

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

### **Table of Contents**

- Pg 1** Quotes
  
- Pg 2** Dirty TED: ZT vs Eurodollar Contracts
  
- Pg 3** Dirty TED: ZF vs Eurodollar Contracts
  
- Pg 4** Dirty TED: ZN vs Eurodollar Contracts
  
- Pg 5** TERM TED: 2y vs Eurodollar Contracts
  
- Pg 6** TERM TED: 5y vs Eurodollar Contracts
  
- Pg 7** TERM TED: 10y vs Eurodollar Contracts
  
- Pg 8** Dirty TED Curve
  
- Pg 9** TED Curve
  
- Pg 10** 2y Basis TED Curve
  
- Pg 11** 5y Basis TED Curve
  
- Pg 12** 10y Basis TED Curve
  
- Pg 13** Packs
  
- Pg 14** 2y, 5y, 10y Basis Curves vs ED

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	108.2813	108.090	1.000	1.76
ZF	116.2656	116.085	2.218	4.23
ZN	116.3750	116.120	3.526	6.42
2y	100.547	100.1750	1.216	1.92
5y	101.609	101.1950	2.404	4.61
10y	99.531	99.1700	3.805	8.26

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	97.660	2.340	31	0.084	DEC	
EDAH09	97.825	2.175	122	0.334	MAR	White Pack
EDAM09	97.805	2.195	213	0.583	JUN	
EDAU09	97.745	2.255	304	0.832	SEP	
EDAZ09	97.595	2.405	395	1.082	DEC	
EDAH10	97.530	2.470	486	1.331	MAR	Red Pack
EDAM10	97.325	2.675	577	1.580	JUN	
EDAU10	97.025	2.975	668	1.829	SEP	
EDAZ10	96.620	3.380	759	2.079	DEC	
EDAH11	96.330	3.670	850	2.328	MAR	Green Pack
EDAM11	96.040	3.960	941	2.577	JUN	
EDAU11	95.825	4.175	1039	2.846	SEP	
EDAZ11	95.635	4.365	1130	3.095	DEC	
EDAH12	95.600	4.400	1221	3.345	MAR	Blue Pack
EDAM12	95.400	4.600	1312	3.594	JUN	
EDAU12	95.390	4.610	1403	3.843	SEP	
EDAZ12	95.250	4.750	1494	4.093	DEC	
EDAH13	95.225	4.775	1585	4.342	MAR	Gold Pack
EDAM13	95.135	4.865	1676	4.591	JUN	
EDZU13	95.015	4.985	1858	5.090	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	2.285	-12.375	9775.875	Pack Prices
Red Pack	2.686	-6.625	9736.875	
Green Pack	3.886	-3.000	9620.375	
Blue Pack		-0.250	9552.625	
Gold Pack	4.960	0.000	9516.750	

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.

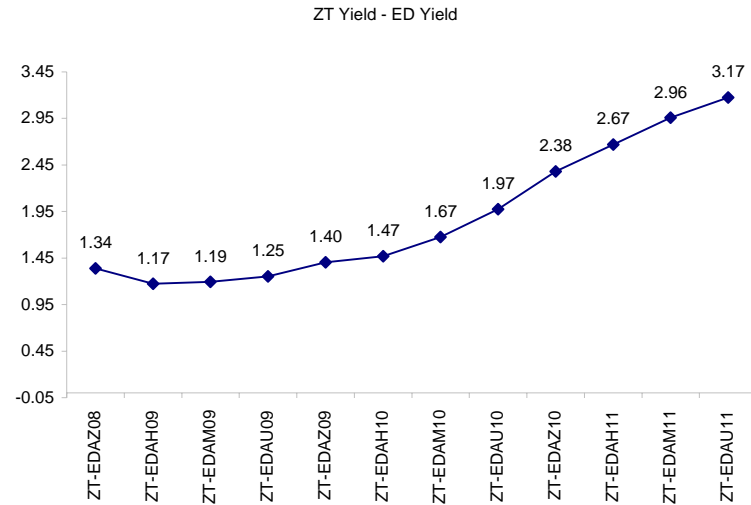
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

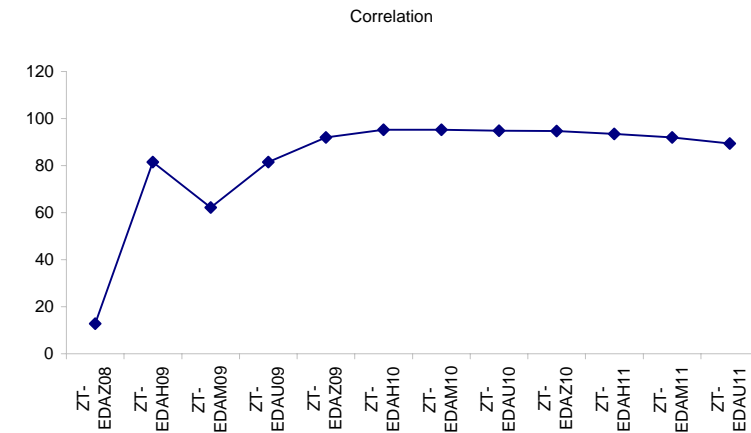
ZT				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.621	1.34	ZT-EDAZ08	12.768
EDAH09	10.456	1.17	ZT-EDAH09	81.558
EDAM09	10.476	1.19	ZT-EDAM09	62.141
EDAU09	10.536	1.25	ZT-EDAU09	81.558
EDAZ09	10.686	1.40	ZT-EDAZ09	92.028
EDAH10	10.751	1.47	ZT-EDAH10	95.302
EDAM10	10.956	1.67	ZT-EDAM10	95.278
EDAU10	11.256	1.97	ZT-EDAU10	94.817
EDAZ10	11.661	2.38	ZT-EDAZ10	94.632
EDAH11	11.951	2.67	ZT-EDAH11	93.533
EDAM11	12.241	2.96	ZT-EDAM11	91.990
EDAU11	12.456	3.17	ZT-EDAU11	89.429

