

## **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 Feb-00	Last Yield*	MDuration
ZT	108.3281	108.1050	1.017	1.847
ZF	115.0469	115.0150	2.346	4.120
ZN	116.2344	116.0750	3.167	5.749
2y	100.1781	100.0570	1.022	1.900
5y	100.3500	100.1120	2.547	4.589
10y	95.5156	95.1650	3.674	8.276

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4650	0.535	52	0.1418	SEP	
EDAZ09	99.2400	0.760	143	0.3911	DEC	White Pack
EDAH10	98.9900	1.010	234	0.6404	MAR	
EDAM10	98.6250	1.375	325	0.8898	JUN	
EDAU10	98.2450	1.755	416	1.1391	SEP	
EDAZ10	97.8500	2.150	507	1.3884	DEC	Red Pack
EDAH11	97.4800	2.520	598	1.6377	MAR	
EDAM11	97.1150	2.885	689	1.8870	JUN	
EDAU11	96.7800	3.220	787	2.1555	SEP	
EDAZ11	96.4650	3.535	878	2.4048	DEC	Green Pack
EDAH12	96.2400	3.760	969	2.6541	MAR	
EDAM12	96.0200	3.980	1,060	2.9035	JUN	
EDAU12	95.8350	4.165	1,151	3.1528	SEP	
EDAZ12	95.6500	4.350	1,242	3.4021	DEC	Blue Pack
EDAH13	95.5250	4.475	1,333	3.6514	MAR	
EDAM13	95.3950	4.605	1,424	3.9007	JUN	
EDAU13	95.2850	4.715	1,515	4.1500	SEP	
EDAZ13	95.1600	4.840	1,606	4.3993	DEC	Gold Pack
EDAH14	95.0750	4.925	1,697	4.6487	MAR	
EDAM14	94.9850	5.015	1,788	4.8980	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.935	1.750	9908.00	
Red Pack	2.374	5.000	9767.25	Pack Prices
Green Pack	3.708	3.750	9637.63	
Blue Pack	4.509	1.875	9560.13	
Gold Pack	5.002	1.125	9512.63	

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.

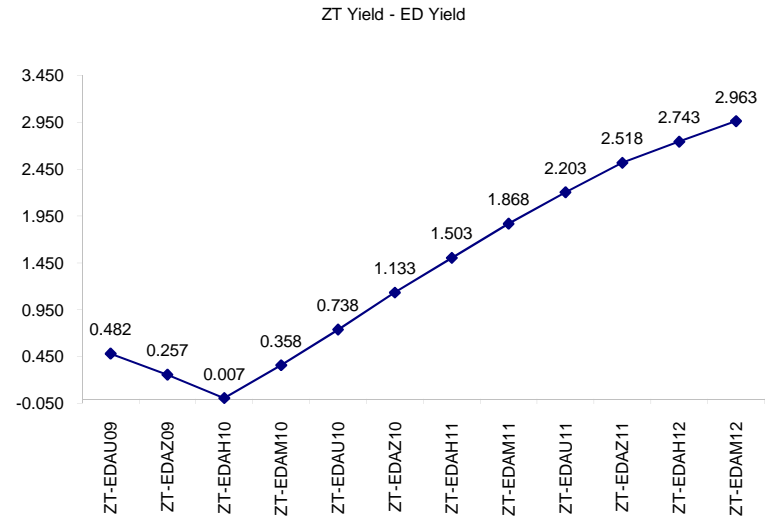
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

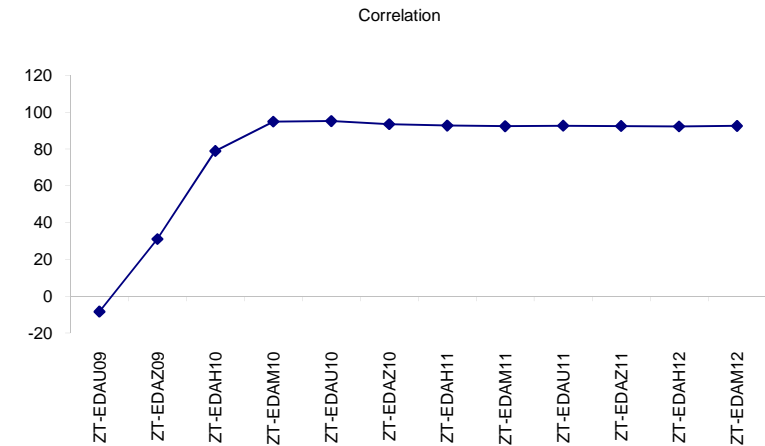
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.86	0.482	ZT-EDAU09	-8
EDAZ09	9.09	0.257	ZT-EDAZ09	31
EDAH10	9.34	0.007	ZT-EDAH10	79
EDAM10	9.70	0.358	ZT-EDAM10	95
EDAU10	10.08	0.738	ZT-EDAU10	95
EDAZ10	10.48	1.133	ZT-EDAZ10	93
EDAH11	10.85	1.503	ZT-EDAH11	93
EDAM11	11.21	1.868	ZT-EDAM11	92
EDAU11	11.55	2.203	ZT-EDAU11	93
EDAZ11	11.86	2.518	ZT-EDAZ11	92
EDAH12	12.09	2.743	ZT-EDAH12	92
EDAM12	12.31	2.963	ZT-EDAM12	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	
EDAU09	0.1418	1.8467	1.7049	ZT-EDAU09		
EDAZ09	0.3911	1.8467	1.4556	ZT-EDAZ09		
EDAH10	0.6404	1.8467	1.2063	ZT-EDAH10		
EDAM10	0.8898	1.8467	0.9570	ZT-EDAM10		
EDAU10	1.1391	1.8467	0.7077	ZT-EDAU10		
EDAZ10	1.3884	1.8467	0.4583	ZT-EDAZ10		
EDAH11	1.6377	1.8467	0.2090	ZT-EDAH11		
EDAM11	1.8870	1.8467	-0.0403	ZT-EDAM11		
EDAU11	2.1555	1.8467	-0.3088	ZT-EDAU11		
EDAZ11	2.4048	1.8467	-0.5581	ZT-EDAZ11		
EDAH12	2.6541	1.8467	-0.8074	ZT-EDAH12		
EDAM12	2.9035	1.8467	-1.0567	ZT-EDAM12		

