

## **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	105.8438	105.270	2.504	1.91
ZF	111.0000	111.000	3.163	4.05
ZN	114.5625	114.180	3.499	5.92
2y	100.703	100.2250	2.505	1.91
5y	100.553	100.1770	3.248	4.55
10y	99.344	99.1100	3.954	8.07

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.085	2.915	70	0.191	SEP	
EDAZ08	96.870	3.130	161	0.440	DEC	White
EDAH09	96.765	3.235	252	0.690	MAR	Pack
EDAM09	96.565	3.435	343	0.939	JUN	
EDAU09	96.305	3.695	434	1.188	SEP	
EDAZ09	96.000	4.000	525	1.438	DEC	Red
EDAH10	95.780	4.220	616	1.687	MAR	Pack
EDAM10	95.595	4.405	707	1.936	JUN	
EDAU10	95.465	4.535	798	2.186	SEP	
EDAZ10	95.340	4.660	889	2.435	DEC	Green
EDAH11	95.300	4.700	980	2.684	MAR	Pack
EDAM11	95.260	4.740	1071	2.934	JUN	
EDAU11	95.210	4.790	1169	3.202	SEP	
EDAZ11	#VALUE!	#VALUE!	1260	3.451	DEC	Blue Pack
EDAH12	95.120	4.880	1351	3.701	MAR	
EDAM12	95.080	4.920	1442	3.950	JUN	
EDAU12	95.045	4.955	1533	4.199	SEP	
EDAZ12	94.980	5.020	1624	4.449	DEC	Gold Pack
EDAH13	94.955	5.045	1715	4.698	MAR	
EDAM13	94.910	5.090	1806	4.947	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.249	0.250	9682.125	
Red Pack	4.179	1.000	9592.000	Pack
Green Pack	4.779	2.000	9534.125	Prices
Blue Pack		2.250	9513.125	
Gold Pack	5.162	3.500	9497.250	

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.

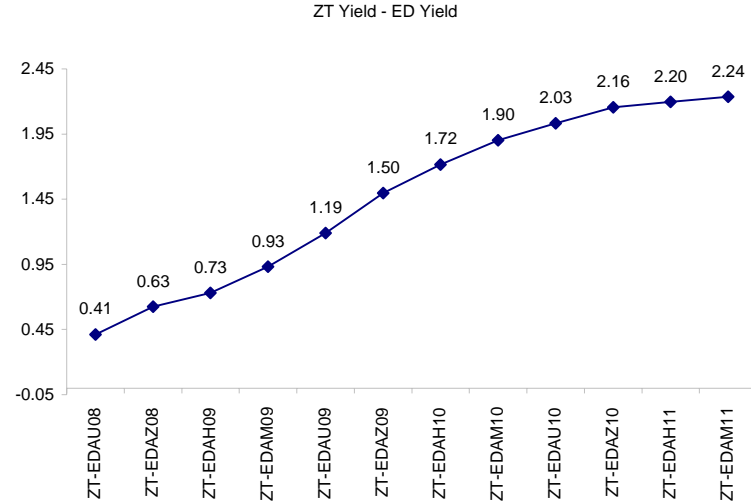
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

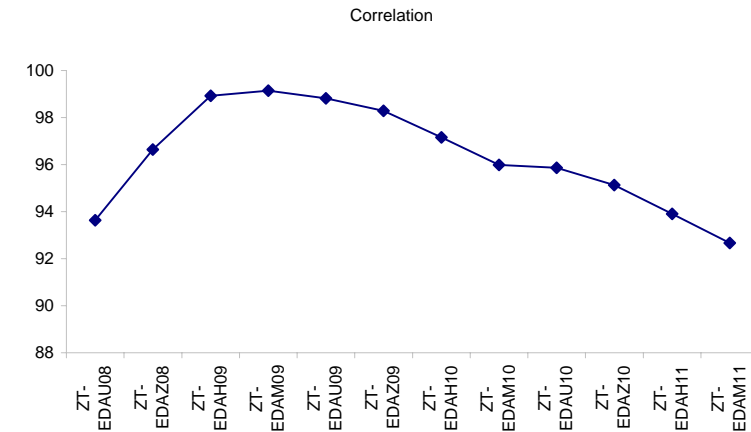
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.759	0.41	ZT-EDAU08	93.634
EDAZ08	8.974	0.63	ZT-EDAZ08	96.644
EDAH09	9.079	0.73	ZT-EDAH09	98.927
EDAM09	9.279	0.93	ZT-EDAM09	99.140
EDAU09	9.539	1.19	ZT-EDAU09	98.814
EDAZ09	9.844	1.50	ZT-EDAZ09	98.282
EDAH10	10.064	1.72	ZT-EDAH10	97.153
EDAM10	10.249	1.90	ZT-EDAM10	95.991
EDAU10	10.379	2.03	ZT-EDAU10	95.859
EDAZ10	10.504	2.16	ZT-EDAZ10	95.123
EDAH11	10.544	2.20	ZT-EDAH11	93.909
EDAM11	10.584	2.24	ZT-EDAM11	92.662

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	0.191	1.91	1.72	ZT-EDAU08		
EDAZ08	0.440	1.91	1.47	ZT-EDAZ08		
EDAH09	0.690	1.91	1.22	ZT-EDAH09		
EDAM09	0.939	1.91	0.97	ZT-EDAM09		
EDAU09	1.188	1.91	0.72	ZT-EDAU09		
EDAZ09	1.438	1.91	0.47	ZT-EDAZ09		
EDAH10	1.687	1.91	0.23	ZT-EDAH10		
EDAM10	1.936	1.91	(0.02)	ZT-EDAM10		
EDAU10	2.186	1.91	(0.27)	ZT-EDAU10		
EDAZ10	2.435	1.91	(0.52)	ZT-EDAZ10		
EDAH11	2.684	1.91	(0.77)	ZT-EDAH11		
EDAM11	2.934	1.91	(1.02)	ZT-EDAM11		

