

## **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	108.6938	108.2220	0.863	1.844
ZF	117.4375	117.1400	1.746	4.041
ZN	121.6406	121.2050	2.592	5.897
2y	99.8750	99.2800	0.933	1.978
5y	99.6094	99.1950	1.961	4.749
10y	97.7813	97.2500	3.007	8.462

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.0100	0.990	47	0.1281	JUN	
EDAU09	98.9550	1.045	138	0.3774	SEP	White Pack
EDAZ09	98.7550	1.245	229	0.6267	DEC	
EDAH10	98.6350	1.365	320	0.8760	MAR	
EDAM10	98.4100	1.590	411	1.1253	JUN	
EDAU10	98.1850	1.815	502	1.3746	SEP	Red Pack
EDAZ10	97.9150	2.085	593	1.6240	DEC	
EDAH11	97.6950	2.305	684	1.8733	MAR	
EDAM11	97.4550	2.545	775	2.1226	JUN	
EDAU11	97.2450	2.755	873	2.3911	SEP	Green Pack
EDAZ11	97.0300	2.970	964	2.6404	DEC	
EDAH12	96.9050	3.095	1,055	2.8897	MAR	
EDAM12	96.7800	3.220	1,146	3.1390	JUN	
EDAU12	96.6700	3.330	1,237	3.3883	SEP	Blue Pack
EDAZ12	96.5450	3.455	1,328	3.6377	DEC	
EDAH13	96.5150	3.485	1,419	3.8870	MAR	
EDAM13	96.4400	3.560	1,510	4.1363	JUN	
EDAU13	96.3600	3.640	1,601	4.3856	SEP	Gold Pack
EDAZ13	96.2400	3.760	1,692	4.6349	DEC	
EDAH14	96.2050	3.795	1,783	4.8842	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.181	1.750	9883.88	
Red Pack	1.986	0.875	9805.13	Pack Prices
Green Pack	2.901	-1.500	9715.88	
Blue Pack		-1.375	9664.63	
Gold Pack		-1.750	9634.25	

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)**

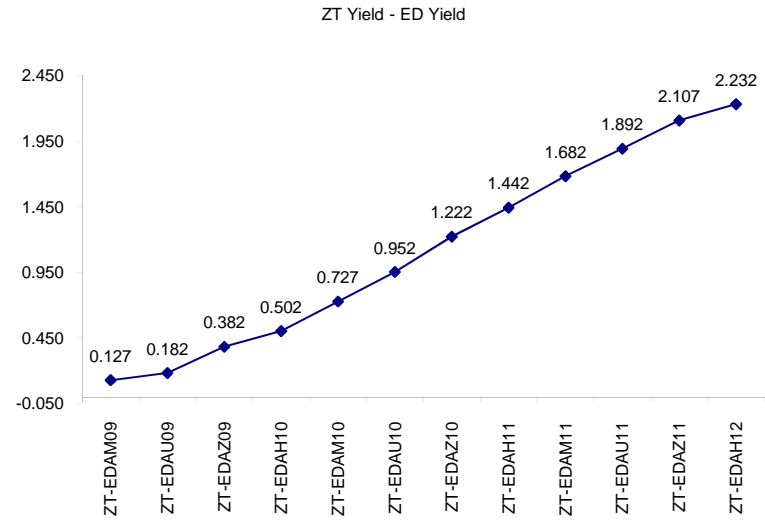
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.68	0.127	ZT-EDAM09	67
EDAU09	9.74	0.182	ZT-EDAU09	78
EDAZ09	9.94	0.382	ZT-EDAZ09	87
EDAH10	10.06	0.502	ZT-EDAH10	91
EDAM10	10.28	0.727	ZT-EDAM10	90
EDAU10	10.51	0.952	ZT-EDAU10	80
EDAZ10	10.78	1.222	ZT-EDAZ10	62
EDAH11	11.00	1.442	ZT-EDAH11	42
EDAM11	11.24	1.682	ZT-EDAM11	30
EDAU11	11.45	1.892	ZT-EDAU11	23
EDAZ11	11.66	2.107	ZT-EDAZ11	21
EDAH12	11.79	2.232	ZT-EDAH12	18

Price = Outright Decimal Price - Euro Contract Price

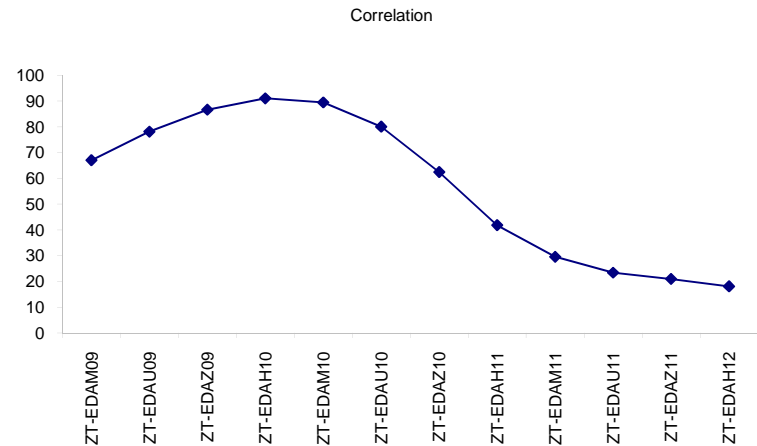
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



