

## **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	108.5219	108.1670	0.934	1.858
ZF	115.9844	115.3150	2.107	4.137
ZN	117.6406	117.2050	2.976	5.771
2y	100.3813	100.1220	0.925	1.912
5y	101.2719	101.0870	2.348	4.606
10y	96.9375	96.3000	3.496	8.306

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4750	0.525	54	0.1473	SEP	
EDAZ09	99.2900	0.710	145	0.3966	DEC	White Pack
EDAH10	99.0800	0.920	236	0.6459	MAR	Pack
EDAM10	98.7600	1.240	327	0.8952	JUN	
EDAU10	98.4000	1.600	418	1.1445	SEP	
EDAZ10	98.0100	1.990	509	1.3938	DEC	Red Pack
EDAH11	97.6450	2.355	600	1.6432	MAR	Pack
EDAM11	97.2850	2.715	691	1.8925	JUN	
EDAU11	96.9600	3.040	789	2.1610	SEP	
EDAZ11	96.6600	3.340	880	2.4103	DEC	Green Pack
EDAH12	96.4400	3.560	971	2.6596	MAR	Pack
EDAM12	96.2350	3.765	1,062	2.9089	JUN	
EDAU12	96.0550	3.945	1,153	3.1582	SEP	
EDAZ12	95.8800	4.120	1,244	3.4075	DEC	Blue Pack
EDAH13	95.7400	4.260	1,335	3.6569	MAR	Pack
EDAM13	95.6500	4.350	1,426	3.9062	JUN	
EDAU13	95.5250	4.475	1,517	4.1555	SEP	
EDAZ13	95.4100	4.590	1,608	4.4048	DEC	Gold Pack
EDAH14	95.3700	4.630	1,699	4.6541	MAR	Pack
EDAM14	95.2650	4.735	1,790	4.9034	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.863	0.125	9915.13	
Red Pack	2.206	-0.500	9783.63	Pack Prices
Green Pack	3.504	-3.000	9657.38	
Blue Pack	4.271	-4.250	9583.13	
Gold Pack		-1.875	9539.13	

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.

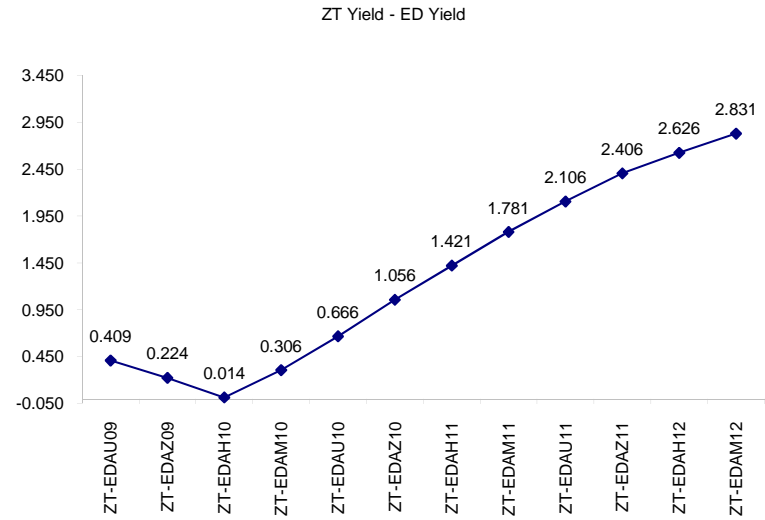
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

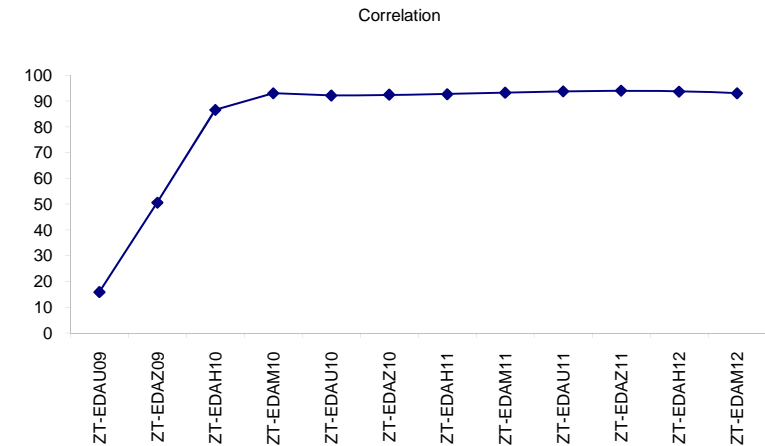
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	9.05	0.409	ZT-EDAU09	16
EDAZ09	9.23	0.224	ZT-EDAZ09	51
EDAH10	9.44	0.014	ZT-EDAH10	87
EDAM10	9.76	0.306	ZT-EDAM10	93
EDAU10	10.12	0.666	ZT-EDAU10	92
EDAZ10	10.51	1.056	ZT-EDAZ10	92
EDAH11	10.88	1.421	ZT-EDAH11	93
EDAM11	11.24	1.781	ZT-EDAM11	93
EDAU11	11.56	2.106	ZT-EDAU11	94
EDAZ11	11.86	2.406	ZT-EDAZ11	94
EDAH12	12.08	2.626	ZT-EDAH12	94
EDAM12	12.29	2.831	ZT-EDAM12	93

