

## **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	107.1781	107.057	1.801	1.96
ZF	114.0688	114.022	2.501	4.17
ZN	118.0313	118.010	3.241	6.32
2y	101.022	101.0070	1.832	1.93
5y	102.359	102.1150	2.618	4.57
10y	104.016	104.0050	3.515	8.15

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.180	2.820	0	-0.001	SEP	
EDAZ08	97.320	2.680	91	0.249	DEC	White
EDAH09	97.525	2.475	182	0.498	MAR	Pack
EDAM09	97.450	2.550	273	0.747	JUN	
EDAU09	97.295	2.705	364	0.997	SEP	
EDAZ09	97.010	2.990	455	1.246	DEC	Red
EDAH10	96.820	3.180	546	1.495	MAR	Pack
EDAM10	96.550	3.450	637	1.745	JUN	
EDAU10	96.330	3.670	728	1.994	SEP	
EDAZ10	96.125	3.875	819	2.243	DEC	Green
EDAH11	96.015	3.985	910	2.492	MAR	Pack
EDAM11	95.935	4.065	1001	2.742	JUN	
EDAU11	95.875	4.125	1099	3.010	SEP	
EDAZ11	95.890	4.110	1190	3.260	DEC	Blue Pack
EDAH12	95.845	4.155	1281	3.509	MAR	
EDAM12	95.675	4.325	1372	3.758	JUN	
EDAU12	95.490	4.510	1463	4.008	SEP	
EDAZ12	95.385	4.615	1554	4.257	DEC	Gold Pack
EDAH13	95.345	4.655	1645	4.506	MAR	
EDAM13	95.295	4.705	1736	4.755	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	2.686	23.750	9736.875	
Red Pack	3.150	31.250	9691.750	Pack
Green Pack	3.992	19.000	9610.125	Prices
Blue Pack	4.282	21.375	9582.125	
Gold Pack		0.000	9539.875	

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.

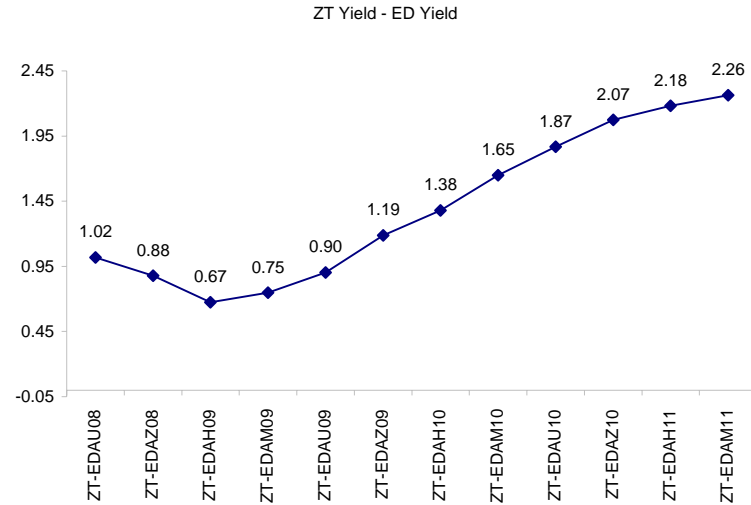
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

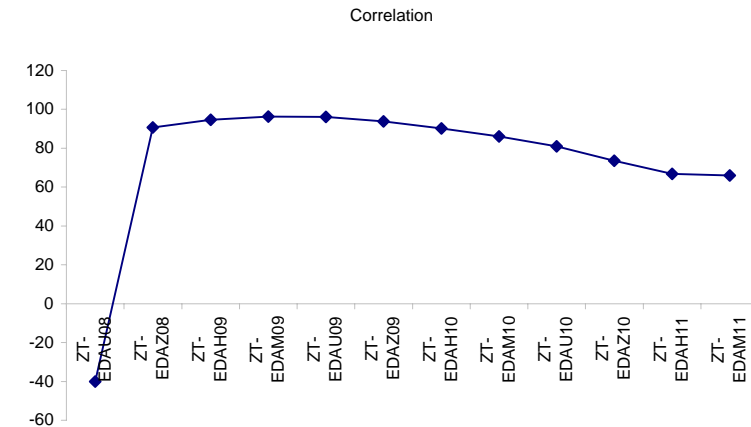
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	9.998	1.02	ZT-EDAU08	-40.142
EDAZ08	9.858	0.88	ZT-EDAZ08	90.702
EDAH09	9.653	0.67	ZT-EDAH09	94.643
EDAM09	9.728	0.75	ZT-EDAM09	96.224
EDAU09	9.883	0.90	ZT-EDAU09	96.078
EDAZ09	10.168	1.19	ZT-EDAZ09	93.791
EDAH10	10.358	1.38	ZT-EDAH10	90.119
EDAM10	10.628	1.65	ZT-EDAM10	86.105
EDAU10	10.848	1.87	ZT-EDAU10	80.961
EDAZ10	11.053	2.07	ZT-EDAZ10	73.621
EDAH11	11.163	2.18	ZT-EDAH11	66.735
EDAM11	11.243	2.26	ZT-EDAM11	66.029

