

## **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	108.6563	108.2100	0.861	1.904
ZF	117.6719	117.2150	1.658	1.658
ZN	122.3438	122.1100	2.474	5.965
2y	99.9438	99.3020	0.907	1.956
5y	99.5469	99.1750	1.844	4.743
10y	98.8281	98.2650	2.884	8.535

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.9100	1.090	69	0.1884	JUN	
EDAU09	98.8650	1.135	160	0.4377	SEP	White Pack
EDAZ09	98.6600	1.340	251	0.6870	DEC	
EDAH10	98.5500	1.450	342	0.9363	MAR	
EDAM10	98.3600	1.640	433	1.1856	JUN	
EDAU10	98.1800	1.820	524	1.4350	SEP	Red Pack
EDAZ10	97.9700	2.030	615	1.6843	DEC	
EDAH11	97.8050	2.195	706	1.9336	MAR	
EDAM11	97.6000	2.400	797	2.1829	JUN	
EDAU11	97.4000	2.600	895	2.4514	SEP	Green Pack
EDAZ11	97.1850	2.815	986	2.7007	DEC	
EDAH12	97.0450	2.955	1,077	2.9500	MAR	
EDAM12	96.8950	3.105	1,168	3.1993	JUN	
EDAU12	96.7700	3.230	1,259	3.4487	SEP	Blue Pack
EDAZ12	96.6650	3.335	1,350	3.6980	DEC	
EDAH13	96.6050	3.395	1,441	3.9473	MAR	
EDAM13	96.4900	3.510	1,532	4.1966	JUN	
EDAU13	96.3550	3.645	1,623	4.4459	SEP	Gold Pack
EDAZ13	96.3050	3.695	1,714	4.6952	DEC	
EDAH14	96.2500	3.750	1,805	4.9445	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.275	5.000	9874.63	
Red Pack	1.957	5.875	9807.88	Pack Prices
Green Pack	2.749	6.625	9730.75	
Blue Pack	3.339	7.375	9673.38	
Gold Pack		3.625	9635.00	

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)**

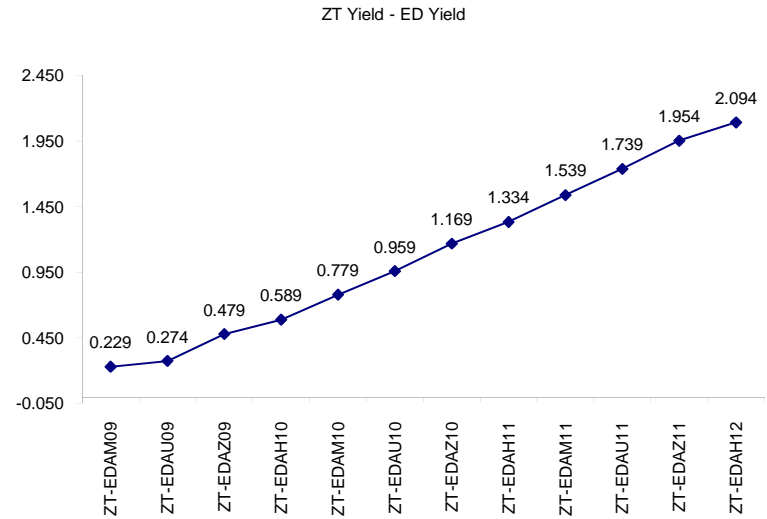
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.75	0.229	ZT-EDAM09	24
EDAU09	9.79	0.274	ZT-EDAU09	68
EDAZ09	10.00	0.479	ZT-EDAZ09	94
EDAH10	10.11	0.589	ZT-EDAH10	97
EDAM10	10.30	0.779	ZT-EDAM10	96
EDAU10	10.48	0.959	ZT-EDAU10	95
EDAZ10	10.69	1.169	ZT-EDAZ10	96
EDAH11	10.85	1.334	ZT-EDAH11	95
EDAM11	11.06	1.539	ZT-EDAM11	96
EDAU11	11.26	1.739	ZT-EDAU11	96
EDAZ11	11.47	1.954	ZT-EDAZ11	96
EDAH12	11.61	2.094	ZT-EDAH12	95

Price = Outright Decimal Price - Euro Contract Price

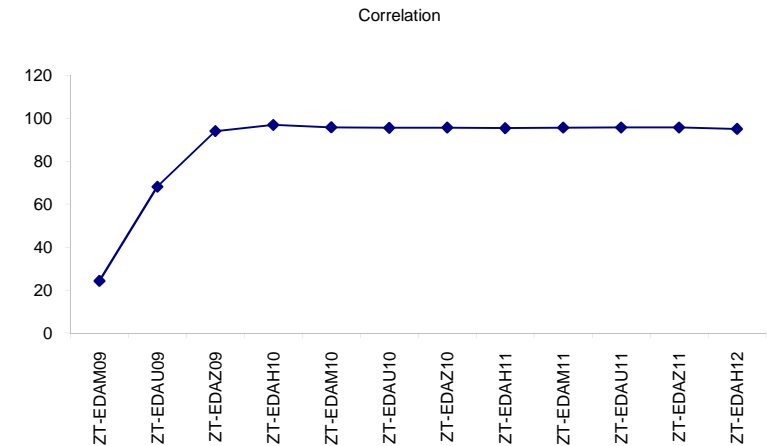
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



