

## **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	107.6469	107.207	1.477	1.94
ZF	114.2813	114.090	2.397	4.11
ZN	116.7813	116.250	3.284	6.26
2y	101.016	101.0050	1.478	1.87
5y	102.881	102.2820	2.506	4.60
10y	104.047	104.0150	3.508	8.09

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	96.950	3.050	70	0.191	DEC	
EDAH09	97.660	2.340	161	0.440	MAR	White Pack
EDAM09	97.645	2.355	252	0.690	JUN	
EDAU09	97.525	2.475	343	0.939	SEP	
EDAZ09	97.190	2.810	434	1.188	DEC	
EDAH10	96.975	3.025	525	1.438	MAR	Red Pack
EDAM10	96.675	3.325	616	1.687	JUN	
EDAU10	96.400	3.600	707	1.936	SEP	
EDAZ10	96.135	3.865	798	2.186	DEC	
EDAH11	96.030	3.970	889	2.435	MAR	Green Pack
EDAM11	95.890	4.110	980	2.684	JUN	
EDAU11	95.815	4.185	1078	2.953	SEP	
EDAZ11	95.770	4.230	1169	3.202	DEC	
EDAH12	95.760	4.240	1260	3.451	MAR	Blue Pack
EDAM12	95.655	4.345	1351	3.701	JUN	
EDAU12	95.645	4.355	1442	3.950	SEP	
EDAZ12	95.450	4.550	1533	4.199	DEC	
EDAH13	95.520	4.480	1624	4.449	MAR	Gold Pack
EDAM13	95.470	4.530	1715	4.698	JUN	
EDZU13	95.210	4.790	1897	5.197	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	2.607	14.625	9744.500	Pack Prices
Red Pack	3.261	19.625	9681.000	
Green Pack	4.130	15.000	9596.750	
Blue Pack	4.399	13.750	9570.750	
Gold Pack		6.625	9542.250	

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.

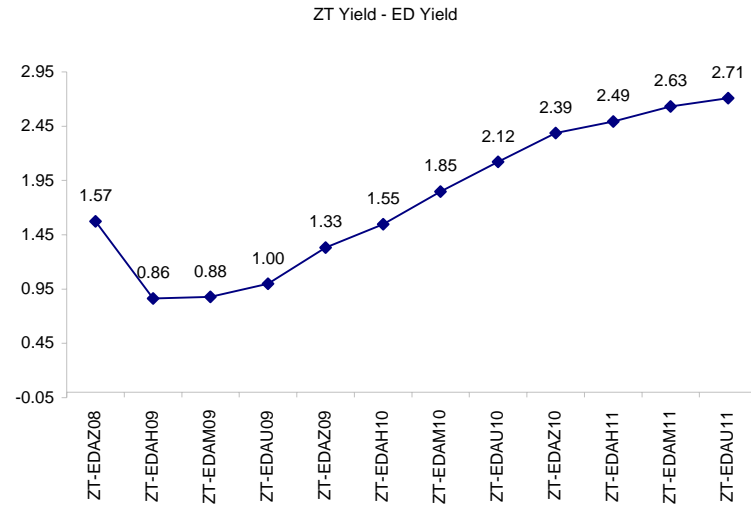
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

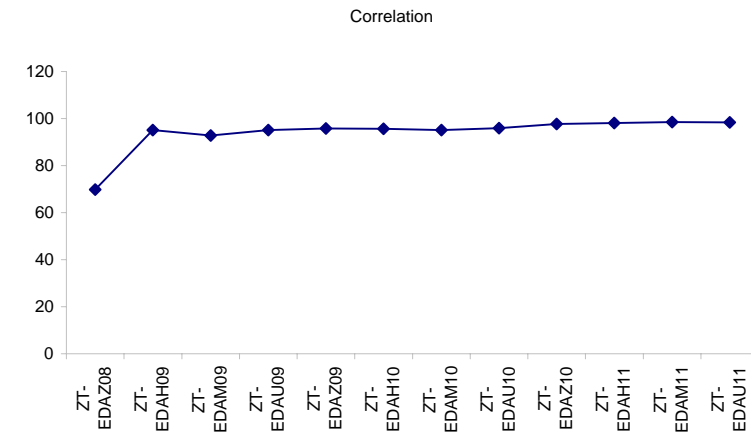
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.697	1.57	ZT-EDAZ08	69.822
EDAH09	9.987	0.86	ZT-EDAH09	95.083
EDAM09	10.002	0.88	ZT-EDAM09	92.795
EDAU09	10.122	1.00	ZT-EDAU09	95.083
EDAZ09	10.457	1.33	ZT-EDAZ09	95.718
EDAH10	10.672	1.55	ZT-EDAH10	95.639
EDAM10	10.972	1.85	ZT-EDAM10	95.148
EDAU10	11.247	2.12	ZT-EDAU10	95.971
EDAZ10	11.512	2.39	ZT-EDAZ10	97.629
EDAH11	11.617	2.49	ZT-EDAH11	98.127
EDAM11	11.757	2.63	ZT-EDAM11	98.535
EDAU11	11.832	2.71	ZT-EDAU11	98.359

