

## **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 Feb-00	Last Yield*	MDuration
ZT	108.3438	108.1100	1.033	1.841
ZF	114.9844	114.3150	2.335	4.115
ZN	116.1094	116.0350	3.189	5.742
2y	100.1781	100.0570	1.030	1.895
5y	100.2250	100.0720	2.575	4.583
10y	95.3125	95.1000	3.700	8.268

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4950	0.505	48	0.1308	SEP	
EDAZ09	99.2850	0.715	139	0.3801	DEC	White Pack
EDAH10	99.0250	0.975	230	0.6294	MAR	
EDAM10	98.6500	1.350	321	0.8788	JUN	
EDAU10	98.2550	1.745	412	1.1281	SEP	
EDAZ10	97.8550	2.145	503	1.3774	DEC	Red Pack
EDAH11	97.5050	2.495	594	1.6267	MAR	
EDAM11	97.1450	2.855	685	1.8760	JUN	
EDAU11	96.8150	3.185	783	2.1445	SEP	
EDAZ11	96.4950	3.505	874	2.3938	DEC	Green Pack
EDAH12	96.2650	3.735	965	2.6431	MAR	
EDAM12	96.0350	3.965	1,056	2.8925	JUN	
EDAU12	95.8400	4.160	1,147	3.1418	SEP	
EDAZ12	95.6450	4.355	1,238	3.3911	DEC	Blue Pack
EDAH13	95.5100	4.490	1,329	3.6404	MAR	
EDAM13	95.3900	4.610	1,420	3.8897	JUN	
EDAU13	95.2600	4.740	1,511	4.1390	SEP	
EDAZ13	95.1300	4.870	1,602	4.3884	DEC	Gold Pack
EDAH14	95.0400	4.960	1,693	4.6377	MAR	
EDAM14	94.9450	5.055	1,784	4.8870	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.901	0.050	9911.38	
Red Pack	2.356	-0.063	9769.00	Pack Prices
Green Pack	3.681	0.075	9640.25	
Blue Pack	4.515	0.012	9559.63	
Gold Pack	5.036	-0.113	9509.38	

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.

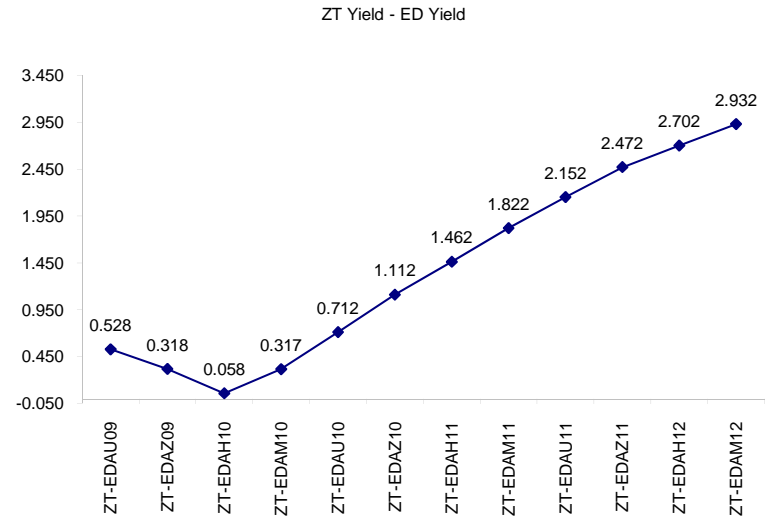
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

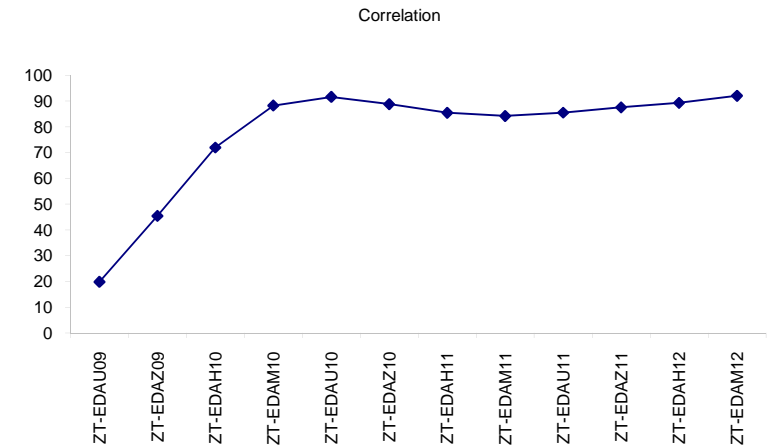
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.85	0.528	ZT-EDAU09	20
EDAZ09	9.06	0.318	ZT-EDAZ09	45
EDAH10	9.32	0.058	ZT-EDAH10	72
EDAM10	9.69	0.317	ZT-EDAM10	88
EDAU10	10.09	0.712	ZT-EDAU10	92
EDAZ10	10.49	1.112	ZT-EDAZ10	89
EDAH11	10.84	1.462	ZT-EDAH11	85
EDAM11	11.20	1.822	ZT-EDAM11	84
EDAU11	11.53	2.152	ZT-EDAU11	85
EDAZ11	11.85	2.472	ZT-EDAZ11	88
EDAH12	12.08	2.702	ZT-EDAH12	89
EDAM12	12.31	2.932	ZT-EDAM12	92

