

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

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Want something added? Let me know: [jgoulding@ghco.com](mailto:jgoulding@ghco.com)

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Treasury Futures and Cash				
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	108.7188	108.2300	0.831	1.883
ZF	118.2500	118.0800	1.528	4.085
ZN	123.6406	123.2050	2.300	5.954
2y	100.0219	100.0070	0.863	1.935
5y	100.1094	100.0350	1.723	4.725
10y	99.7813	99.2500	2.772	8.525

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.9500	1.050	61	0.1665	JUN	
EDAU09	98.9250	1.075	152	0.4158	SEP	White Pack
EDAZ09	98.7450	1.255	243	0.6651	DEC	
EDAH10	98.6550	1.345	334	0.9144	MAR	
EDAM10	98.4750	1.525	425	1.1637	JUN	
EDAU10	98.2950	1.705	516	1.4131	SEP	Red Pack
EDAZ10	98.0800	1.920	607	1.6624	DEC	
EDAH11	97.9200	2.080	698	1.9117	MAR	
EDAM11	97.7100	2.290	789	2.1610	JUN	
EDAU11	97.5050	2.495	887	2.4295	SEP	Green Pack
EDAZ11	97.2800	2.720	978	2.6788	DEC	
EDAH12	97.1500	2.850	1,069	2.9281	MAR	
EDAM12	97.0500	2.950	1,160	3.1774	JUN	
EDAU12	96.9000	3.100	1,251	3.4268	SEP	Blue Pack
EDAZ12	96.7650	3.235	1,342	3.6761	DEC	
EDAH13	96.7150	3.285	1,433	3.9254	MAR	
EDAM13	96.6350	3.365	1,524	4.1747	JUN	
EDAU13	96.5600	3.440	1,615	4.4240	SEP	Gold Pack
EDAZ13	96.4700	3.530	1,706	4.6733	DEC	
EDAH14	96.4200	3.580	1,797	4.9226	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.201	-0.500	9881.88	
Red Pack	1.841	-1.500	9819.25	Pack Prices
Green Pack	2.642	-0.625	9741.13	
Blue Pack	3.211	1.250	9685.75	
Gold Pack		0.500	9651.50	

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.

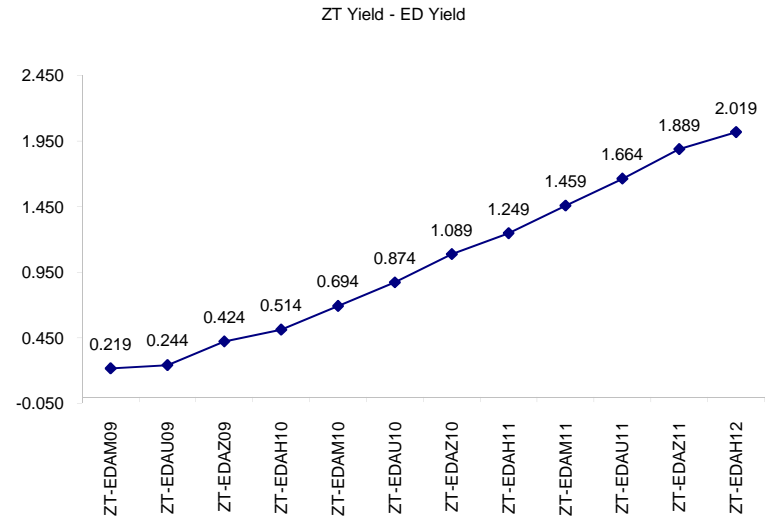
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

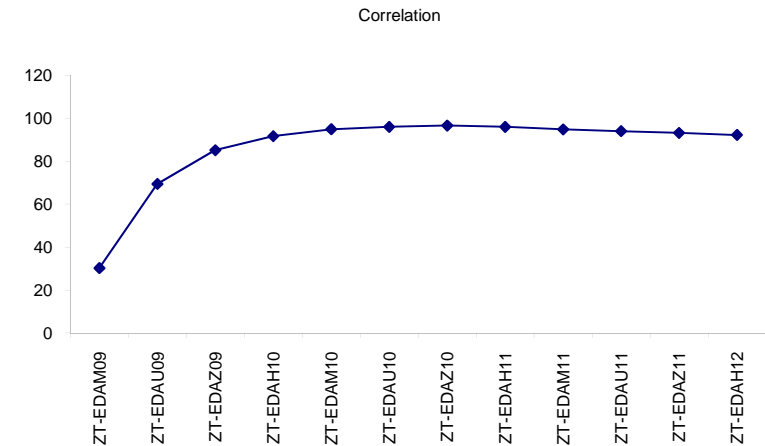
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.77	0.219	ZT-EDAM09	30
EDAU09	9.79	0.244	ZT-EDAU09	69
EDAZ09	9.97	0.424	ZT-EDAZ09	85
EDAH10	10.06	0.514	ZT-EDAH10	92
EDAM10	10.24	0.694	ZT-EDAM10	95
EDAU10	10.42	0.874	ZT-EDAU10	96
EDAZ10	10.64	1.089	ZT-EDAZ10	97
EDAH11	10.80	1.249	ZT-EDAH11	96
EDAM11	11.01	1.459	ZT-EDAM11	95
EDAU11	11.21	1.664	ZT-EDAU11	94
EDAZ11	11.44	1.889	ZT-EDAZ11	93
EDAH12	11.57	2.019	ZT-EDAH12	92

