

## **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	108.9281	108.2970	0.788	1.777
ZF	116.9688	116.3100	1.878	3.970
ZN	119.8906	119.2850	2.801	5.940
2y	100.0375	100.0120	0.854	1.911
5y	98.7969	98.2550	2.135	4.677
10y	98.1250	98.0400	3.350	8.480

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.3750	0.625	24	0.0651	JUN	
EDAU09	99.3250	0.675	115	0.3144	SEP	White Pack
EDAZ09	99.1300	0.870	206	0.5637	DEC	
EDAH10	99.0000	1.000	297	0.8130	MAR	
EDAM10	98.7600	1.240	388	1.0624	JUN	
EDAU10	98.4850	1.515	479	1.3117	SEP	Red Pack
EDAZ10	98.1400	1.860	570	1.5610	DEC	
EDAH11	97.8350	2.165	661	1.8103	MAR	
EDAM11	97.4950	2.505	752	2.0596	JUN	
EDAU11	97.1850	2.815	850	2.3281	SEP	Green Pack
EDAZ11	96.8800	3.120	941	2.5774	DEC	
EDAH12	96.6750	3.325	1,032	2.8267	MAR	
EDAM12	96.4800	3.520	1,123	3.0761	JUN	
EDAU12	96.3250	3.675	1,214	3.3254	SEP	Blue Pack
EDAZ12	96.1850	3.815	1,305	3.5747	DEC	
EDAH13	96.0800	3.920	1,396	3.8240	MAR	
EDAM13	95.9800	4.020	1,487	4.0733	JUN	
EDAU13	95.8550	4.145	1,578	4.3226	SEP	Gold Pack
EDAZ13	95.7450	4.255	1,669	4.5720	DEC	
EDAH14	95.6700	4.330	1,760	4.8213	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	0.805	2.875	9920.75	
Red Pack	1.726	2.750	9830.50	Pack Prices
Green Pack	3.004	-0.375	9705.88	
Blue Pack	3.820	-3.000	9626.75	
Gold Pack		-1.625	9583.00	

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.

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#### **Correlations (Important)**

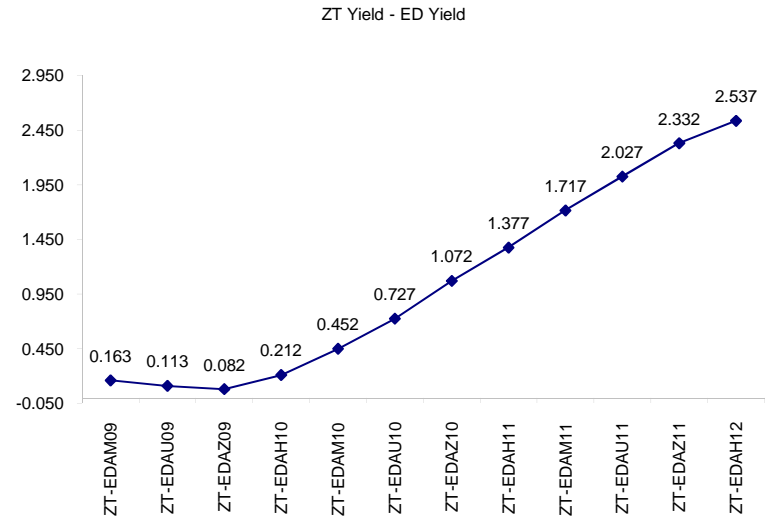
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.55	0.163	ZT-EDAM09	48
EDAU09	9.60	0.113	ZT-EDAU09	52
EDAZ09	9.80	0.082	ZT-EDAZ09	57
EDAH10	9.93	0.212	ZT-EDAH10	65
EDAM10	10.17	0.452	ZT-EDAM10	74
EDAU10	10.44	0.727	ZT-EDAU10	82
EDAZ10	10.79	1.072	ZT-EDAZ10	87
EDAH11	11.09	1.377	ZT-EDAH11	79
EDAM11	11.43	1.717	ZT-EDAM11	59
EDAU11	11.74	2.027	ZT-EDAU11	38
EDAZ11	12.05	2.332	ZT-EDAZ11	24
EDAH12	12.25	2.537	ZT-EDAH12	15

Price = Outright Decimal Price - Euro Contract Price

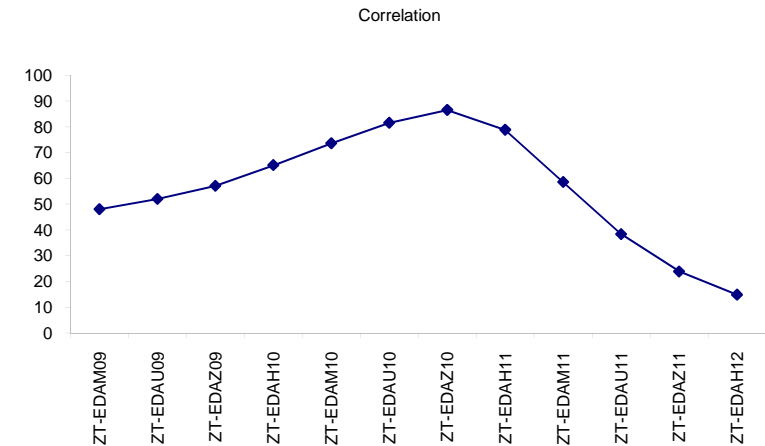
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.0651	1.7771	1.7120	ZT-EDAM09		
EDAU09	0.3144	1.7771	1.4627	ZT-EDAU09		
EDAZ09	0.5637	1.7771	1.2134	ZT-EDAZ09		
EDAH10	0.8130	1.7771	0.9640	ZT-EDAH10		
EDAM10	1.0624	1.7771	0.7147	ZT-EDAM10		
EDAU10	1.3117	1.7771	0.4654	ZT-EDAU10		
EDAZ10	1.5610	1.7771	0.2161	ZT-EDAZ10		
EDAH11	1.8103	1.7771	-0.0332	ZT-EDAH11		
EDAM11	2.0596	1.7771	-0.2825	ZT-EDAM11		
EDAU11	2.3281	1.7771	-0.5510	ZT-EDAU11		
EDAZ11	2.5774	1.7771	-0.8003	ZT-EDAZ11		
EDAH12	2.8267	1.7771	-1.0497	ZT-EDAH12		