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	0.084	1.76	1.68
EDAH09	0.334	1.76	1.43
EDAM09	0.583	1.76	1.18
EDAU09	0.832	1.76	0.93
EDAZ09	1.082	1.76	0.68
EDAH10	1.331	1.76	0.43
EDAM10	1.580	1.76	0.18
EDAU10	1.829	1.76	(0.07)
EDAZ10	2.079	1.76	(0.32)
EDAH11	2.328	1.76	(0.57)
EDAM11	2.577	1.76	(0.81)
EDAU11	2.846	1.76	(1.08)

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

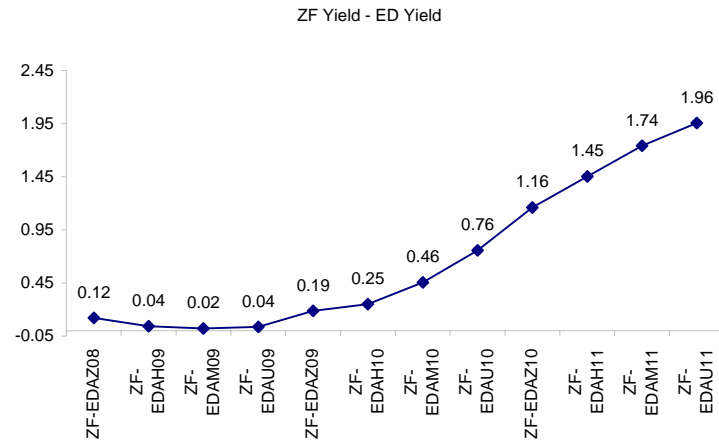


ZF				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	18.606	0.12	ZF-EDAZ08	2.164
EDAH09	18.441	0.04	ZF-EDAH09	27.692
EDAM09	18.461	0.02	ZF-EDAM09	56.820
EDAU09	18.521	0.04	ZF-EDAU09	79.247
EDAZ09	18.671	0.19	ZF-EDAZ09	92.805
EDAH10	18.736	0.25	ZF-EDAH10	98.488
EDAM10	18.941	0.46	ZF-EDAM10	99.199
EDAU10	19.241	0.76	ZF-EDAU10	98.492
EDAZ10	19.646	1.16	ZF-EDAZ10	98.138
EDAH11	19.936	1.45	ZF-EDAH11	97.633
EDAM11	20.226	1.74	ZF-EDAM11	97.165
EDAU11	20.441	1.96	ZF-EDAU11	95.951

Price = Outright Decimal Price - Euro Contract Price

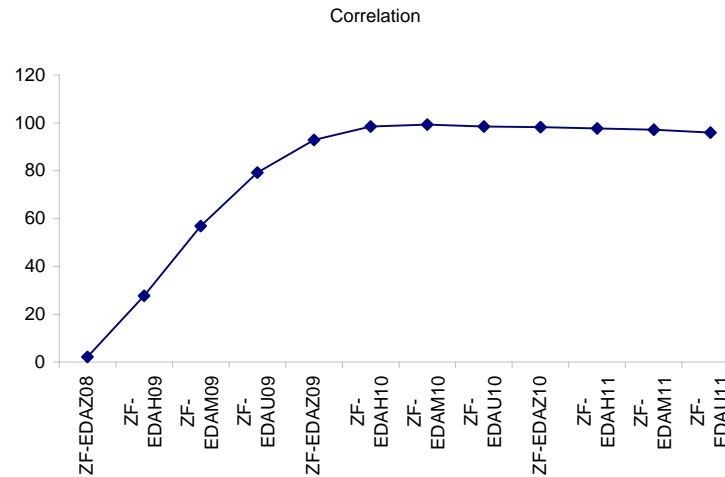
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



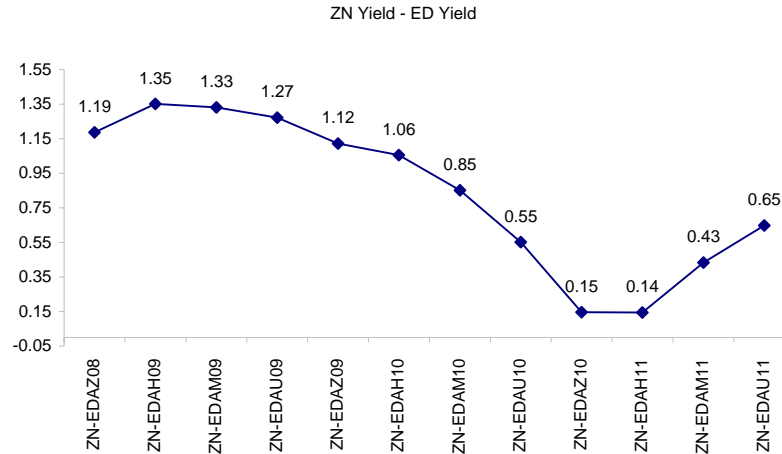
ED Duration as Fraction of year				ZF Duration	Spread Duration	
EDAZ08	0.084	4.23	4.14	ZF-EDAZ08		
EDAH09	0.334	4.23	3.89	ZF-EDAH09		
EDAM09	0.583	4.23	3.64	ZF-EDAM09		
EDAU09	0.832	4.23	3.39	ZF-EDAU09		
EDAZ09	1.082	4.23	3.15	ZF-EDAZ09		
EDAH10	1.331	4.23	2.90	ZF-EDAH10		
EDAM10	1.580	4.23	2.65	ZF-EDAM10		
EDAU10	1.829	4.23	2.40	ZF-EDAU10		
EDAZ10	2.079	4.23	2.15	ZF-EDAZ10		
EDAH11	2.328	4.23	1.90	ZF-EDAH11		
EDAM11	2.577	4.23	1.65	ZF-EDAM11		
EDAU11	2.846	4.23	1.38	ZF-EDAU11		

