

## **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	108.9750	108.3120	0.753	1.786
ZF	117.4125	117.1320	1.767	3.981
ZN	120.9375	120.3000	2.655	5.958
2y	100.0781	100.0250	0.830	1.919
5y	99.2719	99.0870	2.029	4.688
10y	99.3906	99.1250	3.197	8.505

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.4275	0.572	25	0.0678	JUN	
EDAU09	99.4100	0.590	116	0.3171	SEP	White Pack
EDAZ09	99.2250	0.775	207	0.5665	DEC	
EDAH10	99.0800	0.920	298	0.8158	MAR	
EDAM10	98.8200	1.180	389	1.0651	JUN	
EDAU10	98.5350	1.465	480	1.3144	SEP	Red Pack
EDAZ10	98.1900	1.810	571	1.5637	DEC	
EDAH11	97.8900	2.110	662	1.8130	MAR	
EDAM11	97.5600	2.440	753	2.0624	JUN	
EDAU11	97.2800	2.720	851	2.3308	SEP	Green Pack
EDAZ11	97.0100	2.990	942	2.5802	DEC	
EDAH12	96.8350	3.165	1,033	2.8295	MAR	
EDAM12	96.6700	3.330	1,124	3.0788	JUN	
EDAU12	96.5300	3.470	1,215	3.3281	SEP	Blue Pack
EDAZ12	96.3850	3.615	1,306	3.5774	DEC	
EDAH13	96.3050	3.695	1,397	3.8267	MAR	
EDAM13	96.2000	3.800	1,488	4.0761	JUN	
EDAU13	96.0900	3.910	1,579	4.3254	SEP	Gold Pack
EDAZ13	95.9950	4.005	1,670	4.5747	DEC	
EDAH14	95.9550	4.045	1,761	4.8240	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	0.726	4.688	9928.56	
Red Pack	1.671	4.625	9835.88	Pack Prices
Green Pack	2.889	1.875	9717.13	
Blue Pack	3.608	0.000	9647.25	
Gold Pack		-0.750	9605.88	

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 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)**

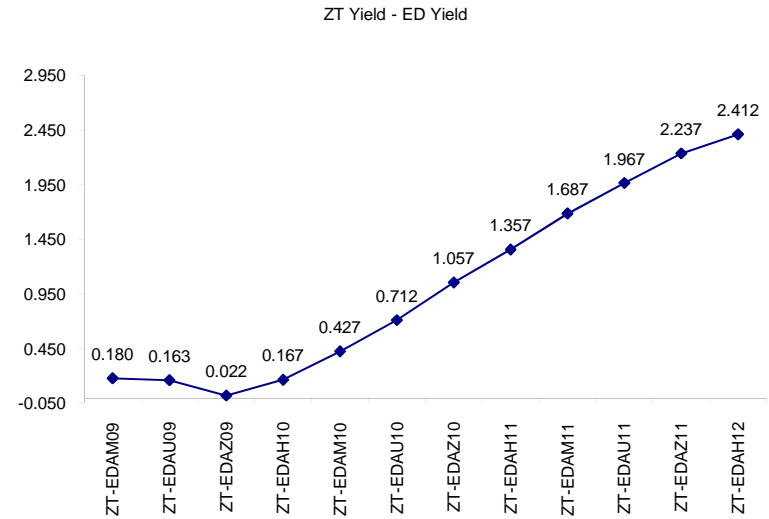
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.55	0.180	ZT-EDAM09	64
EDAU09	9.57	0.163	ZT-EDAU09	67
EDAZ09	9.75	0.022	ZT-EDAZ09	72
EDAH10	9.90	0.167	ZT-EDAH10	81
EDAM10	10.16	0.427	ZT-EDAM10	88
EDAU10	10.44	0.712	ZT-EDAU10	94
EDAZ10	10.79	1.057	ZT-EDAZ10	96
EDAH11	11.09	1.357	ZT-EDAH11	95
EDAM11	11.42	1.687	ZT-EDAM11	90
EDAU11	11.70	1.967	ZT-EDAU11	86
EDAZ11	11.97	2.237	ZT-EDAZ11	83
EDAH12	12.14	2.412	ZT-EDAH12	81

Price = Outright Decimal Price - Euro Contract Price

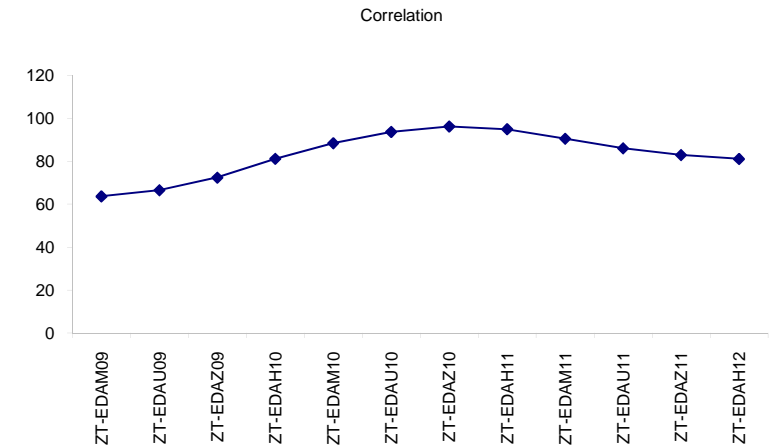
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.0678	1.7856	1.7178	ZT-EDAM09		
EDAU09	0.3171	1.7856	1.4684	ZT-EDAU09		
EDAZ09	0.5665	1.7856	1.2191	ZT-EDAZ09		
EDAH10	0.8158	1.7856	0.9698	ZT-EDAH10		
EDAM10	1.0651	1.7856	0.7205	ZT-EDAM10		
EDAU10	1.3144	1.7856	0.4712	ZT-EDAU10		
EDAZ10	1.5637	1.7856	0.2219	ZT-EDAZ10		
EDAH11	1.8130	1.7856	-0.0274	ZT-EDAH11		
EDAM11	2.0624	1.7856	-0.2768	ZT-EDAM11		
EDAU11	2.3308	1.7856	-0.5453	ZT-EDAU11		
EDAZ11	2.5802	1.7856	-0.7946	ZT-EDAZ11		
EDAH12	2.8295	1.7856	-1.0439	ZT-EDAH12		

