

## **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	106.1156	106.037	2.286	1.97
ZF	112.1313	112.042	2.921	4.17
ZN	116.0000	116.000	3.396	6.32
2y	100.038	100.0120	2.351	1.90
5y	100.469	100.1500	3.023	4.57
10y	102.406	102.1300	3.708	8.14

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.188	2.813	6	0.016	SEP	
EDAZ08	97.070	2.930	97	0.265	DEC	White
EDAH09	97.145	2.855	188	0.514	MAR	Pack
EDAM09	97.030	2.970	279	0.764	JUN	
EDAU09	96.835	3.165	370	1.013	SEP	
EDAZ09	96.555	3.445	461	1.262	DEC	Red
EDAH10	96.390	3.610	552	1.512	MAR	Pack
EDAM10	96.200	3.800	643	1.761	JUN	
EDAU10	96.045	3.955	734	2.010	SEP	
EDAZ10	95.890	4.110	825	2.260	DEC	Green
EDAH11	95.830	4.170	916	2.509	MAR	Pack
EDAM11	95.750	4.250	1007	2.758	JUN	
EDAU11	95.700	4.300	1105	3.027	SEP	
EDAZ11	95.645	4.355	1196	3.276	DEC	Blue Pack
EDAH12	95.630	4.370	1287	3.525	MAR	
EDAM12	95.580	4.420	1378	3.775	JUN	
EDAU12	95.520	4.480	1469	4.024	SEP	
EDAZ12	95.465	4.535	1560	4.273	DEC	Gold Pack
EDAH13	95.505	4.495	1651	4.523	MAR	
EDAM13	95.395	4.605	1742	4.772	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	2.953	-3.875	9710.813	
Red Pack	3.585	-6.125	9649.500	Pack
Green Pack	4.222	-6.375	9587.875	Prices
Blue Pack	4.471	-4.375	9563.875	
Gold Pack		-3.375	9546.500	

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.

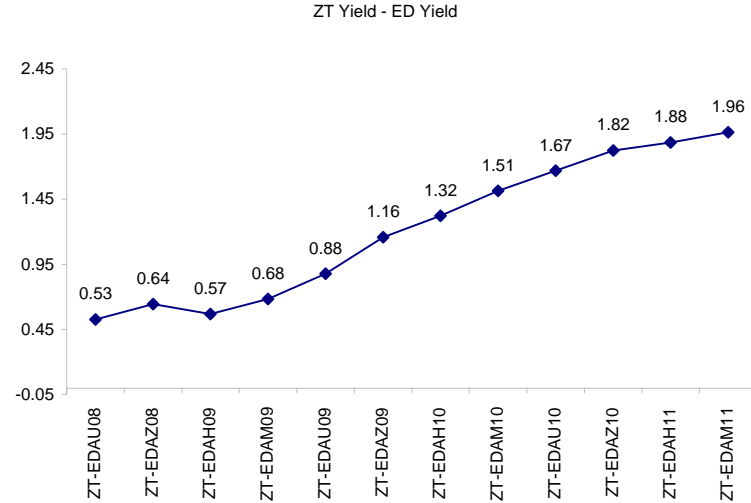
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

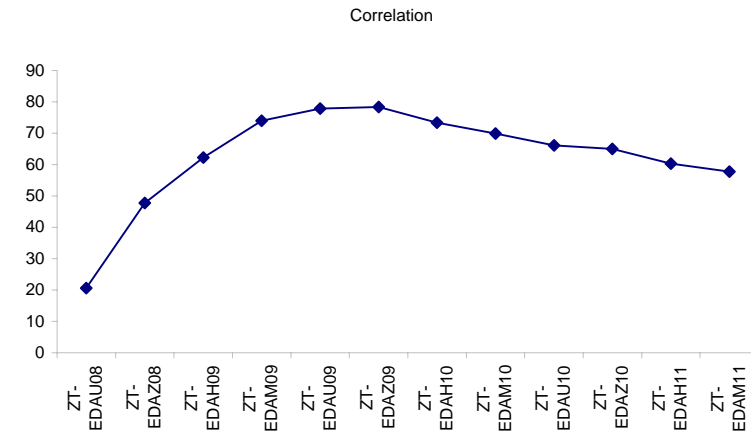
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.928	0.53	ZT-EDAU08	20.578
EDAZ08	9.046	0.64	ZT-EDAZ08	47.726
EDAH09	8.971	0.57	ZT-EDAH09	62.289
EDAM09	9.086	0.68	ZT-EDAM09	74.013
EDAU09	9.281	0.88	ZT-EDAU09	77.888
EDAZ09	9.561	1.16	ZT-EDAZ09	78.370
EDAH10	9.726	1.32	ZT-EDAH10	73.329
EDAM10	9.916	1.51	ZT-EDAM10	69.920
EDAU10	10.071	1.67	ZT-EDAU10	66.106
EDAZ10	10.226	1.82	ZT-EDAZ10	65.024
EDAH11	10.286	1.88	ZT-EDAH11	60.263
EDAM11	10.366	1.96	ZT-EDAM11	57.774

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	0.016	1.97	1.96	ZT-EDAU08	
EDAZ08	0.265	1.97	1.71	ZT-EDAZ08	
EDAH09	0.514	1.97	1.46	ZT-EDAH09	
EDAM09	0.764	1.97	1.21	ZT-EDAM09	
EDAU09	1.013	1.97	0.96	ZT-EDAU09	
EDAZ09	1.262	1.97	0.71	ZT-EDAZ09	
EDAH10	1.512	1.97	0.46	ZT-EDAH10	
EDAM10	1.761	1.97	0.21	ZT-EDAM10	
EDAU10	2.010	1.97	(0.04)	ZT-EDAU10	
EDAZ10	2.260	1.97	(0.29)	ZT-EDAZ10	
EDAH11	2.509	1.97	(0.54)	ZT-EDAH11	
EDAM11	2.758	1.97	(0.78)	ZT-EDAM11	

