

## **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	104.6094	104.195	3.047	1.92
ZF	108.6313	108.202	3.691	4.09
ZN	111.2031	111.065	3.893	5.96
2y	99.147	99.0470	3.073	1.89
5y	98.991	98.3170	3.719	4.50
10y	97.047	97.0150	4.241	8.10

Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month
EDAM08	97.178	2.822	3	0.008	JUN
EDAU08	96.670	3.330	94	0.257	SEP White
EDAZ08	96.315	3.685	185	0.506	DEC Pack
EDAH09	96.105	3.895	276	0.755	MAR
EDAM09	95.875	4.125	367	1.005	JUN
EDAU09	95.630	4.370	458	1.254	SEP Red
EDAZ09	95.375	4.625	549	1.503	DEC Pack
EDAH10	95.200	4.800	640	1.753	MAR
EDAM10	95.065	4.935	731	2.002	JUN
EDAU10	94.965	5.035	822	2.251	SEP Green
EDAZ10	94.885	5.115	913	2.501	DEC Pack
EDAH11	94.860	5.140	1004	2.750	MAR
EDAM11	94.850	5.150	1095	2.999	JUN
EDAU11	94.860	5.140	1193	3.268	SEP Blue Pack
EDAZ11	94.790	5.210	1284	3.517	DEC
EDAH12	94.805	5.195	1375	3.766	MAR
EDAM12	94.790	5.210	1466	4.016	JUN
EDAU12	94.755	5.245	1557	4.265	SEP Gold Pack
EDAZ12	94.770	5.230	1648	4.514	DEC
EDAH13	94.745	5.255	1739	4.764	MAR

	Last Yield	Net Yield	Last Price	
White Pack	3.511	-5.750	9656.688	Pack Prices
Red Pack	4.594	-8.750	9552.000	
Green Pack	5.192	-9.125	9494.375	
Blue Pack	5.314	-4.875	9482.625	
Gold Pack		-1.750	9475.375	

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)

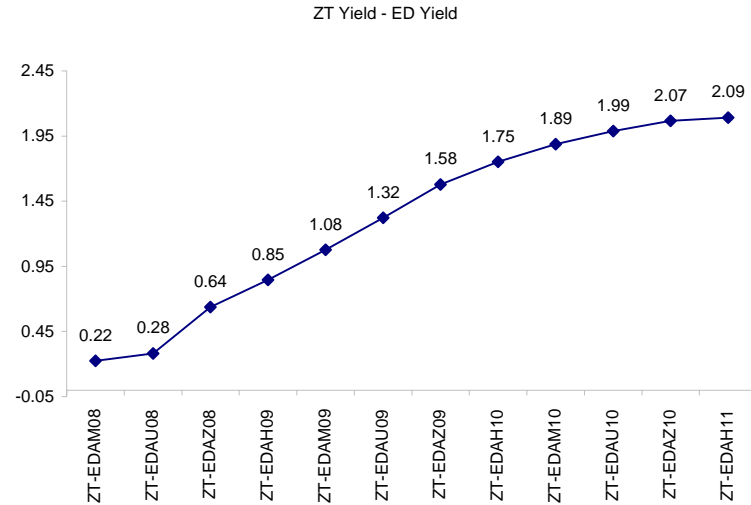
**Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations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

ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	7.432	0.22	ZT-EDAM08	90.687
EDAU08	7.939	0.28	ZT-EDAU08	97.962
EDAZ08	8.294	0.64	ZT-EDAZ08	98.497
EDAH09	8.504	0.85	ZT-EDAH09	99.360
EDAM09	8.734	1.08	ZT-EDAM09	99.704
EDAU09	8.979	1.32	ZT-EDAU09	99.701
EDAZ09	9.234	1.58	ZT-EDAZ09	99.245
EDAH10	9.409	1.75	ZT-EDAH10	98.653
EDAM10	9.544	1.89	ZT-EDAM10	97.941
EDAU10	9.644	1.99	ZT-EDAU10	97.305
EDAZ10	9.724	2.07	ZT-EDAZ10	96.551
EDAH11	9.749	2.09	ZT-EDAH11	95.609

Price = Outright Decimal Price - Euro Contract Price

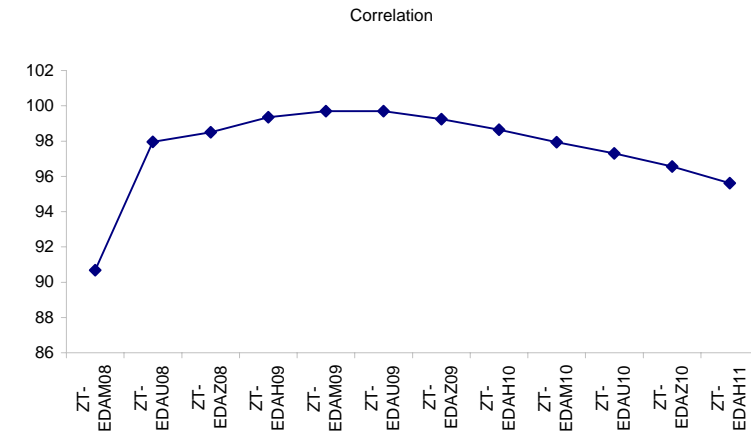
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZT Duration	Spread Duration	
EDAM08	0.008	1.92	1.91	ZT-EDAM08		
EDAU08	0.257	1.92	1.66	ZT-EDAU08		
EDAZ08	0.506	1.92	1.41	ZT-EDAZ08		
EDAH09	0.755	1.92	1.16	ZT-EDAH09		
EDAM09	1.005	1.92	0.91	ZT-EDAM09		
EDAU09	1.254	1.92	0.66	ZT-EDAU09		
EDAZ09	1.503	1.92	0.41	ZT-EDAZ09		
EDAH10	1.753	1.92	0.16	ZT-EDAH10		
EDAM10	2.002	1.92	(0.09)	ZT-EDAM10		
EDAU10	2.251	1.92	(0.34)	ZT-EDAU10		
EDAZ10	2.501	1.92	(0.59)	ZT-EDAZ10		
EDAH11	2.750	1.92	(0.83)	ZT-EDAH11		

