

## **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	108.7563	108.2420	0.797	1.888
ZF	118.2969	118.0950	1.520	1.520
ZN	123.7969	123.2550	2.297	5.975
2y	99.9688	99.3100	0.891	1.972
5y	99.9219	99.2950	1.766	4.728
10y	100.2188	100.0700	2.724	8.577

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.8000	1.200	80	0.2185	JUN	
EDAU09	98.8050	1.195	171	0.4678	SEP	White Pack
EDAZ09	98.6600	1.340	262	0.7171	DEC	
EDAH10	98.6050	1.395	353	0.9664	MAR	
EDAM10	98.4450	1.555	444	1.2158	JUN	
EDAU10	98.2750	1.725	535	1.4651	SEP	Red Pack
EDAZ10	98.0600	1.940	626	1.7144	DEC	
EDAH11	97.9050	2.095	717	1.9637	MAR	
EDAM11	97.7000	2.300	808	2.2130	JUN	
EDAU11	97.5150	2.485	906	2.4815	SEP	Green Pack
EDAZ11	97.3000	2.700	997	2.7308	DEC	
EDAH12	97.1750	2.825	1,088	2.9801	MAR	
EDAM12	97.0400	2.960	1,179	3.2295	JUN	
EDAU12	96.9300	3.070	1,270	3.4788	SEP	Blue Pack
EDAZ12	96.8050	3.195	1,361	3.7281	DEC	
EDAH13	96.7600	3.240	1,452	3.9774	MAR	
EDAM13	96.6800	3.320	1,543	4.2267	JUN	
EDAU13	96.6150	3.385	1,634	4.4760	SEP	Gold Pack
EDAZ13	96.5200	3.480	1,725	4.7254	DEC	
EDAH14	96.4750	3.525	1,816	4.9747	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.305	-0.125	9871.75	
Red Pack	1.863	-0.250	9817.13	Pack Prices
Green Pack	2.630	-0.500	9742.25	
Blue Pack	-1.125		9689.63	
Gold Pack	0.000		9660.38	

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)**

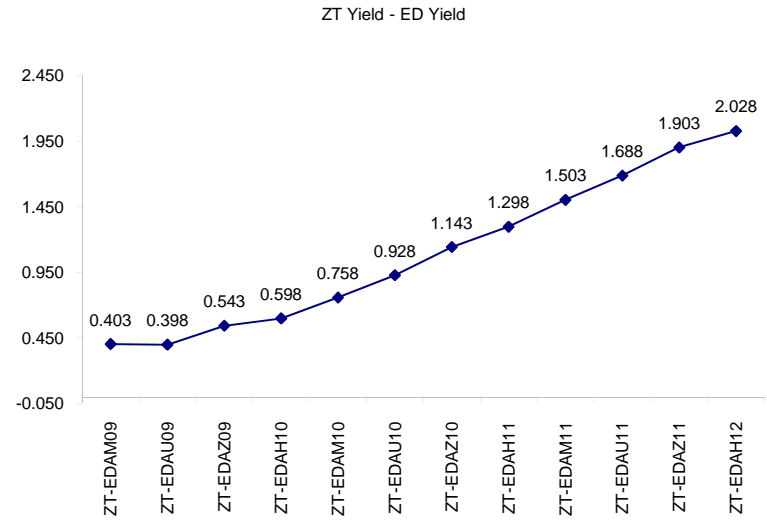
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.96	0.403	ZT-EDAM09	98
EDAU09	9.95	0.398	ZT-EDAU09	98
EDAZ09	10.10	0.543	ZT-EDAZ09	98
EDAH10	10.15	0.598	ZT-EDAH10	98
EDAM10	10.31	0.758	ZT-EDAM10	98
EDAU10	10.48	0.928	ZT-EDAU10	97
EDAZ10	10.70	1.143	ZT-EDAZ10	97
EDAH11	10.85	1.298	ZT-EDAH11	97
EDAM11	11.06	1.503	ZT-EDAM11	96
EDAU11	11.24	1.688	ZT-EDAU11	96
EDAZ11	11.46	1.903	ZT-EDAZ11	97
EDAH12	11.58	2.028	ZT-EDAH12	97

Price = Outright Decimal Price - Euro Contract Price

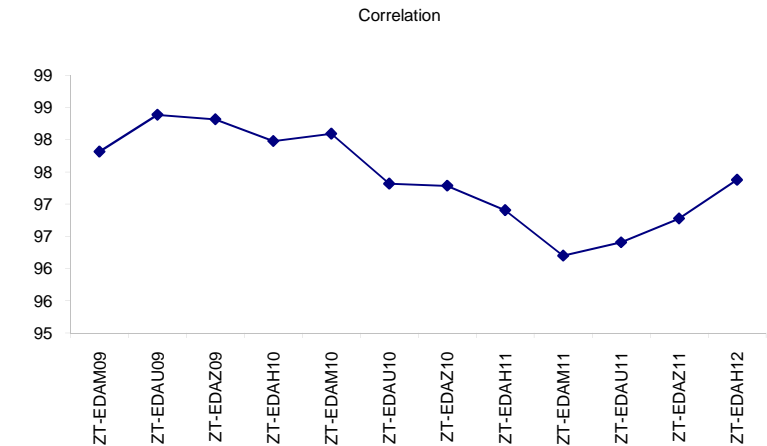
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.2185	1.8879	1.6694	ZT-EDAM09		
EDAU09	0.4678	1.8879	1.4201	ZT-EDAU09		
EDAZ09	0.7171	1.8879	1.1708	ZT-EDAZ09		
EDAH10	0.9664	1.8879	0.9214	ZT-EDAH10		
EDAM10	1.2158	1.8879	0.6721	ZT-EDAM10		
EDAU10	1.4651	1.8879	0.4228	ZT-EDAU10		
EDAZ10	1.7144	1.8879	0.1735	ZT-EDAZ10		
EDAH11	1.9637	1.8879	-0.0758	ZT-EDAH11		
EDAM11	2.2130	1.8879	-0.3251	ZT-EDAM11		
EDAU11	2.4815	1.8879	-0.5936	ZT-EDAU11		
EDAZ11	2.7308	1.8879	-0.8429	ZT-EDAZ11		
EDAH12	2.9801	1.8879	-1.0923	ZT-EDAH12		

