

## **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	104.8594	104.275	2.901	1.89
ZF	109.2813	109.090	3.544	4.07
ZN	112.3750	112.120	4.012	6.48
2y	99.438	99.1400	2.927	1.87
5y	99.516	99.1650	3.608	4.48
10y	97.703	97.2250	4.160	8.08

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	96.860	3.140	83	0.227	SEP	
EDAZ08	96.490	3.510	174	0.476	DEC	White
EDAH09	96.285	3.715	265	0.725	MAR	Pack
EDAM09	96.070	3.930	356	0.975	JUN	
EDAU09	95.835	4.165	447	1.224	SEP	
EDAZ09	95.580	4.420	538	1.473	DEC	Red
EDAH10	95.410	4.590	629	1.723	MAR	Pack
EDAM10	95.265	4.735	720	1.972	JUN	
EDAU10	95.170	4.830	811	2.221	SEP	
EDAZ10	95.085	4.915	902	2.471	DEC	Green
EDAH11	95.055	4.945	993	2.720	MAR	Pack
EDAM11	95.025	4.975	1084	2.969	JUN	
EDAU11	94.970	5.030	1182	3.238	SEP	
EDAZ11	94.925	5.075	1273	3.487	DEC	Blue Pack
EDAH12	94.875	5.125	1364	3.736	MAR	
EDAM12	94.850	5.150	1455	3.986	JUN	
EDAU12	94.810	5.190	1546	4.235	SEP	
EDAZ12	94.790	5.210	1637	4.484	DEC	Gold Pack
EDAH13	94.770	5.230	1728	4.734	MAR	
EDAM13	94.725	5.275	1819	4.983	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.656	1.625	9642.625	
Red Pack	4.591	1.125	9552.250	Pack
Green Pack	5.047	2.375	9508.375	Prices
Blue Pack		0.250	9491.875	
Gold Pack		0.000	9480.625	

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.

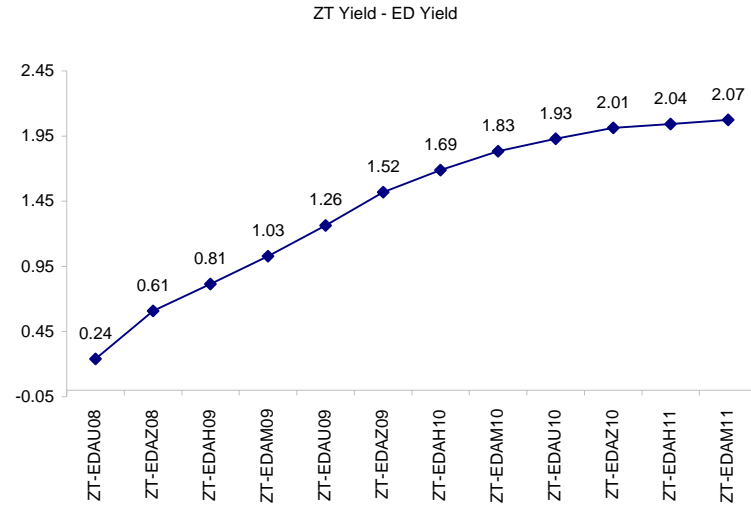
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

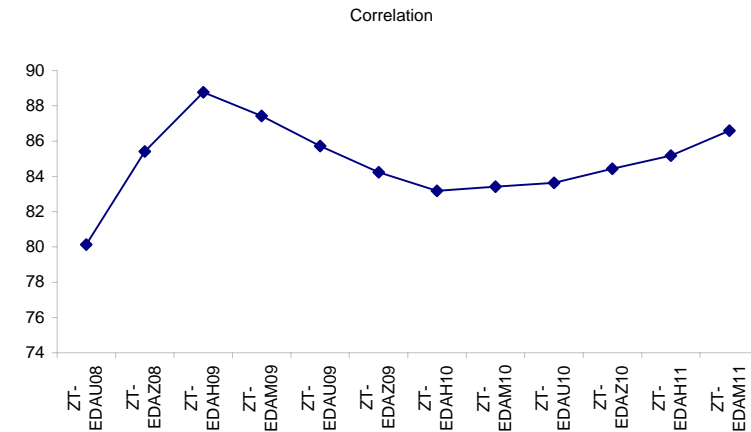
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	7.999	0.24	ZT-EDAU08	80.135
EDAZ08	8.369	0.61	ZT-EDAZ08	85.406
EDAH09	8.574	0.81	ZT-EDAH09	88.758
EDAM09	8.789	1.03	ZT-EDAM09	87.418
EDAU09	9.024	1.26	ZT-EDAU09	85.724
EDAZ09	9.279	1.52	ZT-EDAZ09	84.227
EDAH10	9.449	1.69	ZT-EDAH10	83.185
EDAM10	9.594	1.83	ZT-EDAM10	83.420
EDAU10	9.689	1.93	ZT-EDAU10	83.634
EDAZ10	9.774	2.01	ZT-EDAZ10	84.435
EDAH11	9.804	2.04	ZT-EDAH11	85.170
EDAM11	9.834	2.07	ZT-EDAM11	86.587

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	0.227	1.89	1.67	ZT-EDAU08
EDAZ08	0.476	1.89	1.42	ZT-EDAZ08
EDAH09	0.725	1.89	1.17	ZT-EDAH09
EDAM09	0.975	1.89	0.92	ZT-EDAM09
EDAU09	1.224	1.89	0.67	ZT-EDAU09
EDAZ09	1.473	1.89	0.42	ZT-EDAZ09
EDAH10	1.723	1.89	0.17	ZT-EDAH10
EDAM10	1.972	1.89	(0.08)	ZT-EDAM10
EDAU10	2.221	1.89	(0.33)	ZT-EDAU10
EDAZ10	2.471	1.89	(0.58)	ZT-EDAZ10
EDAH11	2.720	1.89	(0.83)	ZT-EDAH11
EDAM11	2.969	1.89	(1.08)	ZT-EDAM11

