

## **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	108.5063	108.1620	0.921	1.856
ZF	115.7563	115.2420	2.172	4.133
ZN	117.3125	117.1000	3.014	5.766
2y	100.3594	100.1150	0.932	1.909
5y	101.0625	101.0200	2.393	4.602
10y	96.5625	96.1800	3.543	8.298

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4750	0.525	53	0.1446	SEP	
EDAZ09	99.2800	0.720	144	0.3939	DEC	White Pack
EDAH10	99.0700	0.930	235	0.6432	MAR	
EDAM10	98.7400	1.260	326	0.8925	JUN	
EDAU10	98.3800	1.620	417	1.1418	SEP	
EDAZ10	97.9950	2.005	508	1.3911	DEC	Red Pack
EDAH11	97.6350	2.365	599	1.6405	MAR	
EDAM11	97.2750	2.725	690	1.8898	JUN	
EDAU11	96.9500	3.050	788	2.1583	SEP	
EDAZ11	96.6400	3.360	879	2.4076	DEC	Green Pack
EDAH12	96.4200	3.580	970	2.6569	MAR	
EDAM12	96.2100	3.790	1,061	2.9062	JUN	
EDAU12	96.0200	3.980	1,152	3.1555	SEP	
EDAZ12	95.8350	4.165	1,243	3.4048	DEC	Blue Pack
EDAH13	95.7250	4.275	1,334	3.6542	MAR	
EDAM13	95.6000	4.400	1,425	3.9035	JUN	
EDAU13	95.4900	4.510	1,516	4.1528	SEP	
EDAZ13	95.3600	4.640	1,607	4.4021	DEC	Gold Pack
EDAH14	95.2750	4.725	1,698	4.6514	MAR	
EDAM14	95.1750	4.825	1,789	4.9007	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.873	0.875	9914.13	
Red Pack	2.222	1.375	9782.13	Pack Prices
Green Pack	3.523	1.500	9655.50	
Blue Pack	4.309	0.750	9579.50	
Gold Pack	4.796	0.500	9532.50	

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.

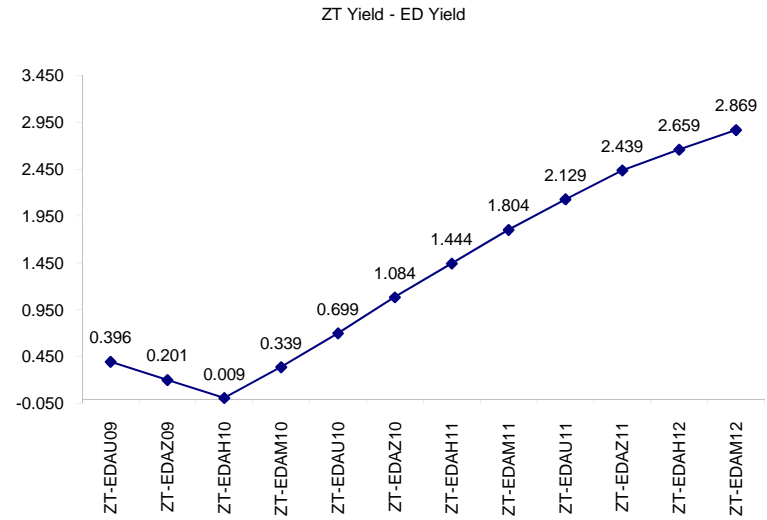
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

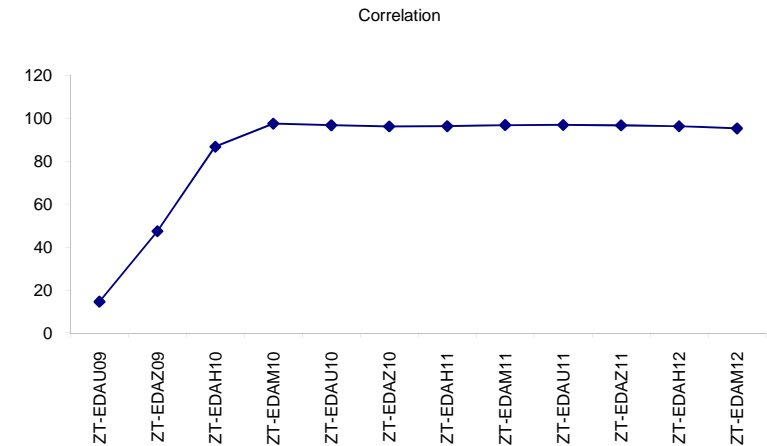
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	9.03	0.396	ZT-EDAU09	15
EDAZ09	9.23	0.201	ZT-EDAZ09	47
EDAH10	9.44	0.009	ZT-EDAH10	87
EDAM10	9.77	0.339	ZT-EDAM10	97
EDAU10	10.13	0.699	ZT-EDAU10	97
EDAZ10	10.51	1.084	ZT-EDAZ10	96
EDAH11	10.87	1.444	ZT-EDAH11	96
EDAM11	11.23	1.804	ZT-EDAM11	97
EDAU11	11.56	2.129	ZT-EDAU11	97
EDAZ11	11.87	2.439	ZT-EDAZ11	97
EDAH12	12.09	2.659	ZT-EDAH12	96
EDAM12	12.30	2.869	ZT-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



