

## **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	106.1563	106.050	2.404	1.80
ZF	111.9063	111.290	3.010	3.94
ZN	115.7656	115.245	3.646	6.65
2y	100.569	100.1820	2.445	1.89
5y	100.975	100.3120	3.159	4.52
10y	100.828	100.2650	3.897	8.18

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.140	2.860	31	0.084	SEP	
EDAZ08	96.945	3.055	122	0.334	DEC	White
EDAH09	96.910	3.090	213	0.583	MAR	Pack
EDAM09	96.770	3.230	304	0.832	JUN	
EDAU09	96.555	3.445	395	1.082	SEP	
EDAZ09	96.275	3.725	486	1.331	DEC	Red
EDAH10	96.040	3.960	577	1.580	MAR	Pack
EDAM10	95.830	4.170	668	1.829	JUN	
EDAU10	95.655	4.345	759	2.079	SEP	
EDAZ10	95.515	4.485	850	2.328	DEC	Green
EDAH11	95.440	4.560	941	2.577	MAR	Pack
EDAM11	95.370	4.630	1032	2.827	JUN	
EDAU11	95.310	4.690	1130	3.095	SEP	
EDAZ11	95.255	4.745	1221	3.345	DEC	Blue Pack
EDAH12	95.235	4.765	1312	3.594	MAR	
EDAM12	95.180	4.820	1403	3.843	JUN	
EDAU12	95.165	4.835	1494	4.093	SEP	
EDAZ12	95.110	4.890	1585	4.342	DEC	Gold Pack
EDAH13	95.075	4.925	1676	4.591	MAR	
EDAM13	95.015	4.985	1767	4.840	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	3.125	-2.375	9694.125	Pack Prices
Red Pack	3.916	-2.875	9617.500	
Green Pack	4.620	-2.500	9549.500	
Blue Pack	4.879	-3.375	9524.500	
Gold Pack		0.000	9510.250	

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.

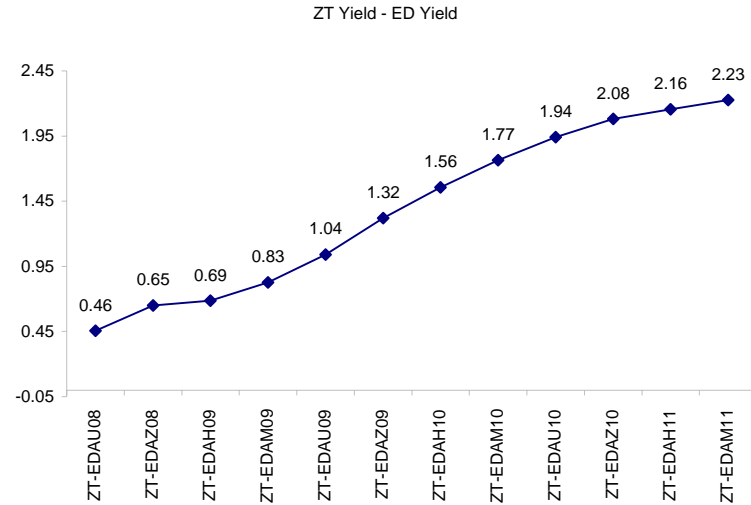
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### 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.**

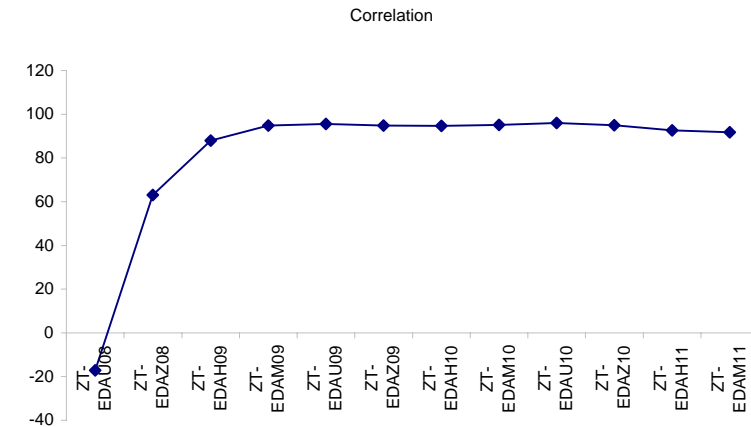
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	9.016	0.46	ZT-EDAU08	-17.092
EDAZ08	9.211	0.65	ZT-EDAZ08	63.092
EDAH09	9.246	0.69	ZT-EDAH09	88.011
EDAM09	9.386	0.83	ZT-EDAM09	94.755
EDAU09	9.601	1.04	ZT-EDAU09	95.494
EDAZ09	9.881	1.32	ZT-EDAZ09	94.814
EDAH10	10.116	1.56	ZT-EDAH10	94.661
EDAM10	10.326	1.77	ZT-EDAM10	95.144
EDAU10	10.501	1.94	ZT-EDAU10	95.941
EDAZ10	10.641	2.08	ZT-EDAZ10	94.957
EDAH11	10.716	2.16	ZT-EDAH11	92.685
EDAM11	10.786	2.23	ZT-EDAM11	91.737

