

## **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)

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Treasury Futures and Cash				
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	105.0063	105.002	2.819	1.89
ZF	109.5844	109.187	3.438	4.11
ZN	112.3438	112.110	3.752	5.97
2y	99.563	99.1800	2.848	1.90
5y	99.959	99.3070	3.509	4.52
10y	98.172	98.0550	4.101	8.12

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.228	2.772	4	0.010	JUN
EDAU08	96.850	3.150	95	0.260	SEP White
EDAZ08	96.490	3.510	186	0.509	DEC Pack
EDAH09	96.310	3.690	277	0.758	MAR
EDAM09	96.095	3.905	368	1.008	JUN
EDAU09	95.870	4.130	459	1.257	SEP Red
EDAZ09	95.615	4.385	550	1.506	DEC Pack
EDAH10	95.445	4.555	641	1.756	MAR
EDAM10	95.300	4.700	732	2.005	JUN
EDAU10	95.205	4.795	823	2.254	SEP Green
EDAZ10	95.130	4.870	914	2.503	DEC Pack
EDAH11	95.110	4.890	1005	2.753	MAR
EDAM11	95.090	4.910	1096	3.002	JUN
EDAU11	95.090	4.910	1194	3.271	SEP Blue Pack
EDAZ11	95.025	4.975	1285	3.520	DEC
EDAH12	95.035	4.965	1376	3.769	MAR
EDAM12	94.980	5.020	1467	4.019	JUN
EDAU12	94.965	5.035	1558	4.268	SEP Gold Pack
EDAZ12	94.925	5.075	1649	4.517	DEC
EDAH13	94.880	5.120	1740	4.766	MAR

	Last Yield	Net Yield	Last Price	
White Pack	3.354	-3.250	9671.938	Pack Prices
Red Pack	4.349	-7.625	9575.625	
Green Pack	4.940	-6.375	9518.625	
Blue Pack		-2.000	9506.750	
Gold Pack		-2.000	9493.875	

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.

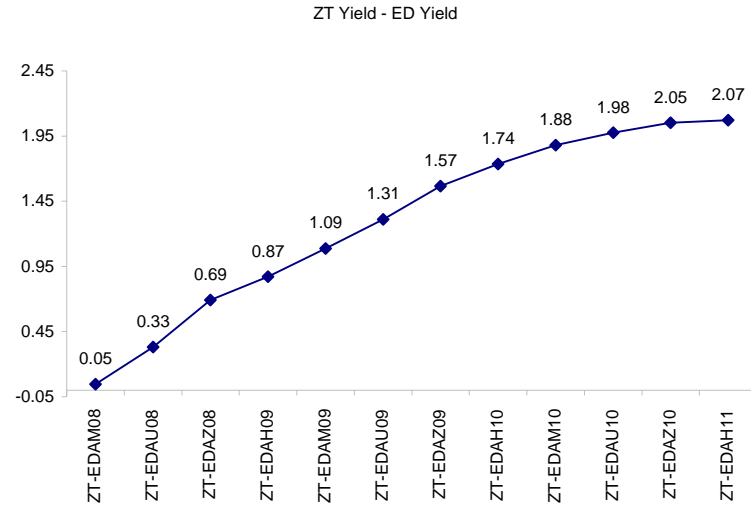
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

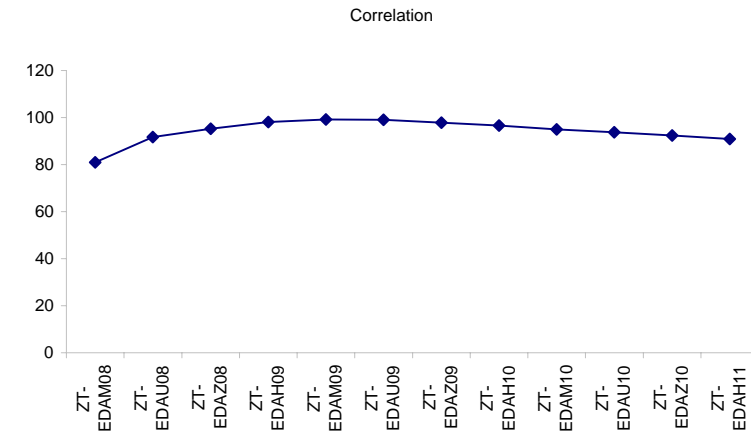
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	7.779	0.05	ZT-EDAM08	80.888
EDAU08	8.156	0.33	ZT-EDAU08	91.693
EDAZ08	8.516	0.69	ZT-EDAZ08	95.206
EDAH09	8.696	0.87	ZT-EDAH09	98.144
EDAM09	8.911	1.09	ZT-EDAM09	99.180
EDAU09	9.136	1.31	ZT-EDAU09	99.049
EDAZ09	9.391	1.57	ZT-EDAZ09	97.863
EDAH10	9.561	1.74	ZT-EDAH10	96.531
EDAM10	9.706	1.88	ZT-EDAM10	95.030
EDAU10	9.801	1.98	ZT-EDAU10	93.708
EDAZ10	9.876	2.05	ZT-EDAZ10	92.399
EDAH11	9.896	2.07	ZT-EDAH11	90.914