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

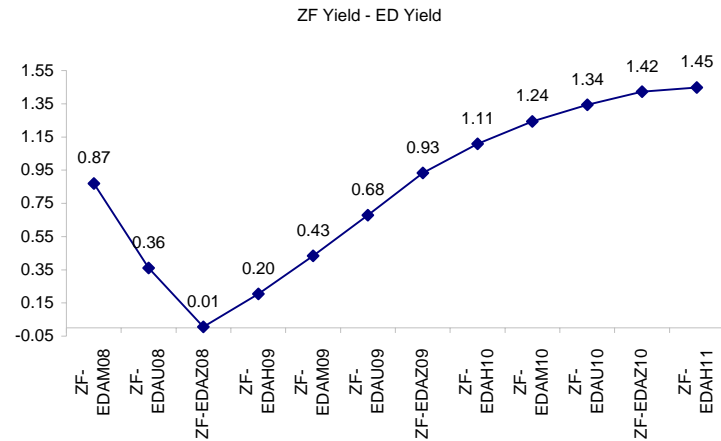


ZF				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAM08	11.454	0.87	ZF-EDAM08	87.685
EDAU08	11.961	0.36	ZF-EDAU08	95.802
EDAZ08	12.316	0.01	ZF-EDAZ08	95.980
EDAH09	12.526	0.20	ZF-EDAH09	97.117
EDAM09	12.756	0.43	ZF-EDAM09	97.912
EDAU09	13.001	0.68	ZF-EDAU09	98.237
EDAZ09	13.256	0.93	ZF-EDAZ09	97.969
EDAH10	13.431	1.11	ZF-EDAH10	97.336
EDAM10	13.566	1.24	ZF-EDAM10	96.703
EDAU10	13.666	1.34	ZF-EDAU10	96.448
EDAZ10	13.746	1.42	ZF-EDAZ10	96.273
EDAH11	13.771	1.45	ZF-EDAH11	95.997

Price = Outright Decimal Price - Euro Contract Price

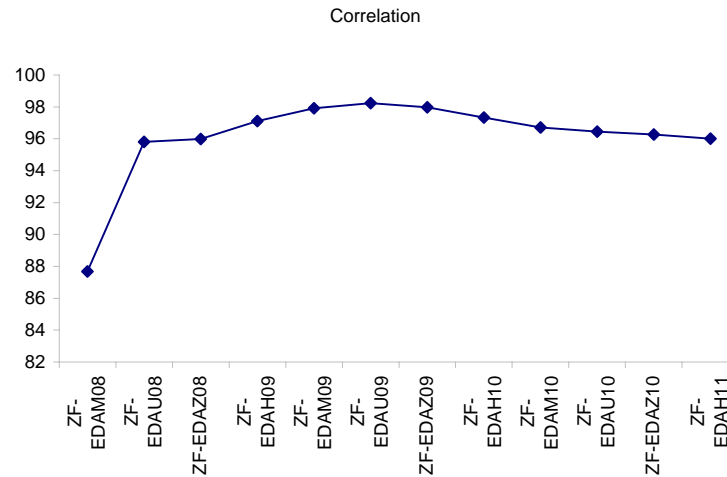
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



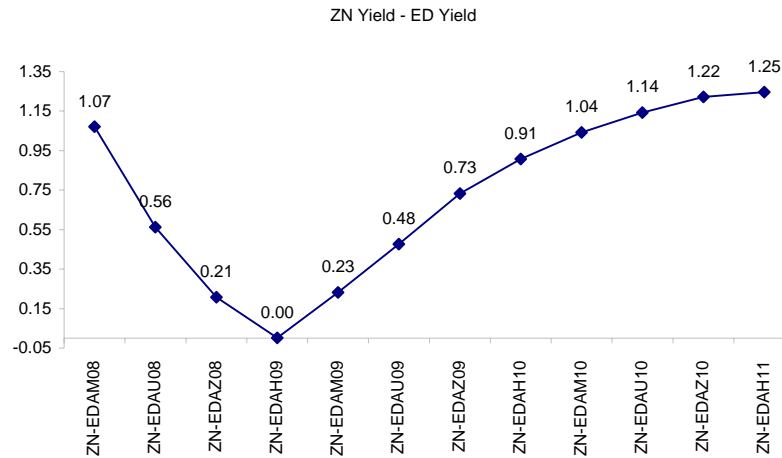
	ED Duration as Fraction of year		ZF Spread Duration		
	of year	Duration	Duration	Duration	
EDAM08	0.008	4.09	4.08	ZF-EDAM08	
EDAU08	0.257	4.09	3.83	ZF-EDAU08	
EDAZ08	0.506	4.09	3.58	ZF-EDAZ08	
EDAH09	0.755	4.09	3.34	ZF-EDAH09	
EDAM09	1.005	4.09	3.09	ZF-EDAM09	
EDAU09	1.254	4.09	2.84	ZF-EDAU09	
EDAZ09	1.503	4.09	2.59	ZF-EDAZ09	
EDAH10	1.753	4.09	2.34	ZF-EDAH10	
EDAM10	2.002	4.09	2.09	ZF-EDAM10	
EDAU10	2.251	4.09	1.84	ZF-EDAU10	
EDAZ10	2.501	4.09	1.59	ZF-EDAZ10	
EDAH11	2.750	4.09	1.34	ZF-EDAH11	

