

## **The Morning Email: TERM TEDS & Dirty TEDS**

### **Table of Contents**

- Pg 1** Quotes
  
- Pg 2** Dirty TED: ZT vs Eurodollar Contracts
  
- Pg 3** Dirty TED: ZF vs Eurodollar Contracts
  
- Pg 4** Dirty TED: ZN vs Eurodollar Contracts
  
- Pg 5** TERM TED: 2y vs Eurodollar Contracts
  
- Pg 6** TERM TED: 5y vs Eurodollar Contracts
  
- Pg 7** TERM TED: 10y vs Eurodollar Contracts
  
- Pg 8** Dirty TED Curve
  
- Pg 9** TED Curve
  
- Pg 10** 2y Basis TED Curve
  
- Pg 11** 5y Basis TED Curve
  
- Pg 12** 10y Basis TED Curve
  
- Pg 13** Packs
  
- Pg 14** 2y, 5y, 10y Basis Curves vs ED

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	104.9594	104.307	2.834	1.89
ZF	109.5063	109.162	3.439	4.11
ZN	112.2500	112.080	3.752	5.97
2y	99.547	99.1750	2.864	1.90
5y	99.906	99.2900	3.519	4.52
10y	98.109	98.0350	4.107	8.12

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.200	2.800	5	0.013	JUN
EDAU08	96.840	3.160	96	0.262	SEP White
EDAZ08	96.490	3.510	187	0.512	DEC Pack
EDAH09	96.305	3.695	278	0.761	MAR
EDAM09	96.100	3.900	369	1.010	JUN
EDAU09	95.880	4.120	460	1.260	SEP Red Pack
EDAZ09	95.640	4.360	551	1.509	DEC
EDAH10	95.470	4.530	642	1.758	MAR
EDAM10	95.310	4.690	733	2.008	JUN
EDAU10	95.190	4.810	824	2.257	SEP Green
EDAZ10	95.100	4.900	915	2.506	DEC Pack
EDAH11	95.070	4.930	1006	2.756	MAR
EDAM11	95.035	4.965	1097	3.005	JUN
EDAU11	95.010	4.990	1195	3.273	SEP Blue Pack
EDAZ11	94.970	5.030	1286	3.523	DEC
EDAH12	94.960	5.040	1377	3.772	MAR
EDAM12	94.950	5.050	1468	4.021	JUN
EDAU12	94.875	5.125	1559	4.271	SEP Gold Pack
EDAZ12	94.865	5.135	1650	4.520	DEC
EDAH13	94.800	5.200	1741	4.769	MAR

	Last Yield	Net Yield	Last Price	
White Pack	3.365	3.813	9670.875	
Red Pack	4.332	6.125	9577.250	Pack
Green Pack	4.960	4.000	9516.750	Prices
Blue Pack	5.140	1.875	9499.375	
Gold Pack		1.625	9487.875	

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)

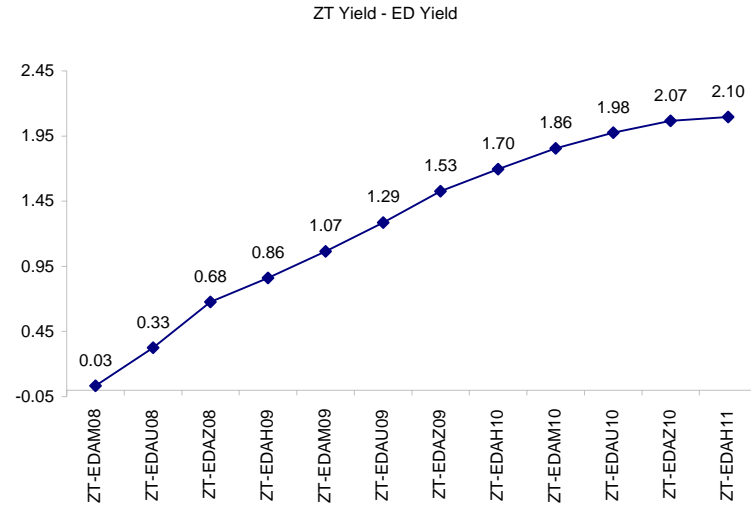
**Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations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

ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	7.759	0.03	ZT-EDAM08	77.333
EDAU08	8.119	0.33	ZT-EDAU08	86.354
EDAZ08	8.469	0.68	ZT-EDAZ08	92.304
EDAH09	8.654	0.86	ZT-EDAH09	97.404
EDAM09	8.859	1.07	ZT-EDAM09	99.163
EDAU09	9.079	1.29	ZT-EDAU09	99.112
EDAZ09	9.319	1.53	ZT-EDAZ09	97.707
EDAH10	9.489	1.70	ZT-EDAH10	95.717
EDAM10	9.649	1.86	ZT-EDAM10	93.588
EDAU10	9.769	1.98	ZT-EDAU10	91.924
EDAZ10	9.859	2.07	ZT-EDAZ10	90.606
EDAH11	9.889	2.10	ZT-EDAH11	89.515

