

## 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	107.4594	107.1470	1.328	1.930
ZF	112.8031	112.2570	2.685	4.241
ZN	113.4063	113.1300	3.507	5.856
2y	99.1250	99.0400	1.326	1.949
5y	97.1406	97.0450	2.869	4.661
10y	94.0469	94.0150	3.850	8.384

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.3075	0.692	7	0.0185	JUN	
EDAU09	99.1000	0.900	98	0.2678	SEP	White Pack
EDAZ09	98.6750	1.325	189	0.5171	DEC	
EDAH10	98.3450	1.655	280	0.7665	MAR	
EDAM10	97.9800	2.020	371	1.0158	JUN	
EDAU10	97.6300	2.370	462	1.2651	SEP	Red Pack
EDAZ10	97.2650	2.735	553	1.5144	DEC	
EDAH11	96.9550	3.045	644	1.7637	MAR	
EDAM11	96.6050	3.395	735	2.0130	JUN	
EDAU11	96.2800	3.720	833	2.2815	SEP	Green Pack
EDAZ11	95.9450	4.055	924	2.5308	DEC	
EDAH12	95.7200	4.280	1,015	2.7802	MAR	
EDAM12	95.5100	4.490	1,106	3.0295	JUN	
EDAU12	95.3350	4.665	1,197	3.2788	SEP	Blue Pack
EDAZ12	95.1400	4.860	1,288	3.5281	DEC	
EDAH13	95.0850	4.915	1,379	3.7774	MAR	
EDAM13	94.9800	5.020	1,470	4.0267	JUN	
EDAU13	94.8450	5.155	1,561	4.2761	SEP	Gold Pack
EDAZ13	94.7500	5.250	1,652	4.5254	DEC	
EDAH14	94.6950	5.305	1,743	4.7747	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.163	2.625	9885.69	
Red Pack	2.595	-2.875	9745.75	Pack Prices
Green Pack	3.955	-4.875	9613.75	
Blue Pack	4.856	-3.750	9526.75	
Gold Pack		-0.750	9481.88	

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)**

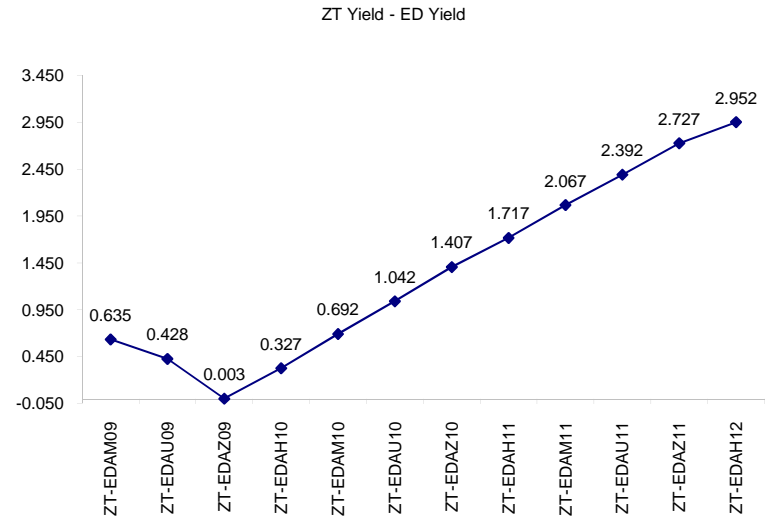
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based on yield than price.

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	8.15	0.635	ZT-EDAM09	36
EDAU09	8.36	0.428	ZT-EDAU09	95
EDAZ09	8.78	0.003	ZT-EDAZ09	99
EDAH10	9.11	0.327	ZT-EDAH10	99
EDAM10	9.48	0.692	ZT-EDAM10	99
EDAU10	9.83	1.042	ZT-EDAU10	99
EDAZ10	10.19	1.407	ZT-EDAZ10	98
EDAH11	10.50	1.717	ZT-EDAH11	96
EDAM11	10.85	2.067	ZT-EDAM11	94
EDAU11	11.18	2.392	ZT-EDAU11	92
EDAZ11	11.51	2.727	ZT-EDAZ11	89
EDAH12	11.74	2.952	ZT-EDAH12	86

Price = Outright Decimal Price - Euro Contract Price

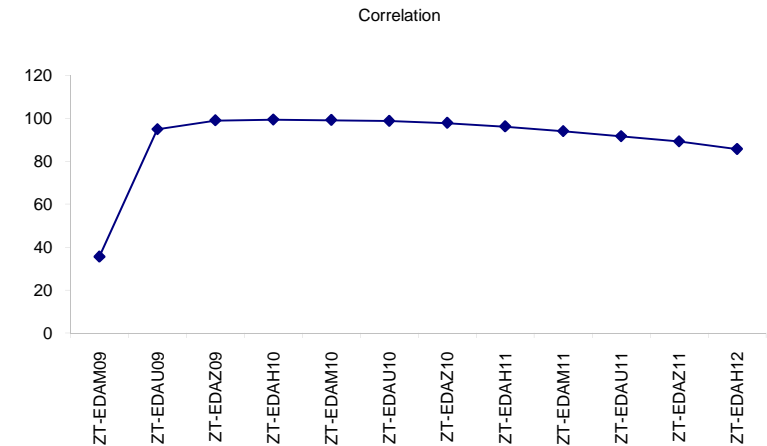
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAM09	0.0185	1.9295	1.9110	ZT-EDAM09	
EDAU09	0.2678	1.9295	1.6617	ZT-EDAU09	
EDAZ09	0.5171	1.9295	1.4124	ZT-EDAZ09	
EDAH10	0.7665	1.9295	1.1631	ZT-EDAH10	
EDAM10	1.0158	1.9295	0.9137	ZT-EDAM10	
EDAU10	1.2651	1.9295	0.6644	ZT-EDAU10	
EDAZ10	1.5144	1.9295	0.4151	ZT-EDAZ10	
EDAH11	1.7637	1.9295	0.1658	ZT-EDAH11	
EDAM11	2.0130	1.9295	-0.0835	ZT-EDAM11	
EDAU11	2.2815	1.9295	-0.3520	ZT-EDAU11	
EDAZ11	2.5308	1.9295	-0.6013	ZT-EDAZ11	
EDAH12	2.7802	1.9295	-0.8506	ZT-EDAH12	