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

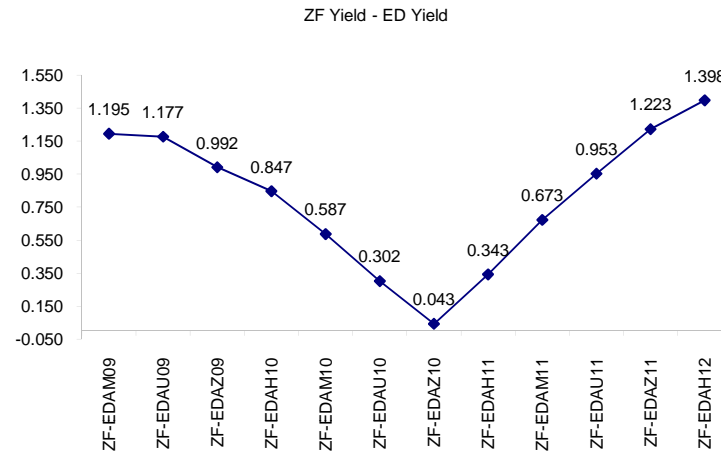


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	17.99	1.195	ZF-EDAM09	17
EDAU09	18.00	1.177	ZF-EDAU09	21
EDAZ09	18.19	0.992	ZF-EDAZ09	29
EDAH10	18.33	0.847	ZF-EDAH10	43
EDAM10	18.59	0.587	ZF-EDAM10	56
EDAU10	18.88	0.302	ZF-EDAU10	70
EDAZ10	19.22	0.043	ZF-EDAZ10	82
EDAH11	19.52	0.343	ZF-EDAH11	91
EDAM11	19.85	0.673	ZF-EDAM11	96
EDAU11	20.13	0.953	ZF-EDAU11	97
EDAZ11	20.40	1.223	ZF-EDAZ11	98
EDAH12	20.58	1.398	ZF-EDAH12	98

Price = Outright Decimal Price - Euro Contract Price

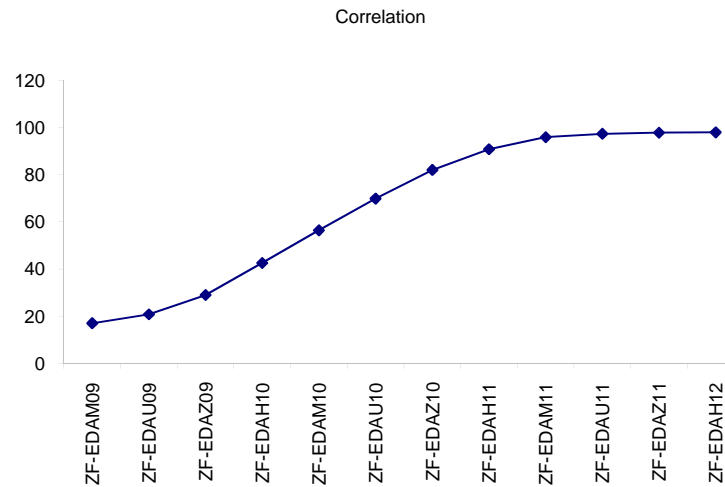
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



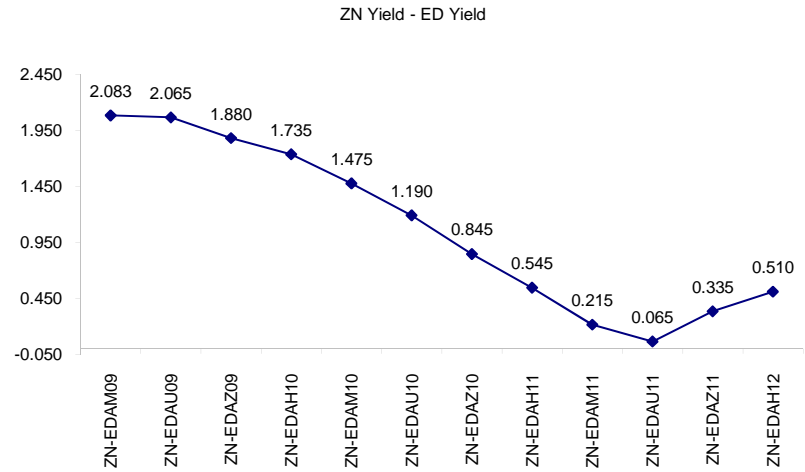
	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.0678	3.9812	3.9134	ZF-EDAM09	
EDAU09	0.3171	3.9812	3.6641	ZF-EDAU09	
EDAZ09	0.5665	3.9812	3.4147	ZF-EDAZ09	
EDAH10	0.8158	3.9812	3.1654	ZF-EDAH10	
EDAM10	1.0651	3.9812	2.9161	ZF-EDAM10	
EDAU10	1.3144	3.9812	2.6668	ZF-EDAU10	
EDAZ10	1.5637	3.9812	2.4175	ZF-EDAZ10	
EDAH11	1.8130	3.9812	2.1682	ZF-EDAH11	
EDAM11	2.0624	3.9812	1.9189	ZF-EDAM11	
EDAU11	2.3308	3.9812	1.6504	ZF-EDAU11	
EDAZ11	2.5802	3.9812	1.4010	ZF-EDAZ11	
EDAH12	2.8295	3.9812	1.1517	ZF-EDAH12	

