

## **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	107.4906	107.1570	1.344	1.924
ZF	112.9125	112.2920	2.670	4.236
ZN	113.5313	113.1700	3.479	5.852
2y	99.1469	99.0470	1.311	1.944
5y	97.0781	97.0250	2.884	4.655
10y	93.7969	93.2550	3.882	8.375

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.3575	0.642	5	0.0130	JUN	
EDAU09	99.2050	0.795	96	0.2623	SEP	White Pack
EDAZ09	98.8100	1.190	187	0.5117	DEC	
EDAH10	98.4700	1.530	278	0.7610	MAR	
EDAM10	98.0550	1.945	369	1.0103	JUN	
EDAU10	97.6700	2.330	460	1.2596	SEP	Red Pack
EDAZ10	97.2700	2.730	551	1.5089	DEC	
EDAH11	96.9250	3.075	642	1.7582	MAR	
EDAM11	96.5550	3.445	733	2.0076	JUN	
EDAU11	96.2100	3.790	831	2.2760	SEP	Green Pack
EDAZ11	95.8800	4.120	922	2.5254	DEC	
EDAH12	95.6550	4.345	1,013	2.7747	MAR	
EDAM12	95.4450	4.555	1,104	3.0240	JUN	
EDAU12	95.2800	4.720	1,195	3.2733	SEP	Blue Pack
EDAZ12	95.1250	4.875	1,286	3.5226	DEC	
EDAH13	95.0200	4.980	1,377	3.7719	MAR	
EDAM13	94.9350	5.065	1,468	4.0213	JUN	
EDAU13	94.8450	5.155	1,559	4.2706	SEP	Gold Pack
EDAZ13	94.7350	5.265	1,650	4.5199	DEC	
EDAH14	94.6950	5.305	1,741	4.7692	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.057	0.375	9896.06	
Red Pack	2.572	-2.875	9748.00	Pack Prices
Green Pack	4.019	-4.375	9607.50	
Blue Pack		-1.500	9522.25	
Gold Pack		0.000	9479.13	

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.

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

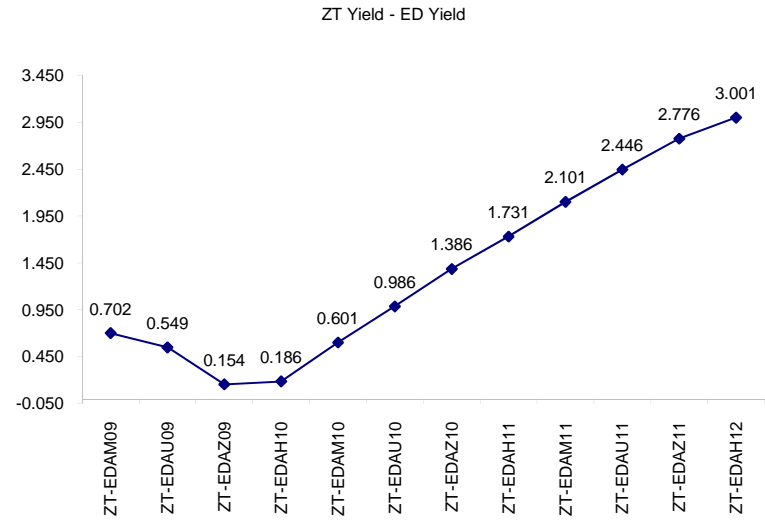
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	8.13	0.702	ZT-EDAM09	34
EDAU09	8.29	0.549	ZT-EDAU09	80
EDAZ09	8.68	0.154	ZT-EDAZ09	95
EDAH10	9.02	0.186	ZT-EDAH10	98
EDAM10	9.44	0.601	ZT-EDAM10	99
EDAU10	9.82	0.986	ZT-EDAU10	100
EDAZ10	10.22	1.386	ZT-EDAZ10	99
EDAH11	10.57	1.731	ZT-EDAH11	99
EDAM11	10.94	2.101	ZT-EDAM11	98
EDAU11	11.28	2.446	ZT-EDAU11	97
EDAZ11	11.61	2.776	ZT-EDAZ11	97
EDAH12	11.84	3.001	ZT-EDAH12	95

Price = Outright Decimal Price - Euro Contract Price

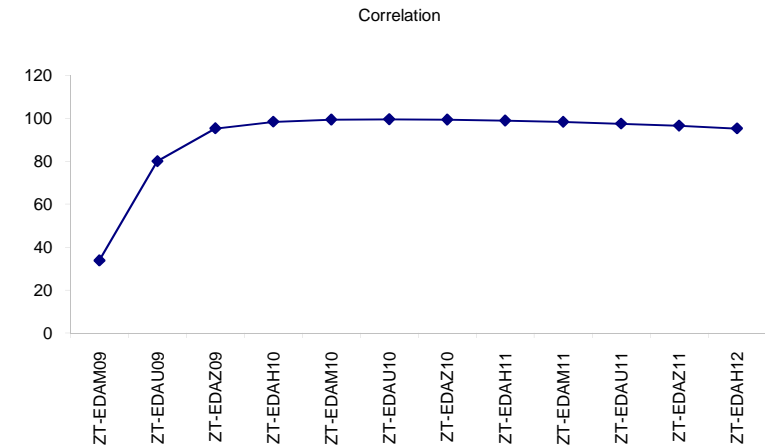
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	ZT Duration	Spread Duration	
EDAM09	0.0130	1.9239	1.9108	ZT-EDAM09
EDAU09	0.2623	1.9239	1.6615	ZT-EDAU09
EDAZ09	0.5117	1.9239	1.4122	ZT-EDAZ09
EDAH10	0.7610	1.9239	1.1629	ZT-EDAH10
EDAM10	1.0103	1.9239	0.9136	ZT-EDAM10
EDAU10	1.2596	1.9239	0.6642	ZT-EDAU10
EDAZ10	1.5089	1.9239	0.4149	ZT-EDAZ10
EDAH11	1.7582	1.9239	0.1656	ZT-EDAH11
EDAM11	2.0076	1.9239	-0.0837	ZT-EDAM11
EDAU11	2.2760	1.9239	-0.3522	ZT-EDAU11
EDAZ11	2.5254	1.9239	-0.6015	ZT-EDAZ11
EDAH12	2.7747	1.9239	-0.8508	ZT-EDAH12

