	Pack
EDAM09	96.875	3.125	334	0.914	JUN	
EDAU09	96.615	3.385	425	1.164	SEP	
EDAZ09	96.300	3.700	516	1.413	DEC	Red
EDAH10	96.060	3.940	607	1.662	MAR	Pack
EDAM10	95.865	4.135	698	1.912	JUN	
EDAU10	95.720	4.280	789	2.161	SEP	
EDAZ10	95.600	4.400	880	2.410	DEC	Green
EDAH11	95.565	4.435	971	2.660	MAR	Pack
EDAM11	95.510	4.490	1062	2.909	JUN	
EDAU11	95.460	4.540	1160	3.177	SEP	
EDAZ11	95.390	4.610	1251	3.427	DEC	Blue Pack
EDAH12	95.370	4.630	1342	3.676	MAR	
EDAM12	95.305	4.695	1433	3.925	JUN	
EDAU12	95.285	4.715	1524	4.175	SEP	
EDAZ12	95.230	4.770	1615	4.424	DEC	Gold Pack
EDAH13	95.195	4.805	1706	4.673	MAR	
EDAM13	95.135	4.865	1797	4.923	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.036	9.250	9702.750	Pack Prices
Red Pack	3.880	9.875	9621.000	
Green Pack	4.512	7.250	9559.875	
Blue Pack	4.738	6.875	9538.125	
Gold Pack	4.927	9.125	9519.875	

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.

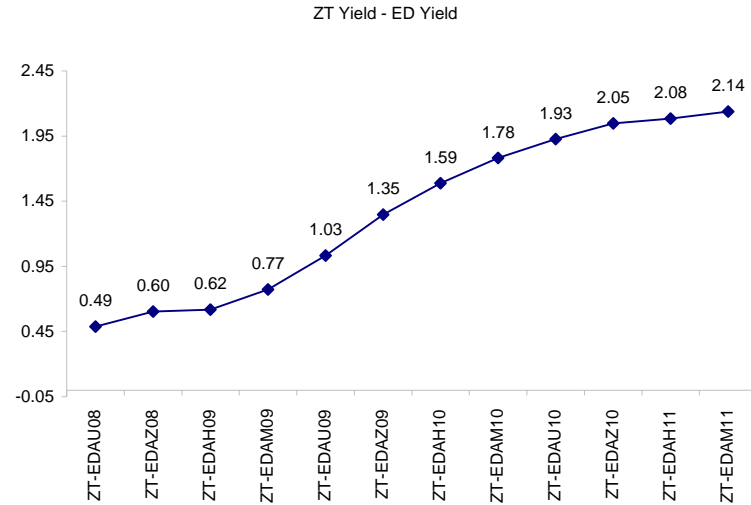
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

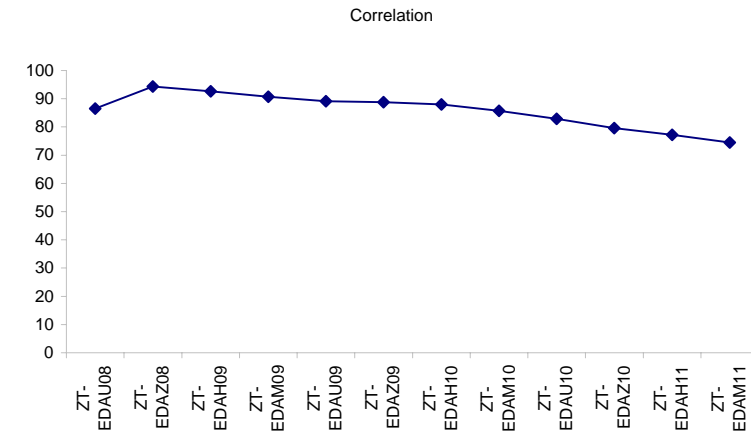
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	9.018	0.49	ZT-EDAU08	86.475
EDAZ08	9.133	0.60	ZT-EDAZ08	94.302
EDAH09	9.148	0.62	ZT-EDAH09	92.588
EDAM09	9.303	0.77	ZT-EDAM09	90.646
EDAU09	9.563	1.03	ZT-EDAU09	89.100
EDAZ09	9.878	1.35	ZT-EDAZ09	88.771
EDAH10	10.118	1.59	ZT-EDAH10	87.956
EDAM10	10.313	1.78	ZT-EDAM10	85.701
EDAU10	10.458	1.93	ZT-EDAU10	82.830
EDAZ10	10.578	2.05	ZT-EDAZ10	79.581
EDAH11	10.613	2.08	ZT-EDAH11	77.211
EDAM11	10.668	2.14	ZT-EDAM11	74.531

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	0.166	1.89	1.72	ZT-EDAU08		
EDAZ08	0.416	1.89	1.47	ZT-EDAZ08		
EDAH09	0.665	1.89	1.22	ZT-EDAH09		
EDAM09	0.914	1.89	0.98	ZT-EDAM09		
EDAU09	1.164	1.89	0.73	ZT-EDAU09		
EDAZ09	1.413	1.89	0.48	ZT-EDAZ09		
EDAH10	1.662	1.89	0.23	ZT-EDAH10		
EDAM10	1.912	1.89	(0.02)	ZT-EDAM10		
EDAU10	2.161	1.89	(0.27)	ZT-EDAU10		
EDAZ10	2.410	1.89	(0.52)	ZT-EDAZ10		
EDAH11	2.660	1.89	(0.77)	ZT-EDAH11		
EDAM11	2.909	1.89	(1.02)	ZT-EDAM11		