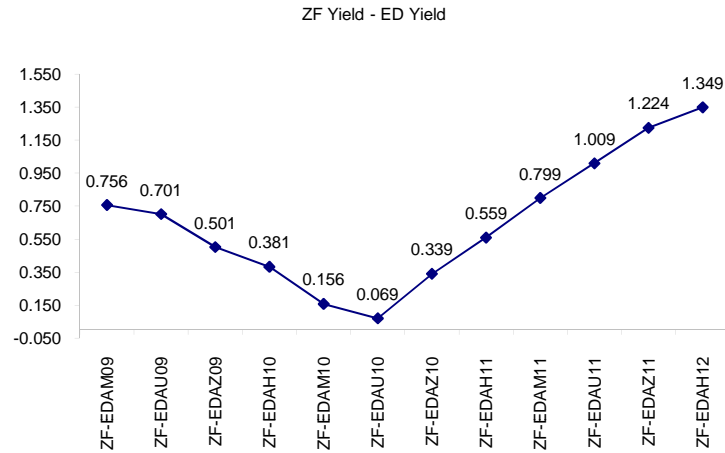
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.1281	1.8444	1.7163	ZT-EDAM09		
EDAU09	0.3774	1.8444	1.4670	ZT-EDAU09		
EDAZ09	0.6267	1.8444	1.2177	ZT-EDAZ09		
EDAH10	0.8760	1.8444	0.9684	ZT-EDAH10		
EDAM10	1.1253	1.8444	0.7191	ZT-EDAM10		
EDAU10	1.3746	1.8444	0.4697	ZT-EDAU10		
EDAZ10	1.6240	1.8444	0.2204	ZT-EDAZ10		
EDAH11	1.8733	1.8444	-0.0289	ZT-EDAH11		
EDAM11	2.1226	1.8444	-0.2782	ZT-EDAM11		
EDAU11	2.3911	1.8444	-0.5467	ZT-EDAU11		
EDAZ11	2.6404	1.8444	-0.7960	ZT-EDAZ11		
EDAH12	2.8897	1.8444	-1.0453	ZT-EDAH12		

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



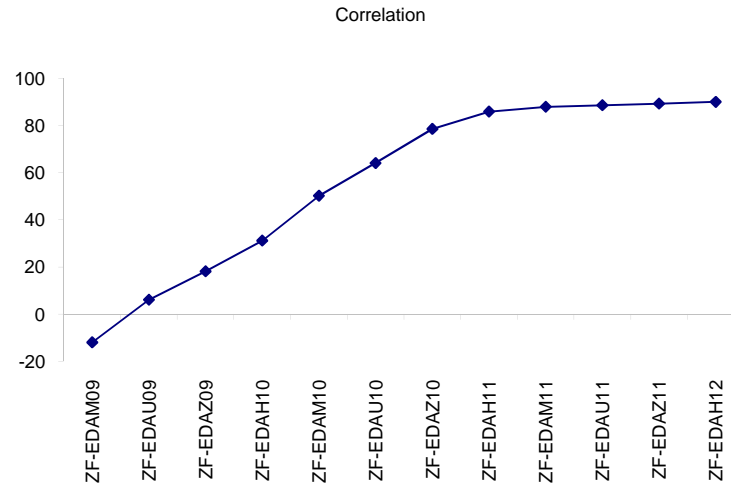
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	18.43	0.756	ZF-EDAM09	-12
EDAU09	18.48	0.701	ZF-EDAU09	6
EDAZ09	18.68	0.501	ZF-EDAZ09	18
EDAH10	18.80	0.381	ZF-EDAH10	31
EDAM10	19.03	0.156	ZF-EDAM10	50
EDAU10	19.25	0.069	ZF-EDAU10	64
EDAZ10	19.52	0.339	ZF-EDAZ10	79
EDAH11	19.74	0.559	ZF-EDAH11	86
EDAM11	19.98	0.799	ZF-EDAM11	88
EDAU11	20.19	1.009	ZF-EDAU11	89
EDAZ11	20.41	1.224	ZF-EDAZ11	89
EDAH12	20.53	1.349	ZF-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		ZF Duration	Spread Duration	
EDAM09	0.1281	4.0410	3.9130	ZF-EDAM09	
EDAU09	0.3774	4.0410	3.6636	ZF-EDAU09	
EDAZ09	0.6267	4.0410	3.4143	ZF-EDAZ09	
EDAH10	0.8760	4.0410	3.1650	ZF-EDAH10	
EDAM10	1.1253	4.0410	2.9157	ZF-EDAM10	
EDAU10	1.3746	4.0410	2.6664	ZF-EDAU10	
EDAZ10	1.6240	4.0410	2.4171	ZF-EDAZ10	
EDAH11	1.8733	4.0410	2.1677	ZF-EDAH11	
EDAM11	2.1226	4.0410	1.9184	ZF-EDAM11	
EDAU11	2.3911	4.0410	1.6499	ZF-EDAU11	
EDAZ11	2.6404	4.0410	1.4006	ZF-EDAZ11	
EDAH12	2.8897	4.0410	1.1513	ZF-EDAH12	

