

## **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	Last Yield*	MDuration
ZT	108.4125	108.1320	0.950	1.919
ZF	116.9906	116.3170	1.782	1.782
ZN	121.3906	121.1250	2.599	6.297
2y	99.7500	99.2400	1.005	1.928
5y	99.7094	99.2270	1.938	4.701
10y	98.2344	98.0750	2.957	8.585

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.6850	1.315	-1	-0.0034	MAR	
EDAM09	98.6000	1.400	90	0.2459	JUN	White Pack
EDAU09	98.5650	1.435	181	0.4952	SEP	
EDAZ09	98.3900	1.610	272	0.7446	DEC	
EDAH10	98.3350	1.665	363	0.9939	MAR	
EDAM10	98.1900	1.810	454	1.2432	JUN	Red Pack
EDAU10	98.0350	1.965	545	1.4925	SEP	
EDAZ10	97.8250	2.175	636	1.7418	DEC	
EDAH11	97.6550	2.345	727	1.9911	MAR	
EDAM11	97.4300	2.570	818	2.2405	JUN	Green Pack
EDAU11	97.2250	2.775	916	2.5089	SEP	
EDAZ11	97.0250	2.975	1,007	2.7583	DEC	
EDAH12	96.8850	3.115	1,098	3.0076	MAR	
EDAM12	96.7600	3.240	1,189	3.2569	JUN	Blue Pack
EDAU12	96.6400	3.360	1,280	3.5062	SEP	
EDAZ12	96.5300	3.470	1,371	3.7555	DEC	
EDAH13	96.4800	3.520	1,462	4.0048	MAR	
EDAM13	96.4250	3.575	1,553	4.2542	JUN	Gold Pack
EDZU13	96.3600	3.640	1,644	4.5035	SEP	
EDZZ13	96.2750	3.725	1,735	4.7528	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.555	-0.625	9847.25	
Red Pack	2.114	-0.875	9792.63	Pack Prices
Green Pack		0.375	9714.38	
Blue Pack		-2.500	9660.50	
Gold Pack		0.000	9632.00	

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.

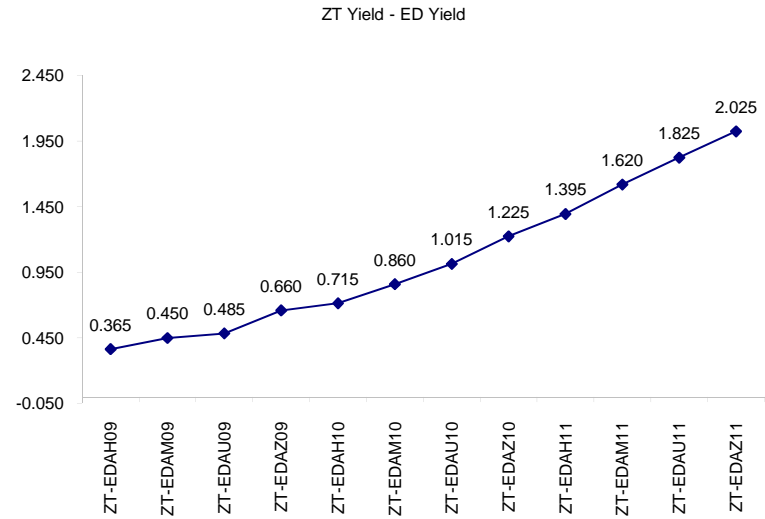
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

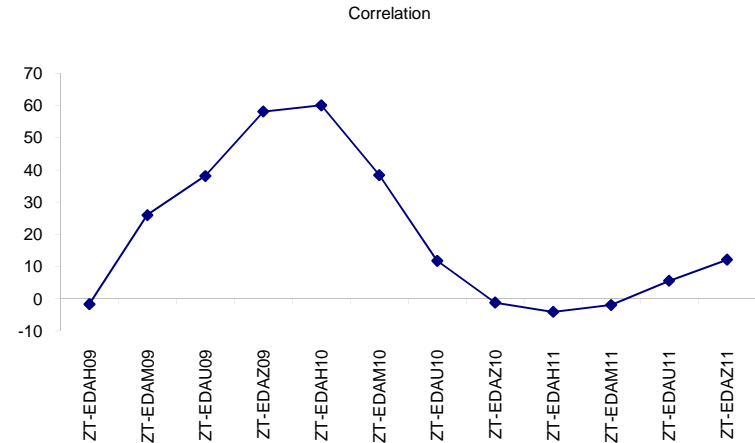
	ZT			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAH09	9.73	0.365	ZT-EDAH09	-2
EDAM09	9.81	0.450	ZT-EDAM09	26
EDAU09	9.85	0.485	ZT-EDAU09	38
EDAZ09	10.02	0.660	ZT-EDAZ09	58
EDAH10	10.08	0.715	ZT-EDAH10	60
EDAM10	10.22	0.860	ZT-EDAM10	38
EDAU10	10.38	1.015	ZT-EDAU10	12
EDAZ10	10.59	1.225	ZT-EDAZ10	-1
EDAH11	10.76	1.395	ZT-EDAH11	-4
EDAM11	10.98	1.620	ZT-EDAM11	-2
EDAU11	11.19	1.825	ZT-EDAU11	6
EDAZ11	11.39	2.025	ZT-EDAZ11	12

