

## 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	108.9375	108.3000	0.729	1.76
ZF	118.5219	118.1670	1.512	1.51
ZN	123.5625	123.1800	2.138	5.84
2y	99.9375	99.3000	0.903	1.93
5y	99.8813	99.2820	1.776	4.72
10y	99.5156	99.1650	2.804	8.68

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.790	1.210	31	0.084	MAR	
EDAM09	98.785	1.215	122	0.334	JUN	White Pack
EDAU09	98.715	1.285	213	0.583	SEP	
EDAZ09	98.555	1.445	304	0.832	DEC	
EDAH10	98.435	1.565	395	1.082	MAR	
EDAM10	98.235	1.765	486	1.331	JUN	Red Pack
EDAU10	98.020	1.980	577	1.580	SEP	
EDAZ10	97.775	2.225	668	1.829	DEC	
EDAH11	97.585	2.415	759	2.079	MAR	
EDAM11	97.370	2.630	850	2.328	JUN	Green Pack
EDAU11	97.170	2.830	948	2.597	SEP	
EDAZ11	96.985	3.015	1039	2.846	DEC	
EDAH12	96.860	3.140	1130	3.095	MAR	
EDAM12	96.870	3.130	1221	3.345	JUN	Blue Pack
EDAU12	96.775	3.225	1312	3.594	SEP	
EDAZ12	96.565	3.435	1403	3.843	DEC	
EDAH13	96.620	3.380	1494	4.092	MAR	
EDAM13	96.535	3.465	1585	4.342	JUN	Gold Pack
EDZU13	96.385	3.615	1676	4.591	SEP	
EDZZ13	96.340	3.660	1767	4.840	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.311	-3.750	9871.125	Pack Prices
Red Pack	1.919	-8.375	9811.625	
Green Pack	2.779	-10.000	9727.750	
Blue Pack		-5.875	9677.125	
Gold Pack		0.000	9649.500	

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.

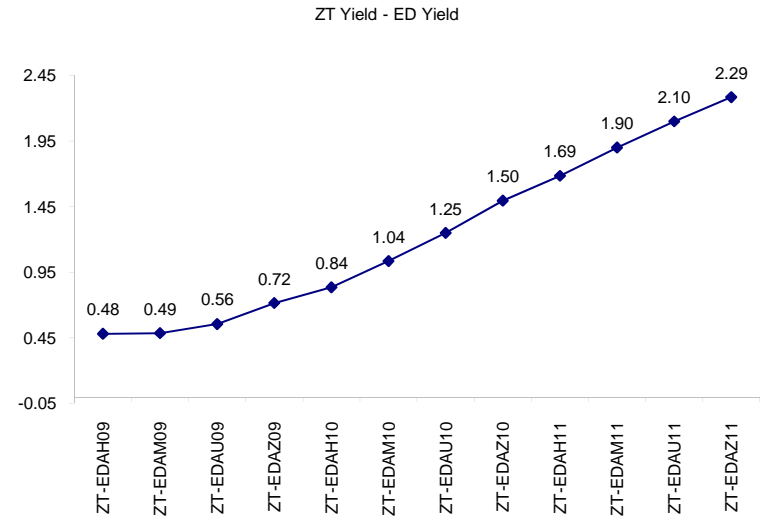
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

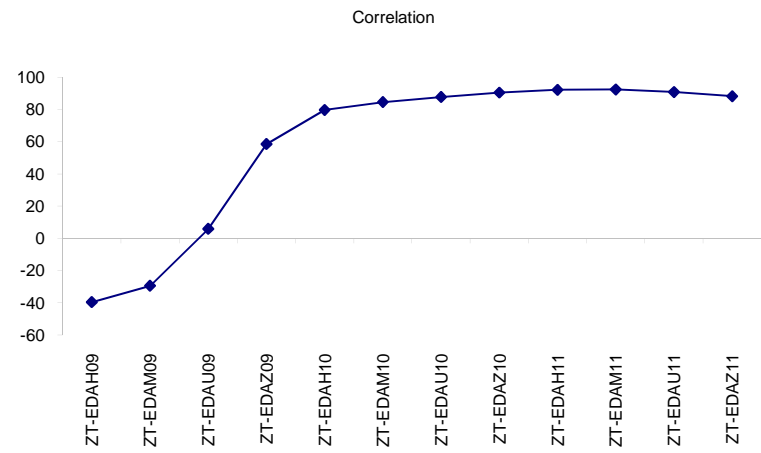
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.148	0.48	ZT-EDAH09	-39.535
EDAM09	10.153	0.49	ZT-EDAM09	-29.375
EDAU09	10.223	0.56	ZT-EDAU09	5.922
EDAZ09	10.383	0.72	ZT-EDAZ09	58.560
EDAH10	10.503	0.84	ZT-EDAH10	79.759
EDAM10	10.703	1.04	ZT-EDAM10	84.610
EDAU10	10.918	1.25	ZT-EDAU10	87.752
EDAZ10	11.163	1.50	ZT-EDAZ10	90.500
EDAH11	11.353	1.69	ZT-EDAH11	92.165
EDAM11	11.568	1.90	ZT-EDAM11	92.461
EDAU11	11.768	2.10	ZT-EDAU11	90.879
EDAZ11	11.953	2.29	ZT-EDAZ11	88.257

