

## **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	105.7094	105.227	2.603	1.89
ZF	110.8594	110.275	3.218	4.03
ZN	114.2344	114.075	3.792	6.44
2y	100.516	100.1650	2.600	1.89
5y	100.366	100.1170	3.291	4.53
10y	99.266	99.0850	3.963	8.05

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.090	2.910	63	0.172	SEP	
EDAZ08	96.895	3.105	154	0.421	DEC	White Pack
EDAH09	96.840	3.160	245	0.671	MAR	
EDAM09	96.675	3.325	336	0.920	JUN	
EDAU09	96.420	3.580	427	1.169	SEP	
EDAZ09	96.115	3.885	518	1.419	DEC	Red Pack
EDAH10	95.885	4.115	609	1.668	MAR	
EDAM10	95.700	4.300	700	1.917	JUN	
EDAU10	95.565	4.435	791	2.166	SEP	
EDAZ10	95.455	4.545	882	2.416	DEC	Green Pack
EDAH11	95.420	4.580	973	2.665	MAR	
EDAM11	95.385	4.615	1064	2.914	JUN	
EDAU11	95.340	4.660	1162	3.183	SEP	
EDAZ11	95.265	4.735	1253	3.432	DEC	Blue Pack
EDAH12	95.195	4.805	1344	3.682	MAR	
EDAM12	95.200	4.800	1435	3.931	JUN	
EDAU12	95.150	4.850	1526	4.180	SEP	
EDAZ12	#VALUE!	#VALUE!	1617	4.429	DEC	Gold Pack
EDAH13	95.015	4.985	1708	4.679	MAR	
EDAM13	94.935	5.065	1799	4.928	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.193	2.125	9687.500	
Red Pack	4.066	1.750	9603.000	Pack Prices
Green Pack	4.660	0.250	9545.625	
Blue Pack	4.874	-2.000	9525.000	
Gold Pack		-2.375	9506.125	

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.

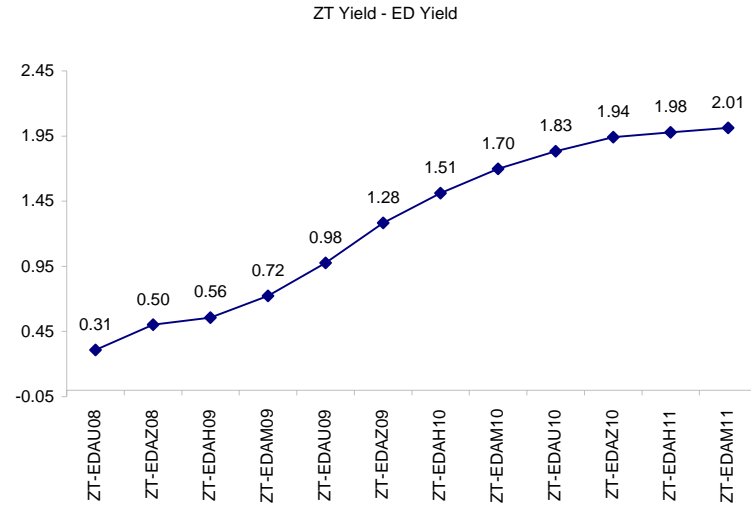
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

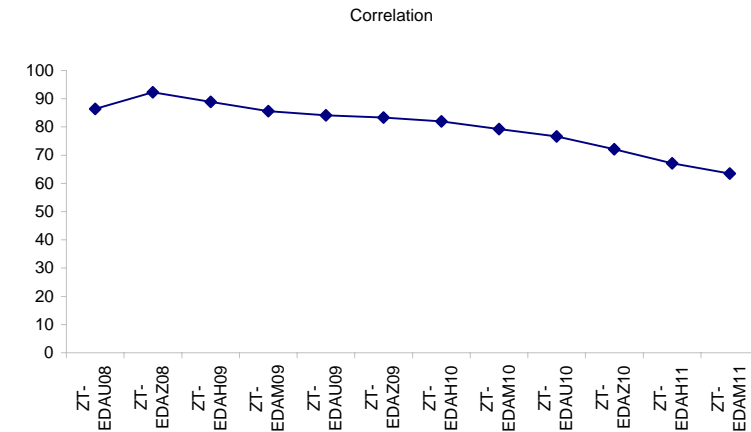
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.619	0.31	ZT-EDAU08	86.406
EDAZ08	8.814	0.50	ZT-EDAZ08	92.322
EDAH09	8.869	0.56	ZT-EDAH09	88.915
EDAM09	9.034	0.72	ZT-EDAM09	85.649
EDAU09	9.289	0.98	ZT-EDAU09	84.126
EDAZ09	9.594	1.28	ZT-EDAZ09	83.302
EDAH10	9.824	1.51	ZT-EDAH10	82.006
EDAM10	10.009	1.70	ZT-EDAM10	79.235
EDAU10	10.144	1.83	ZT-EDAU10	76.615
EDAZ10	10.254	1.94	ZT-EDAZ10	72.094
EDAH11	10.289	1.98	ZT-EDAH11	67.153
EDAM11	10.324	2.01	ZT-EDAM11	63.440