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

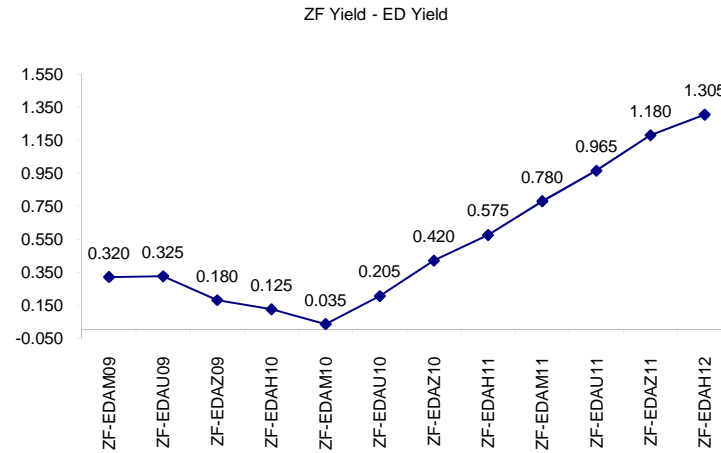


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	19.50	0.320	ZF-EDAM09	94
EDAU09	19.49	0.325	ZF-EDAU09	95
EDAZ09	19.64	0.180	ZF-EDAZ09	93
EDAH10	19.69	0.125	ZF-EDAH10	93
EDAM10	19.85	0.035	ZF-EDAM10	93
EDAU10	20.02	0.205	ZF-EDAU10	92
EDAZ10	20.24	0.420	ZF-EDAZ10	92
EDAH11	20.39	0.575	ZF-EDAH11	91
EDAM11	20.60	0.780	ZF-EDAM11	89
EDAU11	20.78	0.965	ZF-EDAU11	89
EDAZ11	21.00	1.180	ZF-EDAZ11	90
EDAH12	21.12	1.305	ZF-EDAH12	91

Price = Outright Decimal Price - Euro Contract Price

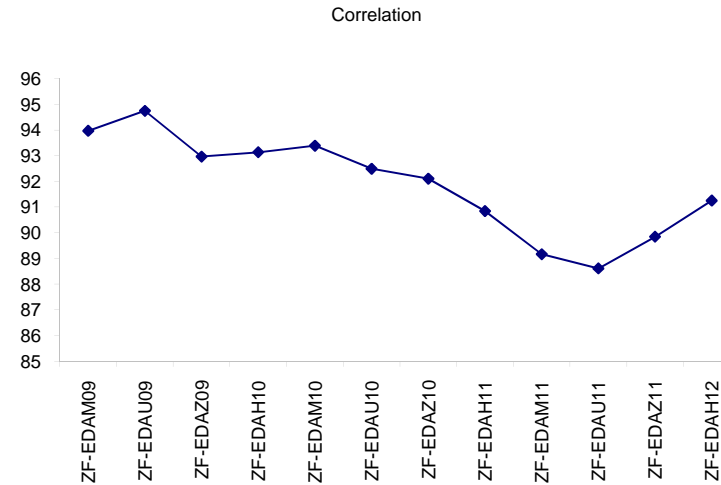
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.2185	1.5202	1.3016	ZF-EDAM09	
EDAU09	0.4678	1.5202	1.0523	ZF-EDAU09	
EDAZ09	0.7171	1.5202	0.8030	ZF-EDAZ09	
EDAH10	0.9664	1.5202	0.5537	ZF-EDAH10	
EDAM10	1.2158	1.5202	0.3044	ZF-EDAM10	
EDAU10	1.4651	1.5202	0.0551	ZF-EDAU10	
EDAZ10	1.7144	1.5202	-0.1942	ZF-EDAZ10	
EDAH11	1.9637	1.5202	-0.4436	ZF-EDAH11	
EDAM11	2.2130	1.5202	-0.6929	ZF-EDAM11	
EDAU11	2.4815	1.5202	-0.9614	ZF-EDAU11	
EDAZ11	2.7308	1.5202	-1.2107	ZF-EDAZ11	
EDAH12	2.9801	1.5202	-1.4600	ZF-EDAH12	