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

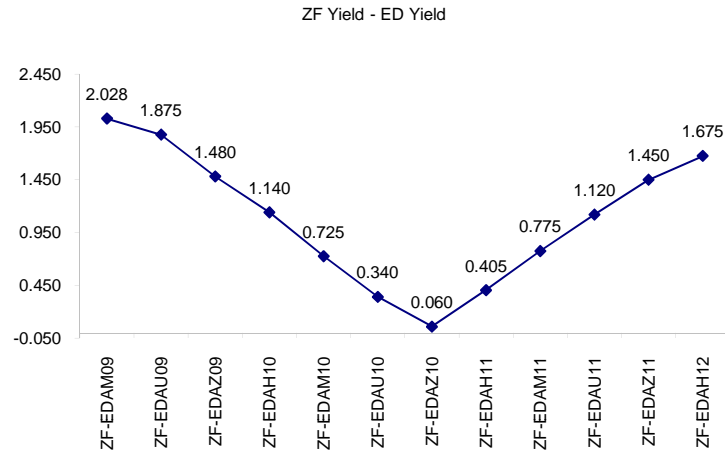


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	13.56	2.028	ZF-EDAM09	26
EDAU09	13.71	1.875	ZF-EDAU09	78
EDAZ09	14.10	1.480	ZF-EDAZ09	94
EDAH10	14.44	1.140	ZF-EDAH10	97
EDAM10	14.86	0.725	ZF-EDAM10	98
EDAU10	15.24	0.340	ZF-EDAU10	99
EDAZ10	15.64	0.060	ZF-EDAZ10	99
EDAH11	15.99	0.405	ZF-EDAH11	99
EDAM11	16.36	0.775	ZF-EDAM11	99
EDAU11	16.70	1.120	ZF-EDAU11	99
EDAZ11	17.03	1.450	ZF-EDAZ11	99
EDAH12	17.26	1.675	ZF-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

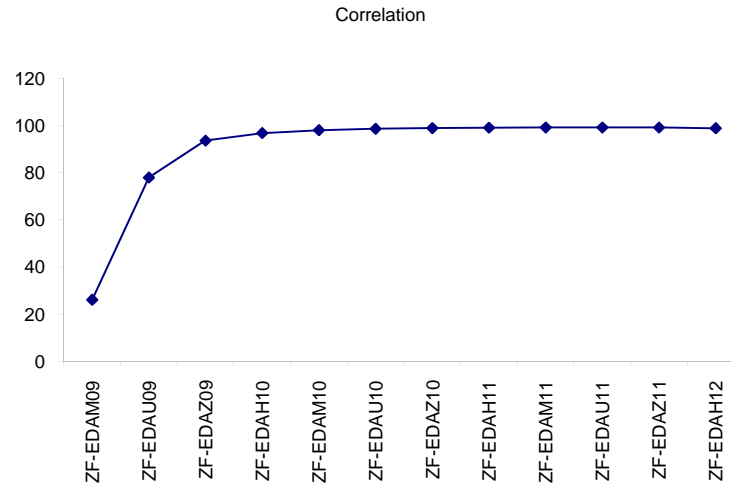
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.0130	4.2361	4.2231	ZF-EDAM09	
EDAU09	0.2623	4.2361	3.9738	ZF-EDAU09	
EDAZ09	0.5117	4.2361	3.7244	ZF-EDAZ09	
EDAH10	0.7610	4.2361	3.4751	ZF-EDAH10	
EDAM10	1.0103	4.2361	3.2258	ZF-EDAM10	
EDAU10	1.2596	4.2361	2.9765	ZF-EDAU10	
EDAZ10	1.5089	4.2361	2.7272	ZF-EDAZ10	
EDAH11	1.7582	4.2361	2.4779	ZF-EDAH11	
EDAM11	2.0076	4.2361	2.2285	ZF-EDAM11	
EDAU11	2.2760	4.2361	1.9601	ZF-EDAU11	
EDAZ11	2.5254	4.2361	1.7107	ZF-EDAZ11	
EDAH12	2.7747	4.2361	1.4614	ZF-EDAH12	