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



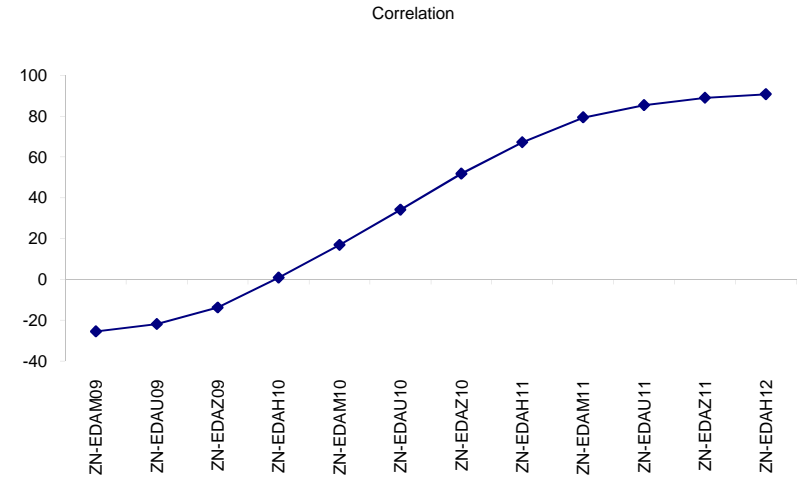
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	21.51	2.083	ZN-EDAM09	-25
EDAU09	21.53	2.065	ZN-EDAU09	-22
EDAZ09	21.71	1.880	ZN-EDAZ09	-14
EDAH10	21.86	1.735	ZN-EDAH10	1
EDAM10	22.12	1.475	ZN-EDAM10	17
EDAU10	22.40	1.190	ZN-EDAU10	34
EDAZ10	22.75	0.845	ZN-EDAZ10	52
EDAH11	23.05	0.545	ZN-EDAH11	67
EDAM11	23.38	0.215	ZN-EDAM11	79
EDAU11	23.66	0.065	ZN-EDAU11	85
EDAZ11	23.93	0.335	ZN-EDAZ11	89
EDAH12	24.10	0.510	ZN-EDAH12	91

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	0.0678	5.9575	5.8897
EDAU09	0.3171	5.9575	5.6404
EDAZ09	0.5665	5.9575	5.3910
EDAH10	0.8158	5.9575	5.1417
EDAM10	1.0651	5.9575	4.8924
EDAU10	1.3144	5.9575	4.6431
EDAZ10	1.5637	5.9575	4.3938
EDAH11	1.8130	5.9575	4.1445
EDAM11	2.0624	5.9575	3.8951
EDAU11	2.3308	5.9575	3.6267
EDAZ11	2.5802	5.9575	3.3773
EDAH12	2.8295	5.9575	3.1280

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.65	0.258	2y-EDAM09	-59
EDAU09	0.67	0.240	2y-EDAU09	-62
EDAZ09	0.85	0.055	2y-EDAZ09	-68
EDAH10	1.00	0.090	2y-EDAH10	-76
EDAM10	1.26	0.350	2y-EDAM10	-83
EDAU10	1.54	0.635	2y-EDAU10	-88
EDAZ10	1.89	0.980	2y-EDAZ10	-90
EDAH11	2.19	1.280	2y-EDAH11	-90
EDAM11	2.52	1.610	2y-EDAM11	-86
EDAU11	2.80	1.890	2y-EDAU11	-82
EDAZ11	3.07	2.160	2y-EDAZ11	-79
EDAH12	3.24	2.335	2y-EDAH12	-78

Price = Outright Decimal Price - Euro Contract Price

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

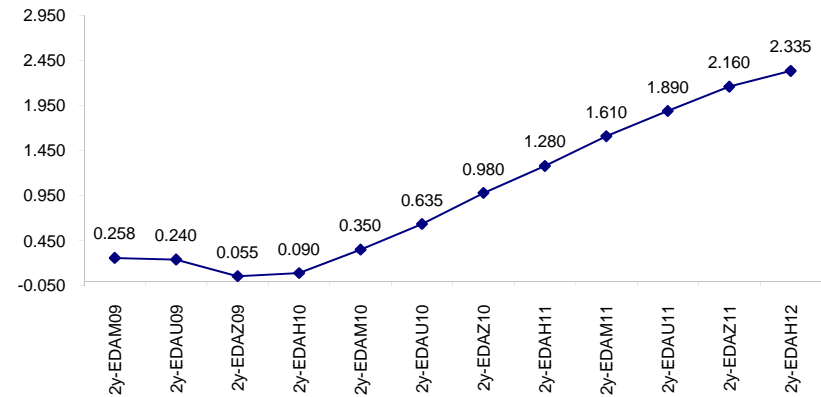
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