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

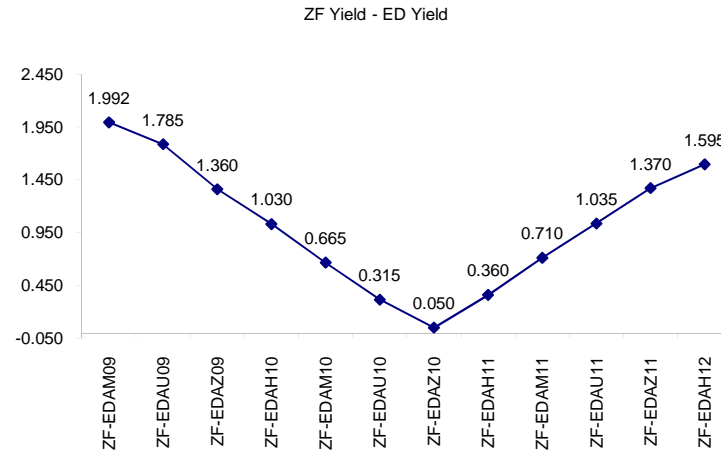


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	13.50	1.992	ZF-EDAM09	7
EDAU09	13.70	1.785	ZF-EDAU09	83
EDAZ09	14.13	1.360	ZF-EDAZ09	92
EDAH10	14.46	1.030	ZF-EDAH10	95
EDAM10	14.82	0.665	ZF-EDAM10	96
EDAU10	15.17	0.315	ZF-EDAU10	97
EDAZ10	15.54	0.050	ZF-EDAZ10	98
EDAH11	15.85	0.360	ZF-EDAH11	99
EDAM11	16.20	0.710	ZF-EDAM11	99
EDAU11	16.52	1.035	ZF-EDAU11	99
EDAZ11	16.86	1.370	ZF-EDAZ11	99
EDAH12	17.08	1.595	ZF-EDAH12	98

Price = Outright Decimal Price - Euro Contract Price

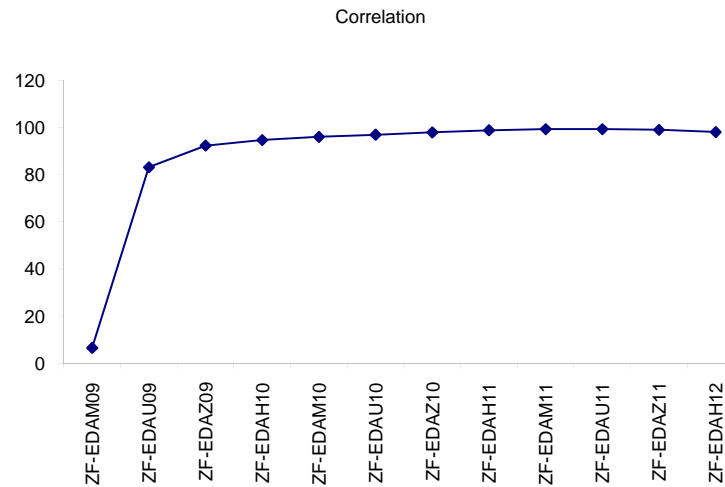
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.0185	4.2411	4.2226	ZF-EDAM09	
EDAU09	0.2678	4.2411	3.9733	ZF-EDAU09	
EDAZ09	0.5171	4.2411	3.7240	ZF-EDAZ09	
EDAH10	0.7665	4.2411	3.4747	ZF-EDAH10	
EDAM10	1.0158	4.2411	3.2253	ZF-EDAM10	
EDAU10	1.2651	4.2411	2.9760	ZF-EDAU10	
EDAZ10	1.5144	4.2411	2.7267	ZF-EDAZ10	
EDAH11	1.7637	4.2411	2.4774	ZF-EDAH11	
EDAM11	2.0130	4.2411	2.2281	ZF-EDAM11	
EDAU11	2.2815	4.2411	1.9596	ZF-EDAU11	
EDAZ11	2.5308	4.2411	1.7103	ZF-EDAZ11	
EDAH12	2.7802	4.2411	1.4610	ZF-EDAH12	