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	0.084	1.76	1.68	ZT-EDAH09	
EDAM09	0.334	1.76	1.43	ZT-EDAM09	
EDAU09	0.583	1.76	1.18	ZT-EDAU09	
EDAZ09	0.832	1.76	0.93	ZT-EDAZ09	
EDAH10	1.082	1.76	0.68	ZT-EDAH10	
EDAM10	1.331	1.76	0.43	ZT-EDAM10	
EDAU10	1.580	1.76	0.18	ZT-EDAU10	
EDAZ10	1.829	1.76	(0.07)	ZT-EDAZ10	
EDAH11	2.079	1.76	(0.32)	ZT-EDAH11	
EDAM11	2.328	1.76	(0.57)	ZT-EDAM11	
EDAU11	2.597	1.76	(0.84)	ZT-EDAU11	
EDAZ11	2.846	1.76	(1.09)	ZT-EDAZ11	

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

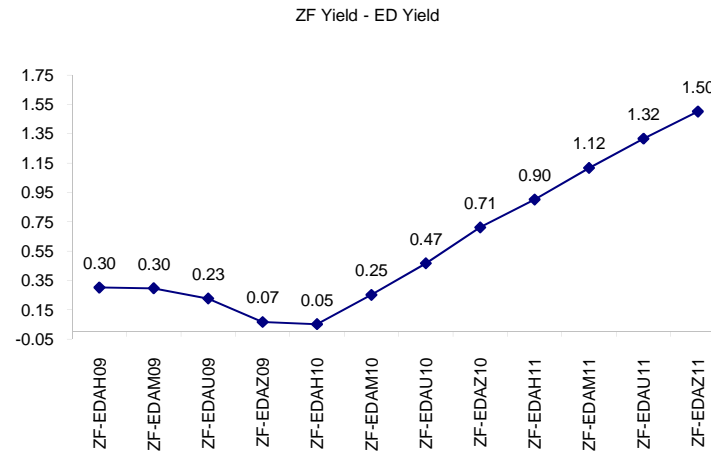


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.732	0.30	ZF-EDAH09	-58.619
EDAM09	19.737	0.30	ZF-EDAM09	-49.932
EDAU09	19.807	0.23	ZF-EDAU09	-15.413
EDAZ09	19.967	0.07	ZF-EDAZ09	41.847
EDAH10	20.087	0.05	ZF-EDAH10	68.390
EDAM10	20.287	0.25	ZF-EDAM10	74.893
EDAU10	20.502	0.47	ZF-EDAU10	80.193
EDAZ10	20.747	0.71	ZF-EDAZ10	85.655
EDAH11	20.937	0.90	ZF-EDAH11	90.453
EDAM11	21.152	1.12	ZF-EDAM11	94.752
EDAU11	21.352	1.32	ZF-EDAU11	96.572
EDAZ11	21.537	1.50	ZF-EDAZ11	95.789

Price = Outright Decimal Price - Euro Contract Price

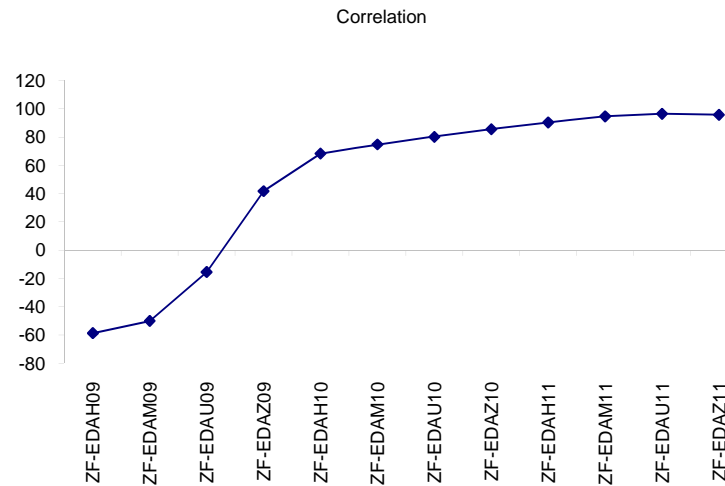
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.084	1.51	1.43	1.43	ZF-EDAH09
EDAM09	0.334	1.51	1.18	1.18	ZF-EDAM09
EDAU09	0.583	1.51	0.93	0.93	ZF-EDAU09
EDAZ09	0.832	1.51	0.68	0.68	ZF-EDAZ09
EDAH10	1.082	1.51	0.43	0.43	ZF-EDAH10
EDAM10	1.331	1.51	0.18	0.18	ZF-EDAM10
EDAU10	1.580	1.51	(0.07)	(0.07)	ZF-EDAU10
EDAZ10	1.829	1.51	(0.32)	(0.32)	ZF-EDAZ10
EDAH11	2.079	1.51	(0.57)	(0.57)	ZF-EDAH11
EDAM11	2.328	1.51	(0.82)	(0.82)	ZF-EDAM11
EDAU11	2.597	1.51	(1.08)	(1.08)	ZF-EDAU11
EDAZ11	2.846	1.51	(1.33)	(1.33)	ZF-EDAZ11

