

## **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	108.4531	108.1450	0.938	1.902
ZF	115.5469	115.1750	2.219	4.177
ZN	116.8750	116.2800	3.051	5.810
2y	100.3344	100.1070	0.949	1.955
5y	101.0000	101.0000	2.409	4.646
10y	96.8594	96.2750	3.502	8.348

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4050	0.595	70	0.1911	SEP	
EDAZ09	99.2100	0.790	161	0.4405	DEC	White Pack
EDAH10	99.0000	1.000	252	0.6898	MAR	
EDAM10	98.6850	1.315	343	0.9391	JUN	
EDAU10	98.3500	1.650	434	1.1884	SEP	
EDAZ10	97.9750	2.025	525	1.4377	DEC	Red Pack
EDAH11	97.6350	2.365	616	1.6870	MAR	
EDAM11	97.2800	2.720	707	1.9363	JUN	
EDAU11	96.9600	3.040	805	2.2048	SEP	
EDAZ11	96.6650	3.335	896	2.4542	DEC	Green Pack
EDAH12	96.4500	3.550	987	2.7035	MAR	
EDAM12	96.2500	3.750	1,078	2.9528	JUN	
EDAU12	96.0850	3.915	1,169	3.2021	SEP	
EDAZ12	95.9200	4.080	1,260	3.4514	DEC	Blue Pack
EDAH13	95.8050	4.195	1,351	3.7007	MAR	
EDAM13	95.6900	4.310	1,442	3.9500	JUN	
EDAU13	95.5650	4.435	1,533	4.1994	SEP	
EDAZ13	95.4350	4.565	1,624	4.4487	DEC	Gold Pack
EDAH14	95.3600	4.640	1,715	4.6980	MAR	
EDAM14	95.3000	4.700	1,806	4.9473	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.940	3.625	9907.50	
Red Pack	2.233	7.125	9781.00	Pack Prices
Green Pack	3.496	4.875	9658.13	
Blue Pack	4.231	2.500	9587.00	
Gold Pack	4.701	0.125	9541.63	

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:**

Jan-00 Regression  
Jan-00 Engineered  
Jan-00 Strip with and without Stubs  
Jan-00 Convexity Bias  
Jan-00 Weighted  
Jan-00 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.

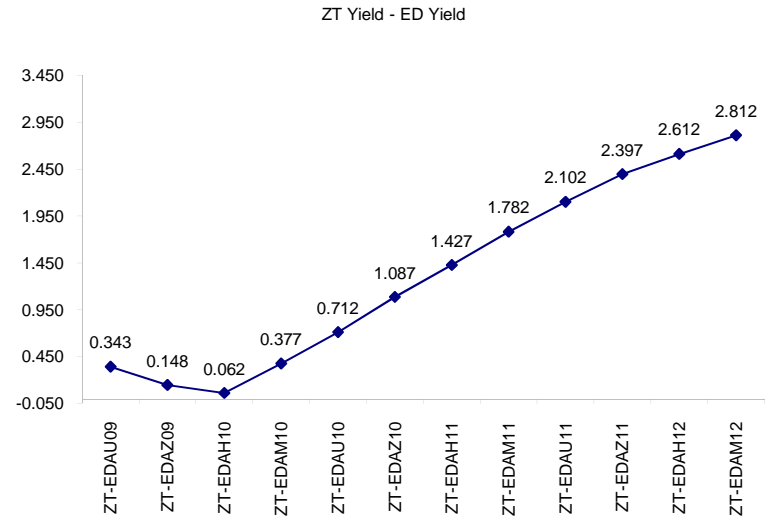
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

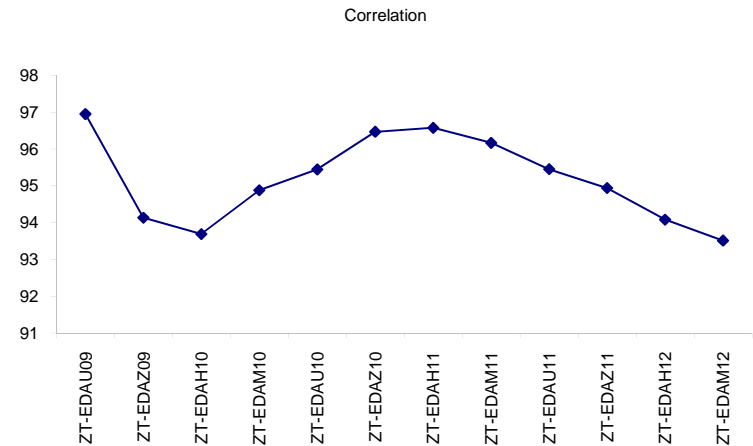
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	9.05	0.343	ZT-EDAU09	97
EDAZ09	9.24	0.148	ZT-EDAZ09	94
EDAH10	9.45	0.062	ZT-EDAH10	94
EDAM10	9.77	0.377	ZT-EDAM10	95
EDAU10	10.10	0.712	ZT-EDAU10	95
EDAZ10	10.48	1.087	ZT-EDAZ10	96
EDAH11	10.82	1.427	ZT-EDAH11	97
EDAM11	11.17	1.782	ZT-EDAM11	96
EDAU11	11.49	2.102	ZT-EDAU11	95
EDAZ11	11.79	2.397	ZT-EDAZ11	95
EDAH12	12.00	2.612	ZT-EDAH12	94
EDAM12	12.20	2.812	ZT-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			ZT Duration	Spread Duration	
EDAU09	0.1911	1.9016	1.7105	ZT-EDAU09		
EDAZ09	0.4405	1.9016	1.4612	ZT-EDAZ09		
EDAH10	0.6898	1.9016	1.2118	ZT-EDAH10		
EDAM10	0.9391	1.9016	0.9625	ZT-EDAM10		
EDAU10	1.1884	1.9016	0.7132	ZT-EDAU10		
EDAZ10	1.4377	1.9016	0.4639	ZT-EDAZ10		
EDAH11	1.6870	1.9016	0.2146	ZT-EDAH11		
EDAM11	1.9363	1.9016	-0.0347	ZT-EDAM11		
EDAU11	2.2048	1.9016	-0.3032	ZT-EDAU11		
EDAZ11	2.4542	1.9016	-0.5525	ZT-EDAZ11		
EDAH12	2.7035	1.9016	-0.8019	ZT-EDAH12		
EDAM12	2.9528	1.9016	-1.0512	ZT-EDAM12		