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	0.1473	1.8584	1.7111	ZT-EDAU09		
EDAZ09	0.3966	1.8584	1.4618	ZT-EDAZ09		
EDAH10	0.6459	1.8584	1.2125	ZT-EDAH10		
EDAM10	0.8952	1.8584	0.9632	ZT-EDAM10		
EDAU10	1.1445	1.8584	0.7139	ZT-EDAU10		
EDAZ10	1.3938	1.8584	0.4645	ZT-EDAZ10		
EDAH11	1.6432	1.8584	0.2152	ZT-EDAH11		
EDAM11	1.8925	1.8584	-0.0341	ZT-EDAM11		
EDAU11	2.1610	1.8584	-0.3026	ZT-EDAU11		
EDAZ11	2.4103	1.8584	-0.5519	ZT-EDAZ11		
EDAH12	2.6596	1.8584	-0.8012	ZT-EDAH12		
EDAM12	2.9089	1.8584	-1.0505	ZT-EDAM12		

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

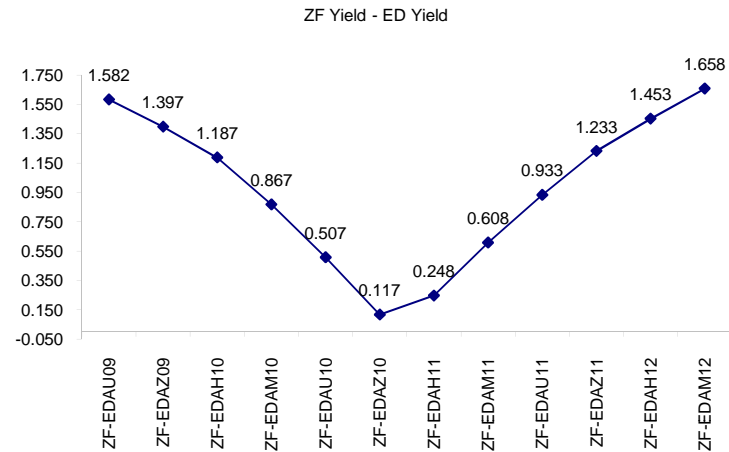


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	16.51	1.582	ZF-EDAU09	1
EDAZ09	16.69	1.397	ZF-EDAZ09	37
EDAH10	16.90	1.187	ZF-EDAH10	80
EDAM10	17.22	0.867	ZF-EDAM10	92
EDAU10	17.58	0.507	ZF-EDAU10	94
EDAZ10	17.97	0.117	ZF-EDAZ10	95
EDAH11	18.34	0.248	ZF-EDAH11	96
EDAM11	18.70	0.608	ZF-EDAM11	97
EDAU11	19.02	0.933	ZF-EDAU11	97
EDAZ11	19.32	1.233	ZF-EDAZ11	98
EDAH12	19.54	1.453	ZF-EDAH12	98
EDAM12	19.75	1.658	ZF-EDAM12	97

Price = Outright Decimal Price - Euro Contract Price

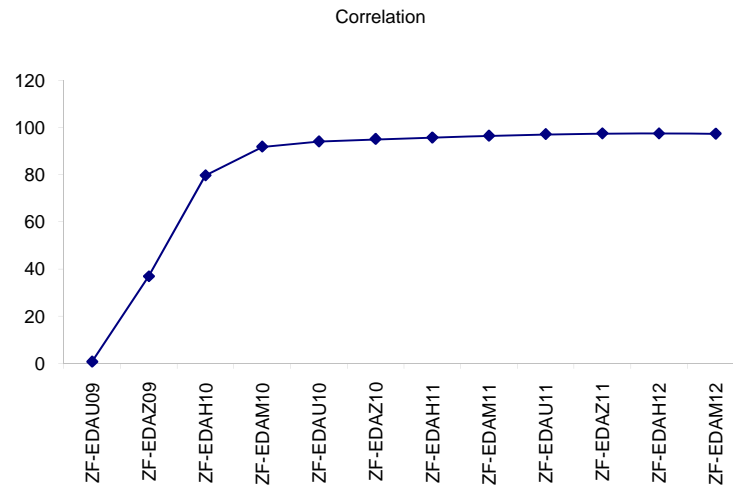
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1473	4.1369	3.9897	ZF-EDAU09	
EDAZ09	0.3966	4.1369	3.7404	ZF-EDAZ09	
EDAH10	0.6459	4.1369	3.4911	ZF-EDAH10	
EDAM10	0.8952	4.1369	3.2417	ZF-EDAM10	
EDAU10	1.1445	4.1369	2.9924	ZF-EDAU10	
EDAZ10	1.3938	4.1369	2.7431	ZF-EDAZ10	
EDAH11	1.6432	4.1369	2.4938	ZF-EDAH11	
EDAM11	1.8925	4.1369	2.2445	ZF-EDAM11	
EDAU11	2.1610	4.1369	1.9760	ZF-EDAU11	
EDAZ11	2.4103	4.1369	1.7267	ZF-EDAZ11	
EDAH12	2.6596	4.1369	1.4774	ZF-EDAH12	
EDAM12	2.9089	4.1369	1.2280	ZF-EDAM12	