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

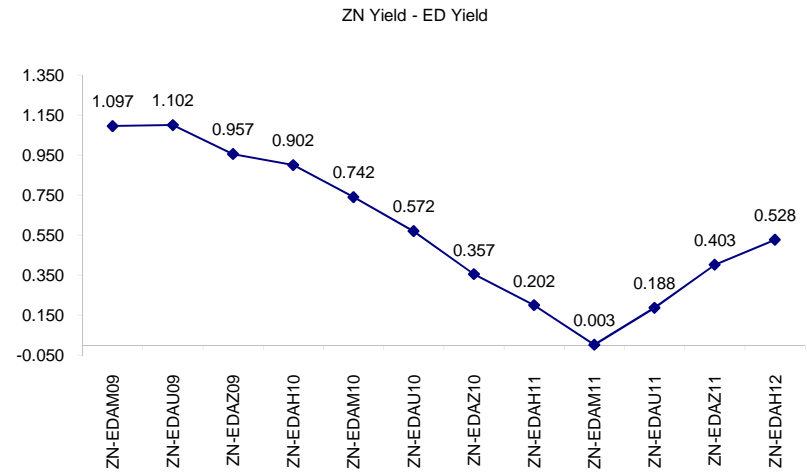


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAM09	25.00	1.097	ZN-EDAM09	94
EDAU09	24.99	1.102	ZN-EDAU09	94
EDAZ09	25.14	0.957	ZN-EDAZ09	92
EDAH10	25.19	0.902	ZN-EDAH10	92
EDAM10	25.35	0.742	ZN-EDAM10	92
EDAU10	25.52	0.572	ZN-EDAU10	91
EDAZ10	25.74	0.357	ZN-EDAZ10	91
EDAH11	25.89	0.202	ZN-EDAH11	90
EDAM11	26.10	0.003	ZN-EDAM11	88
EDAU11	26.28	0.188	ZN-EDAU11	88
EDAZ11	26.50	0.403	ZN-EDAZ11	90
EDAH12	26.62	0.528	ZN-EDAH12	91

Price = Outright Decimal Price - Euro Contract Price

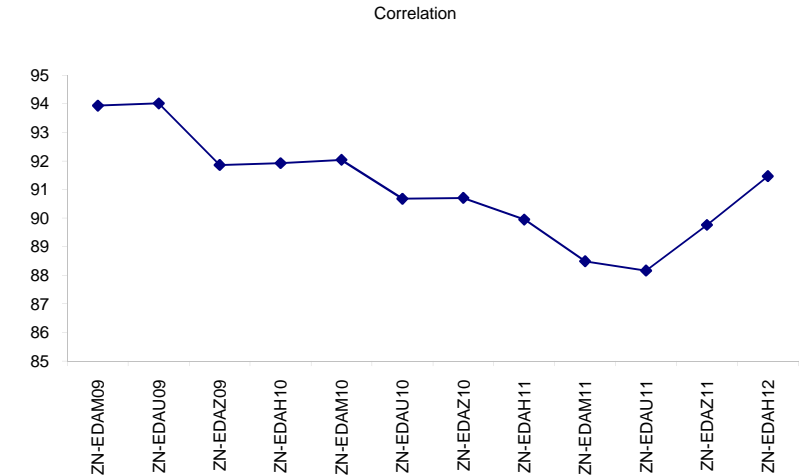
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



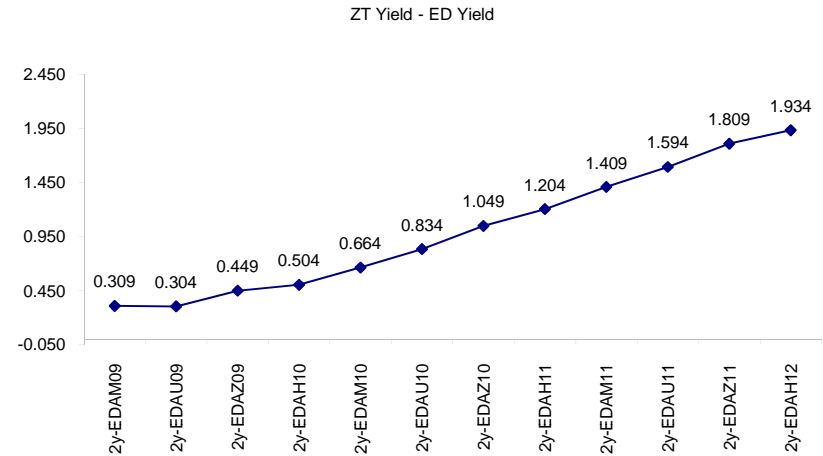
	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAM09	0.2185	5.9745	5.7560	ZN-EDAM09
EDAU09	0.4678	5.9745	5.5067	ZN-EDAU09
EDAZ09	0.7171	5.9745	5.2574	ZN-EDAZ09
EDAH10	0.9664	5.9745	5.0081	ZN-EDAH10
EDAM10	1.2158	5.9745	4.7588	ZN-EDAM10
EDAU10	1.4651	5.9745	4.5094	ZN-EDAU10
EDAZ10	1.7144	5.9745	4.2601	ZN-EDAZ10
EDAH11	1.9637	5.9745	4.0108	ZN-EDAH11
EDAM11	2.2130	5.9745	3.7615	ZN-EDAM11
EDAU11	2.4815	5.9745	3.4930	ZN-EDAU11
EDAZ11	2.7308	5.9745	3.2437	ZN-EDAZ11
EDAH12	2.9801	5.9745	2.9944	ZN-EDAH12