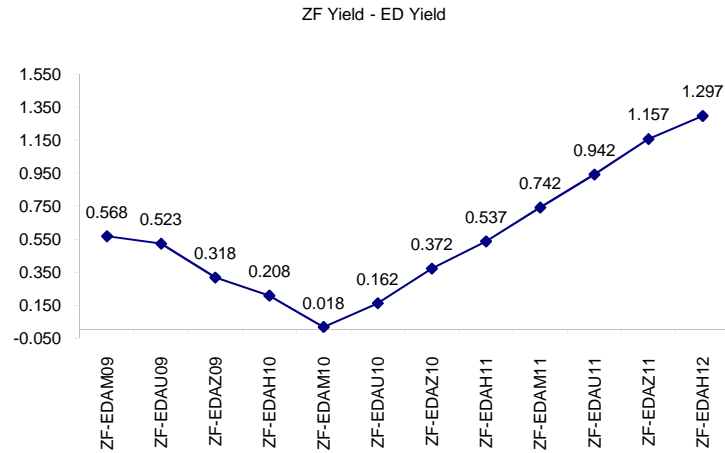
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.1884	1.9043	1.7159	ZT-EDAM09		
EDAU09	0.4377	1.9043	1.4666	ZT-EDAU09		
EDAZ09	0.6870	1.9043	1.2172	ZT-EDAZ09		
EDAH10	0.9363	1.9043	0.9679	ZT-EDAH10		
EDAM10	1.1856	1.9043	0.7186	ZT-EDAM10		
EDAU10	1.4350	1.9043	0.4693	ZT-EDAU10		
EDAZ10	1.6843	1.9043	0.2200	ZT-EDAZ10		
EDAH11	1.9336	1.9043	-0.0293	ZT-EDAH11		
EDAM11	2.1829	1.9043	-0.2786	ZT-EDAM11		
EDAU11	2.4514	1.9043	-0.5471	ZT-EDAU11		
EDAZ11	2.7007	1.9043	-0.7964	ZT-EDAZ11		
EDAH12	2.9500	1.9043	-1.0458	ZT-EDAH12		

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



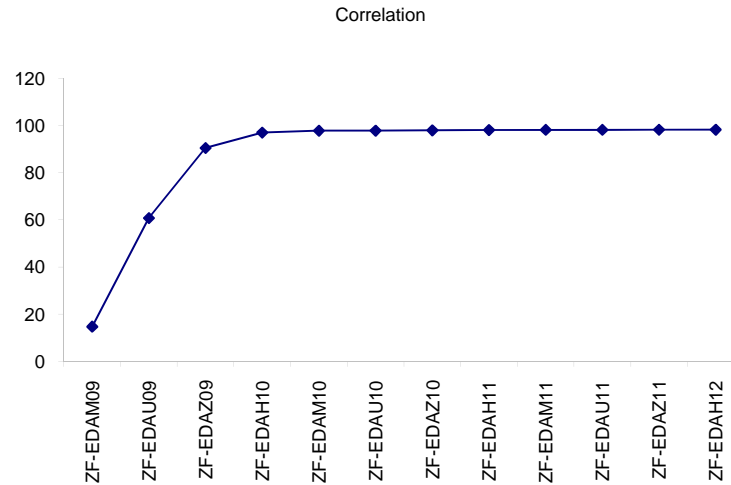
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	18.76	0.568	ZF-EDAM09	15
EDAU09	18.81	0.523	ZF-EDAU09	61
EDAZ09	19.01	0.318	ZF-EDAZ09	91
EDAH10	19.12	0.208	ZF-EDAH10	97
EDAM10	19.31	0.018	ZF-EDAM10	98
EDAU10	19.49	0.162	ZF-EDAU10	98
EDAZ10	19.70	0.372	ZF-EDAZ10	98
EDAH11	19.87	0.537	ZF-EDAH11	98
EDAM11	20.07	0.742	ZF-EDAM11	98
EDAU11	20.27	0.942	ZF-EDAU11	98
EDAZ11	20.49	1.157	ZF-EDAZ11	98
EDAH12	20.63	1.297	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	0.1884	1.6580	1.4696	ZF-EDAM09	
EDAU09	0.4377	1.6580	1.2203	ZF-EDAU09	
EDAZ09	0.6870	1.6580	0.9709	ZF-EDAZ09	
EDAH10	0.9363	1.6580	0.7216	ZF-EDAH10	
EDAM10	1.1856	1.6580	0.4723	ZF-EDAM10	
EDAU10	1.4350	1.6580	0.2230	ZF-EDAU10	
EDAZ10	1.6843	1.6580	-0.0263	ZF-EDAZ10	
EDAH11	1.9336	1.6580	-0.2756	ZF-EDAH11	
EDAM11	2.1829	1.6580	-0.5249	ZF-EDAM11	
EDAU11	2.4514	1.6580	-0.7934	ZF-EDAU11	
EDAZ11	2.7007	1.6580	-1.0427	ZF-EDAZ11	
EDAH12	2.9500	1.6580	-1.2921	ZF-EDAH12	