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

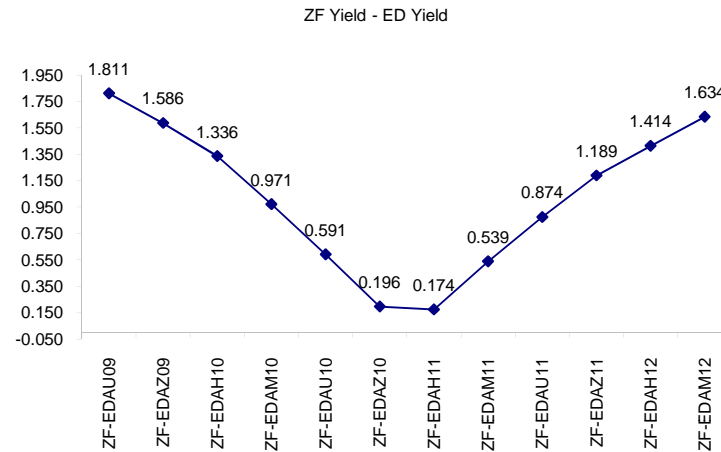


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	15.58	1.811	ZF-EDAU09	-24
EDAZ09	15.81	1.586	ZF-EDAZ09	16
EDAH10	16.06	1.336	ZF-EDAH10	70
EDAM10	16.42	0.971	ZF-EDAM10	92
EDAU10	16.80	0.591	ZF-EDAU10	95
EDAZ10	17.20	0.196	ZF-EDAZ10	94
EDAH11	17.57	0.174	ZF-EDAH11	94
EDAM11	17.93	0.539	ZF-EDAM11	94
EDAU11	18.27	0.874	ZF-EDAU11	94
EDAZ11	18.58	1.189	ZF-EDAZ11	94
EDAH12	18.81	1.414	ZF-EDAH12	95
EDAM12	19.03	1.634	ZF-EDAM12	96

Price = Outright Decimal Price - Euro Contract Price

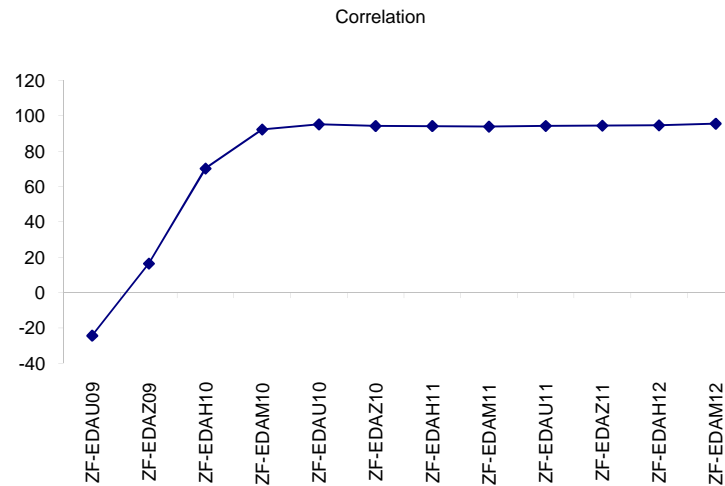
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1418	4.1202	3.9784	ZF-EDAU09	
EDAZ09	0.3911	4.1202	3.7290	ZF-EDAZ09	
EDAH10	0.6404	4.1202	3.4797	ZF-EDAH10	
EDAM10	0.8898	4.1202	3.2304	ZF-EDAM10	
EDAU10	1.1391	4.1202	2.9811	ZF-EDAU10	
EDAZ10	1.3884	4.1202	2.7318	ZF-EDAZ10	
EDAH11	1.6377	4.1202	2.4825	ZF-EDAH11	
EDAM11	1.8870	4.1202	2.2331	ZF-EDAM11	
EDAU11	2.1555	4.1202	1.9647	ZF-EDAU11	
EDAZ11	2.4048	4.1202	1.7153	ZF-EDAZ11	
EDAH12	2.6541	4.1202	1.4660	ZF-EDAH12	
EDAM12	2.9035	4.1202	1.2167	ZF-EDAM12	