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	0.084	1.80	1.72	ZT-EDAU08	
EDAZ08	0.334	1.80	1.47	ZT-EDAZ08	
EDAH09	0.583	1.80	1.22	ZT-EDAH09	
EDAM09	0.832	1.80	0.97	ZT-EDAM09	
EDAU09	1.082	1.80	0.72	ZT-EDAU09	
EDAZ09	1.331	1.80	0.47	ZT-EDAZ09	
EDAH10	1.580	1.80	0.22	ZT-EDAH10	
EDAM10	1.829	1.80	(0.03)	ZT-EDAM10	
EDAU10	2.079	1.80	(0.28)	ZT-EDAU10	
EDAZ10	2.328	1.80	(0.52)	ZT-EDAZ10	
EDAH11	2.577	1.80	(0.77)	ZT-EDAH11	
EDAM11	2.827	1.80	(1.02)	ZT-EDAM11	

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

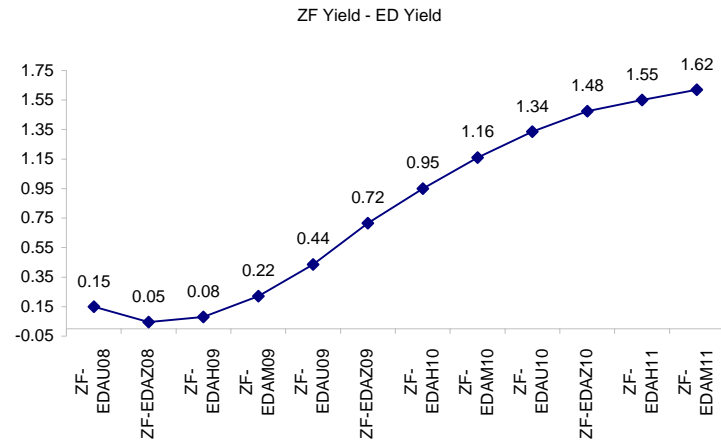


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	14.766	0.15	ZF-EDAU08	-18.294
EDAZ08	14.961	0.05	ZF-EDAZ08	58.652
EDAH09	14.996	0.08	ZF-EDAH09	86.260
EDAM09	15.136	0.22	ZF-EDAM09	94.200
EDAU09	15.351	0.44	ZF-EDAU09	96.896
EDAZ09	15.631	0.72	ZF-EDAZ09	97.517
EDAH10	15.866	0.95	ZF-EDAH10	97.640
EDAM10	16.076	1.16	ZF-EDAM10	98.093
EDAU10	16.251	1.34	ZF-EDAU10	97.685
EDAZ10	16.391	1.48	ZF-EDAZ10	95.449
EDAH11	16.466	1.55	ZF-EDAH11	91.762
EDAM11	16.536	1.62	ZF-EDAM11	90.347

Price = Outright Decimal Price - Euro Contract Price

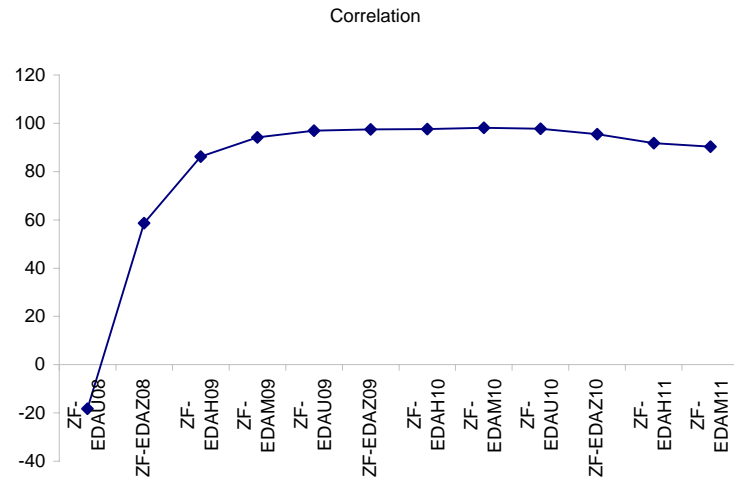
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAU08	0.084	3.94	3.86	ZF-EDAU08		
EDAZ08	0.334	3.94	3.61	ZF-EDAZ08		
EDAH09	0.583	3.94	3.36	ZF-EDAH09		
EDAM09	0.832	3.94	3.11	ZF-EDAM09		
EDAU09	1.082	3.94	2.86	ZF-EDAU09		
EDAZ09	1.331	3.94	2.61	ZF-EDAZ09		
EDAH10	1.580	3.94	2.36	ZF-EDAH10		
EDAM10	1.829	3.94	2.11	ZF-EDAM10		
EDAU10	2.079	3.94	1.86	ZF-EDAU10		
EDAZ10	2.328	3.94	1.61	ZF-EDAZ10		
EDAH11	2.577	3.94	1.36	ZF-EDAH11		
EDAM11	2.827	3.94	1.11	ZF-EDAM11		