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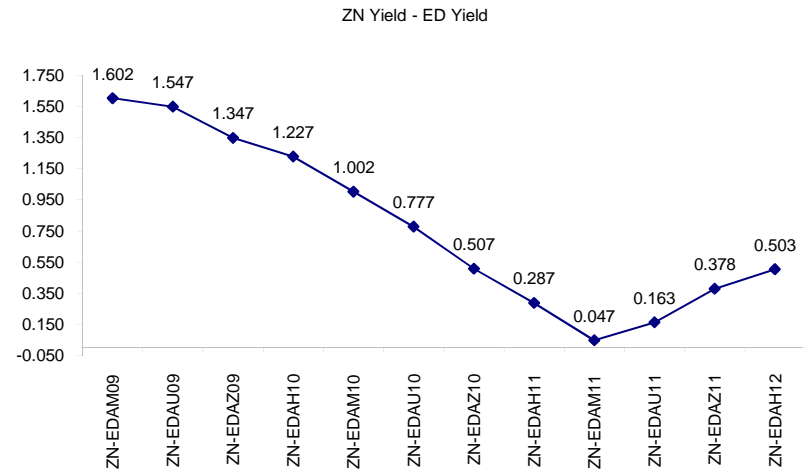


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAM09	22.63	1.602	ZN-EDAM09	-38
EDAU09	22.69	1.547	ZN-EDAU09	-22
EDAZ09	22.89	1.347	ZN-EDAZ09	-13
EDAH10	23.01	1.227	ZN-EDAH10	0
EDAM10	23.23	1.002	ZN-EDAM10	23
EDAU10	23.46	0.777	ZN-EDAU10	43
EDAZ10	23.73	0.507	ZN-EDAZ10	67
EDAH11	23.95	0.287	ZN-EDAH11	83
EDAM11	24.19	0.047	ZN-EDAM11	90
EDAU11	24.40	0.163	ZN-EDAU11	92
EDAZ11	24.61	0.378	ZN-EDAZ11	93
EDAH12	24.74	0.503	ZN-EDAH12	95

Price = Outright Decimal Price - Euro Contract Price

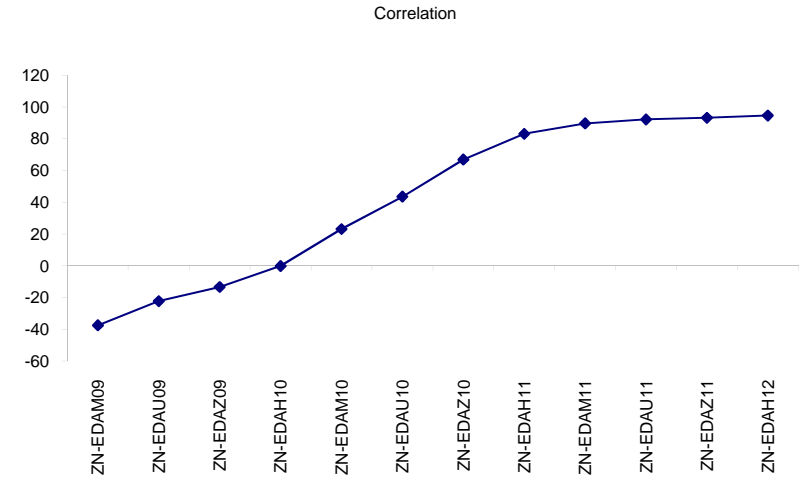
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



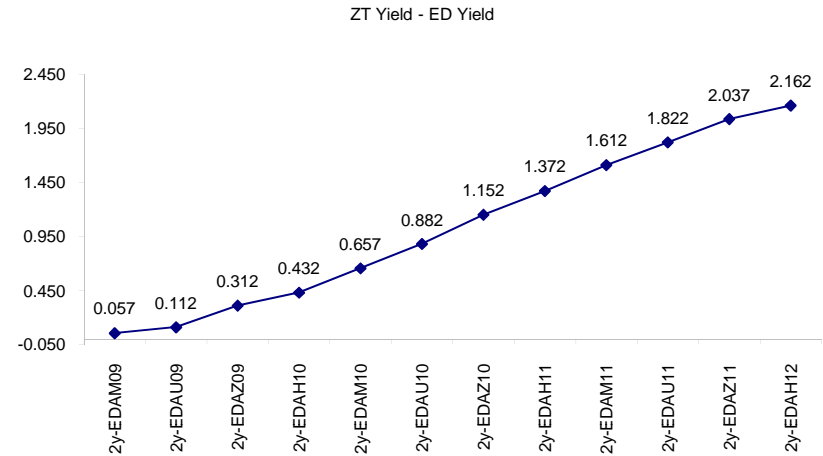
	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAM09	0.1281	5.8965	5.7685	ZN-EDAM09
EDAU09	0.3774	5.8965	5.5192	ZN-EDAU09
EDAZ09	0.6267	5.8965	5.2698	ZN-EDAZ09
EDAH10	0.8760	5.8965	5.0205	ZN-EDAH10
EDAM10	1.1253	5.8965	4.7712	ZN-EDAM10
EDAU10	1.3746	5.8965	4.5219	ZN-EDAU10
EDAZ10	1.6240	5.8965	4.2726	ZN-EDAZ10
EDAH11	1.8733	5.8965	4.0233	ZN-EDAH11
EDAM11	2.1226	5.8965	3.7739	ZN-EDAM11
EDAU11	2.3911	5.8965	3.5055	ZN-EDAU11
EDAZ11	2.6404	5.8965	3.2561	ZN-EDAZ11
EDAH12	2.8897	5.8965	3.0068	ZN-EDAH12