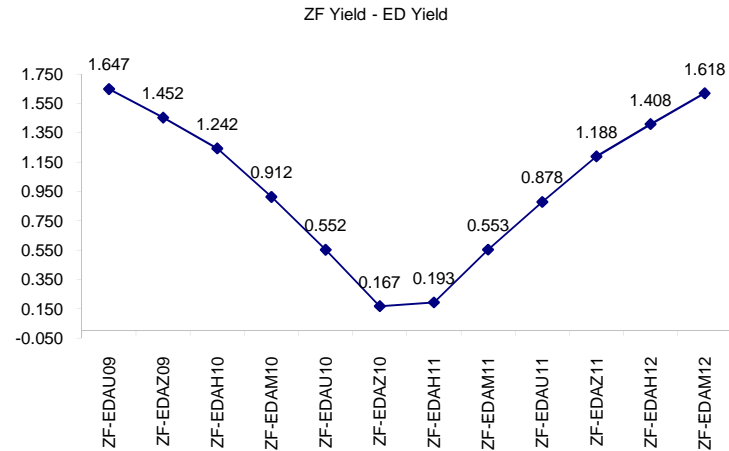
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAU09	0.1446	1.8558	1.7112	ZT-EDAU09		
EDAZ09	0.3939	1.8558	1.4619	ZT-EDAZ09		
EDAH10	0.6432	1.8558	1.2126	ZT-EDAH10		
EDAM10	0.8925	1.8558	0.9633	ZT-EDAM10		
EDAU10	1.1418	1.8558	0.7140	ZT-EDAU10		
EDAZ10	1.3911	1.8558	0.4647	ZT-EDAZ10		
EDAH11	1.6405	1.8558	0.2153	ZT-EDAH11		
EDAM11	1.8898	1.8558	-0.0340	ZT-EDAM11		
EDAU11	2.1583	1.8558	-0.3025	ZT-EDAU11		
EDAZ11	2.4076	1.8558	-0.5518	ZT-EDAZ11		
EDAH12	2.6569	1.8558	-0.8011	ZT-EDAH12		
EDAM12	2.9062	1.8558	-1.0504	ZT-EDAM12		

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



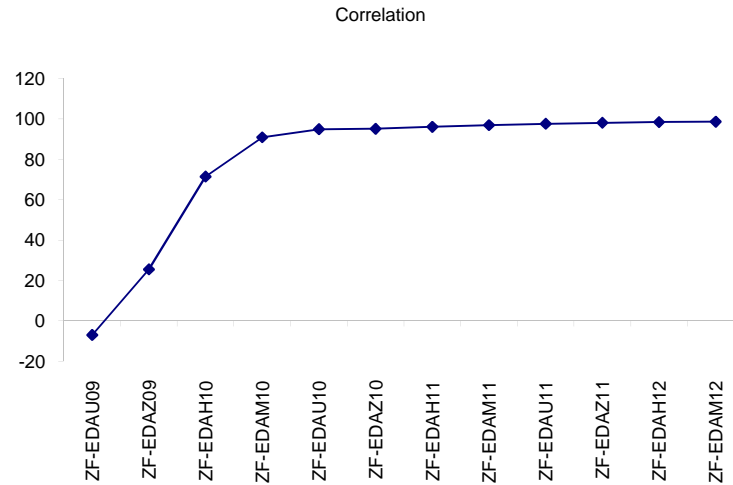
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	16.28	1.647	ZF-EDAU09	-7
EDAZ09	16.48	1.452	ZF-EDAZ09	26
EDAH10	16.69	1.242	ZF-EDAH10	72
EDAM10	17.02	0.912	ZF-EDAM10	91
EDAU10	17.38	0.552	ZF-EDAU10	95
EDAZ10	17.76	0.167	ZF-EDAZ10	95
EDAH11	18.12	0.193	ZF-EDAH11	96
EDAM11	18.48	0.553	ZF-EDAM11	97
EDAU11	18.81	0.878	ZF-EDAU11	98
EDAZ11	19.12	1.188	ZF-EDAZ11	98
EDAH12	19.34	1.408	ZF-EDAH12	99
EDAM12	19.55	1.618	ZF-EDAM12	99

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	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1446	4.1326	3.9881	ZF-EDAU09	
EDAZ09	0.3939	4.1326	3.7387	ZF-EDAZ09	
EDAH10	0.6432	4.1326	3.4894	ZF-EDAH10	
EDAM10	0.8925	4.1326	3.2401	ZF-EDAM10	
EDAU10	1.1418	4.1326	2.9908	ZF-EDAU10	
EDAZ10	1.3911	4.1326	2.7415	ZF-EDAZ10	
EDAH11	1.6405	4.1326	2.4922	ZF-EDAH11	
EDAM11	1.8898	4.1326	2.2428	ZF-EDAM11	
EDAU11	2.1583	4.1326	1.9744	ZF-EDAU11	
EDAZ11	2.4076	4.1326	1.7250	ZF-EDAZ11	
EDAH12	2.6569	4.1326	1.4757	ZF-EDAH12	
EDAM12	2.9062	4.1326	1.2264	ZF-EDAM12	