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

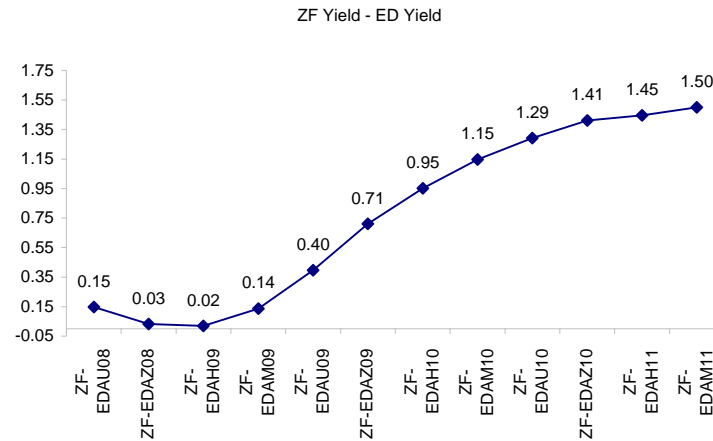


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	14.706	0.15	ZF-EDAU08	80.461
EDAZ08	14.821	0.03	ZF-EDAZ08	90.578
EDAH09	14.836	0.02	ZF-EDAH09	94.719
EDAM09	14.991	0.14	ZF-EDAM09	95.882
EDAU09	15.251	0.40	ZF-EDAU09	95.987
EDAZ09	15.566	0.71	ZF-EDAZ09	96.387
EDAH10	15.806	0.95	ZF-EDAH10	96.050
EDAM10	16.001	1.15	ZF-EDAM10	94.808
EDAU10	16.146	1.29	ZF-EDAU10	93.365
EDAZ10	16.266	1.41	ZF-EDAZ10	91.479
EDAH11	16.301	1.45	ZF-EDAH11	89.979
EDAM11	16.356	1.50	ZF-EDAM11	88.255

Price = Outright Decimal Price - Euro Contract Price

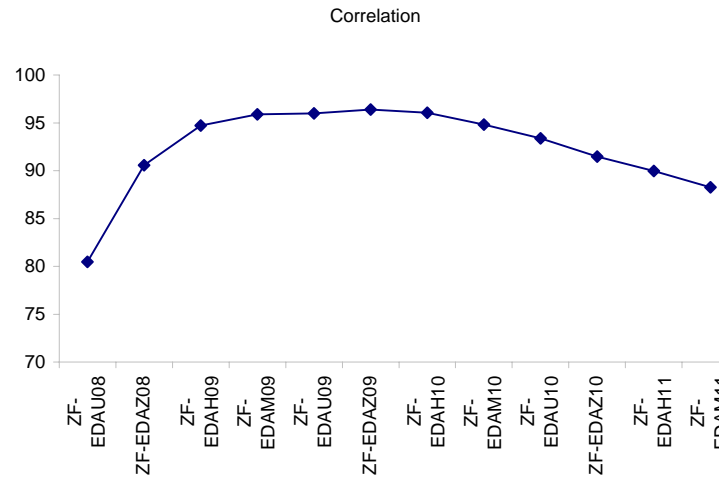
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU08	0.166	4.03	3.86	ZF-EDAU08	
EDAZ08	0.416	4.03	3.61	ZF-EDAZ08	
EDAH09	0.665	4.03	3.36	ZF-EDAH09	
EDAM09	0.914	4.03	3.11	ZF-EDAM09	
EDAU09	1.164	4.03	2.86	ZF-EDAU09	
EDAZ09	1.413	4.03	2.61	ZF-EDAZ09	
EDAH10	1.662	4.03	2.36	ZF-EDAH10	
EDAM10	1.912	4.03	2.12	ZF-EDAM10	
EDAU10	2.161	4.03	1.87	ZF-EDAU10	
EDAZ10	2.410	4.03	1.62	ZF-EDAZ10	
EDAH11	2.660	4.03	1.37	ZF-EDAH11	
EDAM11	2.909	4.03	1.12	ZF-EDAM11	

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

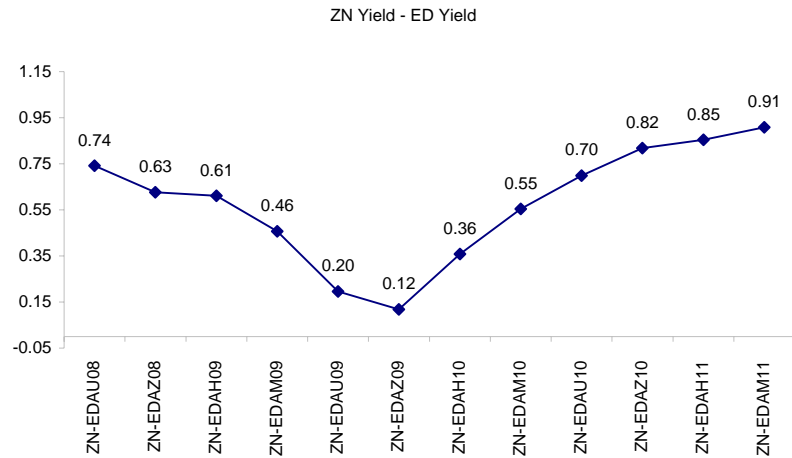


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	18.418	0.74	ZN-EDAU08	73.564
EDAZ08	18.533	0.63	ZN-EDAZ08	88.912
EDAH09	18.548	0.61	ZN-EDAH09	92.833
EDAM09	18.703	0.46	ZN-EDAM09	93.521
EDAU09	18.963	0.20	ZN-EDAU09	93.390
EDAZ09	19.278	0.12	ZN-EDAZ09	93.703
EDAH10	19.518	0.36	ZN-EDAH10	96.050
EDAM10	19.713	0.55	ZN-EDAM10	94.808
EDAU10	19.858	0.70	ZN-EDAU10	93.365
EDAZ10	19.978	0.82	ZN-EDAZ10	91.479
EDAH11	20.013	0.85	ZN-EDAH11	89.979
EDAM11	20.068	0.91	ZN-EDAM11	88.255