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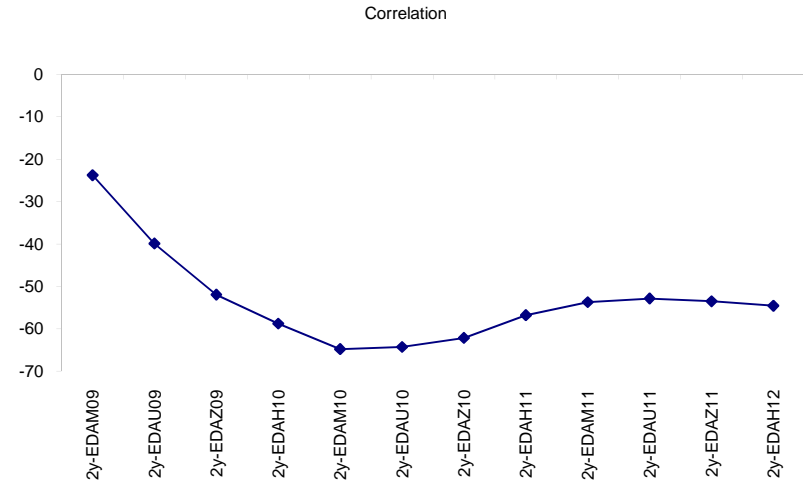
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.86	0.057	2y-EDAM09	-24
EDAU09	0.92	0.112	2y-EDAU09	-40
EDAZ09	1.12	0.312	2y-EDAZ09	-52
EDAH10	1.24	0.432	2y-EDAH10	-59
EDAM10	1.47	0.657	2y-EDAM10	-65
EDAU10	1.69	0.882	2y-EDAU10	-64
EDAZ10	1.96	1.152	2y-EDAZ10	-62
EDAH11	2.18	1.372	2y-EDAH11	-57
EDAM11	2.42	1.612	2y-EDAM11	-54
EDAU11	2.63	1.822	2y-EDAU11	-53
EDAZ11	2.85	2.037	2y-EDAZ11	-54
EDAH12	2.97	2.162	2y-EDAH12	-55

Price = Outright Decimal Price - Euro Contract Price  
 Yield = ABS (Proxy Yield - Implied Euro Contract yield)  
 \*Correlation = ED Correlation to Treasury Future over 10 days.



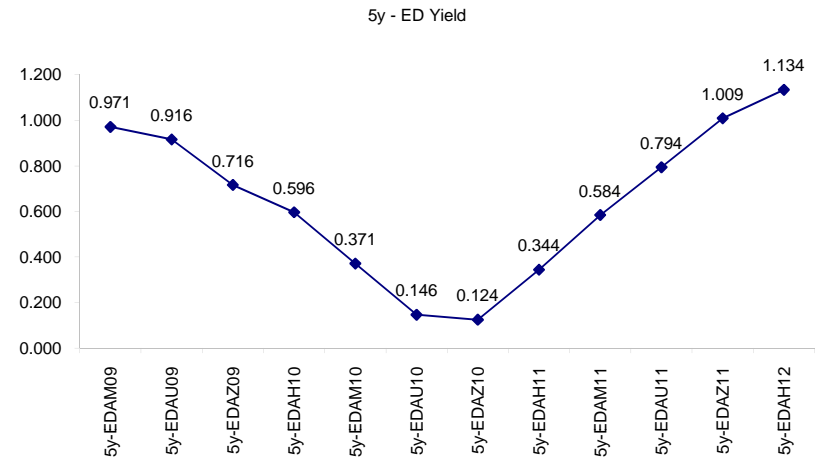
	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAM09	0.1281	1.9777	1.8497	2y-EDAM09
EDAU09	0.3774	1.9777	1.6003	2y-EDAU09
EDAZ09	0.6267	1.9777	1.3510	2y-EDAZ09
EDAH10	0.8760	1.9777	1.1017	2y-EDAH10
EDAM10	1.1253	1.9777	0.8524	2y-EDAM10
EDAU10	1.3746	1.9777	0.6031	2y-EDAU10
EDAZ10	1.6240	1.9777	0.3538	2y-EDAZ10
EDAH11	1.8733	1.9777	0.1045	2y-EDAH11
EDAM11	2.1226	1.9777	-0.1449	2y-EDAM11
EDAU11	2.3911	1.9777	-0.4133	2y-EDAU11
EDAZ11	2.6404	1.9777	-0.6627	2y-EDAZ11
EDAH12	2.8897	1.9777	-0.9120	2y-EDAH12

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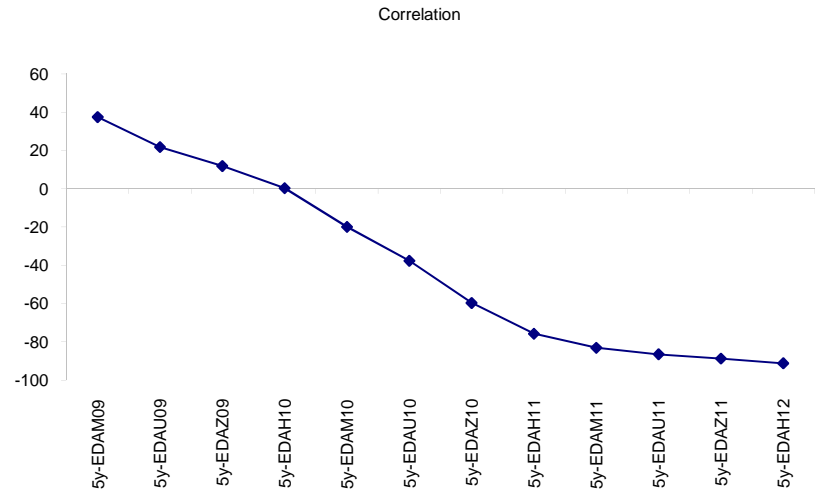
5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.60	0.971	5y-EDAM09	38
EDAU09	0.65	0.916	5y-EDAU09	22
EDAZ09	0.85	0.716	5y-EDAZ09	12
EDAH10	0.97	0.596	5y-EDAH10	0
EDAM10	1.20	0.371	5y-EDAM10	-20
EDAU10	1.42	0.146	5y-EDAU10	-38
EDAZ10	1.69	0.124	5y-EDAZ10	-60
EDAH11	1.91	0.344	5y-EDAH11	-76
EDAM11	2.15	0.584	5y-EDAM11	-83
EDAU11	2.36	0.794	5y-EDAU11	-86
EDAZ11	2.58	1.009	5y-EDAZ11	-89
EDAH12	2.70	1.134	5y-EDAH12	-91

