

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

### **Table of Contents**

<b>Pg 1</b>	Quotes
<b>Pg 2</b>	Dirty TED: ZT vs Eurodollar Contracts
<b>Pg 3</b>	Dirty TED: ZF vs Eurodollar Contracts
<b>Pg 4</b>	Dirty TED: ZN vs Eurodollar Contracts
<b>Pg 5</b>	TERM TED: 2y vs Eurodollar Contracts
<b>Pg 6</b>	TERM TED: 5y vs Eurodollar Contracts
<b>Pg 7</b>	TERM TED: 10y vs Eurodollar Contracts
<b>Pg 8</b>	Dirty TED Curve
<b>Pg 9</b>	TED Curve
<b>Pg 10</b>	2y Basis TED Curve
<b>Pg 11</b>	5y Basis TED Curve
<b>Pg 12</b>	10y Basis TED Curve
<b>Pg 13</b>	Packs

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	108.9906	108.3170	0.772	1.98
ZF	119.8656	119.2770	1.113	1.11
ZN	127.7500	127.2400	1.342	6.31
2y	100.2344	100.0750	0.772	1.98
5y	100.3125	100.1000	1.427	4.67
10y	114.6875	114.2200	2.091	8.34

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.955	1.045	76	0.208	MAR	
EDAM09	98.910	1.090	167	0.457	JUN	White Pack
EDAU09	98.810	1.190	258	0.706	SEP	
EDAZ09	98.665	1.335	349	0.955	DEC	
EDAH10	98.545	1.455	440	1.205	MAR	
EDAM10	98.320	1.680	531	1.454	JUN	Red Pack
EDAU10	98.125	1.875	622	1.703	SEP	
EDAZ10	97.930	2.070	713	1.953	DEC	
EDAH11	97.805	2.195	804	2.202	MAR	
EDAM11	97.660	2.340	895	2.451	JUN	Green Pack
EDAU11	97.575	2.425	993	2.720	SEP	
EDAZ11	97.455	2.545	1084	2.969	DEC	
EDAH12	97.450	2.550	1175	3.218	MAR	
EDAM12	97.410	2.590	1266	3.468	JUN	Blue Pack
EDAU12	97.375	2.625	1357	3.717	SEP	
EDAZ12	97.310	2.690	1448	3.966	DEC	
EDAH13	97.280	2.720	1539	4.216	MAR	
EDAM13	97.240	2.760	1630	4.465	JUN	Gold Pack
EDZU13	97.165	2.835	1721	4.714	SEP	
EDZZ13	97.060	2.940	1812	4.964	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.185	4.500	9883.500	
Red Pack	1.803	3.750	9823.000	Pack Prices
Green Pack	0.125	9763.000		
Blue Pack	0.000	9740.250		
Gold Pack	0.000	9720.875		

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.

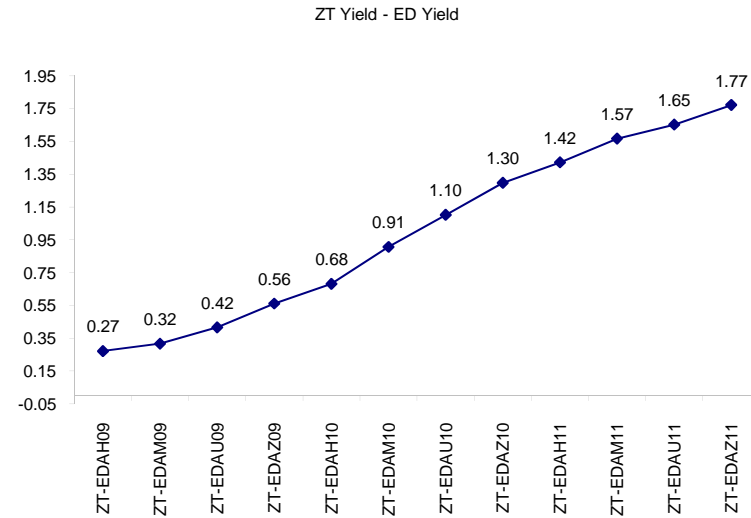
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

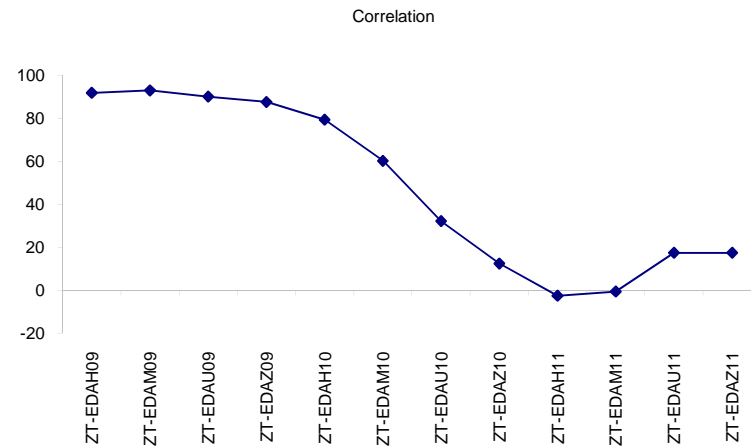
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.036	0.27	ZT-EDAH09	92.008
EDAM09	10.081	0.32	ZT-EDAM09	93.163
EDAU09	10.181	0.42	ZT-EDAU09	90.254
EDAZ09	10.326	0.56	ZT-EDAZ09	87.753
EDAH10	10.446	0.68	ZT-EDAH10	79.501
EDAM10	10.671	0.91	ZT-EDAM10	60.342
EDAU10	10.866	1.10	ZT-EDAU10	32.268
EDAZ10	11.061	1.30	ZT-EDAZ10	12.506
EDAH11	11.186	1.42	ZT-EDAH11	-2.508
EDAM11	11.331	1.57	ZT-EDAM11	-0.576
EDAU11	11.416	1.65	ZT-EDAU11	17.496
EDAZ11	11.536	1.77	ZT-EDAZ11	17.502

Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS (Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days



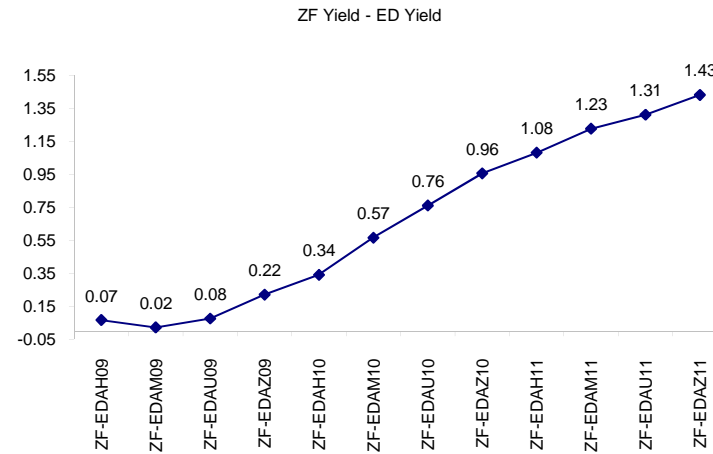
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAH09	0.208	1.98	1.77	ZT-EDAH09		
EDAM09	0.457	1.98	1.52	ZT-EDAM09		
EDAU09	0.706	1.98	1.27	ZT-EDAU09		
EDAZ09	0.955	1.98	1.02	ZT-EDAZ09		
EDAH10	1.205	1.98	0.77	ZT-EDAH10		
EDAM10	1.454	1.98	0.53	ZT-EDAM10		
EDAU10	1.703	1.98	0.28	ZT-EDAU10		
EDAZ10	1.953	1.98	0.03	ZT-EDAZ10		
EDAH11	2.202	1.98	(0.22)	ZT-EDAH11		
EDAM11	2.451	1.98	(0.47)	ZT-EDAM11		
EDAU11	2.720	1.98	(0.74)	ZT-EDAU11		
EDAZ11	2.969	1.98	(0.99)	ZT-EDAZ11		

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



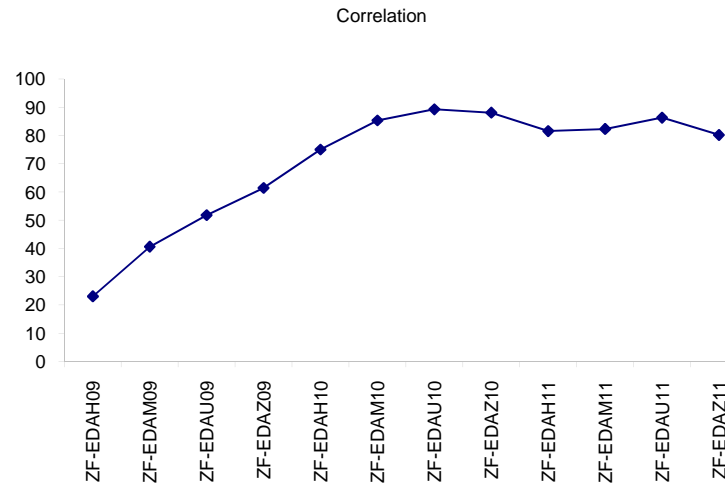
ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.911	0.07	ZF-EDAH09	23.095
EDAM09	20.956	0.02	ZF-EDAM09	40.655
EDAU09	21.056	0.08	ZF-EDAU09	51.832
EDAZ09	21.201	0.22	ZF-EDAZ09	61.456
EDAH10	21.321	0.34	ZF-EDAH10	75.032
EDAM10	21.546	0.57	ZF-EDAM10	85.345
EDAU10	21.741	0.76	ZF-EDAU10	89.285
EDAZ10	21.936	0.96	ZF-EDAZ10	88.066
EDAH11	22.061	1.08	ZF-EDAH11	81.576
EDAM11	22.206	1.23	ZF-EDAM11	82.313
EDAU11	22.291	1.31	ZF-EDAU11	86.342
EDAZ11	22.411	1.43	ZF-EDAZ11	80.196

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	0.208	1.11	0.91	ZF-EDAH09		
EDAM09	0.457	1.11	0.66	ZF-EDAM09		
EDAU09	0.706	1.11	0.41	ZF-EDAU09		
EDAZ09	0.955	1.11	0.16	ZF-EDAZ09		
EDAH10	1.205	1.11	(0.09)	ZF-EDAH10		
EDAM10	1.454	1.11	(0.34)	ZF-EDAM10		
EDAU10	1.703	1.11	(0.59)	ZF-EDAU10		
EDAZ10	1.953	1.11	(0.84)	ZF-EDAZ10		
EDAH11	2.202	1.11	(1.09)	ZF-EDAH11		
EDAM11	2.451	1.11	(1.34)	ZF-EDAM11		
EDAU11	2.720	1.11	(1.61)	ZF-EDAU11		
EDAZ11	2.969	1.11	(1.86)	ZF-EDAZ11		

