

## **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	106.1563	106.050	2.396	1.82
ZF	111.8344	111.267	3.029	3.96
ZN	115.5781	115.185	3.652	6.52
2y	100.578	100.1850	2.444	1.91
5y	100.959	100.3070	3.161	4.54
10y	100.469	100.1500	3.941	8.03

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.175	2.825	38	0.103	SEP	
EDAZ08	97.015	2.985	129	0.353	DEC	White
EDAH09	96.945	3.055	220	0.602	MAR	Pack
EDAM09	96.775	3.225	311	0.851	JUN	
EDAU09	96.535	3.465	402	1.101	SEP	
EDAZ09	96.230	3.770	493	1.350	DEC	Red
EDAH10	95.990	4.010	584	1.599	MAR	Pack
EDAM10	95.770	4.230	675	1.849	JUN	
EDAU10	95.600	4.400	766	2.098	SEP	
EDAZ10	95.460	4.540	857	2.347	DEC	Green
EDAH11	95.415	4.585	948	2.597	MAR	Pack
EDAM11	95.330	4.670	1039	2.846	JUN	
EDAU11	95.310	4.690	1137	3.114	SEP	
EDAZ11	95.230	4.770	1228	3.364	DEC	Blue Pack
EDAH12	95.190	4.810	1319	3.613	MAR	
EDAM12	95.140	4.860	1410	3.862	JUN	
EDAU12	95.100	4.900	1501	4.112	SEP	
EDAZ12	94.960	5.040	1592	4.361	DEC	Gold Pack
EDAH13	94.995	5.005	1683	4.610	MAR	
EDAM13	94.940	5.060	1774	4.860	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.088	-1.125	9697.750	
Red Pack	3.961	-0.750	9613.125	Pack
Green Pack	4.665	-1.250	9545.125	Prices
Blue Pack		-0.125	9521.250	
Gold Pack		0.000	9499.875	

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.

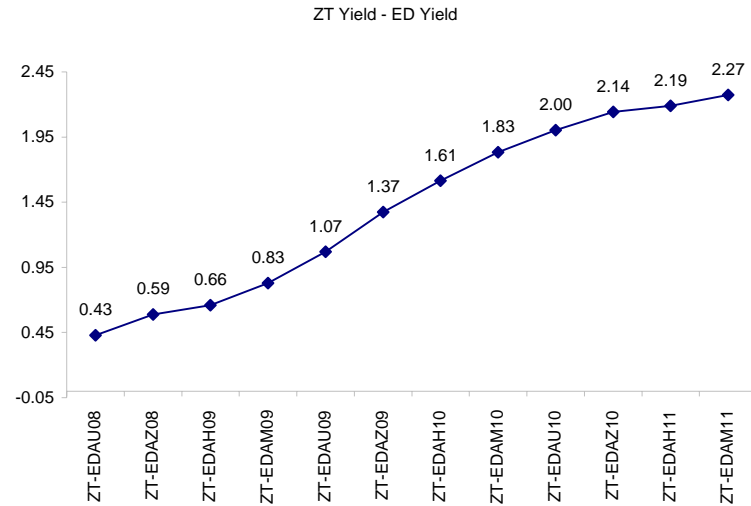
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

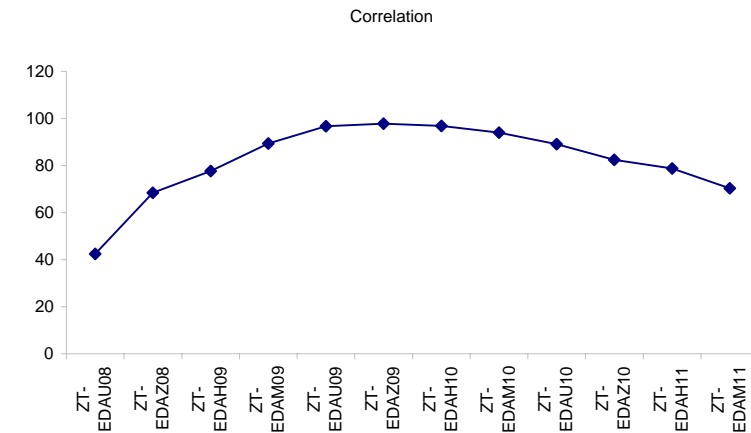
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.981	0.43	ZT-EDAU08	42.507
EDAZ08	9.141	0.59	ZT-EDAZ08	68.410
EDAH09	9.211	0.66	ZT-EDAH09	77.634
EDAM09	9.381	0.83	ZT-EDAM09	89.403
EDAU09	9.621	1.07	ZT-EDAU09	96.683
EDAZ09	9.926	1.37	ZT-EDAZ09	97.843
EDAH10	10.166	1.61	ZT-EDAH10	96.924
EDAM10	10.386	1.83	ZT-EDAM10	94.007
EDAU10	10.556	2.00	ZT-EDAU10	89.179
EDAZ10	10.696	2.14	ZT-EDAZ10	82.422
EDAH11	10.741	2.19	ZT-EDAH11	78.730
EDAM11	10.826	2.27	ZT-EDAM11	70.316

