

## 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 € 32.00	Last Yield*	MDuration
ZT	109.2500	109.0800	0.539	1.82
ZF	119.3813	119.1220	1.308	1.31
ZN	124.6563	124.2100	1.514	6.22
2y	100.2969	100.0950	0.723	1.91
5y	99.7031	99.2250	1.561	4.59
10y	110.2969	110.0950	2.552	8.22

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.875	1.125	52	0.142	MAR	
EDAM09	98.920	1.080	143	0.391	JUN	White Pack
EDAU09	98.875	1.125	234	0.640	SEP	
EDAZ09	98.725	1.275	325	0.890	DEC	
EDAH10	98.580	1.420	416	1.139	MAR	
EDAM10	98.335	1.665	507	1.388	JUN	Red Pack
EDAU10	98.100	1.900	598	1.638	SEP	
EDAZ10	97.845	2.155	689	1.887	DEC	
EDAH11	97.680	2.320	780	2.136	MAR	
EDAM11	97.520	2.480	871	2.386	JUN	Green Pack
EDAU11	97.400	2.600	969	2.654	SEP	
EDAZ11	97.280	2.720	1060	2.903	DEC	
EDAH12	97.250	2.750	1151	3.153	MAR	
EDAM12	97.190	2.810	1242	3.402	JUN	Blue Pack
EDAU12	97.160	2.840	1333	3.651	SEP	
EDAZ12	97.090	2.910	1424	3.901	DEC	
EDAH13	97.015	2.985	1515	4.150	MAR	
EDAM13	97.000	3.000	1606	4.399	JUN	Gold Pack
EDZU13	96.900	3.100	1697	4.649	SEP	
EDZZ13	96.825	3.175	1788	4.898	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.171	-0.875	9884.875	
Red Pack	1.818	4.000	9821.500	Pack Prices
Green Pack	2.582	4.000	9747.000	
Blue Pack	2.887	3.000	9717.250	
Gold Pack		0.000	9694.875	

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.

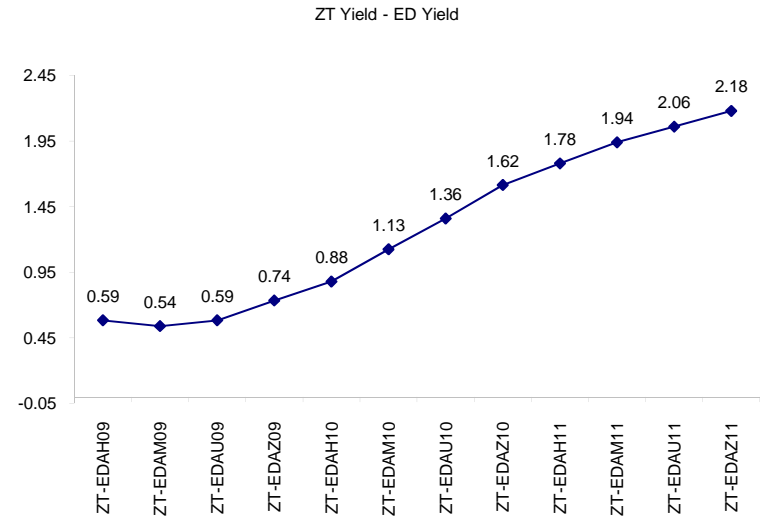
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

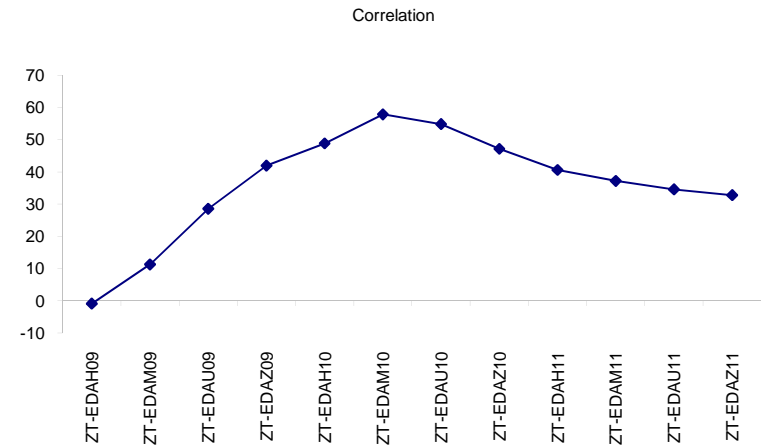
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.375	0.59	ZT-EDAH09	-0.907
EDAM09	10.330	0.54	ZT-EDAM09	11.279
EDAU09	10.375	0.59	ZT-EDAU09	28.563
EDAZ09	10.525	0.74	ZT-EDAZ09	41.959
EDAH10	10.670	0.88	ZT-EDAH10	48.846
EDAM10	10.915	1.13	ZT-EDAM10	57.868
EDAU10	11.150	1.36	ZT-EDAU10	54.817
EDAZ10	11.405	1.62	ZT-EDAZ10	47.160
EDAH11	11.570	1.78	ZT-EDAH11	40.595
EDAM11	11.730	1.94	ZT-EDAM11	37.195
EDAU11	11.850	2.06	ZT-EDAU11	34.553
EDAZ11	11.970	2.18	ZT-EDAZ11	32.761

