

## 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	108.7031	108.2250	0.633	1.91
ZF	119.2875	119.0920	1.190	1.19
ZN	127.0000	127.0000	2.058	6.84
2y	99.9594	99.3070	0.804	1.91
5y	102.7875	102.2520	1.417	4.69
10y	114.2031	114.0650	2.113	8.36

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	98.785	1.215	83	0.227	MAR	
EDAZ08	98.715	1.285	174	0.476	JUN	White Pack
EDAH09	98.610	1.390	265	0.725	SEP	
EDAM09	98.460	1.540	356	0.975	DEC	
EDAU09	98.360	1.640	447	1.224	MAR	
EDAZ09	98.170	1.830	538	1.473	JUN	Red Pack
EDAH10	98.020	1.980	629	1.723	SEP	
EDAM10	97.850	2.150	720	1.972	DEC	
EDAU10	97.755	2.245	811	2.221	MAR	
EDAZ10	97.620	2.380	902	2.471	JUN	Green Pack
EDAH11	97.440	2.560	1000	2.739	SEP	
EDAM11	97.405	2.595	1091	2.988	DEC	
EDAU11	97.430	2.570	1182	3.238	MAR	
EDAZ11	97.345	2.655	1273	3.487	JUN	Blue Pack
EDAH12	97.360	2.640	1364	3.736	SEP	
EDAM12	97.300	2.700	1455	3.986	DEC	
EDAU12	97.300	2.700	1546	4.235	MAR	
EDAZ12	97.250	2.750	1637	4.484	JUN	Gold Pack
EDAM13	97.185	2.815	1728	4.734	SEP	
EDZU13	97.095	2.905	1819	4.983	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.381	0.875	9864.250	
Red Pack	1.936	2.125	9810.000	Pack Prices
Green Pack		1.125	9758.125	
Blue Pack		-0.375	9737.625	
Gold Pack		0.000	9721.750	

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.

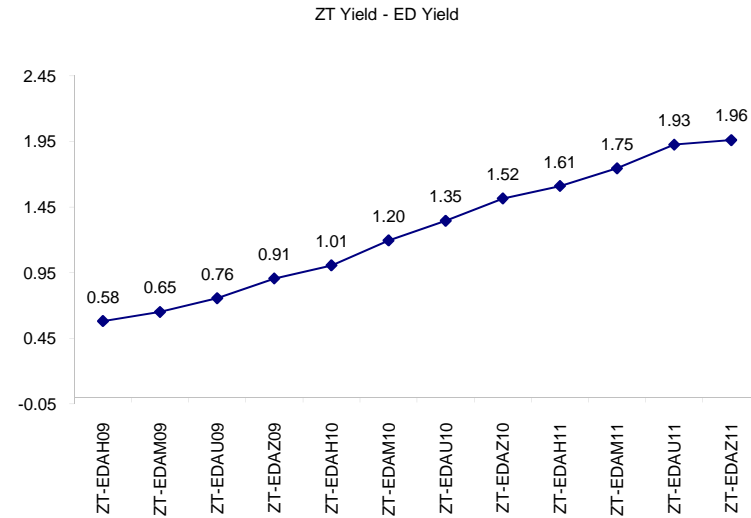
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

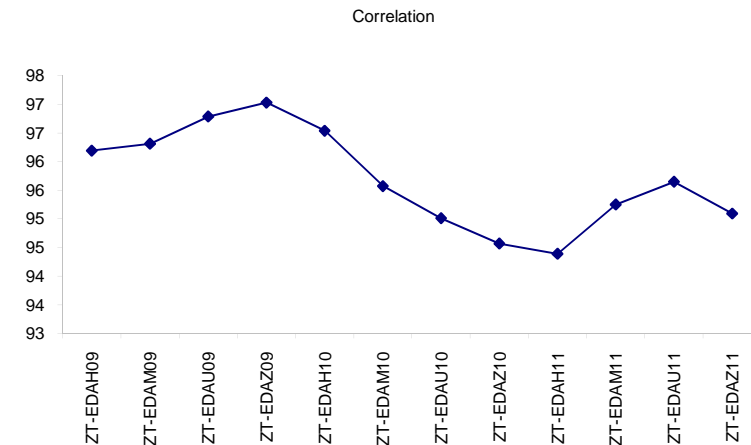
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	9.918	0.58	ZT-EDAH09	96.193
EDAM09	9.988	0.65	ZT-EDAM09	96.313
EDAU09	10.093	0.76	ZT-EDAU09	96.788
EDAZ09	10.243	0.91	ZT-EDAZ09	97.032
EDAH10	10.343	1.01	ZT-EDAH10	96.541
EDAM10	10.533	1.20	ZT-EDAM10	95.574
EDAU10	10.683	1.35	ZT-EDAU10	95.014
EDAZ10	10.853	1.52	ZT-EDAZ10	94.570
EDAH11	10.948	1.61	ZT-EDAH11	94.391
EDAM11	11.083	1.75	ZT-EDAM11	95.252
EDAU11	11.263	1.93	ZT-EDAU11	95.650
EDAZ11	11.298	1.96	ZT-EDAZ11	95.094