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	
EDAU08	0.103	1.82	1.72		ZT-EDAU08
EDAZ08	0.353	1.82	1.47		ZT-EDAZ08
EDAH09	0.602	1.82	1.22		ZT-EDAH09
EDAM09	0.851	1.82	0.97		ZT-EDAM09
EDAU09	1.101	1.82	0.72		ZT-EDAU09
EDAZ09	1.350	1.82	0.47		ZT-EDAZ09
EDAH10	1.599	1.82	0.22		ZT-EDAH10
EDAM10	1.849	1.82	(0.03)		ZT-EDAM10
EDAU10	2.098	1.82	(0.28)		ZT-EDAU10
EDAZ10	2.347	1.82	(0.53)		ZT-EDAZ10
EDAH11	2.597	1.82	(0.77)		ZT-EDAH11
EDAM11	2.846	1.82	(1.02)		ZT-EDAM11

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

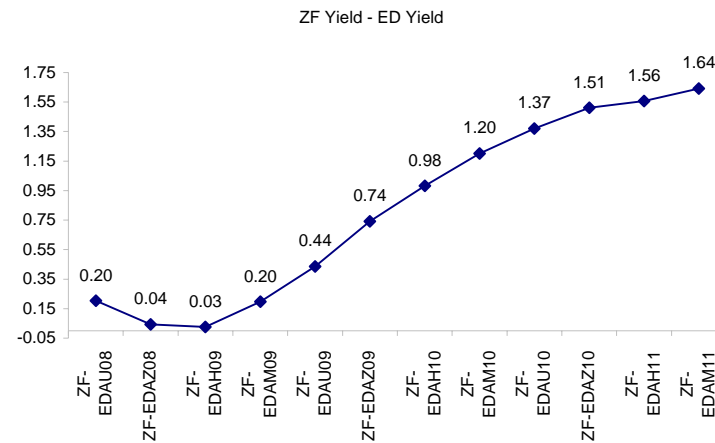


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	14.659	0.20	ZF-EDAU08	45.234
EDAZ08	14.819	0.04	ZF-EDAZ08	66.496
EDAH09	14.889	0.03	ZF-EDAH09	74.194
EDAM09	15.059	0.20	ZF-EDAM09	87.196
EDAU09	15.299	0.44	ZF-EDAU09	96.184
EDAZ09	15.604	0.74	ZF-EDAZ09	98.381
EDAH10	15.844	0.98	ZF-EDAH10	97.924
EDAM10	16.064	1.20	ZF-EDAM10	95.095
EDAU10	16.234	1.37	ZF-EDAU10	90.064
EDAZ10	16.374	1.51	ZF-EDAZ10	83.393
EDAH11	16.419	1.56	ZF-EDAH11	79.915
EDAM11	16.504	1.64	ZF-EDAM11	71.240

Price = Outright Decimal Price - Euro Contract Price

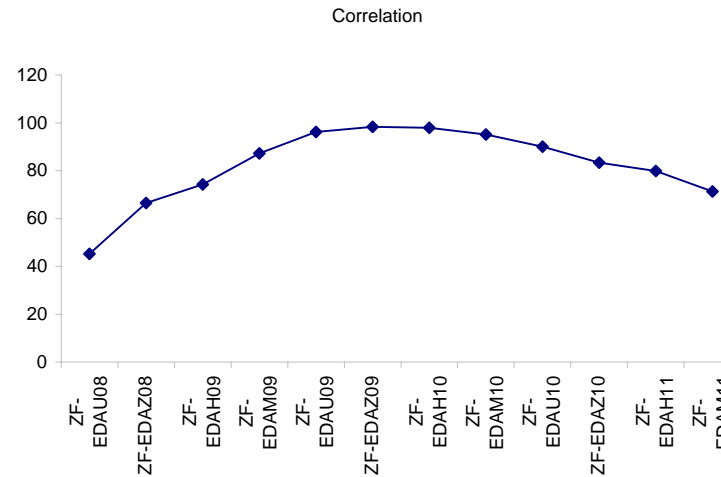
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



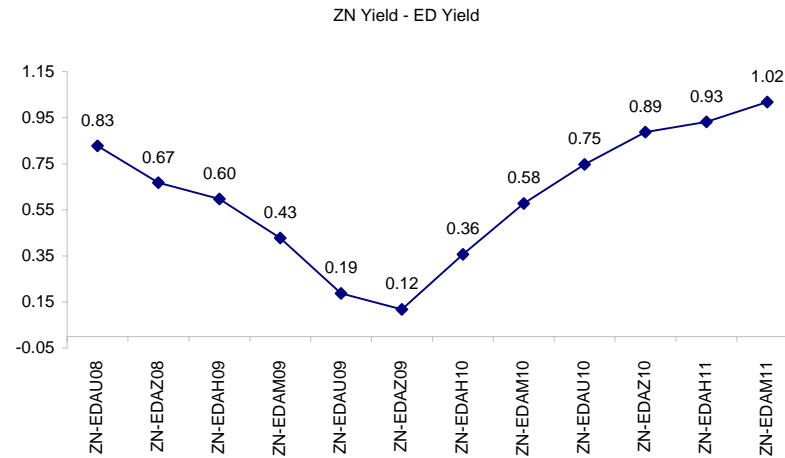
ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.103	3.96	3.86	ZF-EDAU08		
EDAZ08	0.353	3.96	3.61	ZF-EDAZ08		
EDAH09	0.602	3.96	3.36	ZF-EDAH09		
EDAM09	0.851	3.96	3.11	ZF-EDAM09		
EDAU09	1.101	3.96	2.86	ZF-EDAU09		
EDAZ09	1.350	3.96	2.61	ZF-EDAZ09		
EDAH10	1.599	3.96	2.36	ZF-EDAH10		
EDAM10	1.849	3.96	2.11	ZF-EDAM10		
EDAU10	2.098	3.96	1.86	ZF-EDAU10		
EDAZ10	2.347	3.96	1.61	ZF-EDAZ10		
EDAH11	2.597	3.96	1.36	ZF-EDAH11		
EDAM11	2.846	3.96	1.11	ZF-EDAM11		

