

## 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 € 32.00	Last Yield*	MDuration
ZT	109.0313	109.0100	0.811	1.95
ZF	119.4594	119.1470	1.263	1.26
ZN	125.4219	125.1350	1.495	6.26
2y	100.1313	100.0420	0.811	1.95
5y	99.6469	99.2070	1.571	4.63
10y	111.5469	111.1750	2.423	8.27

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	99.080	0.920	66	0.180	MAR	
EDAM09	99.060	0.940	157	0.429	JUN	White Pack
EDAU09	98.940	1.060	248	0.679	SEP	
EDAZ09	98.760	1.240	339	0.928	DEC	
EDAH10	98.635	1.365	430	1.177	MAR	
EDAM10	98.380	1.620	521	1.427	JUN	Red Pack
EDAU10	98.140	1.860	612	1.676	SEP	
EDAZ10	97.890	2.110	703	1.925	DEC	
EDAH11	97.760	2.240	794	2.175	MAR	
EDAM11	97.620	2.380	885	2.424	JUN	Green Pack
EDAU11	97.520	2.480	983	2.692	SEP	
EDAZ11	97.420	2.580	1074	2.942	DEC	
EDAH12	97.395	2.605	1165	3.191	MAR	
EDAM12	97.350	2.650	1256	3.440	JUN	Blue Pack
EDAU12	97.305	2.695	1347	3.690	SEP	
EDAZ12	97.235	2.765	1438	3.939	DEC	
EDAH13	97.215	2.785	1529	4.188	MAR	
EDAM13	97.155	2.845	1620	4.438	JUN	Gold Pack
EDZU13	97.075	2.925	1711	4.687	SEP	
EDZZ13	96.970	3.030	1802	4.936	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.057	5.875	9896.000	Pack Prices
Red Pack	1.771	4.500	9826.125	
Green Pack	2.469	1.125	9758.000	
Blue Pack	2.734	1.250	9732.125	
Gold Pack		0.500	9708.875	

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.

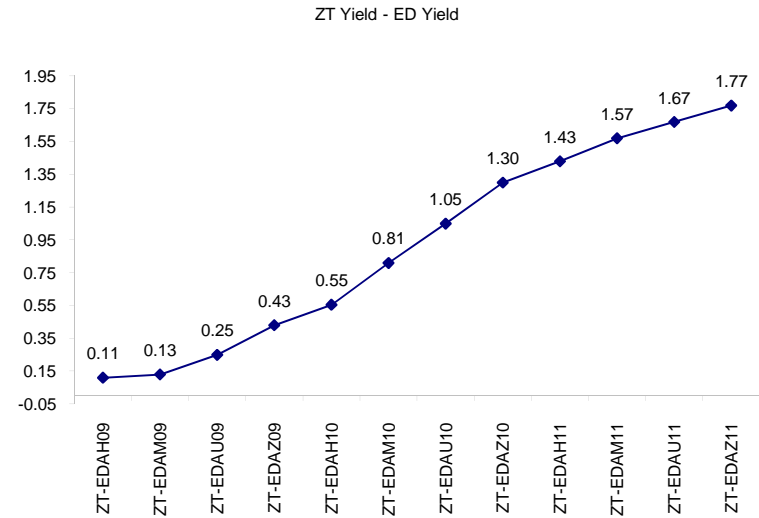
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

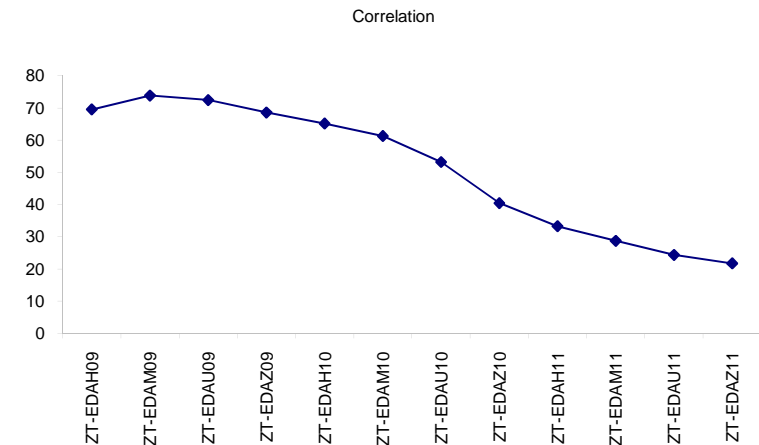
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	9.951	0.11	ZT-EDAH09	69.499
EDAM09	9.971	0.13	ZT-EDAM09	73.820
EDAU09	10.091	0.25	ZT-EDAU09	72.409
EDAZ09	10.271	0.43	ZT-EDAZ09	68.564
EDAH10	10.396	0.55	ZT-EDAH10	65.116
EDAM10	10.651	0.81	ZT-EDAM10	61.240
EDAU10	10.891	1.05	ZT-EDAU10	53.183
EDAZ10	11.141	1.30	ZT-EDAZ10	40.445
EDAH11	11.271	1.43	ZT-EDAH11	33.290
EDAM11	11.411	1.57	ZT-EDAM11	28.753
EDAU11	11.511	1.67	ZT-EDAU11	24.378
EDAZ11	11.611	1.77	ZT-EDAZ11	21.736