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	0.142	1.82	1.68	1.68	ZT-EDAH09
EDAM09	0.391	1.82	1.43	1.43	ZT-EDAM09
EDAU09	0.640	1.82	1.18	1.18	ZT-EDAU09
EDAZ09	0.890	1.82	0.93	0.93	ZT-EDAZ09
EDAH10	1.139	1.82	0.68	0.68	ZT-EDAH10
EDAM10	1.388	1.82	0.43	0.43	ZT-EDAM10
EDAU10	1.638	1.82	0.18	0.18	ZT-EDAU10
EDAZ10	1.887	1.82	(0.07)	(0.07)	ZT-EDAZ10
EDAH11	2.136	1.82	(0.32)	(0.32)	ZT-EDAH11
EDAM11	2.386	1.82	(0.57)	(0.57)	ZT-EDAM11
EDAU11	2.654	1.82	(0.84)	(0.84)	ZT-EDAU11
EDAZ11	2.903	1.82	(1.08)	(1.08)	ZT-EDAZ11

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

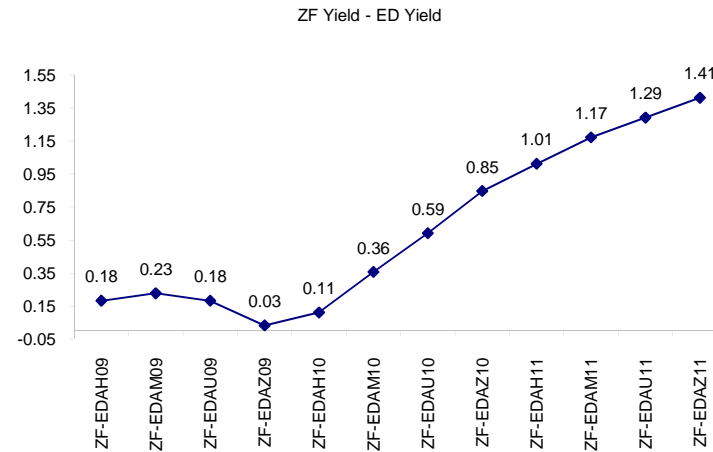


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.506	0.18	ZF-EDAH09	48.313
EDAM09	20.461	0.23	ZF-EDAM09	53.932
EDAU09	20.506	0.18	ZF-EDAU09	60.097
EDAZ09	20.656	0.03	ZF-EDAZ09	68.078
EDAH10	20.801	0.11	ZF-EDAH10	80.082
EDAM10	21.046	0.36	ZF-EDAM10	92.695
EDAU10	21.281	0.59	ZF-EDAU10	97.720
EDAZ10	21.536	0.85	ZF-EDAZ10	98.872
EDAH11	21.701	1.01	ZF-EDAH11	99.114
EDAM11	21.861	1.17	ZF-EDAM11	97.504
EDAU11	21.981	1.29	ZF-EDAU11	96.584
EDAZ11	22.101	1.41	ZF-EDAZ11	95.973

Price = Outright Decimal Price - Euro Contract Price

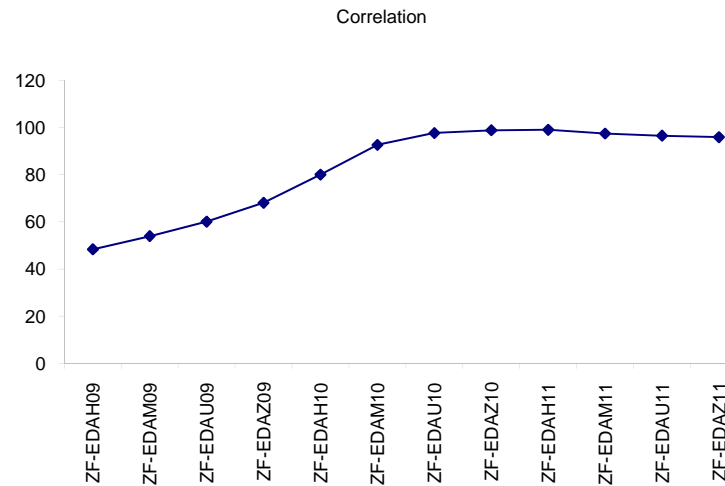
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAH09	0.142	1.31	1.17	ZF-EDAH09		
EDAM09	0.391	1.31	0.92	ZF-EDAM09		
EDAU09	0.640	1.31	0.67	ZF-EDAU09		
EDAZ09	0.890	1.31	0.42	ZF-EDAZ09		
EDAH10	1.139	1.31	0.17	ZF-EDAH10		
EDAM10	1.388	1.31	(0.08)	ZF-EDAM10		
EDAU10	1.638	1.31	(0.33)	ZF-EDAU10		
EDAZ10	1.887	1.31	(0.58)	ZF-EDAZ10		
EDAH11	2.136	1.31	(0.83)	ZF-EDAH11		
EDAM11	2.386	1.31	(1.08)	ZF-EDAM11		
EDAU11	2.654	1.31	(1.35)	ZF-EDAU11		
EDAZ11	2.903	1.31	(1.60)	ZF-EDAZ11		