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



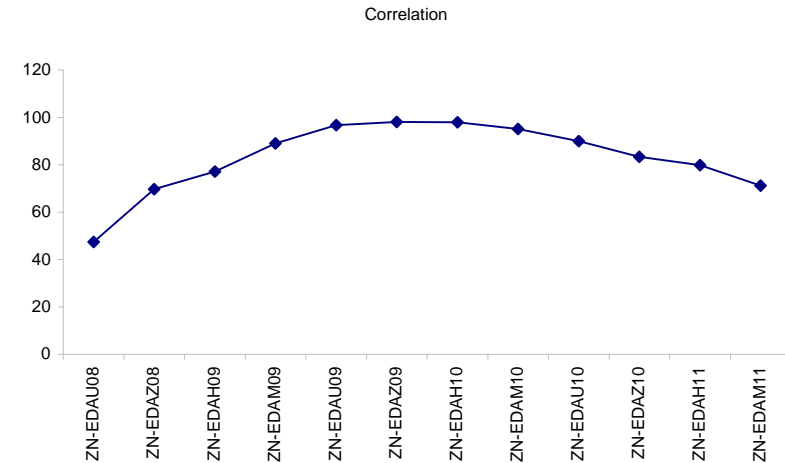
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	18.403	0.83	ZN-EDAU08	47.397
EDAZ08	18.563	0.67	ZN-EDAZ08	69.752
EDAH09	18.633	0.60	ZN-EDAH09	77.158
EDAM09	18.803	0.43	ZN-EDAM09	89.014
EDAU09	19.043	0.19	ZN-EDAU09	96.714
EDAZ09	19.348	0.12	ZN-EDAZ09	98.167
EDAH10	19.588	0.36	ZN-EDAH10	97.924
EDAM10	19.808	0.58	ZN-EDAM10	95.095
EDAU10	19.978	0.75	ZN-EDAU10	90.064
EDAZ10	20.118	0.89	ZN-EDAZ10	83.393
EDAH11	20.163	0.93	ZN-EDAH11	79.915
EDAM11	20.248	1.02	ZN-EDAM11	71.240

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	
EDAU08	0.103	6.52	6.42	ZN-EDAU08		
EDAZ08	0.353	6.52	6.17	ZN-EDAZ08		
EDAH09	0.602	6.52	5.92	ZN-EDAH09		
EDAM09	0.851	6.52	5.67	ZN-EDAM09		
EDAU09	1.101	6.52	5.42	ZN-EDAU09		
EDAZ09	1.350	6.52	5.17	ZN-EDAZ09		
EDAH10	1.599	6.52	4.92	ZN-EDAH10		
EDAM10	1.849	6.52	4.67	ZN-EDAM10		
EDAU10	2.098	6.52	4.42	ZN-EDAU10		
EDAZ10	2.347	6.52	4.18	ZN-EDAZ10		
EDAH11	2.597	6.52	3.93	ZN-EDAH11		
EDAM11	2.846	6.52	3.68	ZN-EDAM11		

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

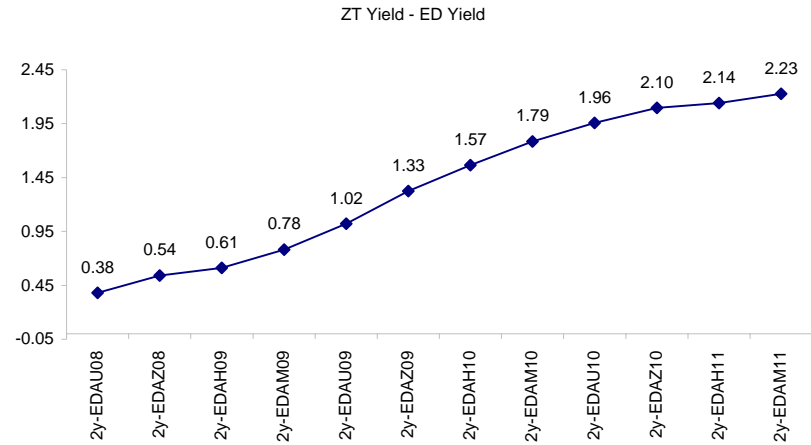


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.403	0.38	2y-EDAU08	-39.200
EDAZ08	3.563	0.54	2y-EDAZ08	-65.018
EDAH09	3.633	0.61	2y-EDAH09	-75.251
EDAM09	3.803	0.78	2y-EDAM09	-88.495
EDAU09	4.043	1.02	2y-EDAU09	-95.501
EDAZ09	4.348	1.33	2y-EDAZ09	-97.102
EDAH10	4.588	1.57	2y-EDAH10	-97.134
EDAM10	4.808	1.79	2y-EDAM10	-95.877
EDAU10	4.978	1.96	2y-EDAU10	-93.097
EDAZ10	5.118	2.10	2y-EDAZ10	-88.313
EDAH11	5.163	2.14	2y-EDAH11	-84.874
EDAM11	5.248	2.23	2y-EDAM11	-78.379