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	
EDAU09	0.1308	1.8412	1.7103	ZT-EDAU09		
EDAZ09	0.3801	1.8412	1.4610	ZT-EDAZ09		
EDAH10	0.6294	1.8412	1.2117	ZT-EDAH10		
EDAM10	0.8788	1.8412	0.9624	ZT-EDAM10		
EDAU10	1.1281	1.8412	0.7131	ZT-EDAU10		
EDAZ10	1.3774	1.8412	0.4638	ZT-EDAZ10		
EDAH11	1.6267	1.8412	0.2145	ZT-EDAH11		
EDAM11	1.8760	1.8412	-0.0349	ZT-EDAM11		
EDAU11	2.1445	1.8412	-0.3034	ZT-EDAU11		
EDAZ11	2.3938	1.8412	-0.5527	ZT-EDAZ11		
EDAH12	2.6431	1.8412	-0.8020	ZT-EDAH12		
EDAM12	2.8925	1.8412	-1.0513	ZT-EDAM12		

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

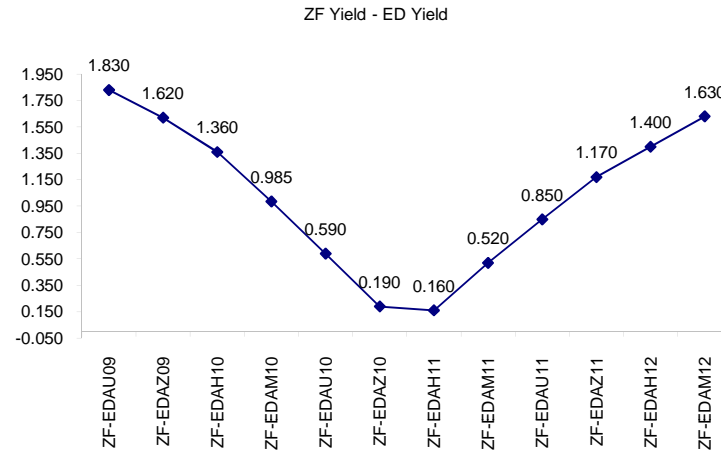


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	15.49	1.830	ZF-EDAU09	-2
EDAZ09	15.70	1.620	ZF-EDAZ09	26
EDAH10	15.96	1.360	ZF-EDAH10	56
EDAM10	16.33	0.985	ZF-EDAM10	79
EDAU10	16.73	0.590	ZF-EDAU10	86
EDAZ10	17.13	0.190	ZF-EDAZ10	82
EDAH11	17.48	0.160	ZF-EDAH11	77
EDAM11	17.84	0.520	ZF-EDAM11	75
EDAU11	18.17	0.850	ZF-EDAU11	76
EDAZ11	18.49	1.170	ZF-EDAZ11	80
EDAH12	18.72	1.400	ZF-EDAH12	83
EDAM12	18.95	1.630	ZF-EDAM12	88

Price = Outright Decimal Price - Euro Contract Price

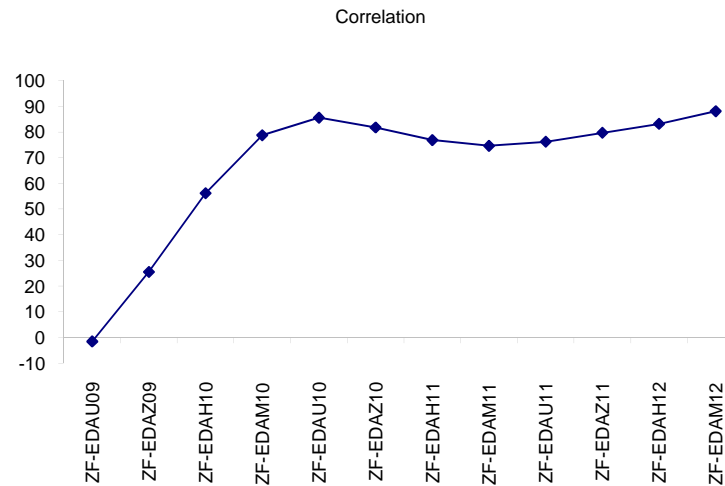
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1308	4.1150	3.9842	ZF-EDAU09	
EDAZ09	0.3801	4.1150	3.7349	ZF-EDAZ09	
EDAH10	0.6294	4.1150	3.4856	ZF-EDAH10	
EDAM10	0.8788	4.1150	3.2363	ZF-EDAM10	
EDAU10	1.1281	4.1150	2.9870	ZF-EDAU10	
EDAZ10	1.3774	4.1150	2.7376	ZF-EDAZ10	
EDAH11	1.6267	4.1150	2.4883	ZF-EDAH11	
EDAM11	1.8760	4.1150	2.2390	ZF-EDAM11	
EDAU11	2.1445	4.1150	1.9705	ZF-EDAU11	
EDAZ11	2.3938	4.1150	1.7212	ZF-EDAZ11	
EDAH12	2.6431	4.1150	1.4719	ZF-EDAH12	
EDAM12	2.8925	4.1150	1.2226	ZF-EDAM12	