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	0.1281	4.7491	4.6211	5y-EDAM09		
EDAU09	0.3774	4.7491	4.3717	5y-EDAU09		
EDAZ09	0.6267	4.7491	4.1224	5y-EDAZ09		
EDAH10	0.8760	4.7491	3.8731	5y-EDAH10		
EDAM10	1.1253	4.7491	3.6238	5y-EDAM10		
EDAU10	1.3746	4.7491	3.3745	5y-EDAU10		
EDAZ10	1.6240	4.7491	3.1252	5y-EDAZ10		
EDAH11	1.8733	4.7491	2.8759	5y-EDAH11		
EDAM11	2.1226	4.7491	2.6265	5y-EDAM11		
EDAU11	2.3911	4.7491	2.3580	5y-EDAU11		
EDAZ11	2.6404	4.7491	2.1087	5y-EDAZ11		
EDAH12	2.8897	4.7491	1.8594	5y-EDAH12		

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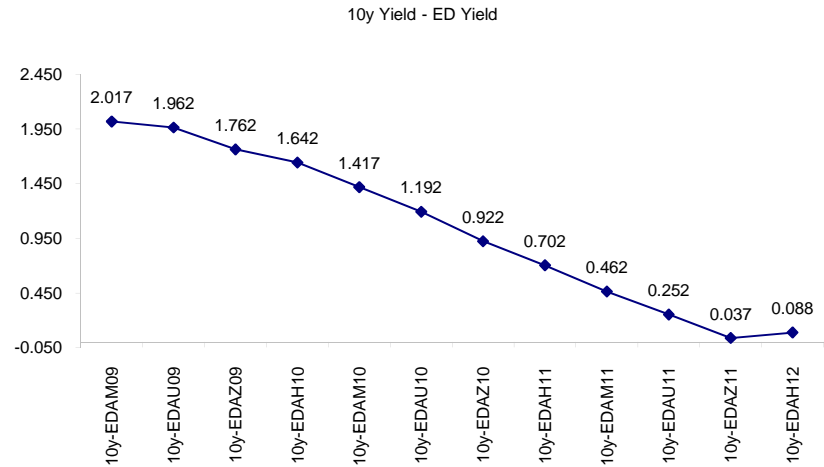


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.60	2.017	10y-EDAM09	44
EDAU09	0.65	1.962	10y-EDAU09	29
EDAZ09	0.85	1.762	10y-EDAZ09	20
EDAH10	0.97	1.642	10y-EDAH10	9
EDAM10	1.20	1.417	10y-EDAM10	-11
EDAU10	1.42	1.192	10y-EDAU10	-28
EDAZ10	1.69	0.922	10y-EDAZ10	-51
EDAH11	1.91	0.702	10y-EDAH11	-68
EDAM11	2.15	0.462	10y-EDAM11	-77
EDAU11	2.36	0.252	10y-EDAU11	-81
EDAZ11	2.58	0.037	10y-EDAZ11	-83
EDAH12	2.70	0.088	10y-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				10Y Duration	Spread Duration	
EDAM09	0.1281	8.4624	8.3343	10y-EDAM09		
EDAU09	0.3774	8.4624	8.0850	10y-EDAU09		
EDAZ09	0.6267	8.4624	7.8356	10y-EDAZ09		
EDAH10	0.8760	8.4624	7.5863	10y-EDAH10		
EDAM10	1.1253	8.4624	7.3370	10y-EDAM10		
EDAU10	1.3746	8.4624	7.0877	10y-EDAU10		
EDAZ10	1.6240	8.4624	6.8384	10y-EDAZ10		
EDAH11	1.8733	8.4624	6.5891	10y-EDAH11		
EDAM11	2.1226	8.4624	6.3398	10y-EDAM11		
EDAU11	2.3911	8.4624	6.0713	10y-EDAU11		
EDAZ11	2.6404	8.4624	5.8219	10y-EDAZ11		
EDAH12	2.8897	8.4624	5.5726	10y-EDAH12		