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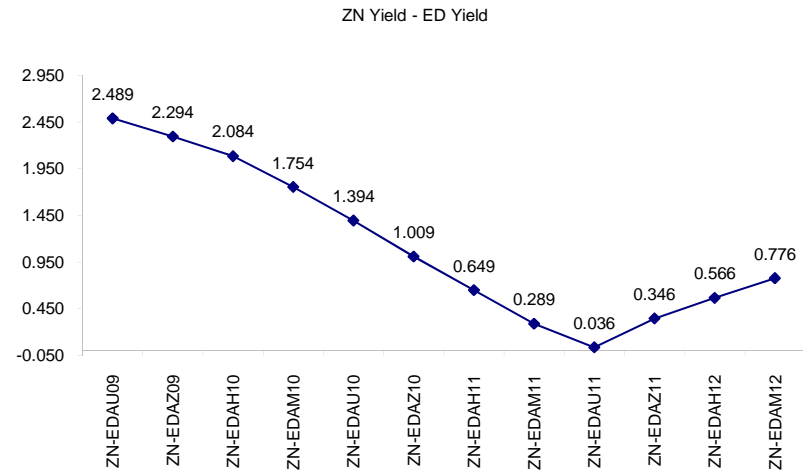


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	17.84	2.489	ZN-EDAU09	-18
EDAZ09	18.03	2.294	ZN-EDAZ09	15
EDAH10	18.24	2.084	ZN-EDAH10	64
EDAM10	18.57	1.754	ZN-EDAM10	88
EDAU10	18.93	1.394	ZN-EDAU10	94
EDAZ10	19.32	1.009	ZN-EDAZ10	94
EDAH11	19.68	0.649	ZN-EDAH11	95
EDAM11	20.04	0.289	ZN-EDAM11	96
EDAU11	20.36	0.036	ZN-EDAU11	97
EDAZ11	20.67	0.346	ZN-EDAZ11	97
EDAH12	20.89	0.566	ZN-EDAH12	98
EDAM12	21.10	0.776	ZN-EDAM12	99

Price = Outright Decimal Price - Euro Contract Price

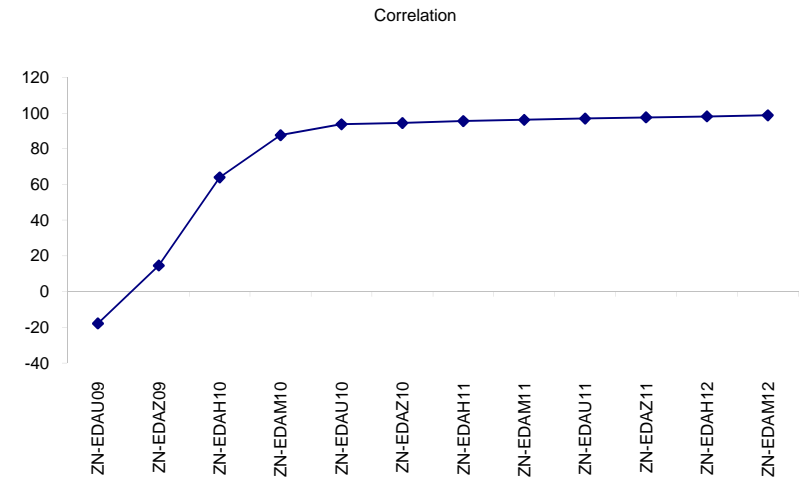
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration
EDAU09	0.1446	5.7663	5.6218
EDAZ09	0.3939	5.7663	5.3725
EDAH10	0.6432	5.7663	5.1232
EDAM10	0.8925	5.7663	4.8738
EDAU10	1.1418	5.7663	4.6245
EDAZ10	1.3911	5.7663	4.3752
EDAH11	1.6405	5.7663	4.1259
EDAM11	1.8898	5.7663	3.8766
EDAU11	2.1583	5.7663	3.6081
EDAZ11	2.4076	5.7663	3.3588
EDAH12	2.6569	5.7663	3.1095
EDAM12	2.9062	5.7663	2.8601

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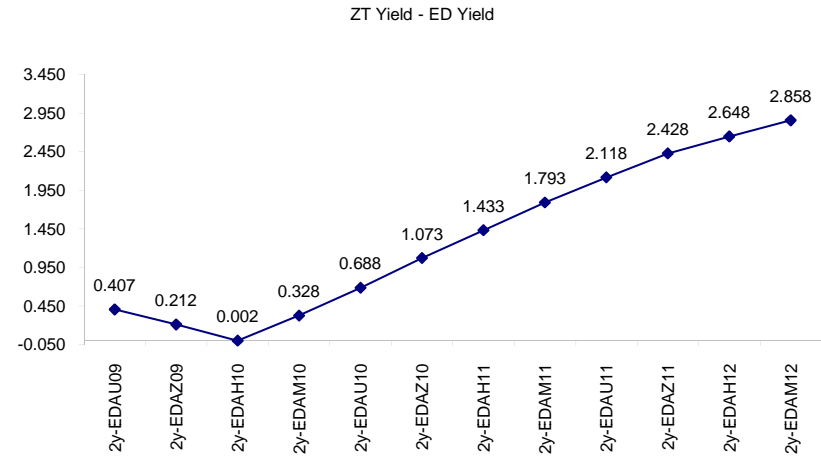


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.88	0.407	2y-EDAU09	-8
EDAZ09	1.08	0.212	2y-EDAZ09	-39
EDAH10	1.29	0.002	2y-EDAH10	-81
EDAM10	1.62	0.328	2y-EDAM10	-95
EDAU10	1.98	0.688	2y-EDAU10	-96
EDAZ10	2.36	1.073	2y-EDAZ10	-96
EDAH11	2.72	1.433	2y-EDAH11	-96
EDAM11	3.08	1.793	2y-EDAM11	-96
EDAU11	3.41	2.118	2y-EDAU11	-96
EDAZ11	3.72	2.428	2y-EDAZ11	-96
EDAH12	3.94	2.648	2y-EDAH12	-96
EDAM12	4.15	2.858	2y-EDAM12	-95