Price = Outright Decimal Price - Euro Contract Price

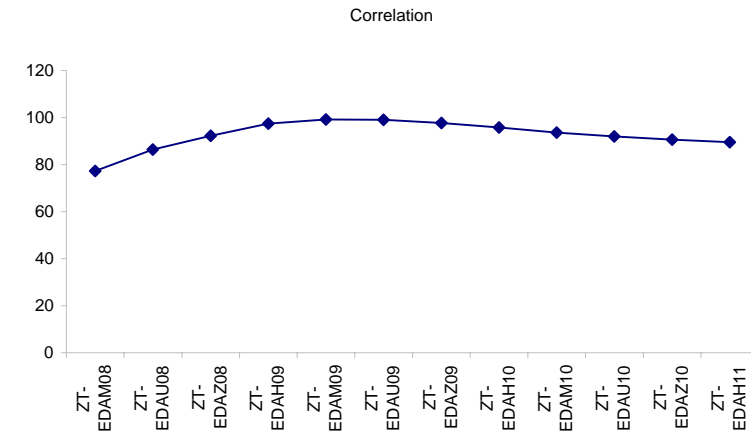
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZT Duration	Spread Duration	
EDAM08	0.013	1.89	1.88	ZT-EDAM08		
EDAU08	0.262	1.89	1.63	ZT-EDAU08		
EDAZ08	0.512	1.89	1.38	ZT-EDAZ08		
EDAH09	0.761	1.89	1.13	ZT-EDAH09		
EDAM09	1.010	1.89	0.88	ZT-EDAM09		
EDAU09	1.260	1.89	0.64	ZT-EDAU09		
EDAZ09	1.509	1.89	0.39	ZT-EDAZ09		
EDAH10	1.758	1.89	0.14	ZT-EDAH10		
EDAM10	2.008	1.89	(0.11)	ZT-EDAM10		
EDAU10	2.257	1.89	(0.36)	ZT-EDAU10		
EDAZ10	2.506	1.89	(0.61)	ZT-EDAZ10		
EDAH11	2.756	1.89	(0.86)	ZT-EDAH11		

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

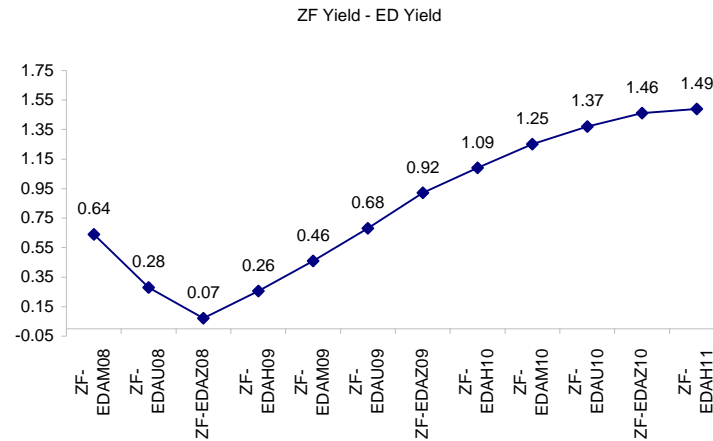


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	12.306	0.64	ZF-EDAM08	69.047
EDAU08	12.666	0.28	ZF-EDAU08	77.101
EDAZ08	13.016	0.07	ZF-EDAZ08	84.697
EDAH09	13.201	0.26	ZF-EDAH09	91.751
EDAM09	13.406	0.46	ZF-EDAM09	95.051
EDAU09	13.626	0.68	ZF-EDAU09	95.334
EDAZ09	13.866	0.92	ZF-EDAZ09	93.498
EDAH10	14.036	1.09	ZF-EDAH10	90.869
EDAM10	14.196	1.25	ZF-EDAM10	88.488
EDAU10	14.316	1.37	ZF-EDAU10	87.027
EDAZ10	14.406	1.46	ZF-EDAZ10	86.365
EDAH11	14.436	1.49	ZF-EDAH11	86.266

Price = Outright Decimal Price - Euro Contract Price

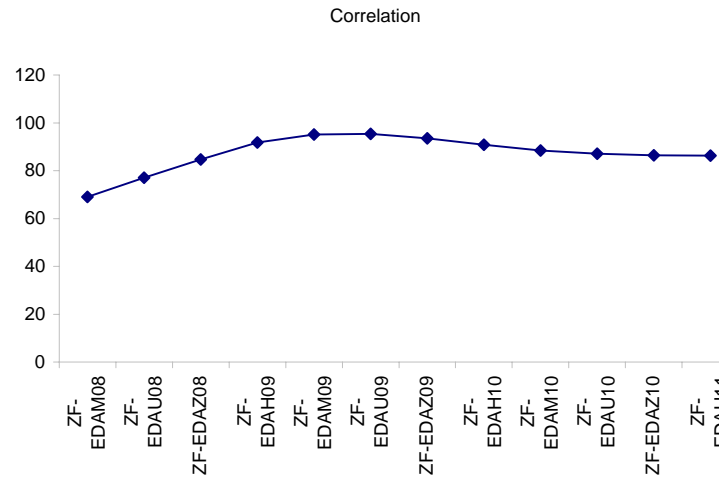
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM08	0.013	4.11	4.10	ZF-EDAM08	
EDAU08	0.262	4.11	3.85	ZF-EDAU08	
EDAZ08	0.512	4.11	3.60	ZF-EDAZ08	
EDAH09	0.761	4.11	3.35	ZF-EDAH09	
EDAM09	1.010	4.11	3.10	ZF-EDAM09	
EDAU09	1.260	4.11	2.85	ZF-EDAU09	
EDAZ09	1.509	4.11	2.60	ZF-EDAZ09	
EDAH10	1.758	4.11	2.35	ZF-EDAH10	
EDAM10	2.008	4.11	2.10	ZF-EDAM10	
EDAU10	2.257	4.11	1.85	ZF-EDAU10	
EDAZ10	2.506	4.11	1.60	ZF-EDAZ10	
EDAH11	2.756	4.11	1.35	ZF-EDAH11	