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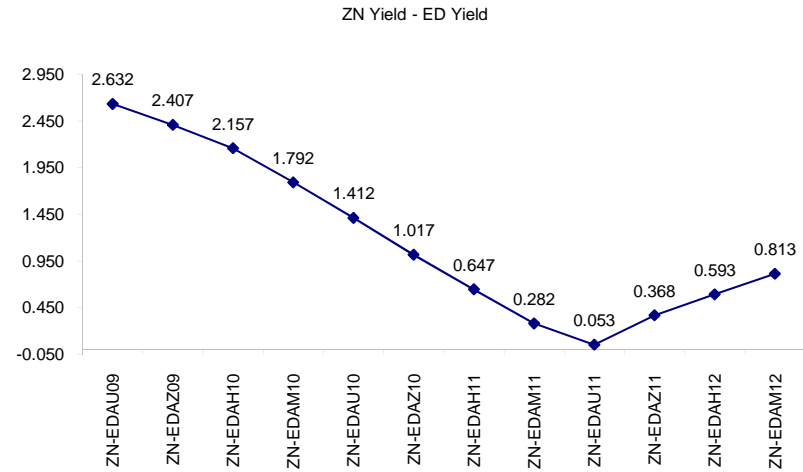


	ZN			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	16.77	2.632	ZN-EDAU09	-35
EDAZ09	16.99	2.407	ZN-EDAZ09	6
EDAH10	17.24	2.157	ZN-EDAH10	63
EDAM10	17.61	1.792	ZN-EDAM10	90
EDAU10	17.99	1.412	ZN-EDAU10	95
EDAZ10	18.38	1.017	ZN-EDAZ10	94
EDAH11	18.75	0.647	ZN-EDAH11	94
EDAM11	19.12	0.282	ZN-EDAM11	94
EDAU11	19.45	0.053	ZN-EDAU11	94
EDAZ11	19.77	0.368	ZN-EDAZ11	94
EDAH12	19.99	0.593	ZN-EDAH12	94
EDAM12	20.21	0.813	ZN-EDAM12	96

Price = Outright Decimal Price - Euro Contract Price

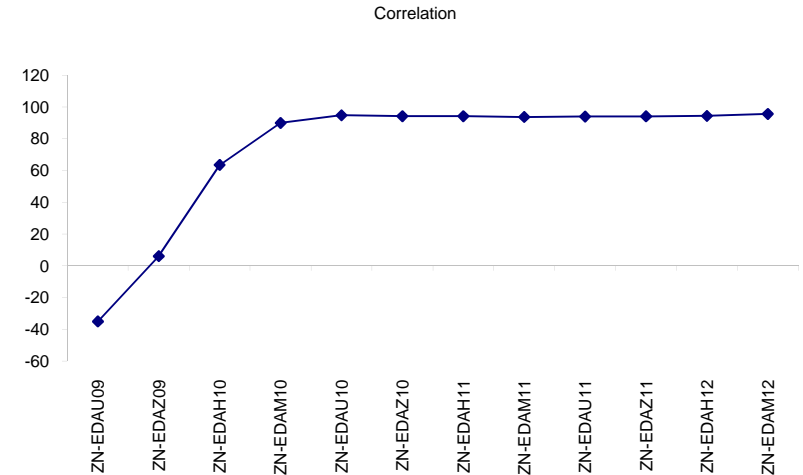
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZN Duration	Spread Duration
EDAU09	0.1418	5.7489	5.6070	ZN-EDAU09	
EDAZ09	0.3911	5.7489	5.3577	ZN-EDAZ09	
EDAH10	0.6404	5.7489	5.1084	ZN-EDAH10	
EDAM10	0.8898	5.7489	4.8591	ZN-EDAM10	
EDAU10	1.1391	5.7489	4.6098	ZN-EDAU10	
EDAZ10	1.3884	5.7489	4.3605	ZN-EDAZ10	
EDAH11	1.6377	5.7489	4.1112	ZN-EDAH11	
EDAM11	1.8870	5.7489	3.8618	ZN-EDAM11	
EDAU11	2.1555	5.7489	3.5933	ZN-EDAU11	
EDAZ11	2.4048	5.7489	3.3440	ZN-EDAZ11	
EDAH12	2.6541	5.7489	3.0947	ZN-EDAH12	
EDAM12	2.9035	5.7489	2.8454	ZN-EDAM12	

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

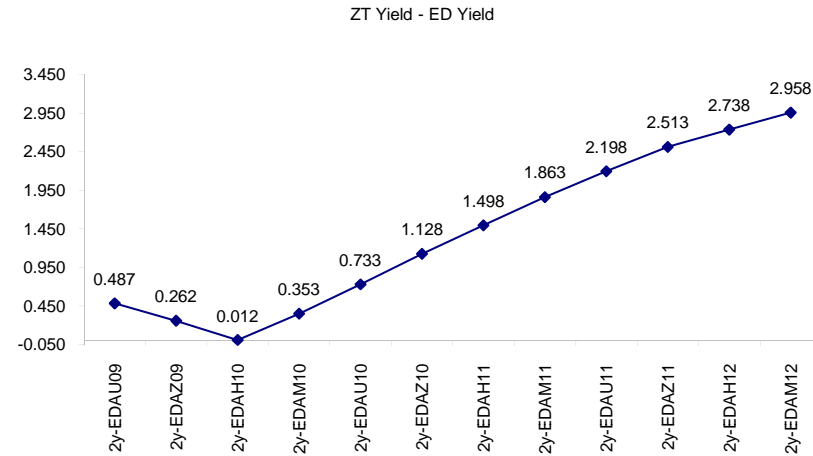


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.71	0.487	2y-EDAU09	14
EDAZ09	0.94	0.262	2y-EDAZ09	-24
EDAH10	1.19	0.012	2y-EDAH10	-74
EDAM10	1.55	0.353	2y-EDAM10	-93
EDAU10	1.93	0.733	2y-EDAU10	-95
EDAZ10	2.33	1.128	2y-EDAZ10	-93
EDAH11	2.70	1.498	2y-EDAH11	-93
EDAM11	3.06	1.863	2y-EDAM11	-93
EDAU11	3.40	2.198	2y-EDAU11	-93
EDAZ11	3.71	2.513	2y-EDAZ11	-93
EDAH12	3.94	2.738	2y-EDAH12	-93
EDAM12	4.16	2.958	2y-EDAM12	-94