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

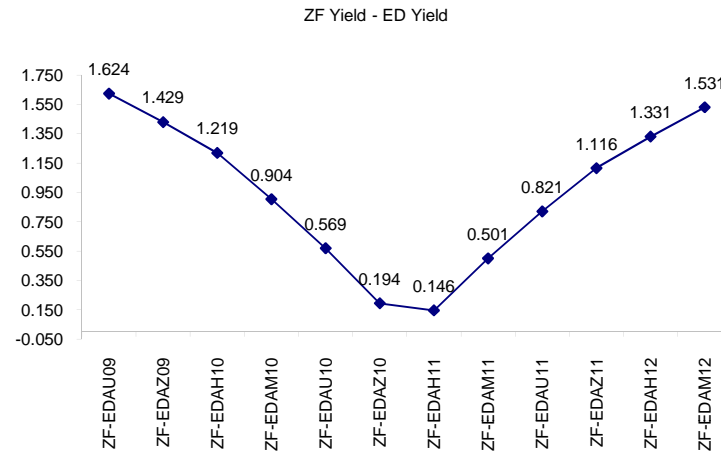


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	16.14	1.624	ZF-EDAU09	97
EDAZ09	16.34	1.429	ZF-EDAZ09	92
EDAH10	16.55	1.219	ZF-EDAH10	93
EDAM10	16.86	0.904	ZF-EDAM10	95
EDAU10	17.20	0.569	ZF-EDAU10	96
EDAZ10	17.57	0.194	ZF-EDAZ10	97
EDAH11	17.91	0.146	ZF-EDAH11	98
EDAM11	18.27	0.501	ZF-EDAM11	99
EDAU11	18.59	0.821	ZF-EDAU11	99
EDAZ11	18.88	1.116	ZF-EDAZ11	99
EDAH12	19.10	1.331	ZF-EDAH12	99
EDAM12	19.30	1.531	ZF-EDAM12	98

Price = Outright Decimal Price - Euro Contract Price

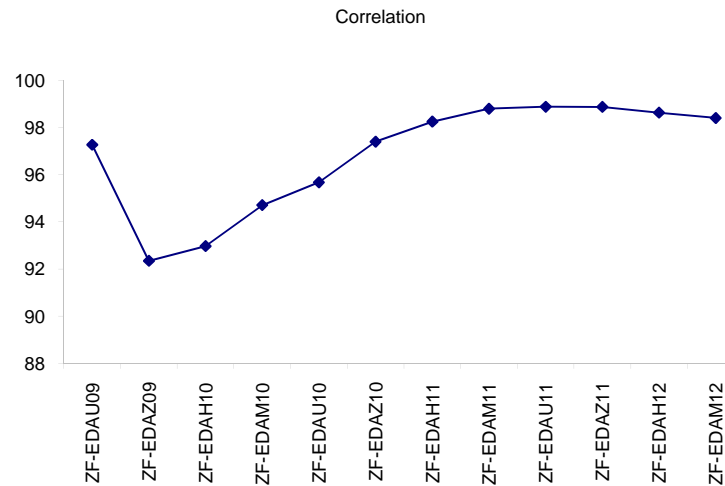
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1911	4.1774	3.9862	ZF-EDAU09	
EDAZ09	0.4405	4.1774	3.7369	ZF-EDAZ09	
EDAH10	0.6898	4.1774	3.4876	ZF-EDAH10	
EDAM10	0.9391	4.1774	3.2383	ZF-EDAM10	
EDAU10	1.1884	4.1774	2.9890	ZF-EDAU10	
EDAZ10	1.4377	4.1774	2.7397	ZF-EDAZ10	
EDAH11	1.6870	4.1774	2.4903	ZF-EDAH11	
EDAM11	1.9363	4.1774	2.2410	ZF-EDAM11	
EDAU11	2.2048	4.1774	1.9725	ZF-EDAU11	
EDAZ11	2.4542	4.1774	1.7232	ZF-EDAZ11	
EDAH12	2.7035	4.1774	1.4739	ZF-EDAH12	
EDAM12	2.9528	4.1774	1.2246	ZF-EDAM12	

