

## **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 32	Last Yield*	MDuration
ZT	106.2563	106.082	2.229	1.76
ZF	112.3344	112.107	2.863	3.90
ZN	116.1563	116.050	3.556	5.86
2y	99.672	99.2150	2.293	1.91
5y	100.678	100.2170	2.975	4.50
10y	101.031	101.0100	3.750	8.10

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.285	2.715	34	0.092	JUN
EDAU08	97.275	2.725	125	0.342	SEP White
EDAZ08	97.095	2.905	216	0.591	DEC Pack
EDAH09	96.995	3.005	307	0.840	MAR
EDAM09	96.850	3.150	398	1.090	JUN
EDAU09	96.685	3.315	489	1.339	SEP Red Pack
EDAZ09	96.495	3.505	580	1.588	DEC
EDAH10	96.355	3.645	671	1.838	MAR
EDAM10	96.215	3.785	762	2.087	JUN
EDAU10	96.080	3.920	853	2.336	SEP Green Pack
EDAZ10	95.940	4.060	944	2.586	DEC
EDAH11	95.860	4.140	1035	2.835	MAR
EDAM11	95.745	4.255	1126	3.084	JUN
EDAU11	95.670	4.330	1224	3.353	SEP Blue Pack
EDAZ11	95.565	4.435	1315	3.602	DEC
EDAH12	95.495	4.505	1406	3.851	MAR
EDAM12	95.460	4.540	1497	4.101	JUN
EDAU12	95.390	4.610	1588	4.350	SEP Gold Pack
EDAZ12	95.315	4.685	1679	4.599	DEC
EDAH13	95.280	4.720	1770	4.849	MAR

	Last Yield	Net Yield	Last Price	
White Pack	2.898	-5.625	9716.250	Pack Prices
Red Pack	3.481	-2.875	9659.625	
Green Pack	4.072	-0.125	9602.375	
Blue Pack	4.491	0.375	9561.875	
Gold Pack	4.758	2.625	9536.125	

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.

**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.

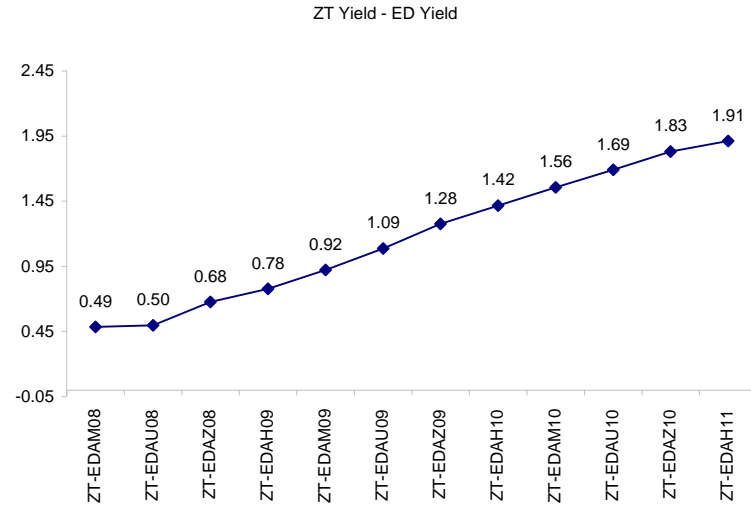
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

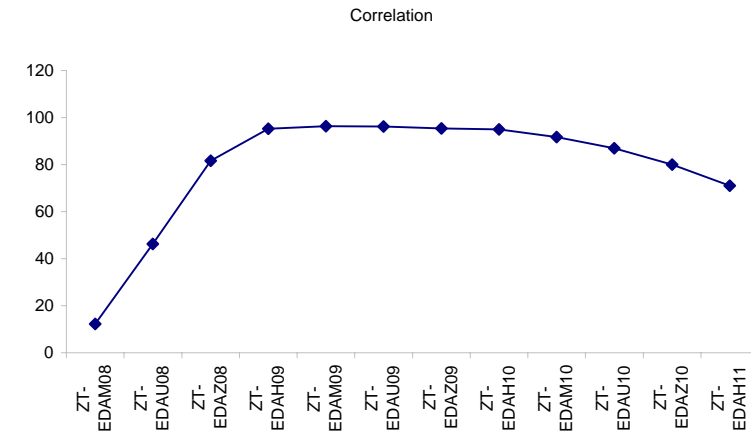
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	8.971	0.49	ZT-EDAM08	12.280
EDAU08	8.981	0.50	ZT-EDAU08	46.262
EDAZ08	9.161	0.68	ZT-EDAZ08	81.601
EDAH09	9.261	0.78	ZT-EDAH09	95.289
EDAM09	9.406	0.92	ZT-EDAM09	96.338
EDAU09	9.571	1.09	ZT-EDAU09	96.212
EDAZ09	9.761	1.28	ZT-EDAZ09	95.372
EDAH10	9.901	1.42	ZT-EDAH10	94.940
EDAM10	10.041	1.56	ZT-EDAM10	91.688
EDAU10	10.176	1.69	ZT-EDAU10	86.978
EDAZ10	10.316	1.83	ZT-EDAZ10	79.979
EDAH11	10.396	1.91	ZT-EDAH11	71.026

