

## **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	104.9531	104.305	2.848	1.91
ZF	109.0375	109.012	3.582	4.09
ZN	111.8125	111.260	2.610	6.03
2y	99.484	99.1550	2.899	1.88
5y	99.391	99.1250	3.634	4.50
10y	97.375	97.1200	4.201	8.10

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAU08	96.765	3.235	90	0.246	SEP
EDAZ08	96.435	3.565	181	0.495	DEC White
EDAH09	96.265	3.735	272	0.745	MAR Pack
EDAM09	96.065	3.935	363	0.994	JUN
EDAU09	95.845	4.155	454	1.243	SEP
EDAZ09	95.590	4.410	545	1.492	DEC Red
EDAH10	95.405	4.595	636	1.742	MAR Pack
EDAM10	95.235	4.765	727	1.991	JUN
EDAU10	95.115	4.885	818	2.240	SEP
EDAZ10	95.015	4.985	909	2.490	DEC Green
EDAH11	94.975	5.025	1000	2.739	MAR Pack
EDAM11	94.950	5.050	1091	2.988	JUN
EDAU11	94.925	5.075	1189	3.257	SEP
EDAZ11	94.875	5.125	1280	3.506	DEC Blue Pack
EDAH12	94.865	5.135	1371	3.755	MAR
EDAM12	94.825	5.175	1462	4.005	JUN
EDAU12	94.805	5.195	1553	4.254	SEP
EDAZ12	94.765	5.235	1644	4.503	DEC Gold Pack
EDAH13	94.780	5.220	1735	4.753	MAR
EDAM13	94.750	5.250	1826	5.002	JUN

	Last Yield	Net Yield	Last Price	
White Pack	3.701	14.125	9638.250	Pack Prices
Red Pack	4.595	14.125	9551.875	
Green Pack	5.119	10.250	9501.375	
Blue Pack	5.266	7.375	9487.250	
Gold Pack	5.368	7.500	9477.500	

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.

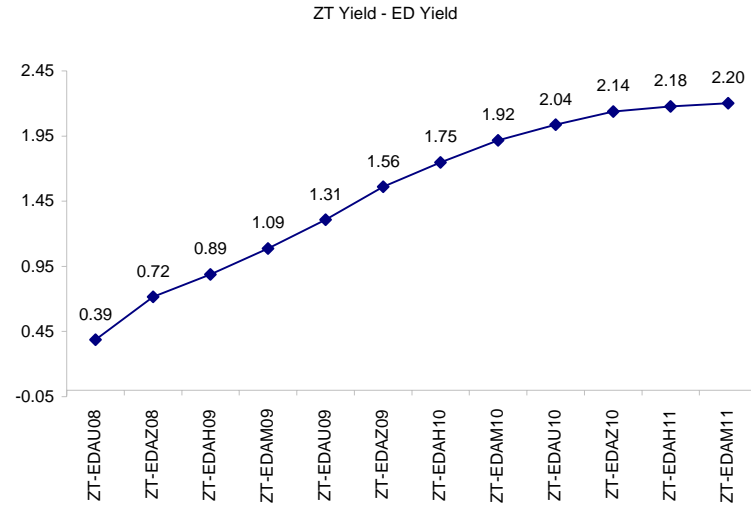
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

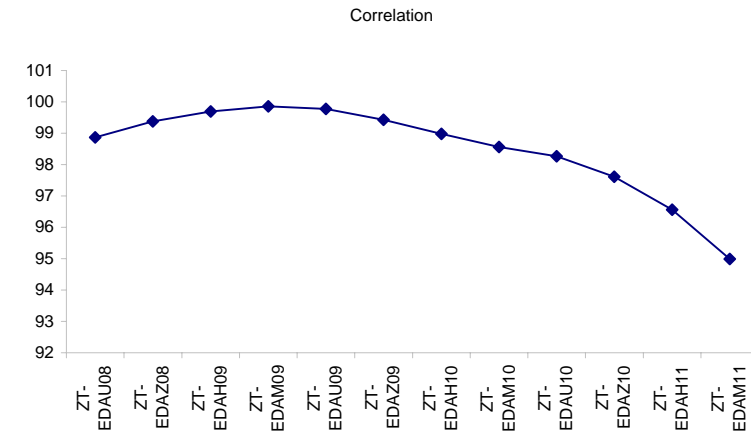
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.188	0.39	ZT-EDAU08	98.868
EDAZ08	8.518	0.72	ZT-EDAZ08	99.373
EDAH09	8.688	0.89	ZT-EDAH09	99.691
EDAM09	8.888	1.09	ZT-EDAM09	99.859
EDAU09	9.108	1.31	ZT-EDAU09	99.779
EDAZ09	9.363	1.56	ZT-EDAZ09	99.430
EDAH10	9.548	1.75	ZT-EDAH10	98.977
EDAM10	9.718	1.92	ZT-EDAM10	98.565
EDAU10	9.838	2.04	ZT-EDAU10	98.264
EDAZ10	9.938	2.14	ZT-EDAZ10	97.616
EDAH11	9.978	2.18	ZT-EDAH11	96.561
EDAM11	10.003	2.20	ZT-EDAM11	94.994