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	0.227	1.91	1.68	ZT-EDAH09	
EDAM09	0.476	1.91	1.43	ZT-EDAM09	
EDAU09	0.725	1.91	1.18	ZT-EDAU09	
EDAZ09	0.975	1.91	0.93	ZT-EDAZ09	
EDAH10	1.224	1.91	0.68	ZT-EDAH10	
EDAM10	1.473	1.91	0.44	ZT-EDAM10	
EDAU10	1.723	1.91	0.19	ZT-EDAU10	
EDAZ10	1.972	1.91	(0.06)	ZT-EDAZ10	
EDAH11	2.221	1.91	(0.31)	ZT-EDAH11	
EDAM11	2.471	1.91	(0.56)	ZT-EDAM11	
EDAU11	2.739	1.91	(0.83)	ZT-EDAU11	
EDAZ11	2.988	1.91	(1.08)	ZT-EDAZ11	

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

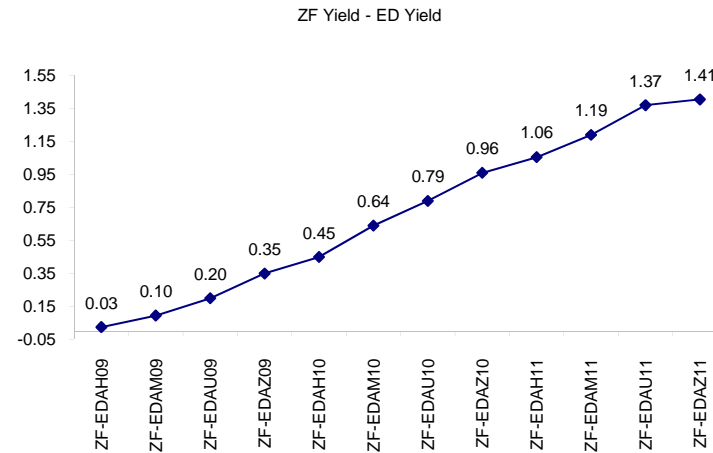


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	20.503	0.03	ZF-EDAH09	92.890
EDAM09	20.573	0.10	ZF-EDAM09	93.652
EDAU09	20.678	0.20	ZF-EDAU09	95.015
EDAZ09	20.828	0.35	ZF-EDAZ09	96.398
EDAH10	20.928	0.45	ZF-EDAH10	97.177
EDAM10	21.118	0.64	ZF-EDAM10	97.633
EDAU10	21.268	0.79	ZF-EDAU10	98.197
EDAZ10	21.438	0.96	ZF-EDAZ10	98.706
EDAH11	21.533	1.06	ZF-EDAH11	98.555
EDAM11	21.668	1.19	ZF-EDAM11	98.395
EDAU11	21.848	1.37	ZF-EDAU11	97.548
EDAZ11	21.883	1.41	ZF-EDAZ11	96.820

Price = Outright Decimal Price - Euro Contract Price

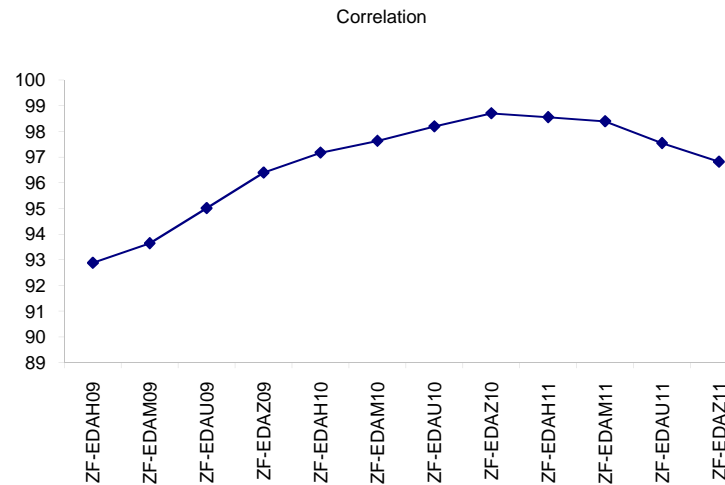
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.227	1.19	0.96	ZF-EDAH09	
EDAM09	0.476	1.19	0.71	ZF-EDAM09	
EDAU09	0.725	1.19	0.46	ZF-EDAU09	
EDAZ09	0.975	1.19	0.21	ZF-EDAZ09	
EDAH10	1.224	1.19	(0.03)	ZF-EDAH10	
EDAM10	1.473	1.19	(0.28)	ZF-EDAM10	
EDAU10	1.723	1.19	(0.53)	ZF-EDAU10	
EDAZ10	1.972	1.19	(0.78)	ZF-EDAZ10	
EDAH11	2.221	1.19	(1.03)	ZF-EDAH11	
EDAM11	2.471	1.19	(1.28)	ZF-EDAM11	
EDAU11	2.739	1.19	(1.55)	ZF-EDAU11	
EDAZ11	2.988	1.19	(1.80)	ZF-EDAZ11	

