

## **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	108.3750	108.1200	0.946	1.953
ZF	115.2406	115.0770	2.163	4.273
ZN	116.5469	116.1750	3.045	5.904
2y	99.8750	99.2800	0.935	1.972
5y	99.3594	99.1150	2.385	4.695
10y	96.5938	96.1900	3.534	8.438

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.3400	0.660	14	0.0377	JUN	
EDAU09	99.2550	0.745	105	0.2870	SEP	White Pack
EDAZ09	99.0500	0.950	196	0.5363	DEC	
EDAH10	98.8900	1.110	287	0.7856	MAR	
EDAM10	98.6100	1.390	378	1.0349	JUN	
EDAU10	98.3050	1.695	469	1.2843	SEP	Red Pack
EDAZ10	97.9400	2.060	560	1.5336	DEC	
EDAH11	97.6200	2.380	651	1.7829	MAR	
EDAM11	97.2750	2.725	742	2.0322	JUN	
EDAU11	96.9500	3.050	840	2.3007	SEP	Green Pack
EDAZ11	96.6250	3.375	931	2.5500	DEC	
EDAH12	96.3850	3.615	1,022	2.7993	MAR	
EDAM12	96.1600	3.840	1,113	3.0486	JUN	
EDAU12	95.9800	4.020	1,204	3.2980	SEP	Blue Pack
EDAZ12	95.8750	4.125	1,295	3.5473	DEC	
EDAH13	95.7750	4.225	1,386	3.7966	MAR	
EDAM13	95.6700	4.330	1,477	4.0459	JUN	
EDAU13	95.5600	4.440	1,568	4.2952	SEP	Gold Pack
EDAZ13	95.4350	4.565	1,659	4.5445	DEC	
EDAH14	95.3750	4.625	1,750	4.7938	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	0.880	-1.125	9913.38	
Red Pack	1.917	-4.625	9811.88	Pack Prices
Green Pack	3.262	-6.000	9680.88	
Blue Pack		-3.250	9594.88	
Gold Pack		0.000	9550.88	

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.

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#### **Correlations (Important)**

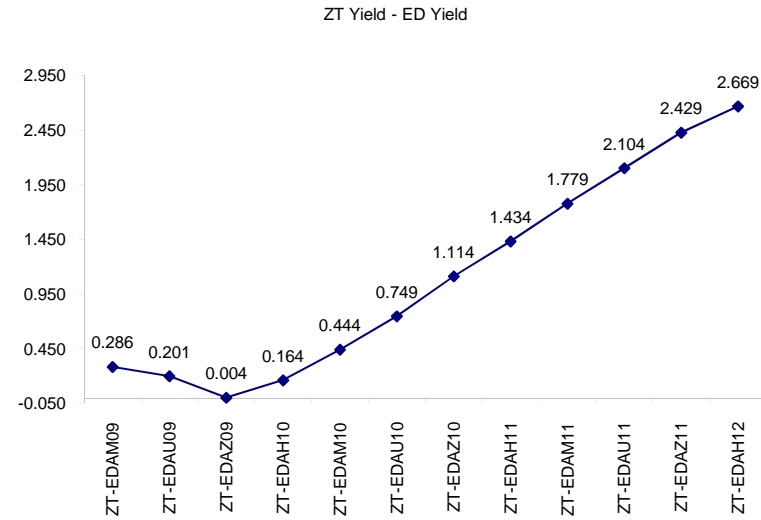
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based on yield than price.

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.04	0.286	ZT-EDAM09	85
EDAU09	9.12	0.201	ZT-EDAU09	88
EDAZ09	9.33	0.004	ZT-EDAZ09	90
EDAH10	9.49	0.164	ZT-EDAH10	91
EDAM10	9.77	0.444	ZT-EDAM10	88
EDAU10	10.07	0.749	ZT-EDAU10	84
EDAZ10	10.44	1.114	ZT-EDAZ10	81
EDAH11	10.76	1.434	ZT-EDAH11	77
EDAM11	11.10	1.779	ZT-EDAM11	75
EDAU11	11.43	2.104	ZT-EDAU11	73
EDAZ11	11.75	2.429	ZT-EDAZ11	72
EDAH12	11.99	2.669	ZT-EDAH12	71

Price = Outright Decimal Price - Euro Contract Price

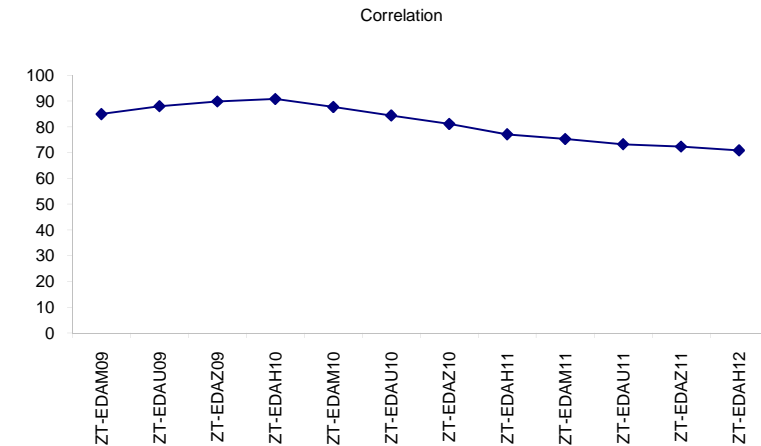
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.0377	1.9530	1.9154	ZT-EDAM09		
EDAU09	0.2870	1.9530	1.6660	ZT-EDAU09		
EDAZ09	0.5363	1.9530	1.4167	ZT-EDAZ09		
EDAH10	0.7856	1.9530	1.1674	ZT-EDAH10		
EDAM10	1.0349	1.9530	0.9181	ZT-EDAM10		
EDAU10	1.2843	1.9530	0.6688	ZT-EDAU10		
EDAZ10	1.5336	1.9530	0.4195	ZT-EDAZ10		
EDAH11	1.7829	1.9530	0.1702	ZT-EDAH11		
EDAM11	2.0322	1.9530	-0.0792	ZT-EDAM11		
EDAU11	2.3007	1.9530	-0.3477	ZT-EDAU11		
EDAZ11	2.5500	1.9530	-0.5970	ZT-EDAZ11		
EDAH12	2.7993	1.9530	-0.8463	ZT-EDAH12		

