

## **The Morning Email: TERM TEDS & Dirty TEDS**

### **Table of Contents**

- Pg 1** Quotes
- Pg 2** Dirty TED: ZT vs Eurodollar Contracts
- Pg 3** Dirty TED: ZF vs Eurodollar Contracts
- Pg 4** Dirty TED: ZN vs Eurodollar Contracts
- Pg 5** TERM TED: 2y vs Eurodollar Contracts
- Pg 6** TERM TED: 5y vs Eurodollar Contracts
- Pg 7** TERM TED: 10y vs Eurodollar Contracts
- Pg 8** Dirty TED Curve
- Pg 9** TED Curve
- Pg 10** 2y Basis TED Curve
- Pg 11** 5y Basis TED Curve
- Pg 12** 10y Basis TED Curve
- Pg 13** Packs
- Pg 14** 2y, 5y, 10y Basis Curves vs ED

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	108.2813	108.090	0.588	1.91
ZF	118.5938	118.190	1.277	1.28
ZN	126.7031	126.225	2.303	6.46
2y	100.828	100.2650	0.820	1.95
5y	102.163	102.0520	1.544	4.73
10y	110.359	110.1150	2.562	8.35

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	97.883	2.117	10	0.027	DEC	
EDAH09	98.130	1.870	101	0.276	MAR	White Pack
EDAM09	98.185	1.815	192	0.525	JUN	
EDAU09	98.150	1.850	283	0.775	SEP	
EDAZ09	98.020	1.980	374	1.024	DEC	
EDAH10	97.990	2.010	465	1.273	MAR	Red Pack
EDAM10	97.890	2.110	556	1.523	JUN	
EDAU10	97.765	2.235	647	1.772	SEP	
EDAZ10	97.565	2.435	738	2.021	DEC	
EDAH11	97.440	2.560	829	2.271	MAR	Green Pack
EDAM11	97.255	2.745	920	2.520	JUN	
EDAU11	97.095	2.905	1018	2.788	SEP	
EDAZ11	96.945	3.055	1109	3.038	DEC	
EDAH12	96.950	3.050	1200	3.287	MAR	Blue Pack
EDAM12	96.890	3.110	1291	3.536	JUN	
EDAU12	96.875	3.125	1382	3.786	SEP	
EDAZ12	96.760	3.240	1473	4.035	DEC	
EDAH13	96.795	3.205	1564	4.284	MAR	Gold Pack
EDAM13	96.715	3.285	1655	4.534	JUN	
EDZU13	96.535	3.465	1837	5.032	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.949	-2.688	9808.688	
Red Pack	2.124	-1.875	9791.625	Pack Prices
Green Pack	2.716	-1.000	9733.875	
Blue Pack		0.375	9690.500	
Gold Pack		0.750	9671.625	

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.

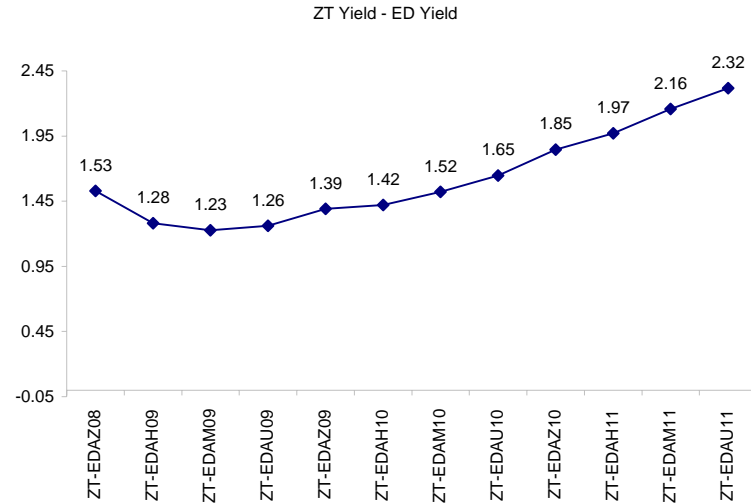
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

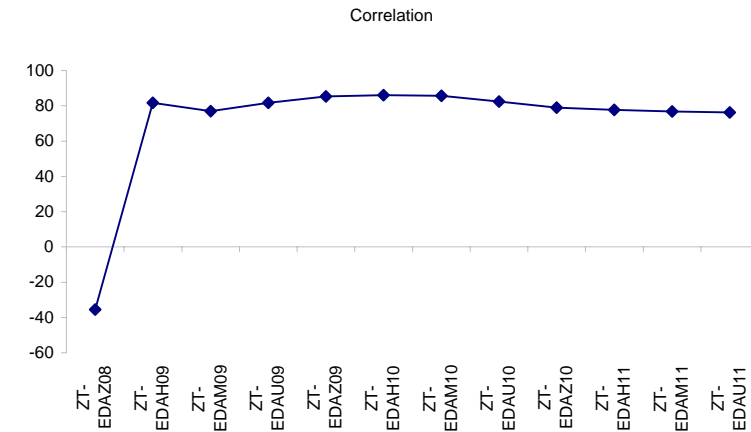
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.399	1.53	ZT-EDAZ08	-35.575
EDAH09	10.151	1.28	ZT-EDAH09	81.732
EDAM09	10.096	1.23	ZT-EDAM09	76.915
EDAU09	10.131	1.26	ZT-EDAU09	81.732
EDAZ09	10.261	1.39	ZT-EDAZ09	85.305
EDAH10	10.291	1.42	ZT-EDAH10	85.998
EDAM10	10.391	1.52	ZT-EDAM10	85.720
EDAU10	10.516	1.65	ZT-EDAU10	82.477
EDAZ10	10.716	1.85	ZT-EDAZ10	79.038
EDAH11	10.841	1.97	ZT-EDAH11	77.658
EDAM11	11.026	2.16	ZT-EDAM11	76.868
EDAU11	11.186	2.32	ZT-EDAU11	76.203

