

## 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	109.1250	109.0400	0.616	1.83
ZF	119.1469	119.0470	1.350	1.35
ZN	124.5000	124.1600	1.553	6.23
2y	100.1938	100.0620	0.773	1.92
5y	99.4906	99.1570	1.604	4.60
10y	110.3750	110.1200	2.545	8.23

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.920	1.080	53	0.145	MAR	
EDAM09	98.940	1.060	144	0.394	JUN	White Pack
EDAU09	98.855	1.145	235	0.643	SEP	
EDAZ09	98.695	1.305	326	0.892	DEC	
EDAH10	98.545	1.455	417	1.142	MAR	
EDAM10	98.300	1.700	508	1.391	JUN	Red Pack
EDAU10	98.065	1.935	599	1.640	SEP	
EDAZ10	97.820	2.180	690	1.890	DEC	
EDAH11	97.680	2.320	781	2.139	MAR	
EDAM11	97.530	2.470	872	2.388	JUN	Green Pack
EDAU11	97.410	2.590	970	2.657	SEP	
EDAZ11	97.300	2.700	1061	2.906	DEC	
EDAH12	97.265	2.735	1152	3.155	MAR	
EDAM12	97.220	2.780	1243	3.405	JUN	Blue Pack
EDAU12	97.185	2.815	1334	3.654	SEP	
EDAZ12	97.120	2.880	1425	3.903	DEC	
EDAH13	97.125	2.875	1516	4.153	MAR	
EDAM13	97.070	2.930	1607	4.402	JUN	Gold Pack
EDZU13	97.015	2.985	1698	4.651	SEP	
EDZZ13	96.925	3.075	1789	4.901	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.167	2.750	9885.250	Pack Prices
Red Pack	1.851	2.250	9818.250	
Green Pack	2.571	-1.250	9748.000	
Blue Pack	2.861	-4.750	9719.750	
Gold Pack		0.000	9708.250	

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.

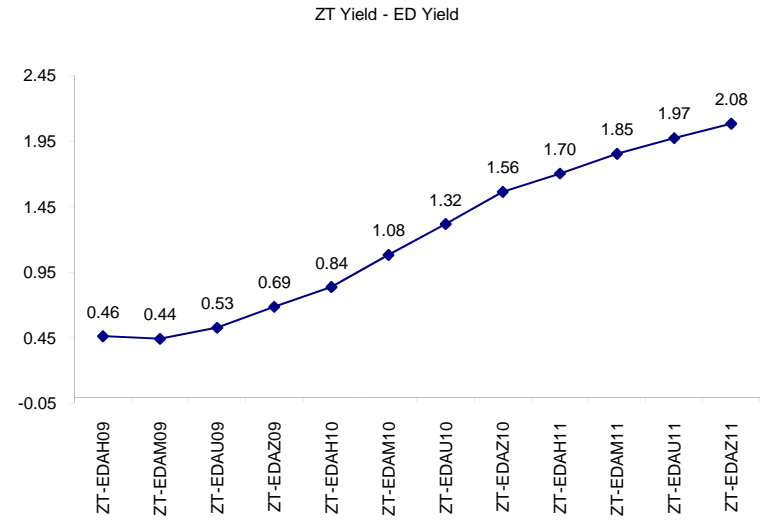
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

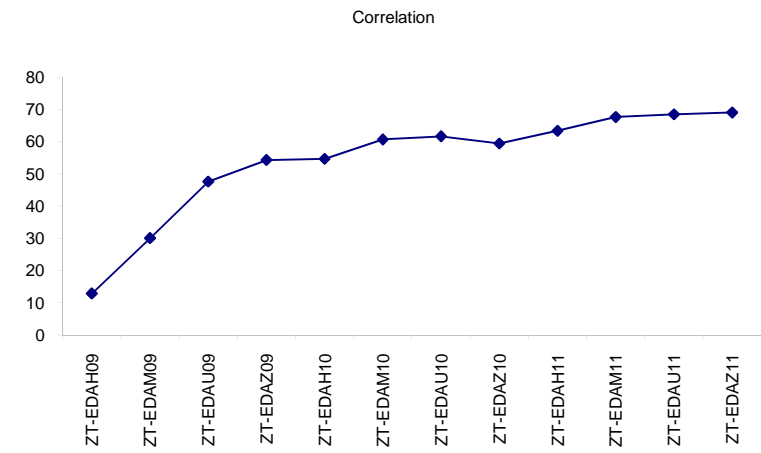
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.205	0.46	ZT-EDAH09	12.892
EDAM09	10.185	0.44	ZT-EDAM09	30.073
EDAU09	10.270	0.53	ZT-EDAU09	47.626
EDAZ09	10.430	0.69	ZT-EDAZ09	54.305
EDAH10	10.580	0.84	ZT-EDAH10	54.671
EDAM10	10.825	1.08	ZT-EDAM10	60.694
EDAU10	11.060	1.32	ZT-EDAU10	61.661
EDAZ10	11.305	1.56	ZT-EDAZ10	59.437
EDAH11	11.445	1.70	ZT-EDAH11	63.379
EDAM11	11.595	1.85	ZT-EDAM11	67.670
EDAU11	11.715	1.97	ZT-EDAU11	68.471
EDAZ11	11.825	2.08	ZT-EDAZ11	69.055