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

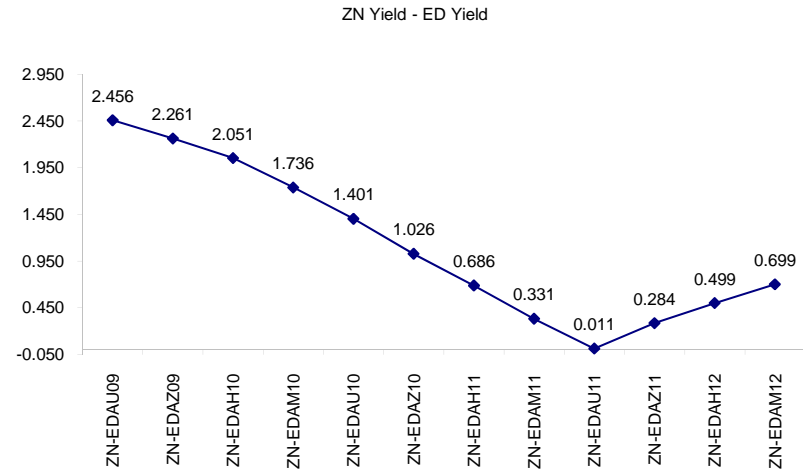


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	17.47	2.456	ZN-EDAU09	93
EDAZ09	17.67	2.261	ZN-EDAZ09	87
EDAH10	17.88	2.051	ZN-EDAH10	90
EDAM10	18.19	1.736	ZN-EDAM10	92
EDAU10	18.53	1.401	ZN-EDAU10	93
EDAZ10	18.90	1.026	ZN-EDAZ10	95
EDAH11	19.24	0.686	ZN-EDAH11	97
EDAM11	19.60	0.331	ZN-EDAM11	98
EDAU11	19.92	0.011	ZN-EDAU11	98
EDAZ11	20.21	0.284	ZN-EDAZ11	98
EDAH12	20.43	0.499	ZN-EDAH12	98
EDAM12	20.63	0.699	ZN-EDAM12	98

Price = Outright Decimal Price - Euro Contract Price

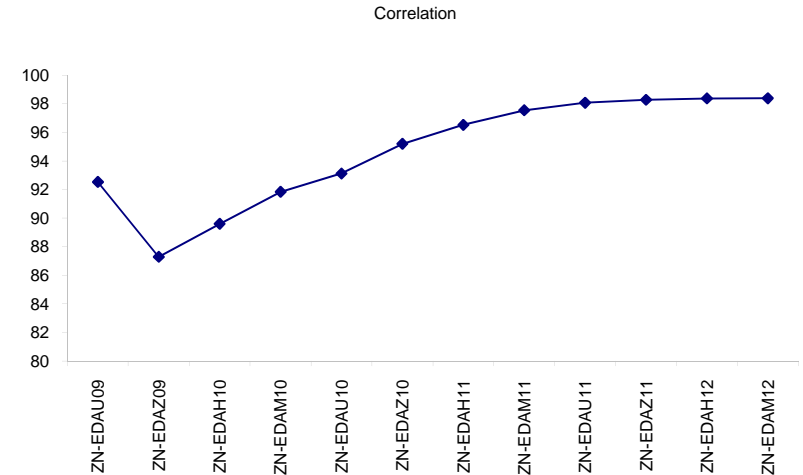
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as			
	Fraction of year	ZN Duration	Spread Duration
EDAU09	0.1911	5.8095	5.6184
EDAZ09	0.4405	5.8095	5.3691
EDAH10	0.6898	5.8095	5.1198
EDAM10	0.9391	5.8095	4.8705
EDAU10	1.1884	5.8095	4.6211
EDAZ10	1.4377	5.8095	4.3718
EDAH11	1.6870	5.8095	4.1225
EDAM11	1.9363	5.8095	3.8732
EDAU11	2.2048	5.8095	3.6047
EDAZ11	2.4542	5.8095	3.3554
EDAH12	2.7035	5.8095	3.1061
EDAM12	2.9528	5.8095	2.8568

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.93	0.354	2y-EDAU09	-82
EDAZ09	1.12	0.159	2y-EDAZ09	-80
EDAH10	1.33	0.051	2y-EDAH10	-82
EDAM10	1.65	0.366	2y-EDAM10	-85
EDAU10	1.98	0.701	2y-EDAU10	-86
EDAZ10	2.36	1.076	2y-EDAZ10	-86
EDAH11	2.70	1.416	2y-EDAH11	-85
EDAM11	3.05	1.771	2y-EDAM11	-83
EDAU11	3.37	2.091	2y-EDAU11	-81
EDAZ11	3.67	2.386	2y-EDAZ11	-80
EDAH12	3.88	2.601	2y-EDAH12	-78
EDAM12	4.08	2.801	2y-EDAM12	-77

Price = Outright Decimal Price - Euro Contract Price

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

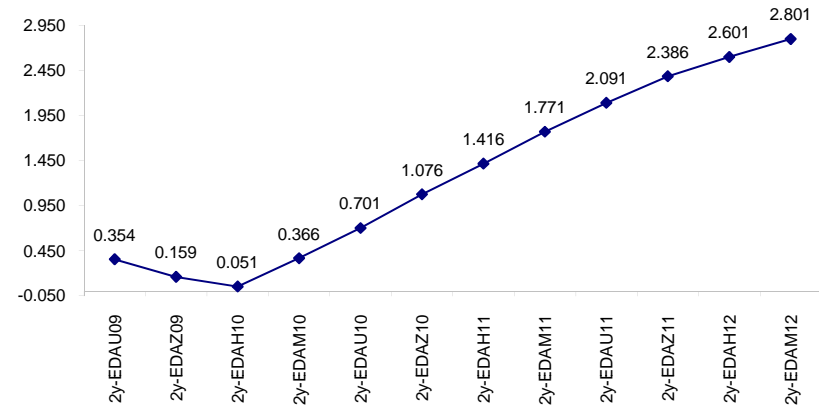
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