Price = Outright Decimal Price - Euro Contract Price

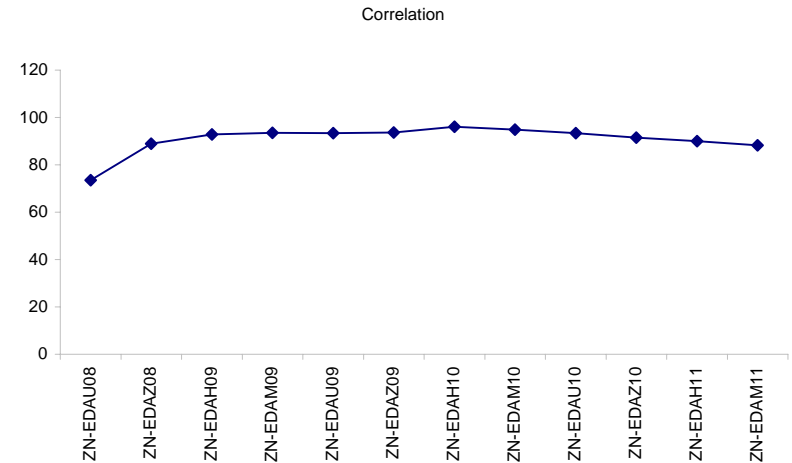
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.166	6.45	6.29	ZN-EDAU08		
EDAZ08	0.416	6.45	6.04	ZN-EDAZ08		
EDAH09	0.665	6.45	5.79	ZN-EDAH09		
EDAM09	0.914	6.45	5.54	ZN-EDAM09		
EDAU09	1.164	6.45	5.29	ZN-EDAU09		
EDAZ09	1.413	6.45	5.04	ZN-EDAZ09		
EDAH10	1.662	6.45	4.79	ZN-EDAH10		
EDAM10	1.912	6.45	4.54	ZN-EDAM10		
EDAU10	2.161	6.45	4.29	ZN-EDAU10		
EDAZ10	2.410	6.45	4.04	ZN-EDAZ10		
EDAH11	2.660	6.45	3.79	ZN-EDAH11		
EDAM11	2.909	6.45	3.55	ZN-EDAM11		

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

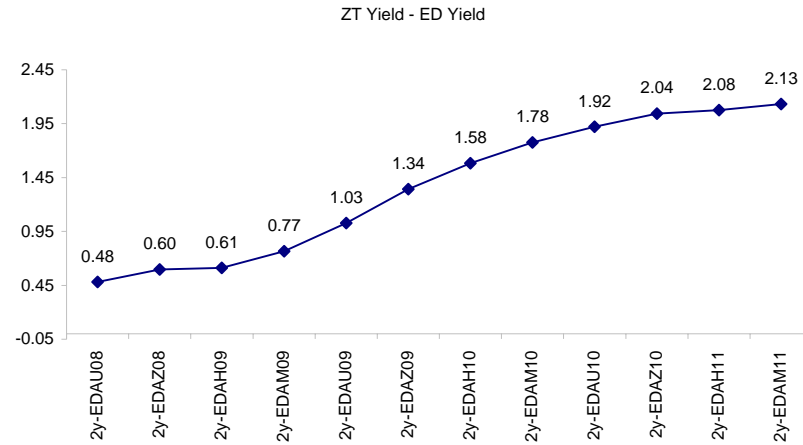


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.824	0.48	2y-EDAU08	-83.016
EDAZ08	3.939	0.60	2y-EDAZ08	-93.685
EDAH09	3.954	0.61	2y-EDAH09	-92.859
EDAM09	4.109	0.77	2y-EDAM09	-91.366
EDAU09	4.369	1.03	2y-EDAU09	-90.048
EDAZ09	4.684	1.34	2y-EDAZ09	-89.255
EDAH10	4.924	1.58	2y-EDAH10	-87.625
EDAM10	5.119	1.78	2y-EDAM10	-84.925
EDAU10	5.264	1.92	2y-EDAU10	-82.344
EDAZ10	5.384	2.04	2y-EDAZ10	-79.118
EDAH11	5.419	2.08	2y-EDAH11	-76.162
EDAM11	5.474	2.13	2y-EDAM11	-73.884