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

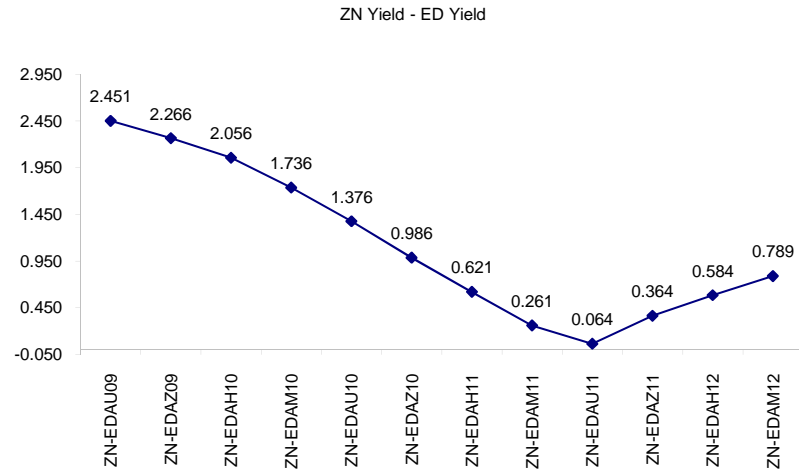


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAU09	18.17	2.451	ZN-EDAU09	-10
EDAZ09	18.35	2.266	ZN-EDAZ09	27
EDAH10	18.56	2.056	ZN-EDAH10	74
EDAM10	18.88	1.736	ZN-EDAM10	91
EDAU10	19.24	1.376	ZN-EDAU10	95
EDAZ10	19.63	0.986	ZN-EDAZ10	96
EDAH11	20.00	0.621	ZN-EDAH11	97
EDAM11	20.36	0.261	ZN-EDAM11	98
EDAU11	20.68	0.064	ZN-EDAU11	98
EDAZ11	20.98	0.364	ZN-EDAZ11	99
EDAH12	21.20	0.584	ZN-EDAH12	99
EDAM12	21.41	0.789	ZN-EDAM12	99

Price = Outright Decimal Price - Euro Contract Price

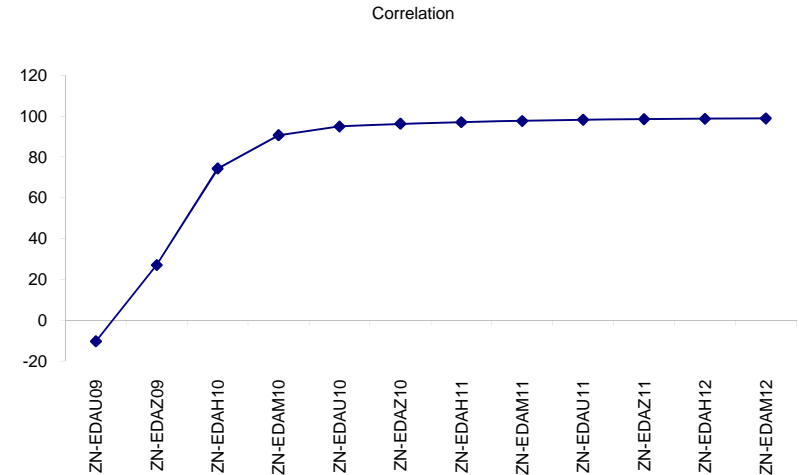
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAU09	0.1473	5.7714	5.6241	ZN-EDAU09
EDAZ09	0.3966	5.7714	5.3748	ZN-EDAZ09
EDAH10	0.6459	5.7714	5.1255	ZN-EDAH10
EDAM10	0.8952	5.7714	4.8762	ZN-EDAM10
EDAU10	1.1445	5.7714	4.6269	ZN-EDAU10
EDAZ10	1.3938	5.7714	4.3776	ZN-EDAZ10
EDAH11	1.6432	5.7714	4.1282	ZN-EDAH11
EDAM11	1.8925	5.7714	3.8789	ZN-EDAM11
EDAU11	2.1610	5.7714	3.6104	ZN-EDAU11
EDAZ11	2.4103	5.7714	3.3611	ZN-EDAZ11
EDAH12	2.6596	5.7714	3.1118	ZN-EDAH12
EDAM12	2.9089	5.7714	2.8625	ZN-EDAM12

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

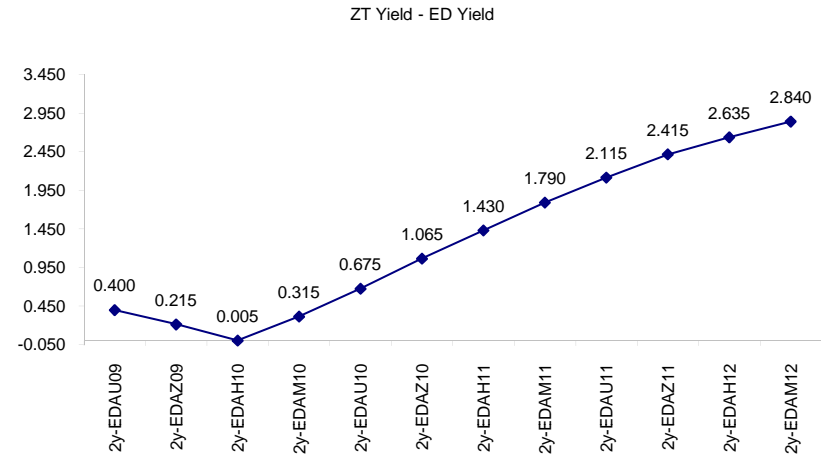


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.91	0.400	2y-EDAU09	-10
EDAZ09	1.09	0.215	2y-EDAZ09	-46
EDAH10	1.30	0.005	2y-EDAH10	-85
EDAM10	1.62	0.315	2y-EDAM10	-95
EDAU10	1.98	0.675	2y-EDAU10	-95
EDAZ10	2.37	1.065	2y-EDAZ10	-95
EDAH11	2.74	1.430	2y-EDAH11	-95
EDAM11	3.10	1.790	2y-EDAM11	-96
EDAU11	3.42	2.115	2y-EDAU11	-96
EDAZ11	3.72	2.415	2y-EDAZ11	-96
EDAH12	3.94	2.635	2y-EDAH12	-95
EDAM12	4.15	2.840	2y-EDAM12	-94