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	0.145	1.83	1.68	ZT-EDAH09		
EDAM09	0.394	1.83	1.43	ZT-EDAM09		
EDAU09	0.643	1.83	1.18	ZT-EDAU09		
EDAZ09	0.892	1.83	0.93	ZT-EDAZ09		
EDAH10	1.142	1.83	0.68	ZT-EDAH10		
EDAM10	1.391	1.83	0.44	ZT-EDAM10		
EDAU10	1.640	1.83	0.19	ZT-EDAU10		
EDAZ10	1.890	1.83	(0.06)	ZT-EDAZ10		
EDAH11	2.139	1.83	(0.31)	ZT-EDAH11		
EDAM11	2.388	1.83	(0.56)	ZT-EDAM11		
EDAU11	2.657	1.83	(0.83)	ZT-EDAU11		
EDAZ11	2.906	1.83	(1.08)	ZT-EDAZ11		

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

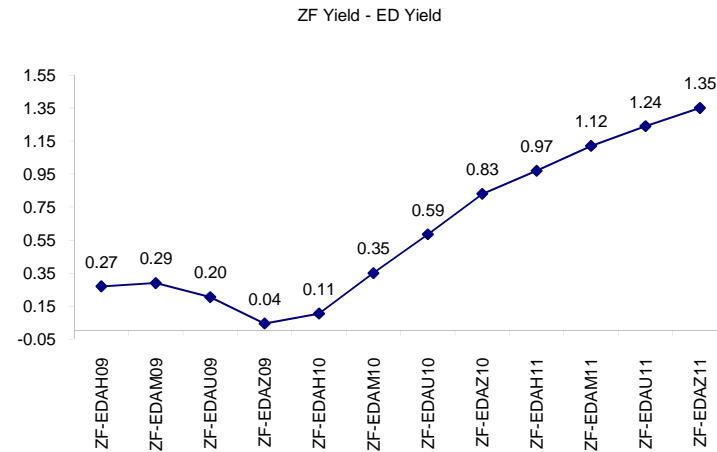


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.227	0.27	ZF-EDAH09	35.167
EDAM09	20.207	0.29	ZF-EDAM09	45.575
EDAU09	20.292	0.20	ZF-EDAU09	56.631
EDAZ09	20.452	0.04	ZF-EDAZ09	66.391
EDAH10	20.602	0.11	ZF-EDAH10	75.921
EDAM10	20.847	0.35	ZF-EDAM10	88.375
EDAU10	21.082	0.59	ZF-EDAU10	95.466
EDAZ10	21.327	0.83	ZF-EDAZ10	97.295
EDAH11	21.467	0.97	ZF-EDAH11	98.810
EDAM11	21.617	1.12	ZF-EDAM11	98.649
EDAU11	21.737	1.24	ZF-EDAU11	98.510
EDAZ11	21.847	1.35	ZF-EDAZ11	98.665

Price = Outright Decimal Price - Euro Contract Price

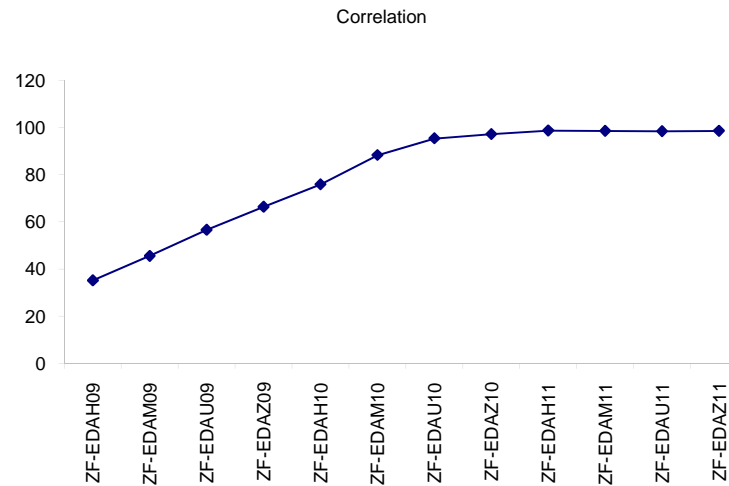
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAH09	0.145	1.35	1.21	ZF-EDAH09		
EDAM09	0.394	1.35	0.96	ZF-EDAM09		
EDAU09	0.643	1.35	0.71	ZF-EDAU09		
EDAZ09	0.892	1.35	0.46	ZF-EDAZ09		
EDAH10	1.142	1.35	0.21	ZF-EDAH10		
EDAM10	1.391	1.35	(0.04)	ZF-EDAM10		
EDAU10	1.640	1.35	(0.29)	ZF-EDAU10		
EDAZ10	1.890	1.35	(0.54)	ZF-EDAZ10		
EDAH11	2.139	1.35	(0.79)	ZF-EDAH11		
EDAM11	2.388	1.35	(1.04)	ZF-EDAM11		
EDAU11	2.657	1.35	(1.31)	ZF-EDAU11		
EDAZ11	2.906	1.35	(1.56)	ZF-EDAZ11		