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

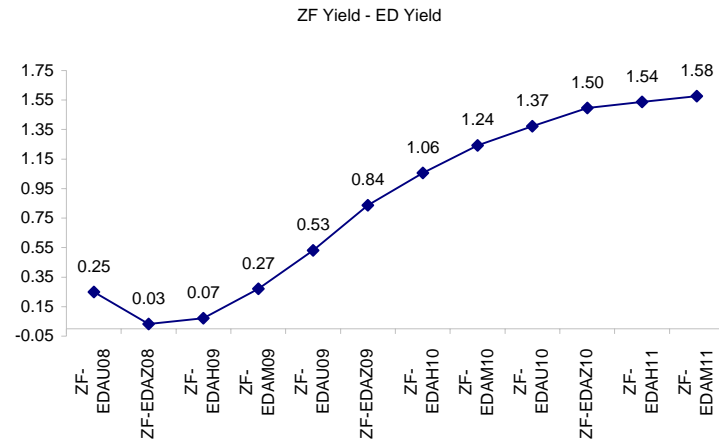


ZF				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAU08	13.915	0.25	ZF-EDAU08	92.843
EDAZ08	14.130	0.03	ZF-EDAZ08	96.183
EDAH09	14.235	0.07	ZF-EDAH09	98.408
EDAM09	14.435	0.27	ZF-EDAM09	98.385
EDAU09	14.695	0.53	ZF-EDAU09	97.879
EDAZ09	15.000	0.84	ZF-EDAZ09	97.424
EDAH10	15.220	1.06	ZF-EDAH10	96.482
EDAM10	15.405	1.24	ZF-EDAM10	95.620
EDAU10	15.535	1.37	ZF-EDAU10	96.055
EDAZ10	15.660	1.50	ZF-EDAZ10	95.697
EDAH11	15.700	1.54	ZF-EDAH11	95.065
EDAM11	15.740	1.58	ZF-EDAM11	94.160

Price = Outright Decimal Price - Euro Contract Price

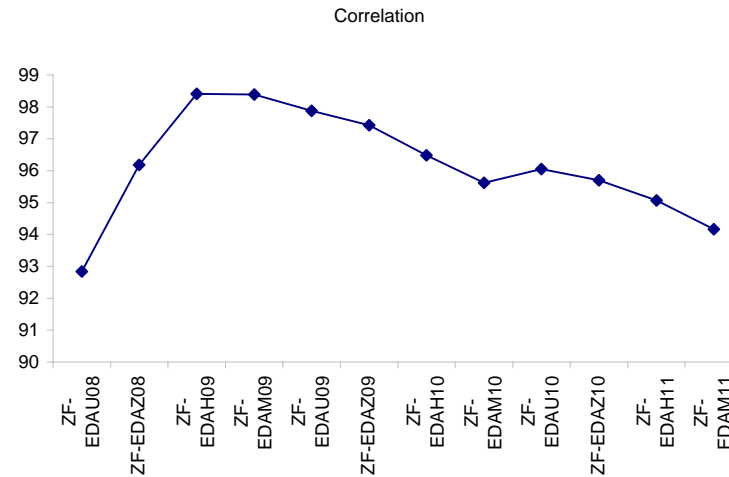
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



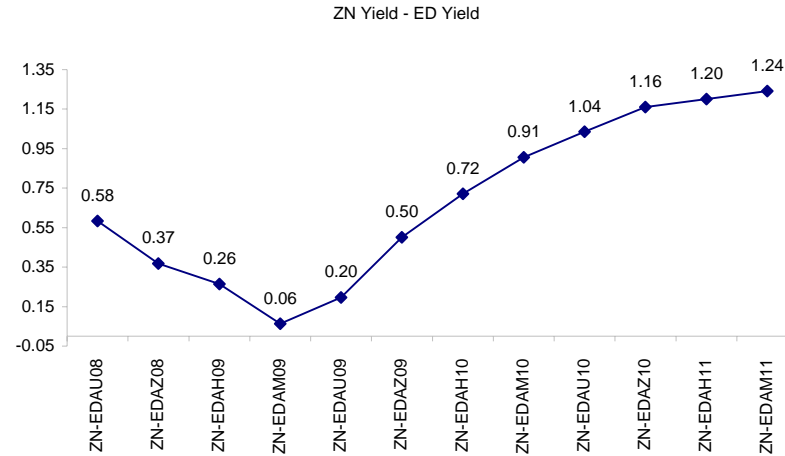
	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU08	0.191	4.05	3.86	ZF-EDAU08	
EDAZ08	0.440	4.05	3.61	ZF-EDAZ08	
EDAH09	0.690	4.05	3.36	ZF-EDAH09	
EDAM09	0.939	4.05	3.11	ZF-EDAM09	
EDAU09	1.188	4.05	2.86	ZF-EDAU09	
EDAZ09	1.438	4.05	2.61	ZF-EDAZ09	
EDAH10	1.687	4.05	2.36	ZF-EDAH10	
EDAM10	1.936	4.05	2.11	ZF-EDAM10	
EDAU10	2.186	4.05	1.86	ZF-EDAU10	
EDAZ10	2.435	4.05	1.61	ZF-EDAZ10	
EDAH11	2.684	4.05	1.36	ZF-EDAH11	
EDAM11	2.934	4.05	1.11	ZF-EDAM11	

