

## **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	107.7563	107.242	1.403	1.93
ZF	114.5469	114.175	2.339	4.11
ZN	117.7344	117.235	3.302	6.25
2y	101.147	101.0470	1.409	1.87
5y	103.272	103.0870	2.426	4.59
10y	104.516	104.1650	3.451	8.09

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	97.350	2.650	68	0.186	DEC	
EDAH09	97.870	2.130	159	0.435	MAR	White Pack
EDAM09	97.865	2.135	250	0.684	JUN	
EDAU09	97.810	2.190	341	0.934	SEP	
EDAZ09	97.545	2.455	432	1.183	DEC	
EDAH10	97.400	2.600	523	1.432	MAR	Red Pack
EDAM10	97.105	2.895	614	1.682	JUN	
EDAU10	96.780	3.220	705	1.931	SEP	
EDAZ10	96.410	3.590	796	2.180	DEC	
EDAH11	96.220	3.780	887	2.429	MAR	Green Pack
EDAM11	96.040	3.960	978	2.679	JUN	
EDAU11	95.945	4.055	1076	2.947	SEP	
EDAZ11	95.830	4.170	1167	3.197	DEC	
EDAH12	95.775	4.225	1258	3.446	MAR	Blue Pack
EDAM12	95.705	4.295	1349	3.695	JUN	
EDAU12	95.645	4.355	1440	3.945	SEP	
EDAZ12	95.550	4.450	1531	4.194	DEC	
EDAH13	95.520	4.480	1622	4.443	MAR	Gold Pack
EDAM13	95.435	4.565	1713	4.692	JUN	
EDZU13	#VALUE!	#VALUE!	1895	5.191	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	2.321	10.875	9772.375	Pack Prices
Red Pack	2.851	13.125	9720.750	
Green Pack	3.938	8.125	9615.375	
Blue Pack		0.875	9574.375	
Gold Pack		0.000	9546.250	

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.

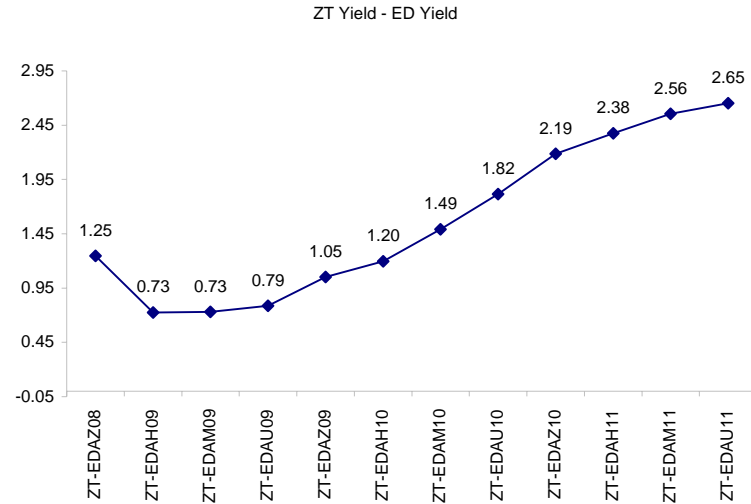
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

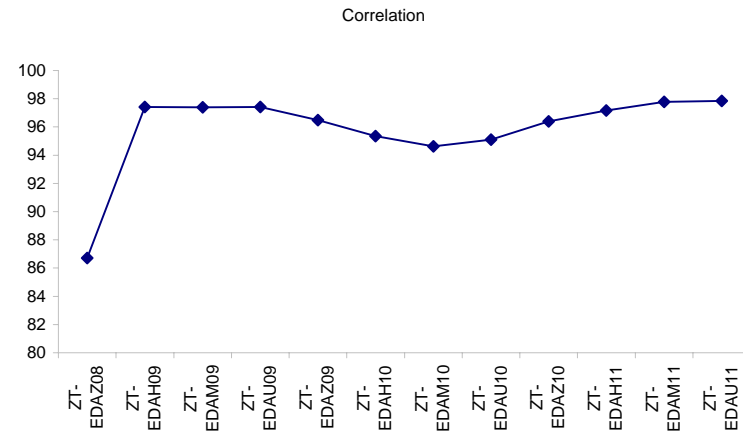
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.406	1.25	ZT-EDAZ08	86.703
EDAH09	9.886	0.73	ZT-EDAH09	97.419
EDAM09	9.891	0.73	ZT-EDAM09	97.394
EDAU09	9.946	0.79	ZT-EDAU09	97.419
EDAZ09	10.211	1.05	ZT-EDAZ09	96.496
EDAH10	10.356	1.20	ZT-EDAH10	95.340
EDAM10	10.651	1.49	ZT-EDAM10	94.632
EDAU10	10.976	1.82	ZT-EDAU10	95.108
EDAZ10	11.346	2.19	ZT-EDAZ10	96.403
EDAH11	11.536	2.38	ZT-EDAH11	97.158
EDAM11	11.716	2.56	ZT-EDAM11	97.780
EDAU11	11.811	2.65	ZT-EDAU11	97.841

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	
EDAZ08	0.186	1.93	1.75	ZT-EDAZ08		
EDAH09	0.435	1.93	1.50	ZT-EDAH09		
EDAM09	0.684	1.93	1.25	ZT-EDAM09		
EDAU09	0.934	1.93	1.00	ZT-EDAU09		
EDAZ09	1.183	1.93	0.75	ZT-EDAZ09		
EDAH10	1.432	1.93	0.50	ZT-EDAH10		
EDAM10	1.682	1.93	0.25	ZT-EDAM10		
EDAU10	1.931	1.93	0.00	ZT-EDAU10		
EDAZ10	2.180	1.93	(0.25)	ZT-EDAZ10		
EDAH11	2.429	1.93	(0.50)	ZT-EDAH11		
EDAM11	2.679	1.93	(0.75)	ZT-EDAM11		
EDAU11	2.947	1.93	(1.01)	ZT-EDAU11		

