

## The Morning Email: TERM TEDS & Dirty TEDS

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Want something added? Let me know: [jgoulding@ghco.com](mailto:jgoulding@ghco.com)

**Disclaimer:** All information within this newsletter is meant for internal use at GH Trader's LLC, only. All information has been recorded to the best of my ability. This material is based upon information that I consider reliable, but I do not represent that it is accurate or complete.

Treasury Futures and Cash				
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	108.8281	108.2650	0.770	1.78
ZF	118.0375	118.0120	1.605	1.61
ZN	122.3750	122.1200	1.815	6.16
2y	99.8750	99.2800	0.939	1.95
5y	99.4438	99.1420	1.871	4.74
10y	107.3125	107.1000	2.886	8.14

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.815	1.185	38	0.103	MAR	
EDAM09	98.810	1.190	129	0.353	JUN	White Pack
EDAU09	98.715	1.285	220	0.602	SEP	
EDAZ09	98.530	1.470	311	0.851	DEC	
EDAH10	98.365	1.635	402	1.101	MAR	
EDAM10	98.120	1.880	493	1.350	JUN	Red Pack
EDAU10	97.885	2.115	584	1.599	SEP	
EDAZ10	97.630	2.370	675	1.849	DEC	
EDAH11	97.455	2.545	766	2.098	MAR	
EDAM11	97.250	2.750	857	2.347	JUN	Green Pack
EDAU11	97.075	2.925	955	2.616	SEP	
EDAZ11	96.910	3.090	1046	2.865	DEC	
EDAH12	96.825	3.175	1137	3.114	MAR	
EDAM12	96.690	3.310	1228	3.364	JUN	Blue Pack
EDAU12	96.660	3.340	1319	3.613	SEP	
EDAZ12	96.560	3.440	1410	3.862	DEC	
EDAH13	96.525	3.475	1501	4.112	MAR	
EDAM13	96.400	3.600	1592	4.361	JUN	Gold Pack
EDZU13	96.310	3.690	1683	4.610	SEP	
EDZZ13	96.190	3.810	1774	4.860	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.305	2.375	9871.750	
Red Pack	2.038	2.375	9800.000	Pack Prices
Green Pack	2.887	1.625	9717.250	
Blue Pack		0.375	9669.250	
Gold Pack		0.125	9639.000	

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.

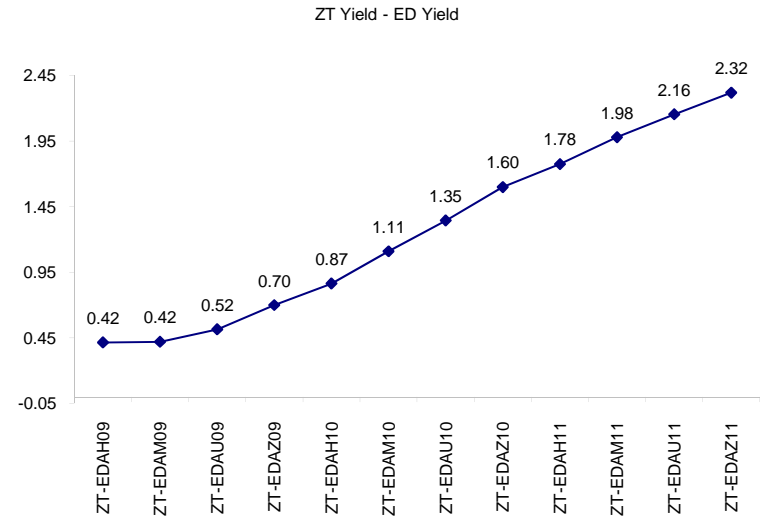
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

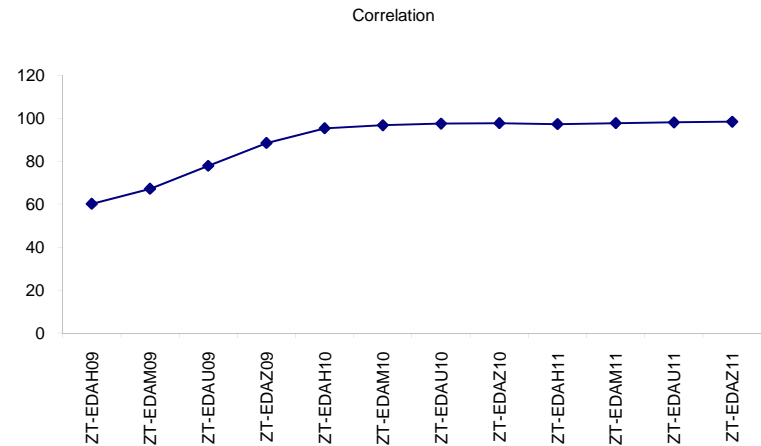
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.013	0.42	ZT-EDAH09	60.120
EDAM09	10.018	0.42	ZT-EDAM09	67.134
EDAU09	10.113	0.52	ZT-EDAU09	77.852
EDAZ09	10.298	0.70	ZT-EDAZ09	88.465
EDAH10	10.463	0.87	ZT-EDAH10	95.328
EDAM10	10.708	1.11	ZT-EDAM10	96.755
EDAU10	10.943	1.35	ZT-EDAU10	97.505
EDAZ10	11.198	1.60	ZT-EDAZ10	97.728
EDAH11	11.373	1.78	ZT-EDAH11	97.267
EDAM11	11.578	1.98	ZT-EDAM11	97.741
EDAU11	11.753	2.16	ZT-EDAU11	98.089
EDAZ11	11.918	2.32	ZT-EDAZ11	98.414

