

## **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	108.0219	108.0070	1.200	1.818
ZF	114.4531	114.1450	2.478	4.090
ZN	115.7188	115.2300	3.276	5.715
2y	99.5313	99.1700	1.240	1.957
5y	99.5156	99.1650	2.730	4.638
10y	95.2031	95.0650	3.710	8.245

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.5150	0.485	40	0.1089	SEP	
EDAZ09	99.2400	0.760	131	0.3583	DEC	White Pack
EDAH10	98.8900	1.110	222	0.6076	MAR	
EDAM10	98.4350	1.565	313	0.8569	JUN	
EDAU10	97.9800	2.020	404	1.1062	SEP	
EDAZ10	97.5350	2.465	495	1.3555	DEC	Red Pack
EDAH11	97.1750	2.825	586	1.6048	MAR	
EDAM11	96.8400	3.160	677	1.8541	JUN	
EDAU11	96.5550	3.445	775	2.1226	SEP	
EDAZ11	96.2950	3.705	866	2.3720	DEC	Green Pack
EDAH12	96.1050	3.895	957	2.6213	MAR	
EDAM12	95.9300	4.070	1,048	2.8706	JUN	
EDAU12	95.7850	4.215	1,139	3.1199	SEP	
EDAZ12	95.6050	4.395	1,230	3.3692	DEC	Blue Pack
EDAH13	95.5250	4.475	1,321	3.6185	MAR	
EDAM13	95.4200	4.580	1,412	3.8678	JUN	
EDAU13	95.3150	4.685	1,503	4.1172	SEP	
EDAZ13	95.2050	4.795	1,594	4.3665	DEC	Gold Pack
EDAH14	95.1400	4.860	1,685	4.6158	MAR	
EDAM14	95.0500	4.950	1,776	4.8651	JUN	

	Last Yield	Last Price	
White Pack	#NAME?	#NAME?	
Red Pack	#VALUE!	9738.25	Pack Prices
Green Pack	3.868	9622.13	
Blue Pack	9.558	9558.38	
Gold Pack	#NAME?	9517.75	

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.

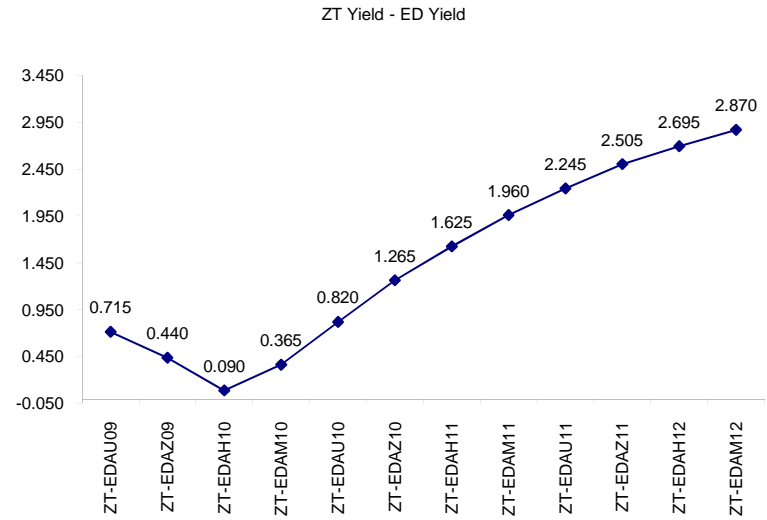
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

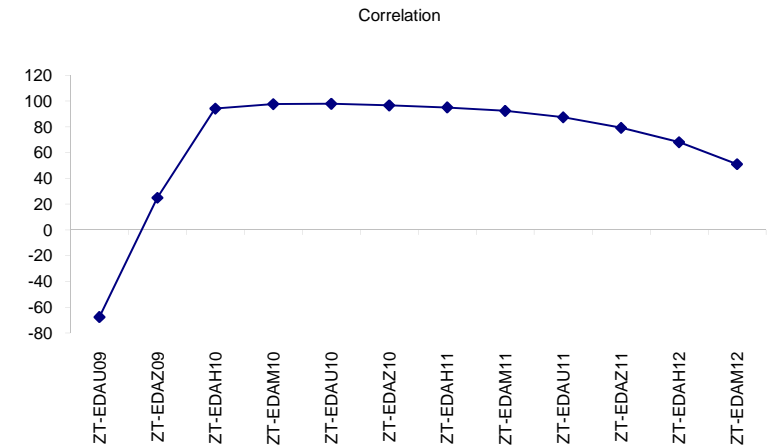
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.51	0.715	ZT-EDAU09	-68
EDAZ09	8.78	0.440	ZT-EDAZ09	25
EDAH10	9.13	0.090	ZT-EDAH10	94
EDAM10	9.59	0.365	ZT-EDAM10	98
EDAU10	10.04	0.820	ZT-EDAU10	98
EDAZ10	10.49	1.265	ZT-EDAZ10	97
EDAH11	10.85	1.625	ZT-EDAH11	95
EDAM11	11.18	1.960	ZT-EDAM11	92
EDAU11	11.47	2.245	ZT-EDAU11	87
EDAZ11	11.73	2.505	ZT-EDAZ11	79
EDAH12	11.92	2.695	ZT-EDAH12	68
EDAM12	12.09	2.870	ZT-EDAM12	51