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

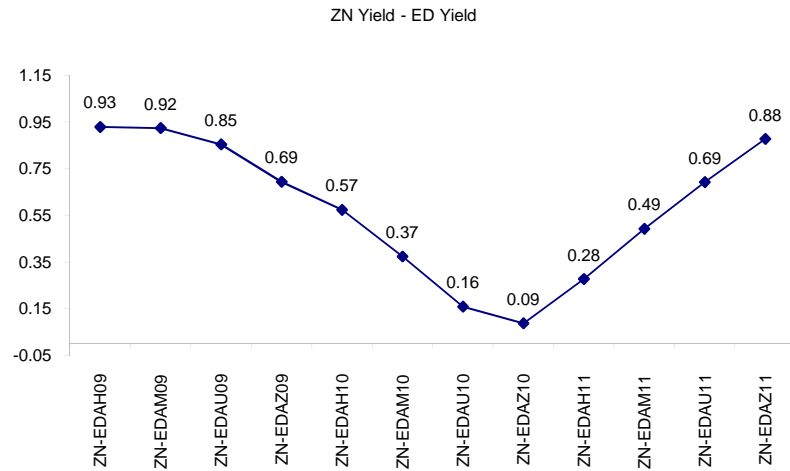


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.773	0.93	ZN-EDAH09	-52.373
EDAM09	24.778	0.92	ZN-EDAM09	-42.458
EDAU09	24.848	0.85	ZN-EDAU09	-5.220
EDAZ09	25.008	0.69	ZN-EDAZ09	52.351
EDAH10	25.128	0.57	ZN-EDAH10	77.821
EDAM10	25.328	0.37	ZN-EDAM10	84.073
EDAU10	25.543	0.16	ZN-EDAU10	88.571
EDAZ10	25.788	0.09	ZN-EDAZ10	92.793
EDAH11	25.978	0.28	ZN-EDAH11	96.195
EDAM11	26.193	0.49	ZN-EDAM11	98.651
EDAU11	26.393	0.69	ZN-EDAU11	98.659
EDAZ11	26.578	0.88	ZN-EDAZ11	96.744

Price = Outright Decimal Price - Euro Contract Price

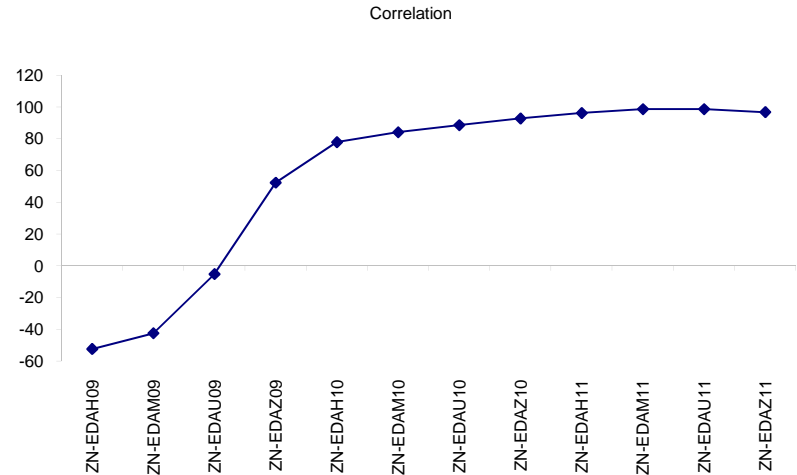
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration		Spread Duration	
EDAH09	0.084	5.84	5.75	ZN-EDAH09			
EDAM09	0.334	5.84	5.50	ZN-EDAM09			
EDAU09	0.583	5.84	5.26	ZN-EDAU09			
EDAZ09	0.832	5.84	5.01	ZN-EDAZ09			
EDAH10	1.082	5.84	4.76	ZN-EDAH10			
EDAM10	1.331	5.84	4.51	ZN-EDAM10			
EDAU10	1.580	5.84	4.26	ZN-EDAU10			
EDAZ10	1.829	5.84	4.01	ZN-EDAZ10			
EDAH11	2.079	5.84	3.76	ZN-EDAH11			
EDAM11	2.328	5.84	3.51	ZN-EDAM11			
EDAU11	2.597	5.84	3.24	ZN-EDAU11			
EDAZ11	2.846	5.84	2.99	ZN-EDAZ11			

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	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.147	0.31	2y-EDAH09	57.380
EDAM09	1.152	0.31	2y-EDAM09	51.159
EDAU09	1.222	0.38	2y-EDAU09	22.217
EDAZ09	1.382	0.54	2y-EDAZ09	-29.804
EDAH10	1.502	0.66	2y-EDAH10	-57.477
EDAM10	1.702	0.86	2y-EDAM10	-65.997
EDAU10	1.917	1.08	2y-EDAU10	-72.530
EDAZ10	2.162	1.32	2y-EDAZ10	-78.894
EDAH11	2.352	1.51	2y-EDAH11	-83.550
EDAM11	2.567	1.73	2y-EDAM11	-87.571
EDAU11	2.767	1.93	2y-EDAU11	-88.938
EDAZ11	2.952	2.11	2y-EDAZ11	-87.663