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

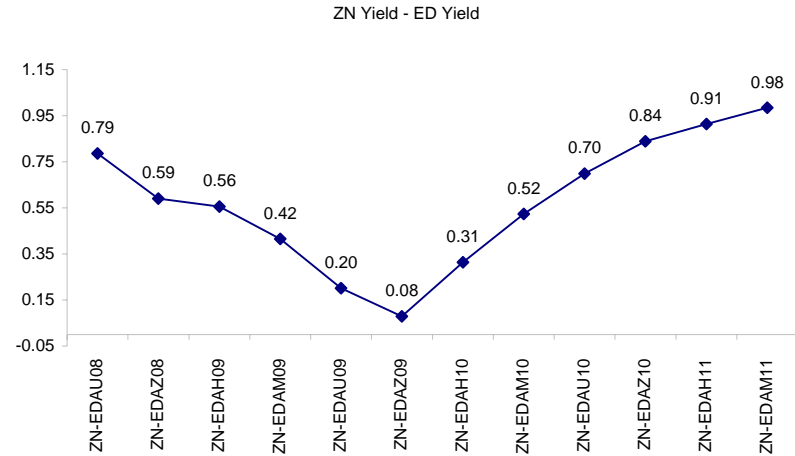


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	18.626	0.79	ZN-EDAU08	-16.074
EDAZ08	18.821	0.59	ZN-EDAZ08	60.644
EDAH09	18.856	0.56	ZN-EDAH09	87.572
EDAM09	18.996	0.42	ZN-EDAM09	94.878
EDAU09	19.211	0.20	ZN-EDAU09	97.149
EDAZ09	19.491	0.08	ZN-EDAZ09	97.392
EDAH10	19.726	0.31	ZN-EDAH10	97.640
EDAM10	19.936	0.52	ZN-EDAM10	98.093
EDAU10	20.111	0.70	ZN-EDAU10	97.685
EDAZ10	20.251	0.84	ZN-EDAZ10	95.449
EDAH11	20.326	0.91	ZN-EDAH11	91.762
EDAM11	20.396	0.98	ZN-EDAM11	90.347

Price = Outright Decimal Price - Euro Contract Price

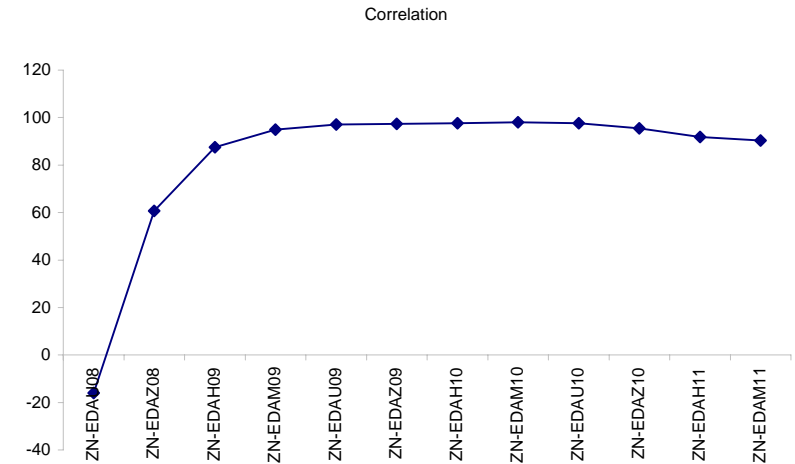
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAU08	0.084	6.65	6.57	ZN-EDAU08		
EDAZ08	0.334	6.65	6.32	ZN-EDAZ08		
EDAH09	0.583	6.65	6.07	ZN-EDAH09		
EDAM09	0.832	6.65	5.82	ZN-EDAM09		
EDAU09	1.082	6.65	5.57	ZN-EDAU09		
EDAZ09	1.331	6.65	5.32	ZN-EDAZ09		
EDAH10	1.580	6.65	5.07	ZN-EDAH10		
EDAM10	1.829	6.65	4.82	ZN-EDAM10		
EDAU10	2.079	6.65	4.57	ZN-EDAU10		
EDAZ10	2.328	6.65	4.32	ZN-EDAZ10		
EDAH11	2.577	6.65	4.07	ZN-EDAH11		
EDAM11	2.827	6.65	3.82	ZN-EDAM11		

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

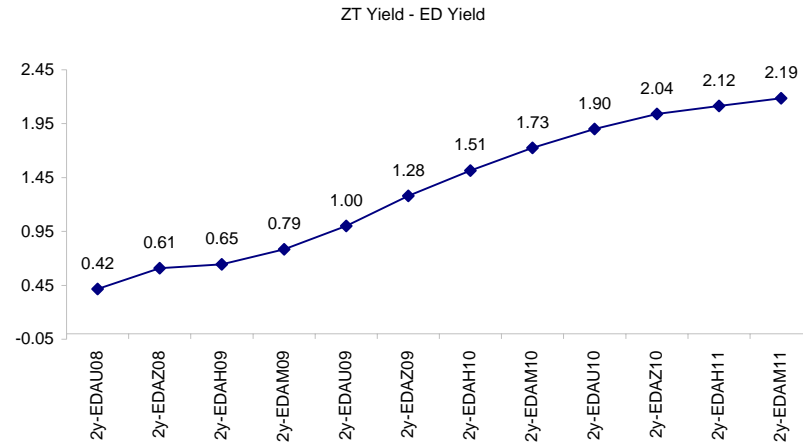


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.429	0.42	2y-EDAU08	5.709
EDAZ08	3.624	0.61	2y-EDAZ08	-69.996
EDAH09	3.659	0.65	2y-EDAH09	-91.474
EDAM09	3.799	0.79	2y-EDAM09	-95.743
EDAU09	4.014	1.00	2y-EDAU09	-95.165
EDAZ09	4.294	1.28	2y-EDAZ09	-93.963
EDAH10	4.529	1.51	2y-EDAH10	-93.205
EDAM10	4.739	1.73	2y-EDAM10	-92.617
EDAU10	4.914	1.90	2y-EDAU10	-92.377
EDAZ10	5.054	2.04	2y-EDAZ10	-89.886
EDAH11	5.129	2.12	2y-EDAH11	-86.510
EDAM11	5.199	2.19	2y-EDAM11	-84.141