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

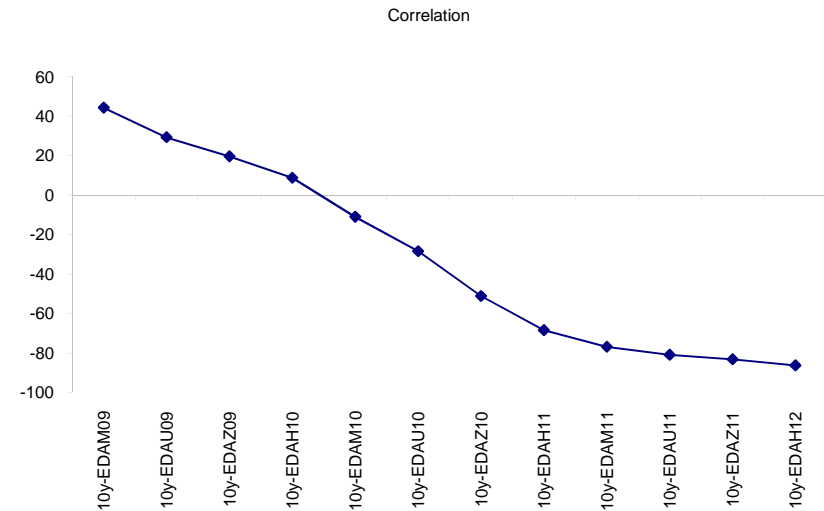


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