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	0.027	1.91	1.89	ZT-EDAZ08		
EDAH09	0.276	1.91	1.64	ZT-EDAH09		
EDAM09	0.525	1.91	1.39	ZT-EDAM09		
EDAU09	0.775	1.91	1.14	ZT-EDAU09		
EDAZ09	1.024	1.91	0.89	ZT-EDAZ09		
EDAH10	1.273	1.91	0.64	ZT-EDAH10		
EDAM10	1.523	1.91	0.39	ZT-EDAM10		
EDAU10	1.772	1.91	0.14	ZT-EDAU10		
EDAZ10	2.021	1.91	(0.11)	ZT-EDAZ10		
EDAH11	2.271	1.91	(0.36)	ZT-EDAH11		
EDAM11	2.520	1.91	(0.61)	ZT-EDAM11		
EDAU11	2.788	1.91	(0.87)	ZT-EDAU11		

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

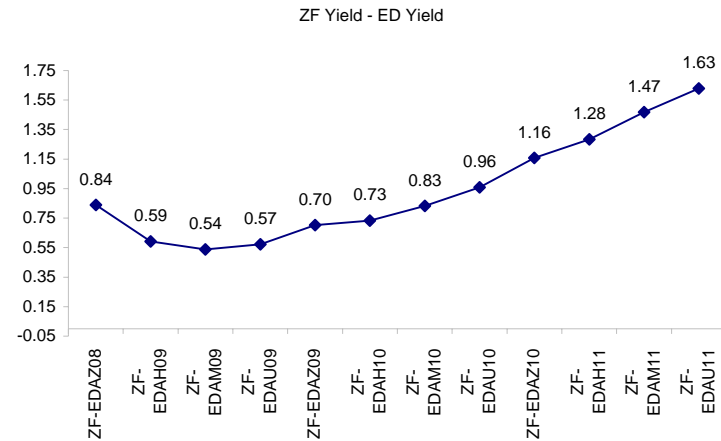


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	20.711	0.84	ZF-EDAZ08	-30.068
EDAH09	20.464	0.59	ZF-EDAH09	77.445
EDAM09	20.409	0.54	ZF-EDAM09	90.734
EDAU09	20.444	0.57	ZF-EDAU09	93.059
EDAZ09	20.574	0.70	ZF-EDAZ09	91.519
EDAH10	20.604	0.73	ZF-EDAH10	89.817
EDAM10	20.704	0.83	ZF-EDAM10	90.082
EDAU10	20.829	0.96	ZF-EDAU10	92.557
EDAZ10	21.029	1.16	ZF-EDAZ10	95.136
EDAH11	21.154	1.28	ZF-EDAH11	95.586
EDAM11	21.339	1.47	ZF-EDAM11	95.095
EDAU11	21.499	1.63	ZF-EDAU11	95.358

Price = Outright Decimal Price - Euro Contract Price

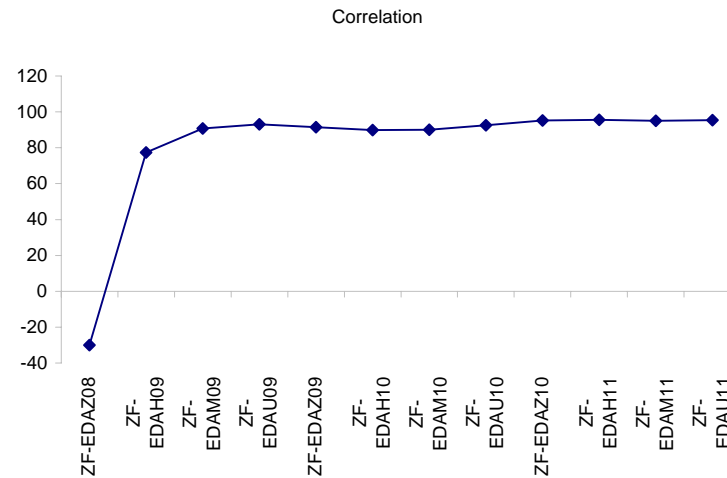
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.027	1.28	1.25	ZF-EDAZ08		
EDAH09	0.276	1.28	1.00	ZF-EDAH09		
EDAM09	0.525	1.28	0.75	ZF-EDAM09		
EDAU09	0.775	1.28	0.50	ZF-EDAU09		
EDAZ09	1.024	1.28	0.25	ZF-EDAZ09		
EDAH10	1.273	1.28	0.00	ZF-EDAH10		
EDAM10	1.523	1.28	(0.25)	ZF-EDAM10		
EDAU10	1.772	1.28	(0.49)	ZF-EDAU10		
EDAZ10	2.021	1.28	(0.74)	ZF-EDAZ10		
EDAH11	2.271	1.28	(0.99)	ZF-EDAH11		
EDAM11	2.520	1.28	(1.24)	ZF-EDAM11		
EDAU11	2.788	1.28	(1.51)	ZF-EDAU11		