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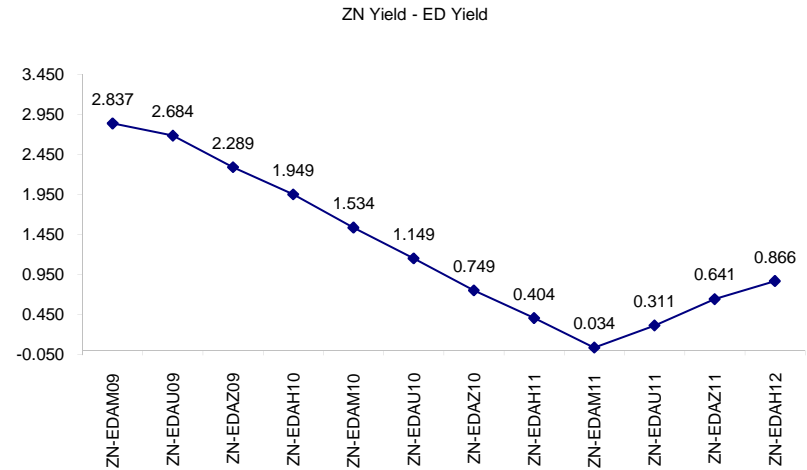


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	14.17	2.837	ZN-EDAM09	26
EDAU09	14.33	2.684	ZN-EDAU09	78
EDAZ09	14.72	2.289	ZN-EDAZ09	92
EDAH10	15.06	1.949	ZN-EDAH10	94
EDAM10	15.48	1.534	ZN-EDAM10	95
EDAU10	15.86	1.149	ZN-EDAU10	96
EDAZ10	16.26	0.749	ZN-EDAZ10	97
EDAH11	16.61	0.404	ZN-EDAH11	97
EDAM11	16.98	0.034	ZN-EDAM11	97
EDAU11	17.32	0.311	ZN-EDAU11	98
EDAZ11	17.65	0.641	ZN-EDAZ11	98
EDAH12	17.88	0.866	ZN-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

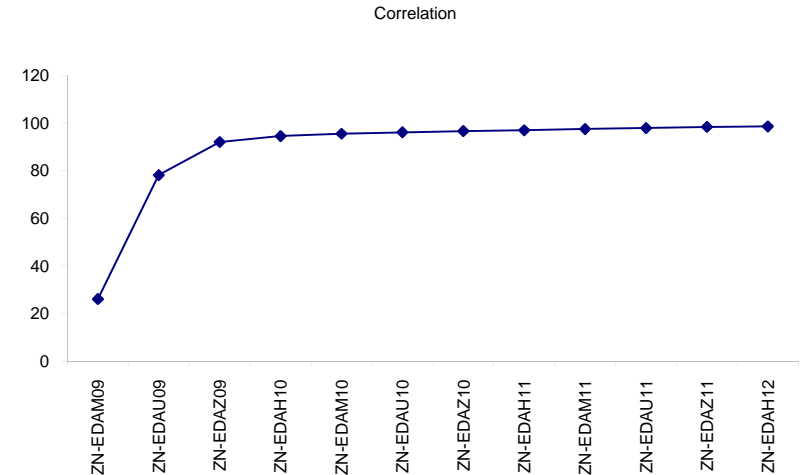
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



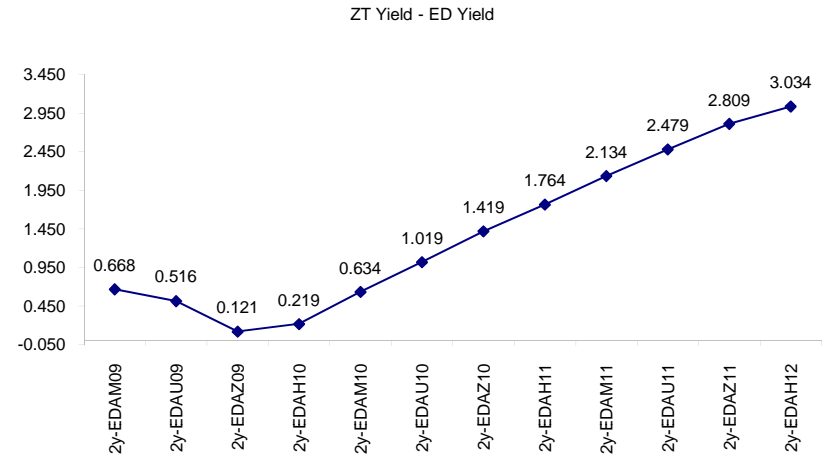
ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration
EDAM09	0.0130	5.8523	5.8393
EDAU09	0.2623	5.8523	5.5900
EDAZ09	0.5117	5.8523	5.3407
EDAH10	0.7610	5.8523	5.0913
EDAM10	1.0103	5.8523	4.8420
EDAU10	1.2596	5.8523	4.5927
EDAZ10	1.5089	5.8523	4.3434
EDAH11	1.7582	5.8523	4.0941
EDAM11	2.0076	5.8523	3.8448
EDAU11	2.2760	5.8523	3.5763
EDAZ11	2.5254	5.8523	3.3270
EDAH12	2.7747	5.8523	3.0776