Price = Outright Decimal Price - Euro Contract Price

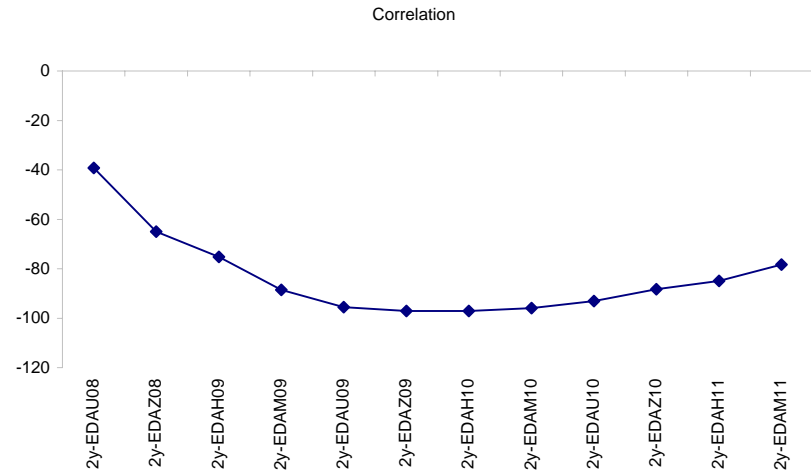
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.103	1.91	1.80	2y-EDAU08	
EDAZ08	0.353	1.91	1.55	2y-EDAZ08	
EDAH09	0.602	1.91	1.30	2y-EDAH09	
EDAM09	0.851	1.91	1.06	2y-EDAM09	
EDAU09	1.101	1.91	0.81	2y-EDAU09	
EDAZ09	1.350	1.91	0.56	2y-EDAZ09	
EDAH10	1.599	1.91	0.31	2y-EDAH10	
EDAM10	1.849	1.91	0.06	2y-EDAM10	
EDAU10	2.098	1.91	(0.19)	2y-EDAU10	
EDAZ10	2.347	1.91	(0.44)	2y-EDAZ10	
EDAH11	2.597	1.91	(0.69)	2y-EDAH11	
EDAM11	2.846	1.91	(0.94)	2y-EDAM11	

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

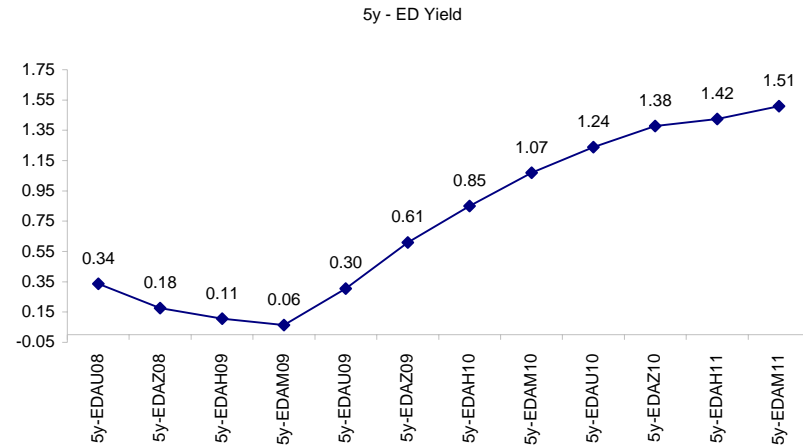


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.784	0.34	5y-EDAU08	-43.301
EDAZ08	3.944	0.18	5y-EDAZ08	-68.002
EDAH09	4.014	0.11	5y-EDAH09	-77.792
EDAM09	4.184	0.06	5y-EDAM09	-90.312
EDAU09	4.424	0.30	5y-EDAU09	-96.840
EDAZ09	4.729	0.61	5y-EDAZ09	-98.016
EDAH10	4.969	0.85	5y-EDAH10	-97.727
EDAM10	5.189	1.07	5y-EDAM10	-96.427
EDAU10	5.359	1.24	5y-EDAU10	-93.131
EDAZ10	5.499	1.38	5y-EDAZ10	-87.819
EDAH11	5.544	1.42	5y-EDAH11	-84.656
EDAM11	5.629	1.51	5y-EDAM11	-77.357

Price = Outright Decimal Price - Euro Contract Price

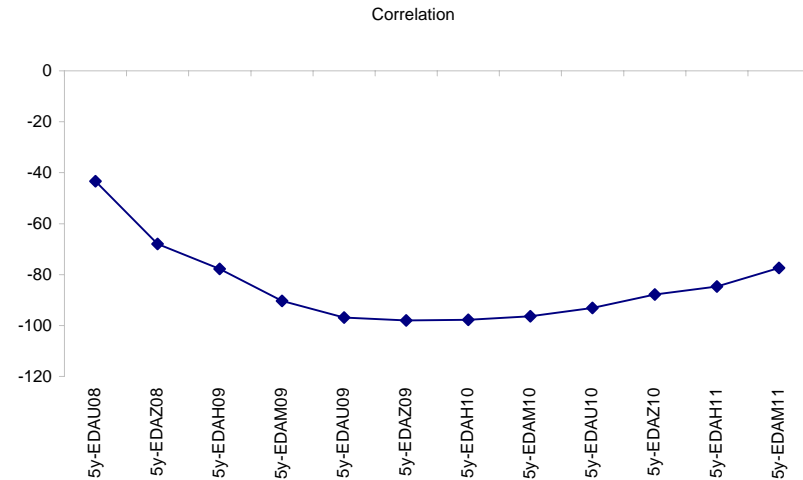
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.103	4.54	4.44	5y-EDAU08
EDAZ08	0.353	4.54	4.19	5y-EDAZ08
EDAH09	0.602	4.54	3.94	5y-EDAH09
EDAM09	0.851	4.54	3.69	5y-EDAM09
EDAU09	1.101	4.54	3.44	5y-EDAU09
EDAZ09	1.350	4.54	3.19	5y-EDAZ09
EDAH10	1.599	4.54	2.94	5y-EDAH10
EDAM10	1.849	4.54	2.69	5y-EDAM10
EDAU10	2.098	4.54	2.45	5y-EDAU10
EDAZ10	2.347	4.54	2.20	5y-EDAZ10
EDAH11	2.597	4.54	1.95	5y-EDAH11
EDAM11	2.846	4.54	1.70	5y-EDAM11