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

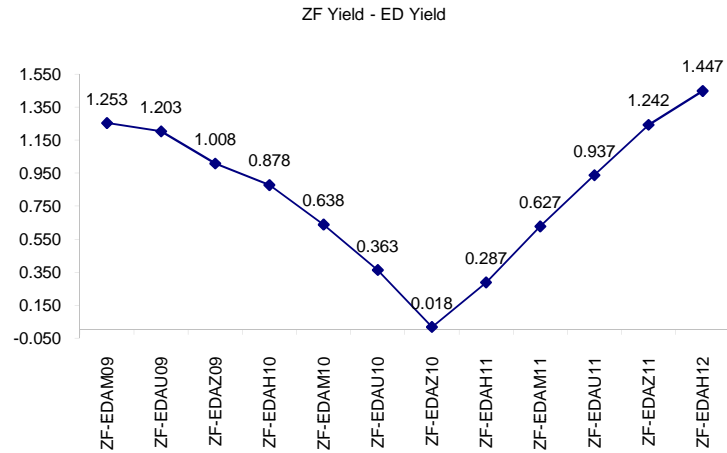


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	17.59	1.253	ZF-EDAM09	-56
EDAU09	17.64	1.203	ZF-EDAU09	-49
EDAZ09	17.84	1.008	ZF-EDAZ09	-41
EDAH10	17.97	0.878	ZF-EDAH10	-33
EDAM10	18.21	0.638	ZF-EDAM10	-23
EDAU10	18.48	0.363	ZF-EDAU10	-5
EDAZ10	18.83	0.018	ZF-EDAZ10	27
EDAH11	19.13	0.287	ZF-EDAH11	61
EDAM11	19.47	0.627	ZF-EDAM11	85
EDAU11	19.78	0.937	ZF-EDAU11	95
EDAZ11	20.09	1.242	ZF-EDAZ11	97
EDAH12	20.29	1.447	ZF-EDAH12	96

Price = Outright Decimal Price - Euro Contract Price

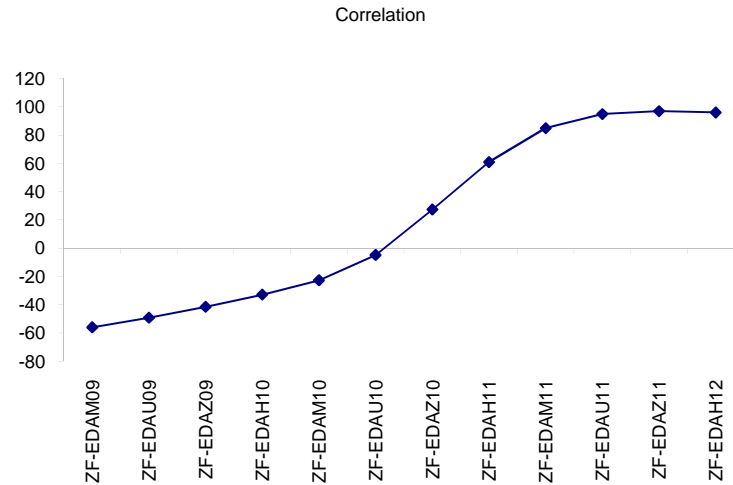
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



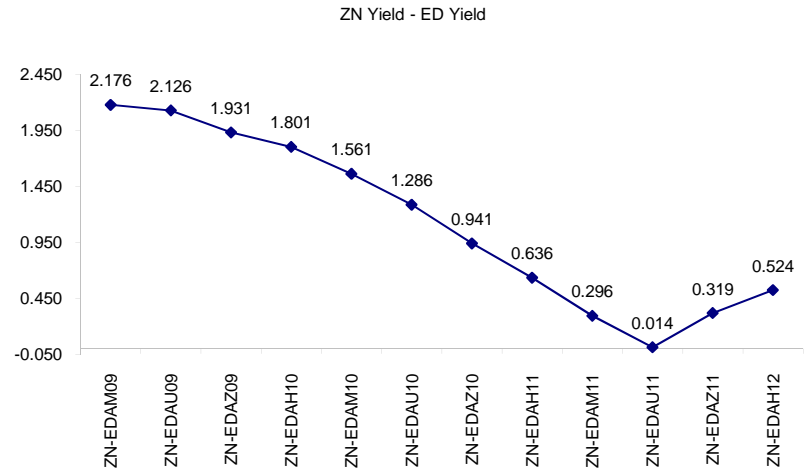
	ED Duration as Fraction of year			ZF Duration	Spread Duration	
EDAM09	0.0651	3.9702	3.9051	ZF-EDAM09		
EDAU09	0.3144	3.9702	3.6558	ZF-EDAU09		
EDAZ09	0.5637	3.9702	3.4065	ZF-EDAZ09		
EDAH10	0.8130	3.9702	3.1572	ZF-EDAH10		
EDAM10	1.0624	3.9702	2.9079	ZF-EDAM10		
EDAU10	1.3117	3.9702	2.6586	ZF-EDAU10		
EDAZ10	1.5610	3.9702	2.4092	ZF-EDAZ10		
EDAH11	1.8103	3.9702	2.1599	ZF-EDAH11		
EDAM11	2.0596	3.9702	1.9106	ZF-EDAM11		
EDAU11	2.3281	3.9702	1.6421	ZF-EDAU11		
EDAZ11	2.5774	3.9702	1.3928	ZF-EDAZ11		
EDAH12	2.8267	3.9702	1.1435	ZF-EDAH12		

