

## 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	108.7969	108.2550	0.875	1.96
ZF	118.1313	118.0420	1.495	1.49
ZN	123.8125	123.2600	1.684	6.27
2y	100.0000	100.0000	0.875	1.96
5y	98.7250	98.2320	1.768	4.64
10y	110.9063	110.2900	2.494	8.28

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.825	1.175	70	0.191	MAR	
EDAM09	98.730	1.270	161	0.440	JUN	White Pack
EDAU09	98.560	1.440	252	0.690	SEP	
EDAZ09	98.345	1.655	343	0.939	DEC	
EDAH10	98.195	1.805	434	1.188	MAR	
EDAM10	97.975	2.025	525	1.438	JUN	Red Pack
EDAU10	97.775	2.225	616	1.687	SEP	
EDAZ10	97.565	2.435	707	1.936	DEC	
EDAH11	97.425	2.575	798	2.185	MAR	
EDAM11	97.275	2.725	889	2.435	JUN	Green Pack
EDAU11	97.170	2.830	987	2.703	SEP	
EDAZ11	97.055	2.945	1078	2.953	DEC	
EDAH12	97.095	2.905	1169	3.202	MAR	
EDAM12	97.095	2.905	1260	3.451	JUN	Blue Pack
EDAU12	97.005	2.995	1351	3.701	SEP	
EDAZ12	96.925	3.075	1442	3.950	DEC	
EDAH13	#VALUE!	#VALUE!	1533	4.199	MAR	
EDAM13	96.800	3.200	1624	4.448	JUN	Gold Pack
EDZU13	96.720	3.280	1715	4.698	SEP	
EDZZ13	#VALUE!	#VALUE!	1806	4.947	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.409	-0.500	9861.500	Pack Prices
Red Pack	2.164	-6.375	9787.750	
Green Pack	2.827	-10.875	9723.125	
Blue Pack	3.034	-5.500	9703.000	
Gold Pack		-6.000	9680.750	

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.

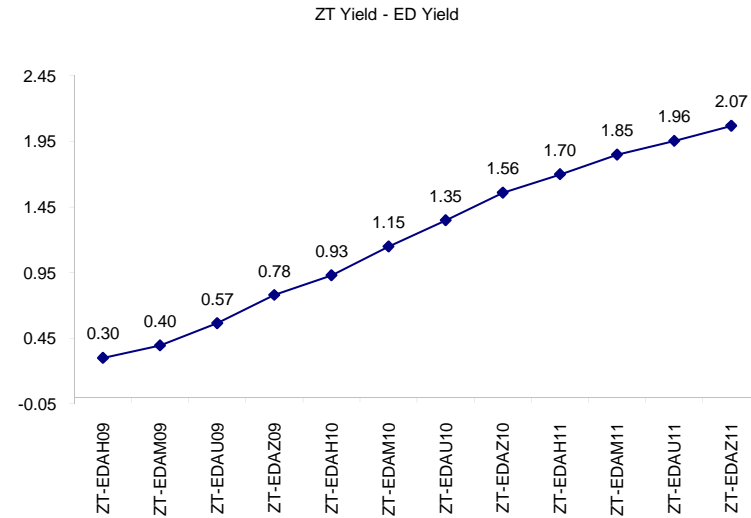
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

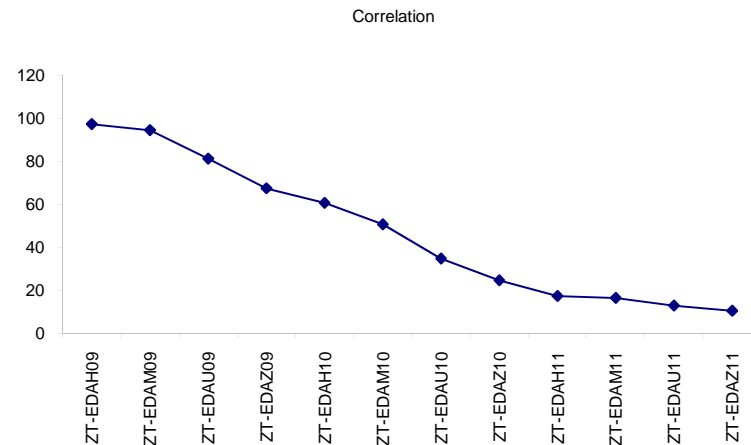
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	9.972	0.30	ZT-EDAH09	97.451
EDAM09	10.067	0.40	ZT-EDAM09	94.610
EDAU09	10.237	0.57	ZT-EDAU09	81.368
EDAZ09	10.452	0.78	ZT-EDAZ09	67.545
EDAH10	10.602	0.93	ZT-EDAH10	60.735
EDAM10	10.822	1.15	ZT-EDAM10	50.729
EDAU10	11.022	1.35	ZT-EDAU10	34.873
EDAZ10	11.232	1.56	ZT-EDAZ10	24.717
EDAH11	11.372	1.70	ZT-EDAH11	17.426
EDAM11	11.522	1.85	ZT-EDAM11	16.552
EDAU11	11.627	1.96	ZT-EDAU11	12.953
EDAZ11	11.742	2.07	ZT-EDAZ11	10.535