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



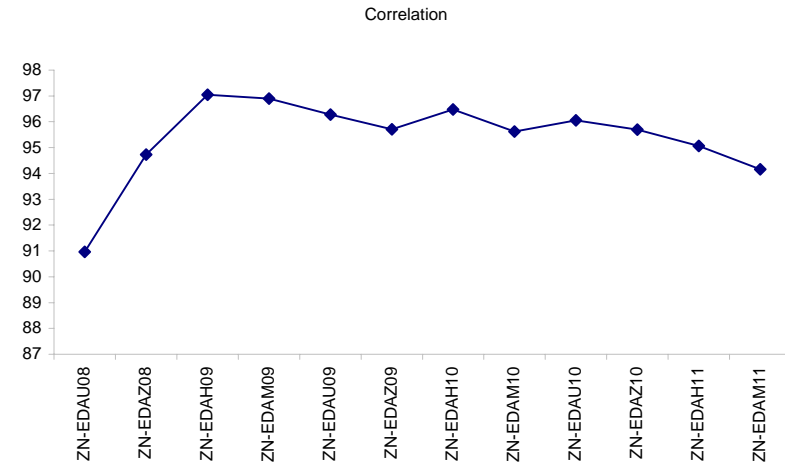
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	17.478	0.58	ZN-EDAU08	90.960
EDAZ08	17.693	0.37	ZN-EDAZ08	94.729
EDAH09	17.798	0.26	ZN-EDAH09	97.047
EDAM09	17.998	0.06	ZN-EDAM09	96.894
EDAU09	18.258	0.20	ZN-EDAU09	96.283
EDAZ09	18.563	0.50	ZN-EDAZ09	95.712
EDAH10	18.783	0.72	ZN-EDAH10	96.482
EDAM10	18.968	0.91	ZN-EDAM10	95.620
EDAU10	19.098	1.04	ZN-EDAU10	96.055
EDAZ10	19.223	1.16	ZN-EDAZ10	95.697
EDAH11	19.263	1.20	ZN-EDAH11	95.065
EDAM11	19.303	1.24	ZN-EDAM11	94.160

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	0.191	5.92	5.73	ZN-EDAU08		
EDAZ08	0.440	5.92	5.48	ZN-EDAZ08		
EDAH09	0.690	5.92	5.23	ZN-EDAH09		
EDAM09	0.939	5.92	4.98	ZN-EDAM09		
EDAU09	1.188	5.92	4.73	ZN-EDAU09		
EDAZ09	1.438	5.92	4.48	ZN-EDAZ09		
EDAH10	1.687	5.92	4.23	ZN-EDAH10		
EDAM10	1.936	5.92	3.98	ZN-EDAM10		
EDAU10	2.186	5.92	3.73	ZN-EDAU10		
EDAZ10	2.435	5.92	3.49	ZN-EDAZ10		
EDAH11	2.684	5.92	3.24	ZN-EDAH11		
EDAM11	2.934	5.92	2.99	ZN-EDAM11		

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

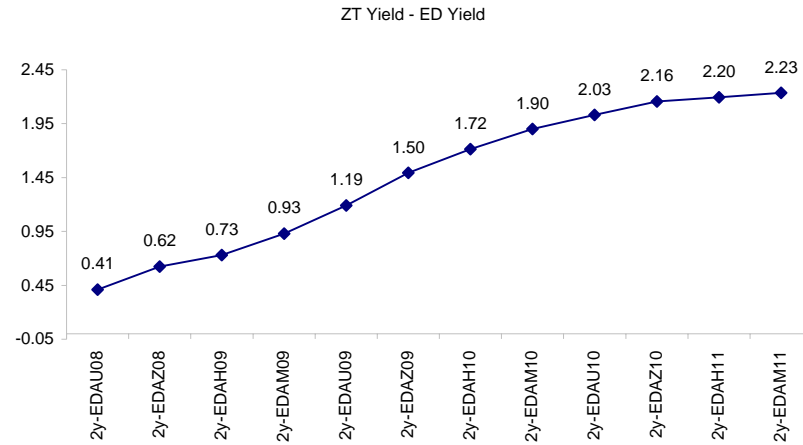


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.618	0.41	2y-EDAU08	-96.675
EDAZ08	3.833	0.62	2y-EDAZ08	-98.224
EDAH09	3.938	0.73	2y-EDAH09	-99.247
EDAM09	4.138	0.93	2y-EDAM09	-99.258
EDAU09	4.398	1.19	2y-EDAU09	-99.037
EDAZ09	4.703	1.50	2y-EDAZ09	-98.508
EDAH10	4.923	1.72	2y-EDAH10	-97.560
EDAM10	5.108	1.90	2y-EDAM10	-96.756
EDAU10	5.238	2.03	2y-EDAU10	-96.669
EDAZ10	5.363	2.16	2y-EDAZ10	-96.159
EDAH11	5.403	2.20	2y-EDAH11	-95.115
EDAM11	5.443	2.23	2y-EDAM11	-94.273