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	
EDAH09	0.103	1.78	1.68	ZT-EDAH09		
EDAM09	0.353	1.78	1.43	ZT-EDAM09		
EDAU09	0.602	1.78	1.18	ZT-EDAU09		
EDAZ09	0.851	1.78	0.93	ZT-EDAZ09		
EDAH10	1.101	1.78	0.68	ZT-EDAH10		
EDAM10	1.350	1.78	0.43	ZT-EDAM10		
EDAU10	1.599	1.78	0.18	ZT-EDAU10		
EDAZ10	1.849	1.78	(0.07)	ZT-EDAZ10		
EDAH11	2.098	1.78	(0.32)	ZT-EDAH11		
EDAM11	2.347	1.78	(0.57)	ZT-EDAM11		
EDAU11	2.616	1.78	(0.84)	ZT-EDAU11		
EDAZ11	2.865	1.78	(1.09)	ZT-EDAZ11		

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

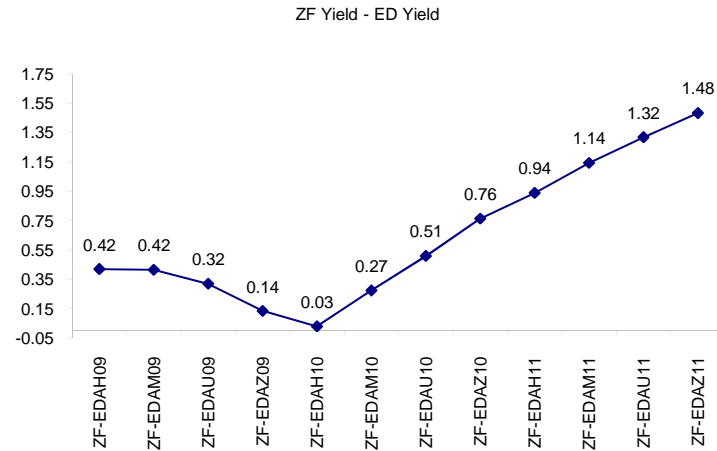


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.223	0.42	ZF-EDAH09	45.270
EDAM09	19.228	0.42	ZF-EDAM09	52.898
EDAU09	19.323	0.32	ZF-EDAU09	65.017
EDAZ09	19.508	0.14	ZF-EDAZ09	77.757
EDAH10	19.673	0.03	ZF-EDAH10	86.610
EDAM10	19.918	0.27	ZF-EDAM10	88.724
EDAU10	20.153	0.51	ZF-EDAU10	90.613
EDAZ10	20.408	0.76	ZF-EDAZ10	92.832
EDAH11	20.583	0.94	ZF-EDAH11	94.339
EDAM11	20.788	1.14	ZF-EDAM11	97.152
EDAU11	20.963	1.32	ZF-EDAU11	98.433
EDAZ11	21.128	1.48	ZF-EDAZ11	98.573

Price = Outright Decimal Price - Euro Contract Price

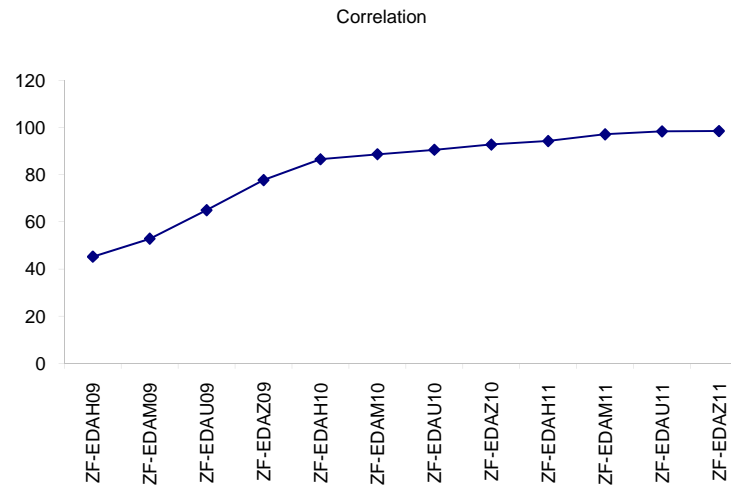
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.103	1.61	1.50	1.50	ZF-EDAH09
EDAM09	0.353	1.61	1.25	1.25	ZF-EDAM09
EDAU09	0.602	1.61	1.00	1.00	ZF-EDAU09
EDAZ09	0.851	1.61	0.75	0.75	ZF-EDAZ09
EDAH10	1.101	1.61	0.50	0.50	ZF-EDAH10
EDAM10	1.350	1.61	0.26	0.26	ZF-EDAM10
EDAU10	1.599	1.61	0.01	0.01	ZF-EDAU10
EDAZ10	1.849	1.61	(0.24)	(0.24)	ZF-EDAZ10
EDAH11	2.098	1.61	(0.49)	(0.49)	ZF-EDAH11
EDAM11	2.347	1.61	(0.74)	(0.74)	ZF-EDAM11
EDAU11	2.616	1.61	(1.01)	(1.01)	ZF-EDAU11
EDAZ11	2.865	1.61	(1.26)	(1.26)	ZF-EDAZ11