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	-0.0034	1.9190	1.9224	ZT-EDAH09	
EDAM09	0.2459	1.9190	1.6731	ZT-EDAM09	
EDAU09	0.4952	1.9190	1.4238	ZT-EDAU09	
EDAZ09	0.7446	1.9190	1.1745	ZT-EDAZ09	
EDAH10	0.9939	1.9190	0.9252	ZT-EDAH10	
EDAM10	1.2432	1.9190	0.6758	ZT-EDAM10	
EDAU10	1.4925	1.9190	0.4265	ZT-EDAU10	
EDAZ10	1.7418	1.9190	0.1772	ZT-EDAZ10	
EDAH11	1.9911	1.9190	-0.0721	ZT-EDAH11	
EDAM11	2.2405	1.9190	-0.3214	ZT-EDAM11	
EDAU11	2.5089	1.9190	-0.5899	ZT-EDAU11	
EDAZ11	2.7583	1.9190	-0.8392	ZT-EDAZ11	

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



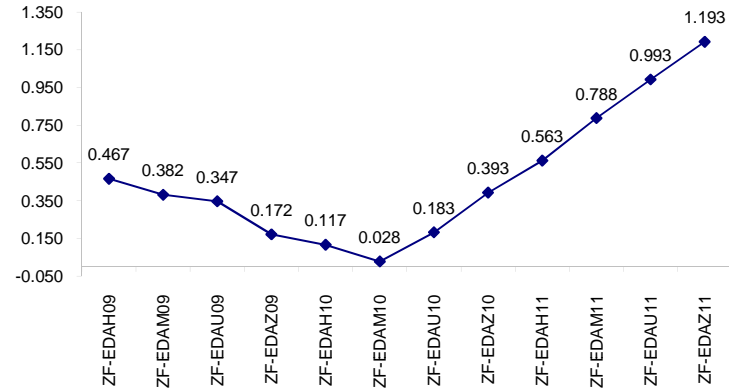
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	18.31	0.467	ZF-EDAH09	19
EDAM09	18.39	0.382	ZF-EDAM09	26
EDAU09	18.43	0.347	ZF-EDAU09	44
EDAZ09	18.60	0.172	ZF-EDAZ09	55
EDAH10	18.66	0.117	ZF-EDAH10	78
EDAM10	18.80	0.028	ZF-EDAM10	80
EDAU10	18.96	0.183	ZF-EDAU10	67
EDAZ10	19.17	0.393	ZF-EDAZ10	57
EDAH11	19.34	0.563	ZF-EDAH11	54
EDAM11	19.56	0.788	ZF-EDAM11	56
EDAU11	19.77	0.993	ZF-EDAU11	60
EDAZ11	19.97	1.193	ZF-EDAZ11	64

Price = Outright Decimal Price - Euro Contract Price

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ZF Yield - ED Yield

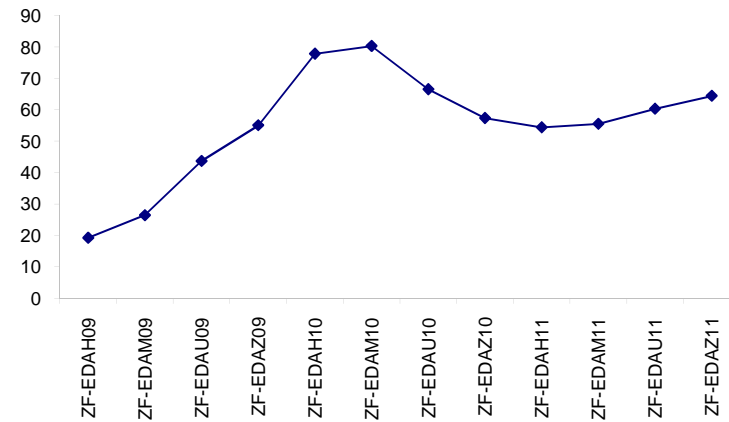


ED Duration as

	Fraction of year	ZF Duration	Spread Duration	
EDAH09	-0.0034	1.7819	1.7853	ZF-EDAH09
EDAM09	0.2459	1.7819	1.5360	ZF-EDAM09
EDAU09	0.4952	1.7819	1.2867	ZF-EDAU09
EDAZ09	0.7446	1.7819	1.0374	ZF-EDAZ09
EDAH10	0.9939	1.7819	0.7880	ZF-EDAH10
EDAM10	1.2432	1.7819	0.5387	ZF-EDAM10
EDAU10	1.4925	1.7819	0.2894	ZF-EDAU10
EDAZ10	1.7418	1.7819	0.0401	ZF-EDAZ10
EDAH11	1.9911	1.7819	-0.2092	ZF-EDAH11
EDAM11	2.2405	1.7819	-0.4585	ZF-EDAM11
EDAU11	2.5089	1.7819	-0.7270	ZF-EDAU11
EDAZ11	2.7583	1.7819	-0.9763	ZF-EDAZ11