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



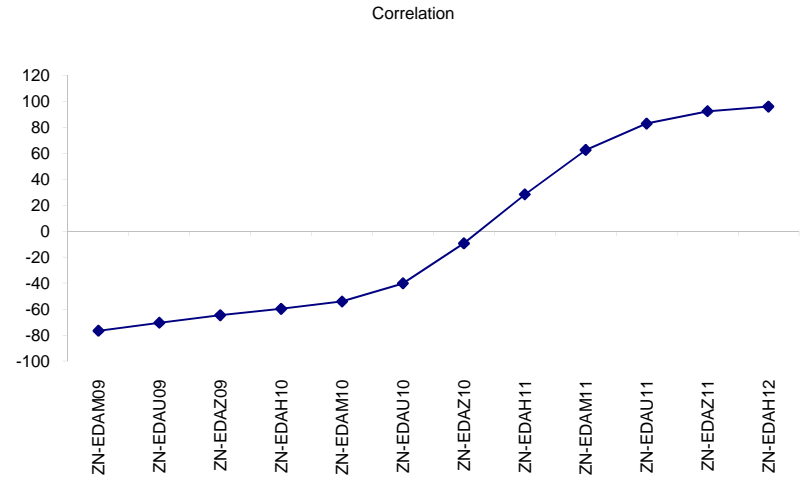
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	20.52	2.176	ZN-EDAM09	-77
EDAU09	20.57	2.126	ZN-EDAU09	-71
EDAZ09	20.76	1.931	ZN-EDAZ09	-65
EDAH10	20.89	1.801	ZN-EDAH10	-60
EDAM10	21.13	1.561	ZN-EDAM10	-54
EDAU10	21.41	1.286	ZN-EDAU10	-40
EDAZ10	21.75	0.941	ZN-EDAZ10	-10
EDAH11	22.06	0.636	ZN-EDAH11	28
EDAM11	22.40	0.296	ZN-EDAM11	62
EDAU11	22.71	0.014	ZN-EDAU11	83
EDAZ11	23.01	0.319	ZN-EDAZ11	92
EDAH12	23.22	0.524	ZN-EDAH12	96

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	ZN Duration	Spread Duration
EDAM09	0.0651	5.9404	5.8753
EDAU09	0.3144	5.9404	5.6259
EDAZ09	0.5637	5.9404	5.3766
EDAH10	0.8130	5.9404	5.1273
EDAM10	1.0624	5.9404	4.8780
EDAU10	1.3117	5.9404	4.6287
EDAZ10	1.5610	5.9404	4.3794
EDAH11	1.8103	5.9404	4.1301
EDAM11	2.0596	5.9404	3.8807
EDAU11	2.3281	5.9404	3.6122
EDAZ11	2.5774	5.9404	3.3629
EDAH12	2.8267	5.9404	3.1136

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.66	0.229	2y-EDAM09	-38
EDAU09	0.71	0.179	2y-EDAU09	-41
EDAZ09	0.91	0.016	2y-EDAZ09	-45
EDAH10	1.04	0.146	2y-EDAH10	-52
EDAM10	1.28	0.386	2y-EDAM10	-59
EDAU10	1.55	0.661	2y-EDAU10	-65
EDAZ10	1.90	1.006	2y-EDAZ10	-69
EDAH11	2.20	1.311	2y-EDAH11	-64
EDAM11	2.54	1.651	2y-EDAM11	-48
EDAU11	2.85	1.961	2y-EDAU11	-31
EDAZ11	3.16	2.266	2y-EDAZ11	-19
EDAH12	3.36	2.471	2y-EDAH12	-11

Price = Outright Decimal Price - Euro Contract Price

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

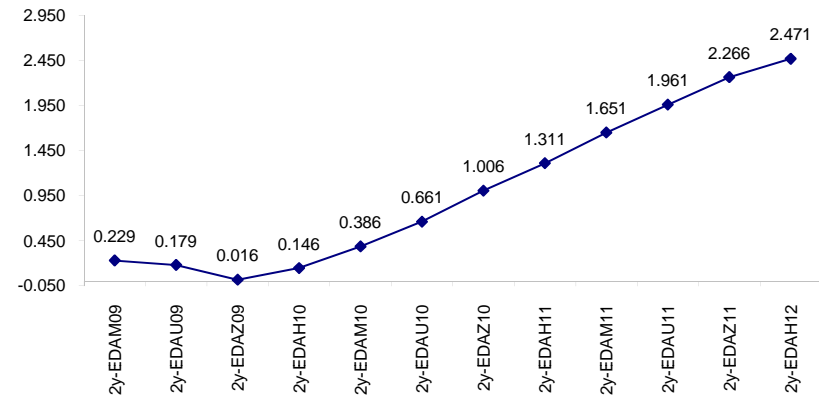
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

