

## **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	107.0938	107.030	1.695	1.93
ZF	112.8656	112.277	2.685	4.10
ZN	114.3750	114.120	3.580	6.23
2y	100.584	100.1870	1.693	1.86
5y	101.709	101.2270	2.753	4.58
10y	102.109	102.0350	3.736	8.06

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	96.890	3.110	67	0.183	DEC	
EDAH09	97.565	2.435	158	0.432	MAR	White Pack
EDAM09	97.565	2.435	249	0.682	JUN	
EDAU09	97.455	2.545	340	0.931	SEP	
EDAZ09	97.160	2.840	431	1.180	DEC	
EDAH10	96.950	3.050	522	1.429	MAR	Red Pack
EDAM10	96.615	3.385	613	1.679	JUN	
EDAU10	96.280	3.720	704	1.928	SEP	
EDAZ10	95.910	4.090	795	2.177	DEC	
EDAH11	95.745	4.255	886	2.427	MAR	Green Pack
EDAM11	95.585	4.415	977	2.676	JUN	
EDAU11	95.510	4.490	1075	2.945	SEP	
EDAZ11	95.415	4.585	1166	3.194	DEC	
EDAH12	95.385	4.615	1257	3.443	MAR	Blue Pack
EDAM12	95.295	4.705	1348	3.692	JUN	
EDAU12	95.240	4.760	1439	3.942	SEP	
EDAZ12	95.195	4.805	1530	4.191	DEC	
EDAH13	95.155	4.845	1621	4.440	MAR	Gold Pack
EDAM13	95.060	4.940	1712	4.690	JUN	
EDZU13	94.905	5.095	1894	5.188	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	2.686	-19.500	9736.875	
Red Pack	3.321	-14.000	9675.125	Pack Prices
Green Pack	4.420	-13.000	9568.750	
Blue Pack	4.787	-13.875	9533.375	
Gold Pack	5.024	-8.375	9510.500	

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.

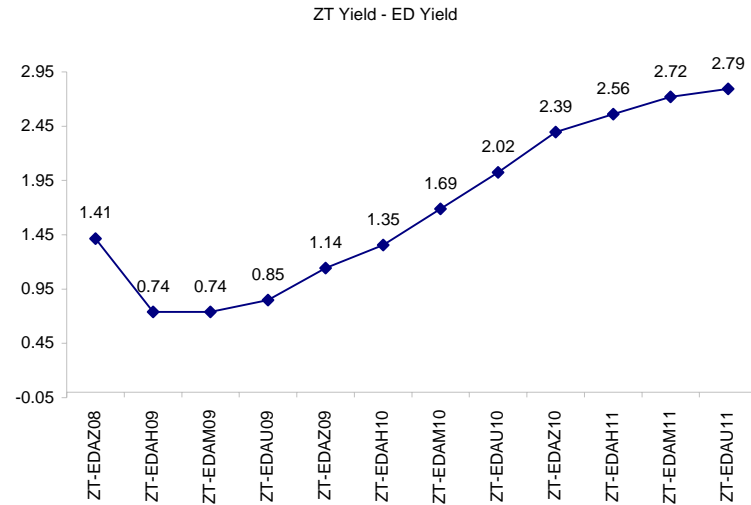
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

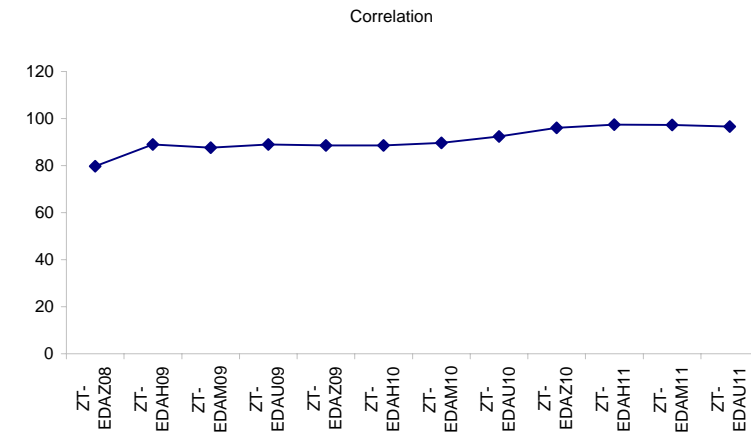
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.204	1.41	ZT-EDAZ08	79.688
EDAH09	9.529	0.74	ZT-EDAH09	88.941
EDAM09	9.529	0.74	ZT-EDAM09	87.584
EDAU09	9.639	0.85	ZT-EDAU09	88.941
EDAZ09	9.934	1.14	ZT-EDAZ09	88.585
EDAH10	10.144	1.35	ZT-EDAH10	88.610
EDAM10	10.479	1.69	ZT-EDAM10	89.705
EDAU10	10.814	2.02	ZT-EDAU10	92.329
EDAZ10	11.184	2.39	ZT-EDAZ10	96.065
EDAH11	11.349	2.56	ZT-EDAH11	97.468
EDAM11	11.509	2.72	ZT-EDAM11	97.313
EDAU11	11.584	2.79	ZT-EDAU11	96.638