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

Correlation

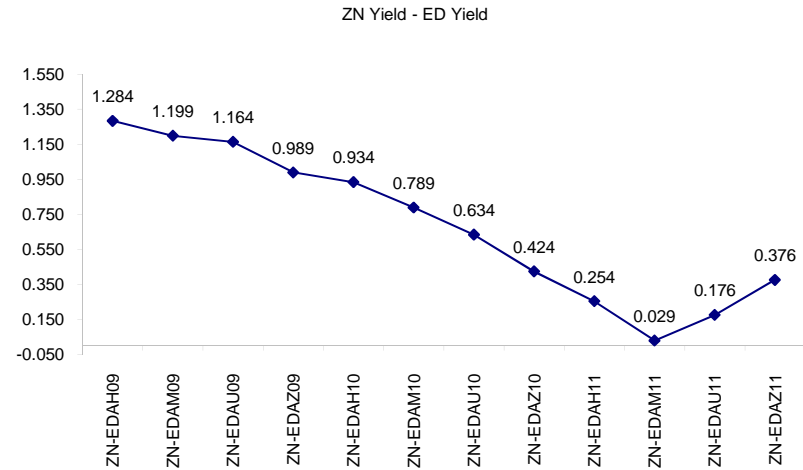


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAH09	22.71	1.284	ZN-EDAH09	-9
EDAM09	22.79	1.199	ZN-EDAM09	-19
EDAU09	22.83	1.164	ZN-EDAU09	-7
EDAZ09	23.00	0.989	ZN-EDAZ09	5
EDAH10	23.06	0.934	ZN-EDAH10	41
EDAM10	23.20	0.789	ZN-EDAM10	67
EDAU10	23.36	0.634	ZN-EDAU10	74
EDAZ10	23.57	0.424	ZN-EDAZ10	76
EDAH11	23.74	0.254	ZN-EDAH11	79
EDAM11	23.96	0.029	ZN-EDAM11	82
EDAU11	24.17	0.176	ZN-EDAU11	87
EDAZ11	24.37	0.376	ZN-EDAZ11	90

Price = Outright Decimal Price - Euro Contract Price

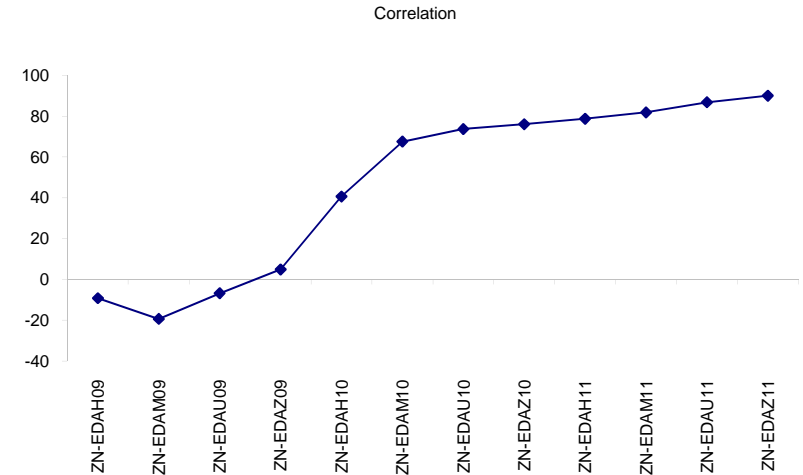
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAH09	-0.0034	6.2966	6.3000	ZN-EDAH09
EDAM09	0.2459	6.2966	6.0506	ZN-EDAM09
EDAU09	0.4952	6.2966	5.8013	ZN-EDAU09
EDAZ09	0.7446	6.2966	5.5520	ZN-EDAZ09
EDAH10	0.9939	6.2966	5.3027	ZN-EDAH10
EDAM10	1.2432	6.2966	5.0534	ZN-EDAM10
EDAU10	1.4925	6.2966	4.8041	ZN-EDAU10
EDAZ10	1.7418	6.2966	4.5548	ZN-EDAZ10
EDAH11	1.9911	6.2966	4.3054	ZN-EDAH11
EDAM11	2.2405	6.2966	4.0561	ZN-EDAM11
EDAU11	2.5089	6.2966	3.7876	ZN-EDAU11
EDAZ11	2.7583	6.2966	3.5383	ZN-EDAZ11

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

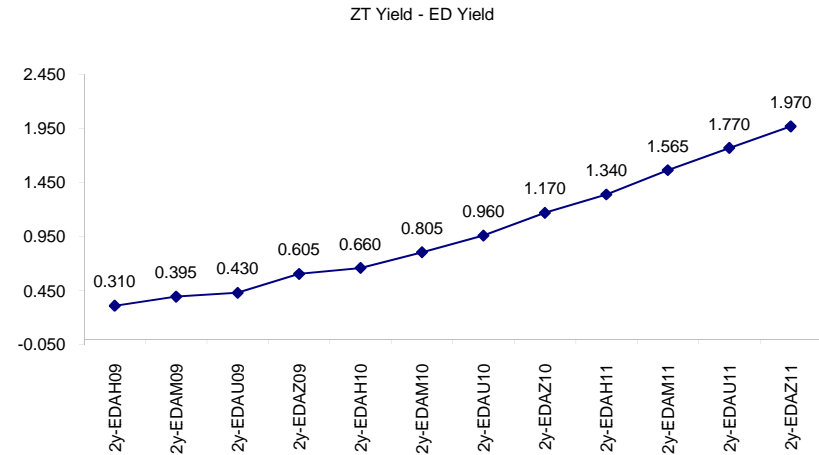


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.07	0.310	2y-EDAH09	-3
EDAM09	1.15	0.395	2y-EDAM09	-42
EDAU09	1.19	0.430	2y-EDAU09	-50
EDAZ09	1.36	0.605	2y-EDAZ09	-72
EDAH10	1.42	0.660	2y-EDAH10	-64
EDAM10	1.56	0.805	2y-EDAM10	-32
EDAU10	1.72	0.960	2y-EDAU10	2
EDAZ10	1.93	1.170	2y-EDAZ10	18
EDAH11	2.10	1.340	2y-EDAH11	22
EDAM11	2.32	1.565	2y-EDAM11	20
EDAU11	2.53	1.770	2y-EDAU11	14
EDAZ11	2.73	1.970	2y-EDAZ11	8