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	
EDAH09	0.180	1.95	1.77	ZT-EDAH09		
EDAM09	0.429	1.95	1.52	ZT-EDAM09		
EDAU09	0.679	1.95	1.27	ZT-EDAU09		
EDAZ09	0.928	1.95	1.02	ZT-EDAZ09		
EDAH10	1.177	1.95	0.77	ZT-EDAH10		
EDAM10	1.427	1.95	0.52	ZT-EDAM10		
EDAU10	1.676	1.95	0.27	ZT-EDAU10		
EDAZ10	1.925	1.95	0.02	ZT-EDAZ10		
EDAH11	2.175	1.95	(0.23)	ZT-EDAH11		
EDAM11	2.424	1.95	(0.48)	ZT-EDAM11		
EDAU11	2.692	1.95	(0.75)	ZT-EDAU11		
EDAZ11	2.942	1.95	(1.00)	ZT-EDAZ11		

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

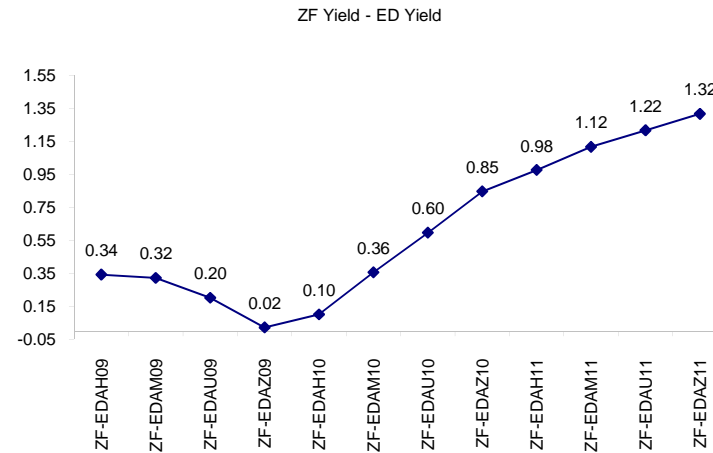


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.379	0.34	ZF-EDAH09	39.082
EDAM09	20.399	0.32	ZF-EDAM09	37.061
EDAU09	20.519	0.20	ZF-EDAU09	48.485
EDAZ09	20.699	0.02	ZF-EDAZ09	62.143
EDAH10	20.824	0.10	ZF-EDAH10	65.843
EDAM10	21.079	0.36	ZF-EDAM10	70.521
EDAU10	21.319	0.60	ZF-EDAU10	79.543
EDAZ10	21.569	0.85	ZF-EDAZ10	87.659
EDAH11	21.699	0.98	ZF-EDAH11	90.734
EDAM11	21.839	1.12	ZF-EDAM11	91.751
EDAU11	21.939	1.22	ZF-EDAU11	92.584
EDAZ11	22.039	1.32	ZF-EDAZ11	92.475

Price = Outright Decimal Price - Euro Contract Price

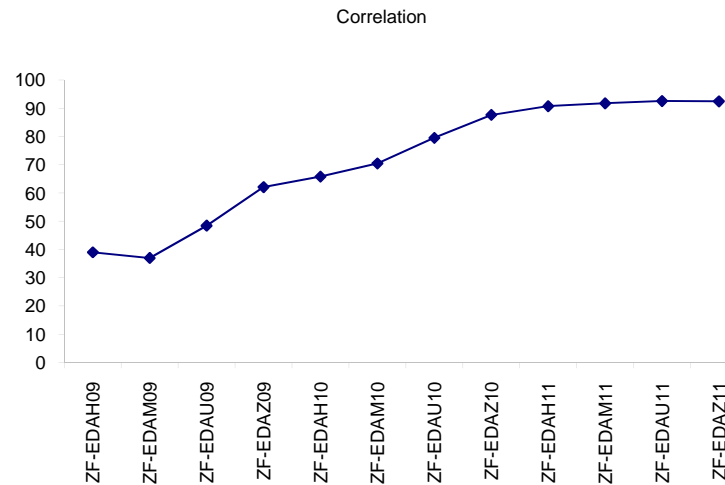
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.180	1.26	1.08	1.08	ZF-EDAH09
EDAM09	0.429	1.26	0.83	0.83	ZF-EDAM09
EDAU09	0.679	1.26	0.58	0.58	ZF-EDAU09
EDAZ09	0.928	1.26	0.33	0.33	ZF-EDAZ09
EDAH10	1.177	1.26	0.09	0.09	ZF-EDAH10
EDAM10	1.427	1.26	(0.16)	(0.16)	ZF-EDAM10
EDAU10	1.676	1.26	(0.41)	(0.41)	ZF-EDAU10
EDAZ10	1.925	1.26	(0.66)	(0.66)	ZF-EDAZ10
EDAH11	2.175	1.26	(0.91)	(0.91)	ZF-EDAH11
EDAM11	2.424	1.26	(1.16)	(1.16)	ZF-EDAM11
EDAU11	2.692	1.26	(1.43)	(1.43)	ZF-EDAU11
EDAZ11	2.942	1.26	(1.68)	(1.68)	ZF-EDAZ11