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



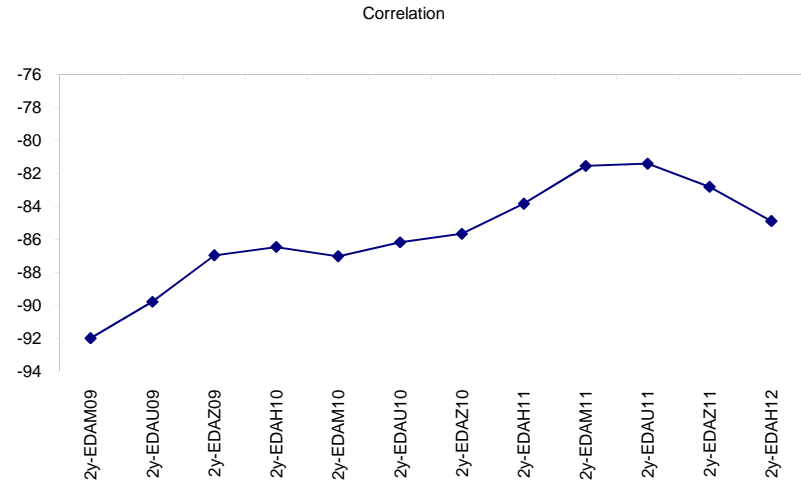
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.17	0.309	2y-EDAM09	-92
EDAU09	1.16	0.304	2y-EDAU09	-90
EDAZ09	1.31	0.449	2y-EDAZ09	-87
EDAH10	1.36	0.504	2y-EDAH10	-86
EDAM10	1.52	0.664	2y-EDAM10	-87
EDAU10	1.69	0.834	2y-EDAU10	-86
EDAZ10	1.91	1.049	2y-EDAZ10	-86
EDAH11	2.06	1.204	2y-EDAH11	-84
EDAM11	2.27	1.409	2y-EDAM11	-82
EDAU11	2.45	1.594	2y-EDAU11	-81
EDAZ11	2.67	1.809	2y-EDAZ11	-83
EDAH12	2.79	1.934	2y-EDAH12	-85

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	0.2185	1.9723	1.7538	2y-EDAM09
EDAU09	0.4678	1.9723	1.5045	2y-EDAU09
EDAZ09	0.7171	1.9723	1.2551	2y-EDAZ09
EDAH10	0.9664	1.9723	1.0058	2y-EDAH10
EDAM10	1.2158	1.9723	0.7565	2y-EDAM10
EDAU10	1.4651	1.9723	0.5072	2y-EDAU10
EDAZ10	1.7144	1.9723	0.2579	2y-EDAZ10
EDAH11	1.9637	1.9723	0.0086	2y-EDAH11
EDAM11	2.2130	1.9723	-0.2408	2y-EDAM11
EDAU11	2.4815	1.9723	-0.5092	2y-EDAU11
EDAZ11	2.7308	1.9723	-0.7586	2y-EDAZ11
EDAH12	2.9801	1.9723	-1.0079	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	1.12	0.566	5y-EDAM09	-86
EDAU09	1.12	0.571	5y-EDAU09	-84
EDAZ09	1.26	0.426	5y-EDAZ09	-81
EDAH10	1.32	0.371	5y-EDAH10	-81
EDAM10	1.48	0.211	5y-EDAM10	-81
EDAU10	1.65	0.041	5y-EDAU10	-79
EDAZ10	1.86	0.174	5y-EDAZ10	-79
EDAH11	2.02	0.329	5y-EDAH11	-78
EDAM11	2.22	0.534	5y-EDAM11	-76
EDAU11	2.41	0.719	5y-EDAU11	-75
EDAZ11	2.62	0.934	5y-EDAZ11	-78
EDAH12	2.75	1.059	5y-EDAH12	-81

Price = Outright Decimal Price - Euro Contract Price

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

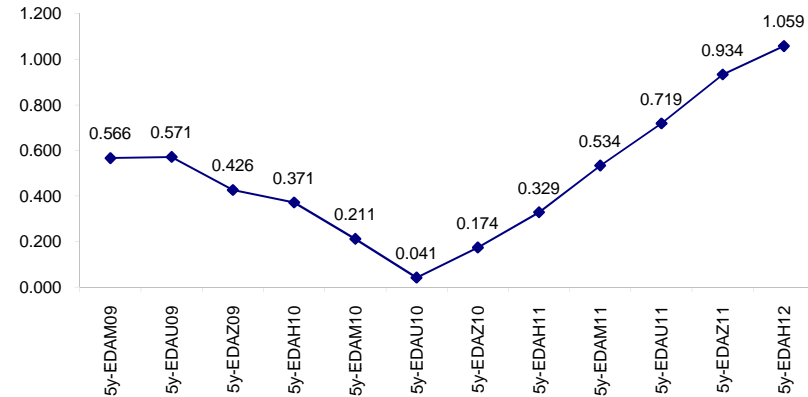
\*Correlation = ED Correlation to Treasury Future over 10 days