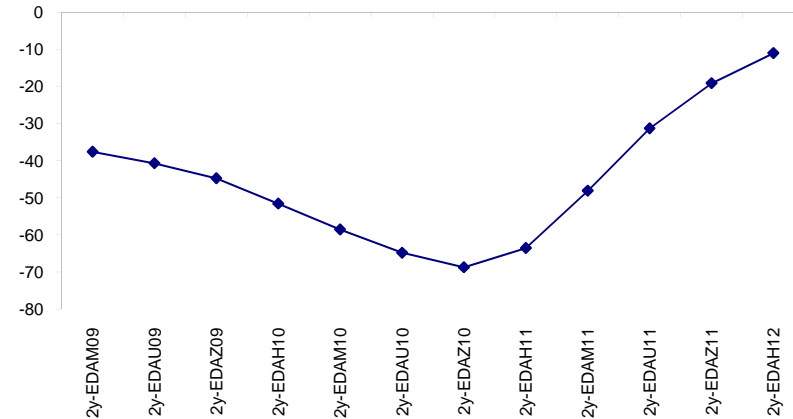
	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0651	1.9109	1.8458	2y-EDAM09
EDAU09	0.3144	1.9109	1.5965	2y-EDAU09
EDAZ09	0.5637	1.9109	1.3471	2y-EDAZ09
EDAH10	0.8130	1.9109	1.0978	2y-EDAH10
EDAM10	1.0624	1.9109	0.8485	2y-EDAM10
EDAU10	1.3117	1.9109	0.5992	2y-EDAU10
EDAZ10	1.5610	1.9109	0.3499	2y-EDAZ10
EDAH11	1.8103	1.9109	0.1006	2y-EDAH11
EDAM11	2.0596	1.9109	-0.1487	2y-EDAM11
EDAU11	2.3281	1.9109	-0.4172	2y-EDAU11
EDAZ11	2.5774	1.9109	-0.6666	2y-EDAZ11
EDAH12	2.8267	1.9109	-0.9159	2y-EDAH12

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

ZT Yield - ED Yield

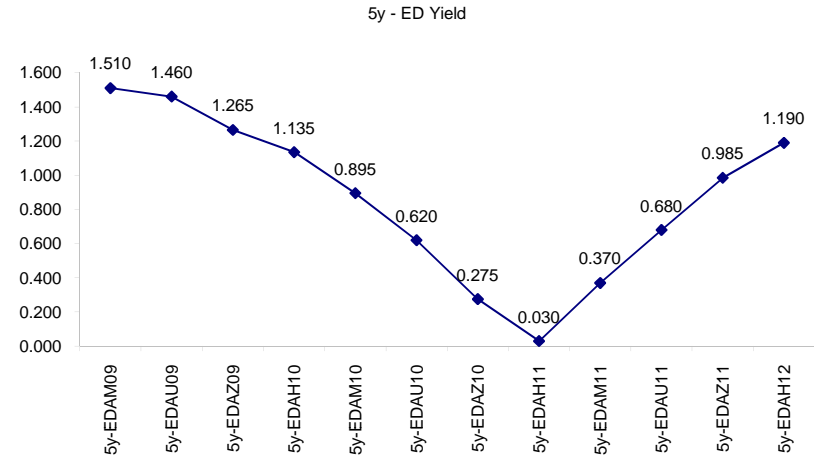


Correlation



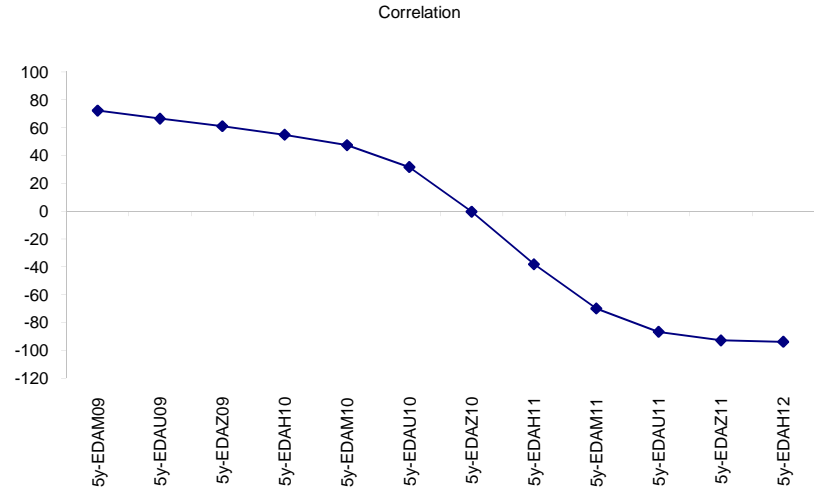
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.58	1.510	5y-EDAM09	72
EDAU09	-0.53	1.460	5y-EDAU09	66
EDAZ09	-0.33	1.265	5y-EDAZ09	61
EDAH10	-0.20	1.135	5y-EDAH10	55
EDAM10	0.04	0.895	5y-EDAM10	47
EDAU10	0.31	0.620	5y-EDAU10	32
EDAZ10	0.66	0.275	5y-EDAZ10	0
EDAH11	0.96	0.030	5y-EDAH11	-38
EDAM11	1.30	0.370	5y-EDAM11	-70
EDAU11	1.61	0.680	5y-EDAU11	-87
EDAZ11	1.92	0.985	5y-EDAZ11	-93
EDAH12	2.12	1.190	5y-EDAH12	-94