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	0.1089	1.8179	1.7090	ZT-EDAU09		
EDAZ09	0.3583	1.8179	1.4596	ZT-EDAZ09		
EDAH10	0.6076	1.8179	1.2103	ZT-EDAH10		
EDAM10	0.8569	1.8179	0.9610	ZT-EDAM10		
EDAU10	1.1062	1.8179	0.7117	ZT-EDAU10		
EDAZ10	1.3555	1.8179	0.4624	ZT-EDAZ10		
EDAH11	1.6048	1.8179	0.2131	ZT-EDAH11		
EDAM11	1.8541	1.8179	-0.0362	ZT-EDAM11		
EDAU11	2.1226	1.8179	-0.3047	ZT-EDAU11		
EDAZ11	2.3720	1.8179	-0.5541	ZT-EDAZ11		
EDAH12	2.6213	1.8179	-0.8034	ZT-EDAH12		
EDAM12	2.8706	1.8179	-1.0527	ZT-EDAM12		

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

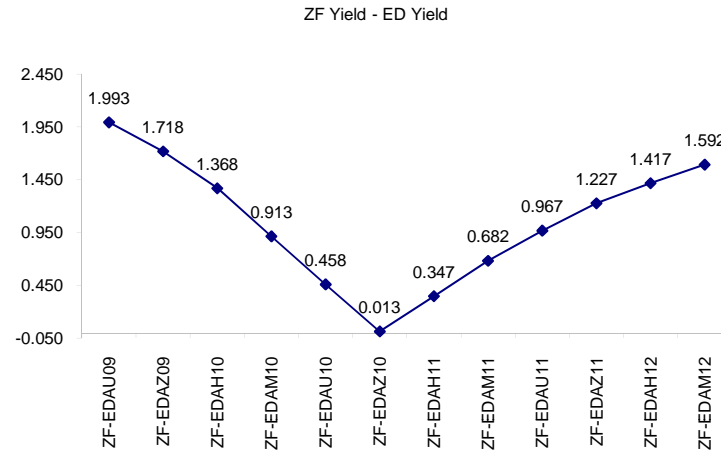


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	14.94	1.993	ZF-EDAU09	-40
EDAZ09	15.21	1.718	ZF-EDAZ09	48
EDAH10	15.56	1.368	ZF-EDAH10	90
EDAM10	16.02	0.913	ZF-EDAM10	88
EDAU10	16.47	0.458	ZF-EDAU10	86
EDAZ10	16.92	0.013	ZF-EDAZ10	83
EDAH11	17.28	0.347	ZF-EDAH11	84
EDAM11	17.61	0.682	ZF-EDAM11	87
EDAU11	17.90	0.967	ZF-EDAU11	91
EDAZ11	18.16	1.227	ZF-EDAZ11	94
EDAH12	18.35	1.417	ZF-EDAH12	93
EDAM12	18.52	1.592	ZF-EDAM12	87

Price = Outright Decimal Price - Euro Contract Price

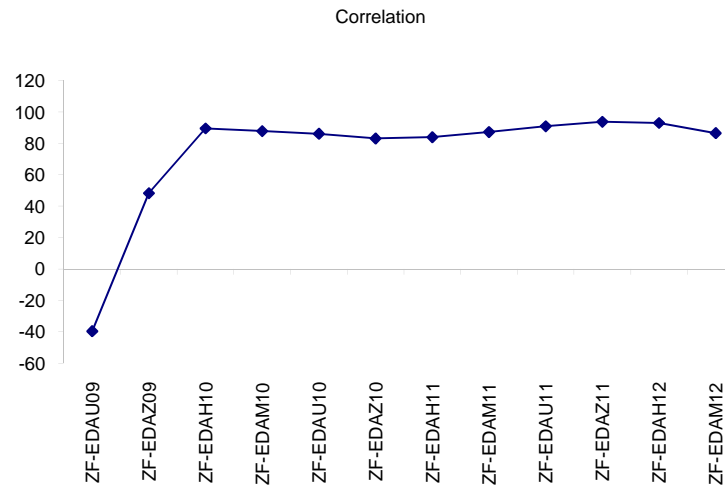
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1089	4.0899	3.9809	ZF-EDAU09	
EDAZ09	0.3583	4.0899	3.7316	ZF-EDAZ09	
EDAH10	0.6076	4.0899	3.4823	ZF-EDAH10	
EDAM10	0.8569	4.0899	3.2330	ZF-EDAM10	
EDAU10	1.1062	4.0899	2.9837	ZF-EDAU10	
EDAZ10	1.3555	4.0899	2.7344	ZF-EDAZ10	
EDAH11	1.6048	4.0899	2.4850	ZF-EDAH11	
EDAM11	1.8541	4.0899	2.2357	ZF-EDAM11	
EDAU11	2.1226	4.0899	1.9672	ZF-EDAU11	
EDAZ11	2.3720	4.0899	1.7179	ZF-EDAZ11	
EDAH12	2.6213	4.0899	1.4686	ZF-EDAH12	
EDAM12	2.8706	4.0899	1.2193	ZF-EDAM12	