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

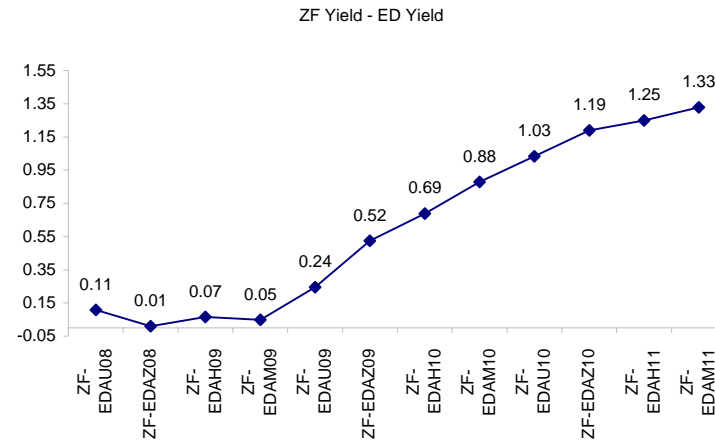


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	14.944	0.11	ZF-EDAU08	37.890
EDAZ08	15.061	0.01	ZF-EDAZ08	62.095
EDAH09	14.986	0.07	ZF-EDAH09	75.797
EDAM09	15.101	0.05	ZF-EDAM09	85.416
EDAU09	15.296	0.24	ZF-EDAU09	89.062
EDAZ09	15.576	0.52	ZF-EDAZ09	89.753
EDAH10	15.741	0.69	ZF-EDAH10	87.202
EDAM10	15.931	0.88	ZF-EDAM10	85.030
EDAU10	16.086	1.03	ZF-EDAU10	82.545
EDAZ10	16.241	1.19	ZF-EDAZ10	81.878
EDAH11	16.301	1.25	ZF-EDAH11	78.243
EDAM11	16.381	1.33	ZF-EDAM11	76.231

Price = Outright Decimal Price - Euro Contract Price

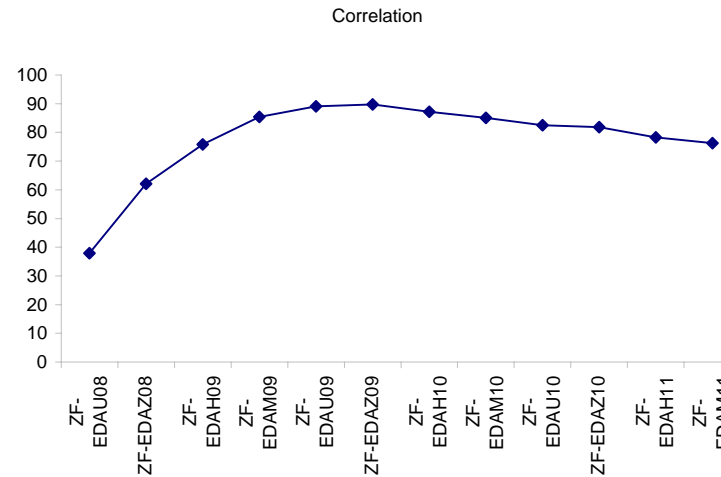
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.016	4.17	4.16	ZF-EDAU08		
EDAZ08	0.265	4.17	3.91	ZF-EDAZ08		
EDAH09	0.514	4.17	3.66	ZF-EDAH09		
EDAM09	0.764	4.17	3.41	ZF-EDAM09		
EDAU09	1.013	4.17	3.16	ZF-EDAU09		
EDAZ09	1.262	4.17	2.91	ZF-EDAZ09		
EDAH10	1.512	4.17	2.66	ZF-EDAH10		
EDAM10	1.761	4.17	2.41	ZF-EDAM10		
EDAU10	2.010	4.17	2.16	ZF-EDAU10		
EDAZ10	2.260	4.17	1.91	ZF-EDAZ10		
EDAH11	2.509	4.17	1.66	ZF-EDAH11		
EDAM11	2.758	4.17	1.42	ZF-EDAM11		