Price = Outright Decimal Price - Euro Contract Price

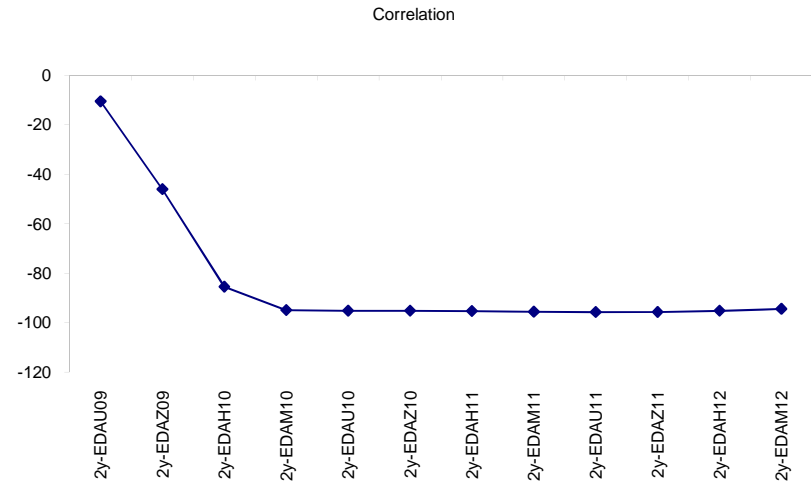
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU09	0.1473	1.9120	1.7647	2y-EDAU09	
EDAZ09	0.3966	1.9120	1.5154	2y-EDAZ09	
EDAH10	0.6459	1.9120	1.2661	2y-EDAH10	
EDAM10	0.8952	1.9120	1.0168	2y-EDAM10	
EDAU10	1.1445	1.9120	0.7675	2y-EDAU10	
EDAZ10	1.3938	1.9120	0.5181	2y-EDAZ10	
EDAH11	1.6432	1.9120	0.2688	2y-EDAH11	
EDAM11	1.8925	1.9120	0.0195	2y-EDAM11	
EDAU11	2.1610	1.9120	-0.2490	2y-EDAU11	
EDAZ11	2.4103	1.9120	-0.4983	2y-EDAZ11	
EDAH12	2.6596	1.9120	-0.7476	2y-EDAH12	
EDAM12	2.9089	1.9120	-0.9969	2y-EDAM12	

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

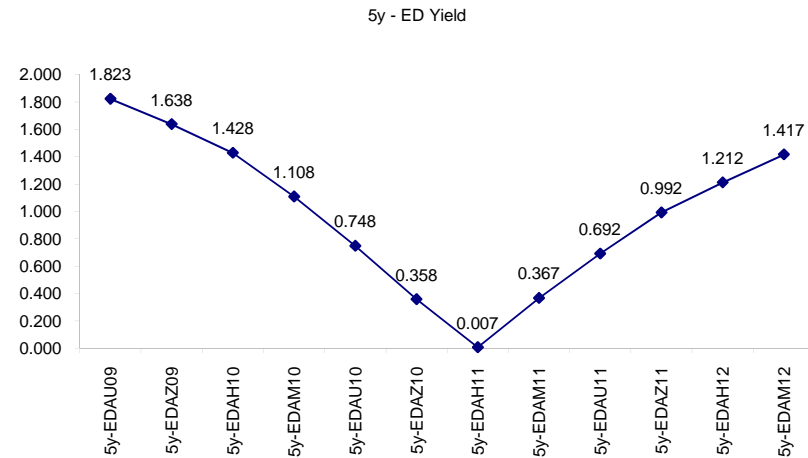


5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	1.80	1.823	5y-EDAU09	7
EDAZ09	1.98	1.638	5y-EDAZ09	-30
EDAH10	2.19	1.428	5y-EDAH10	-77
EDAM10	2.51	1.108	5y-EDAM10	-93
EDAU10	2.87	0.748	5y-EDAU10	-97
EDAZ10	3.26	0.358	5y-EDAZ10	-97
EDAH11	3.63	0.007	5y-EDAH11	-98
EDAM11	3.99	0.367	5y-EDAM11	-99
EDAU11	4.31	0.692	5y-EDAU11	-99
EDAZ11	4.61	0.992	5y-EDAZ11	-99
EDAH12	4.83	1.212	5y-EDAH12	-99
EDAM12	5.04	1.417	5y-EDAM12	-99

