

## **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	108.6469	108.2070	0.853	1.872
ZF	118.0000	118.0000	1.596	4.072
ZN	123.1719	123.0550	2.362	5.939
2y	99.9688	99.3100	0.887	1.924
5y	99.8750	99.2800	1.773	4.713
10y	99.3281	99.1050	2.825	8.509

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.9550	1.045	59	0.1610	JUN	
EDAU09	98.9150	1.085	150	0.4103	SEP	White Pack
EDAZ09	98.7050	1.295	241	0.6596	DEC	
EDAH10	98.5950	1.405	332	0.9089	MAR	
EDAM10	98.3950	1.605	423	1.1583	JUN	
EDAU10	98.2150	1.785	514	1.4076	SEP	Red Pack
EDAZ10	98.0000	2.000	605	1.6569	DEC	
EDAH11	97.8500	2.150	696	1.9062	MAR	
EDAM11	97.6500	2.350	787	2.1555	JUN	
EDAU11	97.4550	2.545	885	2.4240	SEP	Green Pack
EDAZ11	97.2550	2.745	976	2.6733	DEC	
EDAH12	97.1250	2.875	1,067	2.9226	MAR	
EDAM12	97.0050	2.995	1,158	3.1720	JUN	
EDAU12	96.9050	3.095	1,249	3.4213	SEP	Blue Pack
EDAZ12	96.7800	3.220	1,340	3.6706	DEC	
EDAH13	96.7400	3.260	1,431	3.9199	MAR	
EDAM13	96.6500	3.350	1,522	4.1692	JUN	
EDAU13	96.5700	3.430	1,613	4.4185	SEP	Gold Pack
EDAZ13	96.4850	3.515	1,704	4.6679	DEC	
EDAH14	96.4400	3.560	1,795	4.9172	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.228	-1.500	9879.25	
Red Pack	1.920	-2.750	9811.50	Pack Prices
Green Pack	2.683	-2.625	9737.13	
Blue Pack	-0.250		9685.50	
Gold Pack	-0.375		9653.88	

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:**

- € 1.00 Regression
- € 2.00 Engineered
- € 3.00 Strip with and without Stubs
- € 4.00 Convexity Bias
- € 5.00 Weighted
- € 6.00 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.

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#### **Correlations (Important)**

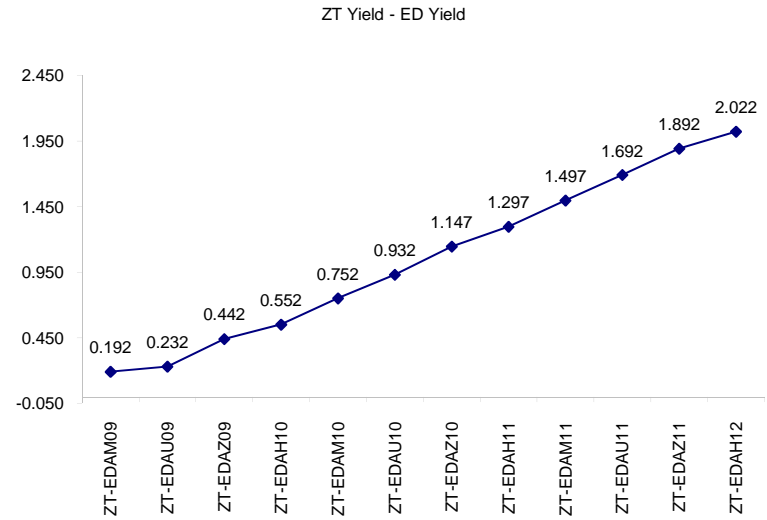
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based on yield than price.

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.69	0.192	ZT-EDAM09	73
EDAU09	9.73	0.232	ZT-EDAU09	83
EDAZ09	9.94	0.442	ZT-EDAZ09	89
EDAH10	10.05	0.552	ZT-EDAH10	91
EDAM10	10.25	0.752	ZT-EDAM10	93
EDAU10	10.43	0.932	ZT-EDAU10	93
EDAZ10	10.65	1.147	ZT-EDAZ10	93
EDAH11	10.80	1.297	ZT-EDAH11	92
EDAM11	11.00	1.497	ZT-EDAM11	89
EDAU11	11.19	1.692	ZT-EDAU11	86
EDAZ11	11.39	1.892	ZT-EDAZ11	82
EDAH12	11.52	2.022	ZT-EDAH12	80