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	0.0651	4.6767	4.6116	5y-EDAM09	
EDAU09	0.3144	4.6767	4.3623	5y-EDAU09	
EDAZ09	0.5637	4.6767	4.1130	5y-EDAZ09	
EDAH10	0.8130	4.6767	3.8636	5y-EDAH10	
EDAM10	1.0624	4.6767	3.6143	5y-EDAM10	
EDAU10	1.3117	4.6767	3.3650	5y-EDAU10	
EDAZ10	1.5610	4.6767	3.1157	5y-EDAZ10	
EDAH11	1.8103	4.6767	2.8664	5y-EDAH11	
EDAM11	2.0596	4.6767	2.6171	5y-EDAM11	
EDAU11	2.3281	4.6767	2.3486	5y-EDAU11	
EDAZ11	2.5774	4.6767	2.0993	5y-EDAZ11	
EDAH12	2.8267	4.6767	1.8499	5y-EDAH12	

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



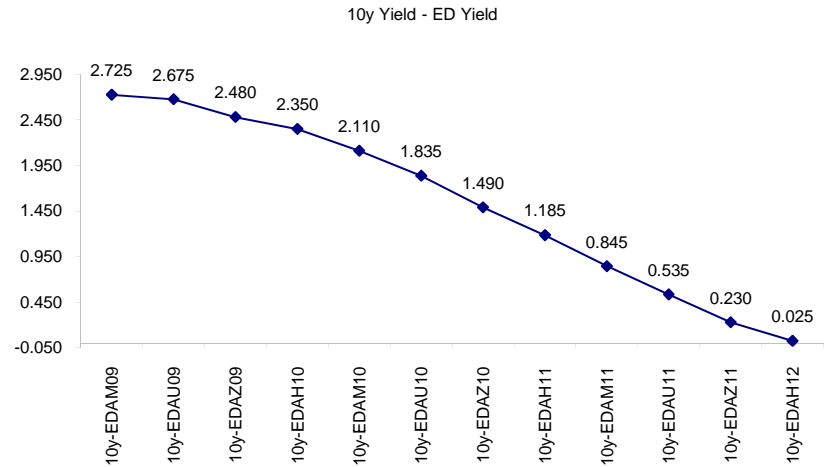


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.58	2.725	10y-EDAM09	72
EDAU09	-0.53	2.675	10y-EDAU09	66
EDAZ09	-0.33	2.480	10y-EDAZ09	59
EDAH10	-0.20	2.350	10y-EDAH10	54
EDAM10	0.04	2.110	10y-EDAM10	49
EDAU10	0.31	1.835	10y-EDAU10	35
EDAZ10	0.66	1.490	10y-EDAZ10	5
EDAH11	0.96	1.185	10y-EDAH11	-31
EDAM11	1.30	0.845	10y-EDAM11	-63
EDAU11	1.61	0.535	10y-EDAU11	-83
EDAZ11	1.92	0.230	10y-EDAZ11	-92
EDAH12	2.12	0.025	10y-EDAH12	-95

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	0.0651	8.4799	8.4148	10y-EDAM09
EDAU09	0.3144	8.4799	8.1655	10y-EDAU09
EDAZ09	0.5637	8.4799	7.9162	10y-EDAZ09
EDAH10	0.8130	8.4799	7.6669	10y-EDAH10
EDAM10	1.0624	8.4799	7.4176	10y-EDAM10
EDAU10	1.3117	8.4799	7.1683	10y-EDAU10
EDAZ10	1.5610	8.4799	6.9189	10y-EDAZ10
EDAH11	1.8103	8.4799	6.6696	10y-EDAH11
EDAM11	2.0596	8.4799	6.4203	10y-EDAM11
EDAU11	2.3281	8.4799	6.1518	10y-EDAU11
EDAZ11	2.5774	8.4799	5.9025	10y-EDAZ11
EDAH12	2.8267	8.4799	5.6532	10y-EDAH12

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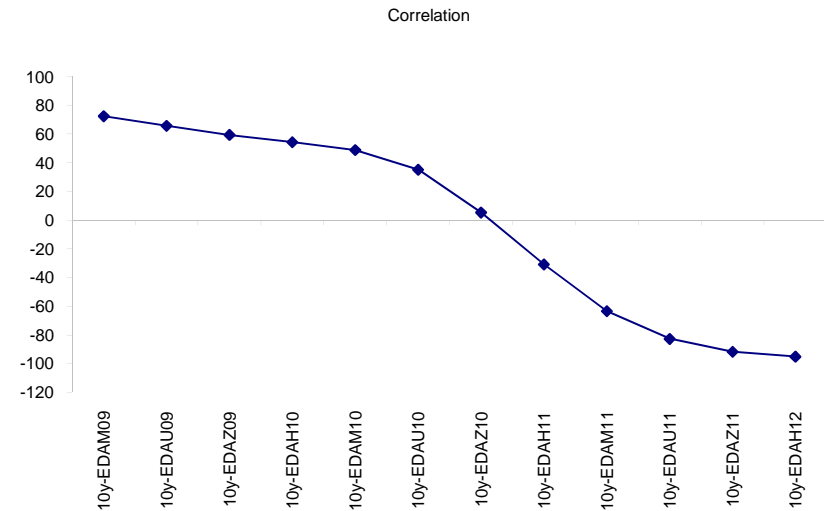