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	0.010	1.89	1.88	ZT-EDAM08		
EDAU08	0.260	1.89	1.63	ZT-EDAU08		
EDAZ08	0.509	1.89	1.38	ZT-EDAZ08		
EDAH09	0.758	1.89	1.13	ZT-EDAH09		
EDAM09	1.008	1.89	0.88	ZT-EDAM09		
EDAU09	1.257	1.89	0.64	ZT-EDAU09		
EDAZ09	1.506	1.89	0.39	ZT-EDAZ09		
EDAH10	1.756	1.89	0.14	ZT-EDAH10		
EDAM10	2.005	1.89	(0.11)	ZT-EDAM10		
EDAU10	2.254	1.89	(0.36)	ZT-EDAU10		
EDAZ10	2.503	1.89	(0.61)	ZT-EDAZ10		
EDAH11	2.753	1.89	(0.86)	ZT-EDAH11		

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

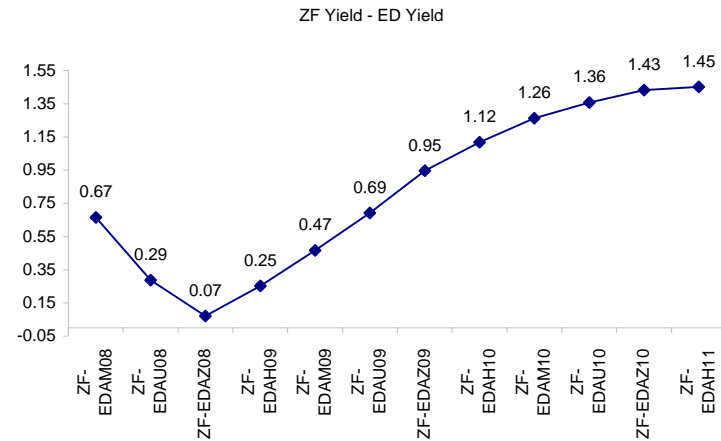


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	12.357	0.67	ZF-EDAM08	74.873
EDAU08	12.734	0.29	ZF-EDAU08	85.333
EDAZ08	13.094	0.07	ZF-EDAZ08	90.023
EDAH09	13.274	0.25	ZF-EDAH09	94.011
EDAM09	13.489	0.47	ZF-EDAM09	95.955
EDAU09	13.714	0.69	ZF-EDAU09	96.080
EDAZ09	13.969	0.95	ZF-EDAZ09	94.796
EDAH10	14.139	1.12	ZF-EDAH10	93.184
EDAM10	14.284	1.26	ZF-EDAM10	91.600
EDAU10	14.379	1.36	ZF-EDAU10	90.501
EDAZ10	14.454	1.43	ZF-EDAZ10	89.801
EDAH11	14.474	1.45	ZF-EDAH11	89.195

Price = Outright Decimal Price - Euro Contract Price

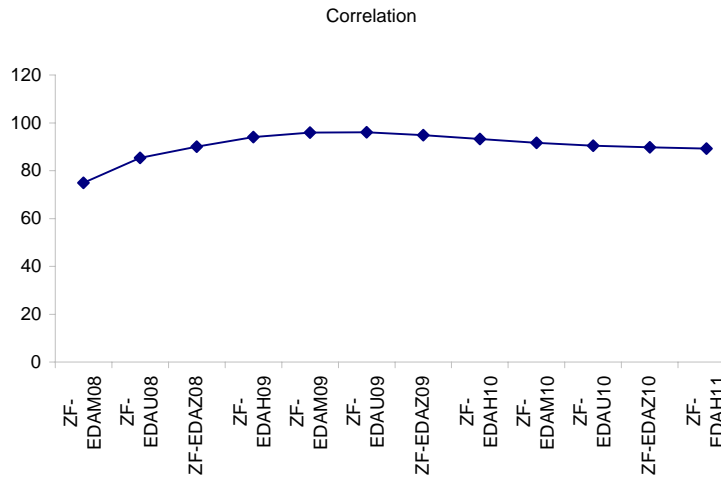
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



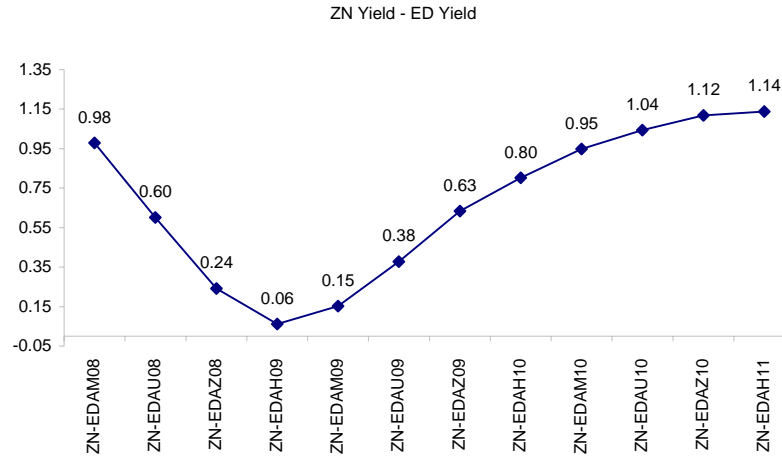
	ED Duration as Fraction of year		ZF Duration		Spread Duration
	of year	Duration	Duration	Duration	
EDAM08	0.010	4.11	4.11	4.10	ZF-EDAM08
EDAU08	0.260	4.11	4.11	3.85	ZF-EDAU08
EDAZ08	0.509	4.11	4.11	3.60	ZF-EDAZ08
EDAH09	0.758	4.11	4.11	3.35	ZF-EDAH09
EDAM09	1.008	4.11	4.11	3.10	ZF-EDAM09
EDAU09	1.257	4.11	4.11	2.85	ZF-EDAU09
EDAZ09	1.506	4.11	4.11	2.60	ZF-EDAZ09
EDAH10	1.756	4.11	4.11	2.35	ZF-EDAH10
EDAM10	2.005	4.11	4.11	2.10	ZF-EDAM10
EDAU10	2.254	4.11	4.11	1.85	ZF-EDAU10
EDAZ10	2.503	4.11	4.11	1.60	ZF-EDAZ10
EDAH11	2.753	4.11	4.11	1.35	ZF-EDAH11

