

## **The Morning Email: TERM TEDS & Dirty TEDS**

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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	104.9688	104.310	2.844	1.91
ZF	109.3031	109.097	3.513	4.09
ZN	112.3906	112.125	4.040	6.49
2y	99.538	99.1720	2.866	1.88
5y	99.678	99.2170	3.571	4.49
10y	97.781	97.2500	4.148	8.10

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	96.835	3.165	88	0.240	SEP	
EDAZ08	96.505	3.495	179	0.490	DEC	White
EDAH09	96.340	3.660	270	0.739	MAR	Pack
EDAM09	96.160	3.840	361	0.988	JUN	
EDAU09	95.955	4.045	452	1.238	SEP	
EDAZ09	95.715	4.285	543	1.487	DEC	Red
EDAH10	95.550	4.450	634	1.736	MAR	Pack
EDAM10	95.395	4.605	725	1.986	JUN	
EDAU10	95.305	4.695	816	2.235	SEP	
EDAZ10	95.200	4.800	907	2.484	DEC	Green
EDAH11	95.165	4.835	998	2.734	MAR	Pack
EDAM11	95.125	4.875	1089	2.983	JUN	
EDAU11	95.080	4.920	1187	3.251	SEP	
EDAZ11	95.020	4.980	1278	3.501	DEC	Blue Pack
EDAH12	95.000	5.000	1369	3.750	MAR	
EDAM12	95.015	4.985	1460	3.999	JUN	
EDAU12	94.995	5.005	1551	4.249	SEP	
EDAZ12	94.930	5.070	1642	4.498	DEC	Gold Pack
EDAH13	94.895	5.105	1733	4.747	MAR	
EDAM13	94.865	5.135	1824	4.997	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.621	-0.875	9646.000	
Red Pack	4.455	0.875	9565.375	Pack
Green Pack	4.927	2.375	9519.875	Prices
Blue Pack	5.104	3.250	9502.875	
Gold Pack	5.216	3.875	9492.125	

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.

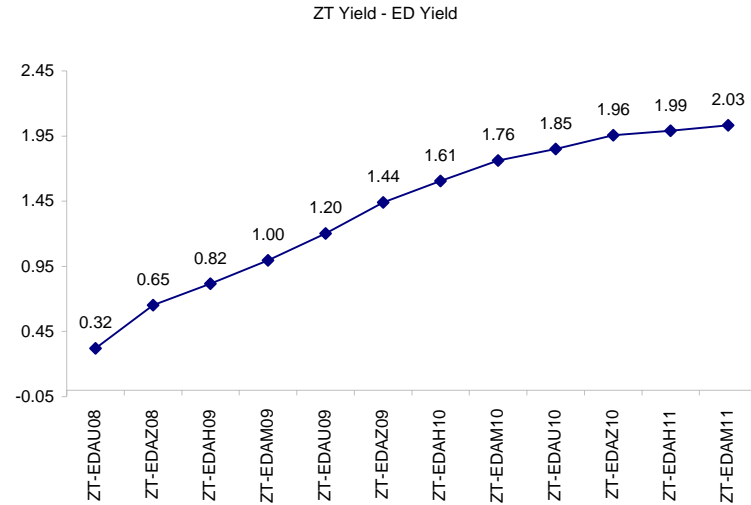
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

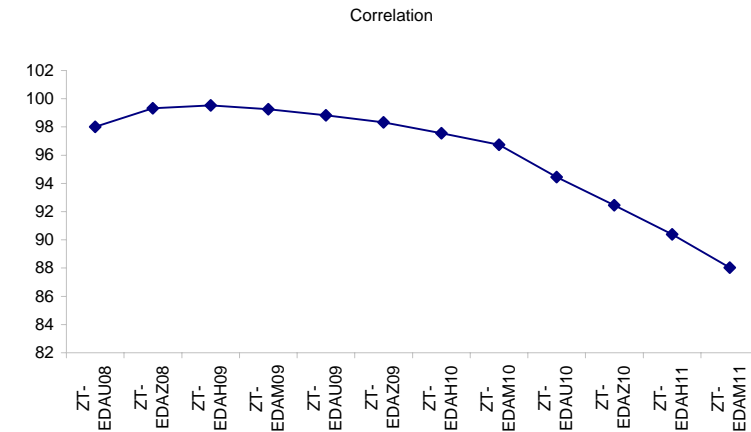
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	8.134	0.32	ZT-EDAU08	98.010
EDAZ08	8.464	0.65	ZT-EDAZ08	99.313
EDAH09	8.629	0.82	ZT-EDAH09	99.521
EDAM09	8.809	1.00	ZT-EDAM09	99.258
EDAU09	9.014	1.20	ZT-EDAU09	98.836
EDAZ09	9.254	1.44	ZT-EDAZ09	98.333
EDAH10	9.419	1.61	ZT-EDAH10	97.564
EDAM10	9.574	1.76	ZT-EDAM10	96.747
EDAU10	9.664	1.85	ZT-EDAU10	94.450
EDAZ10	9.769	1.96	ZT-EDAZ10	92.447
EDAH11	9.804	1.99	ZT-EDAH11	90.380
EDAM11	9.844	2.03	ZT-EDAM11	88.034