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	-0.001	1.96	1.96	1.96	ZT-EDAU08
EDAZ08	0.249	1.96	1.71	1.71	ZT-EDAZ08
EDAH09	0.498	1.96	1.47	1.47	ZT-EDAH09
EDAM09	0.747	1.96	1.22	1.22	ZT-EDAM09
EDAU09	0.997	1.96	0.97	0.97	ZT-EDAU09
EDAZ09	1.246	1.96	0.72	0.72	ZT-EDAZ09
EDAH10	1.495	1.96	0.47	0.47	ZT-EDAH10
EDAM10	1.745	1.96	0.22	0.22	ZT-EDAM10
EDAU10	1.994	1.96	(0.03)	(0.03)	ZT-EDAU10
EDAZ10	2.243	1.96	(0.28)	(0.28)	ZT-EDAZ10
EDAH11	2.492	1.96	(0.53)	(0.53)	ZT-EDAH11
EDAM11	2.742	1.96	(0.78)	(0.78)	ZT-EDAM11

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

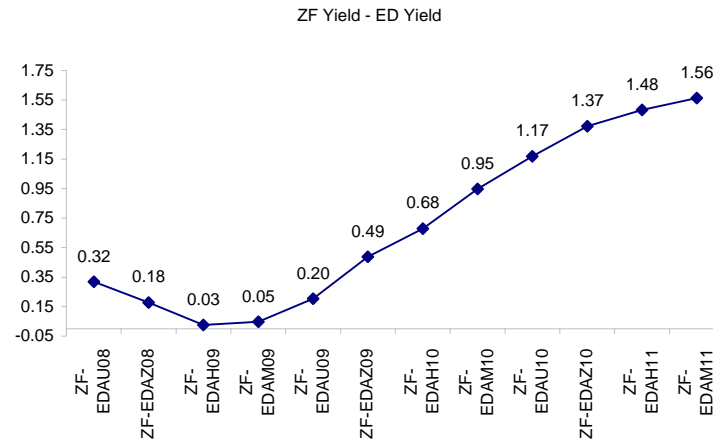


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	16.889	0.32	ZF-EDAU08	-34.237
EDAZ08	16.749	0.18	ZF-EDAZ08	89.756
EDAH09	16.544	0.03	ZF-EDAH09	91.476
EDAM09	16.619	0.05	ZF-EDAM09	93.405
EDAU09	16.774	0.20	ZF-EDAU09	93.035
EDAZ09	17.059	0.49	ZF-EDAZ09	90.945
EDAH10	17.249	0.68	ZF-EDAH10	87.492
EDAM10	17.519	0.95	ZF-EDAM10	84.699
EDAU10	17.739	1.17	ZF-EDAU10	80.667
EDAZ10	17.944	1.37	ZF-EDAZ10	74.878
EDAH11	18.054	1.48	ZF-EDAH11	69.029
EDAM11	18.134	1.56	ZF-EDAM11	68.188

Price = Outright Decimal Price - Euro Contract Price

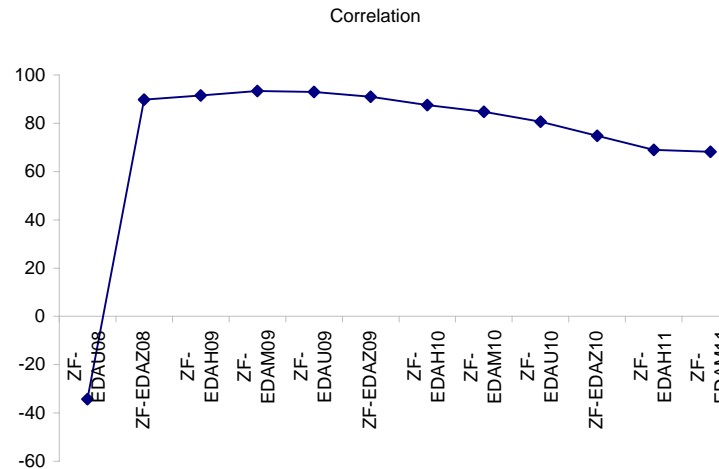
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year			
	ZF Duration	Spread Duration	
EDAU08	-0.001	4.17	ZF-EDAU08
EDAZ08	0.249	4.17	ZF-EDAZ08
EDAH09	0.498	4.17	ZF-EDAH09
EDAM09	0.747	4.17	ZF-EDAM09
EDAU09	0.997	4.17	ZF-EDAU09
EDAZ09	1.246	4.17	ZF-EDAZ09
EDAH10	1.495	4.17	ZF-EDAH10
EDAM10	1.745	4.17	ZF-EDAM10
EDAU10	1.994	4.17	ZF-EDAU10
EDAZ10	2.243	4.17	ZF-EDAZ10
EDAH11	2.492	4.17	ZF-EDAH11
EDAM11	2.742	4.17	ZF-EDAM11

