

## **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	107.6313	107.202	1.476	1.93
ZF	114.3188	114.102	2.382	4.11
ZN	117.1406	117.045	3.312	6.25
2y	101.016	101.0050	1.478	1.87
5y	102.991	102.3170	2.479	4.59
10y	104.141	104.0450	3.508	8.09

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	97.210	2.790	69	0.188	DEC	
EDAH09	97.790	2.210	160	0.438	MAR	White Pack
EDAM09	97.780	2.220	251	0.687	JUN	
EDAU09	97.700	2.300	342	0.936	SEP	
EDAZ09	97.385	2.615	433	1.186	DEC	
EDAH10	97.190	2.810	524	1.435	MAR	Red Pack
EDAM10	96.885	3.115	615	1.684	JUN	
EDAU10	96.595	3.405	706	1.934	SEP	
EDAZ10	96.310	3.690	797	2.183	DEC	
EDAH11	96.150	3.850	888	2.432	MAR	Green Pack
EDAM11	96.020	3.980	979	2.682	JUN	
EDAU11	95.925	4.075	1077	2.950	SEP	
EDAZ11	95.850	4.150	1168	3.199	DEC	
EDAH12	95.850	4.150	1259	3.449	MAR	Blue Pack
EDAM12	95.780	4.220	1350	3.698	JUN	
EDAU12	95.725	4.275	1441	3.947	SEP	
EDAZ12	95.580	4.420	1532	4.197	DEC	
EDAH13	95.545	4.455	1623	4.446	MAR	Gold Pack
EDAM13	95.445	4.555	1714	4.695	JUN	
EDZU13	#VALUE!	#VALUE!	1896	5.194	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	2.428	-5.500	9762.000	Pack Prices
Red Pack	3.051	-5.000	9701.375	
Green Pack	3.992	-3.375	9610.125	
Blue Pack	4.302	-1.625	9580.125	
Gold Pack		0.000	9556.500	

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.

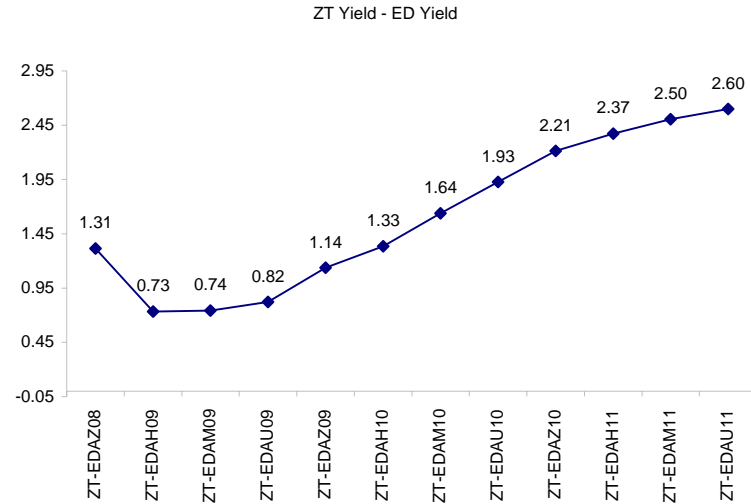
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

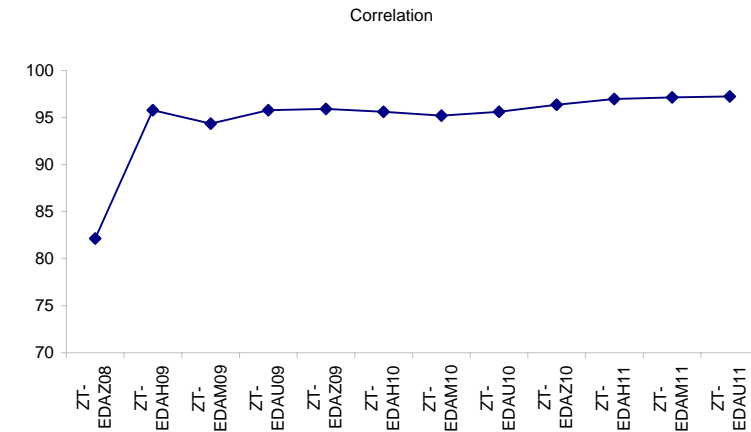
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.421	1.31	ZT-EDAZ08	82.153
EDAH09	9.841	0.73	ZT-EDAH09	95.779
EDAM09	9.851	0.74	ZT-EDAM09	94.358
EDAU09	9.931	0.82	ZT-EDAU09	95.779
EDAZ09	10.246	1.14	ZT-EDAZ09	95.911
EDAH10	10.441	1.33	ZT-EDAH10	95.627
EDAM10	10.746	1.64	ZT-EDAM10	95.219
EDAU10	11.036	1.93	ZT-EDAU10	95.611
EDAZ10	11.321	2.21	ZT-EDAZ10	96.349
EDAH11	11.481	2.37	ZT-EDAH11	96.956
EDAM11	11.611	2.50	ZT-EDAM11	97.138
EDAU11	11.706	2.60	ZT-EDAU11	97.249

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	ZT Duration	Spread Duration
EDAZ08	0.188	1.93	1.75	ZT-EDAZ08
EDAH09	0.438	1.93	1.50	ZT-EDAH09
EDAM09	0.687	1.93	1.25	ZT-EDAM09
EDAU09	0.936	1.93	1.00	ZT-EDAU09
EDAZ09	1.186	1.93	0.75	ZT-EDAZ09
EDAH10	1.435	1.93	0.50	ZT-EDAH10
EDAM10	1.684	1.93	0.25	ZT-EDAM10
EDAU10	1.934	1.93	0.00	ZT-EDAU10
EDAZ10	2.183	1.93	(0.25)	ZT-EDAZ10
EDAH11	2.432	1.93	(0.50)	ZT-EDAH11
EDAM11	2.682	1.93	(0.75)	ZT-EDAM11
EDAU11	2.950	1.93	(1.02)	ZT-EDAU11