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

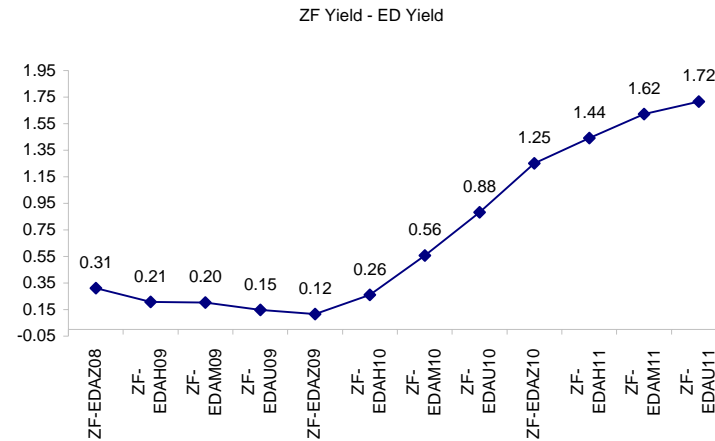


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	17.197	0.31	ZF-EDAZ08	89.827
EDAH09	16.677	0.21	ZF-EDAH09	97.718
EDAM09	16.682	0.20	ZF-EDAM09	98.695
EDAU09	16.737	0.15	ZF-EDAU09	98.676
EDAZ09	17.002	0.12	ZF-EDAZ09	97.918
EDAH10	17.147	0.26	ZF-EDAH10	96.868
EDAM10	17.442	0.56	ZF-EDAM10	96.237
EDAU10	17.767	0.88	ZF-EDAU10	96.664
EDAZ10	18.137	1.25	ZF-EDAZ10	97.818
EDAH11	18.327	1.44	ZF-EDAH11	98.468
EDAM11	18.507	1.62	ZF-EDAM11	98.968
EDAU11	18.602	1.72	ZF-EDAU11	98.959

Price = Outright Decimal Price - Euro Contract Price

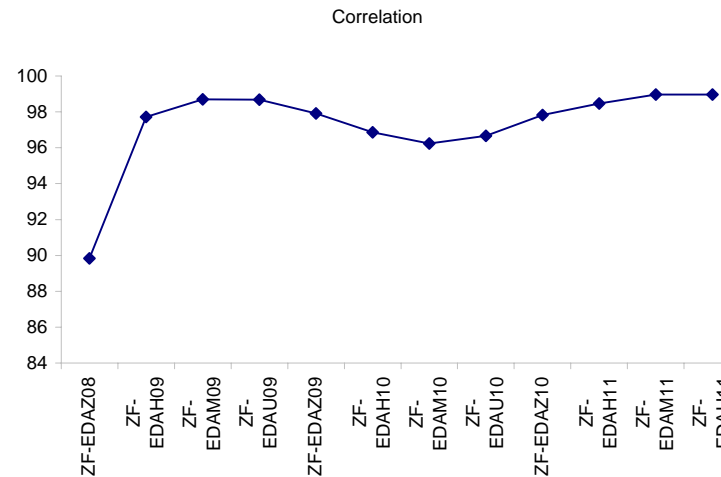
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.186	4.11	3.92	ZF-EDAZ08		
EDAH09	0.435	4.11	3.68	ZF-EDAH09		
EDAM09	0.684	4.11	3.43	ZF-EDAM09		
EDAU09	0.934	4.11	3.18	ZF-EDAU09		
EDAZ09	1.183	4.11	2.93	ZF-EDAZ09		
EDAH10	1.432	4.11	2.68	ZF-EDAH10		
EDAM10	1.682	4.11	2.43	ZF-EDAM10		
EDAU10	1.931	4.11	2.18	ZF-EDAU10		
EDAZ10	2.180	4.11	1.93	ZF-EDAZ10		
EDAH11	2.429	4.11	1.68	ZF-EDAH11		
EDAM11	2.679	4.11	1.43	ZF-EDAM11		
EDAU11	2.947	4.11	1.16	ZF-EDAU11		