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

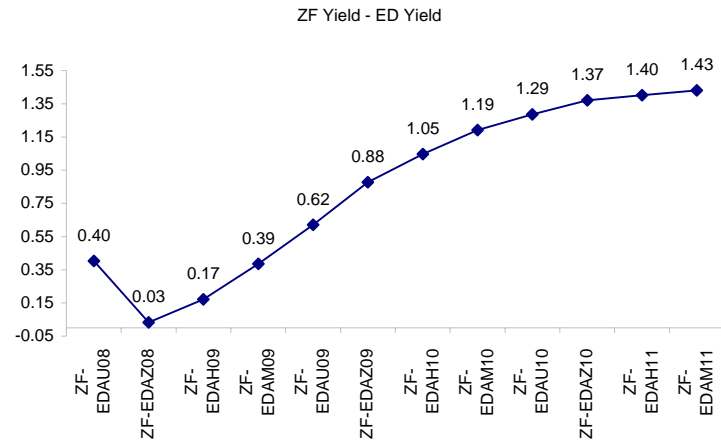


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	12.421	0.40	ZF-EDAU08	89.304
EDAZ08	12.791	0.03	ZF-EDAZ08	91.269
EDAH09	12.996	0.17	ZF-EDAH09	91.173
EDAM09	13.211	0.39	ZF-EDAM09	88.315
EDAU09	13.446	0.62	ZF-EDAU09	85.963
EDAZ09	13.701	0.88	ZF-EDAZ09	84.879
EDAH10	13.871	1.05	ZF-EDAH10	85.004
EDAM10	14.016	1.19	ZF-EDAM10	86.754
EDAU10	14.111	1.29	ZF-EDAU10	88.390
EDAZ10	14.196	1.37	ZF-EDAZ10	90.319
EDAH11	14.226	1.40	ZF-EDAH11	91.234
EDAM11	14.256	1.43	ZF-EDAM11	92.763

Price = Outright Decimal Price - Euro Contract Price

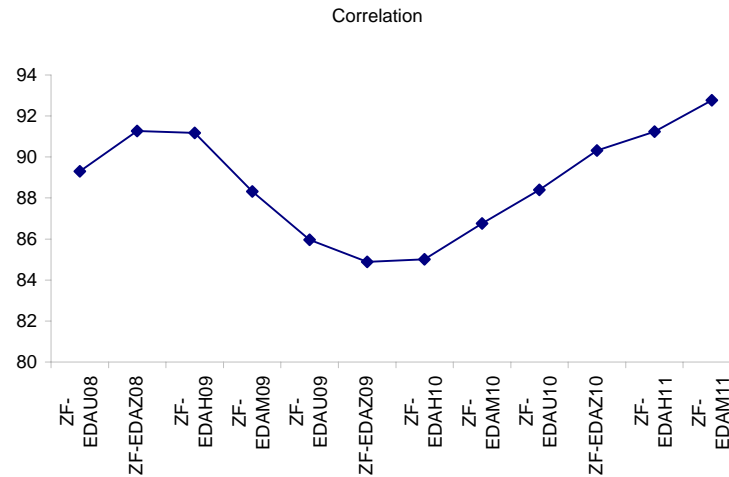
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	ZF Duration	Spread Duration	
EDAU08	0.227	4.07	3.84	ZF-EDAU08
EDAZ08	0.476	4.07	3.59	ZF-EDAZ08
EDAH09	0.725	4.07	3.35	ZF-EDAH09
EDAM09	0.975	4.07	3.10	ZF-EDAM09
EDAU09	1.224	4.07	2.85	ZF-EDAU09
EDAZ09	1.473	4.07	2.60	ZF-EDAZ09
EDAH10	1.723	4.07	2.35	ZF-EDAH10
EDAM10	1.972	4.07	2.10	ZF-EDAM10
EDAU10	2.221	4.07	1.85	ZF-EDAU10
EDAZ10	2.471	4.07	1.60	ZF-EDAZ10
EDAH11	2.720	4.07	1.35	ZF-EDAH11
EDAM11	2.969	4.07	1.10	ZF-EDAM11