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

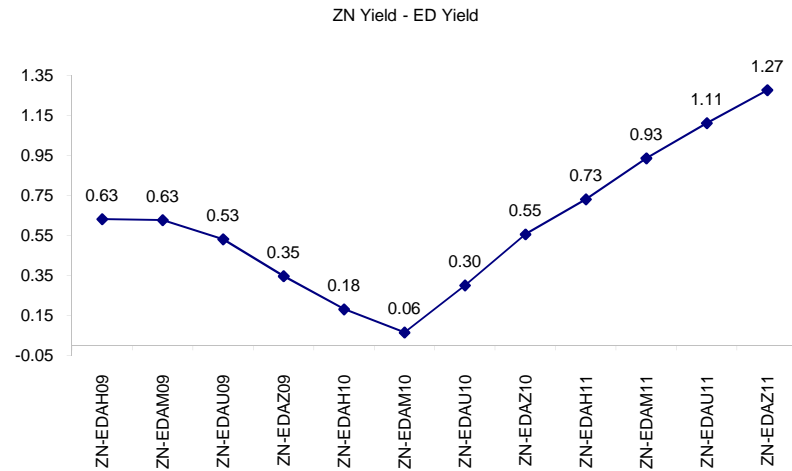


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	23.560	0.63	ZN-EDAH09	48.176
EDAM09	23.565	0.63	ZN-EDAM09	55.371
EDAU09	23.660	0.53	ZN-EDAU09	66.625
EDAZ09	23.845	0.35	ZN-EDAZ09	78.336
EDAH10	24.010	0.18	ZN-EDAH10	86.288
EDAM10	24.255	0.06	ZN-EDAM10	88.208
EDAU10	24.490	0.30	ZN-EDAU10	90.124
EDAZ10	24.745	0.55	ZN-EDAZ10	92.668
EDAH11	24.920	0.73	ZN-EDAH11	94.349
EDAM11	25.125	0.93	ZN-EDAM11	96.887
EDAU11	25.300	1.11	ZN-EDAU11	97.806
EDAZ11	25.465	1.27	ZN-EDAZ11	97.674

Price = Outright Decimal Price - Euro Contract Price

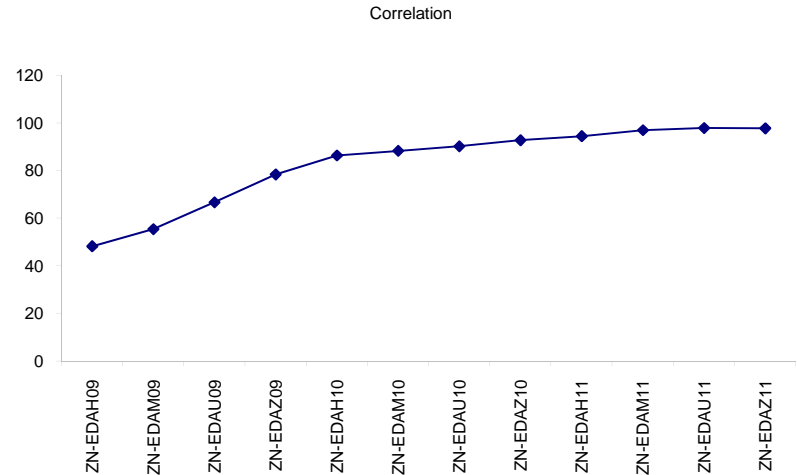
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Duration	Spread Duration	
	Fraction of year	ZN Duration	Spread Duration			
EDAH09	0.103	6.16	6.06	ZN-EDAH09		
EDAM09	0.353	6.16	5.81	ZN-EDAM09		
EDAU09	0.602	6.16	5.56	ZN-EDAU09		
EDAZ09	0.851	6.16	5.31	ZN-EDAZ09		
EDAH10	1.101	6.16	5.06	ZN-EDAH10		
EDAM10	1.350	6.16	4.81	ZN-EDAM10		
EDAU10	1.599	6.16	4.57	ZN-EDAU10		
EDAZ10	1.849	6.16	4.32	ZN-EDAZ10		
EDAH11	2.098	6.16	4.07	ZN-EDAH11		
EDAM11	2.347	6.16	3.82	ZN-EDAM11		
EDAU11	2.616	6.16	3.55	ZN-EDAU11		
EDAZ11	2.865	6.16	3.30	ZN-EDAZ11		