Price = Outright Decimal Price - Euro Contract Price

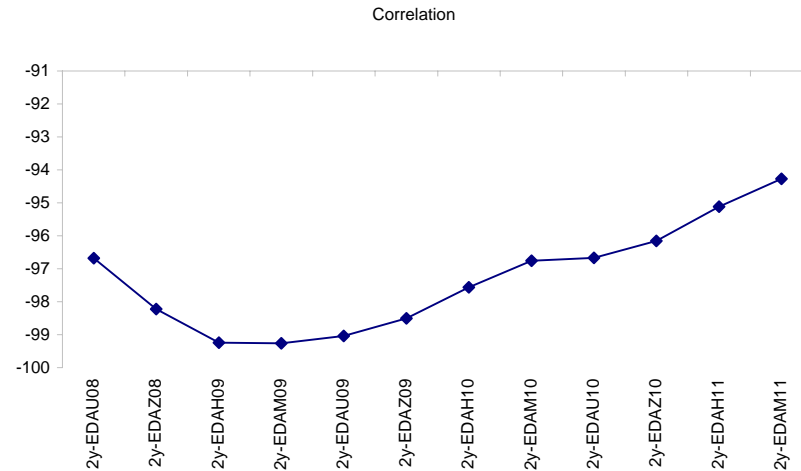
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.191	1.91	1.72	2y-EDAU08
EDAZ08	0.440	1.91	1.47	2y-EDAZ08
EDAH09	0.690	1.91	1.22	2y-EDAH09
EDAM09	0.939	1.91	0.97	2y-EDAM09
EDAU09	1.188	1.91	0.72	2y-EDAU09
EDAZ09	1.438	1.91	0.47	2y-EDAZ09
EDAH10	1.687	1.91	0.23	2y-EDAH10
EDAM10	1.936	1.91	(0.02)	2y-EDAM10
EDAU10	2.186	1.91	(0.27)	2y-EDAU10
EDAZ10	2.435	1.91	(0.52)	2y-EDAZ10
EDAH11	2.684	1.91	(0.77)	2y-EDAH11
EDAM11	2.934	1.91	(1.02)	2y-EDAM11

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

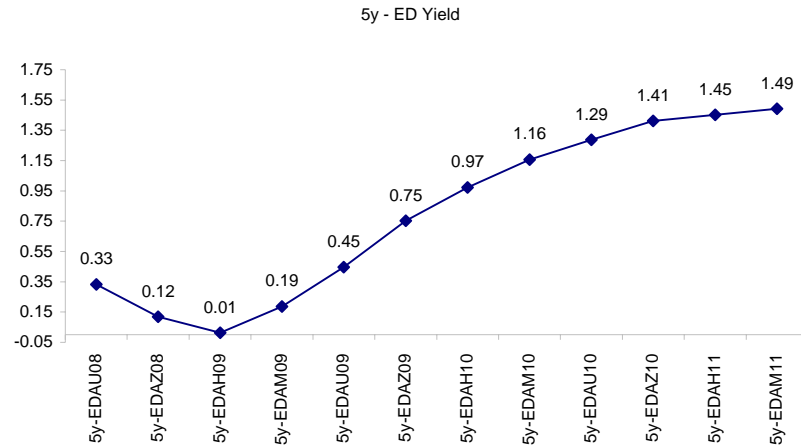


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.468	0.33	5y-EDAU08	-97.361
EDAZ08	3.683	0.12	5y-EDAZ08	-98.579
EDAH09	3.788	0.01	5y-EDAH09	-99.362
EDAM09	3.988	0.19	5y-EDAM09	-99.149
EDAU09	4.248	0.45	5y-EDAU09	-98.796
EDAZ09	4.553	0.75	5y-EDAZ09	-98.451
EDAH10	4.773	0.97	5y-EDAH10	-97.814
EDAM10	4.958	1.16	5y-EDAM10	-97.228
EDAU10	5.088	1.29	5y-EDAU10	-97.382
EDAZ10	5.213	1.41	5y-EDAZ10	-97.262
EDAH11	5.253	1.45	5y-EDAH11	-96.645
EDAM11	5.293	1.49	5y-EDAM11	-96.062

Price = Outright Decimal Price - Euro Contract Price

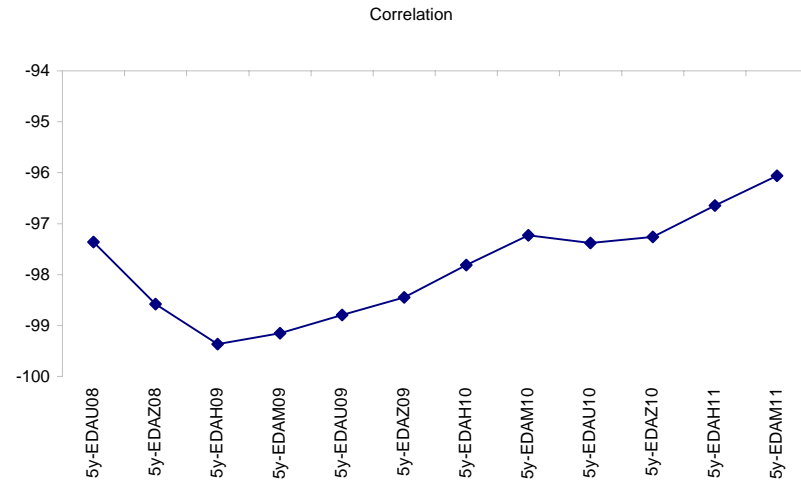
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAU08	0.191	4.55	4.36	5y-EDAU08	
EDAZ08	0.440	4.55	4.11	5y-EDAZ08	
EDAH09	0.690	4.55	3.86	5y-EDAH09	
EDAM09	0.939	4.55	3.61	5y-EDAM09	
EDAU09	1.188	4.55	3.36	5y-EDAU09	
EDAZ09	1.438	4.55	3.11	5y-EDAZ09	
EDAH10	1.687	4.55	2.86	5y-EDAH10	
EDAM10	1.936	4.55	2.61	5y-EDAM10	
EDAU10	2.186	4.55	2.36	5y-EDAU10	
EDAZ10	2.435	4.55	2.11	5y-EDAZ10	
EDAH11	2.684	4.55	1.86	5y-EDAH11	
EDAM11	2.934	4.55	1.61	5y-EDAM11	

