

## **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

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	108.9594	108.3070	0.789	1.793
ZF	117.6000	117.1920	1.731	3.990
ZN	121.5469	121.1750	2.547	5.972
2y	100.0531	100.0170	0.847	1.927
5y	99.4750	99.1520	1.987	4.697
10y	100.1094	100.0350	3.110	8.523

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.2975	0.703	28	0.0760	JUN	
EDAU09	99.2600	0.740	119	0.3254	SEP	White Pack
EDAZ09	99.0850	0.915	210	0.5747	DEC	Pack
EDAH10	98.9700	1.030	301	0.8240	MAR	
EDAM10	98.7300	1.270	392	1.0733	JUN	
EDAU10	98.4650	1.535	483	1.3226	SEP	Red Pack
EDAZ10	98.1450	1.855	574	1.5719	DEC	Pack
EDAH11	97.8750	2.125	665	1.8212	MAR	
EDAM11	97.5750	2.425	756	2.0706	JUN	
EDAU11	97.3100	2.690	854	2.3391	SEP	Green Pack
EDAZ11	97.0550	2.945	945	2.5884	DEC	Pack
EDAH12	96.8950	3.105	1,036	2.8377	MAR	
EDAM12	96.7300	3.270	1,127	3.0870	JUN	
EDAU12	96.6000	3.400	1,218	3.3363	SEP	Blue Pack
EDAZ12	96.4600	3.540	1,309	3.5856	DEC	Pack
EDAH13	96.3800	3.620	1,400	3.8349	MAR	
EDAM13	96.2850	3.715	1,491	4.0843	JUN	
EDAU13	96.1900	3.810	1,582	4.3336	SEP	Gold Pack
EDAZ13	96.0700	3.930	1,673	4.5829	DEC	Pack
EDAH14	96.0150	3.985	1,764	4.8322	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	0.861	3.937	9915.31	
Red Pack	1.727	2.375	9830.38	Pack Prices
Green Pack	2.850	2.000	9720.88	
Blue Pack		1.125	9654.13	
Gold Pack		0.000	9614.38	

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.

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#### **Correlations (Important)**

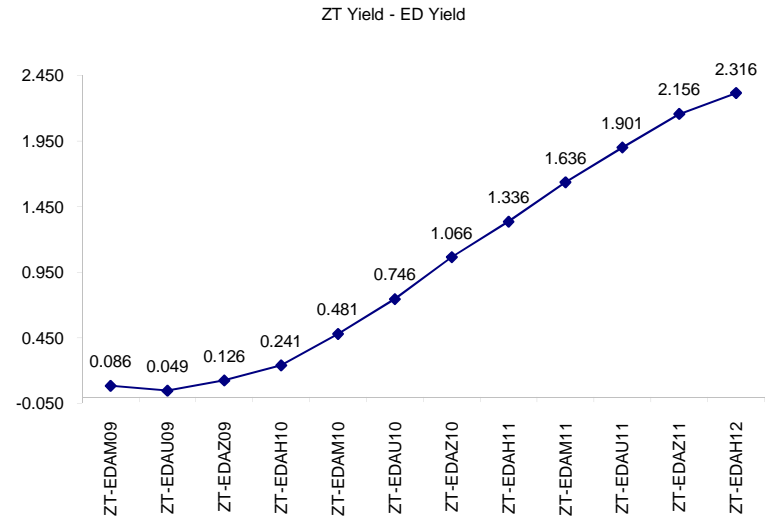
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based on yield than price.

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.66	0.086	ZT-EDAM09	86
EDAU09	9.70	0.049	ZT-EDAU09	87
EDAZ09	9.87	0.126	ZT-EDAZ09	91
EDAH10	9.99	0.241	ZT-EDAH10	94
EDAM10	10.23	0.481	ZT-EDAM10	96
EDAU10	10.49	0.746	ZT-EDAU10	98
EDAZ10	10.81	1.066	ZT-EDAZ10	98
EDAH11	11.08	1.336	ZT-EDAH11	97
EDAM11	11.38	1.636	ZT-EDAM11	96
EDAU11	11.65	1.901	ZT-EDAU11	95
EDAZ11	11.90	2.156	ZT-EDAZ11	93
EDAH12	12.06	2.316	ZT-EDAH12	93

Price = Outright Decimal Price - Euro Contract Price

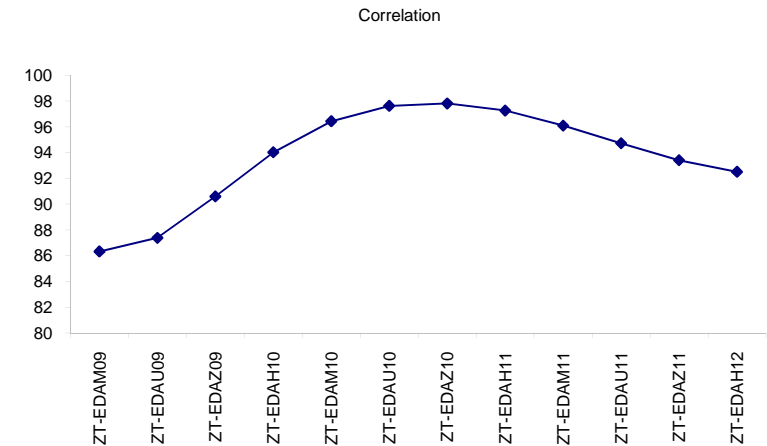
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