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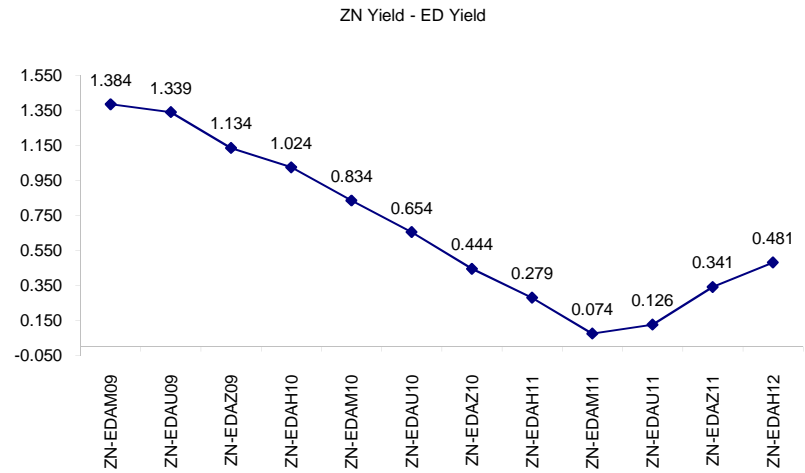


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAM09	23.43	1.384	ZN-EDAM09	-8
EDAU09	23.48	1.339	ZN-EDAU09	42
EDAZ09	23.68	1.134	ZN-EDAZ09	82
EDAH10	23.79	1.024	ZN-EDAH10	93
EDAM10	23.98	0.834	ZN-EDAM10	94
EDAU10	24.16	0.654	ZN-EDAU10	94
EDAZ10	24.37	0.444	ZN-EDAZ10	94
EDAH11	24.54	0.279	ZN-EDAH11	94
EDAM11	24.74	0.074	ZN-EDAM11	94
EDAU11	24.94	0.126	ZN-EDAU11	95
EDAZ11	25.16	0.341	ZN-EDAZ11	96
EDAH12	25.30	0.481	ZN-EDAH12	97

Price = Outright Decimal Price - Euro Contract Price

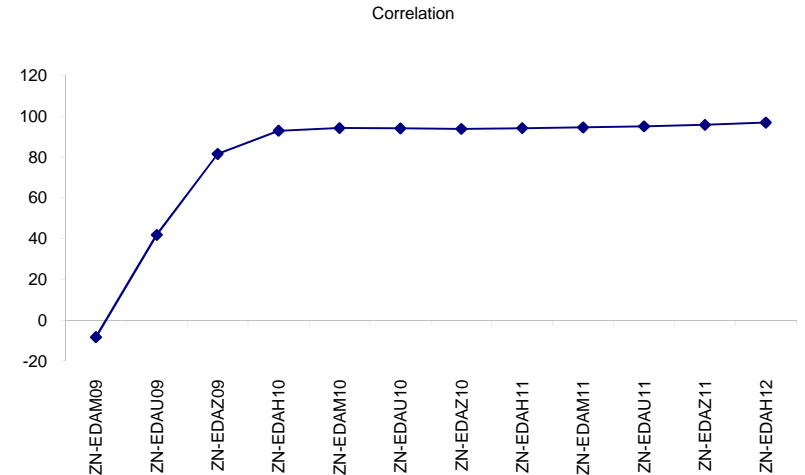
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAM09	0.1884	5.9648	5.7764	ZN-EDAM09
EDAU09	0.4377	5.9648	5.5271	ZN-EDAU09
EDAZ09	0.6870	5.9648	5.2777	ZN-EDAZ09
EDAH10	0.9363	5.9648	5.0284	ZN-EDAH10
EDAM10	1.1856	5.9648	4.7791	ZN-EDAM10
EDAU10	1.4350	5.9648	4.5298	ZN-EDAU10
EDAZ10	1.6843	5.9648	4.2805	ZN-EDAZ10
EDAH11	1.9336	5.9648	4.0312	ZN-EDAH11
EDAM11	2.1829	5.9648	3.7819	ZN-EDAM11
EDAU11	2.4514	5.9648	3.5134	ZN-EDAU11
EDAZ11	2.7007	5.9648	3.2640	ZN-EDAZ11
EDAH12	2.9500	5.9648	3.0147	ZN-EDAH12

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

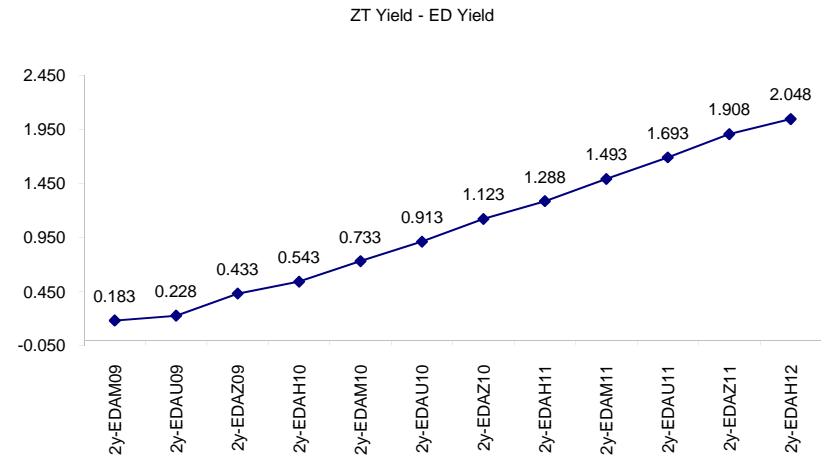


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.03	0.183	2y-EDAM09	-49
EDAU09	1.08	0.228	2y-EDAU09	-82
EDAZ09	1.28	0.433	2y-EDAZ09	-94
EDAH10	1.39	0.543	2y-EDAH10	-91
EDAM10	1.58	0.733	2y-EDAM10	-89
EDAU10	1.76	0.913	2y-EDAU10	-89
EDAZ10	1.97	1.123	2y-EDAZ10	-90
EDAH11	2.14	1.288	2y-EDAH11	-89
EDAM11	2.34	1.493	2y-EDAM11	-89
EDAU11	2.54	1.693	2y-EDAU11	-89
EDAZ11	2.76	1.908	2y-EDAZ11	-88
EDAH12	2.90	2.048	2y-EDAH12	-86