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	0.246	1.91	1.67	ZT-EDAU08		
EDAZ08	0.495	1.91	1.42	ZT-EDAZ08		
EDAH09	0.745	1.91	1.17	ZT-EDAH09		
EDAM09	0.994	1.91	0.92	ZT-EDAM09		
EDAU09	1.243	1.91	0.67	ZT-EDAU09		
EDAZ09	1.492	1.91	0.42	ZT-EDAZ09		
EDAH10	1.742	1.91	0.17	ZT-EDAH10		
EDAM10	1.991	1.91	(0.08)	ZT-EDAM10		
EDAU10	2.240	1.91	(0.33)	ZT-EDAU10		
EDAZ10	2.490	1.91	(0.58)	ZT-EDAZ10		
EDAH11	2.739	1.91	(0.83)	ZT-EDAH11		
EDAM11	2.988	1.91	(1.08)	ZT-EDAM11		

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

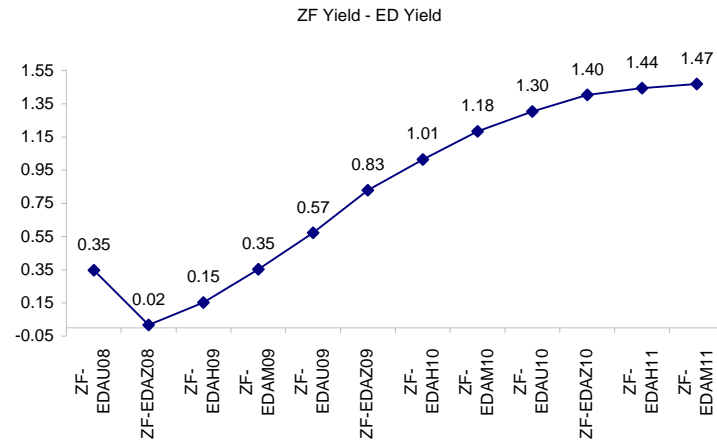


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	12.273	0.35	ZF-EDAU08	97.015
EDAZ08	12.603	0.02	ZF-EDAZ08	96.751
EDAH09	12.773	0.15	ZF-EDAH09	97.052
EDAM09	12.973	0.35	ZF-EDAM09	97.273
EDAU09	13.193	0.57	ZF-EDAU09	97.282
EDAZ09	13.448	0.83	ZF-EDAZ09	97.120
EDAH10	13.633	1.01	ZF-EDAH10	96.699
EDAM10	13.803	1.18	ZF-EDAM10	96.791
EDAU10	13.923	1.30	ZF-EDAU10	97.299
EDAZ10	14.023	1.40	ZF-EDAZ10	97.758
EDAH11	14.063	1.44	ZF-EDAH11	97.776
EDAM11	14.088	1.47	ZF-EDAM11	97.368

Price = Outright Decimal Price - Euro Contract Price

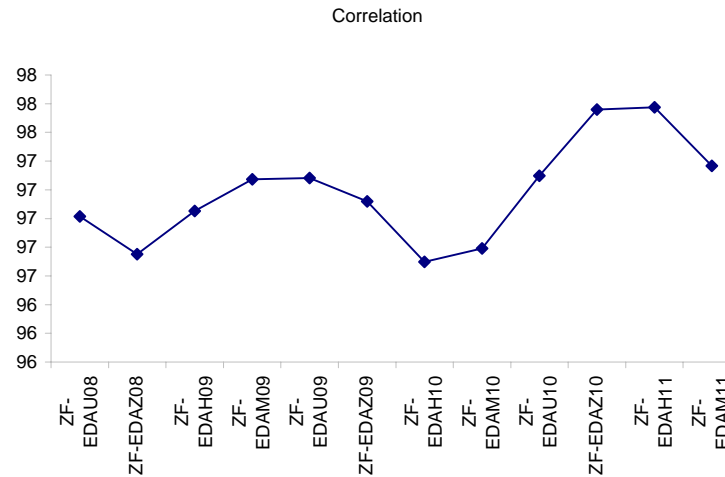
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



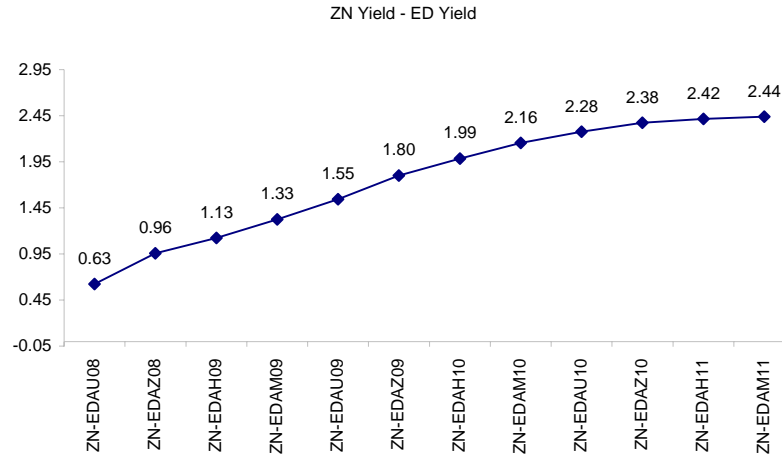
	ED Duration as Fraction of year			
	Fraction of year	ZF Duration	Spread Duration	
EDAU08	0.246	4.09	3.84	ZF-EDAU08
EDAZ08	0.495	4.09	3.59	ZF-EDAZ08
EDAH09	0.745	4.09	3.34	ZF-EDAH09
EDAM09	0.994	4.09	3.09	ZF-EDAM09
EDAU09	1.243	4.09	2.85	ZF-EDAU09
EDAZ09	1.492	4.09	2.60	ZF-EDAZ09
EDAH10	1.742	4.09	2.35	ZF-EDAH10
EDAM10	1.991	4.09	2.10	ZF-EDAM10
EDAU10	2.240	4.09	1.85	ZF-EDAU10
EDAZ10	2.490	4.09	1.60	ZF-EDAZ10
EDAH11	2.739	4.09	1.35	ZF-EDAH11
EDAM11	2.988	4.09	1.10	ZF-EDAM11