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

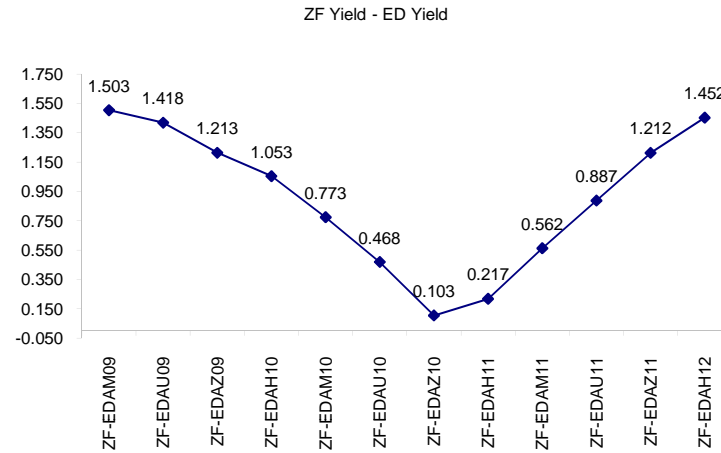


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	15.90	1.503	ZF-EDAM09	61
EDAU09	15.99	1.418	ZF-EDAU09	84
EDAZ09	16.19	1.213	ZF-EDAZ09	88
EDAH10	16.35	1.053	ZF-EDAH10	92
EDAM10	16.63	0.773	ZF-EDAM10	94
EDAU10	16.94	0.468	ZF-EDAU10	96
EDAZ10	17.30	0.103	ZF-EDAZ10	98
EDAH11	17.62	0.217	ZF-EDAH11	98
EDAM11	17.97	0.562	ZF-EDAM11	98
EDAU11	18.29	0.887	ZF-EDAU11	99
EDAZ11	18.62	1.212	ZF-EDAZ11	99
EDAH12	18.86	1.452	ZF-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

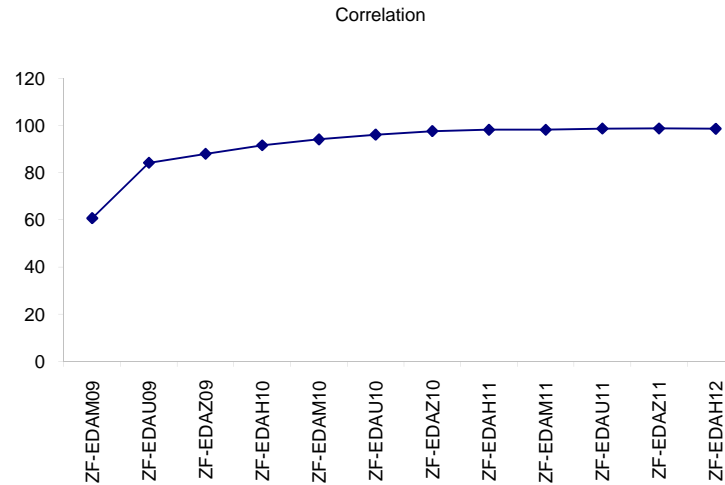
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.0377	4.2734	4.2357	ZF-EDAM09	
EDAU09	0.2870	4.2734	3.9864	ZF-EDAU09	
EDAZ09	0.5363	4.2734	3.7371	ZF-EDAZ09	
EDAH10	0.7856	4.2734	3.4878	ZF-EDAH10	
EDAM10	1.0349	4.2734	3.2385	ZF-EDAM10	
EDAU10	1.2843	4.2734	2.9891	ZF-EDAU10	
EDAZ10	1.5336	4.2734	2.7398	ZF-EDAZ10	
EDAH11	1.7829	4.2734	2.4905	ZF-EDAH11	
EDAM11	2.0322	4.2734	2.2412	ZF-EDAM11	
EDAU11	2.3007	4.2734	1.9727	ZF-EDAU11	
EDAZ11	2.5500	4.2734	1.7234	ZF-EDAZ11	
EDAH12	2.7993	4.2734	1.4741	ZF-EDAH12	