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

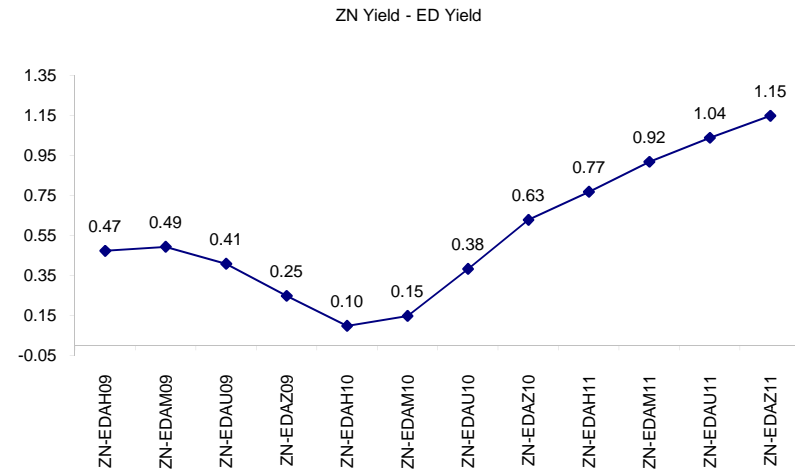


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	25.580	0.47	ZN-EDAH09	35.871
EDAM09	25.560	0.49	ZN-EDAM09	47.095
EDAU09	25.645	0.41	ZN-EDAU09	58.387
EDAZ09	25.805	0.25	ZN-EDAZ09	66.970
EDAH10	25.955	0.10	ZN-EDAH10	75.681
EDAM10	26.200	0.15	ZN-EDAM10	87.049
EDAU10	26.435	0.38	ZN-EDAU10	92.870
EDAZ10	26.680	0.63	ZN-EDAZ10	94.195
EDAH11	26.820	0.77	ZN-EDAH11	96.644
EDAM11	26.970	0.92	ZN-EDAM11	97.755
EDAU11	27.090	1.04	ZN-EDAU11	98.326
EDAZ11	27.200	1.15	ZN-EDAZ11	98.718

Price = Outright Decimal Price - Euro Contract Price

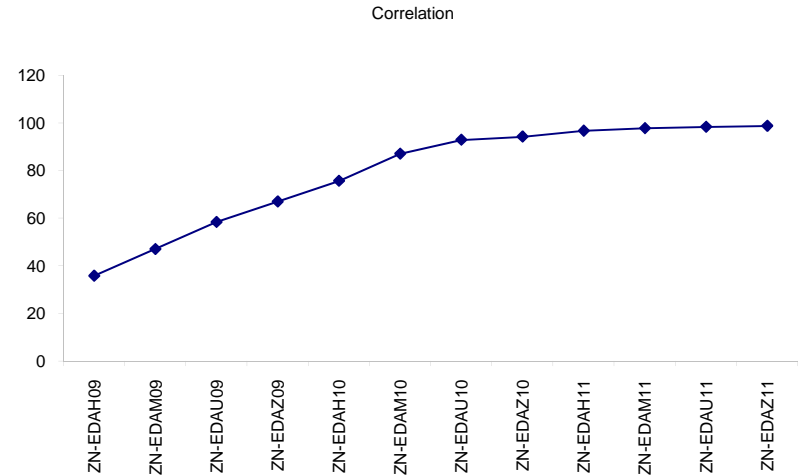
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Duration	Spread Duration	
	Fraction of year	Duration	Duration			
EDAH09	0.145	6.23	6.09	6.09	ZN-EDAH09	
EDAM09	0.394	6.23	5.84	5.84	ZN-EDAM09	
EDAU09	0.643	6.23	5.59	5.59	ZN-EDAU09	
EDAZ09	0.892	6.23	5.34	5.34	ZN-EDAZ09	
EDAH10	1.142	6.23	5.09	5.09	ZN-EDAH10	
EDAM10	1.391	6.23	4.84	4.84	ZN-EDAM10	
EDAU10	1.640	6.23	4.59	4.59	ZN-EDAU10	
EDAZ10	1.890	6.23	4.34	4.34	ZN-EDAZ10	
EDAH11	2.139	6.23	4.09	4.09	ZN-EDAH11	
EDAM11	2.388	6.23	3.84	3.84	ZN-EDAM11	
EDAU11	2.657	6.23	3.57	3.57	ZN-EDAU11	
EDAZ11	2.906	6.23	3.32	3.32	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	1.274	0.31	2y-EDAH09	-5.190
EDAM09	1.254	0.29	2y-EDAM09	-25.849
EDAU09	1.339	0.37	2y-EDAU09	-46.572
EDAZ09	1.499	0.53	2y-EDAZ09	-55.238
EDAH10	1.649	0.68	2y-EDAH10	-54.429
EDAM10	1.894	0.93	2y-EDAM10	-63.133
EDAU10	2.129	1.16	2y-EDAU10	-66.231
EDAZ10	2.374	1.41	2y-EDAZ10	-64.060
EDAH11	2.514	1.55	2y-EDAH11	-66.867
EDAM11	2.664	1.70	2y-EDAM11	-70.446
EDAU11	2.784	1.82	2y-EDAU11	-69.491
EDAZ11	2.894	1.93	2y-EDAZ11	-68.946