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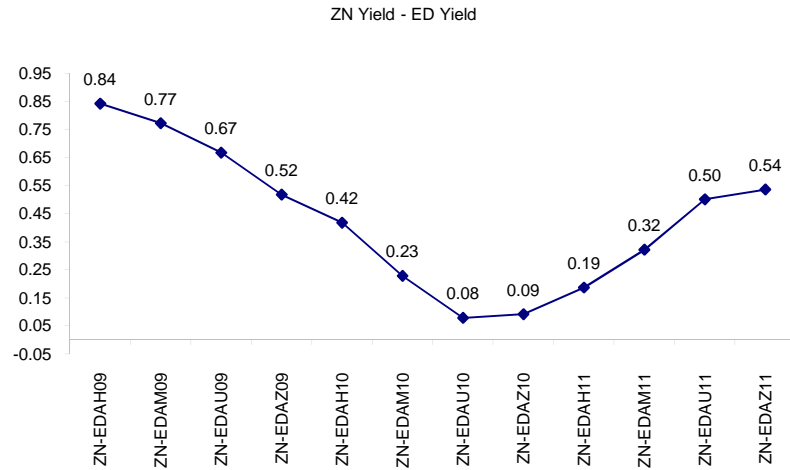


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	28.215	0.84	ZN-EDAH09	96.430
EDAM09	28.285	0.77	ZN-EDAM09	94.499
EDAU09	28.390	0.67	ZN-EDAU09	94.050
EDAZ09	28.540	0.52	ZN-EDAZ09	94.713
EDAH10	28.640	0.42	ZN-EDAH10	95.027
EDAM10	28.830	0.23	ZN-EDAM10	94.720
EDAU10	28.980	0.08	ZN-EDAU10	94.912
EDAZ10	29.150	0.09	ZN-EDAZ10	95.879
EDAH11	29.245	0.19	ZN-EDAH11	96.633
EDAM11	29.380	0.32	ZN-EDAM11	98.152
EDAU11	29.560	0.50	ZN-EDAU11	99.086
EDAZ11	29.595	0.54	ZN-EDAZ11	99.215

Price = Outright Decimal Price - Euro Contract Price

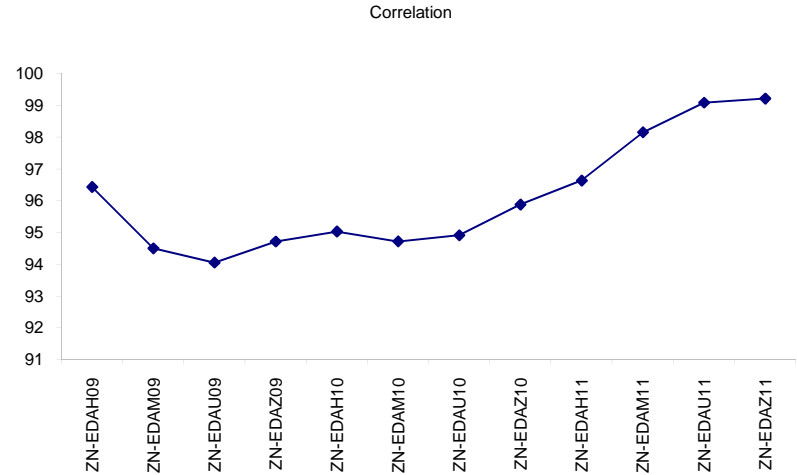
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAH09	0.227	6.84	6.61	ZN-EDAH09		
EDAM09	0.476	6.84	6.36	ZN-EDAM09		
EDAU09	0.725	6.84	6.11	ZN-EDAU09		
EDAZ09	0.975	6.84	5.86	ZN-EDAZ09		
EDAH10	1.224	6.84	5.62	ZN-EDAH10		
EDAM10	1.473	6.84	5.37	ZN-EDAM10		
EDAU10	1.723	6.84	5.12	ZN-EDAU10		
EDAZ10	1.972	6.84	4.87	ZN-EDAZ10		
EDAH11	2.221	6.84	4.62	ZN-EDAH11		
EDAM11	2.471	6.84	4.37	ZN-EDAM11		
EDAU11	2.739	6.84	4.10	ZN-EDAU11		
EDAZ11	2.988	6.84	3.85	ZN-EDAZ11		

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

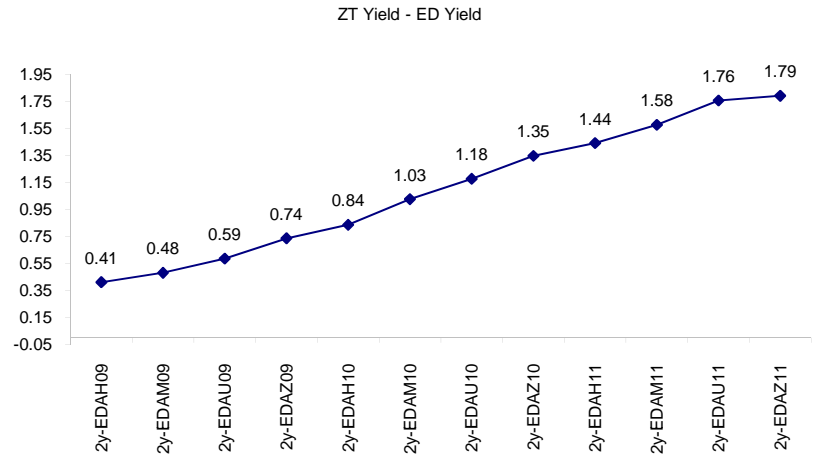


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.174	0.41	2y-EDAH09	-24.486
EDAM09	1.244	0.48	2y-EDAM09	-29.981
EDAU09	1.349	0.59	2y-EDAU09	-35.561
EDAZ09	1.499	0.74	2y-EDAZ09	-40.734
EDAH10	1.599	0.84	2y-EDAH10	-42.857
EDAM10	1.789	1.03	2y-EDAM10	-46.083
EDAU10	1.939	1.18	2y-EDAU10	-49.588
EDAZ10	2.109	1.35	2y-EDAZ10	-50.726
EDAH11	2.204	1.44	2y-EDAH11	-49.224
EDAM11	2.339	1.58	2y-EDAM11	-43.846
EDAU11	2.519	1.76	2y-EDAU11	-37.998
EDAZ11	2.554	1.79	2y-EDAZ11	-36.107