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	0.191	1.94	1.75	ZT-EDAZ08		
EDAH09	0.440	1.94	1.50	ZT-EDAH09		
EDAM09	0.690	1.94	1.25	ZT-EDAM09		
EDAU09	0.939	1.94	1.00	ZT-EDAU09		
EDAZ09	1.188	1.94	0.75	ZT-EDAZ09		
EDAH10	1.438	1.94	0.50	ZT-EDAH10		
EDAM10	1.687	1.94	0.25	ZT-EDAM10		
EDAU10	1.936	1.94	0.00	ZT-EDAU10		
EDAZ10	2.186	1.94	(0.25)	ZT-EDAZ10		
EDAH11	2.435	1.94	(0.50)	ZT-EDAH11		
EDAM11	2.684	1.94	(0.75)	ZT-EDAM11		
EDAU11	2.953	1.94	(1.02)	ZT-EDAU11		

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

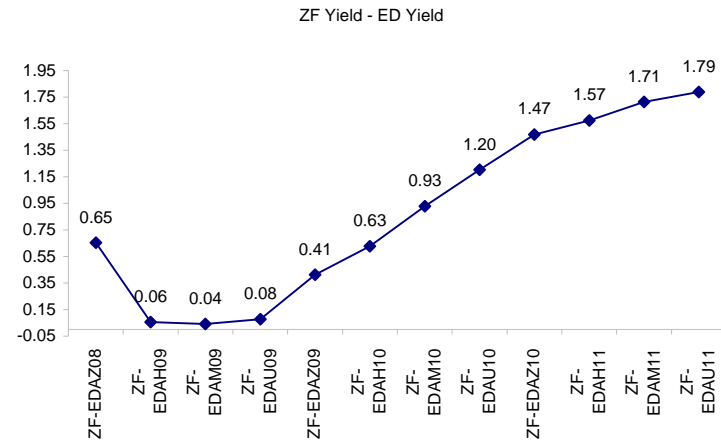


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	17.331	0.65	ZF-EDAZ08	74.100
EDAH09	16.621	0.06	ZF-EDAH09	91.016
EDAM09	16.636	0.04	ZF-EDAM09	94.885
EDAU09	16.756	0.08	ZF-EDAU09	96.836
EDAZ09	17.091	0.41	ZF-EDAZ09	97.354
EDAH10	17.306	0.63	ZF-EDAH10	97.131
EDAM10	17.606	0.93	ZF-EDAM10	96.628
EDAU10	17.881	1.20	ZF-EDAU10	97.276
EDAZ10	18.146	1.47	ZF-EDAZ10	98.701
EDAH11	18.251	1.57	ZF-EDAH11	99.092
EDAM11	18.391	1.71	ZF-EDAM11	99.225
EDAU11	18.466	1.79	ZF-EDAU11	98.979

Price = Outright Decimal Price - Euro Contract Price

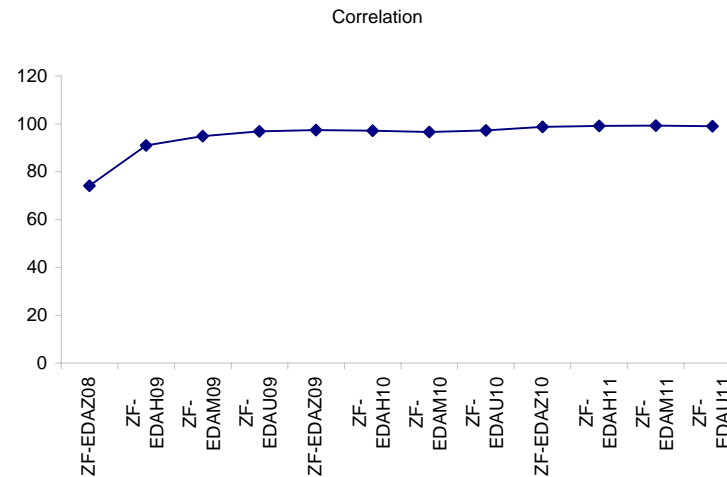
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



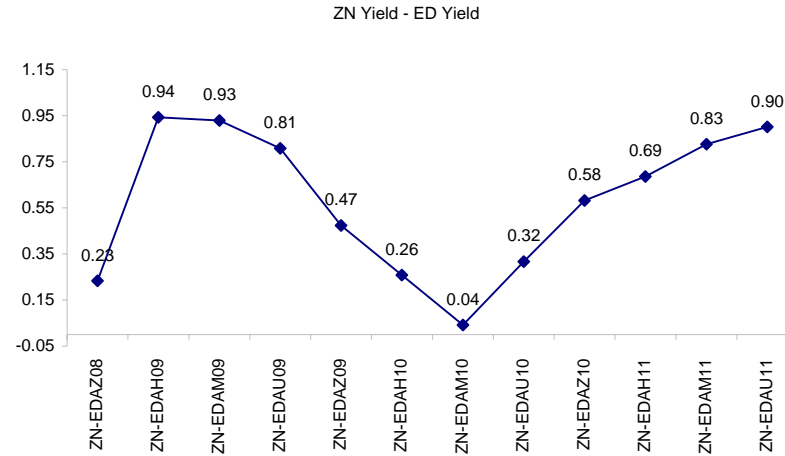
ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.191	4.11	3.92	ZF-EDAZ08		
EDAH09	0.440	4.11	3.67	ZF-EDAH09		
EDAM09	0.690	4.11	3.42	ZF-EDAM09		
EDAU09	0.939	4.11	3.18	ZF-EDAU09		
EDAZ09	1.188	4.11	2.93	ZF-EDAZ09		
EDAH10	1.438	4.11	2.68	ZF-EDAH10		
EDAM10	1.687	4.11	2.43	ZF-EDAM10		
EDAU10	1.936	4.11	2.18	ZF-EDAU10		
EDAZ10	2.186	4.11	1.93	ZF-EDAZ10		
EDAH11	2.435	4.11	1.68	ZF-EDAH11		
EDAM11	2.684	4.11	1.43	ZF-EDAM11		
EDAU11	2.953	4.11	1.16	ZF-EDAU11		