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

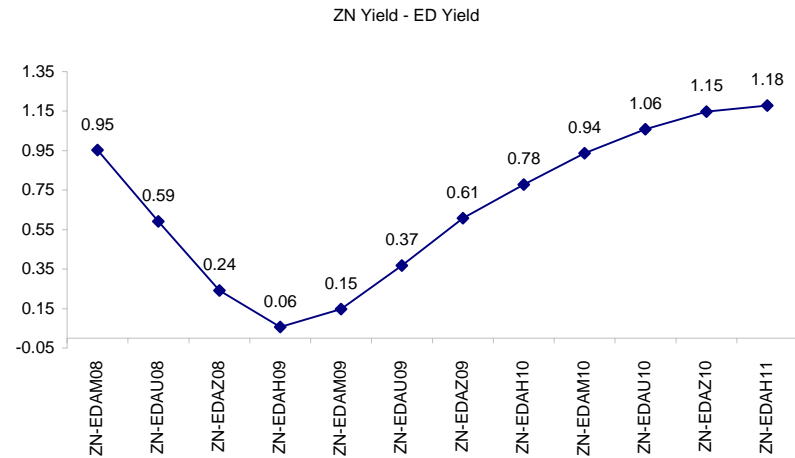


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	15.050	0.95	ZN-EDAM08	50.569
EDAU08	15.410	0.59	ZN-EDAU08	56.395
EDAZ08	15.760	0.24	ZN-EDAZ08	66.356
EDAH09	15.945	0.06	ZN-EDAH09	76.506
EDAM09	16.150	0.15	ZN-EDAM09	82.175
EDAU09	16.370	0.37	ZN-EDAU09	83.070
EDAZ09	16.610	0.61	ZN-EDAZ09	80.672
EDAH10	16.780	0.78	ZN-EDAH10	90.869
EDAM10	16.940	0.94	ZN-EDAM10	88.488
EDAU10	17.060	1.06	ZN-EDAU10	87.027
EDAZ10	17.150	1.15	ZN-EDAZ10	86.365
EDAH11	17.180	1.18	ZN-EDAH11	86.266

Price = Outright Decimal Price - Euro Contract Price

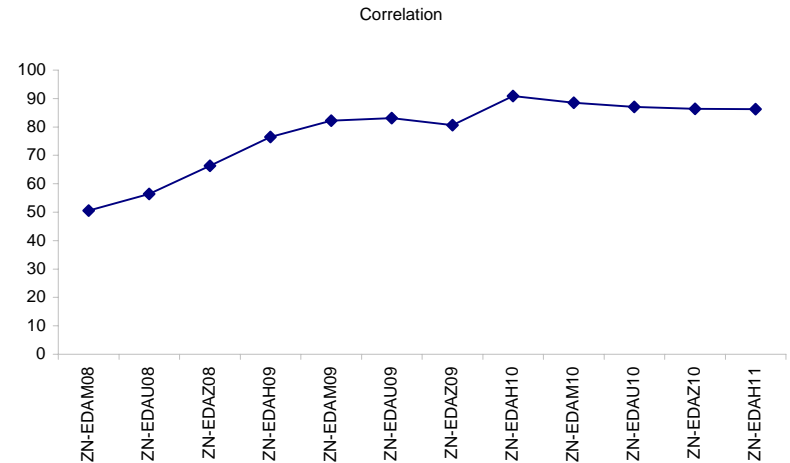
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAM08	0.013	5.97	5.96	ZN-EDAM08		
EDAU08	0.262	5.97	5.71	ZN-EDAU08		
EDAZ08	0.512	5.97	5.46	ZN-EDAZ08		
EDAH09	0.761	5.97	5.21	ZN-EDAH09		
EDAM09	1.010	5.97	4.96	ZN-EDAM09		
EDAU09	1.260	5.97	4.71	ZN-EDAU09		
EDAZ09	1.509	5.97	4.47	ZN-EDAZ09		
EDAH10	1.758	5.97	4.22	ZN-EDAH10		
EDAM10	2.008	5.97	3.97	ZN-EDAM10		
EDAU10	2.257	5.97	3.72	ZN-EDAU10		
EDAZ10	2.506	5.97	3.47	ZN-EDAZ10		
EDAH11	2.756	5.97	3.22	ZN-EDAH11		

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

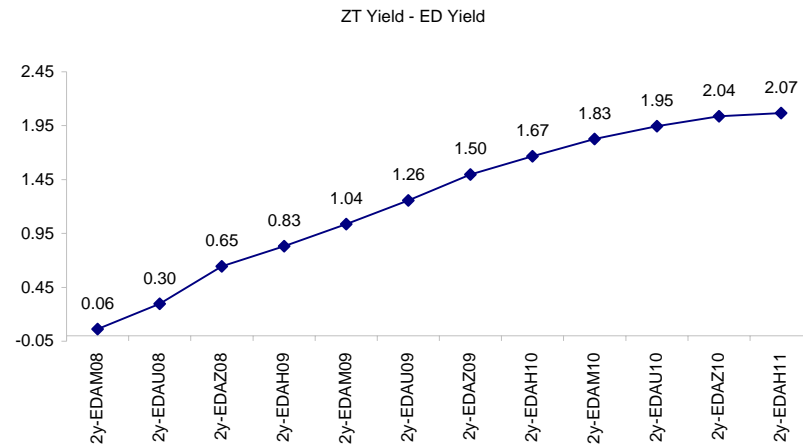


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.347	0.06	2y-EDAM08	-80.871
EDAU08	2.707	0.30	2y-EDAU08	-88.648
EDAZ08	3.057	0.65	2y-EDAZ08	-93.939
EDAH09	3.242	0.83	2y-EDAH09	-97.892
EDAM09	3.447	1.04	2y-EDAM09	-99.111
EDAU09	3.667	1.26	2y-EDAU09	-99.096
EDAZ09	3.907	1.50	2y-EDAZ09	-98.152
EDAH10	4.077	1.67	2y-EDAH10	-96.532
EDAM10	4.237	1.83	2y-EDAM10	-94.811
EDAU10	4.357	1.95	2y-EDAU10	-93.535
EDAZ10	4.447	2.04	2y-EDAZ10	-92.519
EDAH11	4.477	2.07	2y-EDAH11	-91.595