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
EDAZ08	0.183	1.93	1.74	ZT-EDAZ08	
EDAH09	0.432	1.93	1.49	ZT-EDAH09	
EDAM09	0.682	1.93	1.25	ZT-EDAM09	
EDAU09	0.931	1.93	1.00	ZT-EDAU09	
EDAZ09	1.180	1.93	0.75	ZT-EDAZ09	
EDAH10	1.429	1.93	0.50	ZT-EDAH10	
EDAM10	1.679	1.93	0.25	ZT-EDAM10	
EDAU10	1.928	1.93	(0.00)	ZT-EDAU10	
EDAZ10	2.177	1.93	(0.25)	ZT-EDAZ10	
EDAH11	2.427	1.93	(0.50)	ZT-EDAH11	
EDAM11	2.676	1.93	(0.75)	ZT-EDAM11	
EDAU11	2.945	1.93	(1.02)	ZT-EDAU11	

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

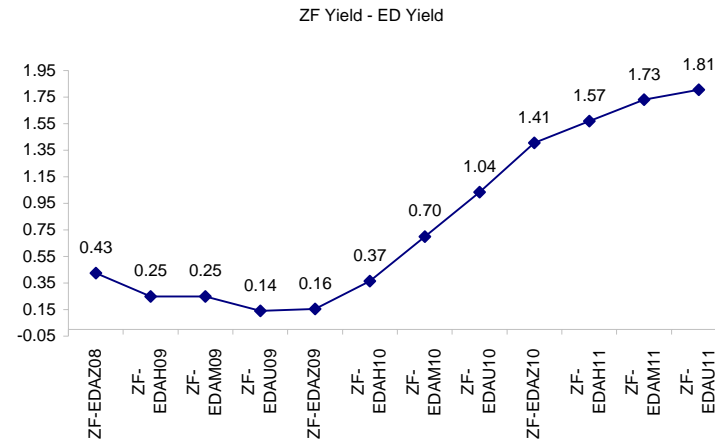


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	15.976	0.43	ZF-EDAZ08	79.547
EDAH09	15.301	0.25	ZF-EDAH09	83.688
EDAM09	15.301	0.25	ZF-EDAM09	83.902
EDAU09	15.411	0.14	ZF-EDAU09	85.351
EDAZ09	15.706	0.16	ZF-EDAZ09	85.194
EDAH10	15.916	0.37	ZF-EDAH10	85.802
EDAM10	16.251	0.70	ZF-EDAM10	87.744
EDAU10	16.586	1.04	ZF-EDAU10	91.294
EDAZ10	16.956	1.41	ZF-EDAZ10	96.459
EDAH11	17.121	1.57	ZF-EDAH11	98.639
EDAM11	17.281	1.73	ZF-EDAM11	99.403
EDAU11	17.356	1.81	ZF-EDAU11	99.312

Price = Outright Decimal Price - Euro Contract Price

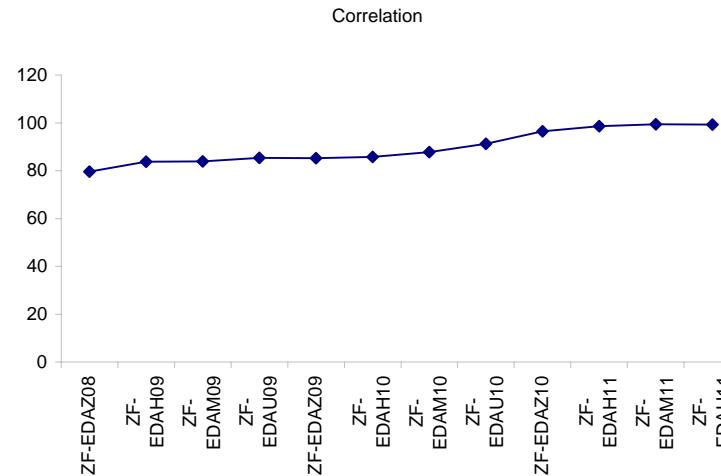
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.183	4.10	3.92	ZF-EDAZ08		
EDAH09	0.432	4.10	3.67	ZF-EDAH09		
EDAM09	0.682	4.10	3.42	ZF-EDAM09		
EDAU09	0.931	4.10	3.17	ZF-EDAU09		
EDAZ09	1.180	4.10	2.92	ZF-EDAZ09		
EDAH10	1.429	4.10	2.67	ZF-EDAH10		
EDAM10	1.679	4.10	2.42	ZF-EDAM10		
EDAU10	1.928	4.10	2.17	ZF-EDAU10		
EDAZ10	2.177	4.10	1.92	ZF-EDAZ10		
EDAH11	2.427	4.10	1.67	ZF-EDAH11		
EDAM11	2.676	4.10	1.42	ZF-EDAM11		
EDAU11	2.945	4.10	1.15	ZF-EDAU11		

