

## **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 € 32.00	Last Yield*	MDuration
ZT	108.3188	108.1020	0.982	1.924
ZF	116.7406	116.2370	1.823	1.823
ZN	121.4375	121.1400	2.594	6.302
2y	99.6719	99.2150	1.037	1.933
5y	99.5938	99.1900	1.960	4.706
10y	98.4375	98.1400	2.931	8.593

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.6750	1.325	3	0.0076	MAR	
EDAM09	98.5900	1.410	94	0.2569	JUN	White Pack
EDAU09	98.5400	1.460	185	0.5062	SEP	
EDAZ09	98.3900	1.610	276	0.7555	DEC	
EDAH10	98.3300	1.670	367	1.0048	MAR	
EDAM10	98.1750	1.825	458	1.2541	JUN	Red Pack
EDAU10	98.0050	1.995	549	1.5035	SEP	
EDAZ10	97.7850	2.215	640	1.7528	DEC	
EDAH11	97.6100	2.390	731	2.0021	MAR	
EDAM11	97.3850	2.615	822	2.2514	JUN	Green Pack
EDAU11	97.1900	2.810	920	2.5199	SEP	
EDAZ11	96.9800	3.020	1,011	2.7692	DEC	
EDAH12	96.8800	3.120	1,102	3.0185	MAR	
EDAM12	96.8600	3.140	1,193	3.2678	JUN	Blue Pack
EDAU12	96.6700	3.330	1,284	3.5172	SEP	
EDAZ12	96.5650	3.435	1,375	3.7665	DEC	
EDAH13	96.6100	3.390	1,466	4.0158	MAR	
EDAM13	96.4350	3.565	1,557	4.2651	JUN	Gold Pack
EDZU13	96.4500	3.550	1,648	4.5144	SEP	
EDZZ13	96.3400	3.660	1,739	4.7637	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.477	-0.938	9854.88	Pack Prices
Red Pack	1.963	-4.125	9807.38	
Green Pack	2.765	-7.000	9729.13	
Blue Pack	-4.750	9673.50		
Gold Pack	-1.625	9645.00		

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:**

- € 1.00 Regression
- € 2.00 Engineered
- € 3.00 Strip with and without Stubs
- € 4.00 Convexity Bias
- € 5.00 Weighted
- € 6.00 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.

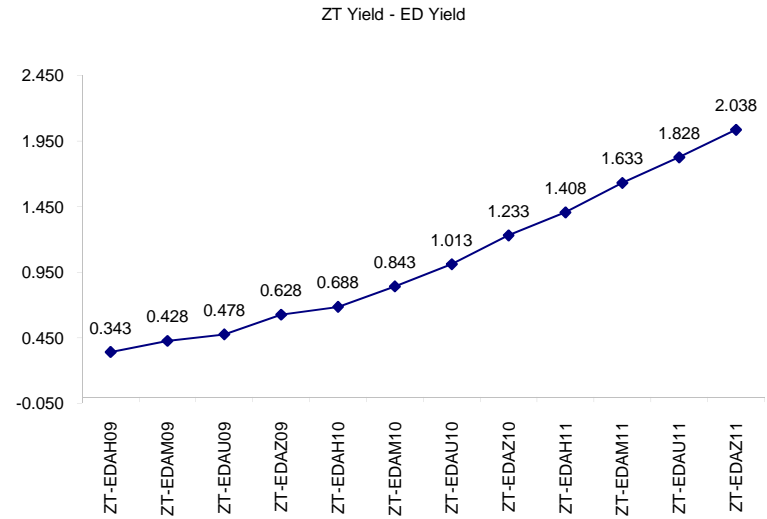
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

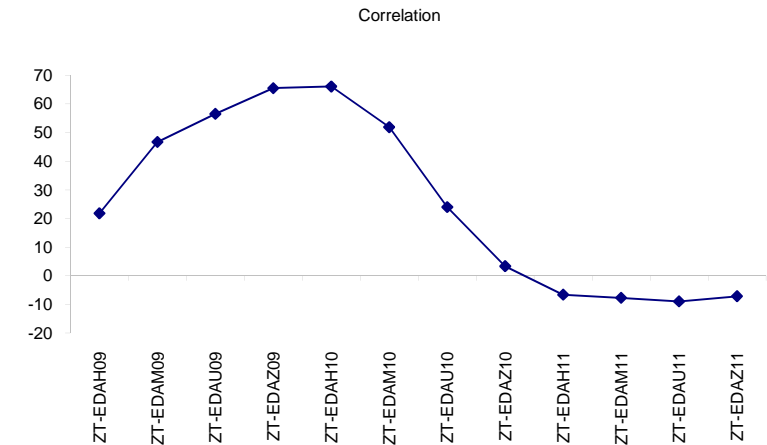
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	9.64	0.343	ZT-EDAH09	22
EDAM09	9.73	0.428	ZT-EDAM09	47
EDAU09	9.78	0.478	ZT-EDAU09	57
EDAZ09	9.93	0.628	ZT-EDAZ09	65
EDAH10	9.99	0.688	ZT-EDAH10	66
EDAM10	10.14	0.843	ZT-EDAM10	52
EDAU10	10.31	1.013	ZT-EDAU10	24
EDAZ10	10.53	1.233	ZT-EDAZ10	3
EDAH11	10.71	1.408	ZT-EDAH11	-7
EDAM11	10.93	1.633	ZT-EDAM11	-8
EDAU11	11.13	1.828	ZT-EDAU11	-9
EDAZ11	11.34	2.038	ZT-EDAZ11	-7