Price = Outright Decimal Price - Euro Contract Price

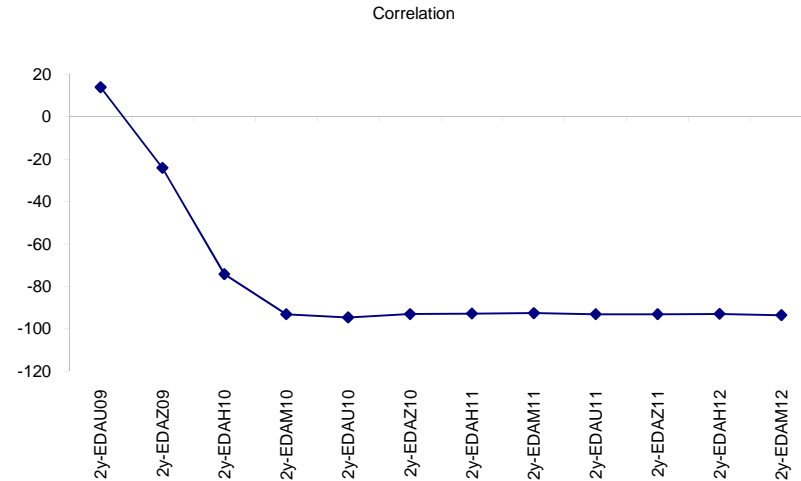
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU09	0.1418	1.9002	1.7584	2y-EDAU09	
EDAZ09	0.3911	1.9002	1.5091	2y-EDAZ09	
EDAH10	0.6404	1.9002	1.2598	2y-EDAH10	
EDAM10	0.8898	1.9002	1.0105	2y-EDAM10	
EDAU10	1.1391	1.9002	0.7612	2y-EDAU10	
EDAZ10	1.3884	1.9002	0.5118	2y-EDAZ10	
EDAH11	1.6377	1.9002	0.2625	2y-EDAH11	
EDAM11	1.8870	1.9002	0.0132	2y-EDAM11	
EDAU11	2.1555	1.9002	-0.2553	2y-EDAU11	
EDAZ11	2.4048	1.9002	-0.5046	2y-EDAZ11	
EDAH12	2.6541	1.9002	-0.7539	2y-EDAH12	
EDAM12	2.9035	1.9002	-1.0032	2y-EDAM12	

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

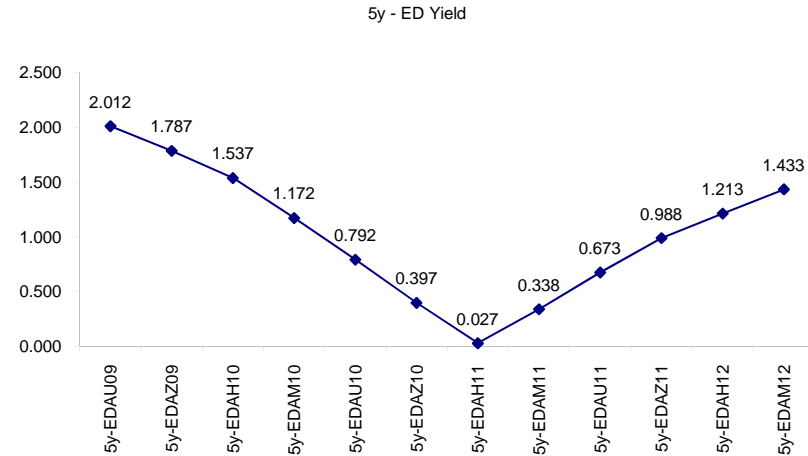


5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.89	2.012	5y-EDAU09	32
EDAZ09	1.11	1.787	5y-EDAZ09	-9
EDAH10	1.36	1.537	5y-EDAH10	-67
EDAM10	1.73	1.172	5y-EDAM10	-92
EDAU10	2.11	0.792	5y-EDAU10	-96
EDAZ10	2.50	0.397	5y-EDAZ10	-95
EDAH11	2.87	0.027	5y-EDAH11	-95
EDAM11	3.24	0.338	5y-EDAM11	-95
EDAU11	3.57	0.673	5y-EDAU11	-95
EDAZ11	3.89	0.988	5y-EDAZ11	-96
EDAH12	4.11	1.213	5y-EDAH12	-96
EDAM12	4.33	1.433	5y-EDAM12	-97