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	0.172	1.89	1.72	ZT-EDAU08	
EDAZ08	0.421	1.89	1.47	ZT-EDAZ08	
EDAH09	0.671	1.89	1.22	ZT-EDAH09	
EDAM09	0.920	1.89	0.97	ZT-EDAM09	
EDAU09	1.169	1.89	0.72	ZT-EDAU09	
EDAZ09	1.419	1.89	0.47	ZT-EDAZ09	
EDAH10	1.668	1.89	0.22	ZT-EDAH10	
EDAM10	1.917	1.89	(0.02)	ZT-EDAM10	
EDAU10	2.166	1.89	(0.27)	ZT-EDAU10	
EDAZ10	2.416	1.89	(0.52)	ZT-EDAZ10	
EDAH11	2.665	1.89	(0.77)	ZT-EDAH11	
EDAM11	2.914	1.89	(1.02)	ZT-EDAM11	

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

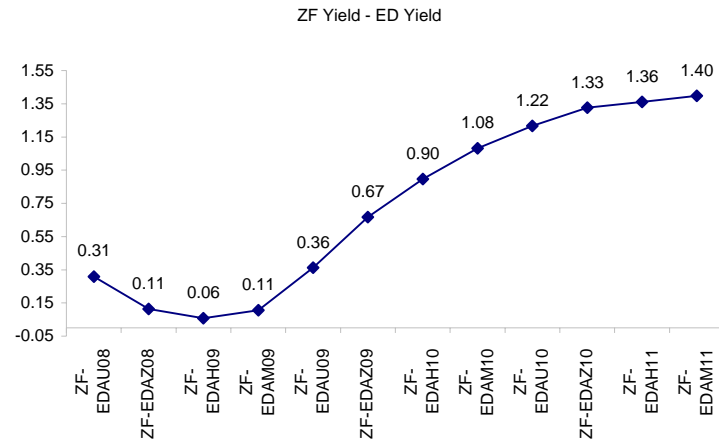


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	13.769	0.31	ZF-EDAU08	82.216
EDAZ08	13.964	0.11	ZF-EDAZ08	89.758
EDAH09	14.019	0.06	ZF-EDAH09	92.431
EDAM09	14.184	0.11	ZF-EDAM09	92.613
EDAU09	14.439	0.36	ZF-EDAU09	92.793
EDAZ09	14.744	0.67	ZF-EDAZ09	93.078
EDAH10	14.974	0.90	ZF-EDAH10	92.650
EDAM10	15.159	1.08	ZF-EDAM10	91.044
EDAU10	15.294	1.22	ZF-EDAU10	89.691
EDAZ10	15.404	1.33	ZF-EDAZ10	86.865
EDAH11	15.439	1.36	ZF-EDAH11	83.564
EDAM11	15.474	1.40	ZF-EDAM11	80.825

Price = Outright Decimal Price - Euro Contract Price

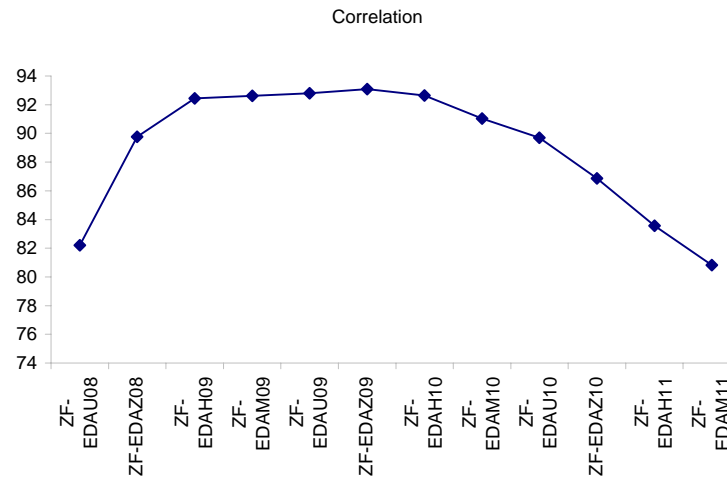
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year	ZF Duration	Spread Duration	
EDAU08	0.172	4.03	3.85	ZF-EDAU08
EDAZ08	0.421	4.03	3.60	ZF-EDAZ08
EDAH09	0.671	4.03	3.36	ZF-EDAH09
EDAM09	0.920	4.03	3.11	ZF-EDAM09
EDAU09	1.169	4.03	2.86	ZF-EDAU09
EDAZ09	1.419	4.03	2.61	ZF-EDAZ09
EDAH10	1.668	4.03	2.36	ZF-EDAH10
EDAM10	1.917	4.03	2.11	ZF-EDAM10
EDAU10	2.166	4.03	1.86	ZF-EDAU10
EDAZ10	2.416	4.03	1.61	ZF-EDAZ10
EDAH11	2.665	4.03	1.36	ZF-EDAH11
EDAM11	2.914	4.03	1.11	ZF-EDAM11