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

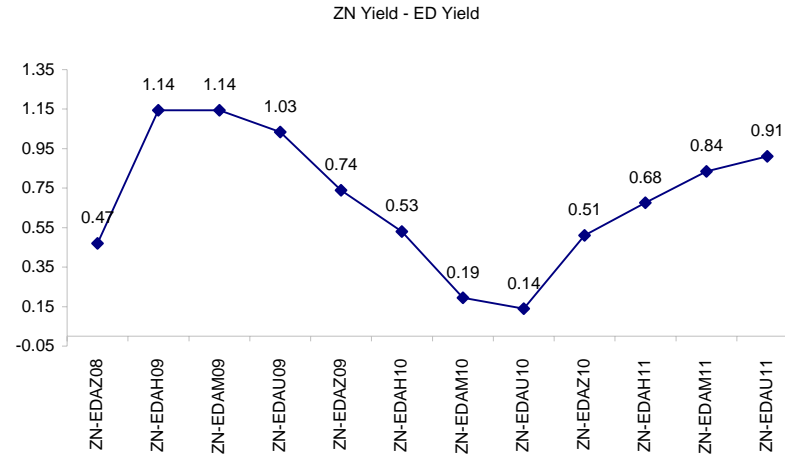


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	17.485	0.47	ZN-EDAZ08	63.948
EDAH09	16.810	1.14	ZN-EDAH09	60.802
EDAM09	16.810	1.14	ZN-EDAM09	59.440
EDAU09	16.920	1.03	ZN-EDAU09	61.104
EDAZ09	17.215	0.74	ZN-EDAZ09	61.080
EDAH10	17.425	0.53	ZN-EDAH10	63.273
EDAM10	17.760	0.19	ZN-EDAM10	87.744
EDAU10	18.095	0.14	ZN-EDAU10	91.294
EDAZ10	18.465	0.51	ZN-EDAZ10	96.459
EDAH11	18.630	0.68	ZN-EDAH11	98.639
EDAM11	18.790	0.84	ZN-EDAM11	99.403
EDAU11	18.865	0.91	ZN-EDAU11	99.312

Price = Outright Decimal Price - Euro Contract Price

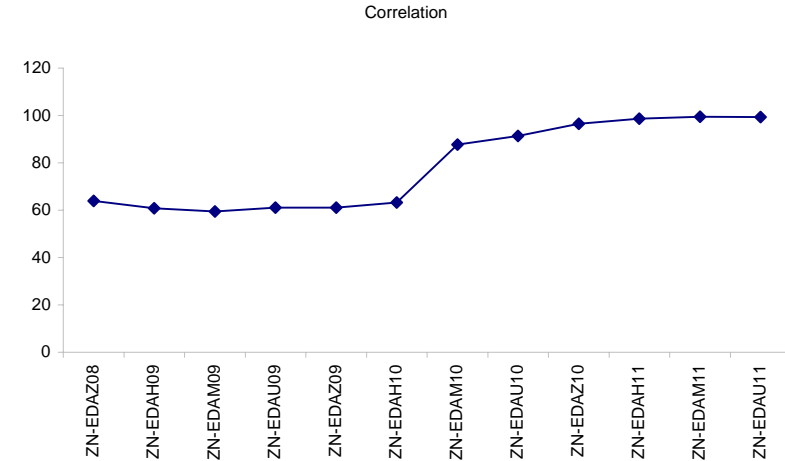
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.183	6.23	6.04	ZN-EDAZ08		
EDAH09	0.432	6.23	5.80	ZN-EDAH09		
EDAM09	0.682	6.23	5.55	ZN-EDAM09		
EDAU09	0.931	6.23	5.30	ZN-EDAU09		
EDAZ09	1.180	6.23	5.05	ZN-EDAZ09		
EDAH10	1.429	6.23	4.80	ZN-EDAH10		
EDAM10	1.679	6.23	4.55	ZN-EDAM10		
EDAU10	1.928	6.23	4.30	ZN-EDAU10		
EDAZ10	2.177	6.23	4.05	ZN-EDAZ10		
EDAH11	2.427	6.23	3.80	ZN-EDAH11		
EDAM11	2.676	6.23	3.55	ZN-EDAM11		
EDAU11	2.945	6.23	3.28	ZN-EDAU11		

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

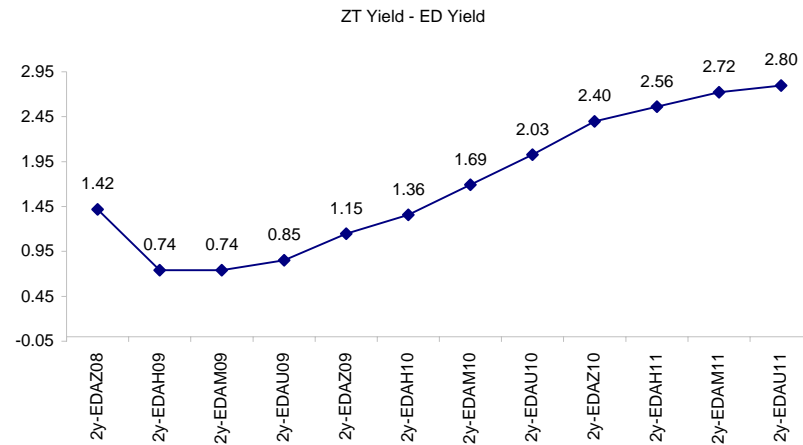


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.694	1.42	2y-EDAZ08	-79.131
EDAH09	3.019	0.74	2y-EDAH09	-89.382
EDAM09	3.019	0.74	2y-EDAM09	-91.098
EDAU09	3.129	0.85	2y-EDAU09	-92.381
EDAZ09	3.424	1.15	2y-EDAZ09	-92.122
EDAH10	3.634	1.36	2y-EDAH10	-91.774
EDAM10	3.969	1.69	2y-EDAM10	-91.731
EDAU10	4.304	2.03	2y-EDAU10	-92.712
EDAZ10	4.674	2.40	2y-EDAZ10	-93.869
EDAH11	4.839	2.56	2y-EDAH11	-93.871
EDAM11	4.999	2.72	2y-EDAM11	-91.889
EDAU11	5.074	2.80	2y-EDAU11	-90.012