Price = Outright Decimal Price - Euro Contract Price

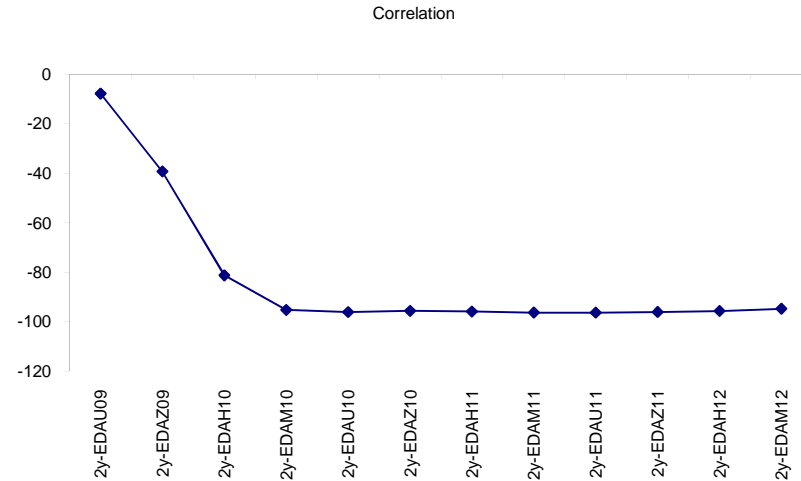
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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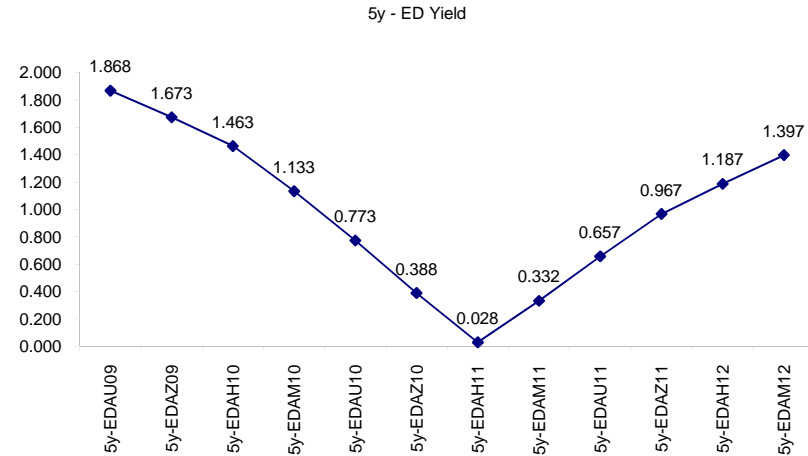
	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAU09	0.1446	1.9092	1.7646	2y-EDAU09
EDAZ09	0.3939	1.9092	1.5153	2y-EDAZ09
EDAH10	0.6432	1.9092	1.2660	2y-EDAH10
EDAM10	0.8925	1.9092	1.0167	2y-EDAM10
EDAU10	1.1418	1.9092	0.7674	2y-EDAU10
EDAZ10	1.3911	1.9092	0.5181	2y-EDAZ10
EDAH11	1.6405	1.9092	0.2687	2y-EDAH11
EDAM11	1.8898	1.9092	0.0194	2y-EDAM11
EDAU11	2.1583	1.9092	-0.2491	2y-EDAU11
EDAZ11	2.4076	1.9092	-0.4984	2y-EDAZ11
EDAH12	2.6569	1.9092	-0.7477	2y-EDAH12
EDAM12	2.9062	1.9092	-0.9970	2y-EDAM12

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



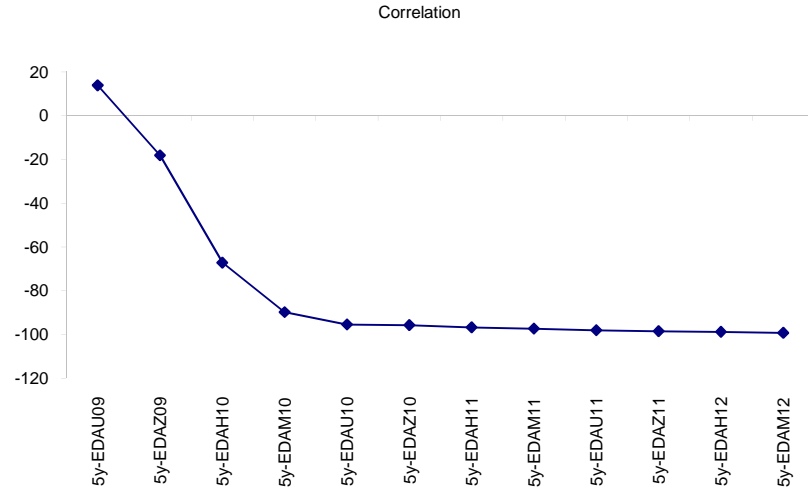
5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	1.59	1.868	5y-EDAU09	14
EDAZ09	1.78	1.673	5y-EDAZ09	-18
EDAH10	1.99	1.463	5y-EDAH10	-67
EDAM10	2.32	1.133	5y-EDAM10	-90
EDAU10	2.68	0.773	5y-EDAU10	-95
EDAZ10	3.07	0.388	5y-EDAZ10	-96
EDAH11	3.43	0.028	5y-EDAH11	-97
EDAM11	3.79	0.332	5y-EDAM11	-97
EDAU11	4.11	0.657	5y-EDAU11	-98
EDAZ11	4.42	0.967	5y-EDAZ11	-98
EDAH12	4.64	1.187	5y-EDAH12	-99
EDAM12	4.85	1.397	5y-EDAM12	-99