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



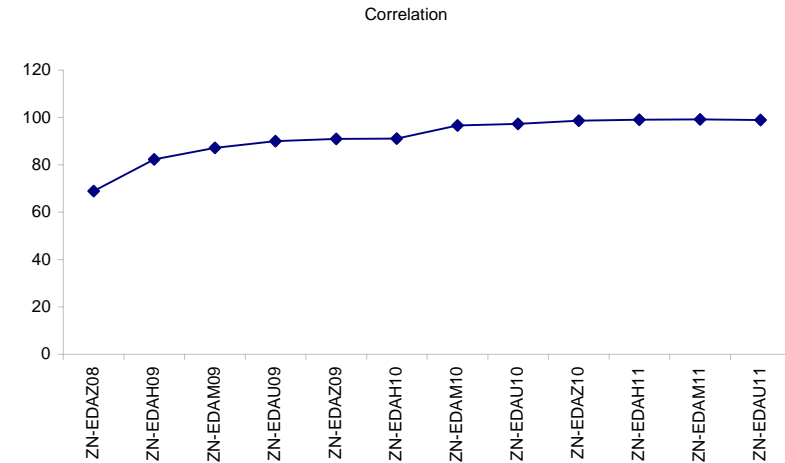
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	19.831	0.23	ZN-EDAZ08	68.887
EDAH09	19.121	0.94	ZN-EDAH09	82.294
EDAM09	19.136	0.93	ZN-EDAM09	87.150
EDAU09	19.256	0.81	ZN-EDAU09	89.949
EDAZ09	19.591	0.47	ZN-EDAZ09	90.881
EDAH10	19.806	0.26	ZN-EDAH10	91.085
EDAM10	20.106	0.04	ZN-EDAM10	96.628
EDAU10	20.381	0.32	ZN-EDAU10	97.276
EDAZ10	20.646	0.58	ZN-EDAZ10	98.701
EDAH11	20.751	0.69	ZN-EDAH11	99.092
EDAM11	20.891	0.83	ZN-EDAM11	99.225
EDAU11	20.966	0.90	ZN-EDAU11	98.979

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	0.191	6.26	6.07	ZN-EDAZ08		
EDAH09	0.440	6.26	5.82	ZN-EDAH09		
EDAM09	0.690	6.26	5.57	ZN-EDAM09		
EDAU09	0.939	6.26	5.32	ZN-EDAU09		
EDAZ09	1.188	6.26	5.07	ZN-EDAZ09		
EDAH10	1.438	6.26	4.82	ZN-EDAH10		
EDAM10	1.687	6.26	4.57	ZN-EDAM10		
EDAU10	1.936	6.26	4.32	ZN-EDAU10		
EDAZ10	2.186	6.26	4.07	ZN-EDAZ10		
EDAH11	2.435	6.26	3.82	ZN-EDAH11		
EDAM11	2.684	6.26	3.57	ZN-EDAM11		
EDAU11	2.953	6.26	3.31	ZN-EDAU11		

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

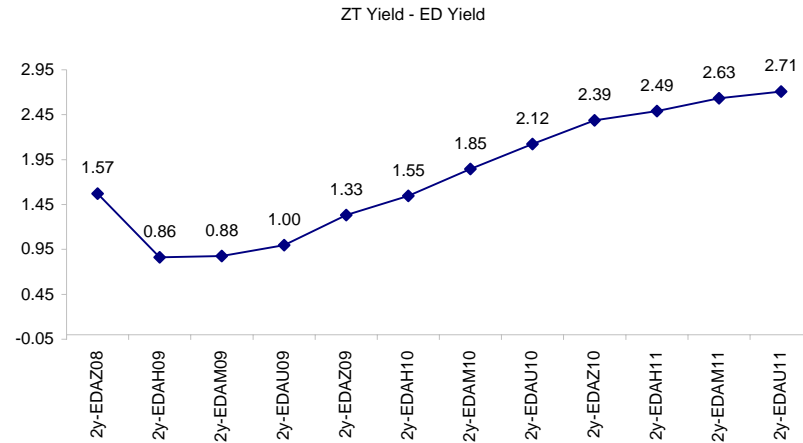


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	4.066	1.57	2y-EDAZ08	-70.887
EDAH09	3.356	0.86	2y-EDAH09	-89.244
EDAM09	3.371	0.88	2y-EDAM09	-93.457
EDAU09	3.491	1.00	2y-EDAU09	-95.875
EDAZ09	3.826	1.33	2y-EDAZ09	-96.411
EDAH10	4.041	1.55	2y-EDAH10	-96.355
EDAM10	4.341	1.85	2y-EDAM10	-95.621
EDAU10	4.616	2.12	2y-EDAU10	-96.011
EDAZ10	4.881	2.39	2y-EDAZ10	-97.256
EDAH11	4.986	2.49	2y-EDAH11	-97.725
EDAM11	5.126	2.63	2y-EDAM11	-98.085
EDAU11	5.201	2.71	2y-EDAU11	-97.476