Price = Outright Decimal Price - Euro Contract Price

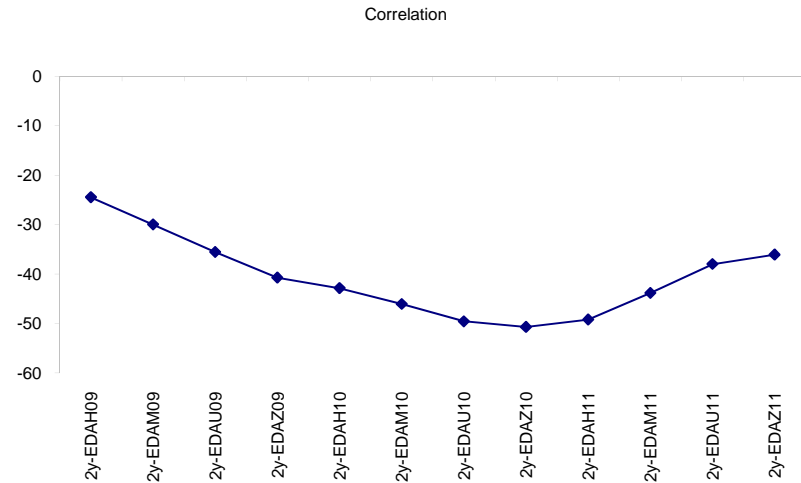
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.227	1.91	1.68		2y-EDAH09
EDAM09	0.476	1.91	1.43		2y-EDAM09
EDAU09	0.725	1.91	1.18		2y-EDAU09
EDAZ09	0.975	1.91	0.93		2y-EDAZ09
EDAH10	1.224	1.91	0.68		2y-EDAH10
EDAM10	1.473	1.91	0.43		2y-EDAM10
EDAU10	1.723	1.91	0.19		2y-EDAU10
EDAZ10	1.972	1.91	(0.06)		2y-EDAZ10
EDAH11	2.221	1.91	(0.31)		2y-EDAH11
EDAM11	2.471	1.91	(0.56)		2y-EDAM11
EDAU11	2.739	1.91	(0.83)		2y-EDAU11
EDAZ11	2.988	1.91	(1.08)		2y-EDAZ11

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

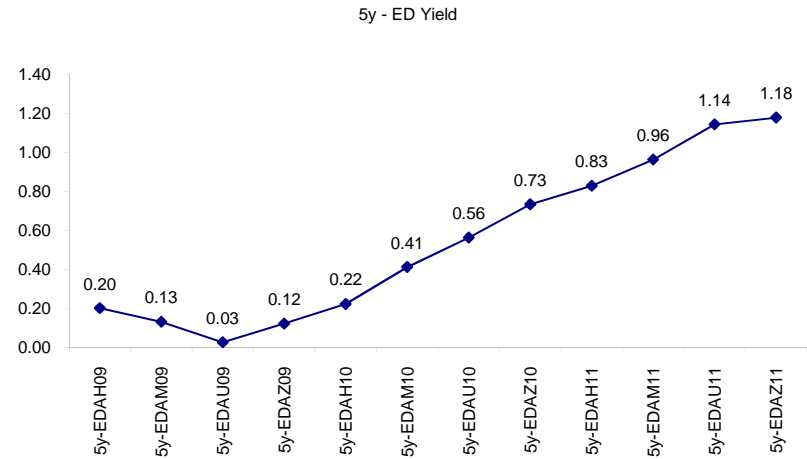


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	4.002	0.20	5y-EDAH09	-88.709
EDAM09	4.072	0.13	5y-EDAM09	-88.923
EDAU09	4.177	0.03	5y-EDAU09	-90.374
EDAZ09	4.327	0.12	5y-EDAZ09	-92.252
EDAH10	4.427	0.22	5y-EDAH10	-93.103
EDAM10	4.617	0.41	5y-EDAM10	-93.769
EDAU10	4.767	0.56	5y-EDAU10	-94.933
EDAZ10	4.937	0.73	5y-EDAZ10	-95.732
EDAH11	5.032	0.83	5y-EDAH11	-95.523
EDAM11	5.167	0.96	5y-EDAM11	-94.876
EDAU11	5.347	1.14	5y-EDAU11	-93.798
EDAZ11	5.382	1.18	5y-EDAZ11	-93.098

