

## **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	107.8813	107.2820	1.187	1.904
ZF	113.8969	113.2870	2.490	4.219
ZN	115.1094	115.0350	3.276	5.844
2y	99.4688	99.1500	1.153	1.924
5y	98.0313	98.0100	2.678	4.640
10y	95.3594	95.1150	3.687	8.376

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.2550	0.745	88	0.2404	SEP	
EDAZ09	98.9550	1.045	179	0.4897	DEC	White Pack
EDAH10	98.6900	1.310	270	0.7391	MAR	Pack
EDAM10	98.3500	1.650	361	0.9884	JUN	
EDAU10	98.0050	1.995	452	1.2377	SEP	
EDAZ10	97.6250	2.375	543	1.4870	DEC	Red Pack
EDAH11	97.2900	2.710	634	1.7363	MAR	Pack
EDAM11	96.9400	3.060	725	1.9856	JUN	
EDAU11	96.6300	3.370	823	2.2541	SEP	
EDAZ11	96.3350	3.665	914	2.5034	DEC	Green Pack
EDAH12	96.1350	3.865	1,005	2.7528	MAR	Pack
EDAM12	95.9300	4.070	1,096	3.0021	JUN	
EDAU12	95.7650	4.235	1,187	3.2514	SEP	
EDAZ12	95.6050	4.395	1,278	3.5007	DEC	Blue Pack
EDAH13	95.5150	4.485	1,369	3.7500	MAR	Pack
EDAM13	95.4150	4.585	1,460	3.9993	JUN	
EDAU13	95.3200	4.680	1,551	4.2487	SEP	
EDAZ13	95.2100	4.790	1,642	4.4980	DEC	Gold Pack
EDAH14	95.1700	4.830	1,733	4.7473	MAR	Pack
EDAM14	95.1150	4.885	1,824	4.9966	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	1.208	1.500	9881.25	
Red Pack	2.587	2.000	9746.50	Pack Prices
Green Pack	3.830	-0.875	9625.75	
Blue Pack		-2.250	9560.13	
Gold Pack		0.000	9526.25	

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.

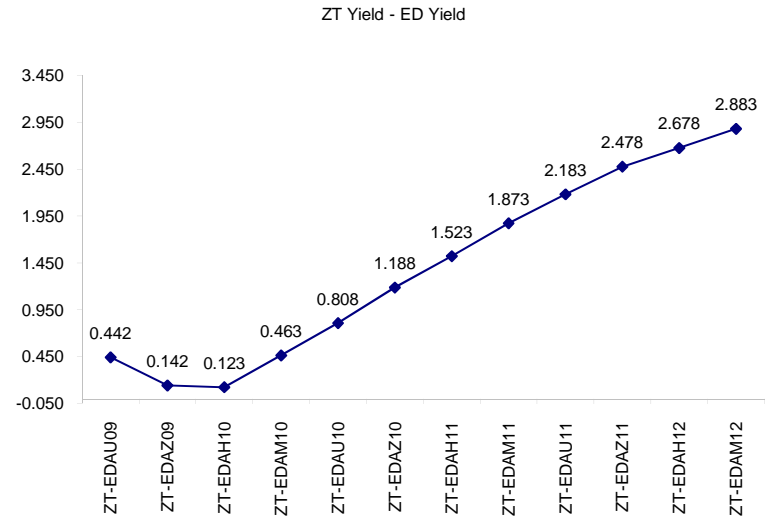
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

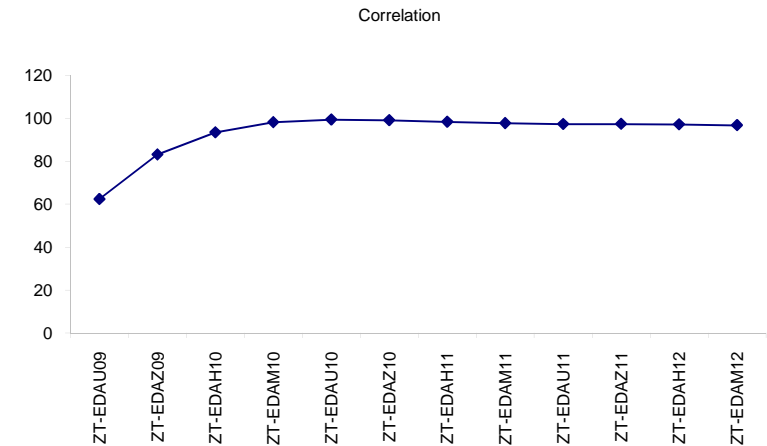
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.63	0.442	ZT-EDAU09	62
EDAZ09	8.93	0.142	ZT-EDAZ09	83
EDAH10	9.19	0.123	ZT-EDAH10	93
EDAM10	9.53	0.463	ZT-EDAM10	98
EDAU10	9.88	0.808	ZT-EDAU10	99
EDAZ10	10.26	1.188	ZT-EDAZ10	99
EDAH11	10.59	1.523	ZT-EDAH11	98
EDAM11	10.94	1.873	ZT-EDAM11	98
EDAU11	11.25	2.183	ZT-EDAU11	97
EDAZ11	11.55	2.478	ZT-EDAZ11	97
EDAH12	11.75	2.678	ZT-EDAH12	97
EDAM12	11.95	2.883	ZT-EDAM12	97