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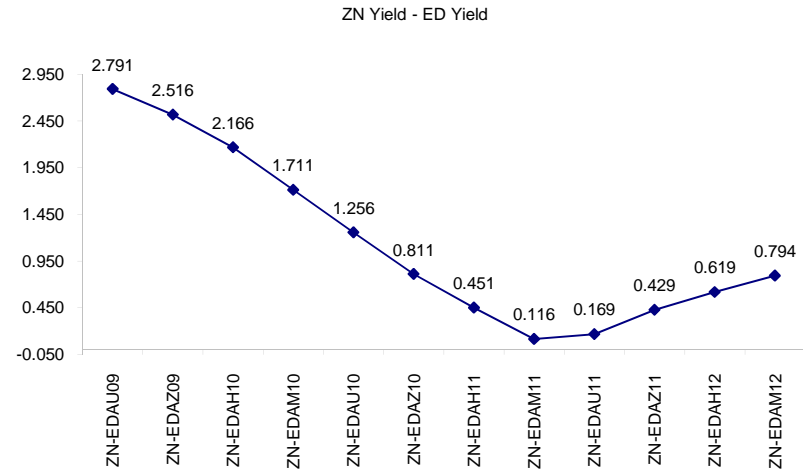


	ZN			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	16.20	2.791	ZN-EDAU09	2
EDAZ09	16.48	2.516	ZN-EDAZ09	62
EDAH10	16.83	2.166	ZN-EDAH10	60
EDAM10	17.28	1.711	ZN-EDAM10	52
EDAU10	17.74	1.256	ZN-EDAU10	49
EDAZ10	18.18	0.811	ZN-EDAZ10	46
EDAH11	18.54	0.451	ZN-EDAH11	49
EDAM11	18.88	0.116	ZN-EDAM11	58
EDAU11	19.16	0.169	ZN-EDAU11	69
EDAZ11	19.42	0.429	ZN-EDAZ11	82
EDAH12	19.61	0.619	ZN-EDAH12	91
EDAM12	19.79	0.794	ZN-EDAM12	97

Price = Outright Decimal Price - Euro Contract Price

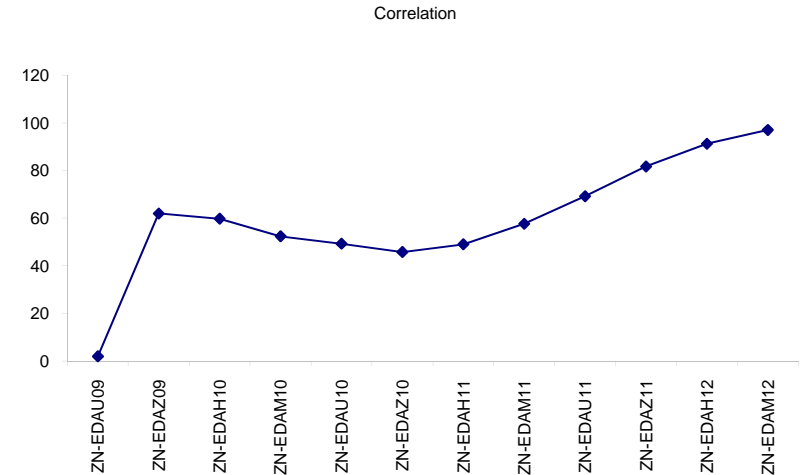
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZN Duration	Spread Duration
EDAU09	0.1089	5.7153	5.6064	ZN-EDAU09	
EDAZ09	0.3583	5.7153	5.3571	ZN-EDAZ09	
EDAH10	0.6076	5.7153	5.1077	ZN-EDAH10	
EDAM10	0.8569	5.7153	4.8584	ZN-EDAM10	
EDAU10	1.1062	5.7153	4.6091	ZN-EDAU10	
EDAZ10	1.3555	5.7153	4.3598	ZN-EDAZ10	
EDAH11	1.6048	5.7153	4.1105	ZN-EDAH11	
EDAM11	1.8541	5.7153	3.8612	ZN-EDAM11	
EDAU11	2.1226	5.7153	3.5927	ZN-EDAU11	
EDAZ11	2.3720	5.7153	3.3434	ZN-EDAZ11	
EDAH12	2.6213	5.7153	3.0940	ZN-EDAH12	
EDAM12	2.8706	5.7153	2.8447	ZN-EDAM12	

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



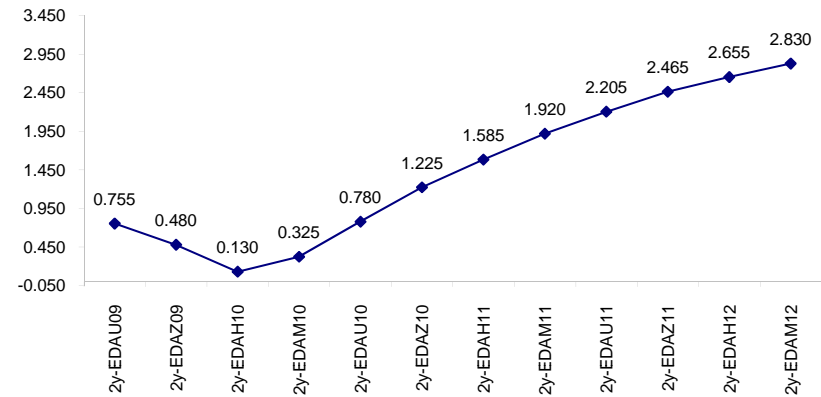
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.02	0.755	2y-EDAU09	84
EDAZ09	0.29	0.480	2y-EDAZ09	1
EDAH10	0.64	0.130	2y-EDAH10	-85
EDAM10	1.10	0.325	2y-EDAM10	-92
EDAU10	1.55	0.780	2y-EDAU10	-94
EDAZ10	2.00	1.225	2y-EDAZ10	-94
EDAH11	2.36	1.585	2y-EDAH11	-92
EDAM11	2.69	1.920	2y-EDAM11	-87
EDAU11	2.98	2.205	2y-EDAU11	-79
EDAZ11	3.24	2.465	2y-EDAZ11	-68
EDAH12	3.43	2.655	2y-EDAH12	-54
EDAM12	3.60	2.830	2y-EDAM12	-35