Price = Outright Decimal Price - Euro Contract Price

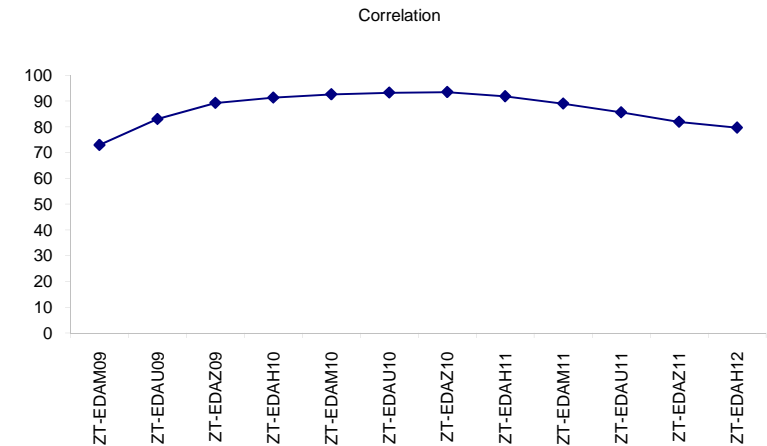
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAM09	0.1610	1.8717	1.7107	ZT-EDAM09	
EDAU09	0.4103	1.8717	1.4614	ZT-EDAU09	
EDAZ09	0.6596	1.8717	1.2121	ZT-EDAZ09	
EDAH10	0.9089	1.8717	0.9627	ZT-EDAH10	
EDAM10	1.1583	1.8717	0.7134	ZT-EDAM10	
EDAU10	1.4076	1.8717	0.4641	ZT-EDAU10	
EDAZ10	1.6569	1.8717	0.2148	ZT-EDAZ10	
EDAH11	1.9062	1.8717	-0.0345	ZT-EDAH11	
EDAM11	2.1555	1.8717	-0.2838	ZT-EDAM11	
EDAU11	2.4240	1.8717	-0.5523	ZT-EDAU11	
EDAZ11	2.6733	1.8717	-0.8016	ZT-EDAZ11	
EDAH12	2.9226	1.8717	-1.0510	ZT-EDAH12	

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



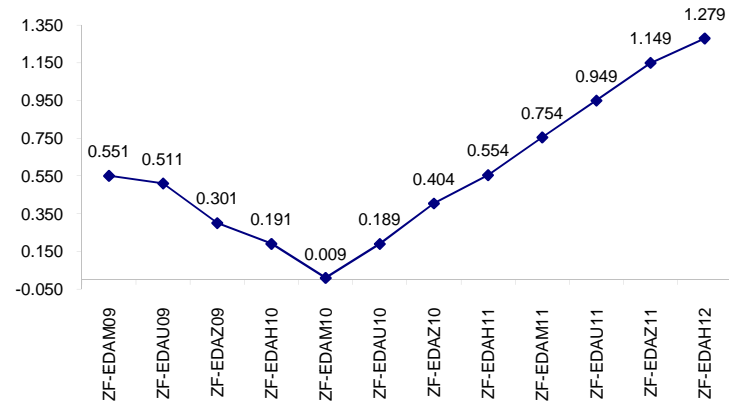
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	19.05	0.551	ZF-EDAM09	88
EDAU09	19.09	0.511	ZF-EDAU09	94
EDAZ09	19.30	0.301	ZF-EDAZ09	96
EDAH10	19.41	0.191	ZF-EDAH10	96
EDAM10	19.61	0.009	ZF-EDAM10	96
EDAU10	19.79	0.189	ZF-EDAU10	96
EDAZ10	20.00	0.404	ZF-EDAZ10	97
EDAH11	20.15	0.554	ZF-EDAH11	97
EDAM11	20.35	0.754	ZF-EDAM11	97
EDAU11	20.55	0.949	ZF-EDAU11	96
EDAZ11	20.75	1.149	ZF-EDAZ11	94
EDAH12	20.88	1.279	ZF-EDAH12	93

Price = Outright Decimal Price - Euro Contract Price

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

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ZF Yield - ED Yield

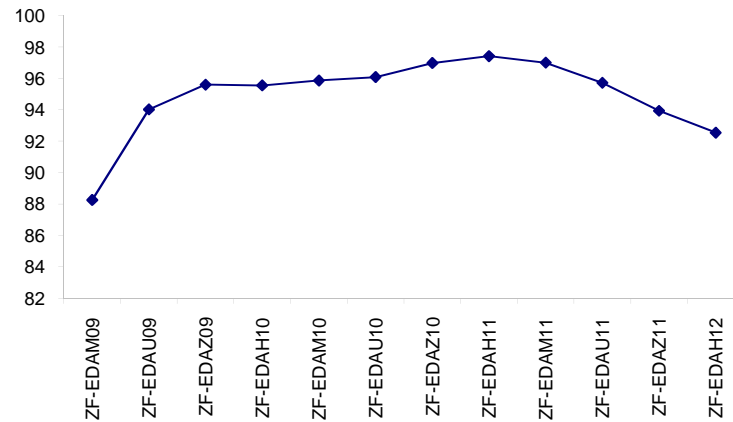


ED Duration as

	Fraction of year	ZF Duration	Spread Duration	
EDAM09	0.1610	4.0720	3.9110	ZF-EDAM09
EDAU09	0.4103	4.0720	3.6617	ZF-EDAU09
EDAZ09	0.6596	4.0720	3.4124	ZF-EDAZ09
EDAH10	0.9089	4.0720	3.1630	ZF-EDAH10
EDAM10	1.1583	4.0720	2.9137	ZF-EDAM10
EDAU10	1.4076	4.0720	2.6644	ZF-EDAU10
EDAZ10	1.6569	4.0720	2.4151	ZF-EDAZ10
EDAH11	1.9062	4.0720	2.1658	ZF-EDAH11
EDAM11	2.1555	4.0720	1.9165	ZF-EDAM11
EDAU11	2.4240	4.0720	1.6480	ZF-EDAU11
EDAZ11	2.6733	4.0720	1.3987	ZF-EDAZ11
EDAH12	2.9226	4.0720	1.1493	ZF-EDAH12