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

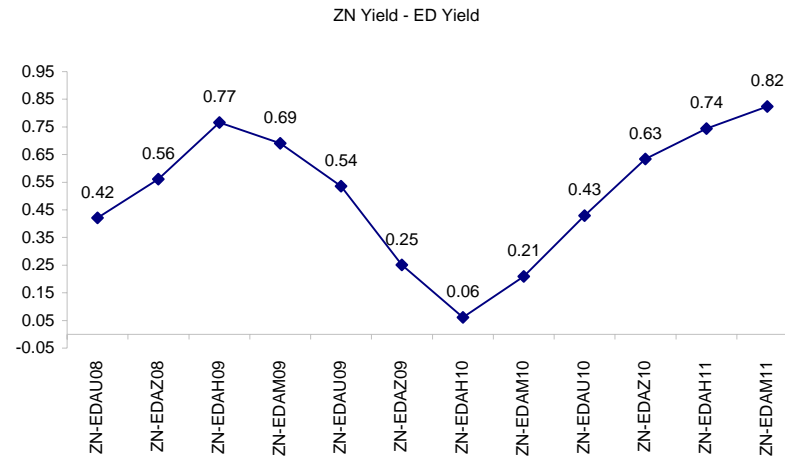


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	20.851	0.42	ZN-EDAU08	-21.171
EDAZ08	20.711	0.56	ZN-EDAZ08	85.575
EDAH09	20.506	0.77	ZN-EDAH09	83.695
EDAM09	20.581	0.69	ZN-EDAM09	85.298
EDAU09	20.736	0.54	ZN-EDAU09	83.770
EDAZ09	21.021	0.25	ZN-EDAZ09	81.560
EDAH10	21.211	0.06	ZN-EDAH10	87.492
EDAM10	21.481	0.21	ZN-EDAM10	84.699
EDAU10	21.701	0.43	ZN-EDAU10	80.667
EDAZ10	21.906	0.63	ZN-EDAZ10	74.878
EDAH11	22.016	0.74	ZN-EDAH11	69.029
EDAM11	22.096	0.82	ZN-EDAM11	68.188

Price = Outright Decimal Price - Euro Contract Price

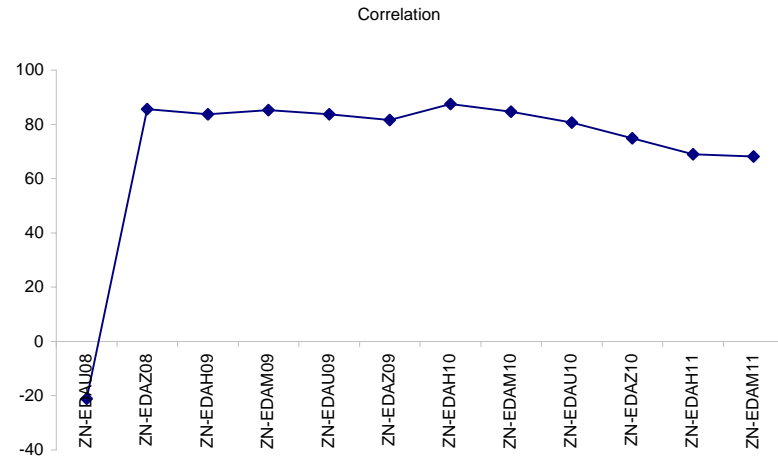
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	-0.001	6.32	6.32	ZN-EDAU08		
EDAZ08	0.249	6.32	6.07	ZN-EDAZ08		
EDAH09	0.498	6.32	5.82	ZN-EDAH09		
EDAM09	0.747	6.32	5.57	ZN-EDAM09		
EDAU09	0.997	6.32	5.32	ZN-EDAU09		
EDAZ09	1.246	6.32	5.07	ZN-EDAZ09		
EDAH10	1.495	6.32	4.82	ZN-EDAH10		
EDAM10	1.745	6.32	4.57	ZN-EDAM10		
EDAU10	1.994	6.32	4.32	ZN-EDAU10		
EDAZ10	2.243	6.32	4.08	ZN-EDAZ10		
EDAH11	2.492	6.32	3.83	ZN-EDAH11		
EDAM11	2.742	6.32	3.58	ZN-EDAM11		

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

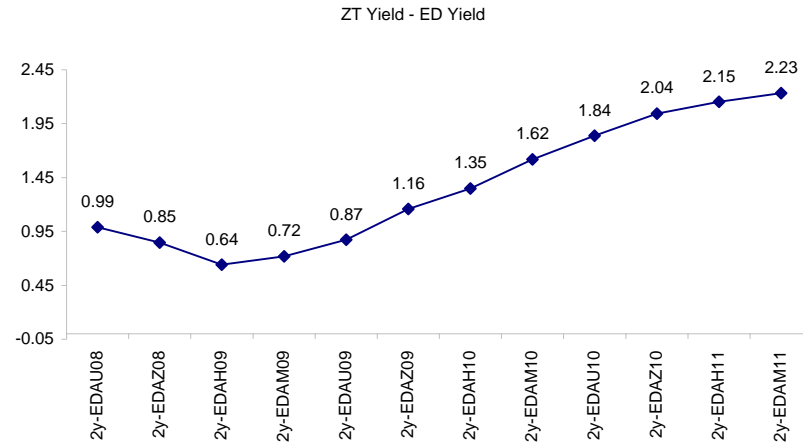


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.842	0.99	2y-EDAU08	30.980
EDAZ08	3.702	0.85	2y-EDAZ08	-89.716
EDAH09	3.497	0.64	2y-EDAH09	-92.547
EDAM09	3.572	0.72	2y-EDAM09	-93.002
EDAU09	3.727	0.87	2y-EDAU09	-92.114
EDAZ09	4.012	1.16	2y-EDAZ09	-89.186
EDAH10	4.202	1.35	2y-EDAH10	-85.315
EDAM10	4.472	1.62	2y-EDAM10	-81.173
EDAU10	4.692	1.84	2y-EDAU10	-76.355
EDAZ10	4.897	2.04	2y-EDAZ10	-69.354
EDAH11	5.007	2.15	2y-EDAH11	-63.063
EDAM11	5.087	2.23	2y-EDAM11	-62.790