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		
EDAH09	0.0076	1.9242	1.9166	ZT-EDAH09
EDAM09	0.2569	1.9242	1.6673	ZT-EDAM09
EDAU09	0.5062	1.9242	1.4180	ZT-EDAU09
EDAZ09	0.7555	1.9242	1.1686	ZT-EDAZ09
EDAH10	1.0048	1.9242	0.9193	ZT-EDAH10
EDAM10	1.2541	1.9242	0.6700	ZT-EDAM10
EDAU10	1.5035	1.9242	0.4207	ZT-EDAU10
EDAZ10	1.7528	1.9242	0.1714	ZT-EDAZ10
EDAH11	2.0021	1.9242	-0.0779	ZT-EDAH11
EDAM11	2.2514	1.9242	-0.3272	ZT-EDAM11
EDAU11	2.5199	1.9242	-0.5957	ZT-EDAU11
EDAZ11	2.7692	1.9242	-0.8451	ZT-EDAZ11

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

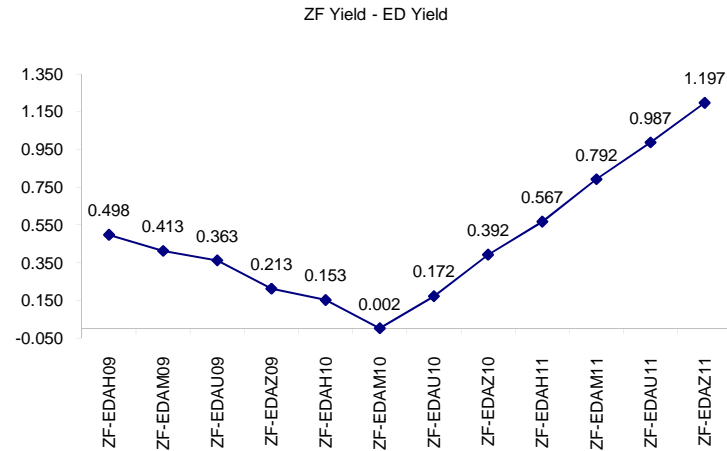


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	18.07	0.498	ZF-EDAH09	27
EDAM09	18.15	0.413	ZF-EDAM09	45
EDAU09	18.20	0.363	ZF-EDAU09	57
EDAZ09	18.35	0.213	ZF-EDAZ09	67
EDAH10	18.41	0.153	ZF-EDAH10	78
EDAM10	18.57	0.002	ZF-EDAM10	78
EDAU10	18.74	0.172	ZF-EDAU10	63
EDAZ10	18.96	0.392	ZF-EDAZ10	48
EDAH11	19.13	0.567	ZF-EDAH11	39
EDAM11	19.36	0.792	ZF-EDAM11	37
EDAU11	19.55	0.987	ZF-EDAU11	35
EDAZ11	19.76	1.197	ZF-EDAZ11	34

Price = Outright Decimal Price - Euro Contract Price

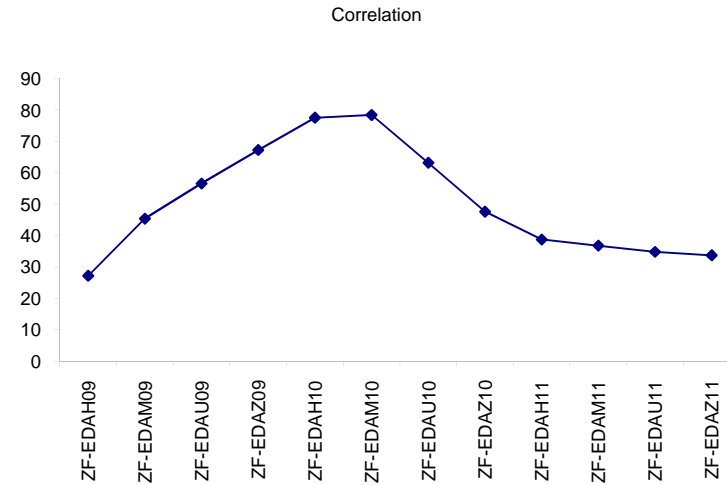
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.0076	1.8225	1.8150	ZF-EDAH09	
EDAM09	0.2569	1.8225	1.5657	ZF-EDAM09	
EDAU09	0.5062	1.8225	1.3163	ZF-EDAU09	
EDAZ09	0.7555	1.8225	1.0670	ZF-EDAZ09	
EDAH10	1.0048	1.8225	0.8177	ZF-EDAH10	
EDAM10	1.2541	1.8225	0.5684	ZF-EDAM10	
EDAU10	1.5035	1.8225	0.3191	ZF-EDAU10	
EDAZ10	1.7528	1.8225	0.0698	ZF-EDAZ10	
EDAH11	2.0021	1.8225	-0.1795	ZF-EDAH11	
EDAM11	2.2514	1.8225	-0.4289	ZF-EDAM11	
EDAU11	2.5199	1.8225	-0.6974	ZF-EDAU11	
EDAZ11	2.7692	1.8225	-0.9467	ZF-EDAZ11	

