

## **The Morning Email: TERM TEDS & Dirty TEDS**

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Want something added? Let me know: [jgoulding@ghco.com](mailto:jgoulding@ghco.com)

**Disclaimer:** All information within this newsletter is meant for internal use at GH Trader's LLC, only. All information has been recorded to the best of my ability. This material is based upon information that I consider reliable, but I do not represent that it is accurate or complete.

Treasury Futures and Cash				
	Last Decimal	Last Feb-00	Last Yield*	MDuration
ZT	108.3125	108.1000	1.026	1.863
ZF	114.9281	114.2970	2.332	4.137
ZN	115.9531	115.3050	3.199	5.763
2y	100.2031	100.0650	1.015	1.917
5y	100.2656	100.0850	2.567	4.604
10y	95.2344	95.0750	3.706	8.288

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4550	0.545	56	0.1528	SEP	
EDAZ09	99.2250	0.775	147	0.4021	DEC	White Pack
EDAH10	98.9450	1.055	238	0.6514	MAR	Pack
EDAM10	98.5650	1.435	329	0.9007	JUN	
EDAU10	98.1650	1.835	420	1.1500	SEP	
EDAZ10	97.7400	2.260	511	1.3993	DEC	Red Pack
EDAH11	97.3600	2.640	602	1.6486	MAR	Pack
EDAM11	96.9800	3.020	693	1.8980	JUN	
EDAU11	96.6400	3.360	791	2.1665	SEP	
EDAZ11	96.3250	3.675	882	2.4158	DEC	Green Pack
EDAH12	96.0950	3.905	973	2.6651	MAR	Pack
EDAM12	95.8900	4.110	1,064	2.9144	JUN	
EDAU12	95.7350	4.265	1,155	3.1637	SEP	
EDAZ12	95.5450	4.455	1,246	3.4130	DEC	Blue Pack
EDAH13	95.4450	4.555	1,337	3.6623	MAR	Pack
EDAM13	95.3200	4.680	1,428	3.9117	JUN	
EDAU13	95.2200	4.780	1,519	4.1610	SEP	
EDAZ13	95.0950	4.905	1,610	4.4103	DEC	Gold Pack
EDAH14	95.1400	4.860	1,701	4.6596	MAR	Pack
EDAM14	94.9300	5.070	1,792	4.9089	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.968	-1.750	9904.75	
Red Pack	2.488	-5.500	9756.13	Pack Prices
Green Pack	3.851	-7.250	9623.75	
Blue Pack	4.603	-9.000	9551.13	
Gold Pack		-8.125	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:**

Jan-00 Regression  
Jan-00 Engineered  
Jan-00 Strip with and without Stubs  
Jan-00 Convexity Bias  
Jan-00 Weighted  
Jan-00 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.

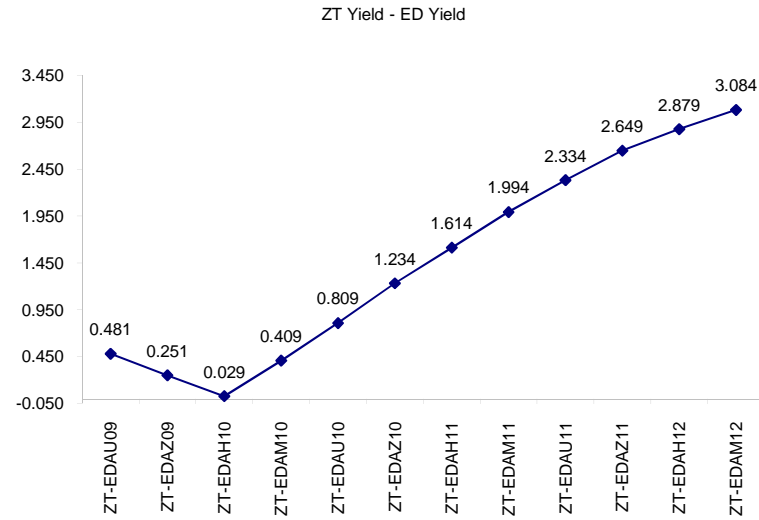
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

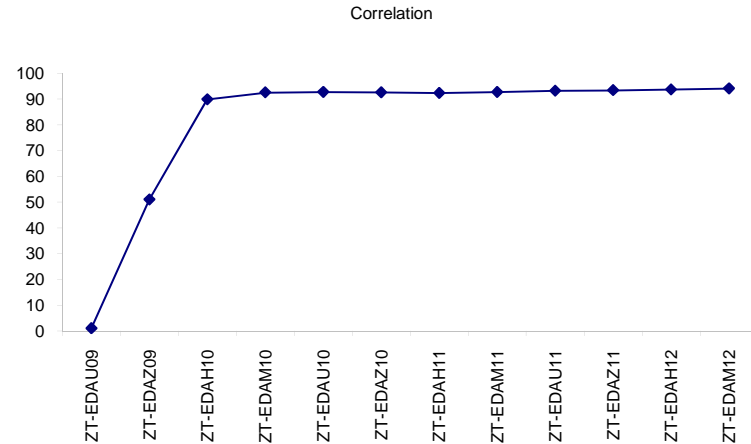
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.86	0.481	ZT-EDAU09	1
EDAZ09	9.09	0.251	ZT-EDAZ09	51
EDAH10	9.37	0.029	ZT-EDAH10	90
EDAM10	9.75	0.409	ZT-EDAM10	93
EDAU10	10.15	0.809	ZT-EDAU10	93
EDAZ10	10.57	1.234	ZT-EDAZ10	93
EDAH11	10.95	1.614	ZT-EDAH11	92
EDAM11	11.33	1.994	ZT-EDAM11	93
EDAU11	11.67	2.334	ZT-EDAU11	93
EDAZ11	11.99	2.649	ZT-EDAZ11	93
EDAH12	12.22	2.879	ZT-EDAH12	94
EDAM12	12.42	3.084	ZT-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