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

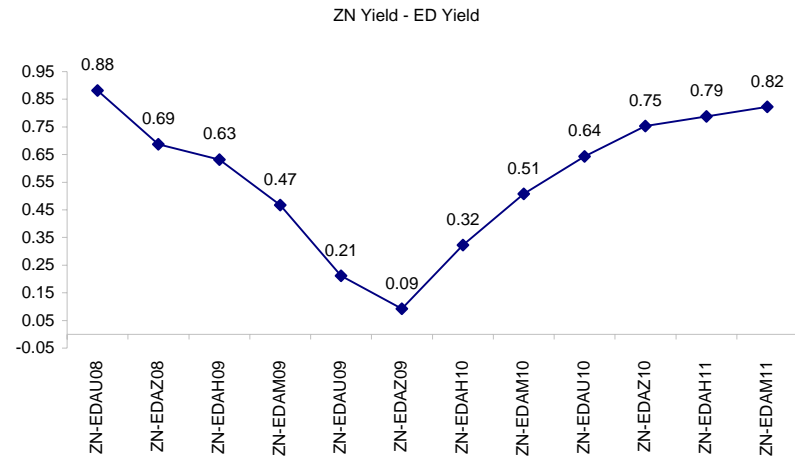


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	17.144	0.88	ZN-EDAU08	80.496
EDAZ08	17.339	0.69	ZN-EDAZ08	90.159
EDAH09	17.394	0.63	ZN-EDAH09	91.447
EDAM09	17.559	0.47	ZN-EDAM09	90.402
EDAU09	17.814	0.21	ZN-EDAU09	89.933
EDAZ09	18.119	0.09	ZN-EDAZ09	89.956
EDAH10	18.349	0.32	ZN-EDAH10	92.650
EDAM10	18.534	0.51	ZN-EDAM10	91.044
EDAU10	18.669	0.64	ZN-EDAU10	89.691
EDAZ10	18.779	0.75	ZN-EDAZ10	86.865
EDAH11	18.814	0.79	ZN-EDAH11	83.564
EDAM11	18.849	0.82	ZN-EDAM11	80.825

Price = Outright Decimal Price - Euro Contract Price

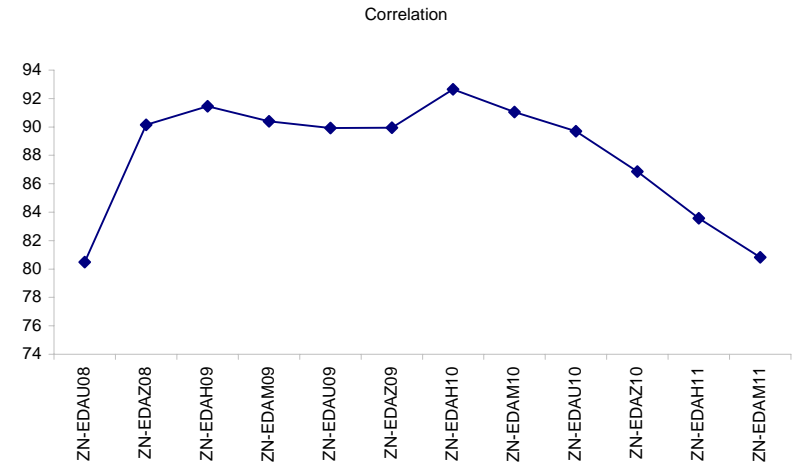
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.172	6.44	6.27	ZN-EDAU08		
EDAZ08	0.421	6.44	6.02	ZN-EDAZ08		
EDAH09	0.671	6.44	5.77	ZN-EDAH09		
EDAM09	0.920	6.44	5.52	ZN-EDAM09		
EDAU09	1.169	6.44	5.27	ZN-EDAU09		
EDAZ09	1.419	6.44	5.02	ZN-EDAZ09		
EDAH10	1.668	6.44	4.77	ZN-EDAH10		
EDAM10	1.917	6.44	4.53	ZN-EDAM10		
EDAU10	2.166	6.44	4.28	ZN-EDAU10		
EDAZ10	2.416	6.44	4.03	ZN-EDAZ10		
EDAH11	2.665	6.44	3.78	ZN-EDAH11		
EDAM11	2.914	6.44	3.53	ZN-EDAM11		

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

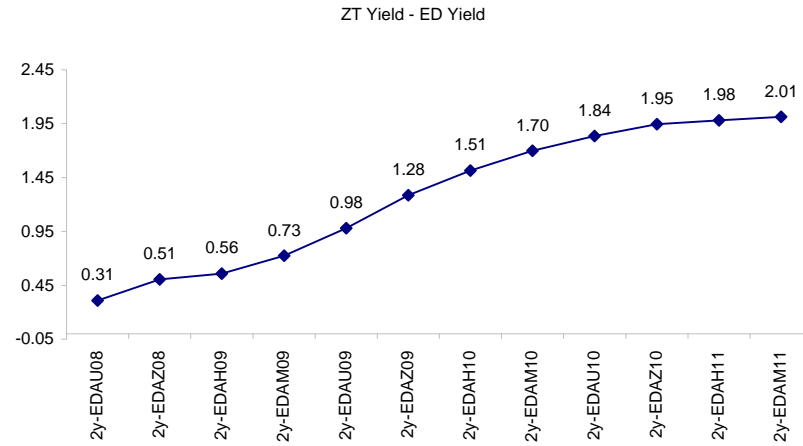


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.426	0.31	2y-EDAU08	-82.494
EDAZ08	3.621	0.51	2y-EDAZ08	-91.208
EDAH09	3.676	0.56	2y-EDAH09	-87.656
EDAM09	3.841	0.73	2y-EDAM09	-84.650
EDAU09	4.096	0.98	2y-EDAU09	-83.314
EDAZ09	4.401	1.28	2y-EDAZ09	-82.612
EDAH10	4.631	1.51	2y-EDAH10	-81.217
EDAM10	4.816	1.70	2y-EDAM10	-78.246
EDAU10	4.951	1.84	2y-EDAU10	-75.700
EDAZ10	5.061	1.95	2y-EDAZ10	-71.302
EDAH11	5.096	1.98	2y-EDAH11	-66.644
EDAM11	5.131	2.01	2y-EDAM11	-63.106