Price = Outright Decimal Price - Euro Contract Price

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

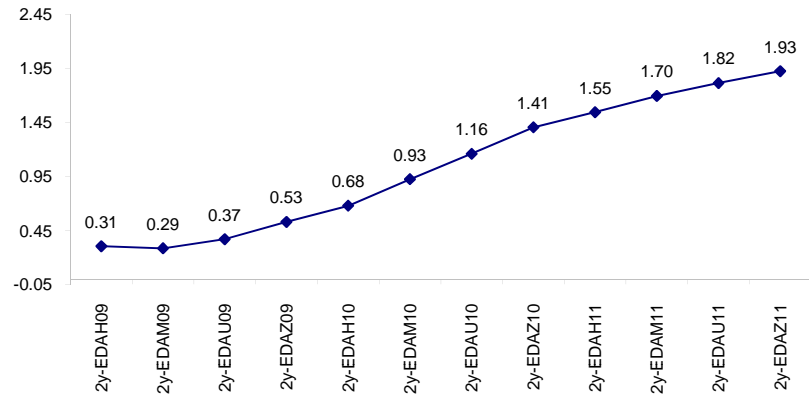
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

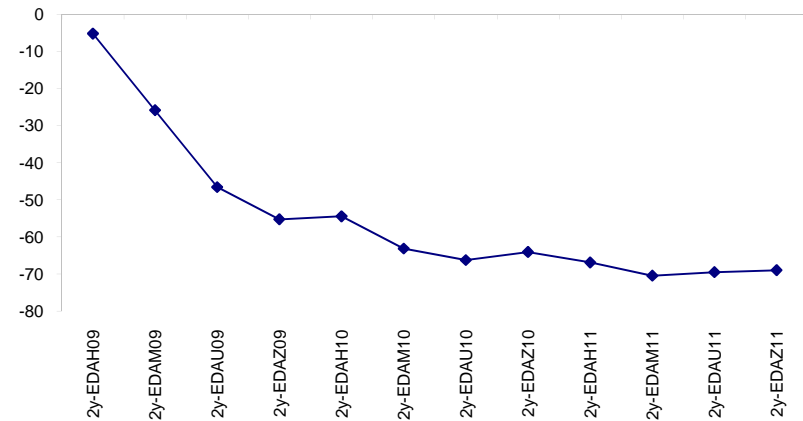
	Fraction of year	2Y Duration	Spread Duration	
EDAH09	0.145	1.92	1.77	2y-EDAH09
EDAM09	0.394	1.92	1.52	2y-EDAM09
EDAU09	0.643	1.92	1.27	2y-EDAU09
EDAZ09	0.892	1.92	1.02	2y-EDAZ09
EDAH10	1.142	1.92	0.77	2y-EDAH10
EDAM10	1.391	1.92	0.52	2y-EDAM10
EDAU10	1.640	1.92	0.28	2y-EDAU10
EDAZ10	1.890	1.92	0.03	2y-EDAZ10
EDAH11	2.139	1.92	(0.22)	2y-EDAH11
EDAM11	2.388	1.92	(0.47)	2y-EDAM11
EDAU11	2.657	1.92	(0.74)	2y-EDAU11
EDAZ11	2.906	1.92	(0.99)	2y-EDAZ11

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

ZT Yield - ED Yield



Correlation



5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.571	0.52	5y-EDAH09	-43.099
EDAM09	0.551	0.54	5y-EDAM09	-55.700
EDAU09	0.636	0.46	5y-EDAU09	-65.204
EDAZ09	0.796	0.30	5y-EDAZ09	-70.402
EDAH10	0.946	0.15	5y-EDAH10	-76.037
EDAM10	1.191	0.10	5y-EDAM10	-86.226
EDAU10	1.426	0.33	5y-EDAU10	-93.919
EDAZ10	1.671	0.58	5y-EDAZ10	-96.425
EDAH11	1.811	0.72	5y-EDAH11	-97.166
EDAM11	1.961	0.87	5y-EDAM11	-96.929
EDAU11	2.081	0.99	5y-EDAU11	-96.990
EDAZ11	2.191	1.10	5y-EDAZ11	-97.065

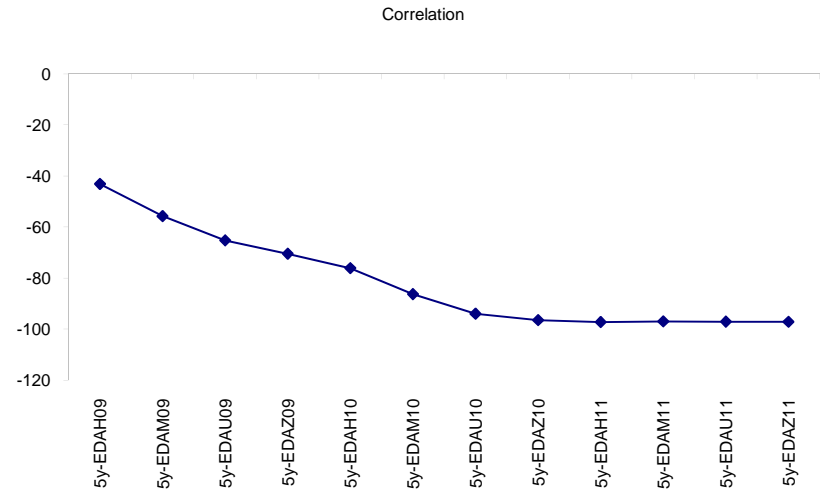
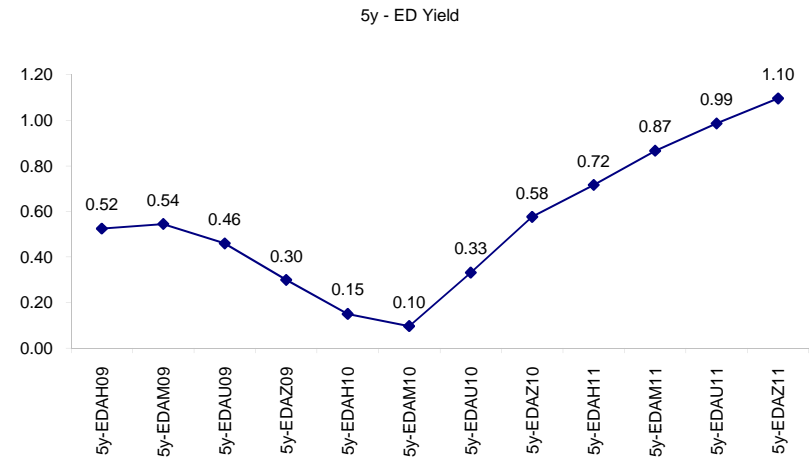
Price = Outright Decimal Price - Euro Contract Price