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	
EDAM09	0.1665	1.8828	1.7163	ZT-EDAM09	
EDAU09	0.4158	1.8828	1.4670	ZT-EDAU09	
EDAZ09	0.6651	1.8828	1.2177	ZT-EDAZ09	
EDAH10	0.9144	1.8828	0.9684	ZT-EDAH10	
EDAM10	1.1637	1.8828	0.7191	ZT-EDAM10	
EDAU10	1.4131	1.8828	0.4697	ZT-EDAU10	
EDAZ10	1.6624	1.8828	0.2204	ZT-EDAZ10	
EDAH11	1.9117	1.8828	-0.0289	ZT-EDAH11	
EDAM11	2.1610	1.8828	-0.2782	ZT-EDAM11	
EDAU11	2.4295	1.8828	-0.5467	ZT-EDAU11	
EDAZ11	2.6788	1.8828	-0.7960	ZT-EDAZ11	
EDAH12	2.9281	1.8828	-1.0453	ZT-EDAH12	

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



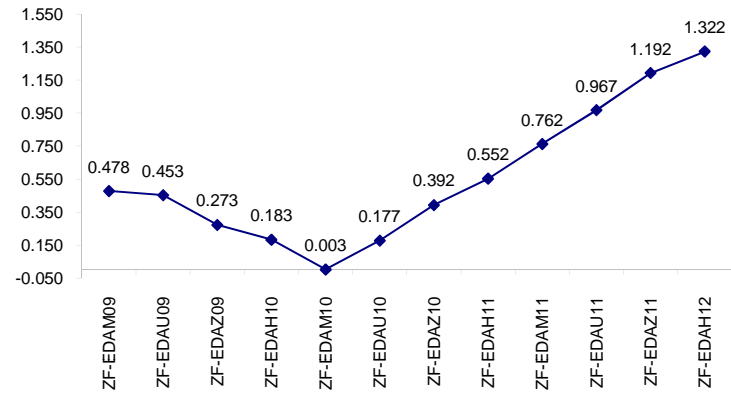
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	19.30	0.478	ZF-EDAM09	33
EDAU09	19.33	0.453	ZF-EDAU09	72
EDAZ09	19.51	0.273	ZF-EDAZ09	87
EDAH10	19.60	0.183	ZF-EDAH10	94
EDAM10	19.78	0.003	ZF-EDAM10	97
EDAU10	19.96	0.177	ZF-EDAU10	99
EDAZ10	20.17	0.392	ZF-EDAZ10	99
EDAH11	20.33	0.552	ZF-EDAH11	99
EDAM11	20.54	0.762	ZF-EDAM11	99
EDAU11	20.75	0.967	ZF-EDAU11	98
EDAZ11	20.97	1.192	ZF-EDAZ11	97
EDAH12	21.10	1.322	ZF-EDAH12	97

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ZF Yield - ED Yield

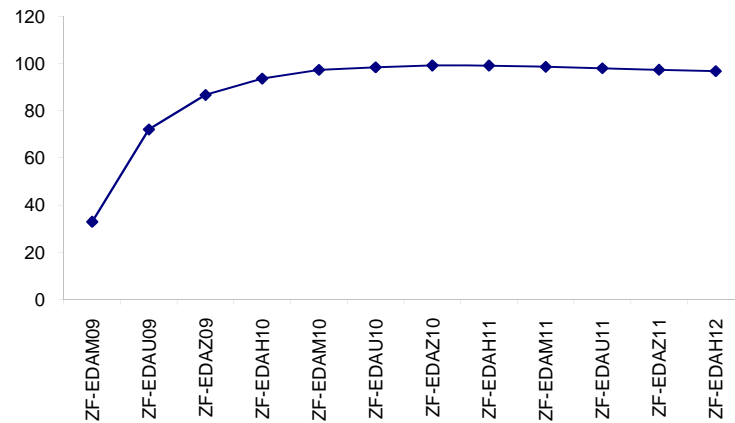


ED Duration as

	Fraction of year	ZF Duration	Spread Duration	
EDAM09	0.1665	4.0846	3.9181	ZF-EDAM09
EDAU09	0.4158	4.0846	3.6688	ZF-EDAU09
EDAZ09	0.6651	4.0846	3.4195	ZF-EDAZ09
EDAH10	0.9144	4.0846	3.1702	ZF-EDAH10
EDAM10	1.1637	4.0846	2.9209	ZF-EDAM10
EDAU10	1.4131	4.0846	2.6716	ZF-EDAU10
EDAZ10	1.6624	4.0846	2.4222	ZF-EDAZ10
EDAH11	1.9117	4.0846	2.1729	ZF-EDAH11
EDAM11	2.1610	4.0846	1.9236	ZF-EDAM11
EDAU11	2.4295	4.0846	1.6551	ZF-EDAU11
EDAZ11	2.6788	4.0846	1.4058	ZF-EDAZ11
EDAH12	2.9281	4.0846	1.1565	ZF-EDAH12