Price = Outright Decimal Price - Euro Contract Price  
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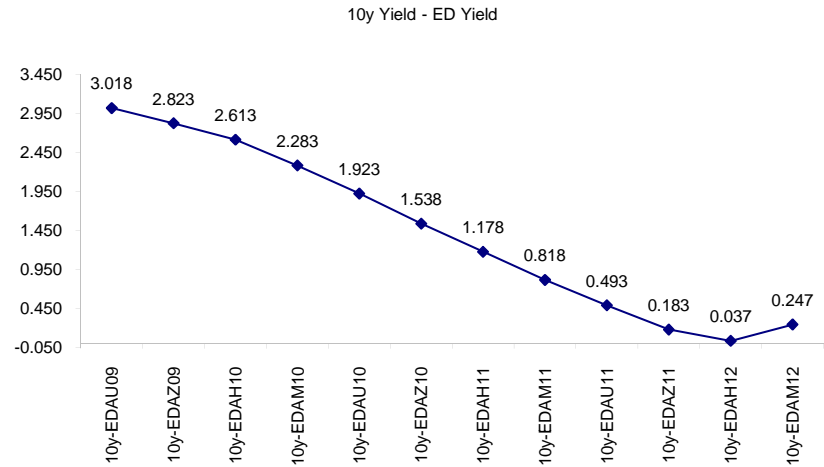
	ED Duration as		Spread Duration	
	Fraction of year	5Y Duration		
EDAU09	0.1446	4.6018	4.4572	5y-EDAU09
EDAZ09	0.3939	4.6018	4.2079	5y-EDAZ09
EDAH10	0.6432	4.6018	3.9586	5y-EDAH10
EDAM10	0.8925	4.6018	3.7092	5y-EDAM10
EDAU10	1.1418	4.6018	3.4599	5y-EDAU10
EDAZ10	1.3911	4.6018	3.2106	5y-EDAZ10
EDAH11	1.6405	4.6018	2.9613	5y-EDAH11
EDAM11	1.8898	4.6018	2.7120	5y-EDAM11
EDAU11	2.1583	4.6018	2.4435	5y-EDAU11
EDAZ11	2.4076	4.6018	2.1942	5y-EDAZ11
EDAH12	2.6569	4.6018	1.9449	5y-EDAH12
EDAM12	2.9062	4.6018	1.6955	5y-EDAM12

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10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	1.59	3.018	10y-EDAU09	28
EDAZ09	1.78	2.823	10y-EDAZ09	-1
EDAH10	1.99	2.613	10y-EDAH10	-53
EDAM10	2.32	2.283	10y-EDAM10	-81
EDAU10	2.68	1.923	10y-EDAU10	-90
EDAZ10	3.07	1.538	10y-EDAZ10	-91
EDAH11	3.43	1.178	10y-EDAH11	-92
EDAM11	3.79	0.818	10y-EDAM11	-93
EDAU11	4.11	0.493	10y-EDAU11	-94
EDAZ11	4.42	0.183	10y-EDAZ11	-95
EDAH12	4.64	0.037	10y-EDAH12	-95
EDAM12	4.85	0.247	10y-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				
	10Y Duration	Spread Duration		
EDAU09	0.1446	8.2983	8.1538	10y-EDAU09
EDAZ09	0.3939	8.2983	7.9045	10y-EDAZ09
EDAH10	0.6432	8.2983	7.6551	10y-EDAH10
EDAM10	0.8925	8.2983	7.4058	10y-EDAM10
EDAU10	1.1418	8.2983	7.1565	10y-EDAU10
EDAZ10	1.3911	8.2983	6.9072	10y-EDAZ10
EDAH11	1.6405	8.2983	6.6579	10y-EDAH11
EDAM11	1.8898	8.2983	6.4086	10y-EDAM11
EDAU11	2.1583	8.2983	6.1401	10y-EDAU11
EDAZ11	2.4076	8.2983	5.8908	10y-EDAZ11
EDAH12	2.6569	8.2983	5.6414	10y-EDAH12
EDAM12	2.9062	8.2983	5.3921	10y-EDAM12

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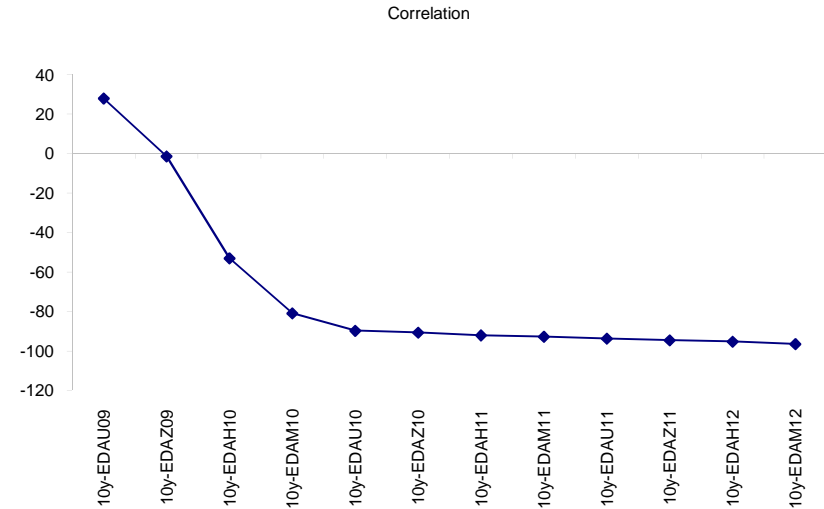