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

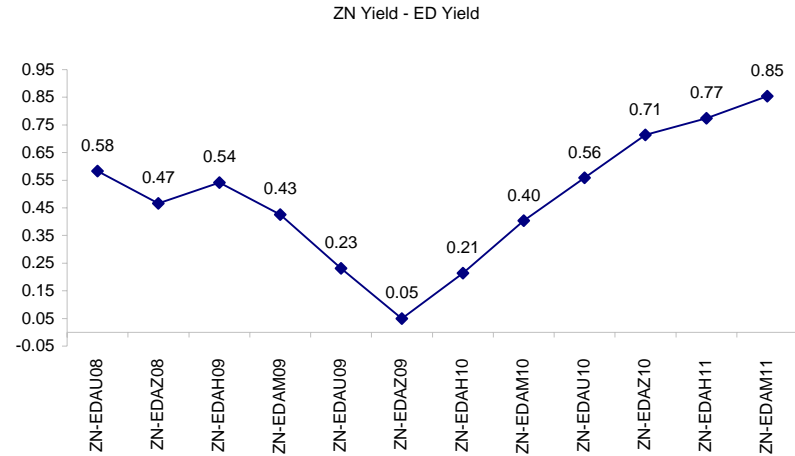


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	18.813	0.58	ZN-EDAU08	44.232
EDAZ08	18.930	0.47	ZN-EDAZ08	66.569
EDAH09	18.855	0.54	ZN-EDAH09	81.120
EDAM09	18.970	0.43	ZN-EDAM09	89.900
EDAU09	19.165	0.23	ZN-EDAU09	92.989
EDAZ09	19.445	0.05	ZN-EDAZ09	93.107
EDAH10	19.610	0.21	ZN-EDAH10	87.202
EDAM10	19.800	0.40	ZN-EDAM10	85.030
EDAU10	19.955	0.56	ZN-EDAU10	82.545
EDAZ10	20.110	0.71	ZN-EDAZ10	81.878
EDAH11	20.170	0.77	ZN-EDAH11	78.243
EDAM11	20.250	0.85	ZN-EDAM11	76.231

Price = Outright Decimal Price - Euro Contract Price

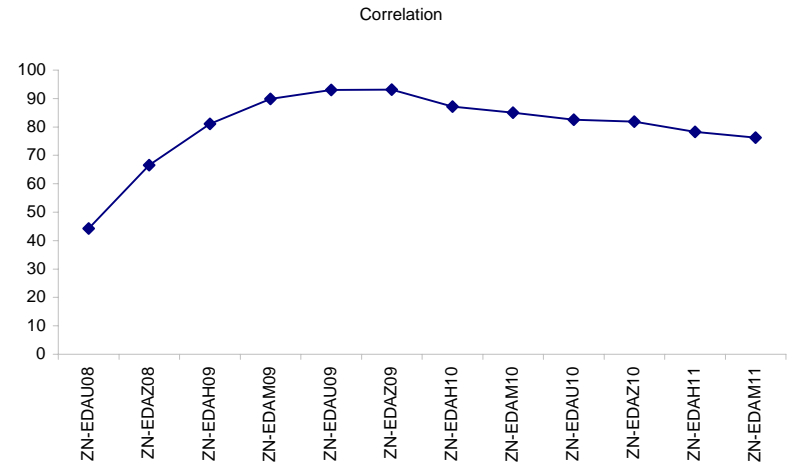
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.016	6.32	6.31	ZN-EDAU08		
EDAZ08	0.265	6.32	6.06	ZN-EDAZ08		
EDAH09	0.514	6.32	5.81	ZN-EDAH09		
EDAM09	0.764	6.32	5.56	ZN-EDAM09		
EDAU09	1.013	6.32	5.31	ZN-EDAU09		
EDAZ09	1.262	6.32	5.06	ZN-EDAZ09		
EDAH10	1.512	6.32	4.81	ZN-EDAH10		
EDAM10	1.761	6.32	4.56	ZN-EDAM10		
EDAU10	2.010	6.32	4.31	ZN-EDAU10		
EDAZ10	2.260	6.32	4.06	ZN-EDAZ10		
EDAH11	2.509	6.32	3.81	ZN-EDAH11		
EDAM11	2.758	6.32	3.56	ZN-EDAM11		

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

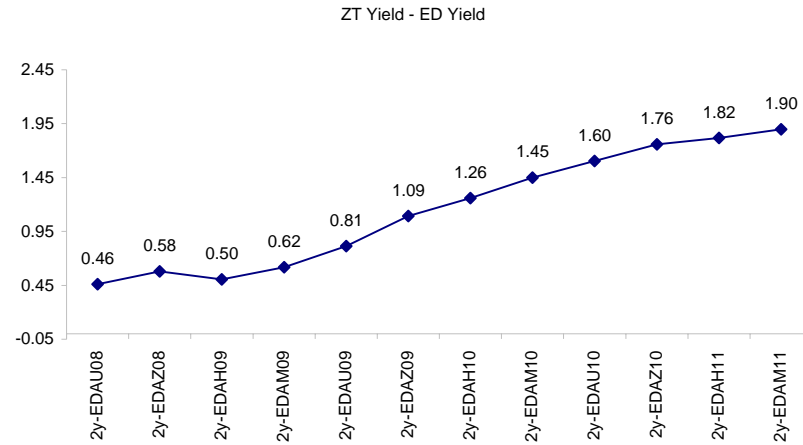


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.850	0.46	2y-EDAU08	-8.485
EDAZ08	2.967	0.58	2y-EDAZ08	-33.655
EDAH09	2.893	0.50	2y-EDAH09	-49.590
EDAM09	3.007	0.62	2y-EDAM09	-59.241
EDAU09	3.202	0.81	2y-EDAU09	-62.079
EDAZ09	3.482	1.09	2y-EDAZ09	-60.447
EDAH10	3.647	1.26	2y-EDAH10	-53.088
EDAM10	3.837	1.45	2y-EDAM10	-48.750
EDAU10	3.992	1.60	2y-EDAU10	-44.565
EDAZ10	4.147	1.76	2y-EDAZ10	-42.564
EDAH11	4.208	1.82	2y-EDAH11	-38.303
EDAM11	4.287	1.90	2y-EDAM11	-35.746