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



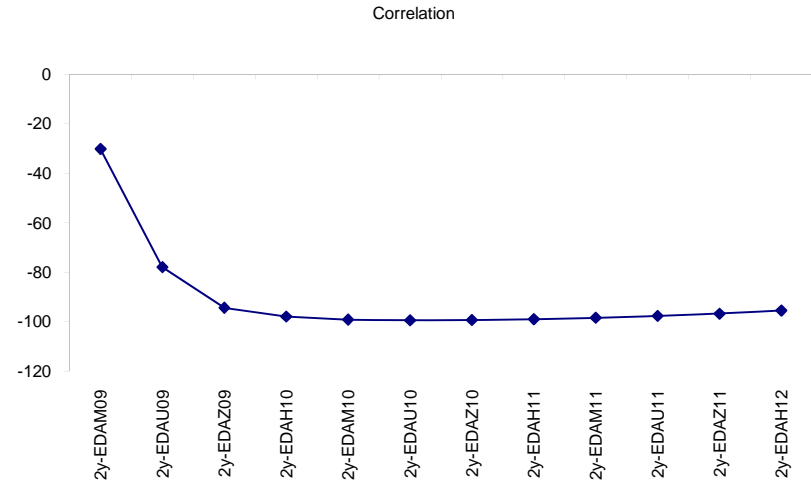
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.21	0.668	2y-EDAM09	-30
EDAU09	-0.06	0.516	2y-EDAU09	-78
EDAZ09	0.34	0.121	2y-EDAZ09	-94
EDAH10	0.68	0.219	2y-EDAH10	-98
EDAM10	1.09	0.634	2y-EDAM10	-99
EDAU10	1.48	1.019	2y-EDAU10	-99
EDAZ10	1.88	1.419	2y-EDAZ10	-99
EDAH11	2.22	1.764	2y-EDAH11	-99
EDAM11	2.59	2.134	2y-EDAM11	-98
EDAU11	2.94	2.479	2y-EDAU11	-98
EDAZ11	3.27	2.809	2y-EDAZ11	-97
EDAH12	3.49	3.034	2y-EDAH12	-95

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	0.0130	1.9438	1.9308	2y-EDAM09
EDAU09	0.2623	1.9438	1.6814	2y-EDAU09
EDAZ09	0.5117	1.9438	1.4321	2y-EDAZ09
EDAH10	0.7610	1.9438	1.1828	2y-EDAH10
EDAM10	1.0103	1.9438	0.9335	2y-EDAM10
EDAU10	1.2596	1.9438	0.6842	2y-EDAU10
EDAZ10	1.5089	1.9438	0.4349	2y-EDAZ10
EDAH11	1.7582	1.9438	0.1855	2y-EDAH11
EDAM11	2.0076	1.9438	-0.0638	2y-EDAM11
EDAU11	2.2760	1.9438	-0.3323	2y-EDAU11
EDAZ11	2.5254	1.9438	-0.5816	2y-EDAZ11
EDAH12	2.7747	1.9438	-0.8309	2y-EDAH12

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

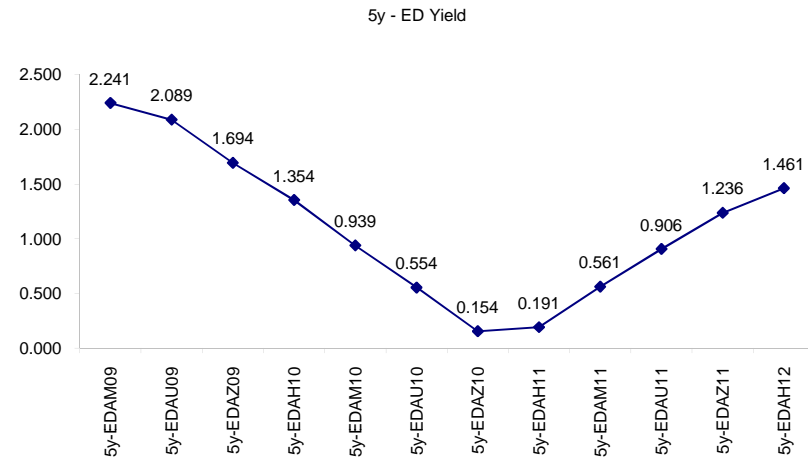


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-2.28	2.241	5y-EDAM09	-21
EDAU09	-2.13	2.089	5y-EDAU09	-74
EDAZ09	-1.73	1.694	5y-EDAZ09	-91
EDAH10	-1.39	1.354	5y-EDAH10	-95
EDAM10	-0.98	0.939	5y-EDAM10	-97
EDAU10	-0.59	0.554	5y-EDAU10	-98
EDAZ10	-0.19	0.154	5y-EDAZ10	-99
EDAH11	0.15	0.191	5y-EDAH11	-99
EDAM11	0.52	0.561	5y-EDAM11	-99
EDAU11	0.87	0.906	5y-EDAU11	-99
EDAZ11	1.20	1.236	5y-EDAZ11	-99
EDAH12	1.42	1.461	5y-EDAH12	-99