Price = Outright Decimal Price - Euro Contract Price

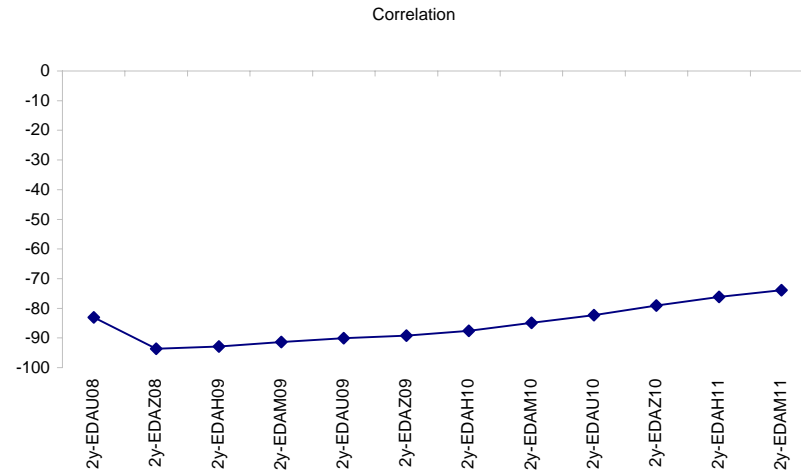
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.166	1.89	1.72	2y-EDAU08
EDAZ08	0.416	1.89	1.47	2y-EDAZ08
EDAH09	0.665	1.89	1.22	2y-EDAH09
EDAM09	0.914	1.89	0.98	2y-EDAM09
EDAU09	1.164	1.89	0.73	2y-EDAU09
EDAZ09	1.413	1.89	0.48	2y-EDAZ09
EDAH10	1.662	1.89	0.23	2y-EDAH10
EDAM10	1.912	1.89	(0.02)	2y-EDAM10
EDAU10	2.161	1.89	(0.27)	2y-EDAU10
EDAZ10	2.410	1.89	(0.52)	2y-EDAZ10
EDAH11	2.660	1.89	(0.77)	2y-EDAH11
EDAM11	2.909	1.89	(1.02)	2y-EDAM11

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

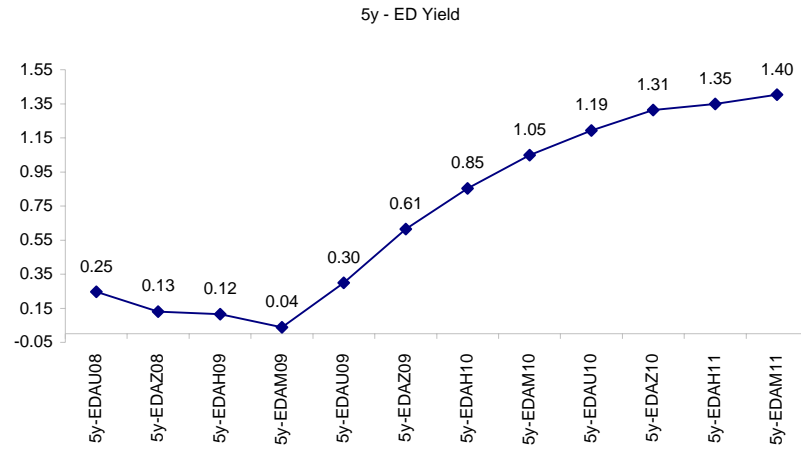


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	4.159	0.25	5y-EDAU08	-77.850
EDAZ08	4.274	0.13	5y-EDAZ08	-90.487
EDAH09	4.289	0.12	5y-EDAH09	-93.241
EDAM09	4.444	0.04	5y-EDAM09	-94.253
EDAU09	4.704	0.30	5y-EDAU09	-94.646
EDAZ09	5.019	0.61	5y-EDAZ09	-94.992
EDAH10	5.259	0.85	5y-EDAH10	-94.434
EDAM10	5.454	1.05	5y-EDAM10	-92.916
EDAU10	5.599	1.19	5y-EDAU10	-91.446
EDAZ10	5.719	1.31	5y-EDAZ10	-89.092
EDAH11	5.754	1.35	5y-EDAH11	-86.567
EDAM11	5.809	1.40	5y-EDAM11	-84.808

Price = Outright Decimal Price - Euro Contract Price

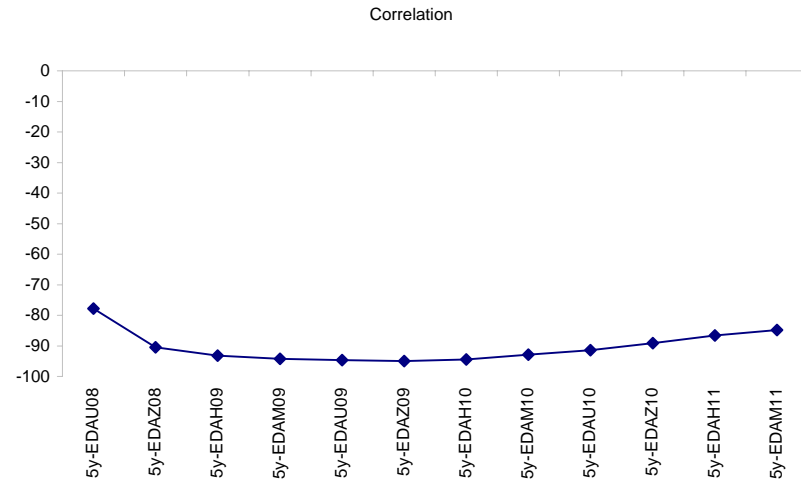
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.166	4.53	4.36	5y-EDAU08
EDAZ08	0.416	4.53	4.11	5y-EDAZ08
EDAH09	0.665	4.53	3.86	5y-EDAH09
EDAM09	0.914	4.53	3.62	5y-EDAM09
EDAU09	1.164	4.53	3.37	5y-EDAU09
EDAZ09	1.413	4.53	3.12	5y-EDAZ09
EDAH10	1.662	4.53	2.87	5y-EDAH10
EDAM10	1.912	4.53	2.62	5y-EDAM10
EDAU10	2.161	4.53	2.37	5y-EDAU10
EDAZ10	2.410	4.53	2.12	5y-EDAZ10
EDAH11	2.660	4.53	1.87	5y-EDAH11
EDAM11	2.909	4.53	1.62	5y-EDAM11