ED Duration as

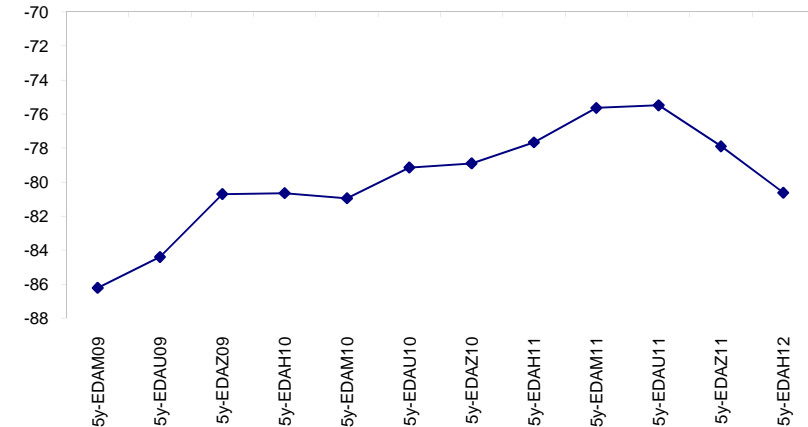
	Fraction of year	5Y Duration	Spread Duration	
EDAM09	0.2185	4.7284	4.5099	5y-EDAM09
EDAU09	0.4678	4.7284	4.2606	5y-EDAU09
EDAZ09	0.7171	4.7284	4.0113	5y-EDAZ09
EDAH10	0.9664	4.7284	3.7620	5y-EDAH10
EDAM10	1.2158	4.7284	3.5127	5y-EDAM10
EDAU10	1.4651	4.7284	3.2633	5y-EDAU10
EDAZ10	1.7144	4.7284	3.0140	5y-EDAZ10
EDAH11	1.9637	4.7284	2.7647	5y-EDAH11
EDAM11	2.2130	4.7284	2.5154	5y-EDAM11
EDAU11	2.4815	4.7284	2.2469	5y-EDAU11
EDAZ11	2.7308	4.7284	1.9976	5y-EDAZ11
EDAH12	2.9801	4.7284	1.7483	5y-EDAH12

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

5y - ED Yield



Correlation

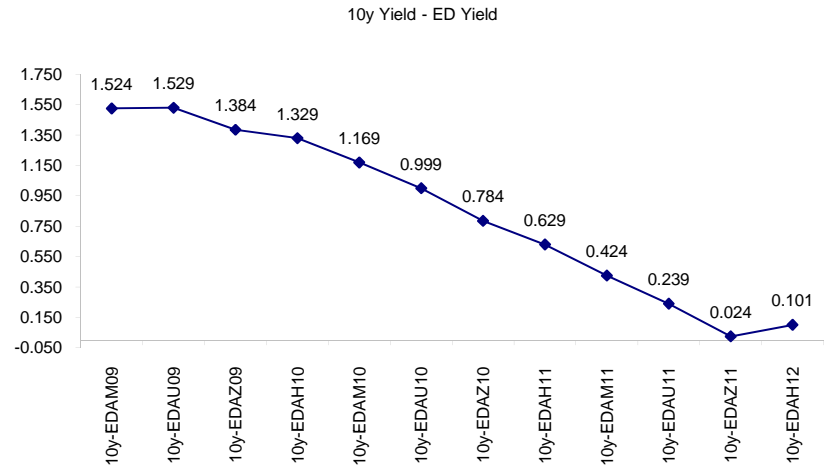


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.12	1.524	10y-EDAM09	-92
EDAU09	1.12	1.529	10y-EDAU09	-91
EDAZ09	1.26	1.384	10y-EDAZ09	-88
EDAH10	1.32	1.329	10y-EDAH10	-88
EDAM10	1.48	1.169	10y-EDAM10	-89
EDAU10	1.65	0.999	10y-EDAU10	-87
EDAZ10	1.86	0.784	10y-EDAZ10	-87
EDAH11	2.02	0.629	10y-EDAH11	-86
EDAM11	2.22	0.424	10y-EDAM11	-84
EDAU11	2.41	0.239	10y-EDAU11	-84
EDAZ11	2.62	0.024	10y-EDAZ11	-86
EDAH12	2.75	0.101	10y-EDAH12	-88

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	0.2185	8.5766	8.3581	10y-EDAM09
EDAU09	0.4678	8.5766	8.1087	10y-EDAU09
EDAZ09	0.7171	8.5766	7.8594	10y-EDAZ09
EDAH10	0.9664	8.5766	7.6101	10y-EDAH10
EDAM10	1.2158	8.5766	7.3608	10y-EDAM10
EDAU10	1.4651	8.5766	7.1115	10y-EDAU10
EDAZ10	1.7144	8.5766	6.8622	10y-EDAZ10
EDAH11	1.9637	8.5766	6.6129	10y-EDAH11
EDAM11	2.2130	8.5766	6.3635	10y-EDAM11
EDAU11	2.4815	8.5766	6.0950	10y-EDAU11
EDAZ11	2.7308	8.5766	5.8457	10y-EDAZ11
EDAH12	2.9801	8.5766	5.5964	10y-EDAH12