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

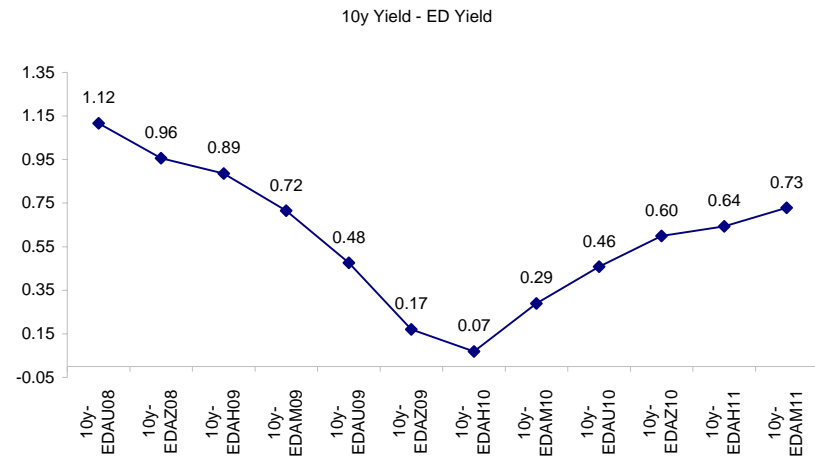


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.784	1.12	10y-EDAU08	-32.188
EDAZ08	3.944	0.96	10y-EDAZ08	-57.708
EDAH09	4.014	0.89	10y-EDAH09	-71.645
EDAM09	4.184	0.72	10y-EDAM09	-85.350
EDAU09	4.424	0.48	10y-EDAU09	-89.101
EDAZ09	4.729	0.17	10y-EDAZ09	-89.627
EDAH10	4.969	0.07	10y-EDAH10	-90.880
EDAM10	5.189	0.29	10y-EDAM10	-93.695
EDAU10	5.359	0.46	10y-EDAU10	-95.336
EDAZ10	5.499	0.60	10y-EDAZ10	-94.484
EDAH11	5.544	0.64	10y-EDAH11	-92.992
EDAM11	5.629	0.73	10y-EDAM11	-89.618

Price = Outright Decimal Price - Euro Contract Price

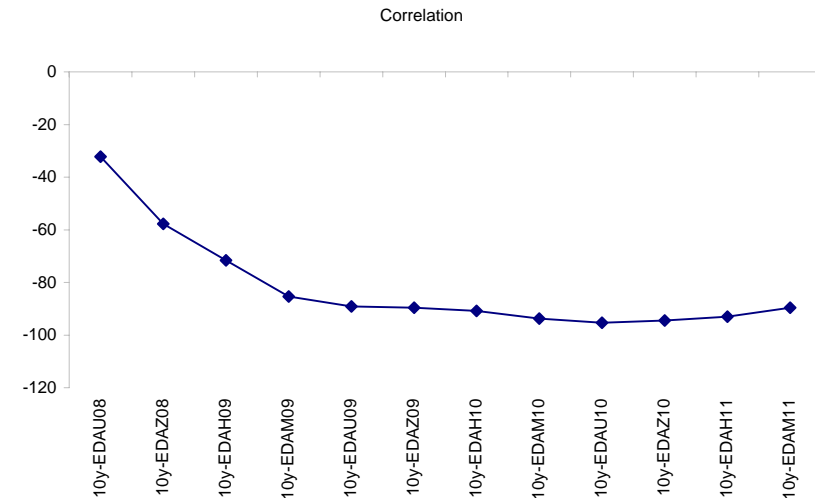
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.103	8.03	7.93	10y-EDAU08
EDAZ08	0.353	8.03	7.68	10y-EDAZ08
EDAH09	0.602	8.03	7.43	10y-EDAH09
EDAM09	0.851	8.03	7.18	10y-EDAM09
EDAU09	1.101	8.03	6.93	10y-EDAU09
EDAZ09	1.350	8.03	6.68	10y-EDAZ09
EDAH10	1.599	8.03	6.43	10y-EDAH10
EDAM10	1.849	8.03	6.19	10y-EDAM10
EDAU10	2.098	8.03	5.94	10y-EDAU10
EDAZ10	2.347	8.03	5.69	10y-EDAZ10
EDAH11	2.597	8.03	5.44	10y-EDAH11
EDAM11	2.846	8.03	5.19	10y-EDAM11

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.