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	
EDAU09	0.2404	1.9036	1.6632	ZT-EDAU09		
EDAZ09	0.4897	1.9036	1.4139	ZT-EDAZ09		
EDAH10	0.7391	1.9036	1.1646	ZT-EDAH10		
EDAM10	0.9884	1.9036	0.9153	ZT-EDAM10		
EDAU10	1.2377	1.9036	0.6659	ZT-EDAU10		
EDAZ10	1.4870	1.9036	0.4166	ZT-EDAZ10		
EDAH11	1.7363	1.9036	0.1673	ZT-EDAH11		
EDAM11	1.9856	1.9036	-0.0820	ZT-EDAM11		
EDAU11	2.2541	1.9036	-0.3505	ZT-EDAU11		
EDAZ11	2.5034	1.9036	-0.5998	ZT-EDAZ11		
EDAH12	2.7528	1.9036	-0.8491	ZT-EDAH12		
EDAM12	3.0021	1.9036	-1.0984	ZT-EDAM12		

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

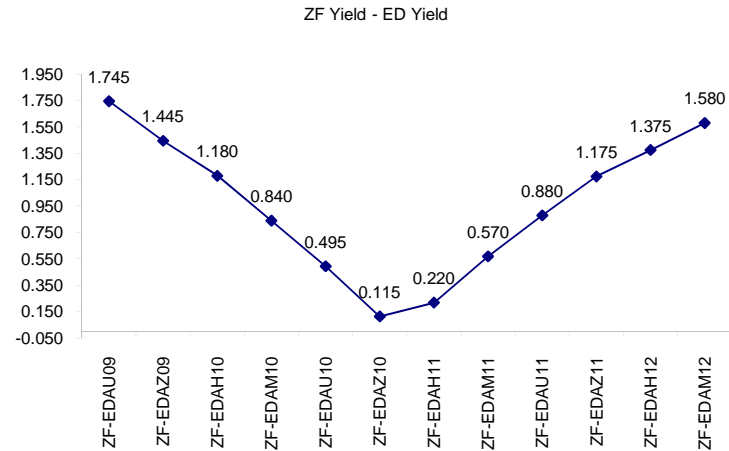


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	14.64	1.745	ZF-EDAU09	69
EDAZ09	14.94	1.445	ZF-EDAZ09	87
EDAH10	15.21	1.180	ZF-EDAH10	94
EDAM10	15.55	0.840	ZF-EDAM10	98
EDAU10	15.89	0.495	ZF-EDAU10	98
EDAZ10	16.27	0.115	ZF-EDAZ10	98
EDAH11	16.61	0.220	ZF-EDAH11	97
EDAM11	16.96	0.570	ZF-EDAM11	97
EDAU11	17.27	0.880	ZF-EDAU11	97
EDAZ11	17.56	1.175	ZF-EDAZ11	98
EDAH12	17.76	1.375	ZF-EDAH12	98
EDAM12	17.97	1.580	ZF-EDAM12	98

Price = Outright Decimal Price - Euro Contract Price

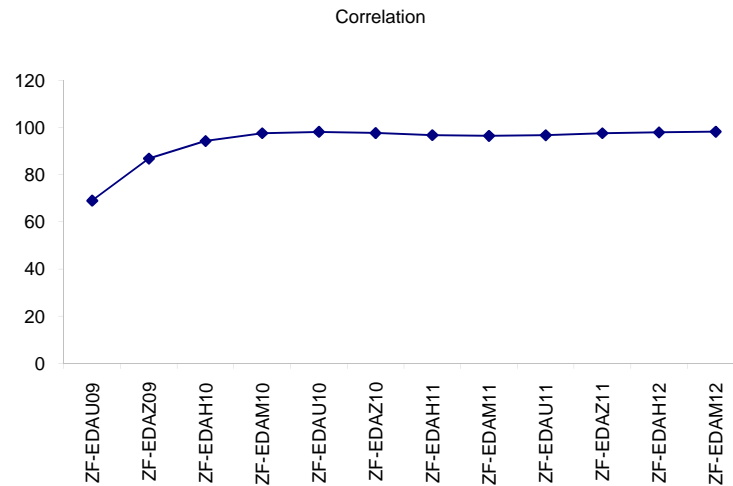
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.2404	4.2191	3.9787	ZF-EDAU09	
EDAZ09	0.4897	4.2191	3.7294	ZF-EDAZ09	
EDAH10	0.7391	4.2191	3.4801	ZF-EDAH10	
EDAM10	0.9884	4.2191	3.2307	ZF-EDAM10	
EDAU10	1.2377	4.2191	2.9814	ZF-EDAU10	
EDAZ10	1.4870	4.2191	2.7321	ZF-EDAZ10	
EDAH11	1.7363	4.2191	2.4828	ZF-EDAH11	
EDAM11	1.9856	4.2191	2.2335	ZF-EDAM11	
EDAU11	2.2541	4.2191	1.9650	ZF-EDAU11	
EDAZ11	2.5034	4.2191	1.7157	ZF-EDAZ11	
EDAH12	2.7528	4.2191	1.4664	ZF-EDAH12	
EDAM12	3.0021	4.2191	1.2170	ZF-EDAM12	