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

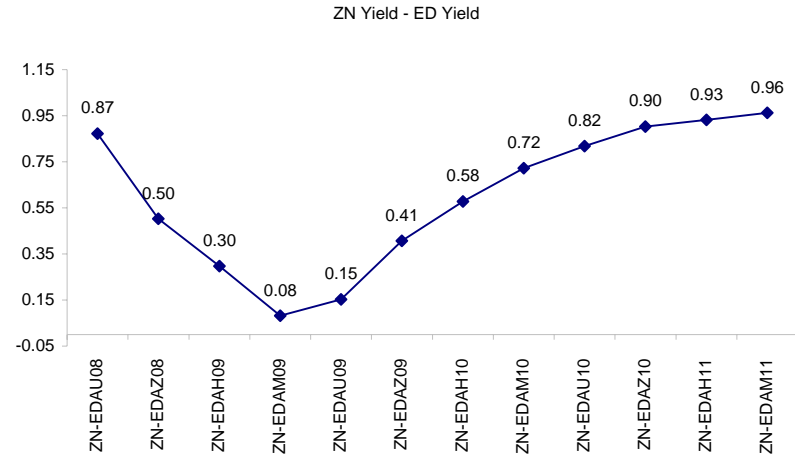


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.515	0.87	ZN-EDAU08	95.287
EDAZ08	15.885	0.50	ZN-EDAZ08	95.298
EDAH09	16.090	0.30	ZN-EDAH09	94.254
EDAM09	16.305	0.08	ZN-EDAM09	92.038
EDAU09	16.540	0.15	ZN-EDAU09	89.523
EDAZ09	16.795	0.41	ZN-EDAZ09	87.666
EDAH10	16.965	0.58	ZN-EDAH10	85.004
EDAM10	17.110	0.72	ZN-EDAM10	86.754
EDAU10	17.205	0.82	ZN-EDAU10	88.390
EDAZ10	17.290	0.90	ZN-EDAZ10	90.319
EDAH11	17.320	0.93	ZN-EDAH11	91.234
EDAM11	17.350	0.96	ZN-EDAM11	92.763

Price = Outright Decimal Price - Euro Contract Price

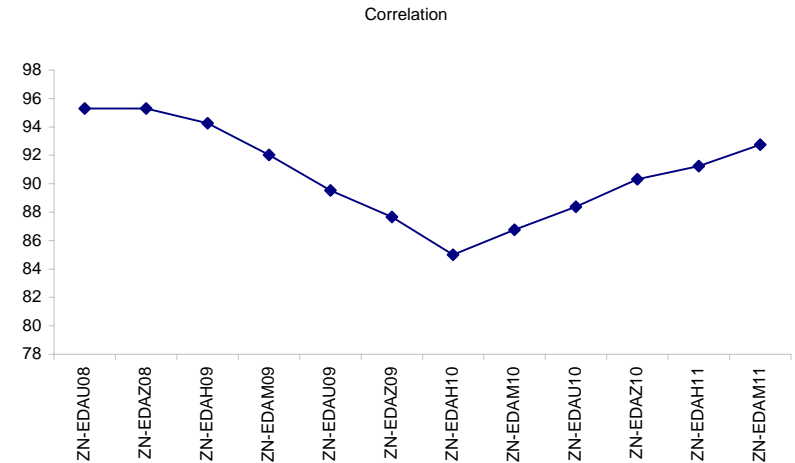
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.227	6.48	6.25	ZN-EDAU08		
EDAZ08	0.476	6.48	6.00	ZN-EDAZ08		
EDAH09	0.725	6.48	5.75	ZN-EDAH09		
EDAM09	0.975	6.48	5.50	ZN-EDAM09		
EDAU09	1.224	6.48	5.25	ZN-EDAU09		
EDAZ09	1.473	6.48	5.00	ZN-EDAZ09		
EDAH10	1.723	6.48	4.76	ZN-EDAH10		
EDAM10	1.972	6.48	4.51	ZN-EDAM10		
EDAU10	2.221	6.48	4.26	ZN-EDAU10		
EDAZ10	2.471	6.48	4.01	ZN-EDAZ10		
EDAH11	2.720	6.48	3.76	ZN-EDAH11		
EDAM11	2.969	6.48	3.51	ZN-EDAM11		

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

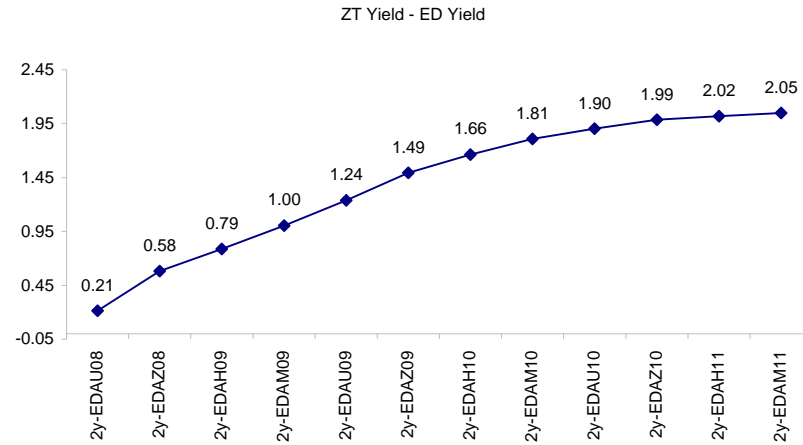


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.578	0.21	2y-EDAU08	-83.561
EDAZ08	2.947	0.58	2y-EDAZ08	-85.888
EDAH09	3.153	0.79	2y-EDAH09	-89.147
EDAM09	3.367	1.00	2y-EDAM09	-89.890
EDAU09	3.602	1.24	2y-EDAU09	-89.098
EDAZ09	3.858	1.49	2y-EDAZ09	-87.536
EDAH10	4.028	1.66	2y-EDAH10	-85.678
EDAM10	4.173	1.81	2y-EDAM10	-84.625
EDAU10	4.268	1.90	2y-EDAU10	-84.478
EDAZ10	4.352	1.99	2y-EDAZ10	-84.122
EDAH11	4.382	2.02	2y-EDAH11	-84.447
EDAM11	4.412	2.05	2y-EDAM11	-85.009