Price = Outright Decimal Price - Euro Contract Price

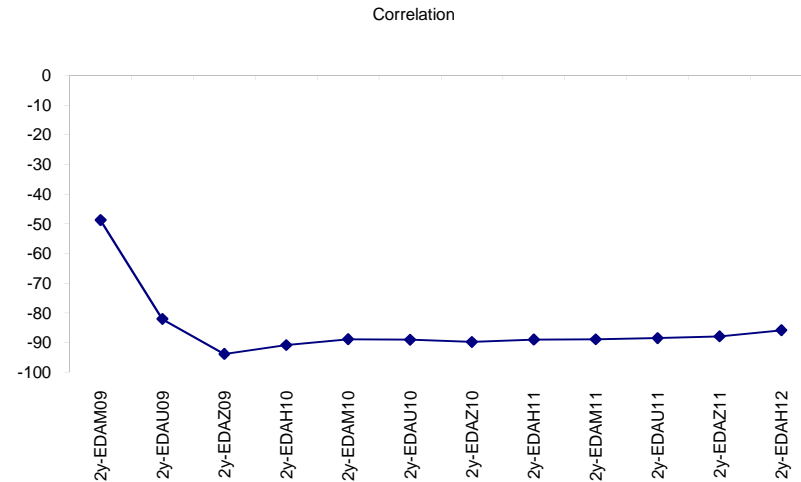
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAM09	0.1884	1.9562	1.7679	2y-EDAM09
EDAU09	0.4377	1.9562	1.5185	2y-EDAU09
EDAZ09	0.6870	1.9562	1.2692	2y-EDAZ09
EDAH10	0.9363	1.9562	1.0199	2y-EDAH10
EDAM10	1.1856	1.9562	0.7706	2y-EDAM10
EDAU10	1.4350	1.9562	0.5213	2y-EDAU10
EDAZ10	1.6843	1.9562	0.2720	2y-EDAZ10
EDAH11	1.9336	1.9562	0.0227	2y-EDAH11
EDAM11	2.1829	1.9562	-0.2267	2y-EDAM11
EDAU11	2.4514	1.9562	-0.4952	2y-EDAU11
EDAZ11	2.7007	1.9562	-0.7445	2y-EDAZ11
EDAH12	2.9500	1.9562	-0.9938	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	0.64	0.754	5y-EDAM09	-26
EDAU09	0.68	0.709	5y-EDAU09	-66
EDAZ09	0.89	0.504	5y-EDAZ09	-88
EDAH10	1.00	0.394	5y-EDAH10	-93
EDAM10	1.19	0.204	5y-EDAM10	-94
EDAU10	1.37	0.024	5y-EDAU10	-94
EDAZ10	1.58	0.186	5y-EDAZ10	-95
EDAH11	1.74	0.351	5y-EDAH11	-95
EDAM11	1.95	0.556	5y-EDAM11	-95
EDAU11	2.15	0.756	5y-EDAU11	-95
EDAZ11	2.36	0.971	5y-EDAZ11	-94
EDAH12	2.50	1.111	5y-EDAH12	-94

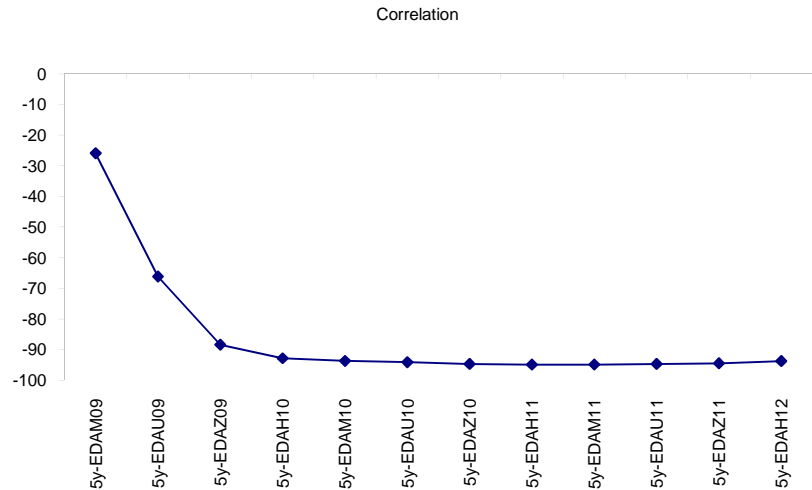
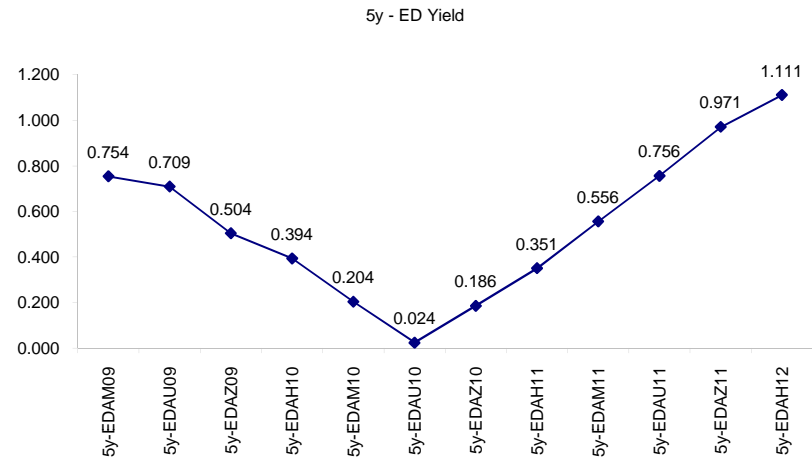
Price = Outright Decimal Price - Euro Contract Price