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

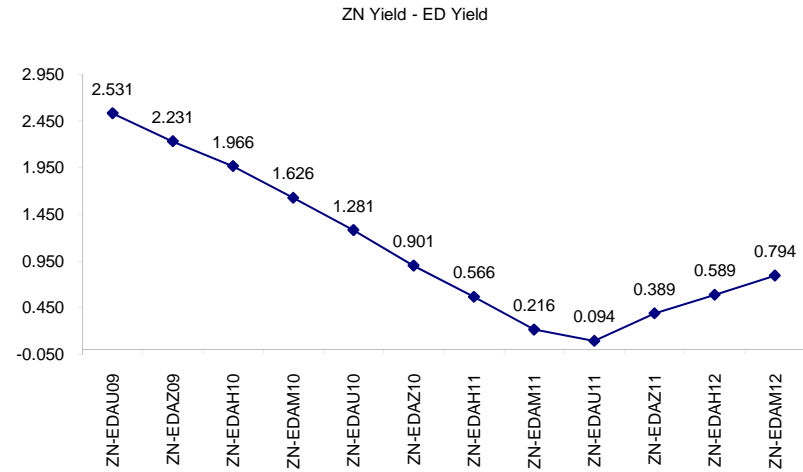


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	15.85	2.531	ZN-EDAU09	74
EDAZ09	16.15	2.231	ZN-EDAZ09	89
EDAH10	16.42	1.966	ZN-EDAH10	94
EDAM10	16.76	1.626	ZN-EDAM10	96
EDAU10	17.10	1.281	ZN-EDAU10	96
EDAZ10	17.48	0.901	ZN-EDAZ10	95
EDAH11	17.82	0.566	ZN-EDAH11	93
EDAM11	18.17	0.216	ZN-EDAM11	93
EDAU11	18.48	0.094	ZN-EDAU11	94
EDAZ11	18.77	0.389	ZN-EDAZ11	95
EDAH12	18.97	0.589	ZN-EDAH12	96
EDAM12	19.18	0.794	ZN-EDAM12	97

Price = Outright Decimal Price - Euro Contract Price

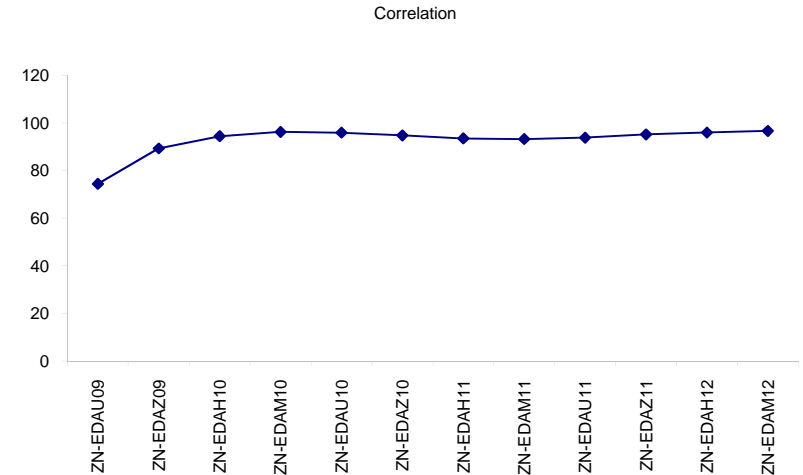
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as			
	Fraction of year	ZN Duration	Spread Duration
EDAU09	0.2404	5.8437	5.6032
EDAZ09	0.4897	5.8437	5.3539
EDAH10	0.7391	5.8437	5.1046
EDAM10	0.9884	5.8437	4.8553
EDAU10	1.2377	5.8437	4.6060
EDAZ10	1.4870	5.8437	4.3567
EDAH11	1.7363	5.8437	4.1073
EDAM11	1.9856	5.8437	3.8580
EDAU11	2.2541	5.8437	3.5895
EDAZ11	2.5034	5.8437	3.3402
EDAH12	2.7528	5.8437	3.0909
EDAM12	3.0021	5.8437	2.8416

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

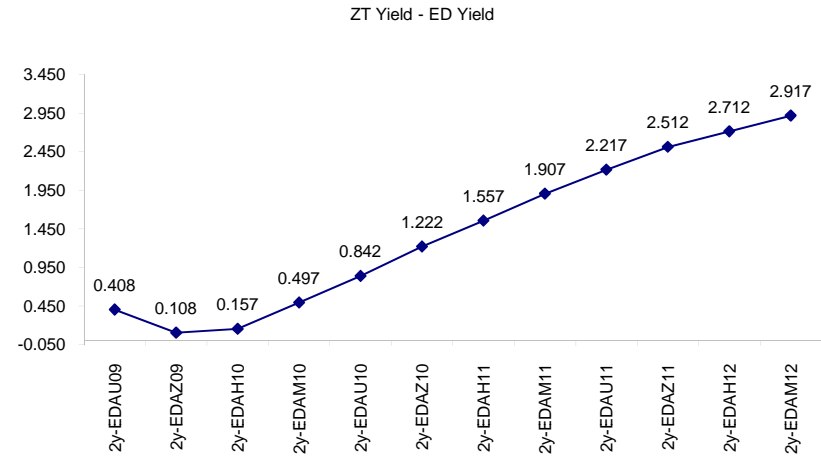


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.21	0.408	2y-EDAU09	-57
EDAZ09	0.51	0.108	2y-EDAZ09	-79
EDAH10	0.78	0.157	2y-EDAH10	-91
EDAM10	1.12	0.497	2y-EDAM10	-97
EDAU10	1.46	0.842	2y-EDAU10	-99
EDAZ10	1.84	1.222	2y-EDAZ10	-99
EDAH11	2.18	1.557	2y-EDAH11	-99
EDAM11	2.53	1.907	2y-EDAM11	-99
EDAU11	2.84	2.217	2y-EDAU11	-98
EDAZ11	3.13	2.512	2y-EDAZ11	-98
EDAH12	3.33	2.712	2y-EDAH12	-98
EDAM12	3.54	2.917	2y-EDAM12	-98