Price = Outright Decimal Price - Euro Contract Price

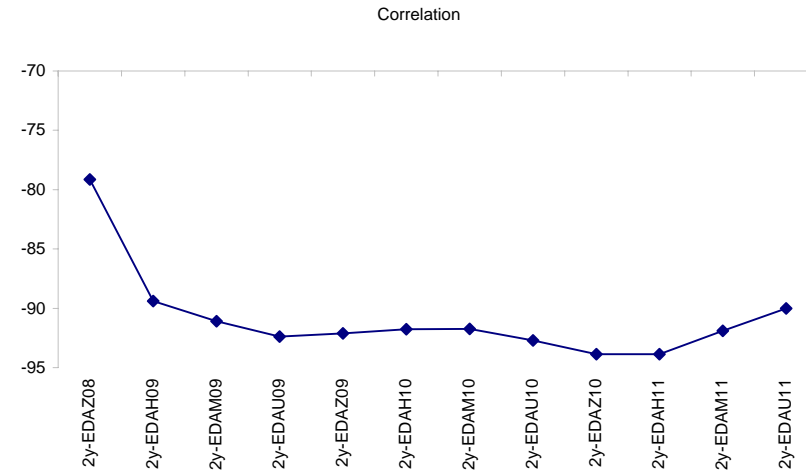
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.183	1.86	1.68	2y-EDAZ08	
EDAH09	0.432	1.86	1.43	2y-EDAH09	
EDAM09	0.682	1.86	1.18	2y-EDAM09	
EDAU09	0.931	1.86	0.93	2y-EDAU09	
EDAZ09	1.180	1.86	0.68	2y-EDAZ09	
EDAH10	1.429	1.86	0.43	2y-EDAH10	
EDAM10	1.679	1.86	0.18	2y-EDAM10	
EDAU10	1.928	1.86	(0.07)	2y-EDAU10	
EDAZ10	2.177	1.86	(0.32)	2y-EDAZ10	
EDAH11	2.427	1.86	(0.56)	2y-EDAH11	
EDAM11	2.676	1.86	(0.81)	2y-EDAM11	
EDAU11	2.945	1.86	(1.08)	2y-EDAU11	

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

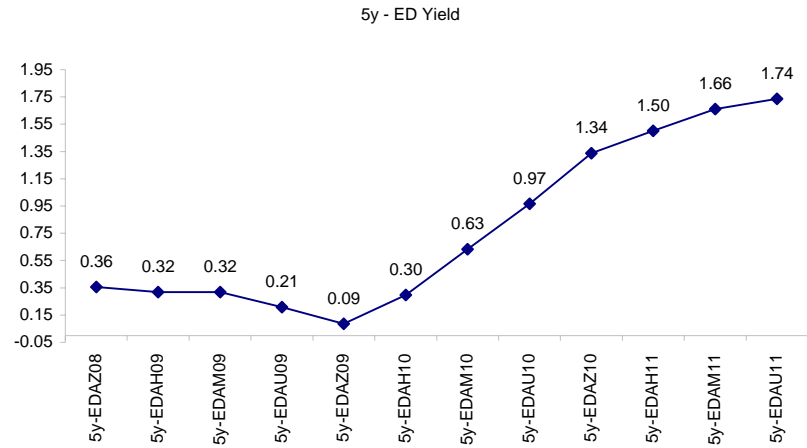


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.819	0.36	5y-EDAZ08	-81.048
EDAH09	4.144	0.32	5y-EDAH09	-88.357
EDAM09	4.144	0.32	5y-EDAM09	-89.490
EDAU09	4.254	0.21	5y-EDAU09	-90.995
EDAZ09	4.549	0.09	5y-EDAZ09	-91.073
EDAH10	4.759	0.30	5y-EDAH10	-91.456
EDAM10	5.094	0.63	5y-EDAM10	-92.537
EDAU10	5.429	0.97	5y-EDAU10	-94.588
EDAZ10	5.799	1.34	5y-EDAZ10	-97.070
EDAH11	5.964	1.50	5y-EDAH11	-97.602
EDAM11	6.124	1.66	5y-EDAM11	-96.484
EDAU11	6.199	1.74	5y-EDAU11	-95.408

Price = Outright Decimal Price - Euro Contract Price

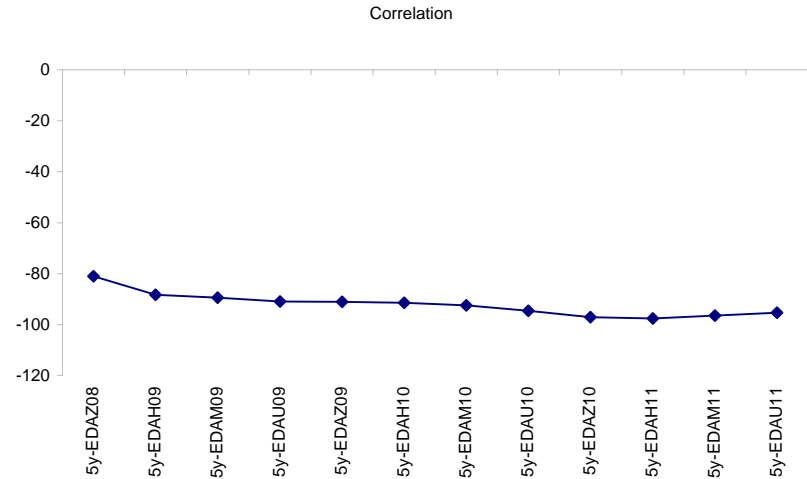
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAZ08	0.183	4.58	4.40	5y-EDAZ08
EDAH09	0.432	4.58	4.15	5y-EDAH09
EDAM09	0.682	4.58	3.90	5y-EDAM09
EDAU09	0.931	4.58	3.65	5y-EDAU09
EDAZ09	1.180	4.58	3.40	5y-EDAZ09
EDAH10	1.429	4.58	3.15	5y-EDAH10
EDAM10	1.679	4.58	2.90	5y-EDAM10
EDAU10	1.928	4.58	2.65	5y-EDAU10
EDAZ10	2.177	4.58	2.40	5y-EDAZ10
EDAH11	2.427	4.58	2.15	5y-EDAH11
EDAM11	2.676	4.58	1.90	5y-EDAM11
EDAU11	2.945	4.58	1.64	5y-EDAU11