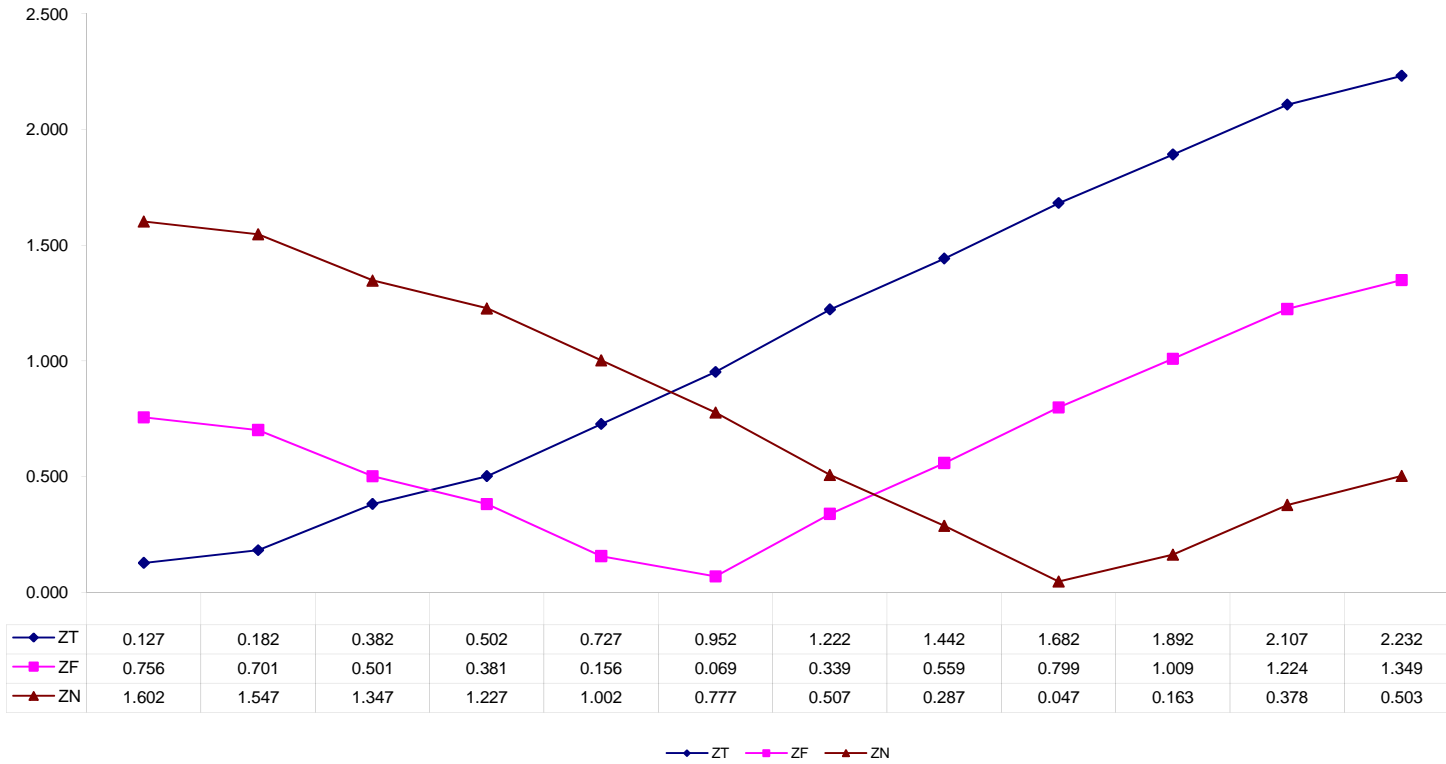
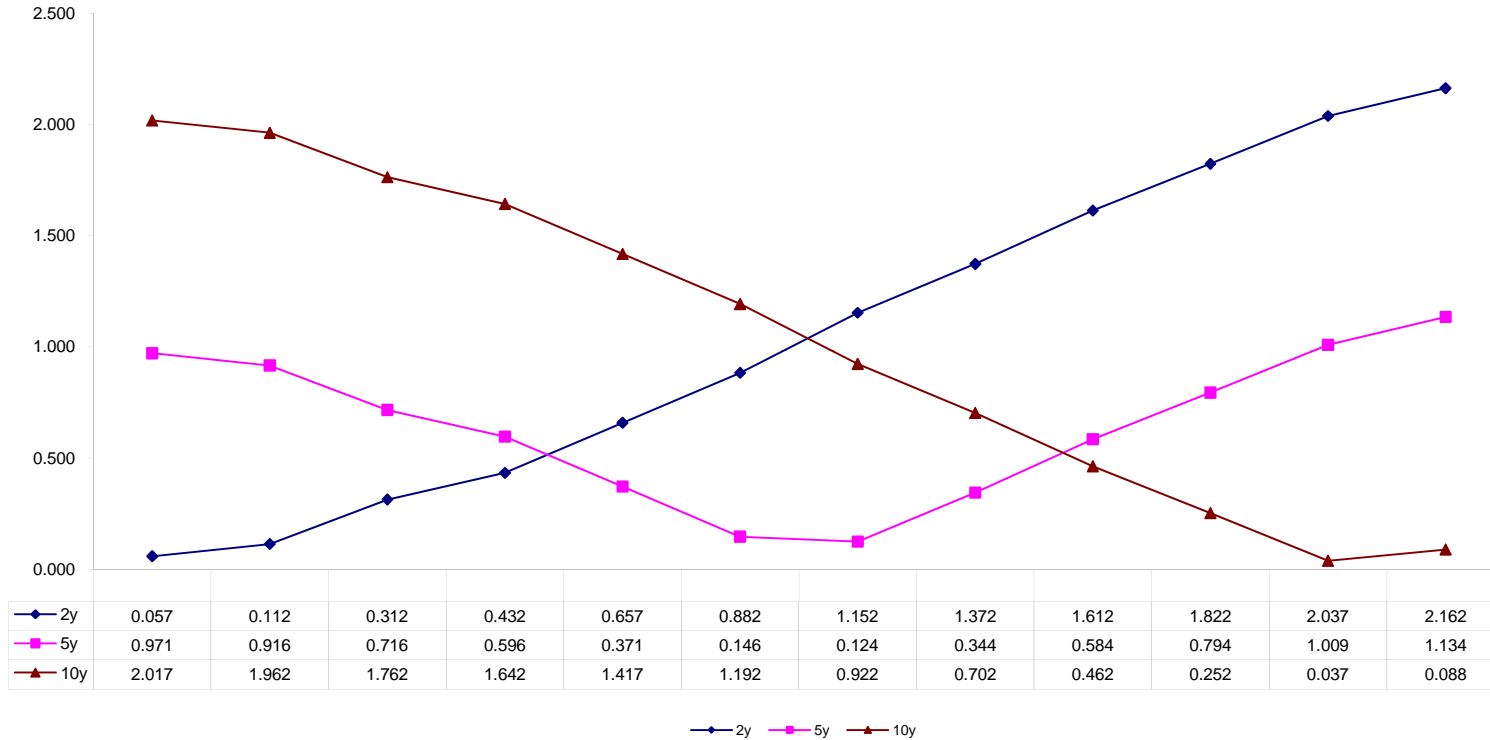
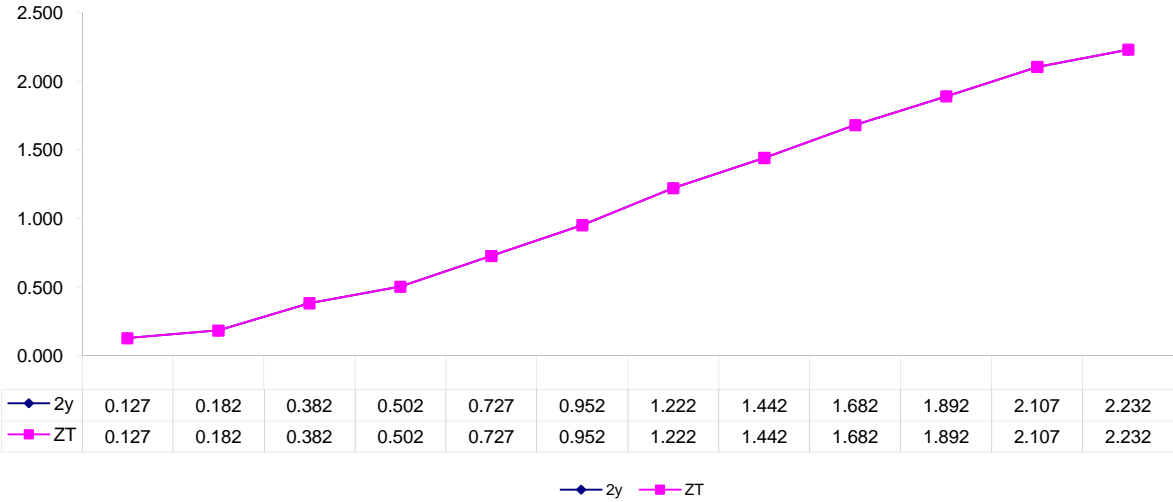
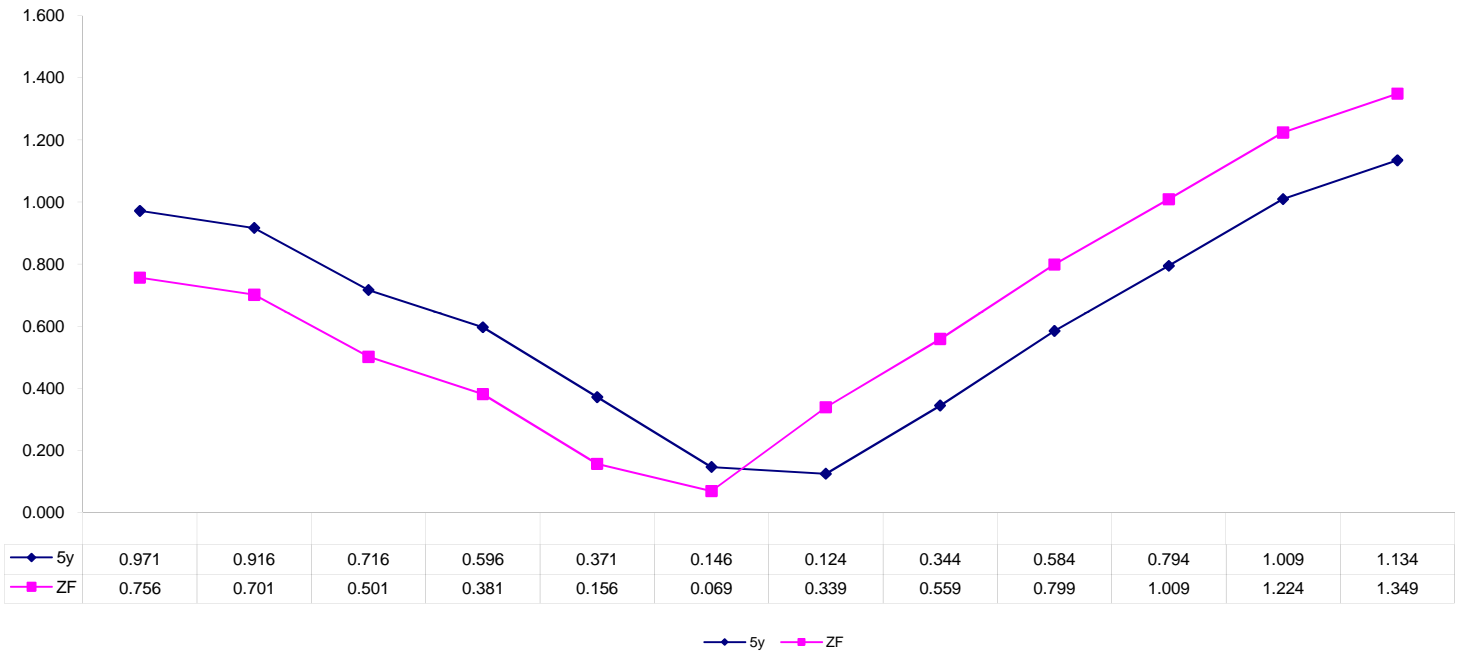