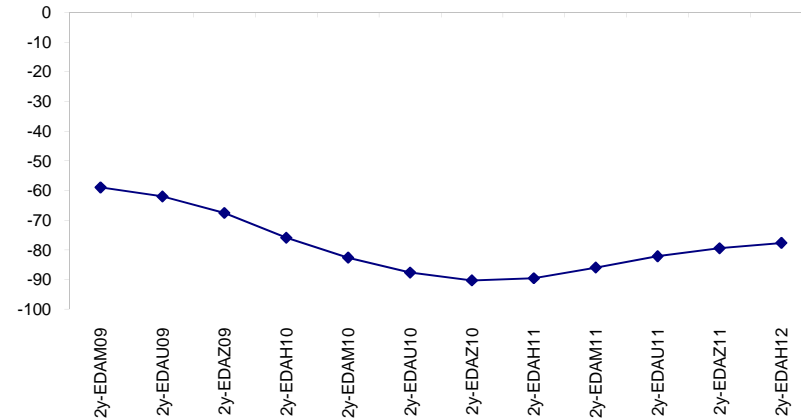
	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0678	1.9192	1.8514	2y-EDAM09
EDAU09	0.3171	1.9192	1.6021	2y-EDAU09
EDAZ09	0.5665	1.9192	1.3528	2y-EDAZ09
EDAH10	0.8158	1.9192	1.1034	2y-EDAH10
EDAM10	1.0651	1.9192	0.8541	2y-EDAM10
EDAU10	1.3144	1.9192	0.6048	2y-EDAU10
EDAZ10	1.5637	1.9192	0.3555	2y-EDAZ10
EDAH11	1.8130	1.9192	0.1062	2y-EDAH11
EDAM11	2.0624	1.9192	-0.1431	2y-EDAM11
EDAU11	2.3308	1.9192	-0.4116	2y-EDAU11
EDAZ11	2.5802	1.9192	-0.6609	2y-EDAZ11
EDAH12	2.8295	1.9192	-0.9102	2y-EDAH12

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ZT Yield - ED Yield



Correlation

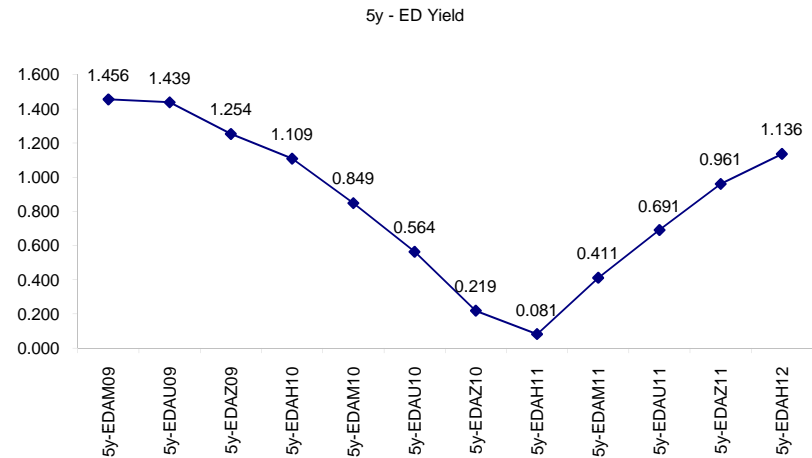


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.16	1.456	5y-EDAM09	11
EDAU09	-0.14	1.439	5y-EDAU09	7
EDAZ09	0.05	1.254	5y-EDAZ09	0
EDAH10	0.19	1.109	5y-EDAH10	-13
EDAM10	0.45	0.849	5y-EDAM10	-27
EDAU10	0.74	0.564	5y-EDAU10	-43
EDAZ10	1.08	0.219	5y-EDAZ10	-58
EDAH11	1.38	0.081	5y-EDAH11	-71
EDAM11	1.71	0.411	5y-EDAM11	-81
EDAU11	1.99	0.691	5y-EDAU11	-87
EDAZ11	2.26	0.961	5y-EDAZ11	-89
EDAH12	2.44	1.136	5y-EDAH12	-90