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



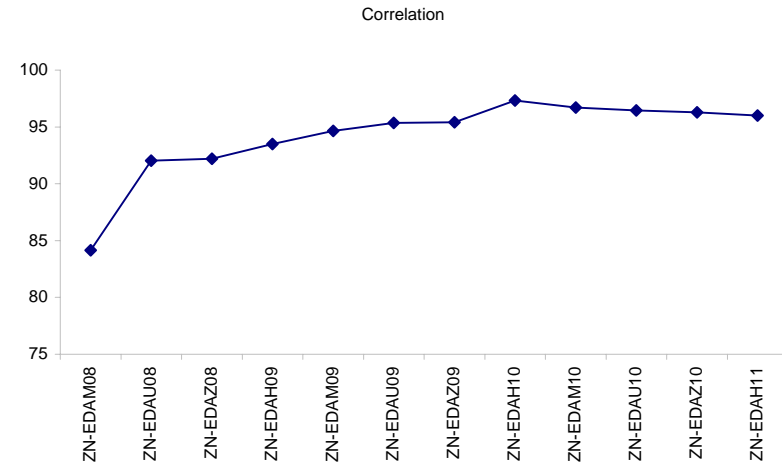
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	14.026	1.07	ZN-EDAM08	84.139
EDAU08	14.533	0.56	ZN-EDAU08	92.034
EDAZ08	14.888	0.21	ZN-EDAZ08	92.190
EDAH09	15.098	0.00	ZN-EDAH09	93.507
EDAM09	15.328	0.23	ZN-EDAM09	94.656
EDAU09	15.573	0.48	ZN-EDAU09	95.349
EDAZ09	15.828	0.73	ZN-EDAZ09	95.403
EDAH10	16.003	0.91	ZN-EDAH10	97.336
EDAM10	16.138	1.04	ZN-EDAM10	96.703
EDAU10	16.238	1.14	ZN-EDAU10	96.448
EDAZ10	16.318	1.22	ZN-EDAZ10	96.273
EDAH11	16.343	1.25	ZN-EDAH11	95.997

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	0.008	5.96	5.95	ZN-EDAM08		
EDAU08	0.257	5.96	5.70	ZN-EDAU08		
EDAZ08	0.506	5.96	5.45	ZN-EDAZ08		
EDAH09	0.755	5.96	5.20	ZN-EDAH09		
EDAM09	1.005	5.96	4.95	ZN-EDAM09		
EDAU09	1.254	5.96	4.70	ZN-EDAU09		
EDAZ09	1.503	5.96	4.45	ZN-EDAZ09		
EDAH10	1.753	5.96	4.20	ZN-EDAH10		
EDAM10	2.002	5.96	3.95	ZN-EDAM10		
EDAU10	2.251	5.96	3.70	ZN-EDAU10		
EDAZ10	2.501	5.96	3.45	ZN-EDAZ10		
EDAH11	2.750	5.96	3.21	ZN-EDAH11		

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

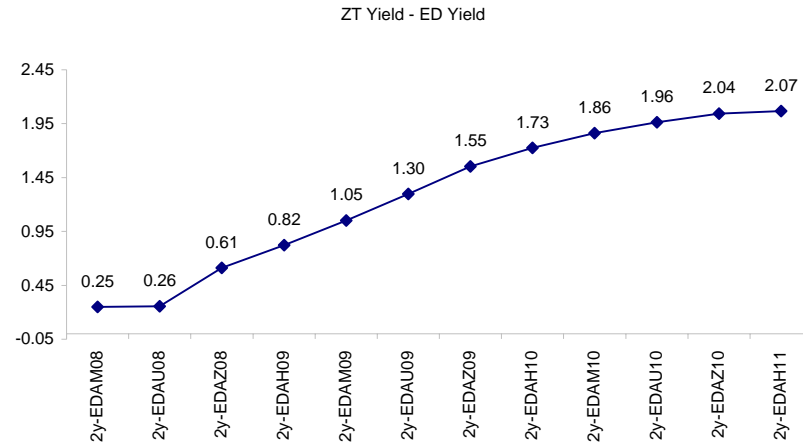


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	1.969	0.25	2y-EDAM08	-90.422
EDAU08	2.477	0.26	2y-EDAU08	-97.720
EDAZ08	2.832	0.61	2y-EDAZ08	-98.118
EDAH09	3.042	0.82	2y-EDAH09	-98.873
EDAM09	3.272	1.05	2y-EDAM09	-99.304
EDAU09	3.517	1.30	2y-EDAU09	-99.368
EDAZ09	3.772	1.55	2y-EDAZ09	-99.014
EDAH10	3.947	1.73	2y-EDAH10	-98.388
EDAM10	4.082	1.86	2y-EDAM10	-97.754
EDAU10	4.182	1.96	2y-EDAU10	-97.331
EDAZ10	4.262	2.04	2y-EDAZ10	-96.820
EDAH11	4.287	2.07	2y-EDAH11	-96.119