Price = Outright Decimal Price - Euro Contract Price

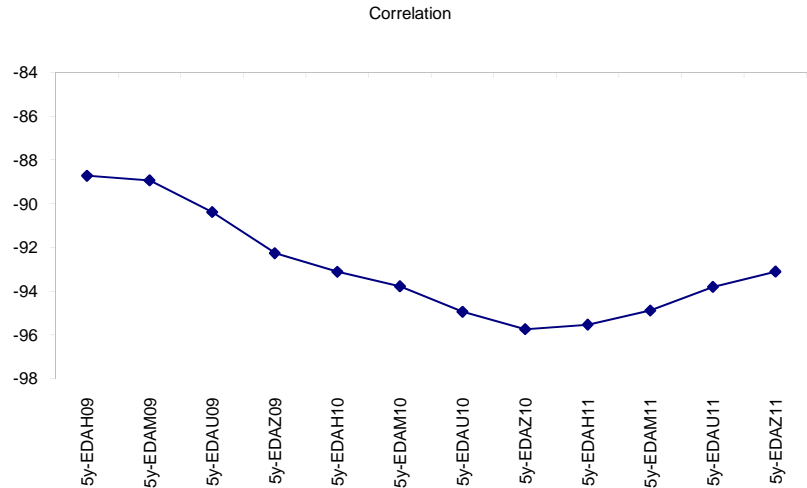
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAH09	0.227	4.69	4.46	5y-EDAH09
EDAM09	0.476	4.69	4.21	5y-EDAM09
EDAU09	0.725	4.69	3.96	5y-EDAU09
EDAZ09	0.975	4.69	3.71	5y-EDAZ09
EDAH10	1.224	4.69	3.46	5y-EDAH10
EDAM10	1.473	4.69	3.21	5y-EDAM10
EDAU10	1.723	4.69	2.96	5y-EDAU10
EDAZ10	1.972	4.69	2.72	5y-EDAZ10
EDAH11	2.221	4.69	2.47	5y-EDAH11
EDAM11	2.471	4.69	2.22	5y-EDAM11
EDAU11	2.739	4.69	1.95	5y-EDAU11
EDAZ11	2.988	4.69	1.70	5y-EDAZ11

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



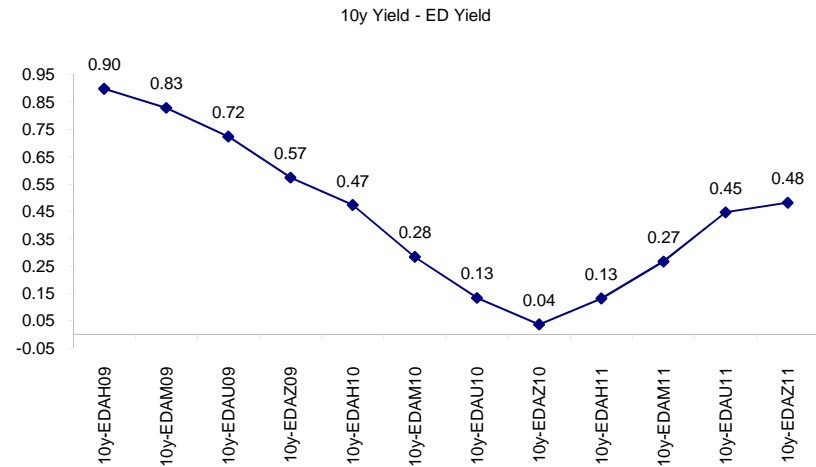


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	4.002	0.90	10y-EDAH09	-97.529
EDAM09	4.072	0.83	10y-EDAM09	-94.716
EDAU09	4.177	0.72	10y-EDAU09	-93.519
EDAZ09	4.327	0.57	10y-EDAZ09	-93.496
EDAH10	4.427	0.47	10y-EDAH10	-93.638
EDAM10	4.617	0.28	10y-EDAM10	-92.828
EDAU10	4.767	0.13	10y-EDAU10	-92.433
EDAZ10	4.937	0.04	10y-EDAZ10	-92.649
EDAH11	5.032	0.13	10y-EDAH11	-93.117
EDAM11	5.167	0.27	10y-EDAM11	-95.463
EDAU11	5.347	0.45	10y-EDAU11	-97.487
EDAZ11	5.382	0.48	10y-EDAZ11	-98.064

Price = Outright Decimal Price - Euro Contract Price

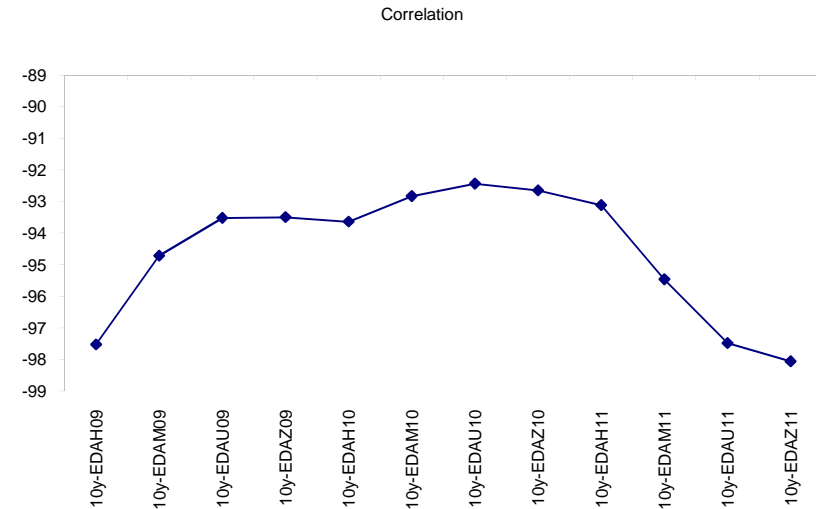
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAH09	0.227	8.36	8.13	10y-EDAH09
EDAM09	0.476	8.36	7.88	10y-EDAM09
EDAU09	0.725	8.36	7.63	10y-EDAU09
EDAZ09	0.975	8.36	7.38	10y-EDAZ09
EDAH10	1.224	8.36	7.14	10y-EDAH10
EDAM10	1.473	8.36	6.89	10y-EDAM10
EDAU10	1.723	8.36	6.64	10y-EDAU10
EDAZ10	1.972	8.36	6.39	10y-EDAZ10
EDAH11	2.221	8.36	6.14	10y-EDAH11
EDAM11	2.471	8.36	5.89	10y-EDAM11
EDAU11	2.739	8.36	5.62	10y-EDAU11
EDAZ11	2.988	8.36	5.37	10y-EDAZ11

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



Dirty TED Curve

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.