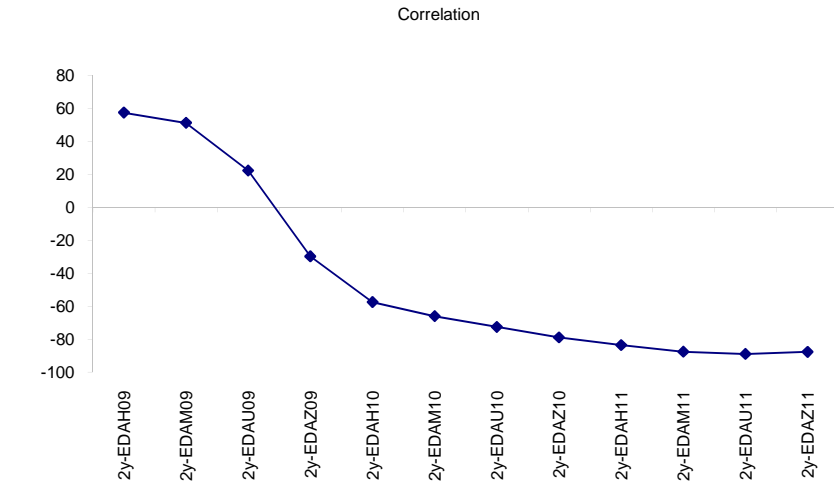
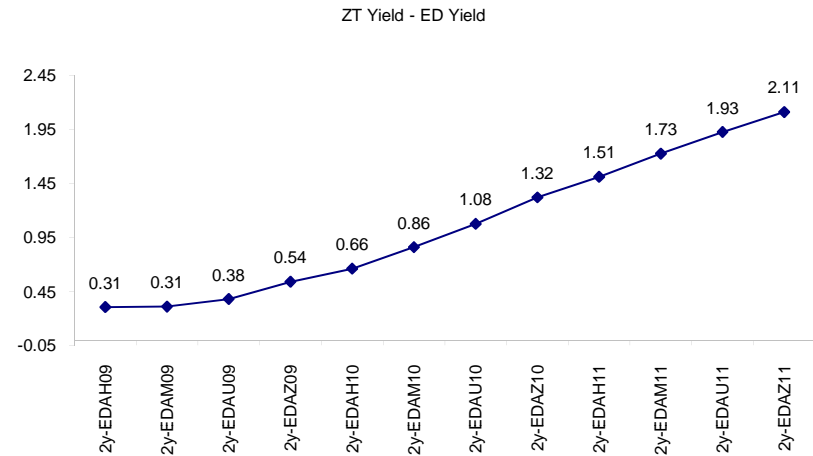
Price = Outright Decimal Price - Euro Contract Price

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	0.084	1.93	1.85	2y-EDAH09	
EDAM09	0.334	1.93	1.60	2y-EDAM09	
EDAU09	0.583	1.93	1.35	2y-EDAU09	
EDAZ09	0.832	1.93	1.10	2y-EDAZ09	
EDAH10	1.082	1.93	0.85	2y-EDAH10	
EDAM10	1.331	1.93	0.60	2y-EDAM10	
EDAU10	1.580	1.93	0.35	2y-EDAU10	
EDAZ10	1.829	1.93	0.10	2y-EDAZ10	
EDAH11	2.079	1.93	(0.14)	2y-EDAH11	
EDAM11	2.328	1.93	(0.39)	2y-EDAM11	
EDAU11	2.597	1.93	(0.66)	2y-EDAU11	
EDAZ11	2.846	1.93	(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	1.091	0.57	5y-EDAH09	51.604
EDAM09	1.096	0.56	5y-EDAM09	44.838
EDAU09	1.166	0.49	5y-EDAU09	15.221
EDAZ09	1.326	0.33	5y-EDAZ09	-34.943
EDAH10	1.446	0.21	5y-EDAH10	-60.926
EDAM10	1.646	0.01	5y-EDAM10	-68.887
EDAU10	1.861	0.20	5y-EDAU10	-75.026
EDAZ10	2.106	0.45	5y-EDAZ10	-81.014
EDAH11	2.296	0.64	5y-EDAH11	-85.176
EDAM11	2.511	0.85	5y-EDAM11	-88.285
EDAU11	2.711	1.05	5y-EDAU11	-88.785
EDAZ11	2.896	1.24	5y-EDAZ11	-86.651

Price = Outright Decimal Price - Euro Contract Price

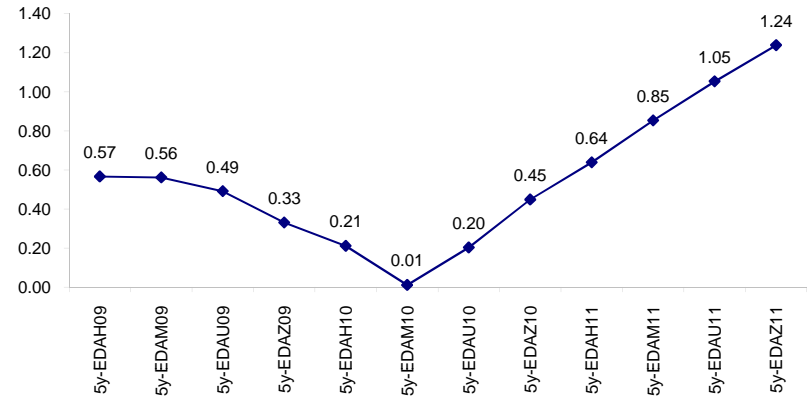
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