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

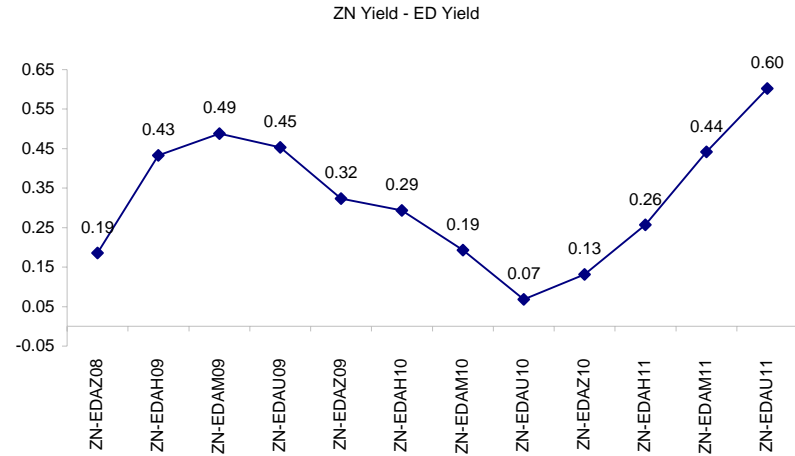


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	28.821	0.19	ZN-EDAZ08	-35.963
EDAH09	28.573	0.43	ZN-EDAH09	73.732
EDAM09	28.518	0.49	ZN-EDAM09	88.173
EDAU09	28.553	0.45	ZN-EDAU09	91.728
EDAZ09	28.683	0.32	ZN-EDAZ09	91.014
EDAH10	28.713	0.29	ZN-EDAH10	89.919
EDAM10	28.813	0.19	ZN-EDAM10	90.082
EDAU10	28.938	0.07	ZN-EDAU10	92.557
EDAZ10	29.138	0.13	ZN-EDAZ10	95.136
EDAH11	29.263	0.26	ZN-EDAH11	95.586
EDAM11	29.448	0.44	ZN-EDAM11	95.095
EDAU11	29.608	0.60	ZN-EDAU11	95.358

Price = Outright Decimal Price - Euro Contract Price

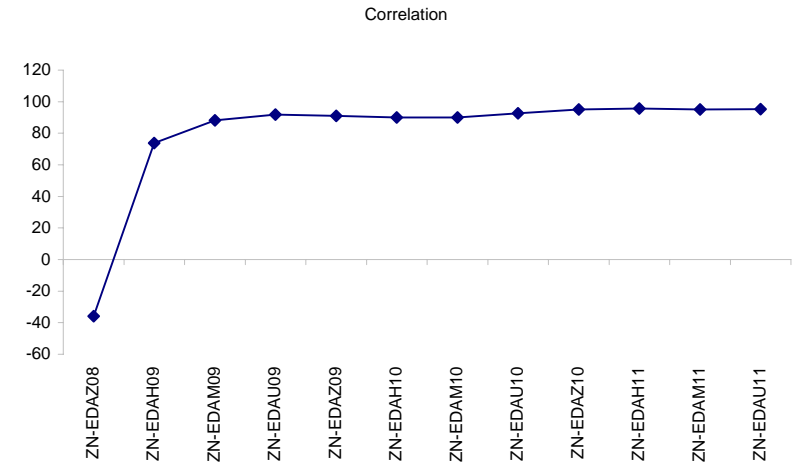
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.027	6.46	6.43	ZN-EDAZ08		
EDAH09	0.276	6.46	6.18	ZN-EDAH09		
EDAM09	0.525	6.46	5.93	ZN-EDAM09		
EDAU09	0.775	6.46	5.68	ZN-EDAU09		
EDAZ09	1.024	6.46	5.43	ZN-EDAZ09		
EDAH10	1.273	6.46	5.18	ZN-EDAH10		
EDAM10	1.523	6.46	4.93	ZN-EDAM10		
EDAU10	1.772	6.46	4.69	ZN-EDAU10		
EDAZ10	2.021	6.46	4.44	ZN-EDAZ10		
EDAH11	2.271	6.46	4.19	ZN-EDAH11		
EDAM11	2.520	6.46	3.94	ZN-EDAM11		
EDAU11	2.788	6.46	3.67	ZN-EDAU11		

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

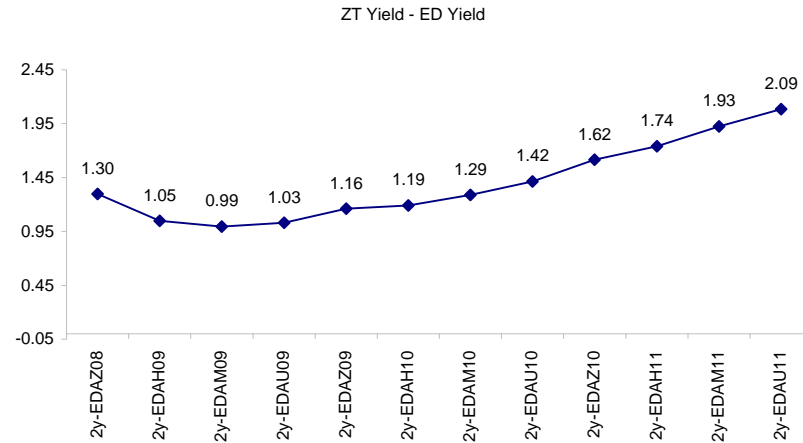


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	2.946	1.30	2y-EDAZ08	59.238
EDAH09	2.698	1.05	2y-EDAH09	-65.360
EDAM09	2.643	0.99	2y-EDAM09	-81.503
EDAU09	2.678	1.03	2y-EDAU09	-85.907
EDAZ09	2.808	1.16	2y-EDAZ09	-85.933
EDAH10	2.838	1.19	2y-EDAH10	-85.467
EDAM10	2.938	1.29	2y-EDAM10	-86.605
EDAU10	3.063	1.42	2y-EDAU10	-89.606
EDAZ10	3.263	1.62	2y-EDAZ10	-91.724
EDAH11	3.388	1.74	2y-EDAH11	-91.490
EDAM11	3.573	1.93	2y-EDAM11	-90.852
EDAU11	3.733	2.09	2y-EDAU11	-90.838