Price = Outright Decimal Price - Euro Contract Price

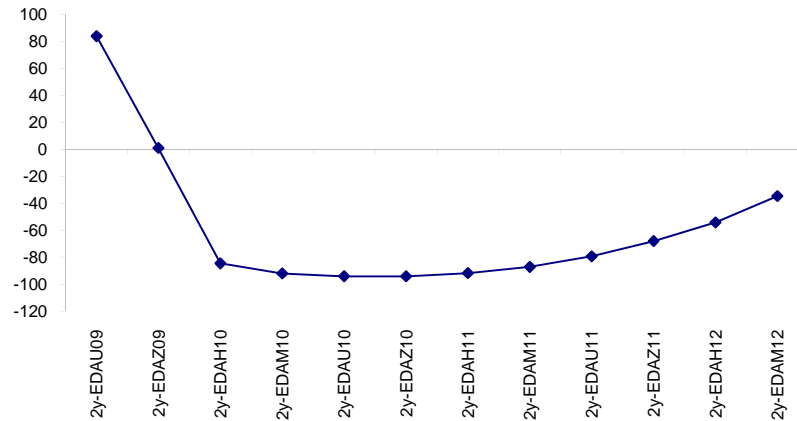
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



ED Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAU09	0.1089	1.9566	1.8477	2y-EDAU09
EDAZ09	0.3583	1.9566	1.5984	2y-EDAZ09
EDAH10	0.6076	1.9566	1.3491	2y-EDAH10
EDAM10	0.8569	1.9566	1.0998	2y-EDAM10
EDAU10	1.1062	1.9566	0.8504	2y-EDAU10
EDAZ10	1.3555	1.9566	0.6011	2y-EDAZ10
EDAH11	1.6048	1.9566	0.3518	2y-EDAH11
EDAM11	1.8541	1.9566	0.1025	2y-EDAM11
EDAU11	2.1226	1.9566	-0.1660	2y-EDAU11
EDAZ11	2.3720	1.9566	-0.4153	2y-EDAZ11
EDAH12	2.6213	1.9566	-0.6646	2y-EDAH12
EDAM12	2.8706	1.9566	-0.9139	2y-EDAM12

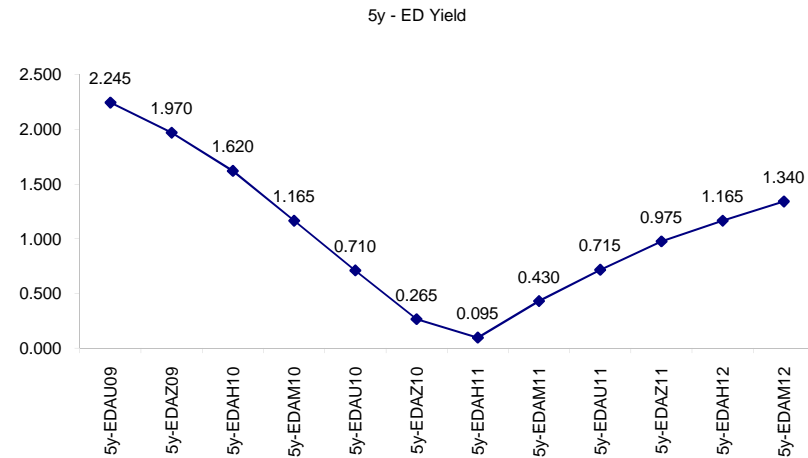
The farther away from 0 the spread duration is the riskier the trade.

5y				Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	0.00	2.245	5y-EDAU09	71
EDAZ09	0.28	1.970	5y-EDAZ09	-14
EDAH10	0.63	1.620	5y-EDAH10	-86
EDAM10	1.08	1.165	5y-EDAM10	-91
EDAU10	1.54	0.710	5y-EDAU10	-92
EDAZ10	1.98	0.265	5y-EDAZ10	-91
EDAH11	2.34	0.095	5y-EDAH11	-91
EDAM11	2.68	0.430	5y-EDAM11	-91
EDAU11	2.96	0.715	5y-EDAU11	-90
EDAZ11	3.22	0.975	5y-EDAZ11	-87
EDAH12	3.41	1.165	5y-EDAH12	-81
EDAM12	3.59	1.340	5y-EDAM12	-68

Price = Outright Decimal Price - Euro Contract Price

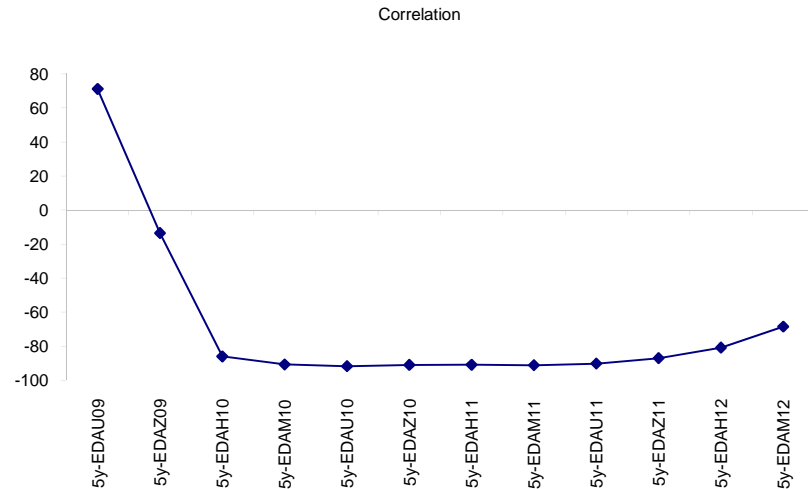
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