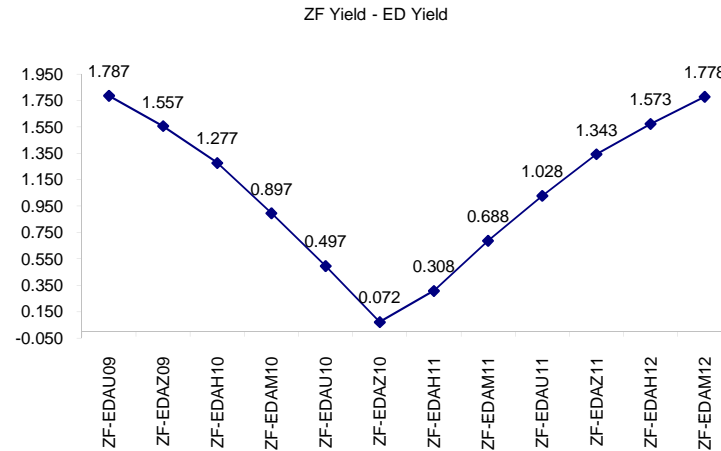
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAU09	0.1528	1.8629	1.7101	ZT-EDAU09		
EDAZ09	0.4021	1.8629	1.4608	ZT-EDAZ09		
EDAH10	0.6514	1.8629	1.2115	ZT-EDAH10		
EDAM10	0.9007	1.8629	0.9622	ZT-EDAM10		
EDAU10	1.1500	1.8629	0.7128	ZT-EDAU10		
EDAZ10	1.3993	1.8629	0.4635	ZT-EDAZ10		
EDAH11	1.6486	1.8629	0.2142	ZT-EDAH11		
EDAM11	1.8980	1.8629	-0.0351	ZT-EDAM11		
EDAU11	2.1665	1.8629	-0.3036	ZT-EDAU11		
EDAZ11	2.4158	1.8629	-0.5529	ZT-EDAZ11		
EDAH12	2.6651	1.8629	-0.8022	ZT-EDAH12		
EDAM12	2.9144	1.8629	-1.0515	ZT-EDAM12		

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



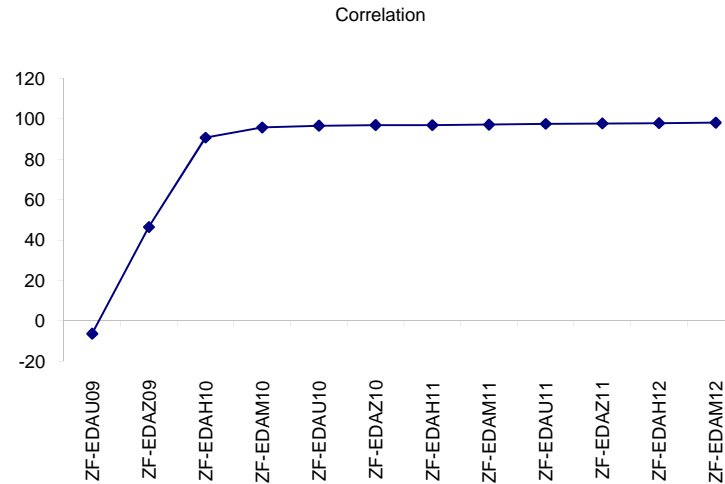
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	15.47	1.787	ZF-EDAU09	-6
EDAZ09	15.70	1.557	ZF-EDAZ09	47
EDAH10	15.98	1.277	ZF-EDAH10	91
EDAM10	16.36	0.897	ZF-EDAM10	96
EDAU10	16.76	0.497	ZF-EDAU10	97
EDAZ10	17.19	0.072	ZF-EDAZ10	97
EDAH11	17.57	0.308	ZF-EDAH11	97
EDAM11	17.95	0.688	ZF-EDAM11	97
EDAU11	18.29	1.028	ZF-EDAU11	98
EDAZ11	18.60	1.343	ZF-EDAZ11	98
EDAH12	18.83	1.573	ZF-EDAH12	98
EDAM12	19.04	1.778	ZF-EDAM12	98

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 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	0.1528	4.1367	3.9840	ZF-EDAU09		
EDAZ09	0.4021	4.1367	3.7347	ZF-EDAZ09		
EDAH10	0.6514	4.1367	3.4853	ZF-EDAH10		
EDAM10	0.9007	4.1367	3.2360	ZF-EDAM10		
EDAU10	1.1500	4.1367	2.9867	ZF-EDAU10		
EDAZ10	1.3993	4.1367	2.7374	ZF-EDAZ10		
EDAH11	1.6486	4.1367	2.4881	ZF-EDAH11		
EDAM11	1.8980	4.1367	2.2388	ZF-EDAM11		
EDAU11	2.1665	4.1367	1.9703	ZF-EDAU11		
EDAZ11	2.4158	4.1367	1.7210	ZF-EDAZ11		
EDAH12	2.6651	4.1367	1.4716	ZF-EDAH12		
EDAM12	2.9144	4.1367	1.2223	ZF-EDAM12		