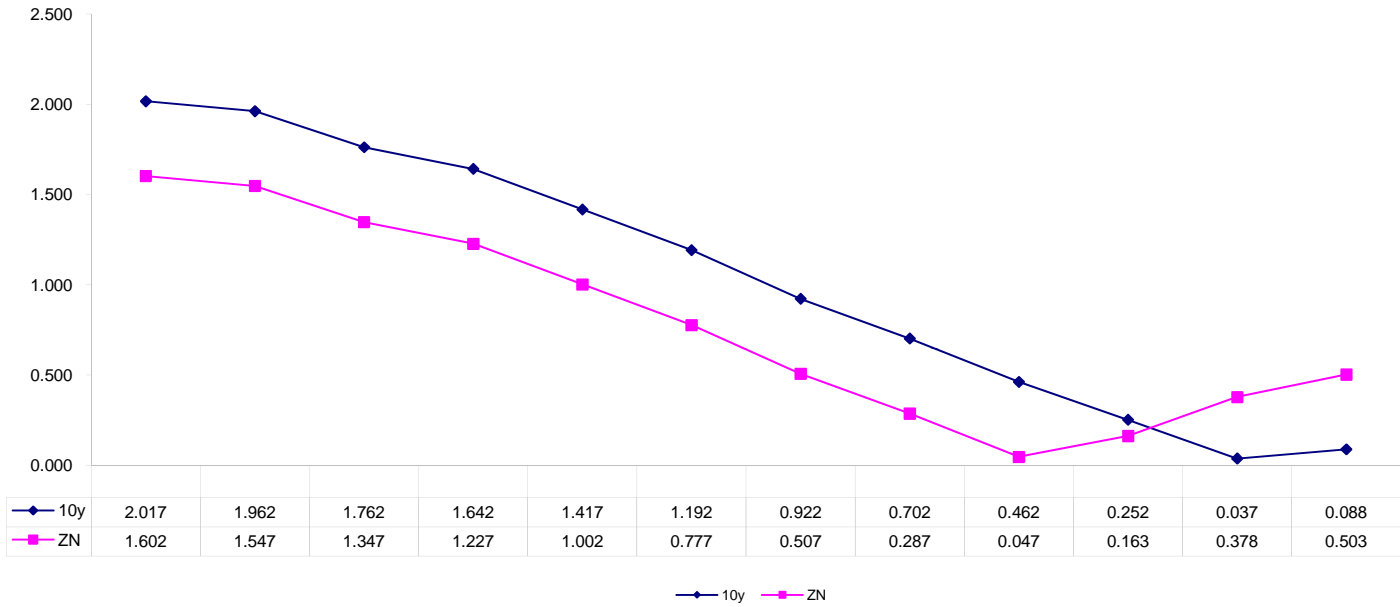
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.181	1.750	9883.8750
Red Pack	1.986	0.875	9805.1250
Green Pack	2.901	-1.500	9715.8750
Blue Pack		-1.375	9664.6250
Gold Pack		-1.750	9634.2500