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		
EDAM08	0.092	1.76	1.67	ZT-EDAM08
EDAU08	0.342	1.76	1.42	ZT-EDAU08
EDAZ08	0.591	1.76	1.17	ZT-EDAZ08
EDAH09	0.840	1.76	0.92	ZT-EDAH09
EDAM09	1.090	1.76	0.67	ZT-EDAM09
EDAU09	1.339	1.76	0.42	ZT-EDAU09
EDAZ09	1.588	1.76	0.17	ZT-EDAZ09
EDAH10	1.838	1.76	(0.08)	ZT-EDAH10
EDAM10	2.087	1.76	(0.33)	ZT-EDAM10
EDAU10	2.336	1.76	(0.58)	ZT-EDAU10
EDAZ10	2.586	1.76	(0.83)	ZT-EDAZ10
EDAH11	2.835	1.76	(1.07)	ZT-EDAH11

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

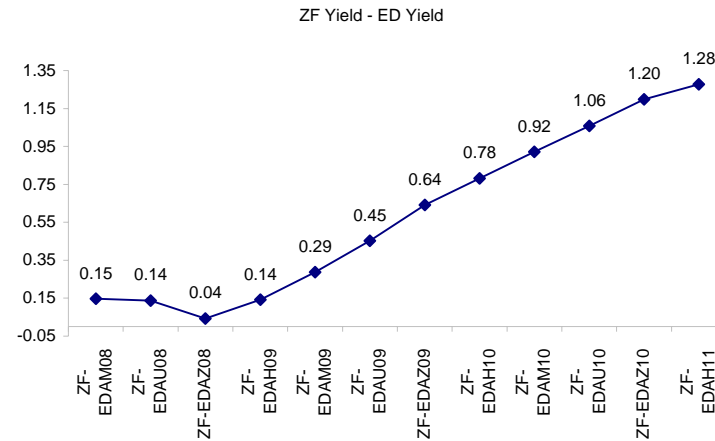


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	15.049	0.15	ZF-EDAM08	-11.572
EDAU08	15.059	0.14	ZF-EDAU08	24.458
EDAZ08	15.239	0.04	ZF-EDAZ08	69.721
EDAH09	15.339	0.14	ZF-EDAH09	89.610
EDAM09	15.484	0.29	ZF-EDAM09	94.138
EDAU09	15.649	0.45	ZF-EDAU09	94.778
EDAZ09	15.839	0.64	ZF-EDAZ09	95.501
EDAH10	15.979	0.78	ZF-EDAH10	96.412
EDAM10	16.119	0.92	ZF-EDAM10	98.606
EDAU10	16.254	1.06	ZF-EDAU10	98.895
EDAZ10	16.394	1.20	ZF-EDAZ10	97.044
EDAH11	16.474	1.28	ZF-EDAH11	92.252

Price = Outright Decimal Price - Euro Contract Price

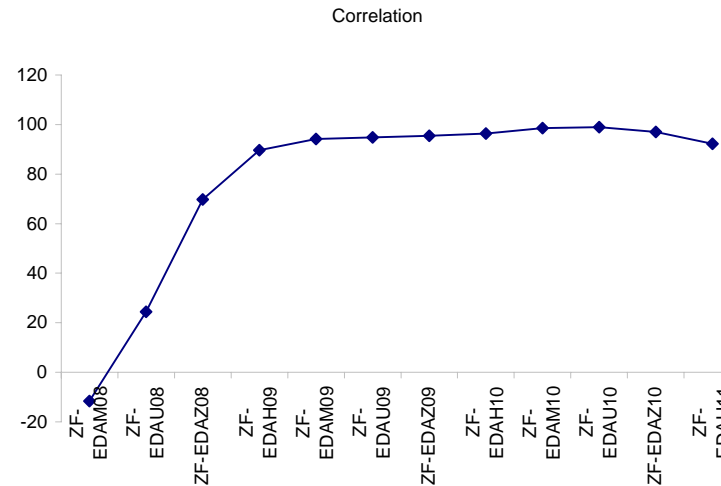
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.092	3.90	3.81	ZF-EDAM08	
EDAU08	0.342	3.90	3.56	ZF-EDAU08	
EDAZ08	0.591	3.90	3.31	ZF-EDAZ08	
EDAH09	0.840	3.90	3.06	ZF-EDAH09	
EDAM09	1.090	3.90	2.81	ZF-EDAM09	
EDAU09	1.339	3.90	2.56	ZF-EDAU09	
EDAZ09	1.588	3.90	2.32	ZF-EDAZ09	
EDAH10	1.838	3.90	2.07	ZF-EDAH10	
EDAM10	2.087	3.90	1.82	ZF-EDAM10	
EDAU10	2.336	3.90	1.57	ZF-EDAU10	
EDAZ10	2.586	3.90	1.32	ZF-EDAZ10	
EDAH11	2.835	3.90	1.07	ZF-EDAH11	

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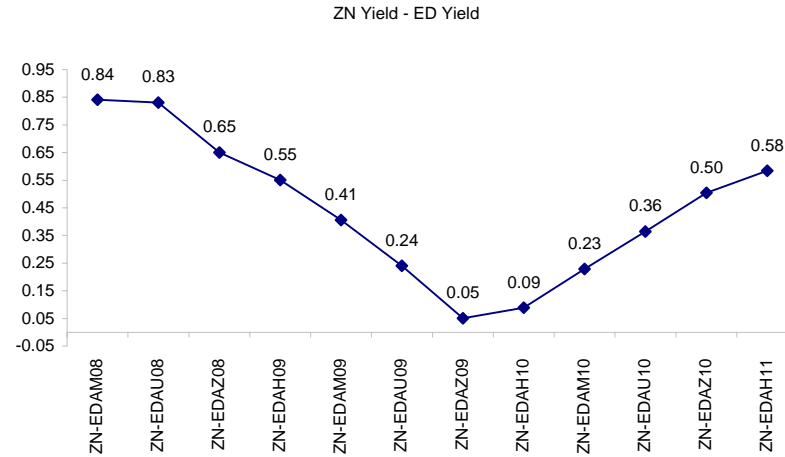