Price = Outright Decimal Price - Euro Contract Price

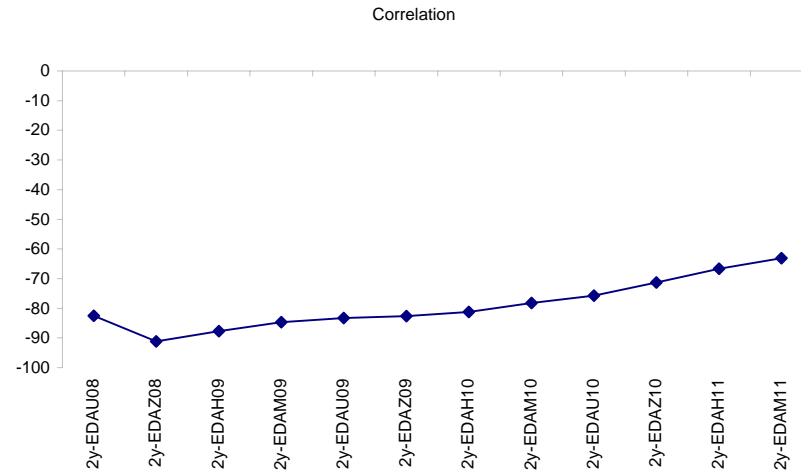
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.172	1.89	1.72	2y-EDAU08
EDAZ08	0.421	1.89	1.47	2y-EDAZ08
EDAH09	0.671	1.89	1.22	2y-EDAH09
EDAM09	0.920	1.89	0.97	2y-EDAM09
EDAU09	1.169	1.89	0.72	2y-EDAU09
EDAZ09	1.419	1.89	0.47	2y-EDAZ09
EDAH10	1.668	1.89	0.22	2y-EDAH10
EDAM10	1.917	1.89	(0.02)	2y-EDAM10
EDAU10	2.166	1.89	(0.27)	2y-EDAU10
EDAZ10	2.416	1.89	(0.52)	2y-EDAZ10
EDAH11	2.665	1.89	(0.77)	2y-EDAH11
EDAM11	2.914	1.89	(1.02)	2y-EDAM11

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

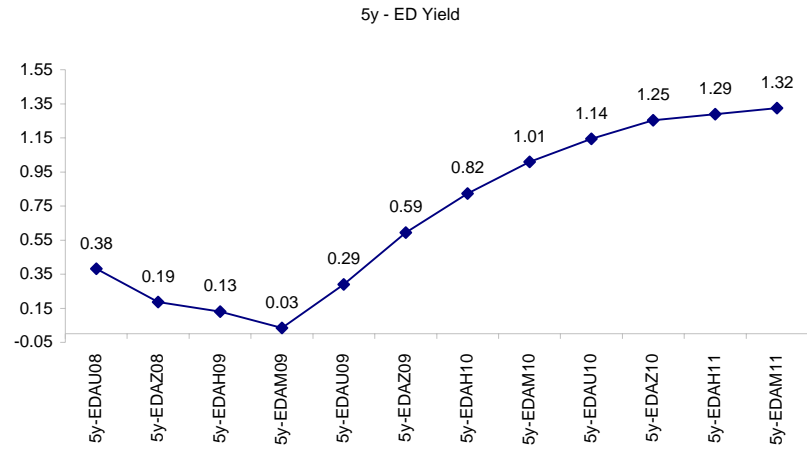


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.276	0.38	5y-EDAU08	-81.544
EDAZ08	3.471	0.19	5y-EDAZ08	-90.288
EDAH09	3.526	0.13	5y-EDAH09	-90.771
EDAM09	3.691	0.03	5y-EDAM09	-90.543
EDAU09	3.946	0.29	5y-EDAU09	-90.829
EDAZ09	4.251	0.59	5y-EDAZ09	-91.391
EDAH10	4.481	0.82	5y-EDAH10	-91.249
EDAM10	4.666	1.01	5y-EDAM10	-89.482
EDAU10	4.801	1.14	5y-EDAU10	-87.871
EDAZ10	4.911	1.25	5y-EDAZ10	-84.674
EDAH11	4.946	1.29	5y-EDAH11	-81.045
EDAM11	4.981	1.32	5y-EDAM11	-78.107

Price = Outright Decimal Price - Euro Contract Price

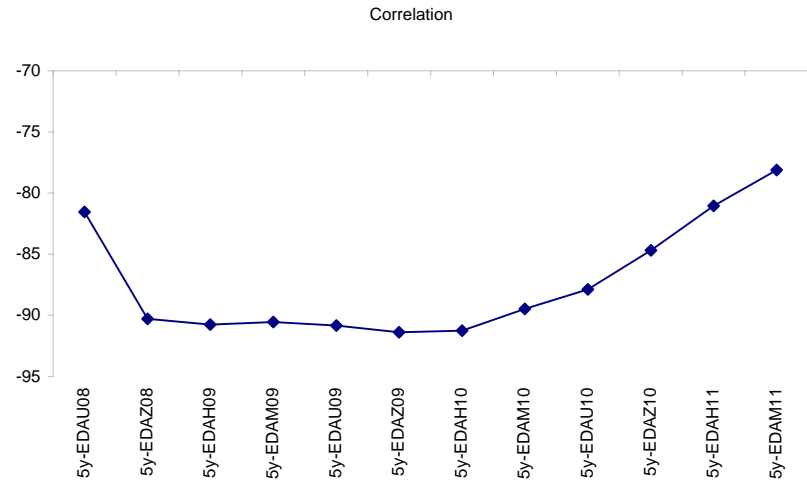
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.172	4.53	4.36	5y-EDAU08
EDAZ08	0.421	4.53	4.11	5y-EDAZ08
EDAH09	0.671	4.53	3.86	5y-EDAH09
EDAM09	0.920	4.53	3.61	5y-EDAM09
EDAU09	1.169	4.53	3.36	5y-EDAU09
EDAZ09	1.419	4.53	3.11	5y-EDAZ09
EDAH10	1.668	4.53	2.86	5y-EDAH10
EDAM10	1.917	4.53	2.61	5y-EDAM10
EDAU10	2.166	4.53	2.36	5y-EDAU10
EDAZ10	2.416	4.53	2.11	5y-EDAZ10
EDAH11	2.665	4.53	1.86	5y-EDAH11
EDAM11	2.914	4.53	1.61	5y-EDAM11