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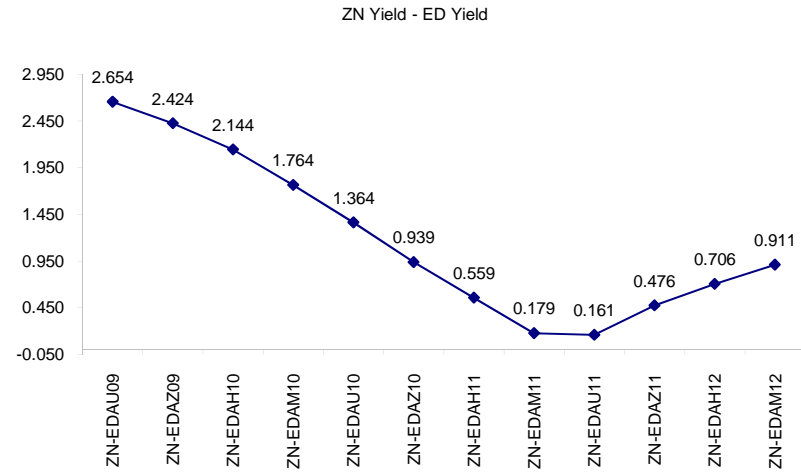


	ZN			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAU09	16.50	2.654	ZN-EDAU09	-9
EDAZ09	16.73	2.424	ZN-EDAZ09	45
EDAH10	17.01	2.144	ZN-EDAH10	90
EDAM10	17.39	1.764	ZN-EDAM10	95
EDAU10	17.79	1.364	ZN-EDAU10	96
EDAZ10	18.21	0.939	ZN-EDAZ10	96
EDAH11	18.59	0.559	ZN-EDAH11	96
EDAM11	18.97	0.179	ZN-EDAM11	96
EDAU11	19.31	0.161	ZN-EDAU11	97
EDAZ11	19.63	0.476	ZN-EDAZ11	97
EDAH12	19.86	0.706	ZN-EDAH12	97
EDAM12	20.06	0.911	ZN-EDAM12	98

Price = Outright Decimal Price - Euro Contract Price

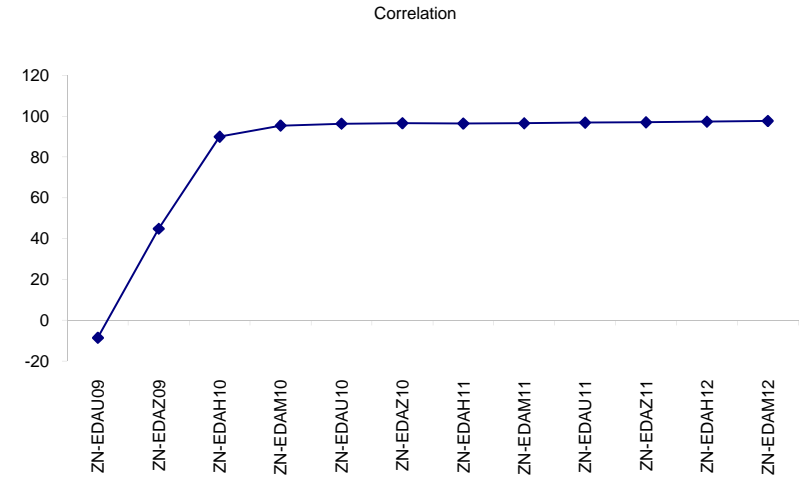
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZN Duration	Spread Duration
EDAU09	0.1528	5.7629	5.6101	ZN-EDAU09	
EDAZ09	0.4021	5.7629	5.3608	ZN-EDAZ09	
EDAH10	0.6514	5.7629	5.1115	ZN-EDAH10	
EDAM10	0.9007	5.7629	4.8622	ZN-EDAM10	
EDAU10	1.1500	5.7629	4.6129	ZN-EDAU10	
EDAZ10	1.3993	5.7629	4.3635	ZN-EDAZ10	
EDAH11	1.6486	5.7629	4.1142	ZN-EDAH11	
EDAM11	1.8980	5.7629	3.8649	ZN-EDAM11	
EDAU11	2.1665	5.7629	3.5964	ZN-EDAU11	
EDAZ11	2.4158	5.7629	3.3471	ZN-EDAZ11	
EDAH12	2.6651	5.7629	3.0978	ZN-EDAH12	
EDAM12	2.9144	5.7629	2.8485	ZN-EDAM12	

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



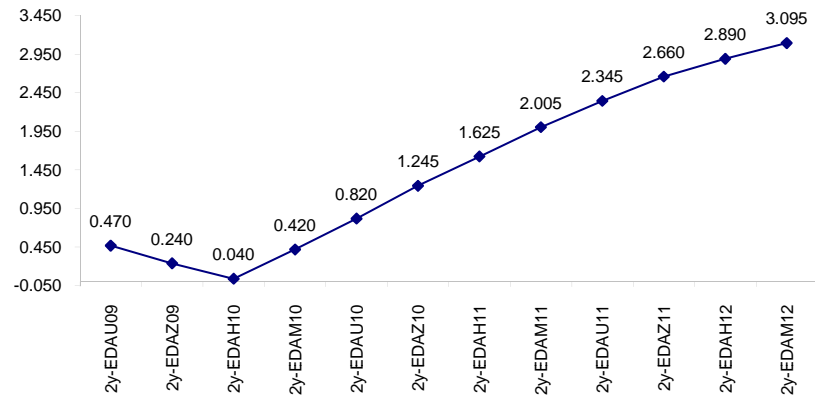
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.75	0.470	2y-EDAU09	-1
EDAZ09	0.98	0.240	2y-EDAZ09	-53
EDAH10	1.26	0.040	2y-EDAH10	-92
EDAM10	1.64	0.420	2y-EDAM10	-94
EDAU10	2.04	0.820	2y-EDAU10	-94
EDAZ10	2.46	1.245	2y-EDAZ10	-94
EDAH11	2.84	1.625	2y-EDAH11	-94
EDAM11	3.22	2.005	2y-EDAM11	-95
EDAU11	3.56	2.345	2y-EDAU11	-95
EDAZ11	3.88	2.660	2y-EDAZ11	-95
EDAH12	4.11	2.890	2y-EDAH12	-95
EDAM12	4.31	3.095	2y-EDAM12	-95