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



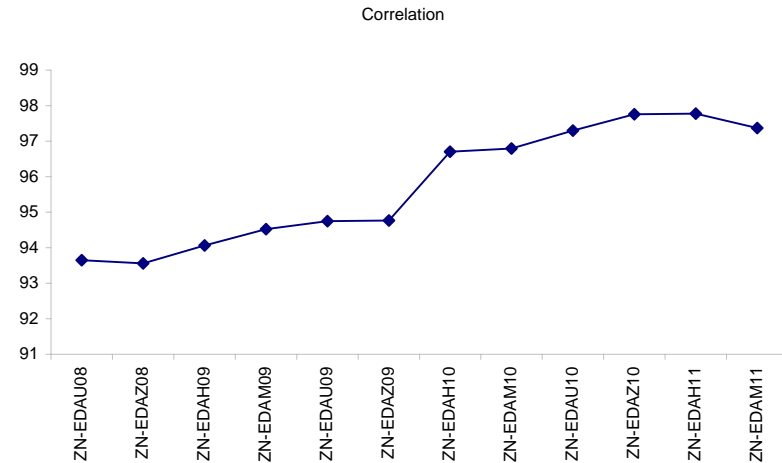
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.048	0.63	ZN-EDAU08	93.650
EDAZ08	15.378	0.96	ZN-EDAZ08	93.556
EDAH09	15.548	1.13	ZN-EDAH09	94.063
EDAM09	15.748	1.33	ZN-EDAM09	94.519
EDAU09	15.968	1.55	ZN-EDAU09	94.752
EDAZ09	16.223	1.80	ZN-EDAZ09	94.766
EDAH10	16.408	1.99	ZN-EDAH10	96.699
EDAM10	16.578	2.16	ZN-EDAM10	96.791
EDAU10	16.698	2.28	ZN-EDAU10	97.299
EDAZ10	16.798	2.38	ZN-EDAZ10	97.758
EDAH11	16.838	2.42	ZN-EDAH11	97.776
EDAM11	16.863	2.44	ZN-EDAM11	97.368

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	0.246	6.03	5.78	ZN-EDAU08
EDAZ08	0.495	6.03	5.53	ZN-EDAZ08
EDAH09	0.745	6.03	5.28	ZN-EDAH09
EDAM09	0.994	6.03	5.03	ZN-EDAM09
EDAU09	1.243	6.03	4.78	ZN-EDAU09
EDAZ09	1.492	6.03	4.53	ZN-EDAZ09
EDAH10	1.742	6.03	4.28	ZN-EDAH10
EDAM10	1.991	6.03	4.03	ZN-EDAM10
EDAU10	2.240	6.03	3.79	ZN-EDAU10
EDAZ10	2.490	6.03	3.54	ZN-EDAZ10
EDAH11	2.739	6.03	3.29	ZN-EDAH11
EDAM11	2.988	6.03	3.04	ZN-EDAM11

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

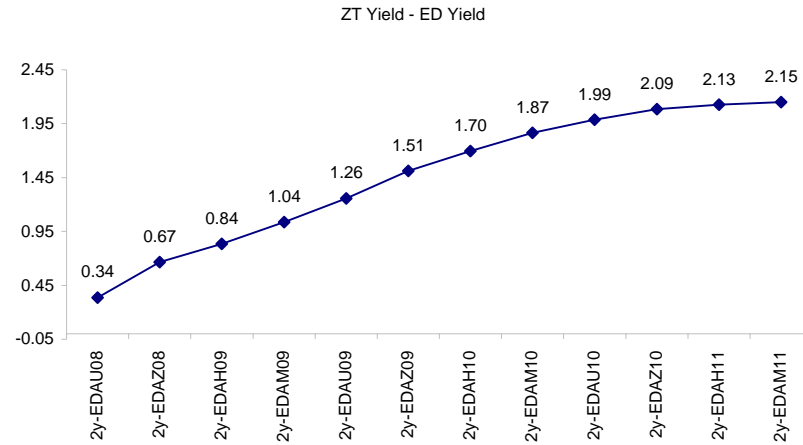


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.719	0.34	2y-EDAU08	-97.918
EDAZ08	3.049	0.67	2y-EDAZ08	-98.324
EDAH09	3.219	0.84	2y-EDAH09	-98.824
EDAM09	3.419	1.04	2y-EDAM09	-99.273
EDAU09	3.639	1.26	2y-EDAU09	-99.300
EDAZ09	3.894	1.51	2y-EDAZ09	-98.944
EDAH10	4.079	1.70	2y-EDAH10	-98.338
EDAM10	4.249	1.87	2y-EDAM10	-97.806
EDAU10	4.369	1.99	2y-EDAU10	-97.539
EDAZ10	4.469	2.09	2y-EDAZ10	-96.963
EDAH11	4.509	2.13	2y-EDAH11	-96.051
EDAM11	4.534	2.15	2y-EDAM11	-94.480