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

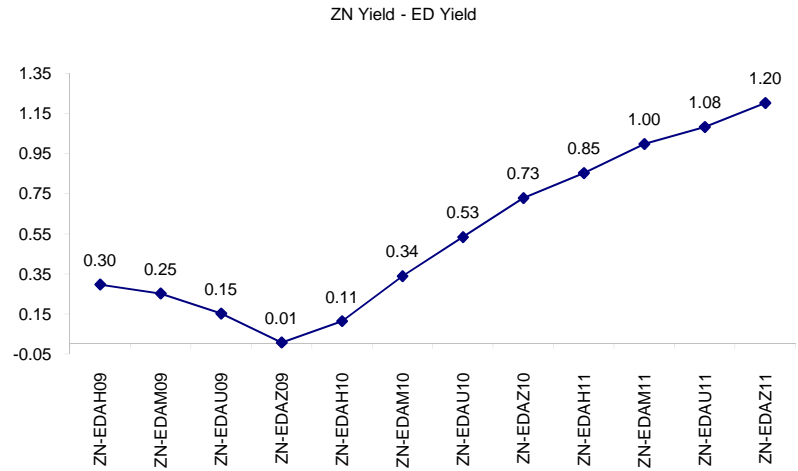


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	28.795	0.30	ZN-EDAH09	43.035
EDAM09	28.840	0.25	ZN-EDAM09	35.398
EDAU09	28.940	0.15	ZN-EDAU09	36.105
EDAZ09	29.085	0.01	ZN-EDAZ09	40.812
EDAH10	29.205	0.11	ZN-EDAH10	46.723
EDAM10	29.430	0.34	ZN-EDAM10	44.566
EDAU10	29.625	0.53	ZN-EDAU10	40.166
EDAZ10	29.820	0.73	ZN-EDAZ10	43.598
EDAH11	29.945	0.85	ZN-EDAH11	41.962
EDAM11	30.090	1.00	ZN-EDAM11	51.466
EDAU11	30.175	1.08	ZN-EDAU11	67.529
EDAZ11	30.295	1.20	ZN-EDAZ11	72.469

Price = Outright Decimal Price - Euro Contract Price

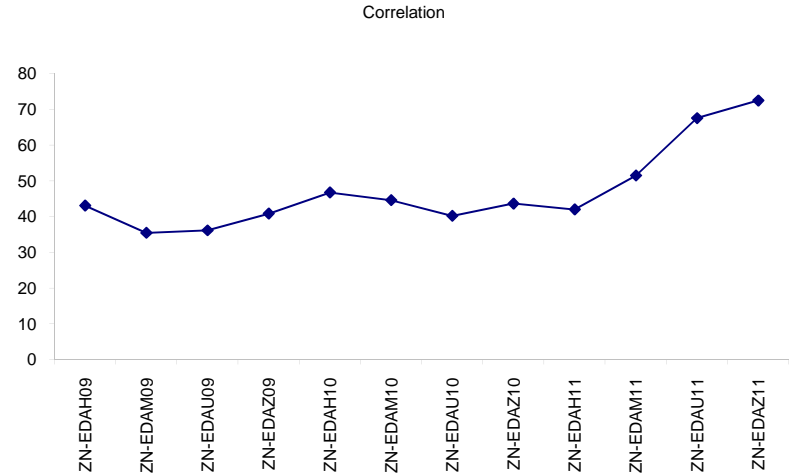
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAH09	0.208	6.31	6.10	ZN-EDAH09		
EDAM09	0.457	6.31	5.85	ZN-EDAM09		
EDAU09	0.706	6.31	5.60	ZN-EDAU09		
EDAZ09	0.955	6.31	5.35	ZN-EDAZ09		
EDAH10	1.205	6.31	5.10	ZN-EDAH10		
EDAM10	1.454	6.31	4.85	ZN-EDAM10		
EDAU10	1.703	6.31	4.60	ZN-EDAU10		
EDAZ10	1.953	6.31	4.35	ZN-EDAZ10		
EDAH11	2.202	6.31	4.11	ZN-EDAH11		
EDAM11	2.451	6.31	3.86	ZN-EDAM11		
EDAU11	2.720	6.31	3.59	ZN-EDAU11		
EDAZ11	2.969	6.31	3.34	ZN-EDAZ11		