Price = Outright Decimal Price - Euro Contract Price

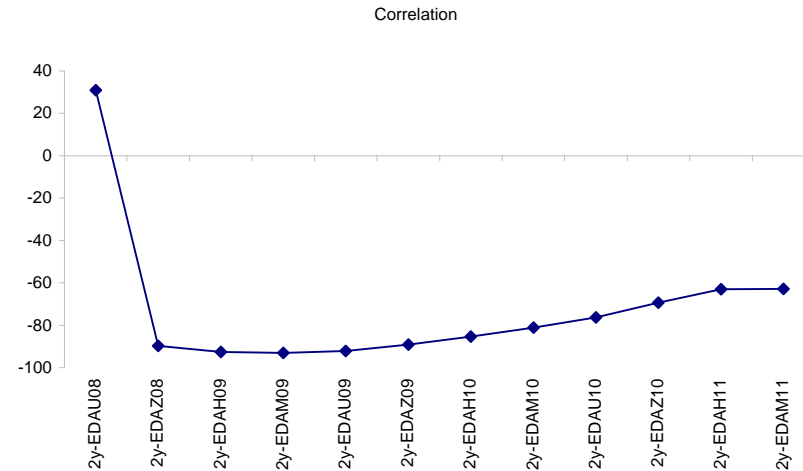
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	-0.001	1.93	1.93	1.93	2y-EDAU08
EDAZ08	0.249	1.93	1.68	1.68	2y-EDAZ08
EDAH09	0.498	1.93	1.43	1.43	2y-EDAH09
EDAM09	0.747	1.93	1.18	1.18	2y-EDAM09
EDAU09	0.997	1.93	0.93	0.93	2y-EDAU09
EDAZ09	1.246	1.93	0.68	0.68	2y-EDAZ09
EDAH10	1.495	1.93	0.43	0.43	2y-EDAH10
EDAM10	1.745	1.93	0.18	(0.07)	2y-EDAM10
EDAU10	1.994	1.93	(0.32)	(0.32)	2y-EDAU10
EDAZ10	2.243	1.93	(0.57)	(0.57)	2y-EDAZ10
EDAH11	2.492	1.93	(0.82)	(0.82)	2y-EDAH11
EDAM11	2.742	1.93	(0.82)	(0.82)	2y-EDAM11

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

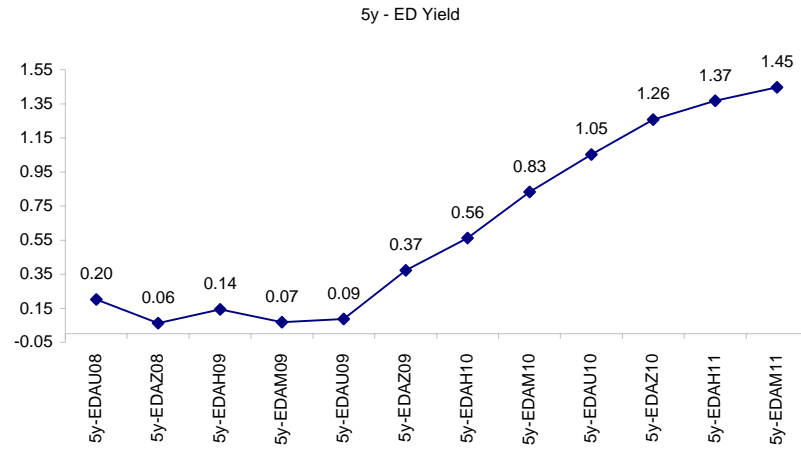


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	5.179	0.20	5y-EDAU08	23.544
EDAZ08	5.039	0.06	5y-EDAZ08	-89.920
EDAH09	4.834	0.14	5y-EDAH09	-91.606
EDAM09	4.909	0.07	5y-EDAM09	-92.479
EDAU09	5.064	0.09	5y-EDAU09	-91.669
EDAZ09	5.349	0.37	5y-EDAZ09	-89.458
EDAH10	5.539	0.56	5y-EDAH10	-86.351
EDAM10	5.809	0.83	5y-EDAM10	-83.820
EDAU10	6.029	1.05	5y-EDAU10	-80.430
EDAZ10	6.234	1.26	5y-EDAZ10	-75.194
EDAH11	6.344	1.37	5y-EDAH11	-70.080
EDAM11	6.424	1.45	5y-EDAM11	-69.583

Price = Outright Decimal Price - Euro Contract Price

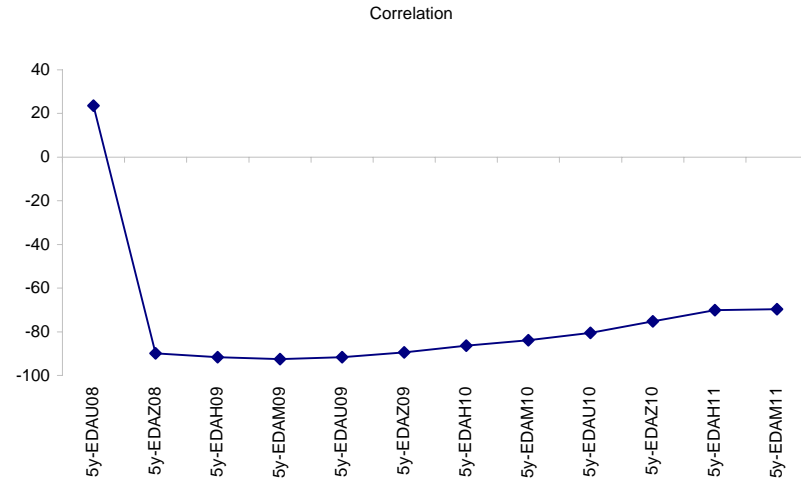
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	-0.001	4.57	4.57	5y-EDAU08
EDAZ08	0.249	4.57	4.32	5y-EDAZ08
EDAH09	0.498	4.57	4.07	5y-EDAH09
EDAM09	0.747	4.57	3.82	5y-EDAM09
EDAU09	0.997	4.57	3.57	5y-EDAU09
EDAZ09	1.246	4.57	3.32	5y-EDAZ09
EDAH10	1.495	4.57	3.07	5y-EDAH10
EDAM10	1.745	4.57	2.82	5y-EDAM10
EDAU10	1.994	4.57	2.57	5y-EDAU10
EDAZ10	2.243	4.57	2.33	5y-EDAZ10
EDAH11	2.492	4.57	2.08	5y-EDAH11
EDAM11	2.742	4.57	1.83	5y-EDAM11