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

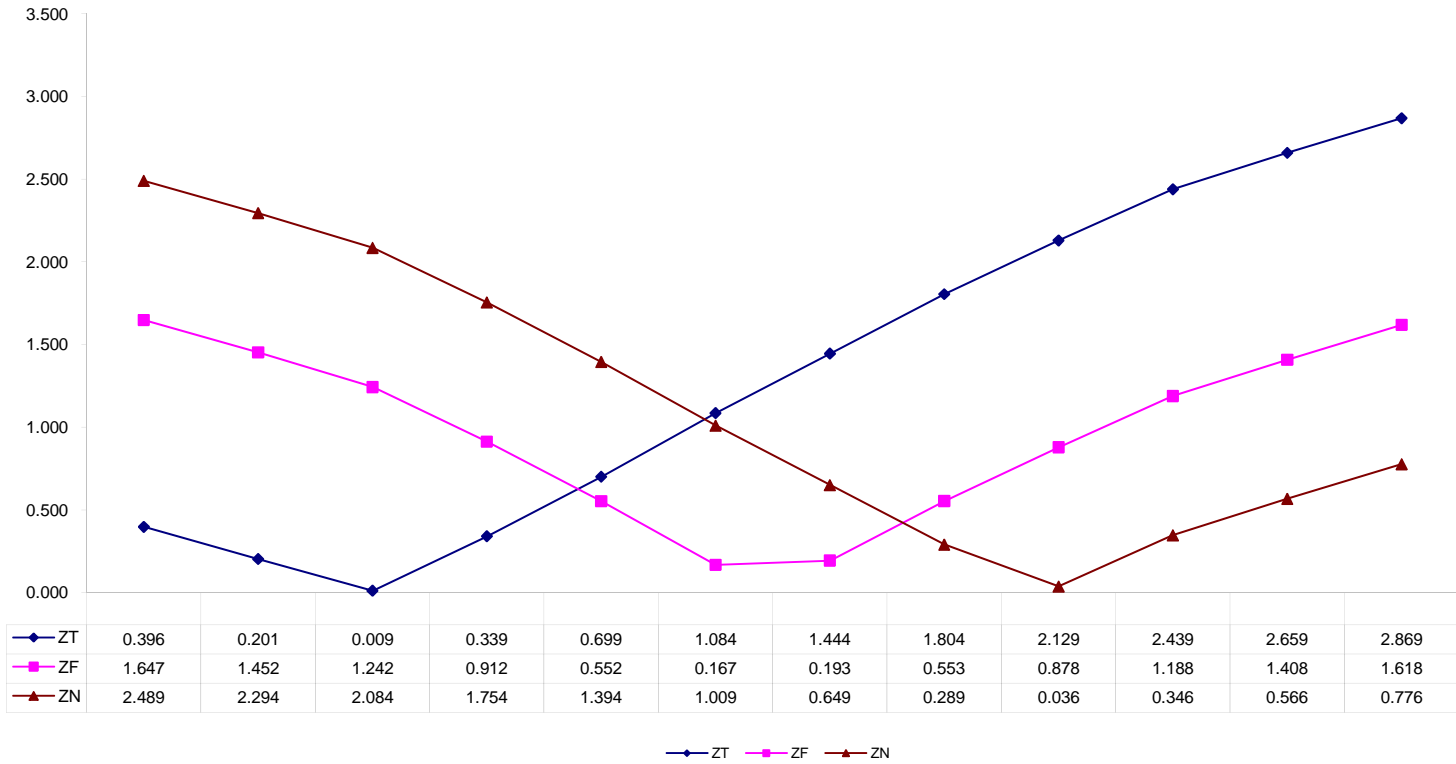