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

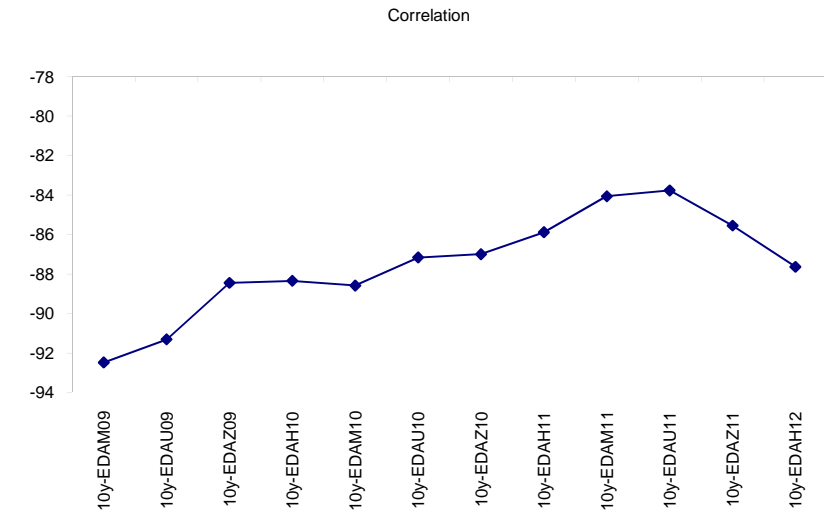


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