Price = Outright Decimal Price - Euro Contract Price

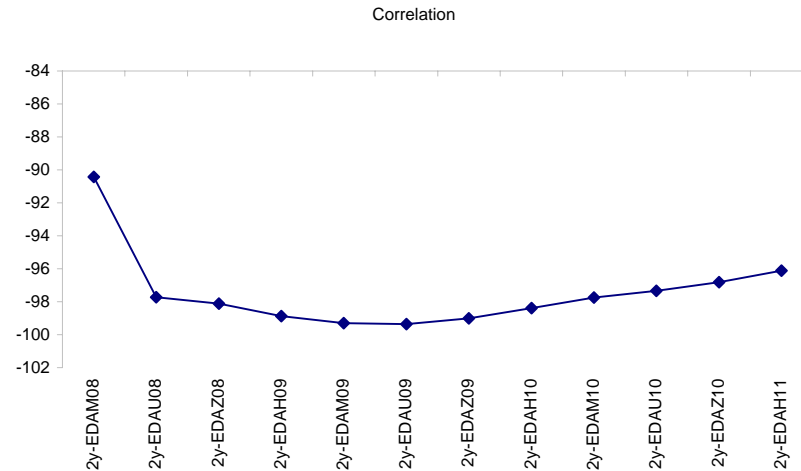
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAM08	0.008	1.89	1.88	2y-EDAM08	
EDAU08	0.257	1.89	1.63	2y-EDAU08	
EDAZ08	0.506	1.89	1.38	2y-EDAZ08	
EDAH09	0.755	1.89	1.13	2y-EDAH09	
EDAM09	1.005	1.89	0.88	2y-EDAM09	
EDAU09	1.254	1.89	0.63	2y-EDAU09	
EDAZ09	1.503	1.89	0.39	2y-EDAZ09	
EDAH10	1.753	1.89	0.14	2y-EDAH10	
EDAM10	2.002	1.89	(0.11)	2y-EDAM10	
EDAU10	2.251	1.89	(0.36)	2y-EDAU10	
EDAZ10	2.501	1.89	(0.61)	2y-EDAZ10	
EDAH11	2.750	1.89	(0.86)	2y-EDAH11	

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

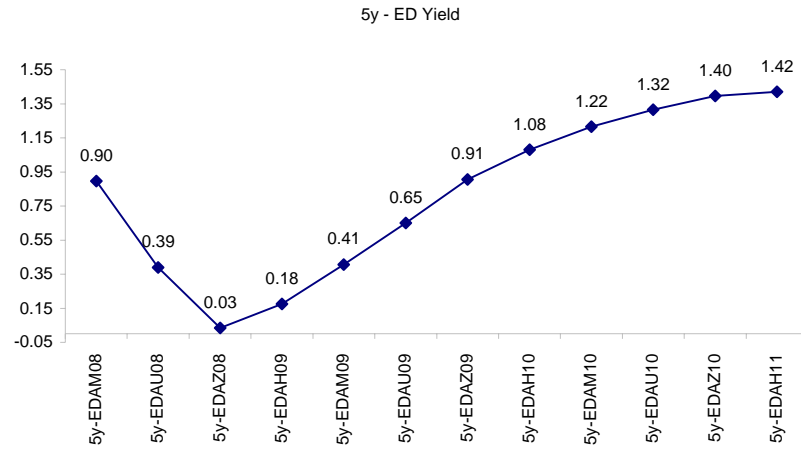


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	1.813	0.90	5y-EDAM08	-87.773
EDAU08	2.321	0.39	5y-EDAU08	-95.184
EDAZ08	2.676	0.03	5y-EDAZ08	-87.773
EDAH09	2.886	0.18	5y-EDAH09	-95.917
EDAM09	3.116	0.41	5y-EDAM09	-96.700
EDAU09	3.361	0.65	5y-EDAU09	-97.067
EDAZ09	3.616	0.91	5y-EDAZ09	-96.960
EDAH10	3.791	1.08	5y-EDAH10	-96.380
EDAM10	3.926	1.22	5y-EDAM10	-95.949
EDAU10	4.026	1.32	5y-EDAU10	-96.001
EDAZ10	4.106	1.40	5y-EDAZ10	-96.165
EDAH11	4.131	1.42	5y-EDAH11	-96.190

Price = Outright Decimal Price - Euro Contract Price

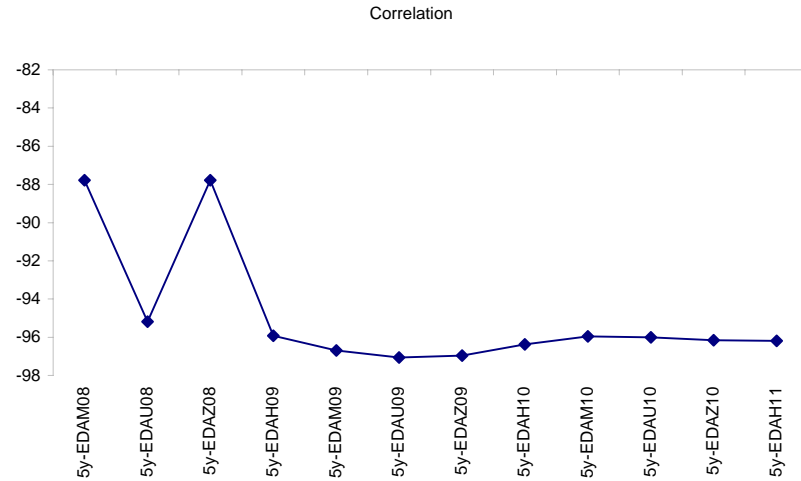
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.008	4.50	4.49	5y-EDAM08
EDAU08	0.257	4.50	4.24	5y-EDAU08
EDAZ08	0.506	4.50	3.99	5y-EDAZ08
EDAH09	0.755	4.50	3.75	5y-EDAH09
EDAM09	1.005	4.50	3.50	5y-EDAM09
EDAU09	1.254	4.50	3.25	5y-EDAU09
EDAZ09	1.503	4.50	3.00	5y-EDAZ09
EDAH10	1.753	4.50	2.75	5y-EDAH10
EDAM10	2.002	4.50	2.50	5y-EDAM10
EDAU10	2.251	4.50	2.25	5y-EDAU10
EDAZ10	2.501	4.50	2.00	5y-EDAZ10
EDAH11	2.750	4.50	1.75	5y-EDAH11