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



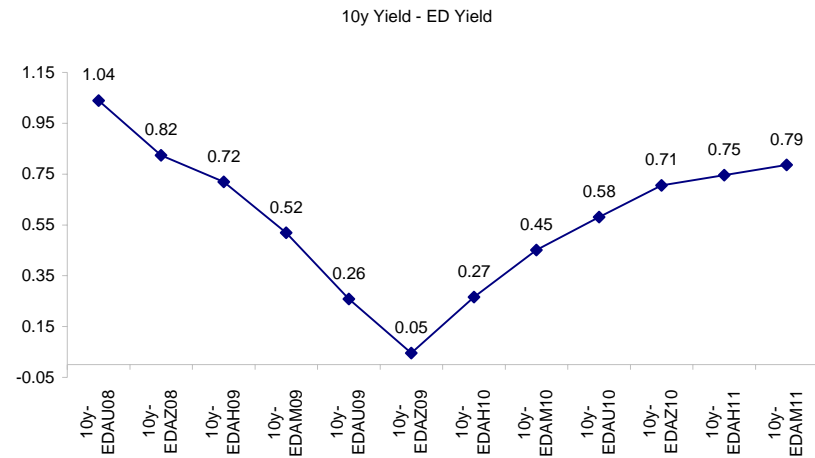


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.468	1.04	10y-EDAU08	-97.991
EDAZ08	3.683	0.82	10y-EDAZ08	-98.114
EDAH09	3.788	0.72	10y-EDAH09	-97.299
EDAM09	3.988	0.52	10y-EDAM09	-96.427
EDAU09	4.248	0.26	10y-EDAU09	-95.972
EDAZ09	4.553	0.05	10y-EDAZ09	-96.160
EDAH10	4.773	0.27	10y-EDAH10	-96.277
EDAM10	4.958	0.45	10y-EDAM10	-96.034
EDAU10	5.088	0.58	10y-EDAU10	-96.110
EDAZ10	5.213	0.71	10y-EDAZ10	-96.161
EDAH11	5.253	0.75	10y-EDAH11	-95.503
EDAM11	5.293	0.79	10y-EDAM11	-94.884

Price = Outright Decimal Price - Euro Contract Price

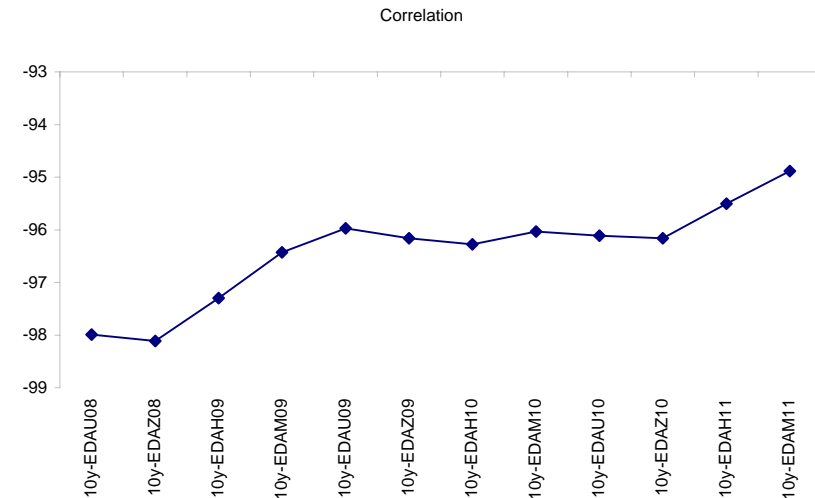
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.191	8.07	7.88	10y-EDAU08
EDAZ08	0.440	8.07	7.63	10y-EDAZ08
EDAH09	0.690	8.07	7.38	10y-EDAH09
EDAM09	0.939	8.07	7.13	10y-EDAM09
EDAU09	1.188	8.07	6.88	10y-EDAU09
EDAZ09	1.438	8.07	6.63	10y-EDAZ09
EDAH10	1.687	8.07	6.38	10y-EDAH10
EDAM10	1.936	8.07	6.14	10y-EDAM10
EDAU10	2.186	8.07	5.89	10y-EDAU10
EDAZ10	2.435	8.07	5.64	10y-EDAZ10
EDAH11	2.684	8.07	5.39	10y-EDAH11
EDAM11	2.934	8.07	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.