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	0.240	1.91	1.67	ZT-EDAU08		
EDAZ08	0.490	1.91	1.42	ZT-EDAZ08		
EDAH09	0.739	1.91	1.17	ZT-EDAH09		
EDAM09	0.988	1.91	0.92	ZT-EDAM09		
EDAU09	1.238	1.91	0.67	ZT-EDAU09		
EDAZ09	1.487	1.91	0.42	ZT-EDAZ09		
EDAH10	1.736	1.91	0.17	ZT-EDAH10		
EDAM10	1.986	1.91	(0.08)	ZT-EDAM10		
EDAU10	2.235	1.91	(0.33)	ZT-EDAU10		
EDAZ10	2.484	1.91	(0.58)	ZT-EDAZ10		
EDAH11	2.734	1.91	(0.83)	ZT-EDAH11		
EDAM11	2.983	1.91	(1.08)	ZT-EDAM11		

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

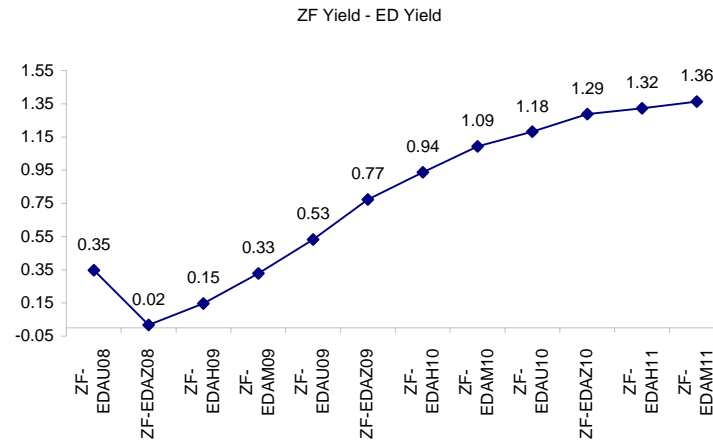


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	12.468	0.35	ZF-EDAU08	95.984
EDAZ08	12.798	0.02	ZF-EDAZ08	96.392
EDAH09	12.963	0.15	ZF-EDAH09	96.484
EDAM09	13.143	0.33	ZF-EDAM09	96.077
EDAU09	13.348	0.53	ZF-EDAU09	95.980
EDAZ09	13.588	0.77	ZF-EDAZ09	96.176
EDAH10	13.753	0.94	ZF-EDAH10	95.829
EDAM10	13.908	1.09	ZF-EDAM10	95.781
EDAU10	13.998	1.18	ZF-EDAU10	94.489
EDAZ10	14.103	1.29	ZF-EDAZ10	93.857
EDAH11	14.138	1.32	ZF-EDAH11	92.879
EDAM11	14.178	1.36	ZF-EDAM11	91.622

Price = Outright Decimal Price - Euro Contract Price

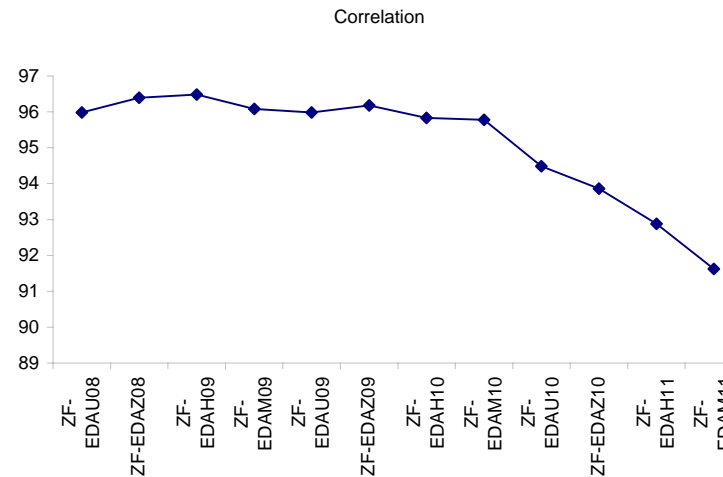
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU08	0.240	4.09	3.84	ZF-EDAU08	
EDAZ08	0.490	4.09	3.60	ZF-EDAZ08	
EDAH09	0.739	4.09	3.35	ZF-EDAH09	
EDAM09	0.988	4.09	3.10	ZF-EDAM09	
EDAU09	1.238	4.09	2.85	ZF-EDAU09	
EDAZ09	1.487	4.09	2.60	ZF-EDAZ09	
EDAH10	1.736	4.09	2.35	ZF-EDAH10	
EDAM10	1.986	4.09	2.10	ZF-EDAM10	
EDAU10	2.235	4.09	1.85	ZF-EDAU10	
EDAZ10	2.484	4.09	1.60	ZF-EDAZ10	
EDAH11	2.734	4.09	1.35	ZF-EDAH11	
EDAM11	2.983	4.09	1.10	ZF-EDAM11	