Price = Outright Decimal Price - Euro Contract Price

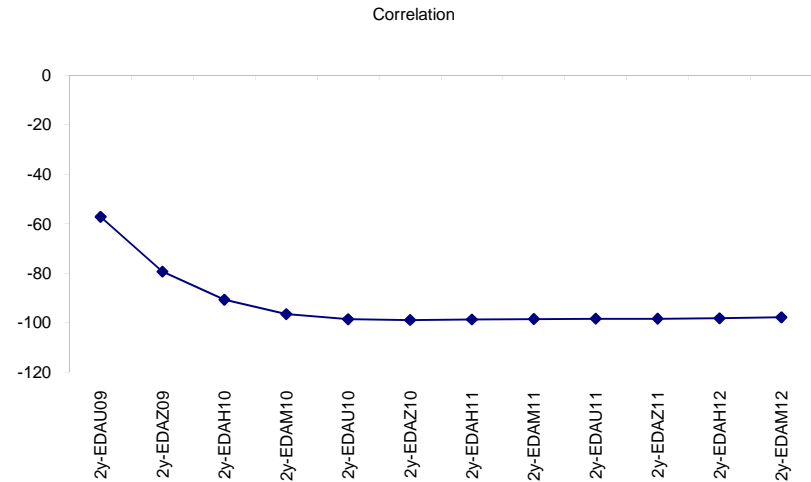
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAU09	0.2404	1.9236	1.6832	2y-EDAU09
EDAZ09	0.4897	1.9236	1.4338	2y-EDAZ09
EDAH10	0.7391	1.9236	1.1845	2y-EDAH10
EDAM10	0.9884	1.9236	0.9352	2y-EDAM10
EDAU10	1.2377	1.9236	0.6859	2y-EDAU10
EDAZ10	1.4870	1.9236	0.4366	2y-EDAZ10
EDAH11	1.7363	1.9236	0.1873	2y-EDAH11
EDAM11	1.9856	1.9236	-0.0620	2y-EDAM11
EDAU11	2.2541	1.9236	-0.3305	2y-EDAU11
EDAZ11	2.5034	1.9236	-0.5799	2y-EDAZ11
EDAH12	2.7528	1.9236	-0.8292	2y-EDAH12
EDAM12	3.0021	1.9236	-1.0785	2y-EDAM12

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

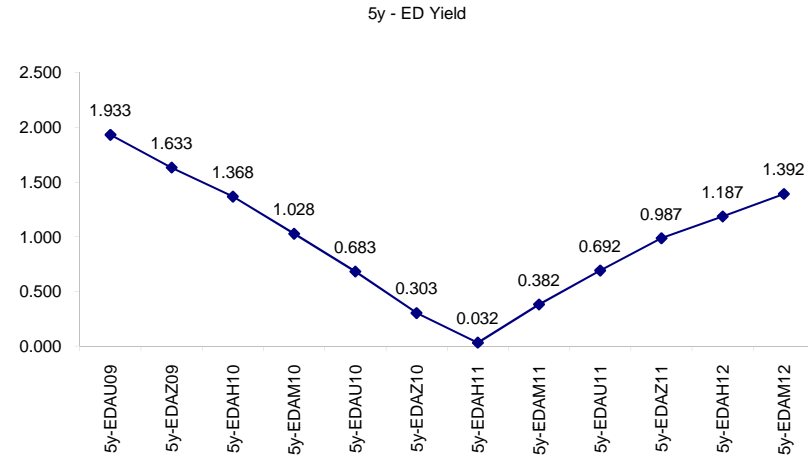


5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	-1.22	1.933	5y-EDAU09	-58
EDAZ09	-0.92	1.633	5y-EDAZ09	-79
EDAH10	-0.66	1.368	5y-EDAH10	-88
EDAM10	-0.32	1.028	5y-EDAM10	-94
EDAU10	0.03	0.683	5y-EDAU10	-97
EDAZ10	0.41	0.303	5y-EDAZ10	-97
EDAH11	0.74	0.032	5y-EDAH11	-98
EDAM11	1.09	0.382	5y-EDAM11	-98
EDAU11	1.40	0.692	5y-EDAU11	-99
EDAZ11	1.70	0.987	5y-EDAZ11	-99
EDAH12	1.90	1.187	5y-EDAH12	-99
EDAM12	2.10	1.392	5y-EDAM12	-99