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

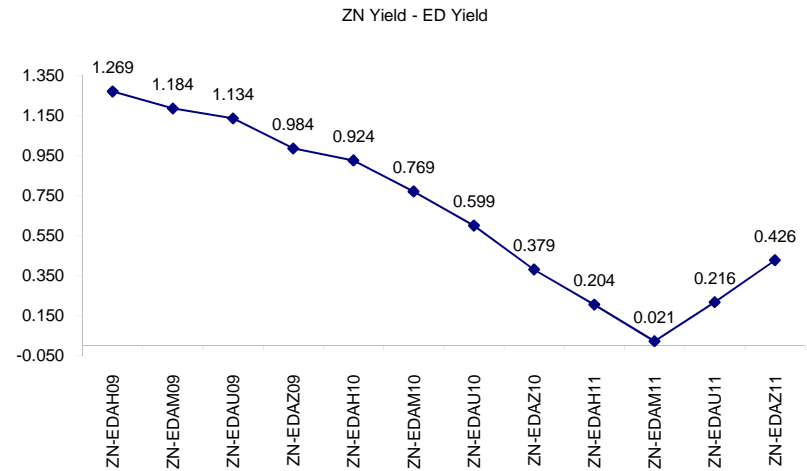


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	22.76	1.269	ZN-EDAH09	-25
EDAM09	22.85	1.184	ZN-EDAM09	-28
EDAU09	22.90	1.134	ZN-EDAU09	-20
EDAZ09	23.05	0.984	ZN-EDAZ09	-10
EDAH10	23.11	0.924	ZN-EDAH10	12
EDAM10	23.26	0.769	ZN-EDAM10	40
EDAU10	23.43	0.599	ZN-EDAU10	64
EDAZ10	23.65	0.379	ZN-EDAZ10	76
EDAH11	23.83	0.204	ZN-EDAH11	82
EDAM11	24.05	0.021	ZN-EDAM11	86
EDAU11	24.25	0.216	ZN-EDAU11	90
EDAZ11	24.46	0.426	ZN-EDAZ11	93

Price = Outright Decimal Price - Euro Contract Price

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

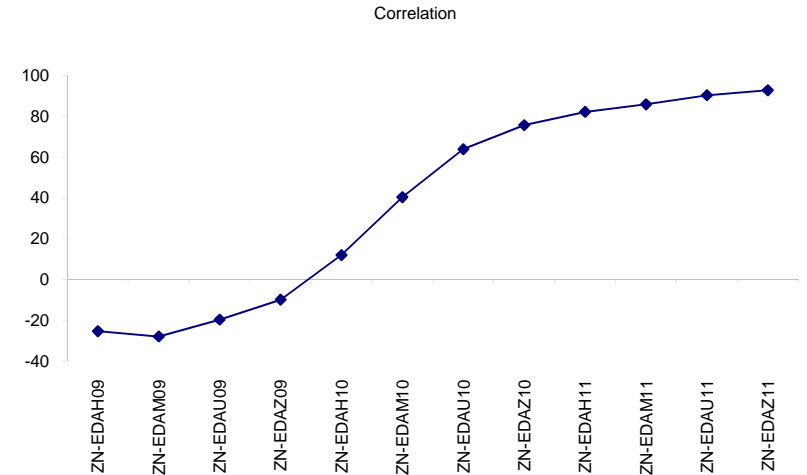
\*Correlation = ED Correlation to Treasury Future over 10 days



ED Duration as

	Fraction of year	ZN Duration	Spread Duration	
EDAH09	0.0076	6.3024	6.2948	ZN-EDAH09
EDAM09	0.2569	6.3024	6.0455	ZN-EDAM09
EDAU09	0.5062	6.3024	5.7962	ZN-EDAU09
EDAZ09	0.7555	6.3024	5.5469	ZN-EDAZ09
EDAH10	1.0048	6.3024	5.2976	ZN-EDAH10
EDAM10	1.2541	6.3024	5.0482	ZN-EDAM10
EDAU10	1.5035	6.3024	4.7989	ZN-EDAU10
EDAZ10	1.7528	6.3024	4.5496	ZN-EDAZ10
EDAH11	2.0021	6.3024	4.3003	ZN-EDAH11
EDAM11	2.2514	6.3024	4.0510	ZN-EDAM11
EDAU11	2.5199	6.3024	3.7825	ZN-EDAU11
EDAZ11	2.7692	6.3024	3.5332	ZN-EDAZ11

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.00	0.288	2y-EDAH09	-43
EDAM09	1.08	0.373	2y-EDAM09	-69
EDAU09	1.13	0.423	2y-EDAU09	-76
EDAZ09	1.28	0.573	2y-EDAZ09	-83
EDAH10	1.34	0.633	2y-EDAH10	-81
EDAM10	1.50	0.788	2y-EDAM10	-63
EDAU10	1.67	0.958	2y-EDAU10	-30
EDAZ10	1.89	1.178	2y-EDAZ10	-5
EDAH11	2.06	1.353	2y-EDAH11	9
EDAM11	2.29	1.578	2y-EDAM11	13
EDAU11	2.48	1.773	2y-EDAU11	19
EDAZ11	2.69	1.983	2y-EDAZ11	22