Price = Outright Decimal Price - Euro Contract Price

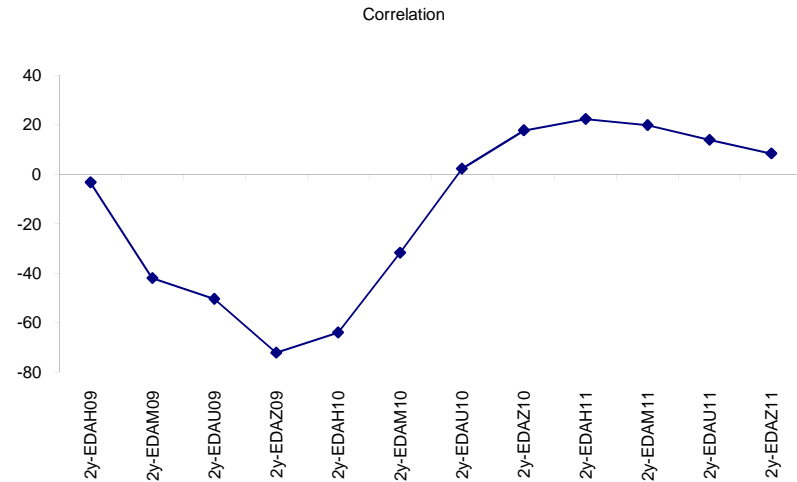
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	-0.0034	1.9283	1.9317	2y-EDAH09	
EDAM09	0.2459	1.9283	1.6824	2y-EDAM09	
EDAU09	0.4952	1.9283	1.4331	2y-EDAU09	
EDAZ09	0.7446	1.9283	1.1838	2y-EDAZ09	
EDAH10	0.9939	1.9283	0.9345	2y-EDAH10	
EDAM10	1.2432	1.9283	0.6852	2y-EDAM10	
EDAU10	1.4925	1.9283	0.4358	2y-EDAU10	
EDAZ10	1.7418	1.9283	0.1865	2y-EDAZ10	
EDAH11	1.9911	1.9283	-0.0628	2y-EDAH11	
EDAM11	2.2405	1.9283	-0.3121	2y-EDAM11	
EDAU11	2.5089	1.9283	-0.5806	2y-EDAU11	
EDAZ11	2.7583	1.9283	-0.8299	2y-EDAZ11	

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

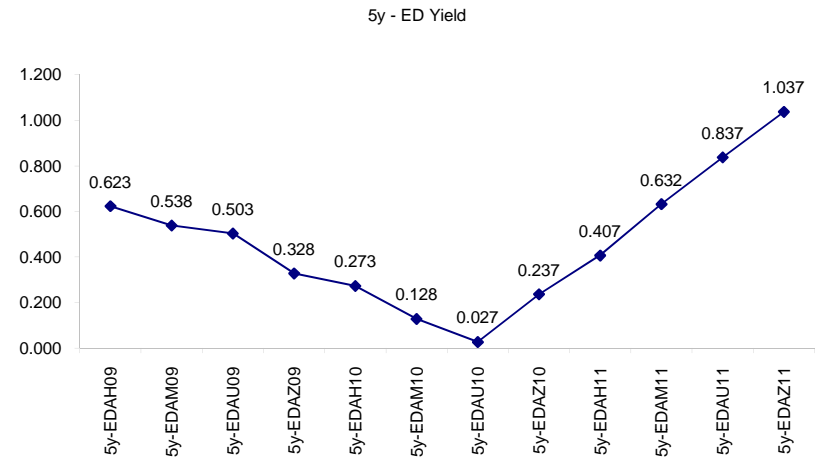


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.02	0.623	5y-EDAH09	-5
EDAM09	1.11	0.538	5y-EDAM09	-27
EDAU09	1.14	0.503	5y-EDAU09	-40
EDAZ09	1.32	0.328	5y-EDAZ09	-60
EDAH10	1.37	0.273	5y-EDAH10	-73
EDAM10	1.52	0.128	5y-EDAM10	-65
EDAU10	1.67	0.027	5y-EDAU10	-44
EDAZ10	1.88	0.237	5y-EDAZ10	-34
EDAH11	2.05	0.407	5y-EDAH11	-32
EDAM11	2.28	0.632	5y-EDAM11	-35
EDAU11	2.48	0.837	5y-EDAU11	-41
EDAZ11	2.68	1.037	5y-EDAZ11	-46