Price = Outright Decimal Price - Euro Contract Price

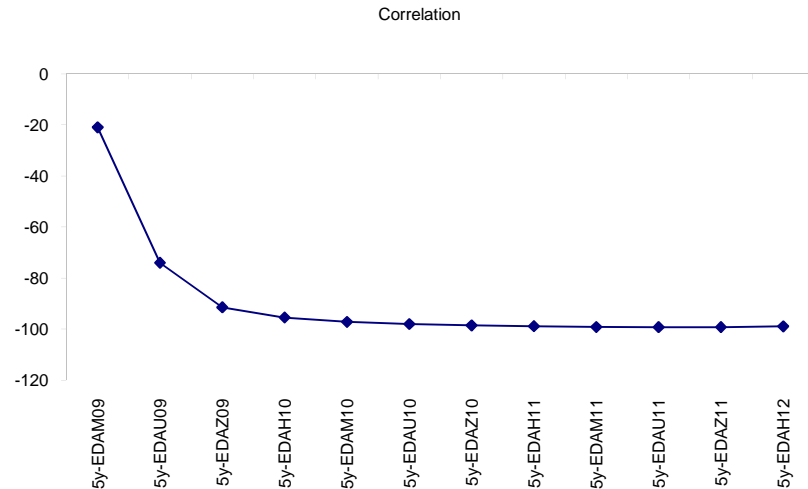
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAM09	0.0130	4.6553	4.6423	5y-EDAM09	
EDAU09	0.2623	4.6553	4.3930	5y-EDAU09	
EDAZ09	0.5117	4.6553	4.1437	5y-EDAZ09	
EDAH10	0.7610	4.6553	3.8944	5y-EDAH10	
EDAM10	1.0103	4.6553	3.6450	5y-EDAM10	
EDAU10	1.2596	4.6553	3.3957	5y-EDAU10	
EDAZ10	1.5089	4.6553	3.1464	5y-EDAZ10	
EDAH11	1.7582	4.6553	2.8971	5y-EDAH11	
EDAM11	2.0076	4.6553	2.6478	5y-EDAM11	
EDAU11	2.2760	4.6553	2.3793	5y-EDAU11	
EDAZ11	2.5254	4.6553	2.1300	5y-EDAZ11	
EDAH12	2.7747	4.6553	1.8807	5y-EDAH12	

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



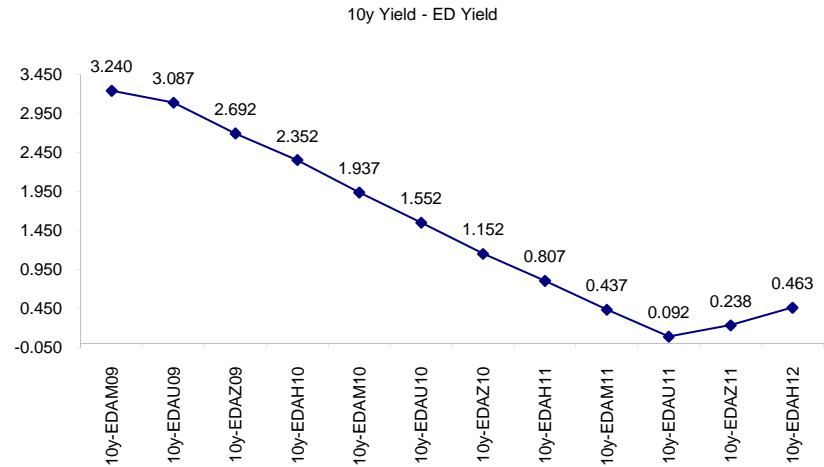


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-2.28	3.240	10y-EDAM09	-23
EDAU09	-2.13	3.087	10y-EDAU09	-72
EDAZ09	-1.73	2.692	10y-EDAZ09	-87
EDAH10	-1.39	2.352	10y-EDAH10	-90
EDAM10	-0.98	1.937	10y-EDAM10	-92
EDAU10	-0.59	1.552	10y-EDAU10	-94
EDAZ10	-0.19	1.152	10y-EDAZ10	-95
EDAH11	0.15	0.807	10y-EDAH11	-96
EDAM11	0.52	0.437	10y-EDAM11	-97
EDAU11	0.87	0.092	10y-EDAU11	-97
EDAZ11	1.20	0.238	10y-EDAZ11	-98
EDAH12	1.42	0.463	10y-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			
	10Y Duration	Spread Duration		
EDAM09	0.0130	8.3752	8.3621	10y-EDAM09
EDAU09	0.2623	8.3752	8.1128	10y-EDAU09
EDAZ09	0.5117	8.3752	7.8635	10y-EDAZ09
EDAH10	0.7610	8.3752	7.6142	10y-EDAH10
EDAM10	1.0103	8.3752	7.3649	10y-EDAM10
EDAU10	1.2596	8.3752	7.1156	10y-EDAU10
EDAZ10	1.5089	8.3752	6.8663	10y-EDAZ10
EDAH11	1.7582	8.3752	6.6169	10y-EDAH11
EDAM11	2.0076	8.3752	6.3676	10y-EDAM11
EDAU11	2.2760	8.3752	6.0991	10y-EDAU11
EDAZ11	2.5254	8.3752	5.8498	10y-EDAZ11
EDAH12	2.7747	8.3752	5.6005	10y-EDAH12