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Correlation

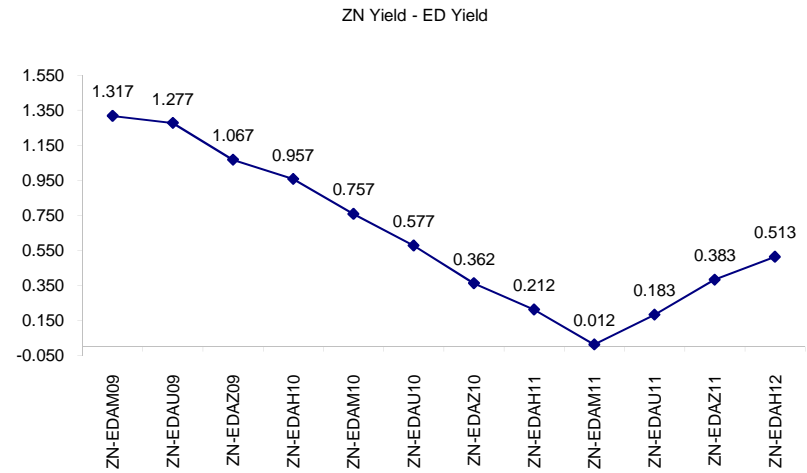


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAM09	24.22	1.317	ZN-EDAM09	94
EDAU09	24.26	1.277	ZN-EDAU09	98
EDAZ09	24.47	1.067	ZN-EDAZ09	98
EDAH10	24.58	0.957	ZN-EDAH10	97
EDAM10	24.78	0.757	ZN-EDAM10	96
EDAU10	24.96	0.577	ZN-EDAU10	96
EDAZ10	25.17	0.362	ZN-EDAZ10	96
EDAH11	25.32	0.212	ZN-EDAH11	96
EDAM11	25.52	0.012	ZN-EDAM11	96
EDAU11	25.72	0.183	ZN-EDAU11	95
EDAZ11	25.92	0.383	ZN-EDAZ11	94
EDAH12	26.05	0.513	ZN-EDAH12	93

Price = Outright Decimal Price - Euro Contract Price

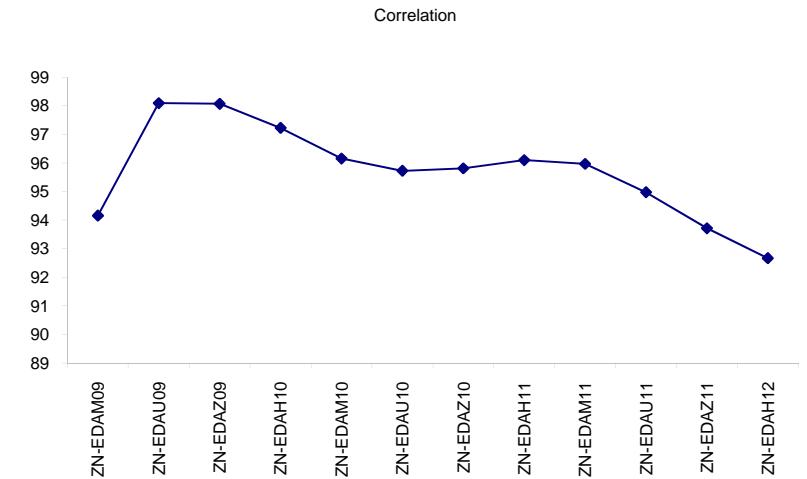
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



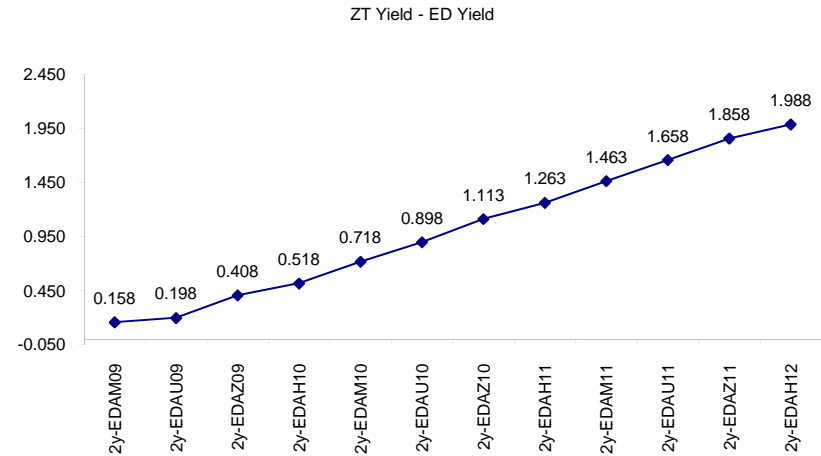
	ED Duration as			ZN Duration	Spread Duration	Contract
	Fraction of year	Duration	Duration			
EDAM09	0.1610	5.9392	5.7782	5.9392	5.7782	ZN-EDAM09
EDAU09	0.4103	5.9392	5.5289	5.9392	5.5289	ZN-EDAU09
EDAZ09	0.6596	5.9392	5.2796	5.9392	5.2796	ZN-EDAZ09
EDAH10	0.9089	5.9392	5.0303	5.9392	5.0303	ZN-EDAH10
EDAM10	1.1583	5.9392	4.7810	5.9392	4.7810	ZN-EDAM10
EDAU10	1.4076	5.9392	4.5317	5.9392	4.5317	ZN-EDAU10
EDAZ10	1.6569	5.9392	4.2824	5.9392	4.2824	ZN-EDAZ10
EDAH11	1.9062	5.9392	4.0330	5.9392	4.0330	ZN-EDAH11
EDAM11	2.1555	5.9392	3.7837	5.9392	3.7837	ZN-EDAM11
EDAU11	2.4240	5.9392	3.5152	5.9392	3.5152	ZN-EDAU11
EDAZ11	2.6733	5.9392	3.2659	5.9392	3.2659	ZN-EDAZ11
EDAH12	2.9226	5.9392	3.0166	5.9392	3.0166	ZN-EDAH12