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	18.871	0.84	ZN-EDAM08	-31.158
EDAU08	18.881	0.83	ZN-EDAU08	1.058
EDAZ08	19.061	0.65	ZN-EDAZ08	48.720
EDAH09	19.161	0.55	ZN-EDAH09	77.183
EDAM09	19.306	0.41	ZN-EDAM09	83.808
EDAU09	19.471	0.24	ZN-EDAU09	84.382
EDAZ09	19.661	0.05	ZN-EDAZ09	84.755
EDAH10	19.801	0.09	ZN-EDAH10	96.412
EDAM10	19.941	0.23	ZN-EDAM10	98.606
EDAU10	20.076	0.36	ZN-EDAU10	98.895
EDAZ10	20.216	0.50	ZN-EDAZ10	97.044
EDAH11	20.296	0.58	ZN-EDAH11	92.252

Price = Outright Decimal Price - Euro Contract Price

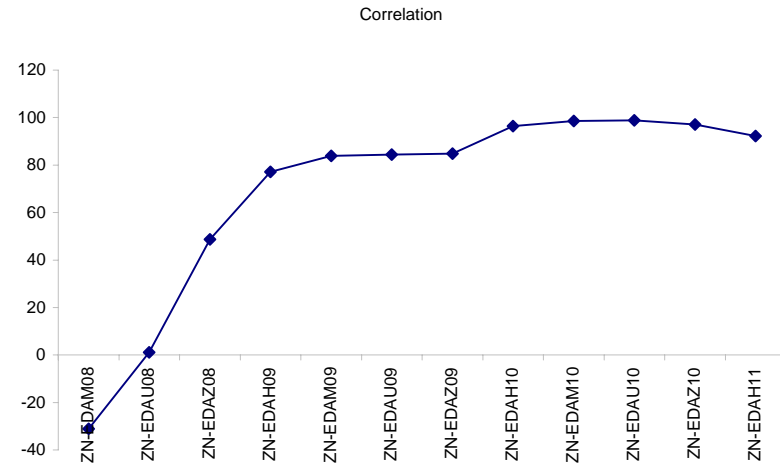
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAM08	0.092	5.86	5.76	ZN-EDAM08		
EDAU08	0.342	5.86	5.51	ZN-EDAU08		
EDAZ08	0.591	5.86	5.26	ZN-EDAZ08		
EDAH09	0.840	5.86	5.02	ZN-EDAH09		
EDAM09	1.090	5.86	4.77	ZN-EDAM09		
EDAU09	1.339	5.86	4.52	ZN-EDAU09		
EDAZ09	1.588	5.86	4.27	ZN-EDAZ09		
EDAH10	1.838	5.86	4.02	ZN-EDAH10		
EDAM10	2.087	5.86	3.77	ZN-EDAM10		
EDAU10	2.336	5.86	3.52	ZN-EDAU10		
EDAZ10	2.586	5.86	3.27	ZN-EDAZ10		
EDAH11	2.835	5.86	3.02	ZN-EDAH11		

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

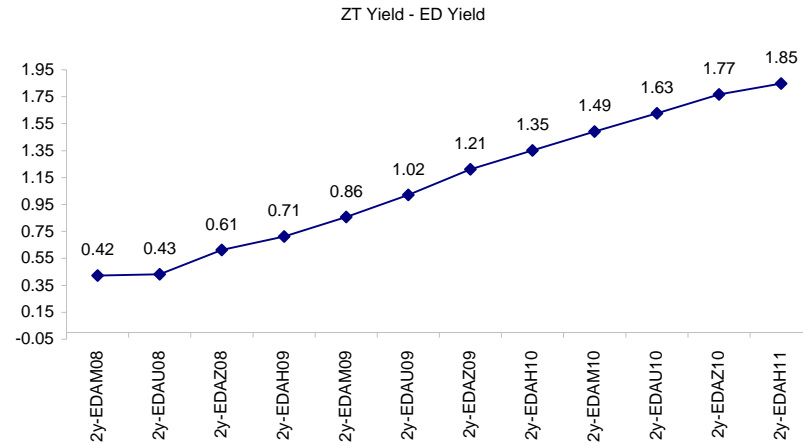


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.387	0.42	2y-EDAM08	-14.535
EDAU08	2.397	0.43	2y-EDAU08	-49.340
EDAZ08	2.577	0.61	2y-EDAZ08	-82.340
EDAH09	2.677	0.71	2y-EDAH09	-94.027
EDAM09	2.822	0.86	2y-EDAM09	-93.983
EDAU09	2.987	1.02	2y-EDAU09	-93.472
EDAZ09	3.177	1.21	2y-EDAZ09	-92.728
EDAH10	3.317	1.35	2y-EDAH10	-91.913
EDAM10	3.457	1.49	2y-EDAM10	-88.506
EDAU10	3.592	1.63	2y-EDAU10	-83.547
EDAZ10	3.732	1.77	2y-EDAZ10	-76.065
EDAH11	3.812	1.85	2y-EDAH11	-67.457