Price = Outright Decimal Price - Euro Contract Price

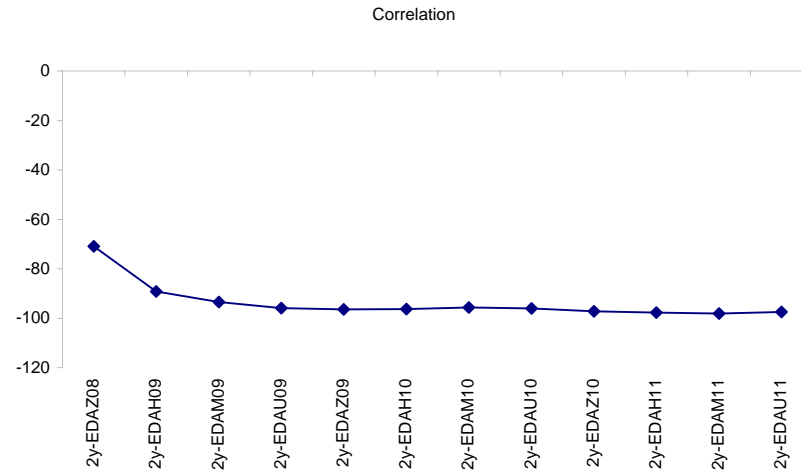
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.191	1.87	1.68	2y-EDAZ08	
EDAH09	0.440	1.87	1.43	2y-EDAH09	
EDAM09	0.690	1.87	1.18	2y-EDAM09	
EDAU09	0.939	1.87	0.93	2y-EDAU09	
EDAZ09	1.188	1.87	0.68	2y-EDAZ09	
EDAH10	1.438	1.87	0.43	2y-EDAH10	
EDAM10	1.687	1.87	0.19	2y-EDAM10	
EDAU10	1.936	1.87	(0.06)	2y-EDAU10	
EDAZ10	2.186	1.87	(0.31)	2y-EDAZ10	
EDAH11	2.435	1.87	(0.56)	2y-EDAH11	
EDAM11	2.684	1.87	(0.81)	2y-EDAM11	
EDAU11	2.953	1.87	(1.08)	2y-EDAU11	

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

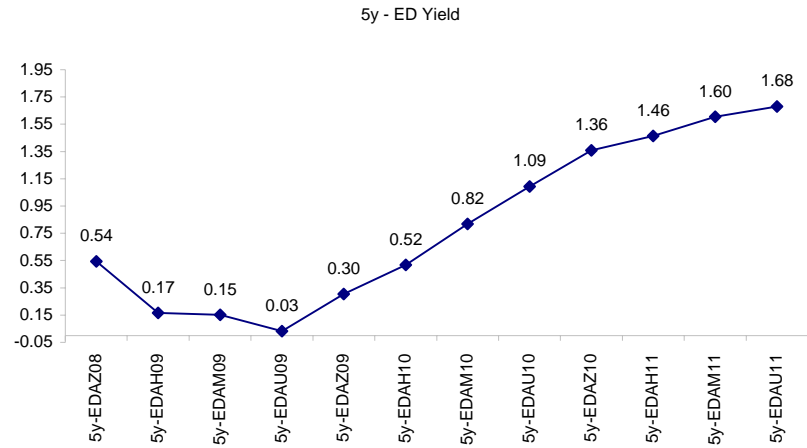


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	5.931	0.54	5y-EDAZ08	-70.889
EDAH09	5.221	0.17	5y-EDAH09	-87.869
EDAM09	5.236	0.15	5y-EDAM09	-92.620
EDAU09	5.356	0.03	5y-EDAU09	-95.536
EDAZ09	5.691	0.30	5y-EDAZ09	-96.631
EDAH10	5.906	0.52	5y-EDAH10	-96.549
EDAM10	6.206	0.82	5y-EDAM10	-96.114
EDAU10	6.481	1.09	5y-EDAU10	-96.721
EDAZ10	6.746	1.36	5y-EDAZ10	-98.075
EDAH11	6.851	1.46	5y-EDAH11	-98.831
EDAM11	6.991	1.60	5y-EDAM11	-99.026
EDAU11	7.066	1.68	5y-EDAU11	-98.964

Price = Outright Decimal Price - Euro Contract Price

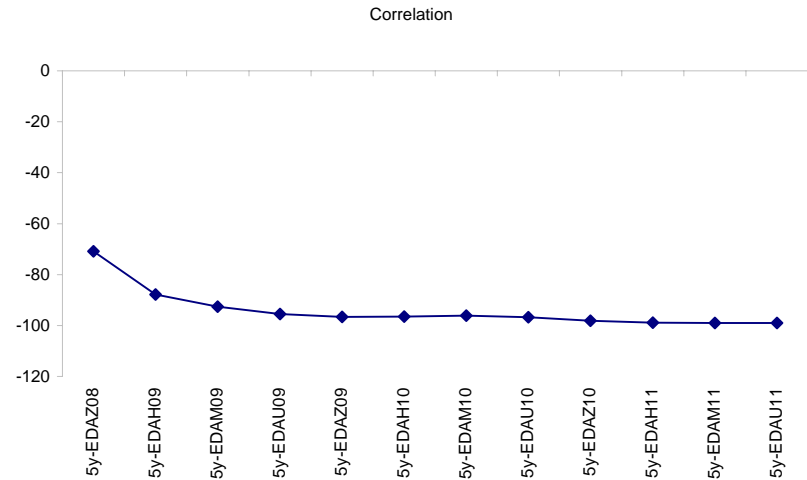
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAZ08	0.191	4.60	4.41	5y-EDAZ08
EDAH09	0.440	4.60	4.16	5y-EDAH09
EDAM09	0.690	4.60	3.91	5y-EDAM09
EDAU09	0.939	4.60	3.66	5y-EDAU09
EDAZ09	1.188	4.60	3.41	5y-EDAZ09
EDAH10	1.438	4.60	3.16	5y-EDAH10
EDAM10	1.687	4.60	2.91	5y-EDAM10
EDAU10	1.936	4.60	2.66	5y-EDAU10
EDAZ10	2.186	4.60	2.41	5y-EDAZ10
EDAH11	2.435	4.60	2.16	5y-EDAH11
EDAM11	2.684	4.60	1.91	5y-EDAM11
EDAU11	2.953	4.60	1.64	5y-EDAU11