Price = Outright Decimal Price - Euro Contract Price

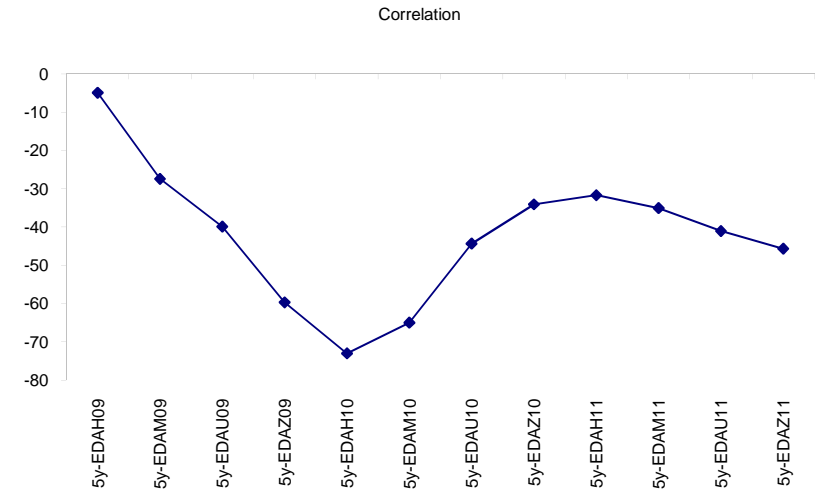
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAH09	-0.0034	4.7013	4.7046	5y-EDAH09	
EDAM09	0.2459	4.7013	4.4553	5y-EDAM09	
EDAU09	0.4952	4.7013	4.2060	5y-EDAU09	
EDAZ09	0.7446	4.7013	3.9567	5y-EDAZ09	
EDAH10	0.9939	4.7013	3.7074	5y-EDAH10	
EDAM10	1.2432	4.7013	3.4581	5y-EDAM10	
EDAU10	1.4925	4.7013	3.2088	5y-EDAU10	
EDAZ10	1.7418	4.7013	2.9594	5y-EDAZ10	
EDAH11	1.9911	4.7013	2.7101	5y-EDAH11	
EDAM11	2.2405	4.7013	2.4608	5y-EDAM11	
EDAU11	2.5089	4.7013	2.1923	5y-EDAU11	
EDAZ11	2.7583	4.7013	1.9430	5y-EDAZ11	

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



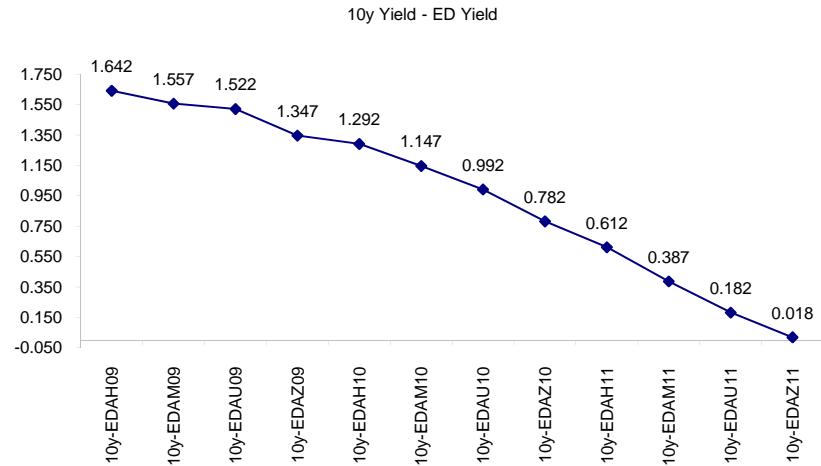


10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.02	1.642	10y-EDAH09	15
EDAM09	1.11	1.557	10y-EDAM09	-2
EDAU09	1.14	1.522	10y-EDAU09	-9
EDAZ09	1.32	1.347	10y-EDAZ09	-33
EDAH10	1.37	1.292	10y-EDAH10	-50
EDAM10	1.52	1.147	10y-EDAM10	-53
EDAU10	1.67	0.992	10y-EDAU10	-40
EDAZ10	1.88	0.782	10y-EDAZ10	-36
EDAH11	2.05	0.612	10y-EDAH11	-37
EDAM11	2.28	0.387	10y-EDAM11	-43
EDAU11	2.48	0.182	10y-EDAU11	-50
EDAZ11	2.68	0.018	10y-EDAZ11	-55

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	-0.0034	8.5847	8.5881	10y-EDAH09
EDAM09	0.2459	8.5847	8.3388	10y-EDAM09
EDAU09	0.4952	8.5847	8.0895	10y-EDAU09
EDAZ09	0.7446	8.5847	7.8401	10y-EDAZ09
EDAH10	0.9939	8.5847	7.5908	10y-EDAH10
EDAM10	1.2432	8.5847	7.3415	10y-EDAM10
EDAU10	1.4925	8.5847	7.0922	10y-EDAU10
EDAZ10	1.7418	8.5847	6.8429	10y-EDAZ10
EDAH11	1.9911	8.5847	6.5936	10y-EDAH11
EDAM11	2.2405	8.5847	6.3443	10y-EDAM11
EDAU11	2.5089	8.5847	6.0758	10y-EDAU11
EDAZ11	2.7583	8.5847	5.8265	10y-EDAZ11