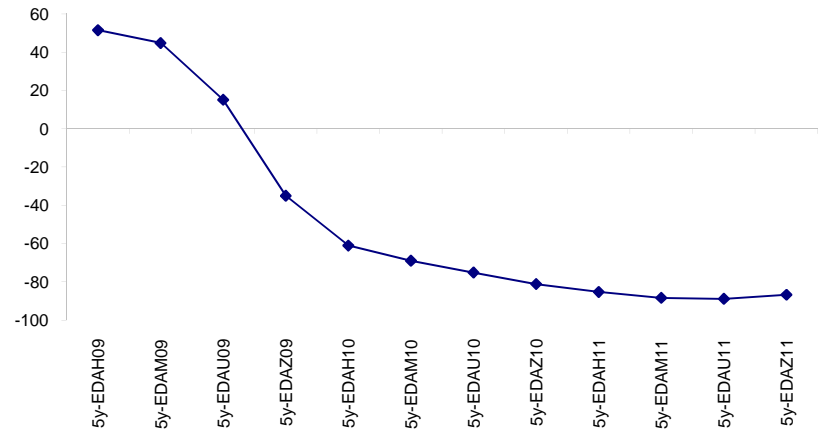
	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAH09	0.084		4.72	4.64	5y-EDAH09
EDAM09	0.334		4.72	4.39	5y-EDAM09
EDAU09	0.583		4.72	4.14	5y-EDAU09
EDAZ09	0.832		4.72	3.89	5y-EDAZ09
EDAH10	1.082		4.72	3.64	5y-EDAH10
EDAM10	1.331		4.72	3.39	5y-EDAM10
EDAU10	1.580		4.72	3.14	5y-EDAU10
EDAZ10	1.829		4.72	2.89	5y-EDAZ10
EDAH11	2.079		4.72	2.64	5y-EDAH11
EDAM11	2.328		4.72	2.39	5y-EDAM11
EDAU11	2.597		4.72	2.13	5y-EDAU11
EDAZ11	2.846		4.72	1.88	5y-EDAZ11

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5y - ED Yield



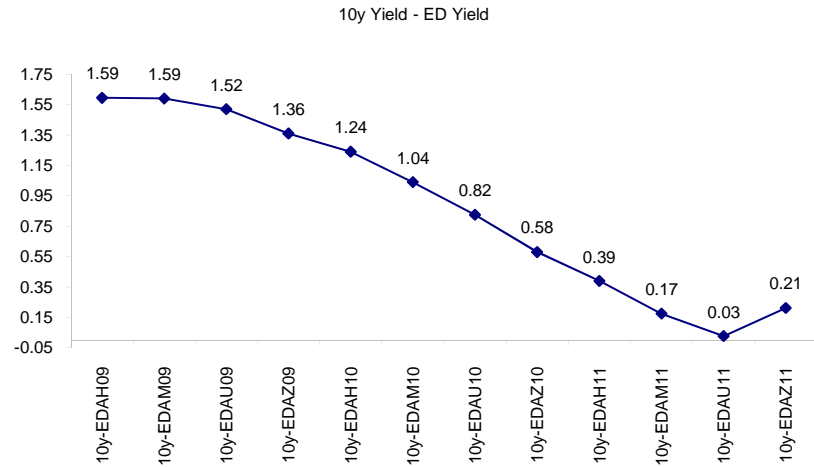
Correlation





10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.091	1.59	10y-EDAH09	65.651
EDAM09	1.096	1.59	10y-EDAM09	59.019
EDAU09	1.166	1.52	10y-EDAU09	27.994
EDAZ09	1.326	1.36	10y-EDAZ09	-27.842
EDAH10	1.446	1.24	10y-EDAH10	-56.229
EDAM10	1.646	1.04	10y-EDAM10	-64.182
EDAU10	1.861	0.82	10y-EDAU10	-70.755
EDAZ10	2.106	0.58	10y-EDAZ10	-77.594
EDAH11	2.296	0.39	10y-EDAH11	-83.666
EDAM11	2.511	0.17	10y-EDAM11	-89.372
EDAU11	2.711	0.03	10y-EDAU11	-92.507
EDAZ11	2.896	0.21	10y-EDAZ11	-92.695

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	0.084	8.68	8.60	10y-EDAH09		
EDAM09	0.334	8.68	8.35	10y-EDAM09		
EDAU09	0.583	8.68	8.10	10y-EDAU09		
EDAZ09	0.832	8.68	7.85	10y-EDAZ09		
EDAH10	1.082	8.68	7.60	10y-EDAH10		
EDAM10	1.331	8.68	7.35	10y-EDAM10		
EDAU10	1.580	8.68	7.10	10y-EDAU10		
EDAZ10	1.829	8.68	6.85	10y-EDAZ10		
EDAH11	2.079	8.68	6.60	10y-EDAH11		
EDAM11	2.328	8.68	6.35	10y-EDAM11		
EDAU11	2.597	8.68	6.09	10y-EDAU11		
EDAZ11	2.846	8.68	5.84	10y-EDAZ11		