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



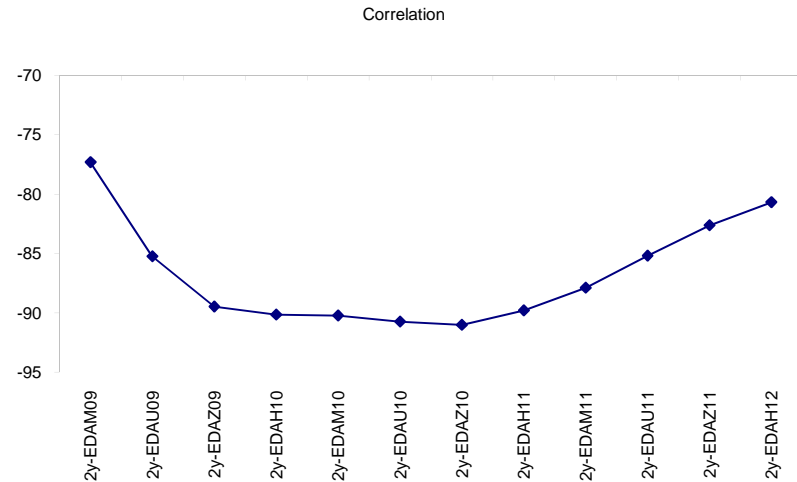
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.01	0.158	2y-EDAM09	-77
EDAU09	1.05	0.198	2y-EDAU09	-85
EDAZ09	1.26	0.408	2y-EDAZ09	-89
EDAH10	1.37	0.518	2y-EDAH10	-90
EDAM10	1.57	0.718	2y-EDAM10	-90
EDAU10	1.75	0.898	2y-EDAU10	-91
EDAZ10	1.97	1.113	2y-EDAZ10	-91
EDAH11	2.12	1.263	2y-EDAH11	-90
EDAM11	2.32	1.463	2y-EDAM11	-88
EDAU11	2.51	1.658	2y-EDAU11	-85
EDAZ11	2.71	1.858	2y-EDAZ11	-83
EDAH12	2.84	1.988	2y-EDAH12	-81

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



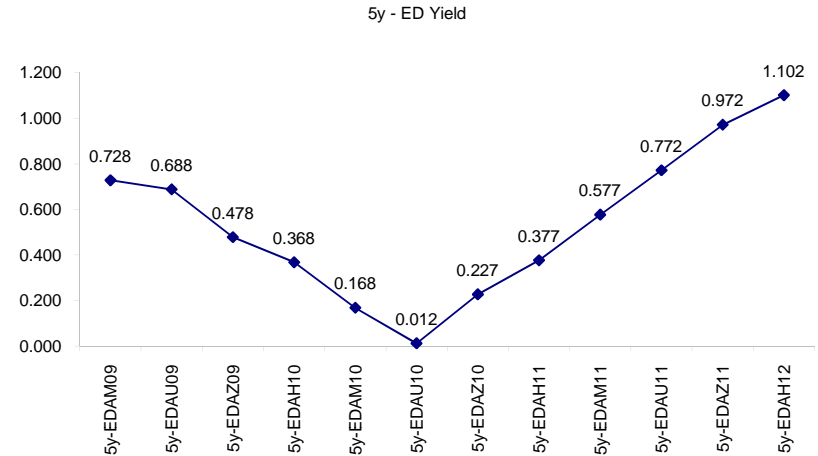
	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAM09	0.1610	1.9238	1.7628	2y-EDAM09
EDAU09	0.4103	1.9238	1.5135	2y-EDAU09
EDAZ09	0.6596	1.9238	1.2642	2y-EDAZ09
EDAH10	0.9089	1.9238	1.0148	2y-EDAH10
EDAM10	1.1583	1.9238	0.7655	2y-EDAM10
EDAU10	1.4076	1.9238	0.5162	2y-EDAU10
EDAZ10	1.6569	1.9238	0.2669	2y-EDAZ10
EDAH11	1.9062	1.9238	0.0176	2y-EDAH11
EDAM11	2.1555	1.9238	-0.2317	2y-EDAM11
EDAU11	2.4240	1.9238	-0.5002	2y-EDAU11
EDAZ11	2.6733	1.9238	-0.7495	2y-EDAZ11
EDAH12	2.9226	1.9238	-0.9989	2y-EDAH12