Price = Outright Decimal Price - Euro Contract Price

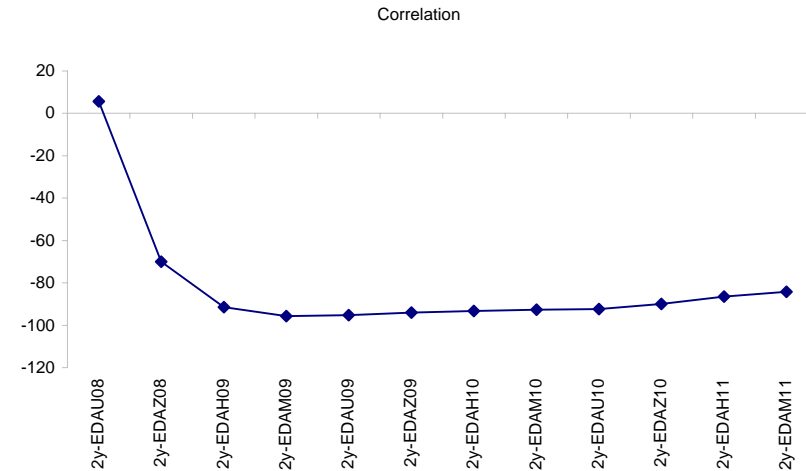
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAU08	0.084	1.89	1.80	2y-EDAU08	
EDAZ08	0.334	1.89	1.55	2y-EDAZ08	
EDAH09	0.583	1.89	1.30	2y-EDAH09	
EDAM09	0.832	1.89	1.06	2y-EDAM09	
EDAU09	1.082	1.89	0.81	2y-EDAU09	
EDAZ09	1.331	1.89	0.56	2y-EDAZ09	
EDAH10	1.580	1.89	0.31	2y-EDAH10	
EDAM10	1.829	1.89	0.06	2y-EDAM10	
EDAU10	2.079	1.89	(0.19)	2y-EDAU10	
EDAZ10	2.328	1.89	(0.44)	2y-EDAZ10	
EDAH11	2.577	1.89	(0.69)	2y-EDAH11	
EDAM11	2.827	1.89	(0.94)	2y-EDAM11	

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

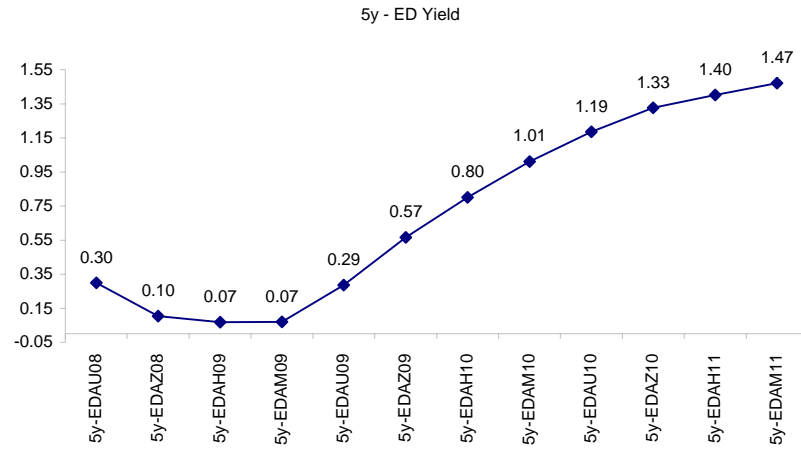


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.835	0.30	5y-EDAU08	7.853
EDAZ08	4.030	0.10	5y-EDAZ08	-64.571
EDAH09	4.065	0.07	5y-EDAH09	-88.355
EDAM09	4.205	0.07	5y-EDAM09	-94.305
EDAU09	4.420	0.29	5y-EDAU09	-95.195
EDAZ09	4.700	0.57	5y-EDAZ09	-94.903
EDAH10	4.935	0.80	5y-EDAH10	-94.655
EDAM10	5.145	1.01	5y-EDAM10	-94.850
EDAU10	5.320	1.19	5y-EDAU10	-94.750
EDAZ10	5.460	1.33	5y-EDAZ10	-92.324
EDAH11	5.535	1.40	5y-EDAH11	-89.126
EDAM11	5.605	1.47	5y-EDAM11	-86.612

Price = Outright Decimal Price - Euro Contract Price

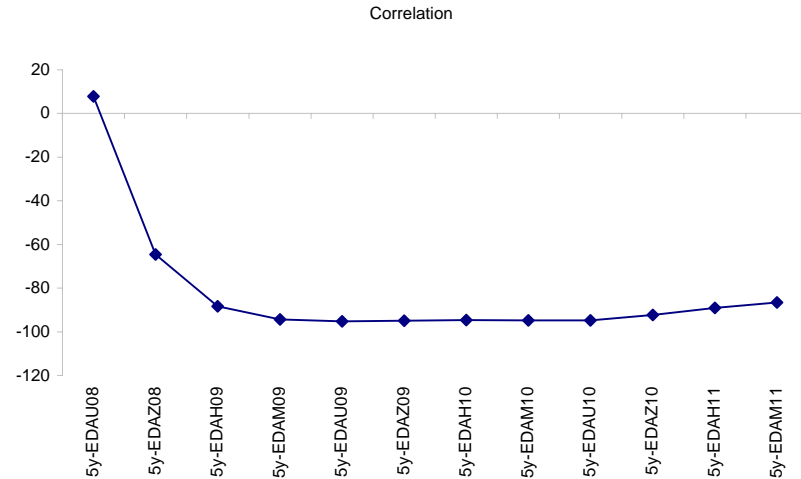
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAU08	0.084	4.52	4.44	5y-EDAU08	
EDAZ08	0.334	4.52	4.19	5y-EDAZ08	
EDAH09	0.583	4.52	3.94	5y-EDAH09	
EDAM09	0.832	4.52	3.69	5y-EDAM09	
EDAU09	1.082	4.52	3.44	5y-EDAU09	
EDAZ09	1.331	4.52	3.19	5y-EDAZ09	
EDAH10	1.580	4.52	2.94	5y-EDAH10	
EDAM10	1.829	4.52	2.69	5y-EDAM10	
EDAU10	2.079	4.52	2.45	5y-EDAU10	
EDAZ10	2.328	4.52	2.20	5y-EDAZ10	
EDAH11	2.577	4.52	1.95	5y-EDAH11	
EDAM11	2.827	4.52	1.70	5y-EDAM11	