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

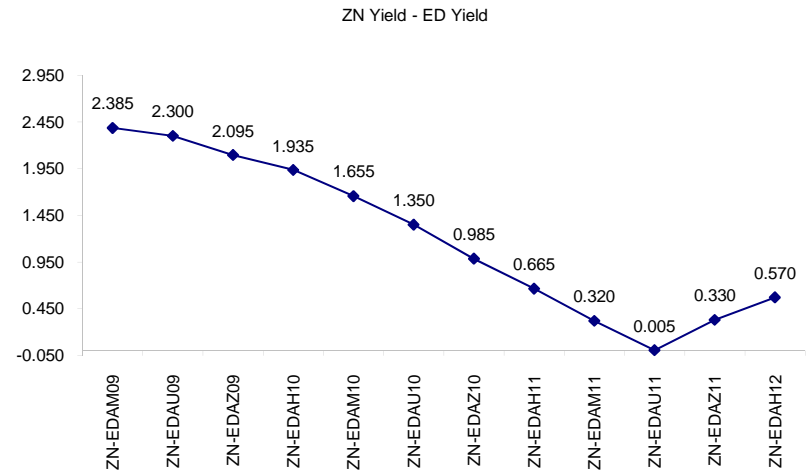


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	17.21	2.385	ZN-EDAM09	62
EDAU09	17.29	2.300	ZN-EDAU09	84
EDAZ09	17.50	2.095	ZN-EDAZ09	87
EDAH10	17.66	1.935	ZN-EDAH10	88
EDAM10	17.94	1.655	ZN-EDAM10	89
EDAU10	18.24	1.350	ZN-EDAU10	92
EDAZ10	18.61	0.985	ZN-EDAZ10	94
EDAH11	18.93	0.665	ZN-EDAH11	95
EDAM11	19.27	0.320	ZN-EDAM11	95
EDAU11	19.60	0.005	ZN-EDAU11	97
EDAZ11	19.92	0.330	ZN-EDAZ11	98
EDAH12	20.16	0.570	ZN-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

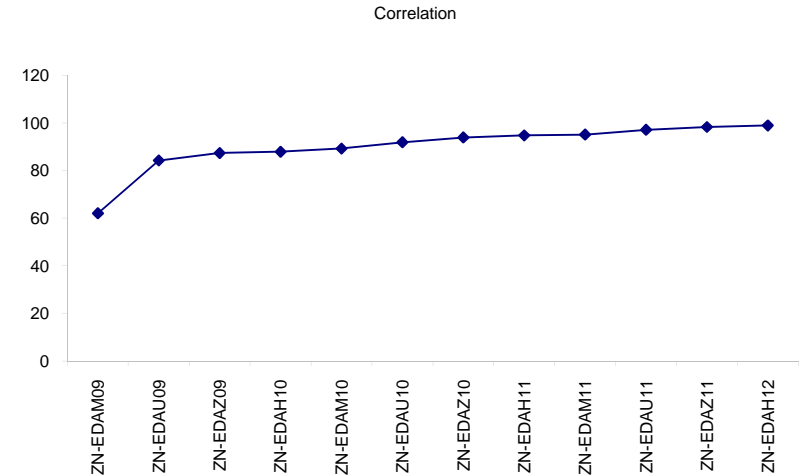
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration
EDAM09	0.0377	5.9036	5.8659
EDAU09	0.2870	5.9036	5.6166
EDAZ09	0.5363	5.9036	5.3673
EDAH10	0.7856	5.9036	5.1180
EDAM10	1.0349	5.9036	4.8687
EDAU10	1.2843	5.9036	4.6194
EDAZ10	1.5336	5.9036	4.3700
EDAH11	1.7829	5.9036	4.1207
EDAM11	2.0322	5.9036	3.8714
EDAU11	2.3007	5.9036	3.6029
EDAZ11	2.5500	5.9036	3.3536
EDAH12	2.7993	5.9036	3.1043

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.53	0.275	2y-EDAM09	-63
EDAU09	0.62	0.190	2y-EDAU09	-83
EDAZ09	0.83	0.015	2y-EDAZ09	-88
EDAH10	0.98	0.175	2y-EDAH10	-94
EDAM10	1.27	0.455	2y-EDAM10	-96
EDAU10	1.57	0.760	2y-EDAU10	-96
EDAZ10	1.94	1.125	2y-EDAZ10	-95
EDAH11	2.26	1.445	2y-EDAH11	-93
EDAM11	2.60	1.790	2y-EDAM11	-92
EDAU11	2.93	2.115	2y-EDAU11	-90
EDAZ11	3.25	2.440	2y-EDAZ11	-88
EDAH12	3.49	2.680	2y-EDAH12	-86

Price = Outright Decimal Price - Euro Contract Price

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

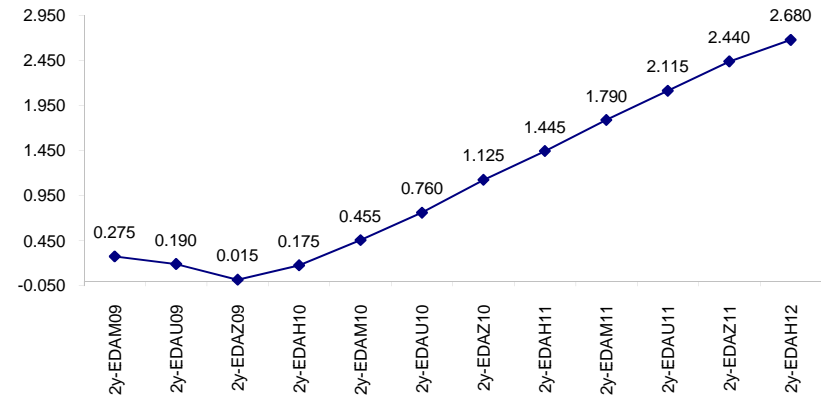
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