Price = Outright Decimal Price - Euro Contract Price

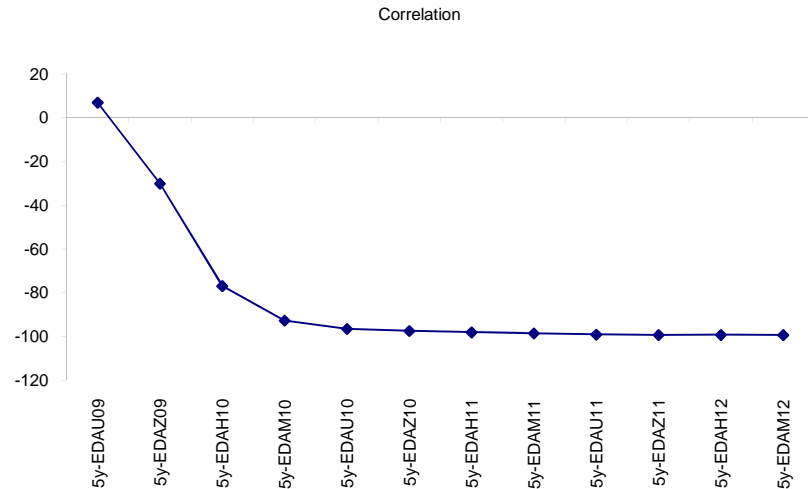
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				
	5Y Duration	Spread Duration		
EDAU09	0.1473	4.6061	4.4588	5y-EDAU09
EDAZ09	0.3966	4.6061	4.2095	5y-EDAZ09
EDAH10	0.6459	4.6061	3.9602	5y-EDAH10
EDAM10	0.8952	4.6061	3.7109	5y-EDAM10
EDAU10	1.1445	4.6061	3.4616	5y-EDAU10
EDAZ10	1.3938	4.6061	3.2122	5y-EDAZ10
EDAH11	1.6432	4.6061	2.9629	5y-EDAH11
EDAM11	1.8925	4.6061	2.7136	5y-EDAM11
EDAU11	2.1610	4.6061	2.4451	5y-EDAU11
EDAZ11	2.4103	4.6061	2.1958	5y-EDAZ11
EDAH12	2.6596	4.6061	1.9465	5y-EDAH12
EDAM12	2.9089	4.6061	1.6972	5y-EDAM12

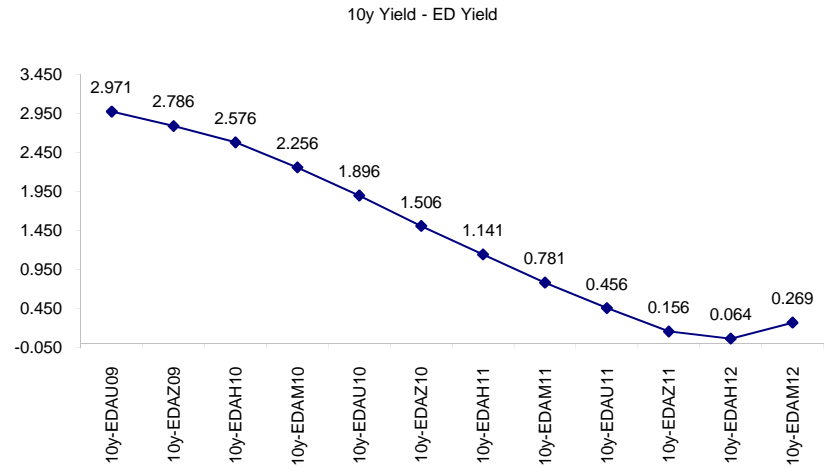
The farther away from 0 the spread duration is the riskier the trade.





10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	1.80	2.971	10y-EDAU09	20
EDAZ09	1.98	2.786	10y-EDAZ09	-15
EDAH10	2.19	2.576	10y-EDAH10	-66
EDAM10	2.51	2.256	10y-EDAM10	-87
EDAU10	2.87	1.896	10y-EDAU10	-94
EDAZ10	3.26	1.506	10y-EDAZ10	-95
EDAH11	3.63	1.141	10y-EDAH11	-96
EDAM11	3.99	0.781	10y-EDAM11	-97
EDAU11	4.31	0.456	10y-EDAU11	-97
EDAZ11	4.61	0.156	10y-EDAZ11	-97
EDAH12	4.83	0.064	10y-EDAH12	-98
EDAM12	5.04	0.269	10y-EDAM12	-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				10Y Duration	Spread Duration	
EDAU09	0.1473	8.3061	8.1588	10y-EDAU09		
EDAZ09	0.3966	8.3061	7.9095	10y-EDAZ09		
EDAH10	0.6459	8.3061	7.6602	10y-EDAH10		
EDAM10	0.8952	8.3061	7.4109	10y-EDAM10		
EDAU10	1.1445	8.3061	7.1616	10y-EDAU10		
EDAZ10	1.3938	8.3061	6.9123	10y-EDAZ10		
EDAH11	1.6432	8.3061	6.6629	10y-EDAH11		
EDAM11	1.8925	8.3061	6.4136	10y-EDAM11		
EDAU11	2.1610	8.3061	6.1451	10y-EDAU11		
EDAZ11	2.4103	8.3061	5.8958	10y-EDAZ11		
EDAH12	2.6596	8.3061	5.6465	10y-EDAH12		
EDAM12	2.9089	8.3061	5.3972	10y-EDAM12		