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



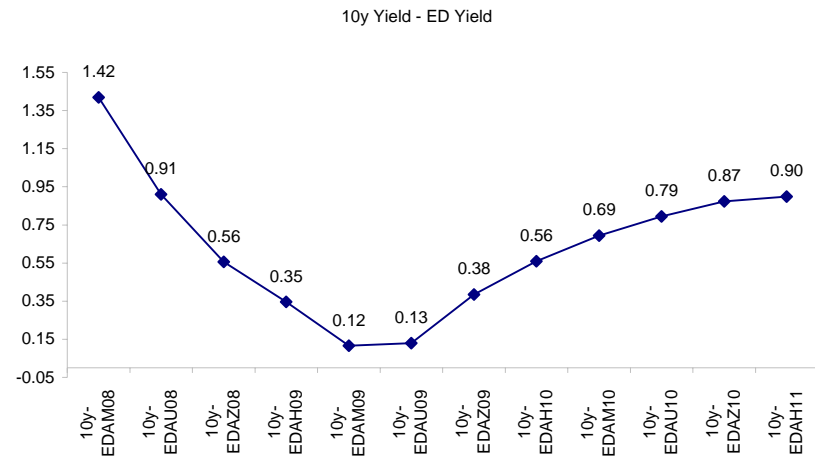


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	1.813	1.42	10y-EDAM08	-83.363
EDAU08	2.321	0.91	10y-EDAU08	-89.786
EDAZ08	2.676	0.56	10y-EDAZ08	-83.363
EDAH09	2.886	0.35	10y-EDAH09	-89.534
EDAM09	3.116	0.12	10y-EDAM09	-90.596
EDAU09	3.361	0.13	10y-EDAU09	-91.428
EDAZ09	3.616	0.38	10y-EDAZ09	-91.854
EDAH10	3.791	0.56	10y-EDAH10	-91.519
EDAM10	3.926	0.69	10y-EDAM10	-91.430
EDAU10	4.026	0.79	10y-EDAU10	-92.105
EDAZ10	4.106	0.87	10y-EDAZ10	-93.067
EDAH11	4.131	0.90	10y-EDAH11	-93.964

Price = Outright Decimal Price - Euro Contract Price

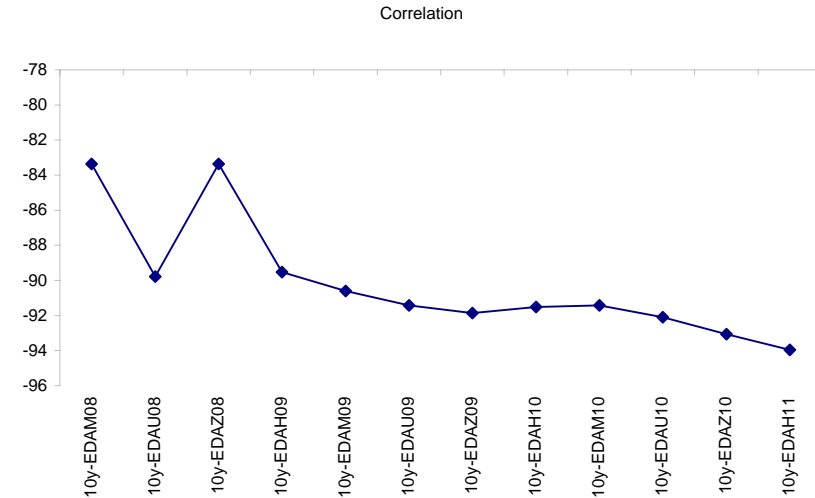
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.008	8.10	8.09	10y-EDAM08
EDAU08	0.257	8.10	7.84	10y-EDAU08
EDAZ08	0.506	8.10	7.59	10y-EDAZ08
EDAH09	0.755	8.10	7.34	10y-EDAH09
EDAM09	1.005	8.10	7.09	10y-EDAM09
EDAU09	1.254	8.10	6.84	10y-EDAU09
EDAZ09	1.503	8.10	6.59	10y-EDAZ09
EDAH10	1.753	8.10	6.34	10y-EDAH10
EDAM10	2.002	8.10	6.09	10y-EDAM10
EDAU10	2.251	8.10	5.84	10y-EDAU10
EDAZ10	2.501	8.10	5.60	10y-EDAZ10
EDAH11	2.750	8.10	5.35	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.