Price = Outright Decimal Price - Euro Contract Price

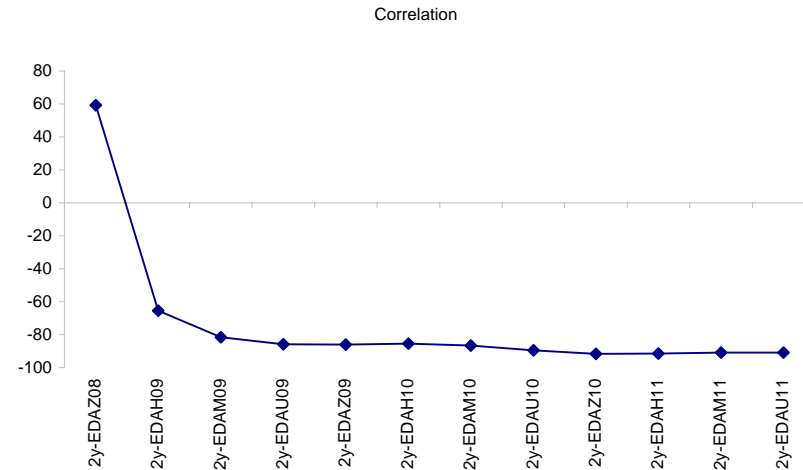
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.027	1.95	1.92	2y-EDAZ08	
EDAH09	0.276	1.95	1.68	2y-EDAH09	
EDAM09	0.525	1.95	1.43	2y-EDAM09	
EDAU09	0.775	1.95	1.18	2y-EDAU09	
EDAZ09	1.024	1.95	0.93	2y-EDAZ09	
EDAH10	1.273	1.95	0.68	2y-EDAH10	
EDAM10	1.523	1.95	0.43	2y-EDAM10	
EDAU10	1.772	1.95	0.18	2y-EDAU10	
EDAZ10	2.021	1.95	(0.07)	2y-EDAZ10	
EDAH11	2.271	1.95	(0.32)	2y-EDAH11	
EDAM11	2.520	1.95	(0.57)	2y-EDAM11	
EDAU11	2.788	1.95	(0.84)	2y-EDAU11	

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

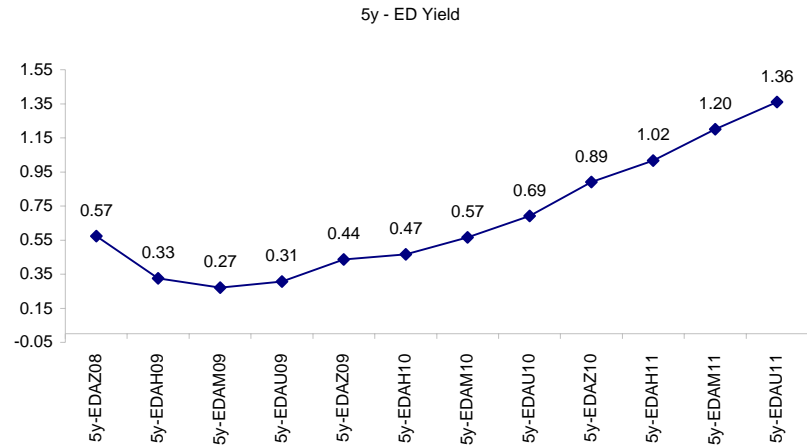


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.280	0.57	5y-EDAZ08	53.312
EDAH09	4.033	0.33	5y-EDAH09	-74.976
EDAM09	3.978	0.27	5y-EDAM09	-88.448
EDAU09	4.013	0.31	5y-EDAU09	-90.319
EDAZ09	4.143	0.44	5y-EDAZ09	-88.590
EDAH10	4.173	0.47	5y-EDAH10	-87.280
EDAM10	4.273	0.57	5y-EDAM10	-87.866
EDAU10	4.398	0.69	5y-EDAU10	-91.024
EDAZ10	4.598	0.89	5y-EDAZ10	-93.943
EDAH11	4.723	1.02	5y-EDAH11	-94.384
EDAM11	4.908	1.20	5y-EDAM11	-94.238
EDAU11	5.068	1.36	5y-EDAU11	-94.574

Price = Outright Decimal Price - Euro Contract Price

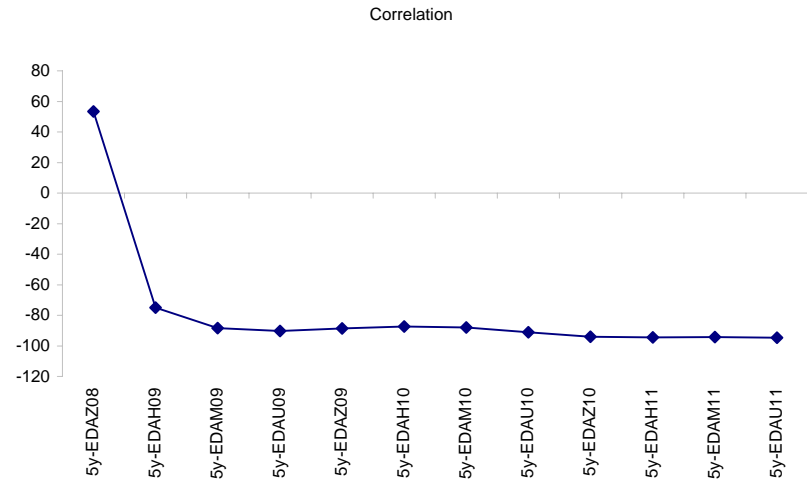
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAZ08	0.027	4.73	4.70	5y-EDAZ08	
EDAH09	0.276	4.73	4.45	5y-EDAH09	
EDAM09	0.525	4.73	4.20	5y-EDAM09	
EDAU09	0.775	4.73	3.95	5y-EDAU09	
EDAZ09	1.024	4.73	3.70	5y-EDAZ09	
EDAH10	1.273	4.73	3.45	5y-EDAH10	
EDAM10	1.523	4.73	3.20	5y-EDAM10	
EDAU10	1.772	4.73	2.96	5y-EDAU10	
EDAZ10	2.021	4.73	2.71	5y-EDAZ10	
EDAH11	2.271	4.73	2.46	5y-EDAH11	
EDAM11	2.520	4.73	2.21	5y-EDAM11	
EDAU11	2.788	4.73	1.94	5y-EDAU11	