Price = Outright Decimal Price - Euro Contract Price

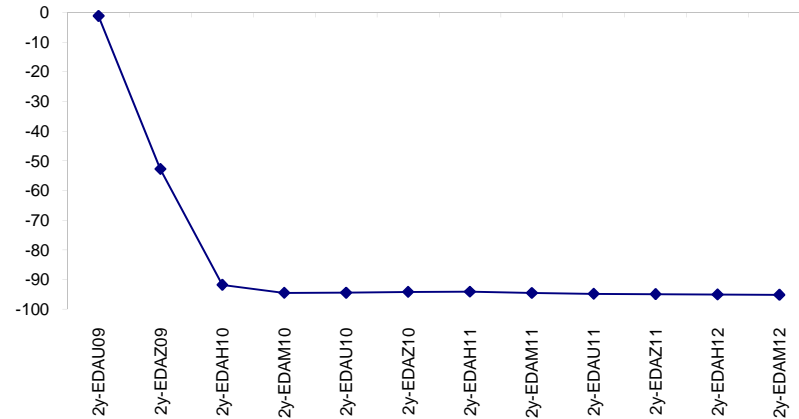
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



ED Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAU09	0.1528	1.9165	1.7638	2y-EDAU09
EDAZ09	0.4021	1.9165	1.5144	2y-EDAZ09
EDAH10	0.6514	1.9165	1.2651	2y-EDAH10
EDAM10	0.9007	1.9165	1.0158	2y-EDAM10
EDAU10	1.1500	1.9165	0.7665	2y-EDAU10
EDAZ10	1.3993	1.9165	0.5172	2y-EDAZ10
EDAH11	1.6486	1.9165	0.2679	2y-EDAH11
EDAM11	1.8980	1.9165	0.0185	2y-EDAM11
EDAU11	2.1665	1.9165	-0.2499	2y-EDAU11
EDAZ11	2.4158	1.9165	-0.4993	2y-EDAZ11
EDAH12	2.6651	1.9165	-0.7486	2y-EDAH12
EDAM12	2.9144	1.9165	-0.9979	2y-EDAM12

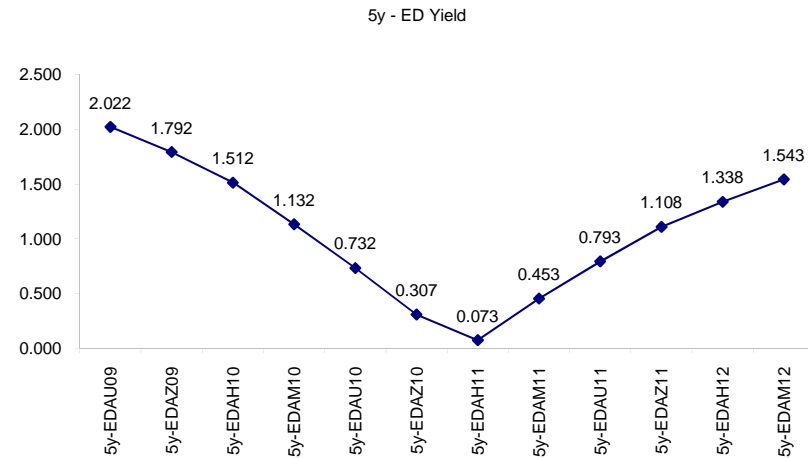
The farther away from 0 the spread duration is the riskier the trade.

5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.81	2.022	5y-EDAU09	8
EDAZ09	1.04	1.792	5y-EDAZ09	-46
EDAH10	1.32	1.512	5y-EDAH10	-92
EDAM10	1.70	1.132	5y-EDAM10	-97
EDAU10	2.10	0.732	5y-EDAU10	-98
EDAZ10	2.53	0.307	5y-EDAZ10	-98
EDAH11	2.91	0.073	5y-EDAH11	-98
EDAM11	3.29	0.453	5y-EDAM11	-99
EDAU11	3.63	0.793	5y-EDAU11	-99
EDAZ11	3.94	1.108	5y-EDAZ11	-99
EDAH12	4.17	1.338	5y-EDAH12	-99
EDAM12	4.38	1.543	5y-EDAM12	-99