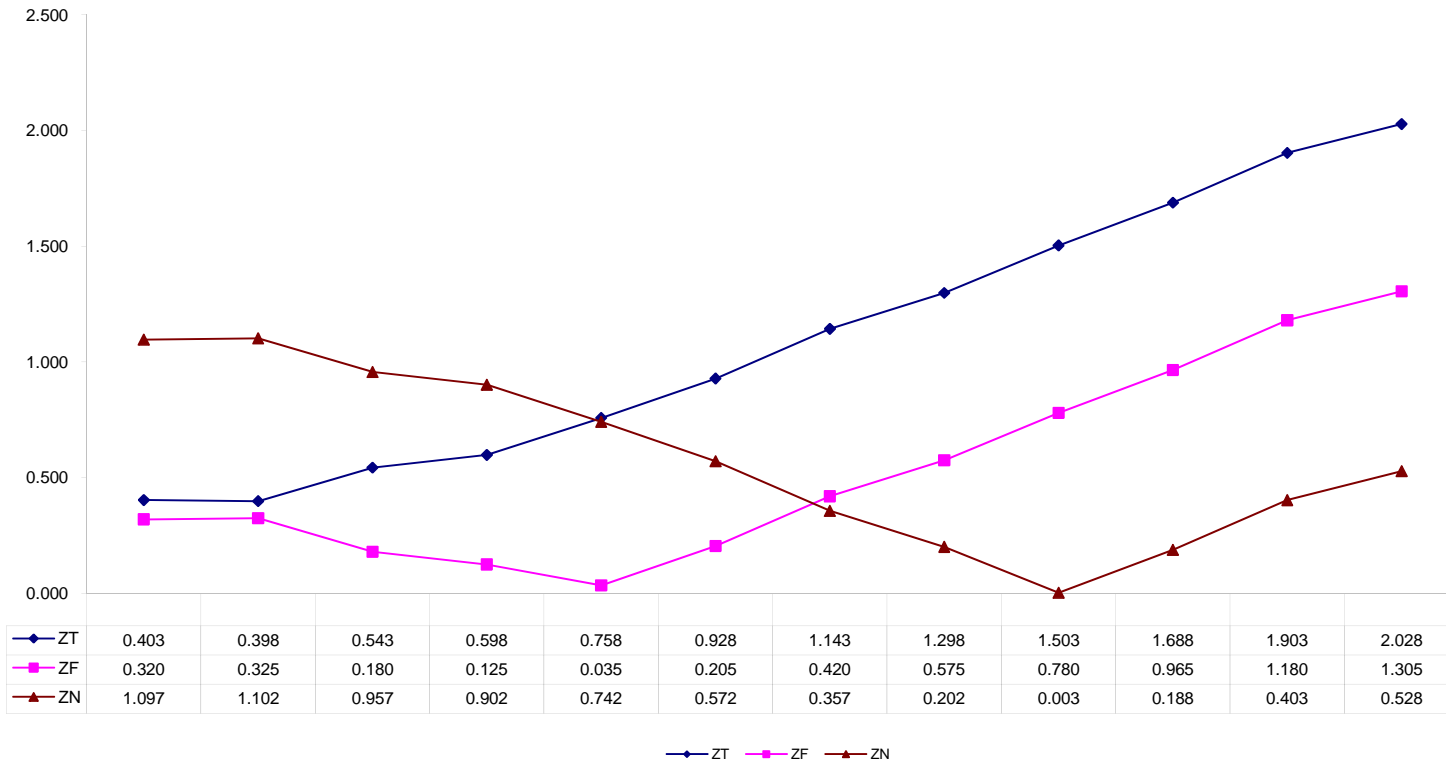
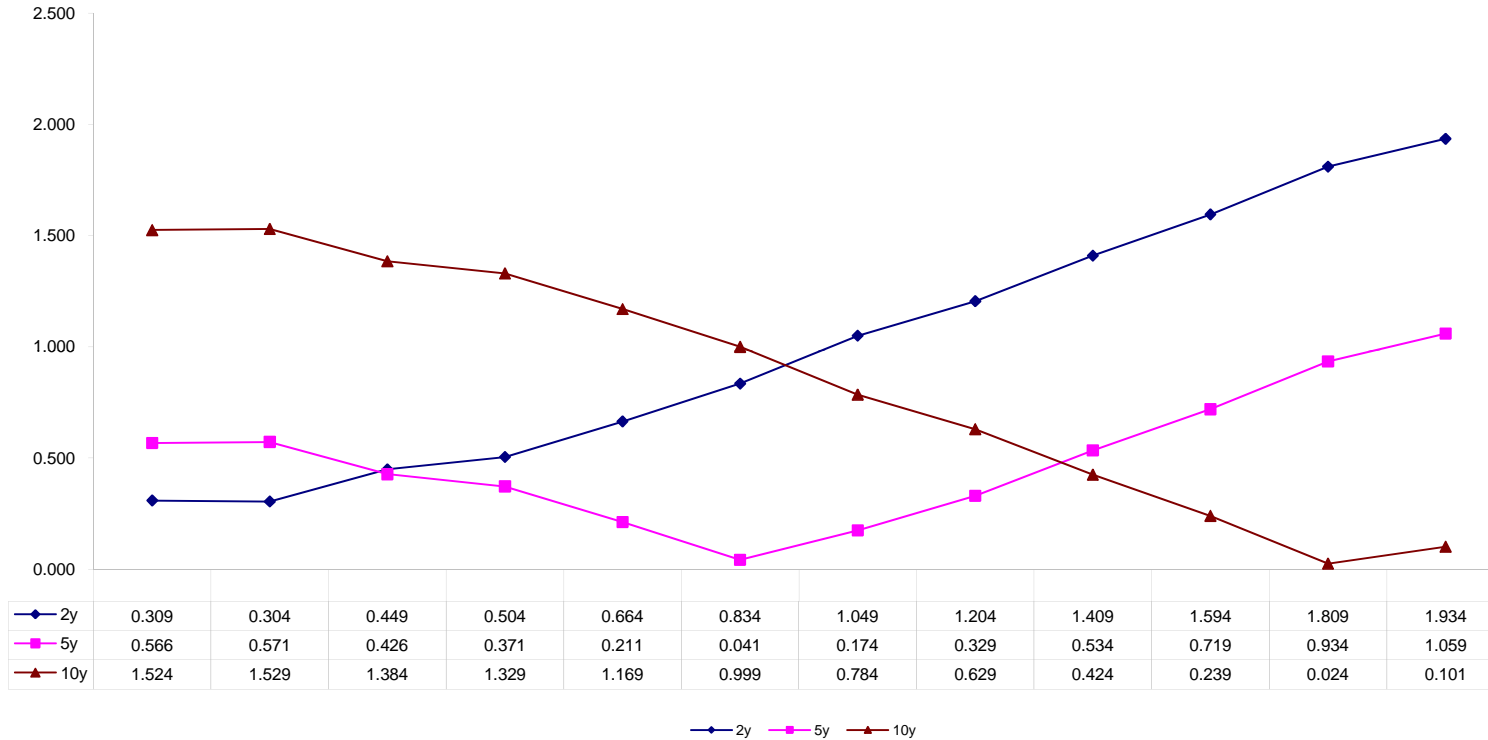
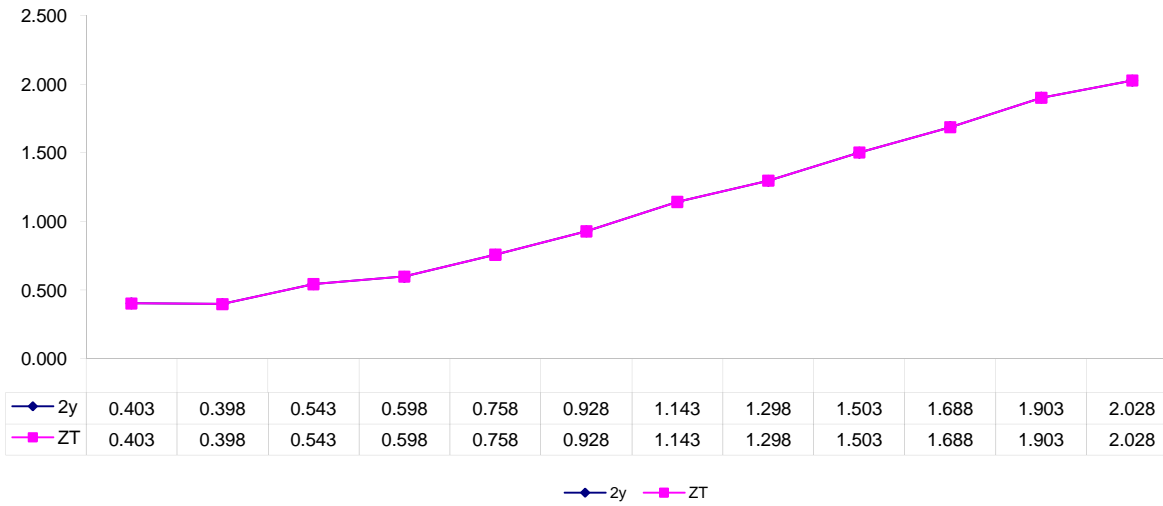
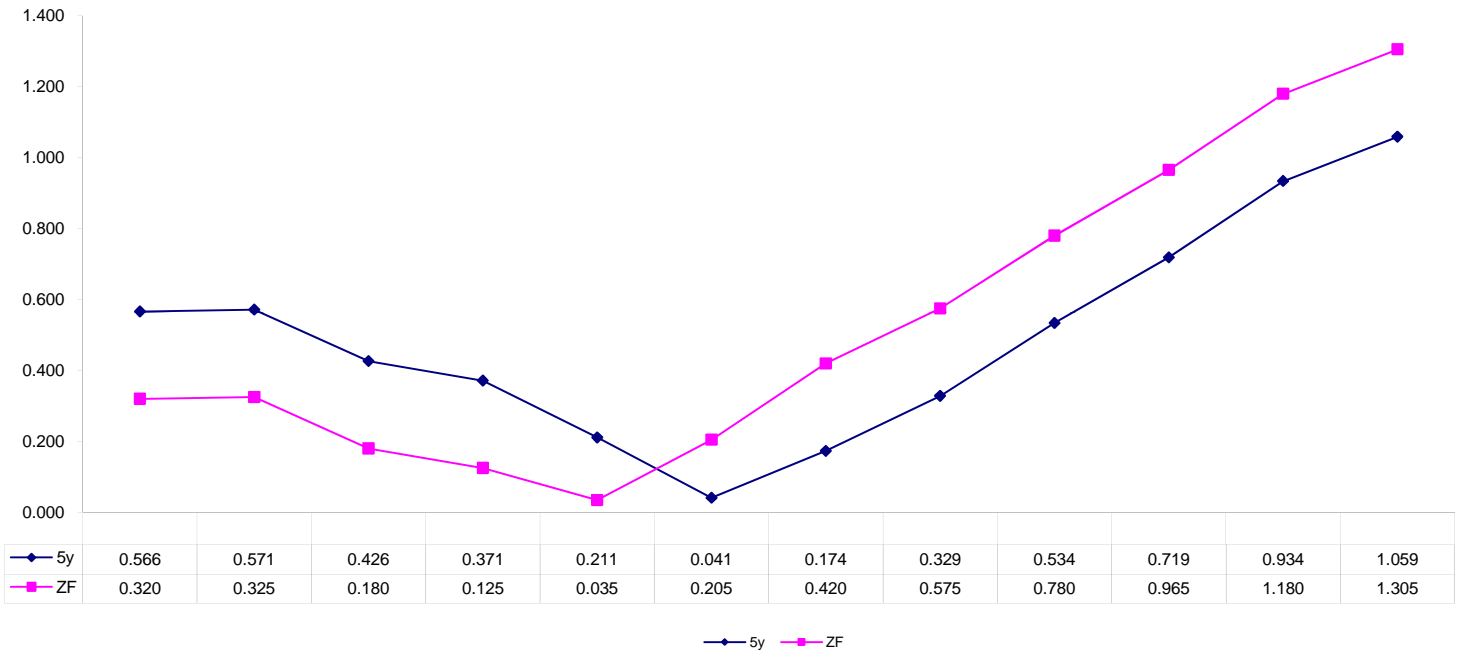