Price = Outright Decimal Price - Euro Contract Price

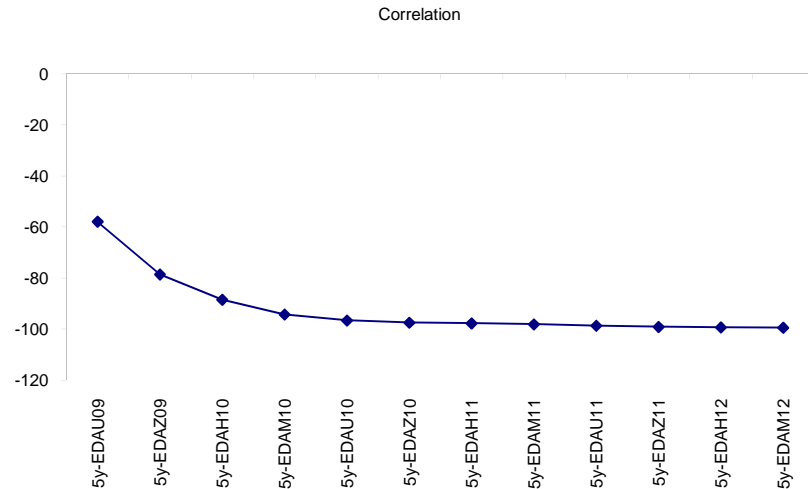
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				5Y Duration	Spread Duration	
EDAU09	0.2404	4.6402	4.3998	5y-EDAU09		
EDAZ09	0.4897	4.6402	4.1505	5y-EDAZ09		
EDAH10	0.7391	4.6402	3.9011	5y-EDAH10		
EDAM10	0.9884	4.6402	3.6518	5y-EDAM10		
EDAU10	1.2377	4.6402	3.4025	5y-EDAU10		
EDAZ10	1.4870	4.6402	3.1532	5y-EDAZ10		
EDAH11	1.7363	4.6402	2.9039	5y-EDAH11		
EDAM11	1.9856	4.6402	2.6546	5y-EDAM11		
EDAU11	2.2541	4.6402	2.3861	5y-EDAU11		
EDAZ11	2.5034	4.6402	2.1368	5y-EDAZ11		
EDAH12	2.7528	4.6402	1.8874	5y-EDAH12		
EDAM12	3.0021	4.6402	1.6381	5y-EDAM12		

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

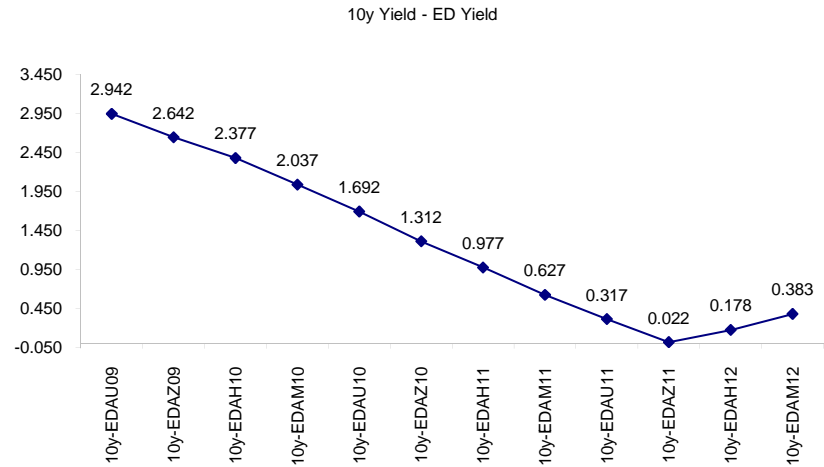


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	-1.22	2.942	10y-EDAU09	-50
EDAZ09	-0.92	2.642	10y-EDAZ09	-70
EDAH10	-0.66	2.377	10y-EDAH10	-79
EDAM10	-0.32	2.037	10y-EDAM10	-86
EDAU10	0.03	1.692	10y-EDAU10	-90
EDAZ10	0.41	1.312	10y-EDAZ10	-92
EDAH11	0.74	0.977	10y-EDAH11	-93
EDAM11	1.09	0.627	10y-EDAM11	-94
EDAU11	1.40	0.317	10y-EDAU11	-95
EDAZ11	1.70	0.022	10y-EDAZ11	-95
EDAH12	1.90	0.178	10y-EDAH12	-95
EDAM12	2.10	0.383	10y-EDAM12	-96

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	
EDAU09	0.2404	8.3757	8.1353	10y-EDAU09		
EDAZ09	0.4897	8.3757	7.8860	10y-EDAZ09		
EDAH10	0.7391	8.3757	7.6367	10y-EDAH10		
EDAM10	0.9884	8.3757	7.3874	10y-EDAM10		
EDAU10	1.2377	8.3757	7.1381	10y-EDAU10		
EDAZ10	1.4870	8.3757	6.8887	10y-EDAZ10		
EDAH11	1.7363	8.3757	6.6394	10y-EDAH11		
EDAM11	1.9856	8.3757	6.3901	10y-EDAM11		
EDAU11	2.2541	8.3757	6.1216	10y-EDAU11		
EDAZ11	2.5034	8.3757	5.8723	10y-EDAZ11		
EDAH12	2.7528	8.3757	5.6230	10y-EDAH12		
EDAM12	3.0021	8.3757	5.3737	10y-EDAM12		