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

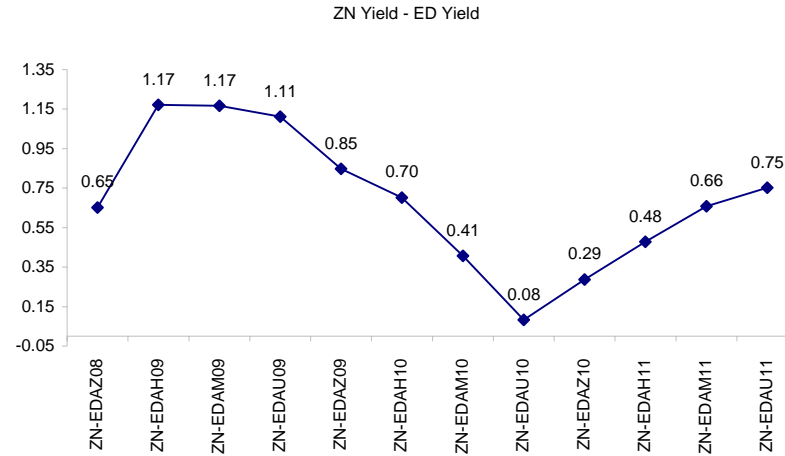


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	20.384	0.65	ZN-EDAZ08	93.715
EDAH09	19.864	1.17	ZN-EDAH09	96.847
EDAM09	19.869	1.17	ZN-EDAM09	97.445
EDAU09	19.924	1.11	ZN-EDAU09	97.634
EDAZ09	20.189	0.85	ZN-EDAZ09	97.413
EDAH10	20.334	0.70	ZN-EDAH10	96.957
EDAM10	20.629	0.41	ZN-EDAM10	96.237
EDAU10	20.954	0.08	ZN-EDAU10	96.664
EDAZ10	21.324	0.29	ZN-EDAZ10	97.818
EDAH11	21.514	0.48	ZN-EDAH11	98.468
EDAM11	21.694	0.66	ZN-EDAM11	98.968
EDAU11	21.789	0.75	ZN-EDAU11	98.959

Price = Outright Decimal Price - Euro Contract Price

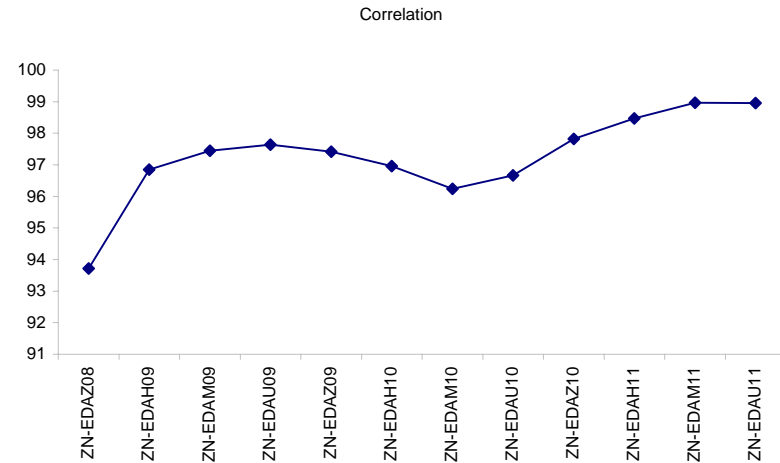
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.186	6.25	6.07	ZN-EDAZ08		
EDAH09	0.435	6.25	5.82	ZN-EDAH09		
EDAM09	0.684	6.25	5.57	ZN-EDAM09		
EDAU09	0.934	6.25	5.32	ZN-EDAU09		
EDAZ09	1.183	6.25	5.07	ZN-EDAZ09		
EDAH10	1.432	6.25	4.82	ZN-EDAH10		
EDAM10	1.682	6.25	4.57	ZN-EDAM10		
EDAU10	1.931	6.25	4.32	ZN-EDAU10		
EDAZ10	2.180	6.25	4.07	ZN-EDAZ10		
EDAH11	2.429	6.25	3.82	ZN-EDAH11		
EDAM11	2.679	6.25	3.57	ZN-EDAM11		
EDAU11	2.947	6.25	3.30	ZN-EDAU11		

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

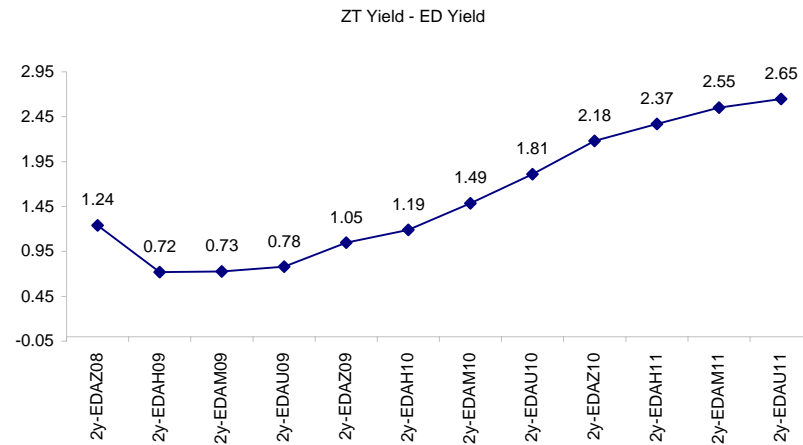


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.797	1.24	2y-EDAZ08	-84.015
EDAH09	3.277	0.72	2y-EDAH09	-94.659
EDAM09	3.282	0.73	2y-EDAM09	-96.063
EDAU09	3.337	0.78	2y-EDAU09	-96.211
EDAZ09	3.602	1.05	2y-EDAZ09	-95.335
EDAH10	3.747	1.19	2y-EDAH10	-94.279
EDAM10	4.042	1.49	2y-EDAM10	-93.477
EDAU10	4.367	1.81	2y-EDAU10	-93.814
EDAZ10	4.737	2.18	2y-EDAZ10	-95.038
EDAH11	4.927	2.37	2y-EDAH11	-95.877
EDAM11	5.107	2.55	2y-EDAM11	-96.438
EDAU11	5.202	2.65	2y-EDAU11	-96.304