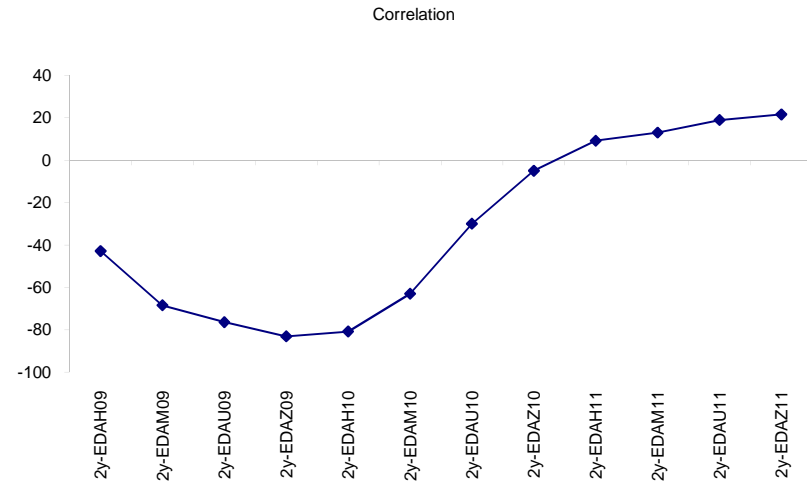
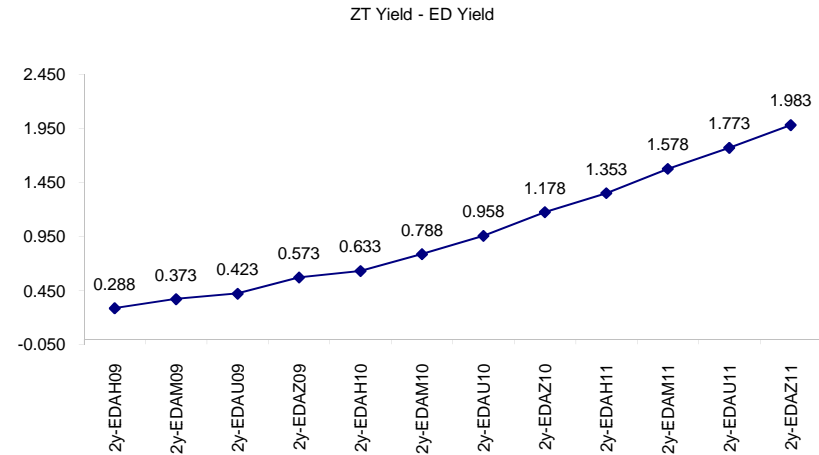
Price = Outright Decimal Price - Euro Contract Price

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		
EDAH09	0.0076	1.9334	1.9259	2y-EDAH09
EDAM09	0.2569	1.9334	1.6766	2y-EDAM09
EDAU09	0.5062	1.9334	1.4272	2y-EDAU09
EDAZ09	0.7555	1.9334	1.1779	2y-EDAZ09
EDAH10	1.0048	1.9334	0.9286	2y-EDAH10
EDAM10	1.2541	1.9334	0.6793	2y-EDAM10
EDAU10	1.5035	1.9334	0.4300	2y-EDAU10
EDAZ10	1.7528	1.9334	0.1807	2y-EDAZ10
EDAH11	2.0021	1.9334	-0.0686	2y-EDAH11
EDAM11	2.2514	1.9334	-0.3180	2y-EDAM11
EDAU11	2.5199	1.9334	-0.5865	2y-EDAU11
EDAZ11	2.7692	1.9334	-0.8358	2y-EDAZ11

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

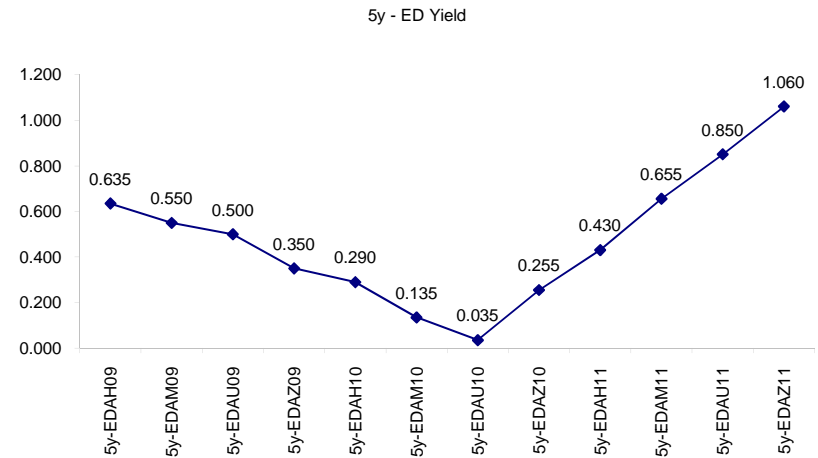


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.92	0.635	5y-EDAH09	-33
EDAM09	1.00	0.550	5y-EDAM09	-54
EDAU09	1.05	0.500	5y-EDAU09	-64
EDAZ09	1.20	0.350	5y-EDAZ09	-73
EDAH10	1.26	0.290	5y-EDAH10	-79
EDAM10	1.42	0.135	5y-EDAM10	-76
EDAU10	1.59	0.035	5y-EDAU10	-57
EDAZ10	1.81	0.255	5y-EDAZ10	-40
EDAH11	1.98	0.430	5y-EDAH11	-30
EDAM11	2.21	0.655	5y-EDAM11	-29
EDAU11	2.40	0.850	5y-EDAU11	-24
EDAZ11	2.61	1.060	5y-EDAZ11	-22