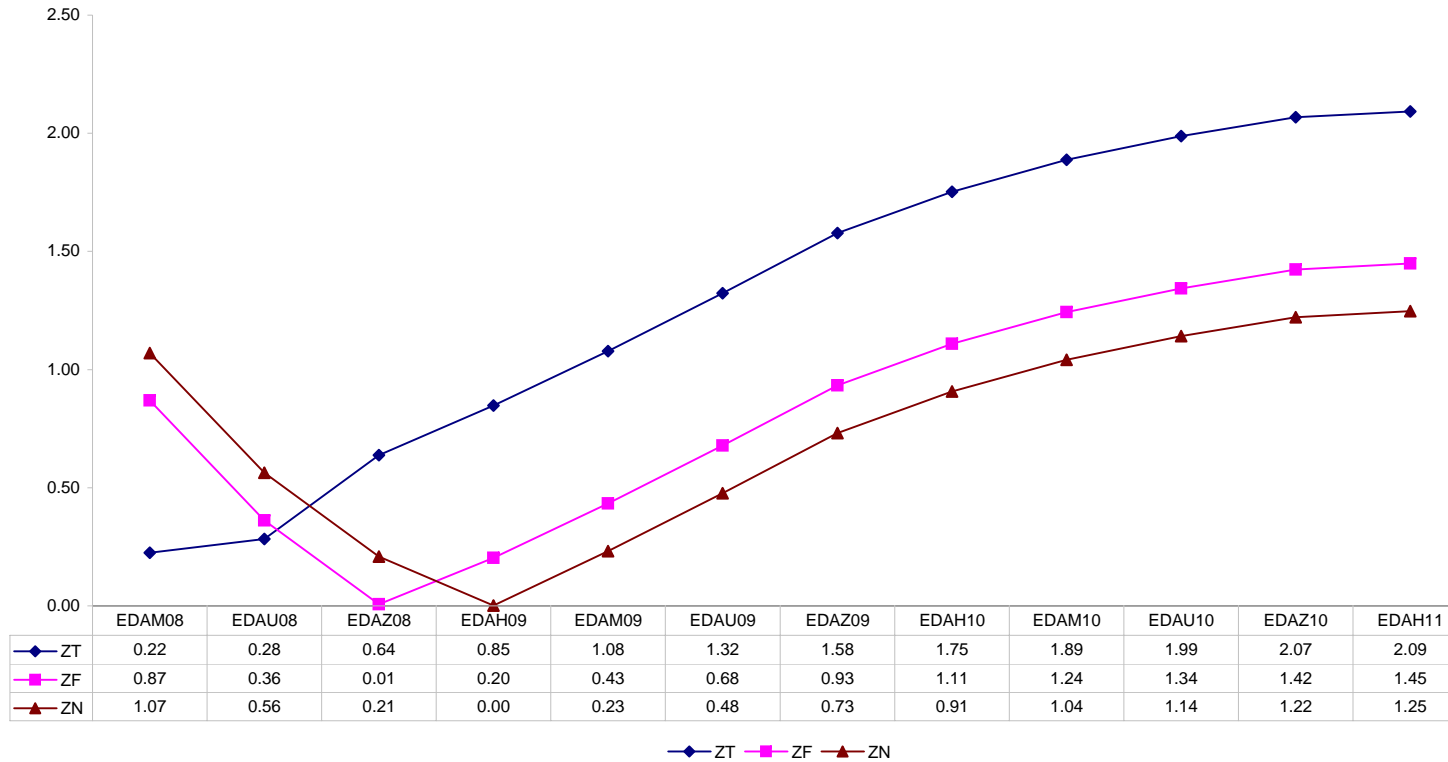
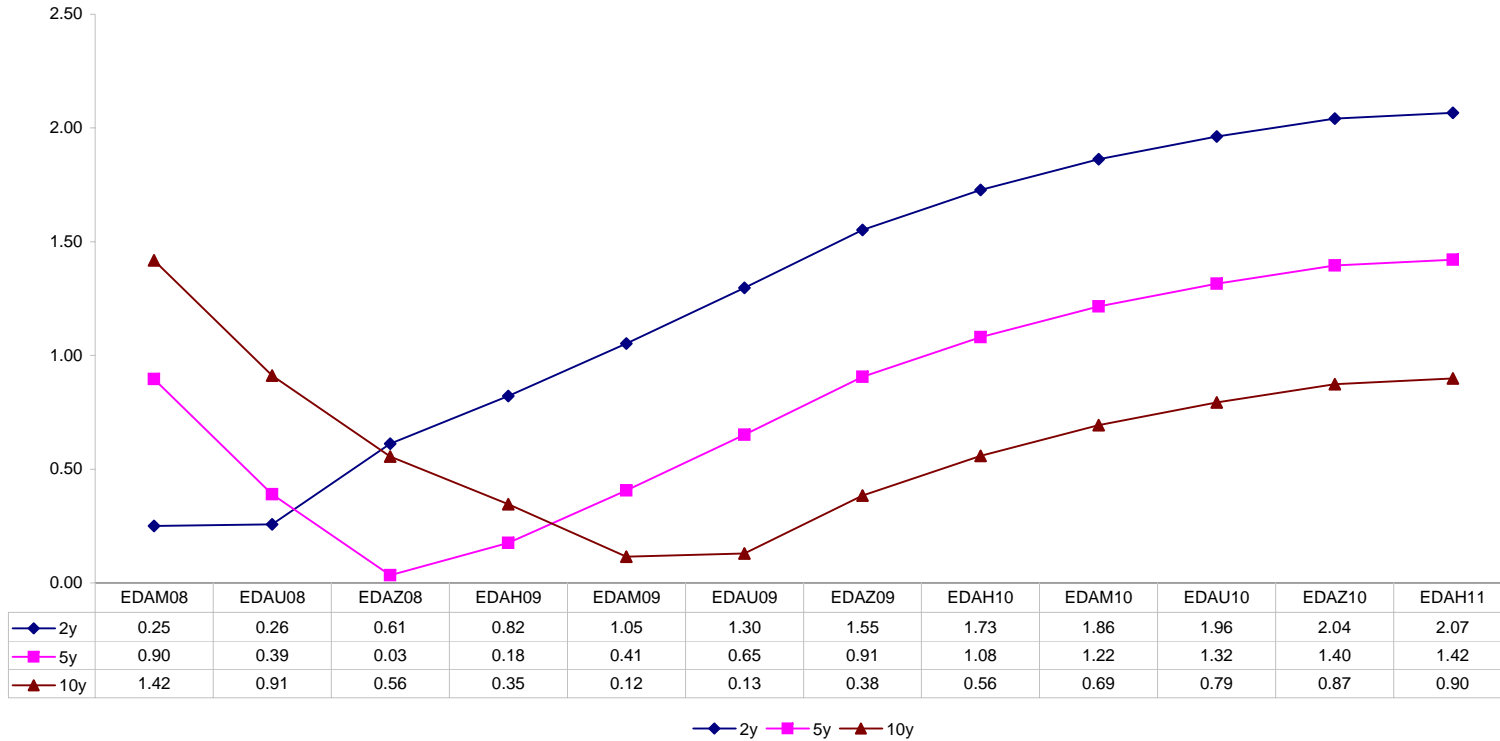
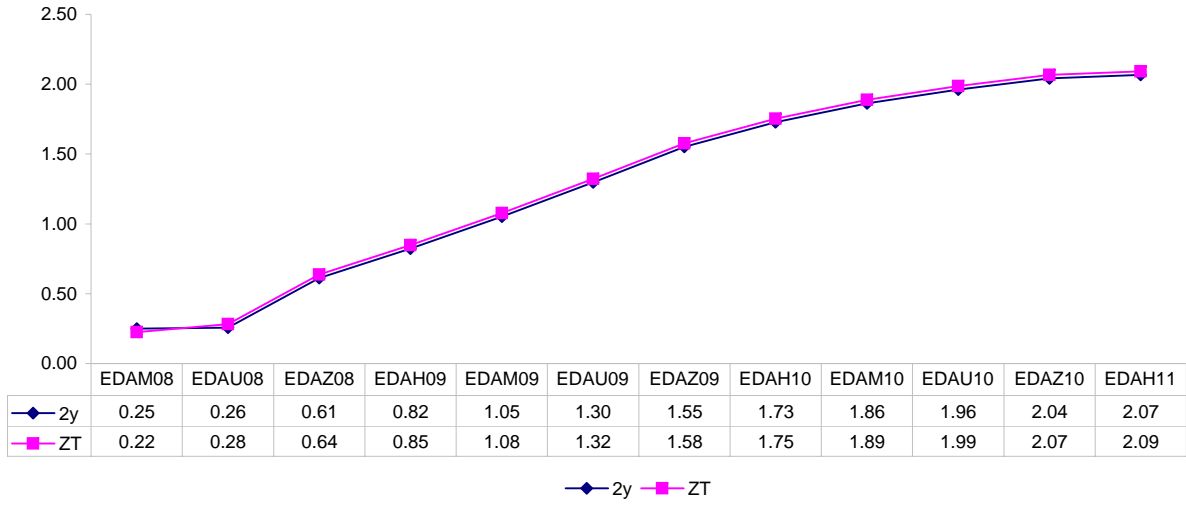