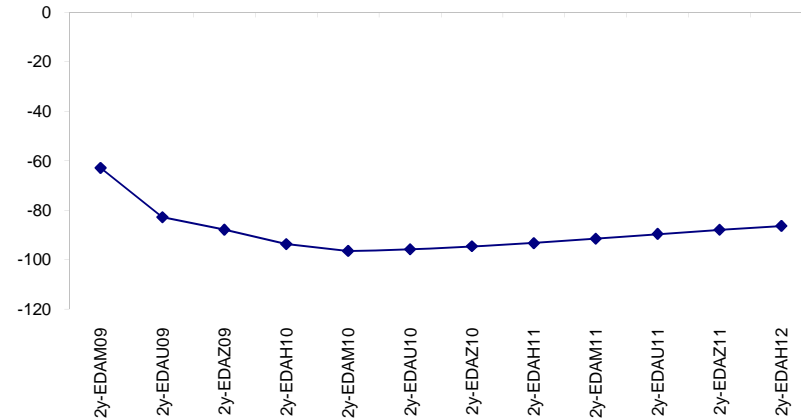
	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0377	1.9722	1.9345	2y-EDAM09
EDAU09	0.2870	1.9722	1.6852	2y-EDAU09
EDAZ09	0.5363	1.9722	1.4359	2y-EDAZ09
EDAH10	0.7856	1.9722	1.1865	2y-EDAH10
EDAM10	1.0349	1.9722	0.9372	2y-EDAM10
EDAU10	1.2843	1.9722	0.6879	2y-EDAU10
EDAZ10	1.5336	1.9722	0.4386	2y-EDAZ10
EDAH11	1.7829	1.9722	0.1893	2y-EDAH11
EDAM11	2.0322	1.9722	-0.0600	2y-EDAM11
EDAU11	2.3007	1.9722	-0.3285	2y-EDAU11
EDAZ11	2.5500	1.9722	-0.5778	2y-EDAZ11
EDAH12	2.7993	1.9722	-0.8272	2y-EDAH12

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

ZT Yield - ED Yield



Correlation

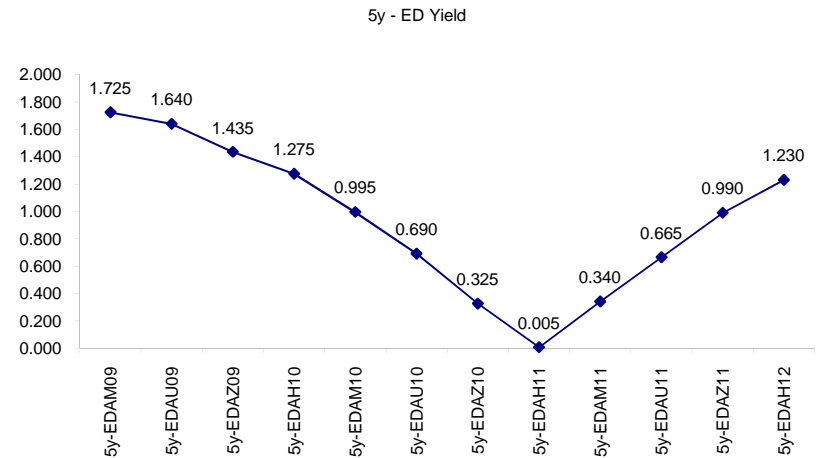


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.02	1.725	5y-EDAM09	-42
EDAU09	0.10	1.640	5y-EDAU09	-73
EDAZ09	0.31	1.435	5y-EDAZ09	-83
EDAH10	0.47	1.275	5y-EDAH10	-90
EDAM10	0.75	0.995	5y-EDAM10	-94
EDAU10	1.05	0.690	5y-EDAU10	-95
EDAZ10	1.42	0.325	5y-EDAZ10	-97
EDAH11	1.74	0.005	5y-EDAH11	-97
EDAM11	2.08	0.340	5y-EDAM11	-97
EDAU11	2.41	0.665	5y-EDAU11	-97
EDAZ11	2.73	0.990	5y-EDAZ11	-98
EDAH12	2.97	1.230	5y-EDAH12	-98

Price = Outright Decimal Price - Euro Contract Price

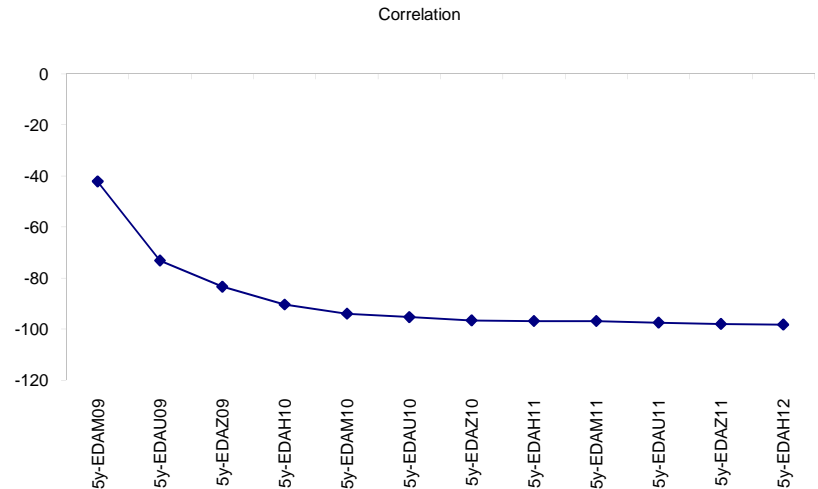
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