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



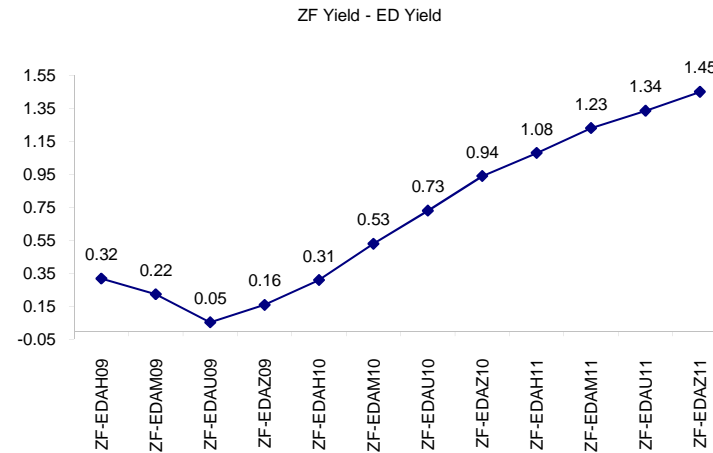
	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAH09	0.191	1.96	1.77	ZT-EDAH09	
EDAM09	0.440	1.96	1.52	ZT-EDAM09	
EDAU09	0.690	1.96	1.27	ZT-EDAU09	
EDAZ09	0.939	1.96	1.02	ZT-EDAZ09	
EDAH10	1.188	1.96	0.77	ZT-EDAH10	
EDAM10	1.438	1.96	0.52	ZT-EDAM10	
EDAU10	1.687	1.96	0.27	ZT-EDAU10	
EDAZ10	1.936	1.96	0.03	ZT-EDAZ10	
EDAH11	2.185	1.96	(0.22)	ZT-EDAH11	
EDAM11	2.435	1.96	(0.47)	ZT-EDAM11	
EDAU11	2.703	1.96	(0.74)	ZT-EDAU11	
EDAZ11	2.953	1.96	(0.99)	ZT-EDAZ11	

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



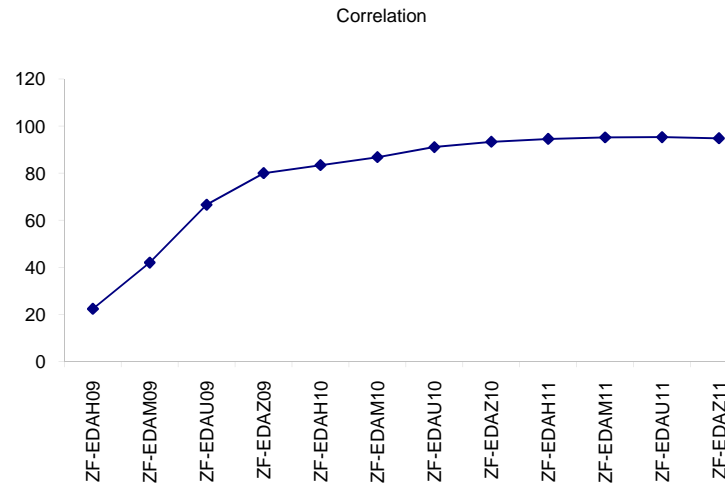
ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.306	0.32	ZF-EDAH09	22.460
EDAM09	19.401	0.22	ZF-EDAM09	42.119
EDAU09	19.571	0.05	ZF-EDAU09	66.689
EDAZ09	19.786	0.16	ZF-EDAZ09	80.087
EDAH10	19.936	0.31	ZF-EDAH10	83.489
EDAM10	20.156	0.53	ZF-EDAM10	86.886
EDAU10	20.356	0.73	ZF-EDAU10	91.148
EDAZ10	20.566	0.94	ZF-EDAZ10	93.400
EDAH11	20.706	1.08	ZF-EDAH11	94.639
EDAM11	20.856	1.23	ZF-EDAM11	95.281
EDAU11	20.961	1.34	ZF-EDAU11	95.398
EDAZ11	21.076	1.45	ZF-EDAZ11	94.885

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	0.191	1.49	1.30	ZF-EDAH09
EDAM09	0.440	1.49	1.05	ZF-EDAM09
EDAU09	0.690	1.49	0.80	ZF-EDAU09
EDAZ09	0.939	1.49	0.56	ZF-EDAZ09
EDAH10	1.188	1.49	0.31	ZF-EDAH10
EDAM10	1.438	1.49	0.06	ZF-EDAM10
EDAU10	1.687	1.49	(0.19)	ZF-EDAU10
EDAZ10	1.936	1.49	(0.44)	ZF-EDAZ10
EDAH11	2.185	1.49	(0.69)	ZF-EDAH11
EDAM11	2.435	1.49	(0.94)	ZF-EDAM11
EDAU11	2.703	1.49	(1.21)	ZF-EDAU11
EDAZ11	2.953	1.49	(1.46)	ZF-EDAZ11