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

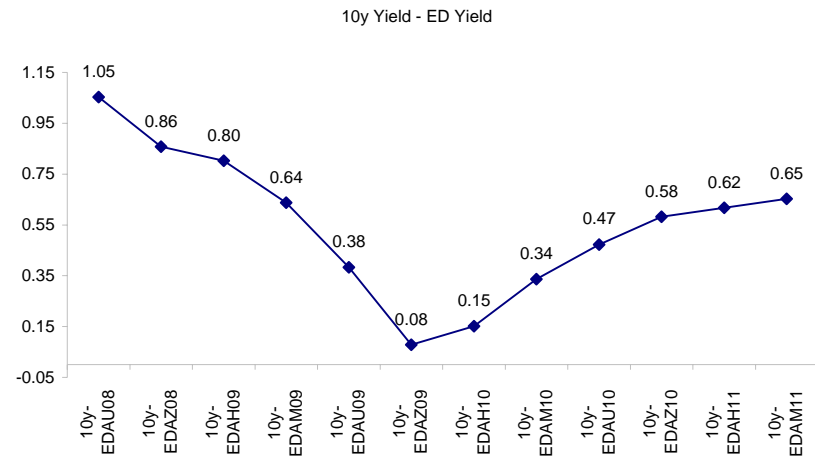


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.276	1.05	10y-EDAU08	-77.135
EDAZ08	3.471	0.86	10y-EDAZ08	-85.176
EDAH09	3.526	0.80	10y-EDAH09	-86.265
EDAM09	3.691	0.64	10y-EDAM09	-87.088
EDAU09	3.946	0.38	10y-EDAU09	-88.367
EDAZ09	4.251	0.08	10y-EDAZ09	-90.143
EDAH10	4.481	0.15	10y-EDAH10	-91.406
EDAM10	4.666	0.34	10y-EDAM10	-90.551
EDAU10	4.801	0.47	10y-EDAU10	-89.499
EDAZ10	4.911	0.58	10y-EDAZ10	-86.797
EDAH11	4.946	0.62	10y-EDAH11	-83.452
EDAM11	4.981	0.65	10y-EDAM11	-80.551

Price = Outright Decimal Price - Euro Contract Price

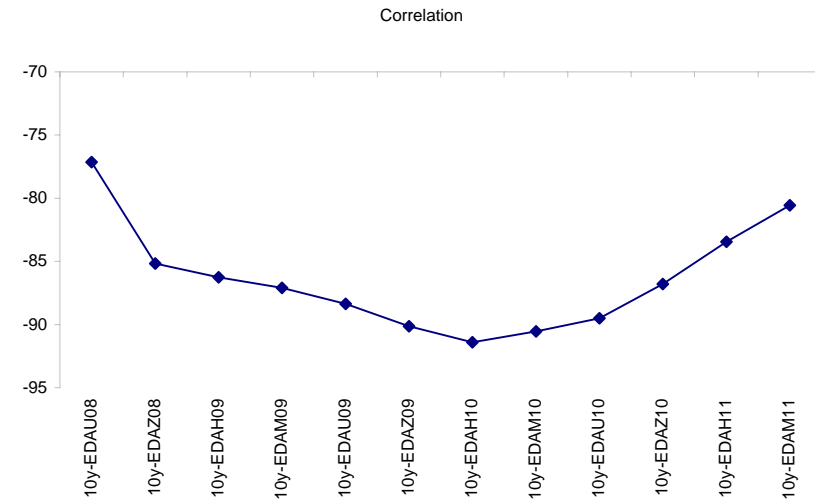
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.172	8.05	7.88	10y-EDAU08
EDAZ08	0.421	8.05	7.63	10y-EDAZ08
EDAH09	0.671	8.05	7.38	10y-EDAH09
EDAM09	0.920	8.05	7.13	10y-EDAM09
EDAU09	1.169	8.05	6.88	10y-EDAU09
EDAZ09	1.419	8.05	6.63	10y-EDAZ09
EDAH10	1.668	8.05	6.38	10y-EDAH10
EDAM10	1.917	8.05	6.13	10y-EDAM10
EDAU10	2.166	8.05	5.89	10y-EDAU10
EDAZ10	2.416	8.05	5.64	10y-EDAZ10
EDAH11	2.665	8.05	5.39	10y-EDAH11
EDAM11	2.914	8.05	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.