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

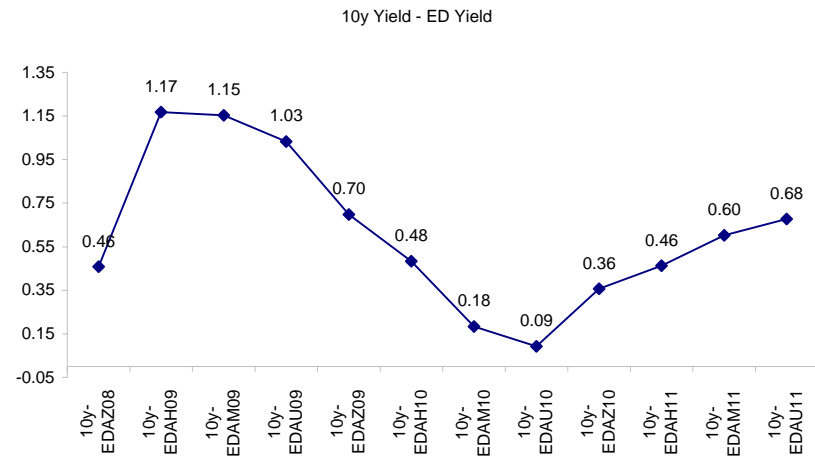


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	5.931	0.46	10y-EDAZ08	-77.552
EDAH09	5.221	1.17	10y-EDAH09	-90.835
EDAM09	5.236	1.15	10y-EDAM09	-94.824
EDAU09	5.356	1.03	10y-EDAU09	-97.156
EDAZ09	5.691	0.70	10y-EDAZ09	-98.096
EDAH10	5.906	0.48	10y-EDAH10	-98.116
EDAM10	6.206	0.18	10y-EDAM10	-98.046
EDAU10	6.481	0.09	10y-EDAU10	-98.274
EDAZ10	6.746	0.36	10y-EDAZ10	-98.419
EDAH11	6.851	0.46	10y-EDAH11	-98.180
EDAM11	6.991	0.60	10y-EDAM11	-97.942
EDAU11	7.066	0.68	10y-EDAU11	-97.974

Price = Outright Decimal Price - Euro Contract Price

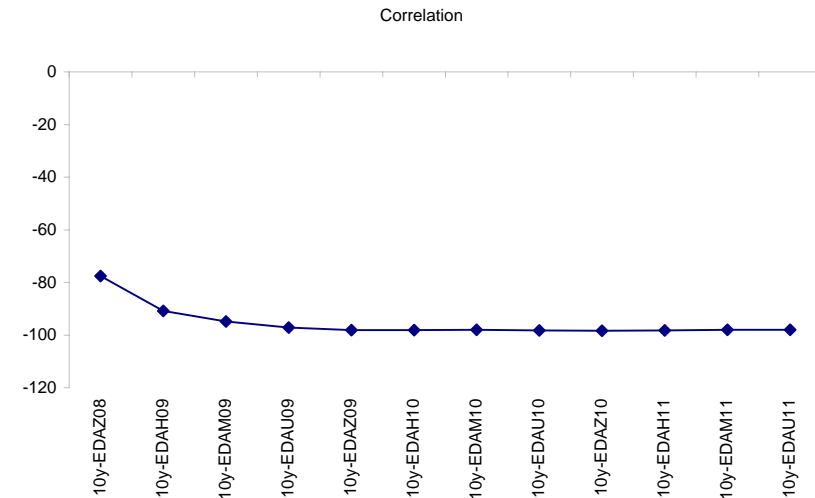
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.191	8.09	7.90	10y-EDAZ08
EDAH09	0.440	8.09	7.65	10y-EDAH09
EDAM09	0.690	8.09	7.40	10y-EDAM09
EDAU09	0.939	8.09	7.15	10y-EDAU09
EDAZ09	1.188	8.09	6.90	10y-EDAZ09
EDAH10	1.438	8.09	6.66	10y-EDAH10
EDAM10	1.687	8.09	6.41	10y-EDAM10
EDAU10	1.936	8.09	6.16	10y-EDAU10
EDAZ10	2.186	8.09	5.91	10y-EDAZ10
EDAH11	2.435	8.09	5.66	10y-EDAH11
EDAM11	2.684	8.09	5.41	10y-EDAM11
EDAU11	2.953	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.