Price = Outright Decimal Price - Euro Contract Price

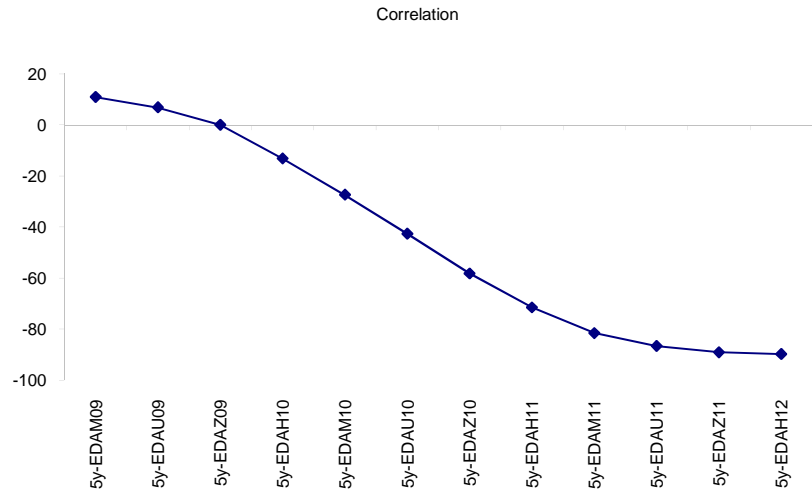
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAM09	0.0678	4.6878	4.6200	5y-EDAM09	
EDAU09	0.3171	4.6878	4.3707	5y-EDAU09	
EDAZ09	0.5665	4.6878	4.1214	5y-EDAZ09	
EDAH10	0.8158	4.6878	3.8721	5y-EDAH10	
EDAM10	1.0651	4.6878	3.6228	5y-EDAM10	
EDAU10	1.3144	4.6878	3.3734	5y-EDAU10	
EDAZ10	1.5637	4.6878	3.1241	5y-EDAZ10	
EDAH11	1.8130	4.6878	2.8748	5y-EDAH11	
EDAM11	2.0624	4.6878	2.6255	5y-EDAM11	
EDAU11	2.3308	4.6878	2.3570	5y-EDAU11	
EDAZ11	2.5802	4.6878	2.1077	5y-EDAZ11	
EDAH12	2.8295	4.6878	1.8584	5y-EDAH12	

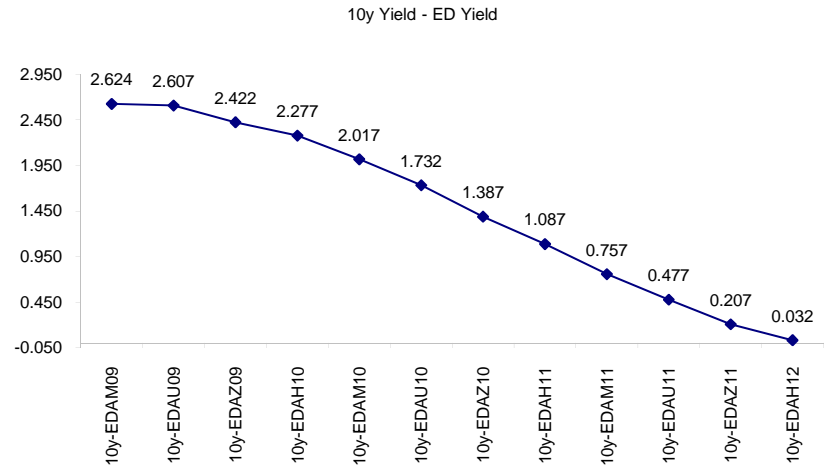
The farther away from 0 the spread duration is the riskier the trade.





	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.16	2.624	10y-EDAM09	20
EDAU09	-0.14	2.607	10y-EDAU09	16
EDAZ09	0.05	2.422	10y-EDAZ09	7
EDAH10	0.19	2.277	10y-EDAH10	-7
EDAM10	0.45	2.017	10y-EDAM10	-22
EDAU10	0.74	1.732	10y-EDAU10	-38
EDAZ10	1.08	1.387	10y-EDAZ10	-54
EDAH11	1.38	1.087	10y-EDAH11	-68
EDAM11	1.71	0.757	10y-EDAM11	-79
EDAU11	1.99	0.477	10y-EDAU11	-85
EDAZ11	2.26	0.207	10y-EDAZ11	-88
EDAH12	2.44	0.032	10y-EDAH12	-89

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	0.0678	8.5049	8.4371	10y-EDAM09
EDAU09	0.3171	8.5049	8.1878	10y-EDAU09
EDAZ09	0.5665	8.5049	7.9385	10y-EDAZ09
EDAH10	0.8158	8.5049	7.6892	10y-EDAH10
EDAM10	1.0651	8.5049	7.4399	10y-EDAM10
EDAU10	1.3144	8.5049	7.1905	10y-EDAU10
EDAZ10	1.5637	8.5049	6.9412	10y-EDAZ10
EDAH11	1.8130	8.5049	6.6919	10y-EDAH11
EDAM11	2.0624	8.5049	6.4426	10y-EDAM11
EDAU11	2.3308	8.5049	6.1741	10y-EDAU11
EDAZ11	2.5802	8.5049	5.9248	10y-EDAZ11
EDAH12	2.8295	8.5049	5.6755	10y-EDAH12

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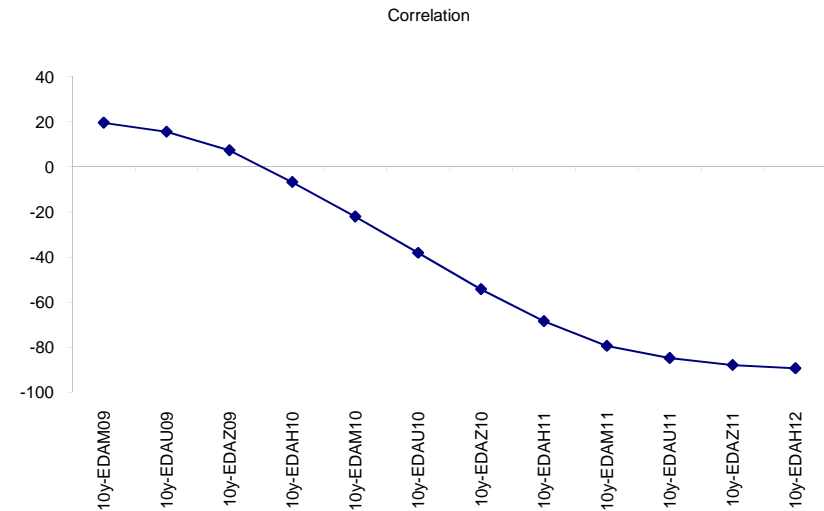