Price = Outright Decimal Price - Euro Contract Price

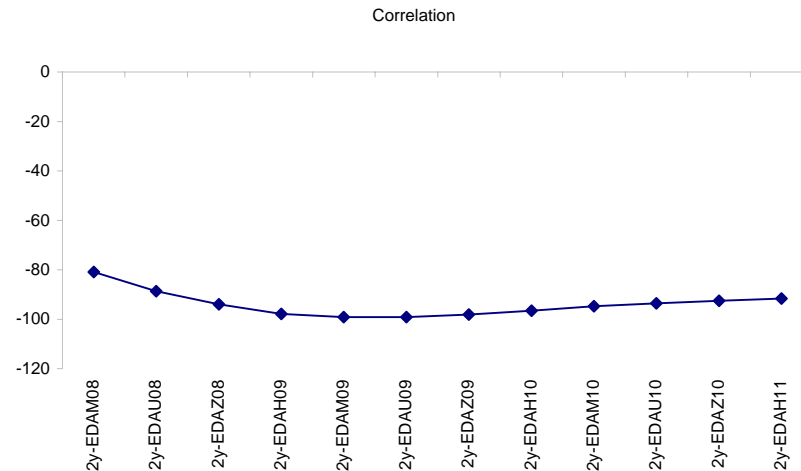
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAM08	0.013	1.90	1.89	2y-EDAM08	
EDAU08	0.262	1.90	1.64	2y-EDAU08	
EDAZ08	0.512	1.90	1.39	2y-EDAZ08	
EDAH09	0.761	1.90	1.14	2y-EDAH09	
EDAM09	1.010	1.90	0.89	2y-EDAM09	
EDAU09	1.260	1.90	0.64	2y-EDAU09	
EDAZ09	1.509	1.90	0.39	2y-EDAZ09	
EDAH10	1.758	1.90	0.14	2y-EDAH10	
EDAM10	2.008	1.90	(0.11)	2y-EDAM10	
EDAU10	2.257	1.90	(0.36)	2y-EDAU10	
EDAZ10	2.506	1.90	(0.60)	2y-EDAZ10	
EDAH11	2.756	1.90	(0.85)	2y-EDAH11	

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

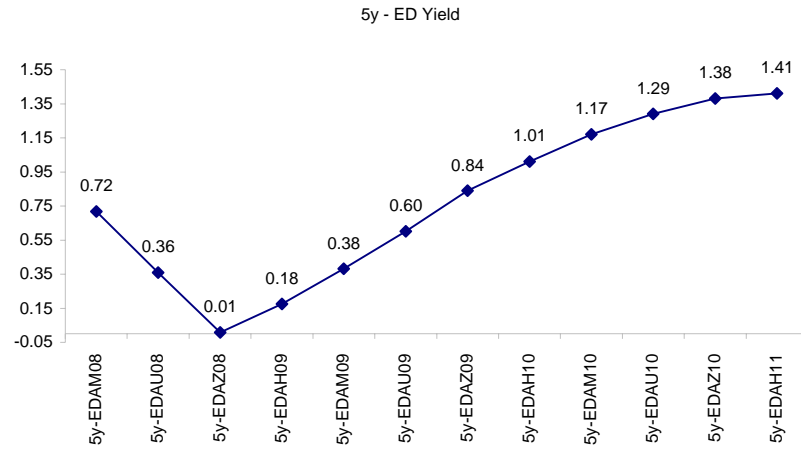


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.706	0.72	5y-EDAM08	-73.813
EDAU08	3.066	0.36	5y-EDAU08	-79.947
EDAZ08	3.416	0.01	5y-EDAZ08	-73.813
EDAH09	3.601	0.18	5y-EDAH09	-91.795
EDAM09	3.806	0.38	5y-EDAM09	-94.323
EDAU09	4.026	0.60	5y-EDAU09	-94.652
EDAZ09	4.266	0.84	5y-EDAZ09	-93.529
EDAH10	4.436	1.01	5y-EDAH10	-91.507
EDAM10	4.596	1.17	5y-EDAM10	-89.766
EDAU10	4.716	1.29	5y-EDAU10	-88.918
EDAZ10	4.806	1.38	5y-EDAZ10	-88.815
EDAH11	4.836	1.41	5y-EDAH11	-89.118

Price = Outright Decimal Price - Euro Contract Price

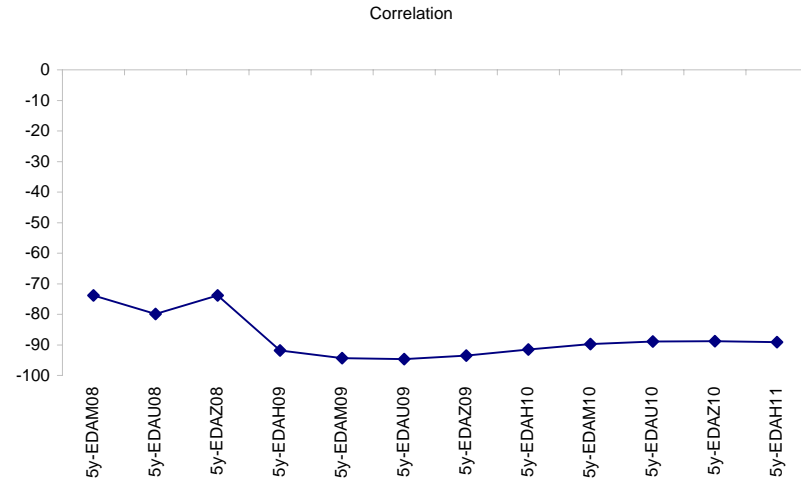
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.013	4.52	4.50	5y-EDAM08
EDAU08	0.262	4.52	4.26	5y-EDAU08
EDAZ08	0.512	4.52	4.01	5y-EDAZ08
EDAH09	0.761	4.52	3.76	5y-EDAH09
EDAM09	1.010	4.52	3.51	5y-EDAM09
EDAU09	1.260	4.52	3.26	5y-EDAU09
EDAZ09	1.509	4.52	3.01	5y-EDAZ09
EDAH10	1.758	4.52	2.76	5y-EDAH10
EDAM10	2.008	4.52	2.51	5y-EDAM10
EDAU10	2.257	4.52	2.26	5y-EDAU10
EDAZ10	2.506	4.52	2.01	5y-EDAZ10
EDAH11	2.756	4.52	1.76	5y-EDAH11