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



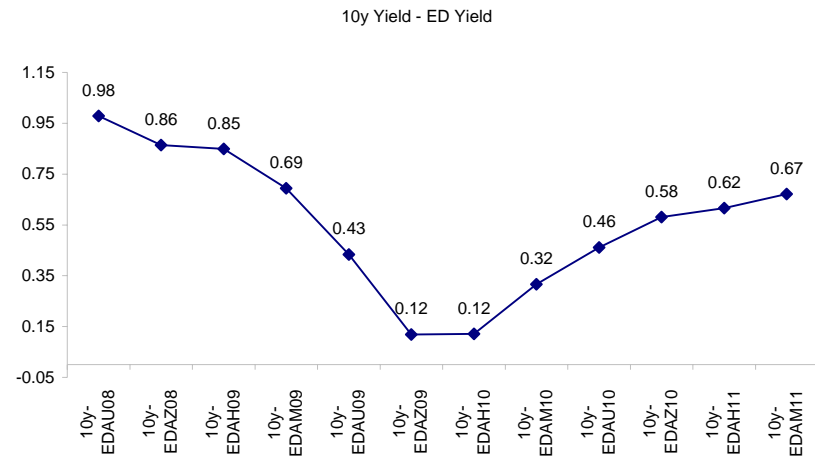


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	4.159	0.98	10y-EDAU08	-74.504
EDAZ08	4.274	0.86	10y-EDAZ08	-86.935
EDAH09	4.289	0.85	10y-EDAH09	-91.096
EDAM09	4.444	0.69	10y-EDAM09	-92.977
EDAU09	4.704	0.43	10y-EDAU09	-94.115
EDAZ09	5.019	0.12	10y-EDAZ09	-95.221
EDAH10	5.259	0.12	10y-EDAH10	-95.437
EDAM10	5.454	0.32	10y-EDAM10	-94.553
EDAU10	5.599	0.46	10y-EDAU10	-93.621
EDAZ10	5.719	0.58	10y-EDAZ10	-91.831
EDAH11	5.754	0.62	10y-EDAH11	-89.741
EDAM11	5.809	0.67	10y-EDAM11	-88.195

Price = Outright Decimal Price - Euro Contract Price

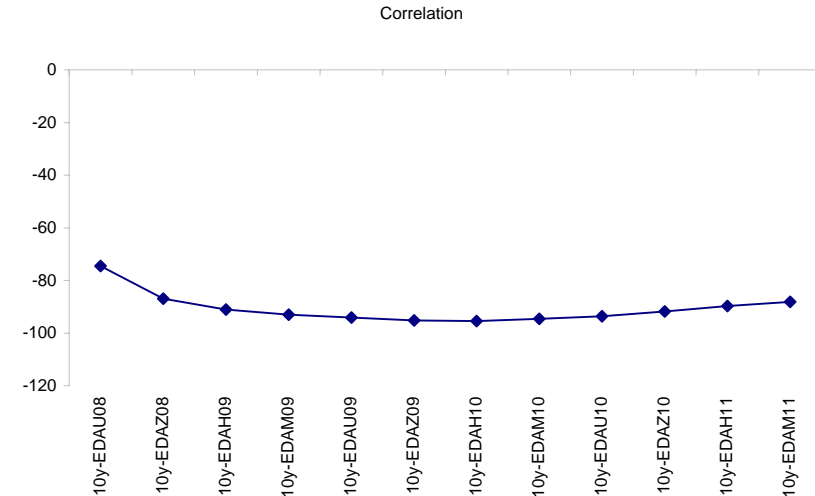
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	10Y Duration	Spread Duration		
EDAU08	0.166	8.06	7.90	10y-EDAU08
EDAZ08	0.416	8.06	7.65	10y-EDAZ08
EDAH09	0.665	8.06	7.40	10y-EDAH09
EDAM09	0.914	8.06	7.15	10y-EDAM09
EDAU09	1.164	8.06	6.90	10y-EDAU09
EDAZ09	1.413	8.06	6.65	10y-EDAZ09
EDAH10	1.662	8.06	6.40	10y-EDAH10
EDAM10	1.912	8.06	6.15	10y-EDAM10
EDAU10	2.161	8.06	5.90	10y-EDAU10
EDAZ10	2.410	8.06	5.65	10y-EDAZ10
EDAH11	2.660	8.06	5.40	10y-EDAH11
EDAM11	2.909	8.06	5.16	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.