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

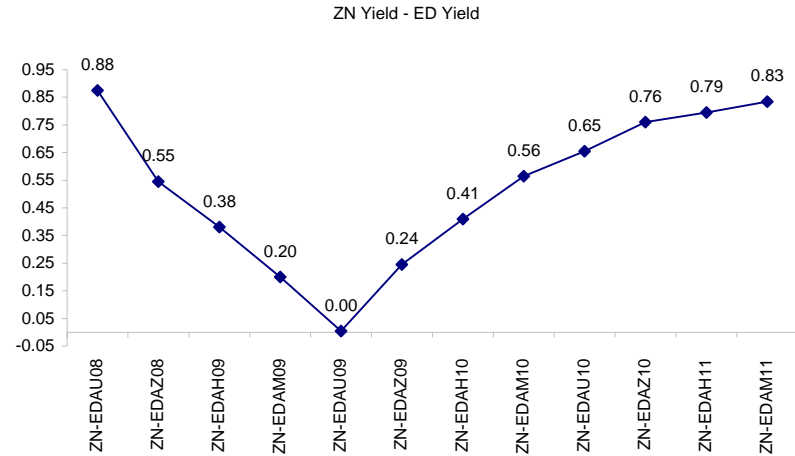


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.556	0.88	ZN-EDAU08	94.190
EDAZ08	15.886	0.55	ZN-EDAZ08	94.253
EDAH09	16.051	0.38	ZN-EDAH09	94.666
EDAM09	16.231	0.20	ZN-EDAM09	94.896
EDAU09	16.436	0.00	ZN-EDAU09	95.401
EDAZ09	16.676	0.24	ZN-EDAZ09	96.055
EDAH10	16.841	0.41	ZN-EDAH10	95.829
EDAM10	16.996	0.56	ZN-EDAM10	95.781
EDAU10	17.086	0.65	ZN-EDAU10	94.489
EDAZ10	17.191	0.76	ZN-EDAZ10	93.857
EDAH11	17.226	0.79	ZN-EDAH11	92.879
EDAM11	17.266	0.83	ZN-EDAM11	91.622

Price = Outright Decimal Price - Euro Contract Price

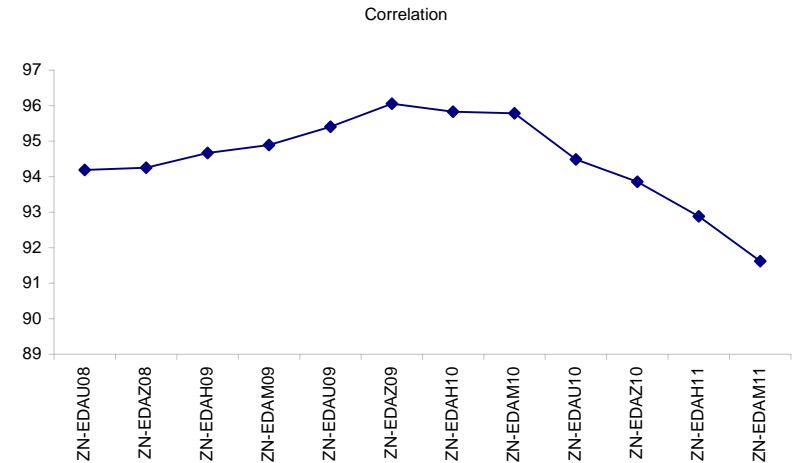
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.240	6.49	6.25	ZN-EDAU08		
EDAZ08	0.490	6.49	6.00	ZN-EDAZ08		
EDAH09	0.739	6.49	5.75	ZN-EDAH09		
EDAM09	0.988	6.49	5.50	ZN-EDAM09		
EDAU09	1.238	6.49	5.25	ZN-EDAU09		
EDAZ09	1.487	6.49	5.00	ZN-EDAZ09		
EDAH10	1.736	6.49	4.75	ZN-EDAH10		
EDAM10	1.986	6.49	4.50	ZN-EDAM10		
EDAU10	2.235	6.49	4.25	ZN-EDAU10		
EDAZ10	2.484	6.49	4.00	ZN-EDAZ10		
EDAH11	2.734	6.49	3.76	ZN-EDAH11		
EDAM11	2.983	6.49	3.51	ZN-EDAM11		

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

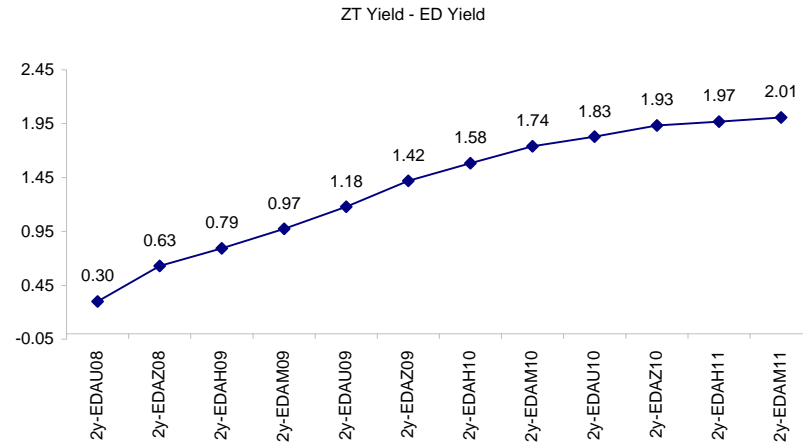


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.702	0.30	2y-EDAU08	-97.612
EDAZ08	3.033	0.63	2y-EDAZ08	-98.391
EDAH09	3.197	0.79	2y-EDAH09	-98.749
EDAM09	3.378	0.97	2y-EDAM09	-98.939
EDAU09	3.583	1.18	2y-EDAU09	-98.791
EDAZ09	3.822	1.42	2y-EDAZ09	-98.381
EDAH10	3.988	1.58	2y-EDAH10	-97.506
EDAM10	4.143	1.74	2y-EDAM10	-96.537
EDAU10	4.232	1.83	2y-EDAU10	-94.378
EDAZ10	4.337	1.93	2y-EDAZ10	-92.288
EDAH11	4.372	1.97	2y-EDAH11	-90.321
EDAM11	4.412	2.01	2y-EDAM11	-88.041