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

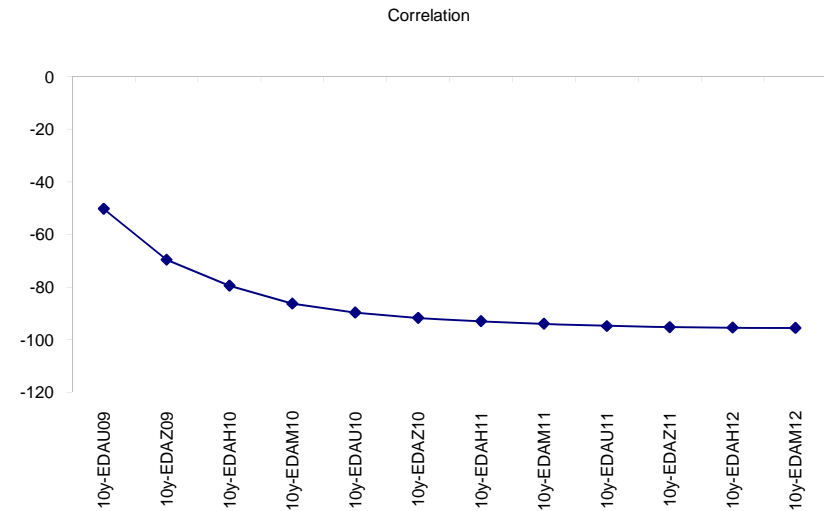


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