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

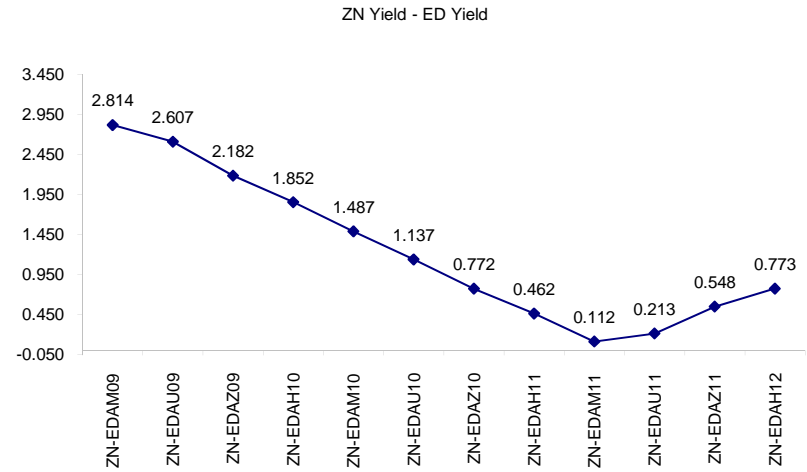


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAM09	14.10	2.814	ZN-EDAM09	2
EDAU09	14.31	2.607	ZN-EDAU09	79
EDAZ09	14.73	2.182	ZN-EDAZ09	88
EDAH10	15.06	1.852	ZN-EDAH10	90
EDAM10	15.43	1.487	ZN-EDAM10	92
EDAU10	15.78	1.137	ZN-EDAU10	93
EDAZ10	16.14	0.772	ZN-EDAZ10	95
EDAH11	16.45	0.462	ZN-EDAH11	97
EDAM11	16.80	0.112	ZN-EDAM11	98
EDAU11	17.13	0.213	ZN-EDAU11	99
EDAZ11	17.46	0.548	ZN-EDAZ11	99
EDAH12	17.69	0.773	ZN-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

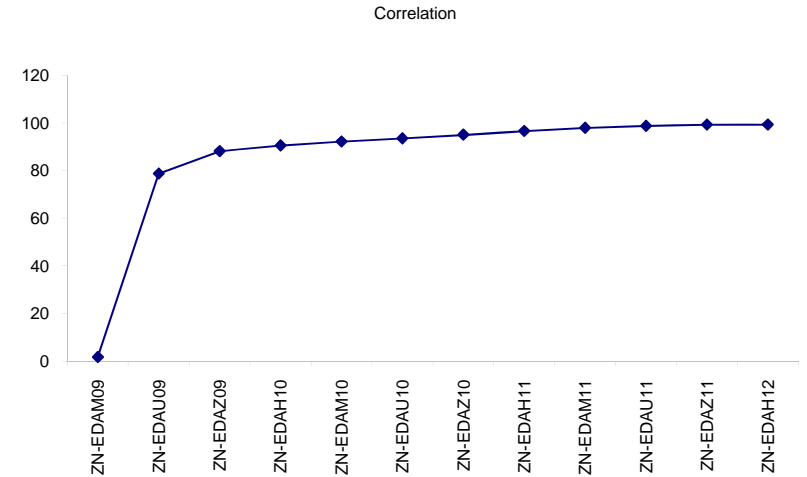
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAM09	0.0185	5.8559	5.8374	ZN-EDAM09
EDAU09	0.2678	5.8559	5.5881	ZN-EDAU09
EDAZ09	0.5171	5.8559	5.3388	ZN-EDAZ09
EDAH10	0.7665	5.8559	5.0895	ZN-EDAH10
EDAM10	1.0158	5.8559	4.8401	ZN-EDAM10
EDAU10	1.2651	5.8559	4.5908	ZN-EDAU10
EDAZ10	1.5144	5.8559	4.3415	ZN-EDAZ10
EDAH11	1.7637	5.8559	4.0922	ZN-EDAH11
EDAM11	2.0130	5.8559	3.8429	ZN-EDAM11
EDAU11	2.2815	5.8559	3.5744	ZN-EDAU11
EDAZ11	2.5308	5.8559	3.3251	ZN-EDAZ11
EDAH12	2.7802	5.8559	3.0758	ZN-EDAH12

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



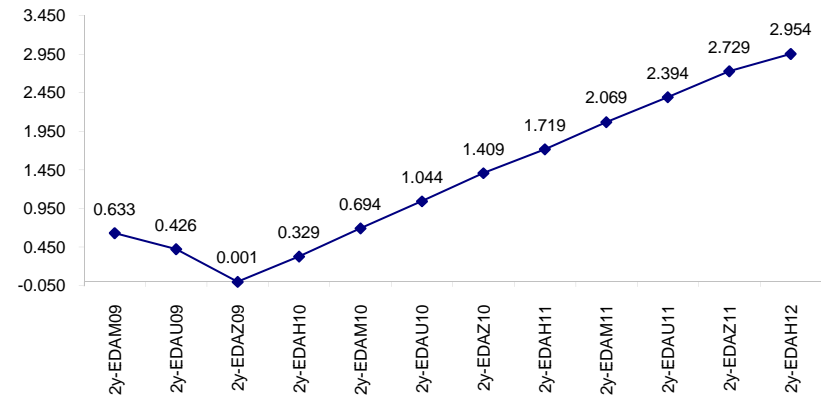
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.18	0.633	2y-EDAM09	-29
EDAU09	0.03	0.426	2y-EDAU09	-92
EDAZ09	0.45	0.001	2y-EDAZ09	-98
EDAH10	0.78	0.329	2y-EDAH10	-99
EDAM10	1.15	0.694	2y-EDAM10	-99
EDAU10	1.50	1.044	2y-EDAU10	-99
EDAZ10	1.86	1.409	2y-EDAZ10	-99
EDAH11	2.17	1.719	2y-EDAH11	-97
EDAM11	2.52	2.069	2y-EDAM11	-96
EDAU11	2.85	2.394	2y-EDAU11	-94
EDAZ11	3.18	2.729	2y-EDAZ11	-92
EDAH12	3.41	2.954	2y-EDAH12	-88