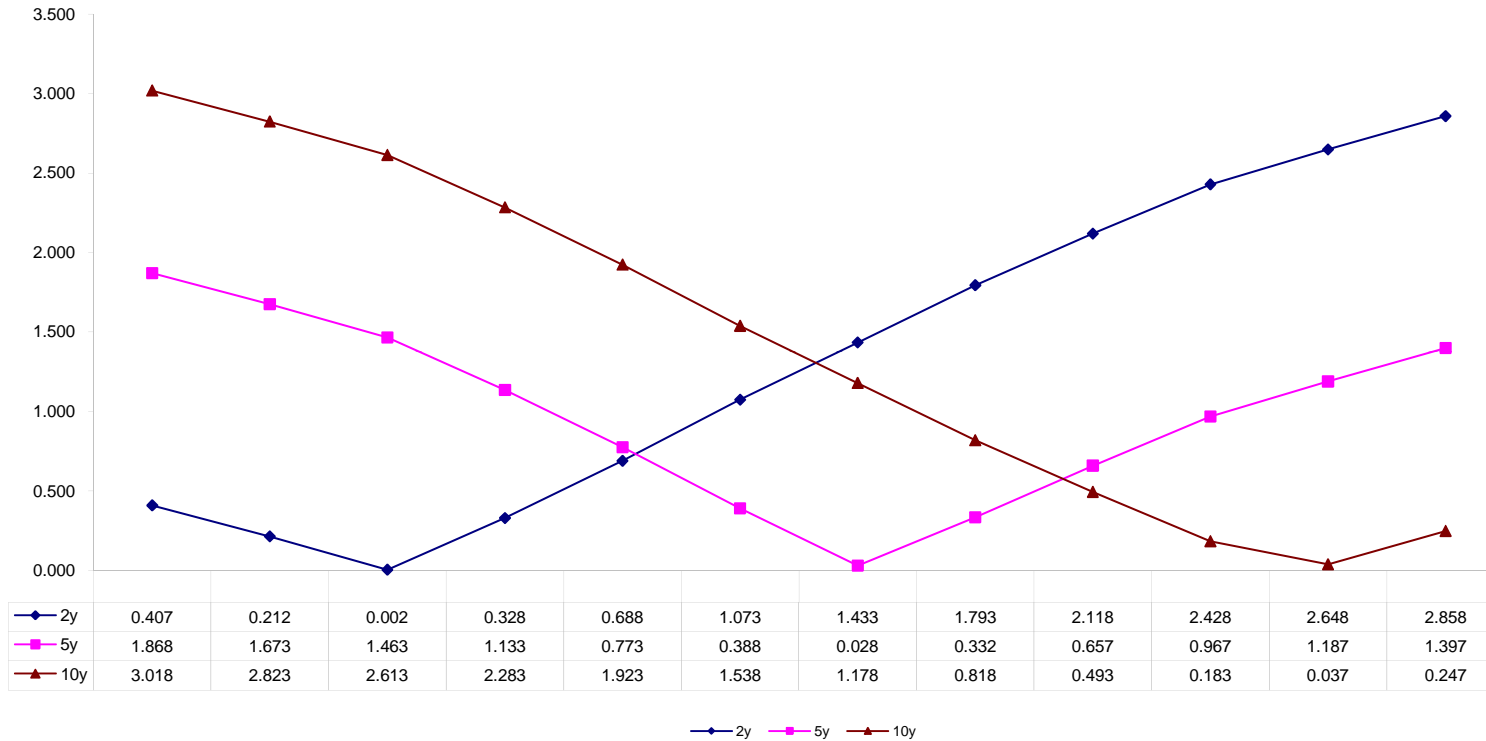
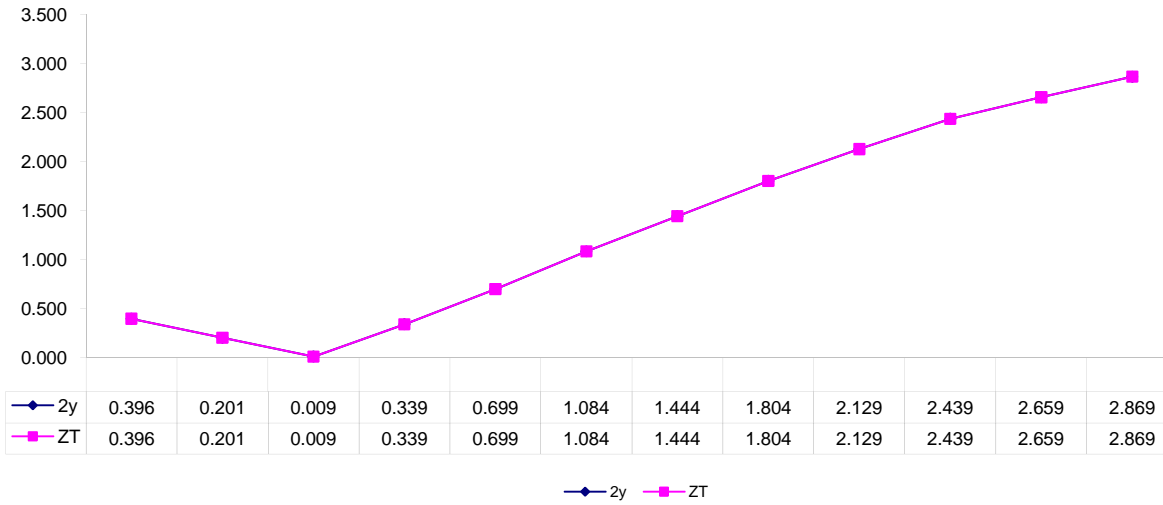
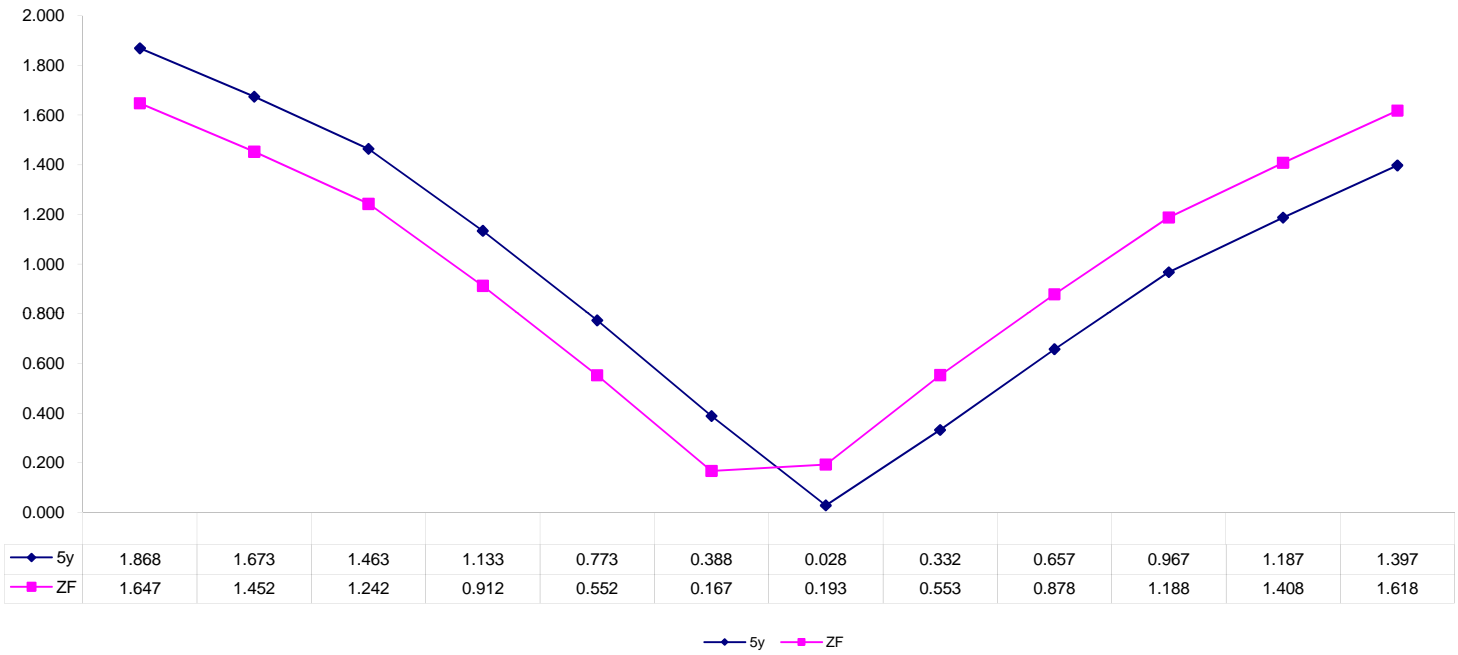