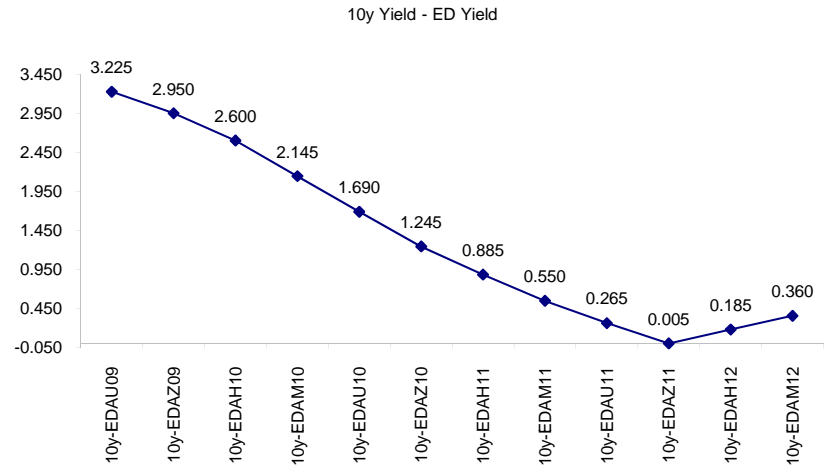
ED Duration as Fraction of year				5Y Duration	Spread Duration	
EDAU09	0.1089	4.6379	4.5290	5y-EDAU09		
EDAZ09	0.3583	4.6379	4.2796	5y-EDAZ09		
EDAH10	0.6076	4.6379	4.0303	5y-EDAH10		
EDAM10	0.8569	4.6379	3.7810	5y-EDAM10		
EDAU10	1.1062	4.6379	3.5317	5y-EDAU10		
EDAZ10	1.3555	4.6379	3.2824	5y-EDAZ10		
EDAH11	1.6048	4.6379	3.0331	5y-EDAH11		
EDAM11	1.8541	4.6379	2.7838	5y-EDAM11		
EDAU11	2.1226	4.6379	2.5153	5y-EDAU11		
EDAZ11	2.3720	4.6379	2.2659	5y-EDAZ11		
EDAH12	2.6213	4.6379	2.0166	5y-EDAH12		
EDAM12	2.8706	4.6379	1.7673	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	0.00	3.225	10y-EDAU09	-11
EDAZ09	0.28	2.950	10y-EDAZ09	-41
EDAH10	0.63	2.600	10y-EDAH10	-30
EDAM10	1.08	2.145	10y-EDAM10	-24
EDAU10	1.54	1.690	10y-EDAU10	-21
EDAZ10	1.98	1.245	10y-EDAZ10	-19
EDAH11	2.34	0.885	10y-EDAH11	-24
EDAM11	2.68	0.550	10y-EDAM11	-34
EDAU11	2.96	0.265	10y-EDAU11	-47
EDAZ11	3.22	0.005	10y-EDAZ11	-63
EDAH12	3.41	0.185	10y-EDAH12	-76
EDAM12	3.59	0.360	10y-EDAM12	-87

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	0.1089	8.2450	8.1361	10y-EDAU09		
EDAZ09	0.3583	8.2450	7.8868	10y-EDAZ09		
EDAH10	0.6076	8.2450	7.6374	10y-EDAH10		
EDAM10	0.8569	8.2450	7.3881	10y-EDAM10		
EDAU10	1.1062	8.2450	7.1388	10y-EDAU10		
EDAZ10	1.3555	8.2450	6.8895	10y-EDAZ10		
EDAH11	1.6048	8.2450	6.6402	10y-EDAH11		
EDAM11	1.8541	8.2450	6.3909	10y-EDAM11		
EDAU11	2.1226	8.2450	6.1224	10y-EDAU11		
EDAZ11	2.3720	8.2450	5.8731	10y-EDAZ11		
EDAH12	2.6213	8.2450	5.6237	10y-EDAH12		
EDAM12	2.8706	8.2450	5.3744	10y-EDAM12		