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

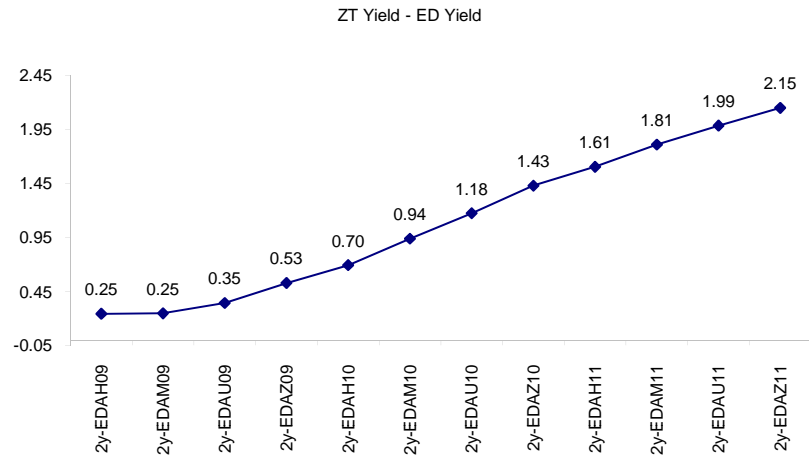


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.060	0.25	2y-EDAH09	-39.343
EDAM09	1.065	0.25	2y-EDAM09	-48.090
EDAU09	1.160	0.35	2y-EDAU09	-60.808
EDAZ09	1.345	0.53	2y-EDAZ09	-73.797
EDAH10	1.510	0.70	2y-EDAH10	-84.088
EDAM10	1.755	0.94	2y-EDAM10	-86.581
EDAU10	1.990	1.18	2y-EDAU10	-88.304
EDAZ10	2.245	1.43	2y-EDAZ10	-89.875
EDAH11	2.420	1.61	2y-EDAH11	-91.177
EDAM11	2.625	1.81	2y-EDAM11	-93.928
EDAU11	2.800	1.99	2y-EDAU11	-95.612
EDAZ11	2.965	2.15	2y-EDAZ11	-95.945

Price = Outright Decimal Price - Euro Contract Price

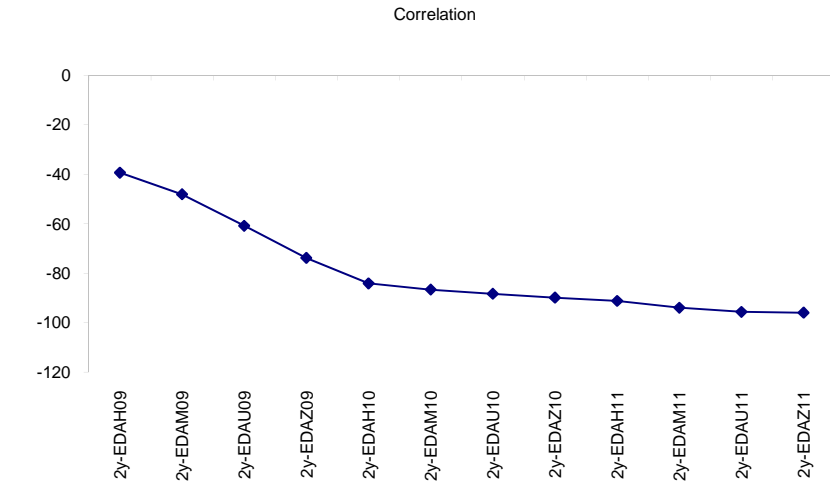
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.103	1.95	1.85	2y-EDAH09	
EDAM09	0.353	1.95	1.60	2y-EDAM09	
EDAU09	0.602	1.95	1.35	2y-EDAU09	
EDAZ09	0.851	1.95	1.10	2y-EDAZ09	
EDAH10	1.101	1.95	0.85	2y-EDAH10	
EDAM10	1.350	1.95	0.60	2y-EDAM10	
EDAU10	1.599	1.95	0.35	2y-EDAU10	
EDAZ10	1.849	1.95	0.10	2y-EDAZ10	
EDAH11	2.098	1.95	(0.15)	2y-EDAH11	
EDAM11	2.347	1.95	(0.39)	2y-EDAM11	
EDAU11	2.616	1.95	(0.66)	2y-EDAU11	
EDAZ11	2.865	1.95	(0.91)	2y-EDAZ11	

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



	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.629	0.69	5y-EDAH09	-56.647
EDAM09	0.634	0.68	5y-EDAM09	-64.462
EDAU09	0.729	0.59	5y-EDAU09	-75.735
EDAZ09	0.914	0.40	5y-EDAZ09	-86.322
EDAH10	1.079	0.24	5y-EDAH10	-93.135
EDAM10	1.324	0.01	5y-EDAM10	-94.314
EDAU10	1.559	0.24	5y-EDAU10	-95.082
EDAZ10	1.814	0.50	5y-EDAZ10	-95.690
EDAH11	1.989	0.67	5y-EDAH11	-95.694
EDAM11	2.194	0.88	5y-EDAM11	-97.453
EDAU11	2.369	1.05	5y-EDAU11	-98.473
EDAZ11	2.534	1.22	5y-EDAZ11	-98.805

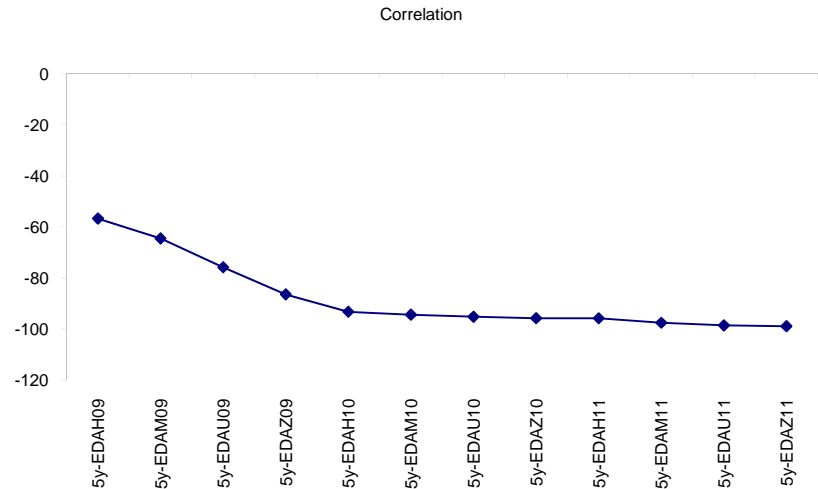
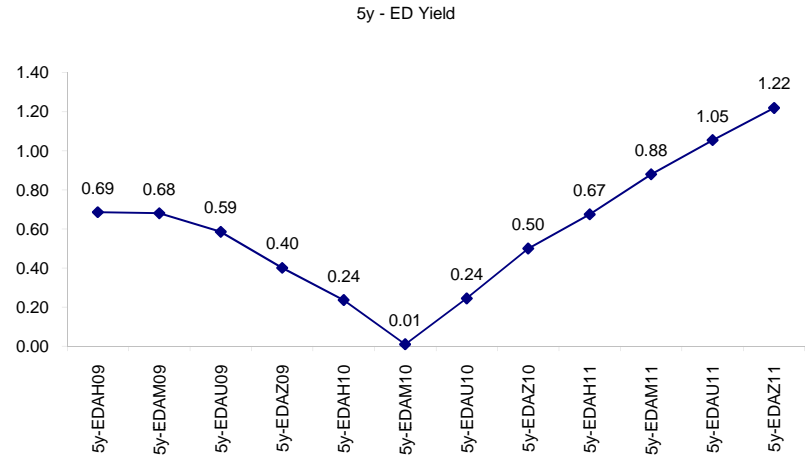
Price = Outright Decimal Price - Euro Contract Price