Price = Outright Decimal Price - Euro Contract Price

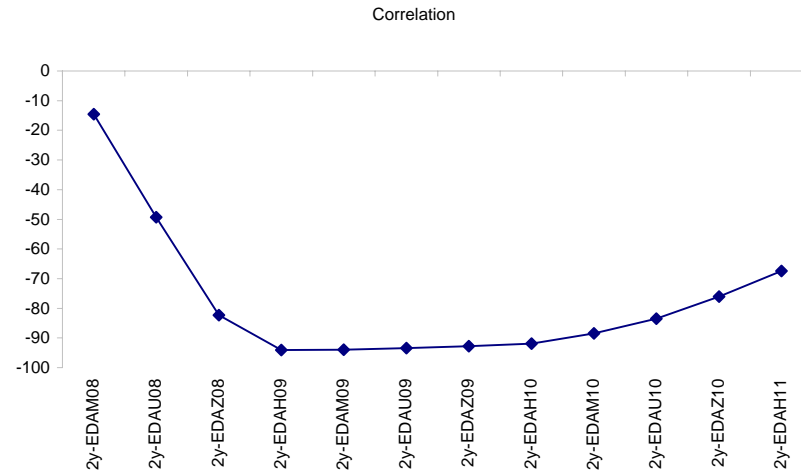
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAM08	0.092	1.91	1.82	2y-EDAM08
EDAU08	0.342	1.91	1.57	2y-EDAU08
EDAZ08	0.591	1.91	1.32	2y-EDAZ08
EDAH09	0.840	1.91	1.07	2y-EDAH09
EDAM09	1.090	1.91	0.82	2y-EDAM09
EDAU09	1.339	1.91	0.57	2y-EDAU09
EDAZ09	1.588	1.91	0.32	2y-EDAZ09
EDAH10	1.838	1.91	0.07	2y-EDAH10
EDAM10	2.087	1.91	(0.18)	2y-EDAM10
EDAU10	2.336	1.91	(0.43)	2y-EDAU10
EDAZ10	2.586	1.91	(0.68)	2y-EDAZ10
EDAH11	2.835	1.91	(0.93)	2y-EDAH11

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

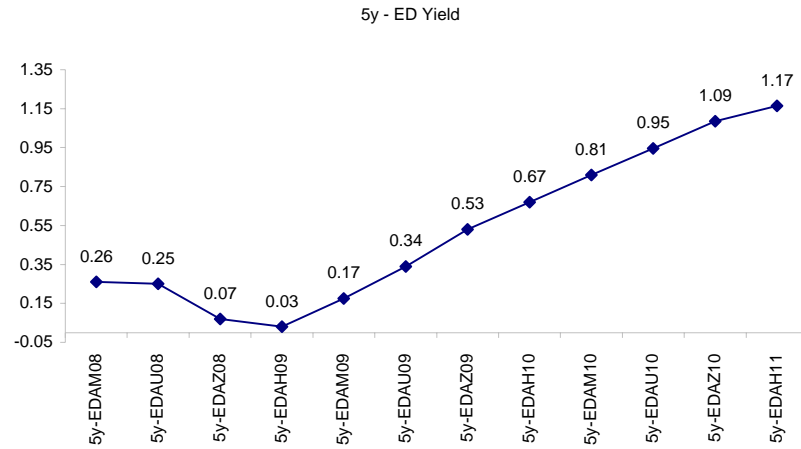


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	3.393	0.26	5y-EDAM08	8.146
EDAU08	3.403	0.25	5y-EDAU08	-28.784
EDAZ08	3.583	0.07	5y-EDAZ08	8.146
EDAH09	3.683	0.03	5y-EDAH09	-91.455
EDAM09	3.828	0.17	5y-EDAM09	-94.641
EDAU09	3.993	0.34	5y-EDAU09	-94.514
EDAZ09	4.183	0.53	5y-EDAZ09	-94.652
EDAH10	4.323	0.67	5y-EDAH10	-95.412
EDAM10	4.463	0.81	5y-EDAM10	-96.640
EDAU10	4.598	0.95	5y-EDAU10	-96.173
EDAZ10	4.738	1.09	5y-EDAZ10	-93.350
EDAH11	4.818	1.17	5y-EDAH11	-89.005

Price = Outright Decimal Price - Euro Contract Price

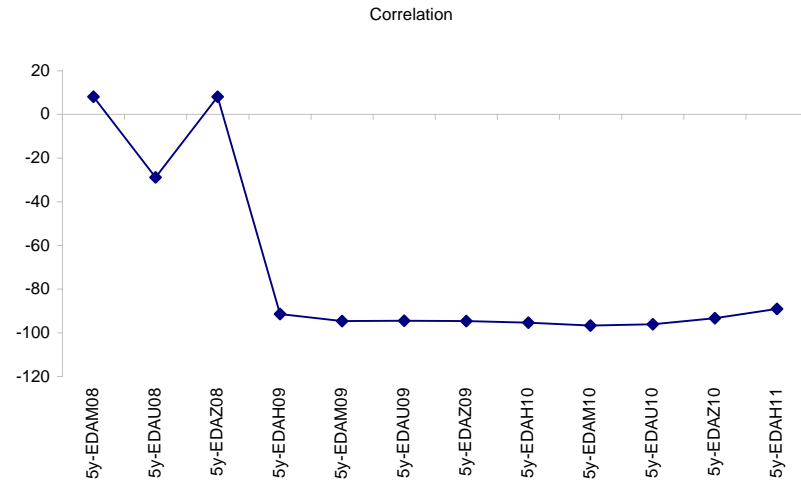
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.092	4.50	4.41	5y-EDAM08
EDAU08	0.342	4.50	4.16	5y-EDAU08
EDAZ08	0.591	4.50	3.91	5y-EDAZ08
EDAH09	0.840	4.50	3.66	5y-EDAH09
EDAM09	1.090	4.50	3.41	5y-EDAM09
EDAU09	1.339	4.50	3.16	5y-EDAU09
EDAZ09	1.588	4.50	2.91	5y-EDAZ09
EDAH10	1.838	4.50	2.66	5y-EDAH10
EDAM10	2.087	4.50	2.41	5y-EDAM10
EDAU10	2.336	4.50	2.16	5y-EDAU10
EDAZ10	2.586	4.50	1.91	5y-EDAZ10
EDAH11	2.835	4.50	1.66	5y-EDAH11