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

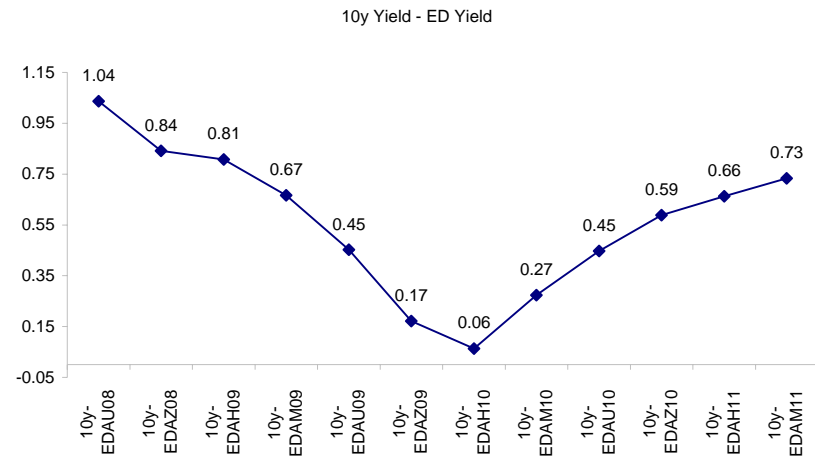


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	3.835	1.04	10y-EDAU08	20.507
EDAZ08	4.030	0.84	10y-EDAZ08	-52.884
EDAH09	4.065	0.81	10y-EDAH09	-81.428
EDAM09	4.205	0.67	10y-EDAM09	-89.817
EDAU09	4.420	0.45	10y-EDAU09	-92.395
EDAZ09	4.700	0.17	10y-EDAZ09	-93.403
EDAH10	4.935	0.06	10y-EDAH10	-93.773
EDAM10	5.145	0.27	10y-EDAM10	-94.888
EDAU10	5.320	0.45	10y-EDAU10	-94.962
EDAZ10	5.460	0.59	10y-EDAZ10	-93.287
EDAH11	5.535	0.66	10y-EDAH11	-90.142
EDAM11	5.605	0.73	10y-EDAM11	-88.355

Price = Outright Decimal Price - Euro Contract Price

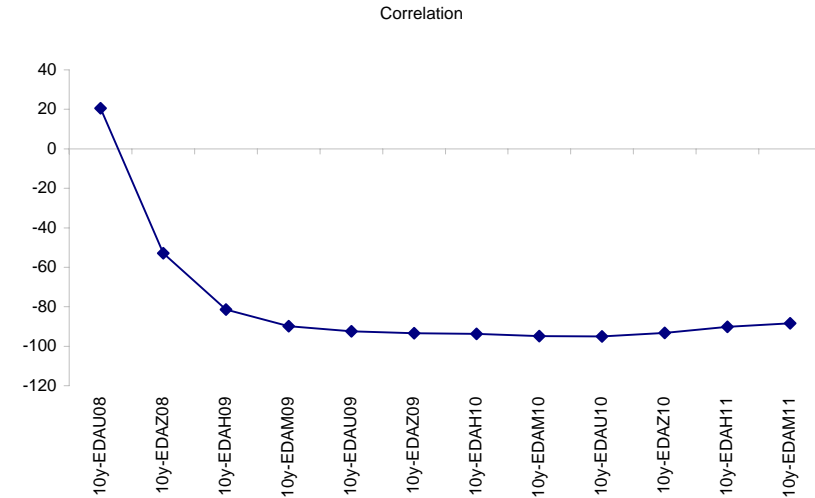
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.084	8.18	8.10	10y-EDAU08
EDAZ08	0.334	8.18	7.85	10y-EDAZ08
EDAH09	0.583	8.18	7.60	10y-EDAH09
EDAM09	0.832	8.18	7.35	10y-EDAM09
EDAU09	1.082	8.18	7.10	10y-EDAU09
EDAZ09	1.331	8.18	6.85	10y-EDAZ09
EDAH10	1.580	8.18	6.60	10y-EDAH10
EDAM10	1.829	8.18	6.35	10y-EDAM10
EDAU10	2.079	8.18	6.10	10y-EDAU10
EDAZ10	2.328	8.18	5.85	10y-EDAZ10
EDAH11	2.577	8.18	5.60	10y-EDAH11
EDAM11	2.827	8.18	5.35	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.