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

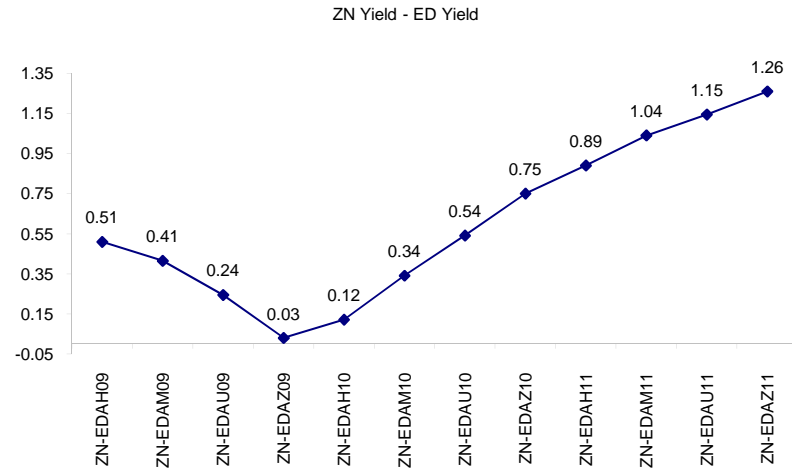


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.988	0.51	ZN-EDAH09	15.432
EDAM09	25.083	0.41	ZN-EDAM09	33.339
EDAU09	25.253	0.24	ZN-EDAU09	58.013
EDAZ09	25.468	0.03	ZN-EDAZ09	72.134
EDAH10	25.618	0.12	ZN-EDAH10	75.400
EDAM10	25.838	0.34	ZN-EDAM10	78.936
EDAU10	26.038	0.54	ZN-EDAU10	84.234
EDAZ10	26.248	0.75	ZN-EDAZ10	87.901
EDAH11	26.388	0.89	ZN-EDAH11	90.481
EDAM11	26.538	1.04	ZN-EDAM11	91.330
EDAU11	26.643	1.15	ZN-EDAU11	92.113
EDAZ11	26.758	1.26	ZN-EDAZ11	92.081

Price = Outright Decimal Price - Euro Contract Price

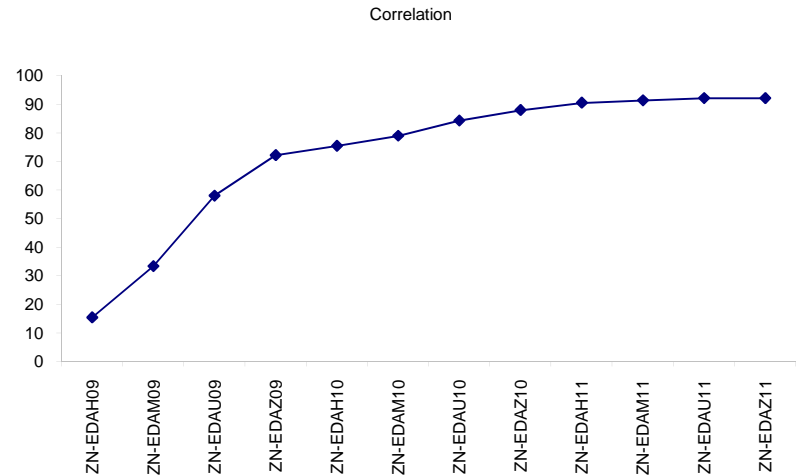
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAH09	0.191	6.27	6.08	ZN-EDAH09		
EDAM09	0.440	6.27	5.83	ZN-EDAM09		
EDAU09	0.690	6.27	5.58	ZN-EDAU09		
EDAZ09	0.939	6.27	5.33	ZN-EDAZ09		
EDAH10	1.188	6.27	5.08	ZN-EDAH10		
EDAM10	1.438	6.27	4.83	ZN-EDAM10		
EDAU10	1.687	6.27	4.58	ZN-EDAU10		
EDAZ10	1.936	6.27	4.33	ZN-EDAZ10		
EDAH11	2.185	6.27	4.08	ZN-EDAH11		
EDAM11	2.435	6.27	3.83	ZN-EDAM11		
EDAU11	2.703	6.27	3.56	ZN-EDAU11		
EDAZ11	2.953	6.27	3.31	ZN-EDAZ11		

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

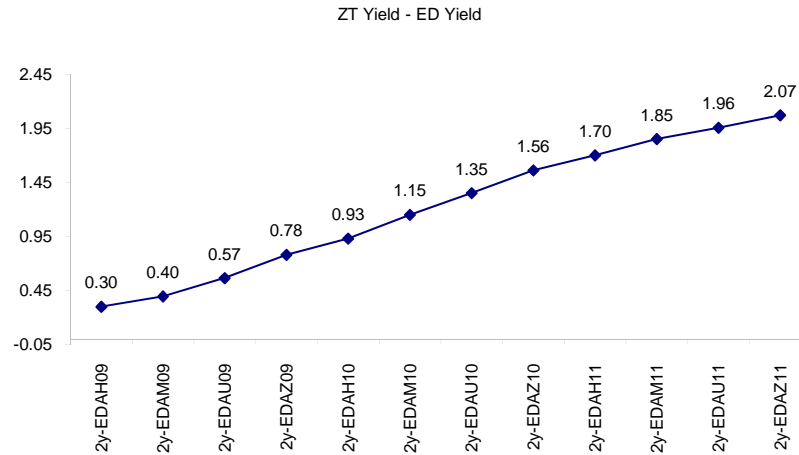


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.175	0.30	2y-EDAH09	-61.063
EDAM09	1.270	0.40	2y-EDAM09	-72.374
EDAU09	1.440	0.57	2y-EDAU09	-71.589
EDAZ09	1.655	0.78	2y-EDAZ09	-67.961
EDAH10	1.805	0.93	2y-EDAH10	-70.586
EDAM10	2.025	1.15	2y-EDAM10	-69.569
EDAU10	2.225	1.35	2y-EDAU10	-62.818
EDAZ10	2.435	1.56	2y-EDAZ10	-55.350
EDAH11	2.575	1.70	2y-EDAH11	-48.157
EDAM11	2.725	1.85	2y-EDAM11	-46.288
EDAU11	2.830	1.96	2y-EDAU11	-43.582
EDAZ11	2.945	2.07	2y-EDAZ11	-41.567