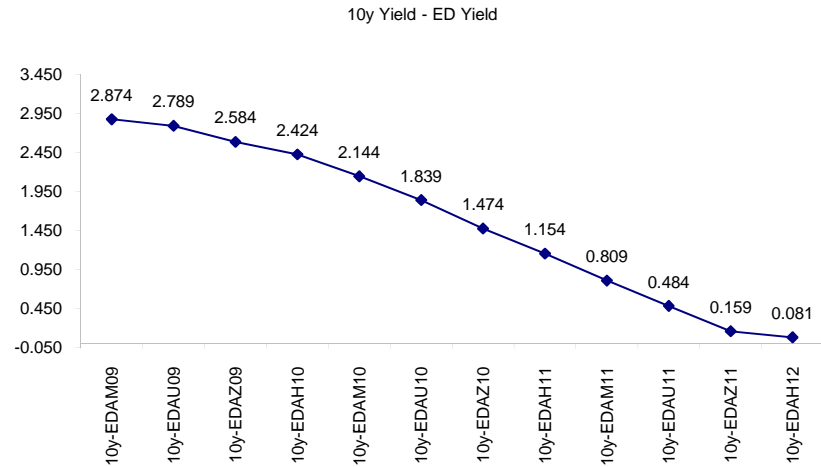
	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAM09	0.0377	4.6954	4.6577	5y-EDAM09	
EDAU09	0.2870	4.6954	4.4084	5y-EDAU09	
EDAZ09	0.5363	4.6954	4.1591	5y-EDAZ09	
EDAH10	0.7856	4.6954	3.9098	5y-EDAH10	
EDAM10	1.0349	4.6954	3.6604	5y-EDAM10	
EDAU10	1.2843	4.6954	3.4111	5y-EDAU10	
EDAZ10	1.5336	4.6954	3.1618	5y-EDAZ10	
EDAH11	1.7829	4.6954	2.9125	5y-EDAH11	
EDAM11	2.0322	4.6954	2.6632	5y-EDAM11	
EDAU11	2.3007	4.6954	2.3947	5y-EDAU11	
EDAZ11	2.5500	4.6954	2.1454	5y-EDAZ11	
EDAH12	2.7993	4.6954	1.8961	5y-EDAH12	

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



10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.02	2.874	10y-EDAM09	-51
EDAU09	0.10	2.789	10y-EDAU09	-76
EDAZ09	0.31	2.584	10y-EDAZ09	-87
EDAH10	0.47	2.424	10y-EDAH10	-91
EDAM10	0.75	2.144	10y-EDAM10	-91
EDAU10	1.05	1.839	10y-EDAU10	-92
EDAZ10	1.42	1.474	10y-EDAZ10	-92
EDAH11	1.74	1.154	10y-EDAH11	-91
EDAM11	2.08	0.809	10y-EDAM11	-91
EDAU11	2.41	0.484	10y-EDAU11	-93
EDAZ11	2.73	0.159	10y-EDAZ11	-94
EDAH12	2.97	0.081	10y-EDAH12	-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				10Y Duration	Spread Duration	
EDAM09	0.0377	8.4381	8.4004	10y-EDAM09		
EDAU09	0.2870	8.4381	8.1511	10y-EDAU09		
EDAZ09	0.5363	8.4381	7.9018	10y-EDAZ09		
EDAH10	0.7856	8.4381	7.6524	10y-EDAH10		
EDAM10	1.0349	8.4381	7.4031	10y-EDAM10		
EDAU10	1.2843	8.4381	7.1538	10y-EDAU10		
EDAZ10	1.5336	8.4381	6.9045	10y-EDAZ10		
EDAH11	1.7829	8.4381	6.6552	10y-EDAH11		
EDAM11	2.0322	8.4381	6.4059	10y-EDAM11		
EDAU11	2.3007	8.4381	6.1374	10y-EDAU11		
EDAZ11	2.5500	8.4381	5.8881	10y-EDAZ11		
EDAH12	2.7993	8.4381	5.6387	10y-EDAH12		