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

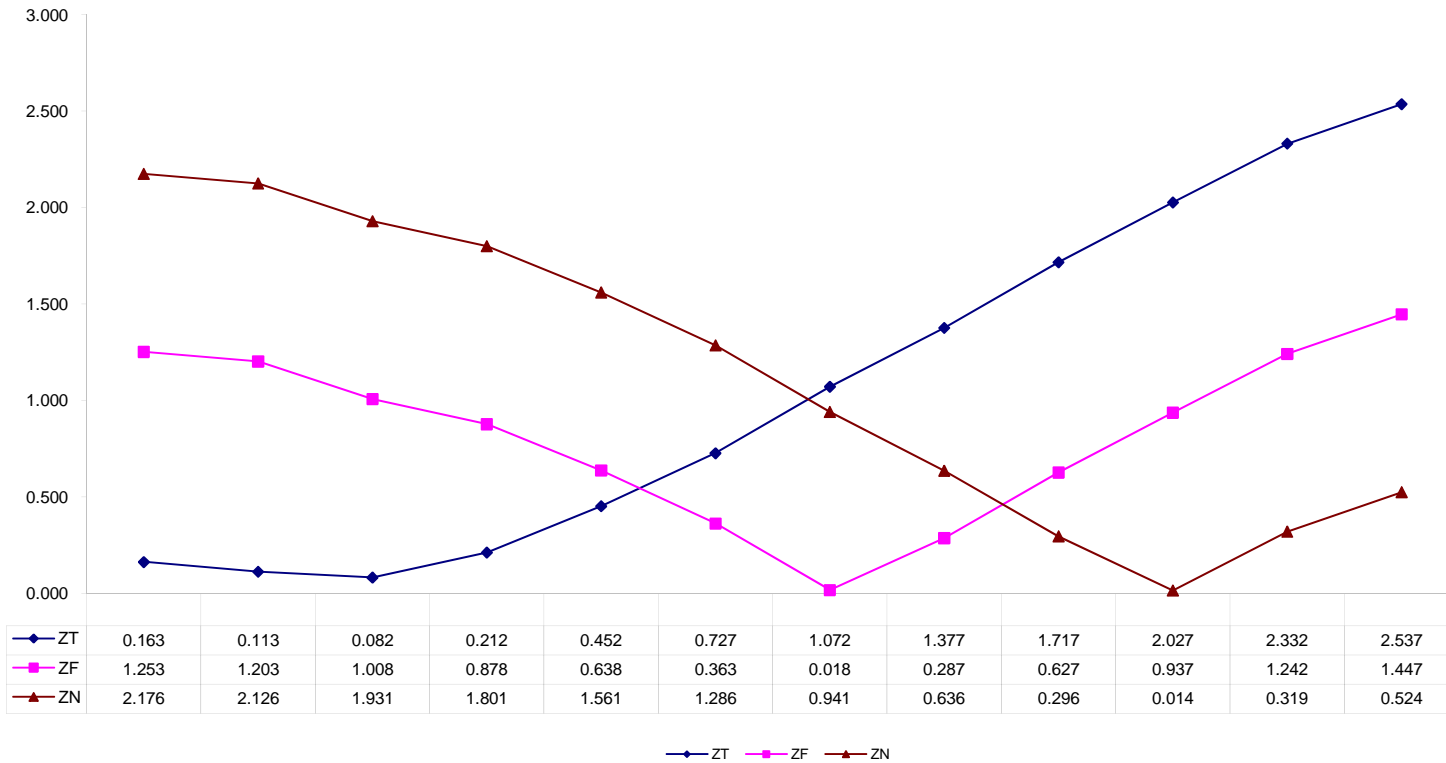