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



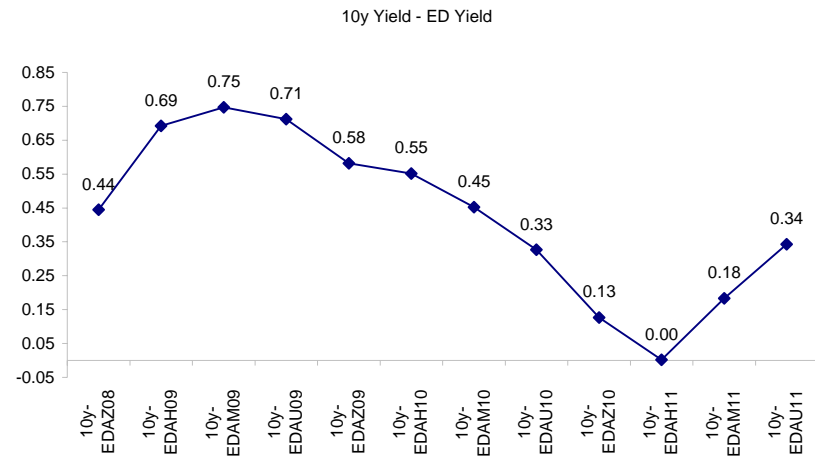


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.280	0.44	10y-EDAZ08	61.461
EDAH09	4.033	0.69	10y-EDAH09	-75.961
EDAM09	3.978	0.75	10y-EDAM09	-88.833
EDAU09	4.013	0.71	10y-EDAU09	-91.380
EDAZ09	4.143	0.58	10y-EDAZ09	-90.389
EDAH10	4.173	0.55	10y-EDAH10	-89.783
EDAM10	4.273	0.45	10y-EDAM10	-90.783
EDAU10	4.398	0.33	10y-EDAU10	-93.378
EDAZ10	4.598	0.13	10y-EDAZ10	-95.745
EDAH11	4.723	0.00	10y-EDAH11	-96.672
EDAM11	4.908	0.18	10y-EDAM11	-97.058
EDAU11	5.068	0.34	10y-EDAU11	-97.529

Price = Outright Decimal Price - Euro Contract Price

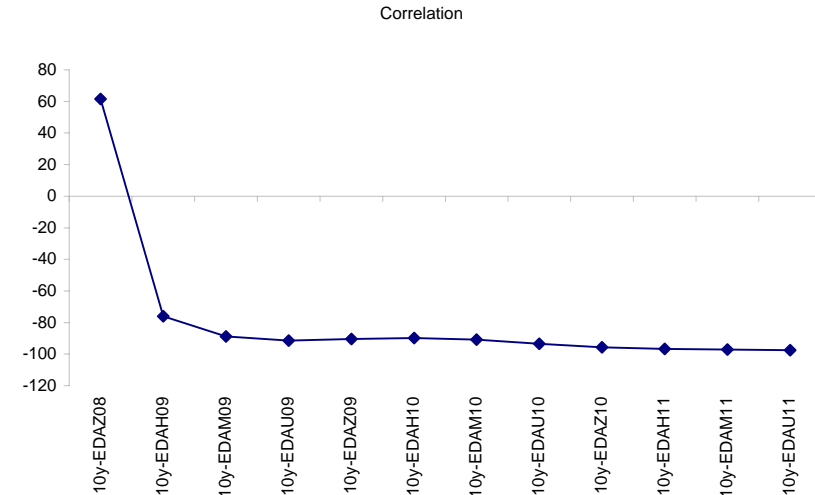
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.027	8.35	8.32	10y-EDAZ08
EDAH09	0.276	8.35	8.08	10y-EDAH09
EDAM09	0.525	8.35	7.83	10y-EDAM09
EDAU09	0.775	8.35	7.58	10y-EDAU09
EDAZ09	1.024	8.35	7.33	10y-EDAZ09
EDAH10	1.273	8.35	7.08	10y-EDAH10
EDAM10	1.523	8.35	6.83	10y-EDAM10
EDAU10	1.772	8.35	6.58	10y-EDAU10
EDAZ10	2.021	8.35	6.33	10y-EDAZ10
EDAH11	2.271	8.35	6.08	10y-EDAH11
EDAM11	2.520	8.35	5.83	10y-EDAM11
EDAU11	2.788	8.35	5.56	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.