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

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

	ED Duration as		
	Fraction of year	5Y Duration	Spread Duration
EDAM09	0.1884	4.7432	4.5548
EDAU09	0.4377	4.7432	4.3055
EDAZ09	0.6870	4.7432	4.0561
EDAH10	0.9363	4.7432	3.8068
EDAM10	1.1856	4.7432	3.5575
EDAU10	1.4350	4.7432	3.3082
EDAZ10	1.6843	4.7432	3.0589
EDAH11	1.9336	4.7432	2.8096
EDAM11	2.1829	4.7432	2.5603
EDAU11	2.4514	4.7432	2.2918
EDAZ11	2.7007	4.7432	2.0424
EDAH12	2.9500	4.7432	1.7931

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



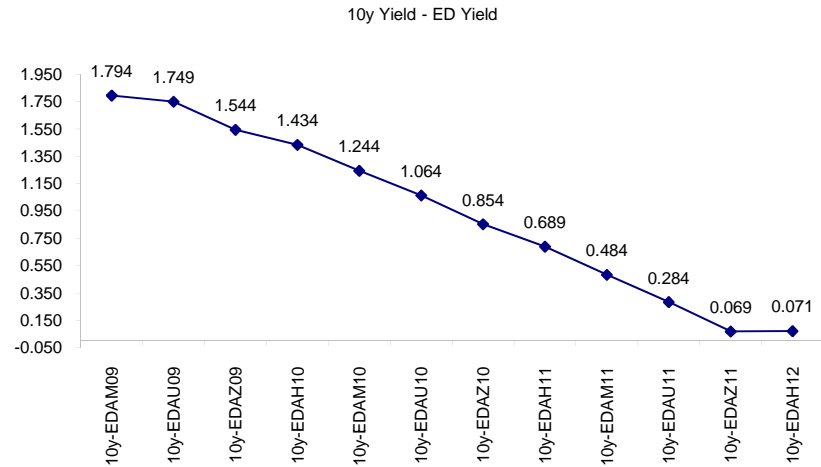


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.64	1.794	10y-EDAM09	0
EDAU09	0.68	1.749	10y-EDAU09	-49
EDAZ09	0.89	1.544	10y-EDAZ09	-85
EDAH10	1.00	1.434	10y-EDAH10	-95
EDAM10	1.19	1.244	10y-EDAM10	-96
EDAU10	1.37	1.064	10y-EDAU10	-96
EDAZ10	1.58	0.854	10y-EDAZ10	-96
EDAH11	1.74	0.689	10y-EDAH11	-96
EDAM11	1.95	0.484	10y-EDAM11	-97
EDAU11	2.15	0.284	10y-EDAU11	-97
EDAZ11	2.36	0.069	10y-EDAZ11	-98
EDAH12	2.50	0.071	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	0.1884	8.5353	8.3469 10y-EDAM09
EDAU09	0.4377	8.5353	8.0976 10y-EDAU09
EDAZ09	0.6870	8.5353	7.8483 10y-EDAZ09
EDAH10	0.9363	8.5353	7.5989 10y-EDAH10
EDAM10	1.1856	8.5353	7.3496 10y-EDAM10
EDAU10	1.4350	8.5353	7.1003 10y-EDAU10
EDAZ10	1.6843	8.5353	6.8510 10y-EDAZ10
EDAH11	1.9336	8.5353	6.6017 10y-EDAH11
EDAM11	2.1829	8.5353	6.3524 10y-EDAM11
EDAU11	2.4514	8.5353	6.0839 10y-EDAU11
EDAZ11	2.7007	8.5353	5.8346 10y-EDAZ11
EDAH12	2.9500	8.5353	5.5852 10y-EDAH12