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

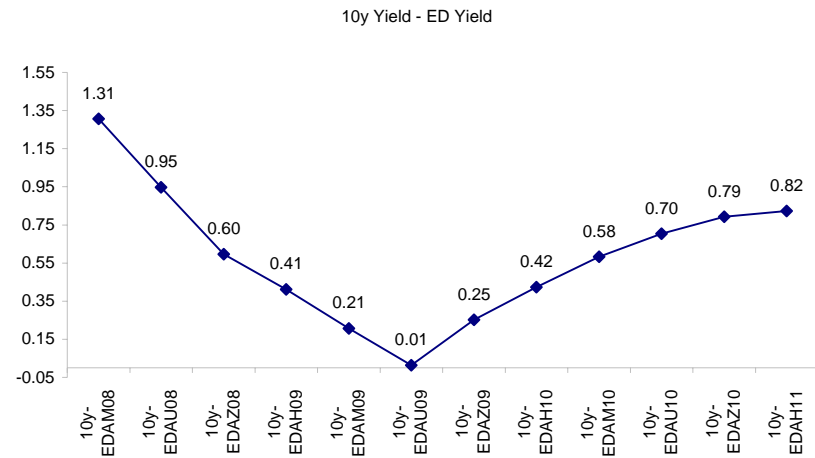


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.706	1.31	10y-EDAM08	-62.428
EDAU08	3.066	0.95	10y-EDAU08	-64.273
EDAZ08	3.416	0.60	10y-EDAZ08	-62.428
EDAH09	3.601	0.41	10y-EDAH09	-77.582
EDAM09	3.806	0.21	10y-EDAM09	-81.393
EDAU09	4.026	0.01	10y-EDAU09	-82.293
EDAZ09	4.266	0.25	10y-EDAZ09	-81.383
EDAH10	4.436	0.42	10y-EDAH10	-79.173
EDAM10	4.596	0.58	10y-EDAM10	-77.925
EDAU10	4.716	0.70	10y-EDAU10	-78.073
EDAZ10	4.806	0.79	10y-EDAZ10	-79.295
EDAH11	4.836	0.82	10y-EDAH11	-81.144

Price = Outright Decimal Price - Euro Contract Price

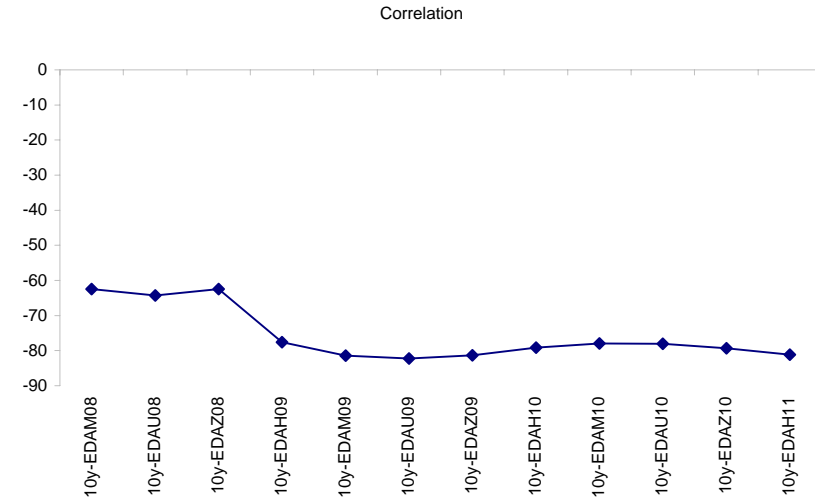
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.013	8.12	8.11	10y-EDAM08
EDAU08	0.262	8.12	7.86	10y-EDAU08
EDAZ08	0.512	8.12	7.61	10y-EDAZ08
EDAH09	0.761	8.12	7.36	10y-EDAH09
EDAM09	1.010	8.12	7.11	10y-EDAM09
EDAU09	1.260	8.12	6.86	10y-EDAU09
EDAZ09	1.509	8.12	6.61	10y-EDAZ09
EDAH10	1.758	8.12	6.36	10y-EDAH10
EDAM10	2.008	8.12	6.12	10y-EDAM10
EDAU10	2.257	8.12	5.87	10y-EDAU10
EDAZ10	2.506	8.12	5.62	10y-EDAZ10
EDAH11	2.756	8.12	5.37	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.