Price = Outright Decimal Price - Euro Contract Price

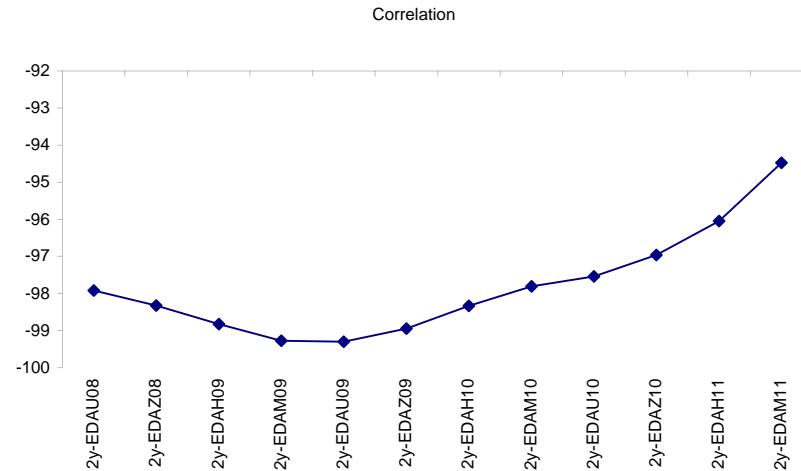
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.246	1.88	1.64	2y-EDAU08
EDAZ08	0.495	1.88	1.39	2y-EDAZ08
EDAH09	0.745	1.88	1.14	2y-EDAH09
EDAM09	0.994	1.88	0.89	2y-EDAM09
EDAU09	1.243	1.88	0.64	2y-EDAU09
EDAZ09	1.492	1.88	0.39	2y-EDAZ09
EDAH10	1.742	1.88	0.14	2y-EDAH10
EDAM10	1.991	1.88	(0.11)	2y-EDAM10
EDAU10	2.240	1.88	(0.36)	2y-EDAU10
EDAZ10	2.490	1.88	(0.60)	2y-EDAZ10
EDAH11	2.739	1.88	(0.85)	2y-EDAH11
EDAM11	2.988	1.88	(1.10)	2y-EDAM11

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

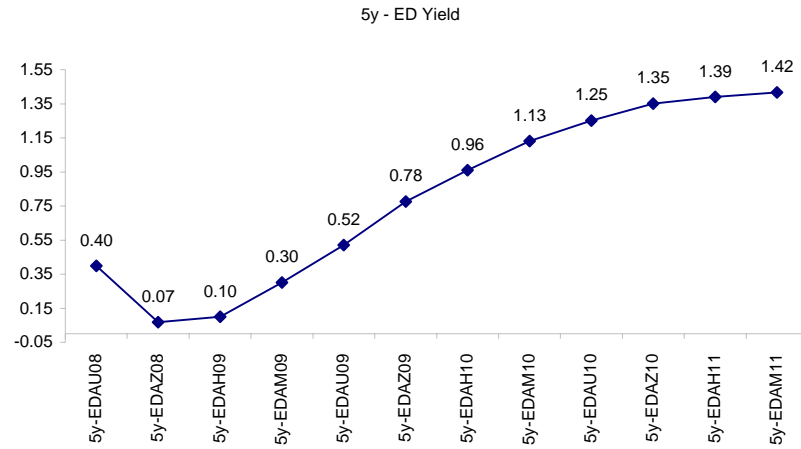


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.626	0.40	5y-EDAU08	-95.570
EDAZ08	2.956	0.07	5y-EDAZ08	-95.108
EDAH09	3.126	0.10	5y-EDAH09	-95.537
EDAM09	3.326	0.30	5y-EDAM09	-96.004
EDAU09	3.546	0.52	5y-EDAU09	-96.067
EDAZ09	3.801	0.78	5y-EDAZ09	-95.835
EDAH10	3.986	0.96	5y-EDAH10	-95.243
EDAM10	4.156	1.13	5y-EDAM10	-95.226
EDAU10	4.276	1.25	5y-EDAU10	-95.766
EDAZ10	4.376	1.35	5y-EDAZ10	-96.330
EDAH11	4.416	1.39	5y-EDAH11	-96.476
EDAM11	4.441	1.42	5y-EDAM11	-96.247

Price = Outright Decimal Price - Euro Contract Price

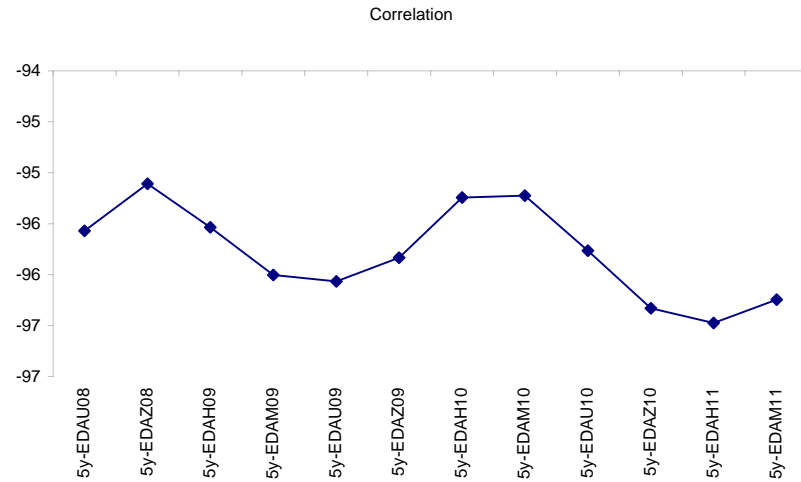
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.246	4.50	4.25	5y-EDAU08
EDAZ08	0.495	4.50	4.00	5y-EDAZ08
EDAH09	0.745	4.50	3.75	5y-EDAH09
EDAM09	0.994	4.50	3.50	5y-EDAM09
EDAU09	1.243	4.50	3.25	5y-EDAU09
EDAZ09	1.492	4.50	3.01	5y-EDAZ09
EDAH10	1.742	4.50	2.76	5y-EDAH10
EDAM10	1.991	4.50	2.51	5y-EDAM10
EDAU10	2.240	4.50	2.26	5y-EDAU10
EDAZ10	2.490	4.50	2.01	5y-EDAZ10
EDAH11	2.739	4.50	1.76	5y-EDAH11
EDAM11	2.988	4.50	1.51	5y-EDAM11