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

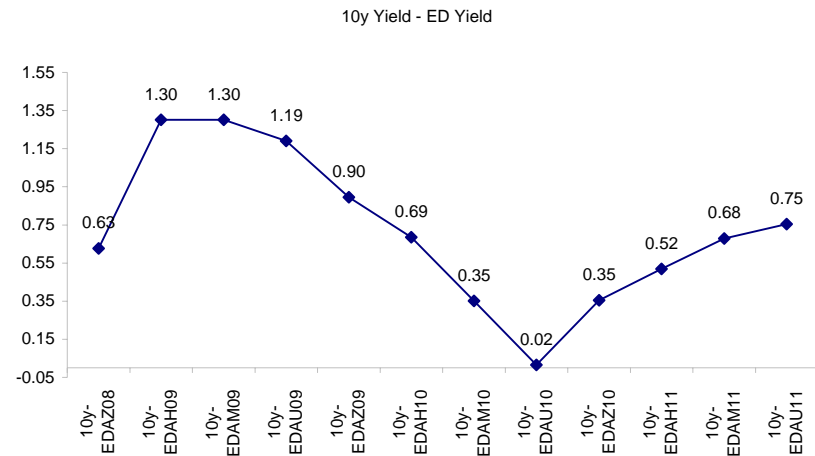


	10y			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAZ08	4.819	0.63	10y-EDAZ08	-73.275
EDAH09	4.144	1.30	10y-EDAH09	-79.022
EDAM09	4.144	1.30	10y-EDAM09	-79.790
EDAU09	4.254	1.19	10y-EDAU09	-81.591
EDAZ09	4.549	0.90	10y-EDAZ09	-81.323
EDAH10	4.759	0.69	10y-EDAH10	-82.098
EDAM10	5.094	0.35	10y-EDAM10	-84.557
EDAU10	5.429	0.02	10y-EDAU10	-88.542
EDAZ10	5.799	0.35	10y-EDAZ10	-94.068
EDAH11	5.964	0.52	10y-EDAH11	-96.506
EDAM11	6.124	0.68	10y-EDAM11	-97.780
EDAU11	6.199	0.75	10y-EDAU11	-98.334

Price = Outright Decimal Price - Euro Contract Price

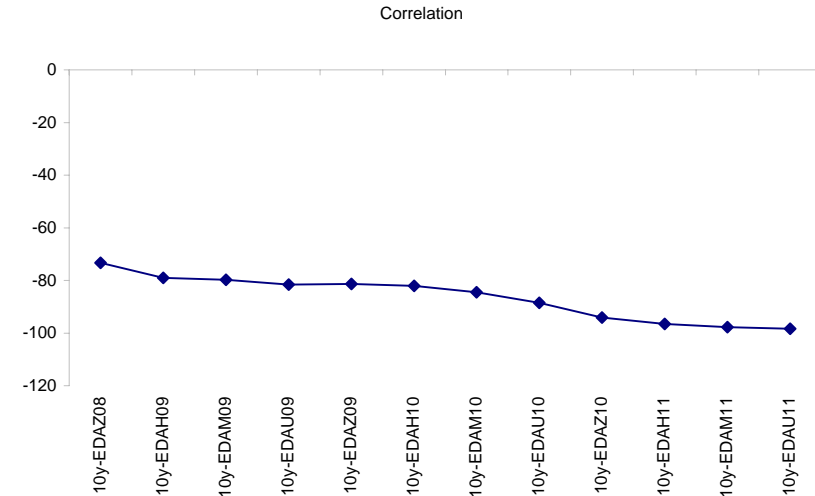
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.183	8.06	7.87	10y-EDAZ08
EDAH09	0.432	8.06	7.63	10y-EDAH09
EDAM09	0.682	8.06	7.38	10y-EDAM09
EDAU09	0.931	8.06	7.13	10y-EDAU09
EDAZ09	1.180	8.06	6.88	10y-EDAZ09
EDAH10	1.429	8.06	6.63	10y-EDAH10
EDAM10	1.679	8.06	6.38	10y-EDAM10
EDAU10	1.928	8.06	6.13	10y-EDAU10
EDAZ10	2.177	8.06	5.88	10y-EDAZ10
EDAH11	2.427	8.06	5.63	10y-EDAH11
EDAM11	2.676	8.06	5.38	10y-EDAM11
EDAU11	2.945	8.06	5.11	10y-EDAU11

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.