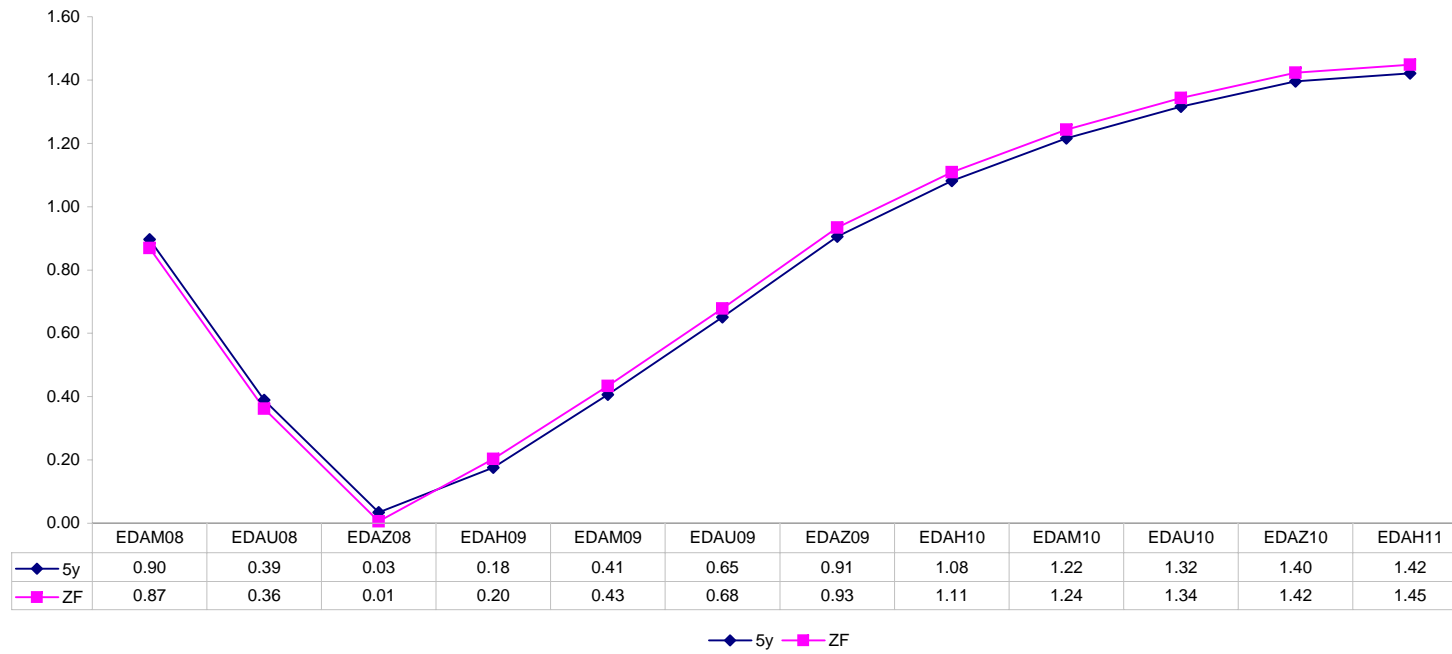
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