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



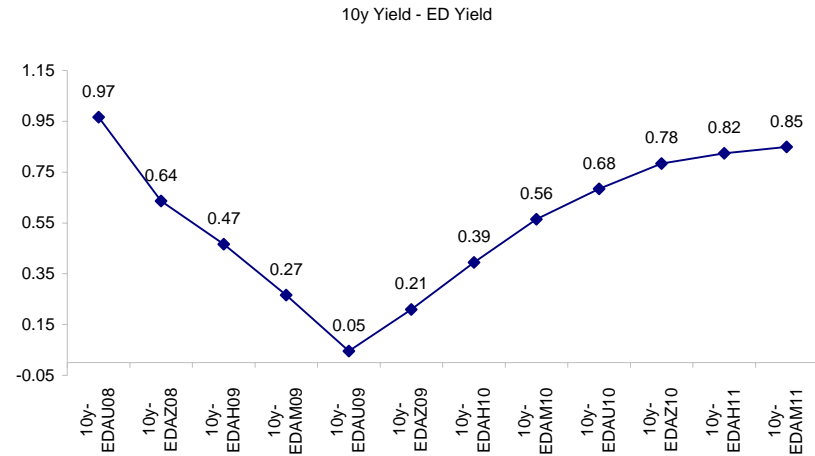


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.626	0.97	10y-EDAU08	-89.298
EDAZ08	2.956	0.64	10y-EDAZ08	-88.153
EDAH09	3.126	0.47	10y-EDAH09	-88.568
EDAM09	3.326	0.27	10y-EDAM09	-88.984
EDAU09	3.546	0.05	10y-EDAU09	-89.049
EDAZ09	3.801	0.21	10y-EDAZ09	-88.901
EDAH10	3.986	0.39	10y-EDAH10	-88.304
EDAM10	4.156	0.56	10y-EDAM10	-88.789
EDAU10	4.276	0.68	10y-EDAU10	-90.167
EDAZ10	4.376	0.78	10y-EDAZ10	-91.927
EDAH11	4.416	0.82	10y-EDAH11	-93.182
EDAM11	4.441	0.85	10y-EDAM11	-94.279

Price = Outright Decimal Price - Euro Contract Price

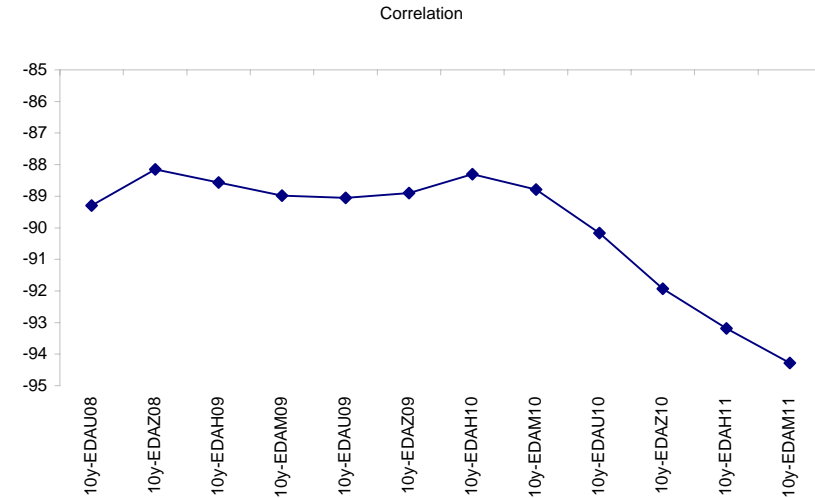
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.246	8.10	7.85	10y-EDAU08
EDAZ08	0.495	8.10	7.60	10y-EDAZ08
EDAH09	0.745	8.10	7.35	10y-EDAH09
EDAM09	0.994	8.10	7.10	10y-EDAM09
EDAU09	1.243	8.10	6.85	10y-EDAU09
EDAZ09	1.492	8.10	6.60	10y-EDAZ09
EDAH10	1.742	8.10	6.35	10y-EDAH10
EDAM10	1.991	8.10	6.10	10y-EDAM10
EDAU10	2.240	8.10	5.86	10y-EDAU10
EDAZ10	2.490	8.10	5.61	10y-EDAZ10
EDAH11	2.739	8.10	5.36	10y-EDAH11
EDAM11	2.988	8.10	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.