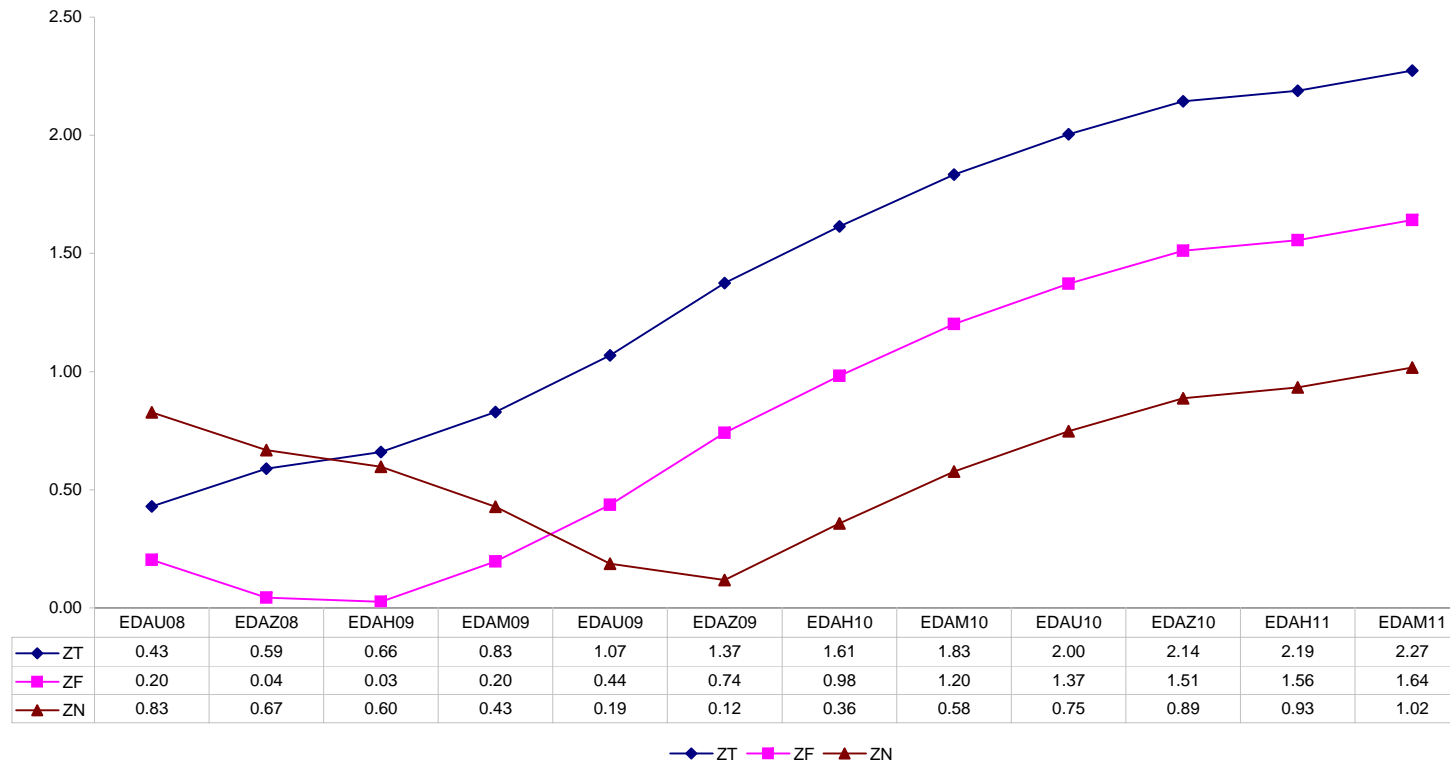
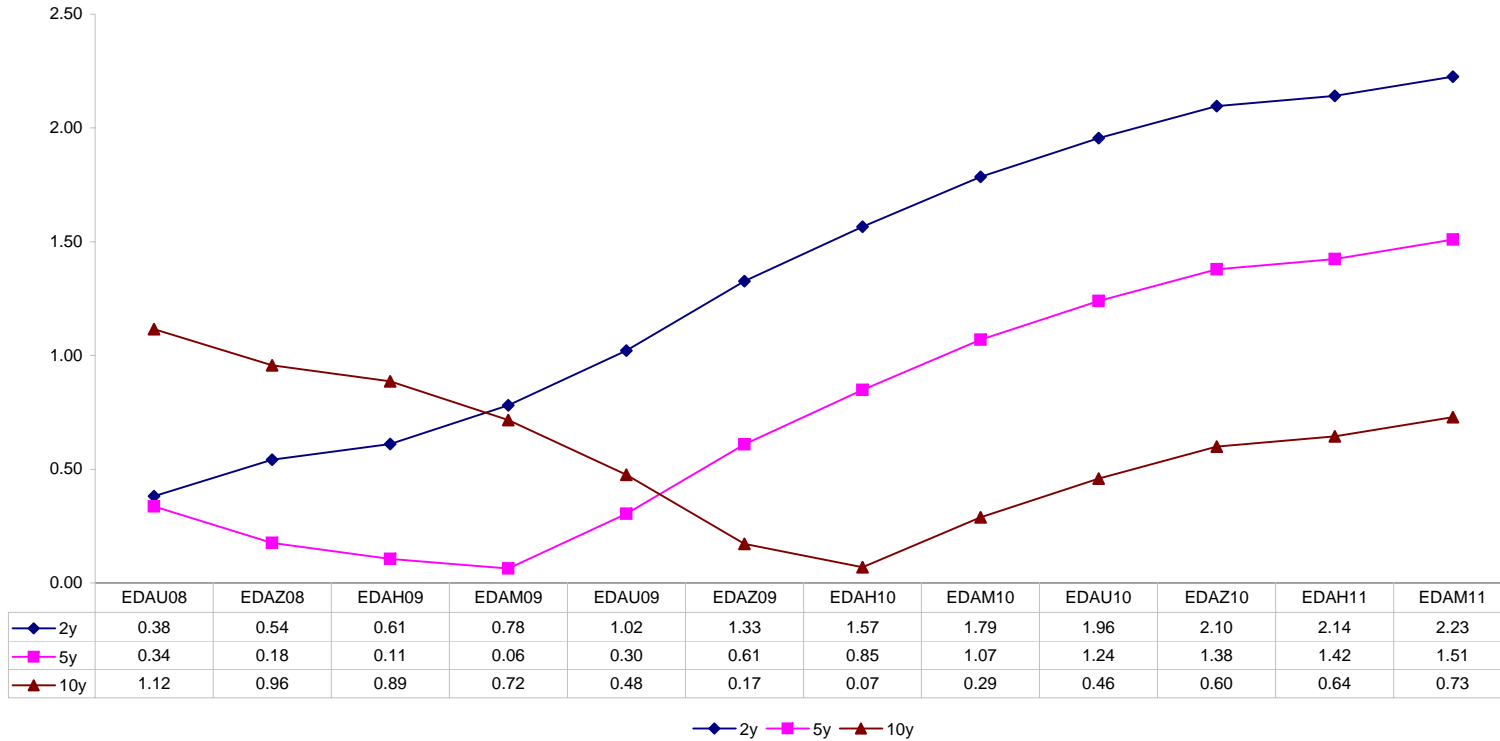
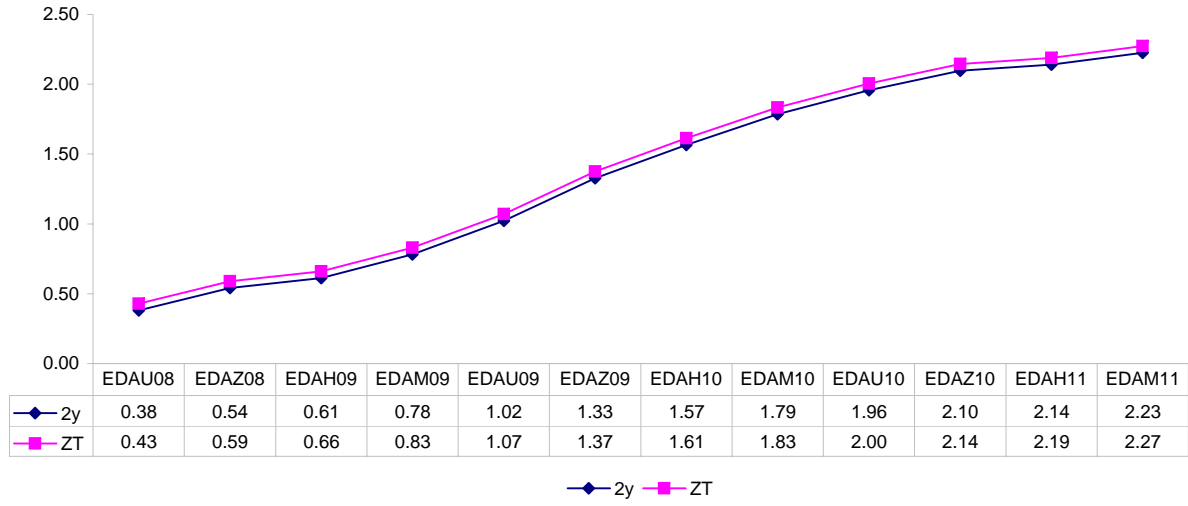