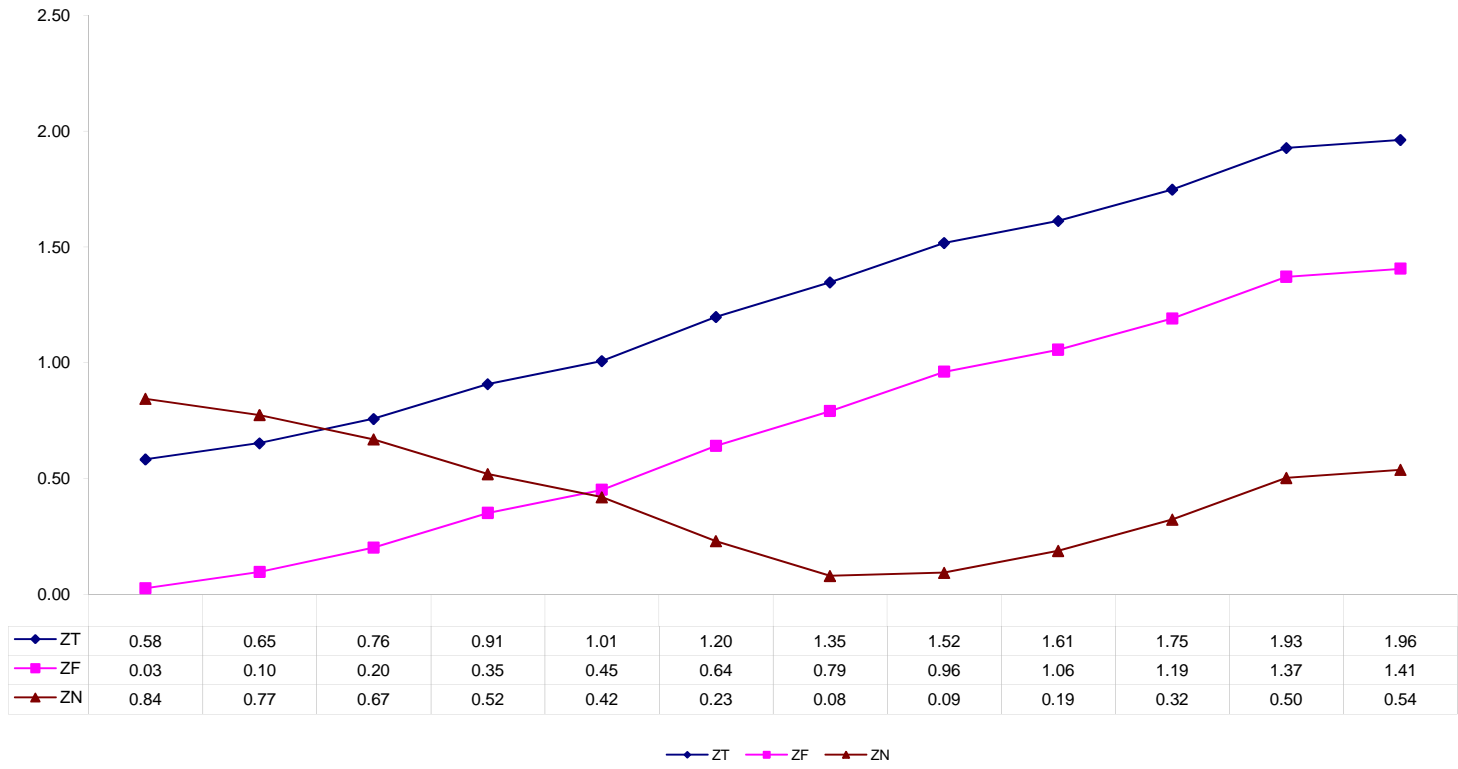
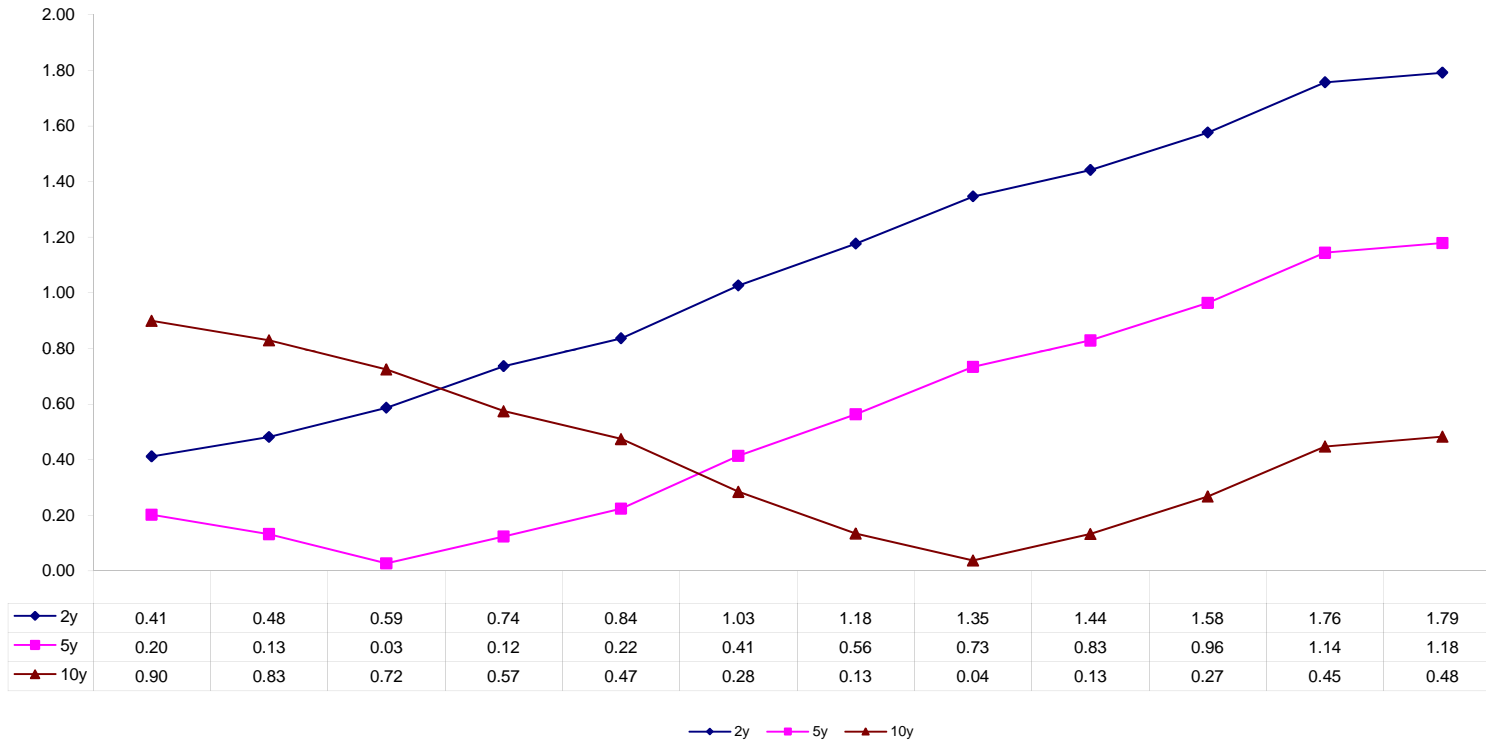
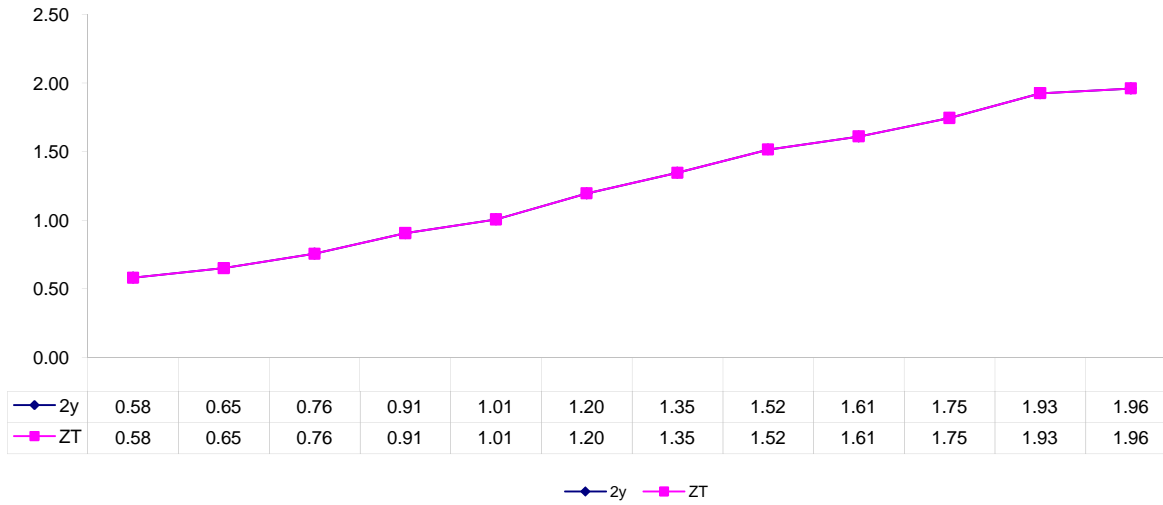