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

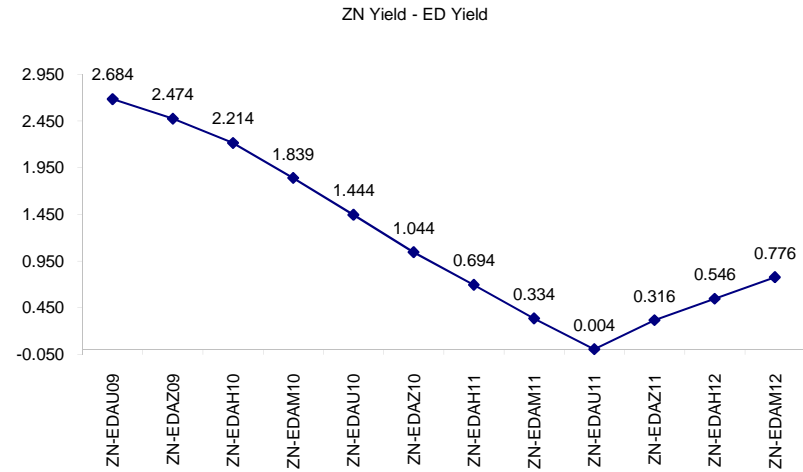


	ZN			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	16.61	2.684	ZN-EDAU09	-14
EDAZ09	16.82	2.474	ZN-EDAZ09	15
EDAH10	17.08	2.214	ZN-EDAH10	49
EDAM10	17.46	1.839	ZN-EDAM10	75
EDAU10	17.85	1.444	ZN-EDAU10	84
EDAZ10	18.25	1.044	ZN-EDAZ10	81
EDAH11	18.60	0.694	ZN-EDAH11	75
EDAM11	18.96	0.334	ZN-EDAM11	72
EDAU11	19.29	0.004	ZN-EDAU11	74
EDAZ11	19.61	0.316	ZN-EDAZ11	77
EDAH12	19.84	0.546	ZN-EDAH12	81
EDAM12	20.07	0.776	ZN-EDAM12	86

Price = Outright Decimal Price - Euro Contract Price

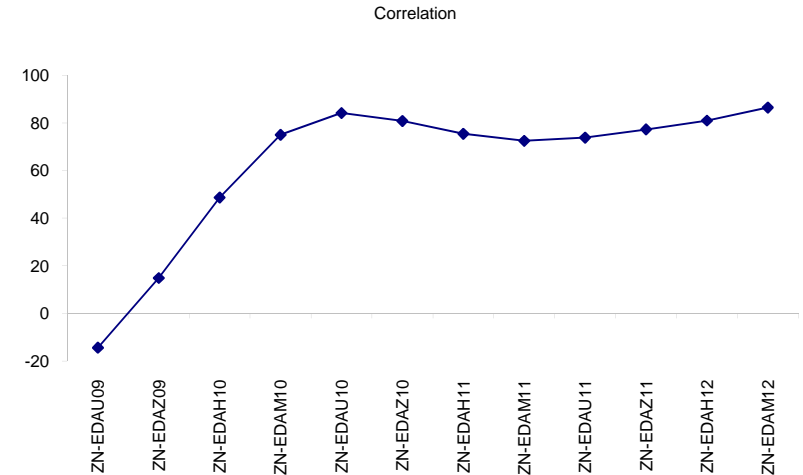
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZN Duration	Spread Duration
EDAU09	0.1308	5.7421	5.6113	ZN-EDAU09	
EDAZ09	0.3801	5.7421	5.3620	ZN-EDAZ09	
EDAH10	0.6294	5.7421	5.1126	ZN-EDAH10	
EDAM10	0.8788	5.7421	4.8633	ZN-EDAM10	
EDAU10	1.1281	5.7421	4.6140	ZN-EDAU10	
EDAZ10	1.3774	5.7421	4.3647	ZN-EDAZ10	
EDAH11	1.6267	5.7421	4.1154	ZN-EDAH11	
EDAM11	1.8760	5.7421	3.8661	ZN-EDAM11	
EDAU11	2.1445	5.7421	3.5976	ZN-EDAU11	
EDAZ11	2.3938	5.7421	3.3483	ZN-EDAZ11	
EDAH12	2.6431	5.7421	3.0990	ZN-EDAH12	
EDAM12	2.8925	5.7421	2.8496	ZN-EDAM12	

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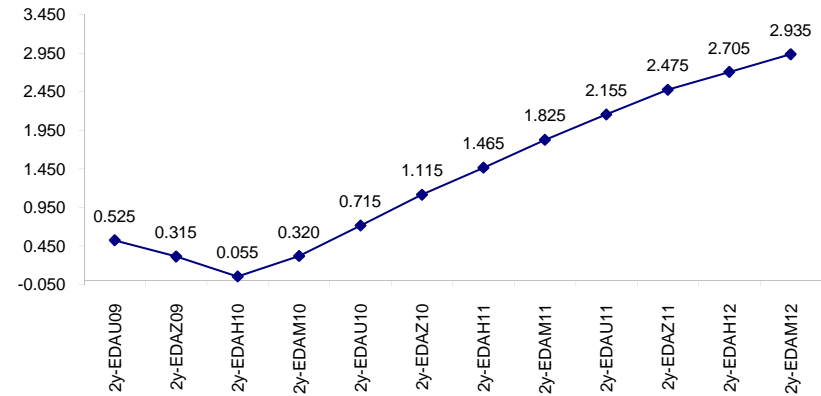
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.68	0.525	2y-EDAU09	3
EDAZ09	0.89	0.315	2y-EDAZ09	-24
EDAH10	1.15	0.055	2y-EDAH10	-55
EDAM10	1.53	0.320	2y-EDAM10	-76
EDAU10	1.92	0.715	2y-EDAU10	-84
EDAZ10	2.32	1.115	2y-EDAZ10	-80
EDAH11	2.67	1.465	2y-EDAH11	-75
EDAM11	3.03	1.825	2y-EDAM11	-72
EDAU11	3.36	2.155	2y-EDAU11	-74
EDAZ11	3.68	2.475	2y-EDAZ11	-77
EDAH12	3.91	2.705	2y-EDAH12	-80
EDAM12	4.14	2.935	2y-EDAM12	-85