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

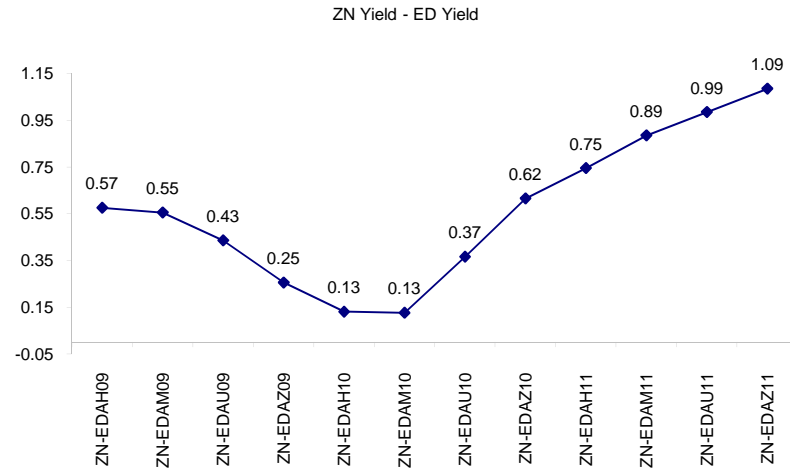


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	26.342	0.57	ZN-EDAH09	-7.176
EDAM09	26.362	0.55	ZN-EDAM09	-12.518
EDAU09	26.482	0.43	ZN-EDAU09	-0.109
EDAZ09	26.662	0.25	ZN-EDAZ09	17.679
EDAH10	26.787	0.13	ZN-EDAH10	24.168
EDAM10	27.042	0.13	ZN-EDAM10	32.553
EDAU10	27.282	0.37	ZN-EDAU10	48.962
EDAZ10	27.532	0.62	ZN-EDAZ10	68.047
EDAH11	27.662	0.75	ZN-EDAH11	74.588
EDAM11	27.802	0.89	ZN-EDAM11	77.989
EDAU11	27.902	0.99	ZN-EDAU11	80.533
EDAZ11	28.002	1.09	ZN-EDAZ11	81.977

Price = Outright Decimal Price - Euro Contract Price

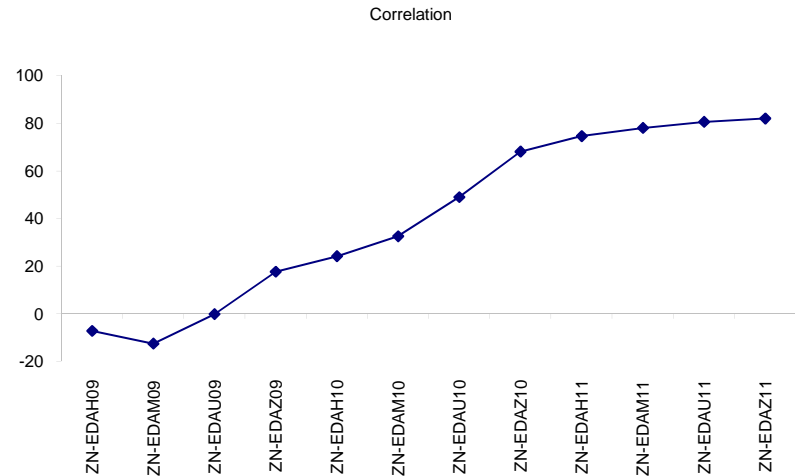
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAH09	0.180	6.26	6.08	ZN-EDAH09		
EDAM09	0.429	6.26	5.83	ZN-EDAM09		
EDAU09	0.679	6.26	5.58	ZN-EDAU09		
EDAZ09	0.928	6.26	5.34	ZN-EDAZ09		
EDAH10	1.177	6.26	5.09	ZN-EDAH10		
EDAM10	1.427	6.26	4.84	ZN-EDAM10		
EDAU10	1.676	6.26	4.59	ZN-EDAU10		
EDAZ10	1.925	6.26	4.34	ZN-EDAZ10		
EDAH11	2.175	6.26	4.09	ZN-EDAH11		
EDAM11	2.424	6.26	3.84	ZN-EDAM11		
EDAU11	2.692	6.26	3.57	ZN-EDAU11		
EDAZ11	2.942	6.26	3.32	ZN-EDAZ11		

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

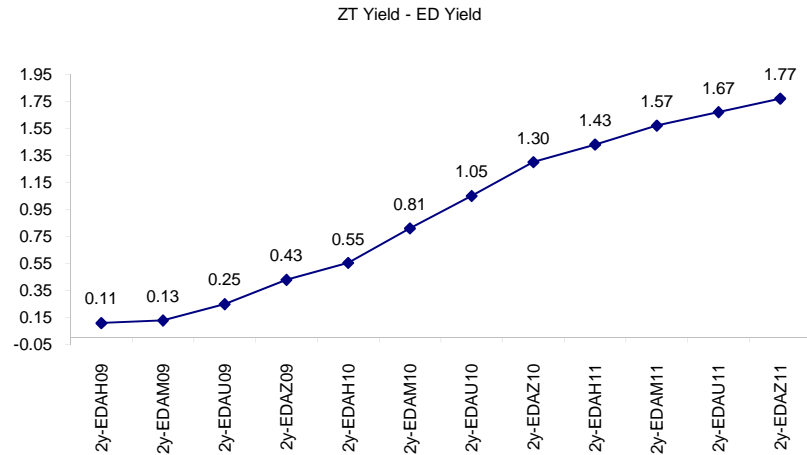


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.051	0.11	2y-EDAH09	-22.891
EDAM09	1.071	0.13	2y-EDAM09	-23.168
EDAU09	1.191	0.25	2y-EDAU09	-22.399
EDAZ09	1.371	0.43	2y-EDAZ09	-23.219
EDAH10	1.496	0.55	2y-EDAH10	-23.381
EDAM10	1.751	0.81	2y-EDAM10	-23.752
EDAU10	1.991	1.05	2y-EDAU10	-24.058
EDAZ10	2.241	1.30	2y-EDAZ10	-23.437
EDAH11	2.371	1.43	2y-EDAH11	-18.738
EDAM11	2.511	1.57	2y-EDAM11	-16.309
EDAU11	2.611	1.67	2y-EDAU11	-13.396
EDAZ11	2.711	1.77	2y-EDAZ11	-12.001