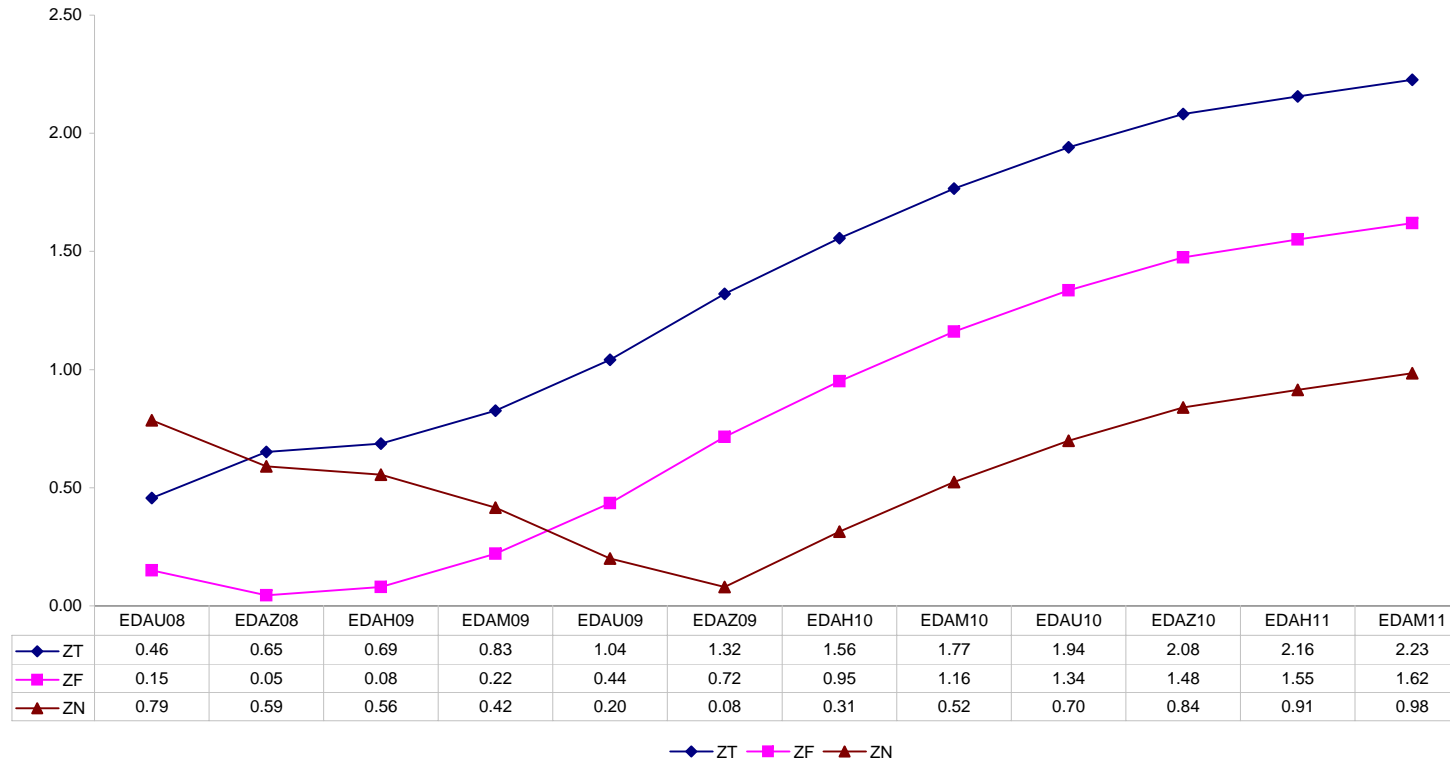
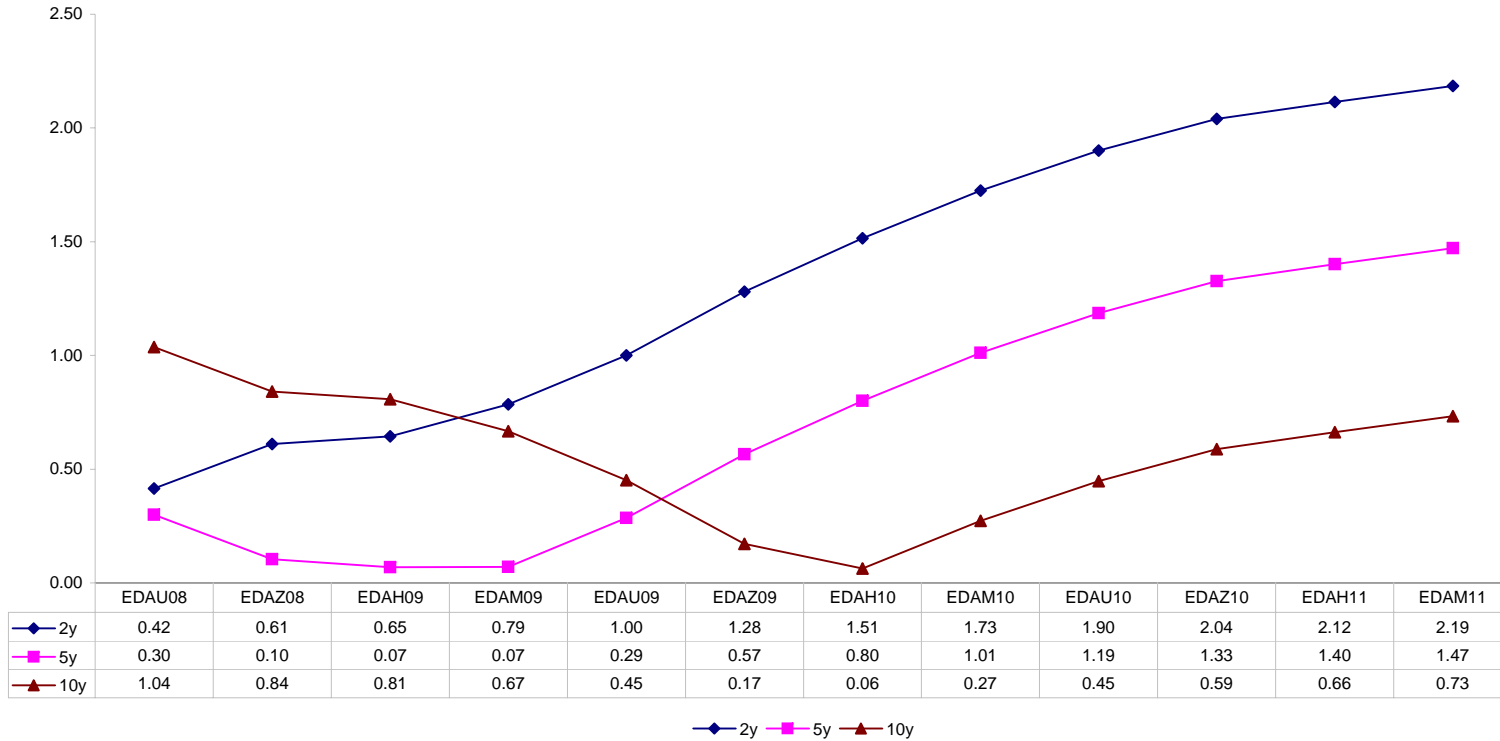
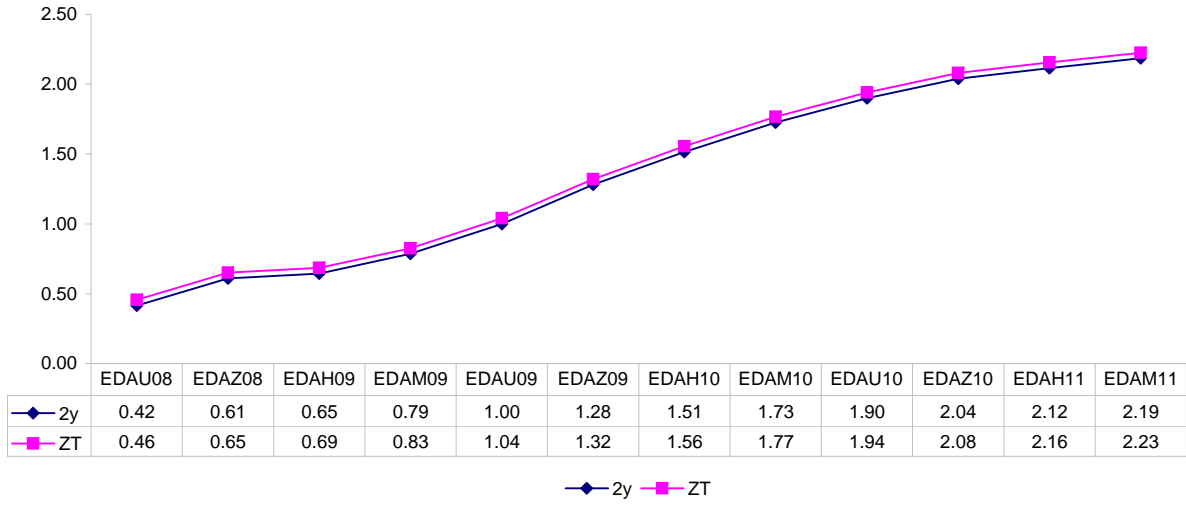