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



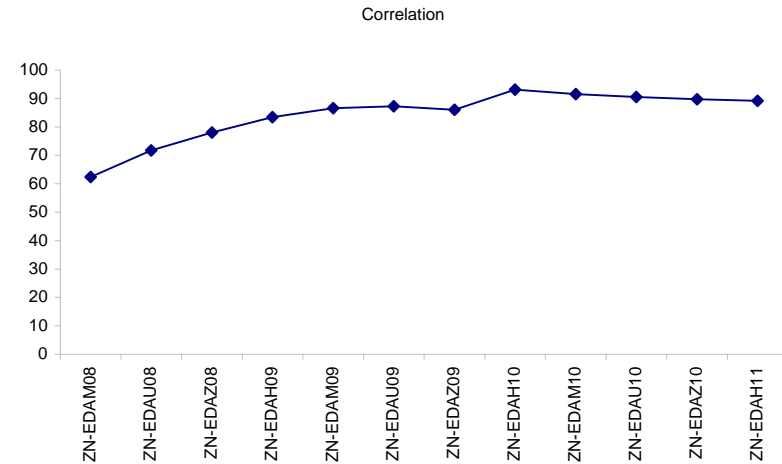
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	15.116	0.98	ZN-EDAM08	62.348
EDAU08	15.494	0.60	ZN-EDAU08	71.684
EDAZ08	15.854	0.24	ZN-EDAZ08	78.057
EDAH09	16.034	0.06	ZN-EDAH09	83.495
EDAM09	16.249	0.15	ZN-EDAM09	86.622
EDAU09	16.474	0.38	ZN-EDAU09	87.242
EDAZ09	16.729	0.63	ZN-EDAZ09	86.080
EDAH10	16.899	0.80	ZN-EDAH10	93.184
EDAM10	17.044	0.95	ZN-EDAM10	91.600
EDAU10	17.139	1.04	ZN-EDAU10	90.501
EDAZ10	17.214	1.12	ZN-EDAZ10	89.801
EDAH11	17.234	1.14	ZN-EDAH11	89.195

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	0.010	5.97	5.96	ZN-EDAM08		
EDAU08	0.260	5.97	5.71	ZN-EDAU08		
EDAZ08	0.509	5.97	5.46	ZN-EDAZ08		
EDAH09	0.758	5.97	5.21	ZN-EDAH09		
EDAM09	1.008	5.97	4.96	ZN-EDAM09		
EDAU09	1.257	5.97	4.71	ZN-EDAU09		
EDAZ09	1.506	5.97	4.47	ZN-EDAZ09		
EDAH10	1.756	5.97	4.22	ZN-EDAH10		
EDAM10	2.005	5.97	3.97	ZN-EDAM10		
EDAU10	2.254	5.97	3.72	ZN-EDAU10		
EDAZ10	2.503	5.97	3.47	ZN-EDAZ10		
EDAH11	2.753	5.97	3.22	ZN-EDAH11		

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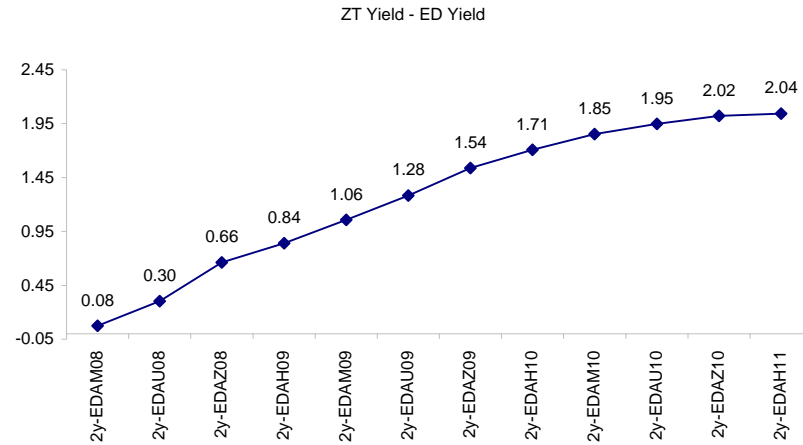


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.335	0.08	2y-EDAM08	-83.630
EDAU08	2.713	0.30	2y-EDAU08	-93.168
EDAZ08	3.073	0.66	2y-EDAZ08	-96.314
EDAH09	3.253	0.84	2y-EDAH09	-98.441
EDAM09	3.468	1.06	2y-EDAM09	-99.172
EDAU09	3.693	1.28	2y-EDAU09	-99.129
EDAZ09	3.948	1.54	2y-EDAZ09	-98.321
EDAH10	4.118	1.71	2y-EDAH10	-97.199
EDAM10	4.263	1.85	2y-EDAM10	-95.944
EDAU10	4.358	1.95	2y-EDAU10	-94.883
EDAZ10	4.433	2.02	2y-EDAZ10	-93.745
EDAH11	4.453	2.04	2y-EDAH11	-92.352