Price = Outright Decimal Price - Euro Contract Price

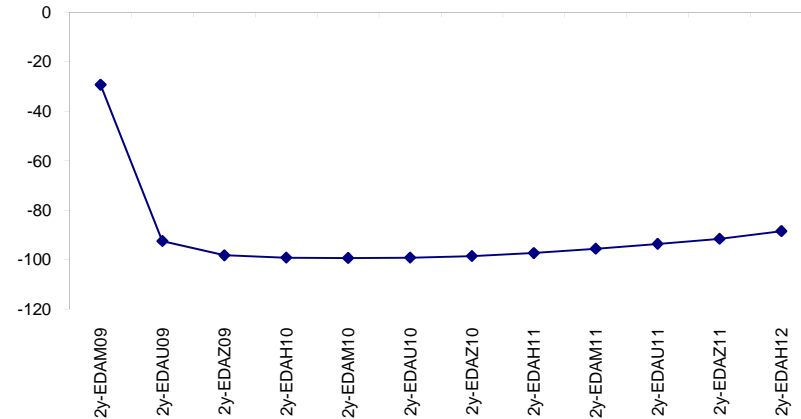
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



ED Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0185	1.9494	1.9309	2y-EDAM09
EDAU09	0.2678	1.9494	1.6815	2y-EDAU09
EDAZ09	0.5171	1.9494	1.4322	2y-EDAZ09
EDAH10	0.7665	1.9494	1.1829	2y-EDAH10
EDAM10	1.0158	1.9494	0.9336	2y-EDAM10
EDAU10	1.2651	1.9494	0.6843	2y-EDAU10
EDAZ10	1.5144	1.9494	0.4350	2y-EDAZ10
EDAH11	1.7637	1.9494	0.1856	2y-EDAH11
EDAM11	2.0130	1.9494	-0.0637	2y-EDAM11
EDAU11	2.2815	1.9494	-0.3322	2y-EDAU11
EDAZ11	2.5308	1.9494	-0.5815	2y-EDAZ11
EDAH12	2.7802	1.9494	-0.8308	2y-EDAH12

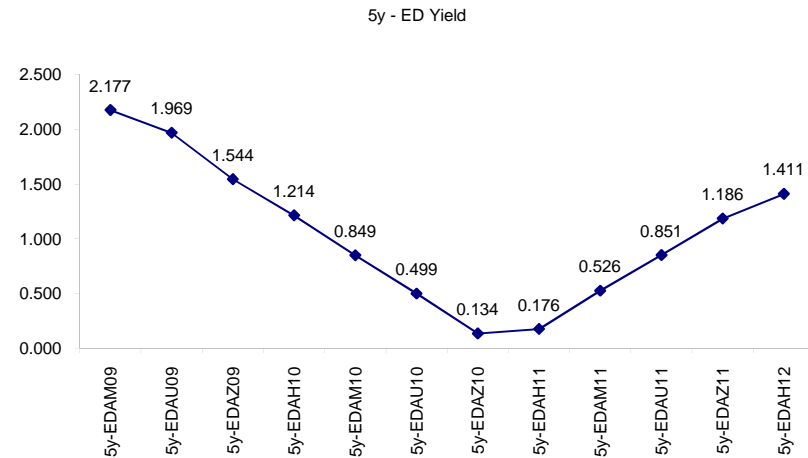
The farther away from 0 the spread duration is the riskier the trade.

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-2.17	2.177	5y-EDAM09	-5
EDAU09	-1.96	1.969	5y-EDAU09	-82
EDAZ09	-1.53	1.544	5y-EDAZ09	-92
EDAH10	-1.20	1.214	5y-EDAH10	-94
EDAM10	-0.84	0.849	5y-EDAM10	-96
EDAU10	-0.49	0.499	5y-EDAU10	-96
EDAZ10	-0.12	0.134	5y-EDAZ10	-98
EDAH11	0.19	0.176	5y-EDAH11	-98
EDAM11	0.54	0.526	5y-EDAM11	-99
EDAU11	0.86	0.851	5y-EDAU11	-99
EDAZ11	1.20	1.186	5y-EDAZ11	-99
EDAH12	1.42	1.411	5y-EDAH12	-98

Price = Outright Decimal Price - Euro Contract Price

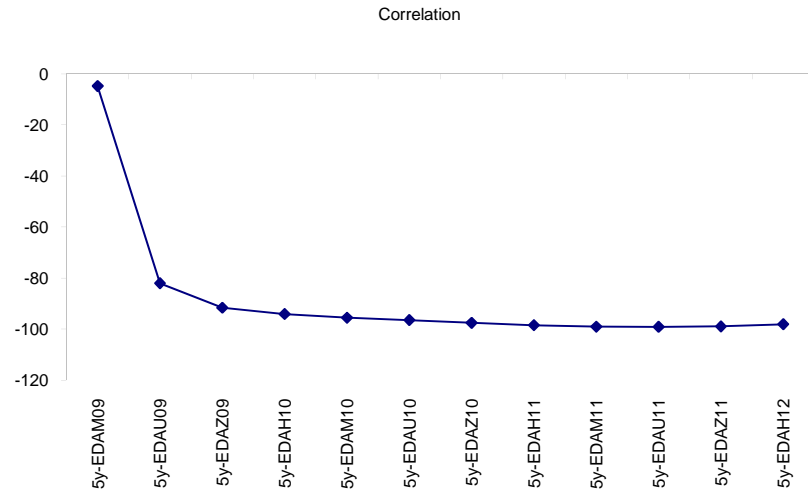
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