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



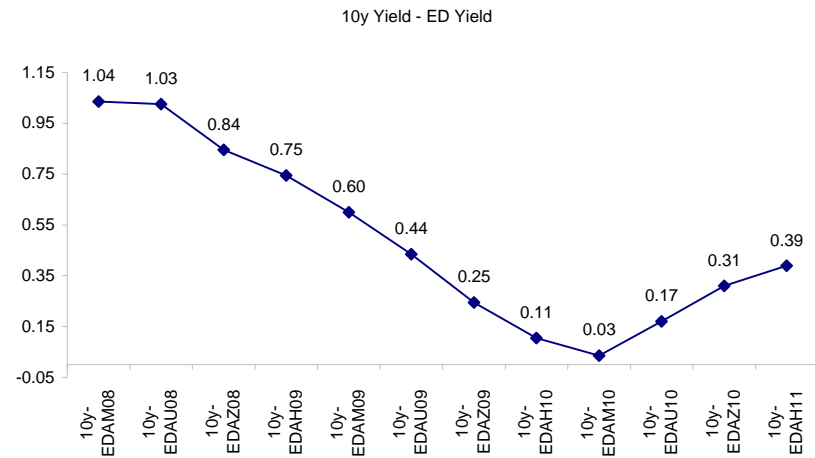


10y				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAM08	3.393	1.04	10y-EDAM08	36.745
EDAU08	3.403	1.03	10y-EDAU08	10.194
EDAZ08	3.583	0.84	10y-EDAZ08	36.745
EDAH09	3.683	0.75	10y-EDAH09	-62.008
EDAM09	3.828	0.60	10y-EDAM09	-67.611
EDAU09	3.993	0.44	10y-EDAU09	-67.003
EDAZ09	4.183	0.25	10y-EDAZ09	-66.271
EDAH10	4.323	0.11	10y-EDAH10	-69.471
EDAM10	4.463	0.03	10y-EDAM10	-74.623
EDAU10	4.598	0.17	10y-EDAU10	-79.371
EDAZ10	4.738	0.31	10y-EDAZ10	-83.028
EDAH11	4.818	0.39	10y-EDAH11	-87.647

Price = Outright Decimal Price - Euro Contract Price

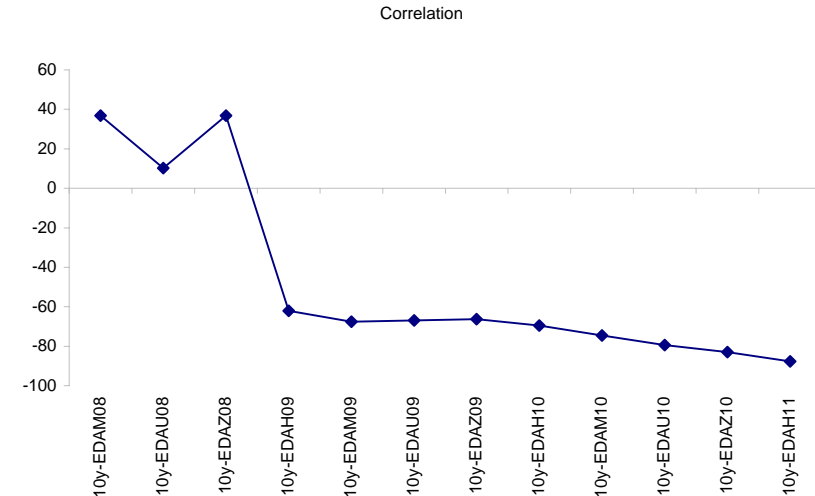
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				Spread Duration	Contract Name
ED Duration	10Y Duration	Spread Duration			
EDAM08	0.092	8.10	8.01	10y-EDAM08	
EDAU08	0.342	8.10	7.76	10y-EDAU08	
EDAZ08	0.591	8.10	7.51	10y-EDAZ08	
EDAH09	0.840	8.10	7.26	10y-EDAH09	
EDAM09	1.090	8.10	7.01	10y-EDAM09	
EDAU09	1.339	8.10	6.77	10y-EDAU09	
EDAZ09	1.588	8.10	6.52	10y-EDAZ09	
EDAH10	1.838	8.10	6.27	10y-EDAH10	
EDAM10	2.087	8.10	6.02	10y-EDAM10	
EDAU10	2.336	8.10	5.77	10y-EDAU10	
EDAZ10	2.586	8.10	5.52	10y-EDAZ10	
EDAH11	2.835	8.10	5.27	10y-EDAH11	

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



**Dirty TED Curve**

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.