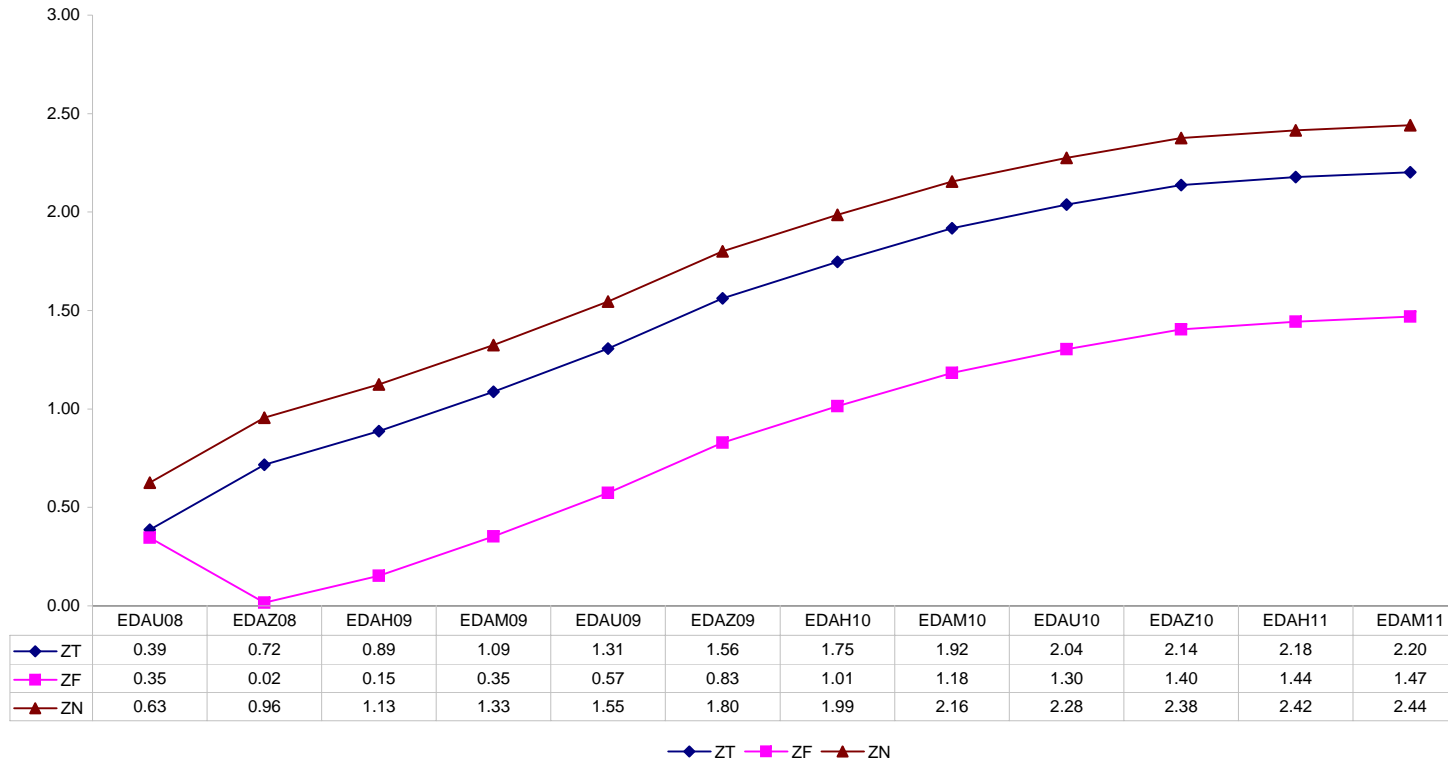
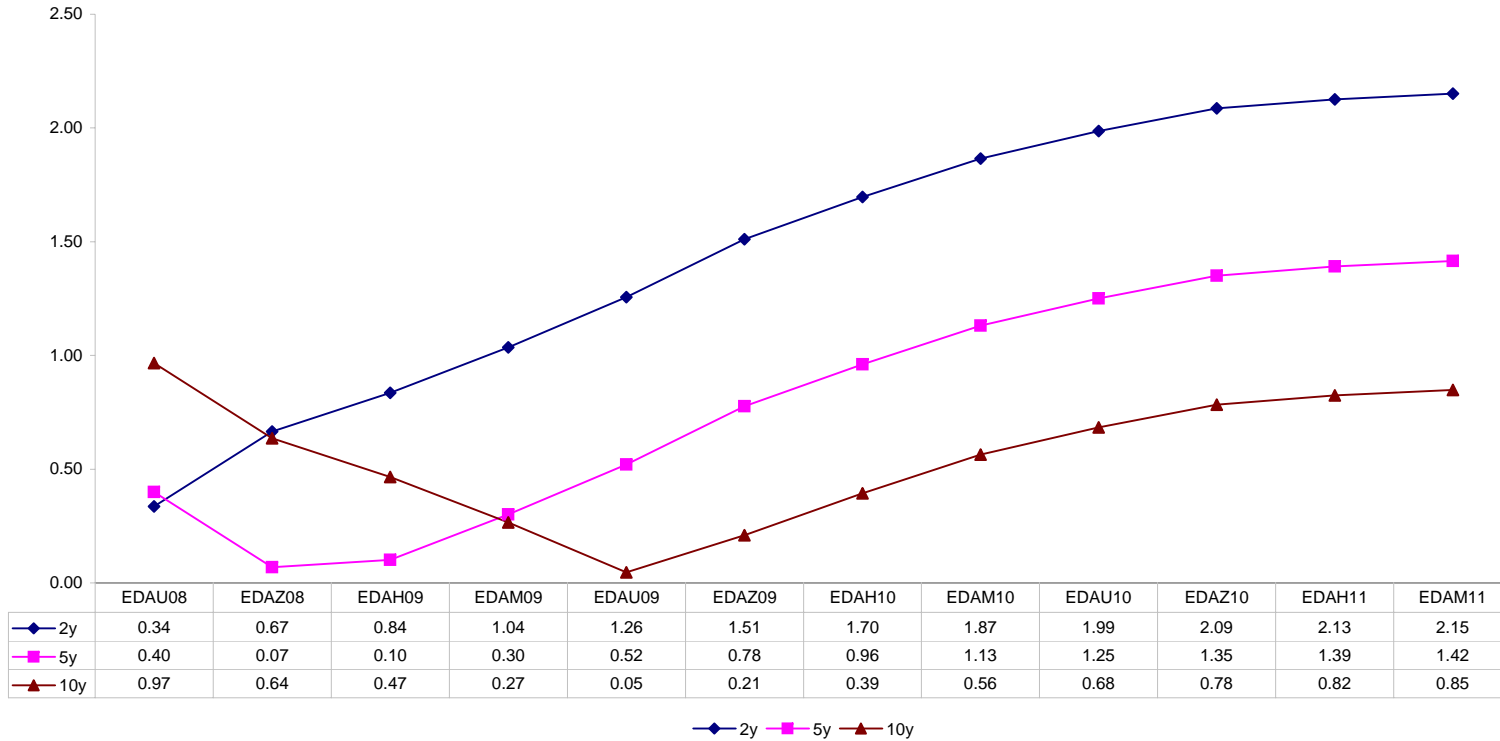
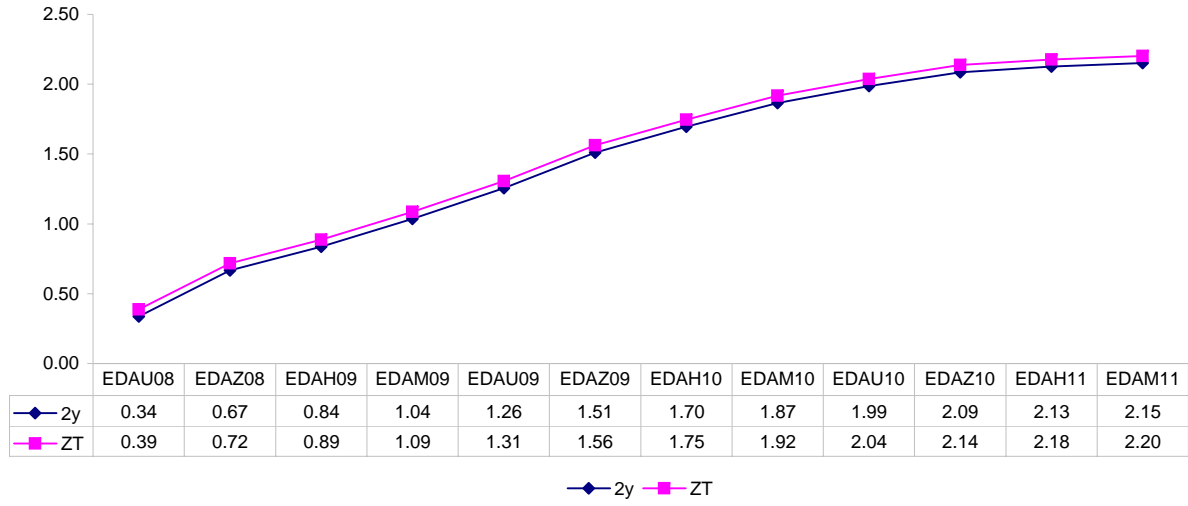