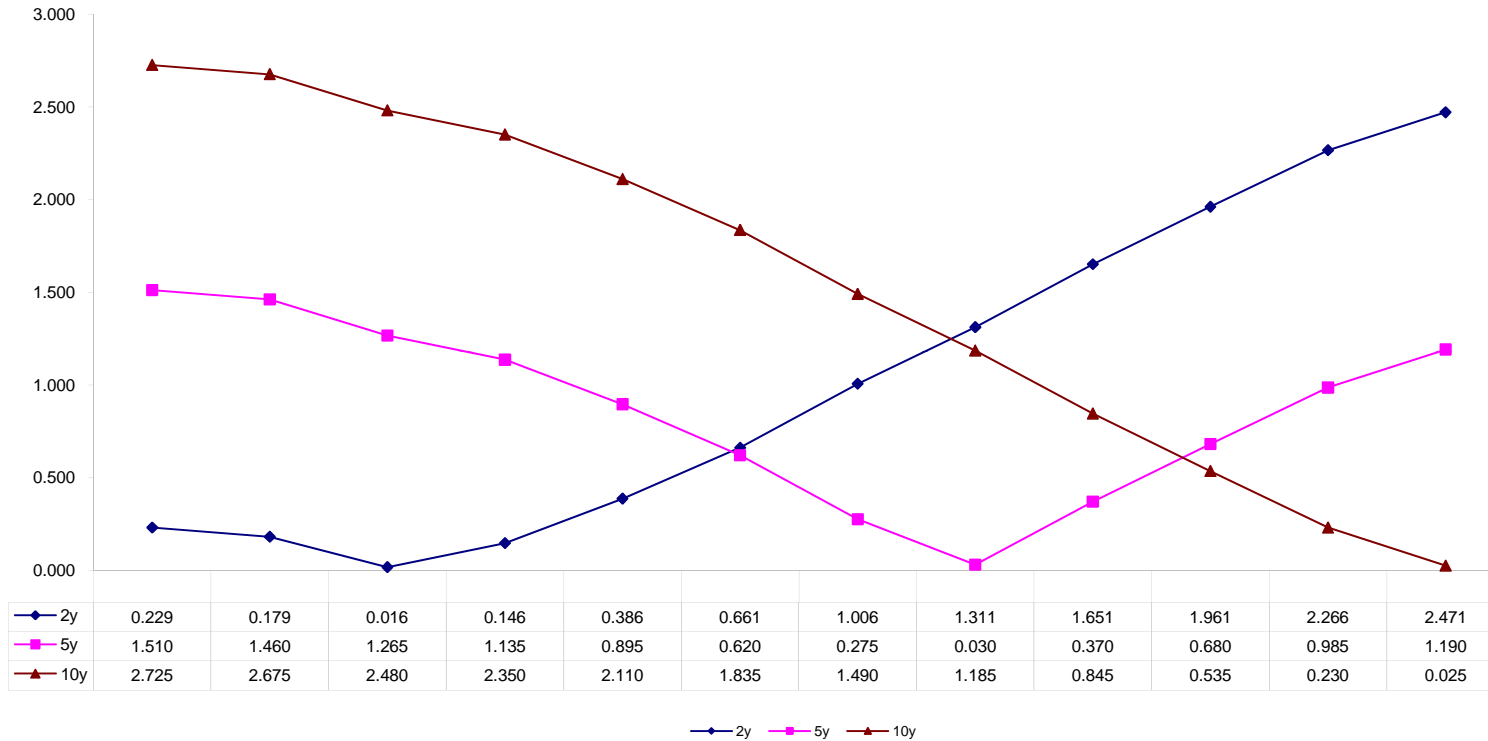
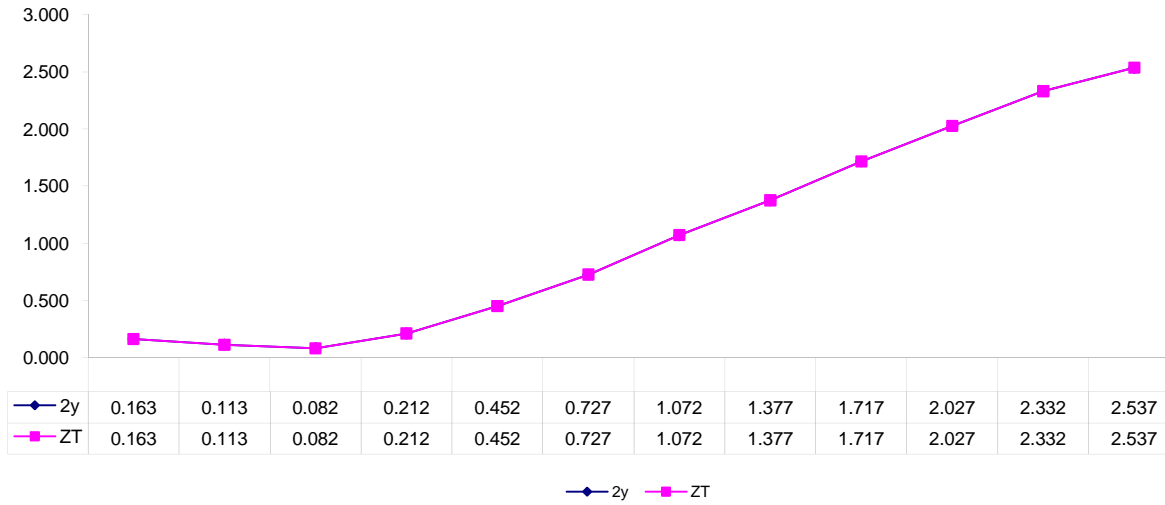
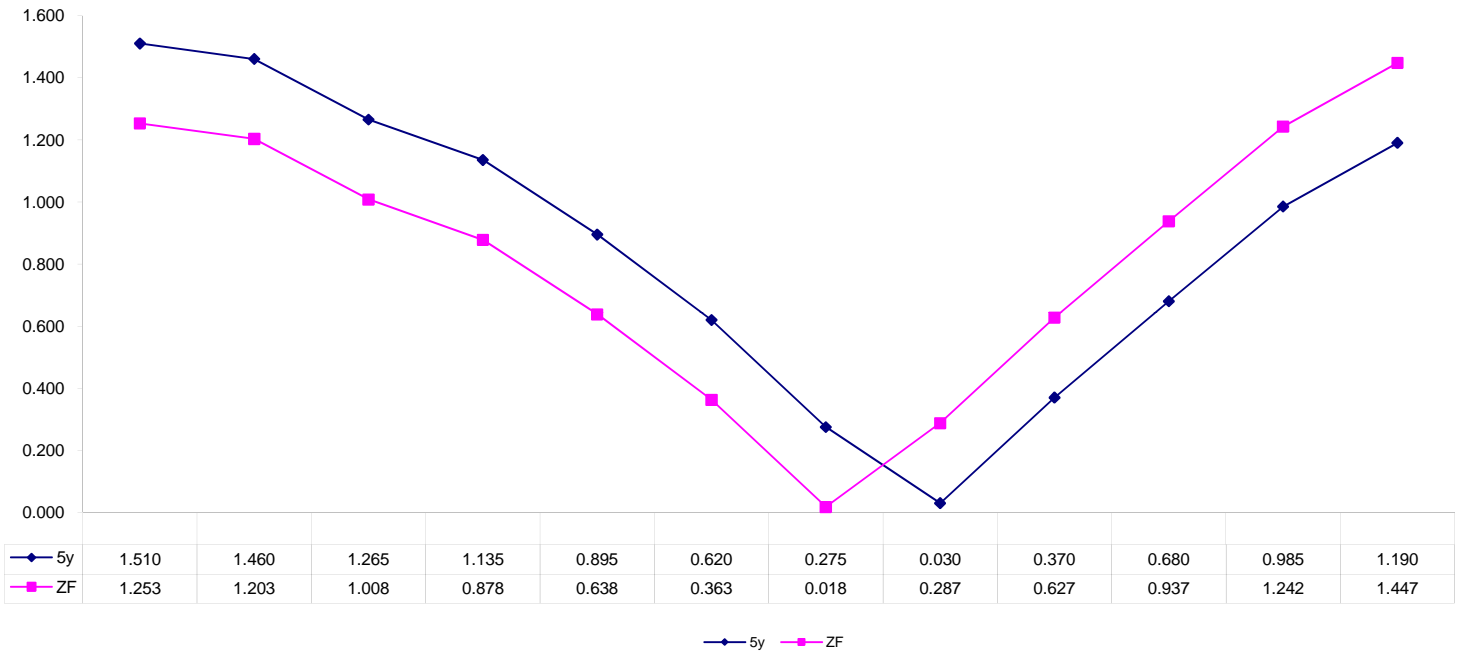