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

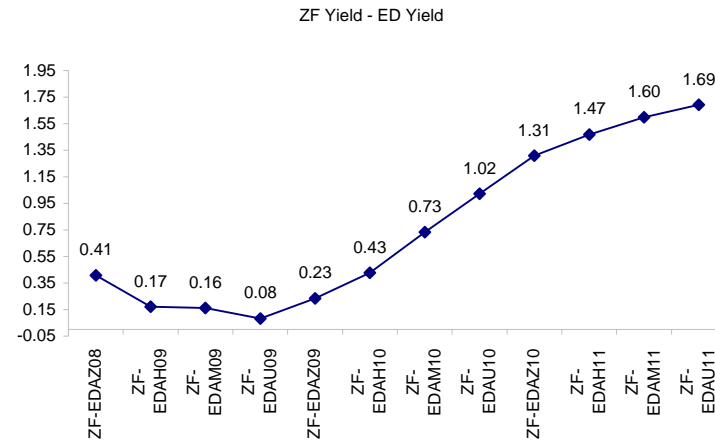


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	17.109	0.41	ZF-EDAZ08	86.303
EDAH09	16.529	0.17	ZF-EDAH09	93.803
EDAM09	16.539	0.16	ZF-EDAM09	96.419
EDAU09	16.619	0.08	ZF-EDAU09	97.647
EDAZ09	16.934	0.23	ZF-EDAZ09	97.795
EDAH10	17.129	0.43	ZF-EDAH10	97.516
EDAM10	17.434	0.73	ZF-EDAM10	97.160
EDAU10	17.724	1.02	ZF-EDAU10	97.470
EDAZ10	18.009	1.31	ZF-EDAZ10	98.066
EDAH11	18.169	1.47	ZF-EDAH11	98.517
EDAM11	18.299	1.60	ZF-EDAM11	98.593
EDAU11	18.394	1.69	ZF-EDAU11	98.597

Price = Outright Decimal Price - Euro Contract Price

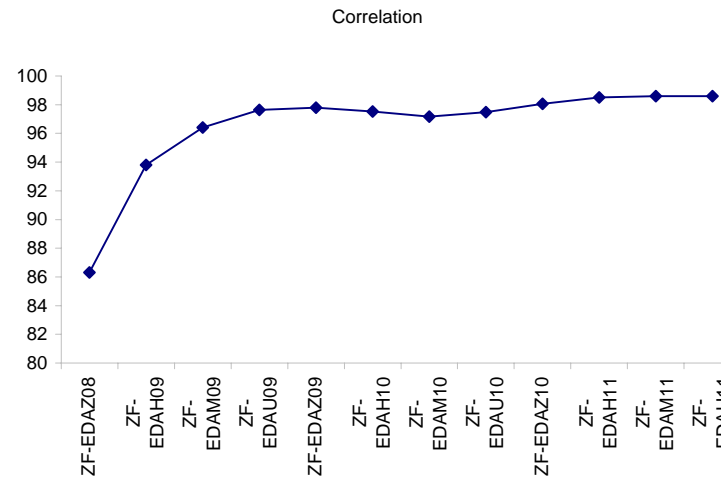
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.188	4.11	3.92	ZF-EDAZ08		
EDAH09	0.438	4.11	3.67	ZF-EDAH09		
EDAM09	0.687	4.11	3.42	ZF-EDAM09		
EDAU09	0.936	4.11	3.18	ZF-EDAU09		
EDAZ09	1.186	4.11	2.93	ZF-EDAZ09		
EDAH10	1.435	4.11	2.68	ZF-EDAH10		
EDAM10	1.684	4.11	2.43	ZF-EDAM10		
EDAU10	1.934	4.11	2.18	ZF-EDAU10		
EDAZ10	2.183	4.11	1.93	ZF-EDAZ10		
EDAH11	2.432	4.11	1.68	ZF-EDAH11		
EDAM11	2.682	4.11	1.43	ZF-EDAM11		
EDAU11	2.950	4.11	1.16	ZF-EDAU11		