Price = Outright Decimal Price - Euro Contract Price

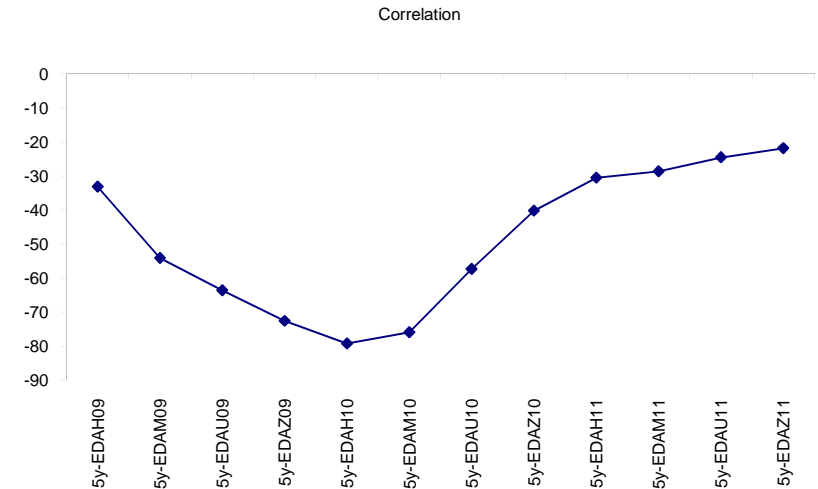
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	5Y Duration	Spread Duration		
EDAH09	0.0076	4.7060	4.6984	5y-EDAH09
EDAM09	0.2569	4.7060	4.4491	5y-EDAM09
EDAU09	0.5062	4.7060	4.1998	5y-EDAU09
EDAZ09	0.7555	4.7060	3.9505	5y-EDAZ09
EDAH10	1.0048	4.7060	3.7012	5y-EDAH10
EDAM10	1.2541	4.7060	3.4519	5y-EDAM10
EDAU10	1.5035	4.7060	3.2026	5y-EDAU10
EDAZ10	1.7528	4.7060	2.9532	5y-EDAZ10
EDAH11	2.0021	4.7060	2.7039	5y-EDAH11
EDAM11	2.2514	4.7060	2.4546	5y-EDAM11
EDAU11	2.5199	4.7060	2.1861	5y-EDAU11
EDAZ11	2.7692	4.7060	1.9368	5y-EDAZ11

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



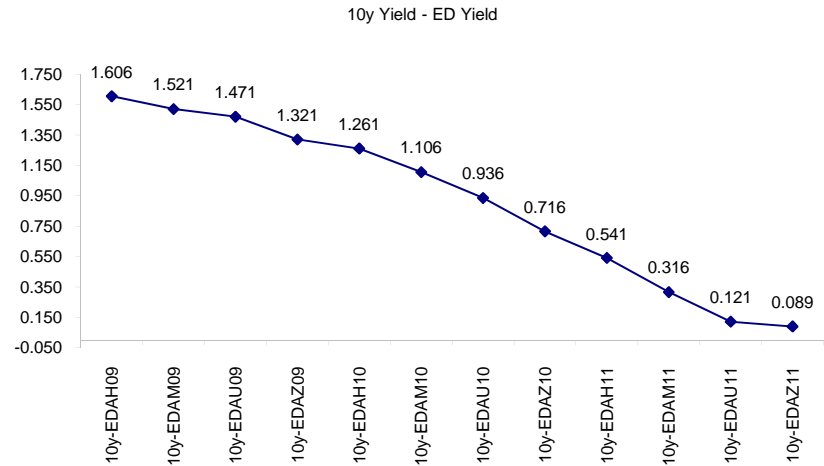


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.92	1.606	10y-EDAH09	-10
EDAM09	1.00	1.521	10y-EDAM09	-20
EDAU09	1.05	1.471	10y-EDAU09	-29
EDAZ09	1.20	1.321	10y-EDAZ09	-39
EDAH10	1.26	1.261	10y-EDAH10	-55
EDAM10	1.42	1.106	10y-EDAM10	-69
EDAU10	1.59	0.936	10y-EDAU10	-72
EDAZ10	1.81	0.716	10y-EDAZ10	-69
EDAH11	1.98	0.541	10y-EDAH11	-66
EDAM11	2.21	0.316	10y-EDAM11	-68
EDAU11	2.40	0.121	10y-EDAU11	-67
EDAZ11	2.61	0.089	10y-EDAZ11	-66

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		
EDAH09	0.0076	8.5929	8.5853	10y-EDAH09
EDAM09	0.2569	8.5929	8.3360	10y-EDAM09
EDAU09	0.5062	8.5929	8.0867	10y-EDAU09
EDAZ09	0.7555	8.5929	7.8374	10y-EDAZ09
EDAH10	1.0048	8.5929	7.5881	10y-EDAH10
EDAM10	1.2541	8.5929	7.3388	10y-EDAM10
EDAU10	1.5035	8.5929	7.0894	10y-EDAU10
EDAZ10	1.7528	8.5929	6.8401	10y-EDAZ10
EDAH11	2.0021	8.5929	6.5908	10y-EDAH11
EDAM11	2.2514	8.5929	6.3415	10y-EDAM11
EDAU11	2.5199	8.5929	6.0730	10y-EDAU11
EDAZ11	2.7692	8.5929	5.8237	10y-EDAZ11