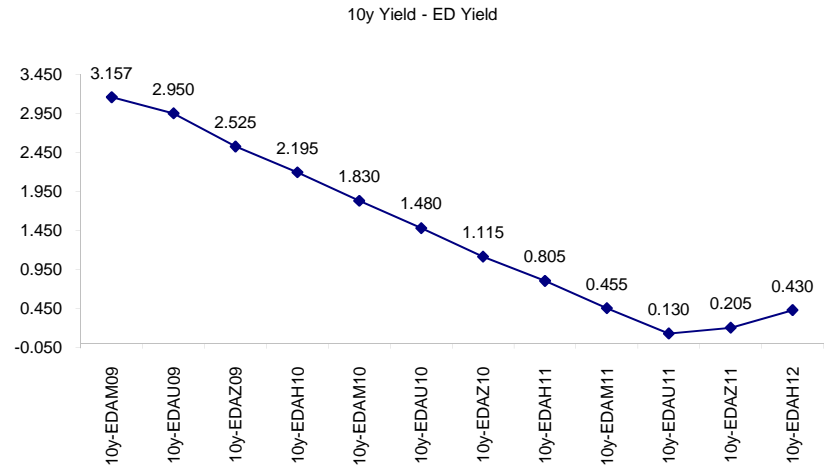
ED Duration as Fraction of year				
	5Y Duration	Spread Duration		
EDAM09	0.0185	4.6612	4.6427	5y-EDAM09
EDAU09	0.2678	4.6612	4.3934	5y-EDAU09
EDAZ09	0.5171	4.6612	4.1441	5y-EDAZ09
EDAH10	0.7665	4.6612	3.8948	5y-EDAH10
EDAM10	1.0158	4.6612	3.6455	5y-EDAM10
EDAU10	1.2651	4.6612	3.3961	5y-EDAU10
EDAZ10	1.5144	4.6612	3.1468	5y-EDAZ10
EDAH11	1.7637	4.6612	2.8975	5y-EDAH11
EDAM11	2.0130	4.6612	2.6482	5y-EDAM11
EDAU11	2.2815	4.6612	2.3797	5y-EDAU11
EDAZ11	2.5308	4.6612	2.1304	5y-EDAZ11
EDAH12	2.7802	4.6612	1.8811	5y-EDAH12

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



	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-2.17	3.157	10y-EDAM09	-29
EDAU09	-1.96	2.950	10y-EDAU09	-81
EDAZ09	-1.53	2.525	10y-EDAZ09	-85
EDAH10	-1.20	2.195	10y-EDAH10	-85
EDAM10	-0.84	1.830	10y-EDAM10	-86
EDAU10	-0.49	1.480	10y-EDAU10	-88
EDAZ10	-0.12	1.115	10y-EDAZ10	-88
EDAH11	0.19	0.805	10y-EDAH11	-89
EDAM11	0.54	0.455	10y-EDAM11	-89
EDAU11	0.86	0.130	10y-EDAU11	-90
EDAZ11	1.20	0.205	10y-EDAZ11	-90
EDAH12	1.42	0.430	10y-EDAH12	-90

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		
EDAM09	0.0185	8.3841	8.3656	10y-EDAM09
EDAU09	0.2678	8.3841	8.1163	10y-EDAU09
EDAZ09	0.5171	8.3841	7.8669	10y-EDAZ09
EDAH10	0.7665	8.3841	7.6176	10y-EDAH10
EDAM10	1.0158	8.3841	7.3683	10y-EDAM10
EDAU10	1.2651	8.3841	7.1190	10y-EDAU10
EDAZ10	1.5144	8.3841	6.8697	10y-EDAZ10
EDAH11	1.7637	8.3841	6.6204	10y-EDAH11
EDAM11	2.0130	8.3841	6.3711	10y-EDAM11
EDAU11	2.2815	8.3841	6.1026	10y-EDAU11
EDAZ11	2.5308	8.3841	5.8532	10y-EDAZ11
EDAH12	2.7802	8.3841	5.6039	10y-EDAH12