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



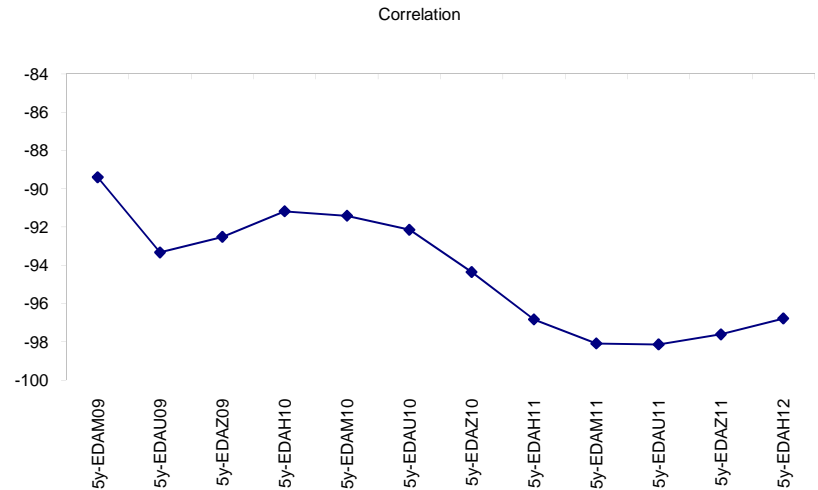
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.92	0.728	5y-EDAM09	-89
EDAU09	0.96	0.688	5y-EDAU09	-93
EDAZ09	1.17	0.478	5y-EDAZ09	-93
EDAH10	1.28	0.368	5y-EDAH10	-91
EDAM10	1.48	0.168	5y-EDAM10	-91
EDAU10	1.66	0.012	5y-EDAU10	-92
EDAZ10	1.88	0.227	5y-EDAZ10	-94
EDAH11	2.02	0.377	5y-EDAH11	-97
EDAM11	2.22	0.577	5y-EDAM11	-98
EDAU11	2.42	0.772	5y-EDAU11	-98
EDAZ11	2.62	0.972	5y-EDAZ11	-98
EDAH12	2.75	1.102	5y-EDAH12	-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		
EDAM09	0.1610	4.7127	4.5517	5y-EDAM09
EDAU09	0.4103	4.7127	4.3024	5y-EDAU09
EDAZ09	0.6596	4.7127	4.0531	5y-EDAZ09
EDAH10	0.9089	4.7127	3.8038	5y-EDAH10
EDAM10	1.1583	4.7127	3.5545	5y-EDAM10
EDAU10	1.4076	4.7127	3.3051	5y-EDAU10
EDAZ10	1.6569	4.7127	3.0558	5y-EDAZ10
EDAH11	1.9062	4.7127	2.8065	5y-EDAH11
EDAM11	2.1555	4.7127	2.5572	5y-EDAM11
EDAU11	2.4240	4.7127	2.2887	5y-EDAU11
EDAZ11	2.6733	4.7127	2.0394	5y-EDAZ11
EDAH12	2.9226	4.7127	1.7901	5y-EDAH12

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

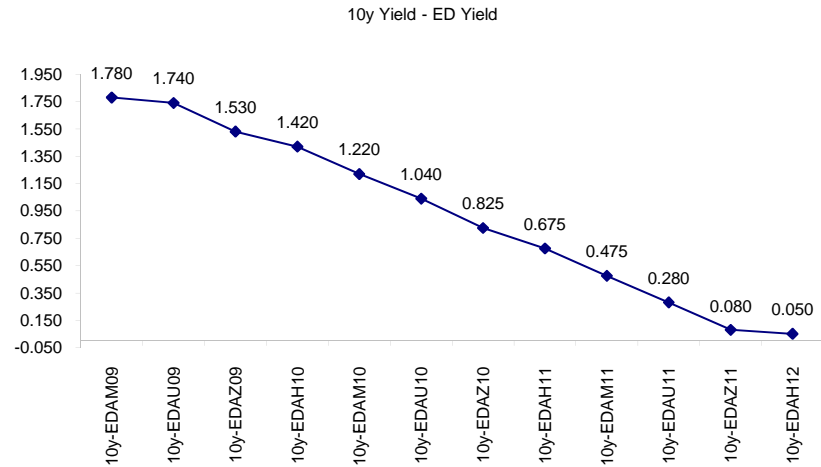


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.92	1.780	10y-EDAM09	-89
EDAU09	0.96	1.740	10y-EDAU09	-92
EDAZ09	1.17	1.530	10y-EDAZ09	-90
EDAH10	1.28	1.420	10y-EDAH10	-89
EDAM10	1.48	1.220	10y-EDAM10	-90
EDAU10	1.66	1.040	10y-EDAU10	-91
EDAZ10	1.88	0.825	10y-EDAZ10	-93
EDAH11	2.02	0.675	10y-EDAH11	-96
EDAM11	2.22	0.475	10y-EDAM11	-98
EDAU11	2.42	0.280	10y-EDAU11	-98
EDAZ11	2.62	0.080	10y-EDAZ11	-97
EDAH12	2.75	0.050	10y-EDAH12	-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				10Y Duration	Spread Duration	
EDAM09	0.1610	8.5088	8.3478	10y-EDAM09		
EDAU09	0.4103	8.5088	8.0984	10y-EDAU09		
EDAZ09	0.6596	8.5088	7.8491	10y-EDAZ09		
EDAH10	0.9089	8.5088	7.5998	10y-EDAH10		
EDAM10	1.1583	8.5088	7.3505	10y-EDAM10		
EDAU10	1.4076	8.5088	7.1012	10y-EDAU10		
EDAZ10	1.6569	8.5088	6.8519	10y-EDAZ10		
EDAH11	1.9062	8.5088	6.6026	10y-EDAH11		
EDAM11	2.1555	8.5088	6.3532	10y-EDAM11		
EDAU11	2.4240	8.5088	6.0847	10y-EDAU11		
EDAZ11	2.6733	8.5088	5.8354	10y-EDAZ11		
EDAH12	2.9226	8.5088	5.5861	10y-EDAH12		