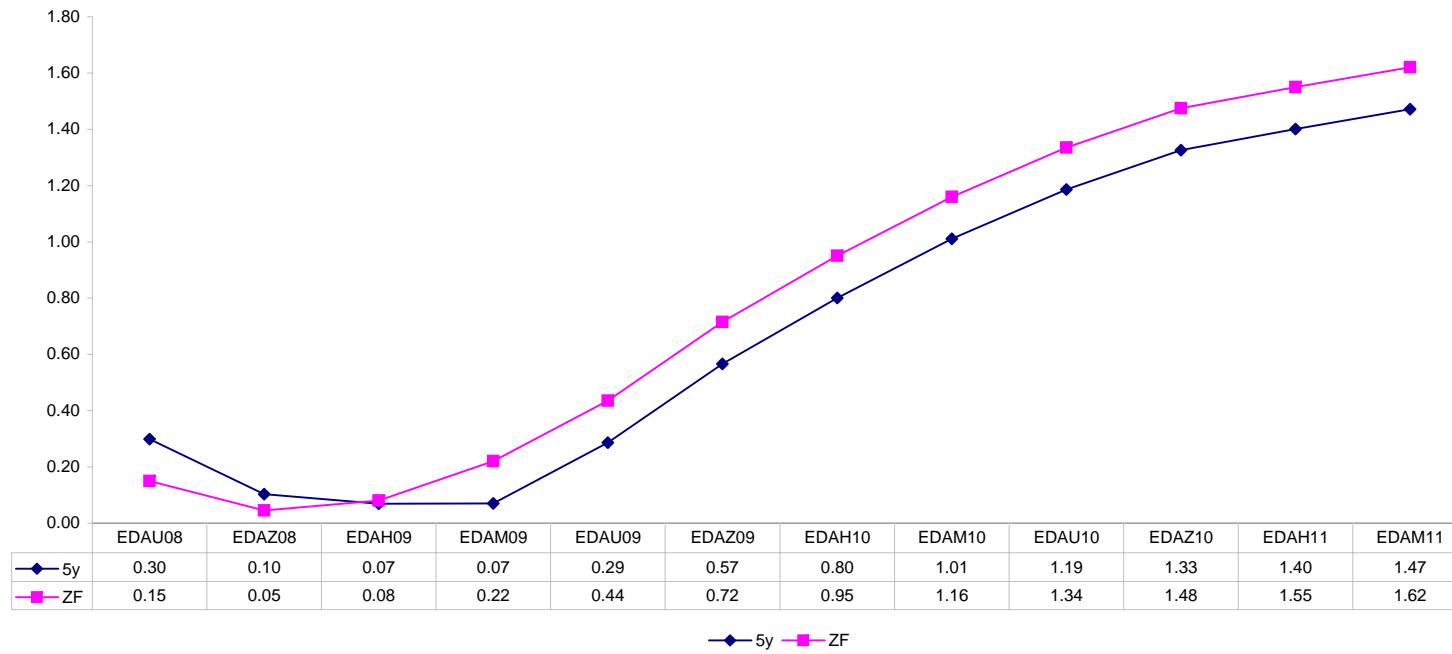
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