Price = Outright Decimal Price - Euro Contract Price

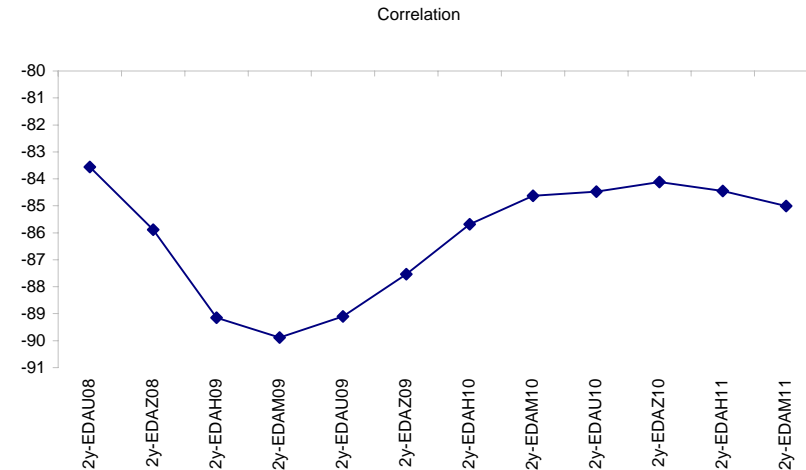
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.227	1.87	1.64	2y-EDAU08
EDAZ08	0.476	1.87	1.39	2y-EDAZ08
EDAH09	0.725	1.87	1.14	2y-EDAH09
EDAM09	0.975	1.87	0.89	2y-EDAM09
EDAU09	1.224	1.87	0.64	2y-EDAU09
EDAZ09	1.473	1.87	0.39	2y-EDAZ09
EDAH10	1.723	1.87	0.14	2y-EDAH10
EDAM10	1.972	1.87	(0.11)	2y-EDAM10
EDAU10	2.221	1.87	(0.36)	2y-EDAU10
EDAZ10	2.471	1.87	(0.60)	2y-EDAZ10
EDAH11	2.720	1.87	(0.85)	2y-EDAH11
EDAM11	2.969	1.87	(1.10)	2y-EDAM11

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

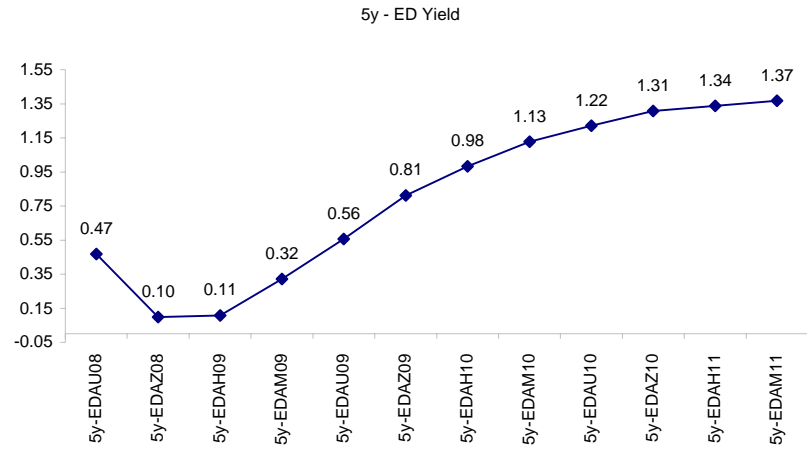


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.656	0.47	5y-EDAU08	-87.741
EDAZ08	3.026	0.10	5y-EDAZ08	-89.317
EDAH09	3.231	0.11	5y-EDAH09	-90.390
EDAM09	3.446	0.32	5y-EDAM09	-89.113
EDAU09	3.681	0.56	5y-EDAU09	-87.812
EDAZ09	3.936	0.81	5y-EDAZ09	-87.117
EDAH10	4.106	0.98	5y-EDAH10	-86.614
EDAM10	4.251	1.13	5y-EDAM10	-87.171
EDAU10	4.346	1.22	5y-EDAU10	-87.823
EDAZ10	4.431	1.31	5y-EDAZ10	-88.629
EDAH11	4.461	1.34	5y-EDAH11	-89.269
EDAM11	4.491	1.37	5y-EDAM11	-90.465

Price = Outright Decimal Price - Euro Contract Price

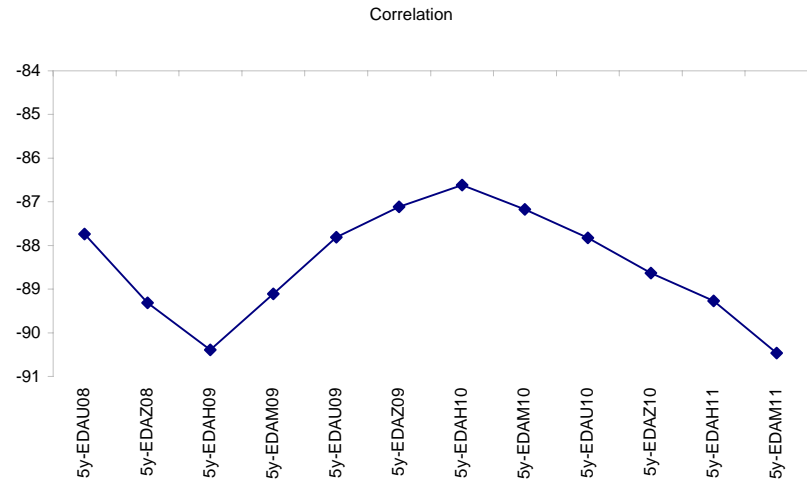
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.227	4.48	4.25	5y-EDAU08
EDAZ08	0.476	4.48	4.00	5y-EDAZ08
EDAH09	0.725	4.48	3.75	5y-EDAH09
EDAM09	0.975	4.48	3.51	5y-EDAM09
EDAU09	1.224	4.48	3.26	5y-EDAU09
EDAZ09	1.473	4.48	3.01	5y-EDAZ09
EDAH10	1.723	4.48	2.76	5y-EDAH10
EDAM10	1.972	4.48	2.51	5y-EDAM10
EDAU10	2.221	4.48	2.26	5y-EDAU10
EDAZ10	2.471	4.48	2.01	5y-EDAZ10
EDAH11	2.720	4.48	1.76	5y-EDAH11
EDAM11	2.969	4.48	1.51	5y-EDAM11