Price = Outright Decimal Price - Euro Contract Price

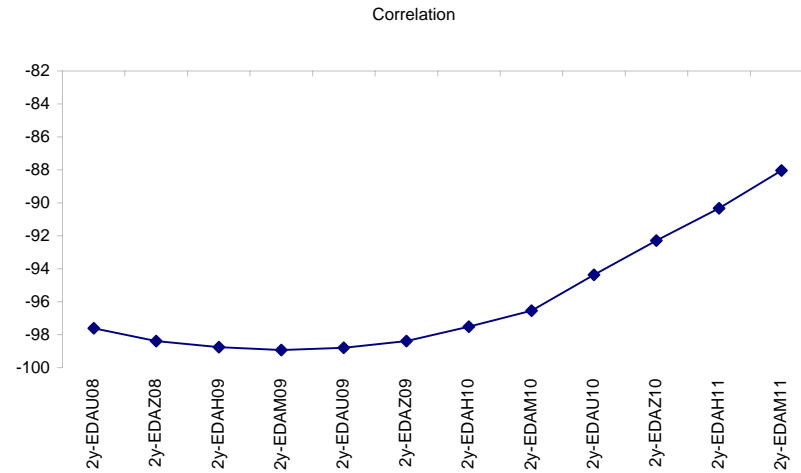
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	2Y Duration	Spread Duration		
EDAU08	0.240	1.88	1.64	2y-EDAU08
EDAZ08	0.490	1.88	1.39	2y-EDAZ08
EDAH09	0.739	1.88	1.14	2y-EDAH09
EDAM09	0.988	1.88	0.89	2y-EDAM09
EDAU09	1.238	1.88	0.64	2y-EDAU09
EDAZ09	1.487	1.88	0.39	2y-EDAZ09
EDAH10	1.736	1.88	0.14	2y-EDAH10
EDAM10	1.986	1.88	(0.11)	2y-EDAM10
EDAU10	2.235	1.88	(0.36)	2y-EDAU10
EDAZ10	2.484	1.88	(0.60)	2y-EDAZ10
EDAH11	2.734	1.88	(0.85)	2y-EDAH11
EDAM11	2.983	1.88	(1.10)	2y-EDAM11

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

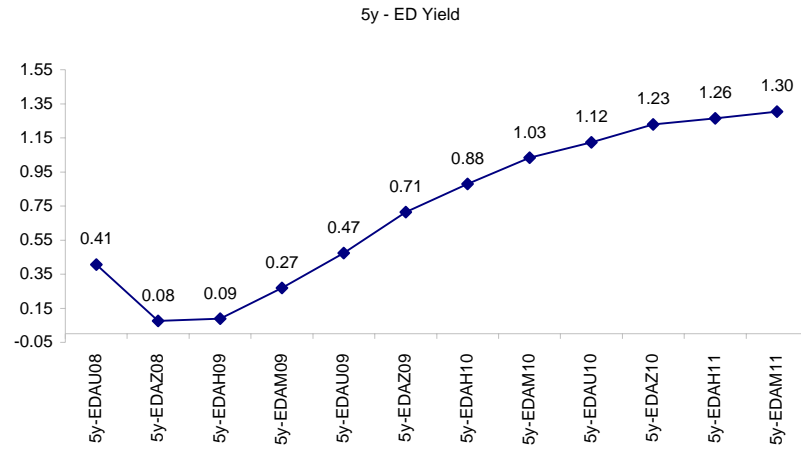


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.843	0.41	5y-EDAU08	-96.937
EDAZ08	3.173	0.08	5y-EDAZ08	-96.603
EDAH09	3.338	0.09	5y-EDAH09	-96.656
EDAM09	3.518	0.27	5y-EDAM09	-96.552
EDAU09	3.723	0.47	5y-EDAU09	-96.604
EDAZ09	3.963	0.71	5y-EDAZ09	-96.802
EDAH10	4.128	0.88	5y-EDAH10	-96.360
EDAM10	4.283	1.03	5y-EDAM10	-96.226
EDAU10	4.373	1.12	5y-EDAU10	-95.010
EDAZ10	4.478	1.23	5y-EDAZ10	-94.252
EDAH11	4.513	1.26	5y-EDAH11	-93.286
EDAM11	4.553	1.30	5y-EDAM11	-92.003

Price = Outright Decimal Price - Euro Contract Price

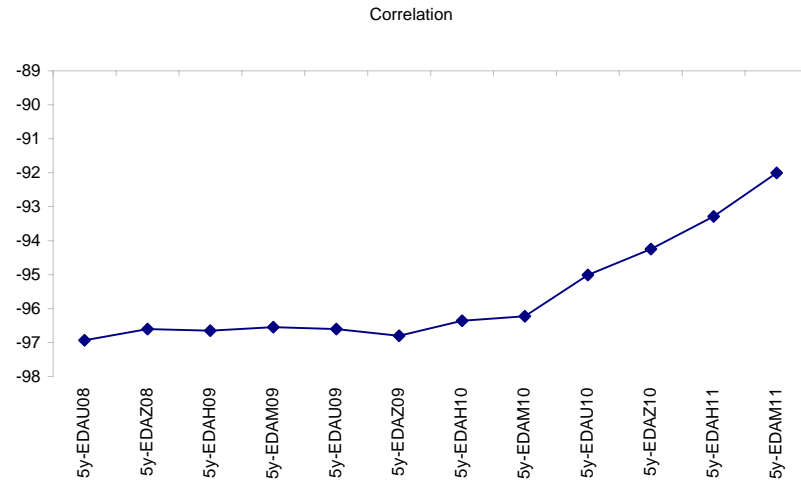
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.240	4.49	4.25	5y-EDAU08
EDAZ08	0.490	4.49	4.00	5y-EDAZ08
EDAH09	0.739	4.49	3.76	5y-EDAH09
EDAM09	0.988	4.49	3.51	5y-EDAM09
EDAU09	1.238	4.49	3.26	5y-EDAU09
EDAZ09	1.487	4.49	3.01	5y-EDAZ09
EDAH10	1.736	4.49	2.76	5y-EDAH10
EDAM10	1.986	4.49	2.51	5y-EDAM10
EDAU10	2.235	4.49	2.26	5y-EDAU10
EDAZ10	2.484	4.49	2.01	5y-EDAZ10
EDAH11	2.734	4.49	1.76	5y-EDAH11
EDAM11	2.983	4.49	1.51	5y-EDAM11