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

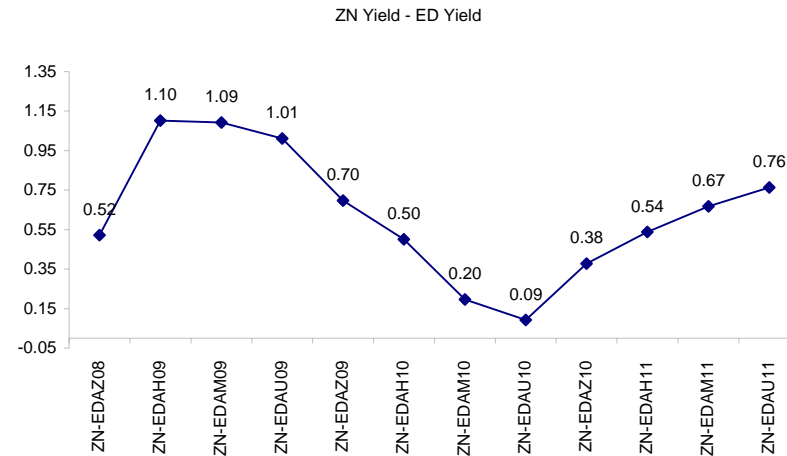


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	19.931	0.52	ZN-EDAZ08	85.397
EDAH09	19.351	1.10	ZN-EDAH09	89.003
EDAM09	19.361	1.09	ZN-EDAM09	91.887
EDAU09	19.441	1.01	ZN-EDAU09	93.691
EDAZ09	19.756	0.70	ZN-EDAZ09	94.365
EDAH10	19.951	0.50	ZN-EDAH10	94.612
EDAM10	20.256	0.20	ZN-EDAM10	97.160
EDAU10	20.546	0.09	ZN-EDAU10	97.470
EDAZ10	20.831	0.38	ZN-EDAZ10	98.066
EDAH11	20.991	0.54	ZN-EDAH11	98.517
EDAM11	21.121	0.67	ZN-EDAM11	98.593
EDAU11	21.216	0.76	ZN-EDAU11	98.597

Price = Outright Decimal Price - Euro Contract Price

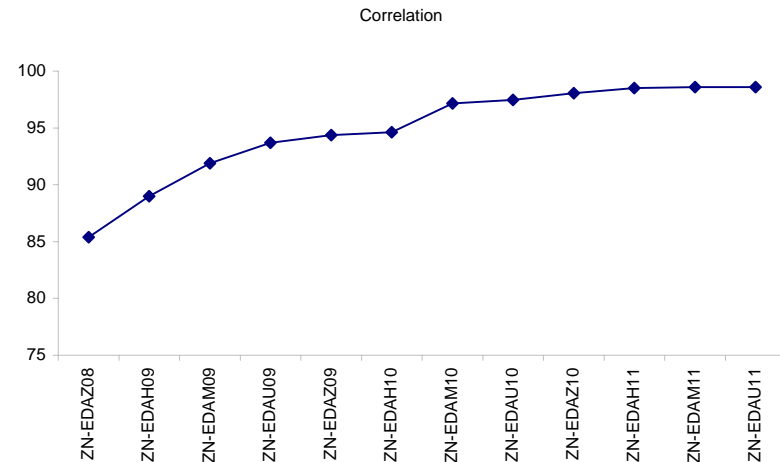
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				ZN Duration	Spread Duration	
EDAZ08	0.188	6.25	6.07	ZN-EDAZ08		
EDAH09	0.438	6.25	5.82	ZN-EDAH09		
EDAM09	0.687	6.25	5.57	ZN-EDAM09		
EDAU09	0.936	6.25	5.32	ZN-EDAU09		
EDAZ09	1.186	6.25	5.07	ZN-EDAZ09		
EDAH10	1.435	6.25	4.82	ZN-EDAH10		
EDAM10	1.684	6.25	4.57	ZN-EDAM10		
EDAU10	1.934	6.25	4.32	ZN-EDAU10		
EDAZ10	2.183	6.25	4.07	ZN-EDAZ10		
EDAH11	2.432	6.25	3.82	ZN-EDAH11		
EDAM11	2.682	6.25	3.57	ZN-EDAM11		
EDAU11	2.950	6.25	3.30	ZN-EDAU11		

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

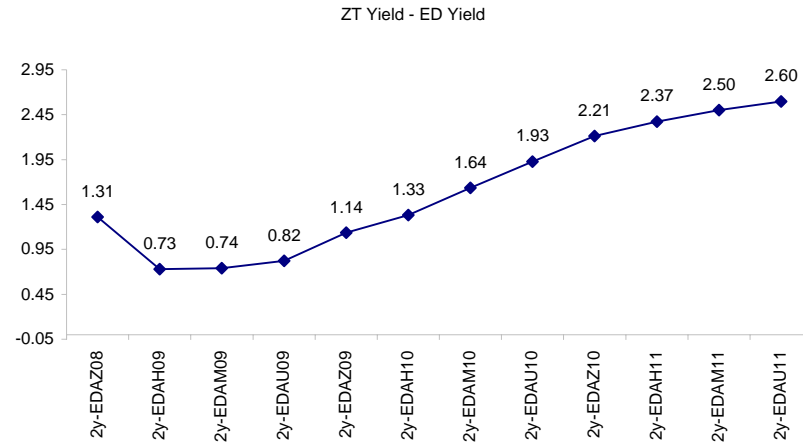


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.806	1.31	2y-EDAZ08	-79.734
EDAH09	3.226	0.73	2y-EDAH09	-90.551
EDAM09	3.236	0.74	2y-EDAM09	-93.512
EDAU09	3.316	0.82	2y-EDAU09	-94.820
EDAZ09	3.631	1.14	2y-EDAZ09	-94.747
EDAH10	3.826	1.33	2y-EDAH10	-94.394
EDAM10	4.131	1.64	2y-EDAM10	-93.806
EDAU10	4.421	1.93	2y-EDAU10	-94.012
EDAZ10	4.706	2.21	2y-EDAZ10	-94.702
EDAH11	4.866	2.37	2y-EDAH11	-95.402
EDAM11	4.996	2.50	2y-EDAM11	-95.562
EDAU11	5.091	2.60	2y-EDAU11	-95.435