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



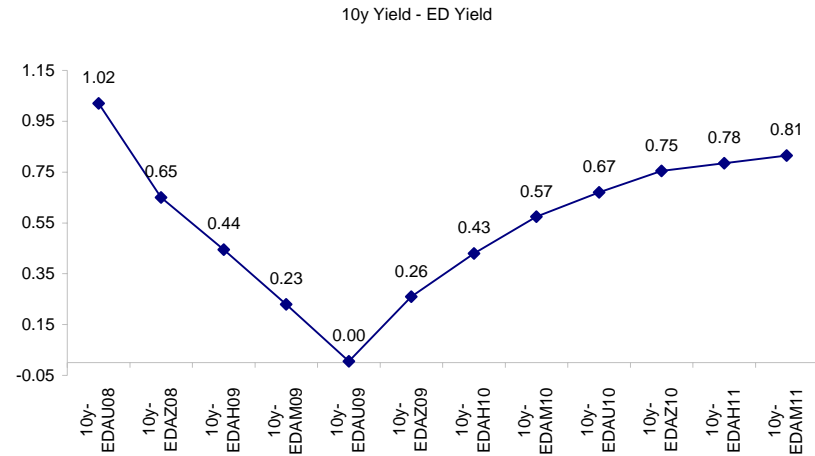


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.656	1.02	10y-EDAU08	-86.445
EDAZ08	3.026	0.65	10y-EDAZ08	-87.909
EDAH09	3.231	0.44	10y-EDAH09	-86.975
EDAM09	3.446	0.23	10y-EDAM09	-82.976
EDAU09	3.681	0.00	10y-EDAU09	-80.163
EDAZ09	3.936	0.26	10y-EDAZ09	-78.920
EDAH10	4.106	0.43	10y-EDAH10	-78.876
EDAM10	4.251	0.57	10y-EDAM10	-80.765
EDAU10	4.346	0.67	10y-EDAU10	-82.680
EDAZ10	4.431	0.75	10y-EDAZ10	-84.964
EDAH11	4.461	0.78	10y-EDAH11	-86.289
EDAM11	4.491	0.81	10y-EDAM11	-88.312

Price = Outright Decimal Price - Euro Contract Price

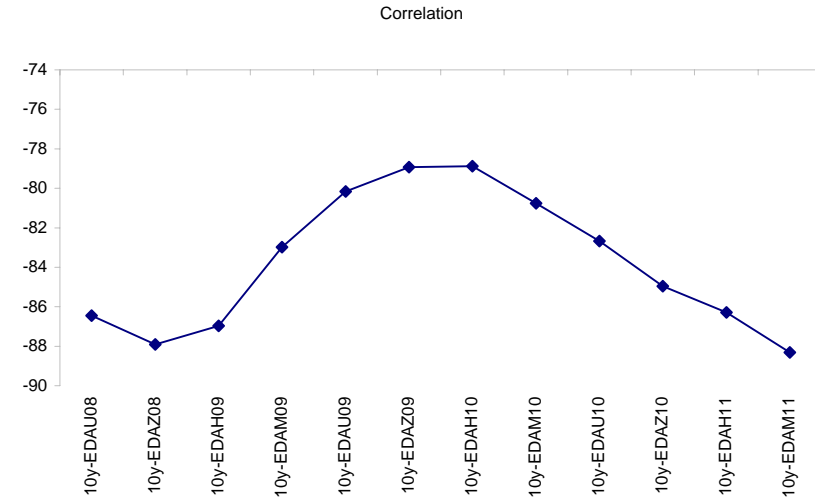
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.227	8.08	7.86	10y-EDAU08
EDAZ08	0.476	8.08	7.61	10y-EDAZ08
EDAH09	0.725	8.08	7.36	10y-EDAH09
EDAM09	0.975	8.08	7.11	10y-EDAM09
EDAU09	1.224	8.08	6.86	10y-EDAU09
EDAZ09	1.473	8.08	6.61	10y-EDAZ09
EDAH10	1.723	8.08	6.36	10y-EDAH10
EDAM10	1.972	8.08	6.11	10y-EDAM10
EDAU10	2.221	8.08	5.86	10y-EDAU10
EDAZ10	2.471	8.08	5.61	10y-EDAZ10
EDAH11	2.720	8.08	5.36	10y-EDAH11
EDAM11	2.969	8.08	5.11	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.