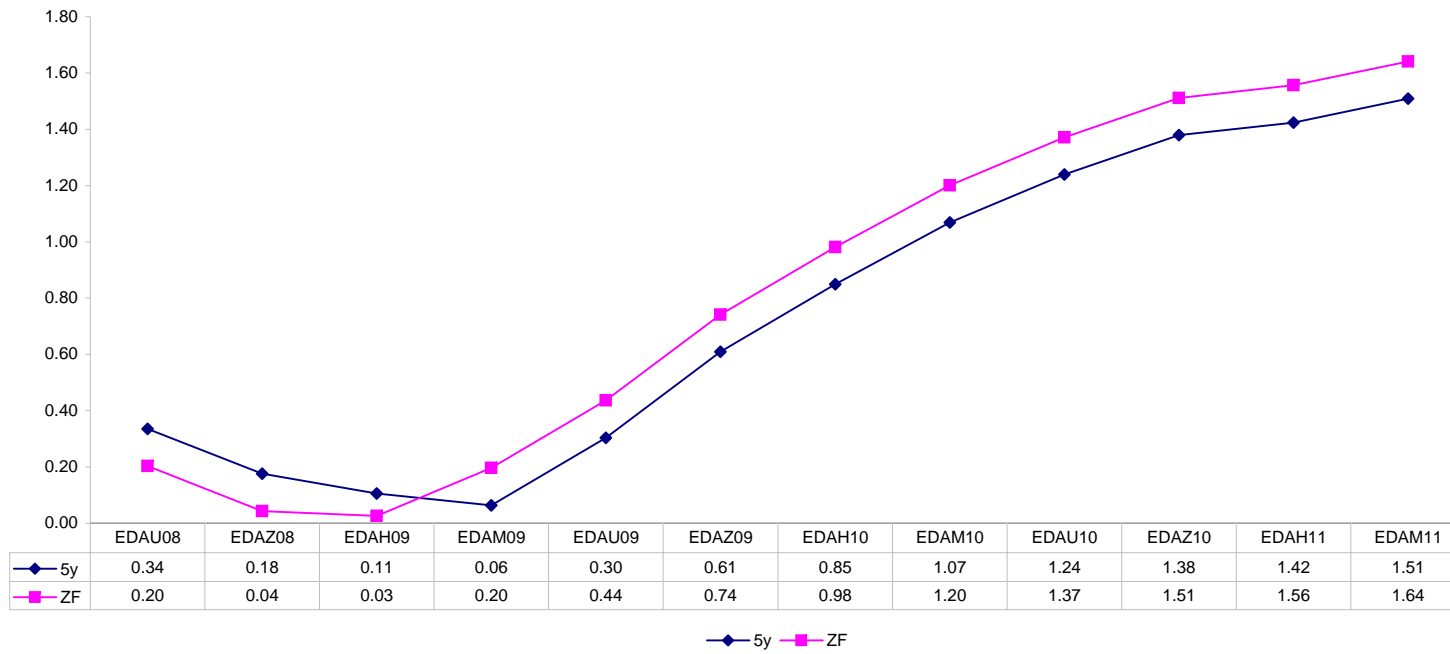
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