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

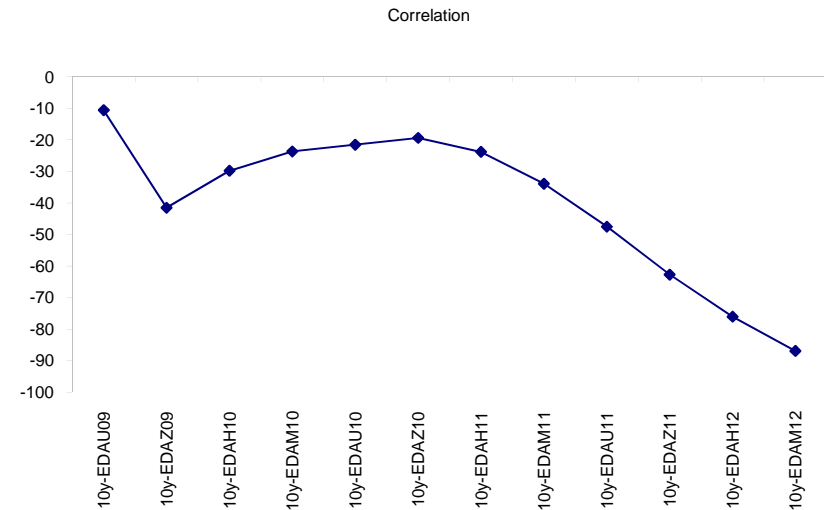


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