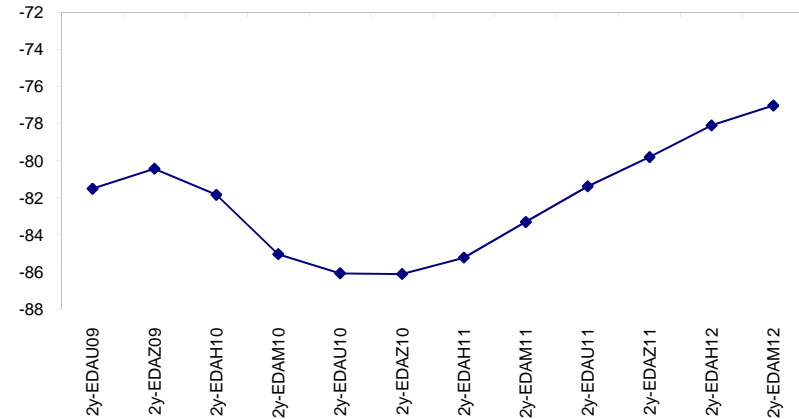
	Fraction of year	2Y Duration	Spread Duration	
EDAU09	0.1911	1.9550	1.7639	2y-EDAU09
EDAZ09	0.4405	1.9550	1.5146	2y-EDAZ09
EDAH10	0.6898	1.9550	1.2652	2y-EDAH10
EDAM10	0.9391	1.9550	1.0159	2y-EDAM10
EDAU10	1.1884	1.9550	0.7666	2y-EDAU10
EDAZ10	1.4377	1.9550	0.5173	2y-EDAZ10
EDAH11	1.6870	1.9550	0.2680	2y-EDAH11
EDAM11	1.9363	1.9550	0.0187	2y-EDAM11
EDAU11	2.2048	1.9550	-0.2498	2y-EDAU11
EDAZ11	2.4542	1.9550	-0.4991	2y-EDAZ11
EDAH12	2.7035	1.9550	-0.7485	2y-EDAH12
EDAM12	2.9528	1.9550	-0.9978	2y-EDAM12

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

ZT Yield - ED Yield



Correlation

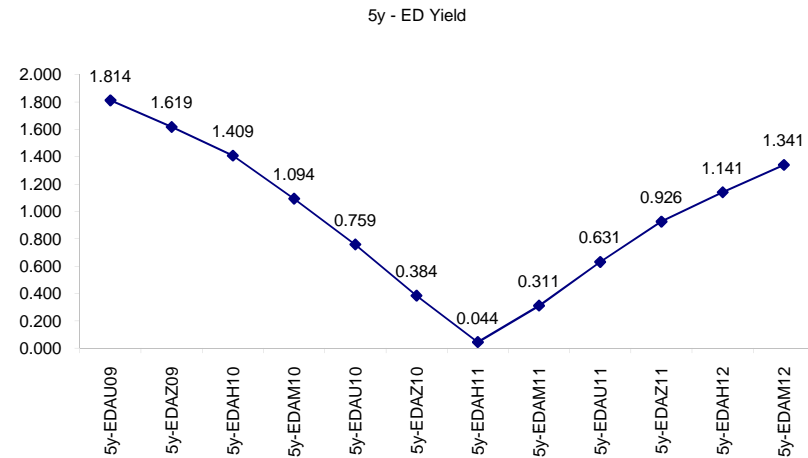


5y				Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	1.60	1.814	5y-EDAU09	-96
EDAZ09	1.79	1.619	5y-EDAZ09	-91
EDAH10	2.00	1.409	5y-EDAH10	-91
EDAM10	2.32	1.094	5y-EDAM10	-94
EDAU10	2.65	0.759	5y-EDAU10	-95
EDAZ10	3.02	0.384	5y-EDAZ10	-97
EDAH11	3.36	0.044	5y-EDAH11	-97
EDAM11	3.72	0.311	5y-EDAM11	-98
EDAU11	4.04	0.631	5y-EDAU11	-98
EDAZ11	4.33	0.926	5y-EDAZ11	-98
EDAH12	4.55	1.141	5y-EDAH12	-98
EDAM12	4.75	1.341	5y-EDAM12	-98

Price = Outright Decimal Price - Euro Contract Price

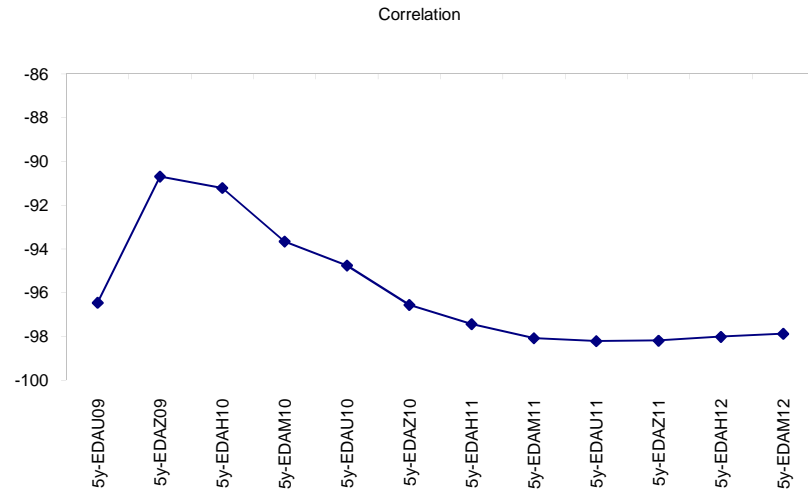
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