Price = Outright Decimal Price - Euro Contract Price

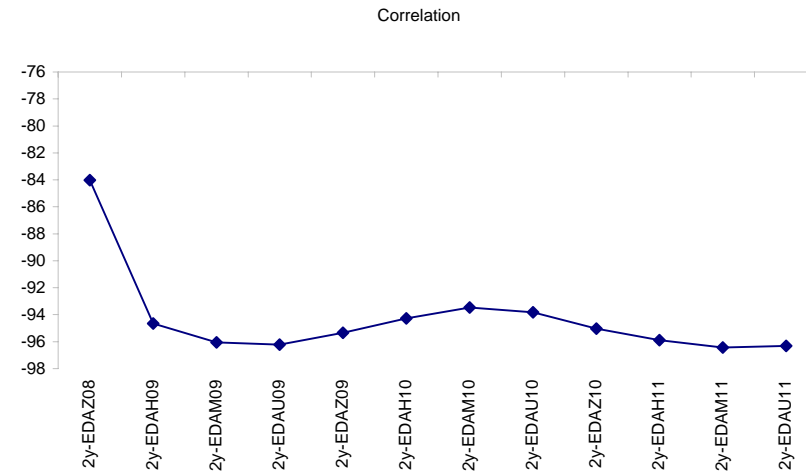
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.186	1.87	1.68		2y-EDAZ08
EDAH09	0.435	1.87	1.43		2y-EDAH09
EDAM09	0.684	1.87	1.18		2y-EDAM09
EDAU09	0.934	1.87	0.93		2y-EDAU09
EDAZ09	1.183	1.87	0.68		2y-EDAZ09
EDAH10	1.432	1.87	0.44		2y-EDAH10
EDAM10	1.682	1.87	0.19		2y-EDAM10
EDAU10	1.931	1.87	(0.06)		2y-EDAU10
EDAZ10	2.180	1.87	(0.31)		2y-EDAZ10
EDAH11	2.429	1.87	(0.56)		2y-EDAH11
EDAM11	2.679	1.87	(0.81)		2y-EDAM11
EDAU11	2.947	1.87	(1.08)		2y-EDAU11

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

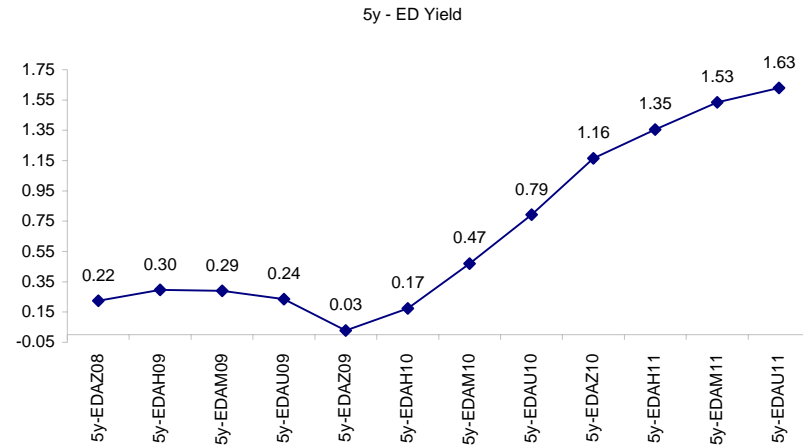


	5y			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAZ08	5.922	0.22	5y-EDAZ08	-88.187
EDAH09	5.402	0.30	5y-EDAH09	-95.946
EDAM09	5.407	0.29	5y-EDAM09	-97.340
EDAU09	5.462	0.24	5y-EDAU09	-97.792
EDAZ09	5.727	0.03	5y-EDAZ09	-97.593
EDAH10	5.872	0.17	5y-EDAH10	-96.863
EDAM10	6.167	0.47	5y-EDAM10	-96.365
EDAU10	6.492	0.79	5y-EDAU10	-96.711
EDAZ10	6.862	1.16	5y-EDAZ10	-97.649
EDAH11	7.052	1.35	5y-EDAH11	-98.297
EDAM11	7.232	1.53	5y-EDAM11	-98.606
EDAU11	7.327	1.63	5y-EDAU11	-98.650

Price = Outright Decimal Price - Euro Contract Price

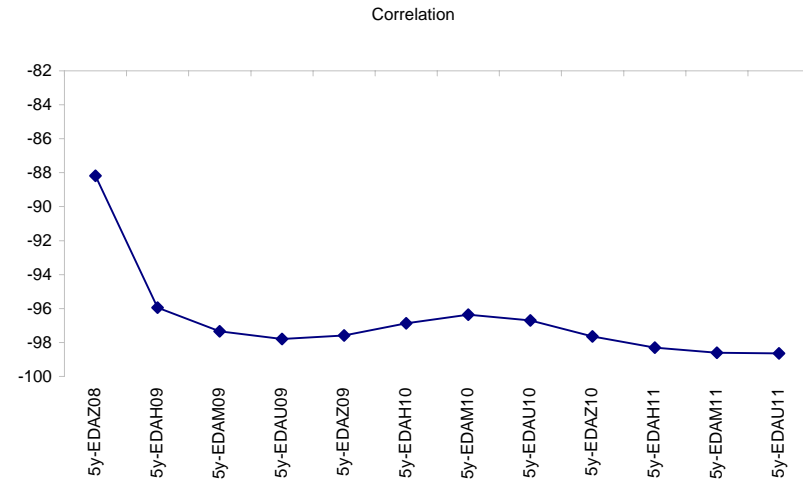
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			Spread Duration	
	Fraction of year	5Y Duration	Spread Duration		
EDAZ08	0.186	4.59	4.41	5y-EDAZ08	
EDAH09	0.435	4.59	4.16	5y-EDAH09	
EDAM09	0.684	4.59	3.91	5y-EDAM09	
EDAU09	0.934	4.59	3.66	5y-EDAU09	
EDAZ09	1.183	4.59	3.41	5y-EDAZ09	
EDAH10	1.432	4.59	3.16	5y-EDAH10	
EDAM10	1.682	4.59	2.91	5y-EDAM10	
EDAU10	1.931	4.59	2.66	5y-EDAU10	
EDAZ10	2.180	4.59	2.41	5y-EDAZ10	
EDAH11	2.429	4.59	2.16	5y-EDAH11	
EDAM11	2.679	4.59	1.92	5y-EDAM11	
EDAU11	2.947	4.59	1.65	5y-EDAU11	