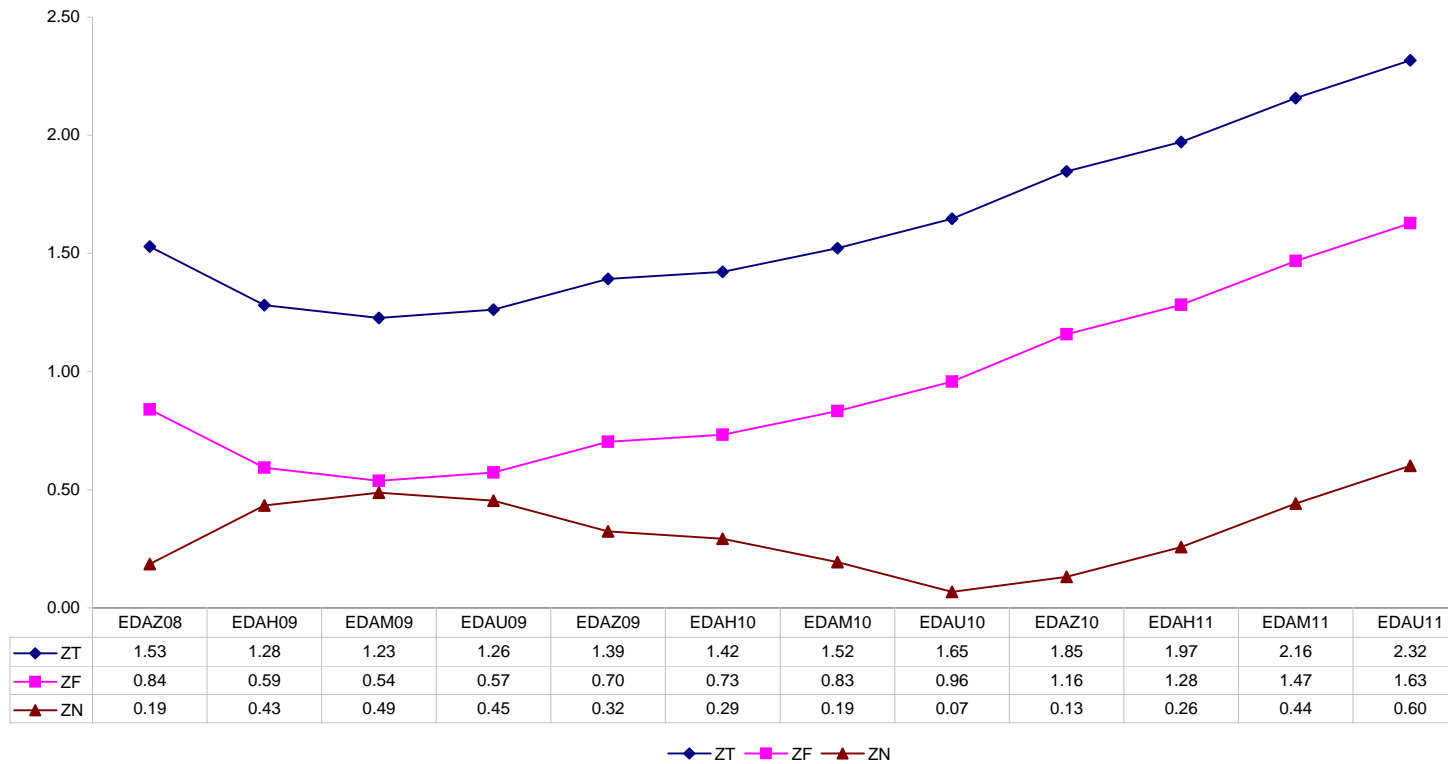
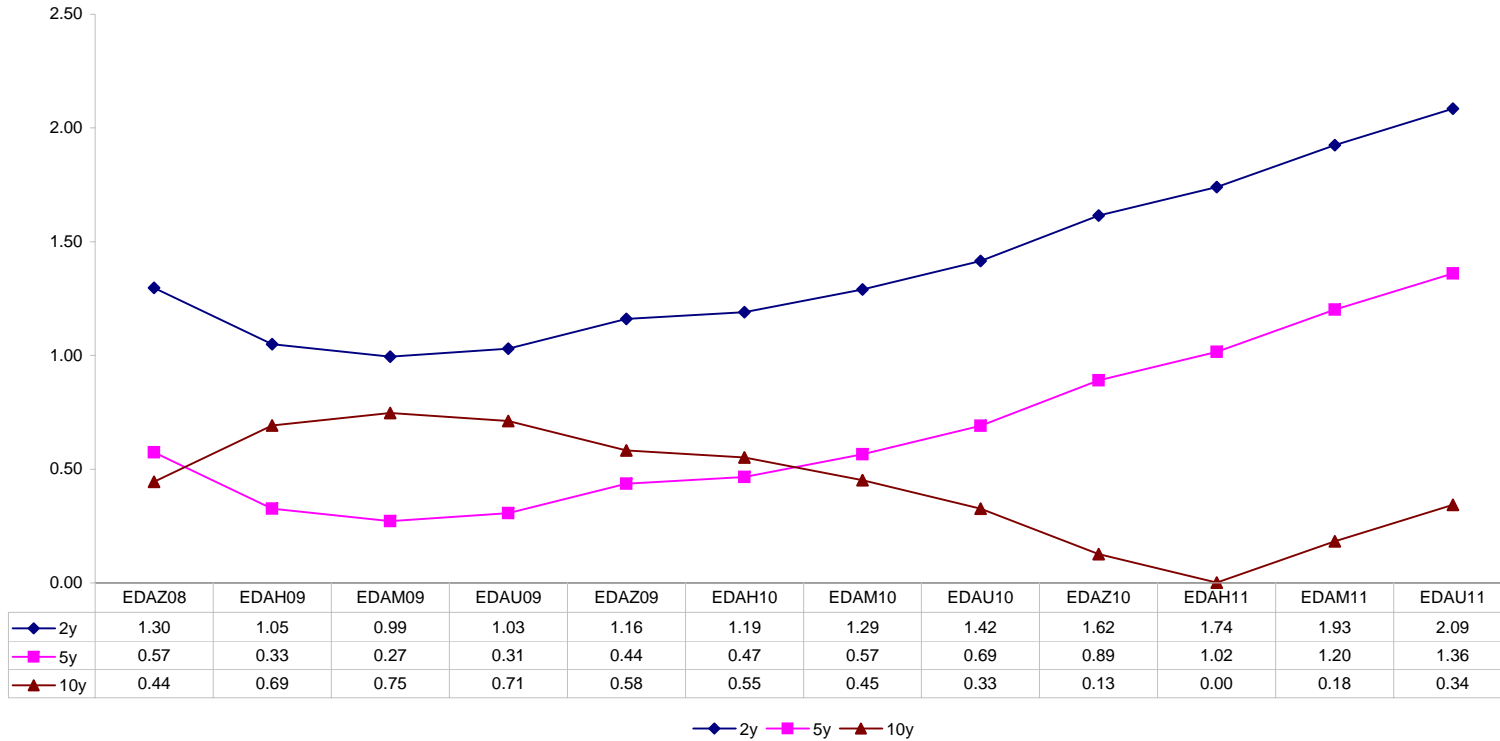
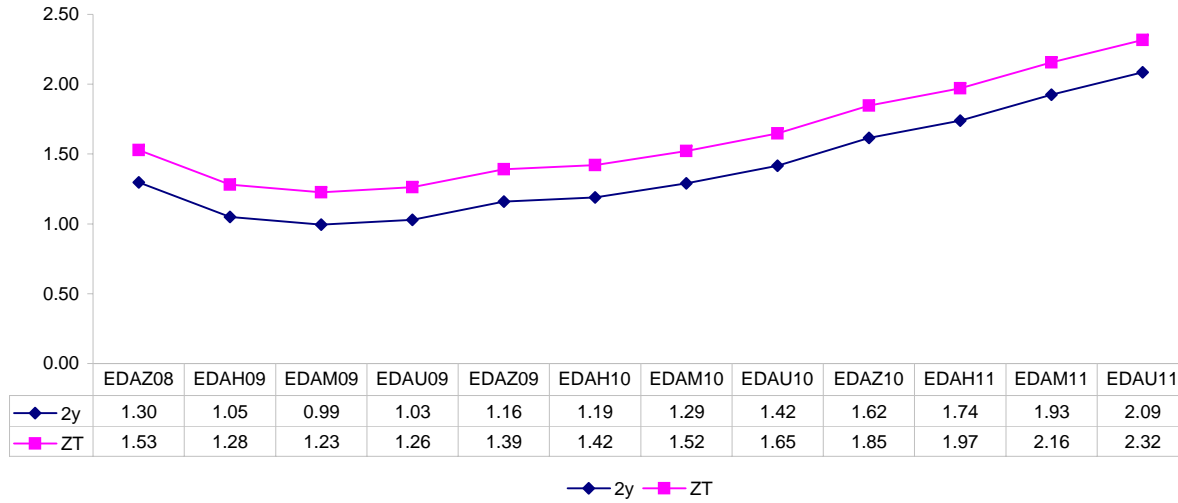