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

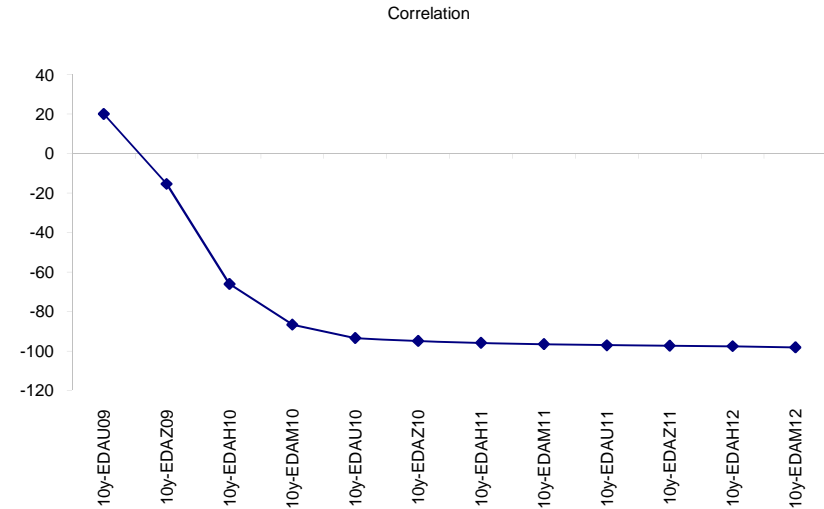


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