Price = Outright Decimal Price - Euro Contract Price

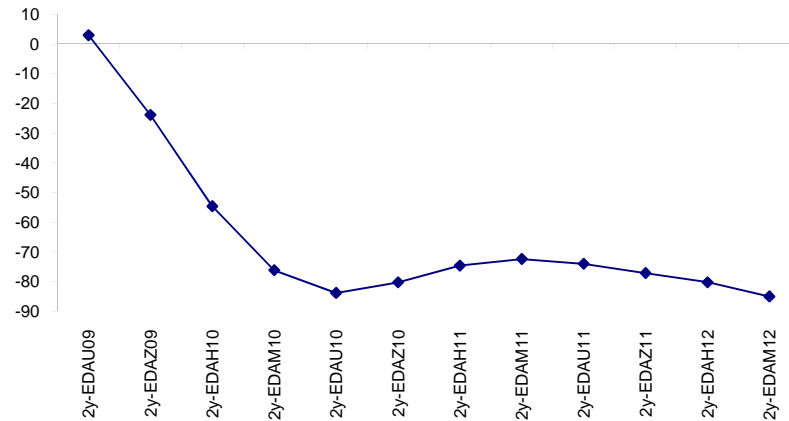
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAU09	0.1308	1.8947	1.7639	2y-EDAU09
EDAZ09	0.3801	1.8947	1.5146	2y-EDAZ09
EDAH10	0.6294	1.8947	1.2653	2y-EDAH10
EDAM10	0.8788	1.8947	1.0160	2y-EDAM10
EDAU10	1.1281	1.8947	0.7667	2y-EDAU10
EDAZ10	1.3774	1.8947	0.5173	2y-EDAZ10
EDAH11	1.6267	1.8947	0.2680	2y-EDAH11
EDAM11	1.8760	1.8947	0.0187	2y-EDAM11
EDAU11	2.1445	1.8947	-0.2498	2y-EDAU11
EDAZ11	2.3938	1.8947	-0.4991	2y-EDAZ11
EDAH12	2.6431	1.8947	-0.7484	2y-EDAH12
EDAM12	2.8925	1.8947	-0.9977	2y-EDAM12

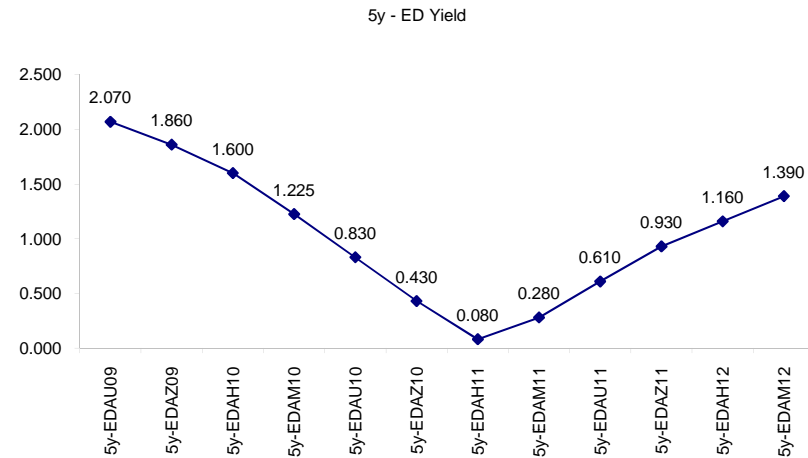
The farther away from 0 the spread duration is the riskier the trade.

5y				Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	0.73	2.070	5y-EDAU09	17
EDAZ09	0.94	1.860	5y-EDAZ09	-12
EDAH10	1.20	1.600	5y-EDAH10	-46
EDAM10	1.58	1.225	5y-EDAM10	-72
EDAU10	1.97	0.830	5y-EDAU10	-81
EDAZ10	2.37	0.430	5y-EDAZ10	-77
EDAH11	2.72	0.080	5y-EDAH11	-71
EDAM11	3.08	0.280	5y-EDAM11	-68
EDAU11	3.41	0.610	5y-EDAU11	-70
EDAZ11	3.73	0.930	5y-EDAZ11	-74
EDAH12	3.96	1.160	5y-EDAH12	-78
EDAM12	4.19	1.390	5y-EDAM12	-84