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

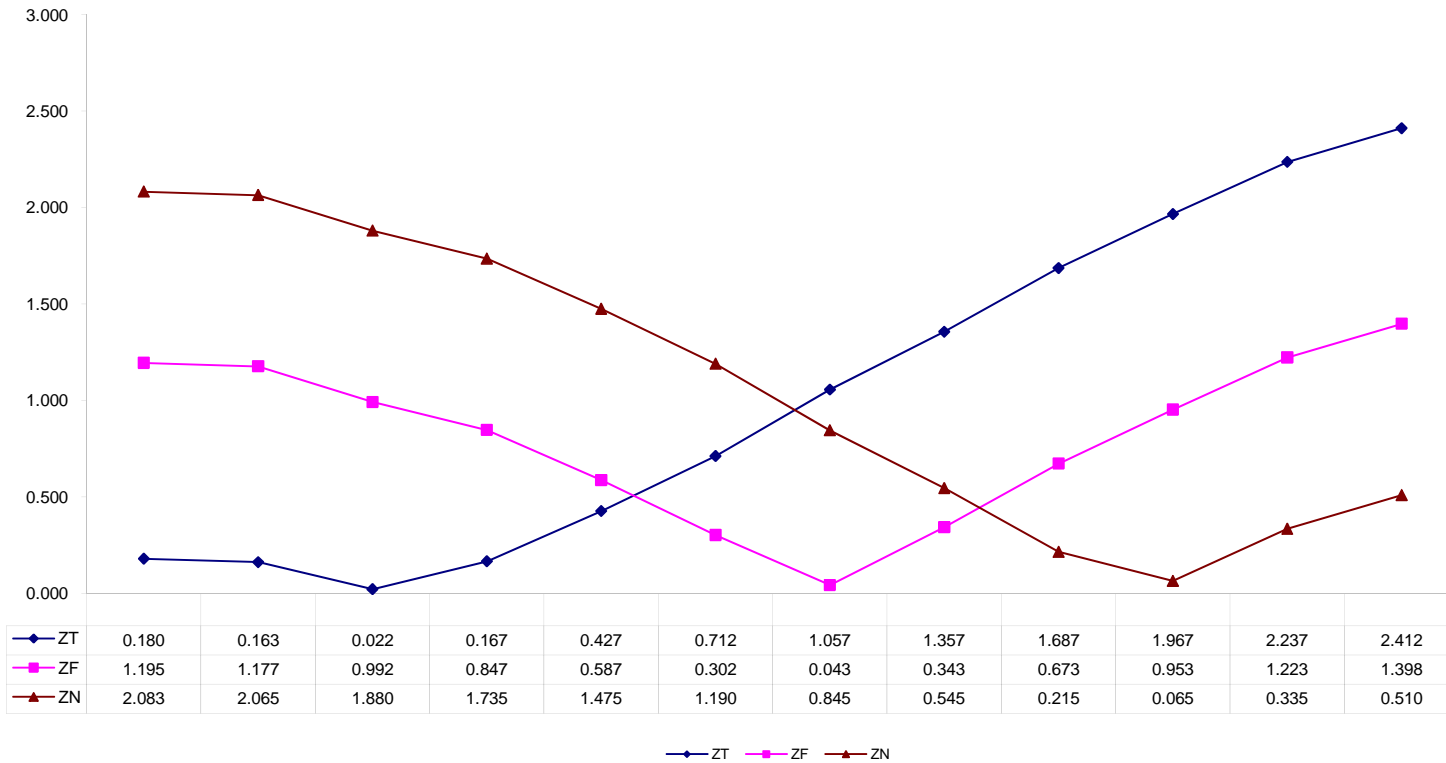