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



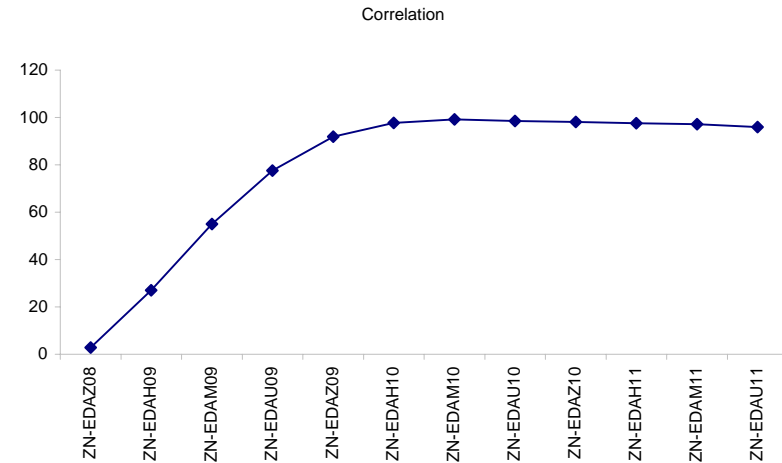
ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	18.715	1.19	ZN-EDAZ08	2.806
EDAH09	18.550	1.35	ZN-EDAH09	26.975
EDAM09	18.570	1.33	ZN-EDAM09	55.036
EDAU09	18.630	1.27	ZN-EDAU09	77.573
EDAZ09	18.780	1.12	ZN-EDAZ09	91.851
EDAH10	18.845	1.06	ZN-EDAH10	97.666
EDAM10	19.050	0.85	ZN-EDAM10	99.199
EDAU10	19.350	0.55	ZN-EDAU10	98.492
EDAZ10	19.755	0.15	ZN-EDAZ10	98.138
EDAH11	20.045	0.14	ZN-EDAH11	97.633
EDAM11	20.335	0.43	ZN-EDAM11	97.165
EDAU11	20.550	0.65	ZN-EDAU11	95.951

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	0.084	6.42	6.33	ZN-EDAZ08
EDAH09	0.334	6.42	6.08	ZN-EDAH09
EDAM09	0.583	6.42	5.83	ZN-EDAM09
EDAU09	0.832	6.42	5.59	ZN-EDAU09
EDAZ09	1.082	6.42	5.34	ZN-EDAZ09
EDAH10	1.331	6.42	5.09	ZN-EDAH10
EDAM10	1.580	6.42	4.84	ZN-EDAM10
EDAU10	1.829	6.42	4.59	ZN-EDAU10
EDAZ10	2.079	6.42	4.34	ZN-EDAZ10
EDAH11	2.328	6.42	4.09	ZN-EDAH11
EDAM11	2.577	6.42	3.84	ZN-EDAM11
EDAU11	2.846	6.42	3.57	ZN-EDAU11

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

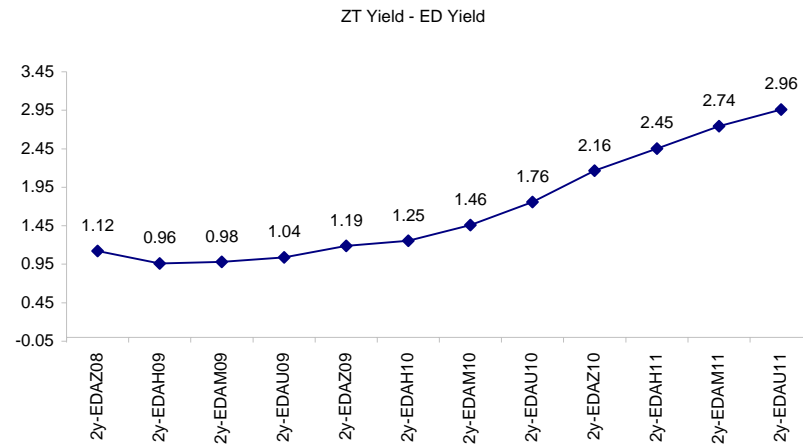


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	2.887	1.12	2y-EDAZ08	-30.249
EDAH09	2.722	0.96	2y-EDAH09	-57.894
EDAM09	2.742	0.98	2y-EDAM09	-80.638
EDAU09	2.802	1.04	2y-EDAU09	-91.715
EDAZ09	2.952	1.19	2y-EDAZ09	-96.474
EDAH10	3.017	1.25	2y-EDAH10	-97.395
EDAM10	3.222	1.46	2y-EDAM10	-96.320
EDAU10	3.522	1.76	2y-EDAU10	-95.101
EDAZ10	3.927	2.16	2y-EDAZ10	-94.843
EDAH11	4.217	2.45	2y-EDAH11	-94.685
EDAM11	4.507	2.74	2y-EDAM11	-94.413
EDAU11	4.722	2.96	2y-EDAU11	-93.743