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



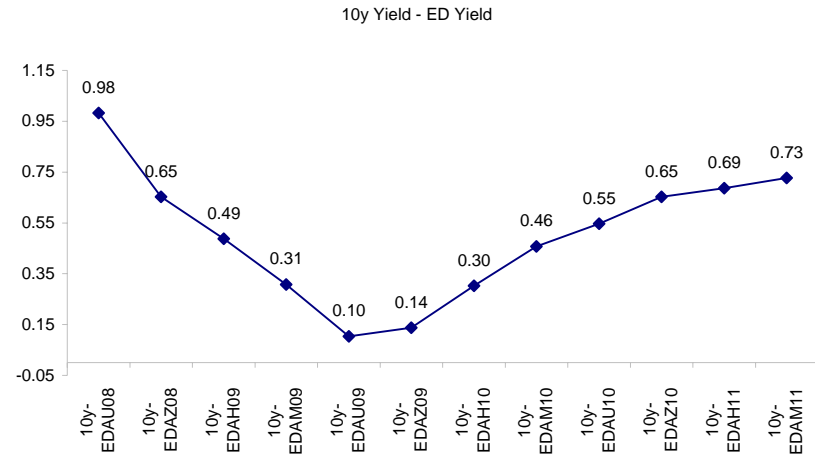


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	2.843	0.98	10y-EDAU08	-92.695
EDAZ08	3.173	0.65	10y-EDAZ08	-91.743
EDAH09	3.338	0.49	10y-EDAH09	-91.619
EDAM09	3.518	0.31	10y-EDAM09	-91.091
EDAU09	3.723	0.10	10y-EDAU09	-91.146
EDAZ09	3.963	0.14	10y-EDAZ09	-91.661
EDAH10	4.128	0.30	10y-EDAH10	-91.403
EDAM10	4.283	0.46	10y-EDAM10	-91.872
EDAU10	4.373	0.55	10y-EDAU10	-91.514
EDAZ10	4.478	0.65	10y-EDAZ10	-91.992
EDAH11	4.513	0.69	10y-EDAH11	-91.990
EDAM11	4.553	0.73	10y-EDAM11	-91.596

Price = Outright Decimal Price - Euro Contract Price

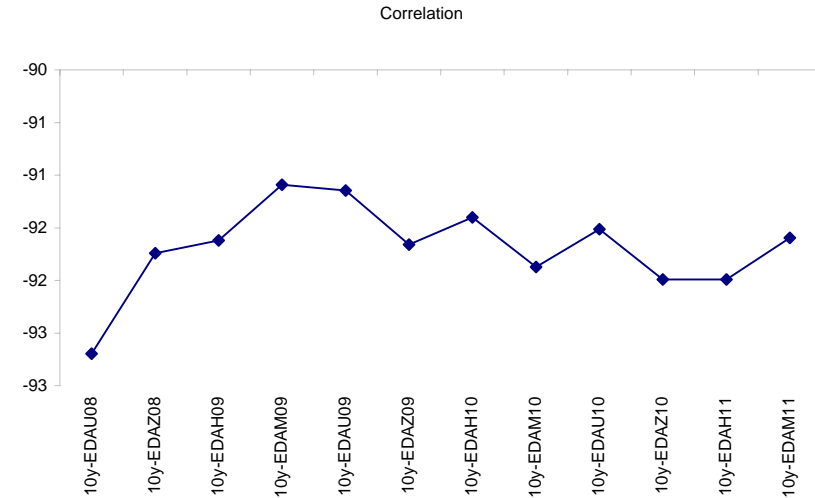
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.240	8.10	7.86	10y-EDAU08
EDAZ08	0.490	8.10	7.61	10y-EDAZ08
EDAH09	0.739	8.10	7.36	10y-EDAH09
EDAM09	0.988	8.10	7.11	10y-EDAM09
EDAU09	1.238	8.10	6.86	10y-EDAU09
EDAZ09	1.487	8.10	6.61	10y-EDAZ09
EDAH10	1.736	8.10	6.36	10y-EDAH10
EDAM10	1.986	8.10	6.11	10y-EDAM10
EDAU10	2.235	8.10	5.86	10y-EDAU10
EDAZ10	2.484	8.10	5.61	10y-EDAZ10
EDAH11	2.734	8.10	5.36	10y-EDAH11
EDAM11	2.983	8.10	5.11	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.