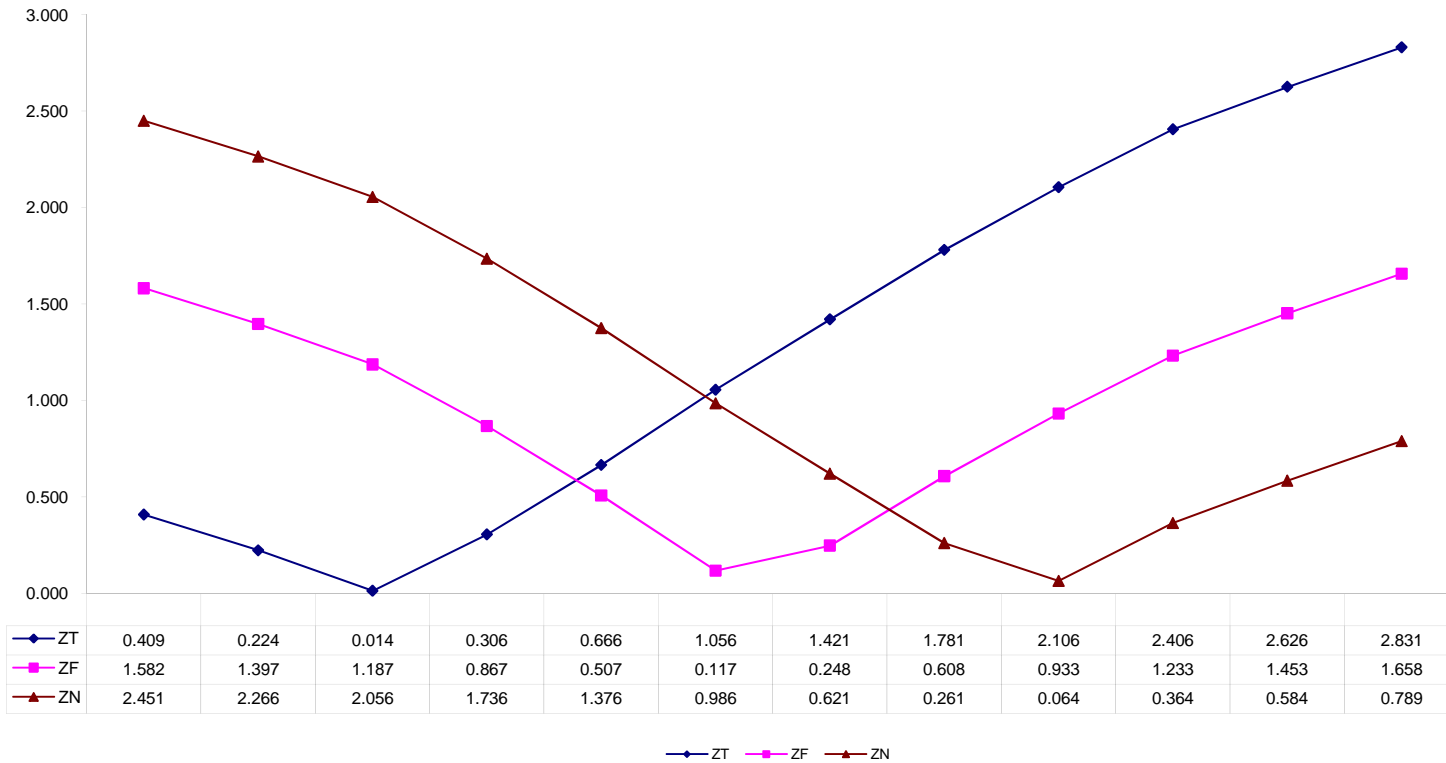
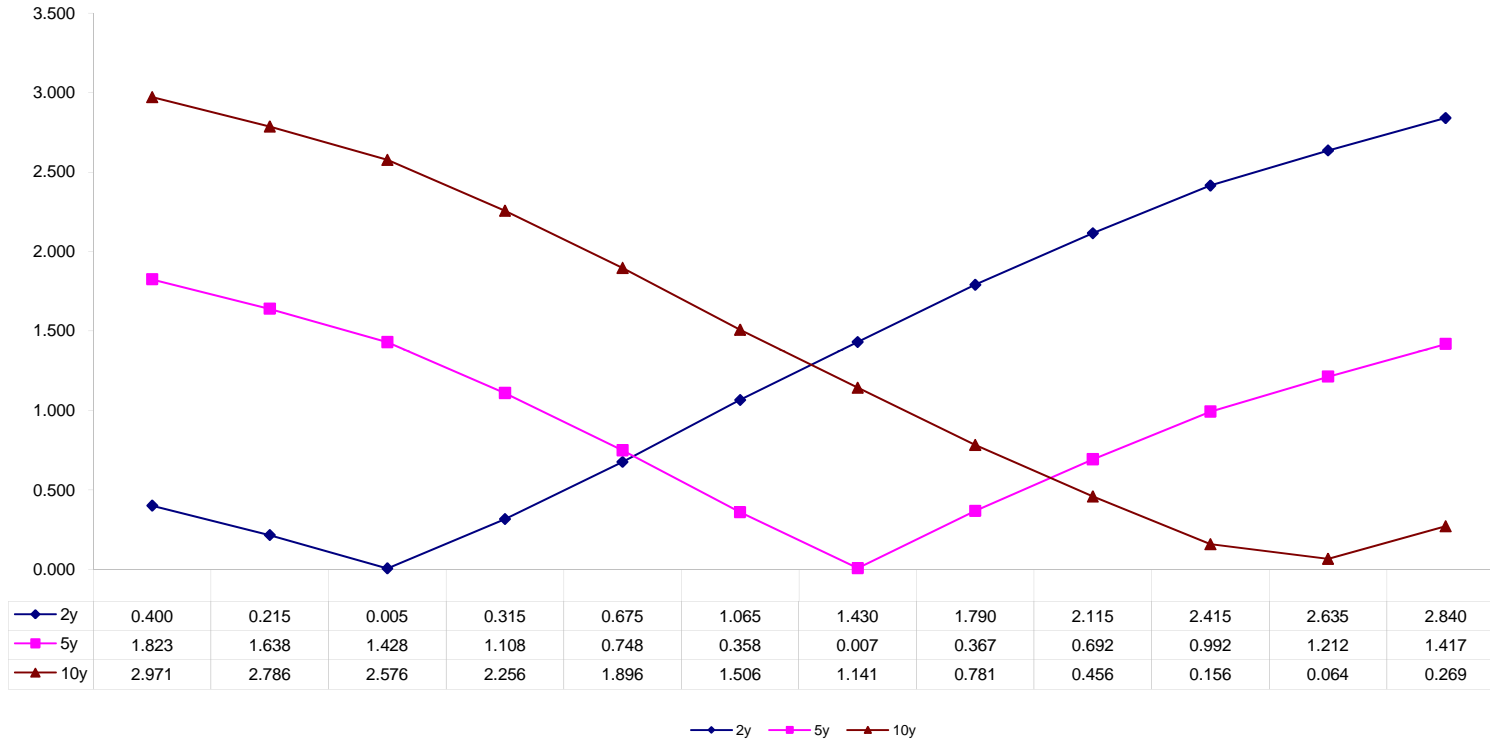
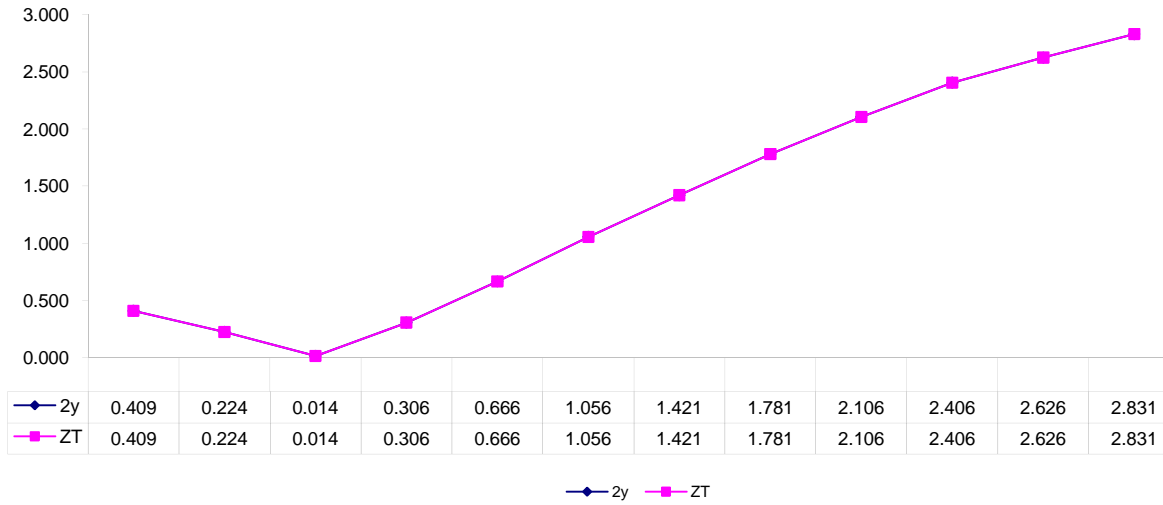
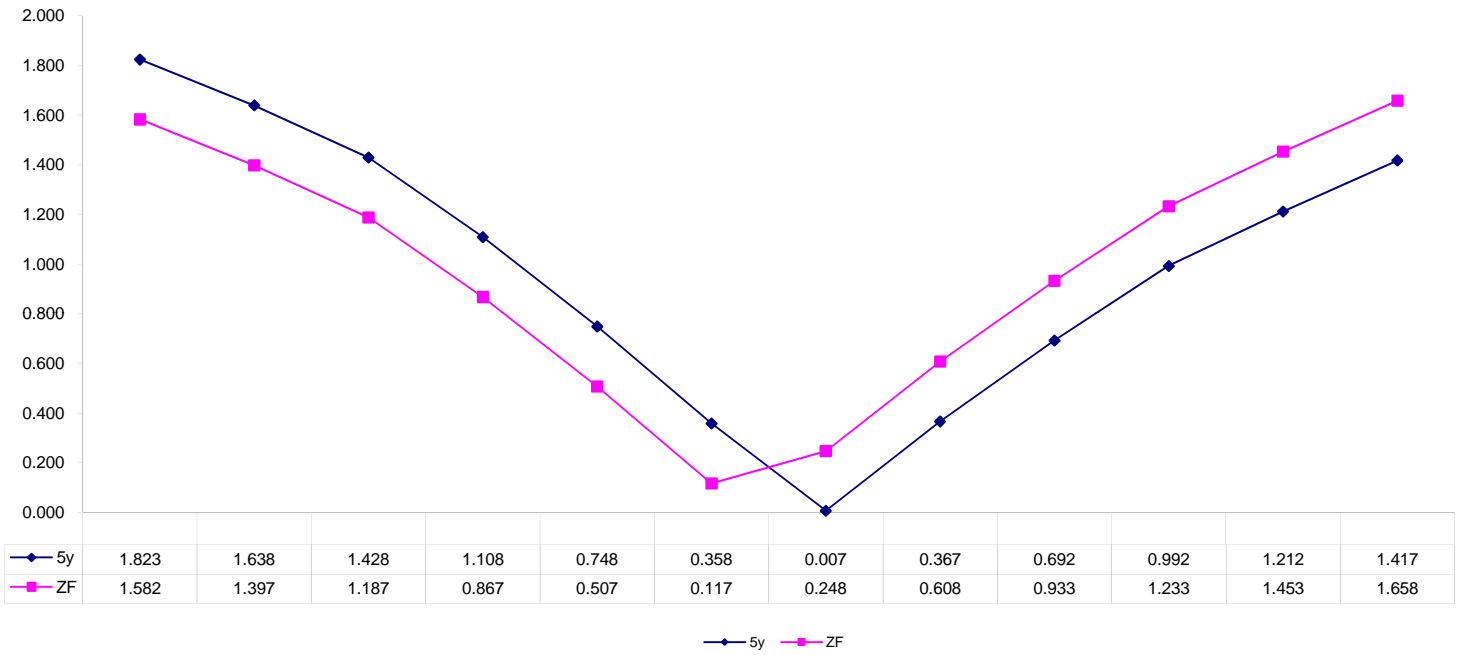