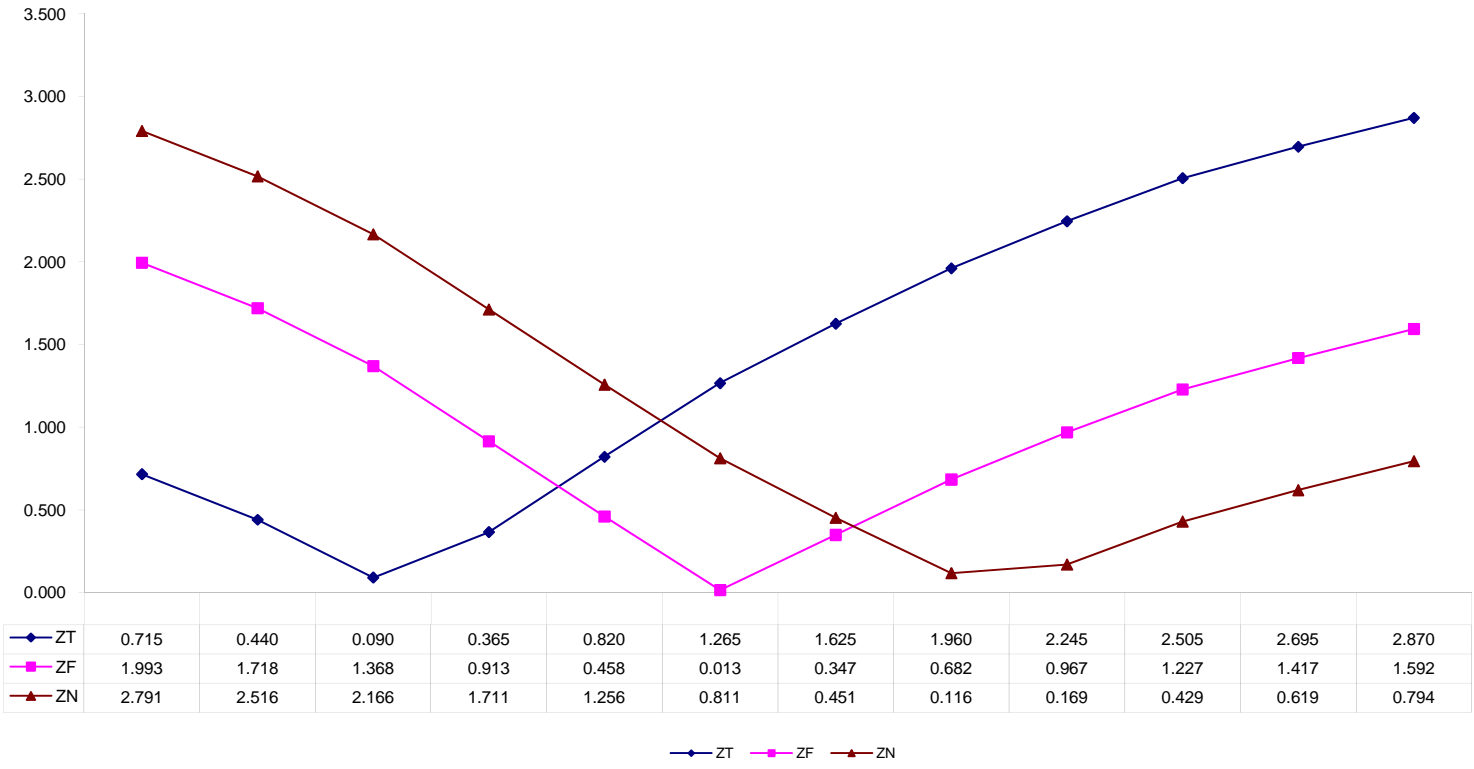
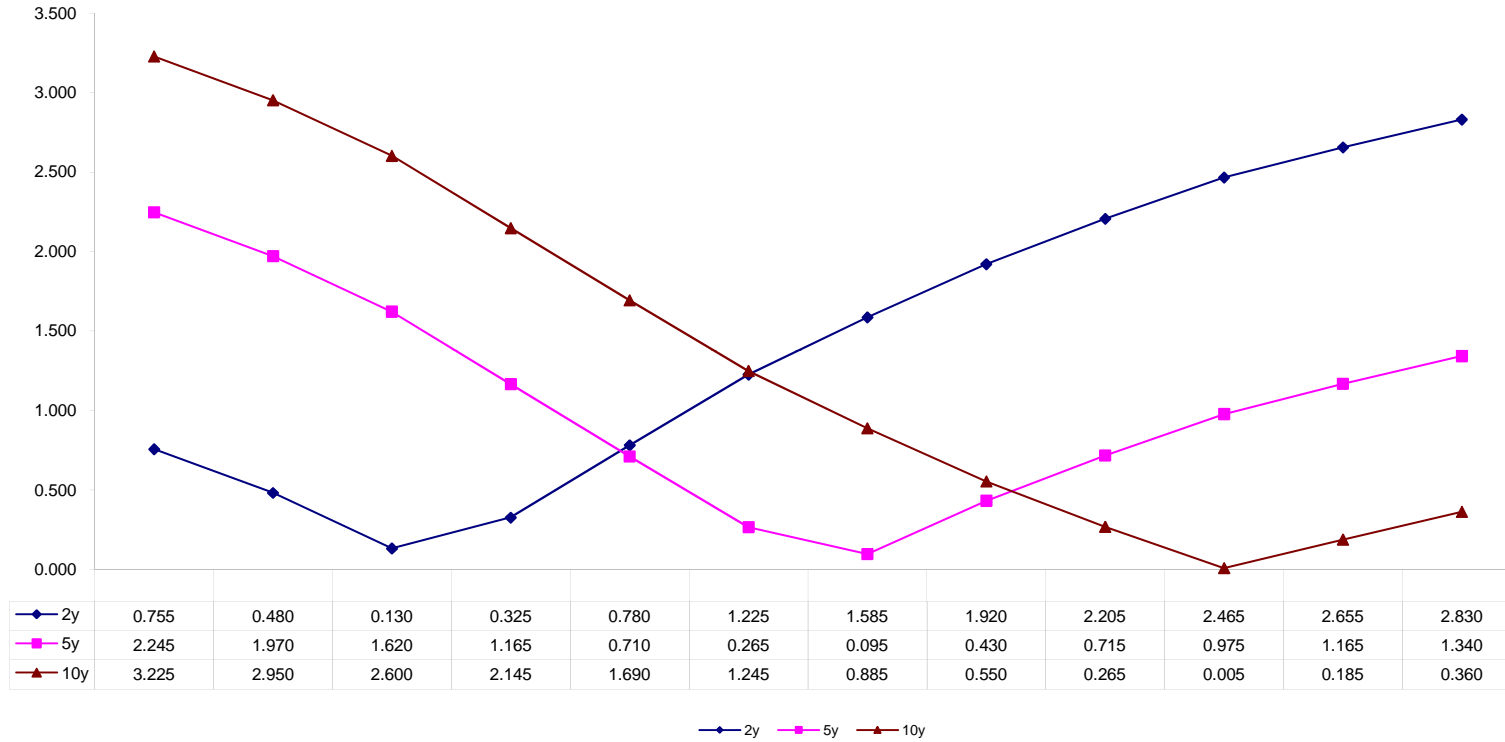
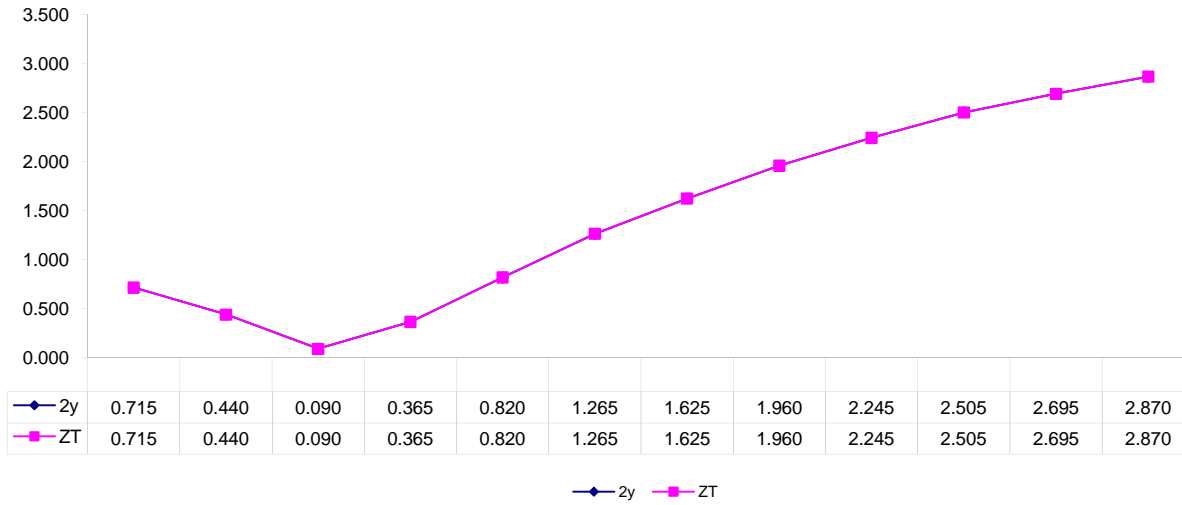
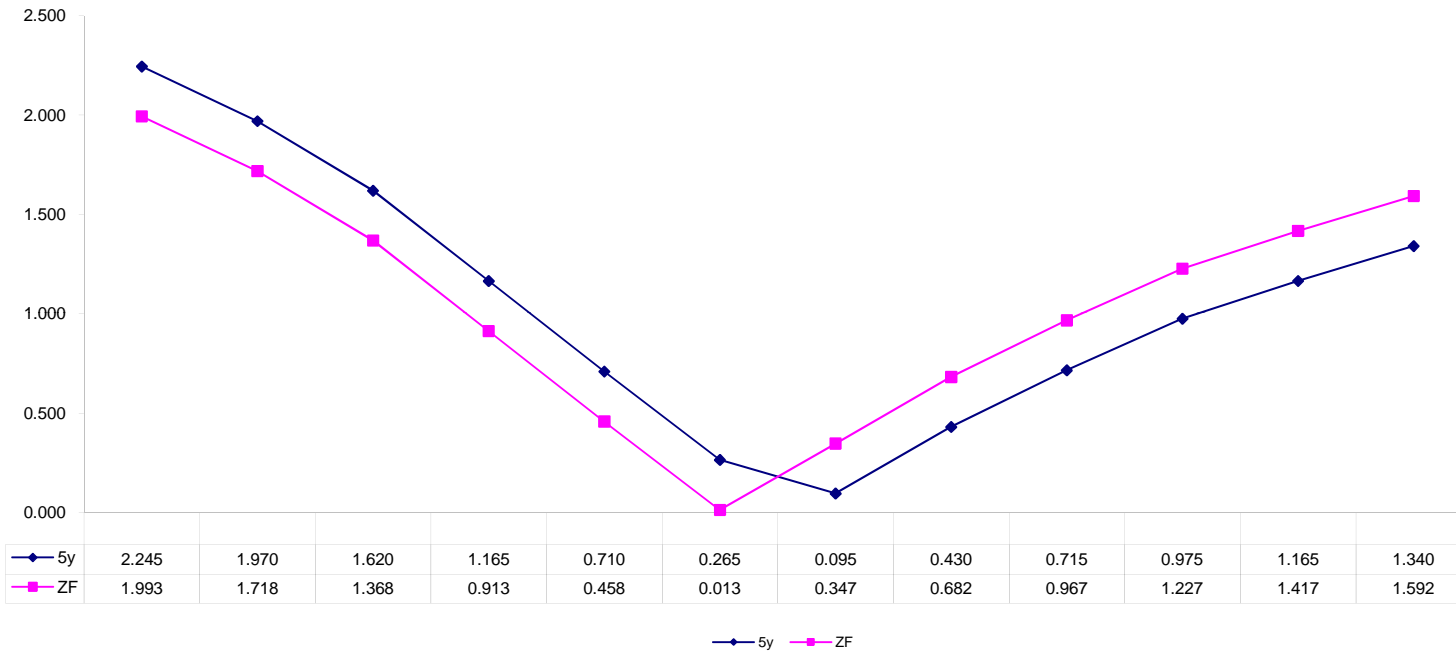