Price = Outright Decimal Price - Euro Contract Price

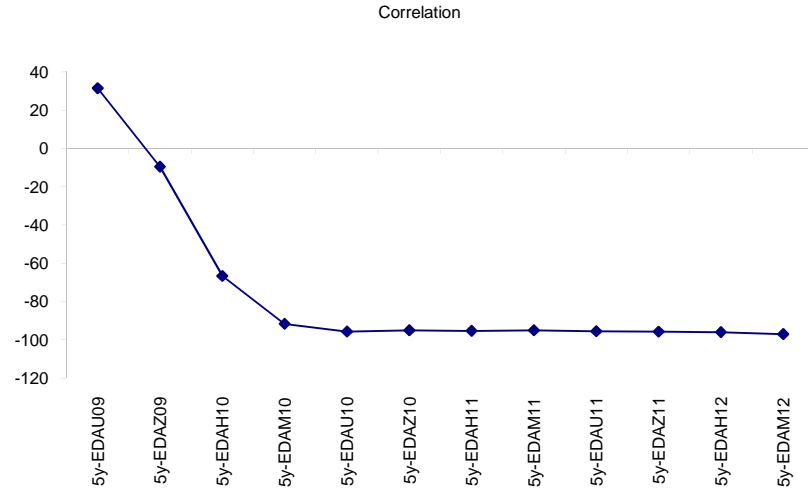
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				
	5Y Duration	Spread Duration		
EDAU09	0.1418	4.5886	4.4468	5y-EDAU09
EDAZ09	0.3911	4.5886	4.1975	5y-EDAZ09
EDAH10	0.6404	4.5886	3.9482	5y-EDAH10
EDAM10	0.8898	4.5886	3.6989	5y-EDAM10
EDAU10	1.1391	4.5886	3.4496	5y-EDAU10
EDAZ10	1.3884	4.5886	3.2003	5y-EDAZ10
EDAH11	1.6377	4.5886	2.9509	5y-EDAH11
EDAM11	1.8870	4.5886	2.7016	5y-EDAM11
EDAU11	2.1555	4.5886	2.4331	5y-EDAU11
EDAZ11	2.4048	4.5886	2.1838	5y-EDAZ11
EDAH12	2.6541	4.5886	1.9345	5y-EDAH12
EDAM12	2.9035	4.5886	1.6852	5y-EDAM12

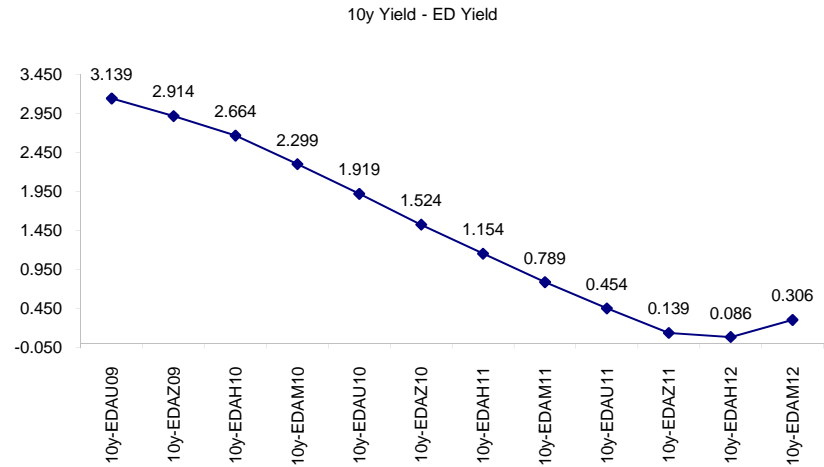
The farther away from 0 the spread duration is the riskier the trade.





10y				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAU09	0.89	3.139	10y-EDAU09	47
EDAZ09	1.11	2.914	10y-EDAZ09	7
EDAH10	1.36	2.664	10y-EDAH10	-54
EDAM10	1.73	2.299	10y-EDAM10	-85
EDAU10	2.11	1.919	10y-EDAU10	-92
EDAZ10	2.50	1.524	10y-EDAZ10	-93
EDAH11	2.87	1.154	10y-EDAH11	-93
EDAM11	3.24	0.789	10y-EDAM11	-93
EDAU11	3.57	0.454	10y-EDAU11	-93
EDAZ11	3.89	0.139	10y-EDAZ11	-94
EDAH12	4.11	0.086	10y-EDAH12	-94
EDAM12	4.33	0.306	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	0.1418	8.2757	8.1339	10y-EDAU09
EDAZ09	0.3911	8.2757	7.8846	10y-EDAZ09
EDAH10	0.6404	8.2757	7.6352	10y-EDAH10
EDAM10	0.8898	8.2757	7.3859	10y-EDAM10
EDAU10	1.1391	8.2757	7.1366	10y-EDAU10
EDAZ10	1.3884	8.2757	6.8873	10y-EDAZ10
EDAH11	1.6377	8.2757	6.6380	10y-EDAH11
EDAM11	1.8870	8.2757	6.3887	10y-EDAM11
EDAU11	2.1555	8.2757	6.1202	10y-EDAU11
EDAZ11	2.4048	8.2757	5.8709	10y-EDAZ11
EDAH12	2.6541	8.2757	5.6216	10y-EDAH12
EDAM12	2.9035	8.2757	5.3722	10y-EDAM12