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

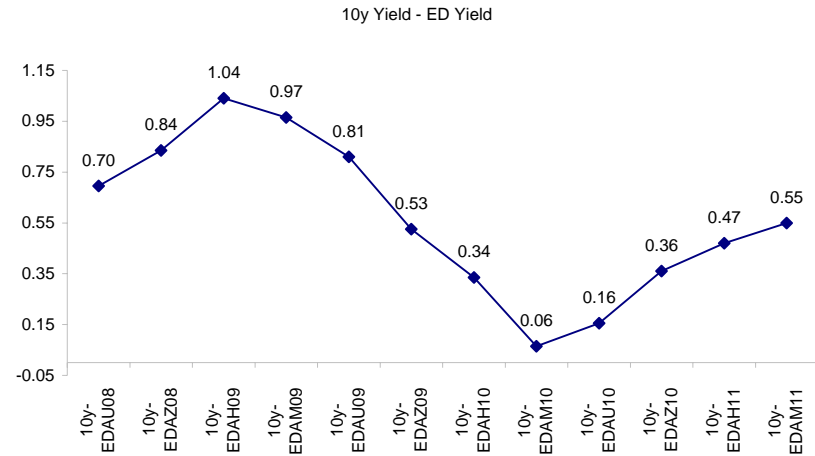


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	5.179	0.70	10y-EDAU08	-6.307
EDAZ08	5.039	0.84	10y-EDAZ08	-83.810
EDAH09	4.834	1.04	10y-EDAH09	-83.964
EDAM09	4.909	0.97	10y-EDAM09	-84.532
EDAU09	5.064	0.81	10y-EDAU09	-82.874
EDAZ09	5.349	0.53	10y-EDAZ09	-82.894
EDAH10	5.539	0.34	10y-EDAH10	-82.874
EDAM10	5.809	0.06	10y-EDAM10	-84.418
EDAU10	6.029	0.16	10y-EDAU10	-85.481
EDAZ10	6.234	0.36	10y-EDAZ10	-85.520
EDAH11	6.344	0.47	10y-EDAH11	-84.520
EDAM11	6.424	0.55	10y-EDAM11	-84.453

Price = Outright Decimal Price - Euro Contract Price

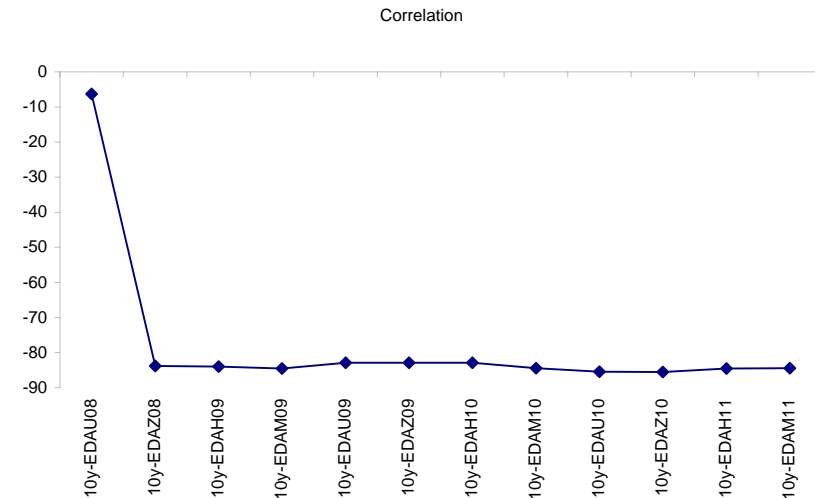
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	-0.001	8.15	8.15	10y-EDAU08
EDAZ08	0.249	8.15	7.90	10y-EDAZ08
EDAH09	0.498	8.15	7.65	10y-EDAH09
EDAM09	0.747	8.15	7.40	10y-EDAM09
EDAU09	0.997	8.15	7.15	10y-EDAU09
EDAZ09	1.246	8.15	6.90	10y-EDAZ09
EDAH10	1.495	8.15	6.65	10y-EDAH10
EDAM10	1.745	8.15	6.40	10y-EDAM10
EDAU10	1.994	8.15	6.15	10y-EDAU10
EDAZ10	2.243	8.15	5.91	10y-EDAZ10
EDAH11	2.492	8.15	5.66	10y-EDAH11
EDAM11	2.742	8.15	5.41	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.