Price = Outright Decimal Price - Euro Contract Price

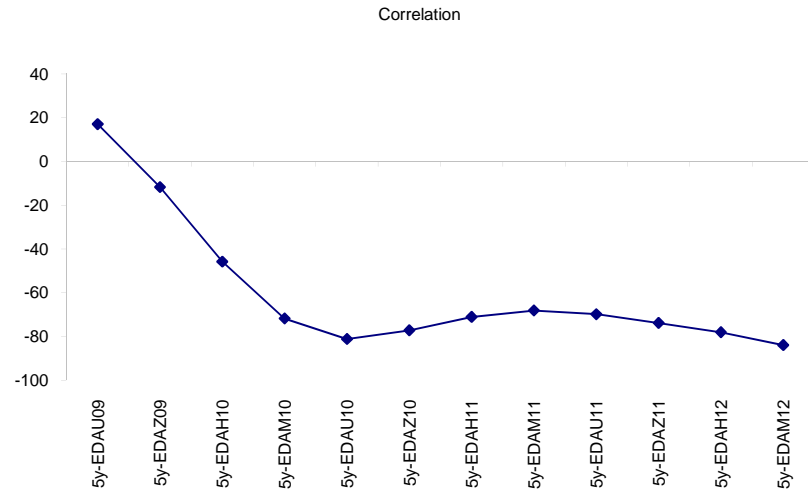
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as		Spread Duration	
	Fraction of year	5Y Duration		
EDAU09	0.1308	4.5828	4.4520	5y-EDAU09
EDAZ09	0.3801	4.5828	4.2027	5y-EDAZ09
EDAH10	0.6294	4.5828	3.9534	5y-EDAH10
EDAM10	0.8788	4.5828	3.7040	5y-EDAM10
EDAU10	1.1281	4.5828	3.4547	5y-EDAU10
EDAZ10	1.3774	4.5828	3.2054	5y-EDAZ10
EDAH11	1.6267	4.5828	2.9561	5y-EDAH11
EDAM11	1.8760	4.5828	2.7068	5y-EDAM11
EDAU11	2.1445	4.5828	2.4383	5y-EDAU11
EDAZ11	2.3938	4.5828	2.1890	5y-EDAZ11
EDAH12	2.6431	4.5828	1.9397	5y-EDAH12
EDAM12	2.8925	4.5828	1.6904	5y-EDAM12

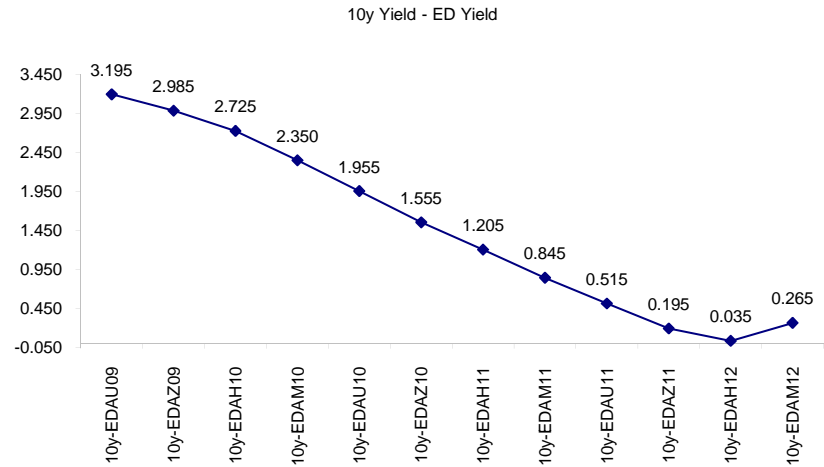
The farther away from 0 the spread duration is the riskier the trade.





	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.73	3.195	10y-EDAU09	32
EDAZ09	0.94	2.985	10y-EDAZ09	2
EDAH10	1.20	2.725	10y-EDAH10	-34
EDAM10	1.58	2.350	10y-EDAM10	-65
EDAU10	1.97	1.955	10y-EDAU10	-77
EDAZ10	2.37	1.555	10y-EDAZ10	-73
EDAH11	2.72	1.205	10y-EDAH11	-67
EDAM11	3.08	0.845	10y-EDAM11	-63
EDAU11	3.41	0.515	10y-EDAU11	-64
EDAZ11	3.73	0.195	10y-EDAZ11	-68
EDAH12	3.96	10y-EDAH12	-73	
EDAM12	4.19	0.265	10y-EDAM12	-79

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		
EDAU09	0.1308	8.2676	8.1368	10y-EDAU09
EDAZ09	0.3801	8.2676	7.8874	10y-EDAZ09
EDAH10	0.6294	8.2676	7.6381	10y-EDAH10
EDAM10	0.8788	8.2676	7.3888	10y-EDAM10
EDAU10	1.1281	8.2676	7.1395	10y-EDAU10
EDAZ10	1.3774	8.2676	6.8902	10y-EDAZ10
EDAH11	1.6267	8.2676	6.6409	10y-EDAH11
EDAM11	1.8760	8.2676	6.3916	10y-EDAM11
EDAU11	2.1445	8.2676	6.1231	10y-EDAU11
EDAZ11	2.3938	8.2676	5.8737	10y-EDAZ11
EDAH12	2.6431	8.2676	5.6244	10y-EDAH12
EDAM12	2.8925	8.2676	5.3751	10y-EDAM12