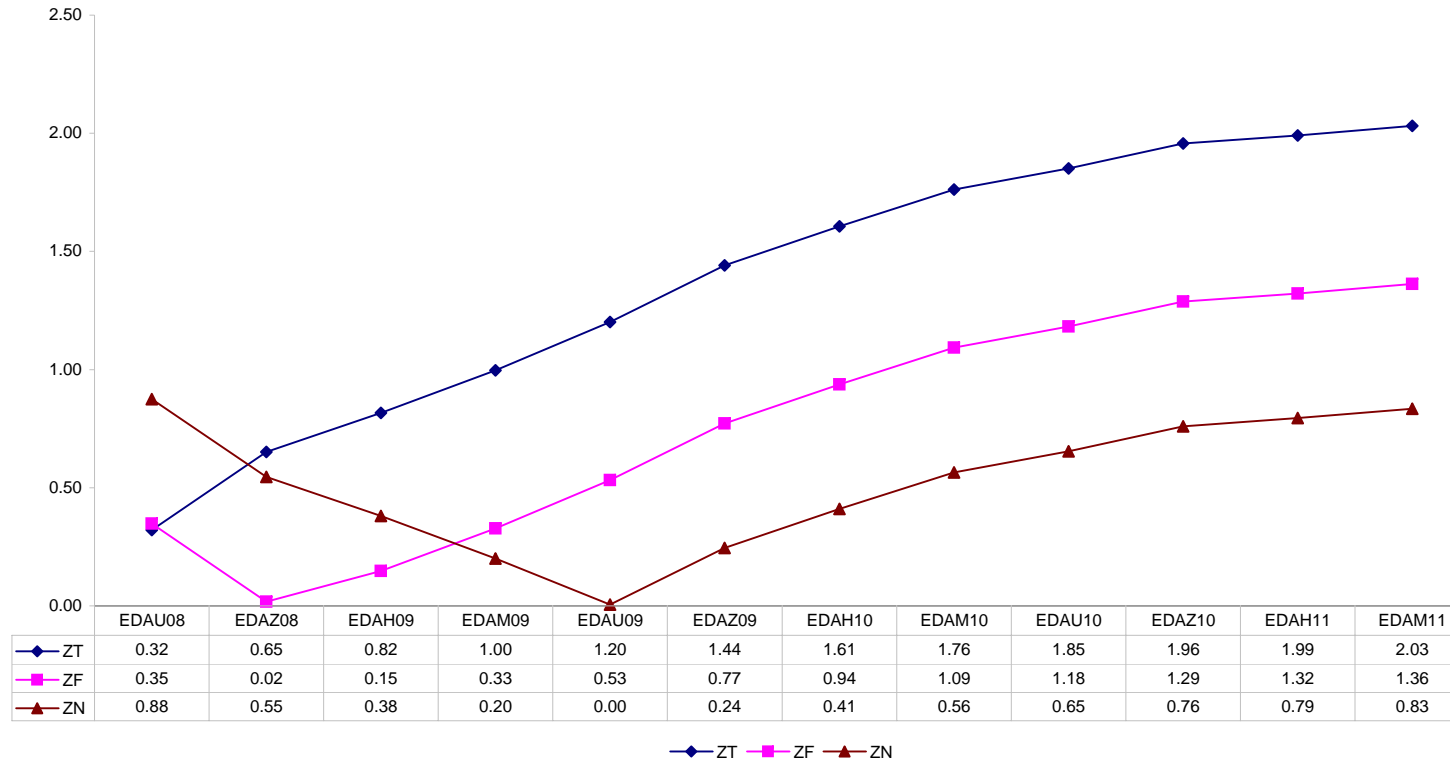
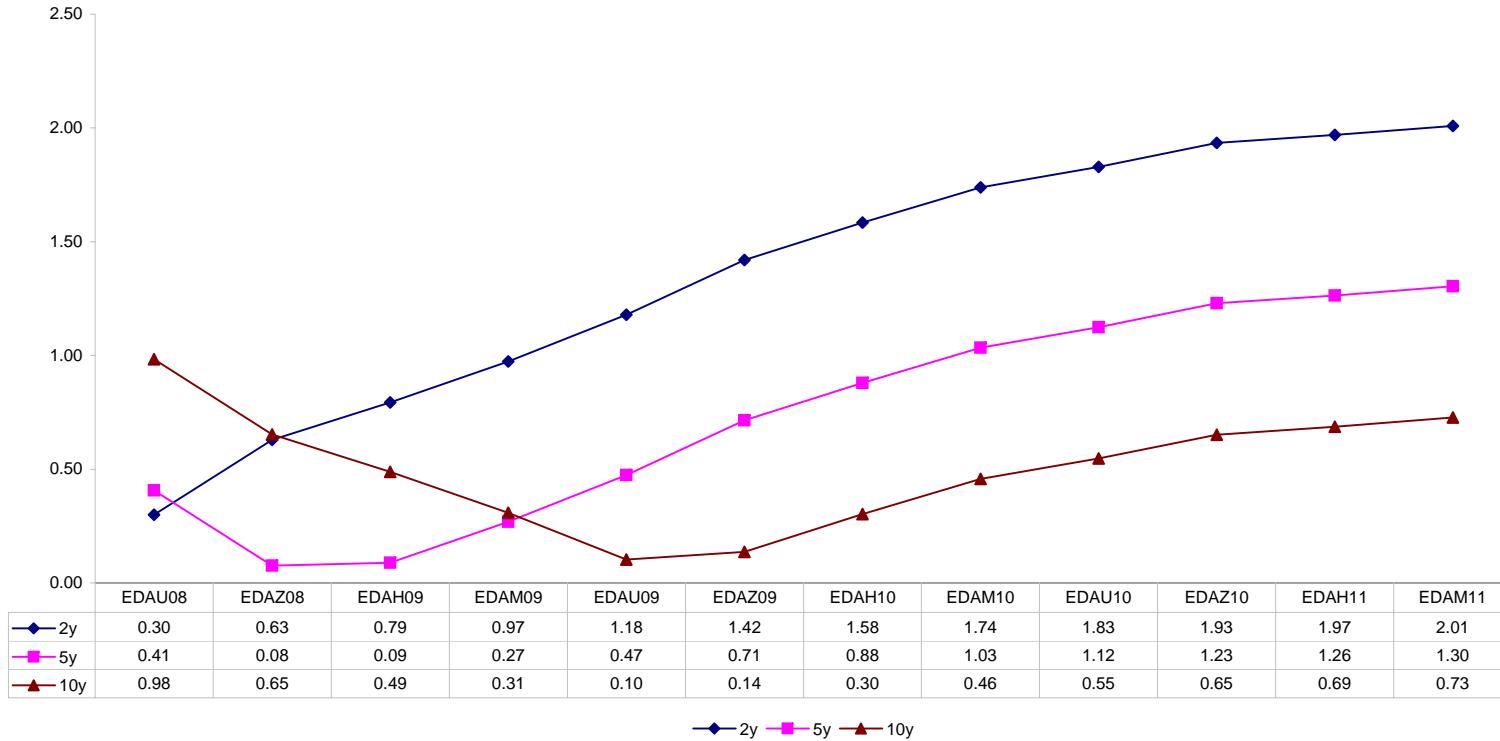
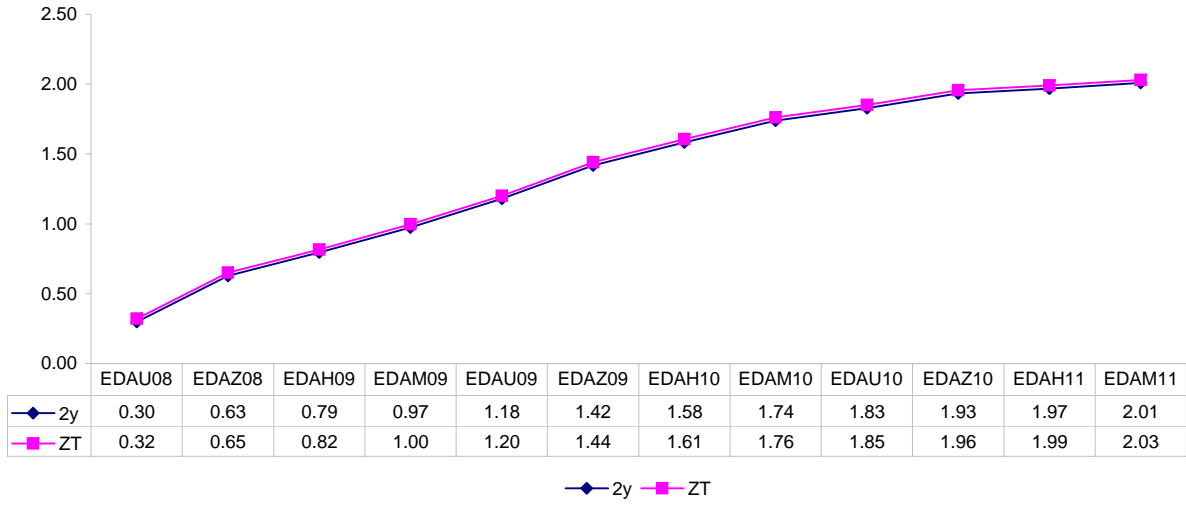