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

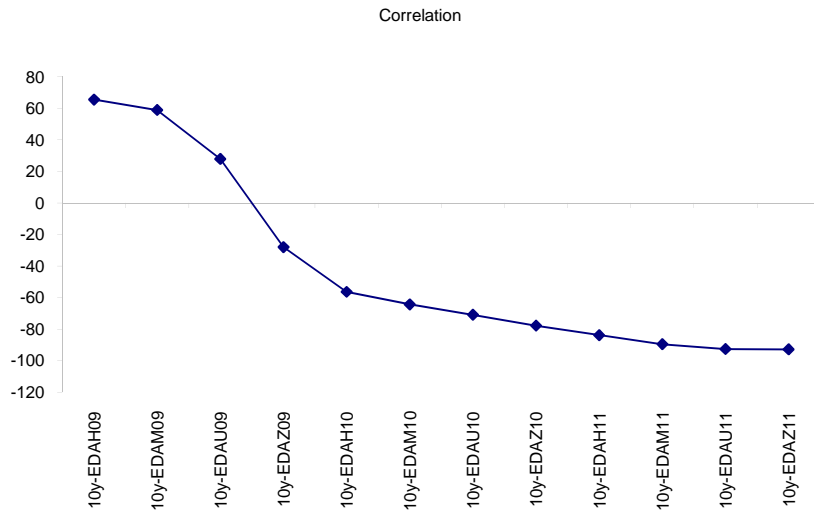


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