Price = Outright Decimal Price - Euro Contract Price

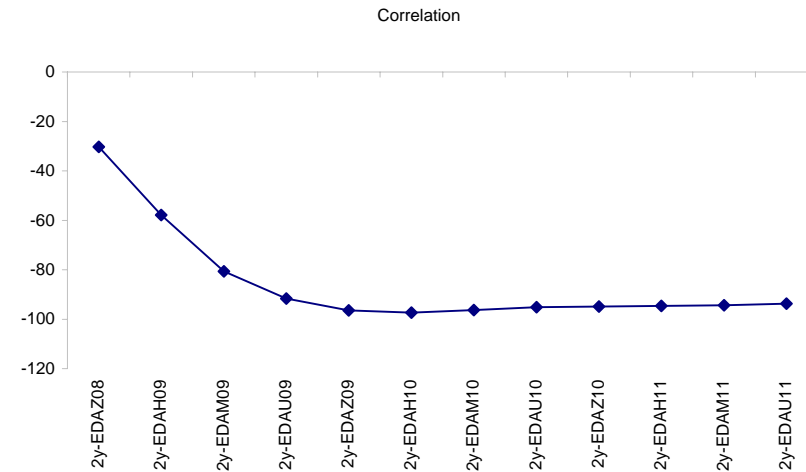
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAZ08	0.084	1.92	1.83	2y-EDAZ08	
EDAH09	0.334	1.92	1.58	2y-EDAH09	
EDAM09	0.583	1.92	1.33	2y-EDAM09	
EDAU09	0.832	1.92	1.08	2y-EDAU09	
EDAZ09	1.082	1.92	0.84	2y-EDAZ09	
EDAH10	1.331	1.92	0.59	2y-EDAH10	
EDAM10	1.580	1.92	0.34	2y-EDAM10	
EDAU10	1.829	1.92	0.09	2y-EDAU10	
EDAZ10	2.079	1.92	(0.16)	2y-EDAZ10	
EDAH11	2.328	1.92	(0.41)	2y-EDAH11	
EDAM11	2.577	1.92	(0.66)	2y-EDAM11	
EDAU11	2.846	1.92	(0.93)	2y-EDAU11	

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

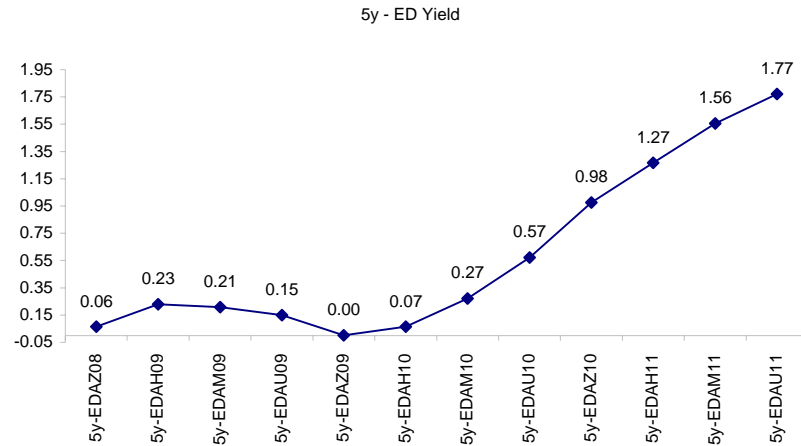


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.949	0.06	5y-EDAZ08	-28.907
EDAH09	3.784	0.23	5y-EDAH09	-56.265
EDAM09	3.804	0.21	5y-EDAM09	-78.920
EDAU09	3.864	0.15	5y-EDAU09	-90.738
EDAZ09	4.014	0.00	5y-EDAZ09	-96.536
EDAH10	4.079	0.07	5y-EDAH10	-97.781
EDAM10	4.284	0.27	5y-EDAM10	-96.319
EDAU10	4.584	0.57	5y-EDAU10	-94.729
EDAZ10	4.989	0.98	5y-EDAZ10	-94.437
EDAH11	5.279	1.27	5y-EDAH11	-94.888
EDAM11	5.569	1.56	5y-EDAM11	-95.938
EDAU11	5.784	1.77	5y-EDAU11	-96.607

Price = Outright Decimal Price - Euro Contract Price

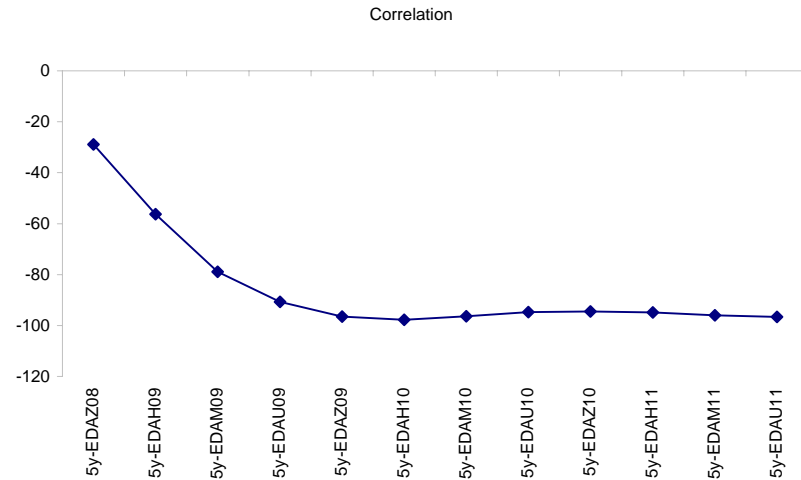
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	5Y Duration	Spread Duration	
EDAZ08	0.084	4.61	4.52	5y-EDAZ08
EDAH09	0.334	4.61	4.27	5y-EDAH09
EDAM09	0.583	4.61	4.02	5y-EDAM09
EDAU09	0.832	4.61	3.77	5y-EDAU09
EDAZ09	1.082	4.61	3.52	5y-EDAZ09
EDAH10	1.331	4.61	3.28	5y-EDAH10
EDAM10	1.580	4.61	3.03	5y-EDAM10
EDAU10	1.829	4.61	2.78	5y-EDAU10
EDAZ10	2.079	4.61	2.53	5y-EDAZ10
EDAH11	2.328	4.61	2.28	5y-EDAH11
EDAM11	2.577	4.61	2.03	5y-EDAM11
EDAU11	2.846	4.61	1.76	5y-EDAU11