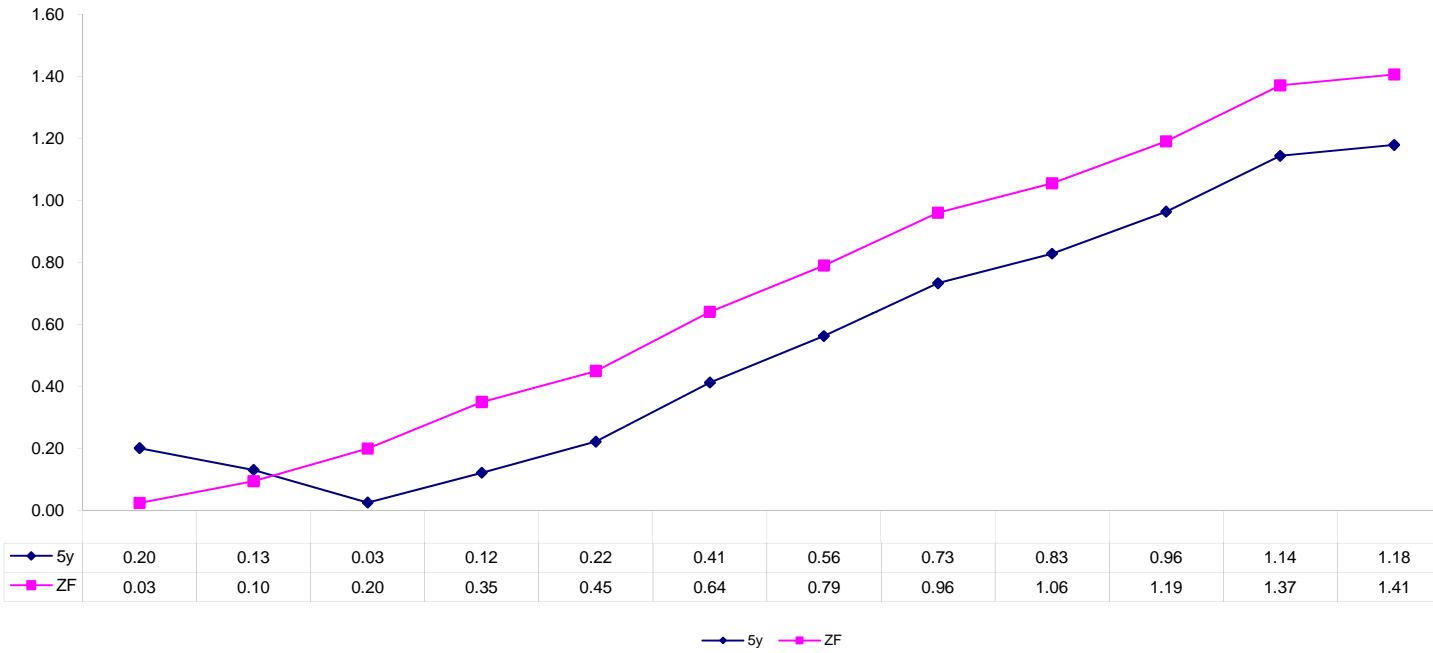
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