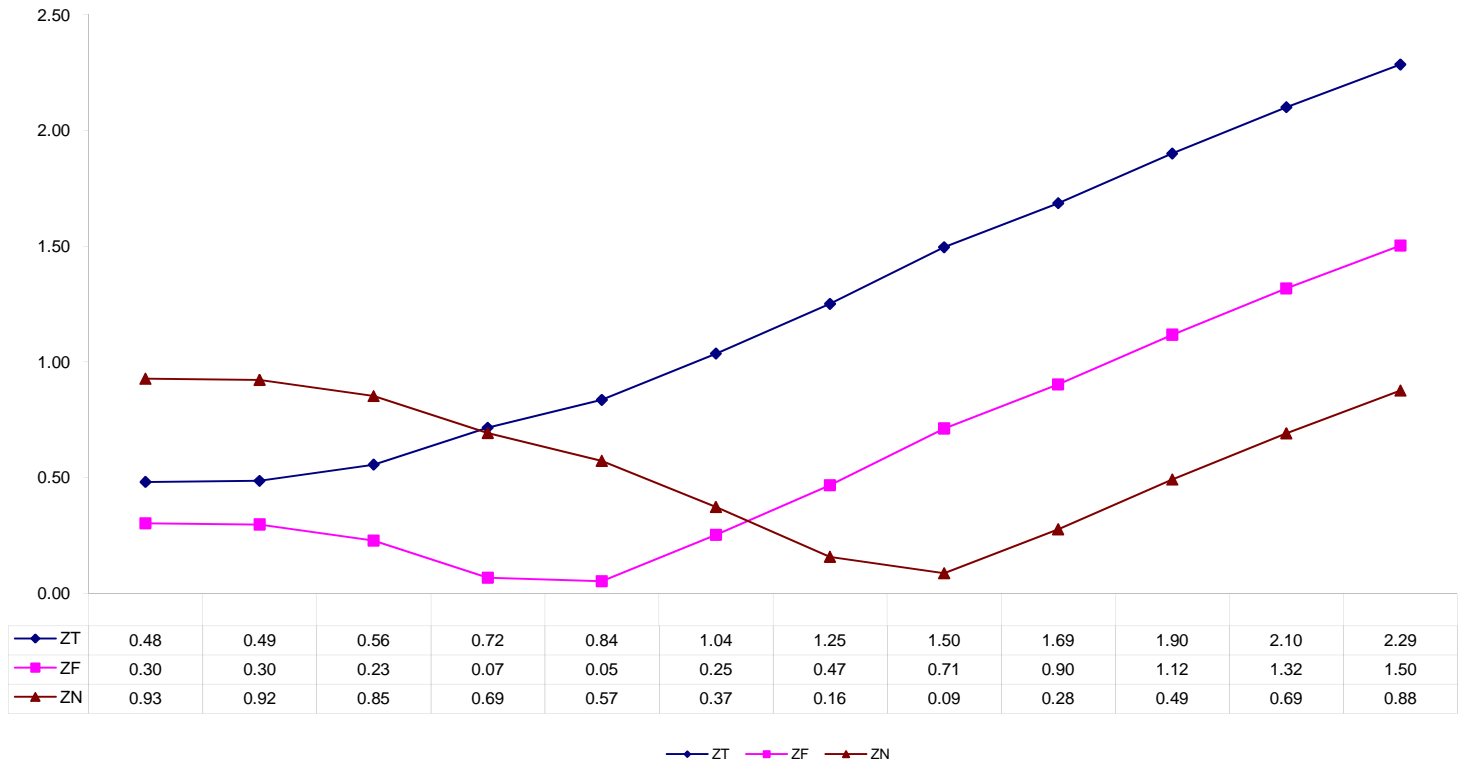
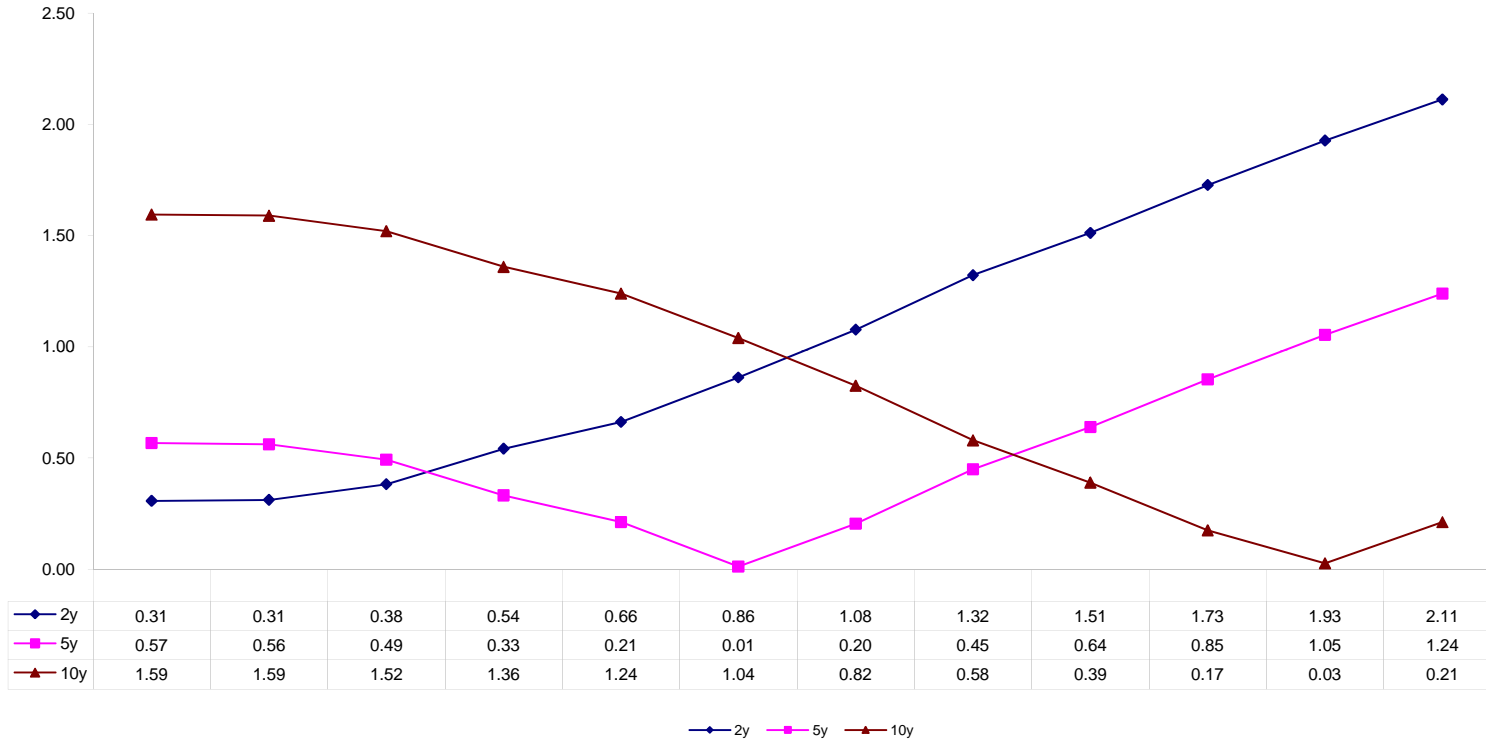
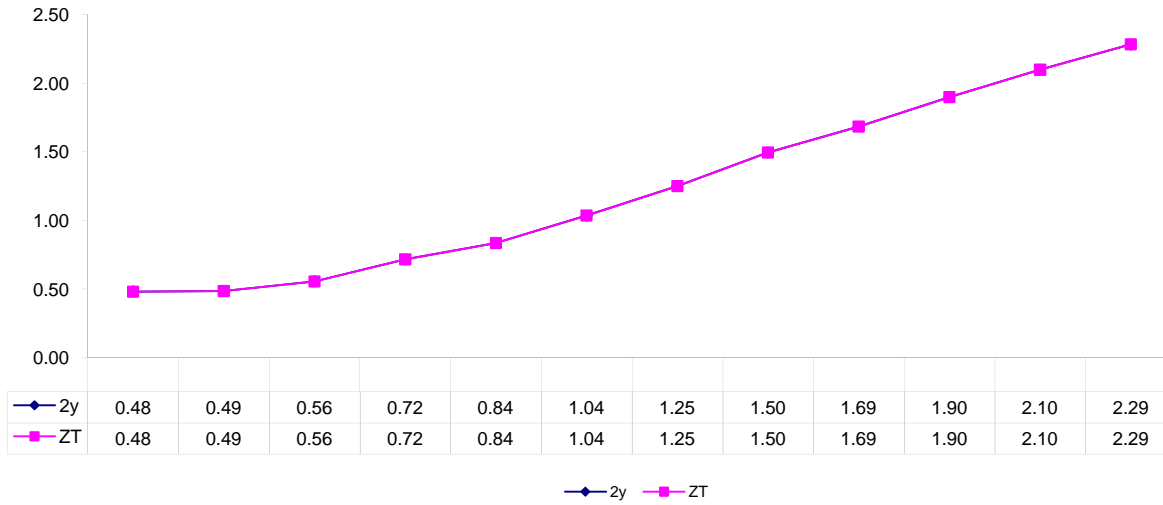
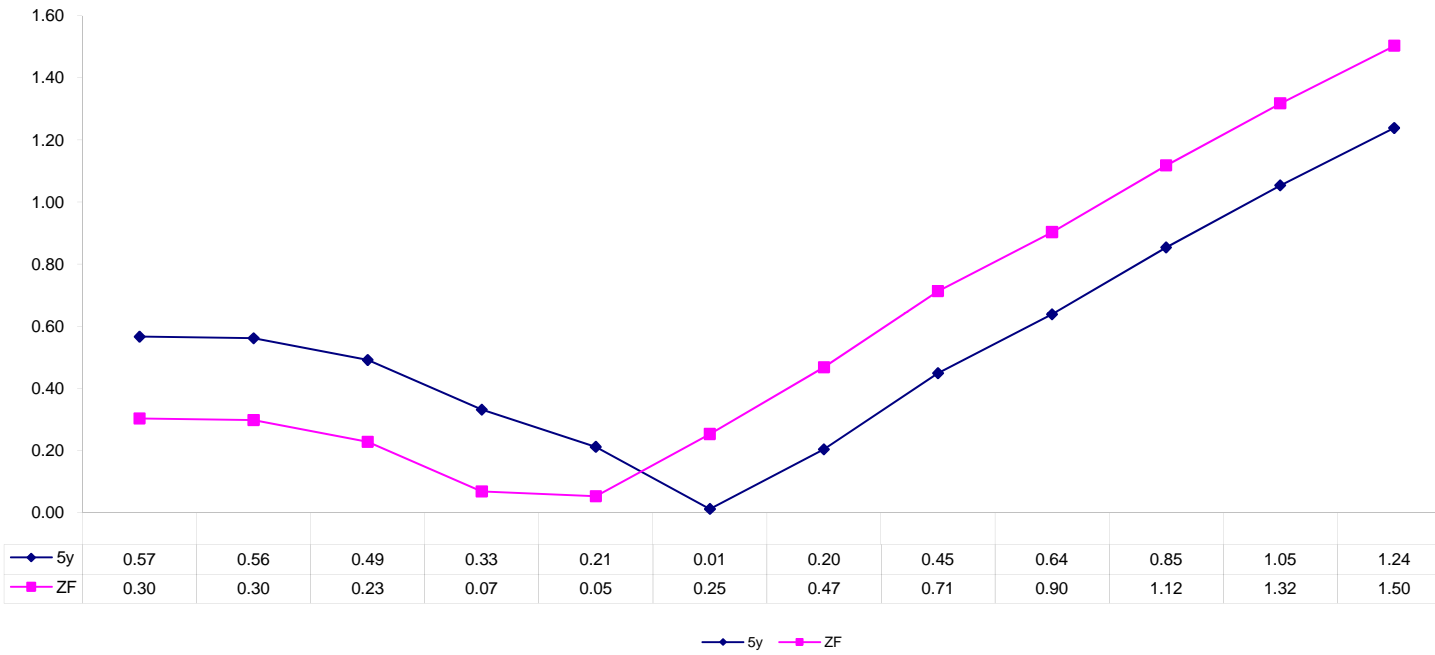