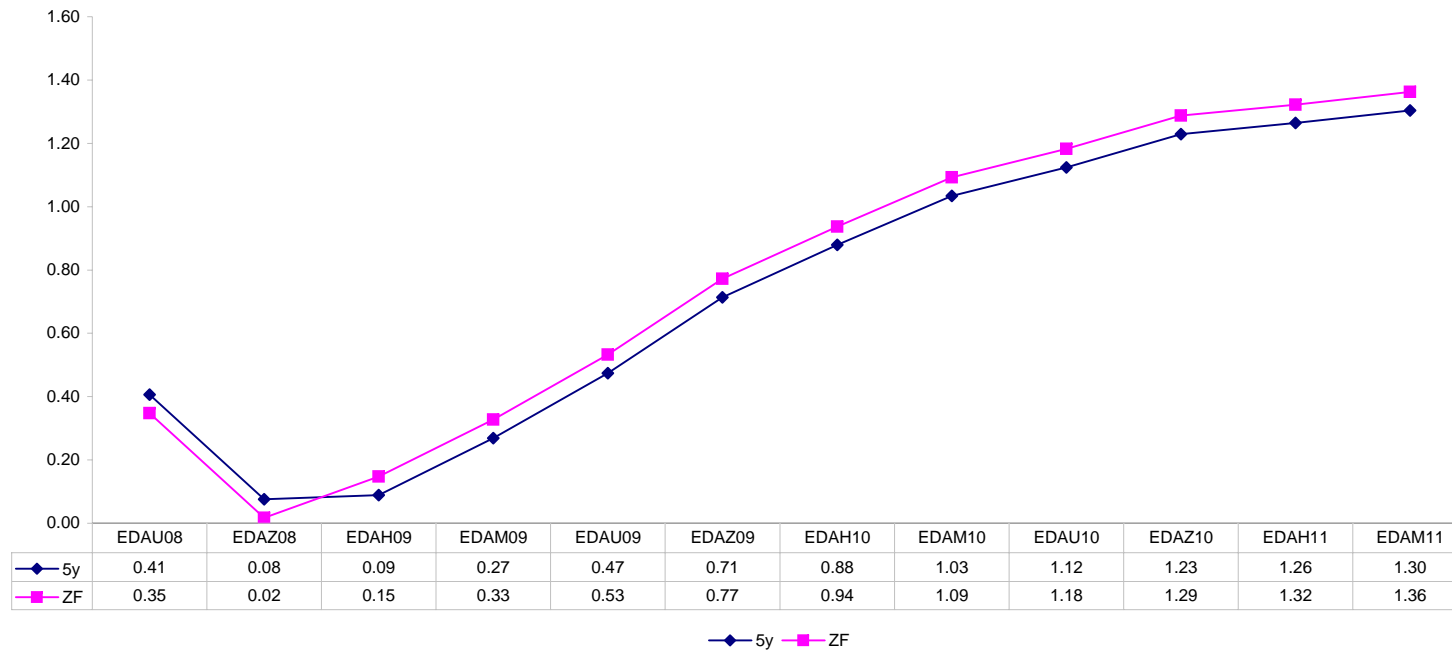
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