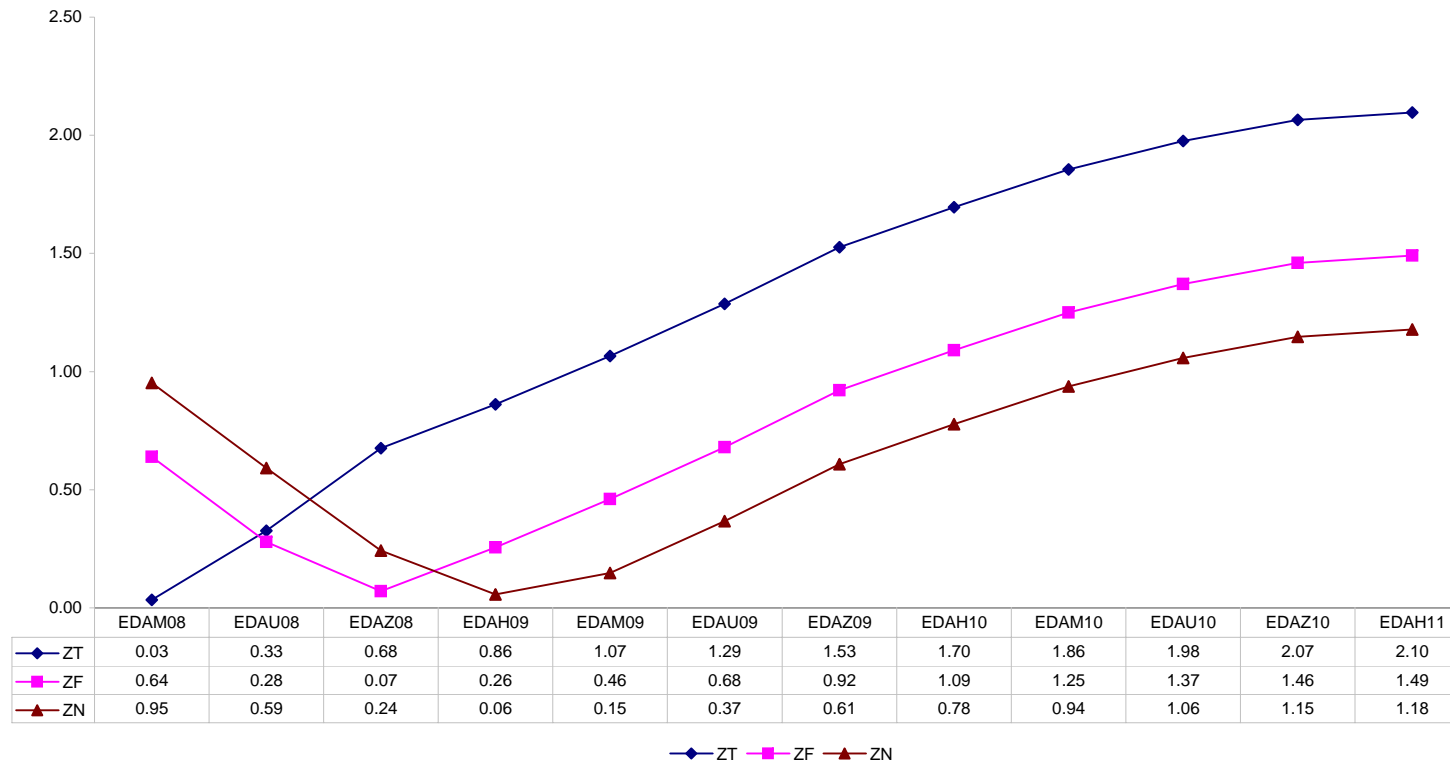
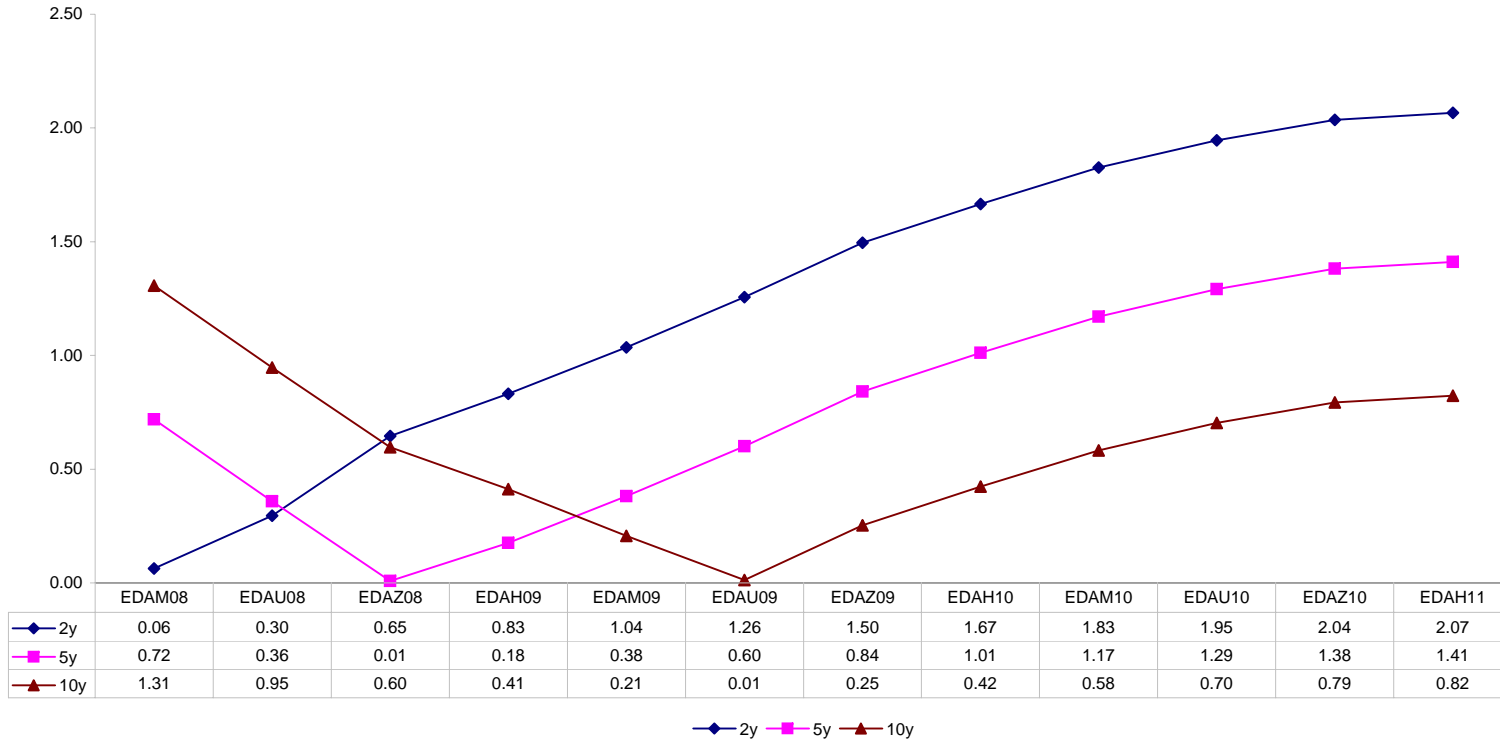
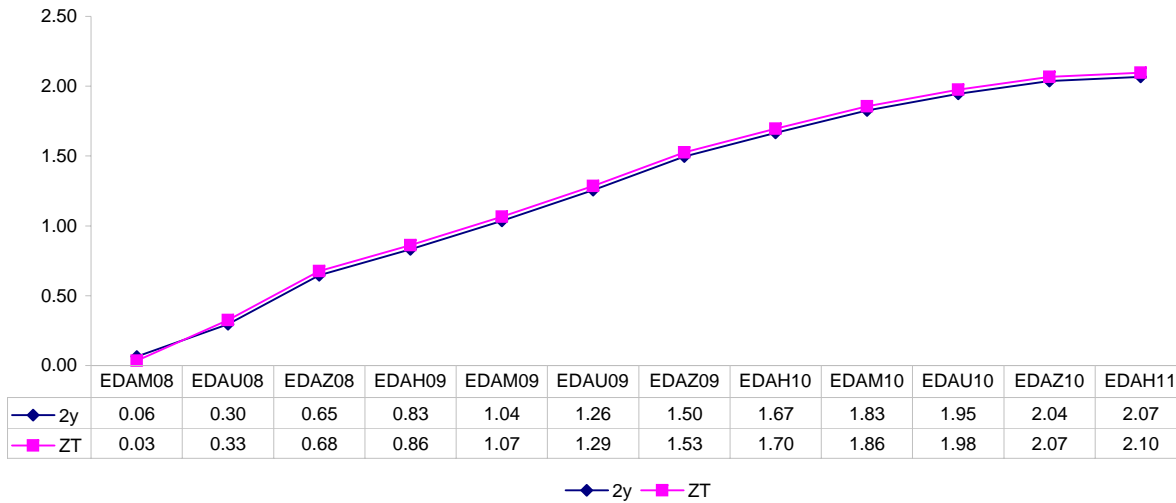