Price = Outright Decimal Price - Euro Contract Price

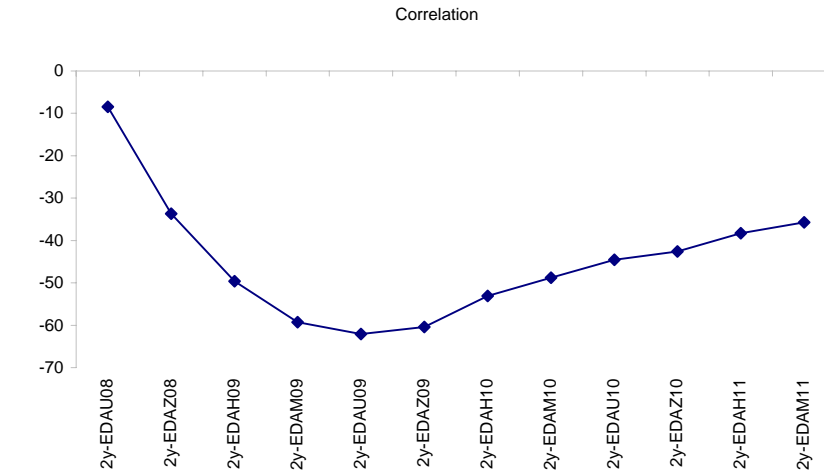
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.016	1.90	1.89	2y-EDAU08	
EDAZ08	0.265	1.90	1.64	2y-EDAZ08	
EDAH09	0.514	1.90	1.39	2y-EDAH09	
EDAM09	0.764	1.90	1.14	2y-EDAM09	
EDAU09	1.013	1.90	0.89	2y-EDAU09	
EDAZ09	1.262	1.90	0.64	2y-EDAZ09	
EDAH10	1.512	1.90	0.39	2y-EDAH10	
EDAM10	1.761	1.90	0.14	2y-EDAM10	
EDAU10	2.010	1.90	(0.11)	2y-EDAU10	
EDAZ10	2.260	1.90	(0.36)	2y-EDAZ10	
EDAH11	2.509	1.90	(0.61)	2y-EDAH11	
EDAM11	2.758	1.90	(0.86)	2y-EDAM11	

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

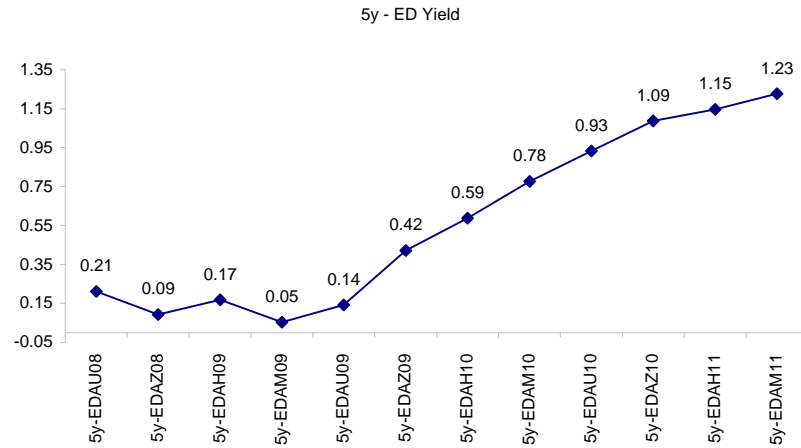


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.281	0.21	5y-EDAU08	-30.777
EDAZ08	3.399	0.09	5y-EDAZ08	-53.411
EDAH09	3.324	0.17	5y-EDAH09	-70.798
EDAM09	3.439	0.05	5y-EDAM09	-80.270
EDAU09	3.634	0.14	5y-EDAU09	-84.593
EDAZ09	3.914	0.42	5y-EDAZ09	-84.288
EDAH10	4.079	0.59	5y-EDAH10	-79.357
EDAM10	4.269	0.78	5y-EDAM10	-75.862
EDAU10	4.424	0.93	5y-EDAU10	-72.646
EDAZ10	4.579	1.09	5y-EDAZ10	-71.252
EDAH11	4.639	1.15	5y-EDAH11	-67.889
EDAM11	4.719	1.23	5y-EDAM11	-65.825

Price = Outright Decimal Price - Euro Contract Price

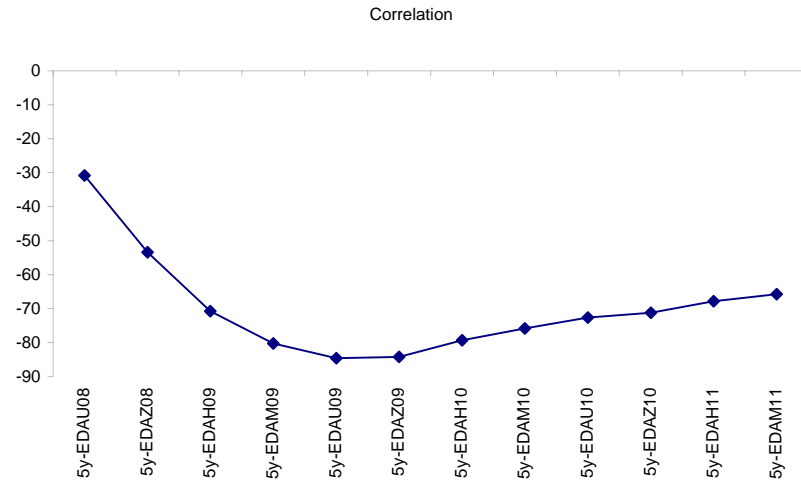
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.016	4.57	4.56	5y-EDAU08
EDAZ08	0.265	4.57	4.31	5y-EDAZ08
EDAH09	0.514	4.57	4.06	5y-EDAH09
EDAM09	0.764	4.57	3.81	5y-EDAM09
EDAU09	1.013	4.57	3.56	5y-EDAU09
EDAZ09	1.262	4.57	3.31	5y-EDAZ09
EDAH10	1.512	4.57	3.06	5y-EDAH10
EDAM10	1.761	4.57	2.81	5y-EDAM10
EDAU10	2.010	4.57	2.56	5y-EDAU10
EDAZ10	2.260	4.57	2.31	5y-EDAZ10
EDAH11	2.509	4.57	2.06	5y-EDAH11
EDAM11	2.758	4.57	1.81	5y-EDAM11