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

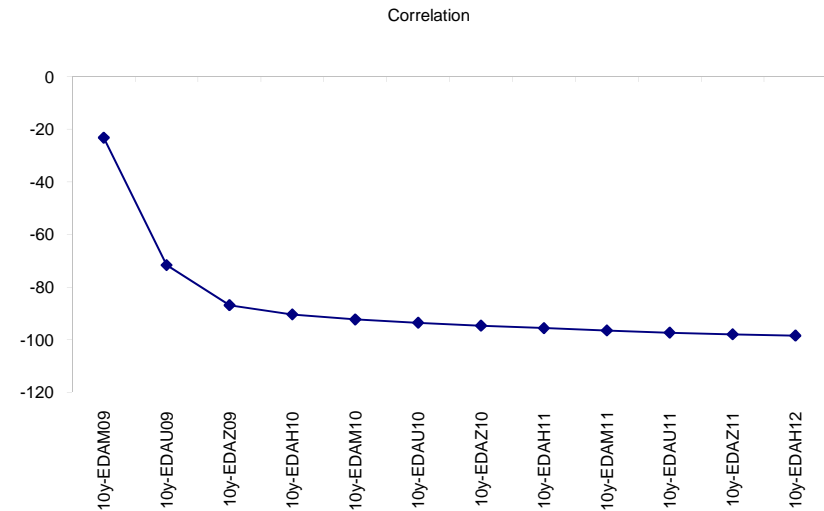


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