Price = Outright Decimal Price - Euro Contract Price

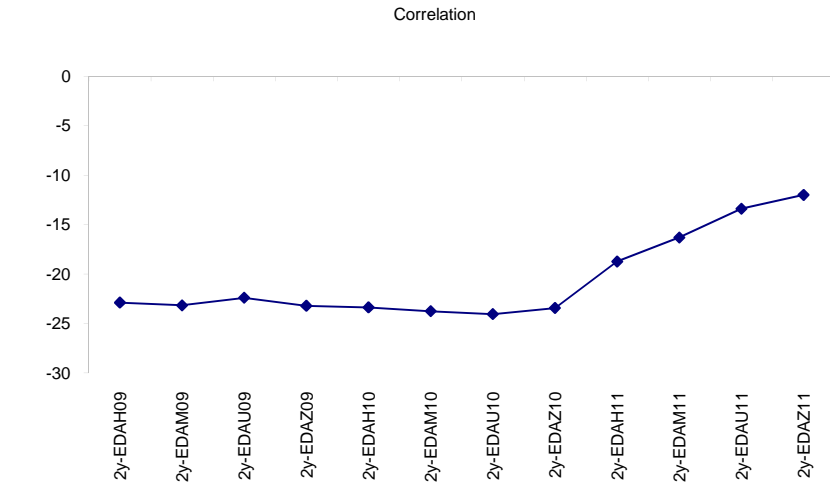
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.180	1.95	1.77		2y-EDAH09
EDAM09	0.429	1.95	1.52		2y-EDAM09
EDAU09	0.679	1.95	1.27		2y-EDAU09
EDAZ09	0.928	1.95	1.02		2y-EDAZ09
EDAH10	1.177	1.95	0.77		2y-EDAH10
EDAM10	1.427	1.95	0.52		2y-EDAM10
EDAU10	1.676	1.95	0.27		2y-EDAU10
EDAZ10	1.925	1.95	0.02		2y-EDAZ10
EDAH11	2.175	1.95	(0.23)		2y-EDAH11
EDAM11	2.424	1.95	(0.48)		2y-EDAM11
EDAU11	2.692	1.95	(0.75)		2y-EDAU11
EDAZ11	2.942	1.95	(1.00)		2y-EDAZ11

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

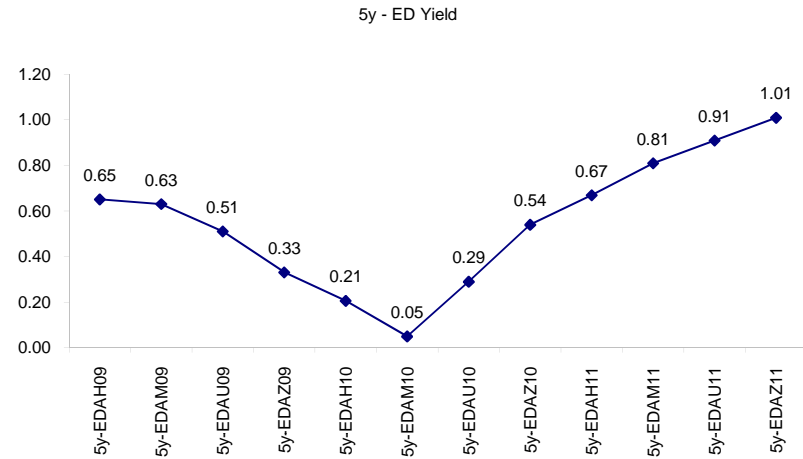


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.567	0.65	5y-EDAH09	-10.274
EDAM09	0.587	0.63	5y-EDAM09	-3.002
EDAU09	0.707	0.51	5y-EDAU09	-13.369
EDAZ09	0.887	0.33	5y-EDAZ09	-30.239
EDAH10	1.012	0.21	5y-EDAH10	-36.831
EDAM10	1.267	0.05	5y-EDAM10	-44.970
EDAU10	1.507	0.29	5y-EDAU10	-59.774
EDAZ10	1.757	0.54	5y-EDAZ10	-76.178
EDAH11	1.887	0.67	5y-EDAH11	-80.805
EDAM11	2.027	0.81	5y-EDAM11	-83.474
EDAU11	2.127	0.91	5y-EDAU11	-85.335
EDAZ11	2.227	1.01	5y-EDAZ11	-86.482