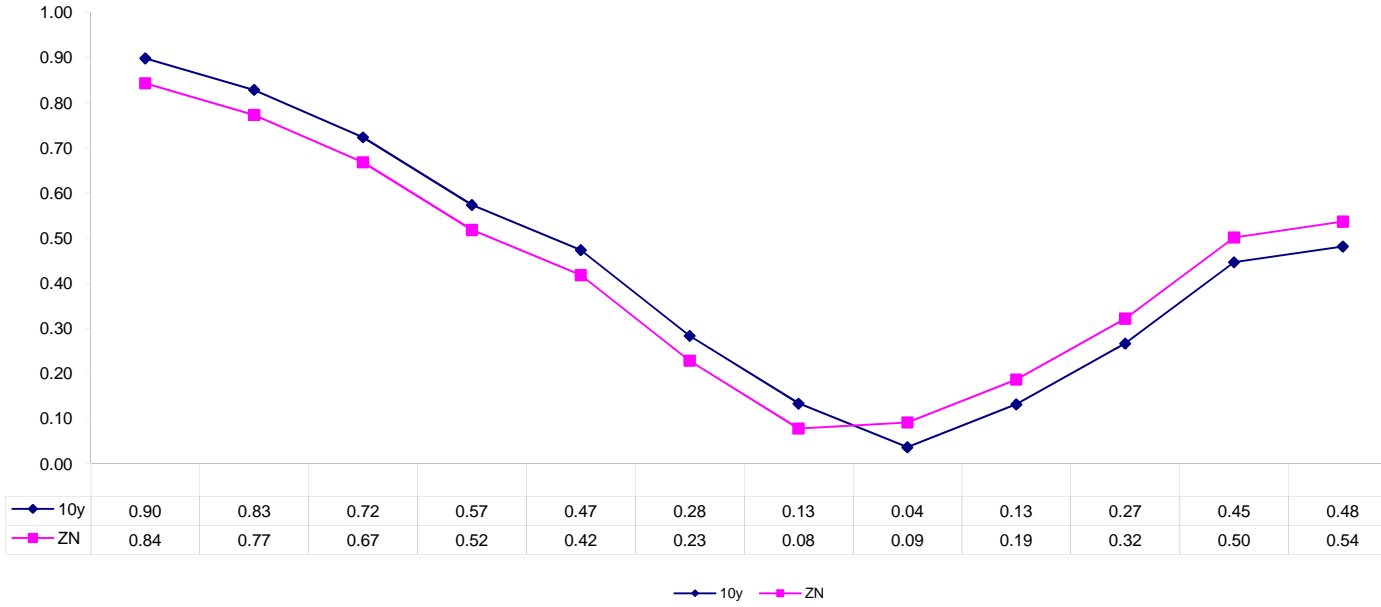
### 2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	1.381	0.875	9864.250
Red Pack	1.936	2.125	9810.000
Green Pack		1.125	9758.125
Blue Pack		-0.375	9737.625
Gold Pack		0.000	9721.750