Price = Outright Decimal Price - Euro Contract Price

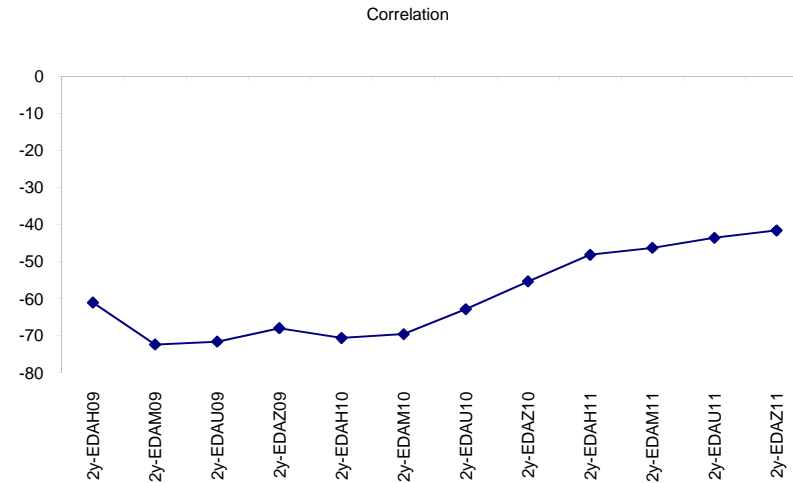
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.191	1.96	1.77	2y-EDAH09	
EDAM09	0.440	1.96	1.52	2y-EDAM09	
EDAU09	0.690	1.96	1.27	2y-EDAU09	
EDAZ09	0.939	1.96	1.02	2y-EDAZ09	
EDAH10	1.188	1.96	0.77	2y-EDAH10	
EDAM10	1.438	1.96	0.52	2y-EDAM10	
EDAU10	1.687	1.96	0.27	2y-EDAU10	
EDAZ10	1.936	1.96	0.03	2y-EDAZ10	
EDAH11	2.185	1.96	(0.22)	2y-EDAH11	
EDAM11	2.435	1.96	(0.47)	2y-EDAM11	
EDAU11	2.703	1.96	(0.74)	2y-EDAU11	
EDAZ11	2.953	1.96	(0.99)	2y-EDAZ11	

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

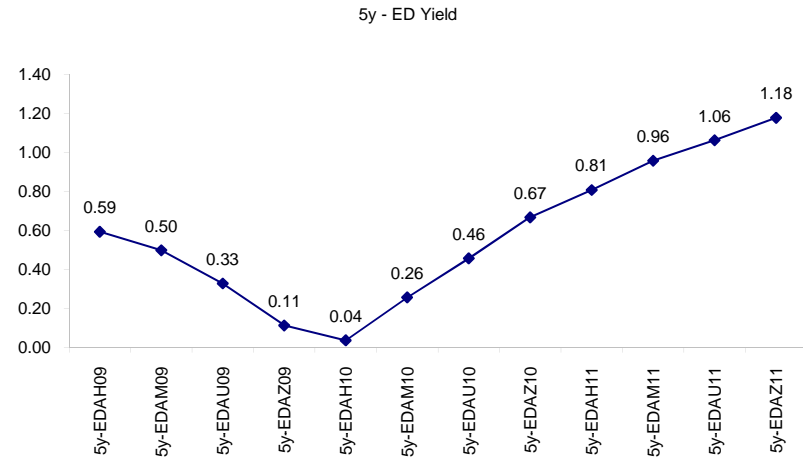


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	-0.100	0.59	5y-EDAH09	-4.660
EDAM09	-0.005	0.50	5y-EDAM09	-25.649
EDAU09	0.165	0.33	5y-EDAU09	-49.795
EDAZ09	0.380	0.11	5y-EDAZ09	-65.870
EDAH10	0.530	0.04	5y-EDAH10	-73.618
EDAM10	0.750	0.26	5y-EDAM10	-81.028
EDAU10	0.950	0.46	5y-EDAU10	-89.041
EDAZ10	1.160	0.67	5y-EDAZ10	-92.401
EDAH11	1.300	0.81	5y-EDAH11	-93.767
EDAM11	1.450	0.96	5y-EDAM11	-93.763
EDAU11	1.555	1.06	5y-EDAU11	-94.401
EDAZ11	1.670	1.18	5y-EDAZ11	-94.663