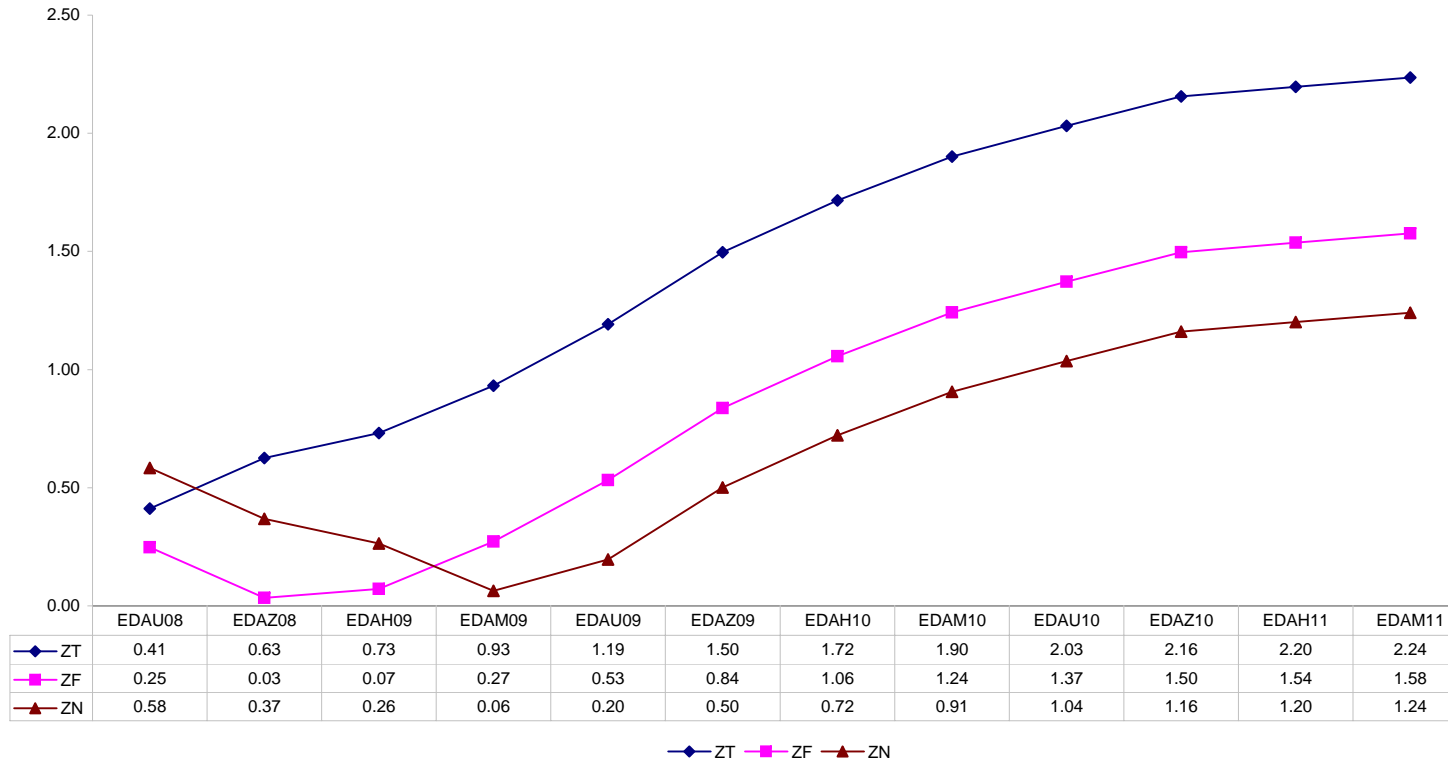
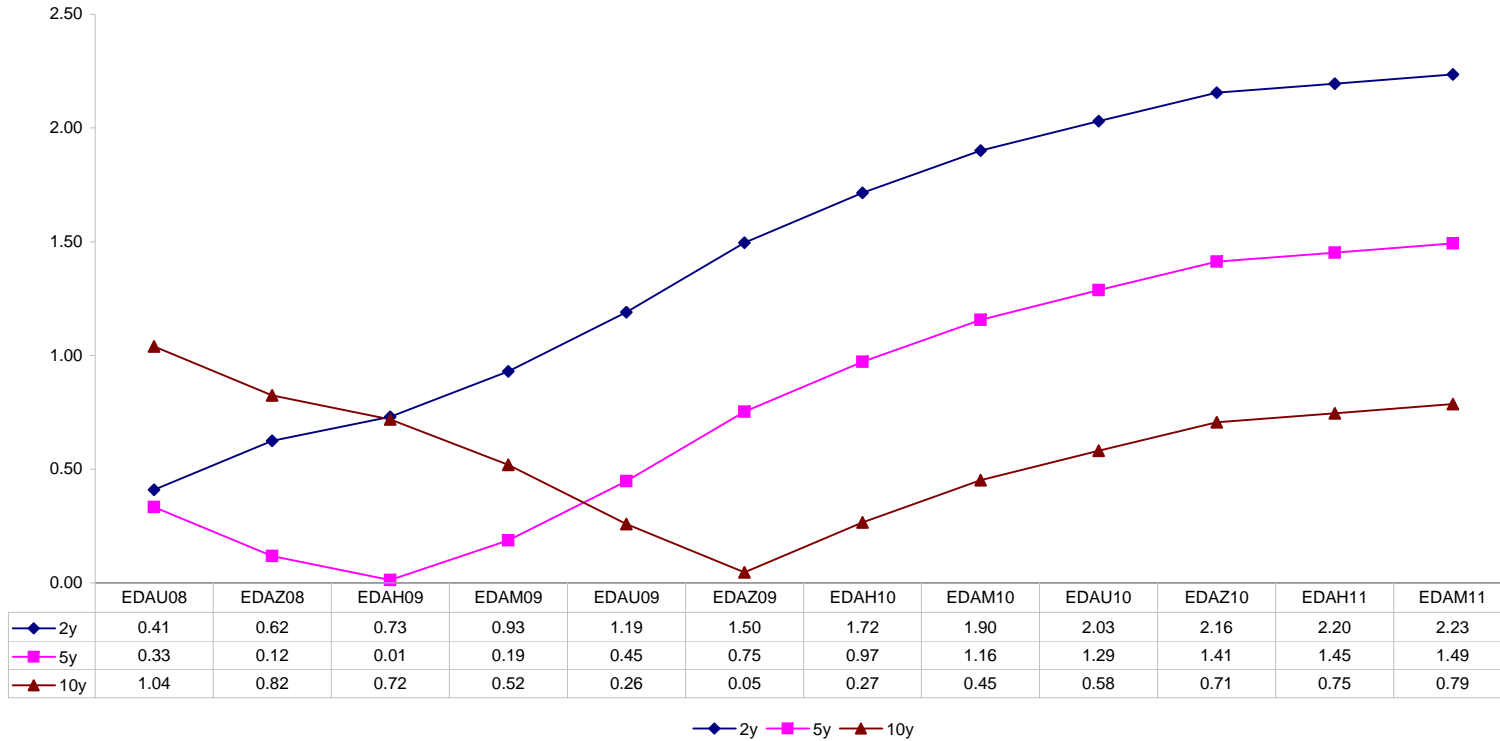
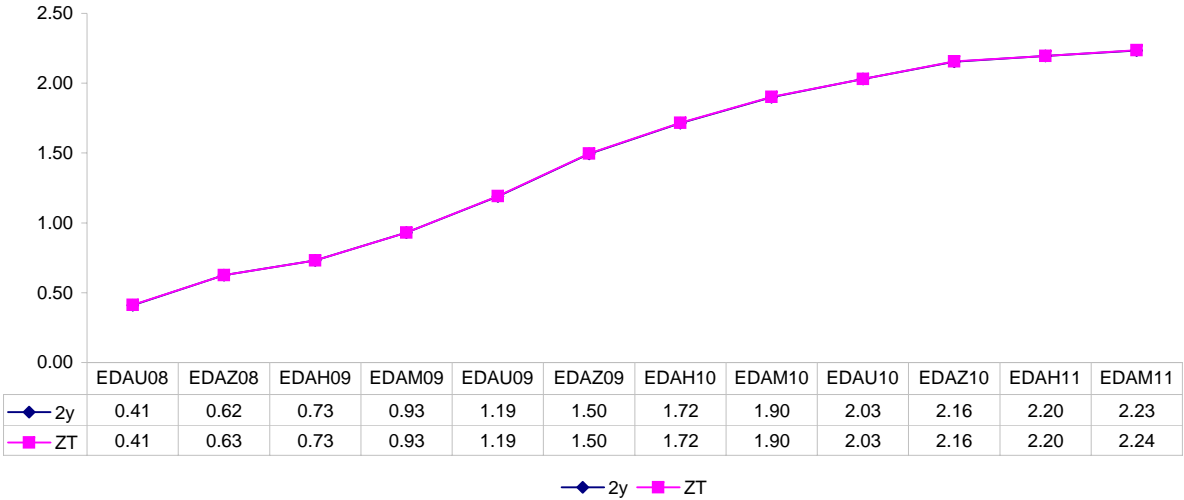