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



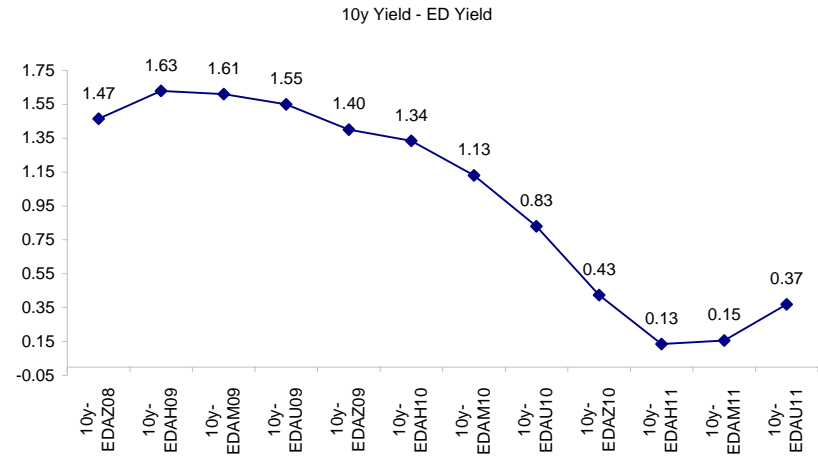


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.949	1.47	10y-EDAZ08	-70.372
EDAH09	3.784	1.63	10y-EDAH09	-81.947
EDAM09	3.804	1.61	10y-EDAM09	-85.131
EDAU09	3.864	1.55	10y-EDAU09	-82.889
EDAZ09	4.014	1.40	10y-EDAZ09	-77.836
EDAH10	4.079	1.34	10y-EDAH10	-70.144
EDAM10	4.284	1.13	10y-EDAM10	-61.563
EDAU10	4.584	0.83	10y-EDAU10	-56.346
EDAZ10	4.989	0.43	10y-EDAZ10	-55.852
EDAH11	5.279	0.13	10y-EDAH11	-57.479
EDAM11	5.569	0.15	10y-EDAM11	-62.027
EDAU11	5.784	0.37	10y-EDAU11	-65.851

Price = Outright Decimal Price - Euro Contract Price

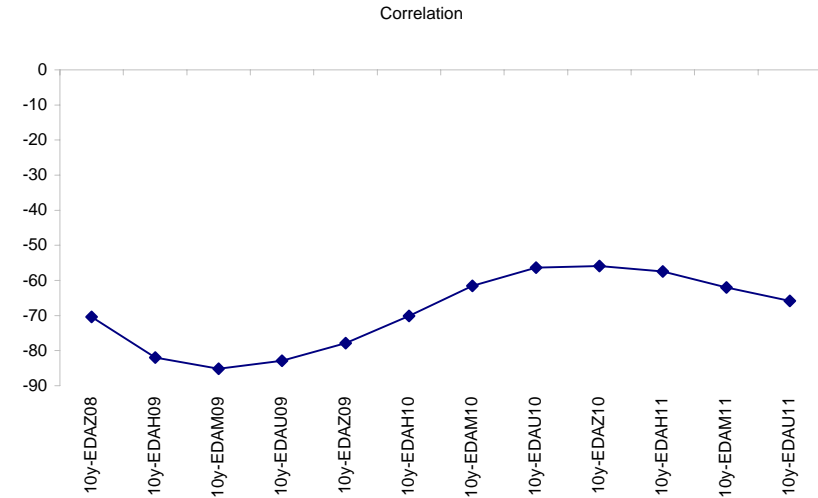
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.084	8.26	8.18	10y-EDAZ08
EDAH09	0.334	8.26	7.93	10y-EDAH09
EDAM09	0.583	8.26	7.68	10y-EDAM09
EDAU09	0.832	8.26	7.43	10y-EDAU09
EDAZ09	1.082	8.26	7.18	10y-EDAZ09
EDAH10	1.331	8.26	6.93	10y-EDAH10
EDAM10	1.580	8.26	6.68	10y-EDAM10
EDAU10	1.829	8.26	6.43	10y-EDAU10
EDAZ10	2.079	8.26	6.18	10y-EDAZ10
EDAH11	2.328	8.26	5.94	10y-EDAH11
EDAM11	2.577	8.26	5.69	10y-EDAM11
EDAU11	2.846	8.26	5.42	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.