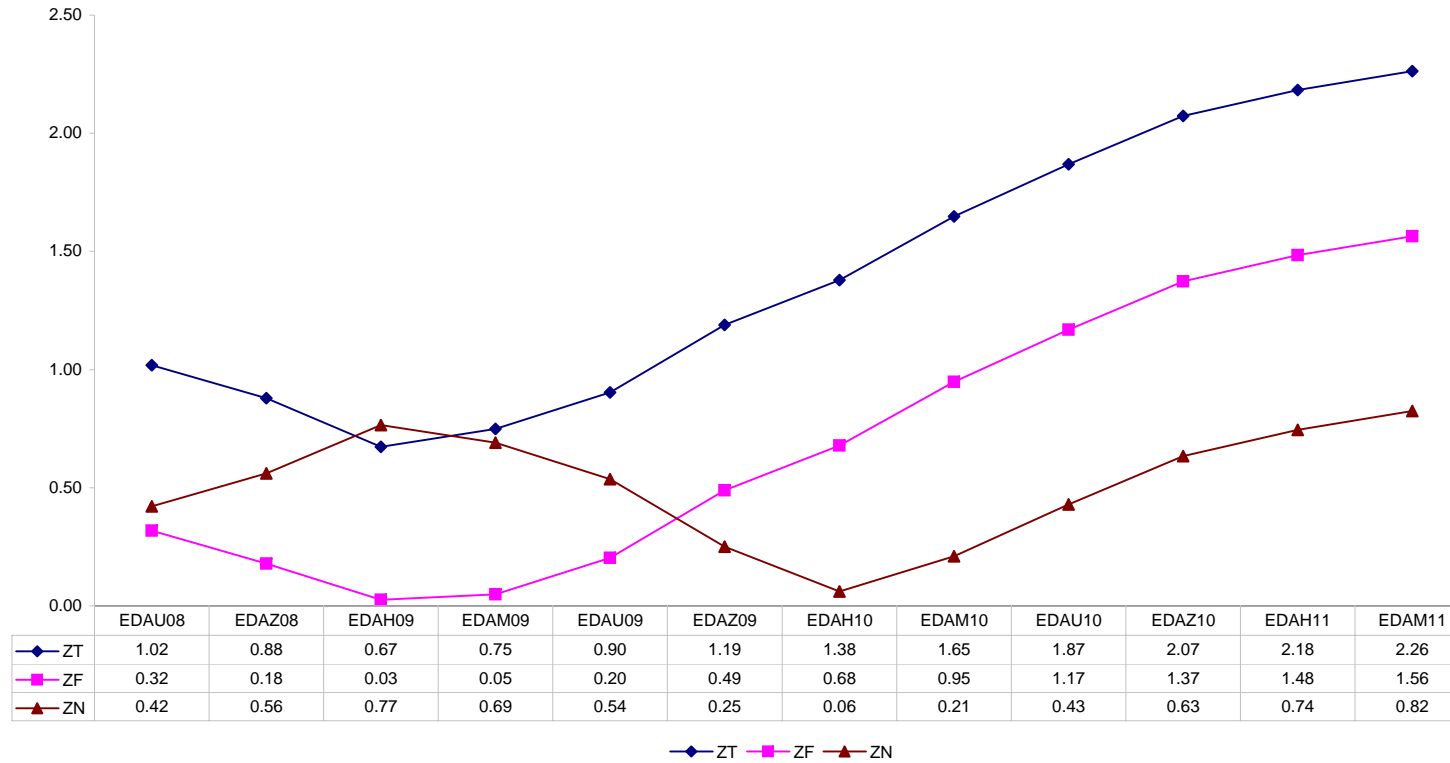
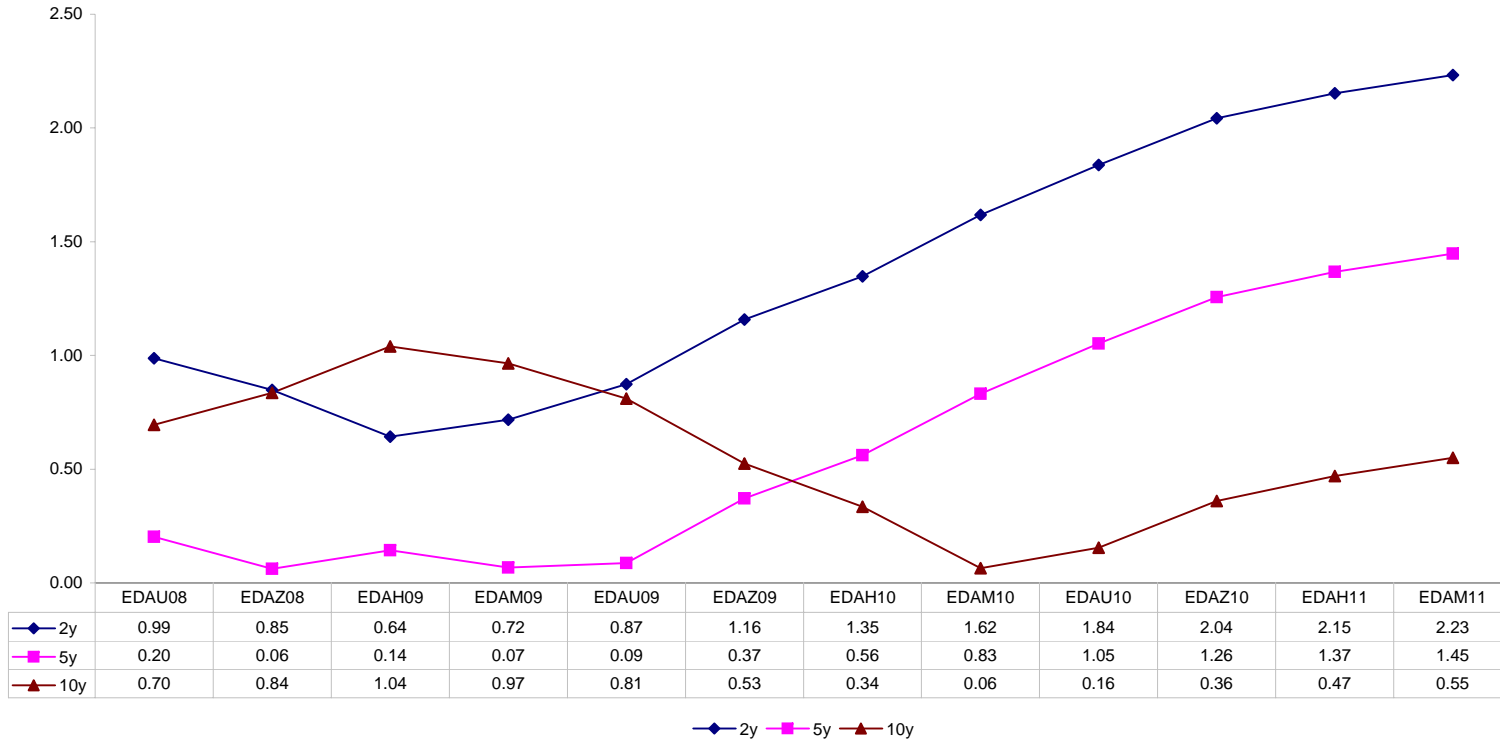
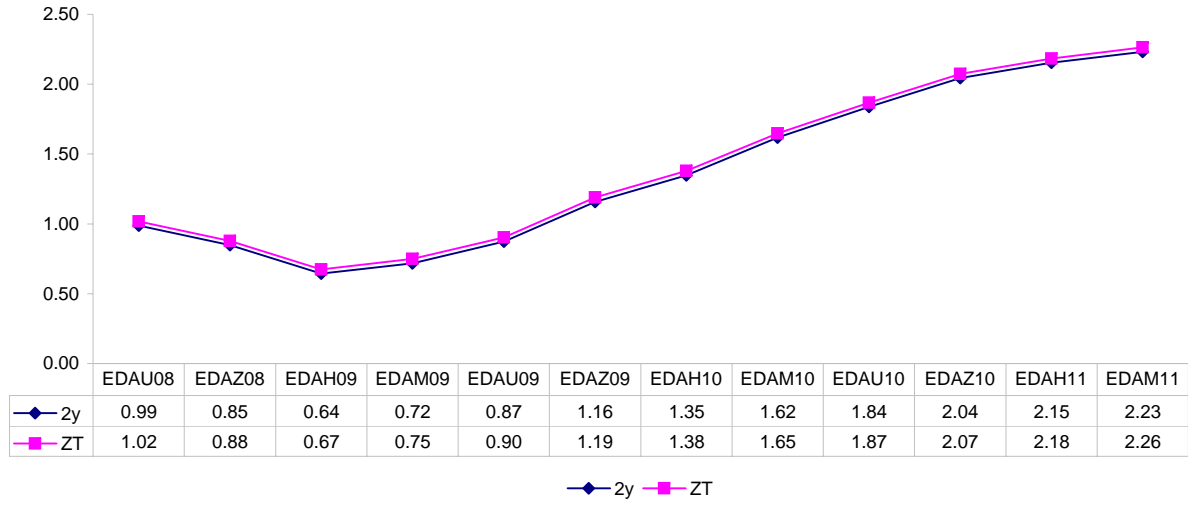