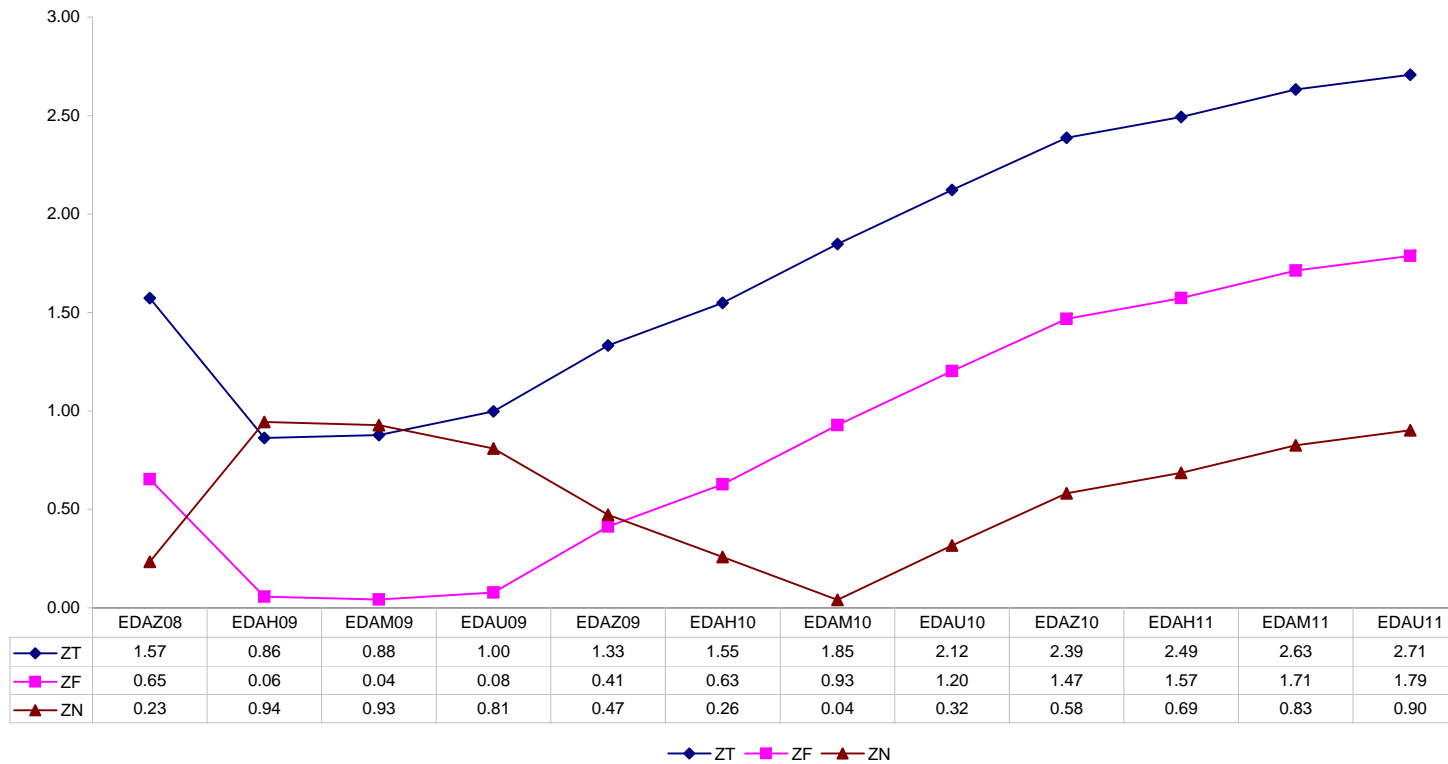
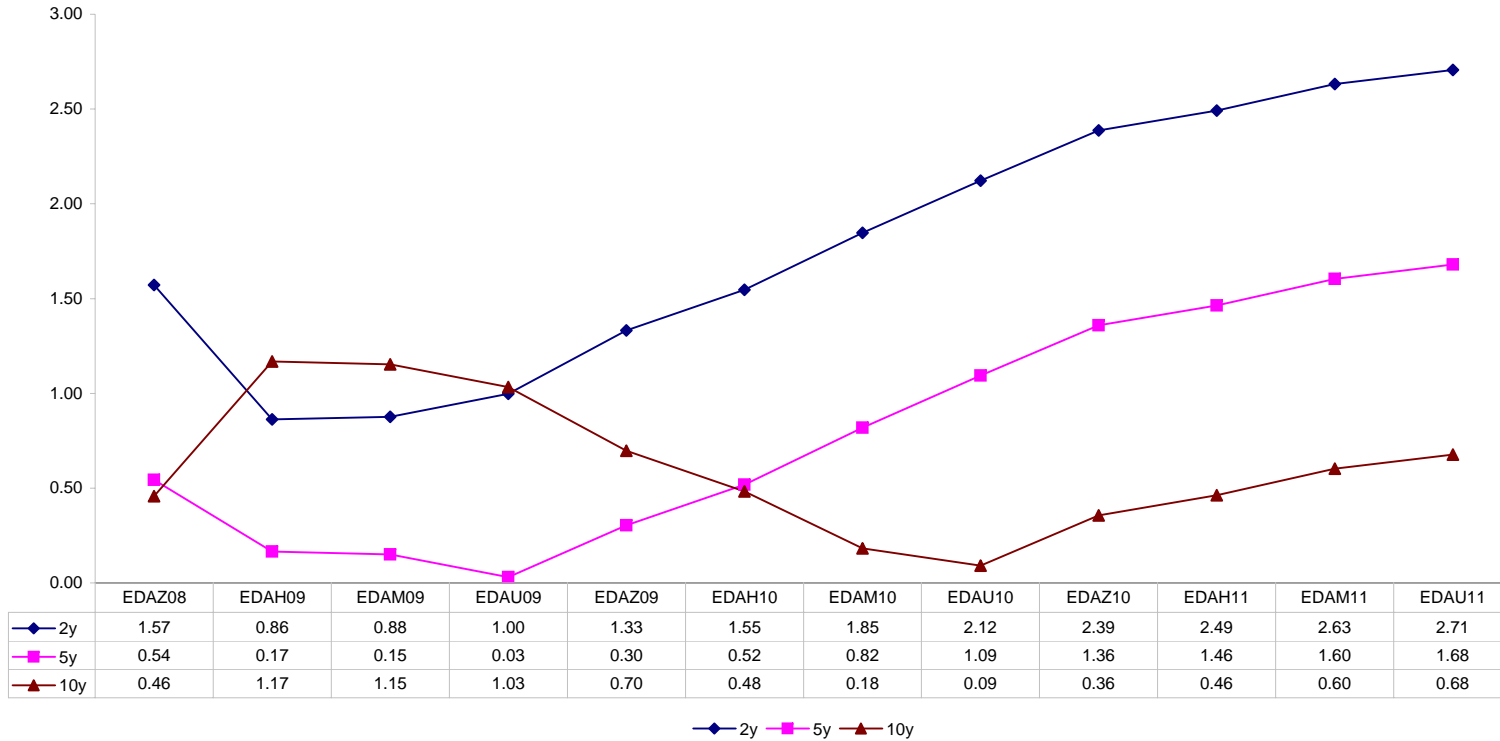
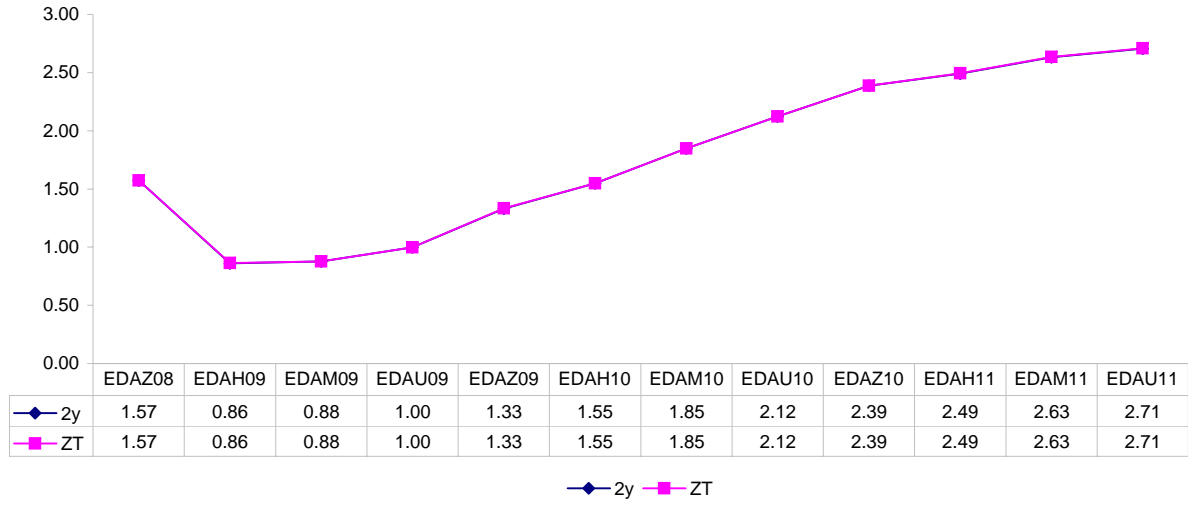