Price = Outright Decimal Price - Euro Contract Price

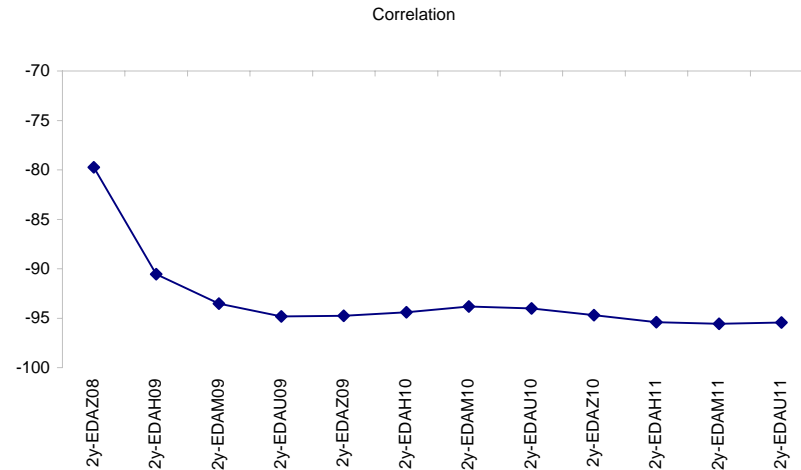
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.188	1.87	1.68		2y-EDAZ08
EDAH09	0.438	1.87	1.43		2y-EDAH09
EDAM09	0.687	1.87	1.18		2y-EDAM09
EDAU09	0.936	1.87	0.93		2y-EDAU09
EDAZ09	1.186	1.87	0.68		2y-EDAZ09
EDAH10	1.435	1.87	0.43		2y-EDAH10
EDAM10	1.684	1.87	0.19		2y-EDAM10
EDAU10	1.934	1.87	(0.06)		2y-EDAU10
EDAZ10	2.183	1.87	(0.31)		2y-EDAZ10
EDAH11	2.432	1.87	(0.56)		2y-EDAH11
EDAM11	2.682	1.87	(0.81)		2y-EDAM11
EDAU11	2.950	1.87	(1.08)		2y-EDAU11

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

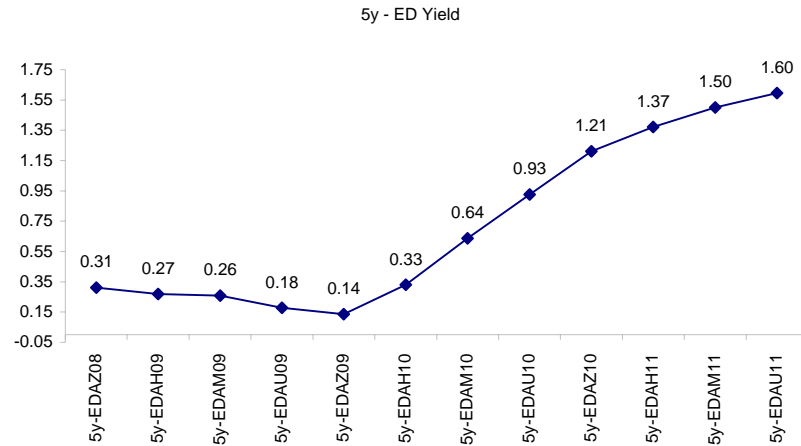


	5y			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAZ08	5.781	0.31	5y-EDAZ08	-82.410
EDAH09	5.201	0.27	5y-EDAH09	-90.967
EDAM09	5.211	0.26	5y-EDAM09	-94.215
EDAU09	5.291	0.18	5y-EDAU09	-96.015
EDAZ09	5.606	0.14	5y-EDAZ09	-96.482
EDAH10	5.801	0.33	5y-EDAH10	-96.261
EDAM10	6.106	0.64	5y-EDAM10	-95.952
EDAU10	6.396	0.93	5y-EDAU10	-96.348
EDAZ10	6.681	1.21	5y-EDAZ10	-97.166
EDAH11	6.841	1.37	5y-EDAH11	-97.909
EDAM11	6.971	1.50	5y-EDAM11	-98.073
EDAU11	7.066	1.60	5y-EDAU11	-98.254

Price = Outright Decimal Price - Euro Contract Price

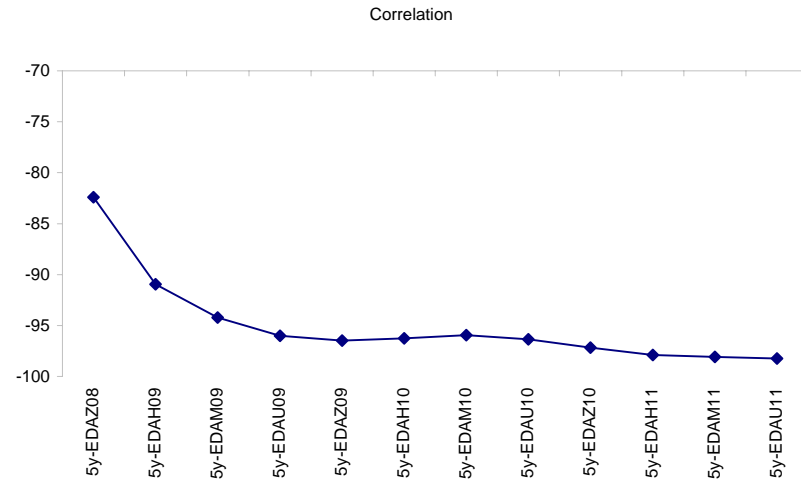
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			5Y Duration	Spread Duration	
EDAZ08	0.188	4.59	4.41	5y-EDAZ08		
EDAH09	0.438	4.59	4.16	5y-EDAH09		
EDAM09	0.687	4.59	3.91	5y-EDAM09		
EDAU09	0.936	4.59	3.66	5y-EDAU09		
EDAZ09	1.186	4.59	3.41	5y-EDAZ09		
EDAH10	1.435	4.59	3.16	5y-EDAH10		
EDAM10	1.684	4.59	2.91	5y-EDAM10		
EDAU10	1.934	4.59	2.66	5y-EDAU10		
EDAZ10	2.183	4.59	2.41	5y-EDAZ10		
EDAH11	2.432	4.59	2.16	5y-EDAH11		
EDAM11	2.682	4.59	1.91	5y-EDAM11		
EDAU11	2.950	4.59	1.64	5y-EDAU11		