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

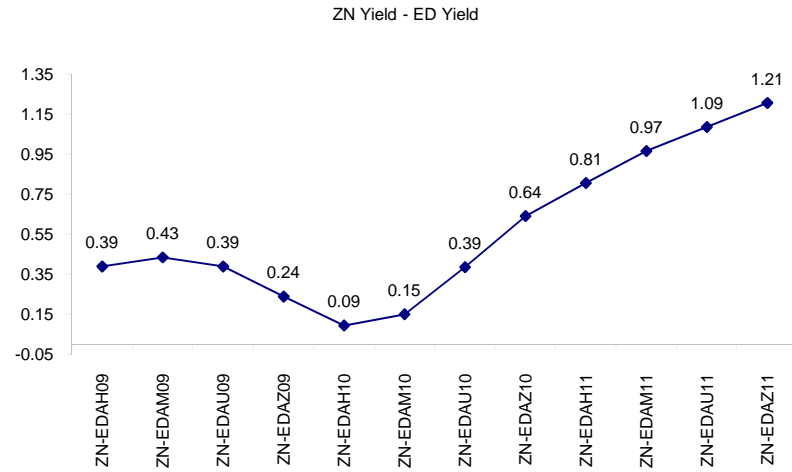


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	25.781	0.39	ZN-EDAH09	54.345
EDAM09	25.736	0.43	ZN-EDAM09	59.505
EDAU09	25.781	0.39	ZN-EDAU09	63.661
EDAZ09	25.931	0.24	ZN-EDAZ09	68.252
EDAH10	26.076	0.09	ZN-EDAH10	78.655
EDAM10	26.321	0.15	ZN-EDAM10	89.346
EDAU10	26.556	0.39	ZN-EDAU10	93.298
EDAZ10	26.811	0.64	ZN-EDAZ10	94.696
EDAH11	26.976	0.81	ZN-EDAH11	97.814
EDAM11	27.136	0.97	ZN-EDAM11	98.519
EDAU11	27.256	1.09	ZN-EDAU11	98.698
EDAZ11	27.376	1.21	ZN-EDAZ11	98.747

Price = Outright Decimal Price - Euro Contract Price

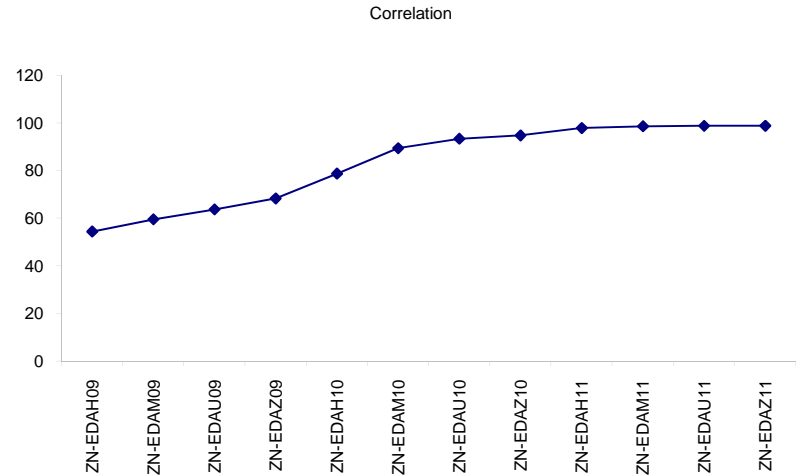
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAH09	0.142	6.22	6.08	ZN-EDAH09		
EDAM09	0.391	6.22	5.83	ZN-EDAM09		
EDAU09	0.640	6.22	5.58	ZN-EDAU09		
EDAZ09	0.890	6.22	5.33	ZN-EDAZ09		
EDAH10	1.139	6.22	5.08	ZN-EDAH10		
EDAM10	1.388	6.22	4.84	ZN-EDAM10		
EDAU10	1.638	6.22	4.59	ZN-EDAU10		
EDAZ10	1.887	6.22	4.34	ZN-EDAZ10		
EDAH11	2.136	6.22	4.09	ZN-EDAH11		
EDAM11	2.386	6.22	3.84	ZN-EDAM11		
EDAU11	2.654	6.22	3.57	ZN-EDAU11		
EDAZ11	2.903	6.22	3.32	ZN-EDAZ11		

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	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.422	0.40	2y-EDAH09	22.524
EDAM09	1.377	0.36	2y-EDAM09	9.691
EDAU09	1.422	0.40	2y-EDAU09	-5.951
EDAZ09	1.572	0.55	2y-EDAZ09	-15.971
EDAH10	1.717	0.70	2y-EDAH10	-21.254
EDAM10	1.962	0.94	2y-EDAM10	-36.925
EDAU10	2.197	1.18	2y-EDAU10	-46.031
EDAZ10	2.452	1.43	2y-EDAZ10	-45.426
EDAH11	2.617	1.60	2y-EDAH11	-44.982
EDAM11	2.777	1.76	2y-EDAM11	-45.805
EDAU11	2.897	1.88	2y-EDAU11	-43.206
EDAZ11	3.017	2.00	2y-EDAZ11	-40.356