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

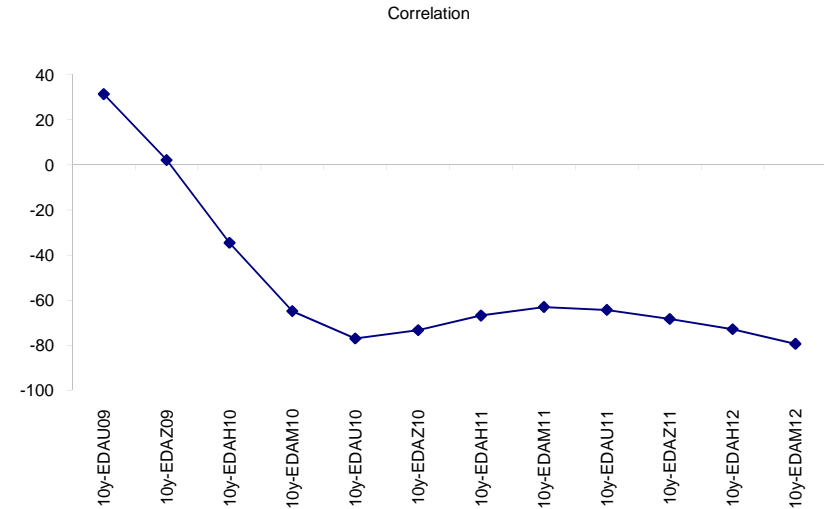


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