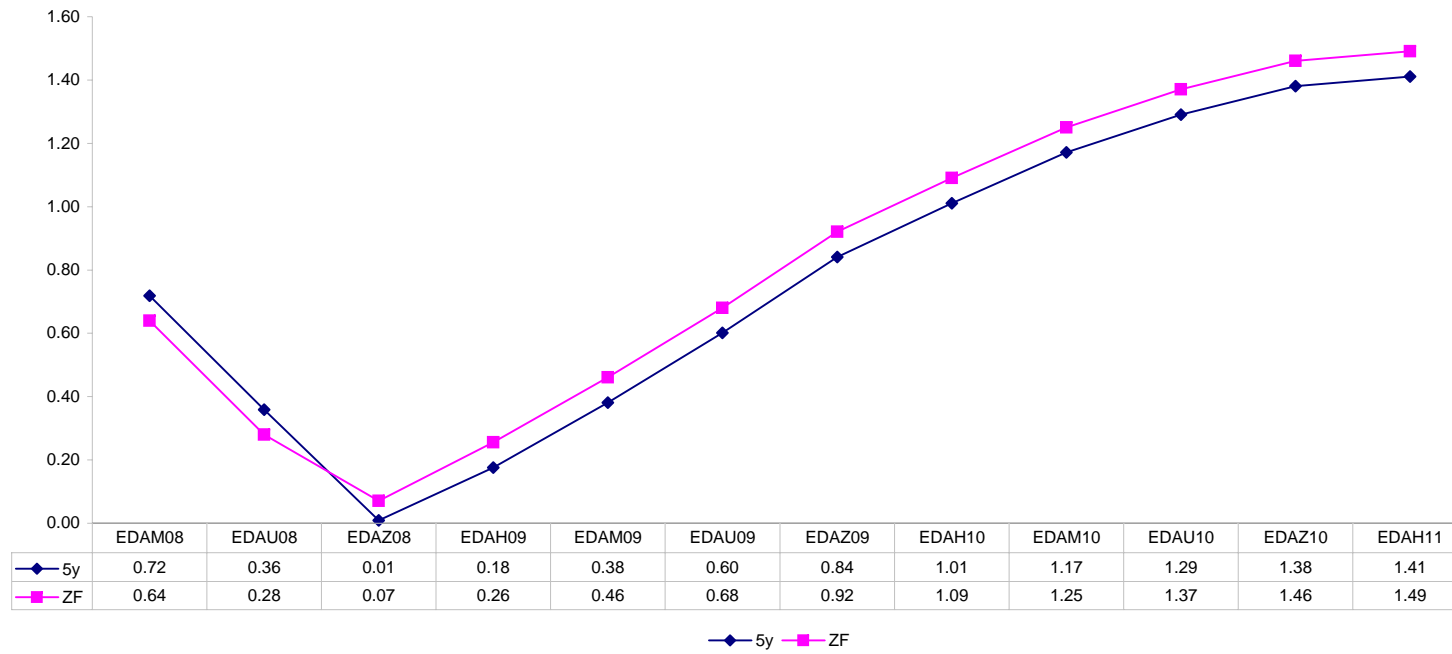
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