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



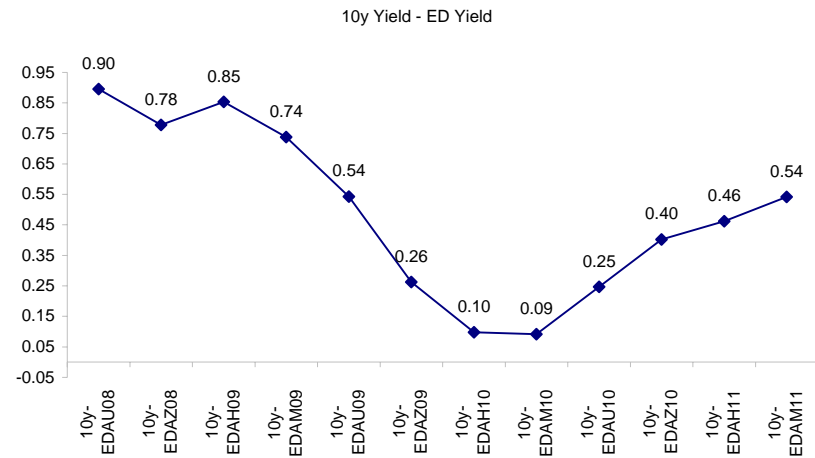


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.281	0.90	10y-EDAU08	-54.247
EDAZ08	3.399	0.78	10y-EDAZ08	-71.645
EDAH09	3.324	0.85	10y-EDAH09	-87.092
EDAM09	3.439	0.74	10y-EDAM09	-93.355
EDAU09	3.634	0.54	10y-EDAU09	-96.166
EDAZ09	3.914	0.26	10y-EDAZ09	-95.985
EDAH10	4.079	0.10	10y-EDAH10	-94.367
EDAM10	4.269	0.09	10y-EDAM10	-92.648
EDAU10	4.424	0.25	10y-EDAU10	-91.015
EDAZ10	4.579	0.40	10y-EDAZ10	-90.262
EDAH11	4.639	0.46	10y-EDAH11	-88.721
EDAM11	4.719	0.54	10y-EDAM11	-87.709

Price = Outright Decimal Price - Euro Contract Price

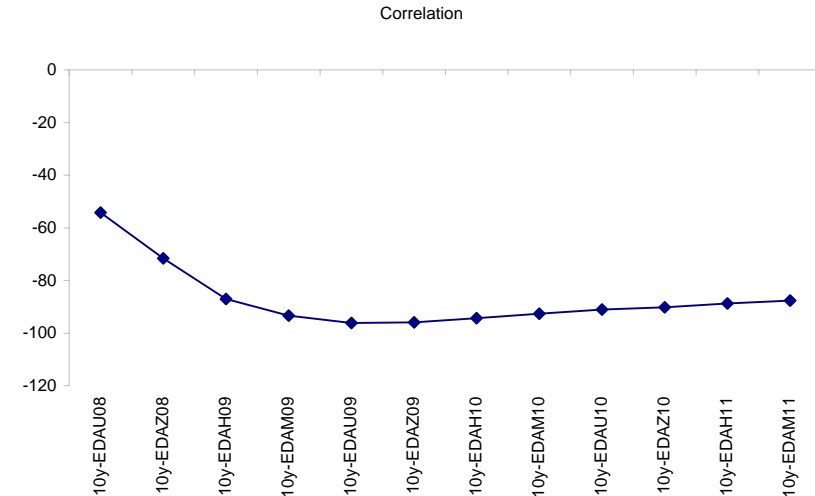
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.016	8.14	8.13	10y-EDAU08
EDAZ08	0.265	8.14	7.88	10y-EDAZ08
EDAH09	0.514	8.14	7.63	10y-EDAH09
EDAM09	0.764	8.14	7.38	10y-EDAM09
EDAU09	1.013	8.14	7.13	10y-EDAU09
EDAZ09	1.262	8.14	6.88	10y-EDAZ09
EDAH10	1.512	8.14	6.63	10y-EDAH10
EDAM10	1.761	8.14	6.38	10y-EDAM10
EDAU10	2.010	8.14	6.13	10y-EDAU10
EDAZ10	2.260	8.14	5.88	10y-EDAZ10
EDAH11	2.509	8.14	5.63	10y-EDAH11
EDAM11	2.758	8.14	5.38	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.