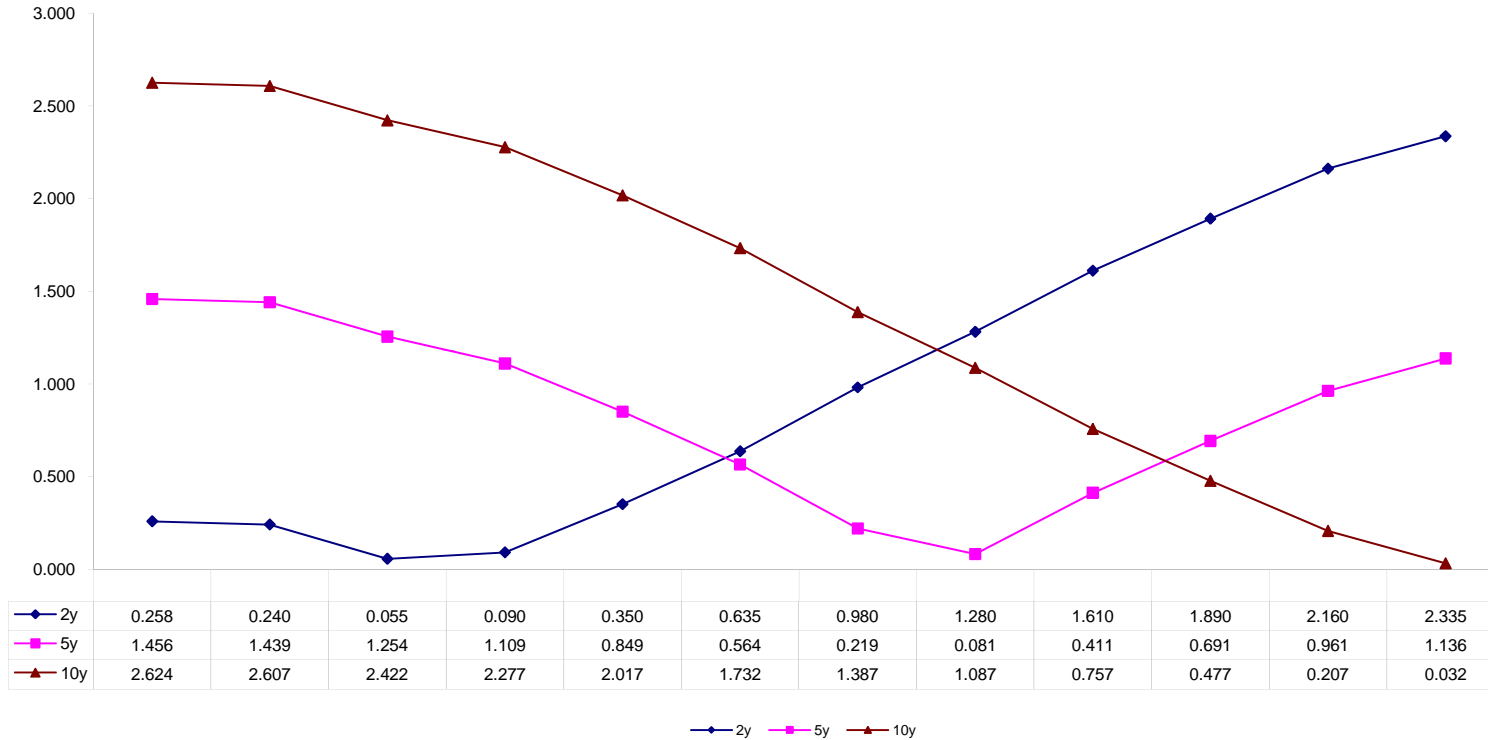
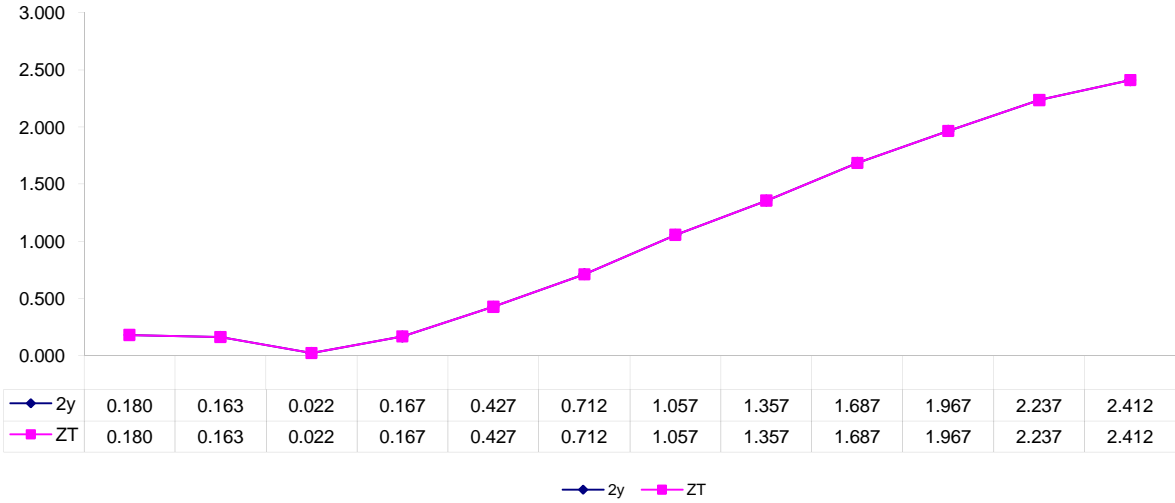
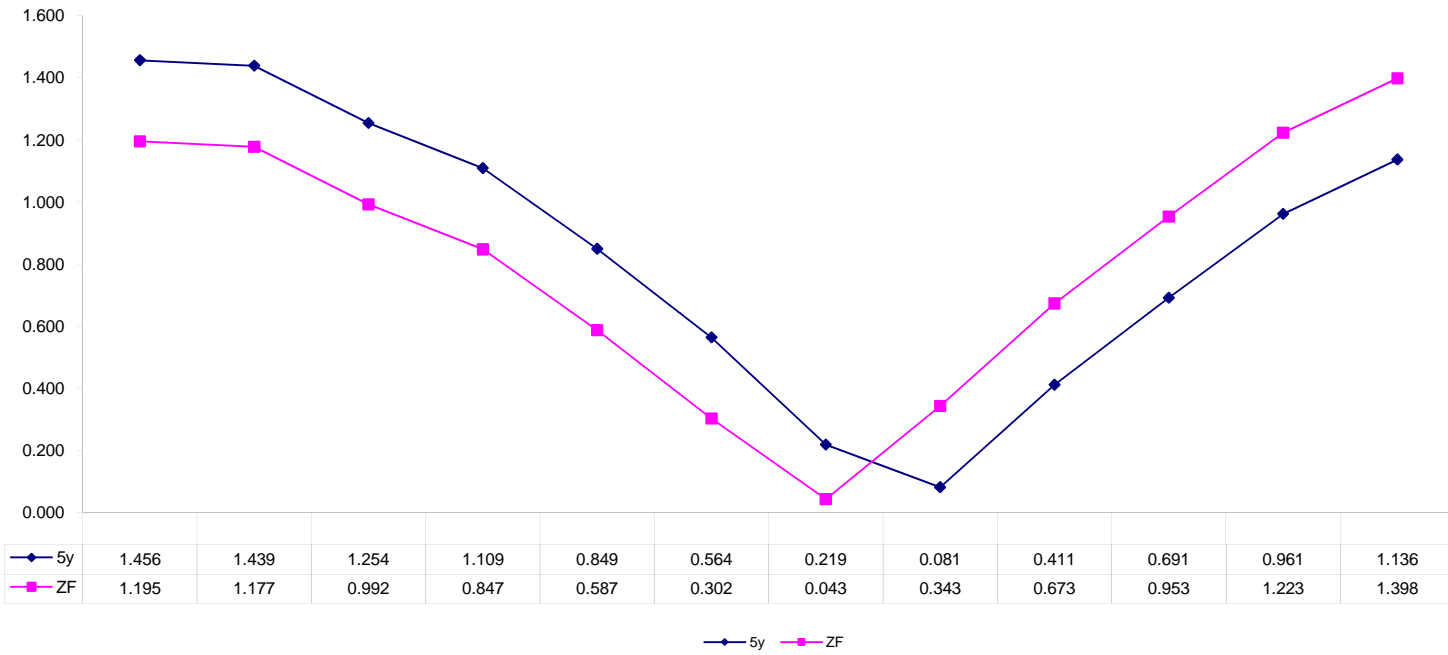