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	0.145	4.60	4.46	5y-EDAH09		
EDAM09	0.394	4.60	4.21	5y-EDAM09		
EDAU09	0.643	4.60	3.96	5y-EDAU09		
EDAZ09	0.892	4.60	3.71	5y-EDAZ09		
EDAH10	1.142	4.60	3.46	5y-EDAH10		
EDAM10	1.391	4.60	3.21	5y-EDAM10		
EDAU10	1.640	4.60	2.96	5y-EDAU10		
EDAZ10	1.890	4.60	2.71	5y-EDAZ10		
EDAH11	2.139	4.60	2.46	5y-EDAH11		
EDAM11	2.388	4.60	2.21	5y-EDAM11		
EDAU11	2.657	4.60	1.94	5y-EDAU11		
EDAZ11	2.906	4.60	1.70	5y-EDAZ11		

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

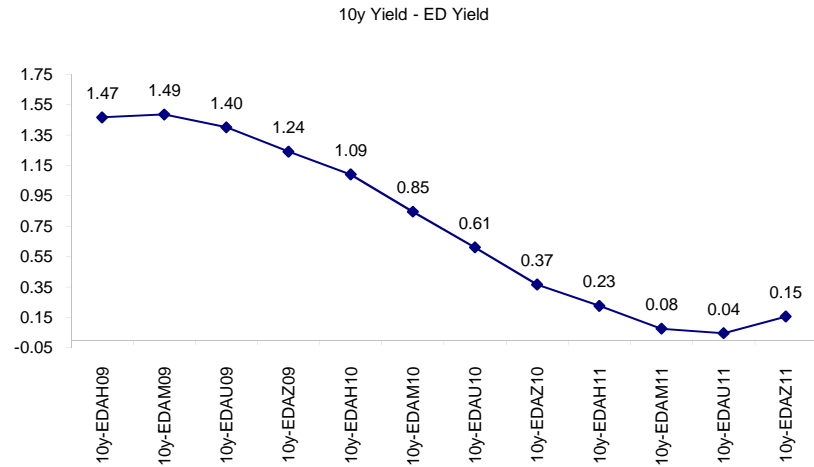


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.571	1.47	10y-EDAH09	-45.485
EDAM09	0.551	1.49	10y-EDAM09	-56.148
EDAU09	0.636	1.40	10y-EDAU09	-63.238
EDAZ09	0.796	1.24	10y-EDAZ09	-67.082
EDAH10	0.946	1.09	10y-EDAH10	-74.301
EDAM10	1.191	0.85	10y-EDAM10	-84.904
EDAU10	1.426	0.61	10y-EDAU10	-93.567
EDAZ10	1.671	0.37	10y-EDAZ10	-97.180
EDAH11	1.811	0.23	10y-EDAH11	-98.028
EDAM11	1.961	0.08	10y-EDAM11	-97.671
EDAU11	2.081	0.04	10y-EDAU11	-98.310
EDAZ11	2.191	0.15	10y-EDAZ11	-98.659

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	0.145	8.23	8.08	10y-EDAH09
EDAM09	0.394	8.23	7.83	10y-EDAM09
EDAU09	0.643	8.23	7.58	10y-EDAU09
EDAZ09	0.892	8.23	7.34	10y-EDAZ09
EDAH10	1.142	8.23	7.09	10y-EDAH10
EDAM10	1.391	8.23	6.84	10y-EDAM10
EDAU10	1.640	8.23	6.59	10y-EDAU10
EDAZ10	1.890	8.23	6.34	10y-EDAZ10
EDAH11	2.139	8.23	6.09	10y-EDAH11
EDAM11	2.388	8.23	5.84	10y-EDAM11
EDAU11	2.657	8.23	5.57	10y-EDAU11
EDAZ11	2.906	8.23	5.32	10y-EDAZ11