Price = Outright Decimal Price - Euro Contract Price

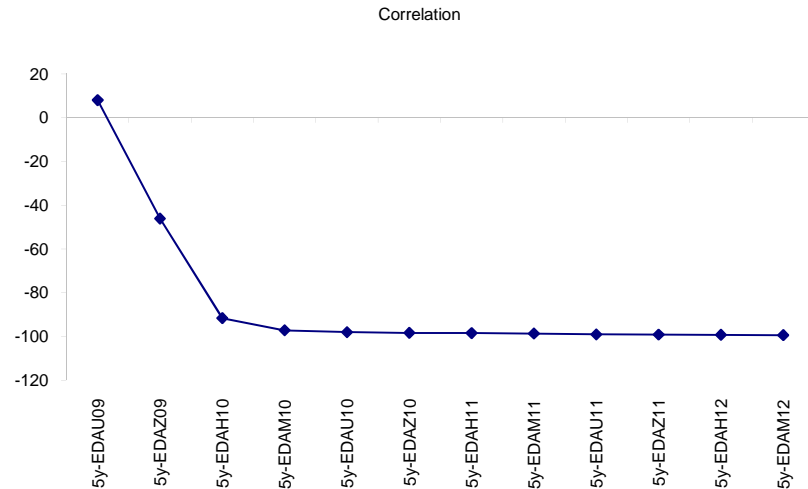
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				
	5Y Duration	Spread Duration		
EDAU09	0.1528	4.6042	4.4514	5y-EDAU09
EDAZ09	0.4021	4.6042	4.2021	5y-EDAZ09
EDAH10	0.6514	4.6042	3.9528	5y-EDAH10
EDAM10	0.9007	4.6042	3.7035	5y-EDAM10
EDAU10	1.1500	4.6042	3.4542	5y-EDAU10
EDAZ10	1.3993	4.6042	3.2049	5y-EDAZ10
EDAH11	1.6486	4.6042	2.9556	5y-EDAH11
EDAM11	1.8980	4.6042	2.7062	5y-EDAM11
EDAU11	2.1665	4.6042	2.4377	5y-EDAU11
EDAZ11	2.4158	4.6042	2.1884	5y-EDAZ11
EDAH12	2.6651	4.6042	1.9391	5y-EDAH12
EDAM12	2.9144	4.6042	1.6898	5y-EDAM12

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

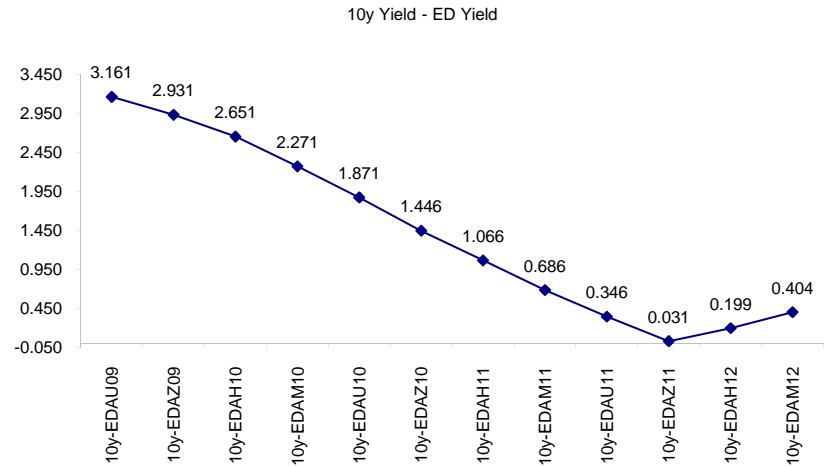


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.81	3.161	10y-EDAU09	9
EDAZ09	1.04	2.931	10y-EDAZ09	-45
EDAH10	1.32	2.651	10y-EDAH10	-91
EDAM10	1.70	2.271	10y-EDAM10	-97
EDAU10	2.10	1.871	10y-EDAU10	-98
EDAZ10	2.53	1.446	10y-EDAZ10	-98
EDAH11	2.91	1.066	10y-EDAH11	-98
EDAM11	3.29	0.686	10y-EDAM11	-99
EDAU11	3.63	0.346	10y-EDAU11	-99
EDAZ11	3.94	0.031	10y-EDAZ11	-99
EDAH12	4.17	0.199	10y-EDAH12	-99
EDAM12	4.38	0.404	10y-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				10Y Duration	Spread Duration	
EDAU09	0.1528	8.2881	8.1354	10y-EDAU09		
EDAZ09	0.4021	8.2881	7.8861	10y-EDAZ09		
EDAH10	0.6514	8.2881	7.6368	10y-EDAH10		
EDAM10	0.9007	8.2881	7.3874	10y-EDAM10		
EDAU10	1.1500	8.2881	7.1381	10y-EDAU10		
EDAZ10	1.3993	8.2881	6.8888	10y-EDAZ10		
EDAH11	1.6486	8.2881	6.6395	10y-EDAH11		
EDAM11	1.8980	8.2881	6.3902	10y-EDAM11		
EDAU11	2.1665	8.2881	6.1217	10y-EDAU11		
EDAZ11	2.4158	8.2881	5.8724	10y-EDAZ11		
EDAH12	2.6651	8.2881	5.6231	10y-EDAH12		
EDAM12	2.9144	8.2881	5.3737	10y-EDAM12		