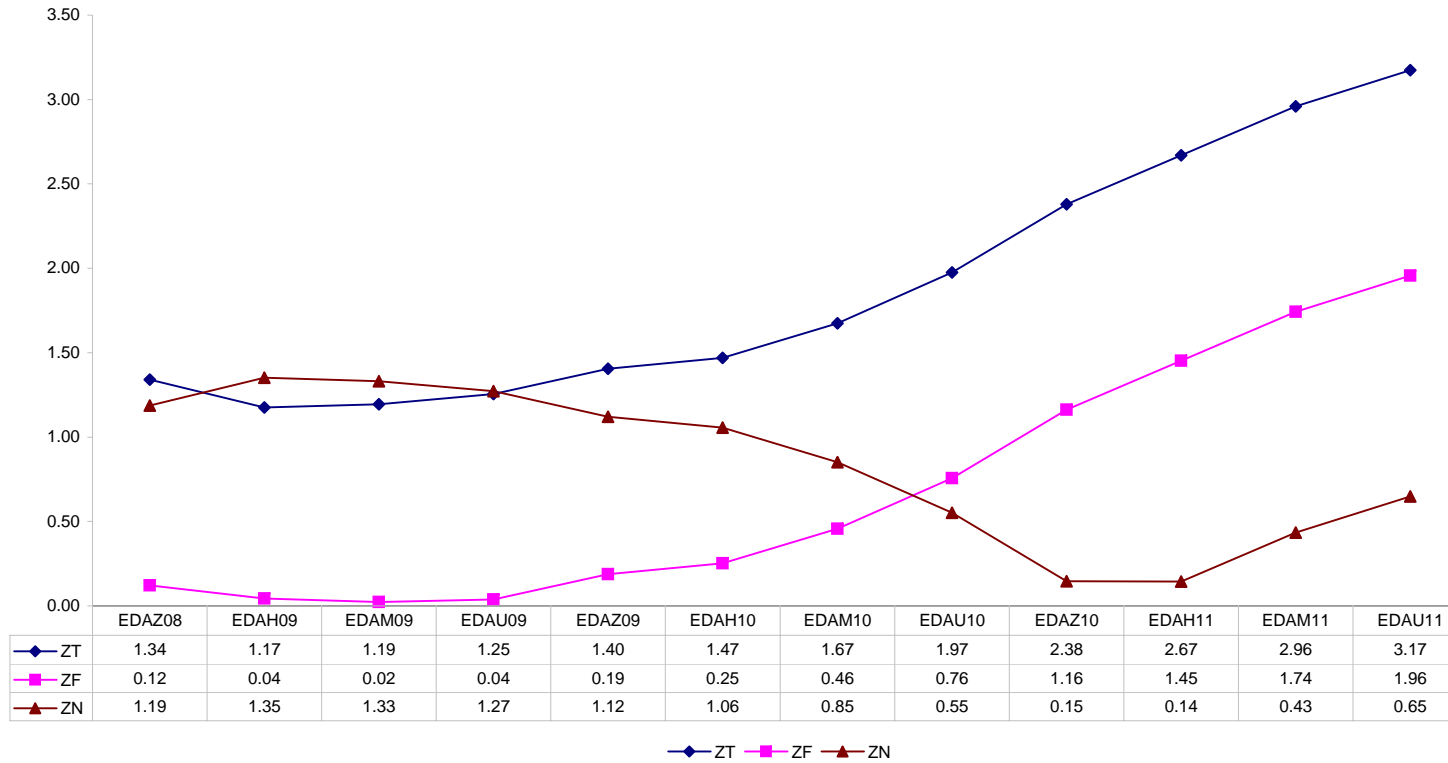
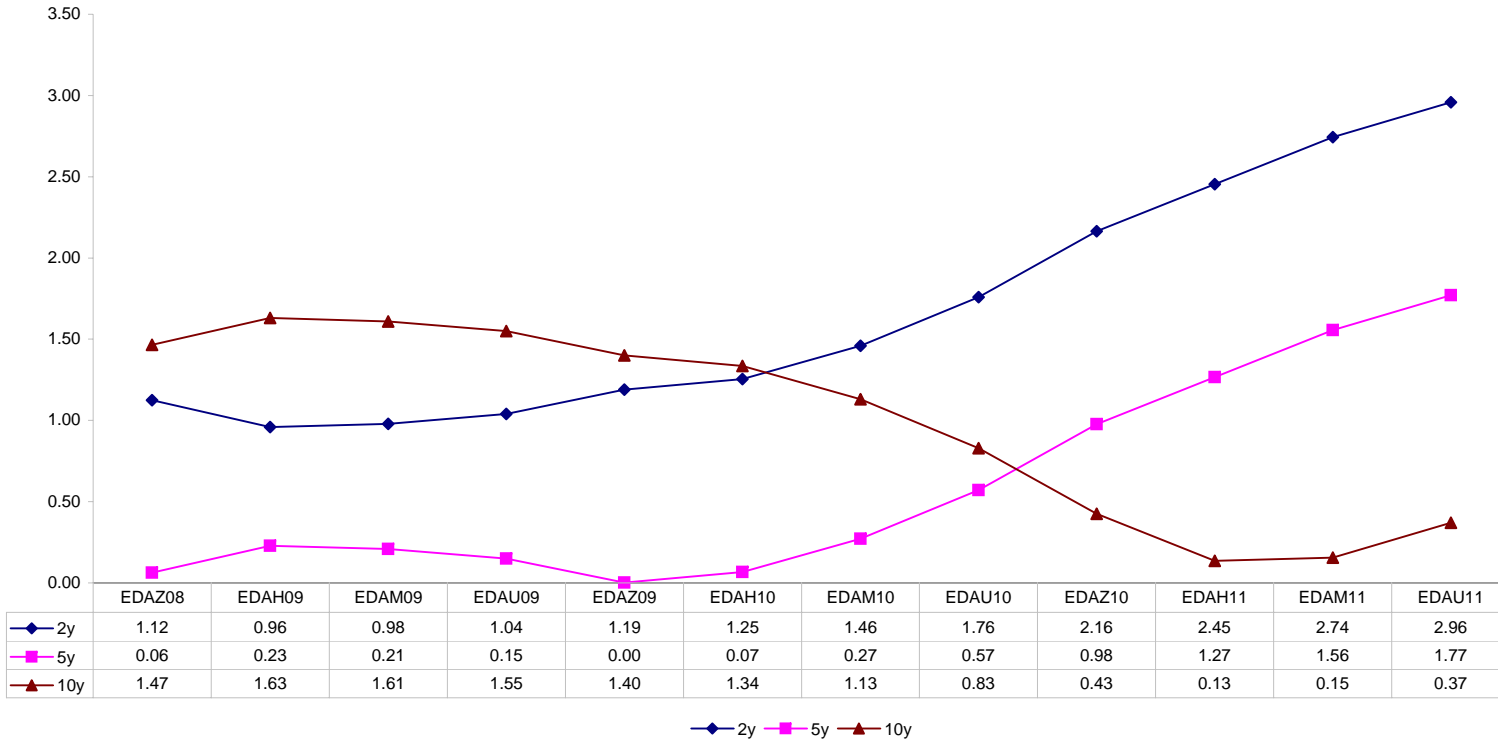
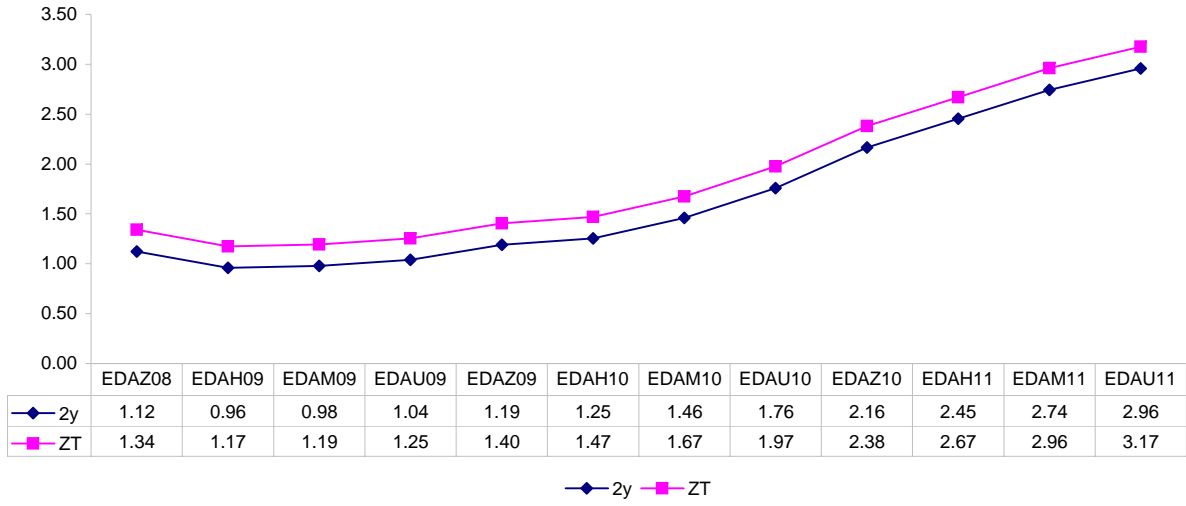