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

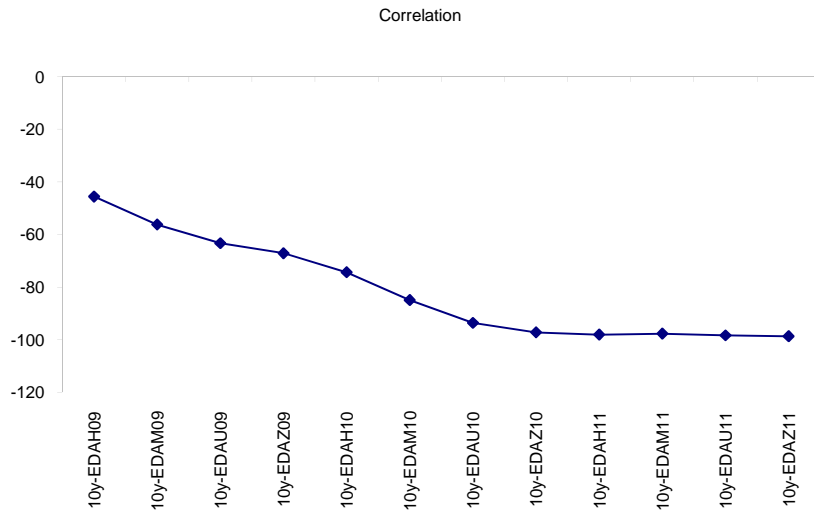


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