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



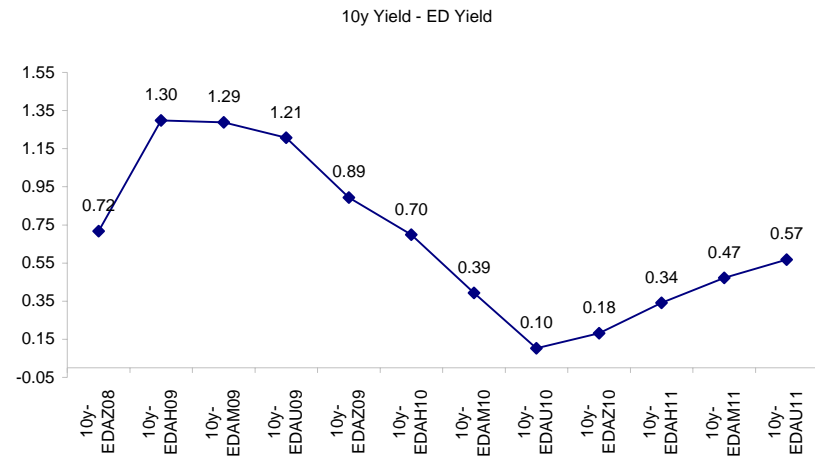


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	5.781	0.72	10y-EDAZ08	-85.104
EDAH09	5.201	1.30	10y-EDAH09	-93.076
EDAM09	5.211	1.29	10y-EDAM09	-95.700
EDAU09	5.291	1.21	10y-EDAU09	-96.864
EDAZ09	5.606	0.89	10y-EDAZ09	-97.156
EDAH10	5.801	0.70	10y-EDAH10	-97.001
EDAM10	6.106	0.39	10y-EDAM10	-96.968
EDAU10	6.396	0.10	10y-EDAU10	-97.270
EDAZ10	6.681	0.18	10y-EDAZ10	-97.385
EDAH11	6.841	0.34	10y-EDAH11	-97.666
EDAM11	6.971	0.47	10y-EDAM11	-97.600
EDAU11	7.066	0.57	10y-EDAU11	-97.889

Price = Outright Decimal Price - Euro Contract Price

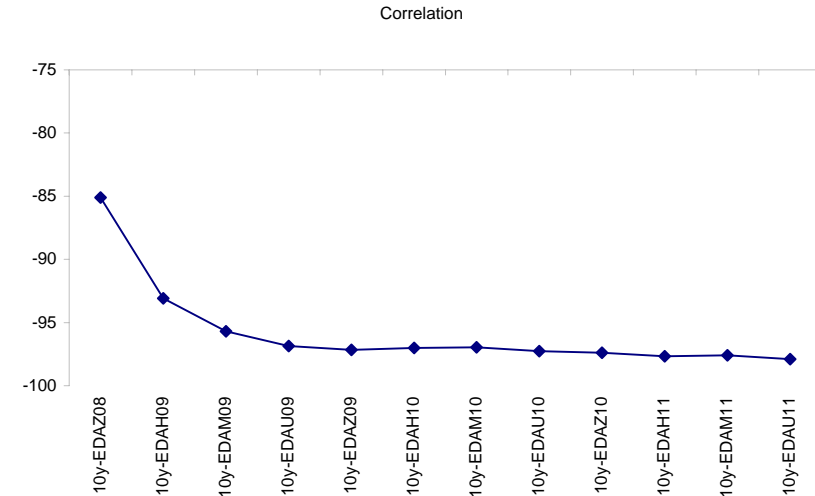
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.188	8.09	7.90	10y-EDAZ08
EDAH09	0.438	8.09	7.65	10y-EDAH09
EDAM09	0.687	8.09	7.40	10y-EDAM09
EDAU09	0.936	8.09	7.15	10y-EDAU09
EDAZ09	1.186	8.09	6.90	10y-EDAZ09
EDAH10	1.435	8.09	6.66	10y-EDAH10
EDAM10	1.684	8.09	6.41	10y-EDAM10
EDAU10	1.934	8.09	6.16	10y-EDAU10
EDAZ10	2.183	8.09	5.91	10y-EDAZ10
EDAH11	2.432	8.09	5.66	10y-EDAH11
EDAM11	2.682	8.09	5.41	10y-EDAM11
EDAU11	2.950	8.09	5.14	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.