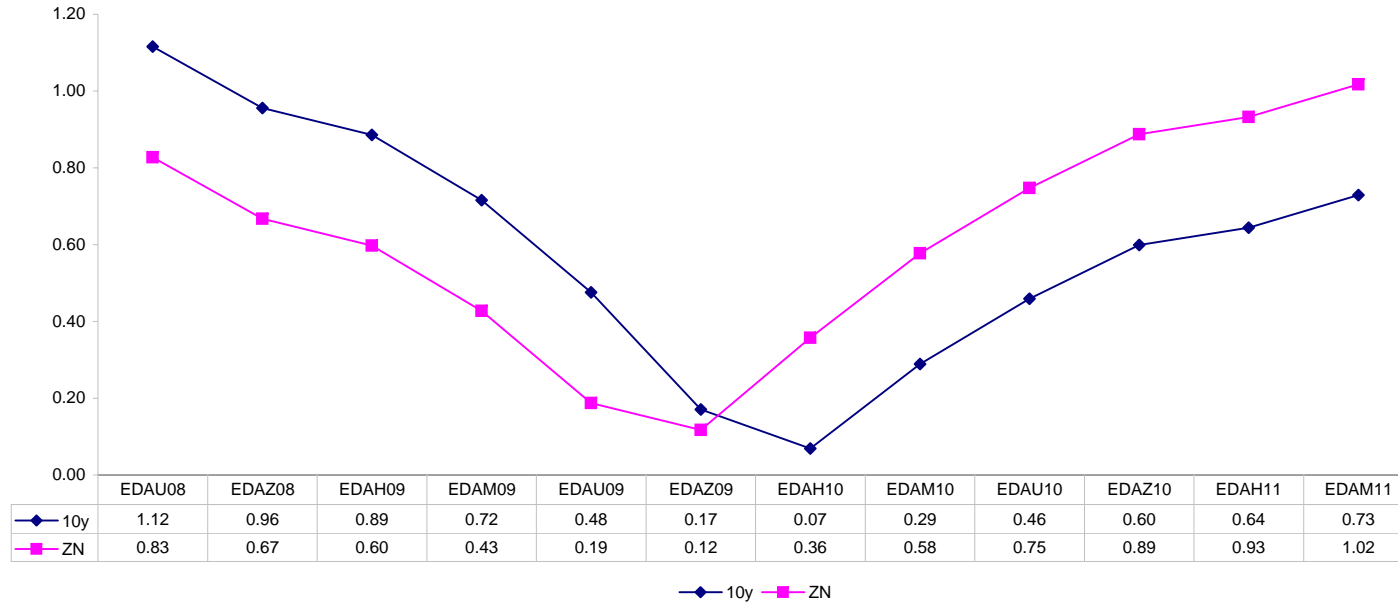
2y Basis TED Curve



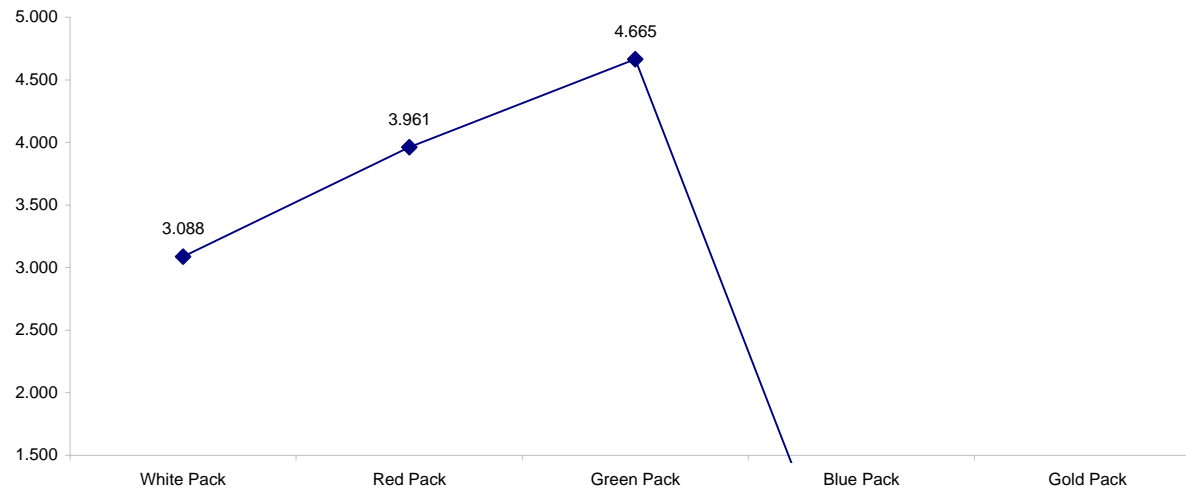
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.088	-1.125	9697.750
Red Pack	3.961	-0.750	9613.125
Green Pack	4.665	-1.250	9545.125
Blue Pack		-0.125	9521.250
Gold Pack		0.000	9499.875



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