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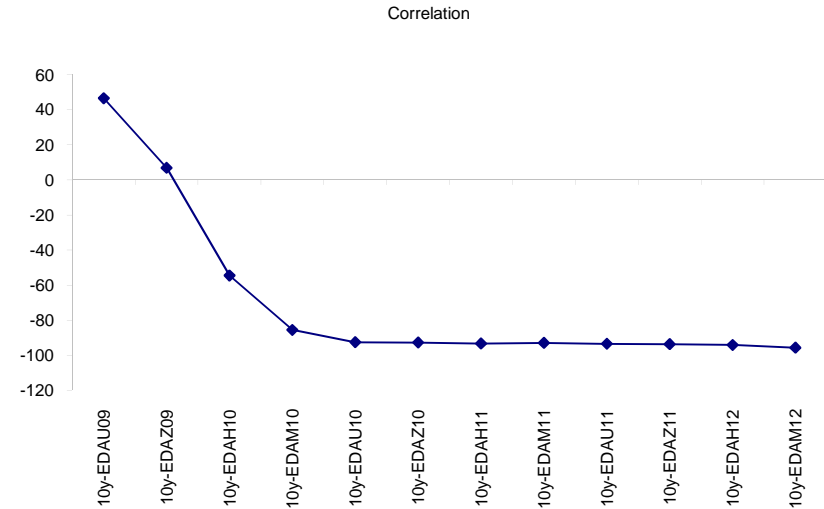