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

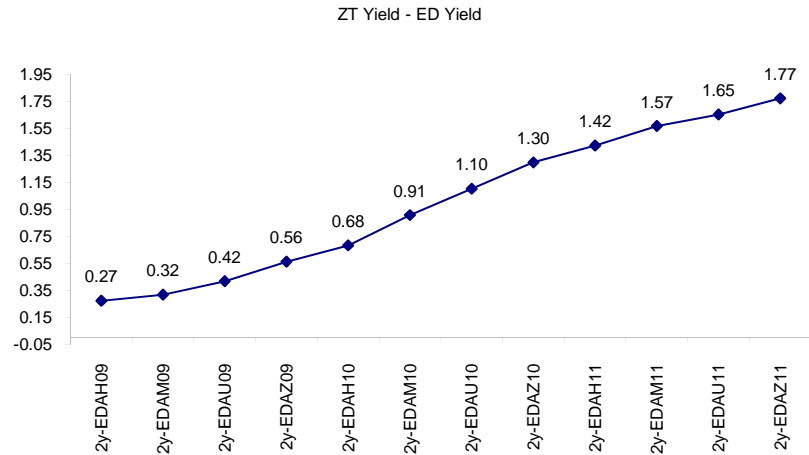


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.279	0.27	2y-EDAH09	11.015
EDAM09	1.324	0.32	2y-EDAM09	-19.776
EDAU09	1.424	0.42	2y-EDAU09	-34.367
EDAZ09	1.569	0.56	2y-EDAZ09	-44.570
EDAH10	1.689	0.68	2y-EDAH10	-61.529
EDAM10	1.914	0.91	2y-EDAM10	-79.916
EDAU10	2.109	1.10	2y-EDAU10	-91.652
EDAZ10	2.304	1.30	2y-EDAZ10	-90.791
EDAH11	2.429	1.42	2y-EDAH11	-85.407
EDAM11	2.574	1.57	2y-EDAM11	-80.794
EDAU11	2.659	1.65	2y-EDAU11	-73.902
EDAZ11	2.779	1.77	2y-EDAZ11	-63.343

Price = Outright Decimal Price - Euro Contract Price

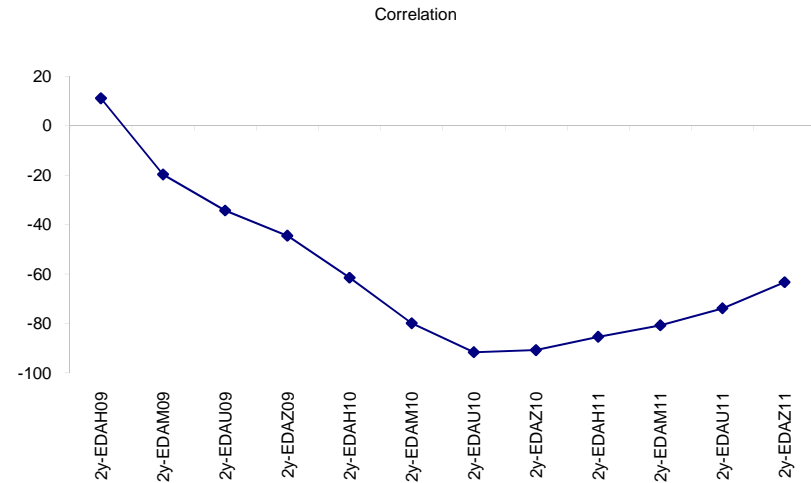
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.208	1.98	1.77	2y-EDAH09	
EDAM09	0.457	1.98	1.52	2y-EDAM09	
EDAU09	0.706	1.98	1.27	2y-EDAU09	
EDAZ09	0.955	1.98	1.02	2y-EDAZ09	
EDAH10	1.205	1.98	0.77	2y-EDAH10	
EDAM10	1.454	1.98	0.53	2y-EDAM10	
EDAU10	1.703	1.98	0.28	2y-EDAU10	
EDAZ10	1.953	1.98	0.03	2y-EDAZ10	
EDAH11	2.202	1.98	(0.22)	2y-EDAH11	
EDAM11	2.451	1.98	(0.47)	2y-EDAM11	
EDAU11	2.720	1.98	(0.74)	2y-EDAU11	
EDAZ11	2.969	1.98	(0.99)	2y-EDAZ11	

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

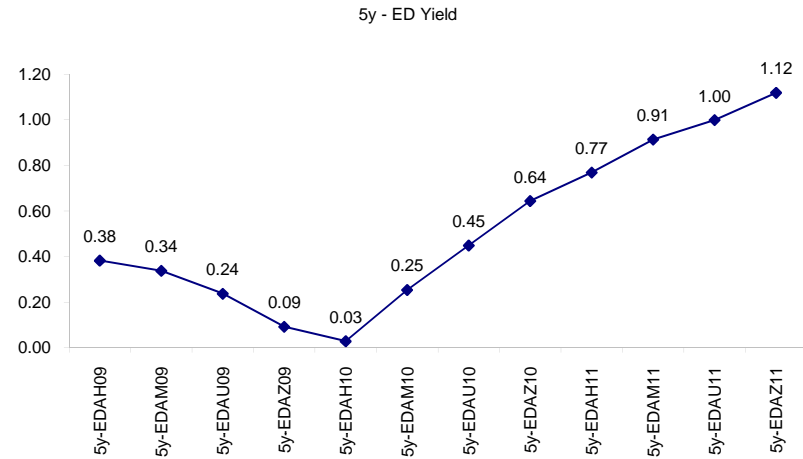


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.358	0.38	5y-EDAH09	40.178
EDAM09	1.403	0.34	5y-EDAM09	18.324
EDAU09	1.503	0.24	5y-EDAU09	5.398
EDAZ09	1.648	0.09	5y-EDAZ09	-6.620
EDAH10	1.768	0.03	5y-EDAH10	-27.410
EDAM10	1.993	0.25	5y-EDAM10	-52.060
EDAU10	2.188	0.45	5y-EDAU10	-75.934
EDAZ10	2.383	0.64	5y-EDAZ10	-85.376
EDAH11	2.508	0.77	5y-EDAH11	-86.718
EDAM11	2.653	0.91	5y-EDAM11	-84.506
EDAU11	2.738	1.00	5y-EDAU11	-76.174
EDAZ11	2.858	1.12	5y-EDAZ11	-69.711