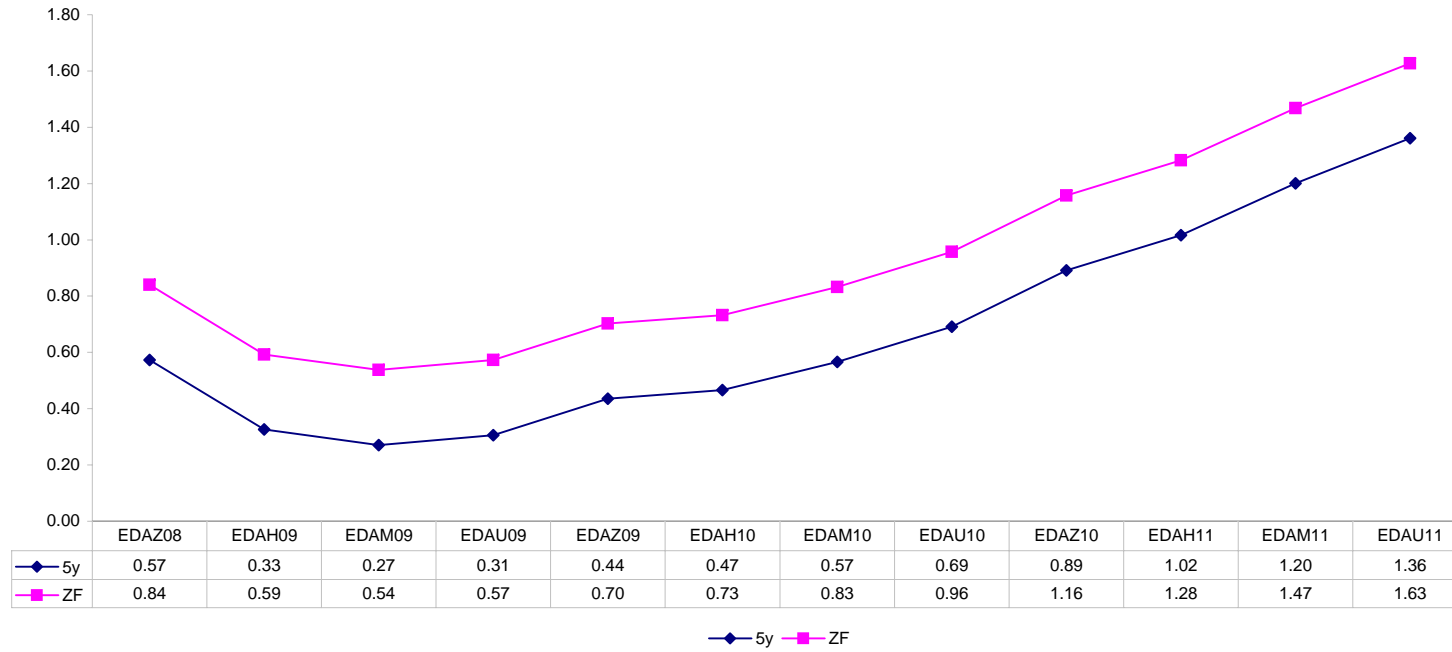
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