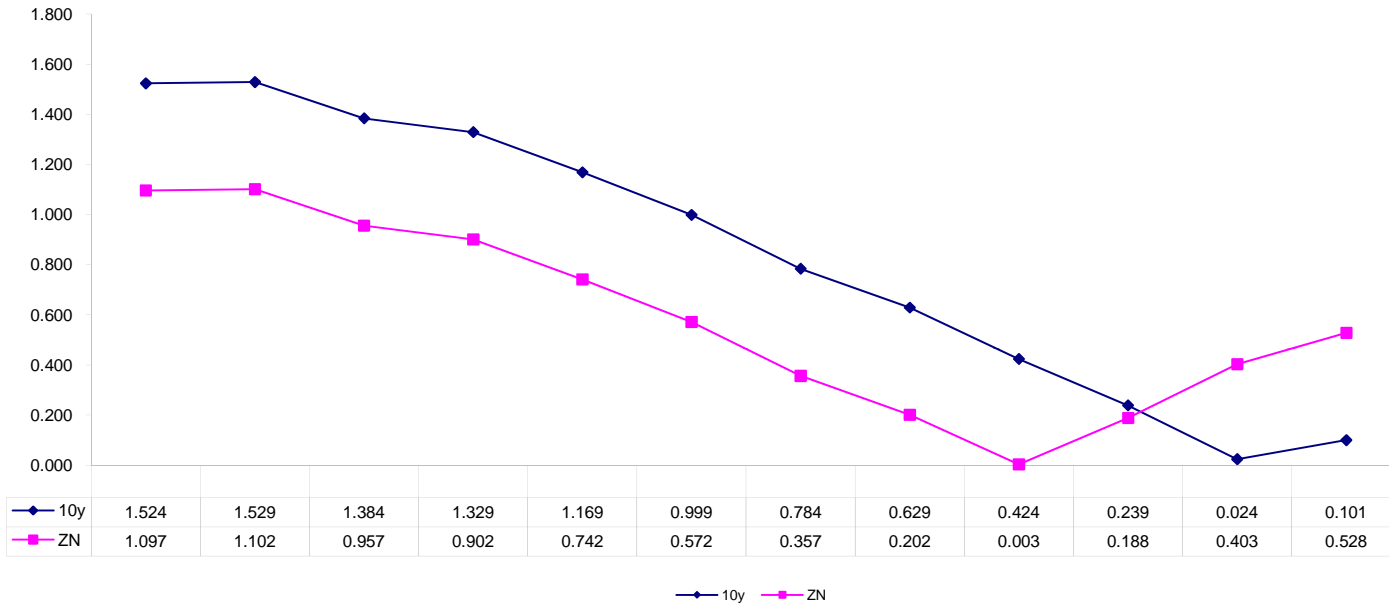
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.305	-0.125	9871.7500
Red Pack	1.863	-0.250	9817.1250
Green Pack	2.630	-0.500	9742.2500
Blue Pack		-1.125	9689.6250
Gold Pack		0.000	9660.3750