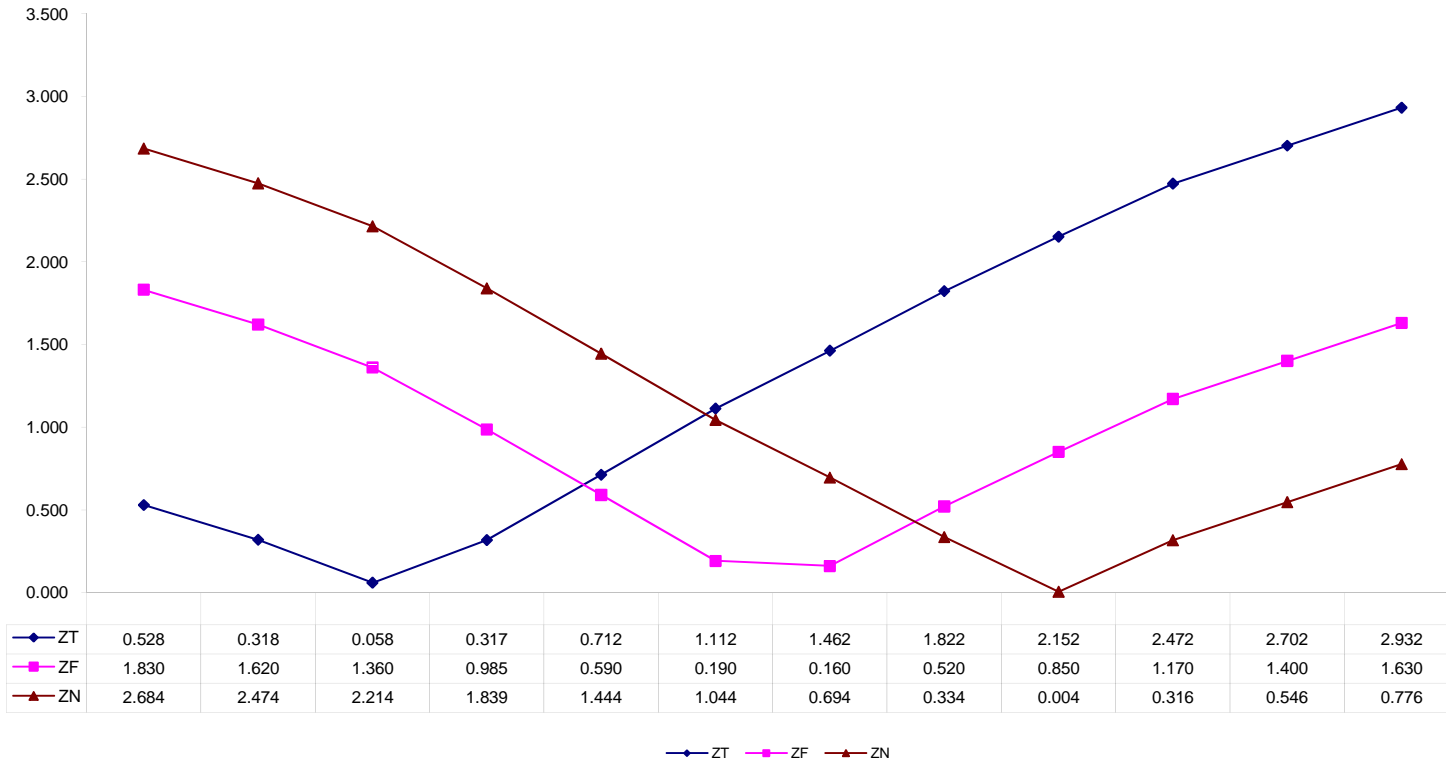
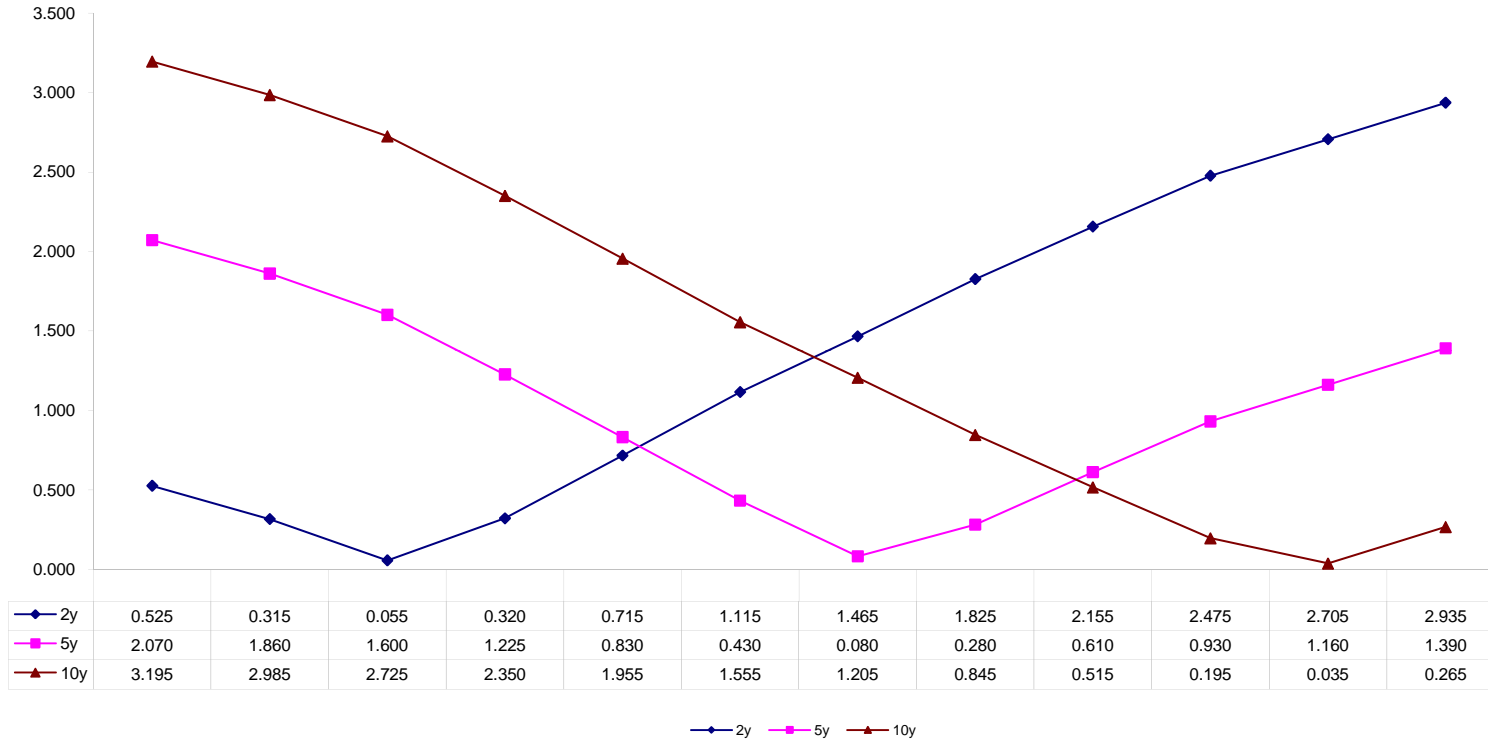
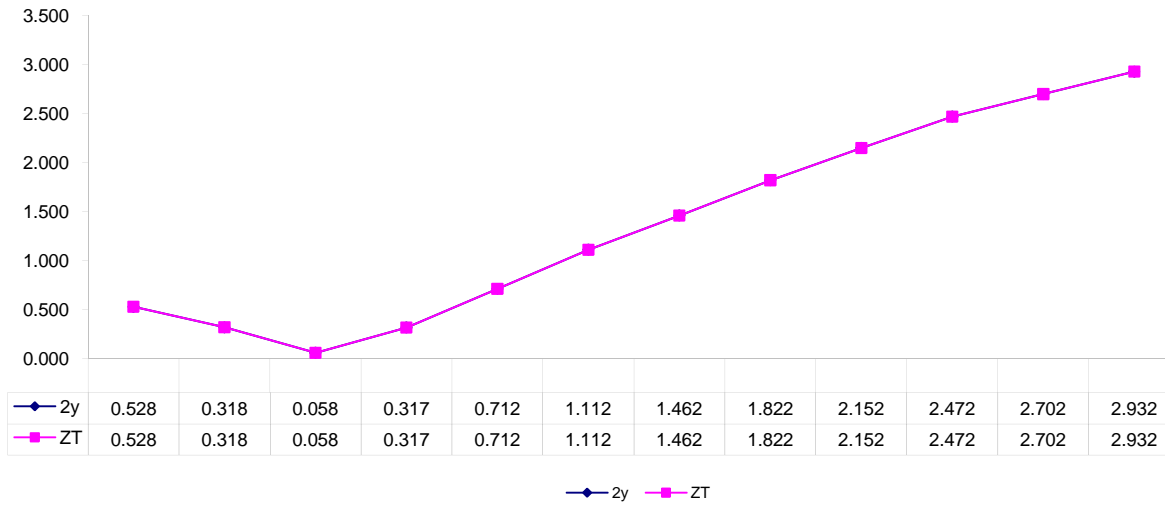
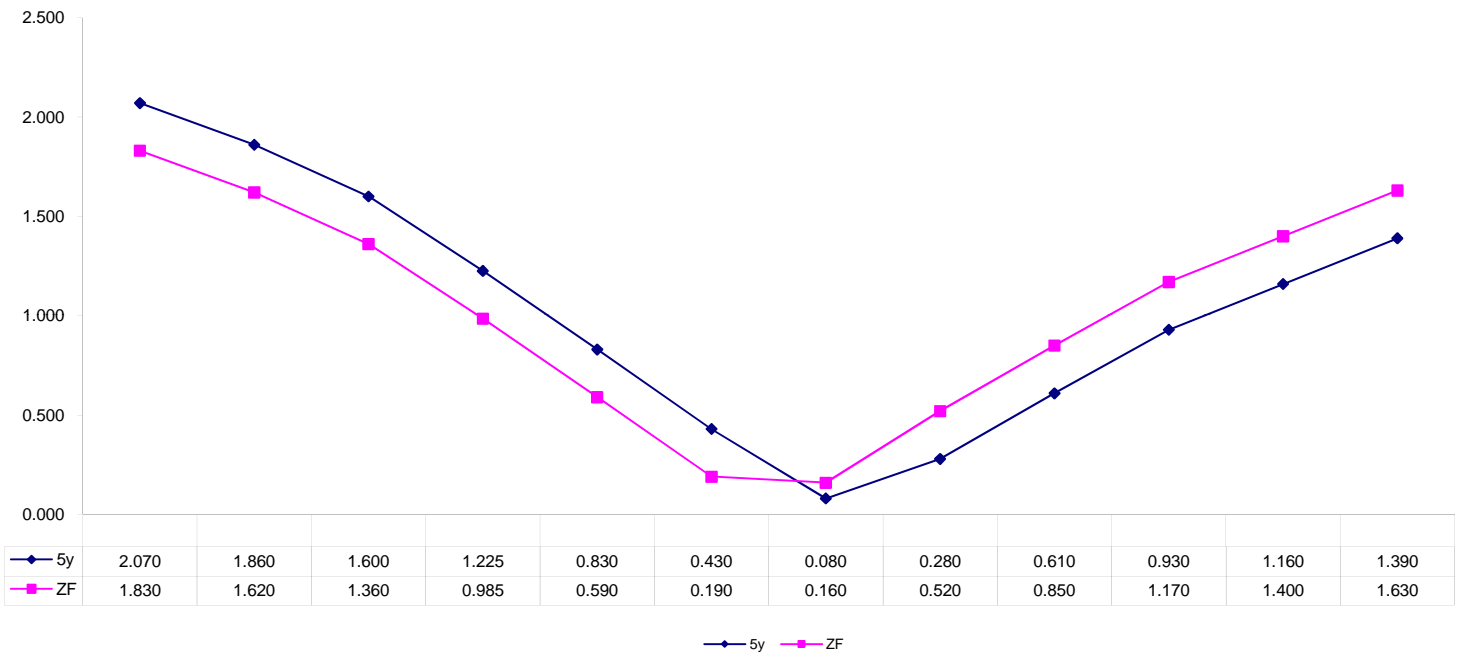