Price = Outright Decimal Price - Euro Contract Price

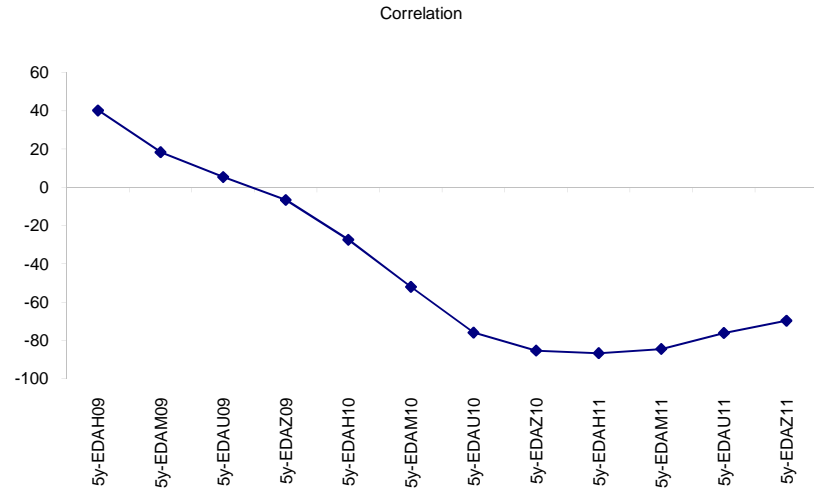
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAH09	0.208	4.67	4.46	5y-EDAH09
EDAM09	0.457	4.67	4.21	5y-EDAM09
EDAU09	0.706	4.67	3.96	5y-EDAU09
EDAZ09	0.955	4.67	3.72	5y-EDAZ09
EDAH10	1.205	4.67	3.47	5y-EDAH10
EDAM10	1.454	4.67	3.22	5y-EDAM10
EDAU10	1.703	4.67	2.97	5y-EDAU10
EDAZ10	1.953	4.67	2.72	5y-EDAZ10
EDAH11	2.202	4.67	2.47	5y-EDAH11
EDAM11	2.451	4.67	2.22	5y-EDAM11
EDAU11	2.720	4.67	1.95	5y-EDAU11
EDAZ11	2.969	4.67	1.70	5y-EDAZ11

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



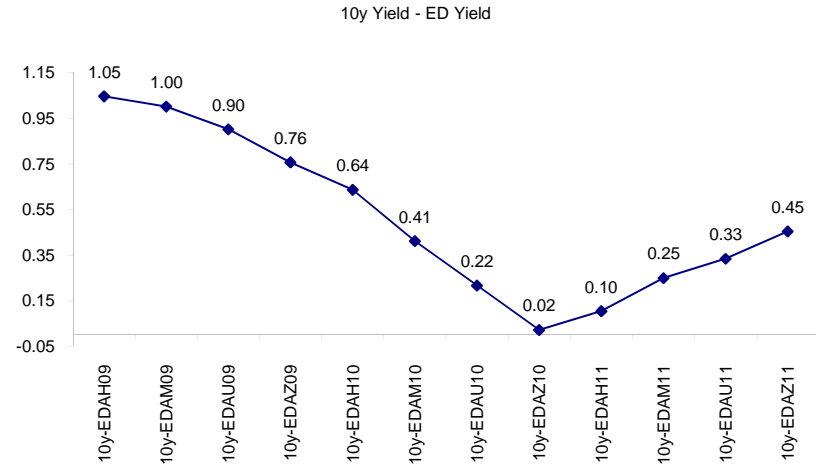


	10y			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAH09	1.358	1.05	10y-EDAH09	-54.925
EDAM09	1.403	1.00	10y-EDAM09	-31.141
EDAU09	1.503	0.90	10y-EDAU09	-26.099
EDAZ09	1.648	0.76	10y-EDAZ09	-27.958
EDAH10	1.768	0.64	10y-EDAH10	-28.826
EDAM10	1.993	0.41	10y-EDAM10	-19.623
EDAU10	2.188	0.22	10y-EDAU10	-11.363
EDAZ10	2.383	0.02	10y-EDAZ10	-10.385
EDAH11	2.508	0.10	10y-EDAH11	-6.907
EDAM11	2.653	0.25	10y-EDAM11	-19.213
EDAU11	2.738	0.33	10y-EDAU11	-43.488
EDAZ11	2.858	0.45	10y-EDAZ11	-55.303

Price = Outright Decimal Price - Euro Contract Price

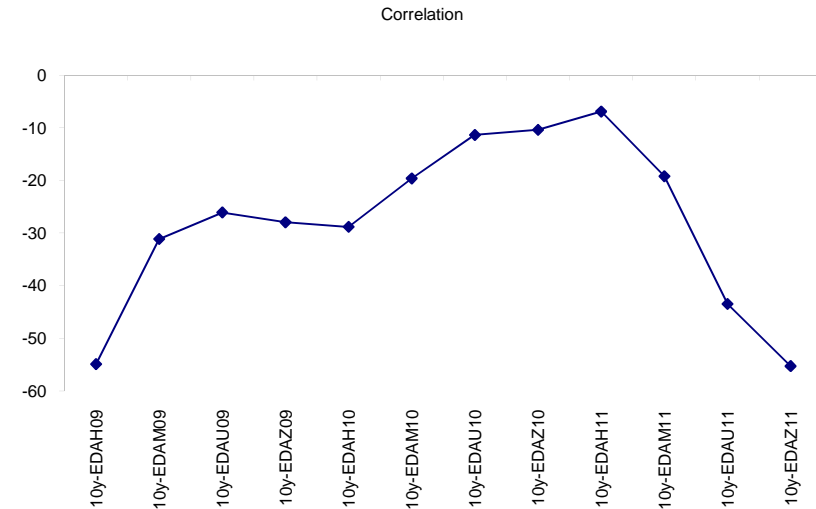
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAH09	0.208	8.34	8.14	10y-EDAH09
EDAM09	0.457	8.34	7.89	10y-EDAM09
EDAU09	0.706	8.34	7.64	10y-EDAU09
EDAZ09	0.955	8.34	7.39	10y-EDAZ09
EDAH10	1.205	8.34	7.14	10y-EDAH10
EDAM10	1.454	8.34	6.89	10y-EDAM10
EDAU10	1.703	8.34	6.64	10y-EDAU10
EDAZ10	1.953	8.34	6.39	10y-EDAZ10
EDAH11	2.202	8.34	6.14	10y-EDAH11
EDAM11	2.451	8.34	5.89	10y-EDAM11
EDAU11	2.720	8.34	5.62	10y-EDAU11
EDAZ11	2.969	8.34	5.37	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.