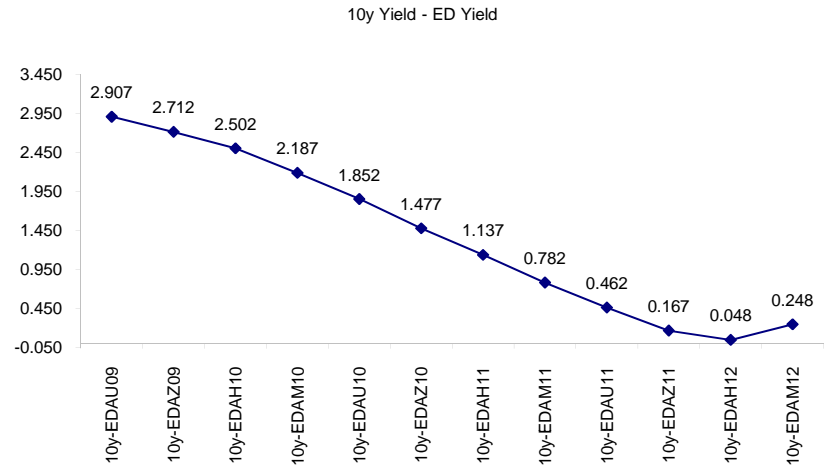
ED Duration as Fraction of year				5Y Duration	Spread Duration	
EDAU09	0.1911	4.6460	4.4549	5y-EDAU09		
EDAZ09	0.4405	4.6460	4.2055	5y-EDAZ09		
EDAH10	0.6898	4.6460	3.9562	5y-EDAH10		
EDAM10	0.9391	4.6460	3.7069	5y-EDAM10		
EDAU10	1.1884	4.6460	3.4576	5y-EDAU10		
EDAZ10	1.4377	4.6460	3.2083	5y-EDAZ10		
EDAH11	1.6870	4.6460	2.9590	5y-EDAH11		
EDAM11	1.9363	4.6460	2.7096	5y-EDAM11		
EDAU11	2.2048	4.6460	2.4412	5y-EDAU11		
EDAZ11	2.4542	4.6460	2.1918	5y-EDAZ11		
EDAH12	2.7035	4.6460	1.9425	5y-EDAH12		
EDAM12	2.9528	4.6460	1.6932	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	1.60	2.907	10y-EDAU09	-86
EDAZ09	1.79	2.712	10y-EDAZ09	-79
EDAH10	2.00	2.502	10y-EDAH10	-80
EDAM10	2.32	2.187	10y-EDAM10	-82
EDAU10	2.65	1.852	10y-EDAU10	-82
EDAZ10	3.02	1.477	10y-EDAZ10	-85
EDAH11	3.36	1.137	10y-EDAH11	-87
EDAM11	3.72	0.782	10y-EDAM11	-89
EDAU11	4.04	0.462	10y-EDAU11	-91
EDAZ11	4.33	0.167	10y-EDAZ11	-92
EDAH12	4.55	0.048	10y-EDAH12	-92
EDAM12	4.75	0.248	10y-EDAM12	-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				10Y Duration	Spread Duration	
EDAU09	0.1911	8.3482	8.1570	10y-EDAU09		
EDAZ09	0.4405	8.3482	7.9077	10y-EDAZ09		
EDAH10	0.6898	8.3482	7.6584	10y-EDAH10		
EDAM10	0.9391	8.3482	7.4091	10y-EDAM10		
EDAU10	1.1884	8.3482	7.1598	10y-EDAU10		
EDAZ10	1.4377	8.3482	6.9105	10y-EDAZ10		
EDAH11	1.6870	8.3482	6.6611	10y-EDAH11		
EDAM11	1.9363	8.3482	6.4118	10y-EDAM11		
EDAU11	2.2048	8.3482	6.1433	10y-EDAU11		
EDAZ11	2.4542	8.3482	5.8940	10y-EDAZ11		
EDAH12	2.7035	8.3482	5.6447	10y-EDAH12		
EDAM12	2.9528	8.3482	5.3954	10y-EDAM12		