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

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

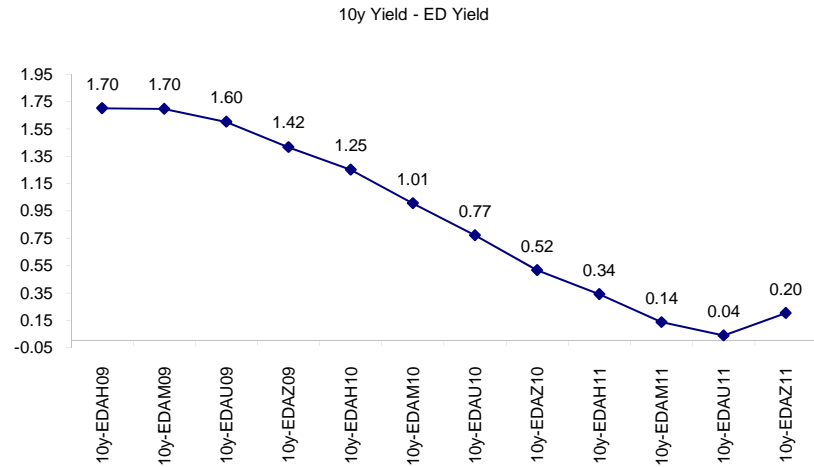
	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAH09	0.103		4.74	4.64	5y-EDAH09
EDAM09	0.353		4.74	4.39	5y-EDAM09
EDAU09	0.602		4.74	4.14	5y-EDAU09
EDAZ09	0.851		4.74	3.89	5y-EDAZ09
EDAH10	1.101		4.74	3.64	5y-EDAH10
EDAM10	1.350		4.74	3.39	5y-EDAM10
EDAU10	1.599		4.74	3.14	5y-EDAU10
EDAZ10	1.849		4.74	2.89	5y-EDAZ10
EDAH11	2.098		4.74	2.64	5y-EDAH11
EDAM11	2.347		4.74	2.39	5y-EDAM11
EDAU11	2.616		4.74	2.12	5y-EDAU11
EDAZ11	2.865		4.74	1.87	5y-EDAZ11

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



	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.629	1.70	10y-EDAH09	-50.449
EDAM09	0.634	1.70	10y-EDAM09	-58.249
EDAU09	0.729	1.60	10y-EDAU09	-69.808
EDAZ09	0.914	1.42	10y-EDAZ09	-81.493
EDAH10	1.079	1.25	10y-EDAH10	-89.743
EDAM10	1.324	1.01	10y-EDAM10	-91.595
EDAU10	1.559	0.77	10y-EDAU10	-93.003
EDAZ10	1.814	0.52	10y-EDAZ10	-94.709
EDAH11	1.989	0.34	10y-EDAH11	-95.818
EDAM11	2.194	0.14	10y-EDAM11	-98.220
EDAU11	2.369	0.04	10y-EDAU11	-99.402
EDAZ11	2.534	0.20	10y-EDAZ11	-99.652

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		
EDAH09	0.103	8.14	8.04	10y-EDAH09
EDAM09	0.353	8.14	7.79	10y-EDAM09
EDAU09	0.602	8.14	7.54	10y-EDAU09
EDAZ09	0.851	8.14	7.29	10y-EDAZ09
EDAH10	1.101	8.14	7.04	10y-EDAH10
EDAM10	1.350	8.14	6.79	10y-EDAM10
EDAU10	1.599	8.14	6.54	10y-EDAU10
EDAZ10	1.849	8.14	6.29	10y-EDAZ10
EDAH11	2.098	8.14	6.04	10y-EDAH11
EDAM11	2.347	8.14	5.79	10y-EDAM11
EDAU11	2.616	8.14	5.53	10y-EDAU11
EDAZ11	2.865	8.14	5.28	10y-EDAZ11