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

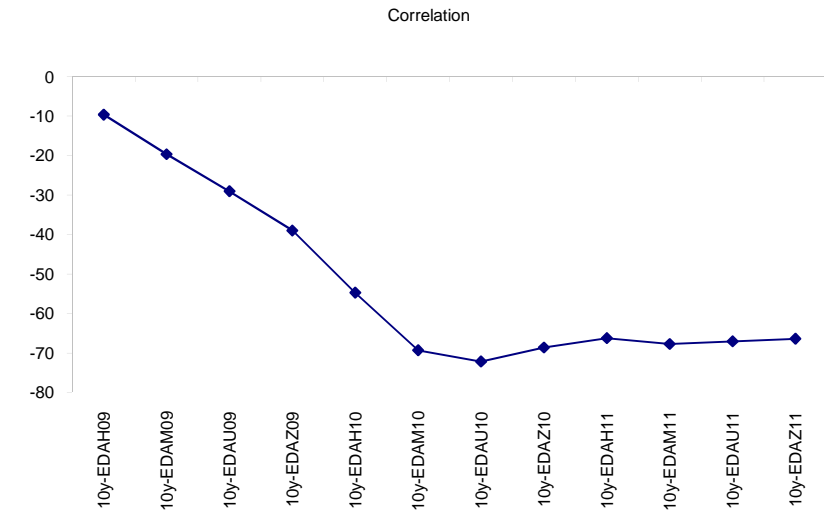


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