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

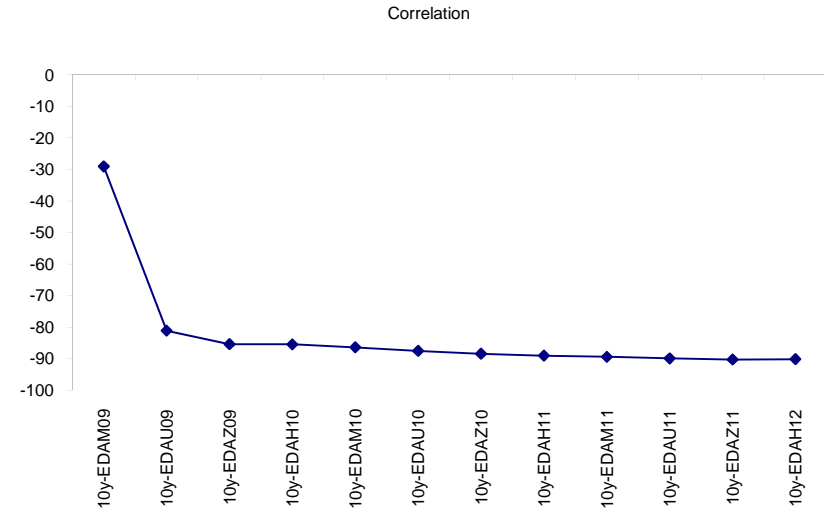


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