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

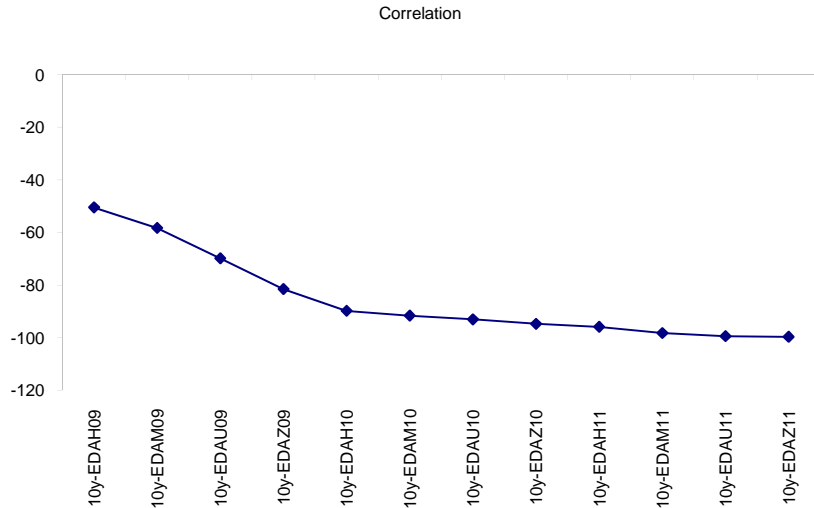


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