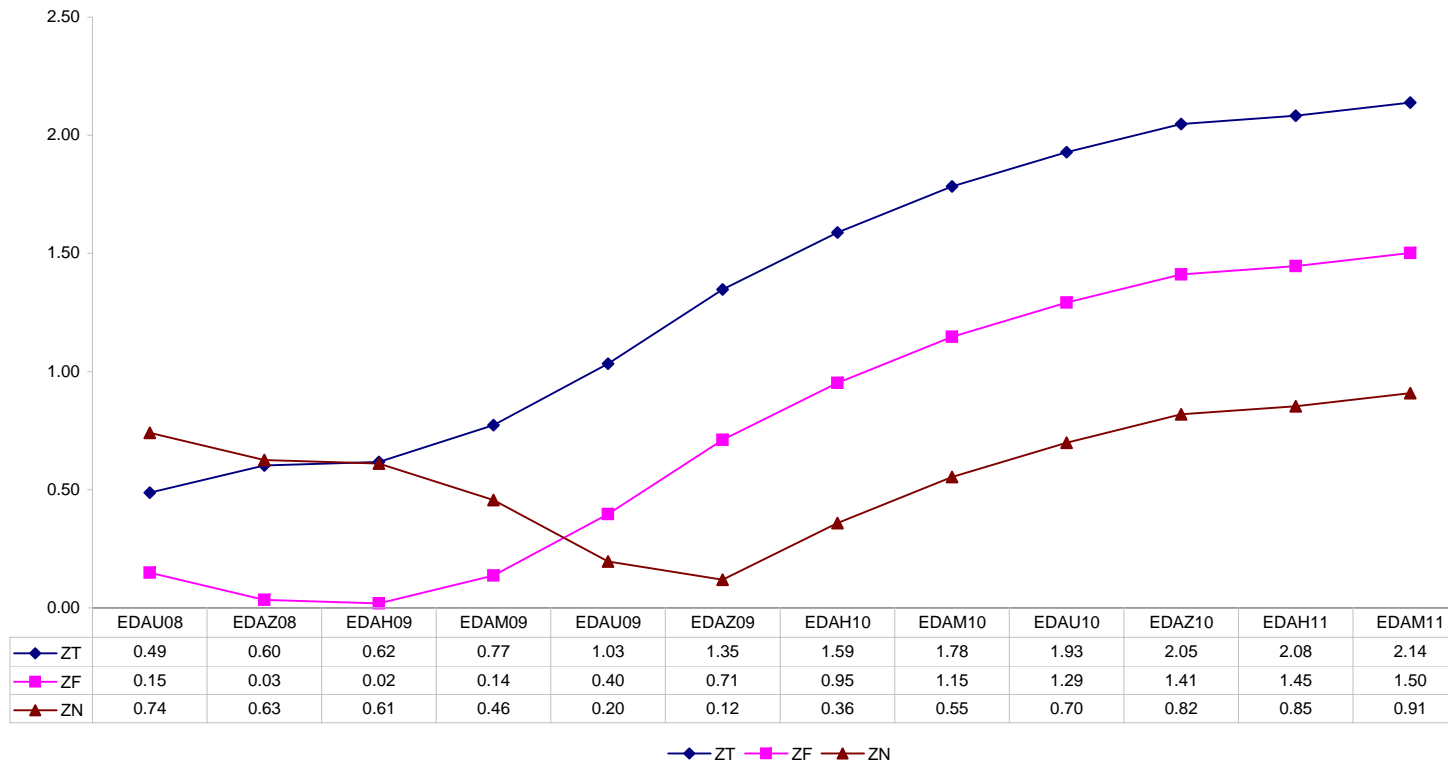
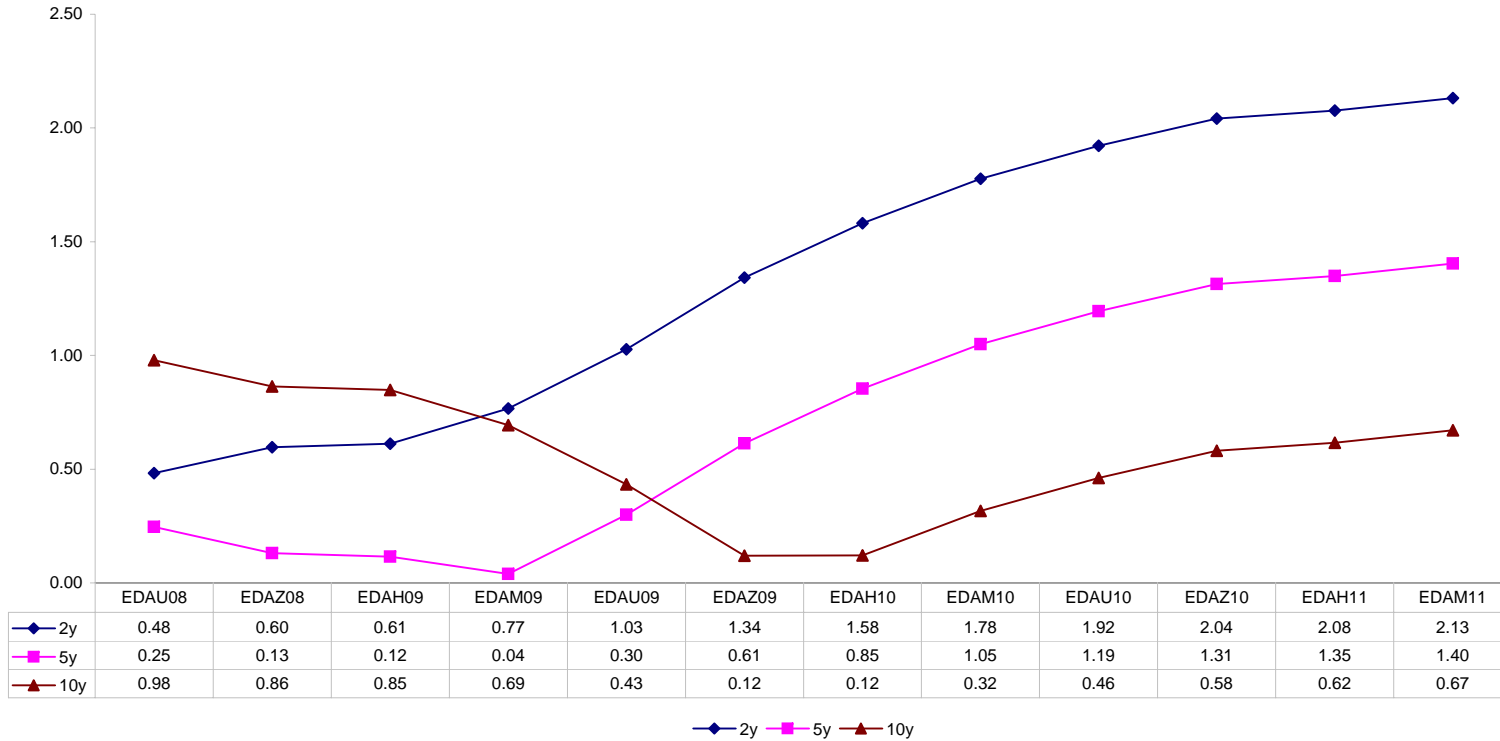
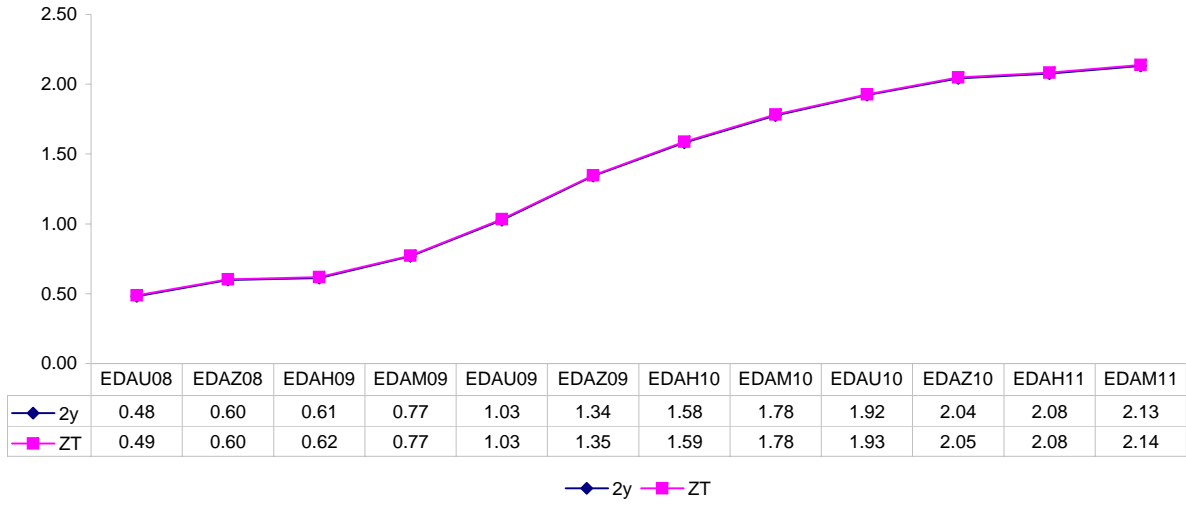