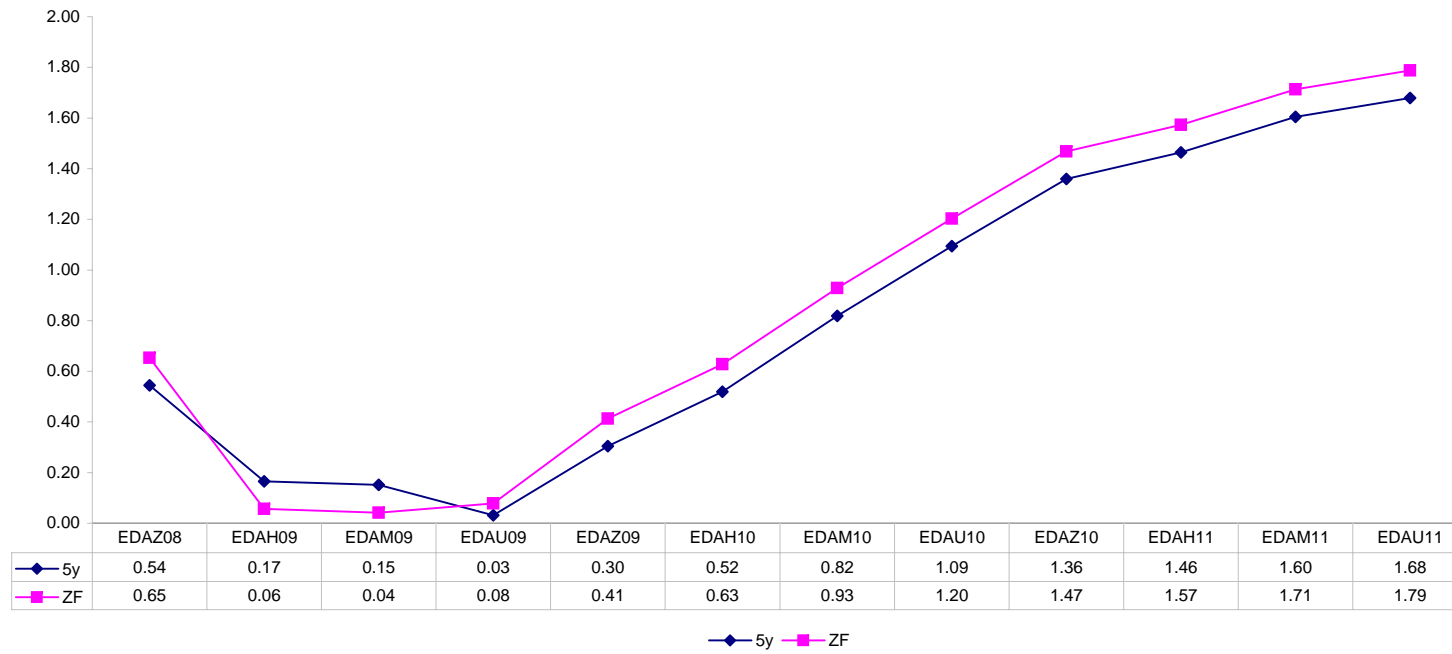
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