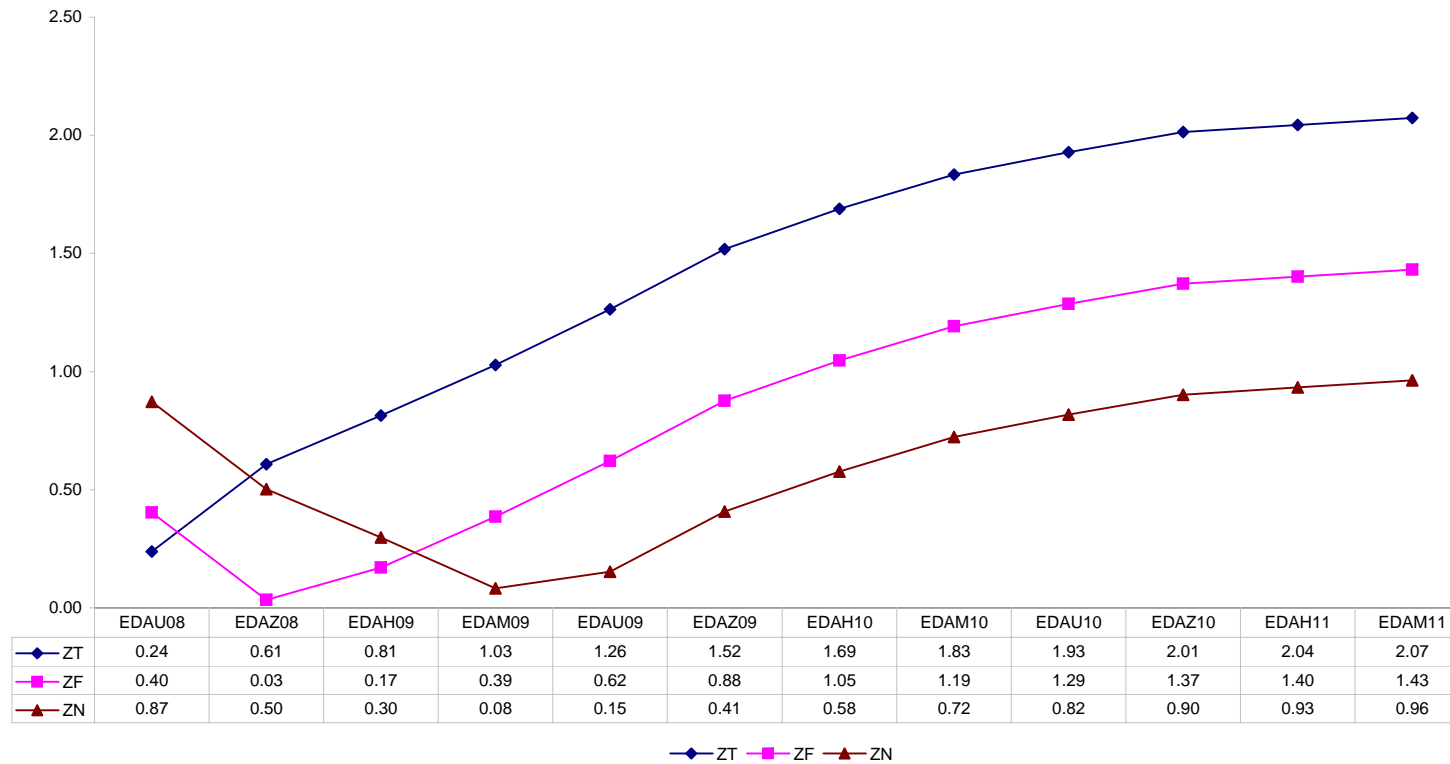
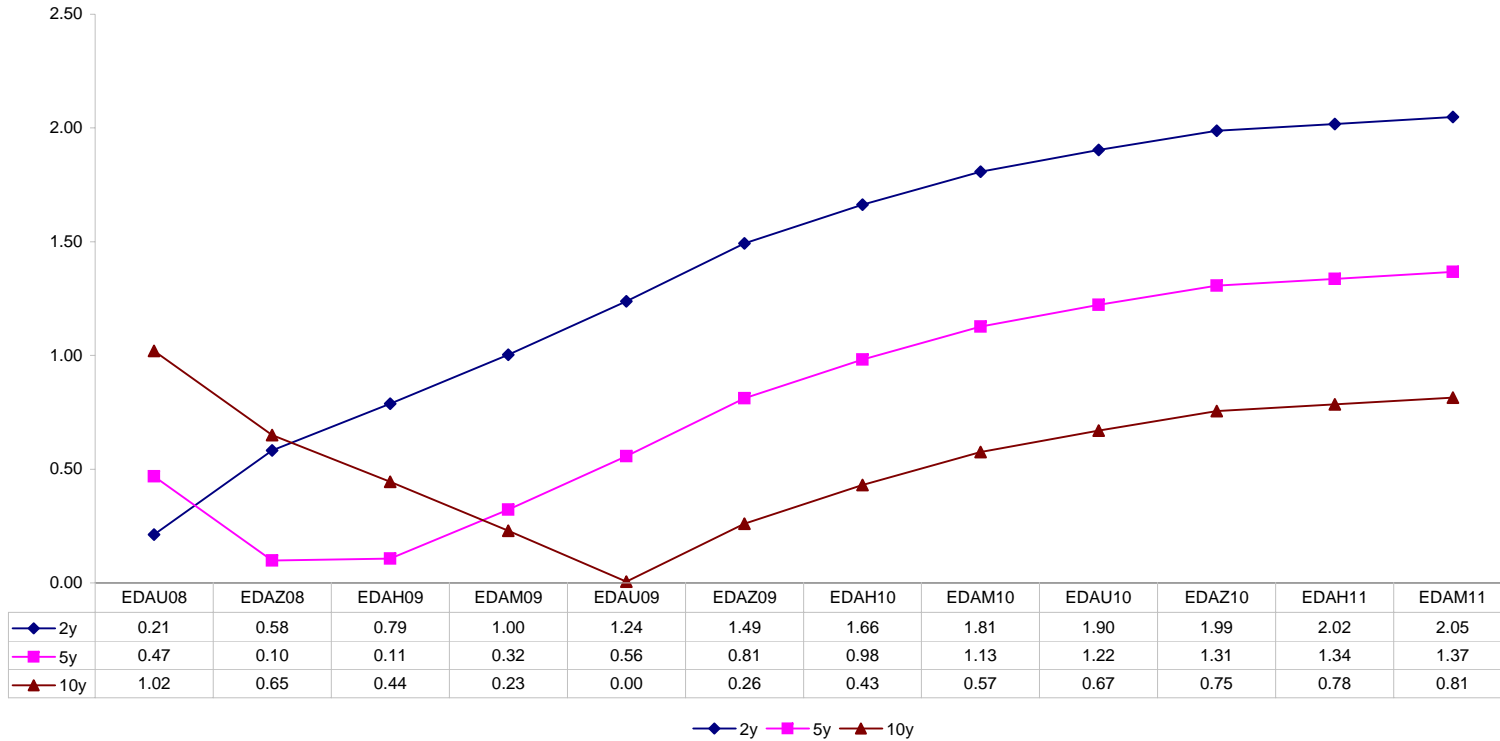
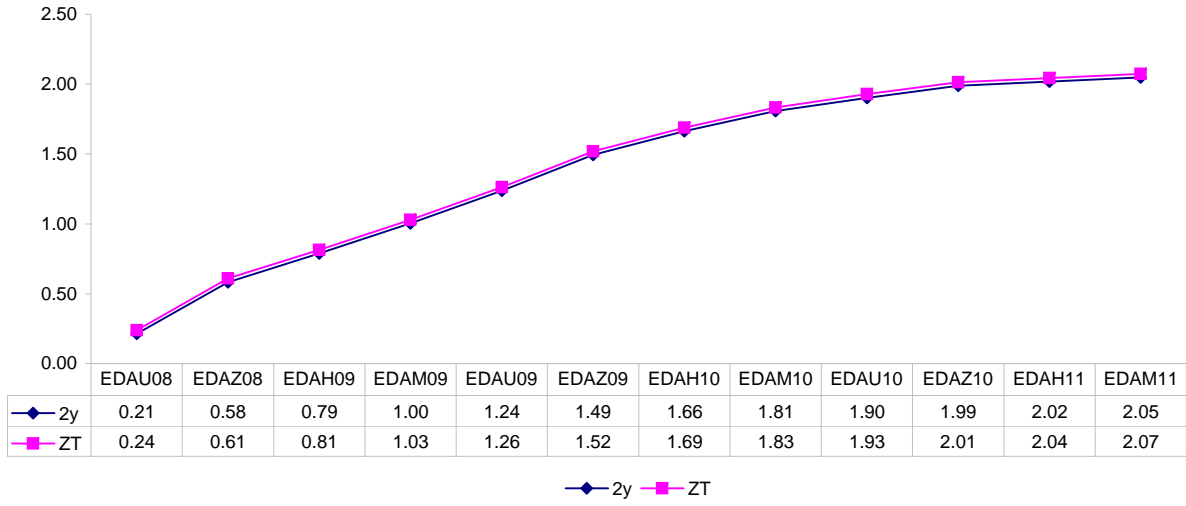