Price = Outright Decimal Price - Euro Contract Price

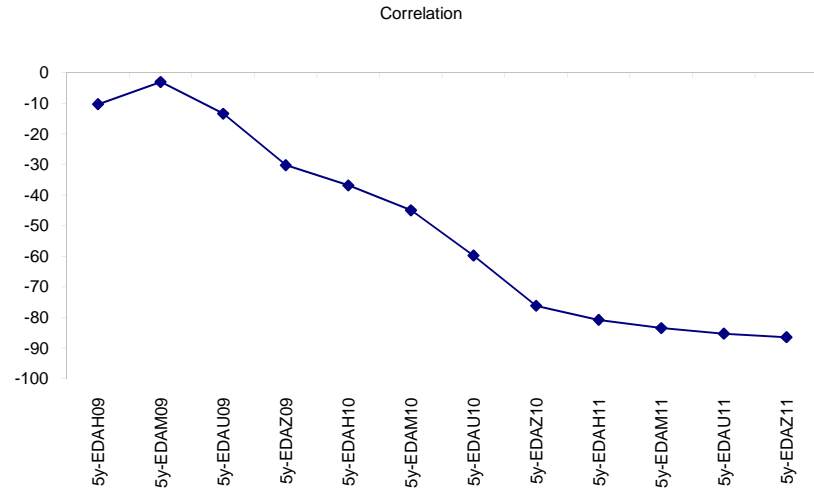
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAH09	0.180	4.63	4.45	5y-EDAH09
EDAM09	0.429	4.63	4.20	5y-EDAM09
EDAU09	0.679	4.63	3.95	5y-EDAU09
EDAZ09	0.928	4.63	3.71	5y-EDAZ09
EDAH10	1.177	4.63	3.46	5y-EDAH10
EDAM10	1.427	4.63	3.21	5y-EDAM10
EDAU10	1.676	4.63	2.96	5y-EDAU10
EDAZ10	1.925	4.63	2.71	5y-EDAZ10
EDAH11	2.175	4.63	2.46	5y-EDAH11
EDAM11	2.424	4.63	2.21	5y-EDAM11
EDAU11	2.692	4.63	1.94	5y-EDAU11
EDAZ11	2.942	4.63	1.69	5y-EDAZ11

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



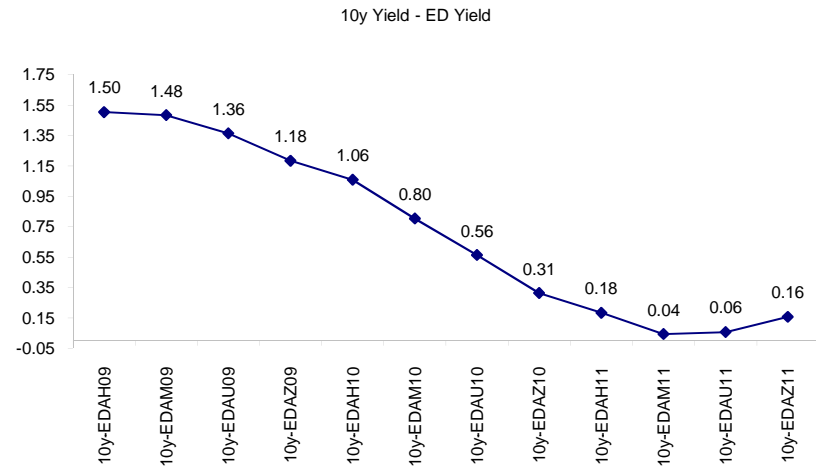


	10y			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAH09	0.567	1.50	10y-EDAH09	30.436
EDAM09	0.587	1.48	10y-EDAM09	39.322
EDAU09	0.707	1.36	10y-EDAU09	29.472
EDAZ09	0.887	1.18	10y-EDAZ09	11.603
EDAH10	1.012	1.06	10y-EDAH10	3.778
EDAM10	1.267	0.80	10y-EDAM10	-6.369
EDAU10	1.507	0.56	10y-EDAU10	-25.228
EDAZ10	1.757	0.31	10y-EDAZ10	-48.243
EDAH11	1.887	0.18	10y-EDAH11	-55.037
EDAM11	2.027	0.04	10y-EDAM11	-59.195
EDAU11	2.127	0.06	10y-EDAU11	-61.961
EDAZ11	2.227	0.16	10y-EDAZ11	-64.240

Price = Outright Decimal Price - Euro Contract Price

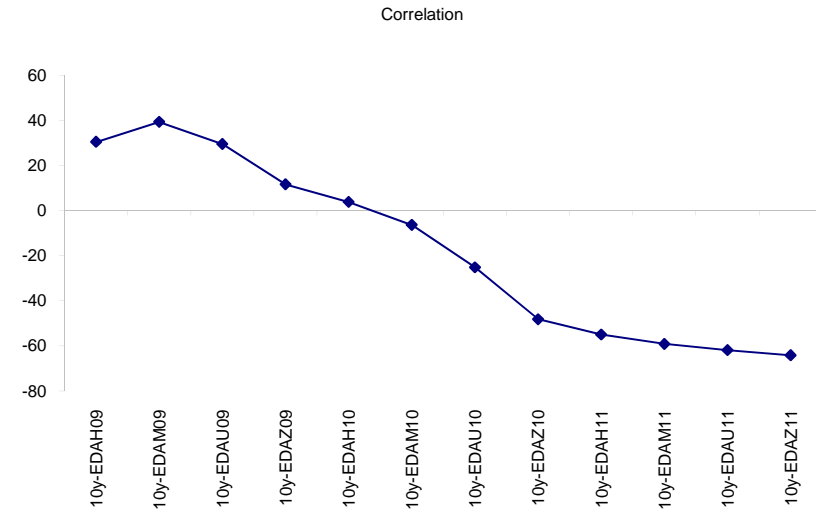
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			10Y Duration	Spread Duration	
EDAH09	0.180	8.27	8.09	10y-EDAH09		
EDAM09	0.429	8.27	7.84	10y-EDAM09		
EDAU09	0.679	8.27	7.59	10y-EDAU09		
EDAZ09	0.928	8.27	7.34	10y-EDAZ09		
EDAH10	1.177	8.27	7.09	10y-EDAH10		
EDAM10	1.427	8.27	6.85	10y-EDAM10		
EDAU10	1.676	8.27	6.60	10y-EDAU10		
EDAZ10	1.925	8.27	6.35	10y-EDAZ10		
EDAH11	2.175	8.27	6.10	10y-EDAH11		
EDAM11	2.424	8.27	5.85	10y-EDAM11		
EDAU11	2.692	8.27	5.58	10y-EDAU11		
EDAZ11	2.942	8.27	5.33	10y-EDAZ11		