Price = Outright Decimal Price - Euro Contract Price

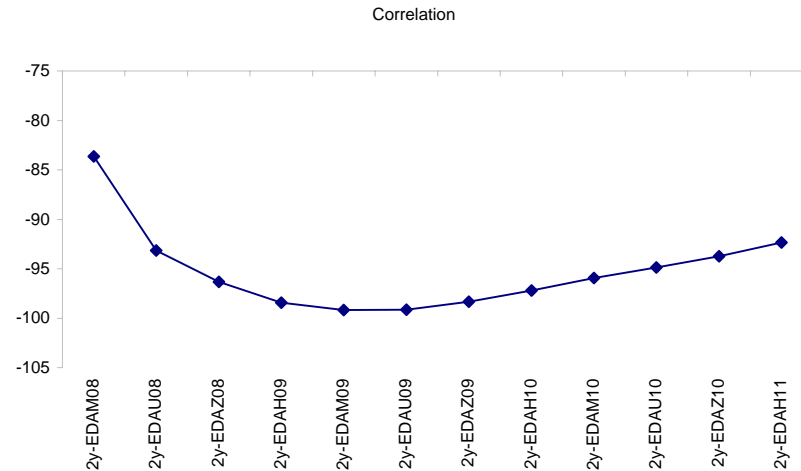
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAM08	0.010	1.90	1.89	2y-EDAM08	
EDAU08	0.260	1.90	1.64	2y-EDAU08	
EDAZ08	0.509	1.90	1.39	2y-EDAZ08	
EDAH09	0.758	1.90	1.14	2y-EDAH09	
EDAM09	1.008	1.90	0.89	2y-EDAM09	
EDAU09	1.257	1.90	0.64	2y-EDAU09	
EDAZ09	1.506	1.90	0.39	2y-EDAZ09	
EDAH10	1.756	1.90	0.14	2y-EDAH10	
EDAM10	2.005	1.90	(0.11)	2y-EDAM10	
EDAU10	2.254	1.90	(0.36)	2y-EDAU10	
EDAZ10	2.503	1.90	(0.60)	2y-EDAZ10	
EDAH11	2.753	1.90	(0.85)	2y-EDAH11	

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

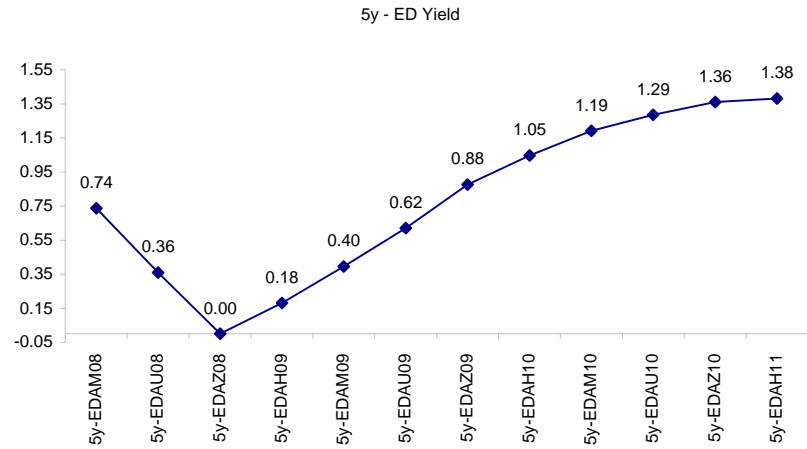


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.732	0.74	5y-EDAM08	-77.892
EDAU08	3.109	0.36	5y-EDAU08	-86.085
EDAZ08	3.469	0.00	5y-EDAZ08	-77.892
EDAH09	3.649	0.18	5y-EDAH09	-93.088
EDAM09	3.864	0.40	5y-EDAM09	-94.700
EDAU09	4.089	0.62	5y-EDAU09	-94.915
EDAZ09	4.344	0.88	5y-EDAZ09	-94.089
EDAH10	4.514	1.05	5y-EDAH10	-92.795
EDAM10	4.659	1.19	5y-EDAM10	-91.683
EDAU10	4.754	1.29	5y-EDAU10	-91.138
EDAZ10	4.829	1.36	5y-EDAZ10	-91.002
EDAH11	4.849	1.38	5y-EDAH11	-90.877