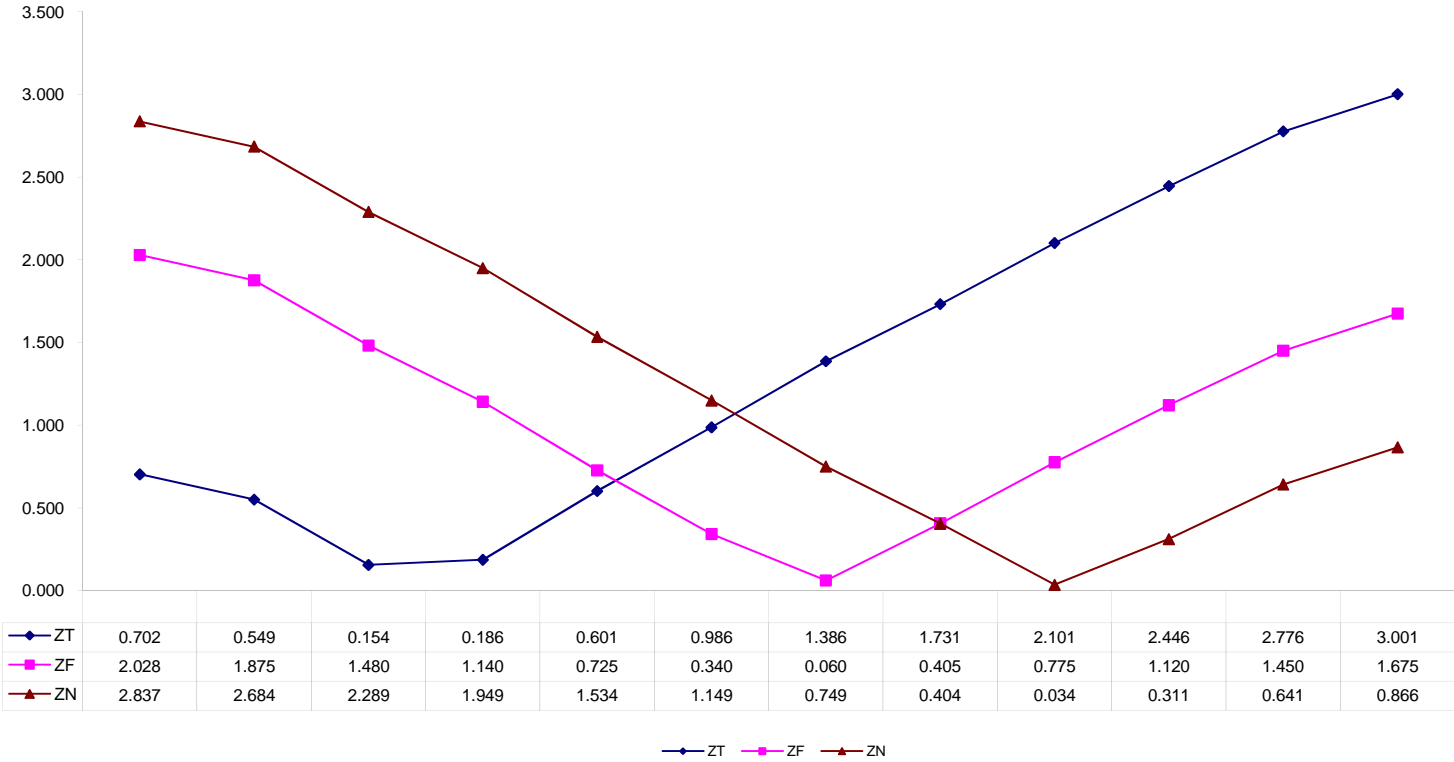
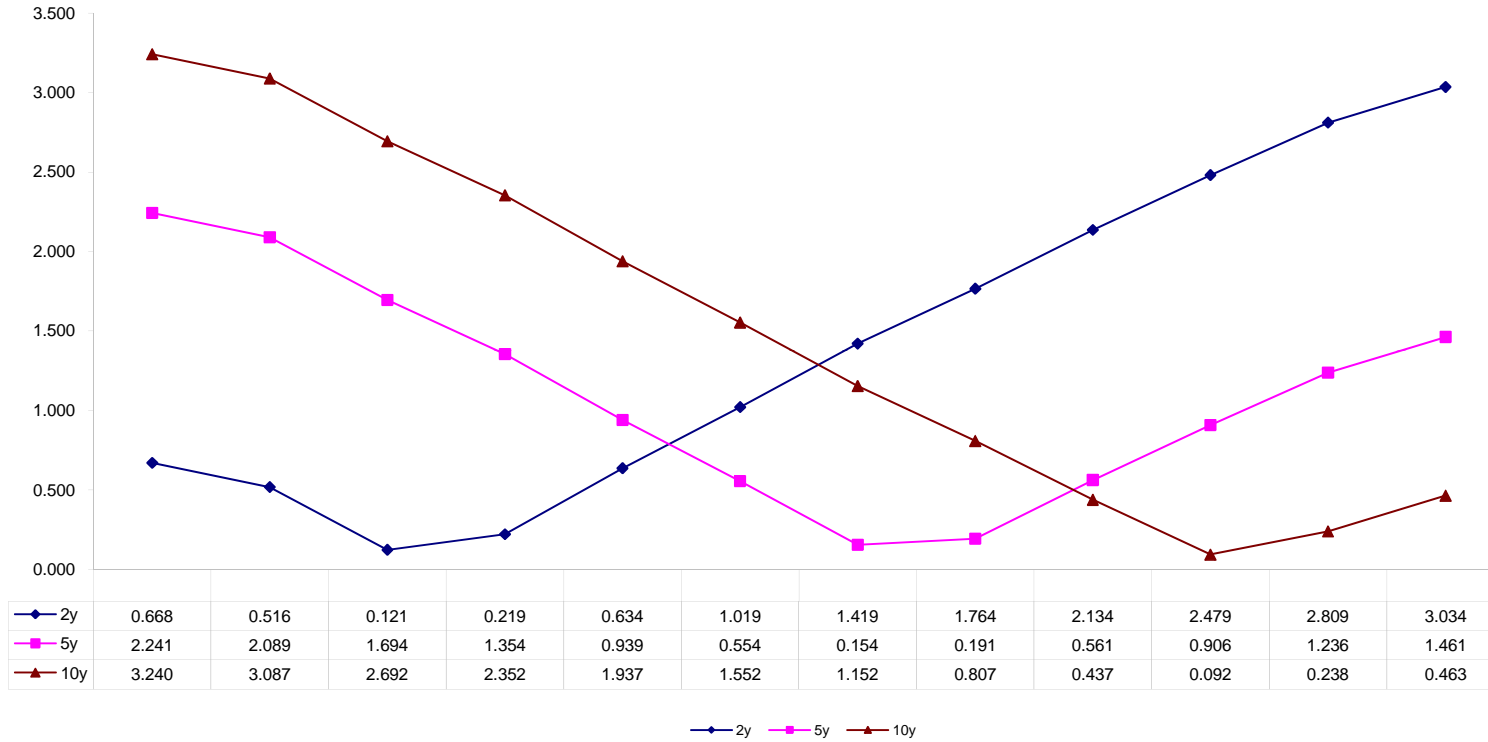
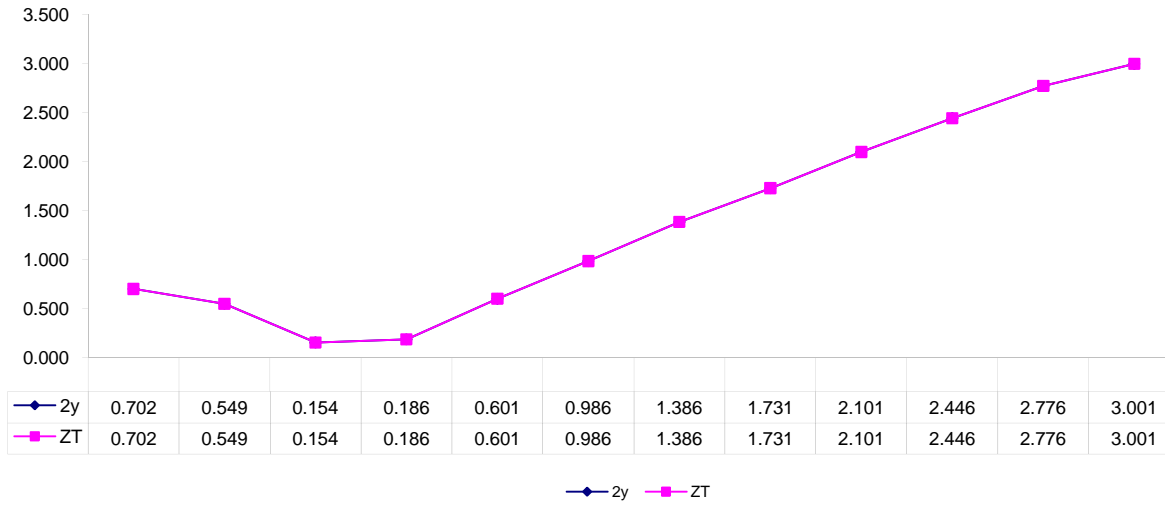
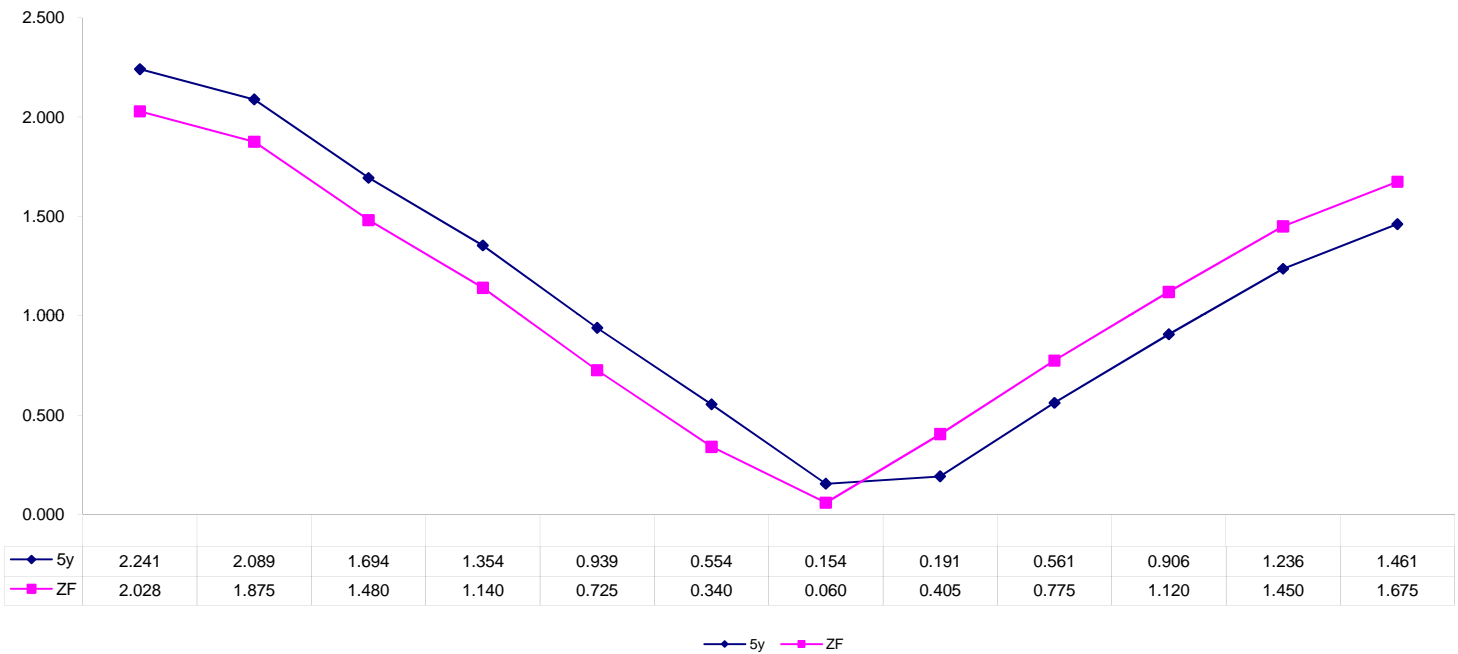