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

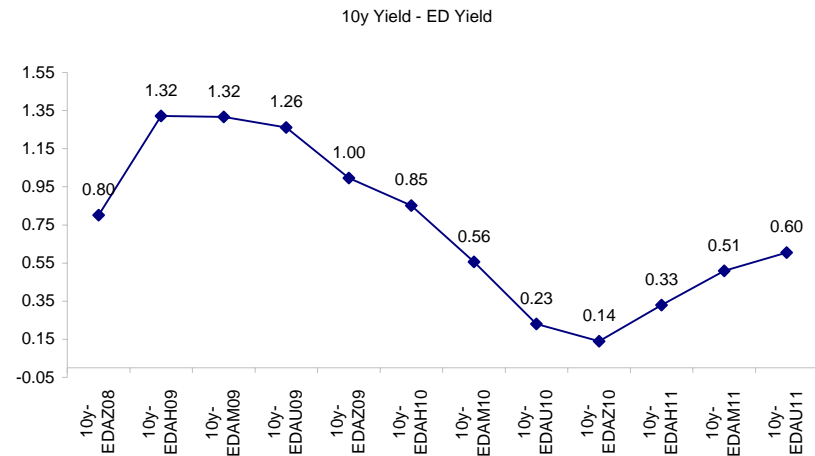


	10y			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAZ08	5.922	0.80	10y-EDAZ08	-87.355
EDAH09	5.402	1.32	10y-EDAH09	-95.536
EDAM09	5.407	1.32	10y-EDAM09	-97.067
EDAU09	5.462	1.26	10y-EDAU09	-97.515
EDAZ09	5.727	1.00	10y-EDAZ09	-97.069
EDAH10	5.872	0.85	10y-EDAH10	-96.177
EDAM10	6.167	0.56	10y-EDAM10	-95.833
EDAU10	6.492	0.23	10y-EDAU10	-96.376
EDAZ10	6.862	0.14	10y-EDAZ10	-97.399
EDAH11	7.052	0.33	10y-EDAH11	-98.040
EDAM11	7.232	0.51	10y-EDAM11	-98.476
EDAU11	7.327	0.60	10y-EDAU11	-98.834

Price = Outright Decimal Price - Euro Contract Price

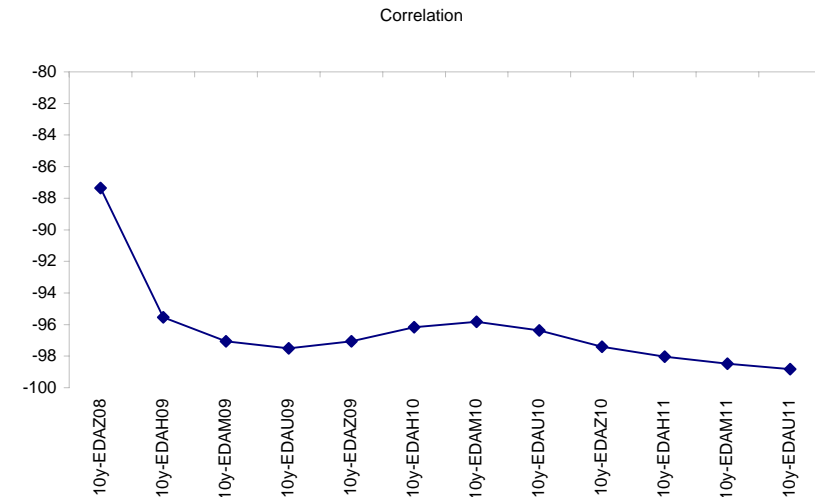
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.186	8.09	7.91	10y-EDAZ08
EDAH09	0.435	8.09	7.66	10y-EDAH09
EDAM09	0.684	8.09	7.41	10y-EDAM09
EDAU09	0.934	8.09	7.16	10y-EDAU09
EDAZ09	1.183	8.09	6.91	10y-EDAZ09
EDAH10	1.432	8.09	6.66	10y-EDAH10
EDAM10	1.682	8.09	6.41	10y-EDAM10
EDAU10	1.931	8.09	6.16	10y-EDAU10
EDAZ10	2.180	8.09	5.91	10y-EDAZ10
EDAH11	2.429	8.09	5.67	10y-EDAH11
EDAM11	2.679	8.09	5.42	10y-EDAM11
EDAU11	2.947	8.09	5.15	10y-EDAU11

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.