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

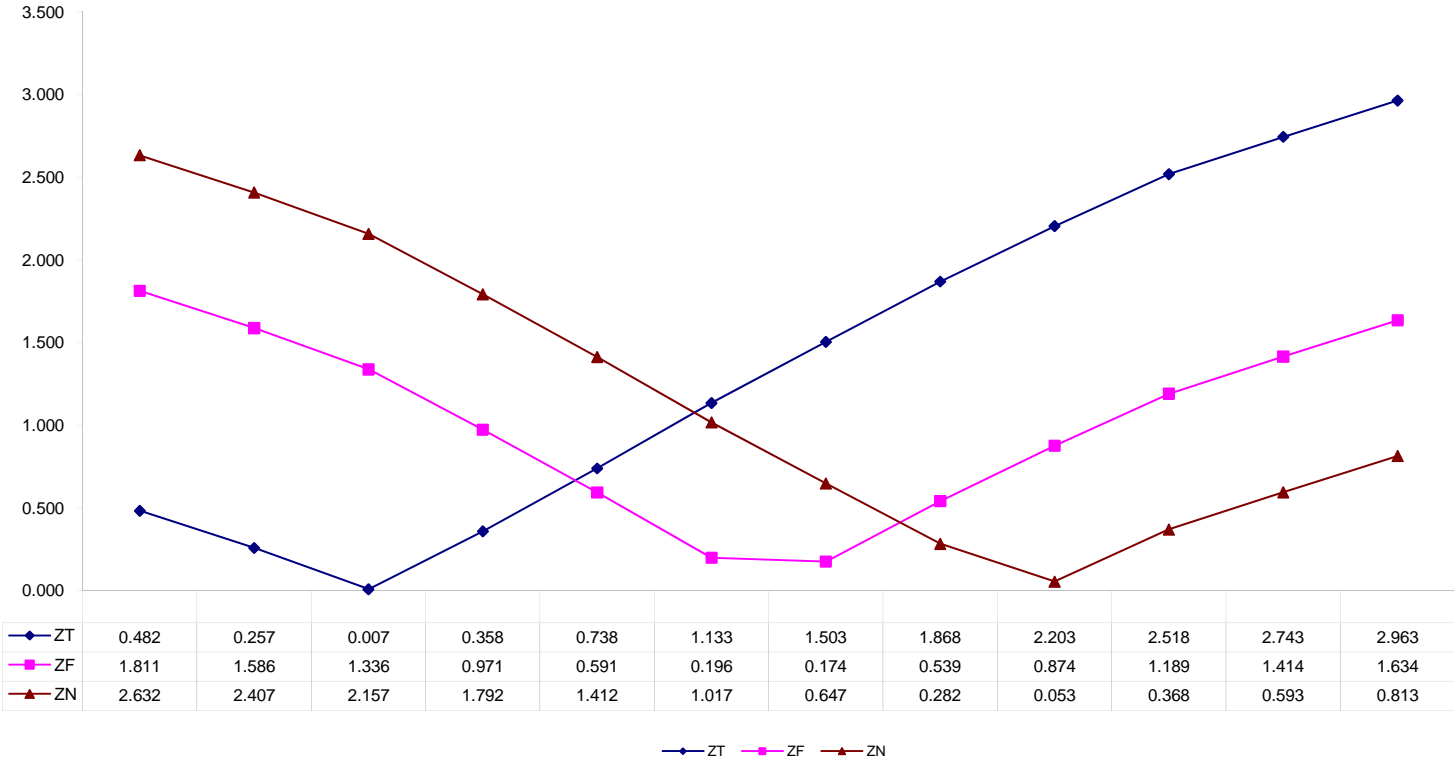
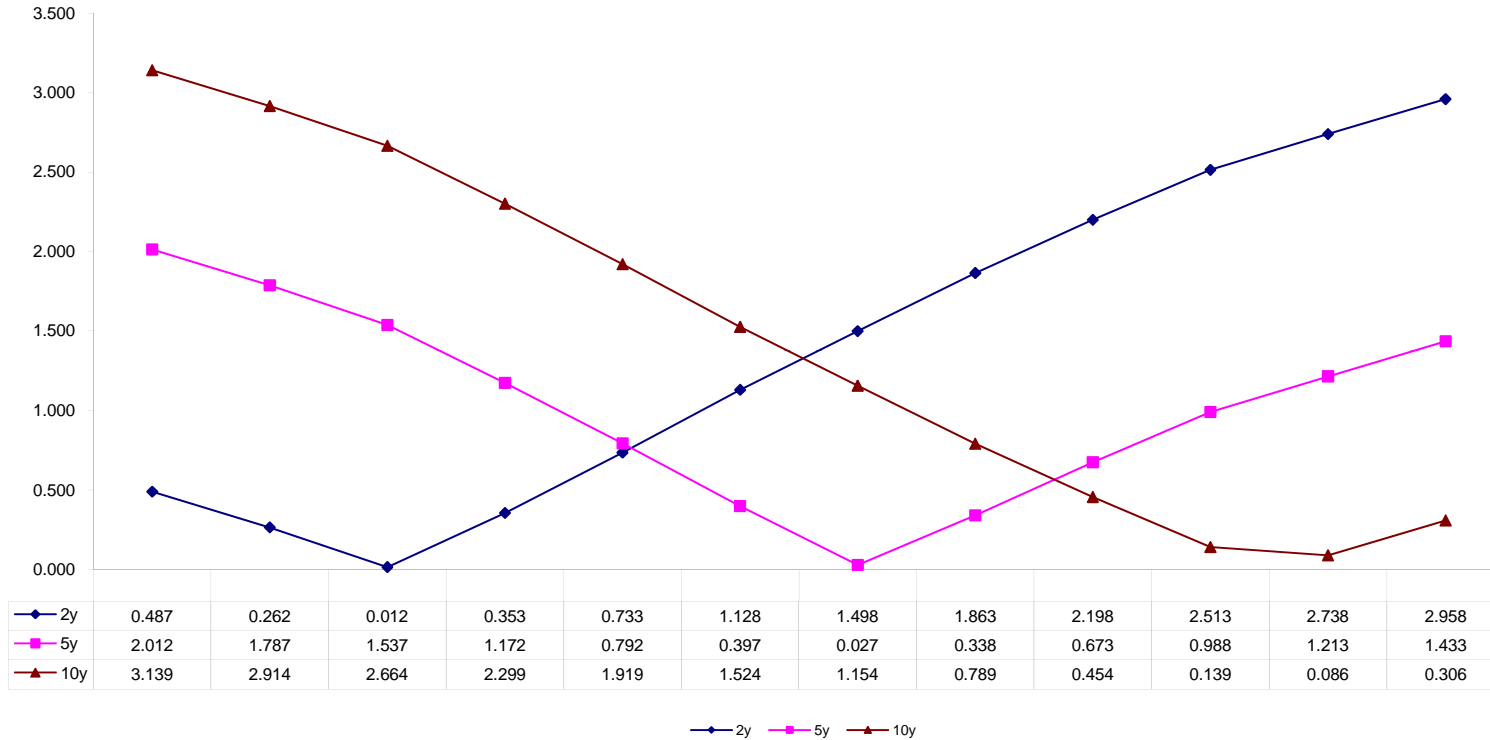
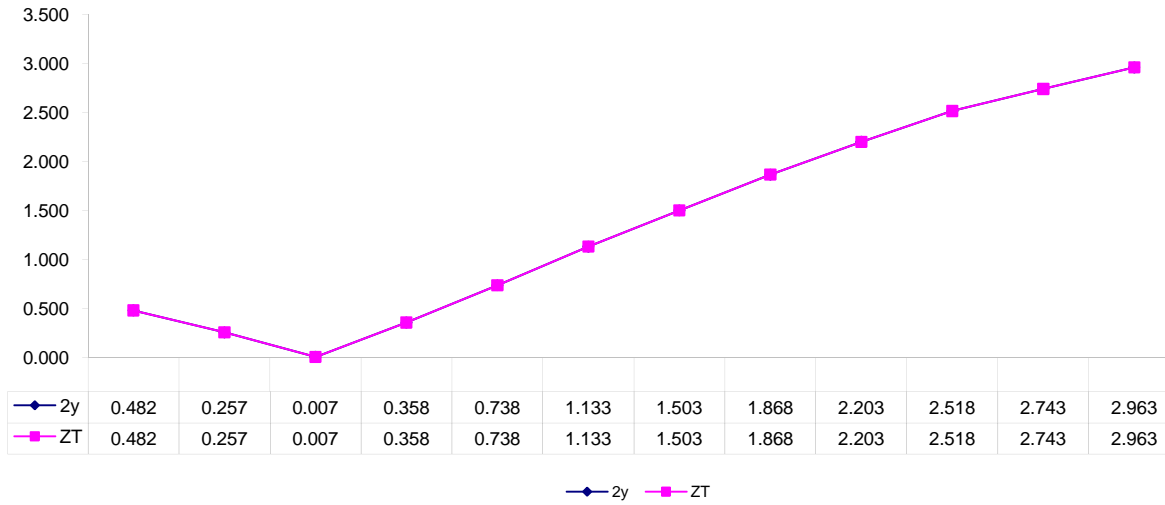
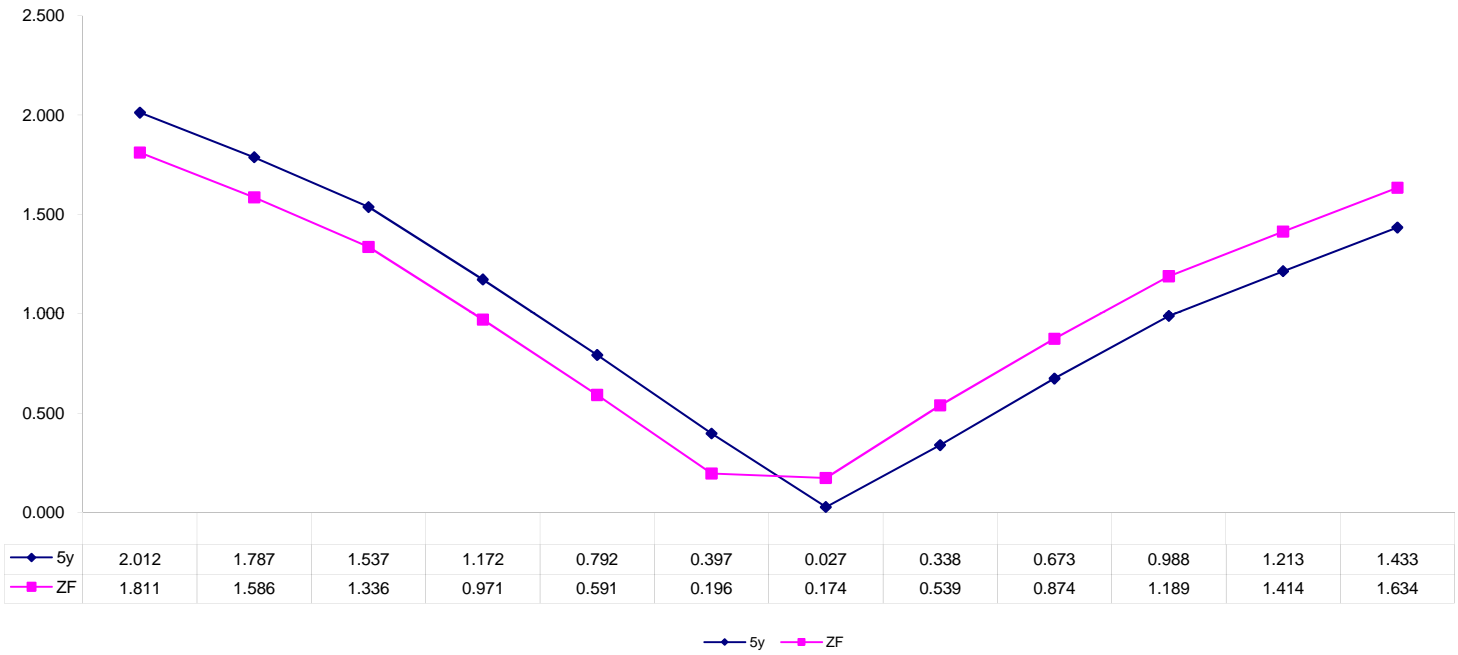