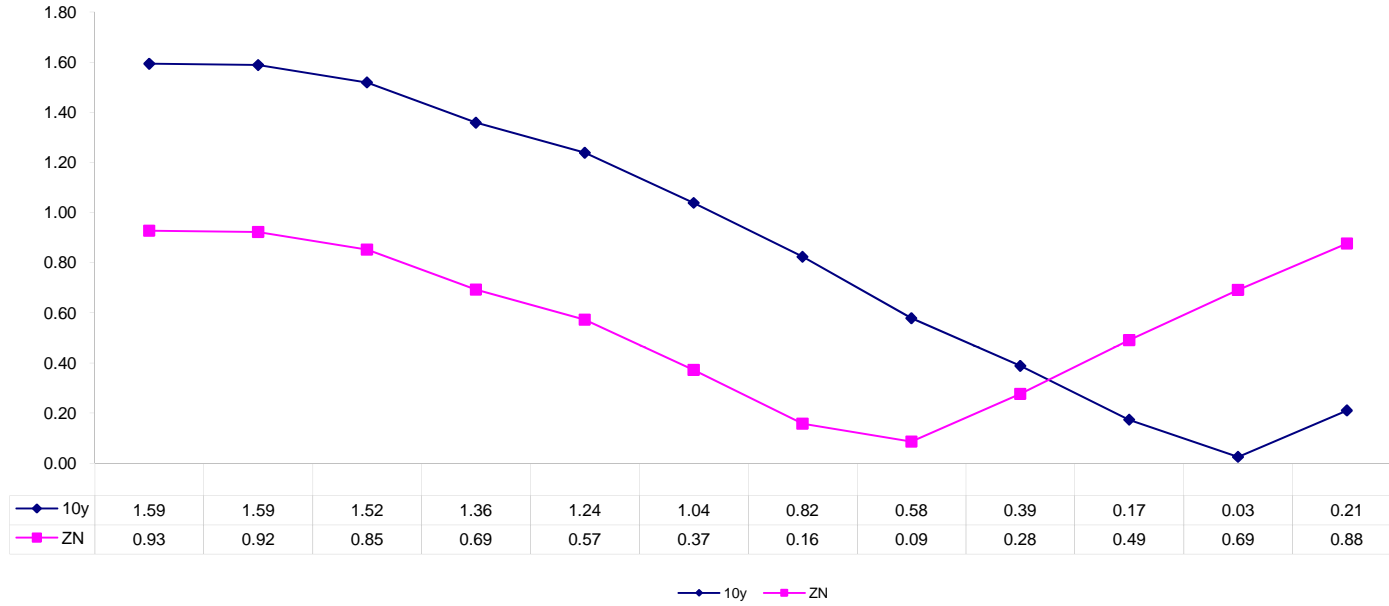
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.311	-3.750	9871.125
Red Pack	1.919	-8.375	9811.625
Green Pack	2.779	-10.000	9727.750
Blue Pack		-5.875	9677.125
Gold Pack		0.000	9649.500