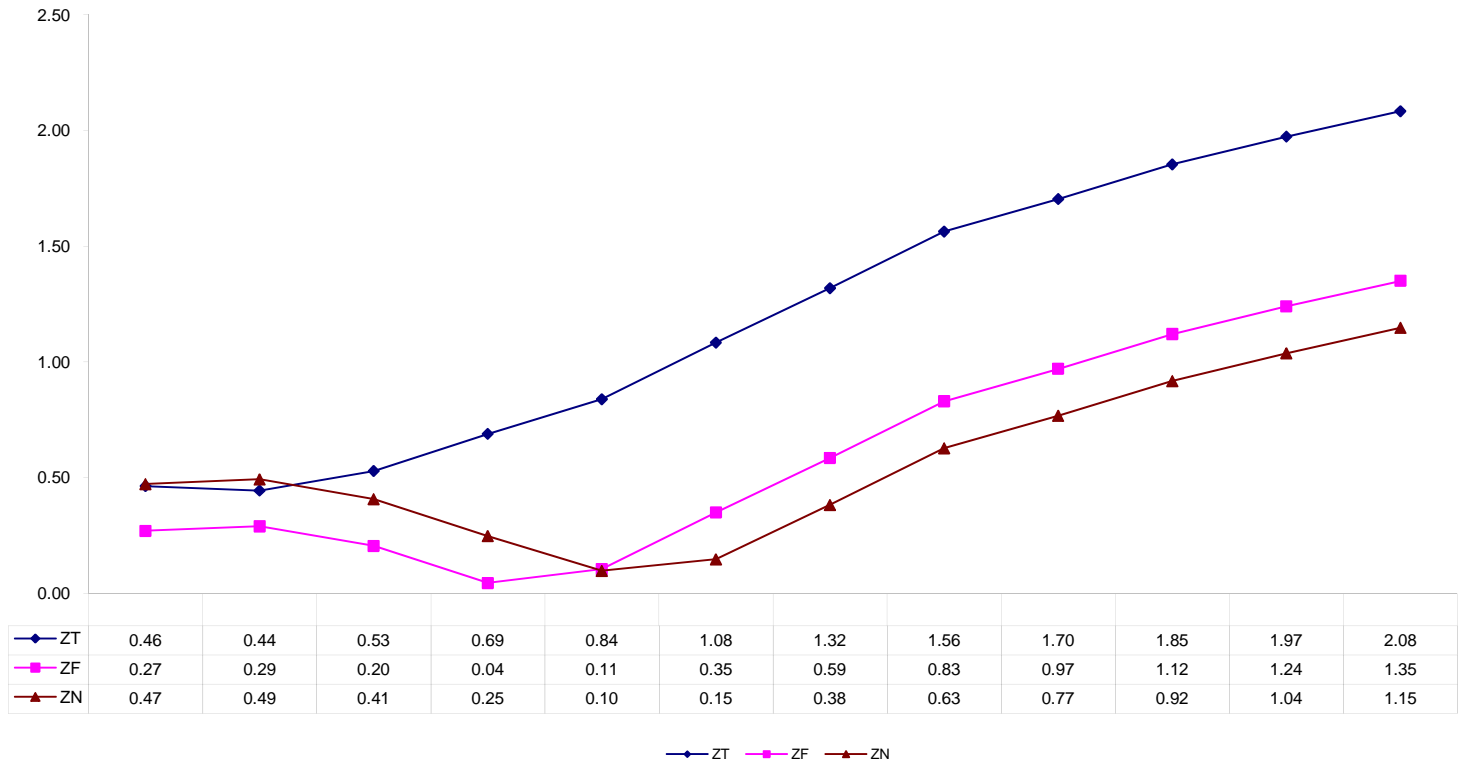
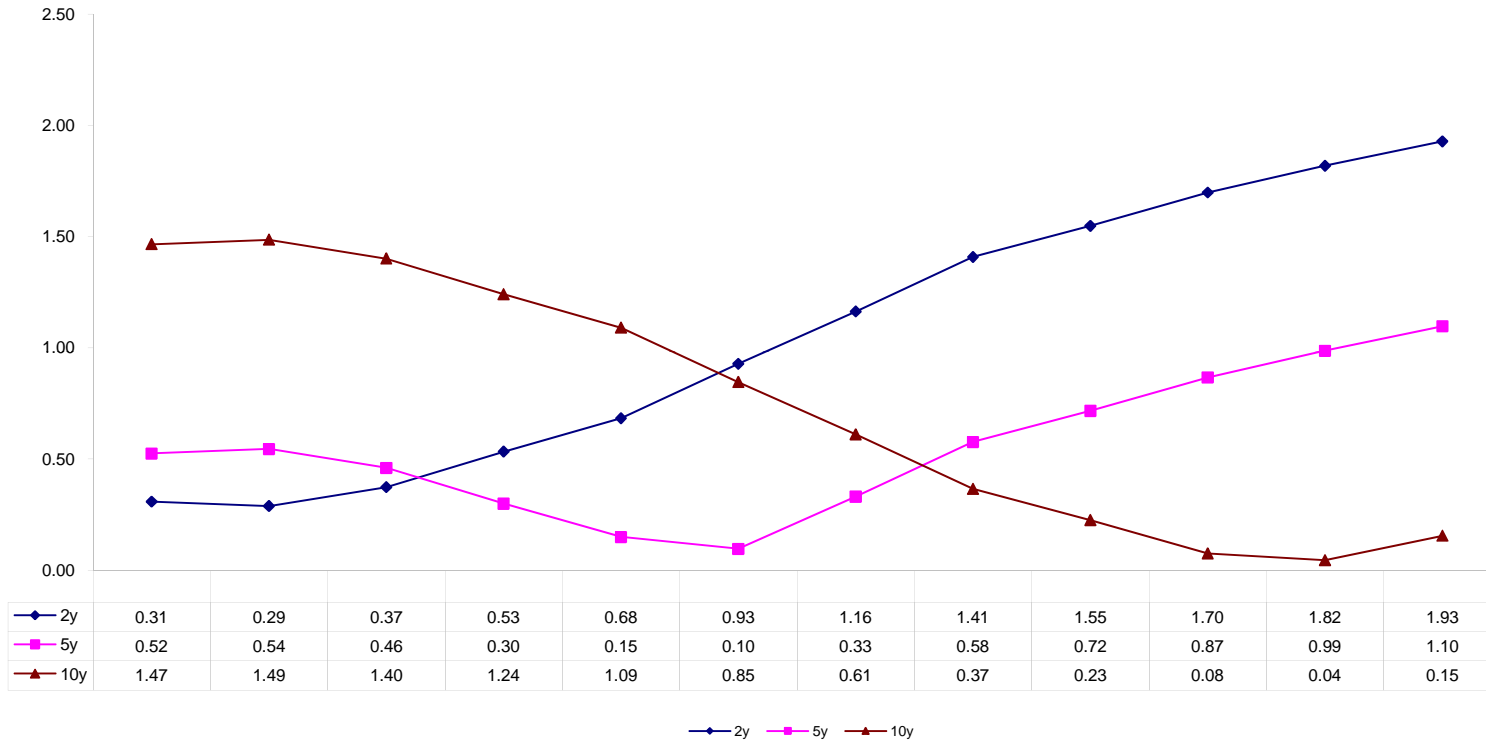
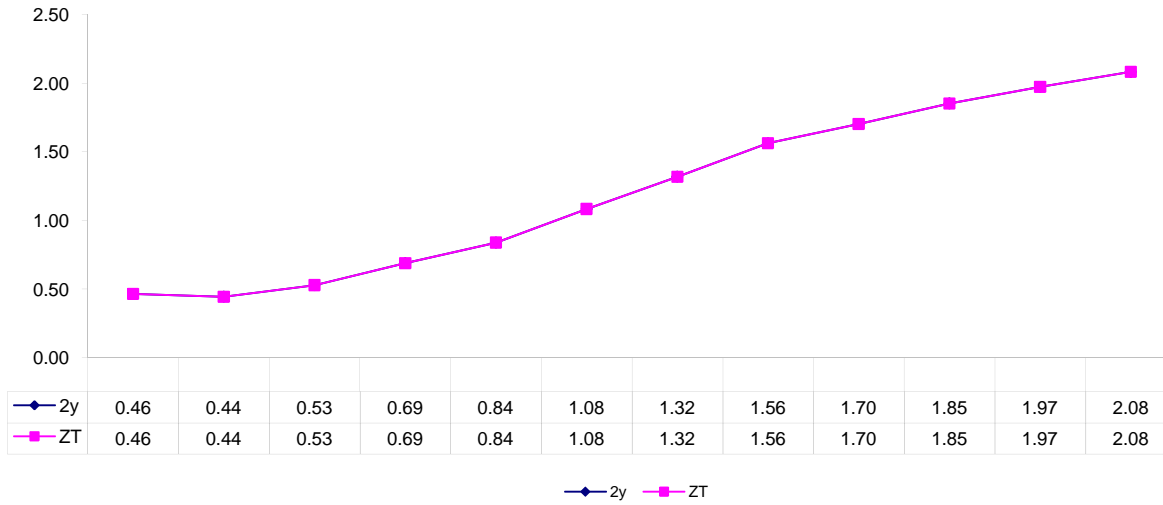
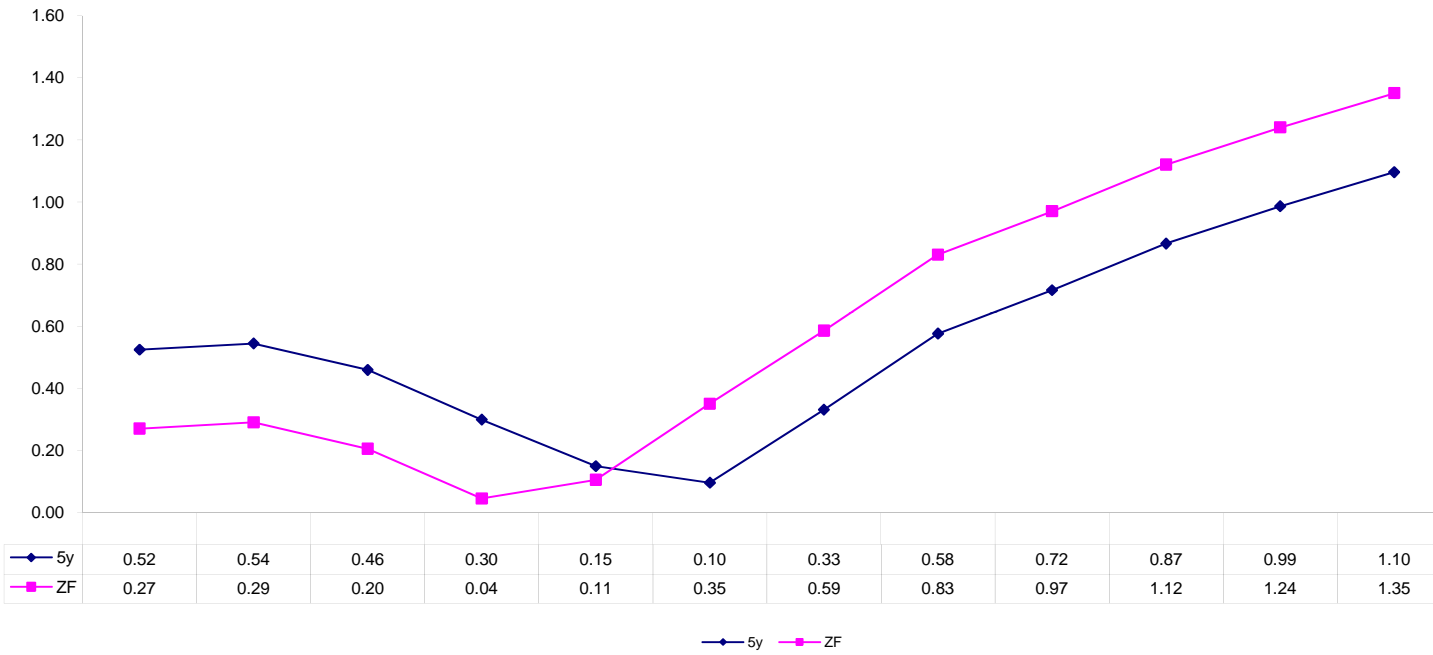