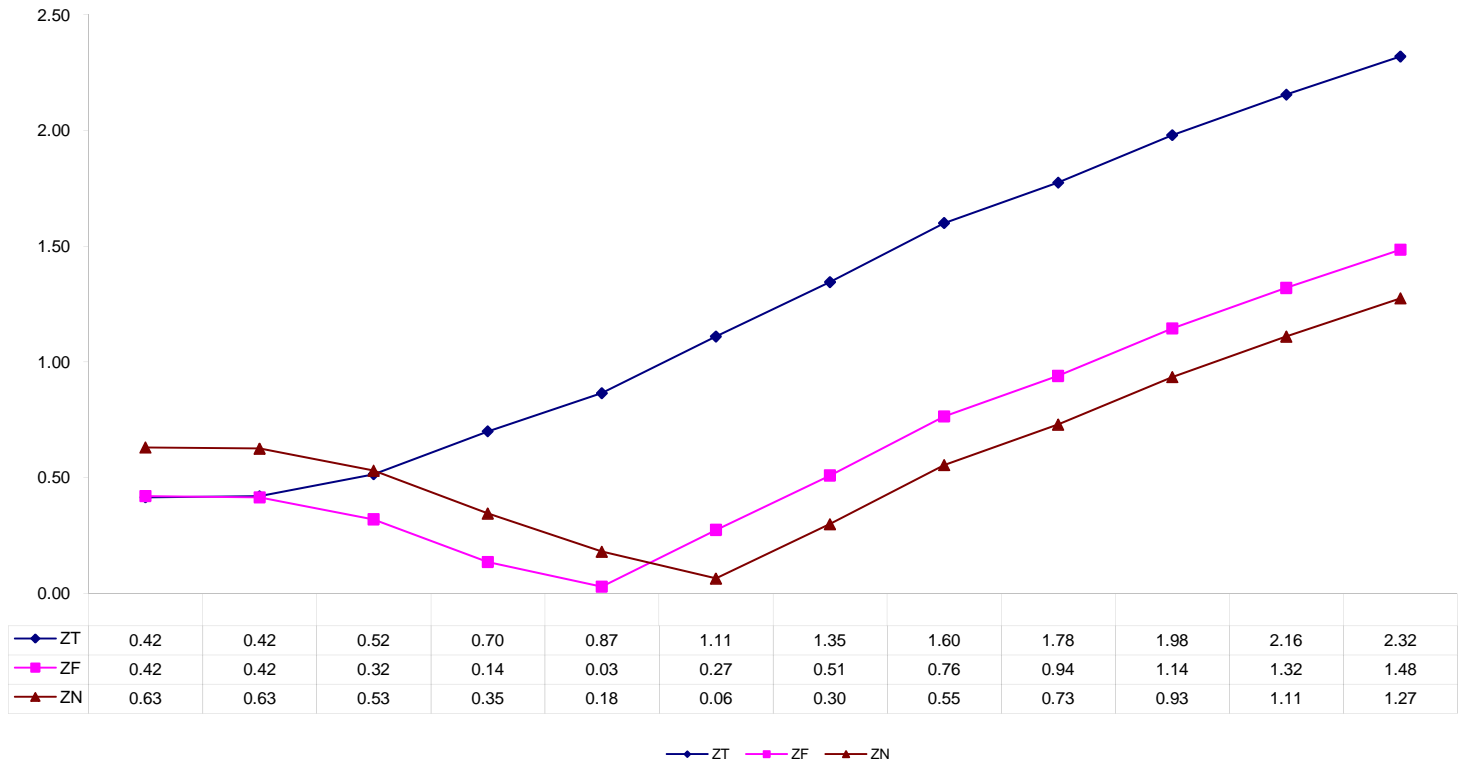
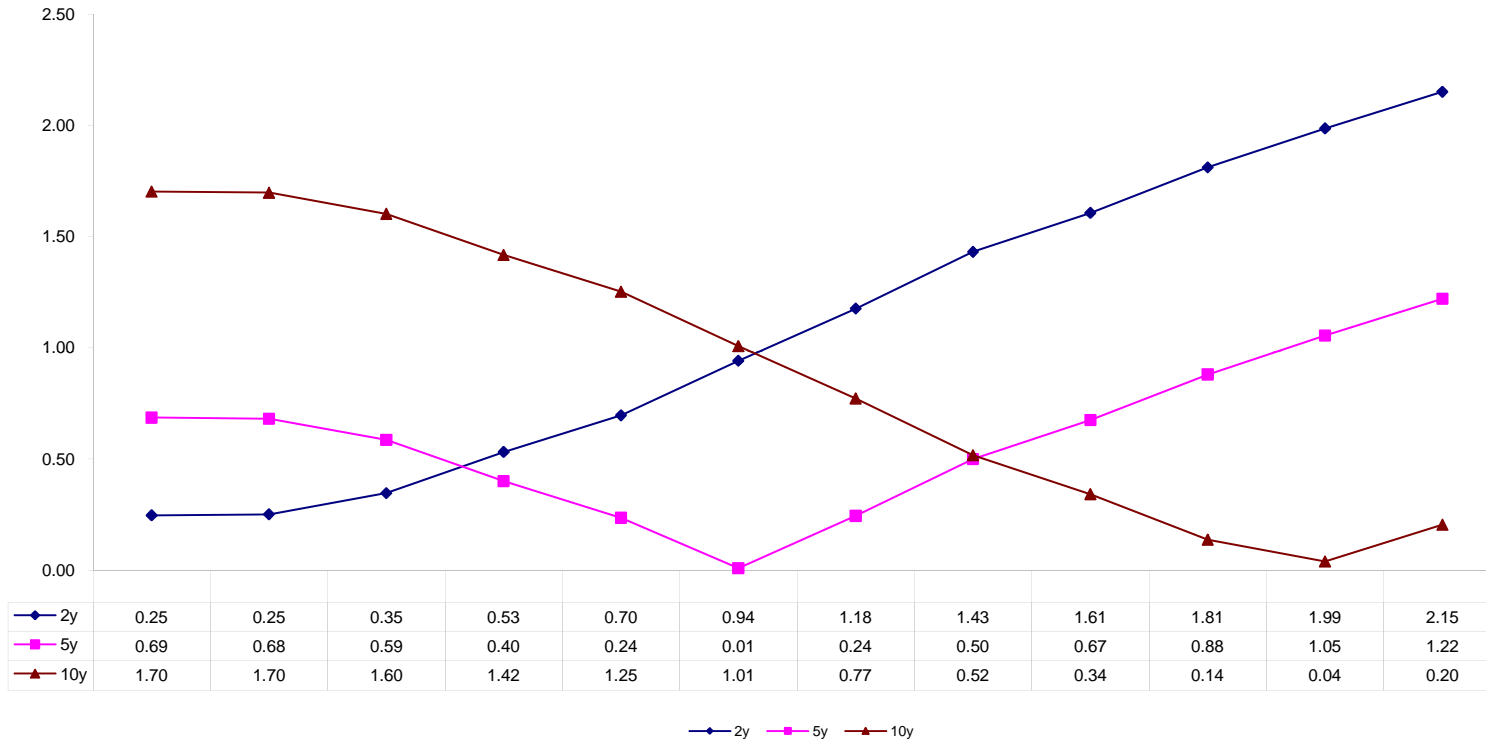
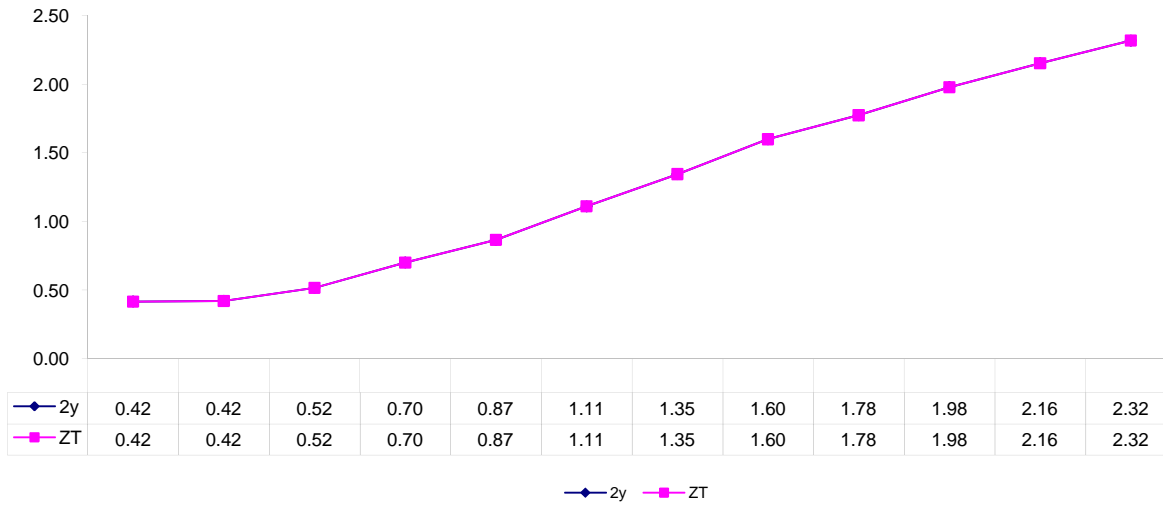
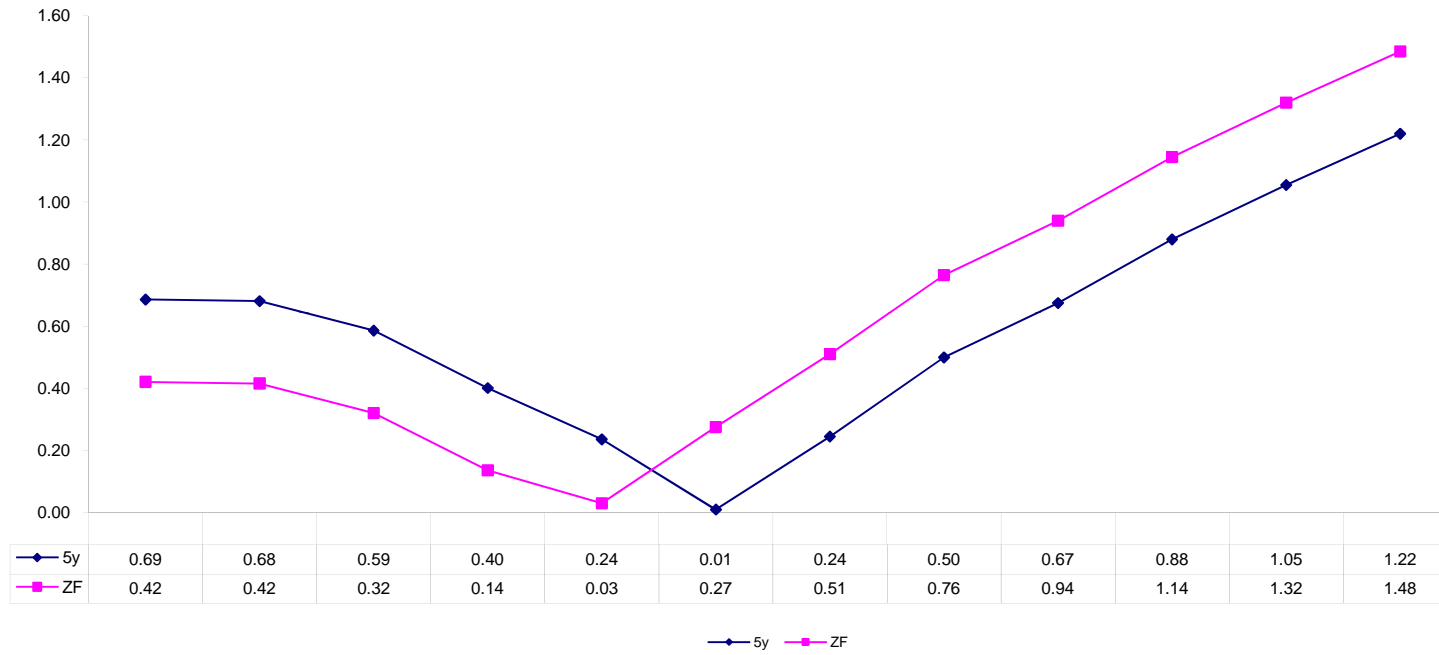