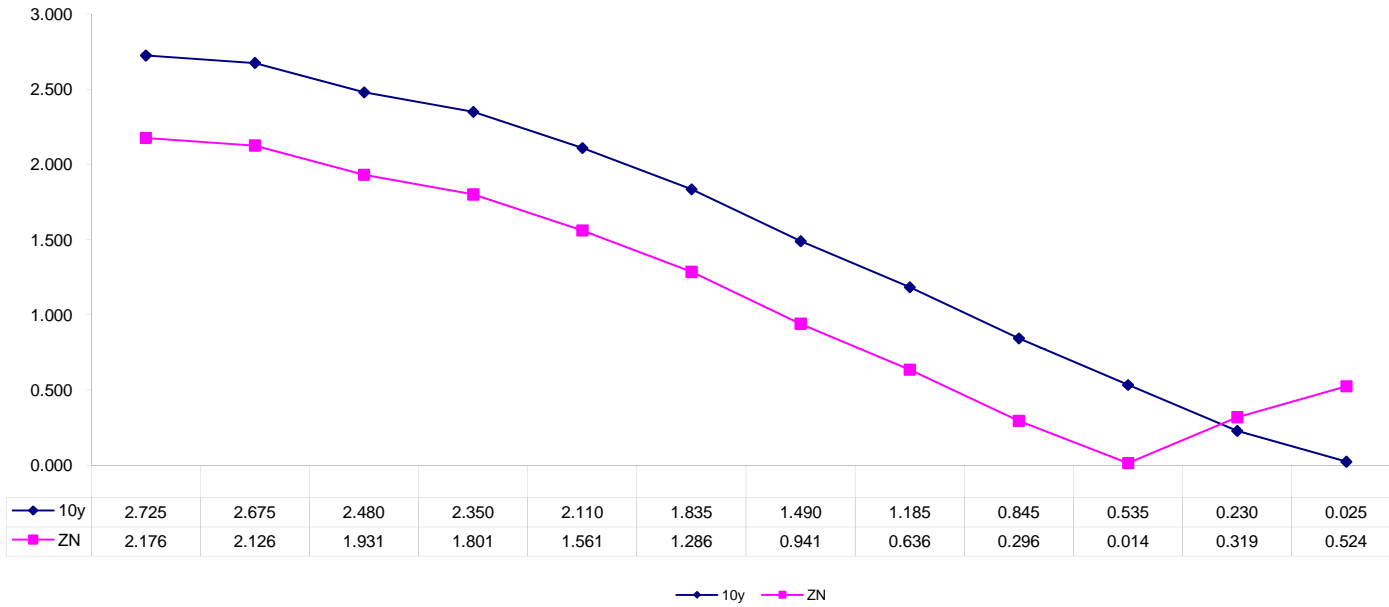
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.805	2.875	9920.7500
Red Pack	1.726	2.750	9830.5000
Green Pack	3.004	-0.375	9705.8750
Blue Pack	3.820	-3.000	9626.7500
Gold Pack		-1.625	9583.0000