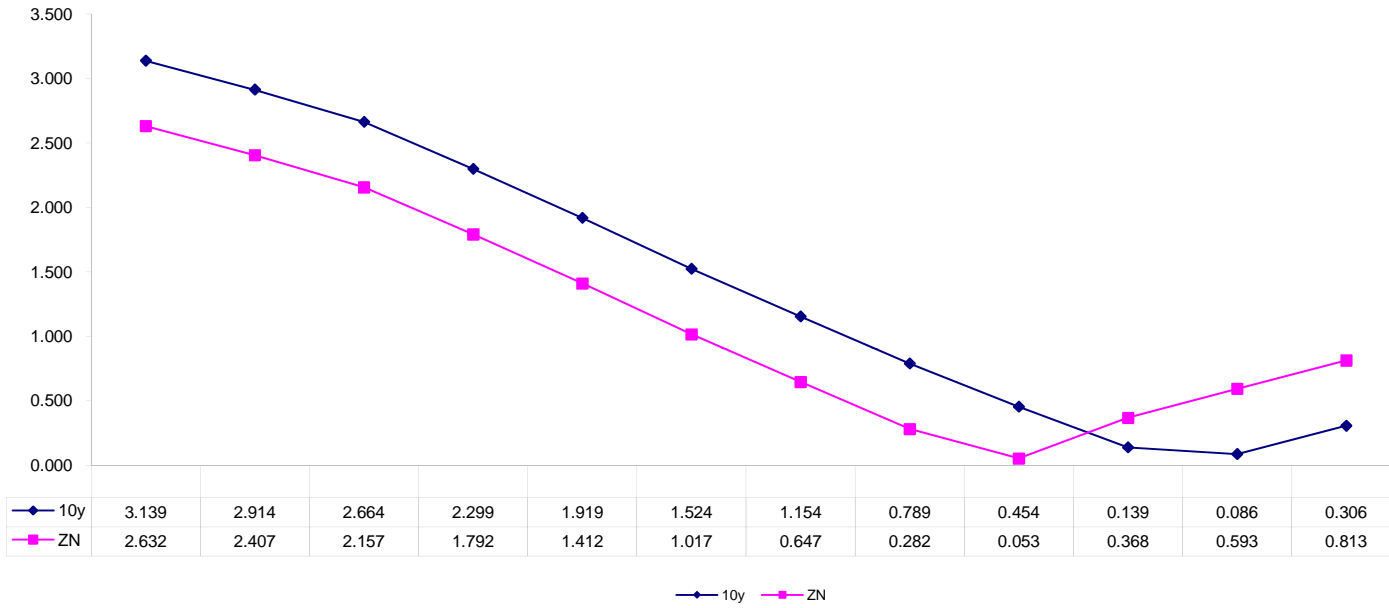
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.935	1.750	9908.0000
Red Pack	2.374	5.000	9767.2500
Green Pack	3.708	3.750	9637.6250
Blue Pack	4.509	1.875	9560.1250
Gold Pack	5.002	1.125	9512.6250