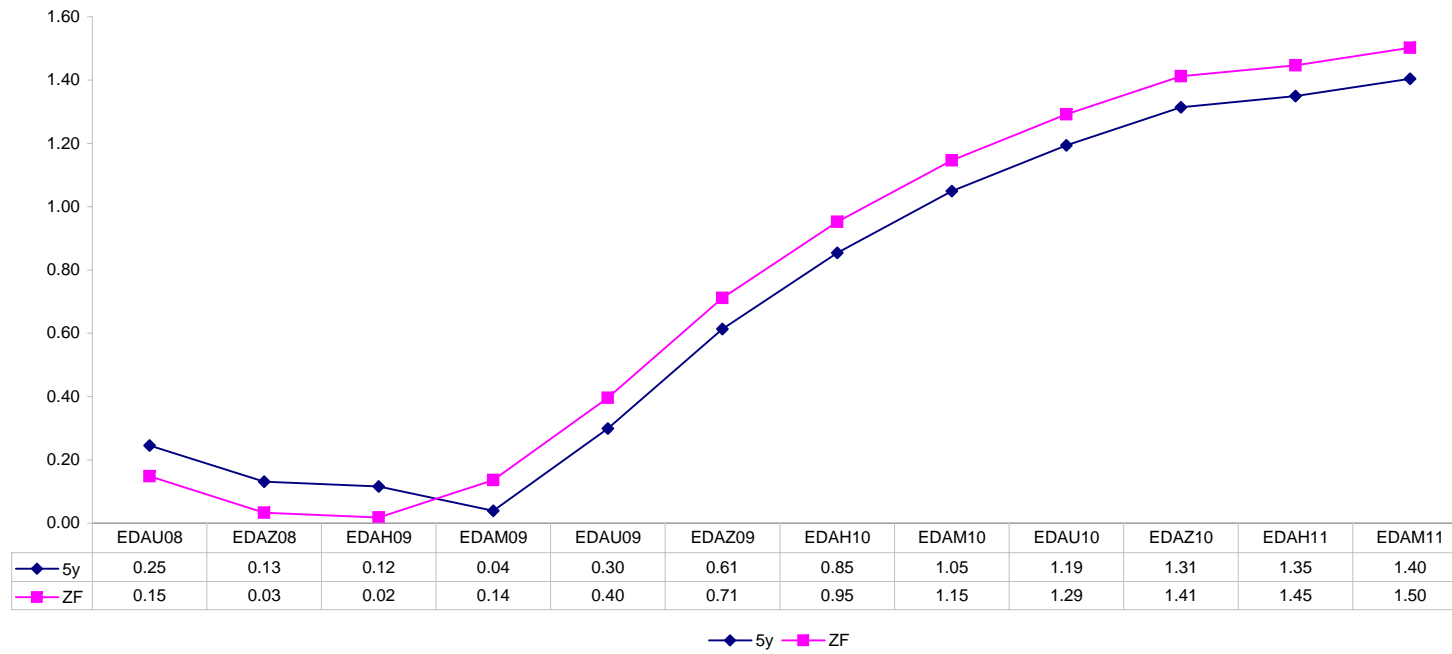
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