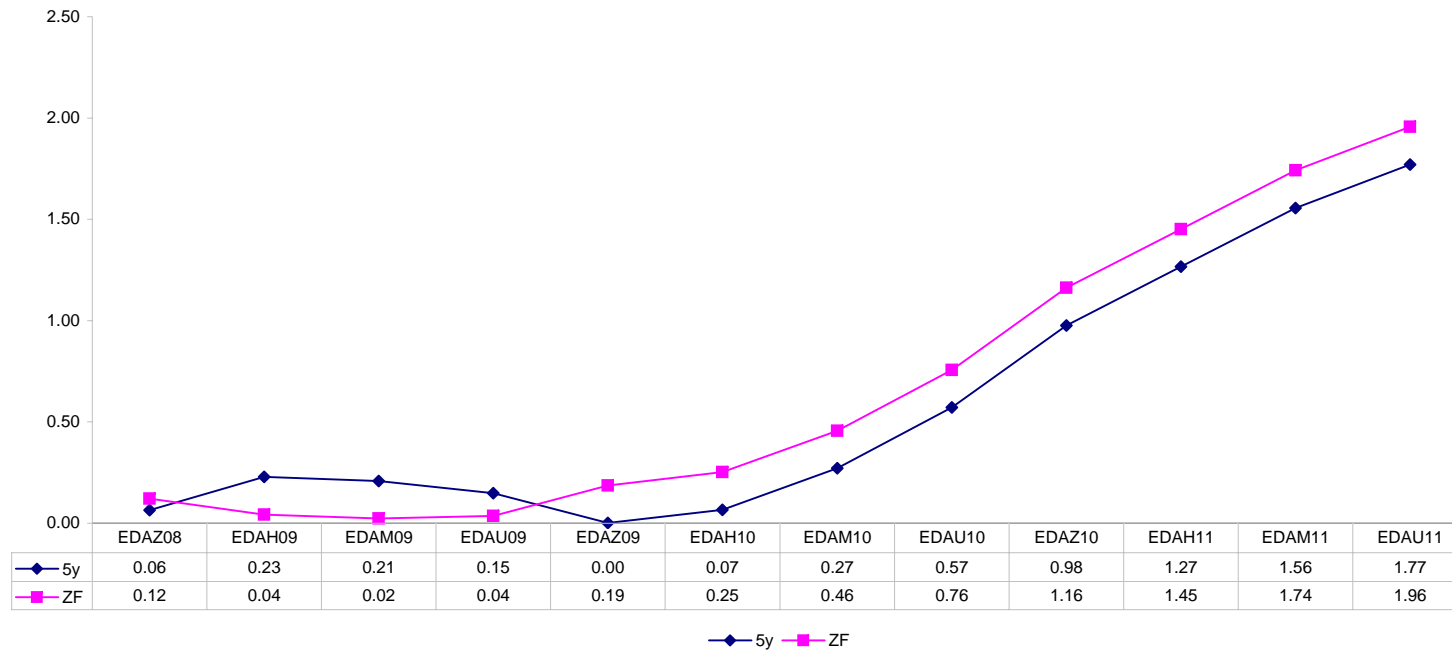
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