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

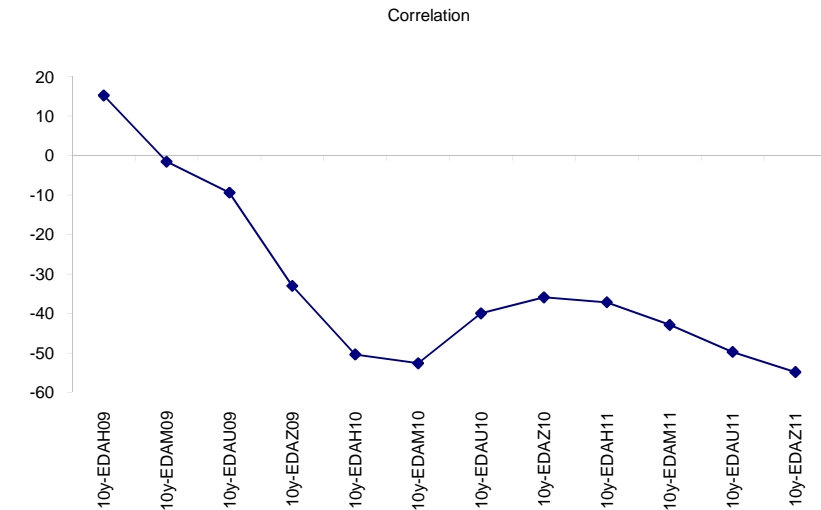


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