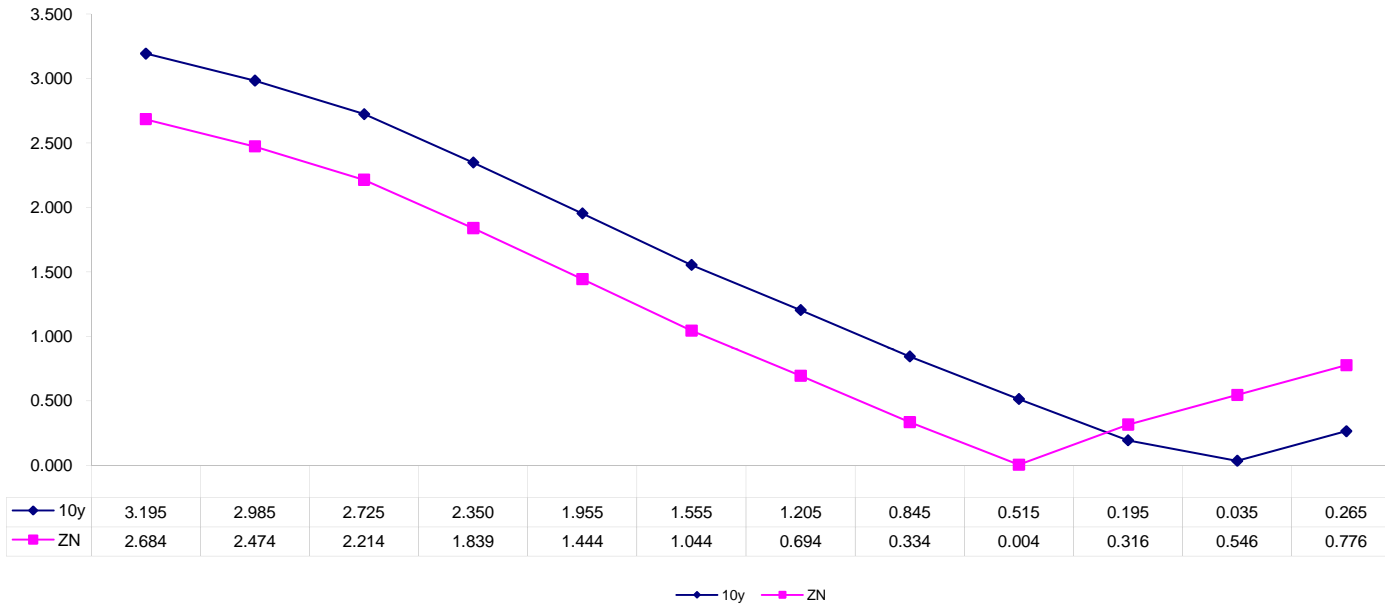
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.901	0.050	9911.3750
Red Pack	2.356	-0.063	9769.0000
Green Pack	3.681	0.075	9640.2500
Blue Pack	4.515	0.012	9559.6250
Gold Pack	5.036	-0.113	9509.3750