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

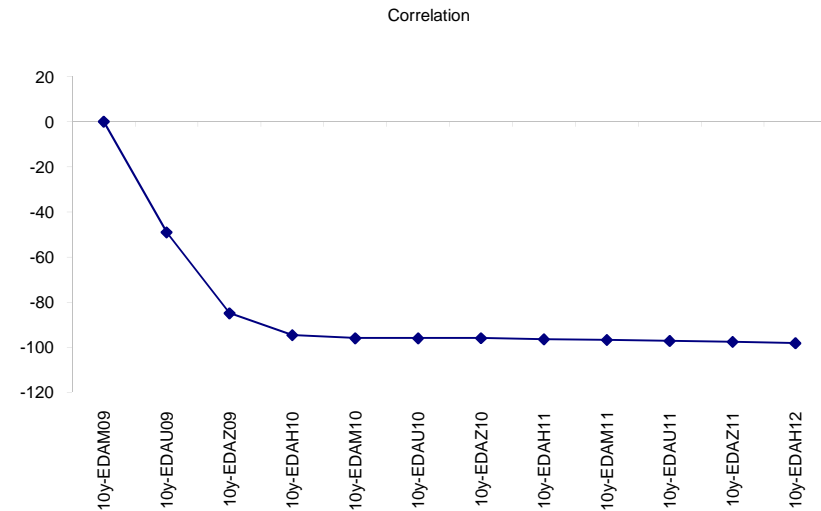


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