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

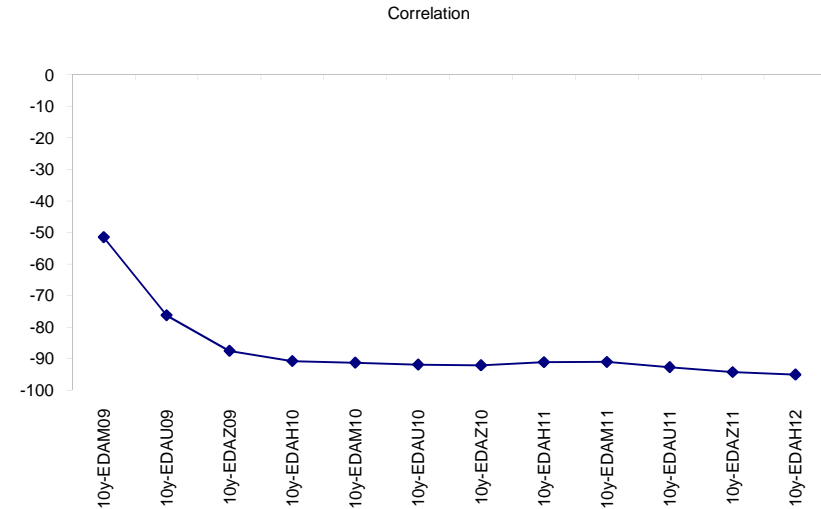


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