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

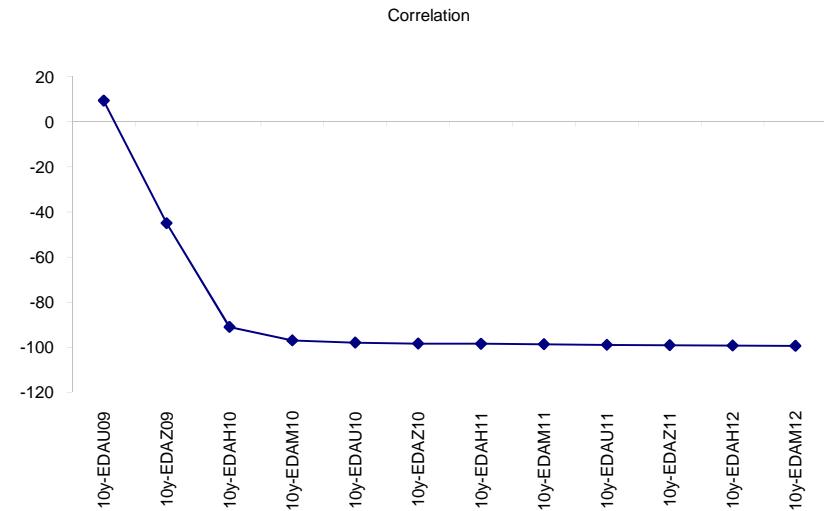


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