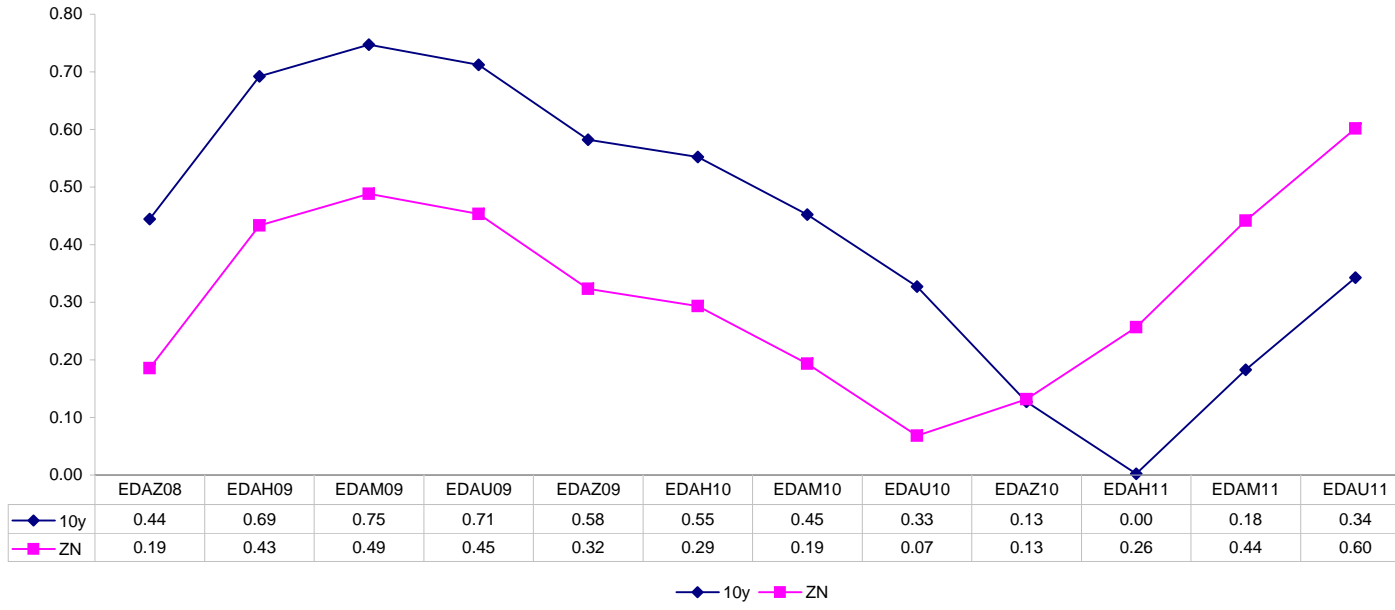
2y Basis TED Curve



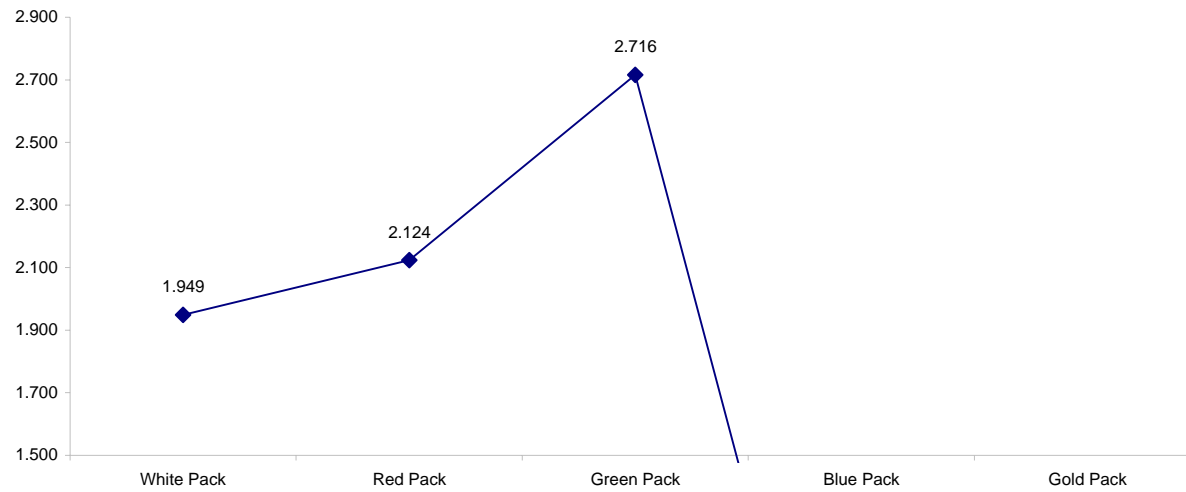
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.949	-2.688	9808.688
Red Pack	2.124	-1.875	9791.625
Green Pack	2.716	-1.000	9733.875
Blue Pack		0.375	9690.500
Gold Pack		0.750	9671.625



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