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

Correlation

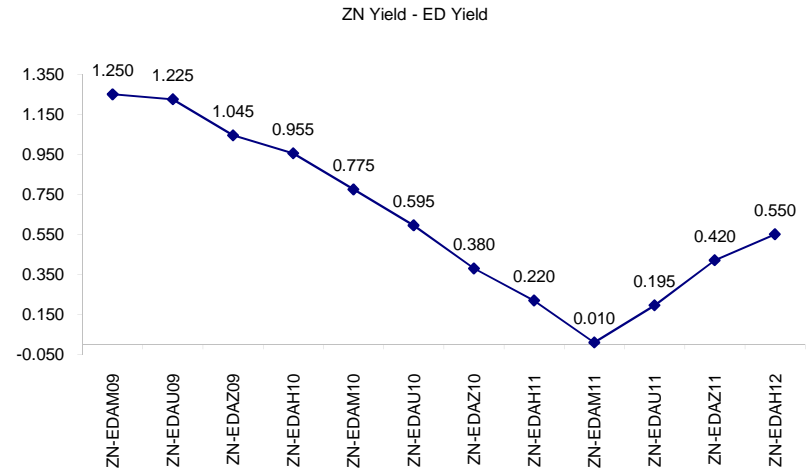


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	24.69	1.250	ZN-EDAM09	48
EDAU09	24.72	1.225	ZN-EDAU09	82
EDAZ09	24.90	1.045	ZN-EDAZ09	93
EDAH10	24.99	0.955	ZN-EDAH10	98
EDAM10	25.17	0.775	ZN-EDAM10	99
EDAU10	25.35	0.595	ZN-EDAU10	99
EDAZ10	25.56	0.380	ZN-EDAZ10	98
EDAH11	25.72	0.220	ZN-EDAH11	97
EDAM11	25.93	0.010	ZN-EDAM11	96
EDAU11	26.14	0.195	ZN-EDAU11	95
EDAZ11	26.36	0.420	ZN-EDAZ11	94
EDAH12	26.49	0.550	ZN-EDAH12	93

Price = Outright Decimal Price - Euro Contract Price

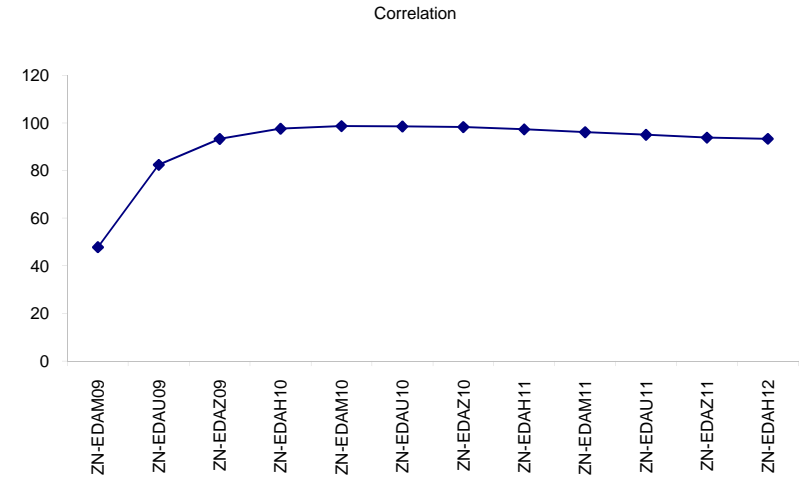
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



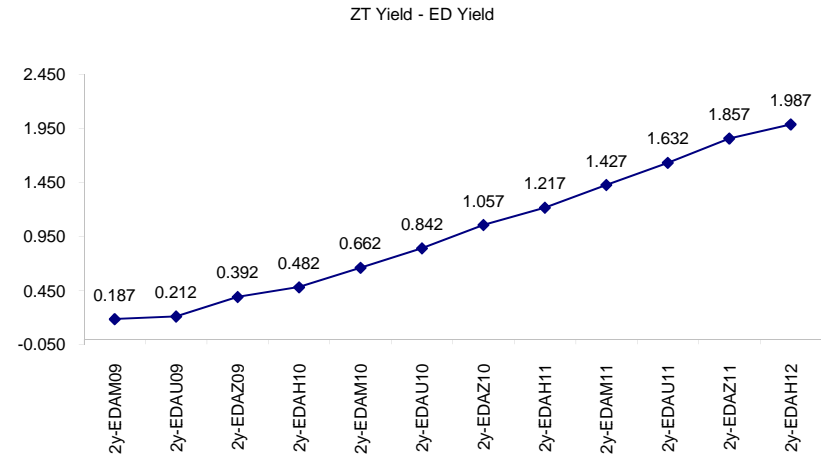
ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration
EDAM09	0.1665	5.9543	5.7878
EDAU09	0.4158	5.9543	5.5385
EDAZ09	0.6651	5.9543	5.2892
EDAH10	0.9144	5.9543	5.0399
EDAM10	1.1637	5.9543	4.7905
EDAU10	1.4131	5.9543	4.5412
EDAZ10	1.6624	5.9543	4.2919
EDAH11	1.9117	5.9543	4.0426
EDAM11	2.1610	5.9543	3.7933
EDAU11	2.4295	5.9543	3.5248
EDAZ11	2.6788	5.9543	3.2755
EDAH12	2.9281	5.9543	3.0262