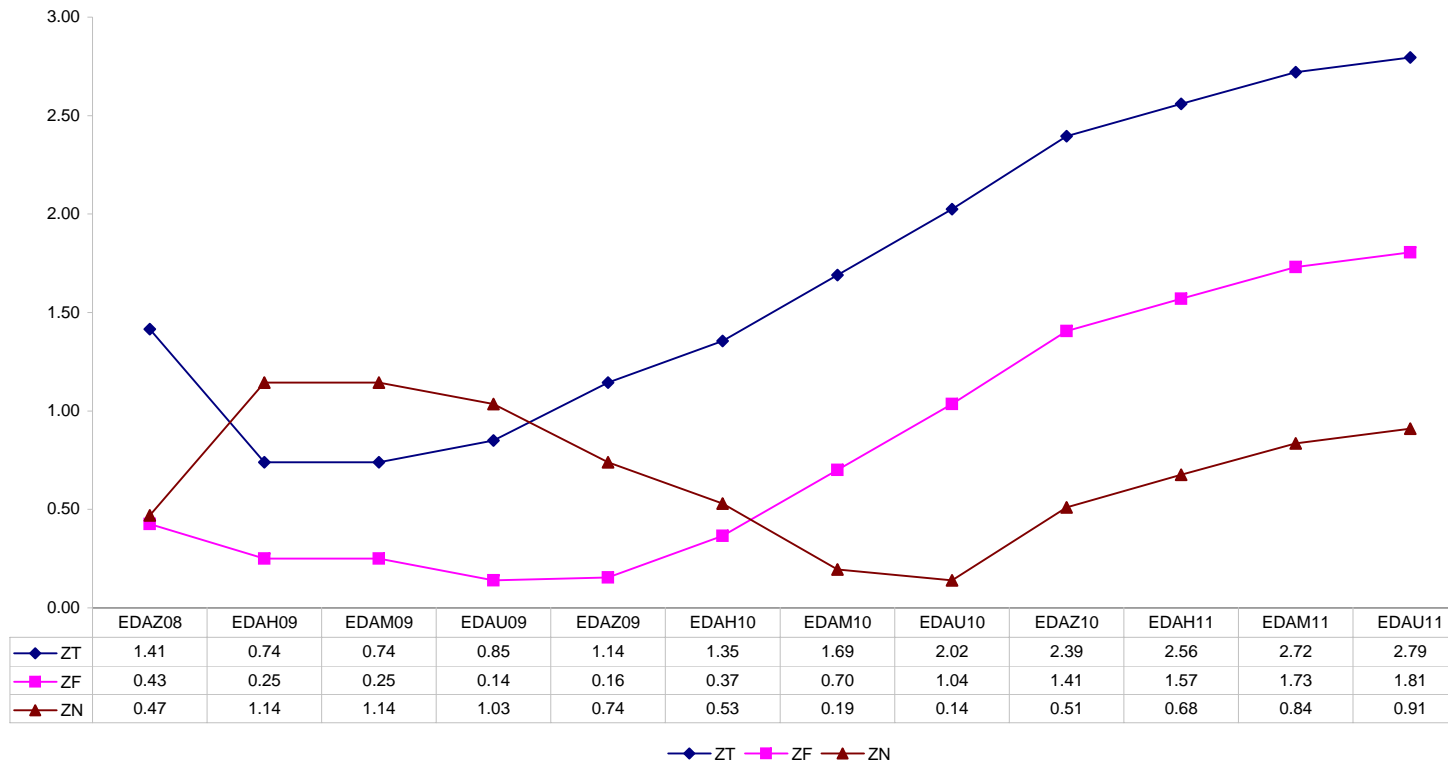
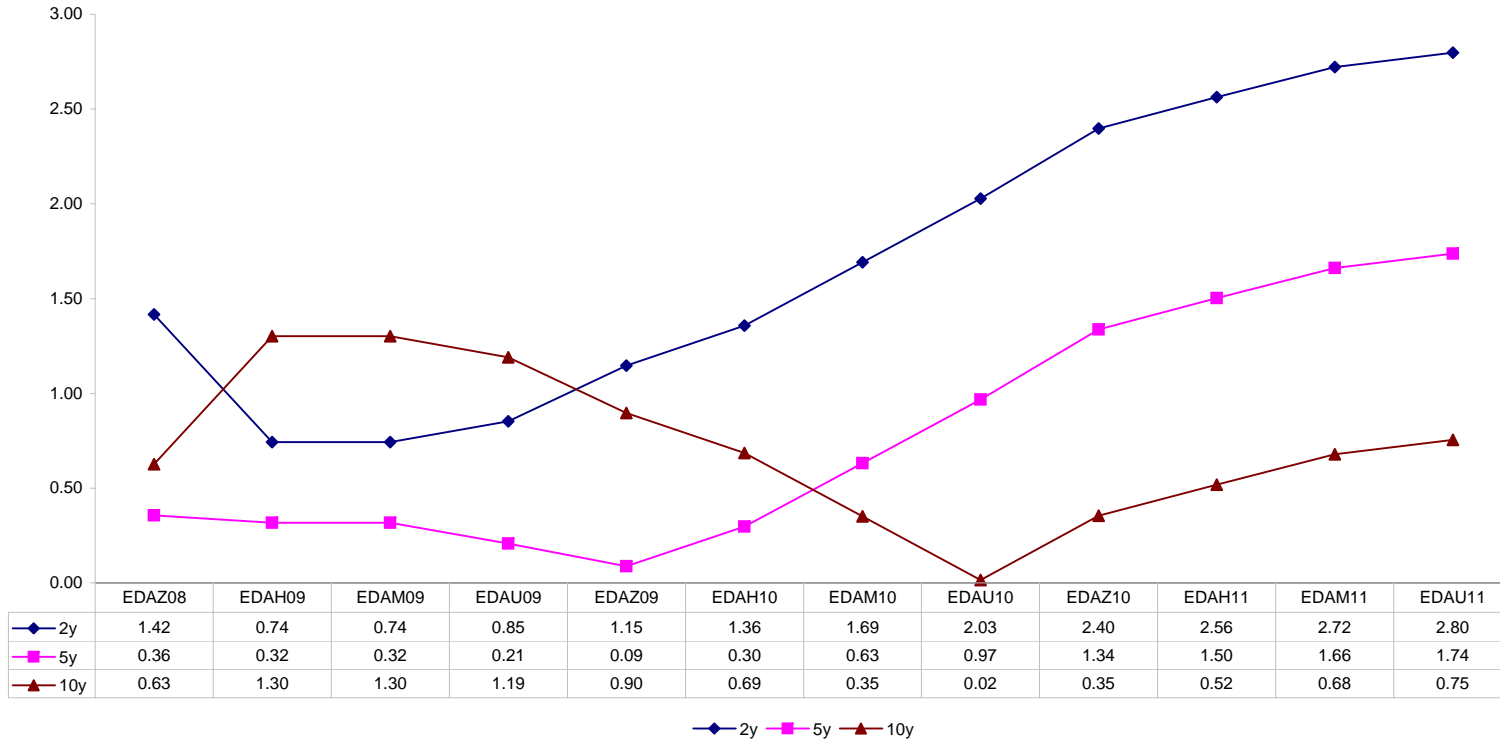
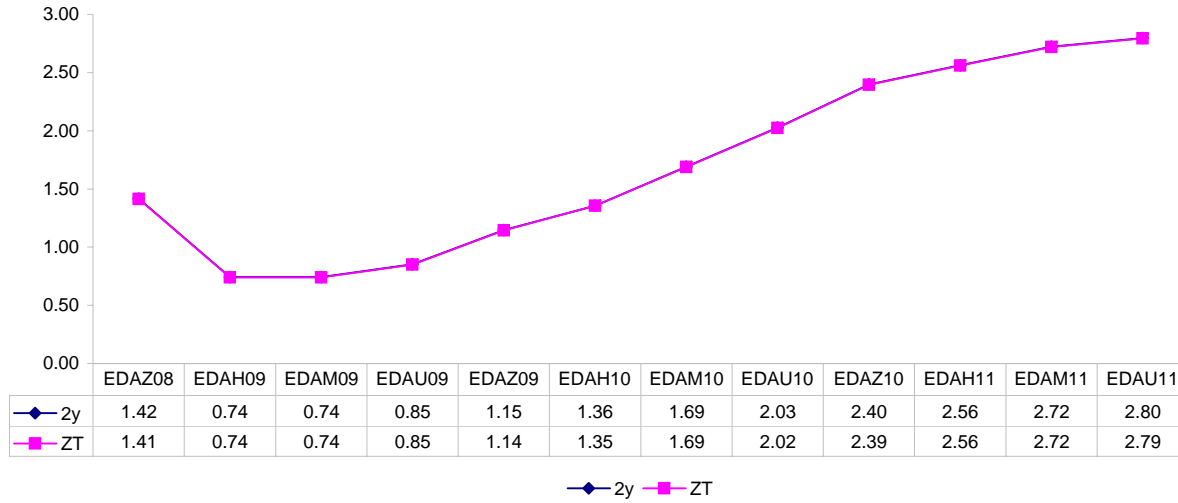