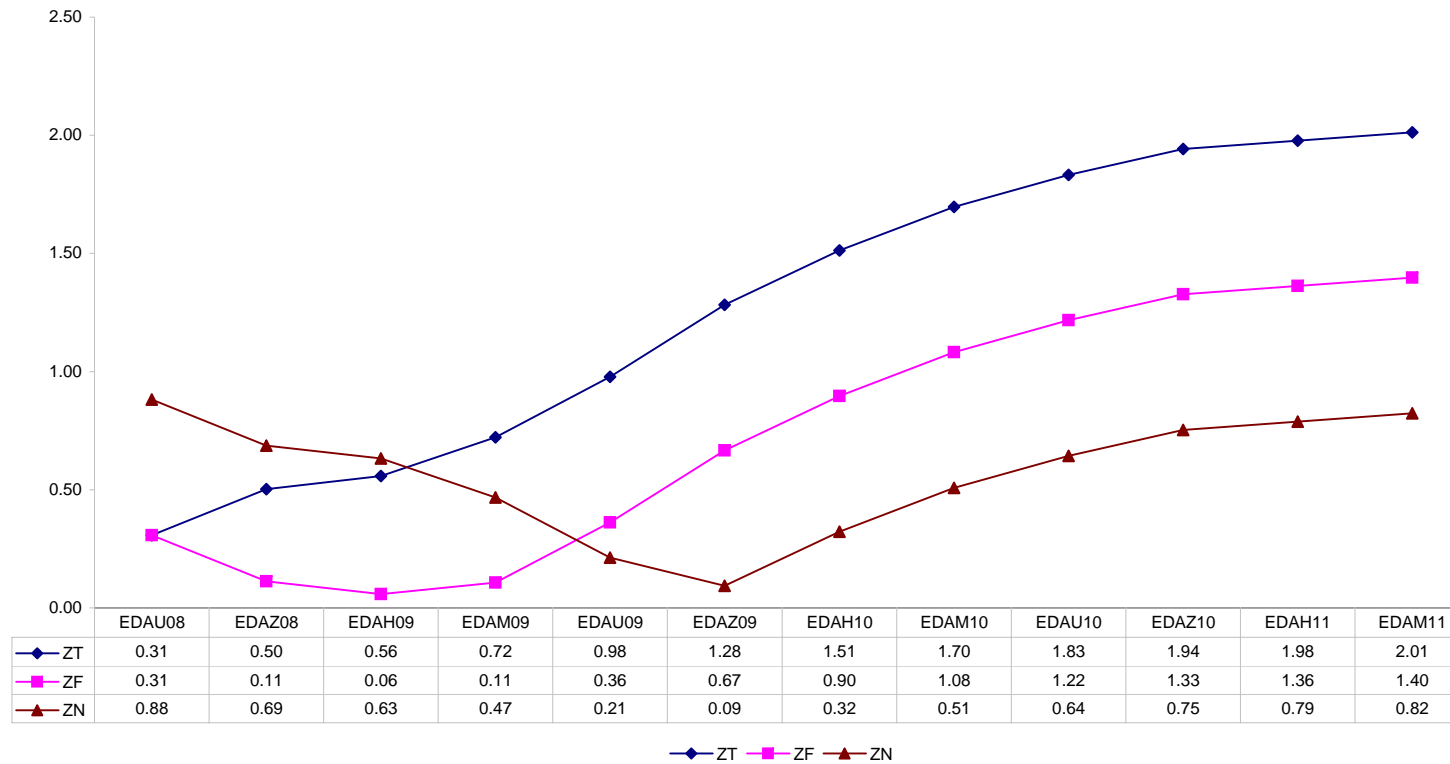
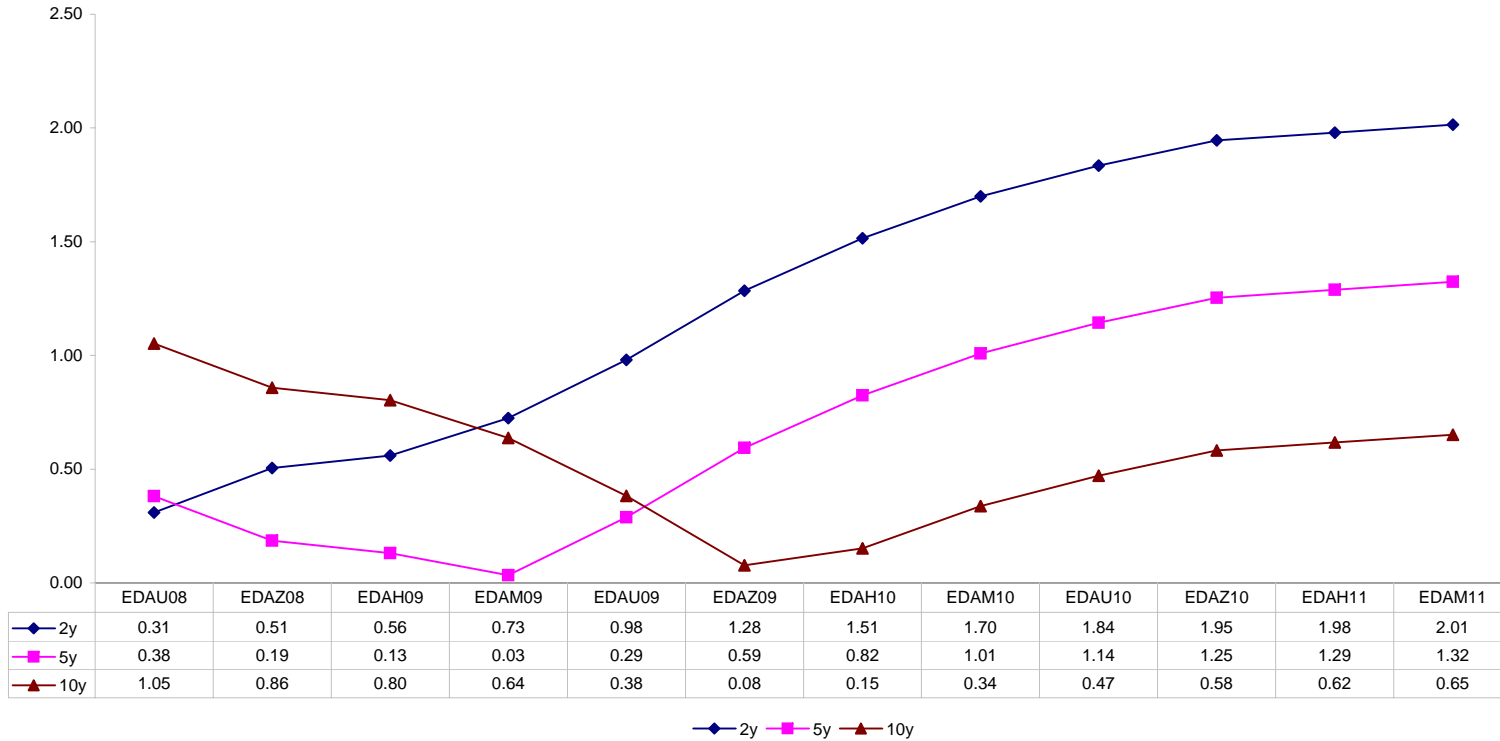
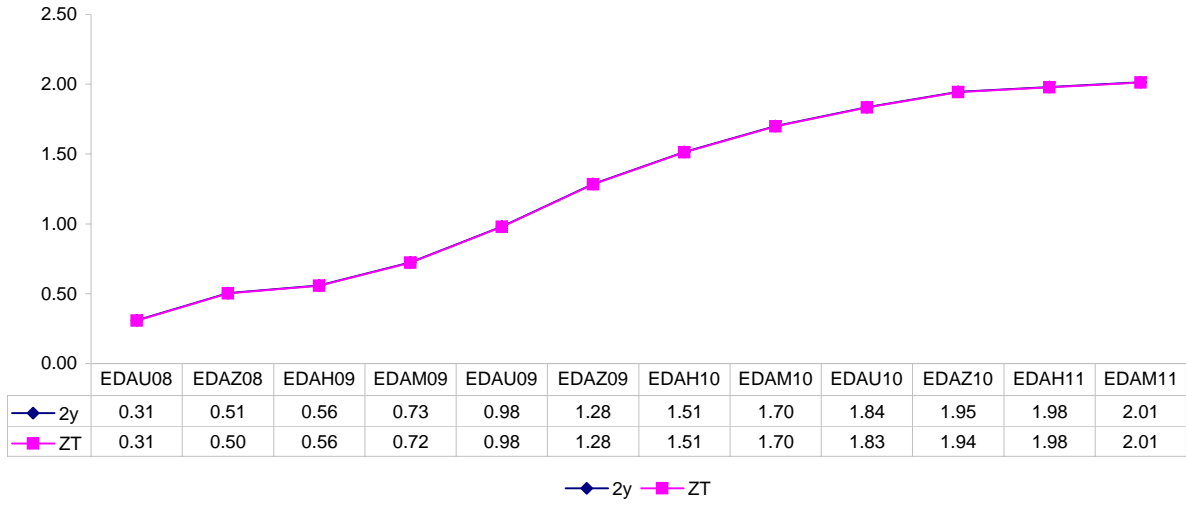