Price = Outright Decimal Price - Euro Contract Price

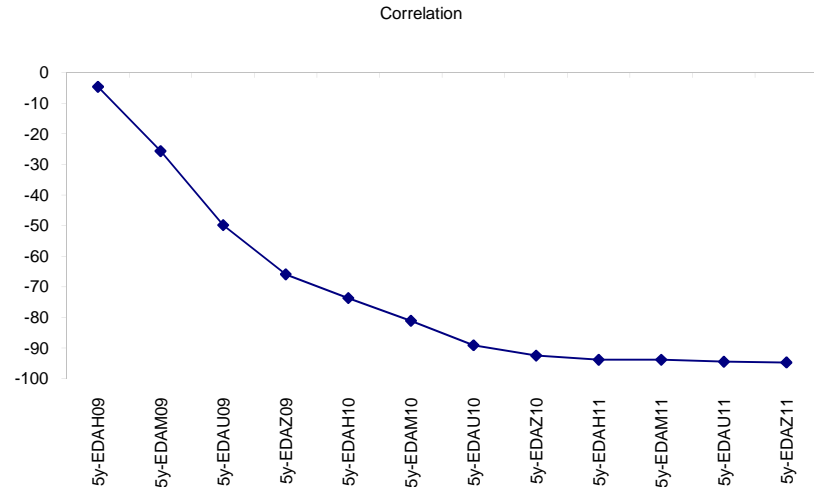
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAH09	0.191	4.64	4.45	5y-EDAH09
EDAM09	0.440	4.64	4.20	5y-EDAM09
EDAU09	0.690	4.64	3.95	5y-EDAU09
EDAZ09	0.939	4.64	3.71	5y-EDAZ09
EDAH10	1.188	4.64	3.46	5y-EDAH10
EDAM10	1.438	4.64	3.21	5y-EDAM10
EDAU10	1.687	4.64	2.96	5y-EDAU10
EDAZ10	1.936	4.64	2.71	5y-EDAZ10
EDAH11	2.185	4.64	2.46	5y-EDAH11
EDAM11	2.435	4.64	2.21	5y-EDAM11
EDAU11	2.703	4.64	1.94	5y-EDAU11
EDAZ11	2.953	4.64	1.69	5y-EDAZ11

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

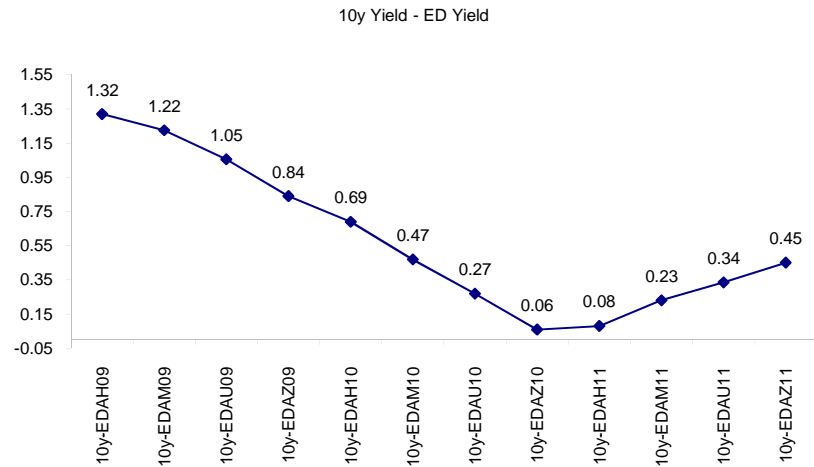


	10y			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAH09	-0.100	1.32	10y-EDAH09	-32.779
EDAM09	-0.005	1.22	10y-EDAM09	-48.397
EDAU09	0.165	1.05	10y-EDAU09	-69.519
EDAZ09	0.380	0.84	10y-EDAZ09	-81.561
EDAH10	0.530	0.69	10y-EDAH10	-85.511
EDAM10	0.750	0.47	10y-EDAM10	-89.099
EDAU10	0.950	0.27	10y-EDAU10	-92.637
EDAZ10	1.160	0.06	10y-EDAZ10	-94.395
EDAH11	1.300	0.08	10y-EDAH11	-95.170
EDAM11	1.450	0.23	10y-EDAM11	-95.186
EDAU11	1.555	0.34	10y-EDAU11	-95.377
EDAZ11	1.670	0.45	10y-EDAZ11	-95.093

Price = Outright Decimal Price - Euro Contract Price

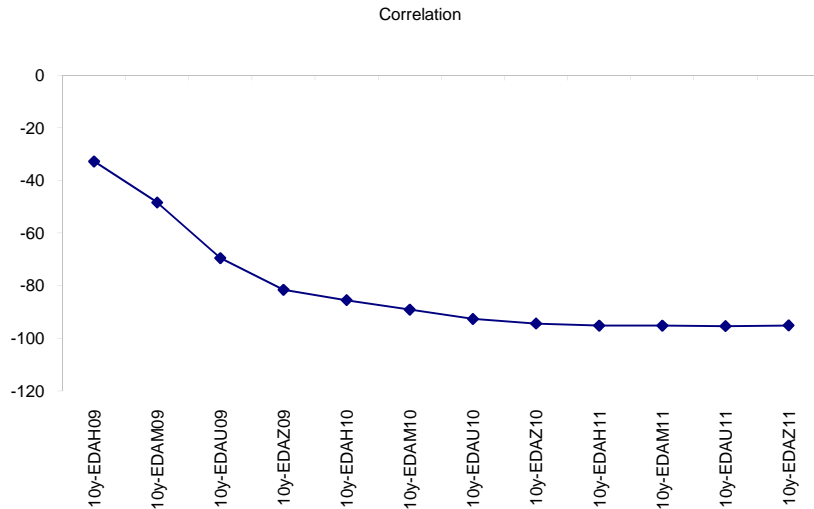
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAH09	0.191	8.28	8.09	10y-EDAH09
EDAM09	0.440	8.28	7.84	10y-EDAM09
EDAU09	0.690	8.28	7.59	10y-EDAU09
EDAZ09	0.939	8.28	7.34	10y-EDAZ09
EDAH10	1.188	8.28	7.09	10y-EDAH10
EDAM10	1.438	8.28	6.84	10y-EDAM10
EDAU10	1.687	8.28	6.59	10y-EDAU10
EDAZ10	1.936	8.28	6.34	10y-EDAZ10
EDAH11	2.185	8.28	6.09	10y-EDAH11
EDAM11	2.435	8.28	5.85	10y-EDAM11
EDAU11	2.703	8.28	5.58	10y-EDAU11
EDAZ11	2.953	8.28	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.