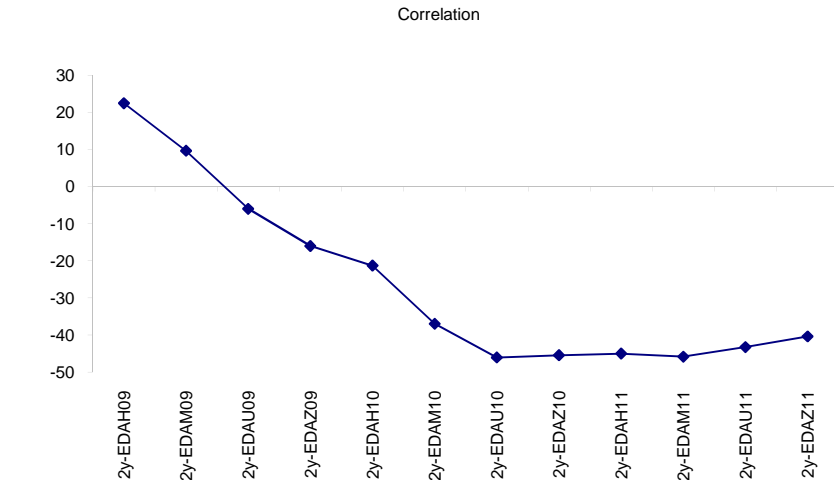
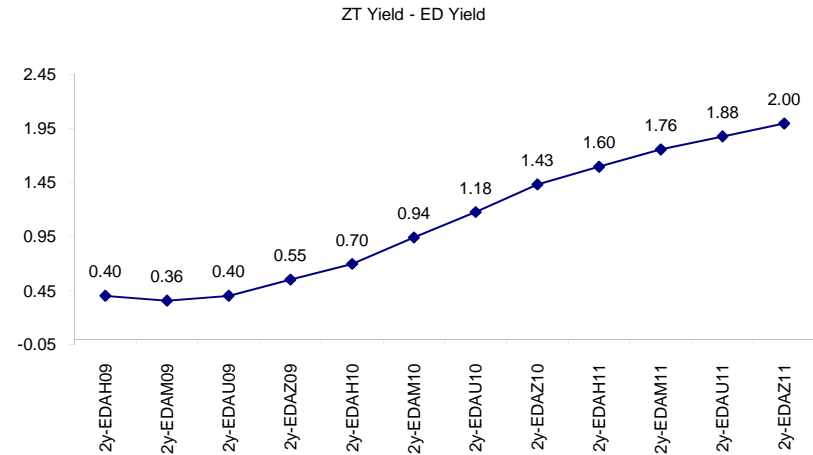
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Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

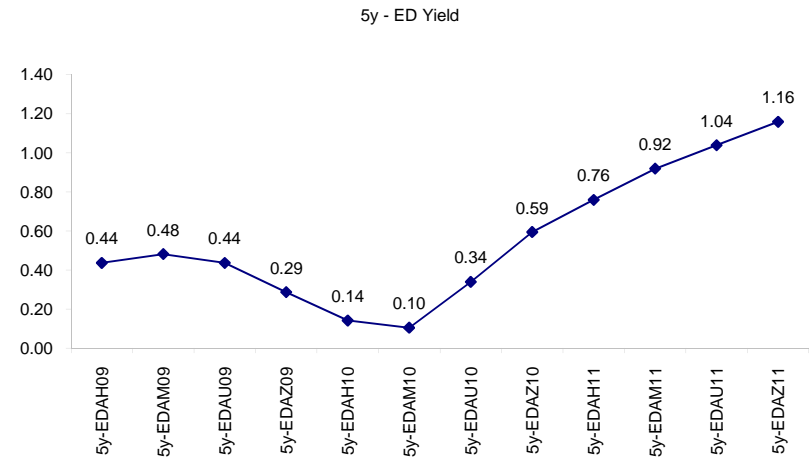
	ED Duration as Fraction of year			
	Fraction of year	2Y Duration	Spread Duration	
EDAH09	0.142	1.91	1.77	2y-EDAH09
EDAM09	0.391	1.91	1.52	2y-EDAM09
EDAU09	0.640	1.91	1.27	2y-EDAU09
EDAZ09	0.890	1.91	1.02	2y-EDAZ09
EDAH10	1.139	1.91	0.77	2y-EDAH10
EDAM10	1.388	1.91	0.52	2y-EDAM10
EDAU10	1.638	1.91	0.27	2y-EDAU10
EDAZ10	1.887	1.91	0.02	2y-EDAZ10
EDAH11	2.136	1.91	(0.23)	2y-EDAH11
EDAM11	2.386	1.91	(0.48)	2y-EDAM11
EDAU11	2.654	1.91	(0.75)	2y-EDAU11
EDAZ11	2.903	1.91	(1.00)	2y-EDAZ11

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



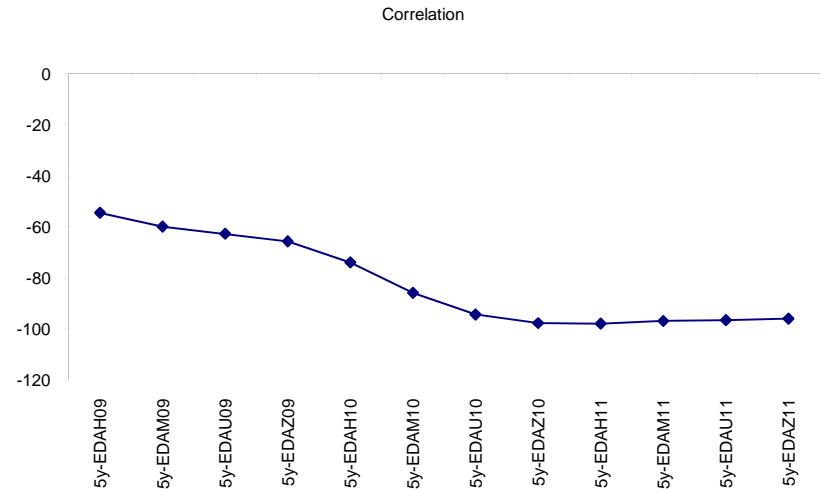
5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.828	0.44	5y-EDAH09	-54.385
EDAM09	0.783	0.48	5y-EDAM09	-59.791
EDAU09	0.828	0.44	5y-EDAU09	-62.606
EDAZ09	0.978	0.29	5y-EDAZ09	-65.561
EDAH10	1.123	0.14	5y-EDAH10	-73.790
EDAM10	1.368	0.10	5y-EDAM10	-85.769
EDAU10	1.603	0.34	5y-EDAU10	-94.209
EDAZ10	1.858	0.59	5y-EDAZ10	-97.577
EDAH11	2.023	0.76	5y-EDAH11	-97.805
EDAM11	2.183	0.92	5y-EDAM11	-96.737
EDAU11	2.303	1.04	5y-EDAU11	-96.427
EDAZ11	2.423	1.16	5y-EDAZ11	-95.844