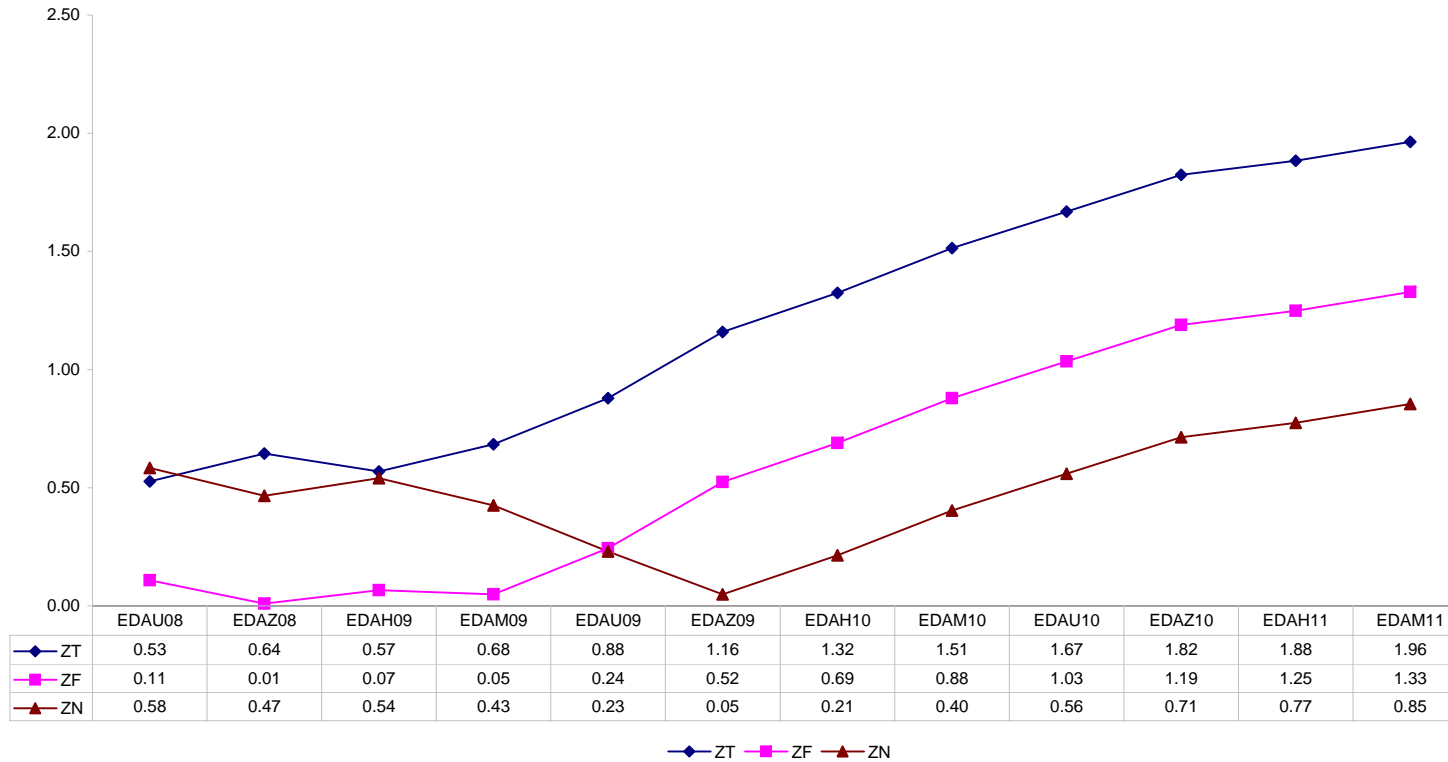
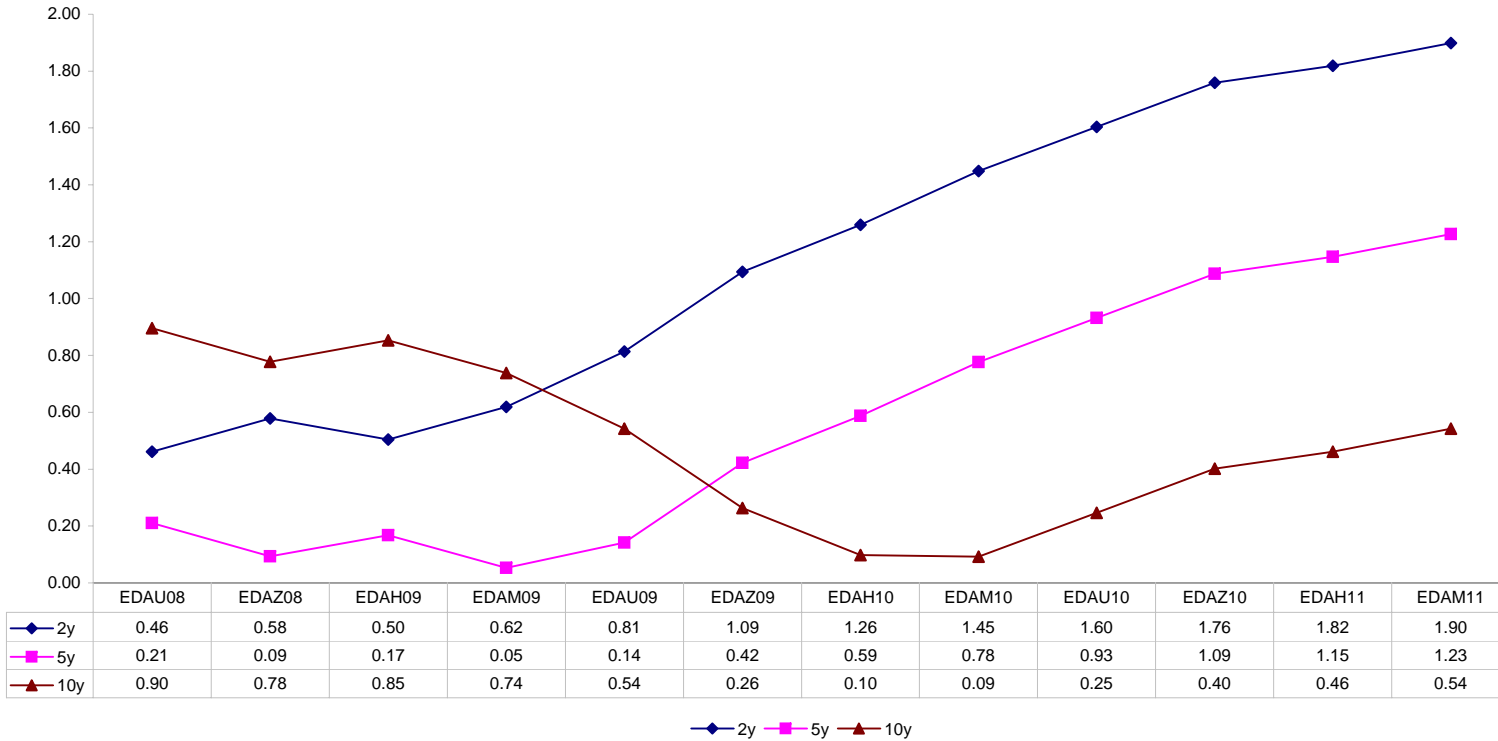
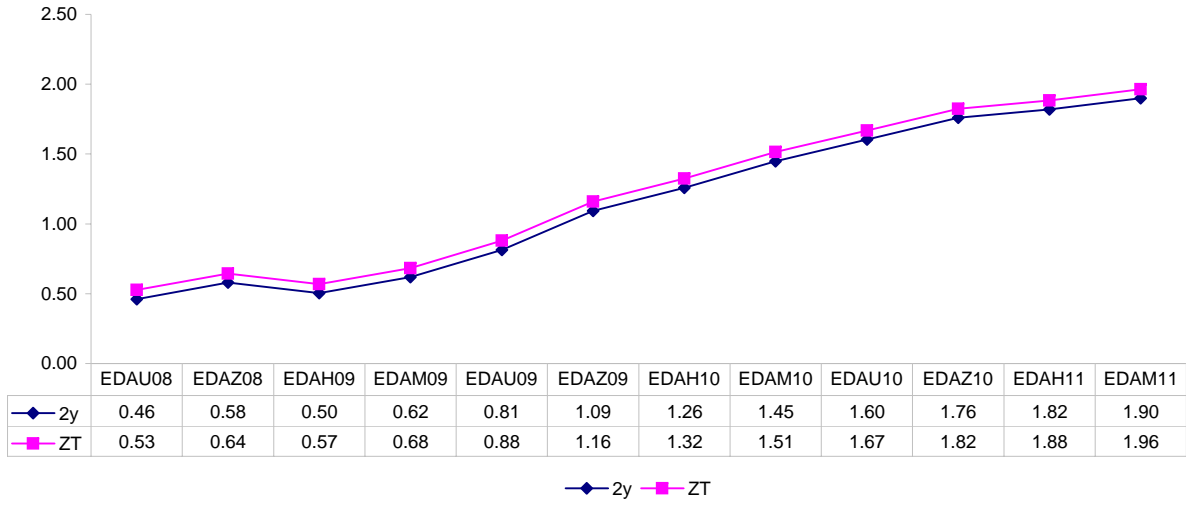