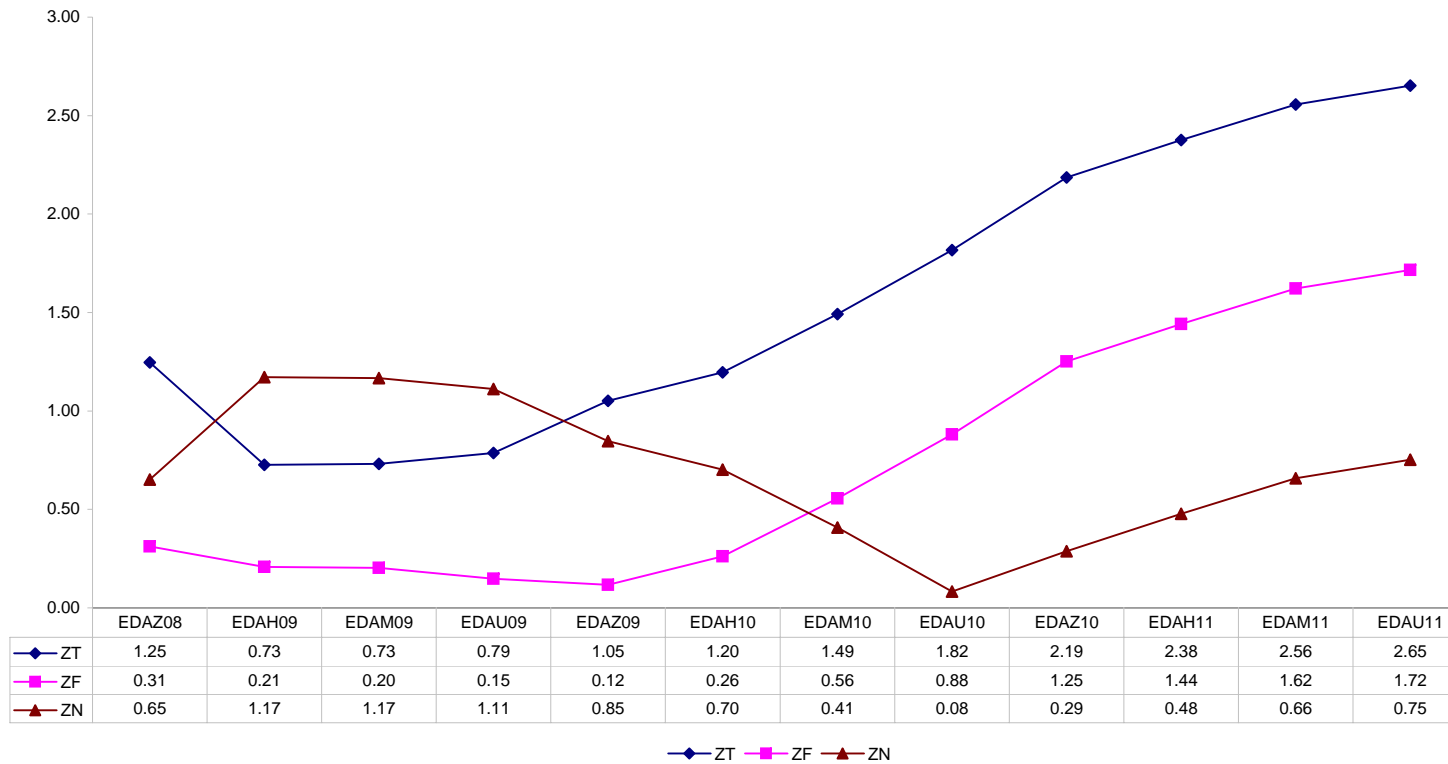
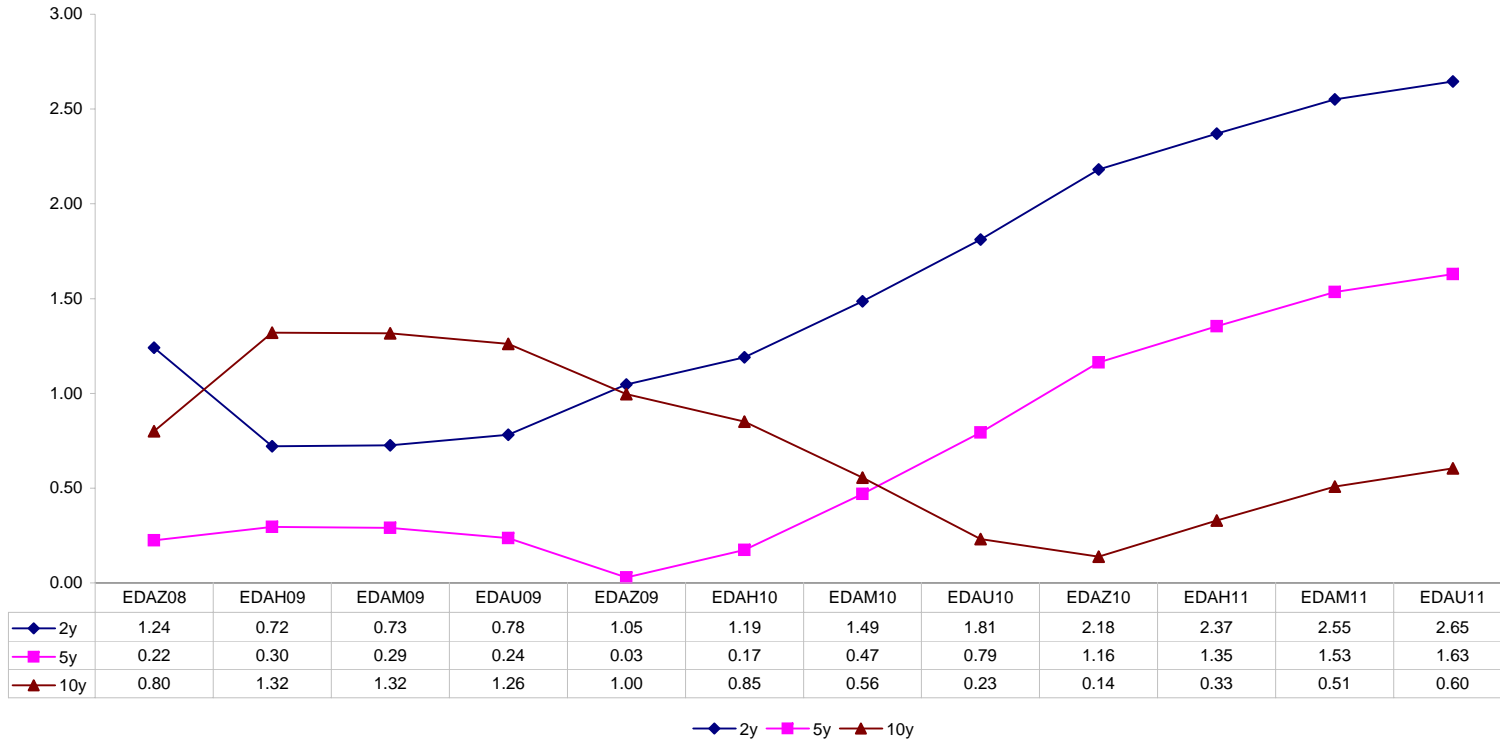
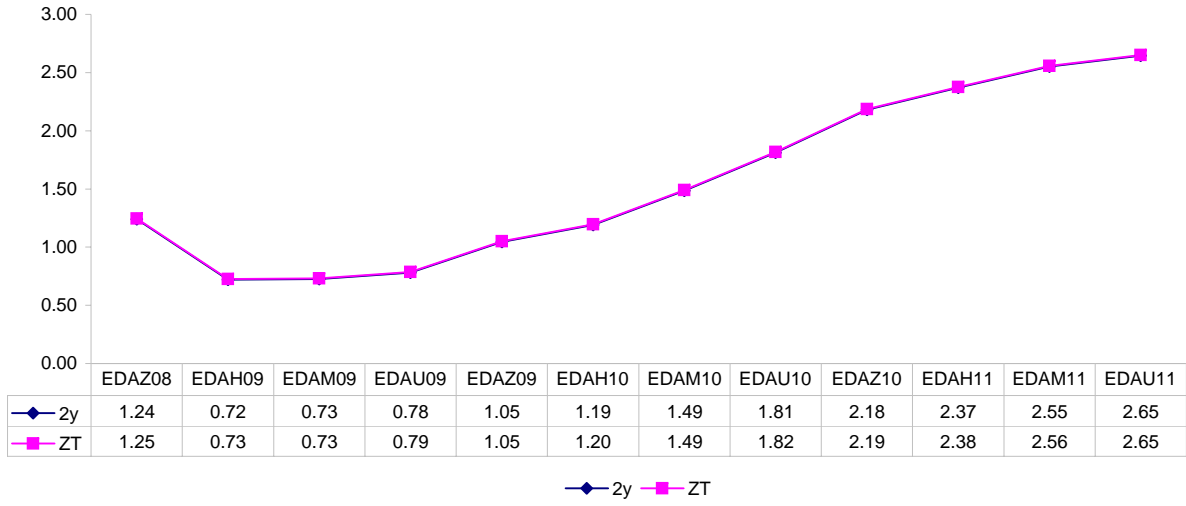