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	0.142	4.59	4.45	5y-EDAH09		
EDAM09	0.391	4.59	4.20	5y-EDAM09		
EDAU09	0.640	4.59	3.95	5y-EDAU09		
EDAZ09	0.890	4.59	3.70	5y-EDAZ09		
EDAH10	1.139	4.59	3.46	5y-EDAH10		
EDAM10	1.388	4.59	3.21	5y-EDAM10		
EDAU10	1.638	4.59	2.96	5y-EDAU10		
EDAZ10	1.887	4.59	2.71	5y-EDAZ10		
EDAH11	2.136	4.59	2.46	5y-EDAH11		
EDAM11	2.386	4.59	2.21	5y-EDAM11		
EDAU11	2.654	4.59	1.94	5y-EDAU11		
EDAZ11	2.903	4.59	1.69	5y-EDAZ11		

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



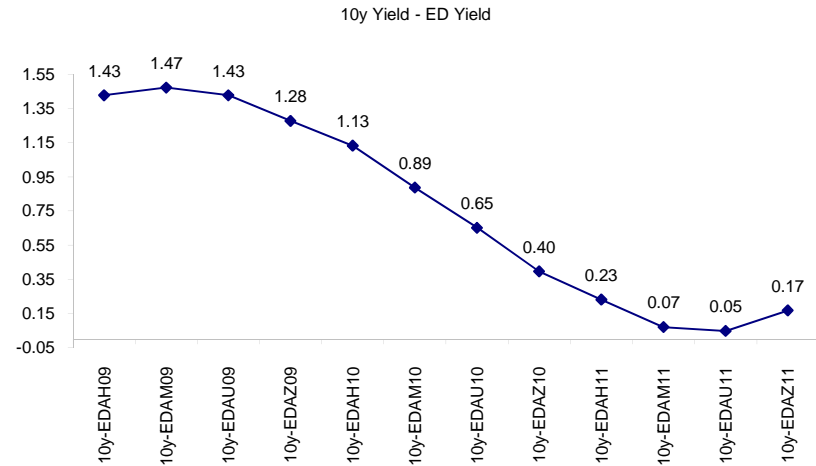


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.828	1.43	10y-EDAH09	-59.854
EDAM09	0.783	1.47	10y-EDAM09	-64.192
EDAU09	0.828	1.43	10y-EDAU09	-64.941
EDAZ09	0.978	1.28	10y-EDAZ09	-65.769
EDAH10	1.123	1.13	10y-EDAH10	-73.730
EDAM10	1.368	0.89	10y-EDAM10	-84.697
EDAU10	1.603	0.65	10y-EDAU10	-92.582
EDAZ10	1.858	0.40	10y-EDAZ10	-96.656
EDAH11	2.023	0.23	10y-EDAH11	-98.495
EDAM11	2.183	0.07	10y-EDAM11	-98.346
EDAU11	2.303	0.05	10y-EDAU11	-98.761
EDAZ11	2.423	0.17	10y-EDAZ11	-98.907

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	0.142	8.22	8.08	10y-EDAH09
EDAM09	0.391	8.22	7.83	10y-EDAM09
EDAU09	0.640	8.22	7.58	10y-EDAU09
EDAZ09	0.890	8.22	7.33	10y-EDAZ09
EDAH10	1.139	8.22	7.08	10y-EDAH10
EDAM10	1.388	8.22	6.83	10y-EDAM10
EDAU10	1.638	8.22	6.58	10y-EDAU10
EDAZ10	1.887	8.22	6.33	10y-EDAZ10
EDAH11	2.136	8.22	6.08	10y-EDAH11
EDAM11	2.386	8.22	5.83	10y-EDAM11
EDAU11	2.654	8.22	5.56	10y-EDAU11
EDAZ11	2.903	8.22	5.32	10y-EDAZ11