Price = Outright Decimal Price - Euro Contract Price

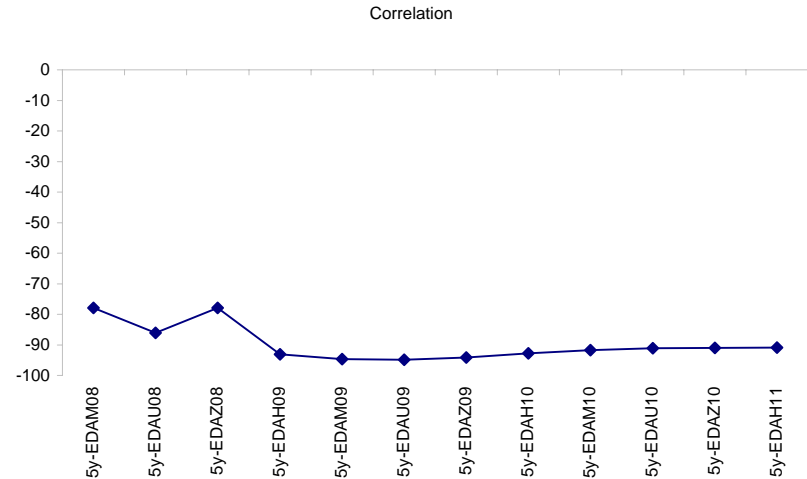
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.010	4.52	4.51	5y-EDAM08
EDAU08	0.260	4.52	4.26	5y-EDAU08
EDAZ08	0.509	4.52	4.01	5y-EDAZ08
EDAH09	0.758	4.52	3.76	5y-EDAH09
EDAM09	1.008	4.52	3.51	5y-EDAM09
EDAU09	1.257	4.52	3.26	5y-EDAU09
EDAZ09	1.506	4.52	3.01	5y-EDAZ09
EDAH10	1.756	4.52	2.76	5y-EDAH10
EDAM10	2.005	4.52	2.51	5y-EDAM10
EDAU10	2.254	4.52	2.26	5y-EDAU10
EDAZ10	2.503	4.52	2.01	5y-EDAZ10
EDAH11	2.753	4.52	1.76	5y-EDAH11

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



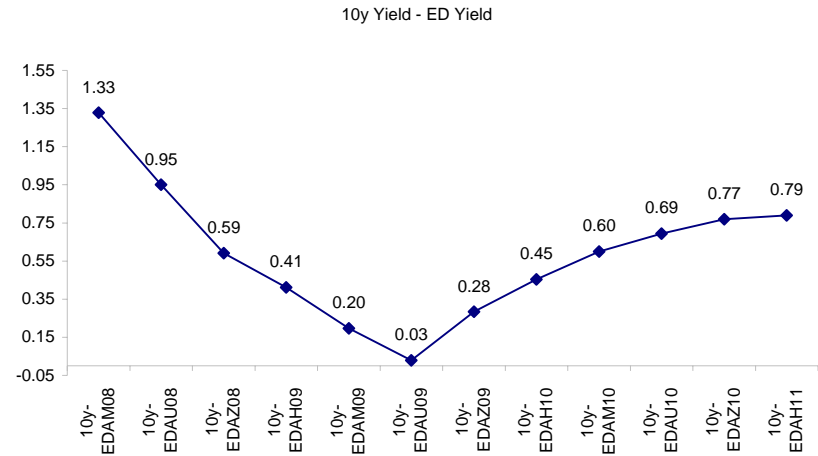


10y				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAM08	2.732	1.33	10y-EDAM08	-69.065
EDAU08	3.109	0.95	10y-EDAU08	-74.285
EDAZ08	3.469	0.59	10y-EDAZ08	-69.065
EDAH09	3.649	0.41	10y-EDAH09	-81.206
EDAM09	3.864	0.20	10y-EDAM09	-83.335
EDAU09	4.089	0.03	10y-EDAU09	-84.063
EDAZ09	4.344	0.28	10y-EDAZ09	-84.014
EDAH10	4.514	0.45	10y-EDAH10	-82.989
EDAM10	4.659	0.60	10y-EDAM10	-82.454
EDAU10	4.754	0.69	10y-EDAU10	-82.754
EDAZ10	4.829	0.77	10y-EDAZ10	-83.790
EDAH11	4.849	0.79	10y-EDAH11	-85.048

Price = Outright Decimal Price - Euro Contract Price

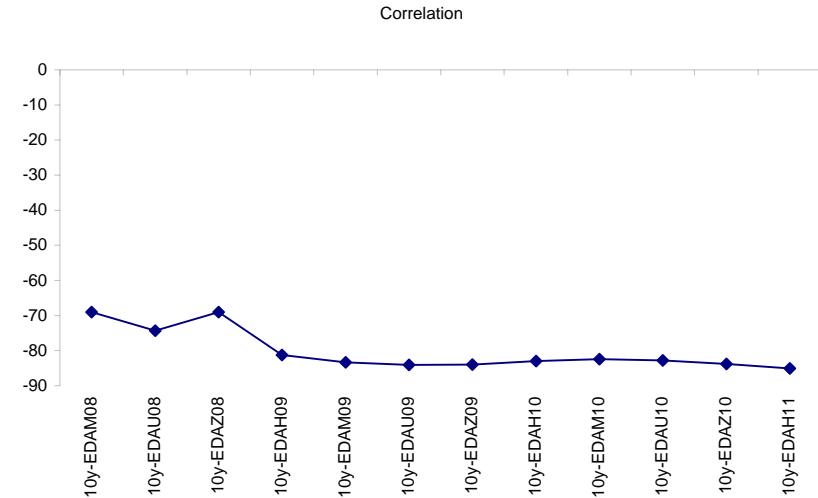
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				Spread Duration	
ED Duration	10Y Duration	Spread Duration			
EDAM08	0.010	8.12	8.11	10y-EDAM08	
EDAU08	0.260	8.12	7.86	10y-EDAU08	
EDAZ08	0.509	8.12	7.61	10y-EDAZ08	
EDAH09	0.758	8.12	7.36	10y-EDAH09	
EDAM09	1.008	8.12	7.11	10y-EDAM09	
EDAU09	1.257	8.12	6.86	10y-EDAU09	
EDAZ09	1.506	8.12	6.61	10y-EDAZ09	
EDAH10	1.756	8.12	6.37	10y-EDAH10	
EDAM10	2.005	8.12	6.12	10y-EDAM10	
EDAU10	2.254	8.12	5.87	10y-EDAU10	
EDAZ10	2.503	8.12	5.62	10y-EDAZ10	
EDAH11	2.753	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.