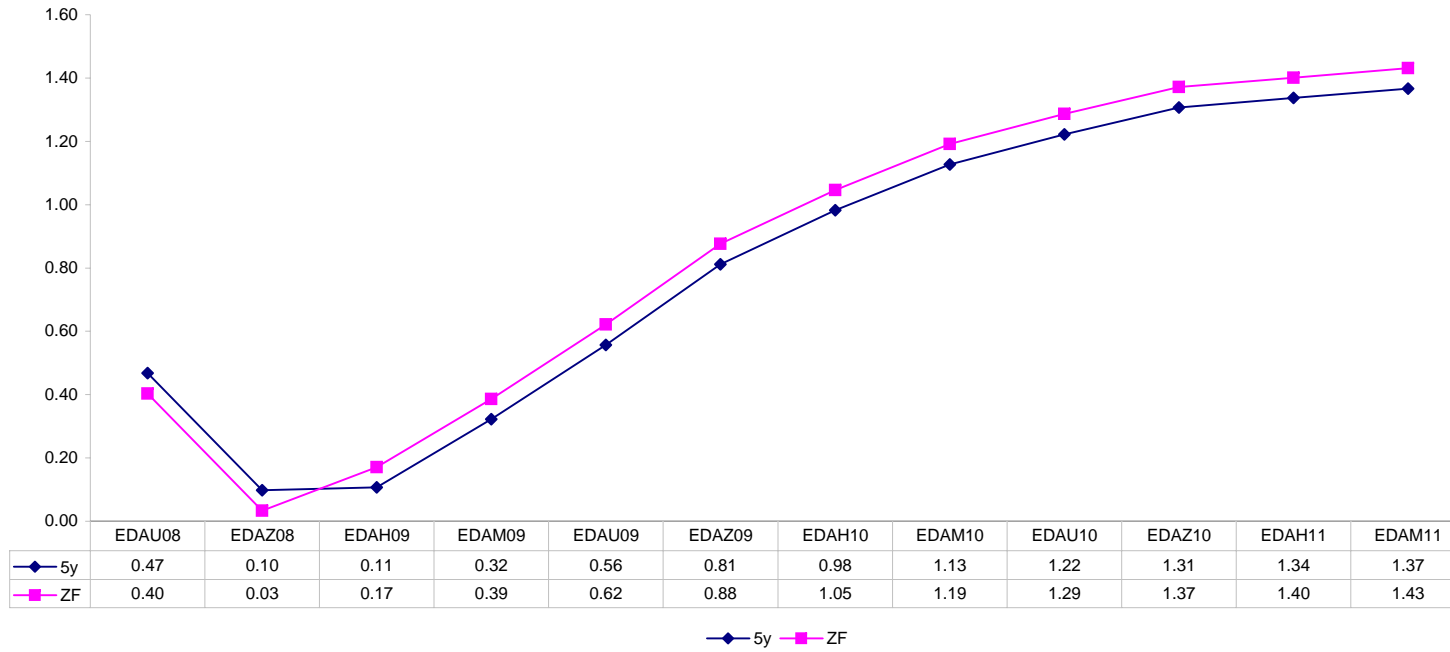
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