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

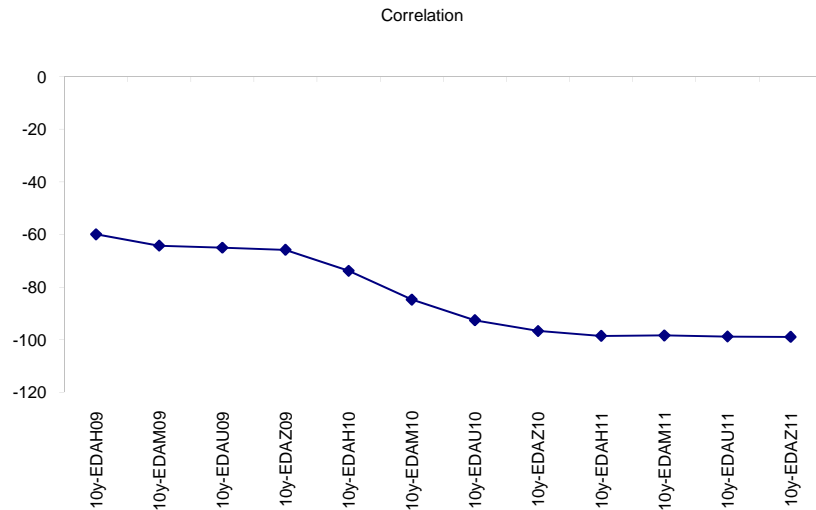


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