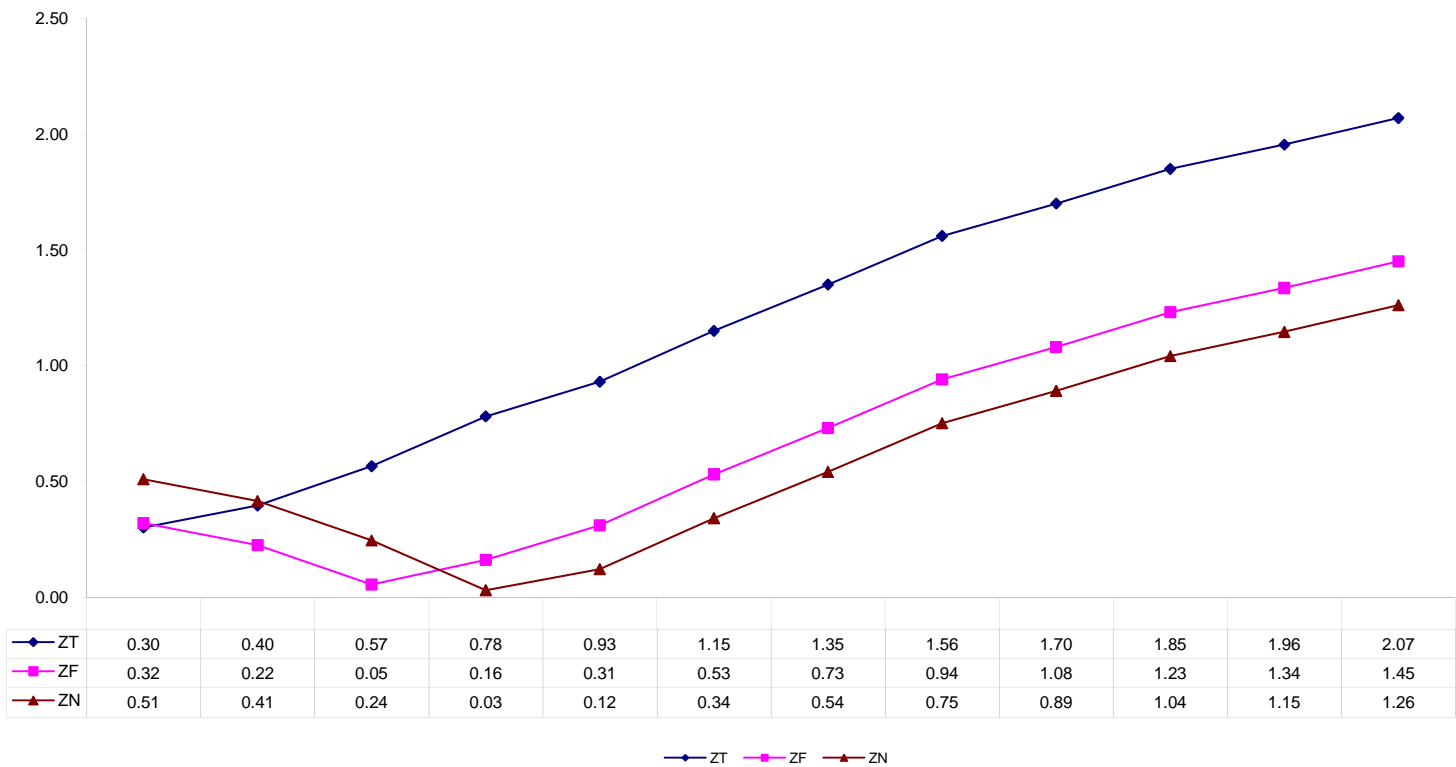
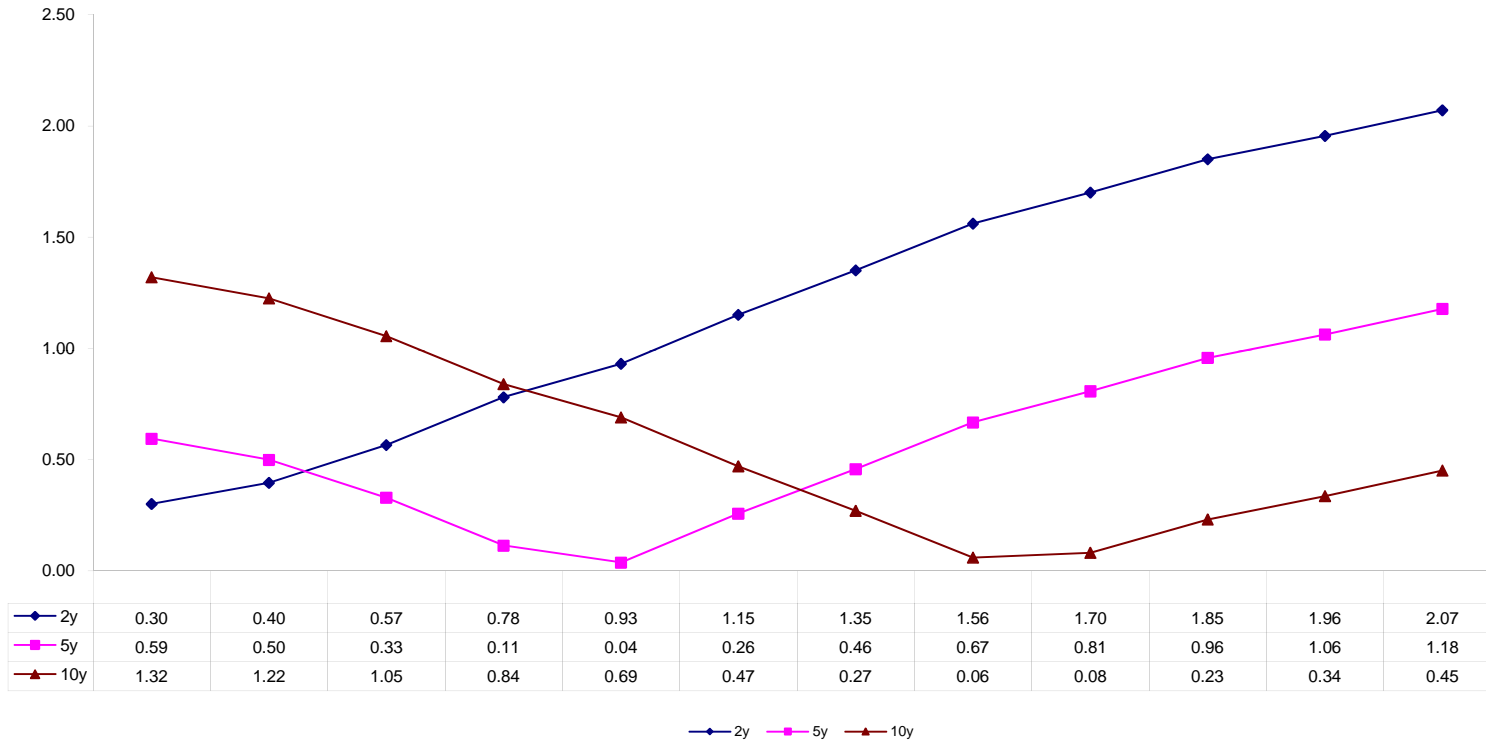
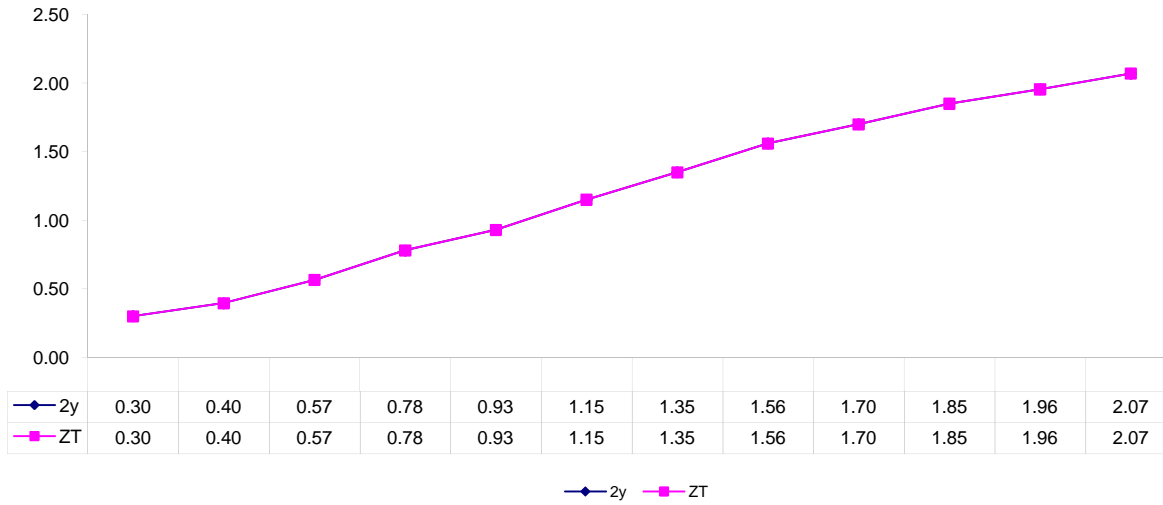