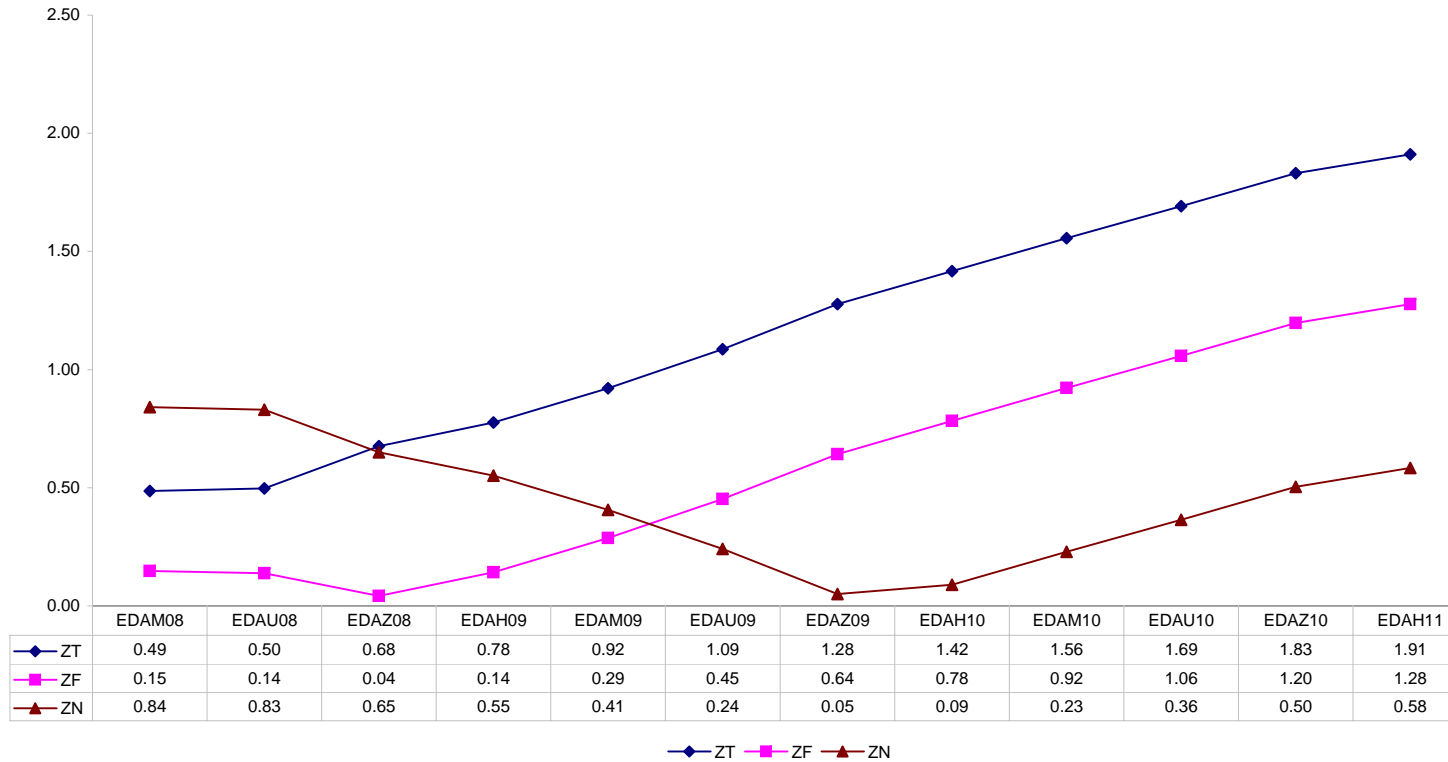
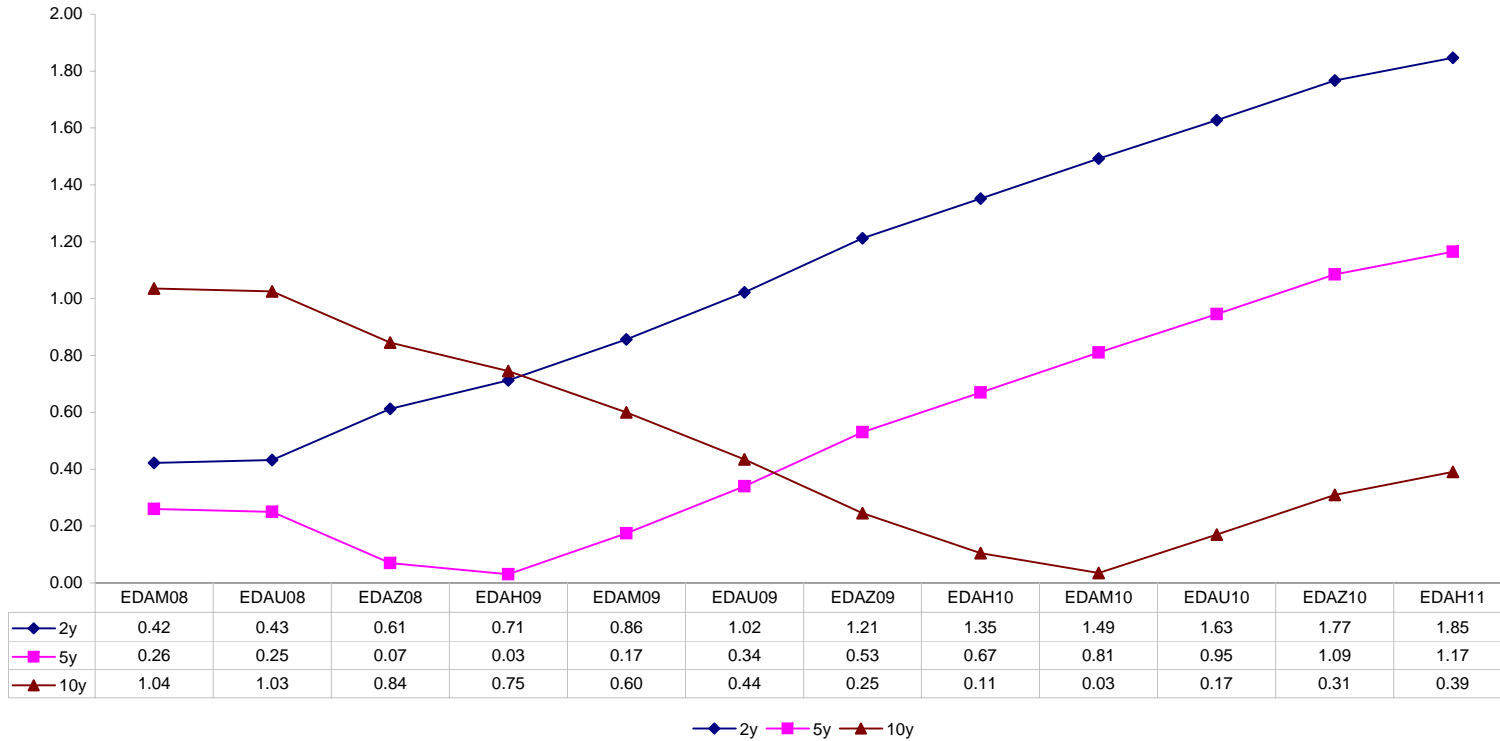
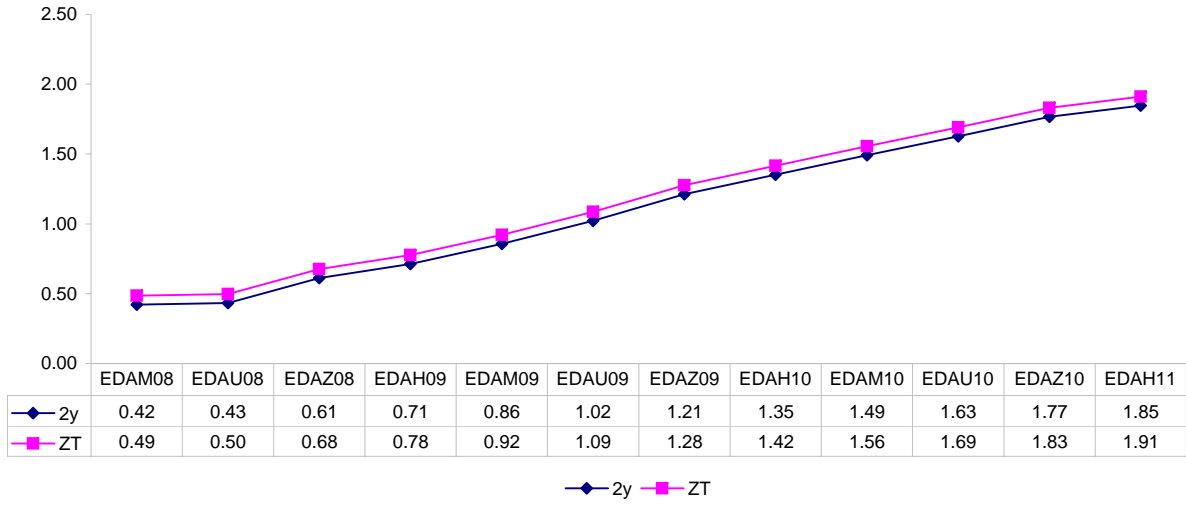