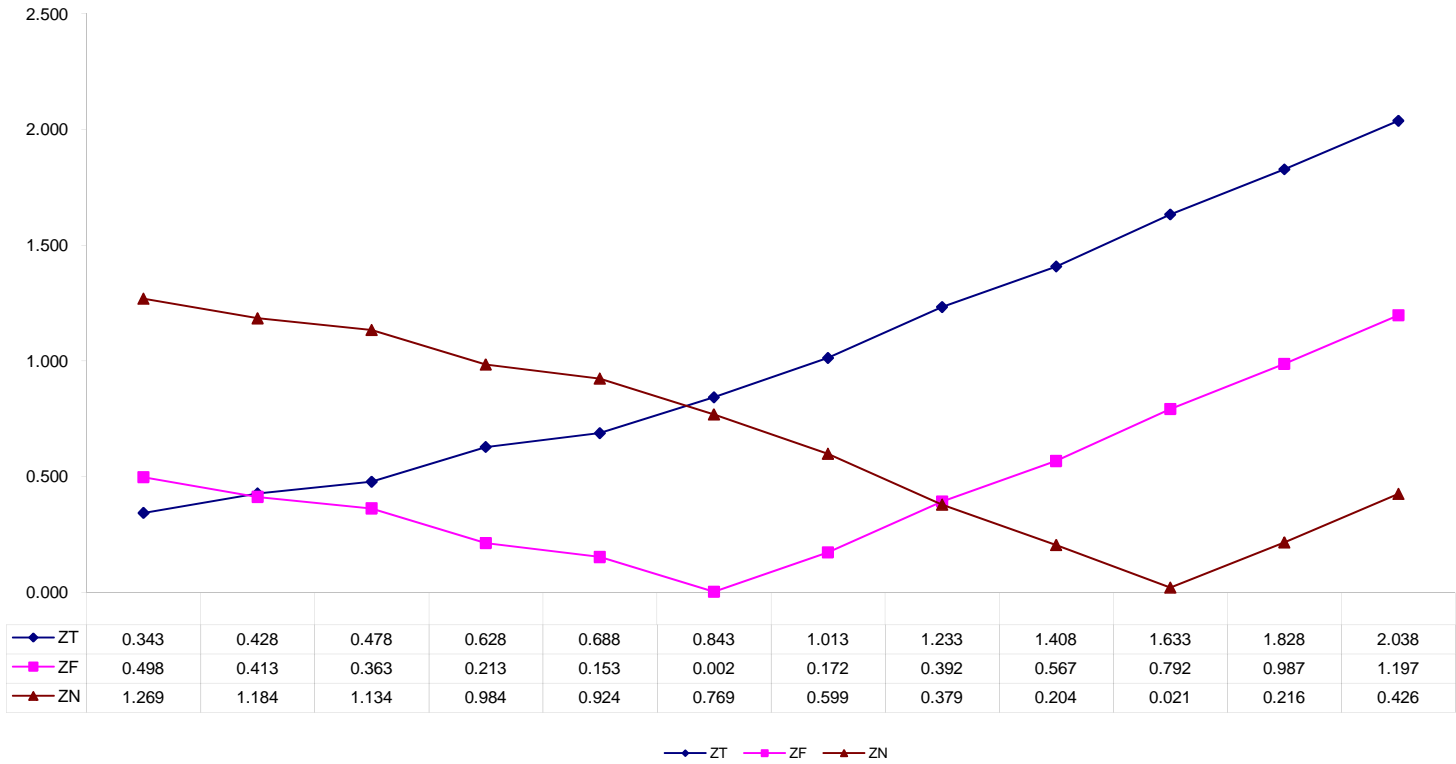
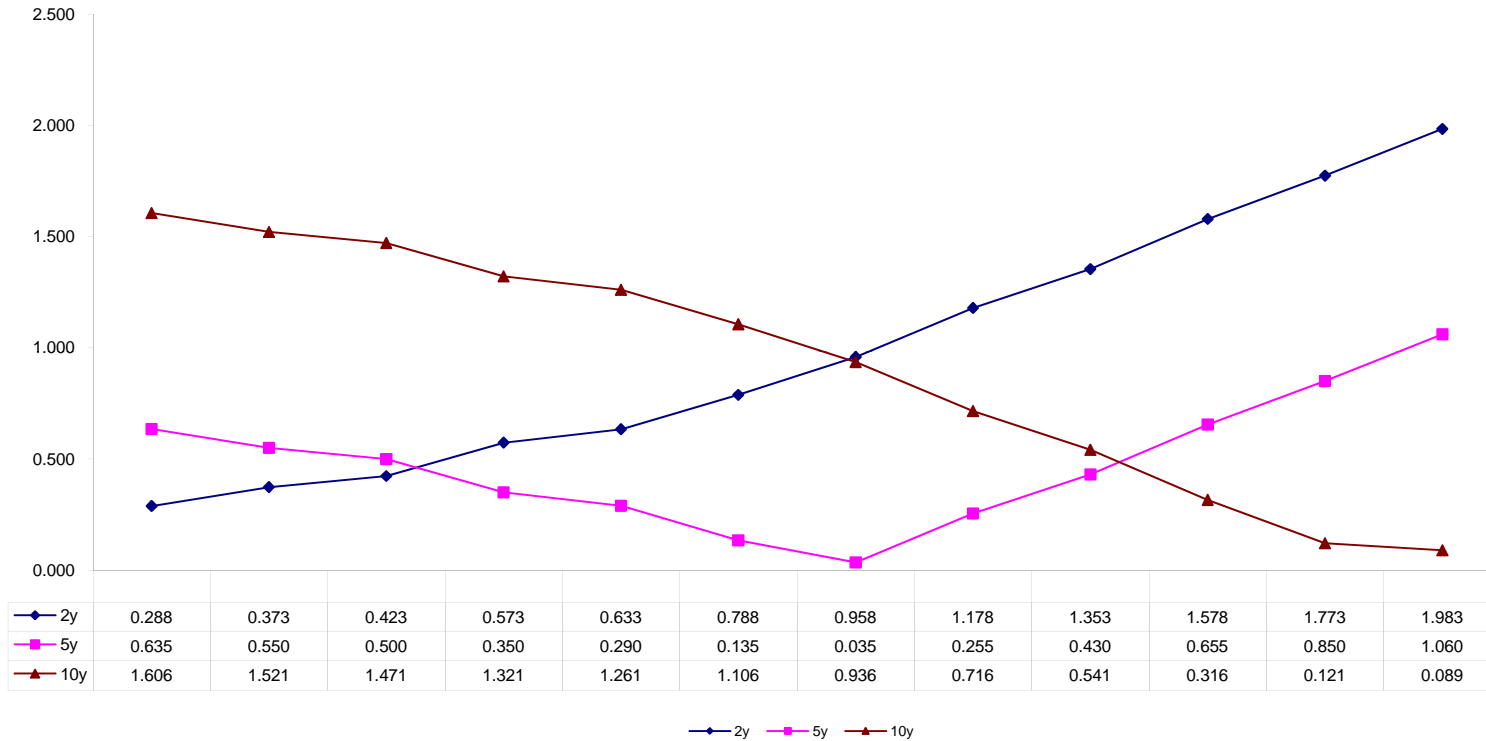
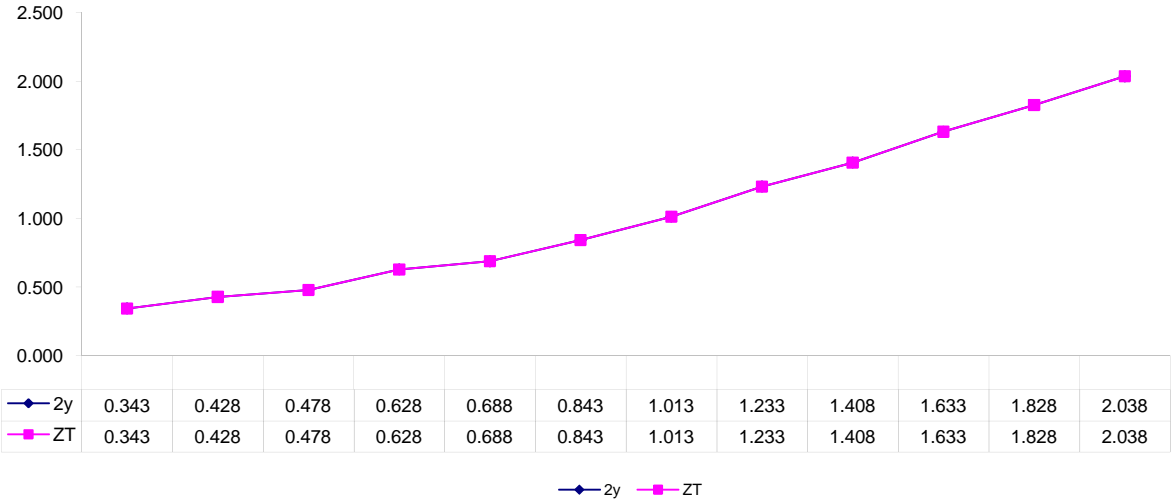
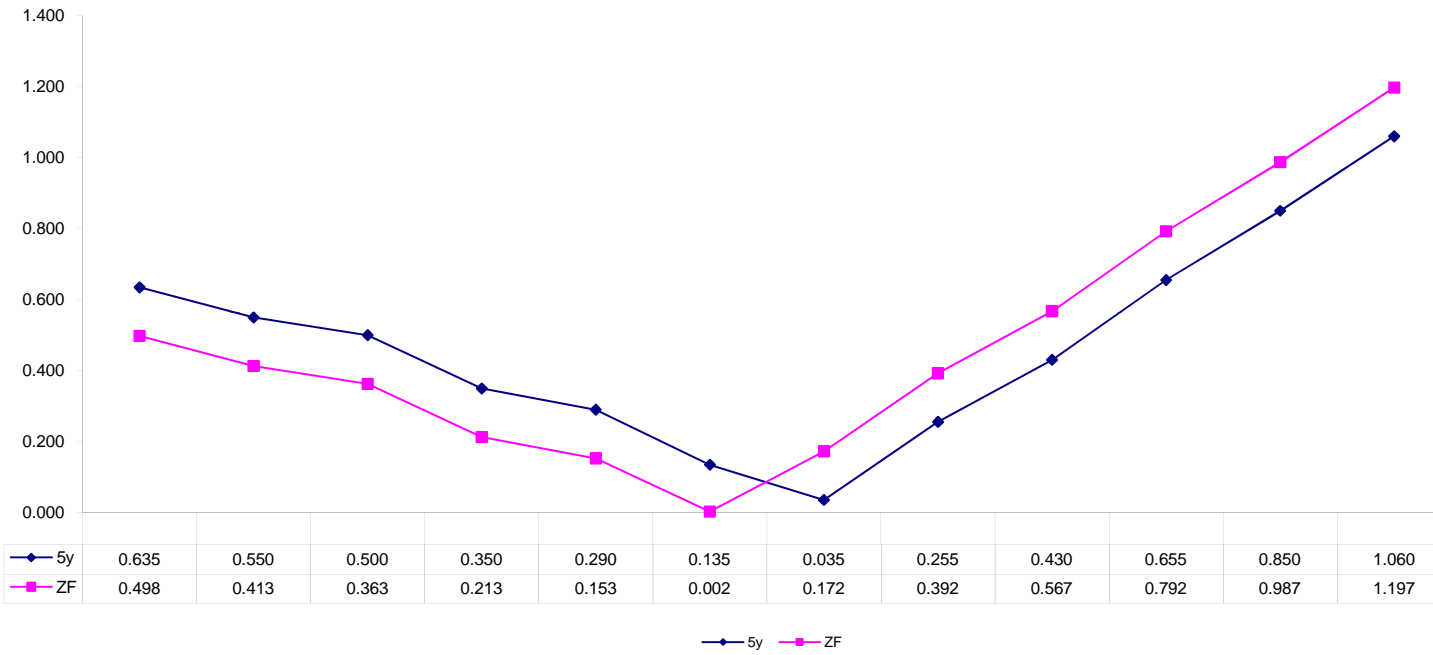