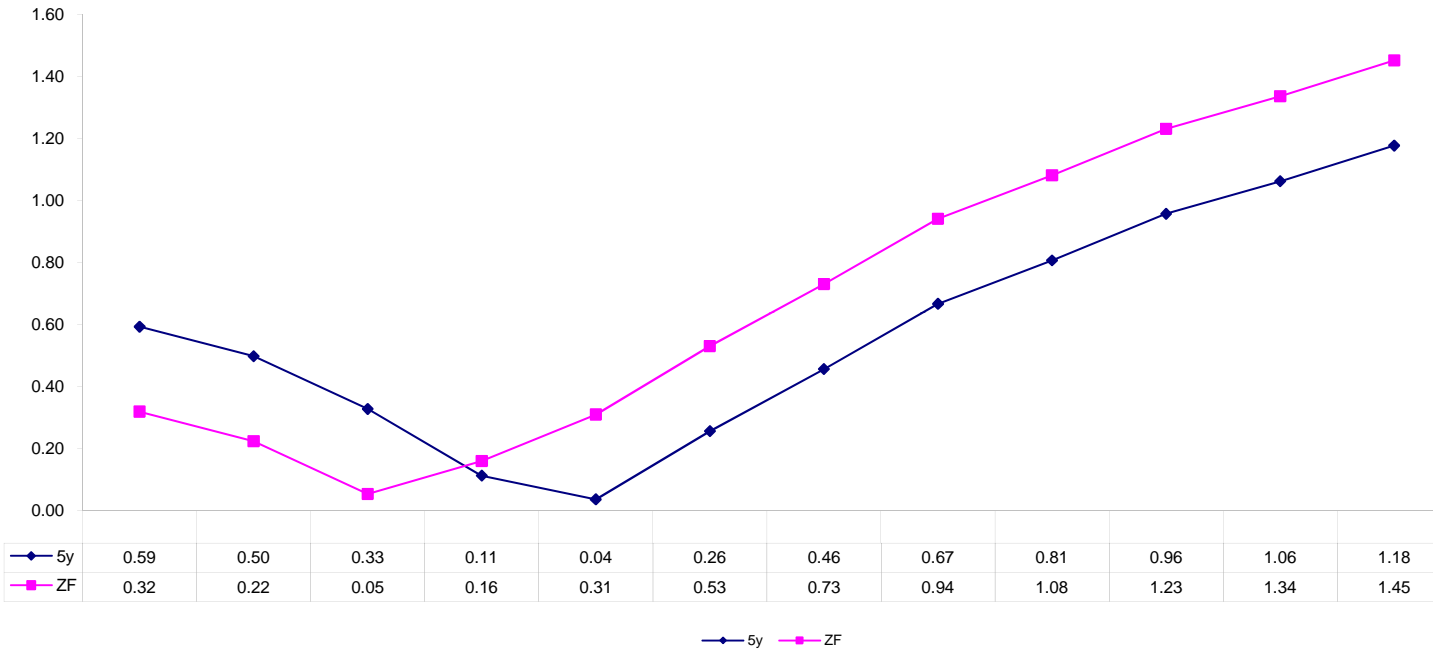
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