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

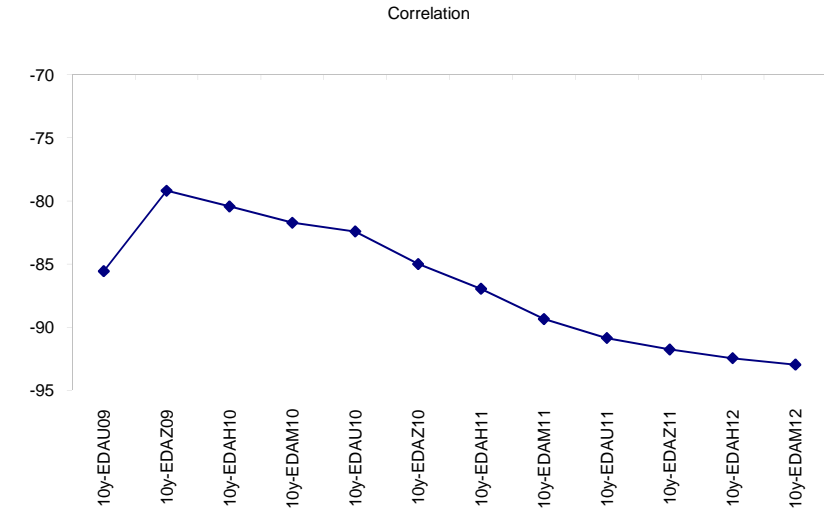


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