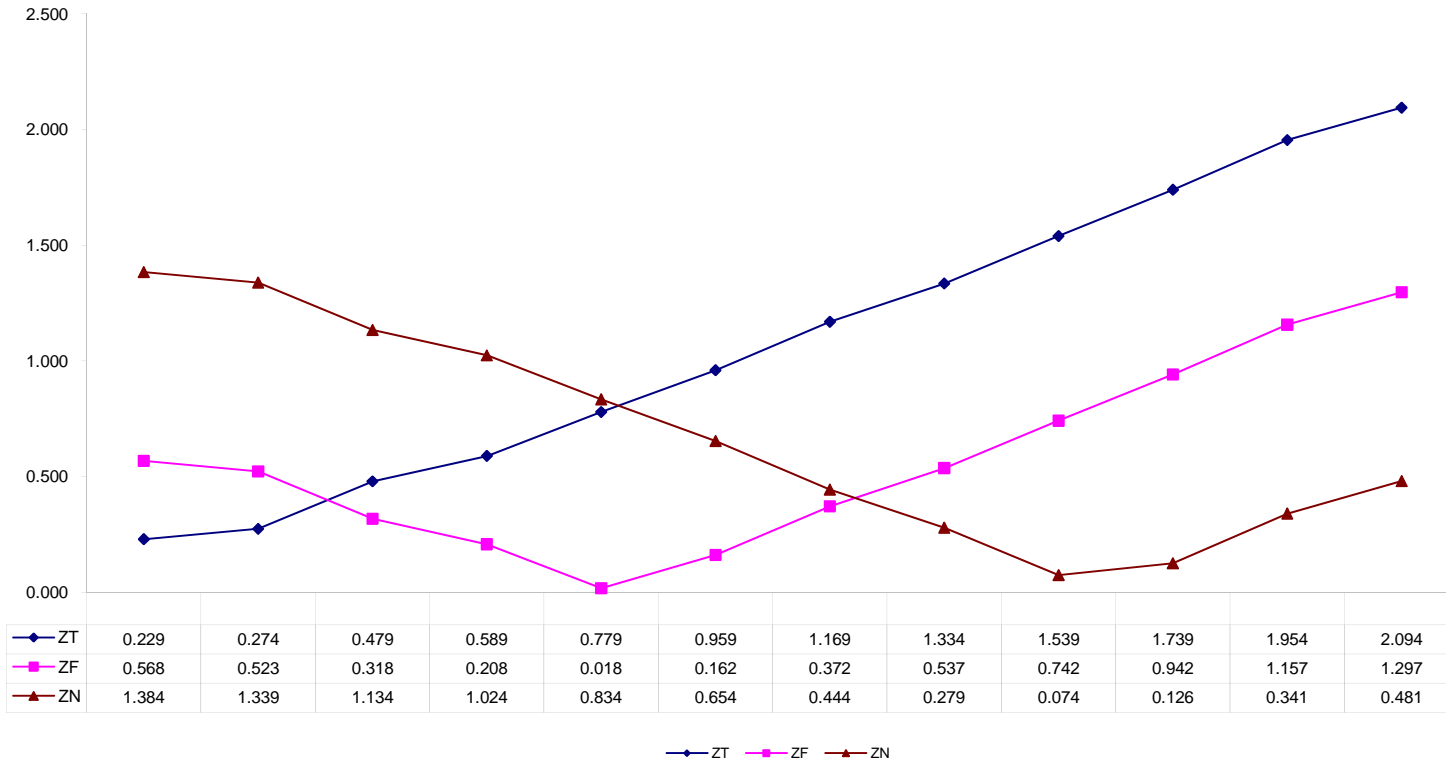
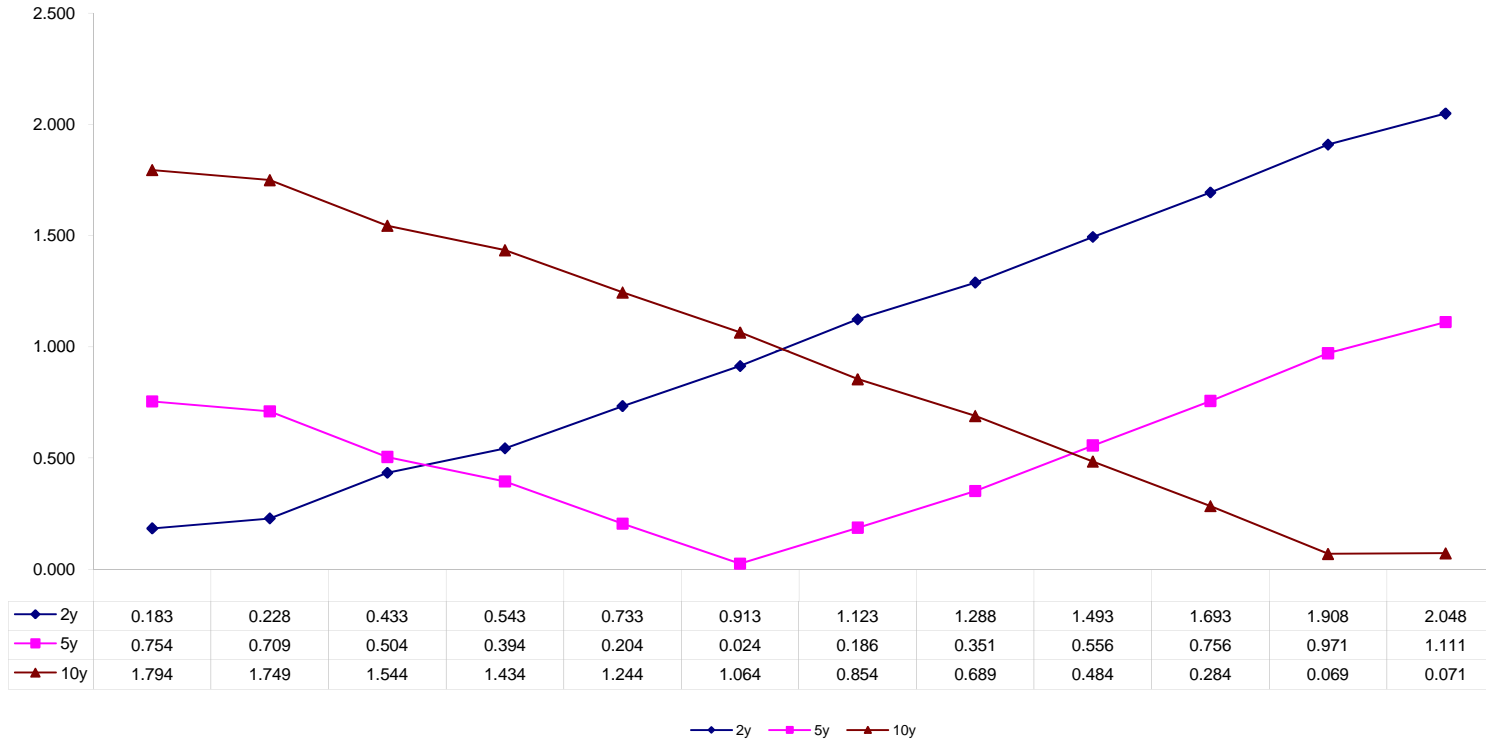
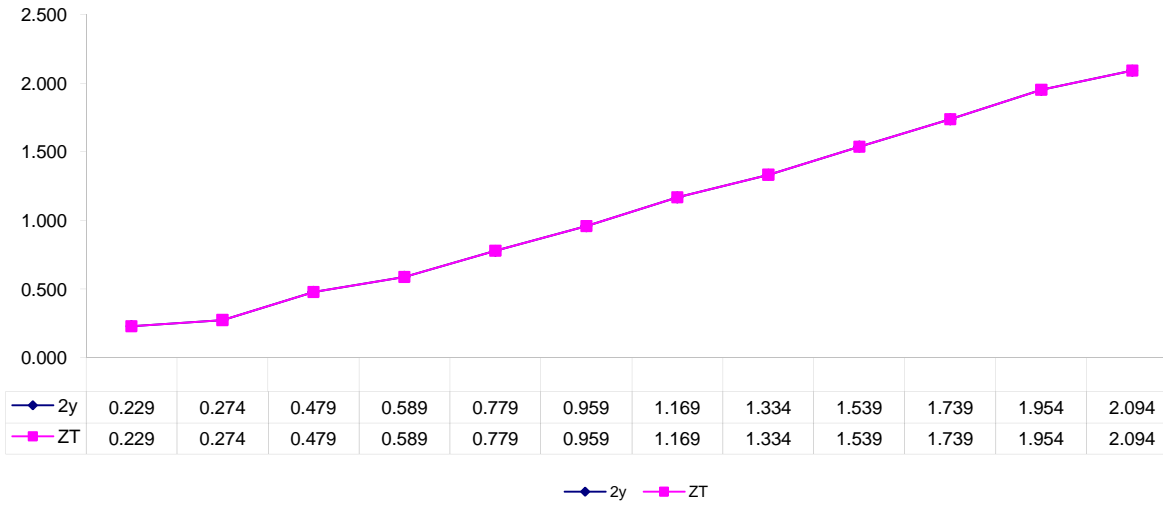
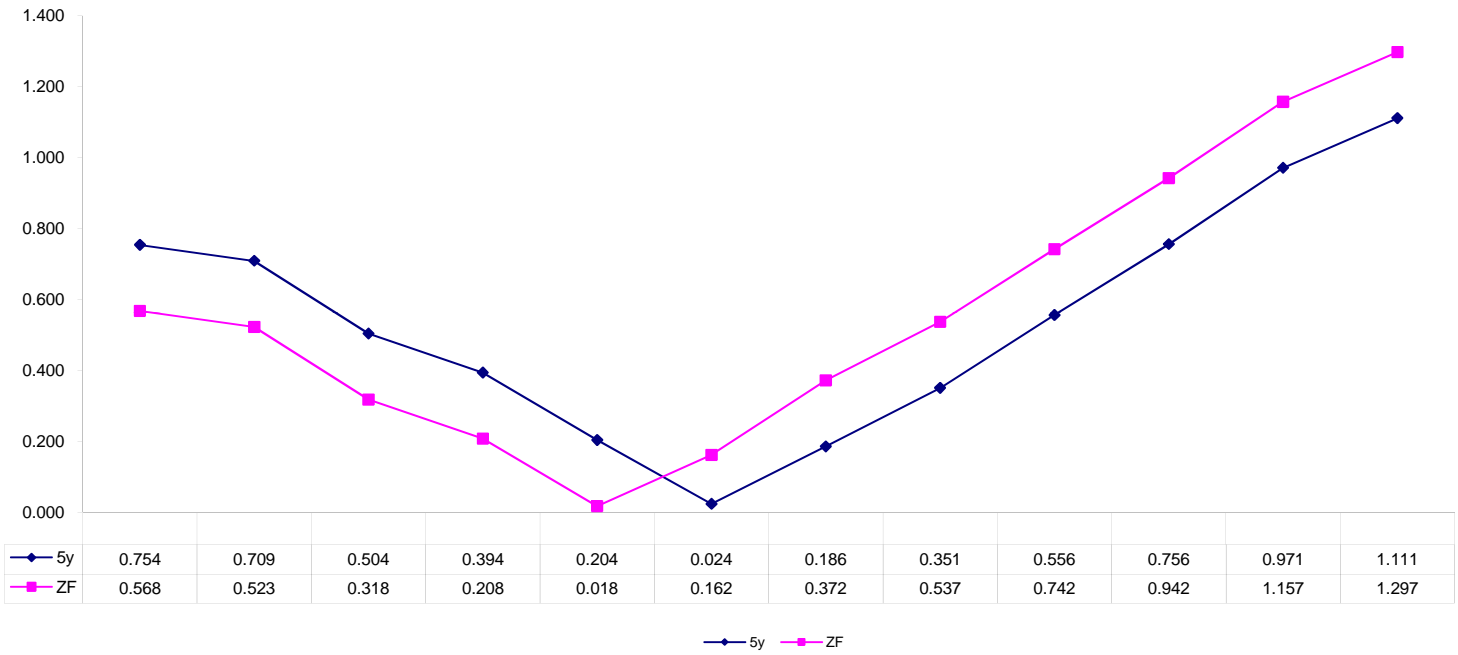