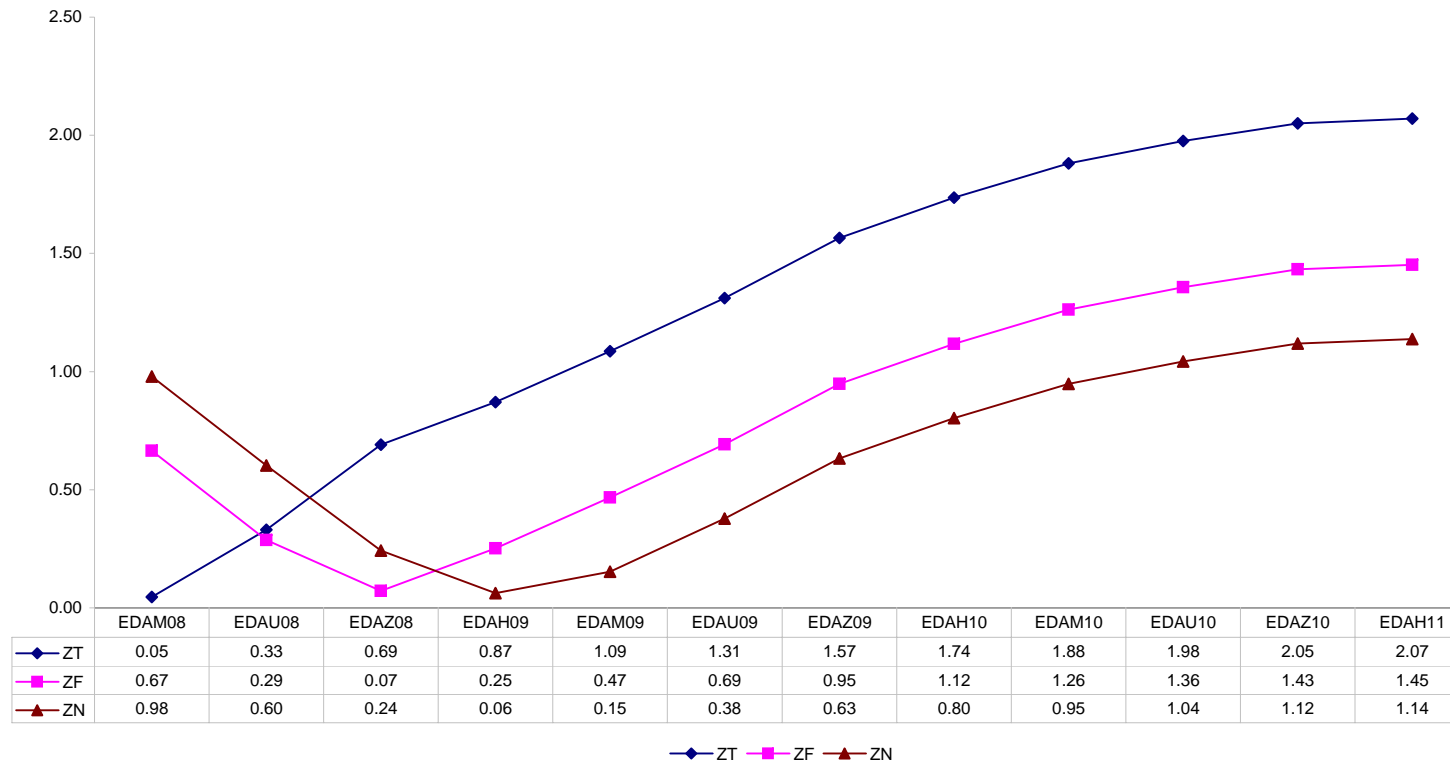
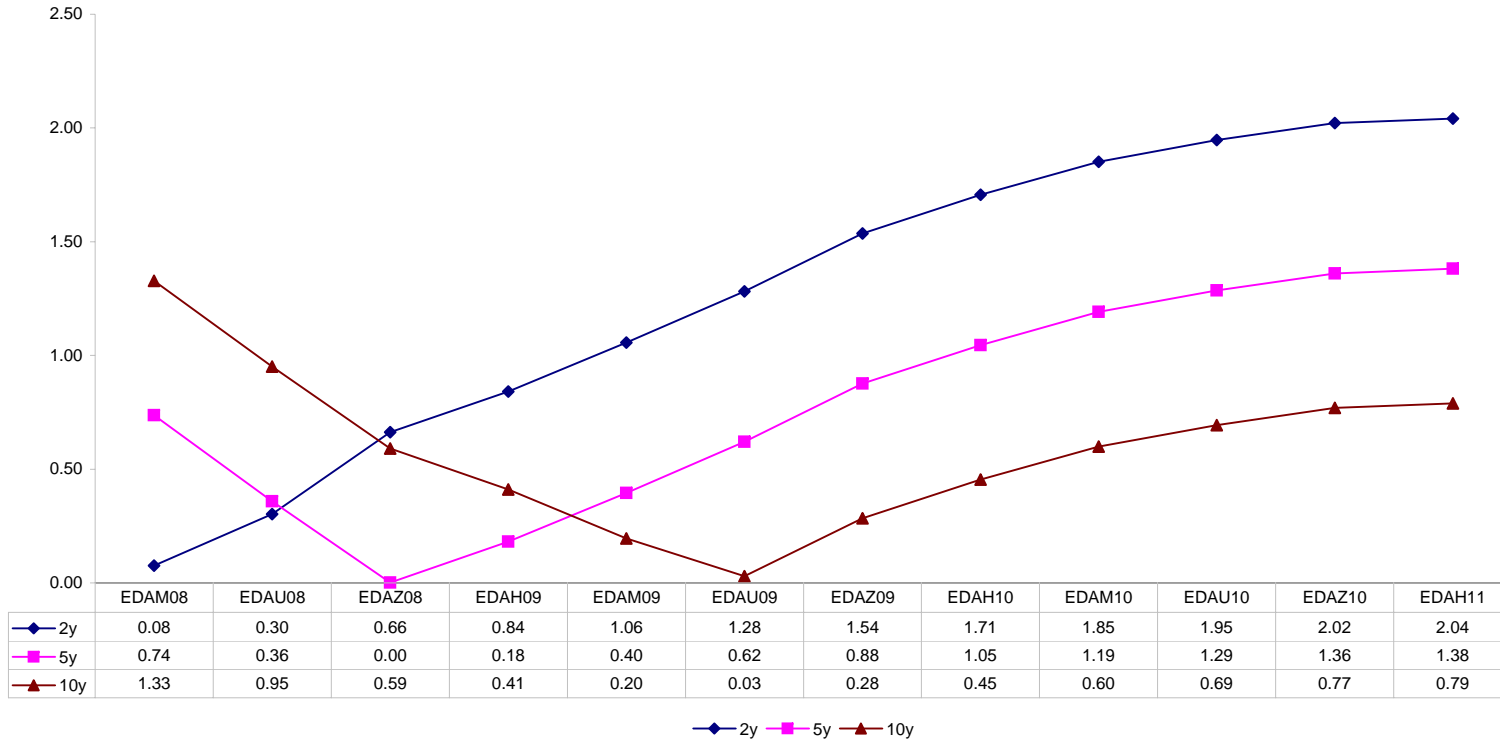
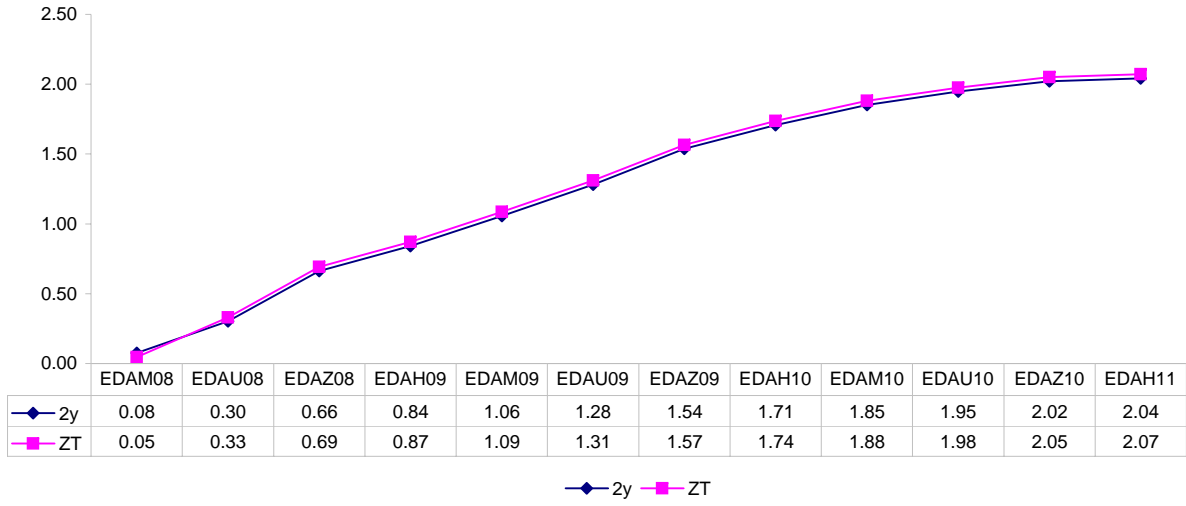