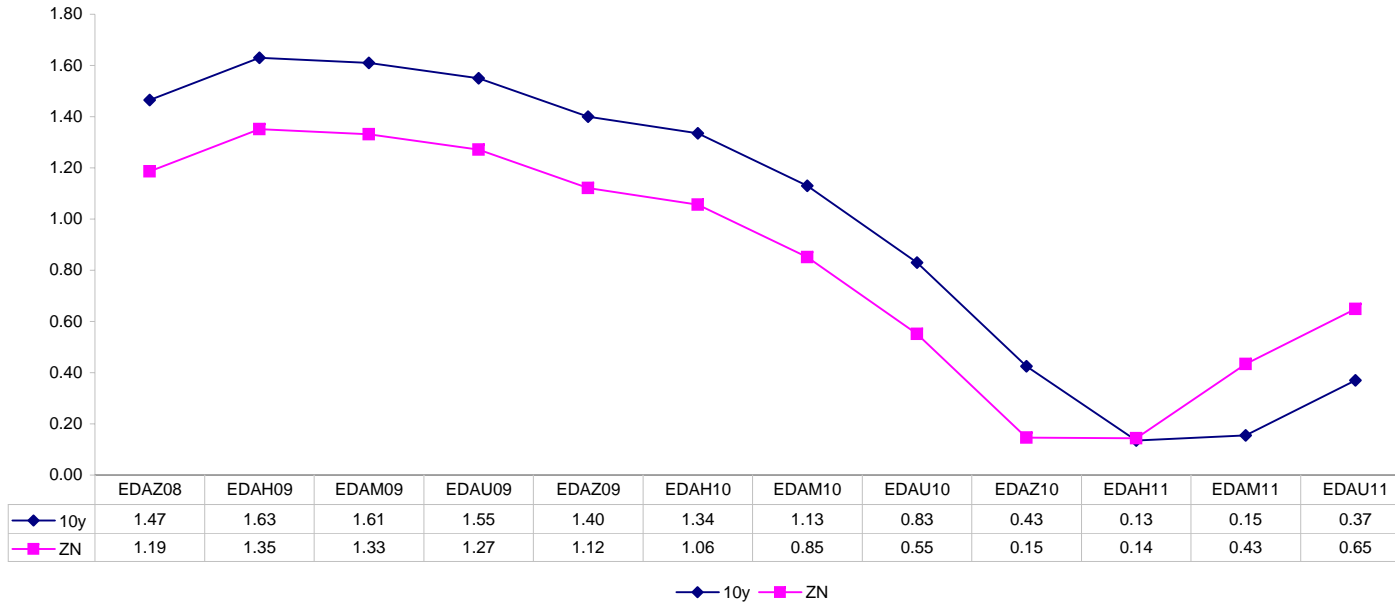
2y Basis TED Curve



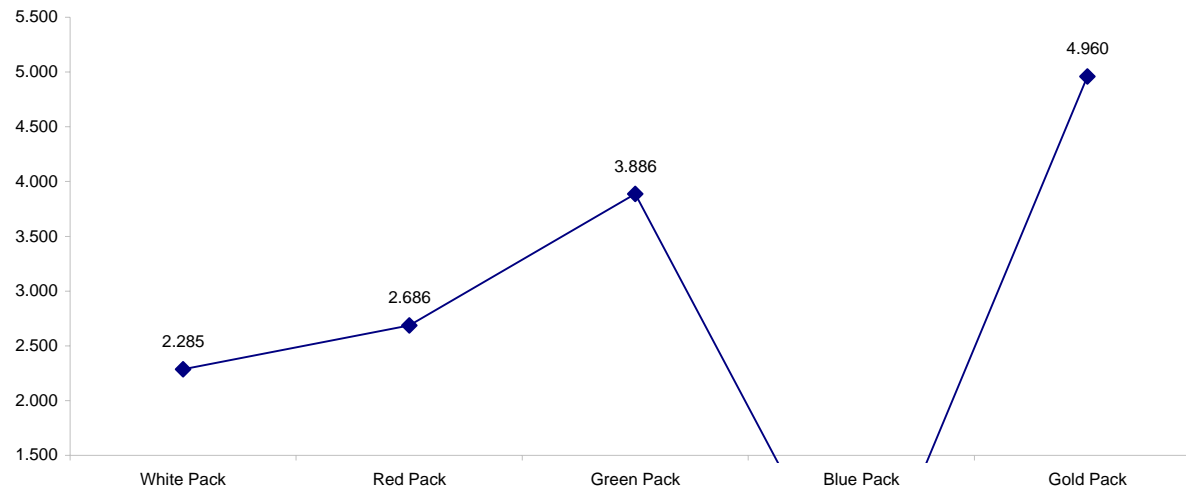
5y Basis TED Curve



10y Basis TED Curve



	Last Yield	Net Last Yield	Last Price
White Pack	2.285	-12.375	9775.875
Red Pack	2.686	-6.625	9736.875
Green Pack	3.886	-3.000	9620.375
Blue Pack		-0.250	9552.625
Gold Pack	4.960	0.000	9516.750



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