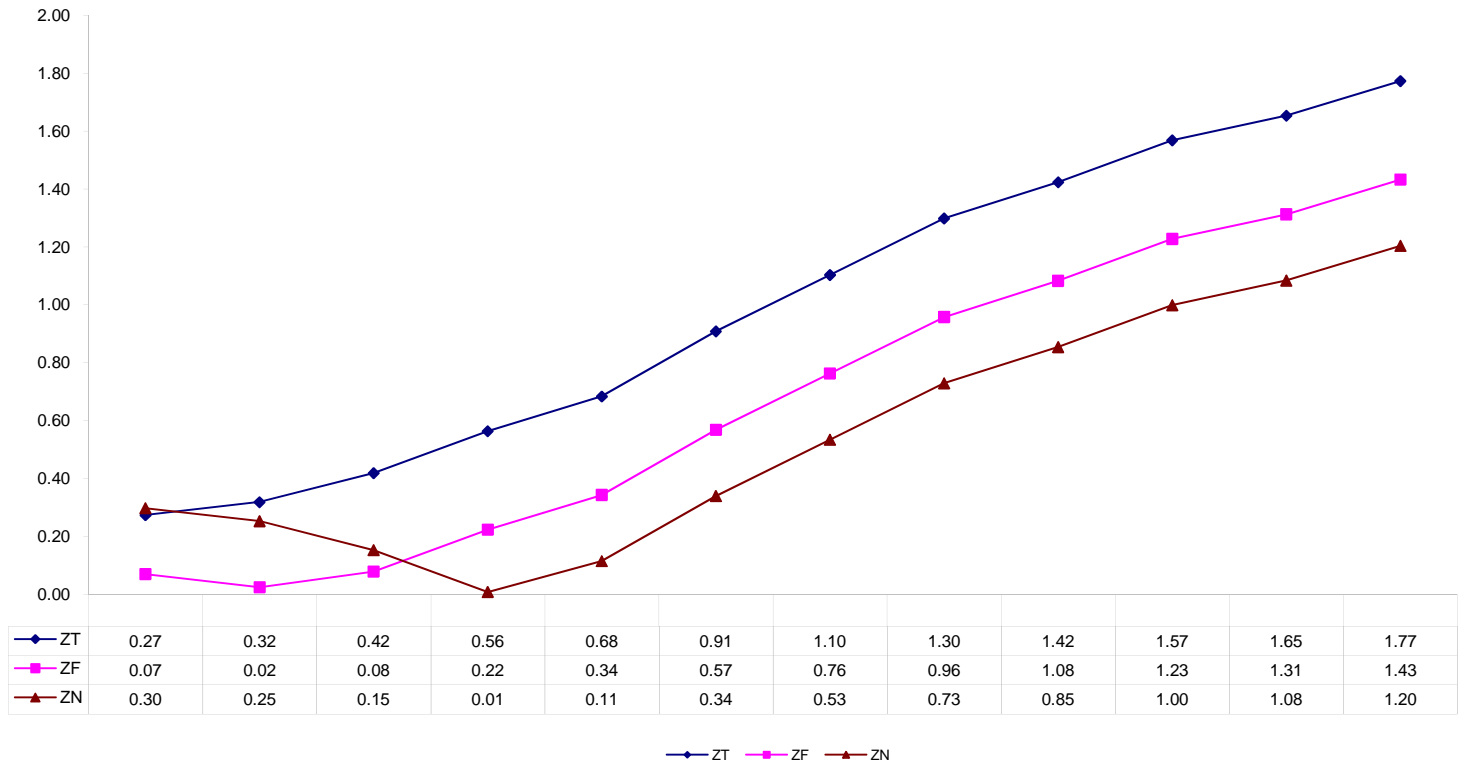
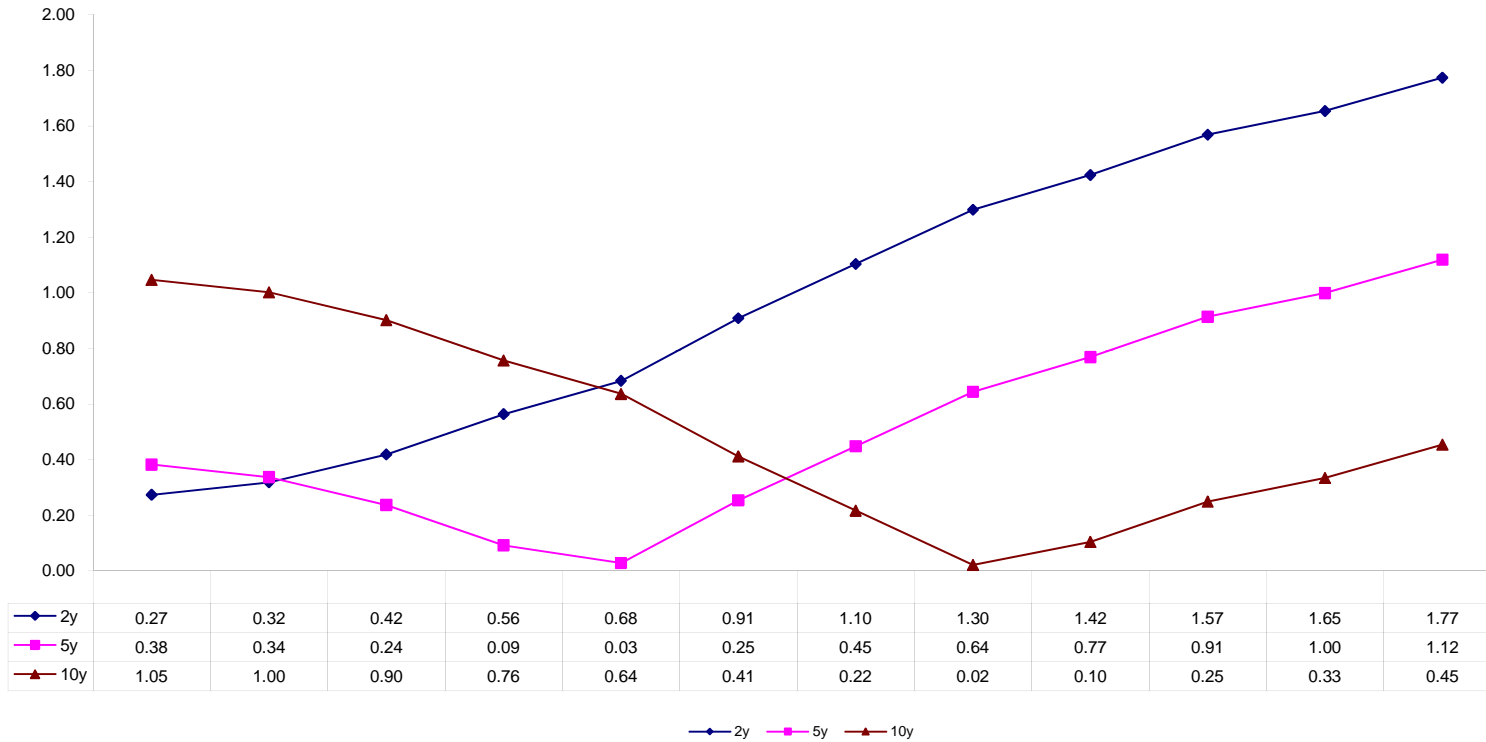
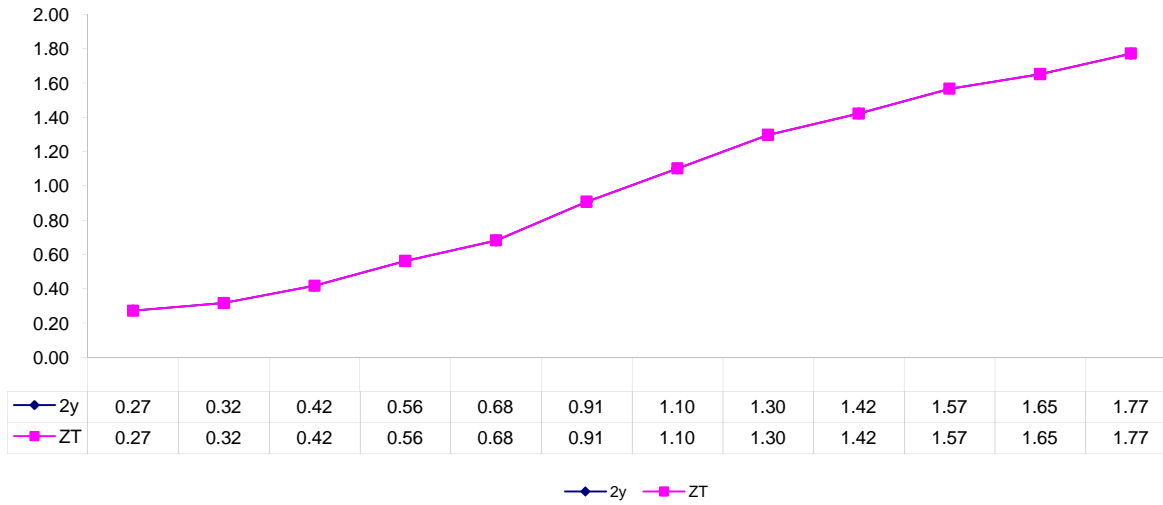