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

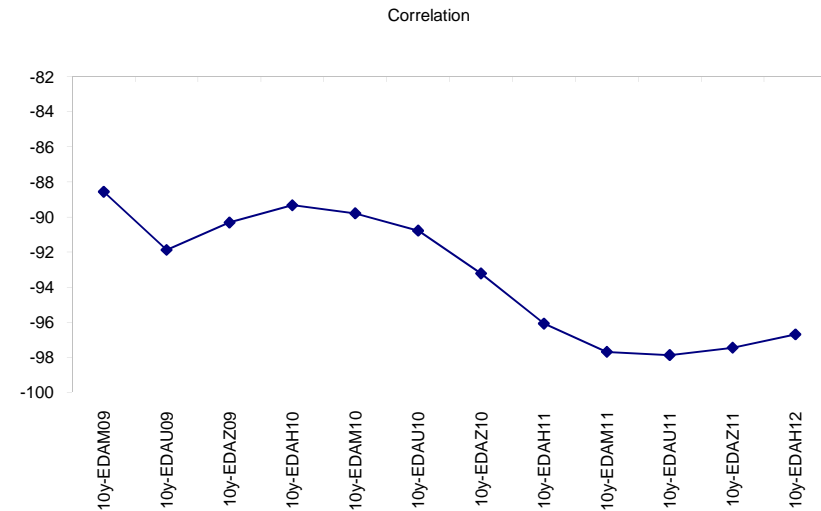


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