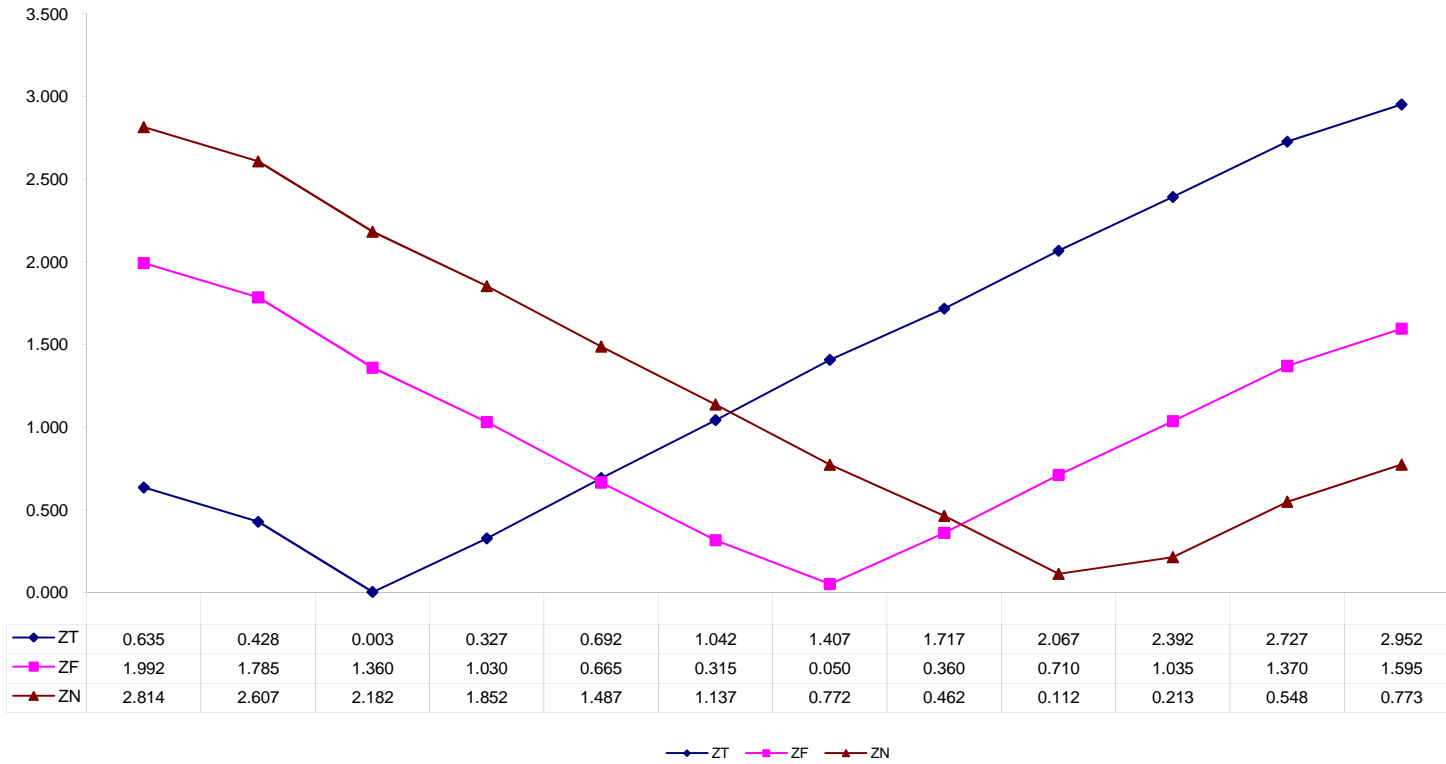
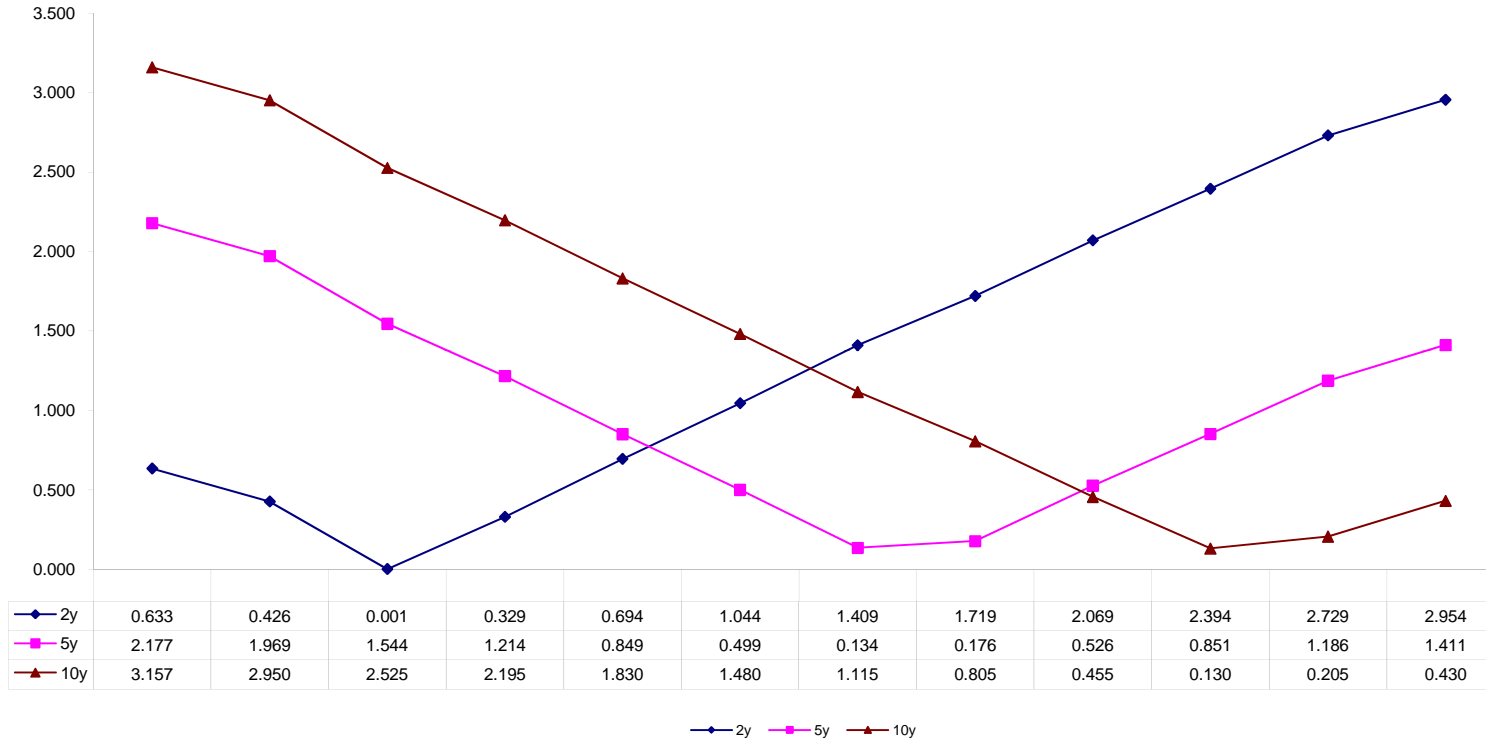
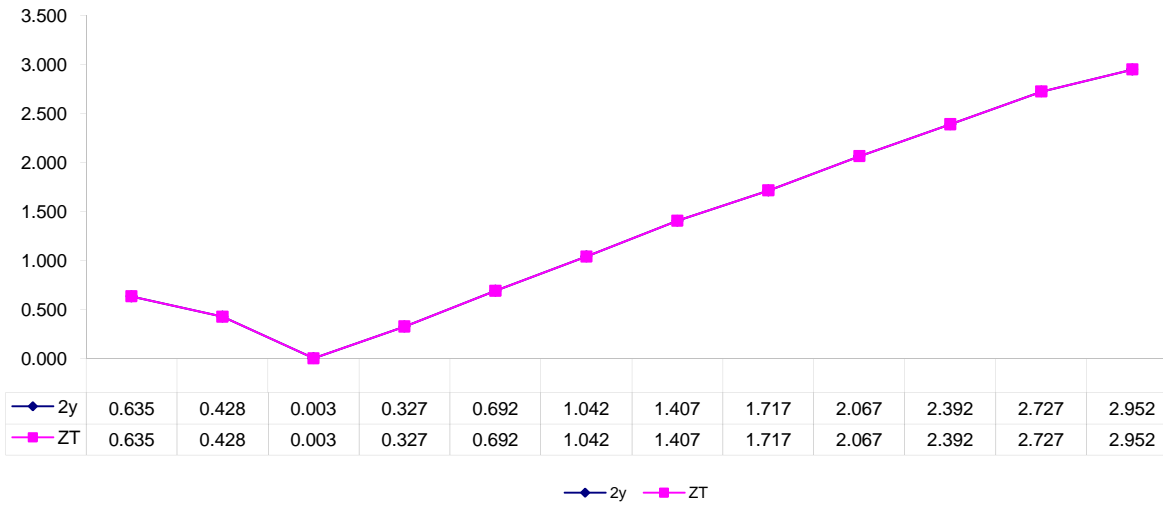
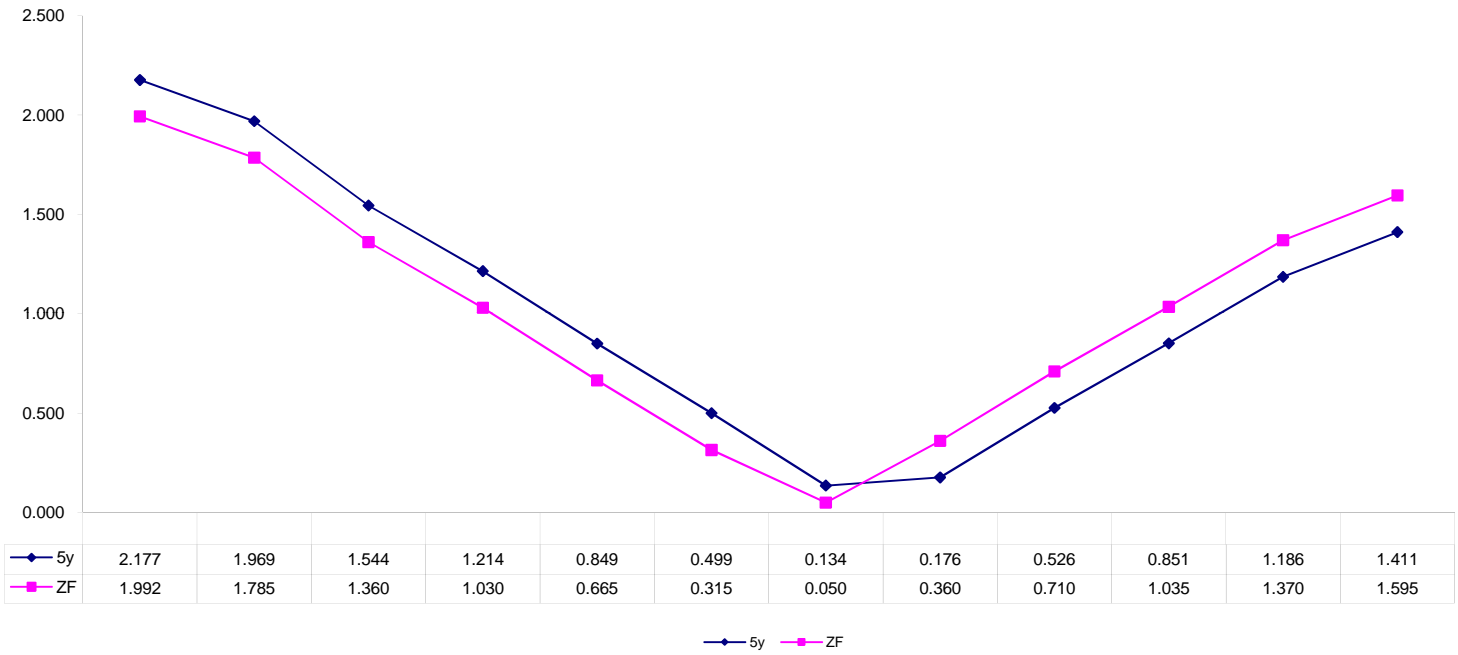