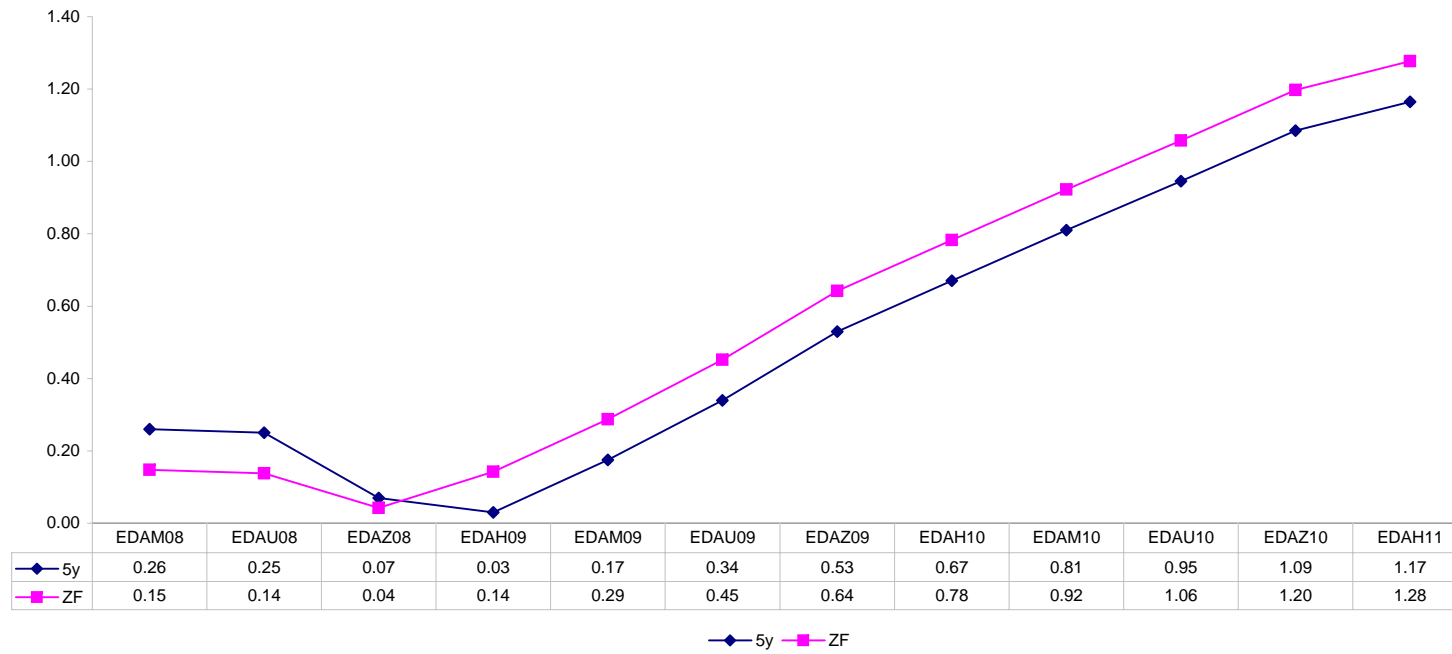
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