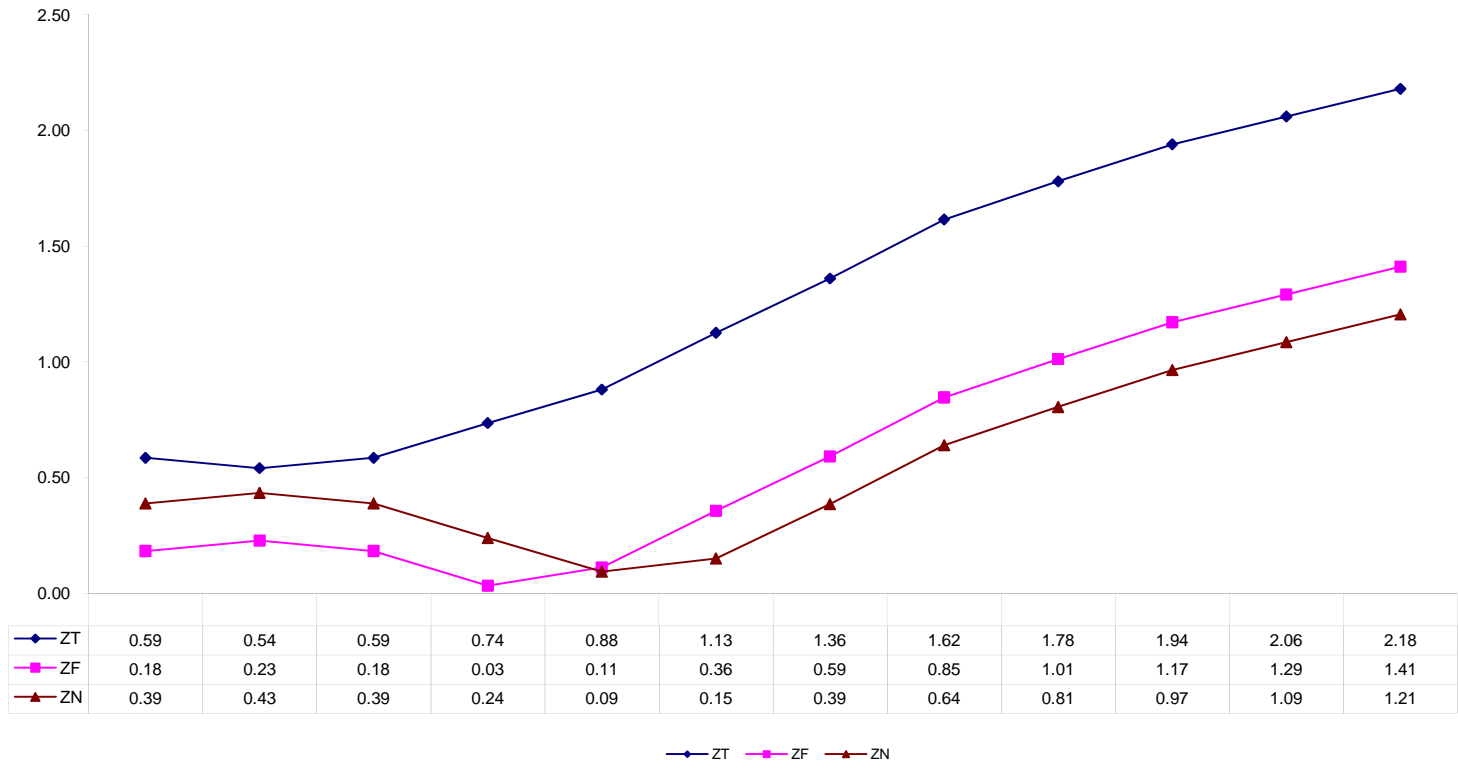
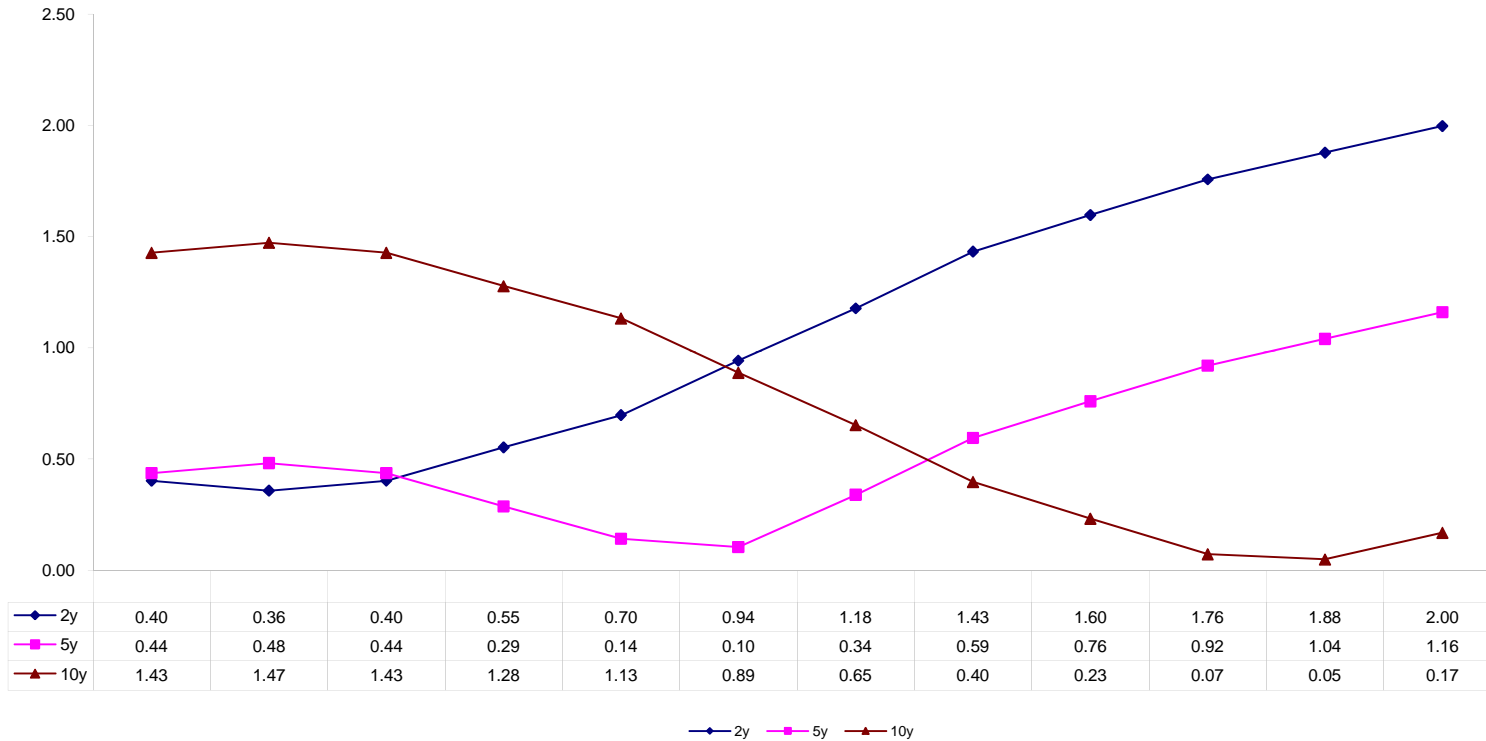
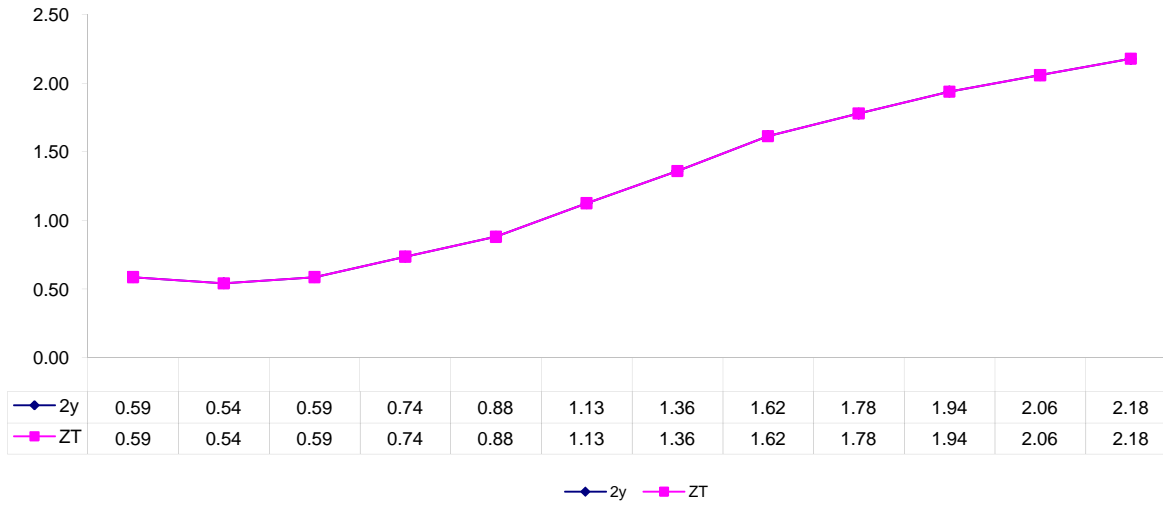
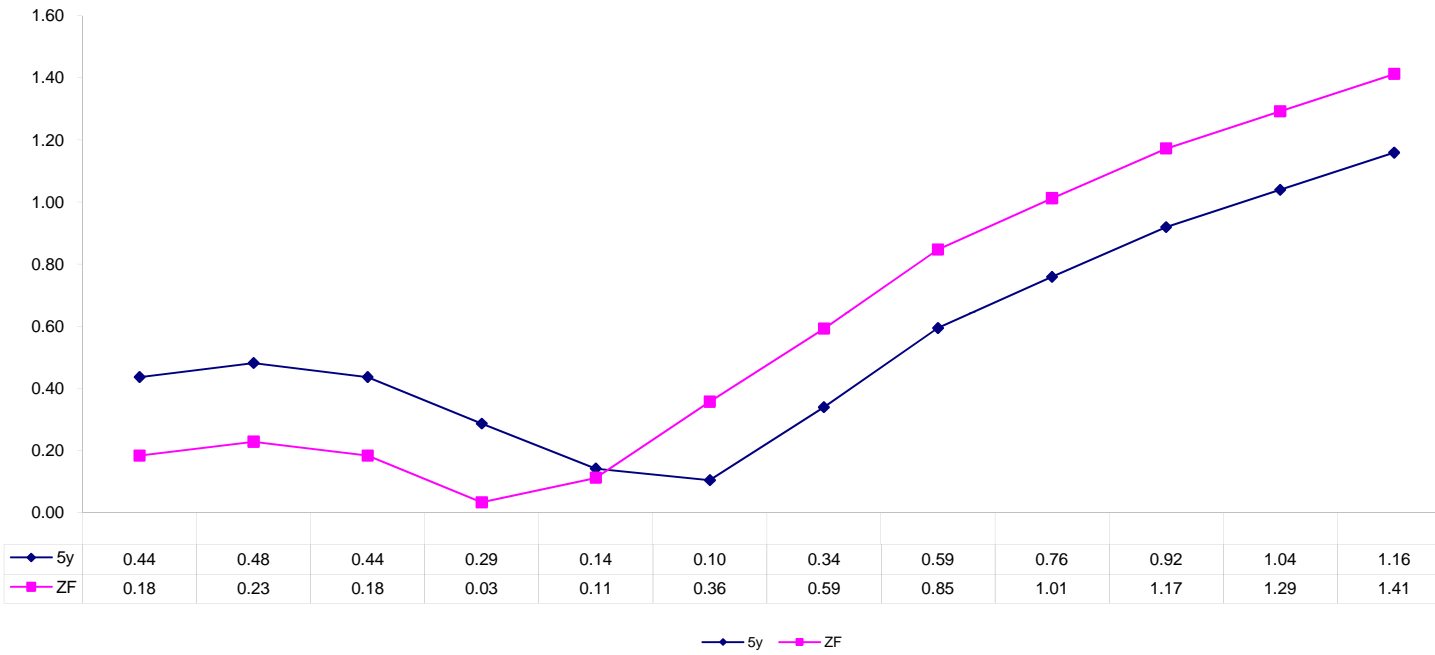