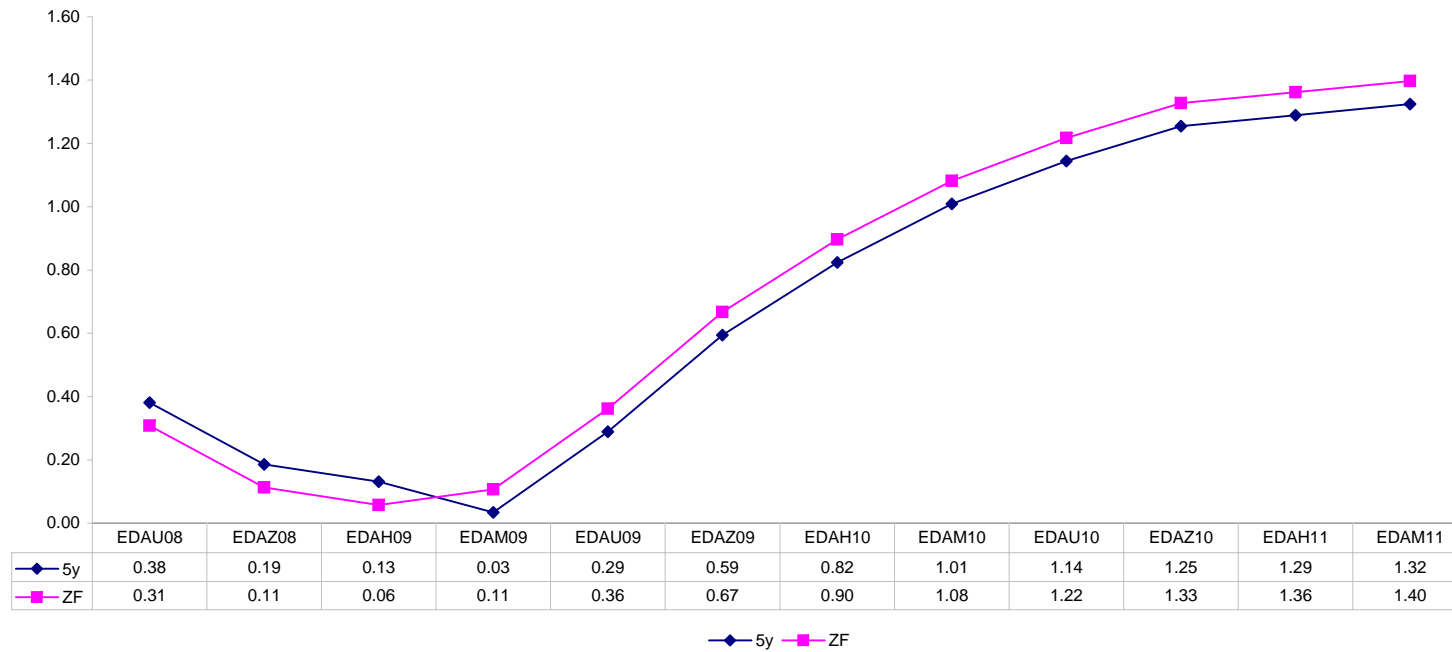
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