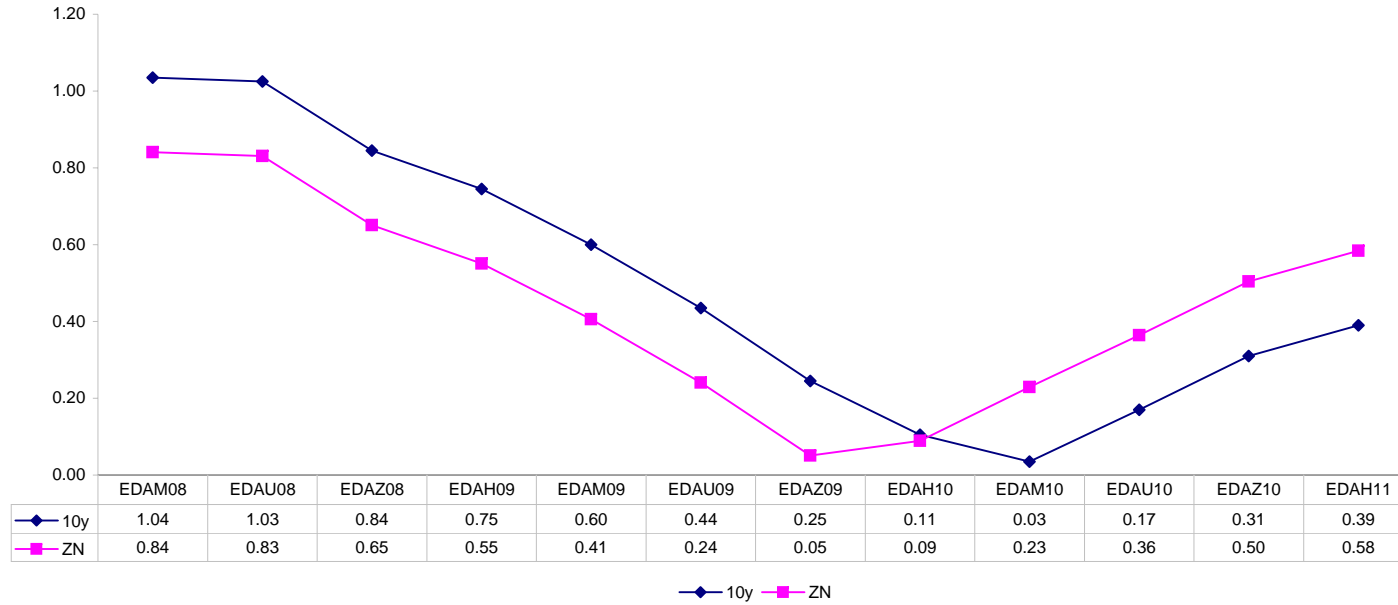
2y Basis TED Curve



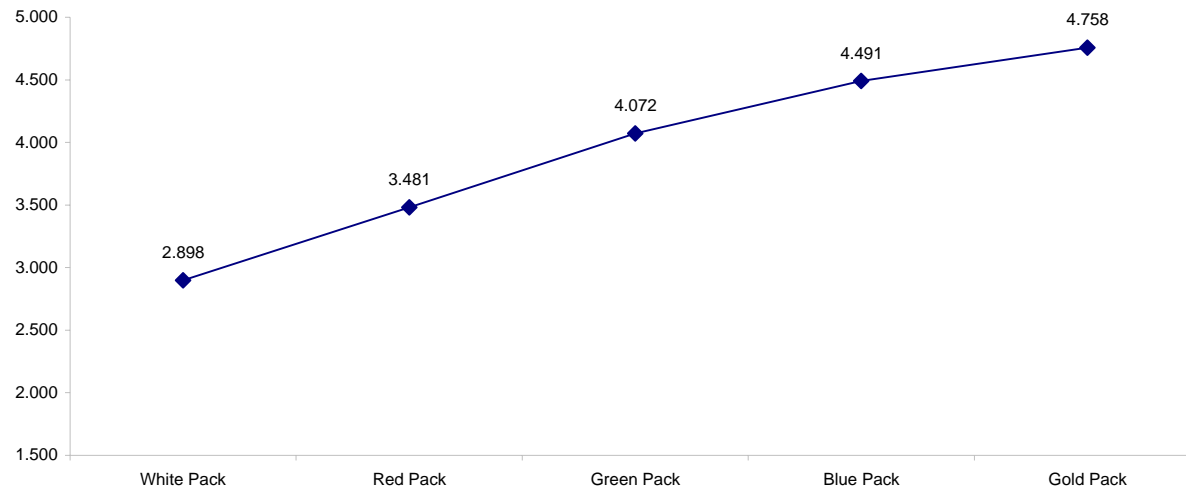
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.898	-5.625	9716.250
Red Pack	3.481	-2.875	9659.625
Green Pack	4.072	-0.125	9602.375
Blue Pack	4.491	0.375	9561.875
Gold Pack	4.758	2.625	9536.125



2y, 5y, 10y Basis Curves vs ED