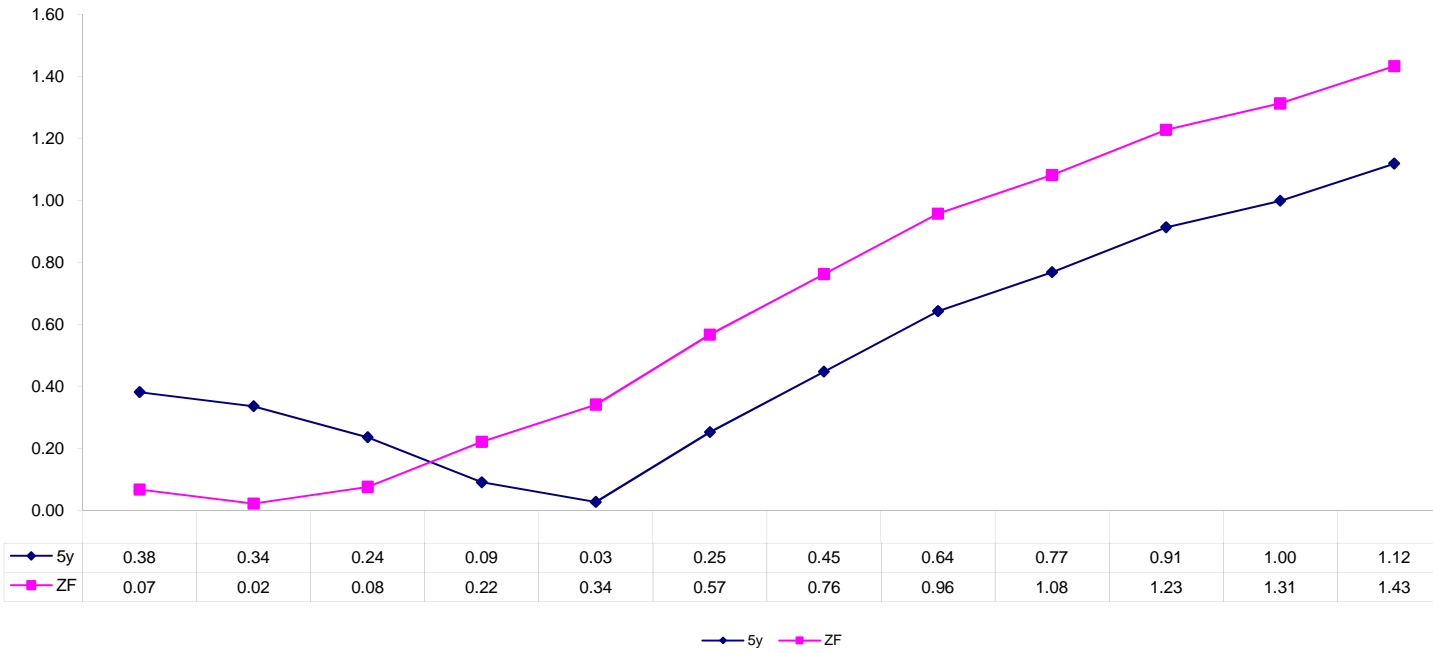
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