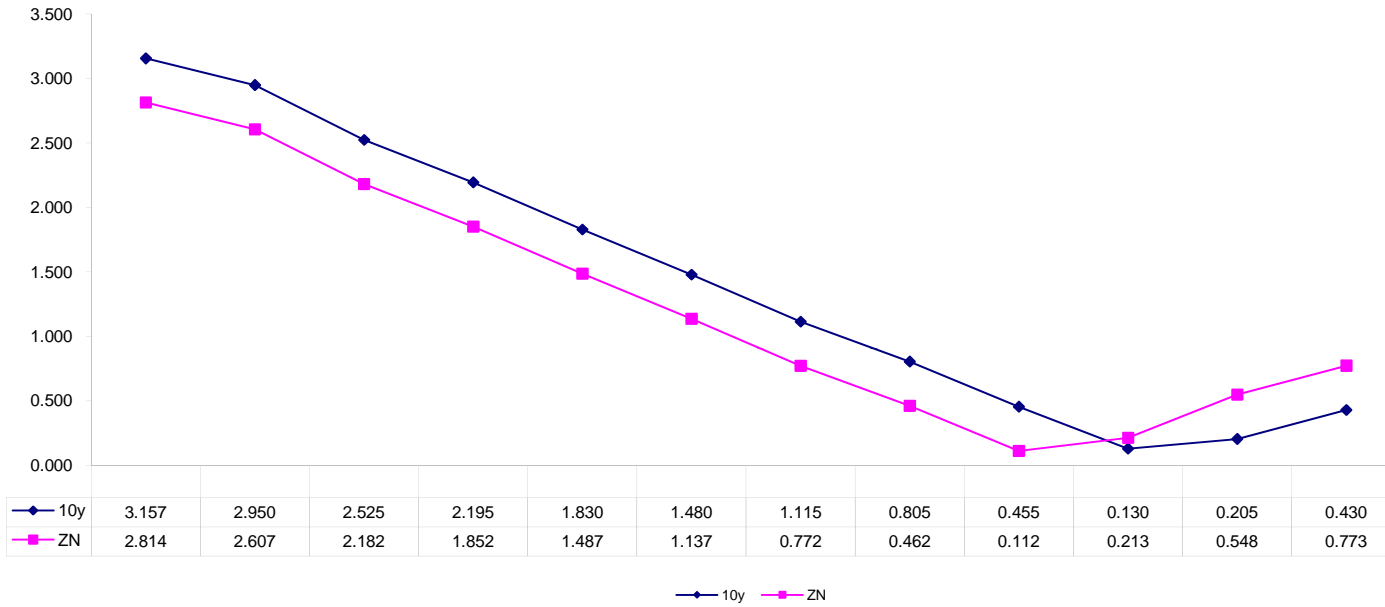
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



### 2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.163	2.625	9885.6875
Red Pack	2.595	-2.875	9745.7500
Green Pack	3.955	-4.875	9613.7500
Blue Pack	4.856	-3.750	9526.7500
Gold Pack		-0.750	9481.8750