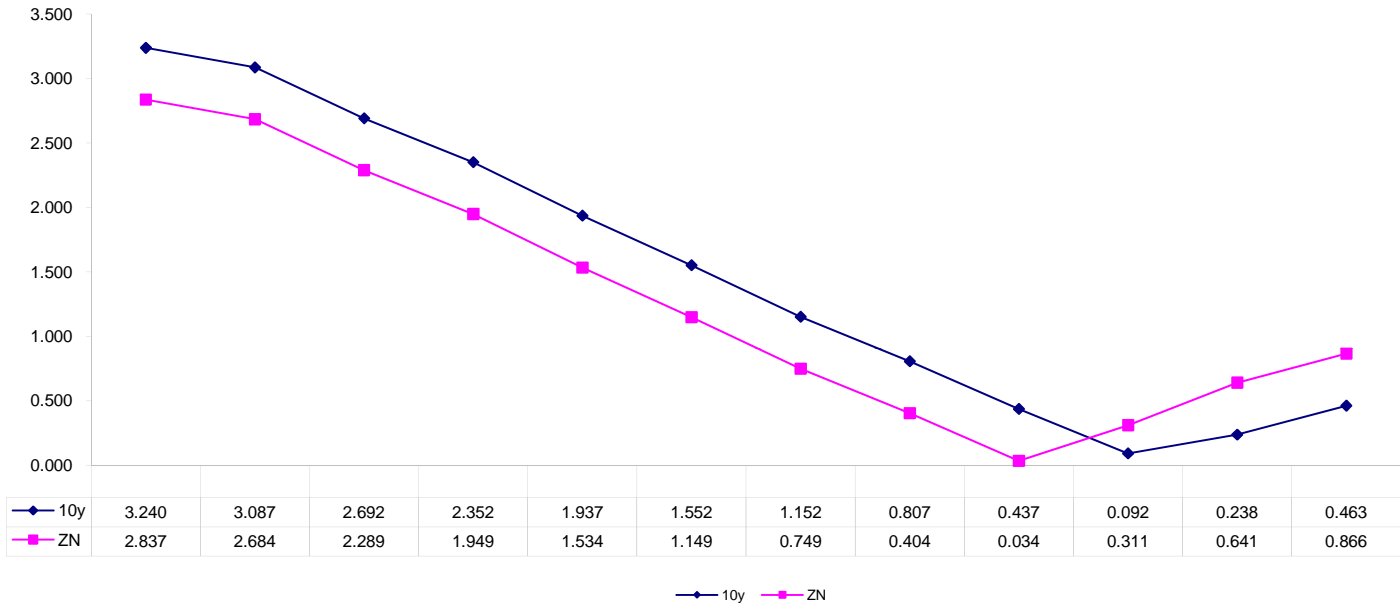
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.057	0.375	9896.0625
Red Pack	2.572	-2.875	9748.0000
Green Pack	4.019	-4.375	9607.5000
Blue Pack		-1.500	9522.2500
Gold Pack		0.000	9479.1250

4.500 |

4.019