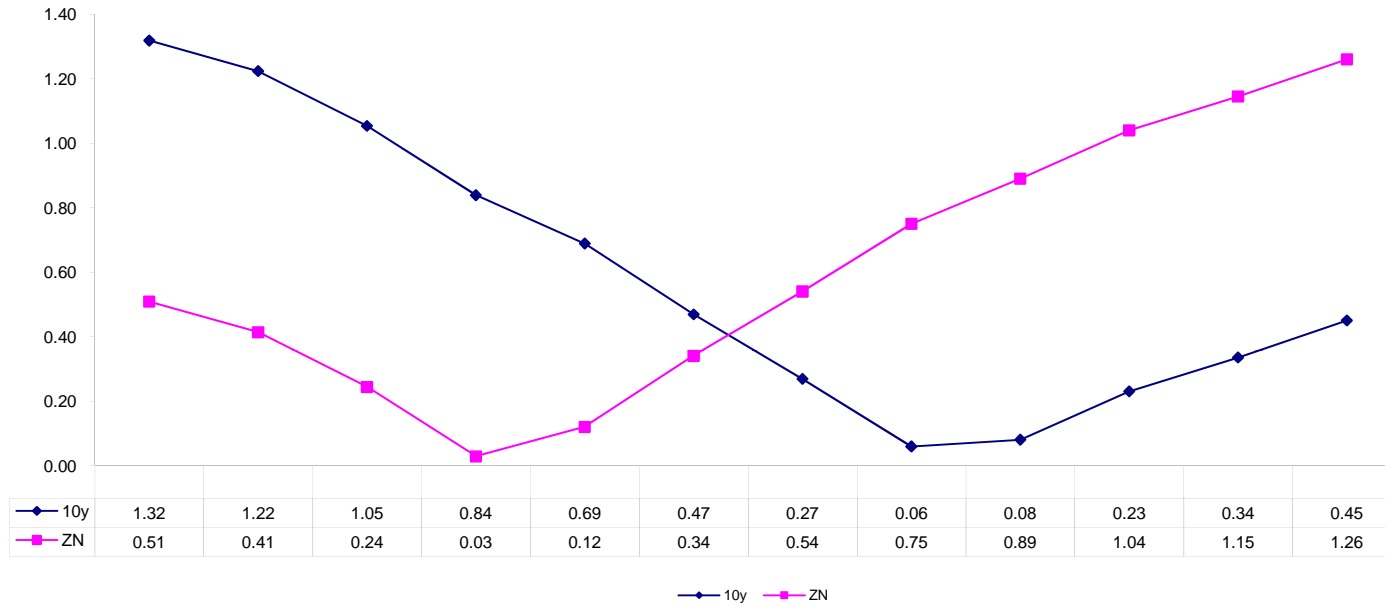
### 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.409	-0.500	9861.500
Red Pack	2.164	-6.375	9787.750
Green Pack	2.827	-10.875	9723.125
Blue Pack	3.034	-5.500	9703.000
Gold Pack		-6.000	9680.750