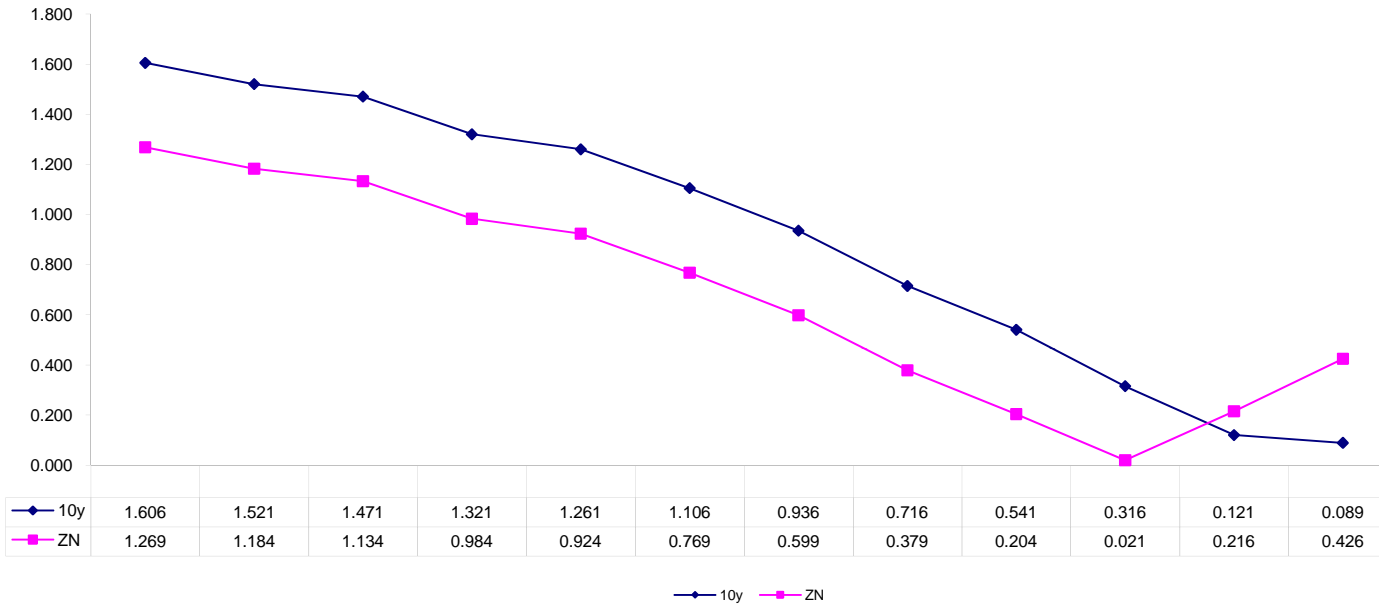
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	€ 1.48	€ (0.94)	€9,854.88
Red Pack	€ 1.96	€ (4.13)	€9,807.38
Green Pack	€ 2.77	€ (7.00)	€9,729.13
Blue Pack		€ (4.75)	€9,673.50
Gold Pack		€ (1.62)	€9,645.00