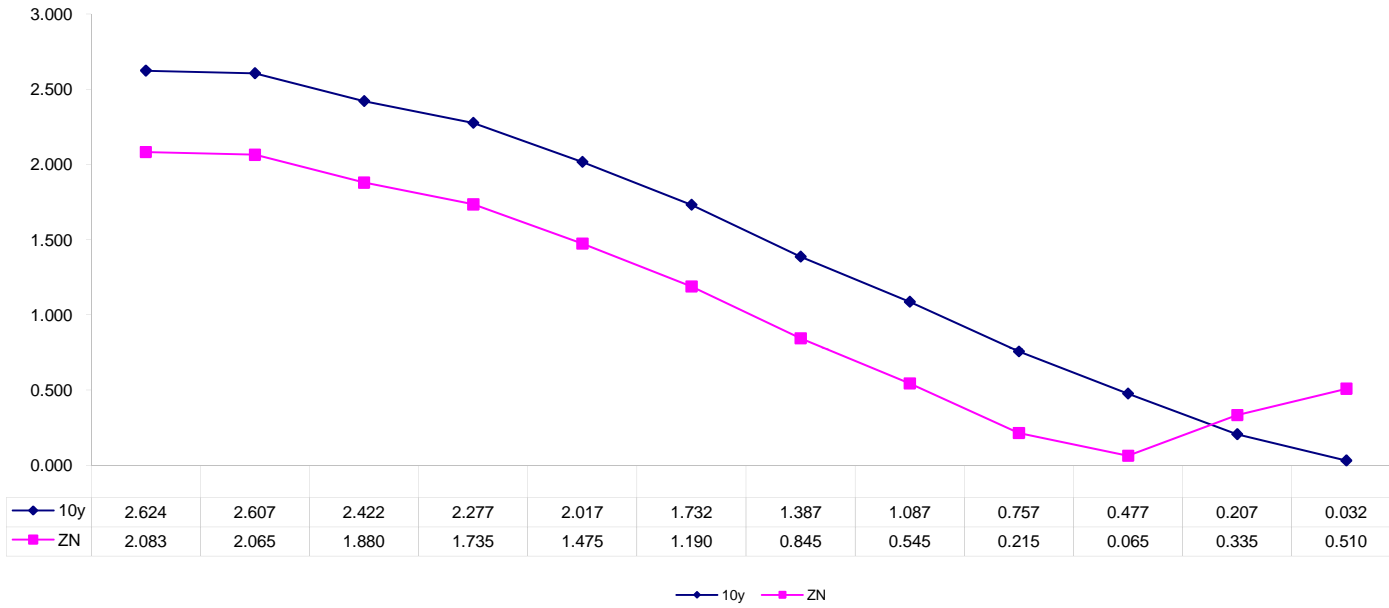
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.726	4.688	9928.5625
Red Pack	1.671	4.625	9835.8750
Green Pack	2.889	1.875	9717.1250
Blue Pack	3.608	0.000	9647.2500
Gold Pack		-0.750	9605.8750