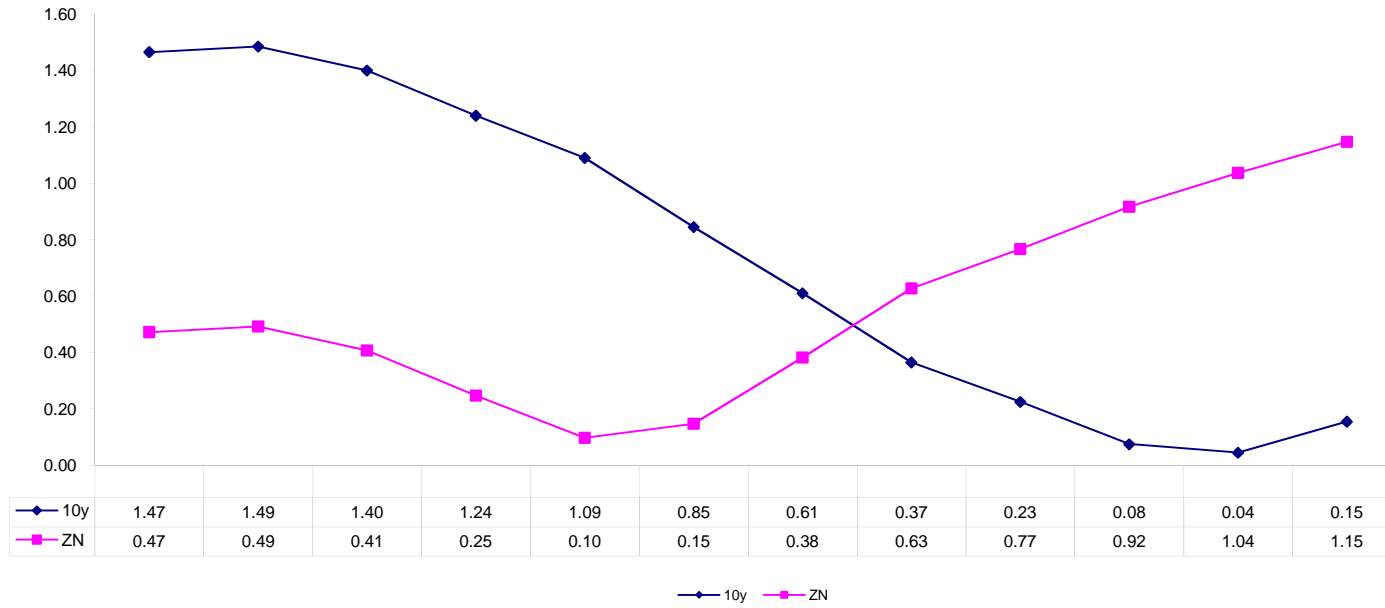
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.167	2.750	9885.250
Red Pack	1.851	2.250	9818.250
Green Pack	2.571	-1.250	9748.000
Blue Pack	2.861	-4.750	9719.750
Gold Pack		0.000	9708.250