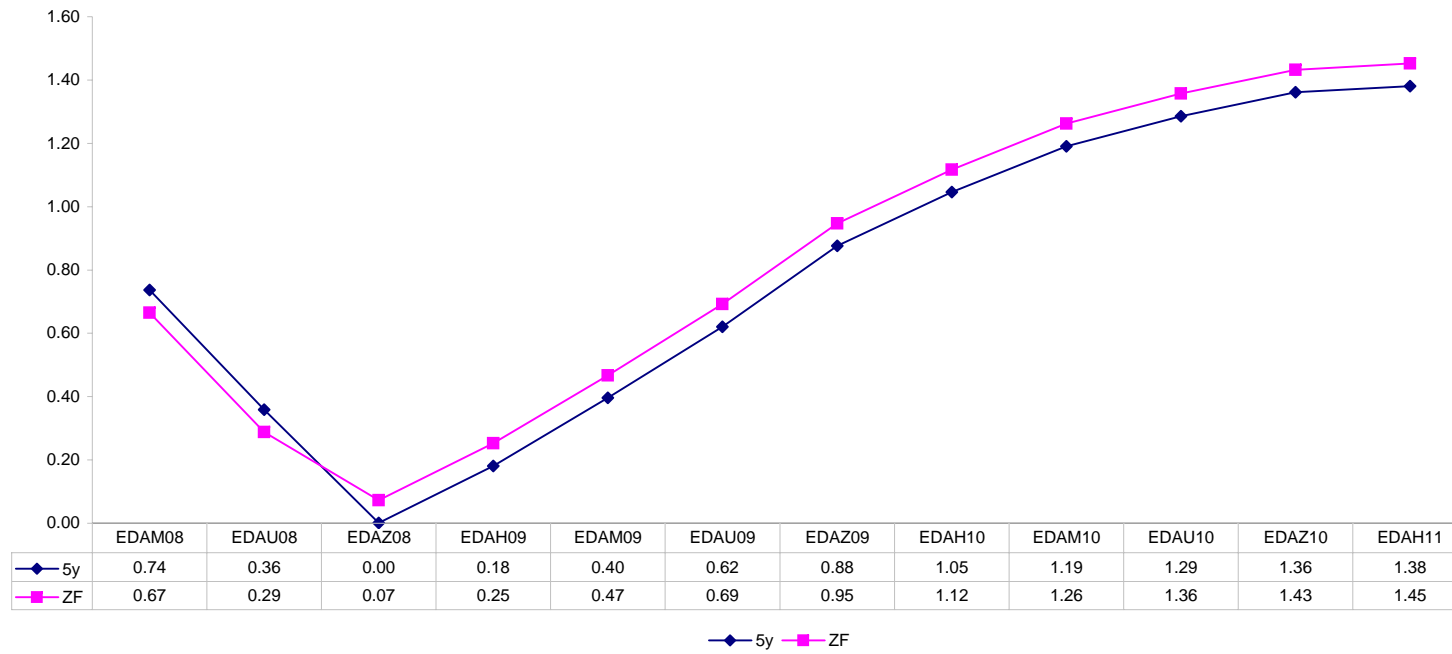
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