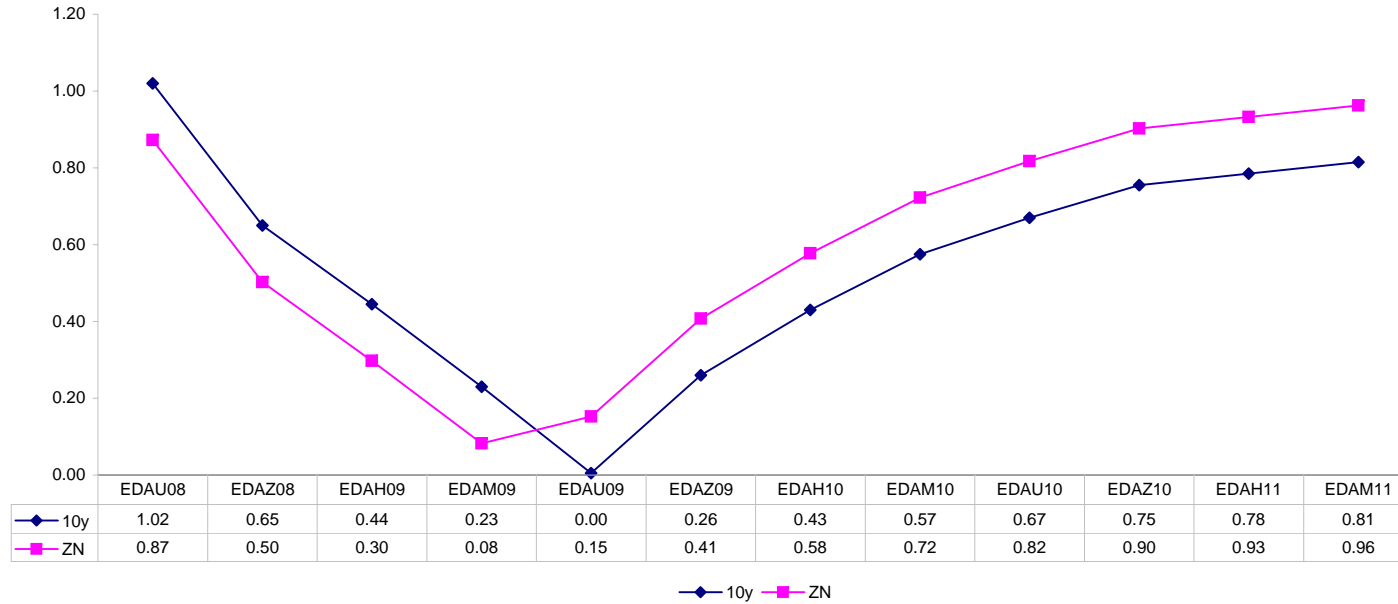
2y Basis TED Curve



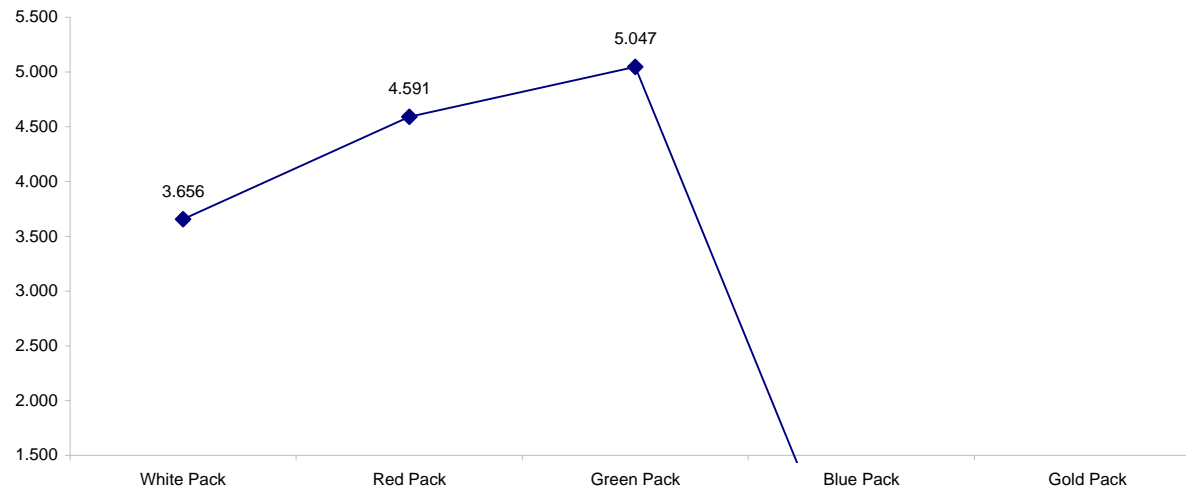
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.656	1.625	9642.625
Red Pack	4.591	1.125	9552.250
Green Pack	5.047	2.375	9508.375
Blue Pack		0.250	9491.875
Gold Pack		0.000	9480.625



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