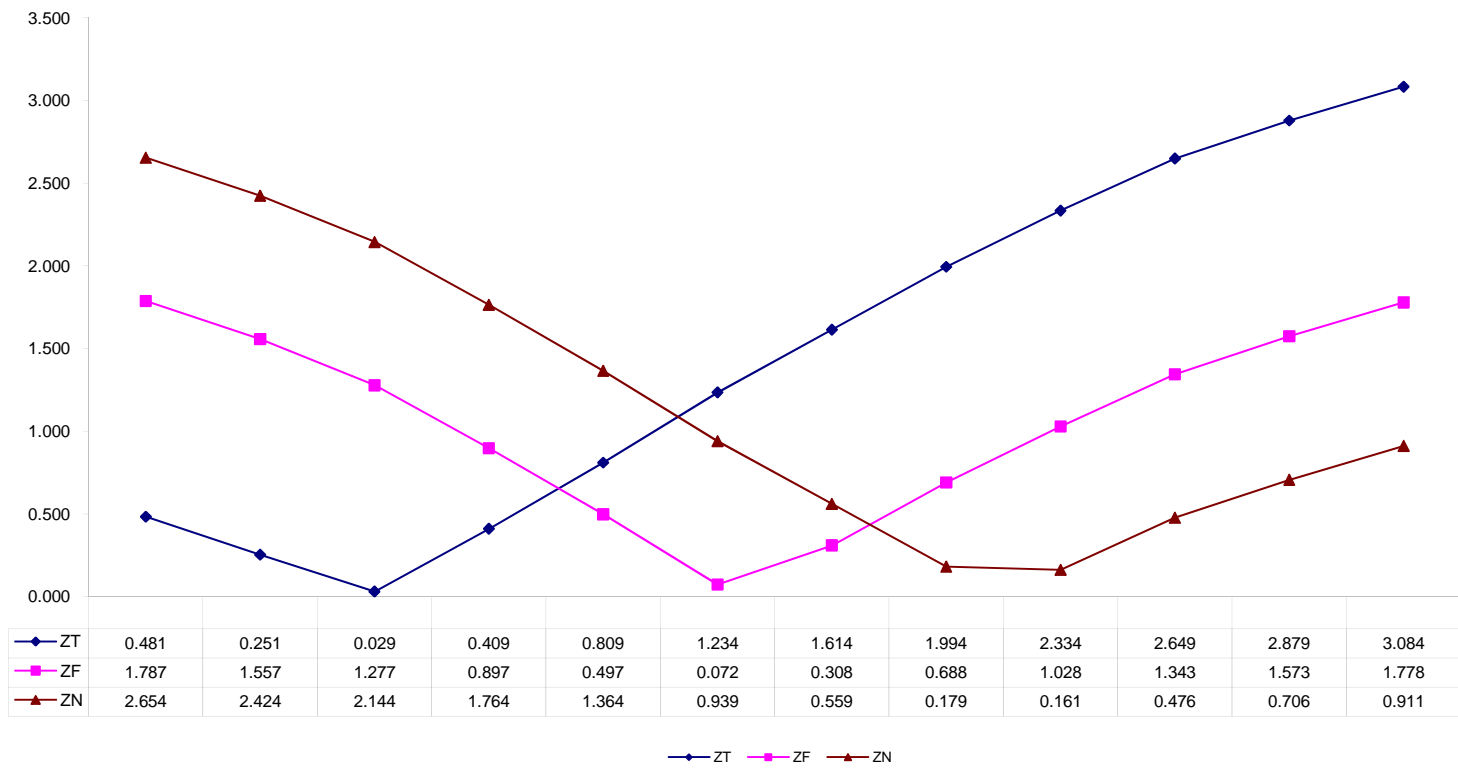
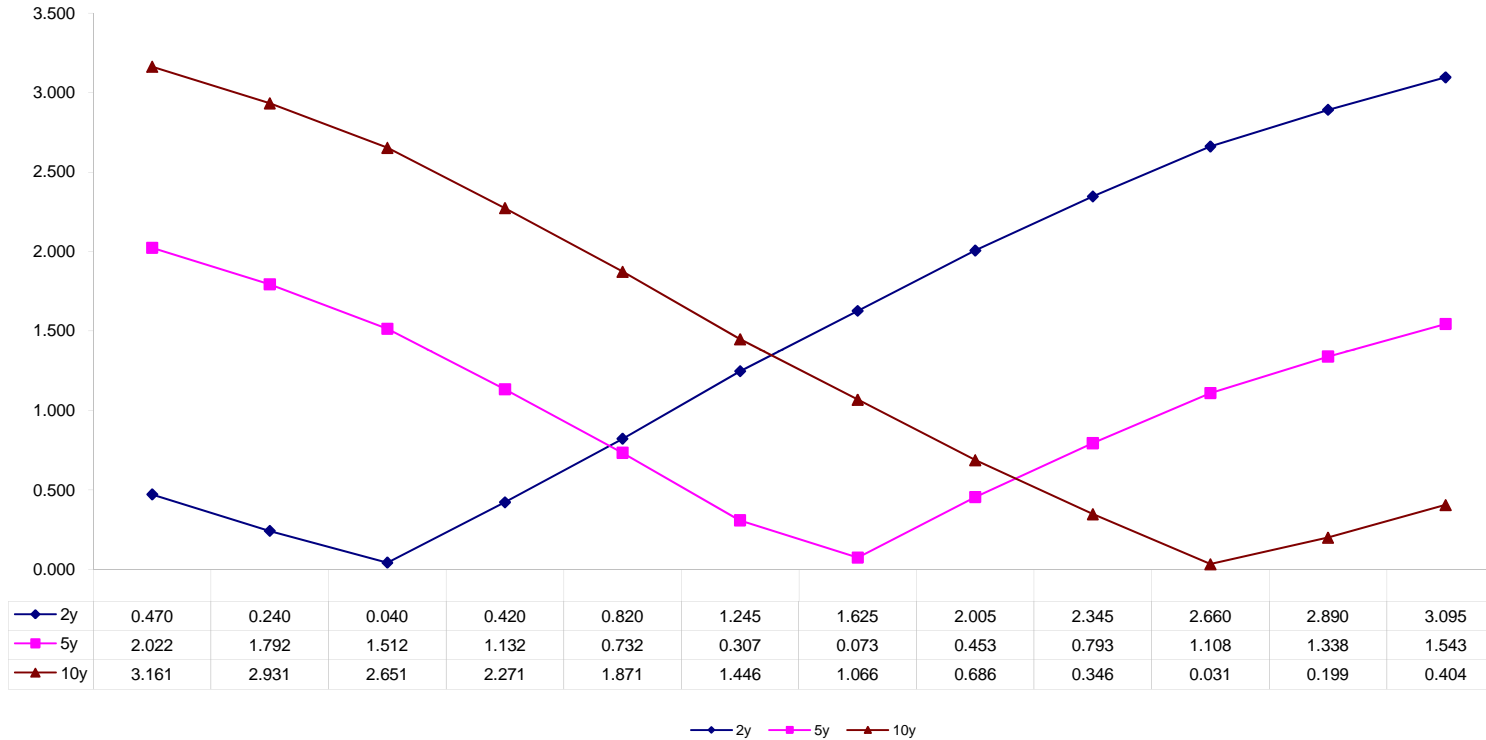
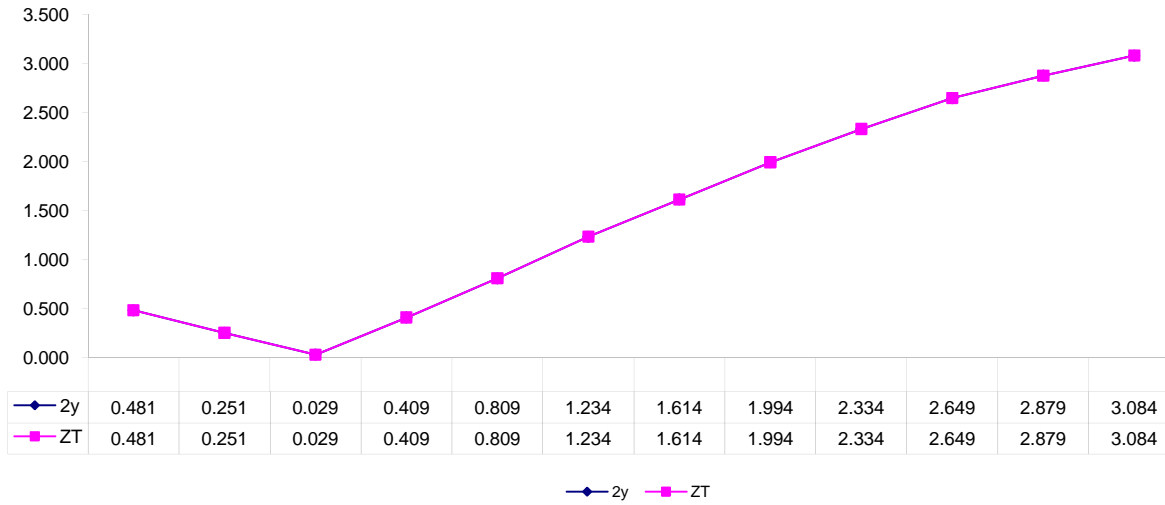
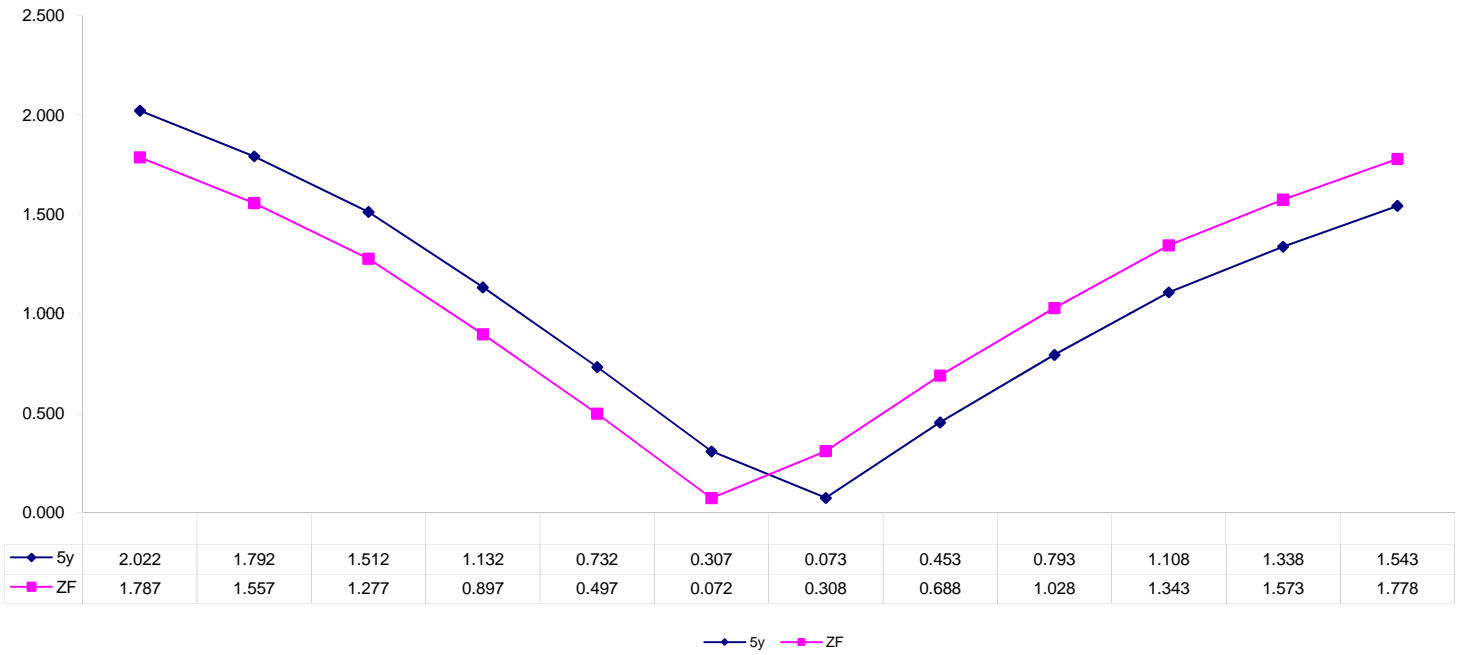