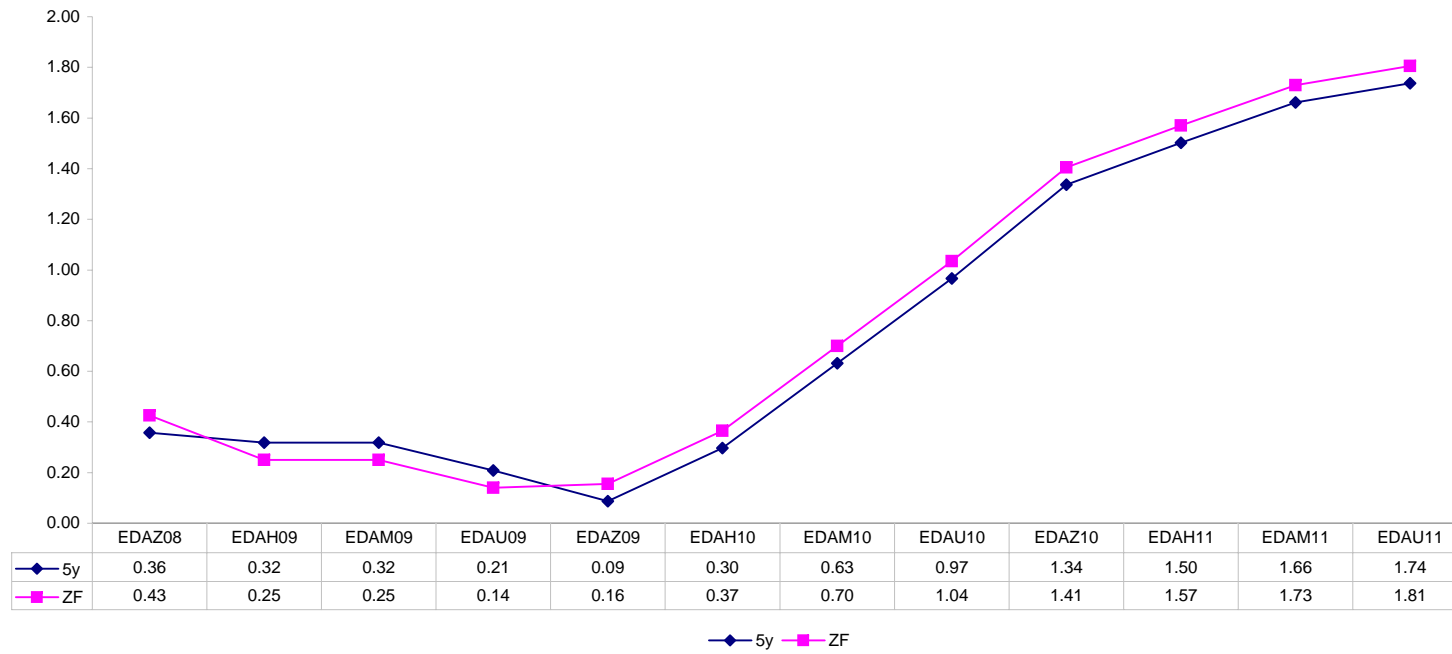
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