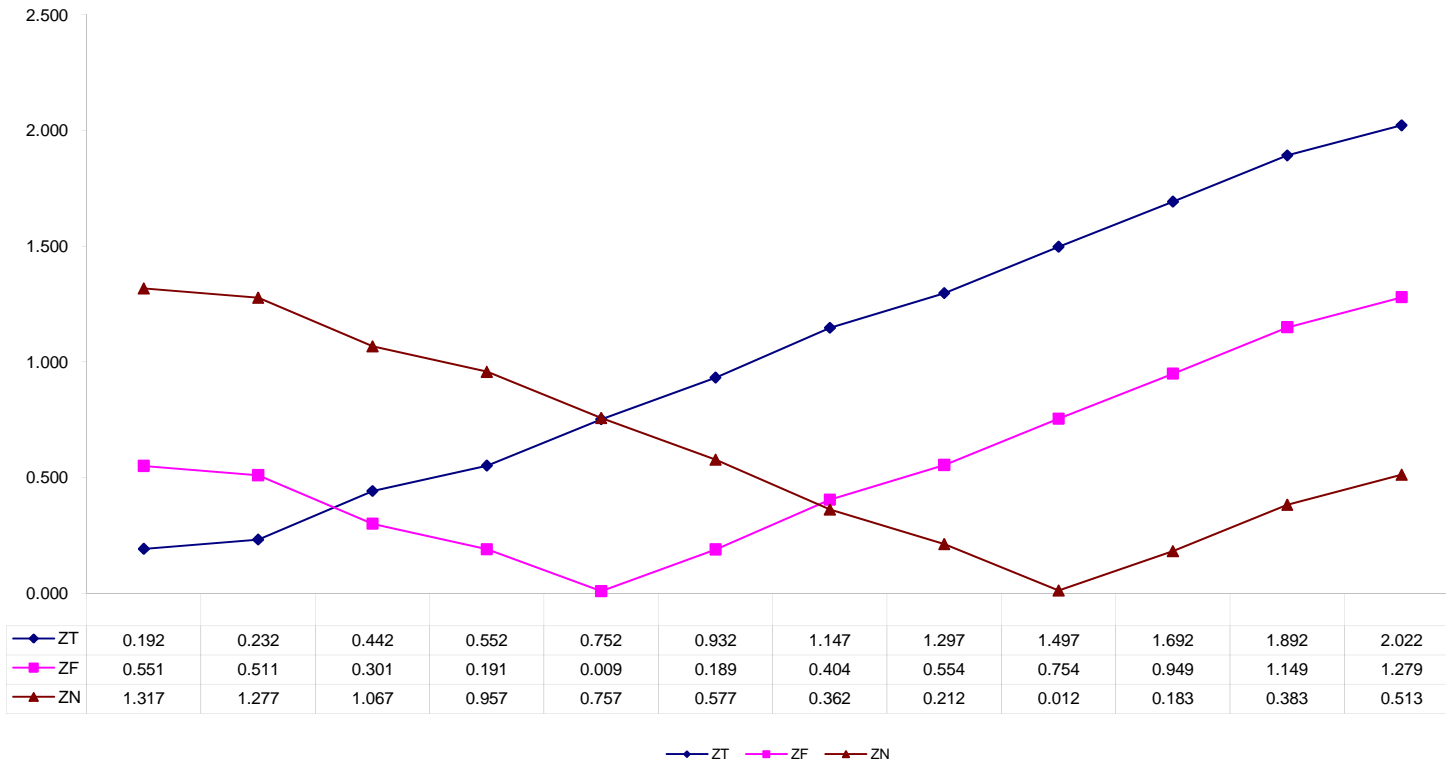
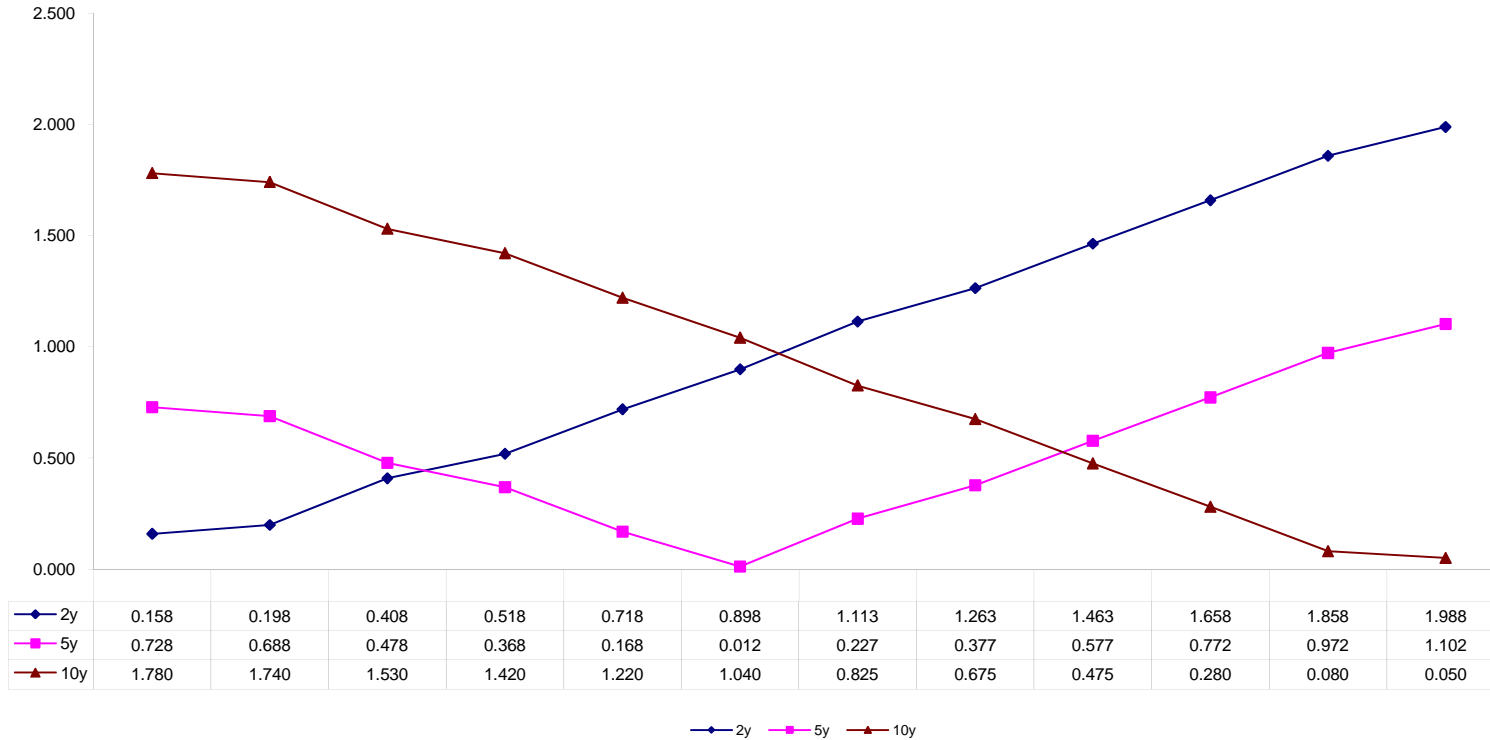
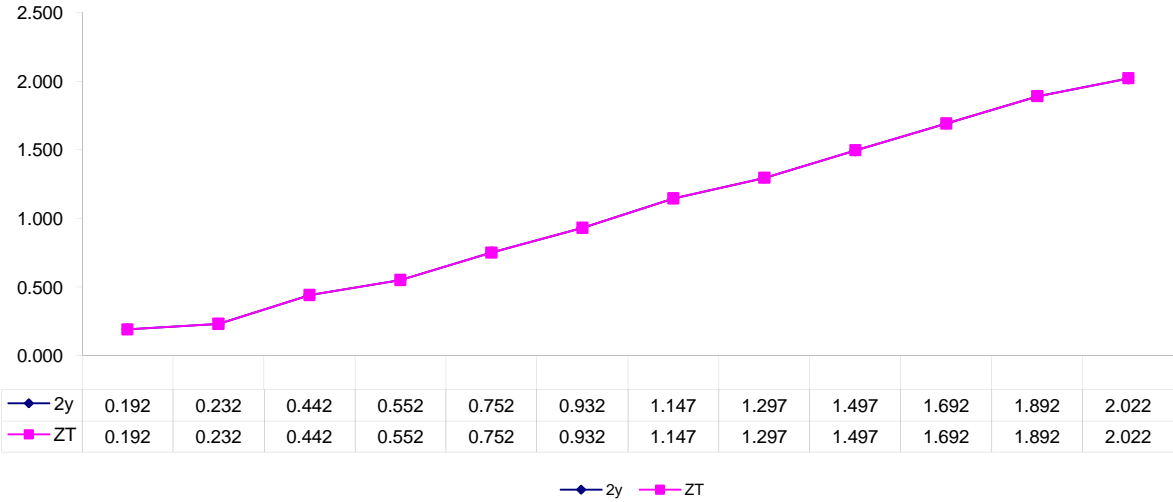
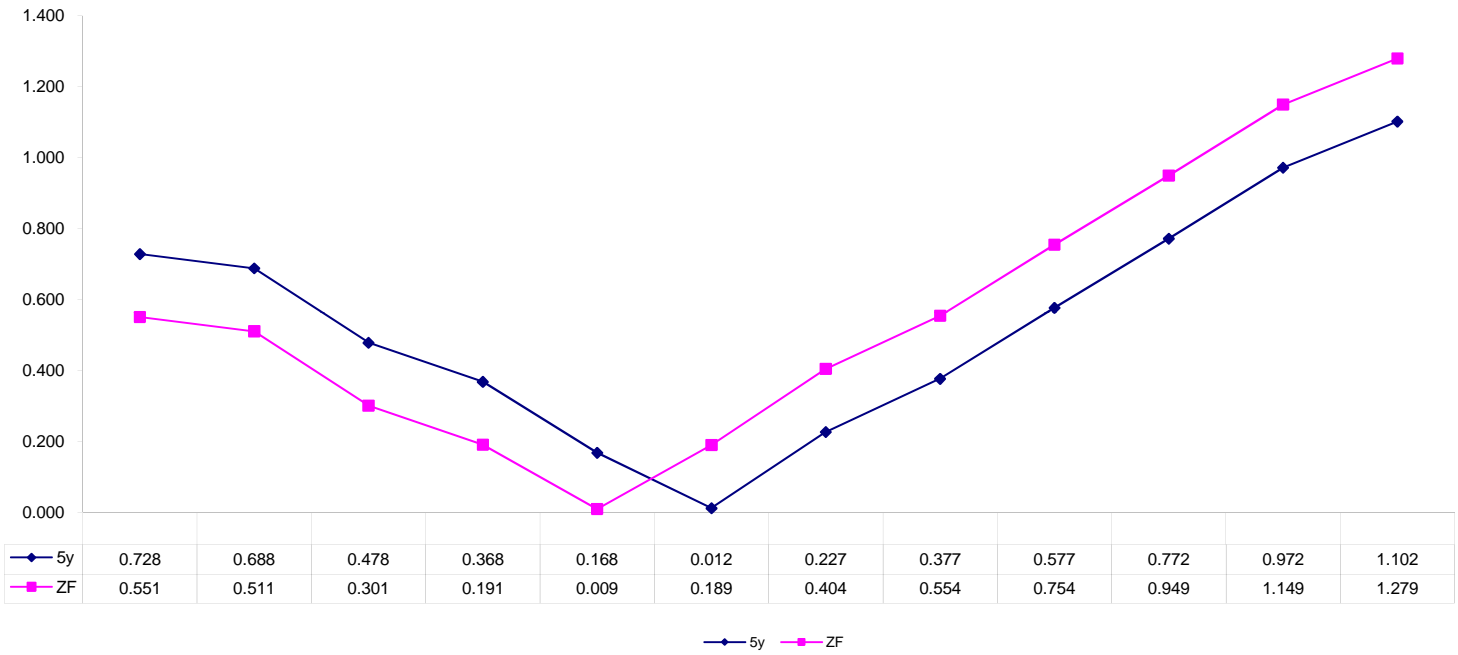