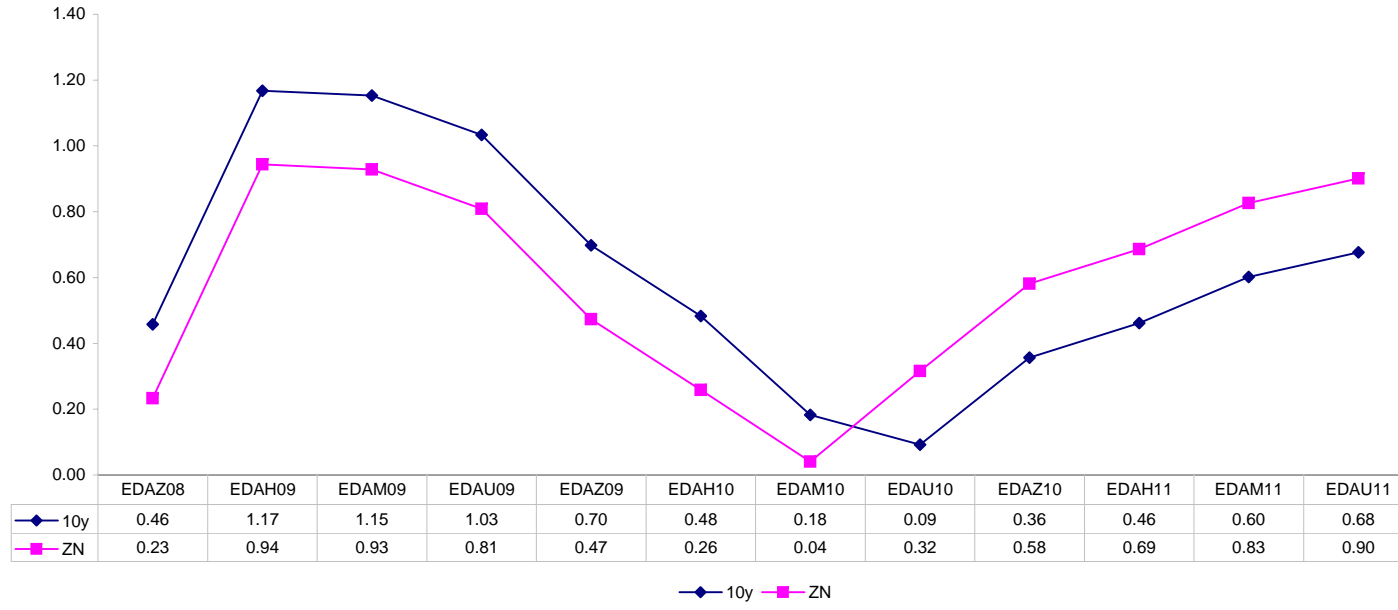
2y Basis TED Curve



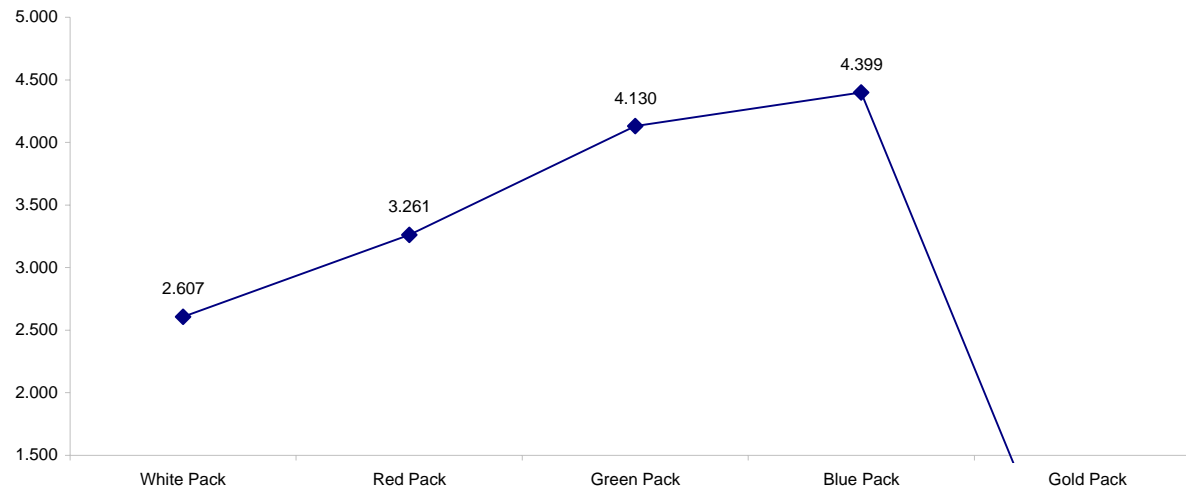
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.607	14.625	9744.500
Red Pack	3.261	19.625	9681.000
Green Pack	4.130	15.000	9596.750
Blue Pack	4.399	13.750	9570.750
Gold Pack		6.625	9542.250



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