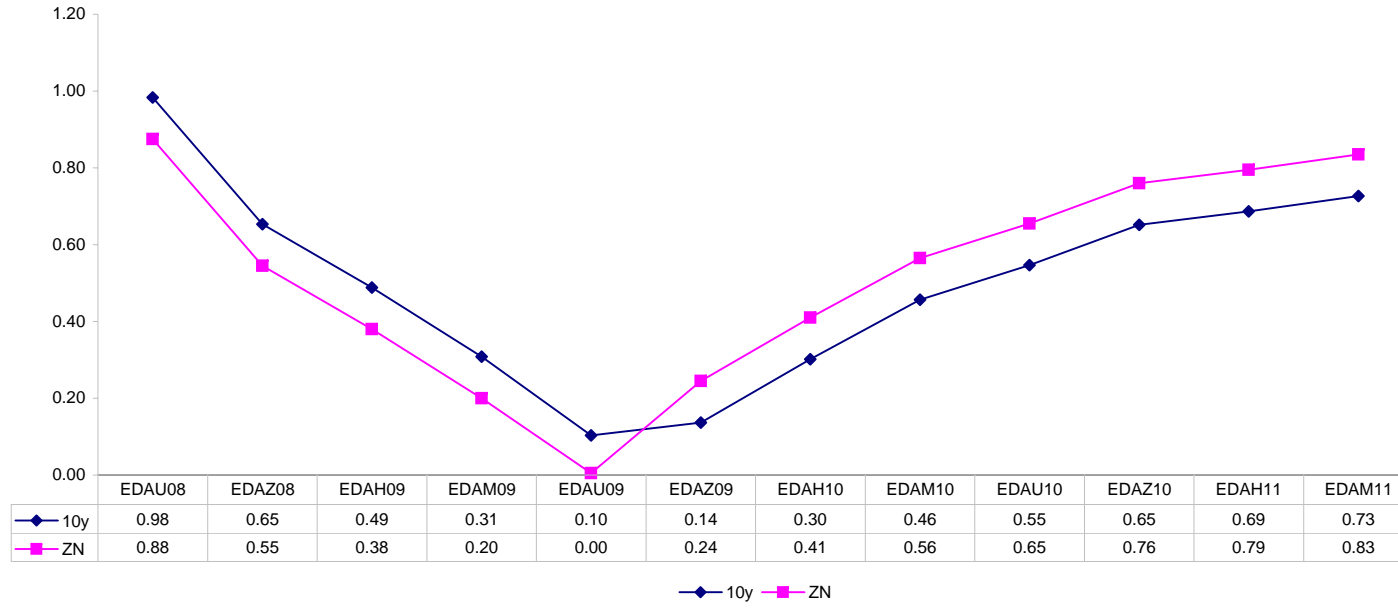
2y Basis TED Curve



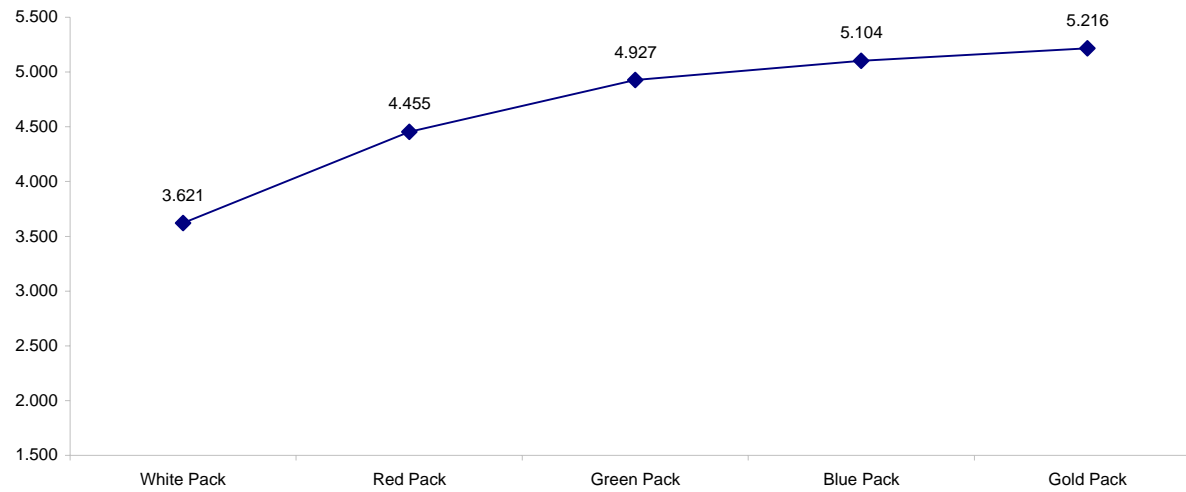
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.621	-0.875	9646.000
Red Pack	4.455	0.875	9565.375
Green Pack	4.927	2.375	9519.875
Blue Pack	5.104	3.250	9502.875
Gold Pack	5.216	3.875	9492.125



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