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



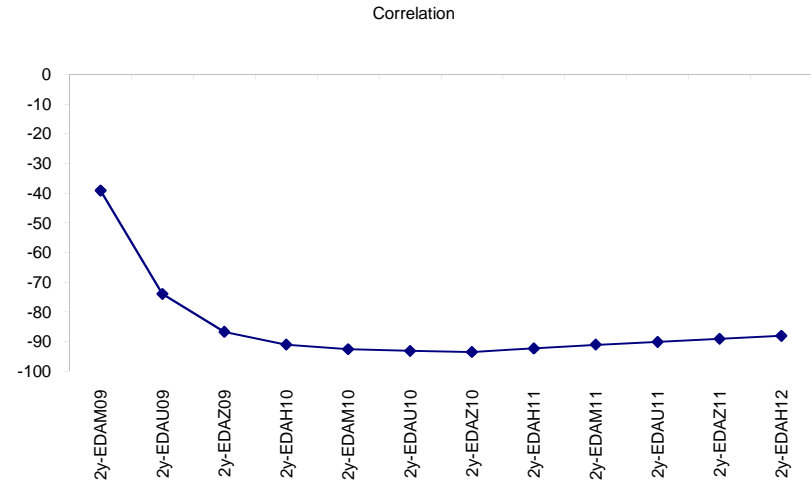
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.07	0.187	2y-EDAM09	-39
EDAU09	1.10	0.212	2y-EDAU09	-74
EDAZ09	1.28	0.392	2y-EDAZ09	-87
EDAH10	1.37	0.482	2y-EDAH10	-91
EDAM10	1.55	0.662	2y-EDAM10	-93
EDAU10	1.73	0.842	2y-EDAU10	-93
EDAZ10	1.94	1.057	2y-EDAZ10	-94
EDAH11	2.10	1.217	2y-EDAH11	-92
EDAM11	2.31	1.427	2y-EDAM11	-91
EDAU11	2.52	1.632	2y-EDAU11	-90
EDAZ11	2.74	1.857	2y-EDAZ11	-89
EDAH12	2.87	2y-EDAH12	-88	

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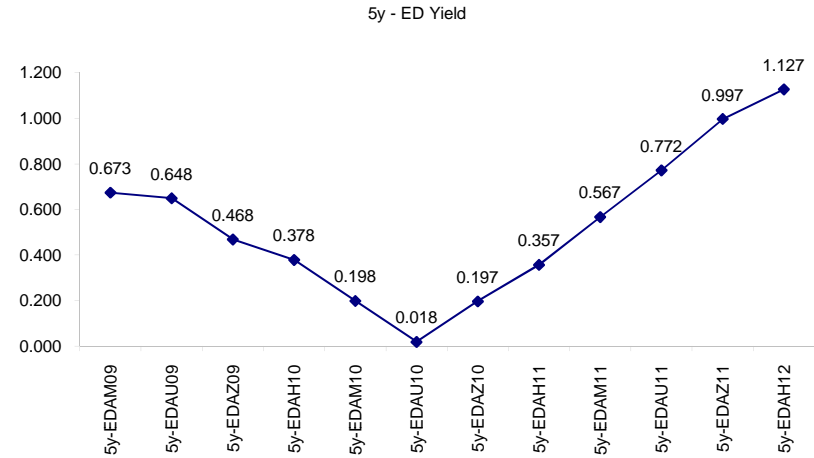
	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAM09	0.1665	1.9349	1.7684	2y-EDAM09
EDAU09	0.4158	1.9349	1.5191	2y-EDAU09
EDAZ09	0.6651	1.9349	1.2698	2y-EDAZ09
EDAH10	0.9144	1.9349	1.0205	2y-EDAH10
EDAM10	1.1637	1.9349	0.7712	2y-EDAM10
EDAU10	1.4131	1.9349	0.5219	2y-EDAU10
EDAZ10	1.6624	1.9349	0.2725	2y-EDAZ10
EDAH11	1.9117	1.9349	0.0232	2y-EDAH11
EDAM11	2.1610	1.9349	-0.2261	2y-EDAM11
EDAU11	2.4295	1.9349	-0.4946	2y-EDAU11
EDAZ11	2.6788	1.9349	-0.7439	2y-EDAZ11
EDAH12	2.9281	1.9349	-0.9932	2y-EDAH12

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



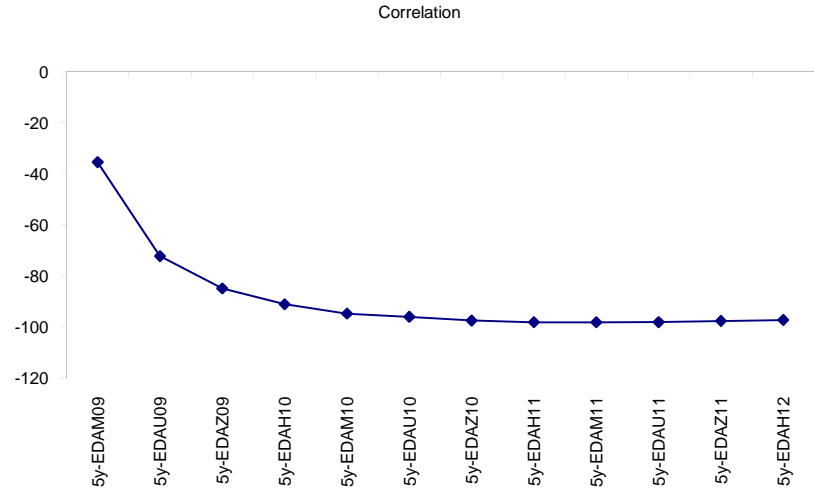
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.16	0.673	5y-EDAM09	-35
EDAU09	1.18	0.648	5y-EDAU09	-72
EDAZ09	1.36	0.468	5y-EDAZ09	-85
EDAH10	1.45	0.378	5y-EDAH10	-91
EDAM10	1.63	0.198	5y-EDAM10	-95
EDAU10	1.81	0.018	5y-EDAU10	-96
EDAZ10	2.03	0.197	5y-EDAZ10	-97
EDAH11	2.19	0.357	5y-EDAH11	-98
EDAM11	2.40	0.567	5y-EDAM11	-98
EDAU11	2.60	0.772	5y-EDAU11	-98
EDAZ11	2.83	0.997	5y-EDAZ11	-98
EDAH12	2.96	1.127	5y-EDAH12	-97

Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS (Proxy Yield - Implied Euro Contract yield)  
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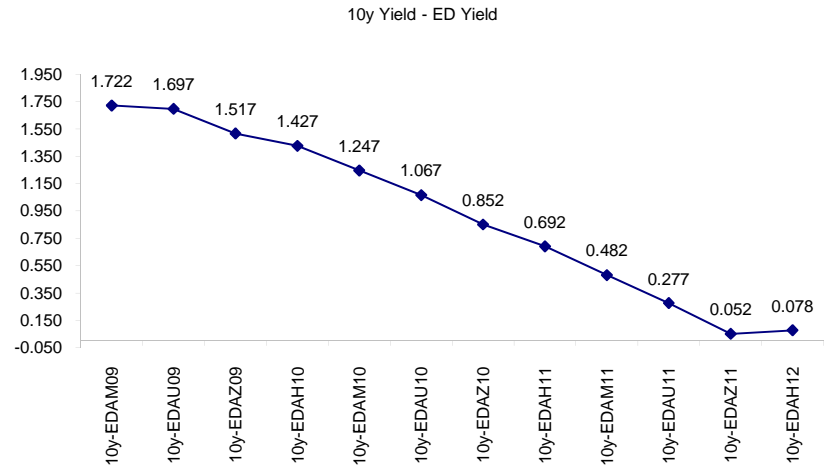
	ED Duration as Fraction of year			
	5Y Duration	Spread Duration		
EDAM09	0.1665	4.7250	4.5585	5y-EDAM09
EDAU09	0.4158	4.7250	4.3092	5y-EDAU09
EDAZ09	0.6651	4.7250	4.0599	5y-EDAZ09
EDAH10	0.9144	4.7250	3.8106	5y-EDAH10
EDAM10	1.1637	4.7250	3.5613	5y-EDAM10
EDAU10	1.4131	4.7250	3.3119	5y-EDAU10
EDAZ10	1.6624	4.7250	3.0626	5y-EDAZ10
EDAH11	1.9117	4.7250	2.8133	5y-EDAH11
EDAM11	2.1610	4.7250	2.5640	5y-EDAM11
EDAU11	2.4295	4.7250	2.2955	5y-EDAU11
EDAZ11	2.6788	4.7250	2.0462	5y-EDAZ11
EDAH12	2.9281	4.7250	1.7969	5y-EDAH12

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



10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.16	1.722	10y-EDAM09	-23
EDAU09	1.18	1.697	10y-EDAU09	-62
EDAZ09	1.36	1.517	10y-EDAZ09	-77
EDAH10	1.45	1.427	10y-EDAH10	-86
EDAM10	1.63	1.247	10y-EDAM10	-92
EDAU10	1.81	1.067	10y-EDAU10	-94
EDAZ10	2.03	0.852	10y-EDAZ10	-96
EDAH11	2.19	0.692	10y-EDAH11	-97
EDAM11	2.40	0.482	10y-EDAM11	-98
EDAU11	2.60	0.277	10y-EDAU11	-99
EDAZ11	2.83	0.052	10y-EDAZ11	-99
EDAH12	2.96	0.078	10y-EDAH12	-99

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	
EDAM09	0.1665	8.5253	8.3588	10y-EDAM09		
EDAU09	0.4158	8.5253	8.1095	10y-EDAU09		
EDAZ09	0.6651	8.5253	7.8602	10y-EDAZ09		
EDAH10	0.9144	8.5253	7.6108	10y-EDAH10		
EDAM10	1.1637	8.5253	7.3615	10y-EDAM10		
EDAU10	1.4131	8.5253	7.1122	10y-EDAU10		
EDAZ10	1.6624	8.5253	6.8629	10y-EDAZ10		
EDAH11	1.9117	8.5253	6.6136	10y-EDAH11		
EDAM11	2.1610	8.5253	6.3643	10y-EDAM11		
EDAU11	2.4295	8.5253	6.0958	10y-EDAU11		
EDAZ11	2.6788	8.5253	5.8465	10y-EDAZ11		
EDAH12	2.9281	8.5253	5.5971	10y-EDAH12		