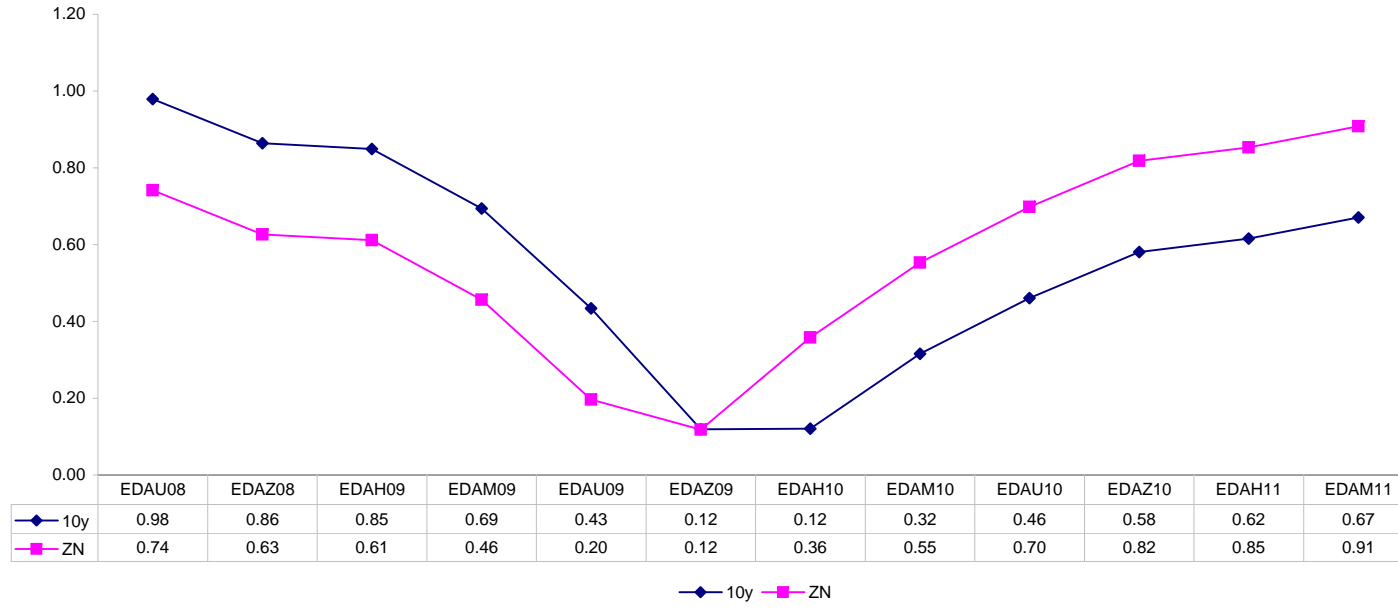
2y Basis TED Curve



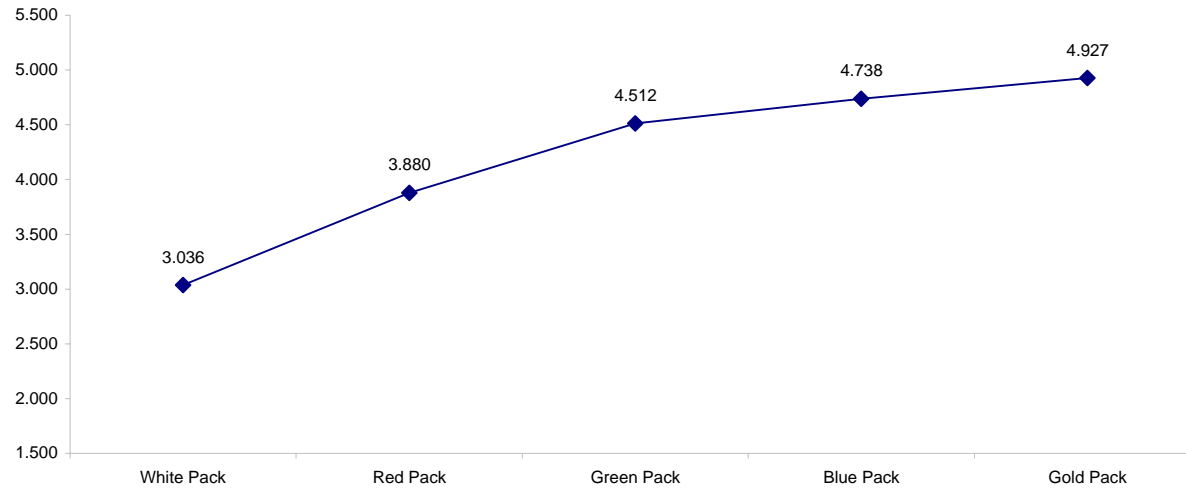
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.036	9.250	9702.750
Red Pack	3.880	9.875	9621.000
Green Pack	4.512	7.250	9559.875
Blue Pack	4.738	6.875	9538.125
Gold Pack	4.927	9.125	9519.875



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