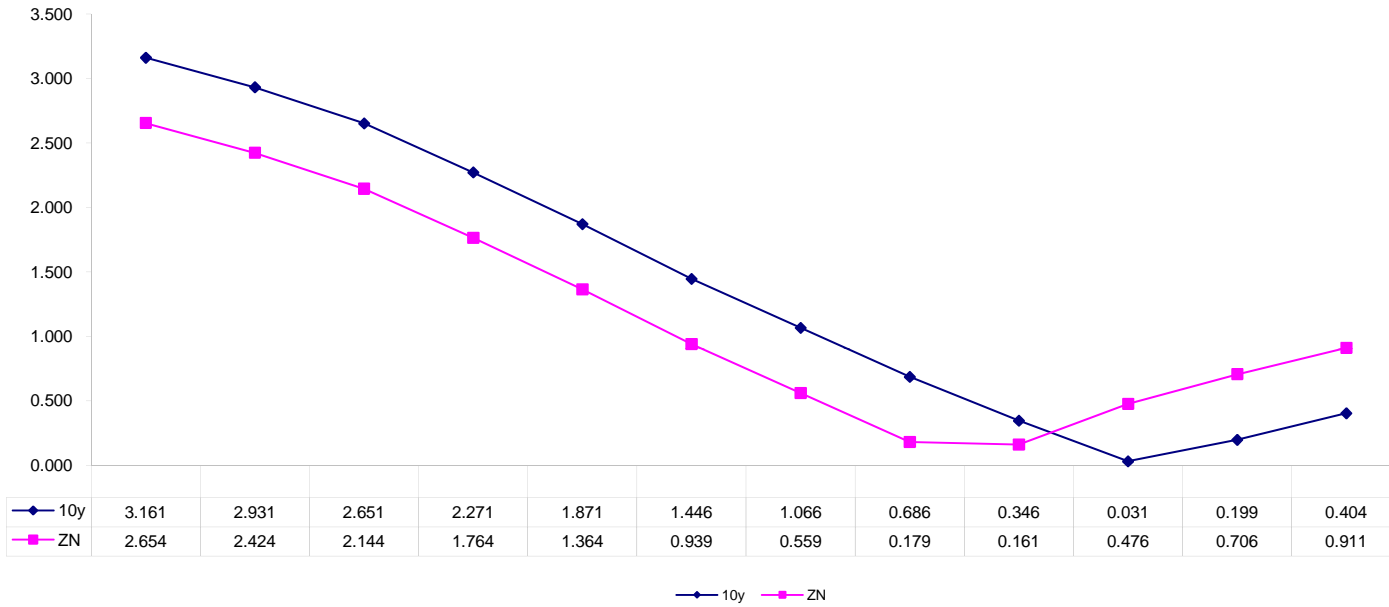
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.968	-1.750	9904.7500
Red Pack	2.488	-5.500	9756.1250
Green Pack	3.851	-7.250	9623.7500
Blue Pack	4.603	-9.000	9551.1250
Gold Pack		-8.125	9509.3750