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

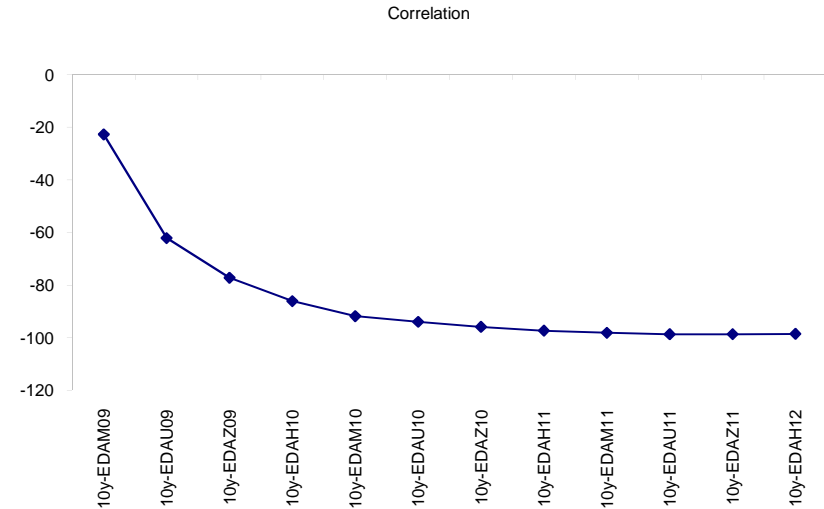


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