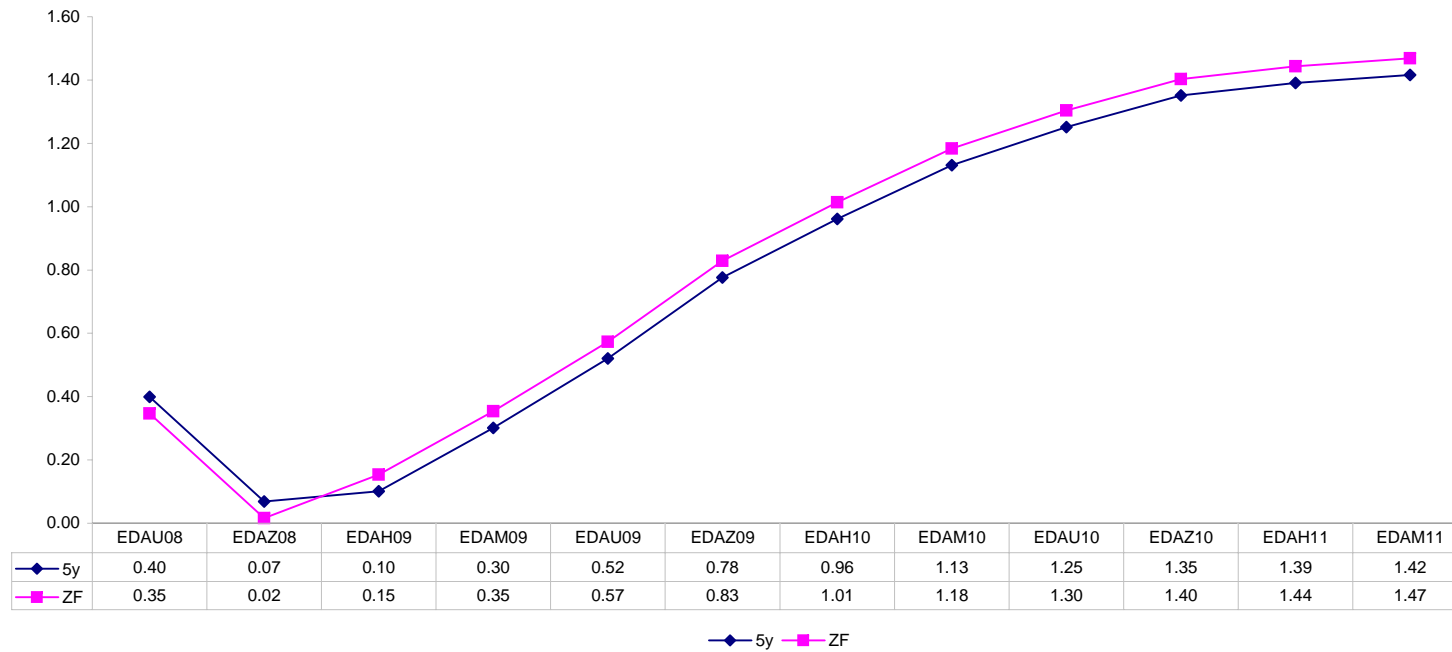
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