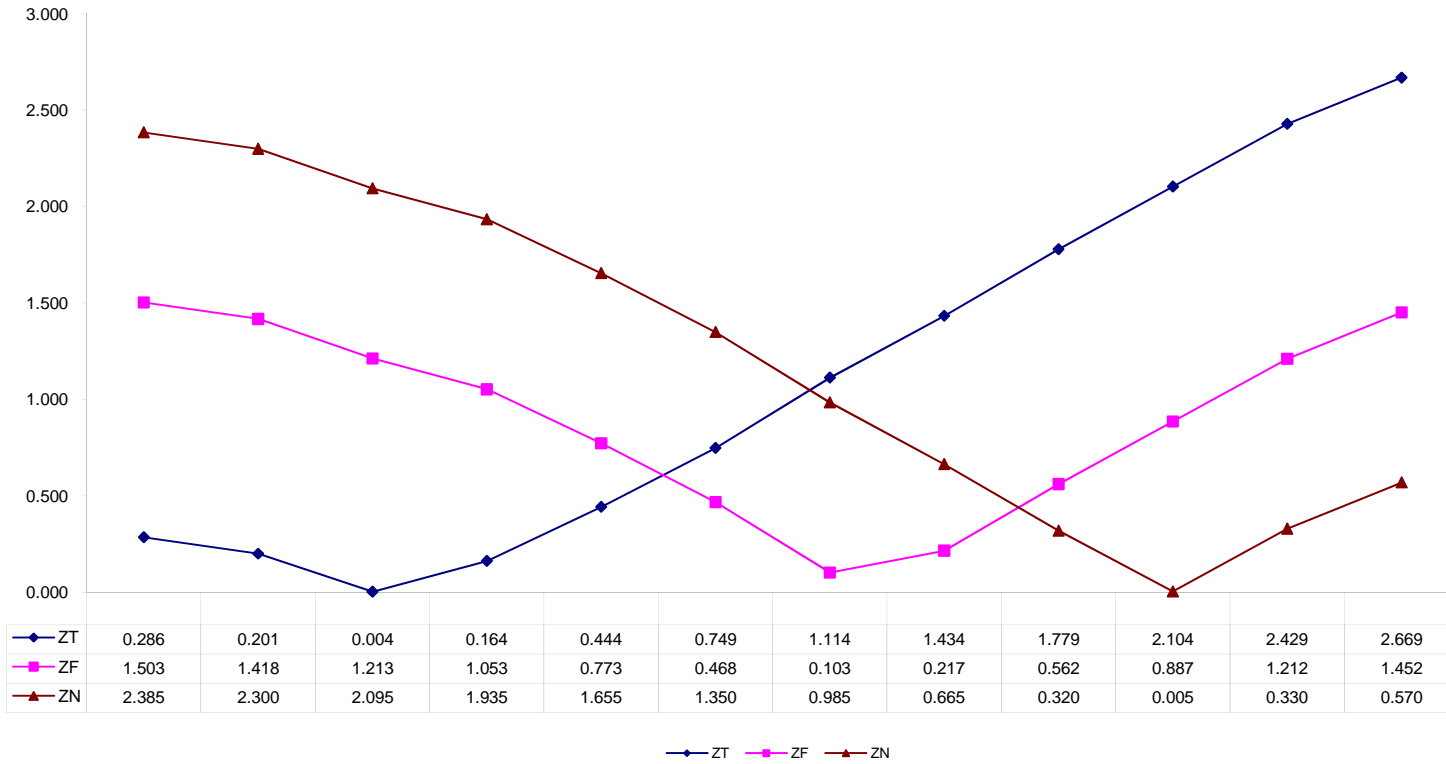
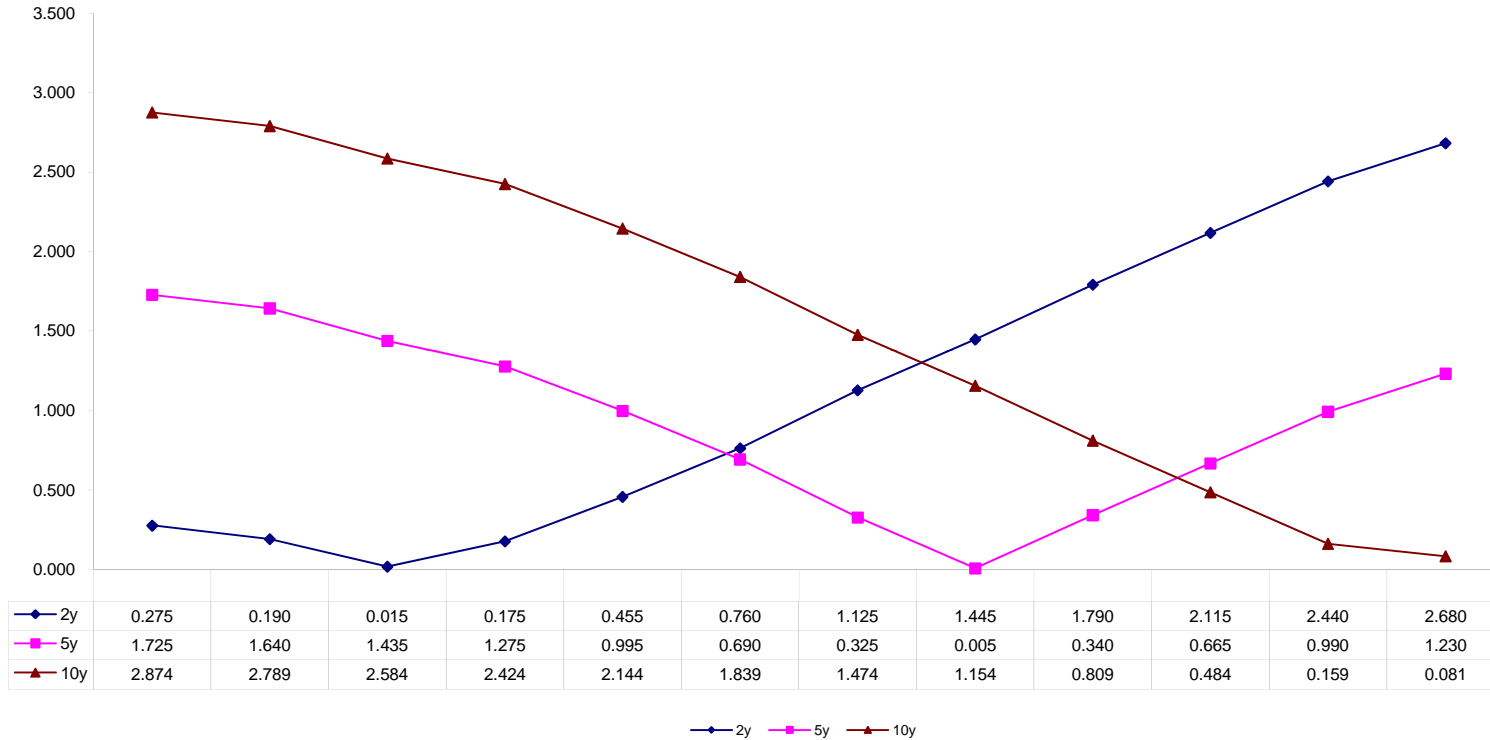
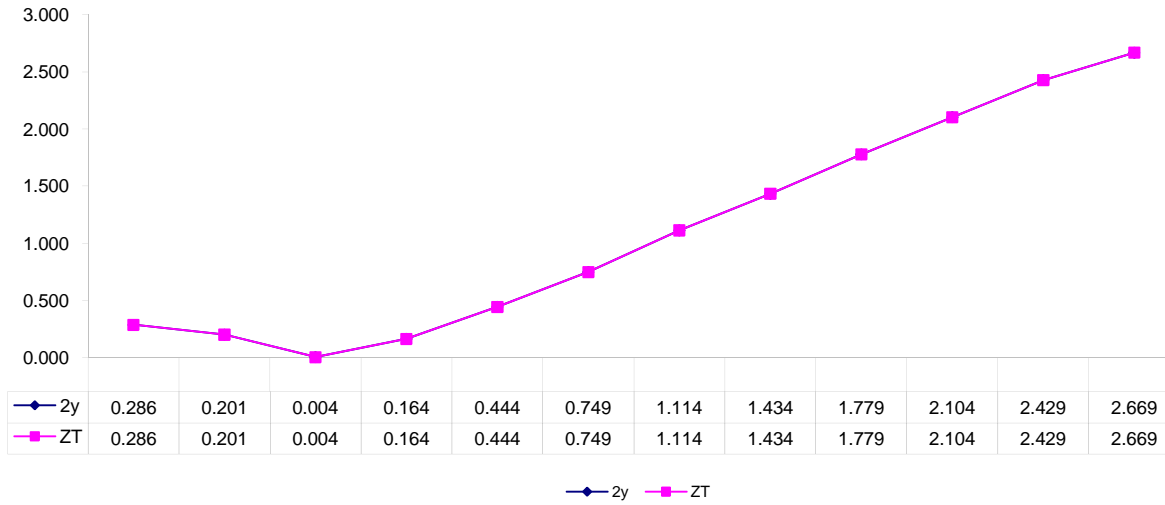
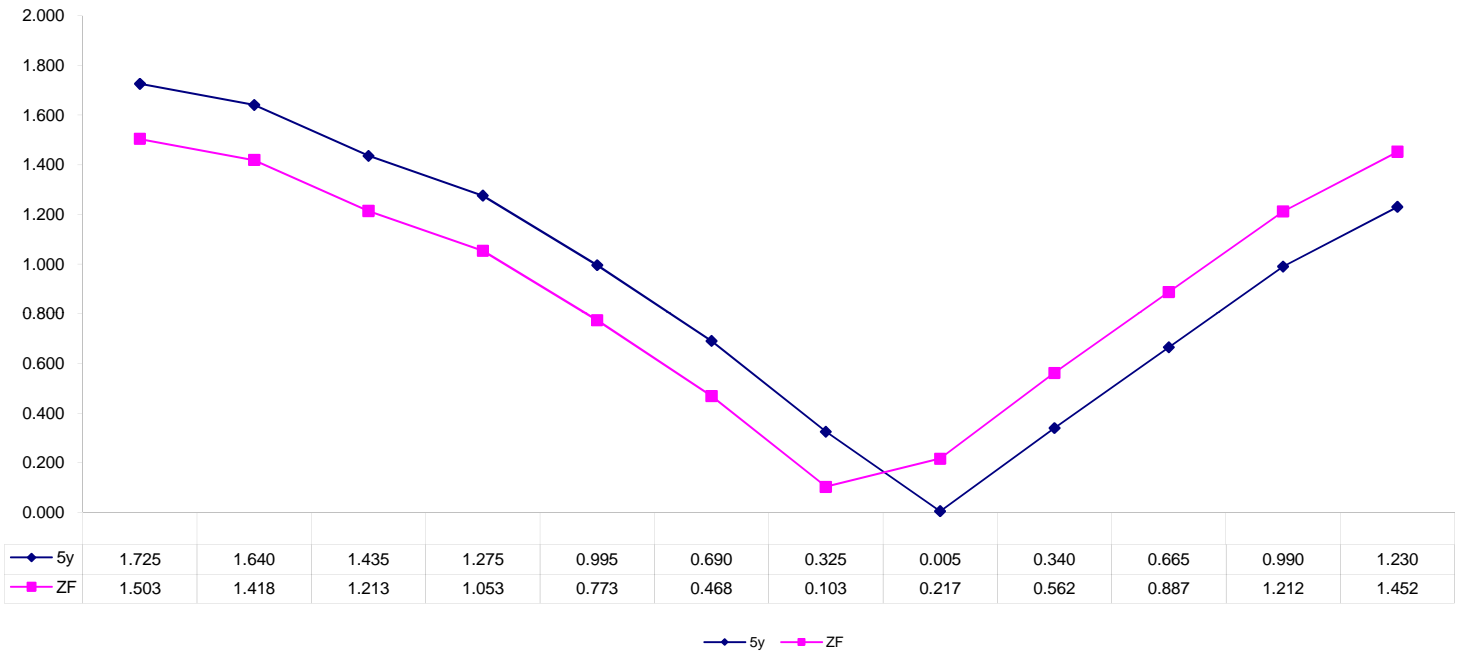