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.

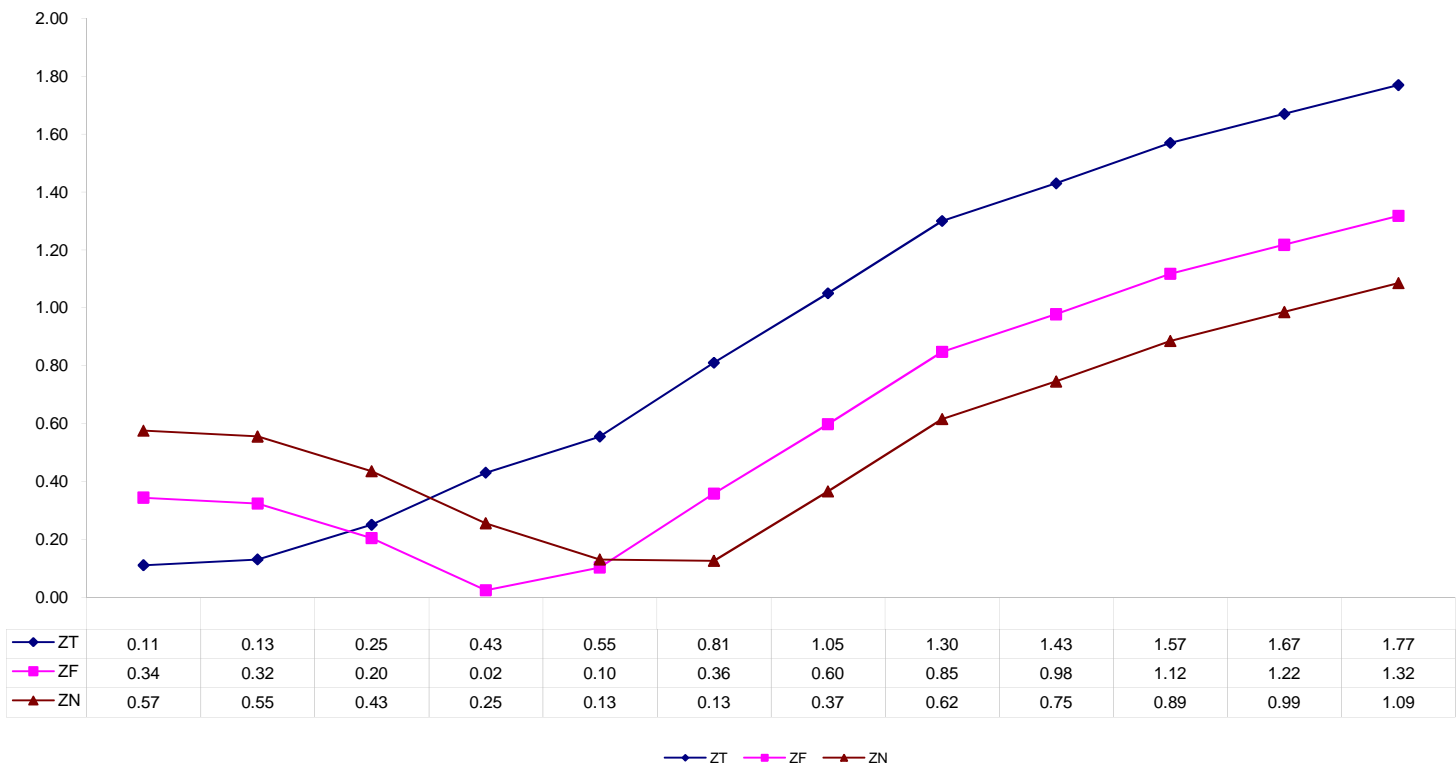