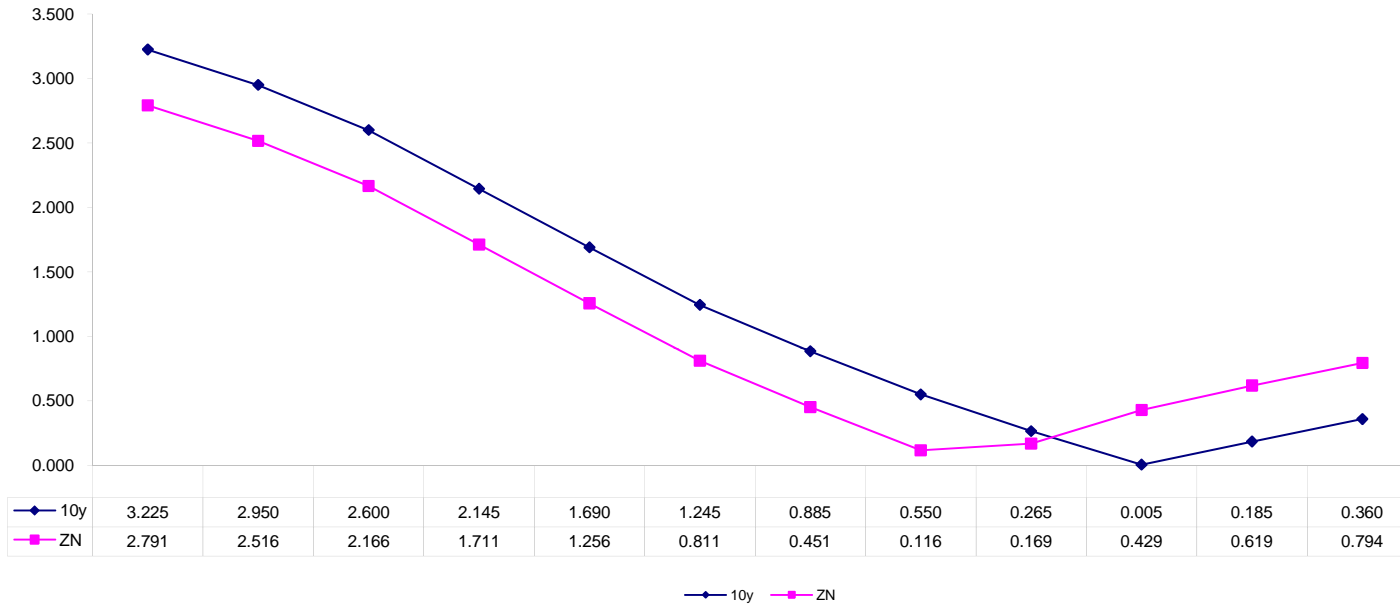
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Last Price
White Pack	#NAME?	#NAME?
Red Pack	#VALUE!	9738.250
Green Pack	3.868	9622.125
Blue Pack	9.558	9558.375
Gold Pack	#NAME?	9517.750