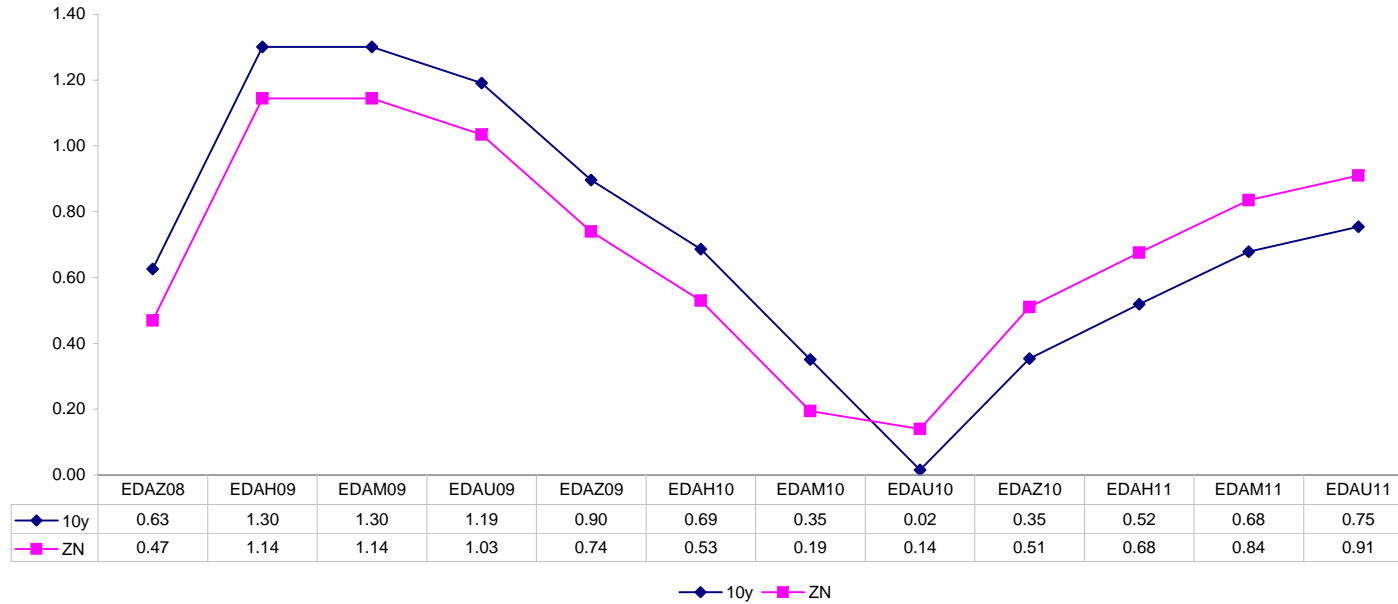
2y Basis TED Curve



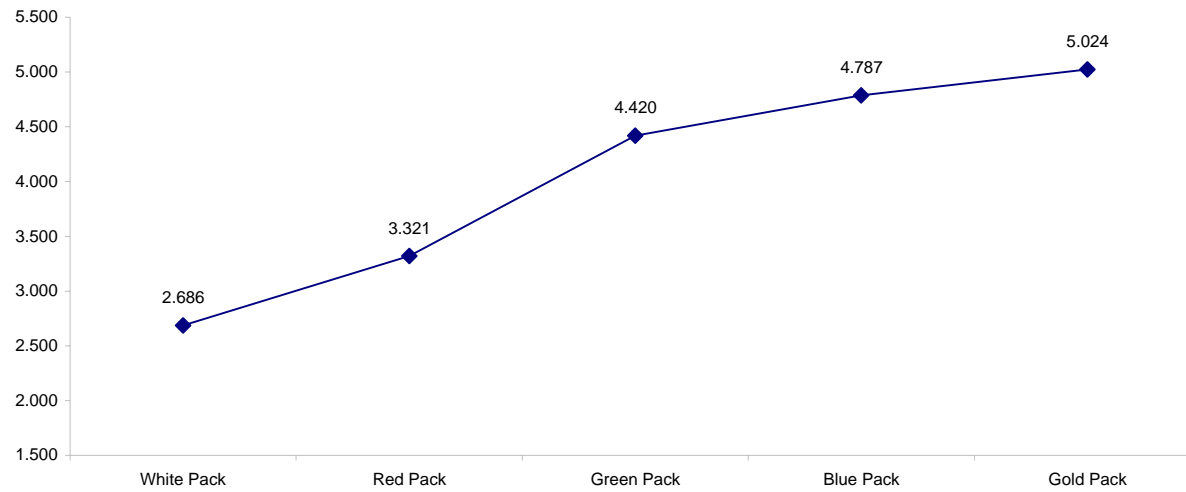
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.686	-19.500	9736.875
Red Pack	3.321	-14.000	9675.125
Green Pack	4.420	-13.000	9568.750
Blue Pack	4.787	-13.875	9533.375
Gold Pack	5.024	-8.375	9510.500



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