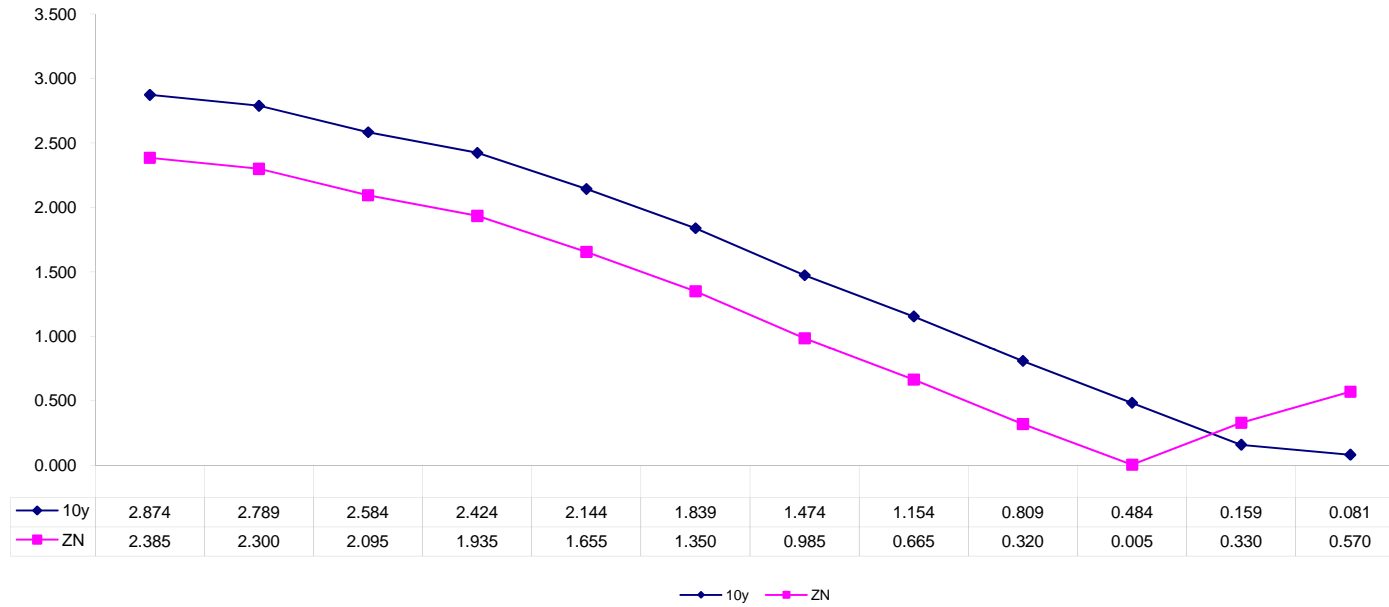
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.880	-1.125	9913.3750
Red Pack	1.917	-4.625	9811.8750
Green Pack	3.262	-6.000	9680.8750
Blue Pack		-3.250	9594.8750
Gold Pack		0.000	9550.8750