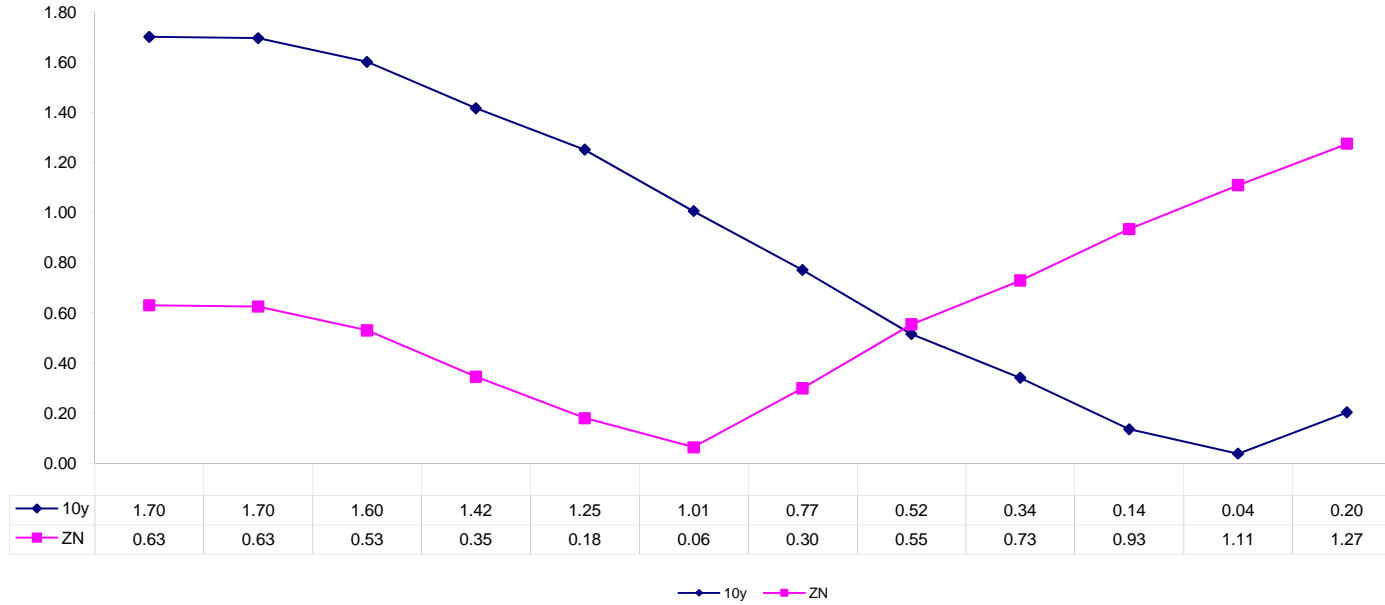
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.305	2.375	9871.750
Red Pack	2.038	2.375	9800.000
Green Pack	2.887	1.625	9717.250
Blue Pack		0.375	9669.250
Gold Pack		0.125	9639.000