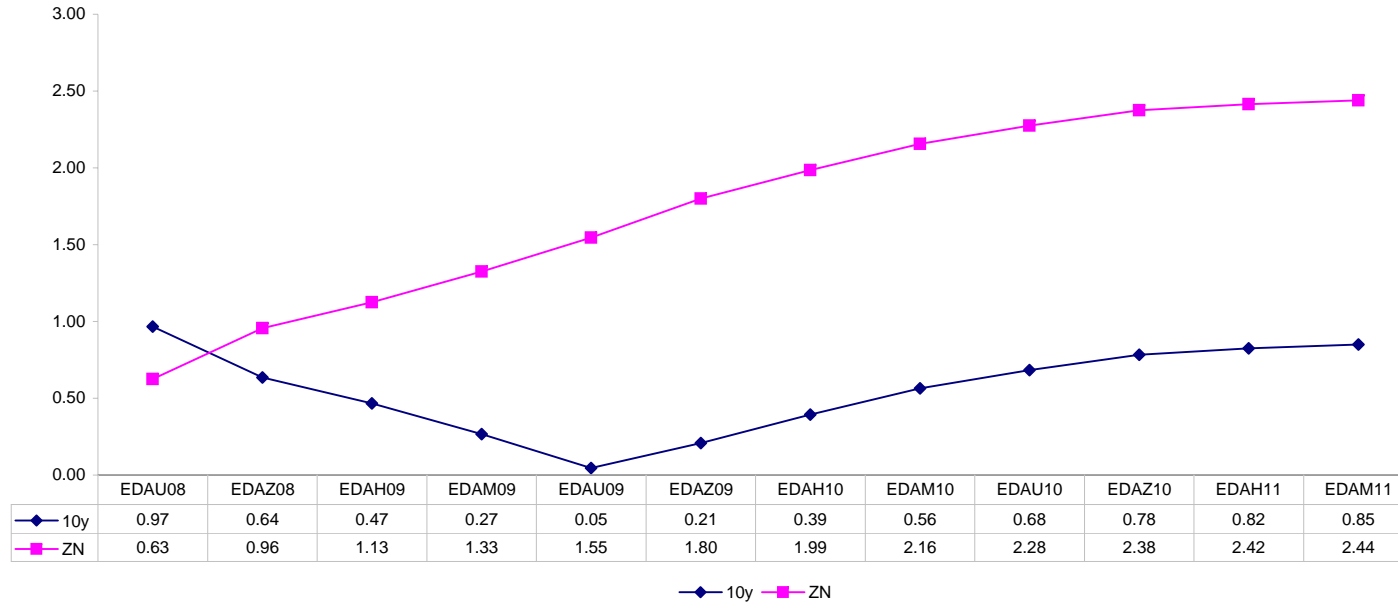
2y Basis TED Curve



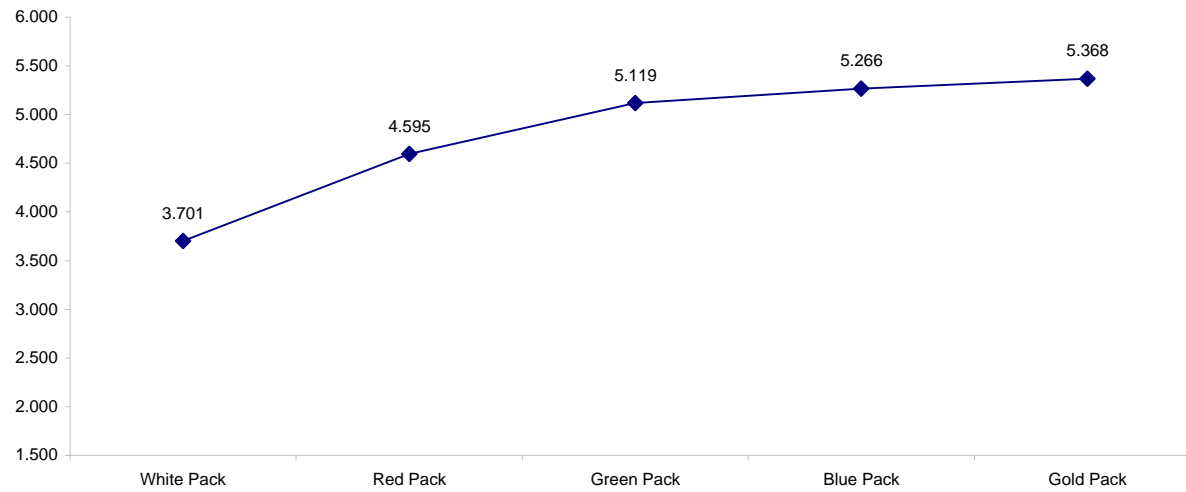
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.701	14.125	9638.250
Red Pack	4.595	14.125	9551.875
Green Pack	5.119	10.250	9501.375
Blue Pack	5.266	7.375	9487.250
Gold Pack	5.368	7.500	9477.500



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