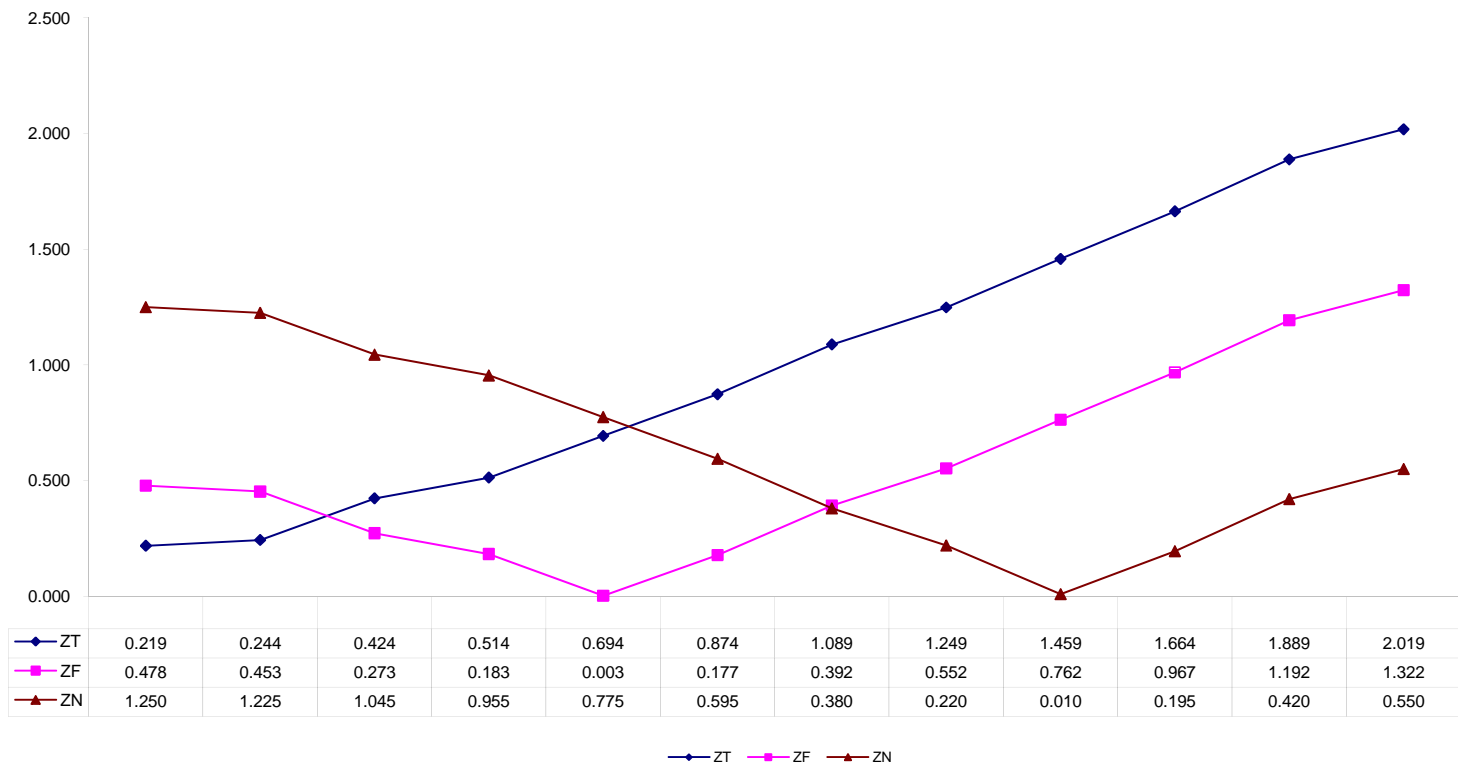
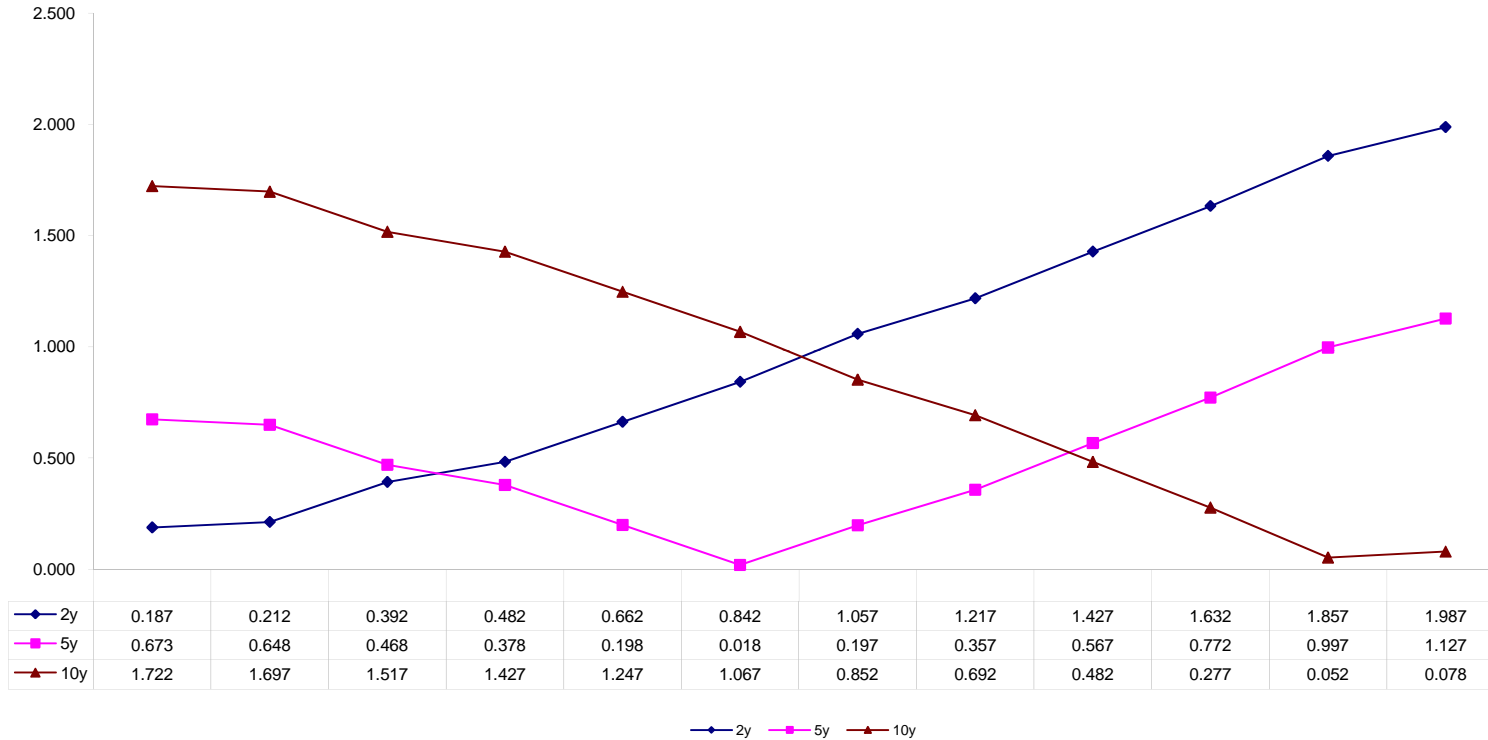
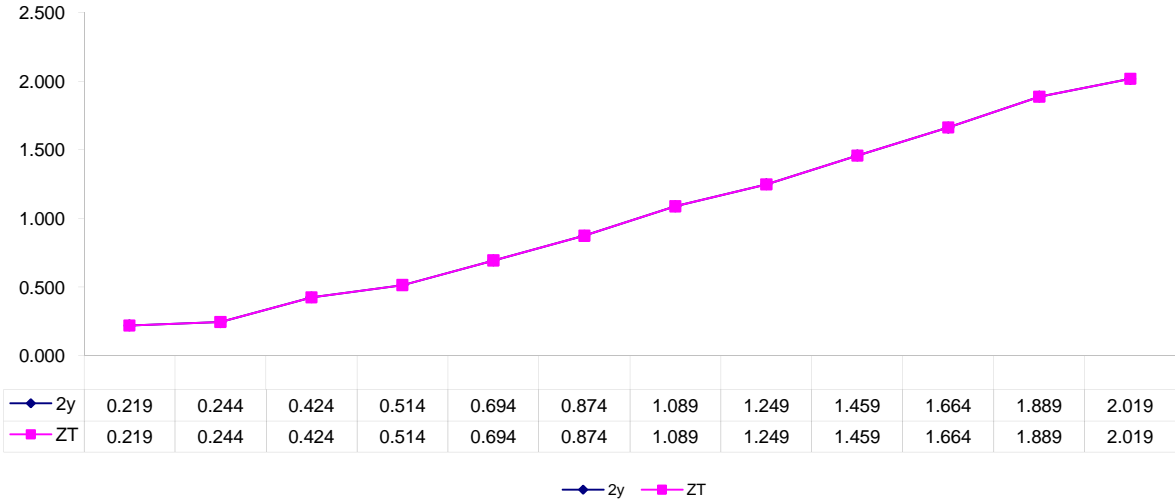
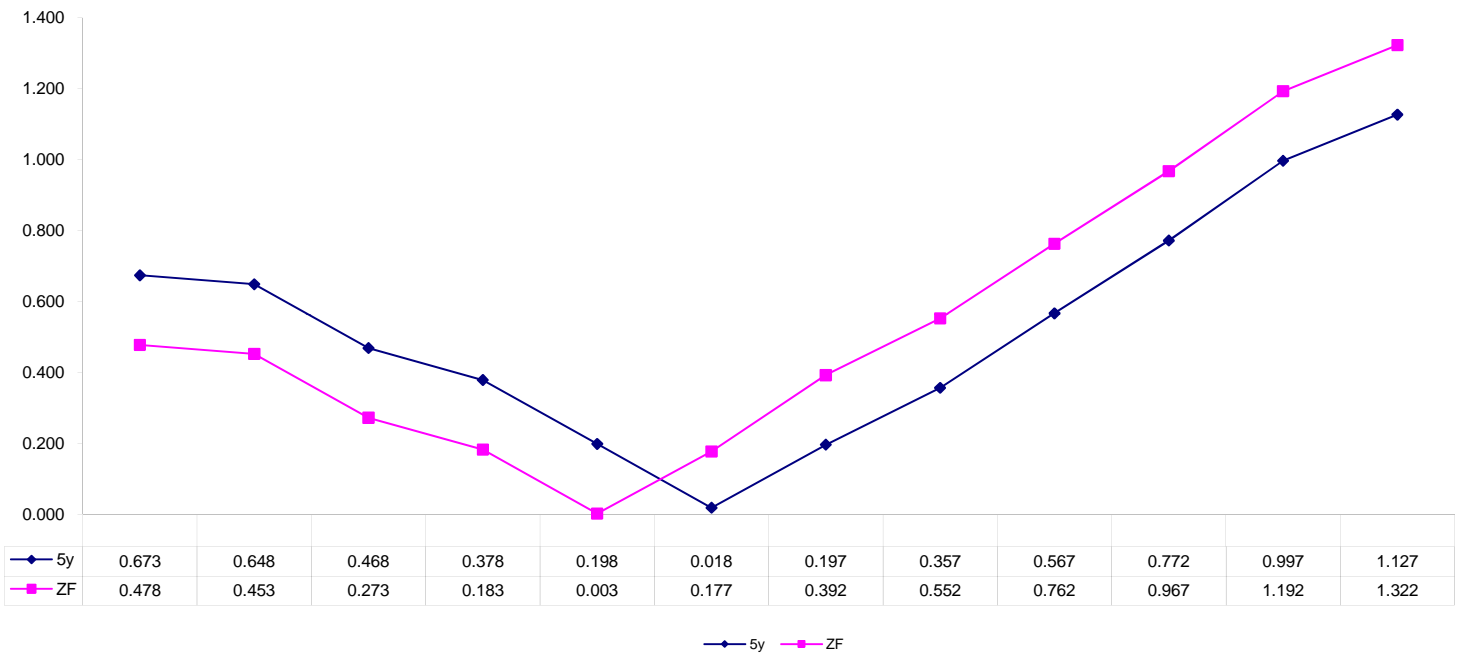