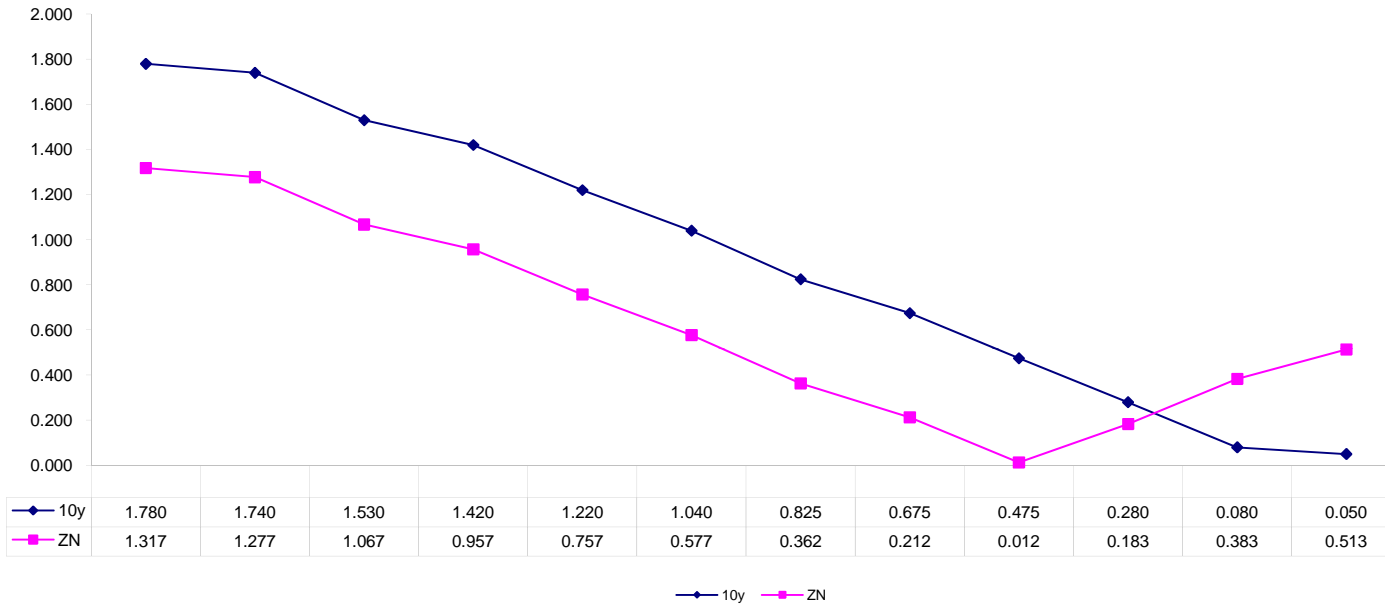
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.228	-1.500	9879.2500
Red Pack	1.920	-2.750	9811.5000
Green Pack	2.683	-2.625	9737.1250
Blue Pack		-0.250	9685.5000
Gold Pack		-0.375	9653.8750