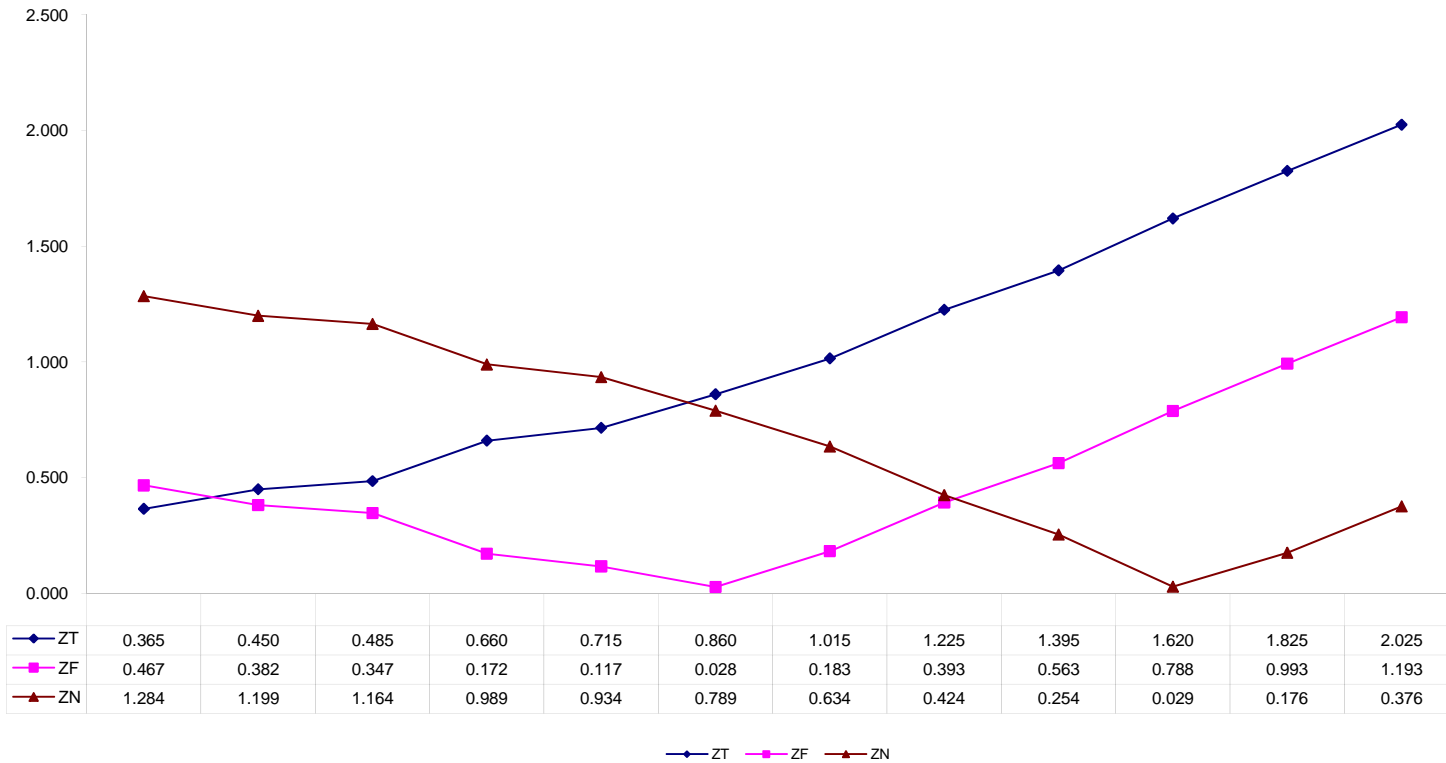
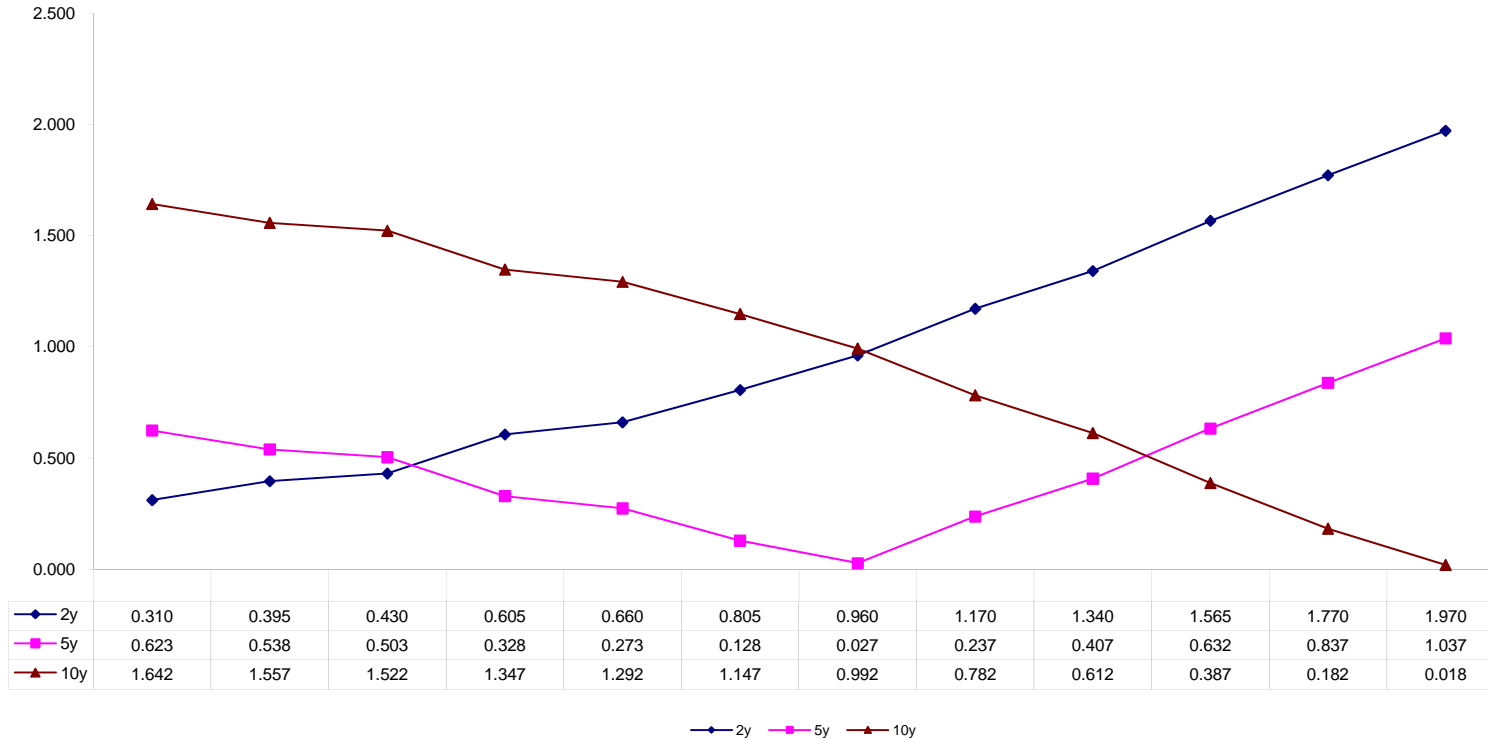
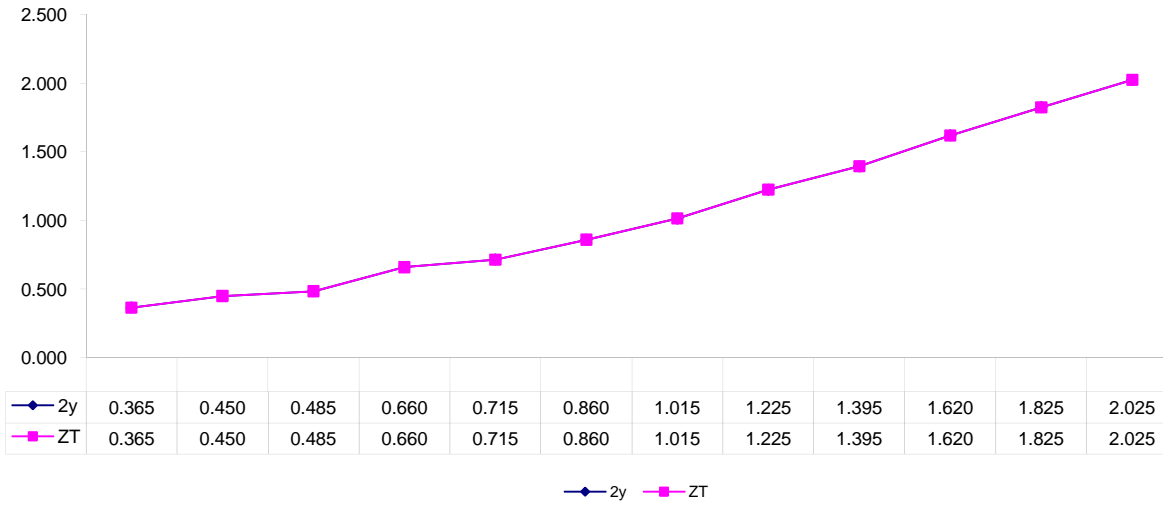
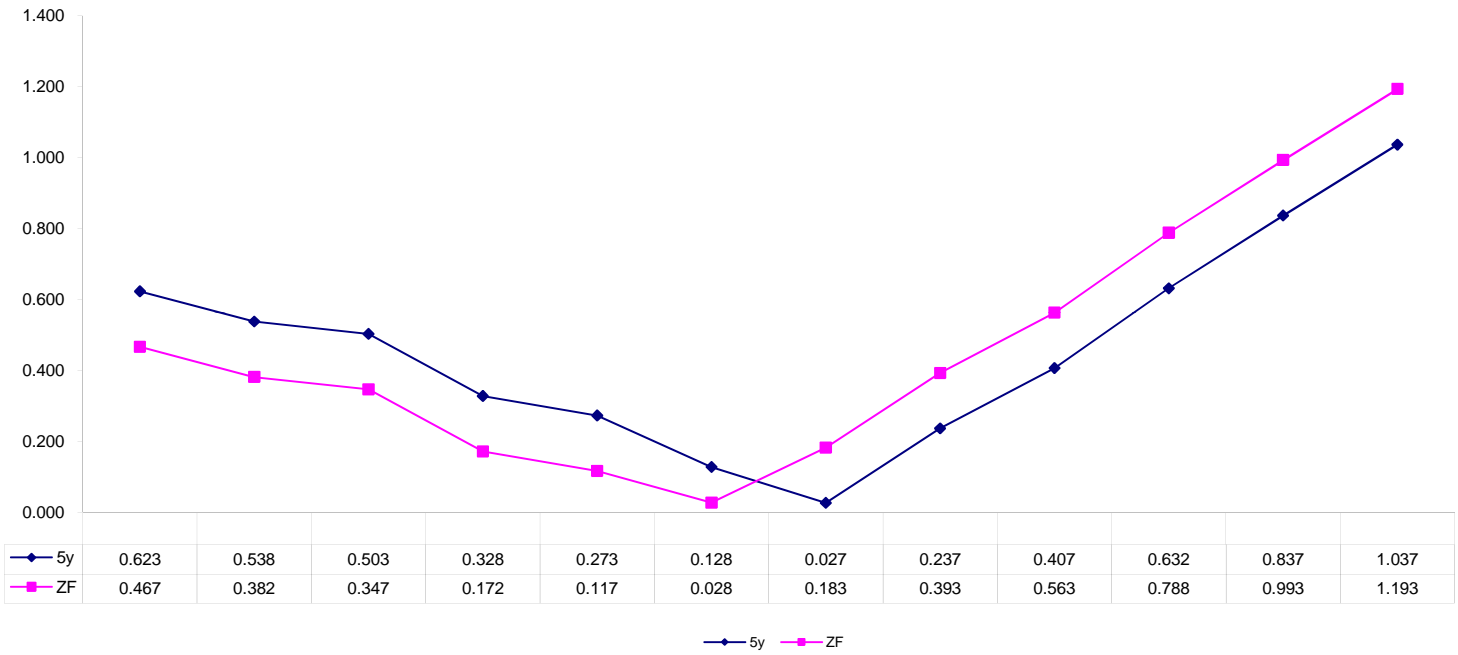