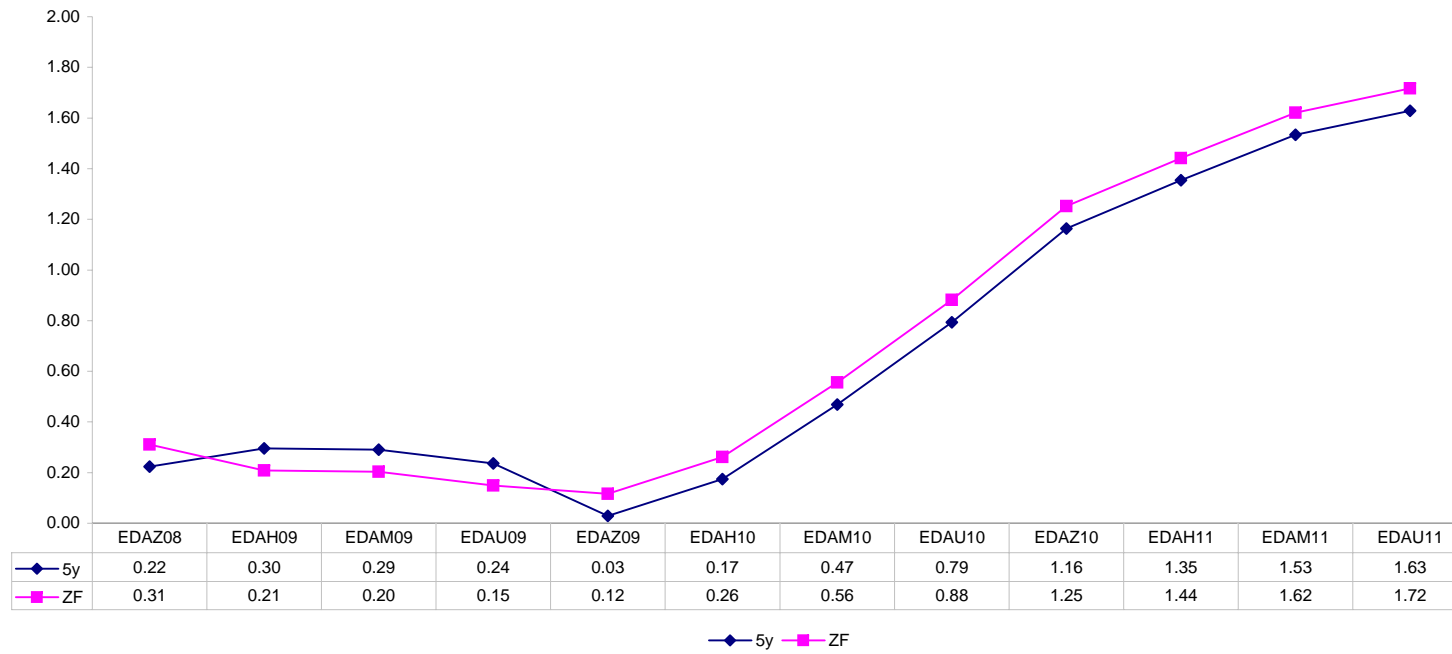
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