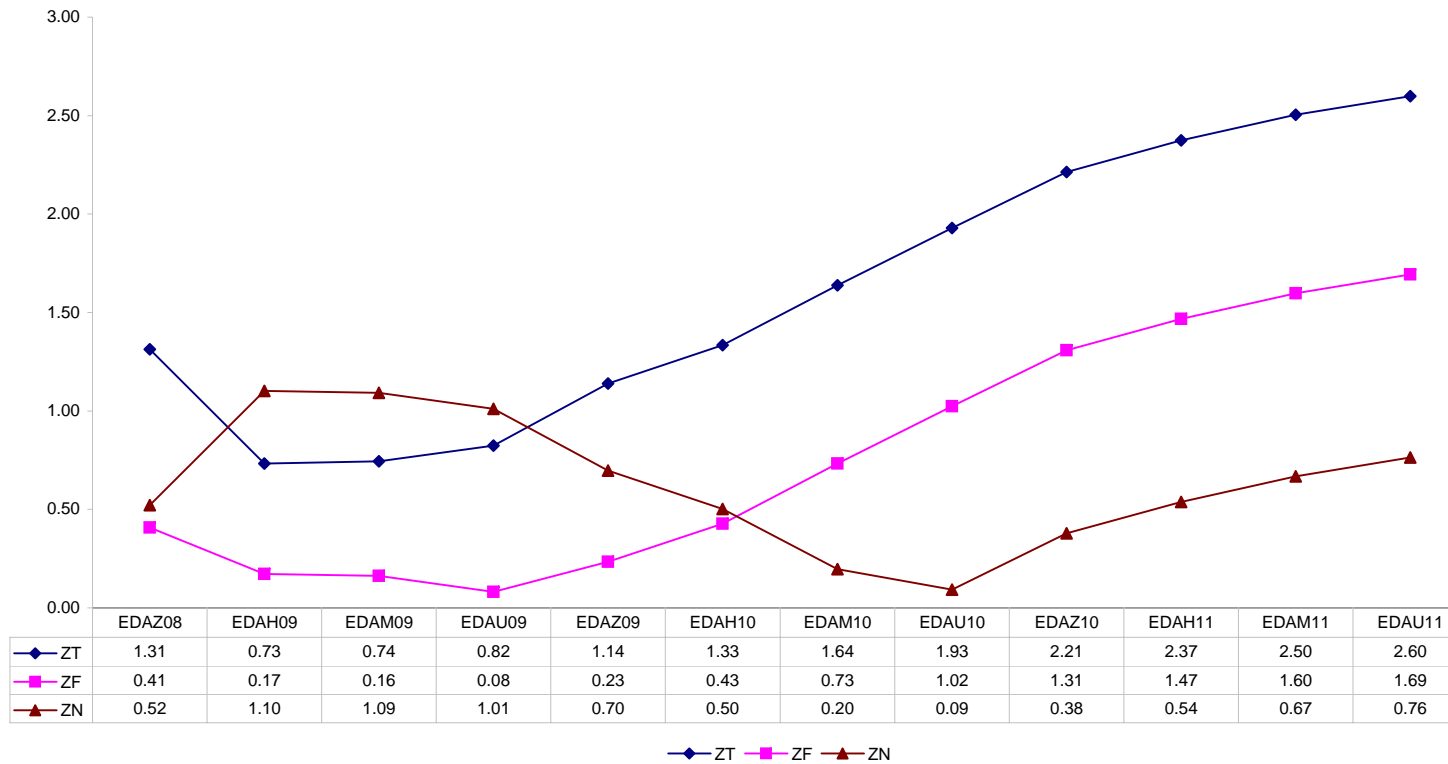
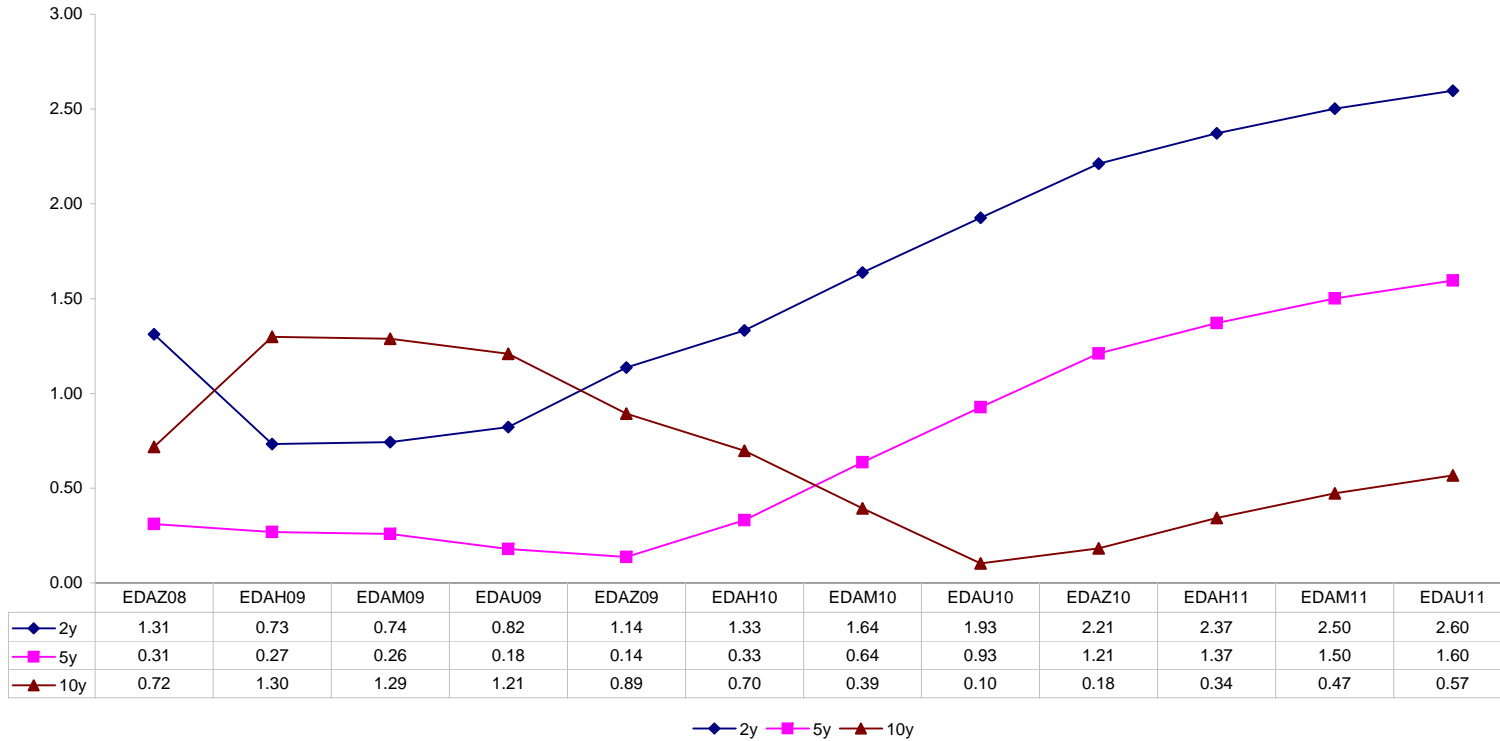
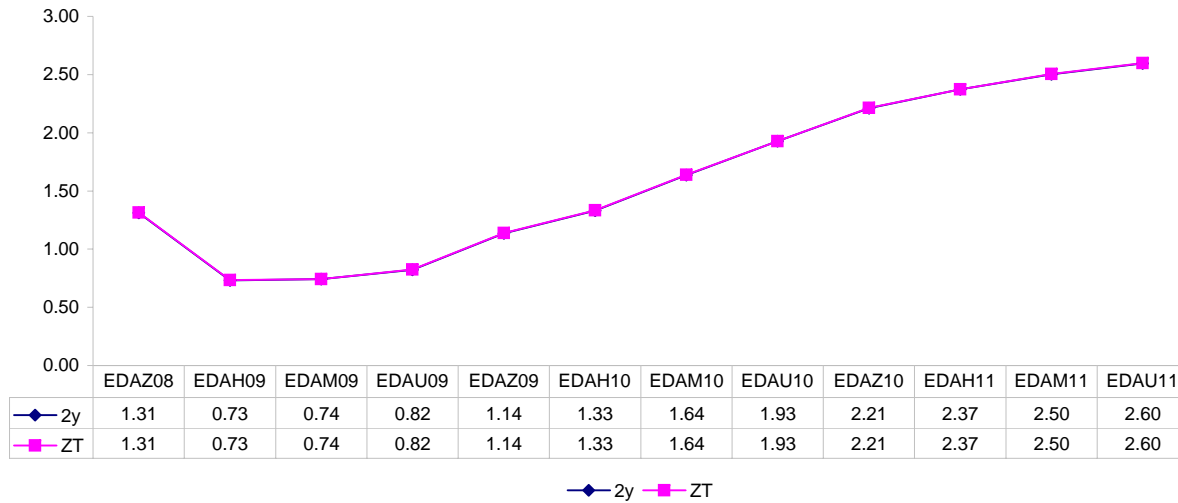