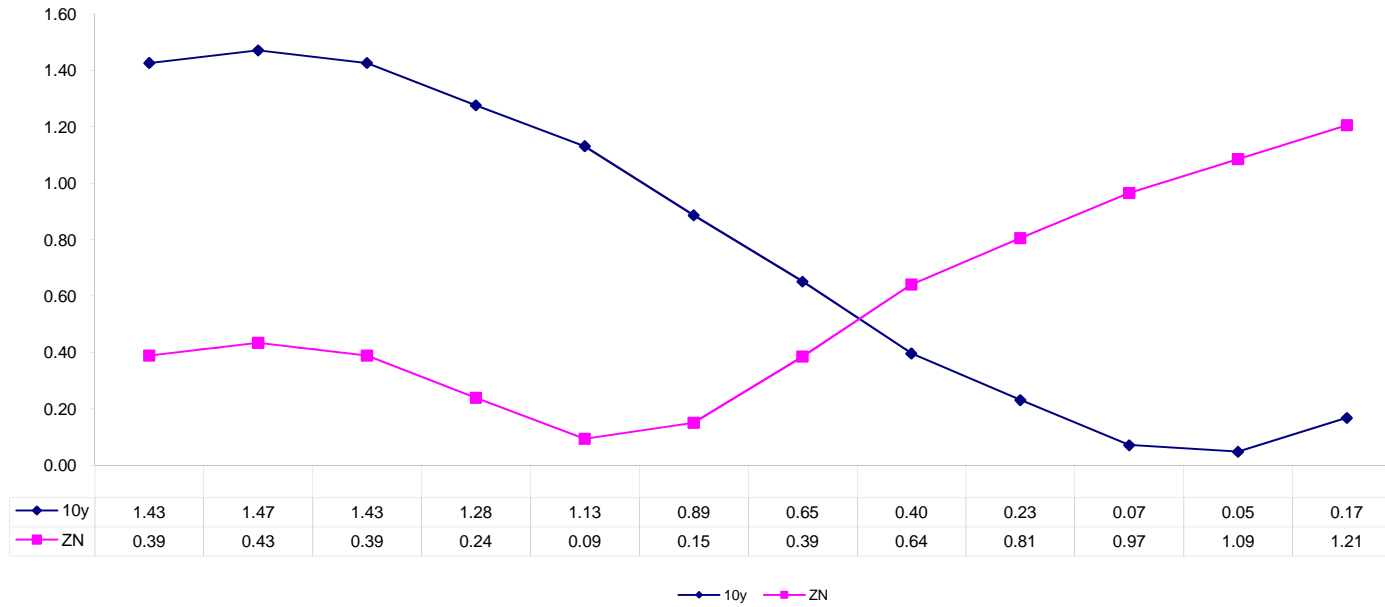
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.171	-0.875	9884.875
Red Pack	1.818	4.000	9821.500
Green Pack	2.582	4.000	9747.000
Blue Pack	2.887	3.000	9717.250
Gold Pack		0.000	9694.875