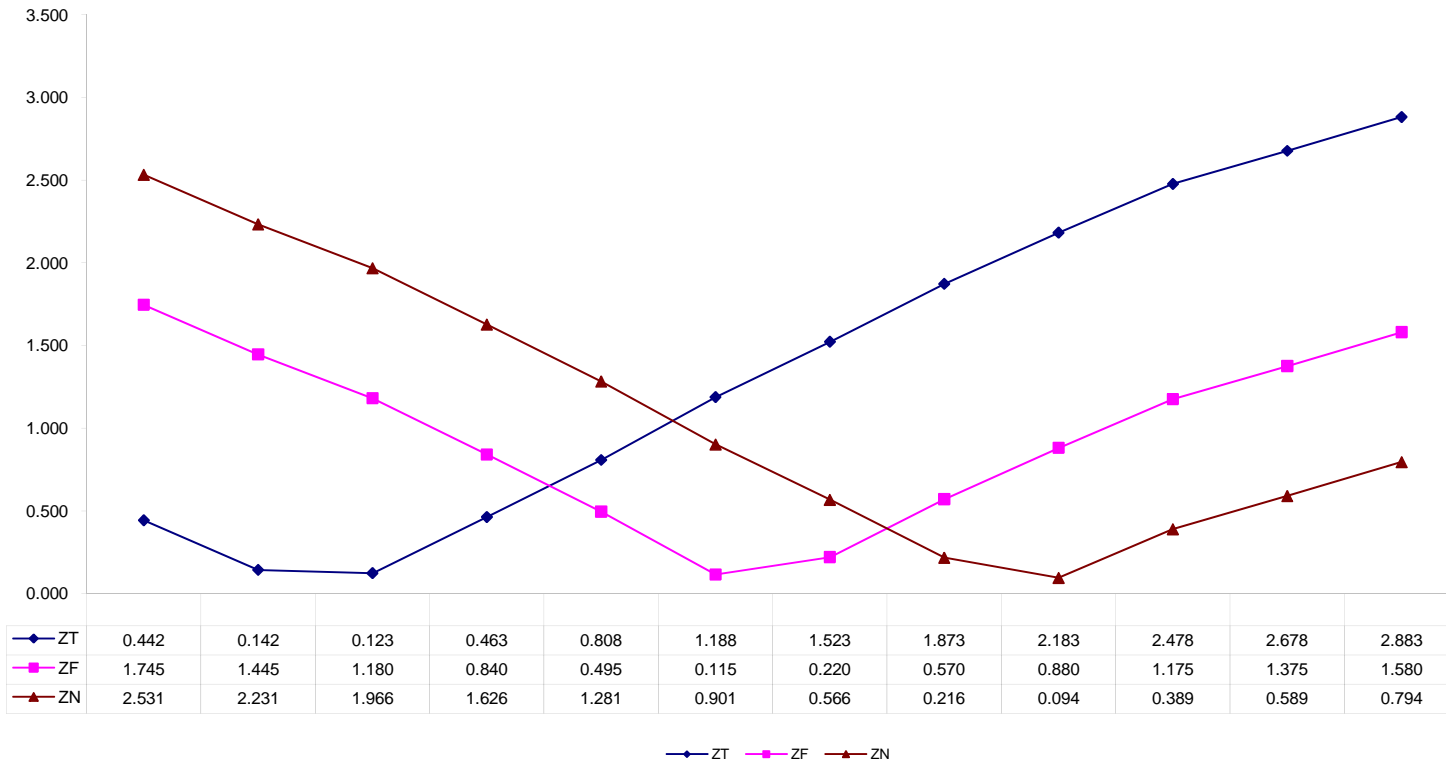
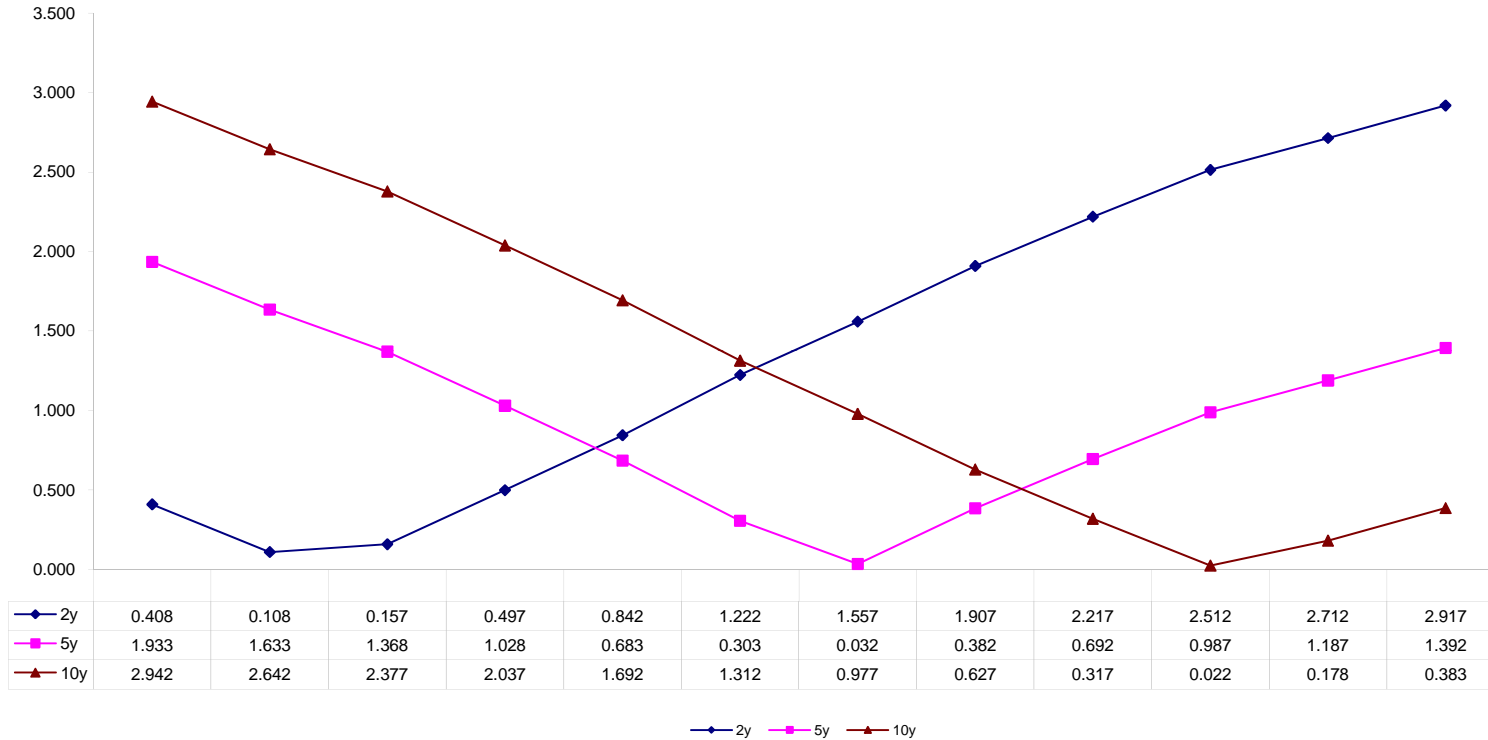
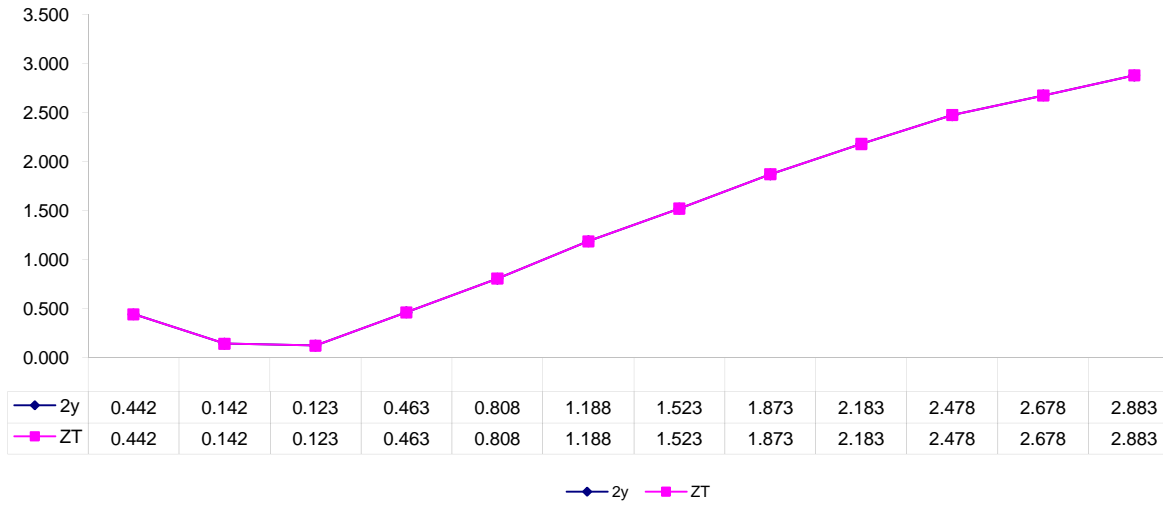
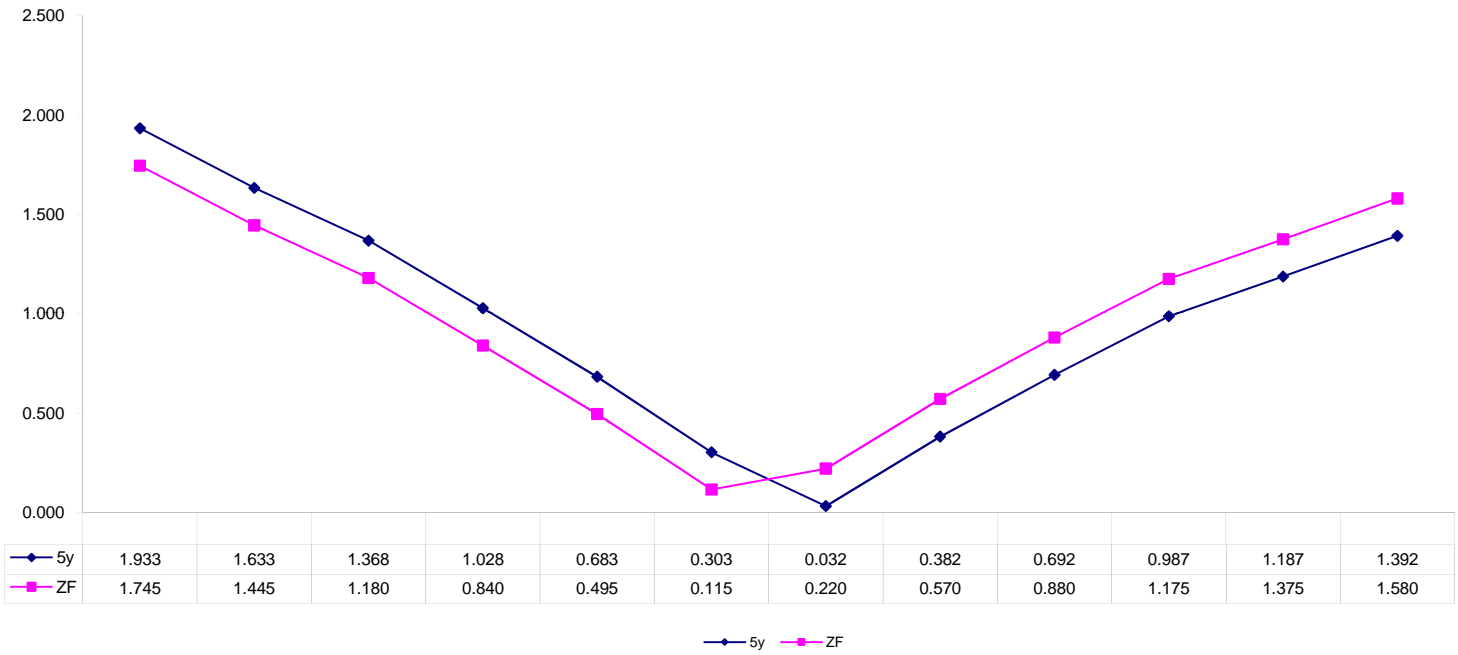