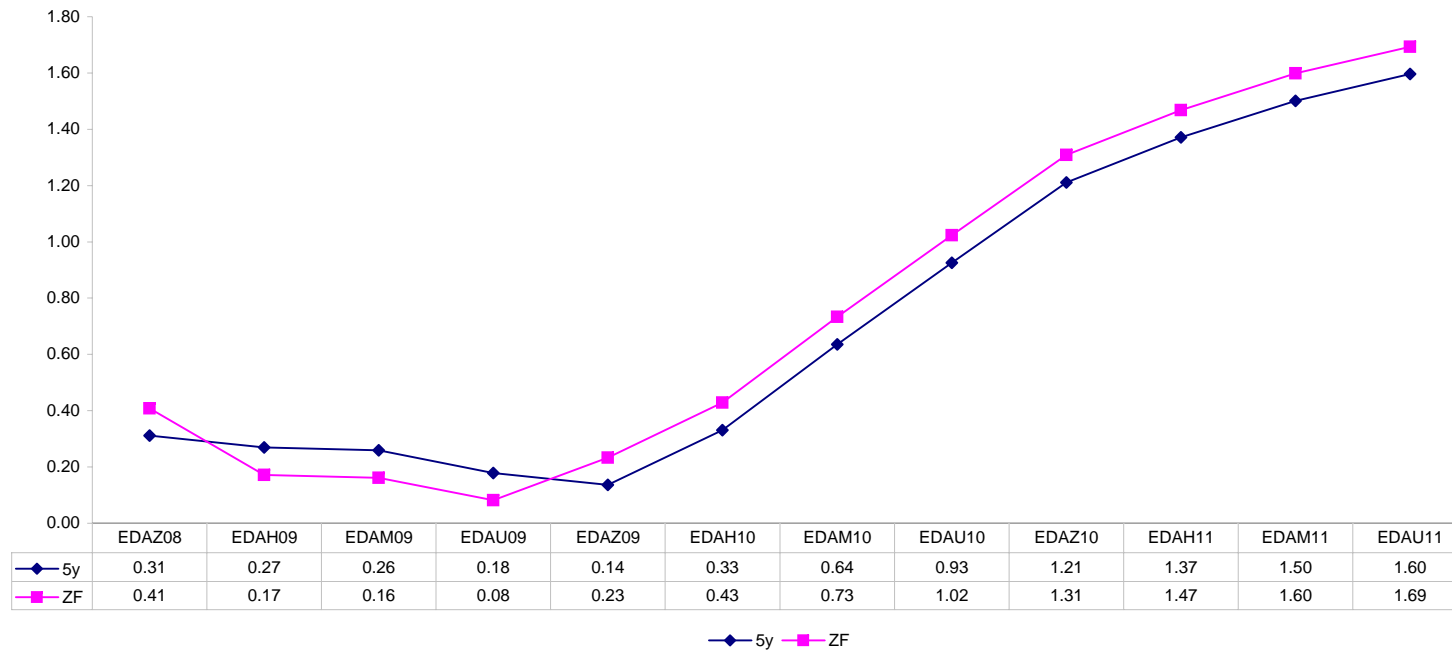
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