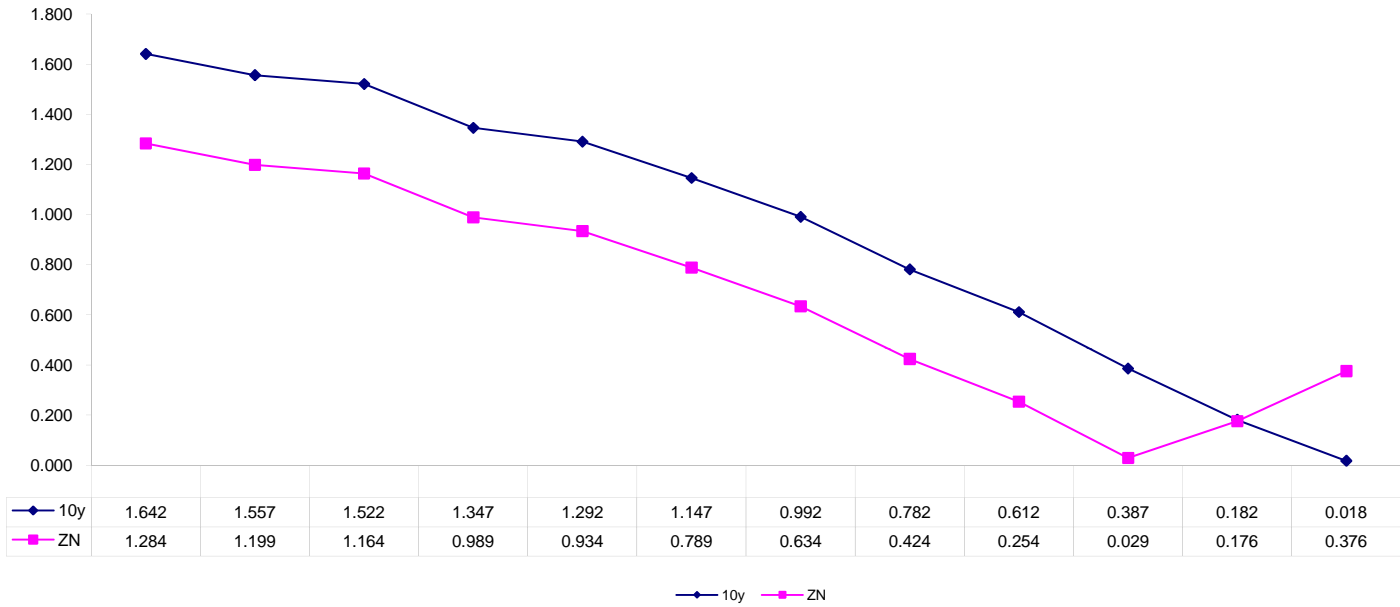
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.555	-0.625	9847.2500
Red Pack	2.114	-0.875	9792.6250
Green Pack		0.375	9714.3750
Blue Pack		-2.500	9660.5000
Gold Pack		0.000	9632.0000