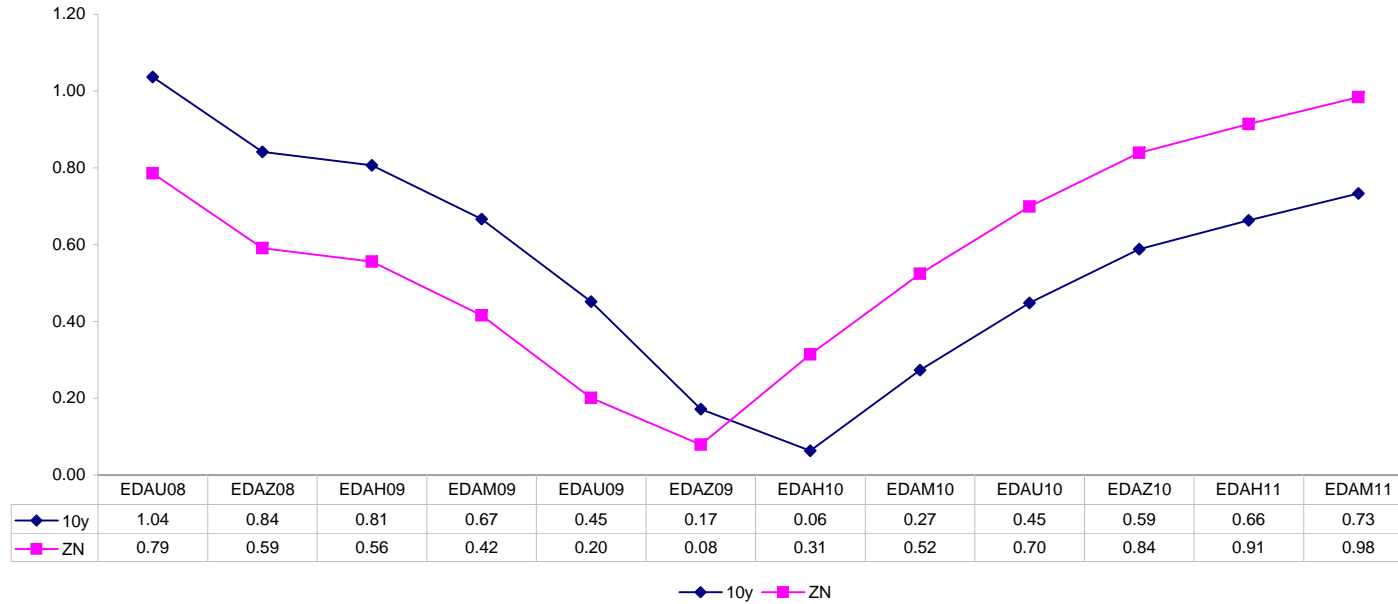
2y Basis TED Curve



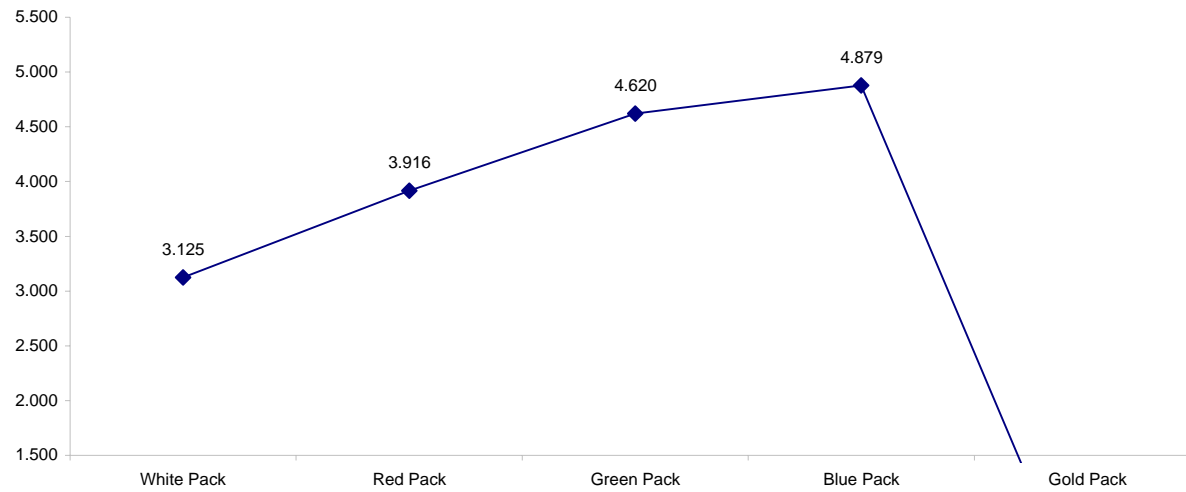
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	3.125	-2.375	9694.125
Red Pack	3.916	-2.875	9617.500
Green Pack	4.620	-2.500	9549.500
Blue Pack	4.879	-3.375	9524.500
Gold Pack		0.000	9510.250



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