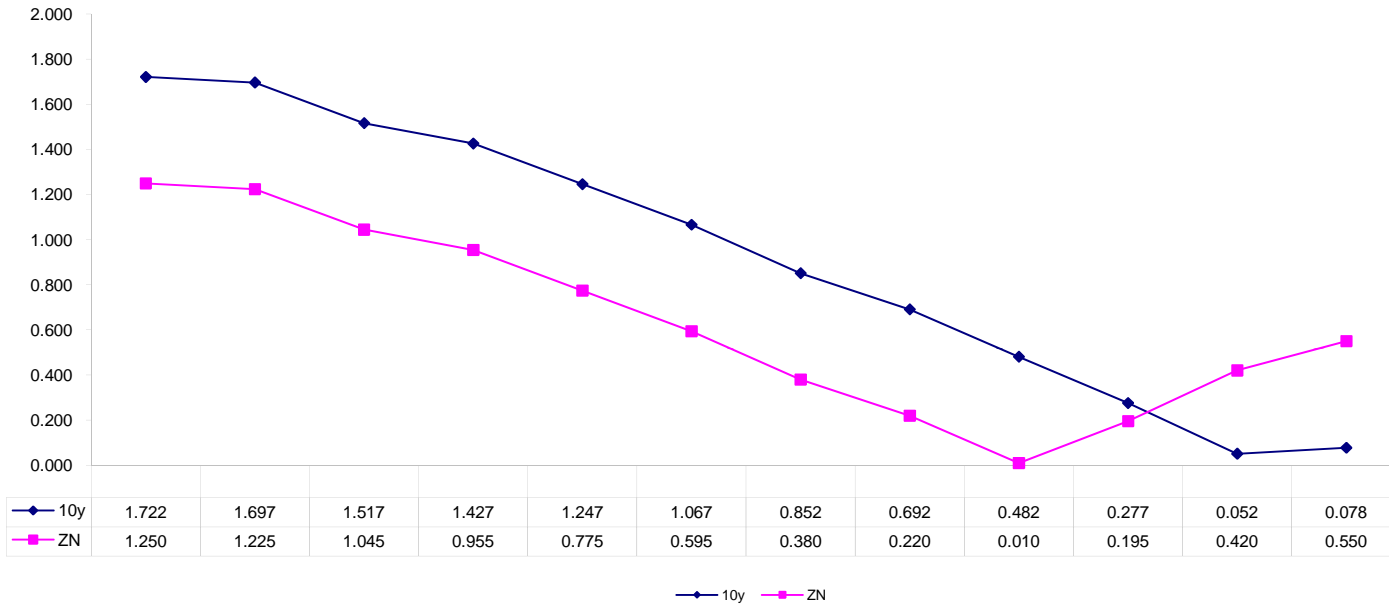
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.201	-0.500	9881.8750
Red Pack	1.841	-1.500	9819.2500
Green Pack	2.642	-0.625	9741.1250
Blue Pack	3.211	1.250	9685.7500
Gold Pack		0.500	9651.5000