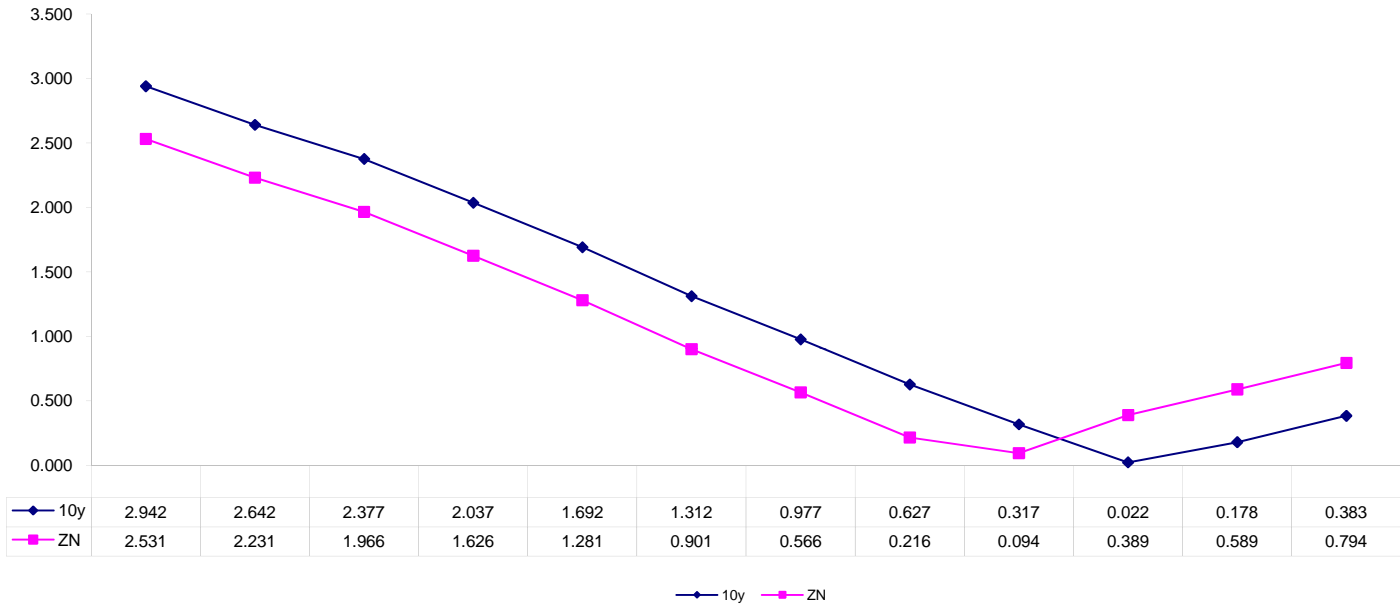
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.208	1.500	9881.2500
Red Pack	2.587	2.000	9746.5000
Green Pack	3.830	-0.875	9625.7500
Blue Pack	-2.250		9560.1250
Gold Pack		0.000	9526.2500