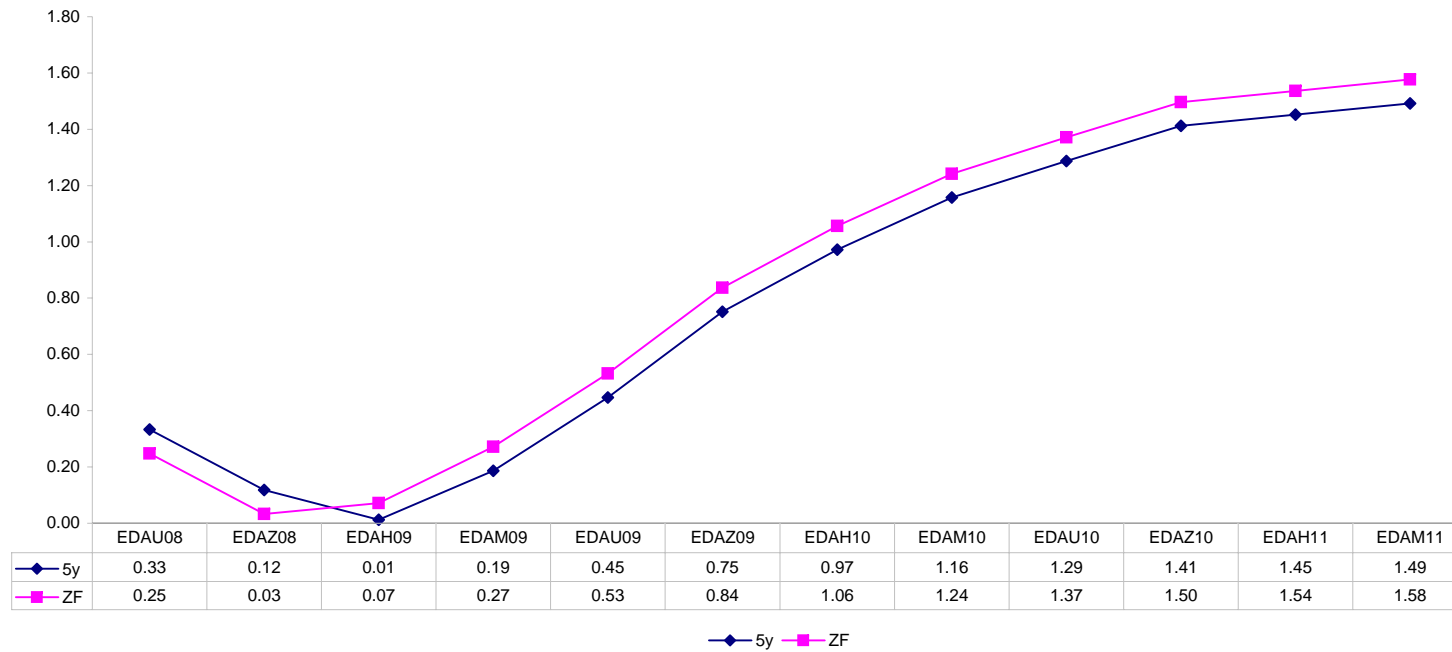
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