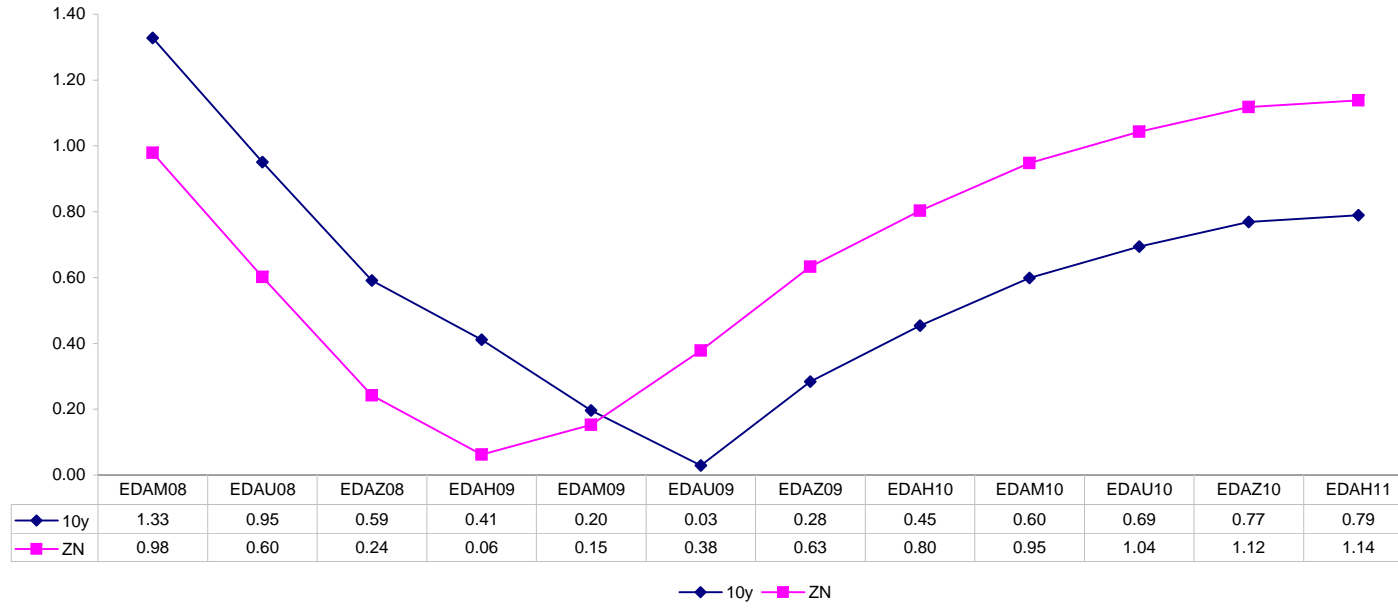
2y Basis TED Curve



5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.354	-3.250	9671.938
Red Pack	4.349	-7.625	9575.625
Green Pack	4.940	-6.375	9518.625
Blue Pack		-2.000	9506.750
Gold Pack		-2.000	9493.875