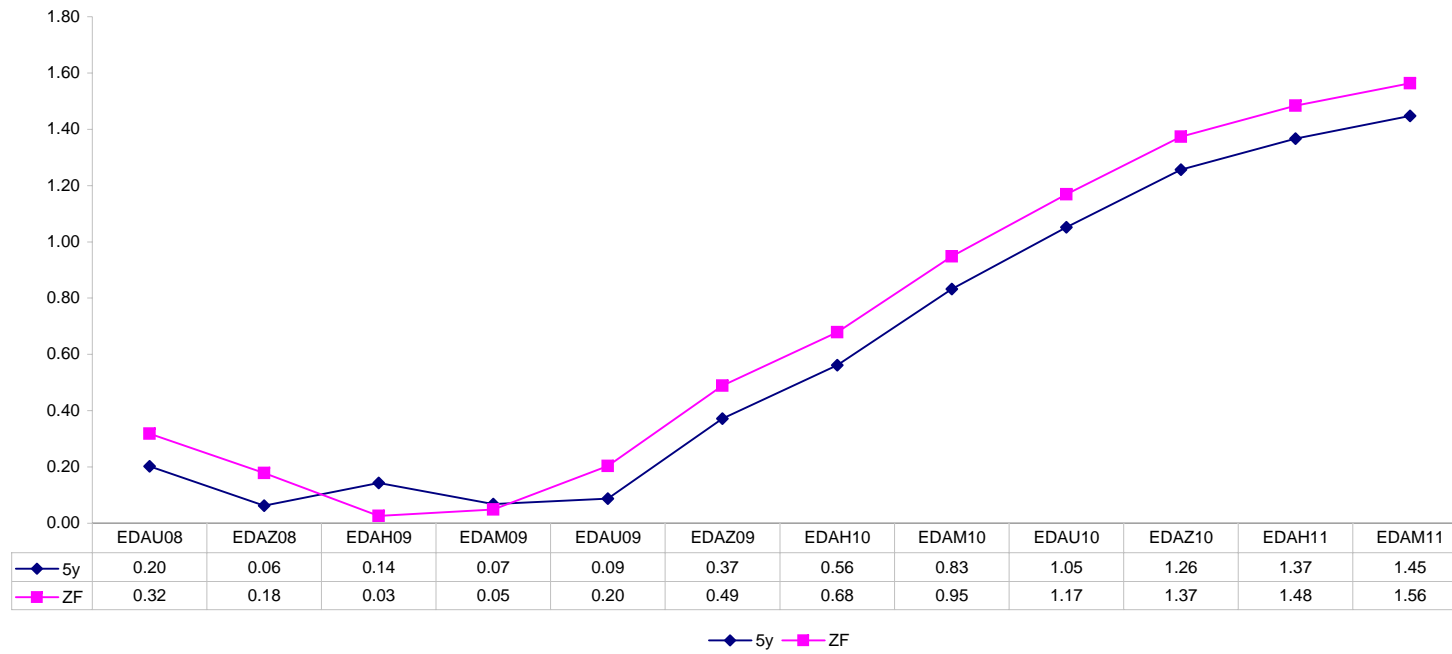
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