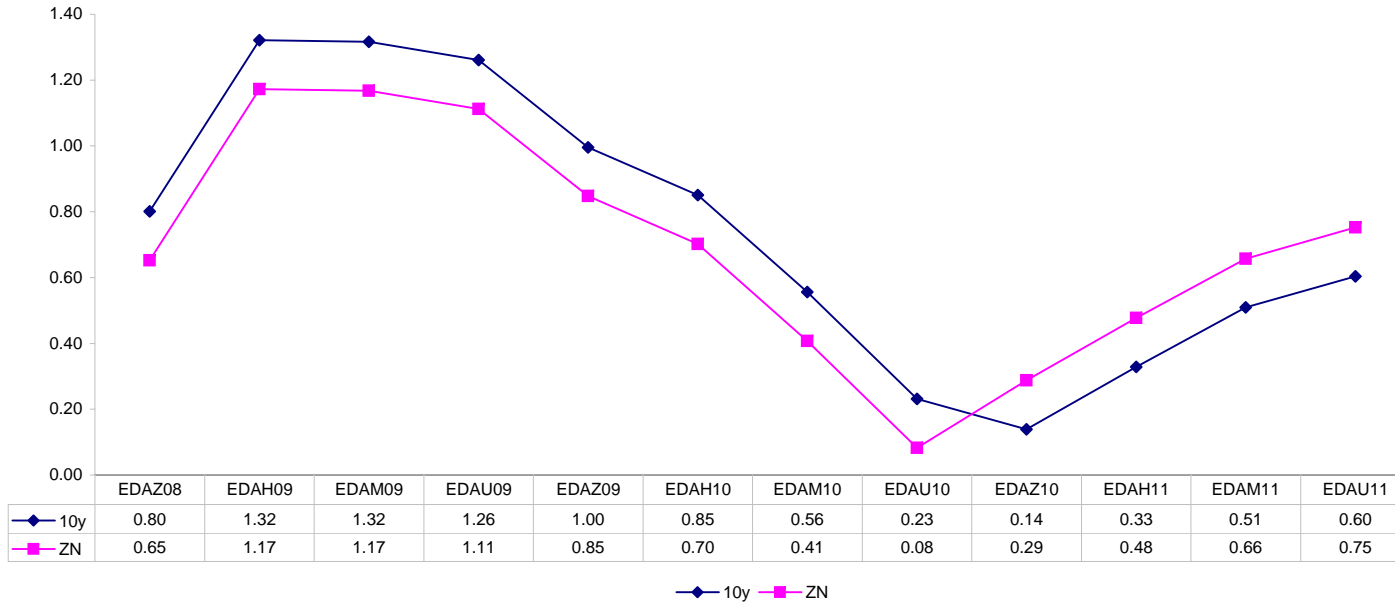
2y Basis TED Curve



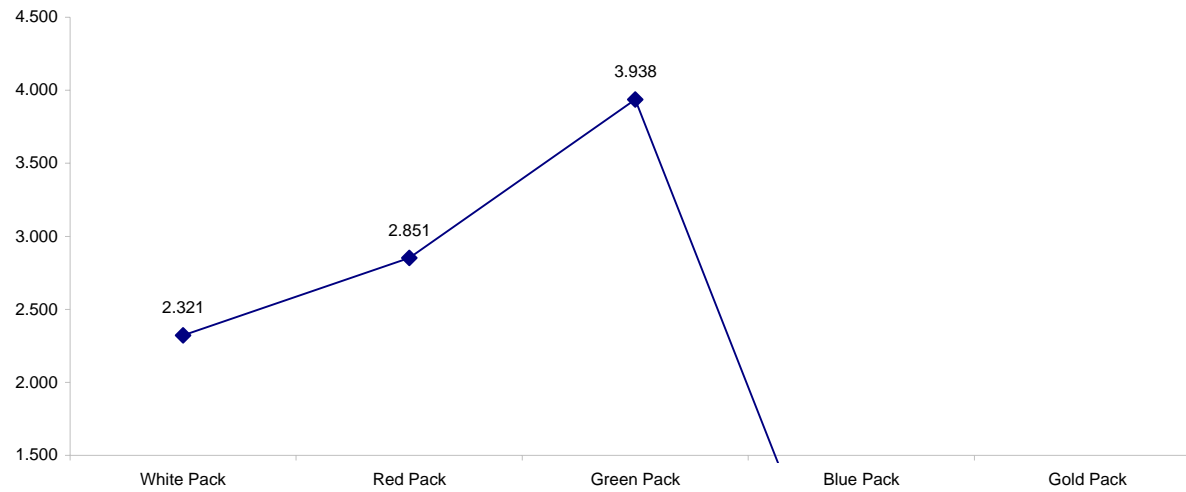
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.321	10.875	9772.375
Red Pack	2.851	13.125	9720.750
Green Pack	3.938	8.125	9615.375
Blue Pack		0.875	9574.375
Gold Pack		0.000	9546.250



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