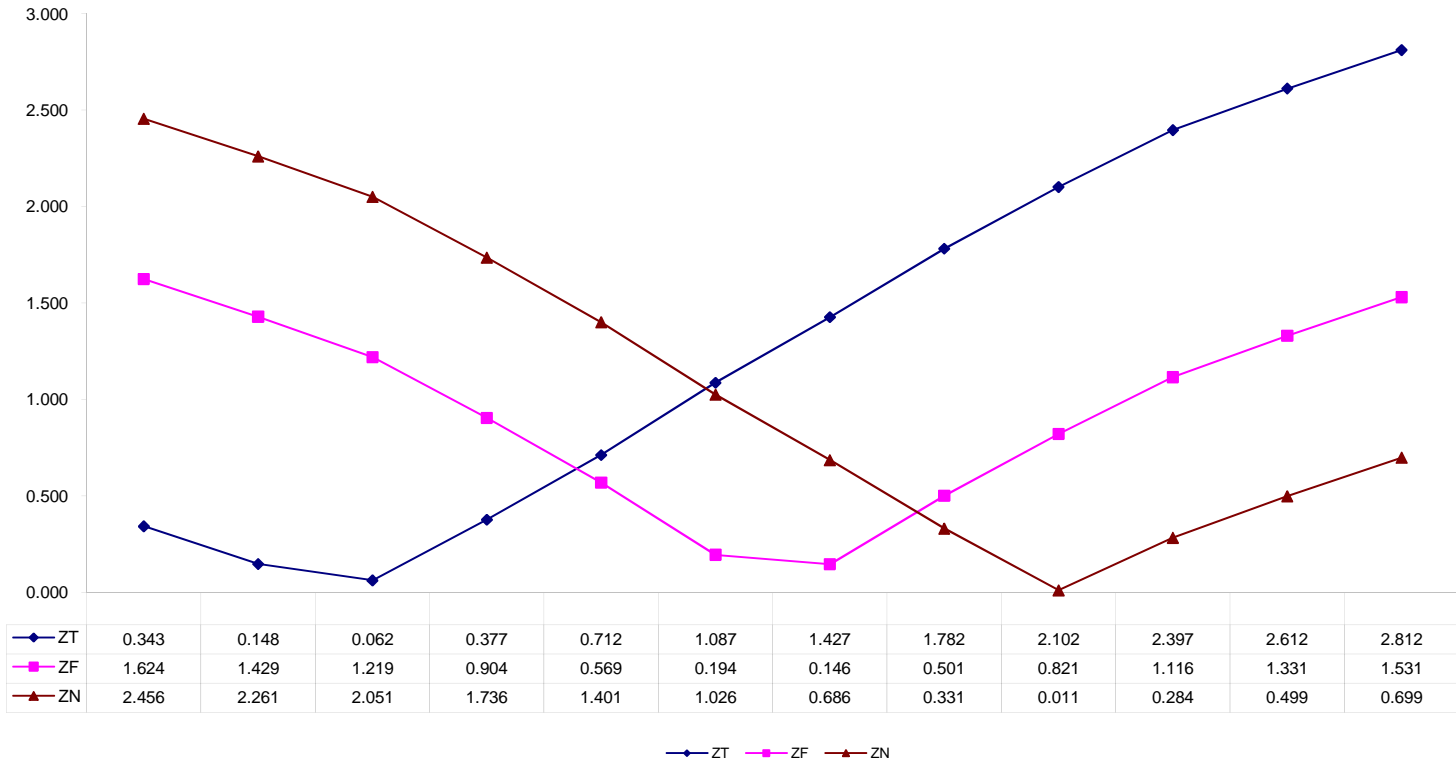
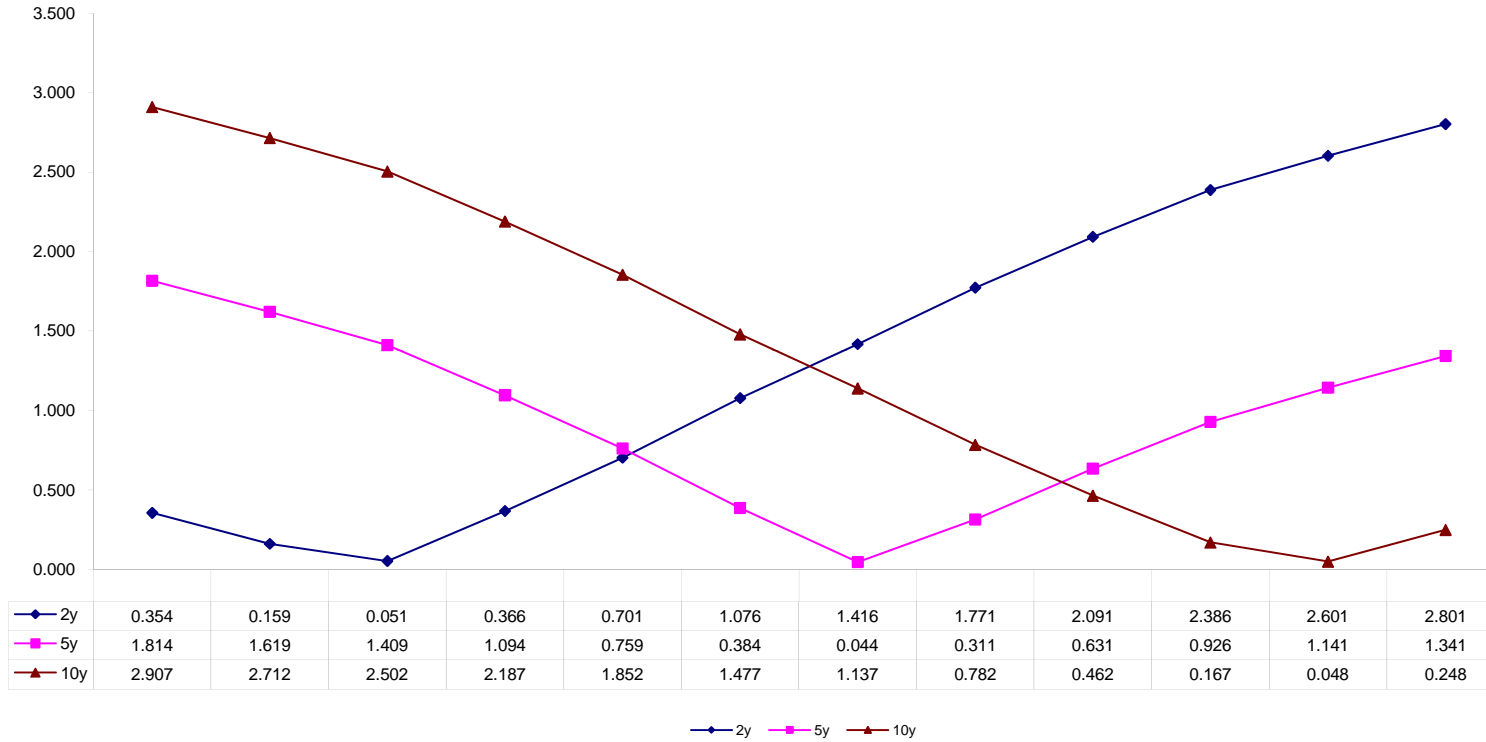
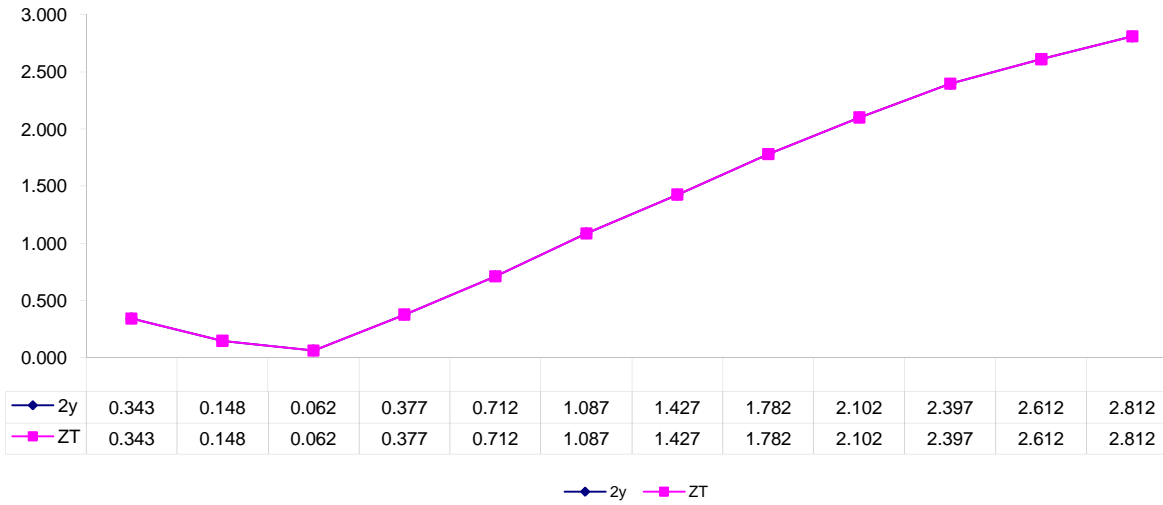
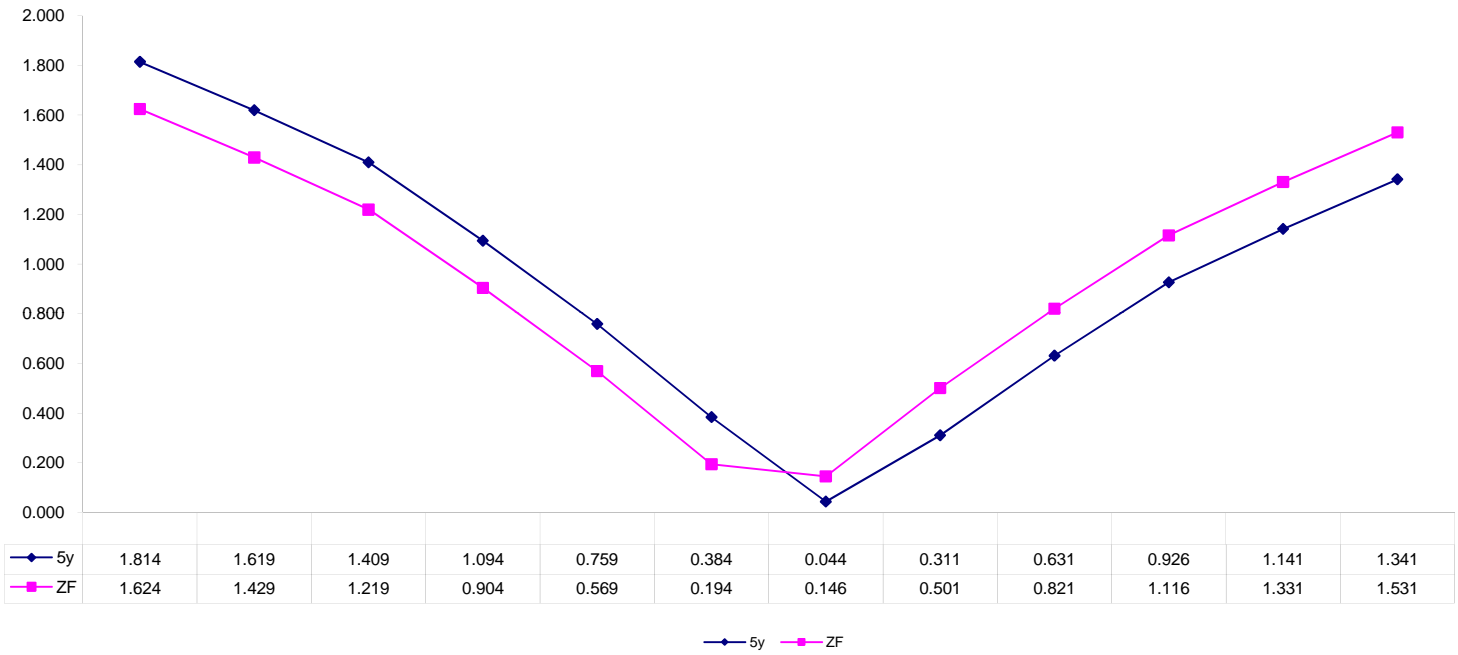