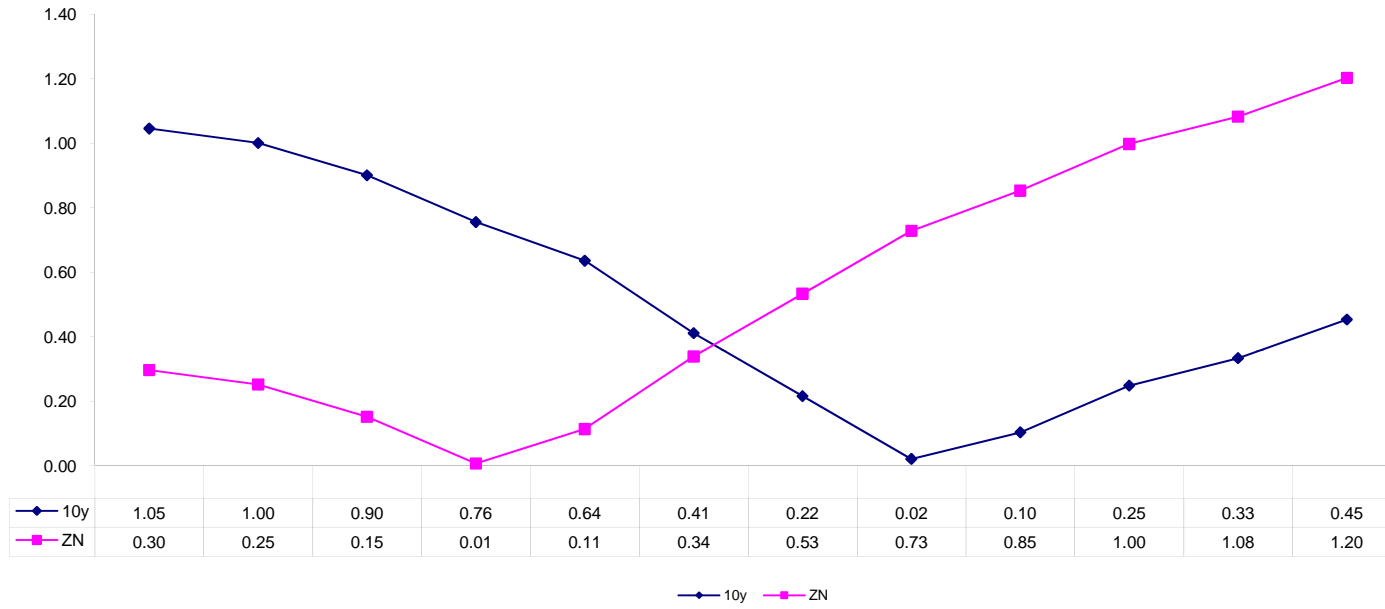
### 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.185	4.500	9883.500
Red Pack	1.803	3.750	9823.000
Green Pack		0.125	9763.000
Blue Pack		0.000	9740.250
Gold Pack		0.000	9720.875