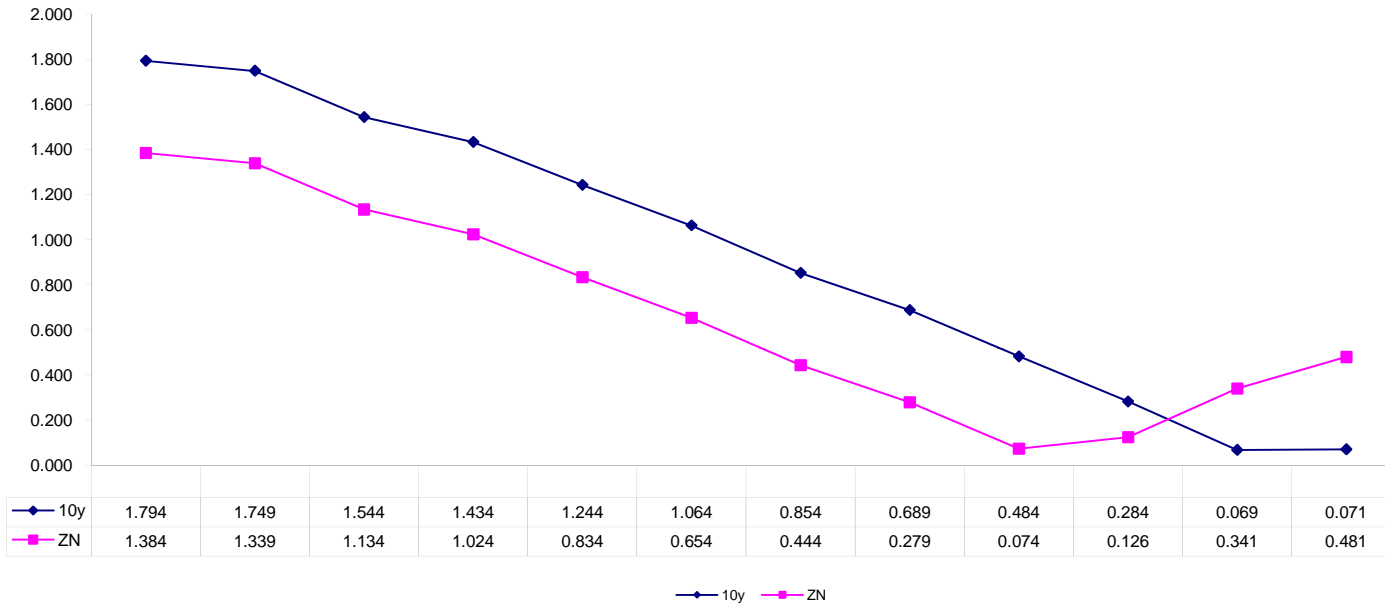
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



### 2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.275	5.000	9874.6250
Red Pack	1.957	5.875	9807.8750
Green Pack	2.749	6.625	9730.7500
Blue Pack	3.339	7.375	9673.3750
Gold Pack		3.625	9635.0000