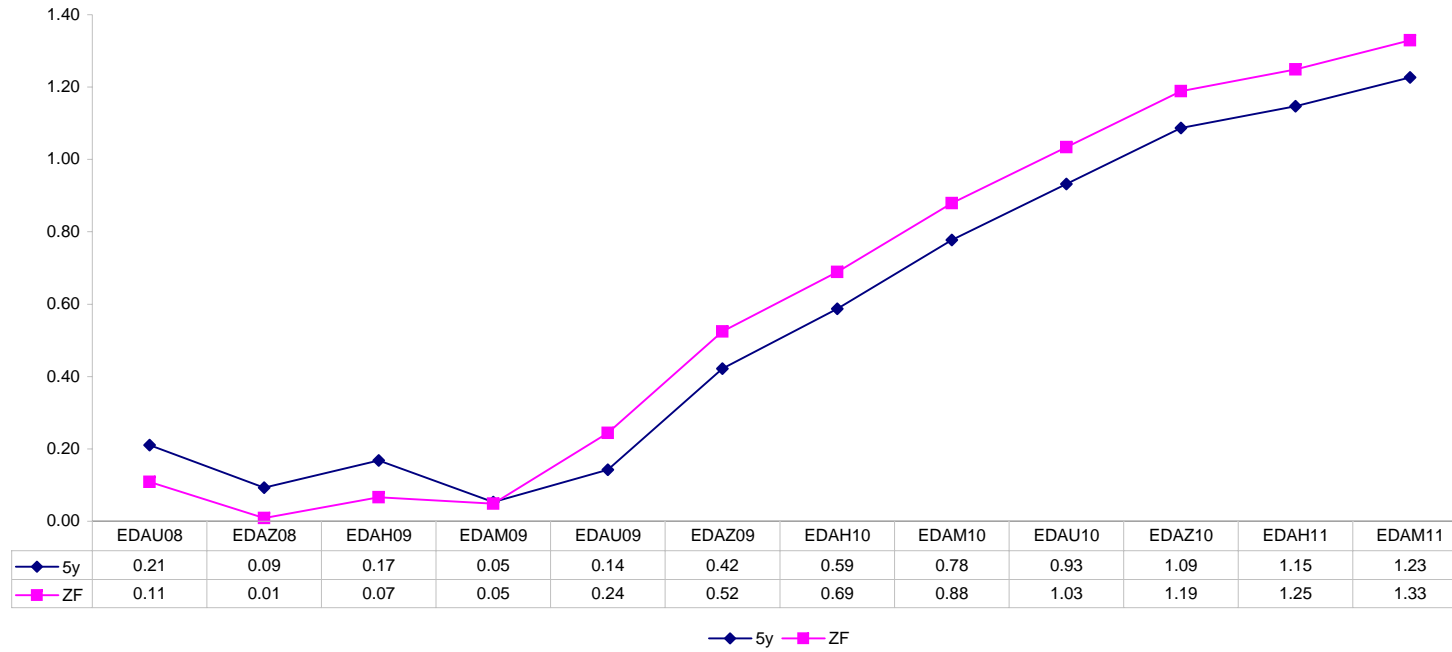
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