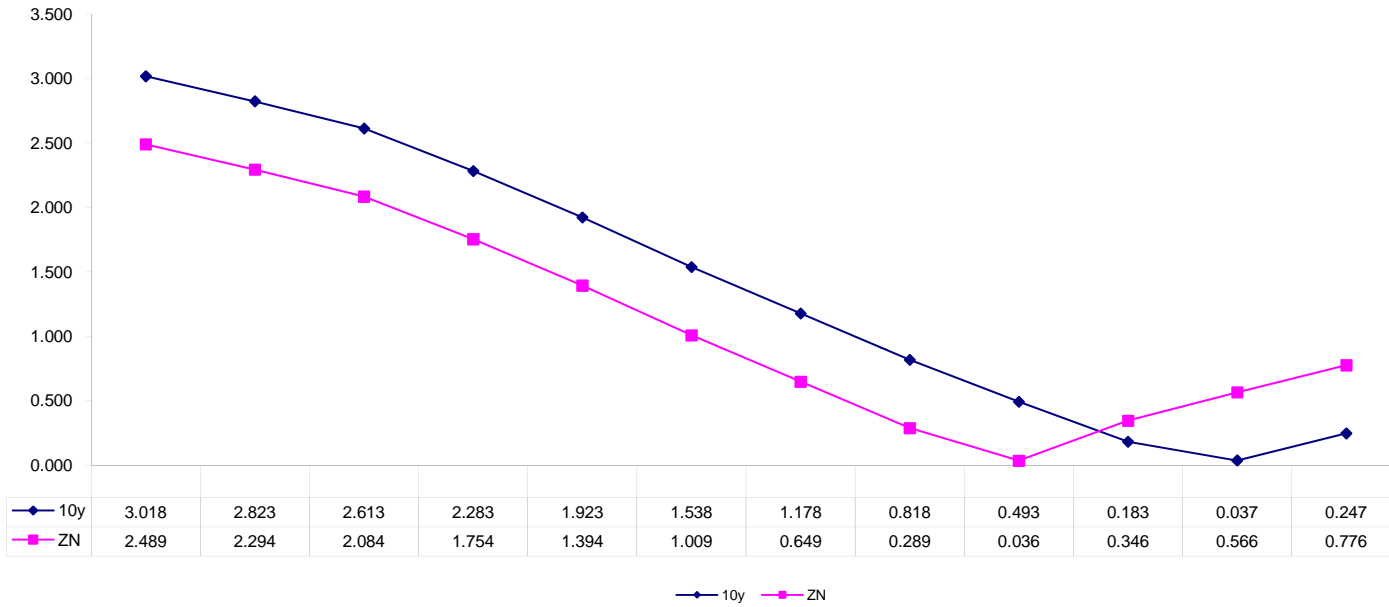
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



### 2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.873	0.875	9914.1250
Red Pack	2.222	1.375	9782.1250
Green Pack	3.523	1.500	9655.5000
Blue Pack	4.309	0.750	9579.5000
Gold Pack	4.796	0.500	9532.5000