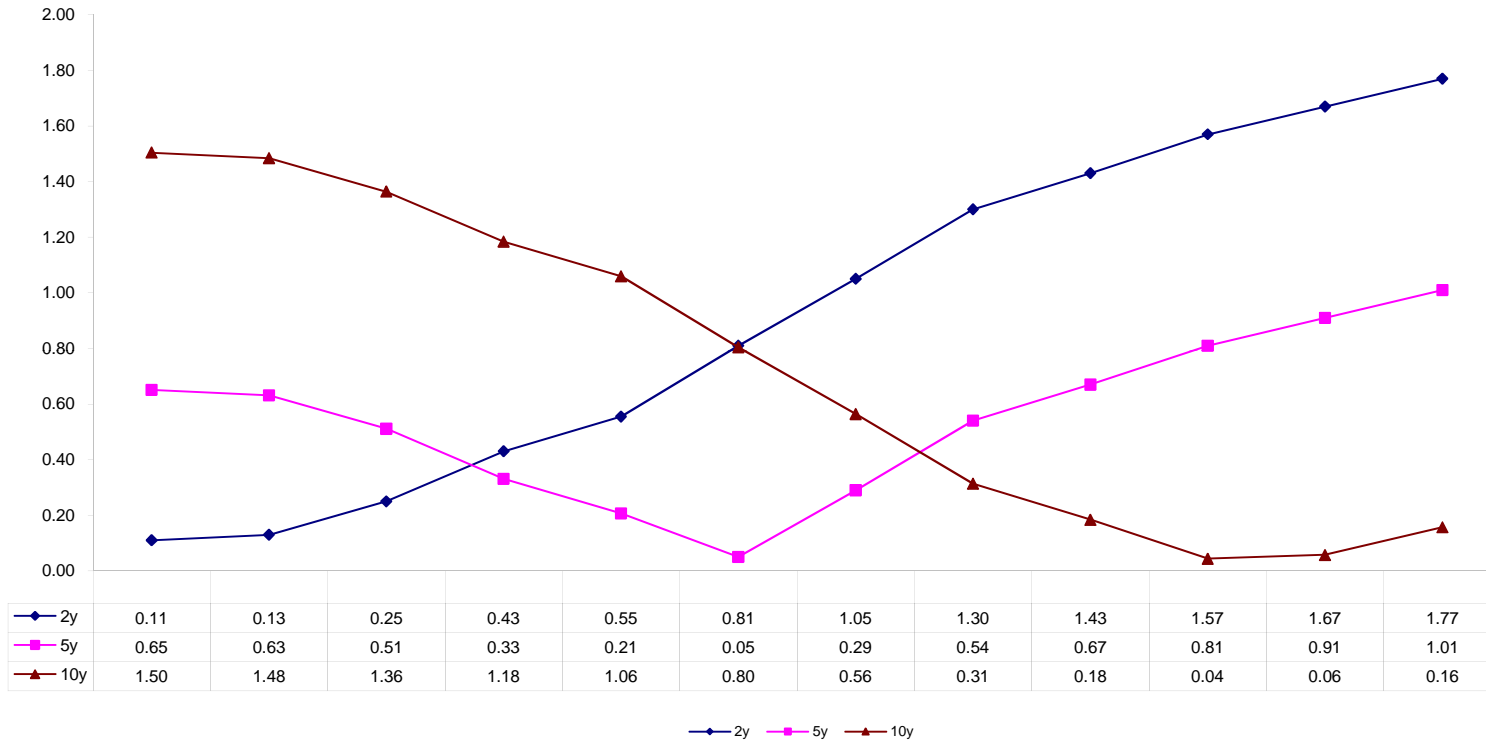
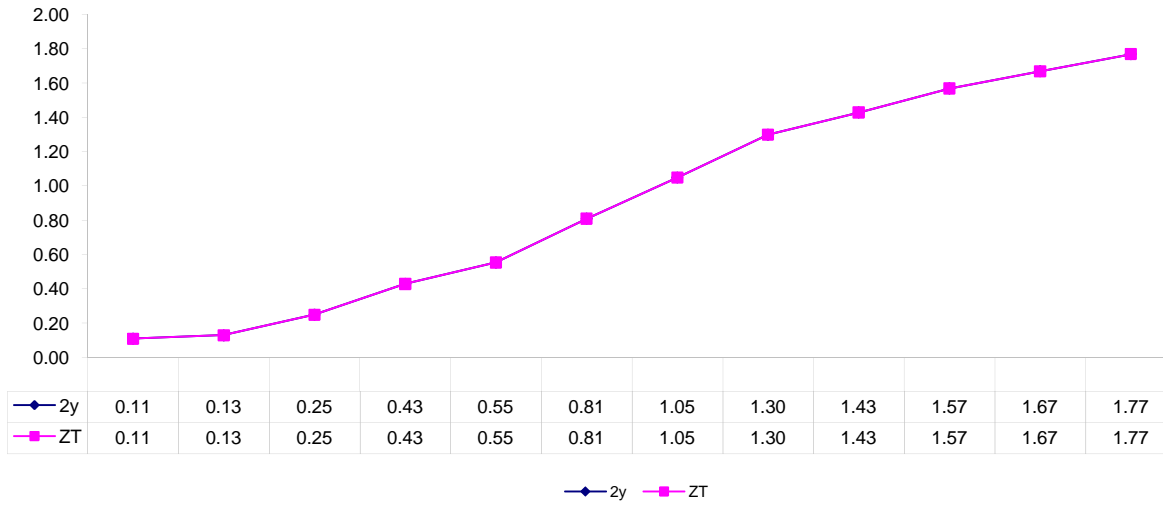