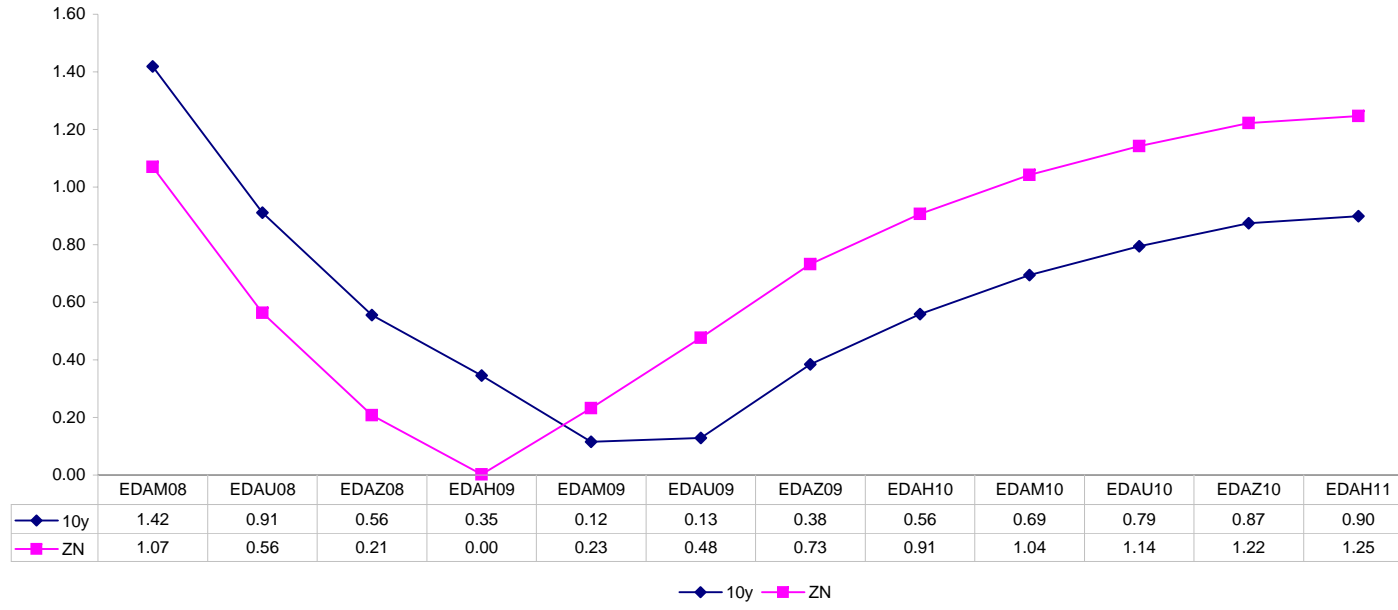
2y Basis TED Curve



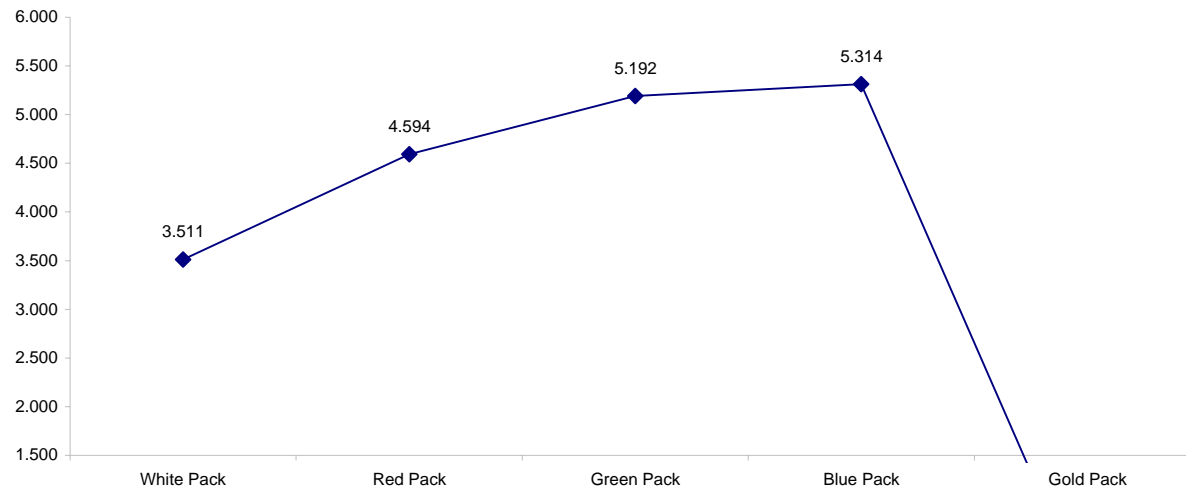
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.511	-5.750	9656.688
Red Pack	4.594	-8.750	9552.000
Green Pack	5.192	-9.125	9494.375
Blue Pack	5.314	-4.875	9482.625
Gold Pack		-1.750	9475.375



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