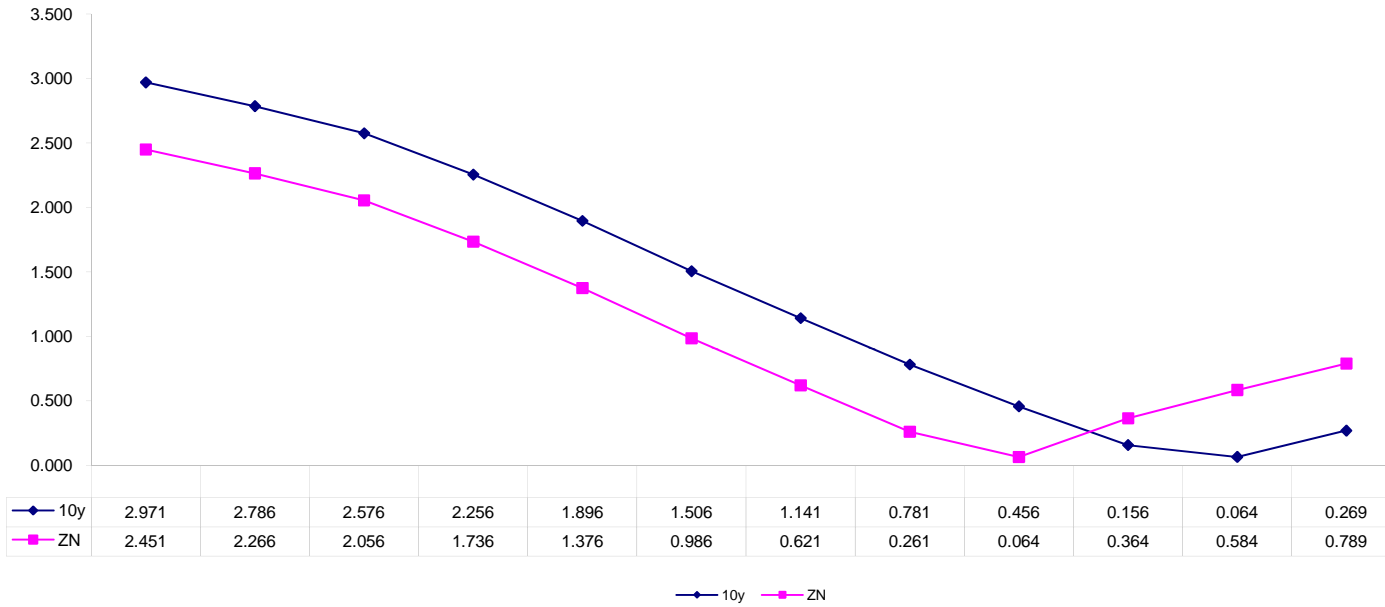
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.863	0.125	9915.1250
Red Pack	2.206	-0.500	9783.6250
Green Pack	3.504	-3.000	9657.3750
Blue Pack	4.271	-4.250	9583.1250
Gold Pack		-1.875	9539.1250