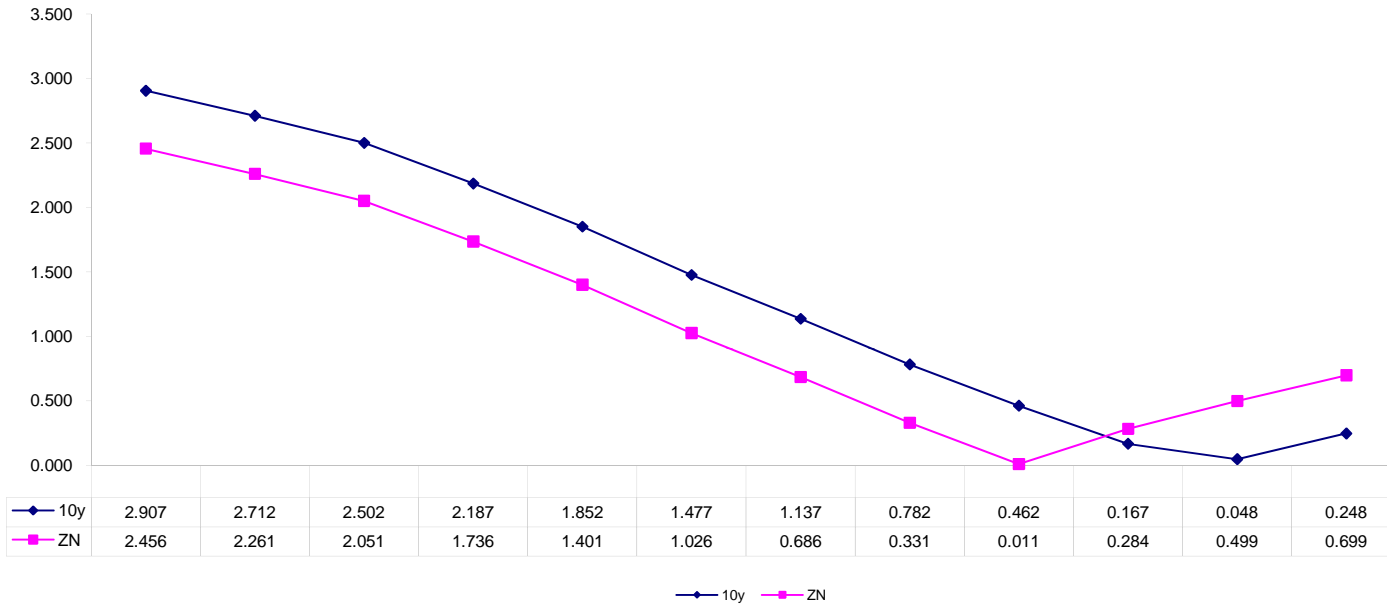
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.940	3.625	9907.5000
Red Pack	2.233	7.125	9781.0000
Green Pack	3.496	4.875	9658.1250
Blue Pack	4.231	2.500	9587.0000
Gold Pack	4.701	0.125	9541.6250