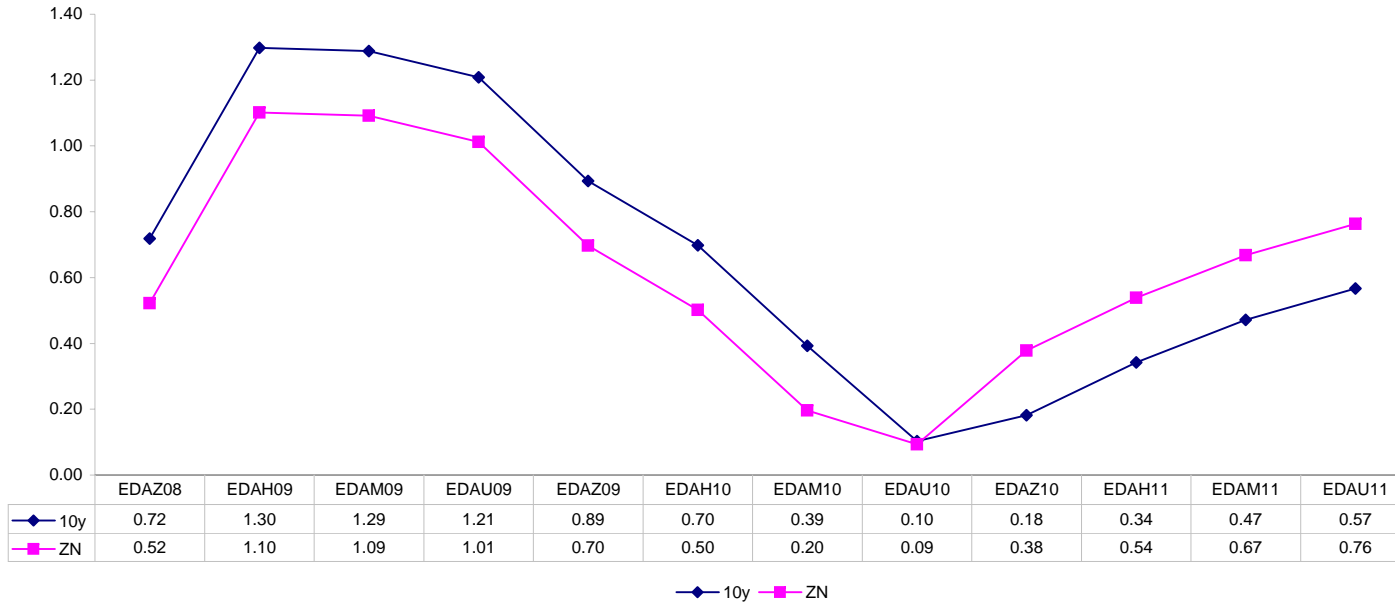
2y Basis TED Curve



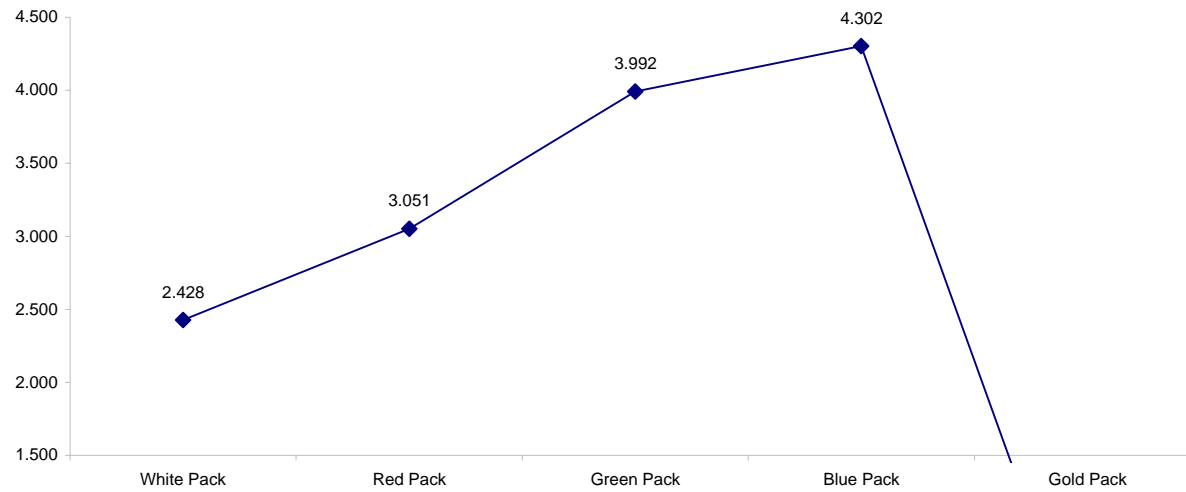
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.428	-5.500	9762.000
Red Pack	3.051	-5.000	9701.375
Green Pack	3.992	-3.375	9610.125
Blue Pack	4.302	-1.625	9580.125
Gold Pack		0.000	9556.500



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