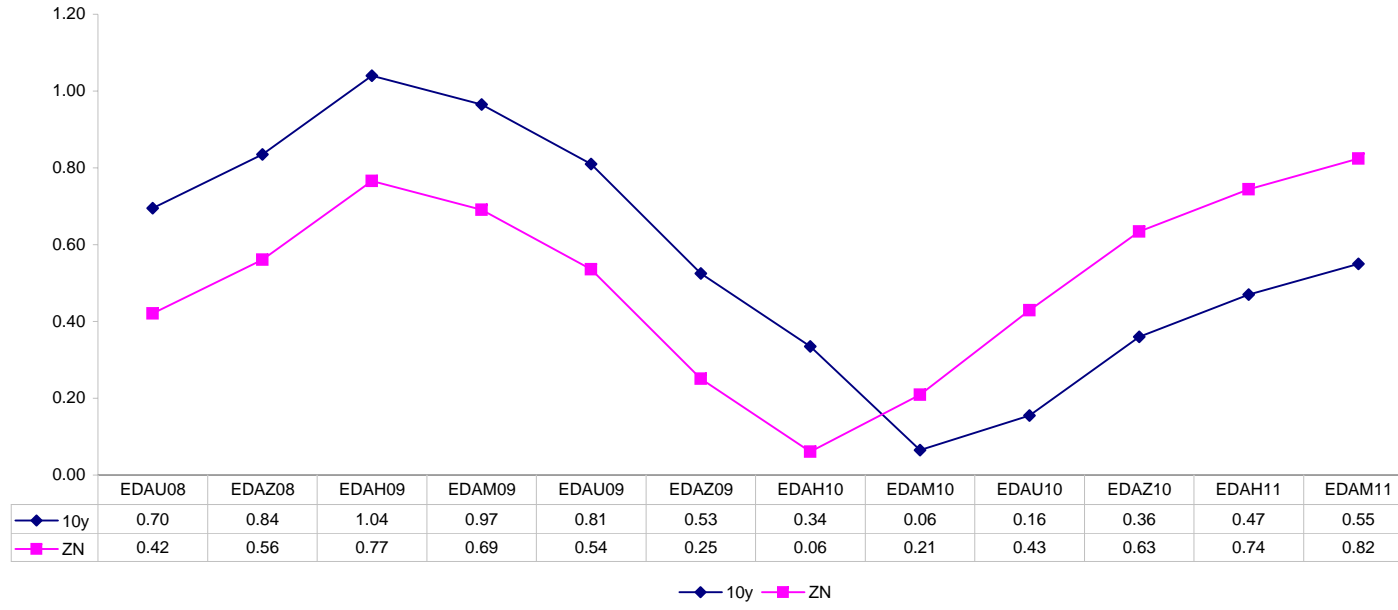
2y Basis TED Curve



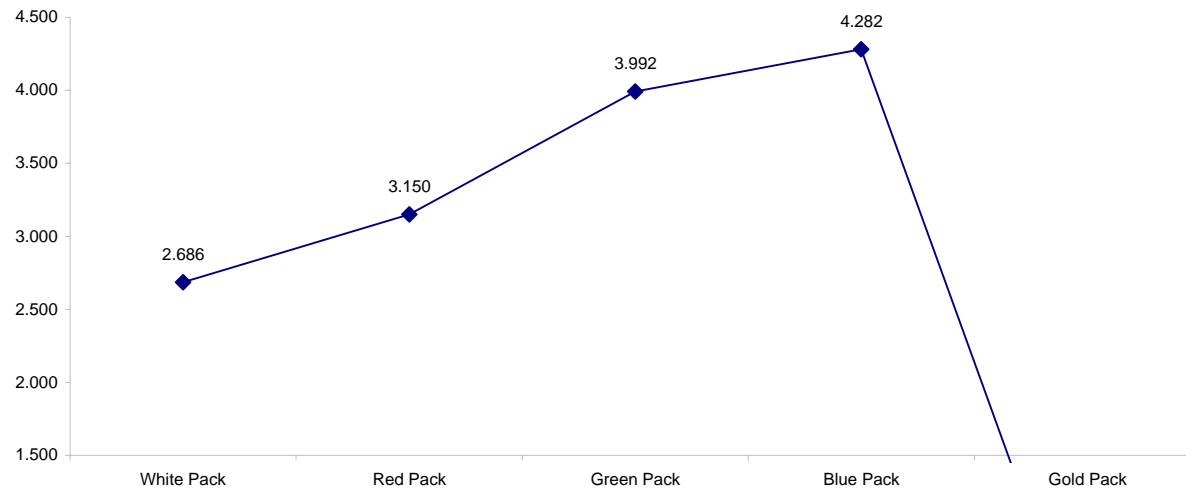
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.686	23.750	9736.875
Red Pack	3.150	31.250	9691.750
Green Pack	3.992	19.000	9610.125
Blue Pack	4.282	21.375	9582.125
Gold Pack		0.000	9539.875



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