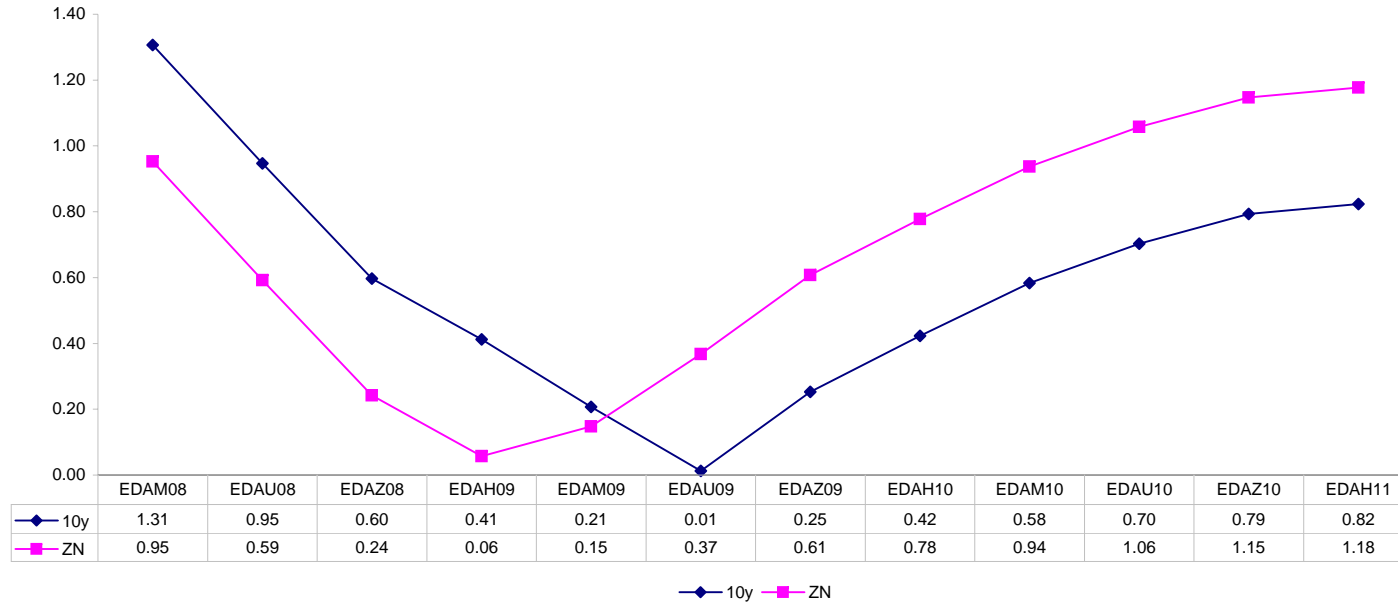
2y Basis TED Curve



5y Basis TED Curve

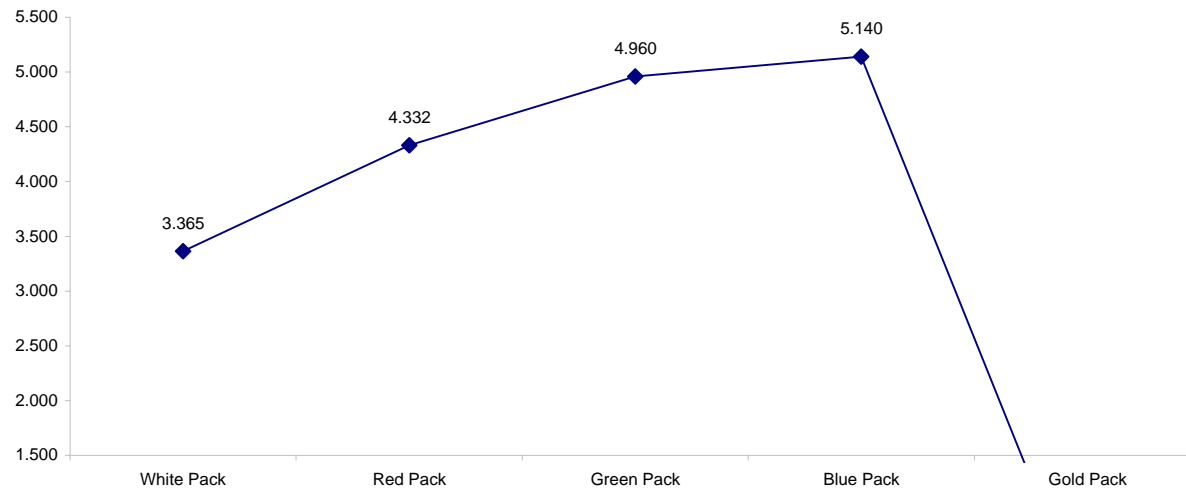


10y Basis TED Curve



### Packs

	Last Yield	Net Last Yield	Last Price
White Pack	3.365	3.813	9670.875
Red Pack	4.332	6.125	9577.250
Green Pack	4.960	4.000	9516.750
Blue Pack	5.140	1.875	9499.375
Gold Pack		1.625	9487.875



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