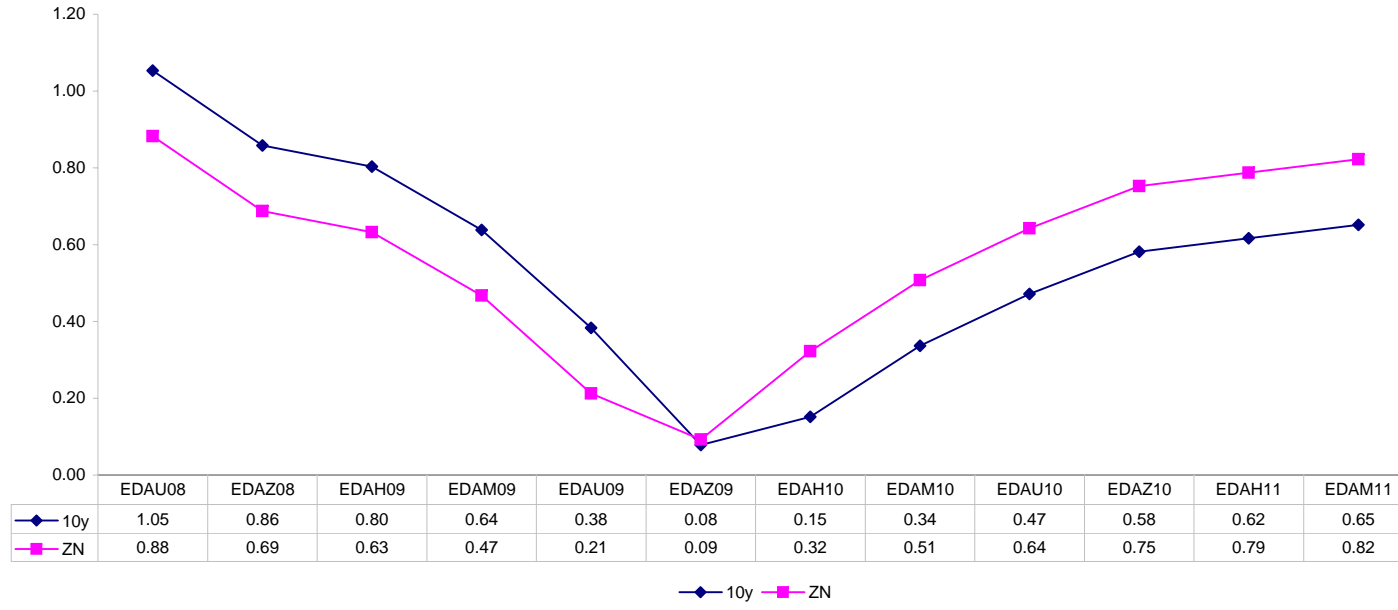
2y Basis TED Curve



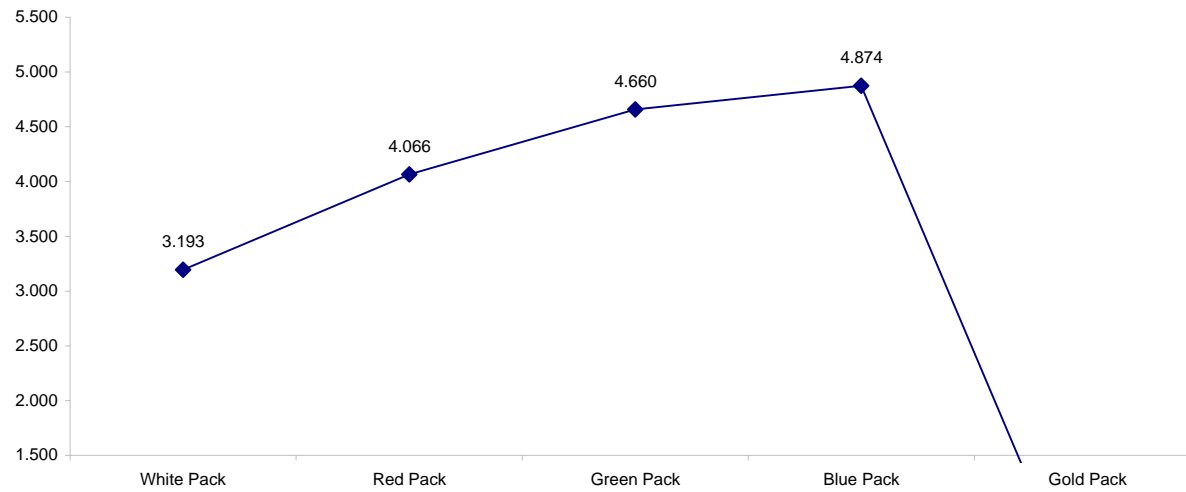
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.193	2.125	9687.500
Red Pack	4.066	1.750	9603.000
Green Pack	4.660	0.250	9545.625
Blue Pack	4.874	-2.000	9525.000
Gold Pack		-2.375	9506.125



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