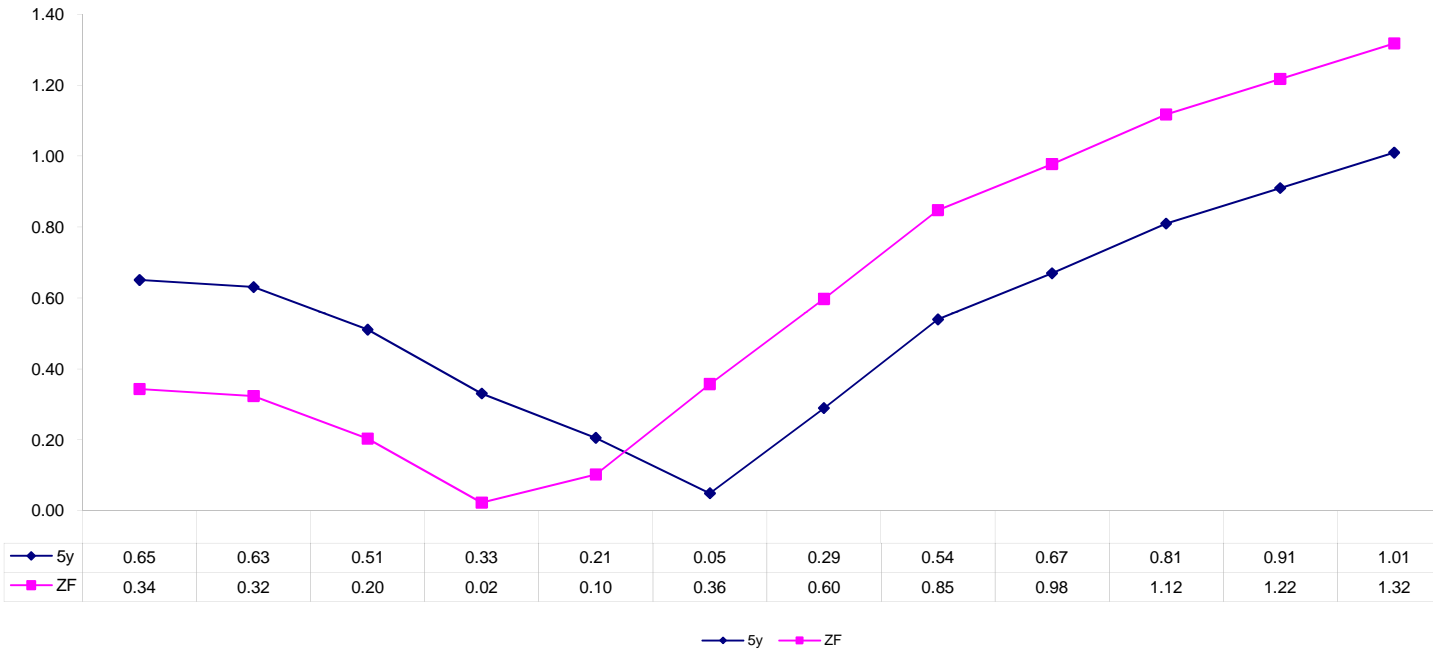
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



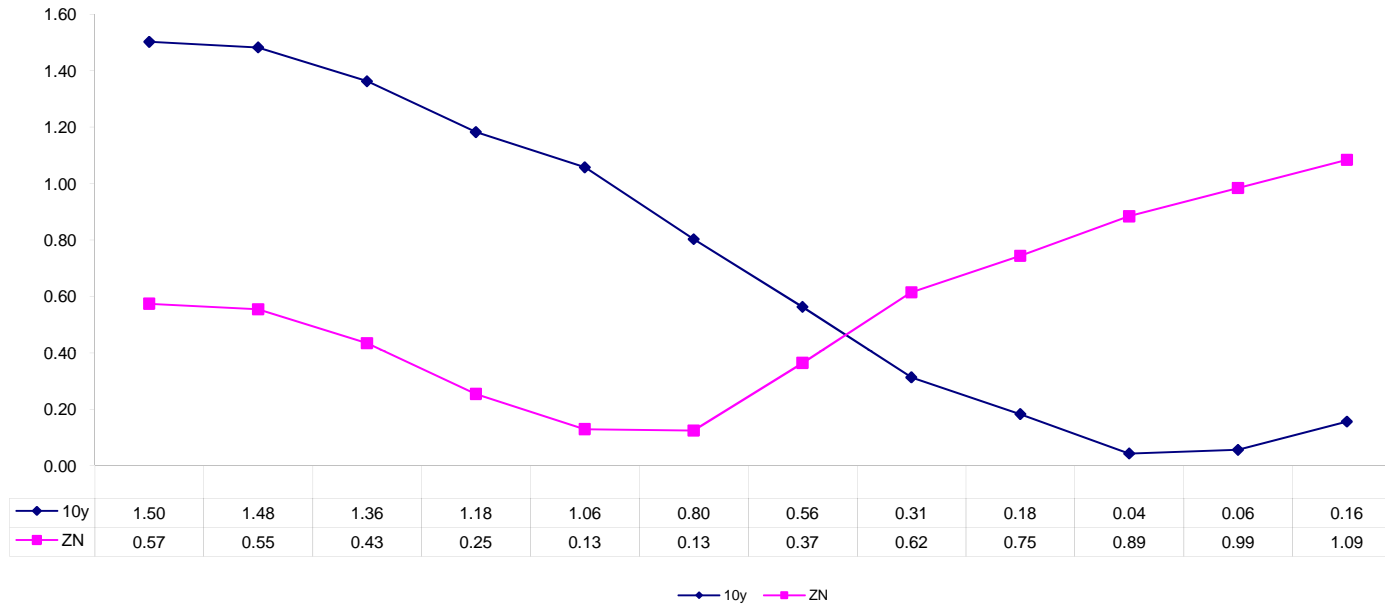
### 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.057	5.875	9896.000
Red Pack	1.771	4.500	9826.125
Green Pack	2.469	1.125	9758.000
Blue Pack	2.734	1.250	9732.125
Gold Pack		0.500	9708.875