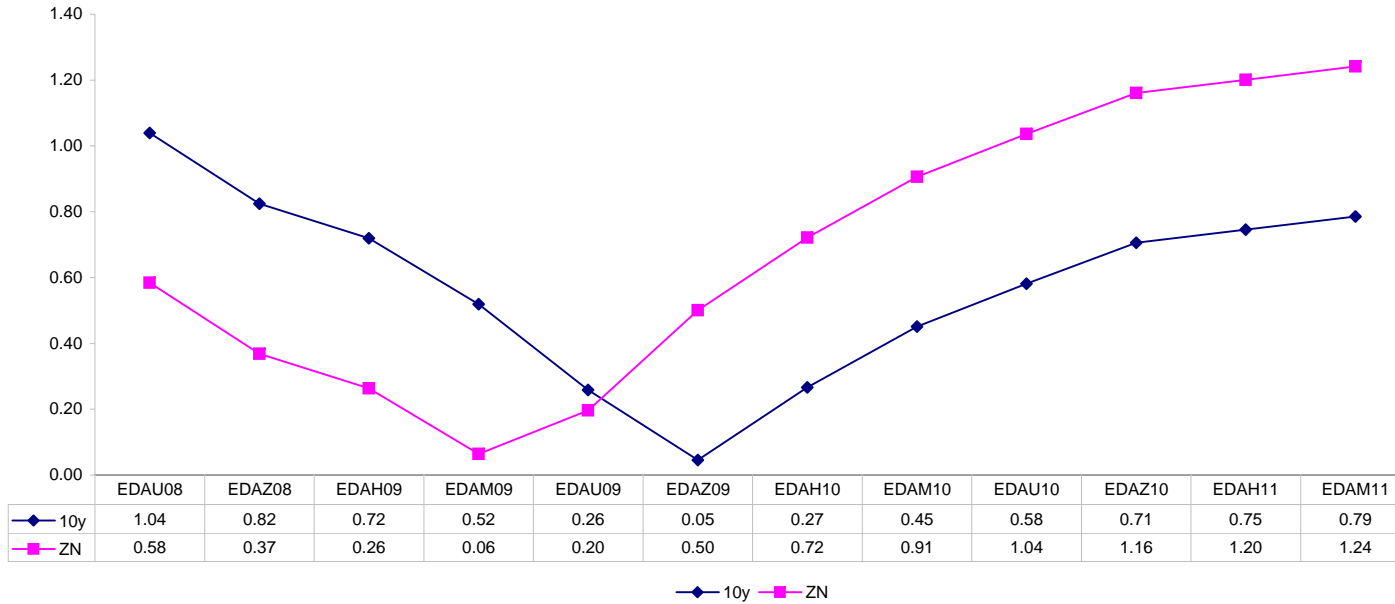
2y Basis TED Curve



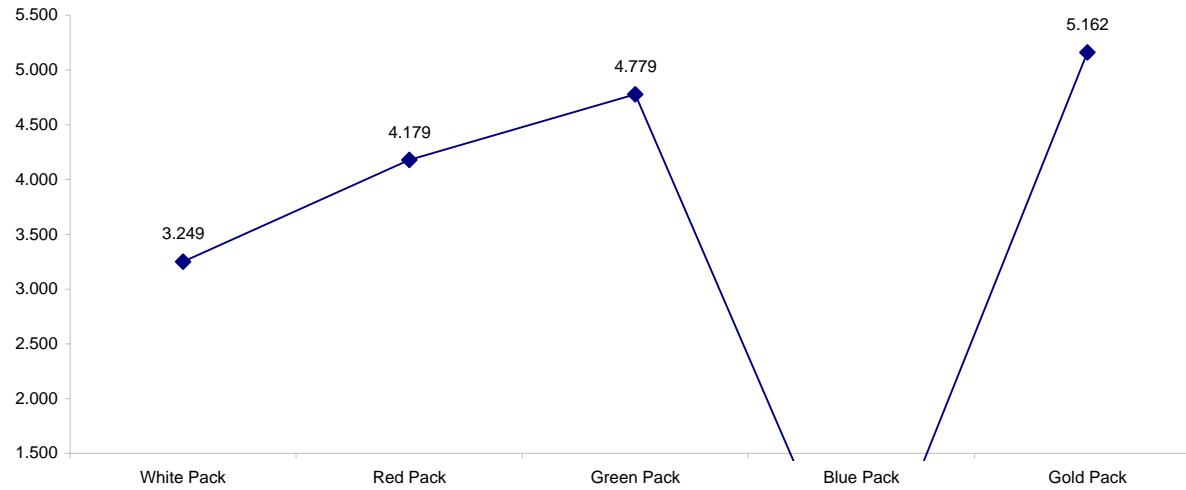
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.249	0.250	9682.125
Red Pack	4.179	1.000	9592.000
Green Pack	4.779	2.000	9534.125
Blue Pack		2.250	9513.125
Gold Pack	5.162	3.500	9497.250



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