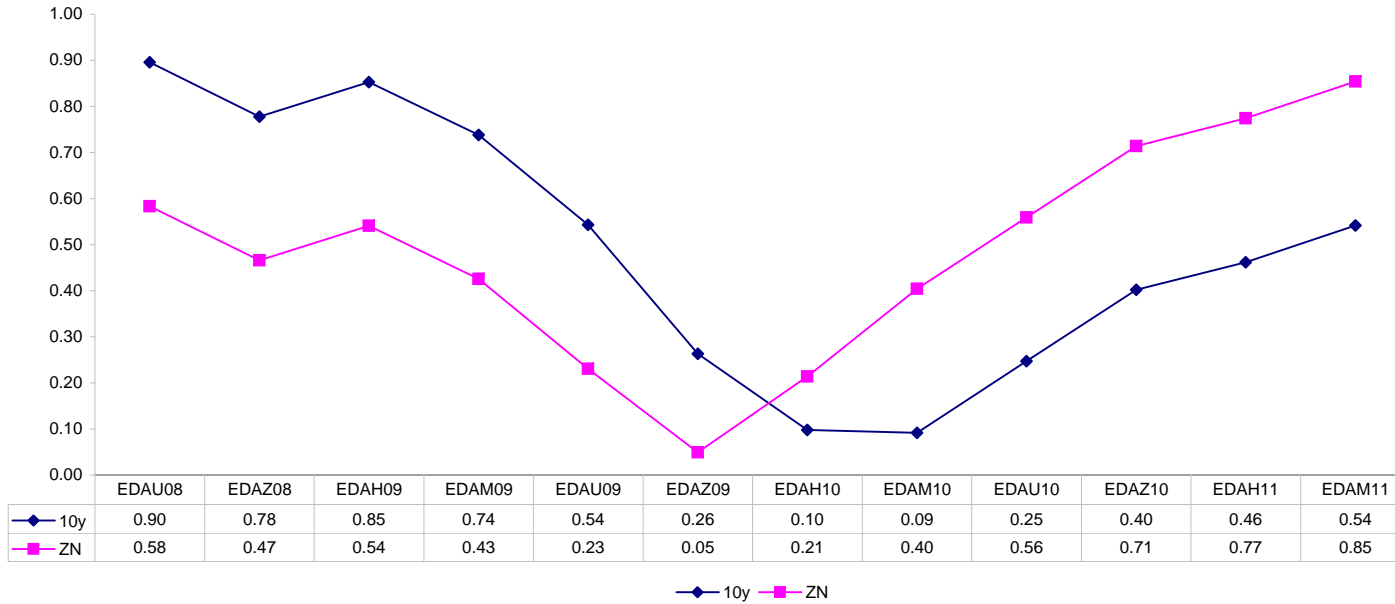
2y Basis TED Curve



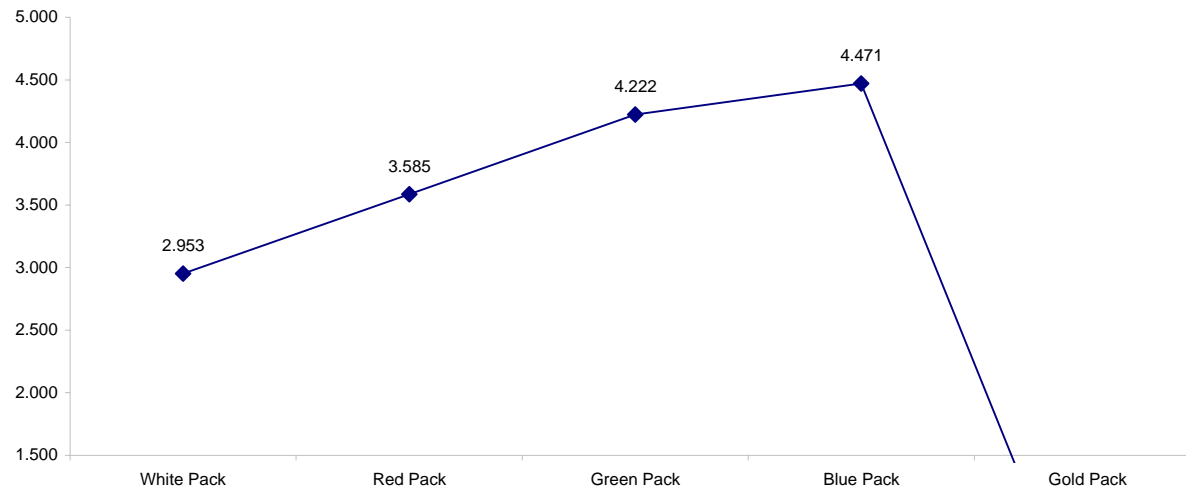
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.953	-3.875	9710.813
Red Pack	3.585	-6.125	9649.500
Green Pack	4.222	-6.375	9587.875
Blue Pack	4.471	-4.375	9563.875
Gold Pack		-3.375	9546.500



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