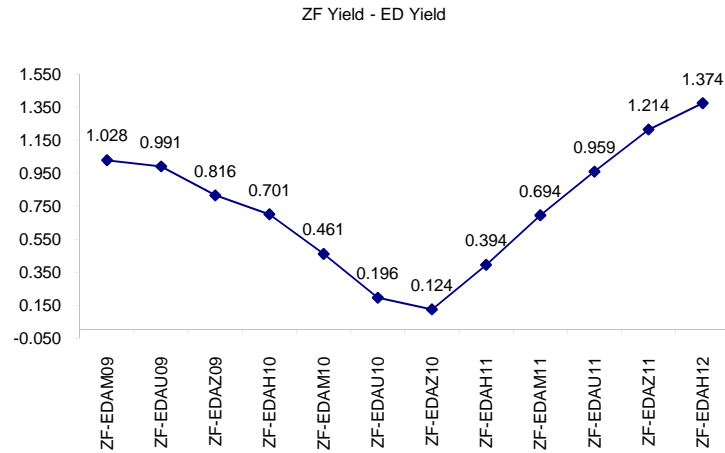
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.0760	1.7934	1.7174	ZT-EDAM09		
EDAU09	0.3254	1.7934	1.4681	ZT-EDAU09		
EDAZ09	0.5747	1.7934	1.2187	ZT-EDAZ09		
EDAH10	0.8240	1.7934	0.9694	ZT-EDAH10		
EDAM10	1.0733	1.7934	0.7201	ZT-EDAM10		
EDAU10	1.3226	1.7934	0.4708	ZT-EDAU10		
EDAZ10	1.5719	1.7934	0.2215	ZT-EDAZ10		
EDAH11	1.8212	1.7934	-0.0278	ZT-EDAH11		
EDAM11	2.0706	1.7934	-0.2771	ZT-EDAM11		
EDAU11	2.3391	1.7934	-0.5456	ZT-EDAU11		
EDAZ11	2.5884	1.7934	-0.7950	ZT-EDAZ11		
EDAH12	2.8377	1.7934	-1.0443	ZT-EDAH12		

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



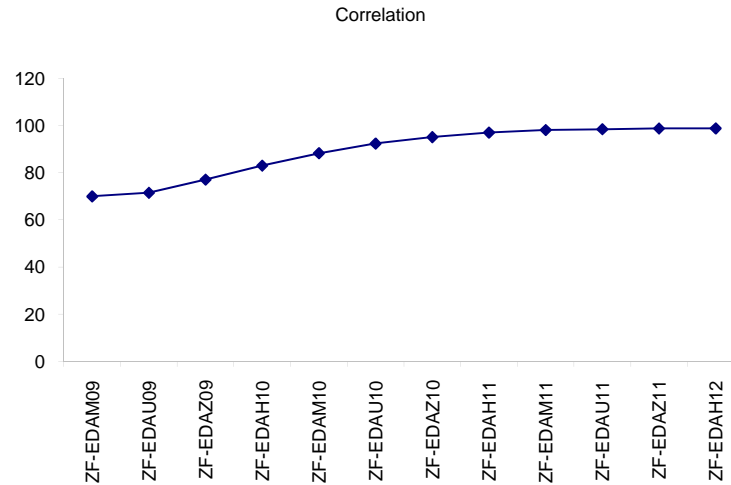
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	18.30	1.028	ZF-EDAM09	70
EDAU09	18.34	0.991	ZF-EDAU09	72
EDAZ09	18.52	0.816	ZF-EDAZ09	77
EDAH10	18.63	0.701	ZF-EDAH10	83
EDAM10	18.87	0.461	ZF-EDAM10	88
EDAU10	19.14	0.196	ZF-EDAU10	92
EDAZ10	19.46	0.124	ZF-EDAZ10	95
EDAH11	19.73	0.394	ZF-EDAH11	97
EDAM11	20.03	0.694	ZF-EDAM11	98
EDAU11	20.29	0.959	ZF-EDAU11	98
EDAZ11	20.55	1.214	ZF-EDAZ11	99
EDAH12	20.71	1.374	ZF-EDAH12	99

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	
EDAM09	0.0760	3.9903	3.9142	3.9142	ZF-EDAM09
EDAU09	0.3254	3.9903	3.6649	3.6649	ZF-EDAU09
EDAZ09	0.5747	3.9903	3.4156	3.4156	ZF-EDAZ09
EDAH10	0.8240	3.9903	3.1663	3.1663	ZF-EDAH10
EDAM10	1.0733	3.9903	2.9170	2.9170	ZF-EDAM10
EDAU10	1.3226	3.9903	2.6676	2.6676	ZF-EDAU10
EDAZ10	1.5719	3.9903	2.4183	2.4183	ZF-EDAZ10
EDAH11	1.8212	3.9903	2.1690	2.1690	ZF-EDAH11
EDAM11	2.0706	3.9903	1.9197	1.9197	ZF-EDAM11
EDAU11	2.3391	3.9903	1.6512	1.6512	ZF-EDAU11
EDAZ11	2.5884	3.9903	1.4019	1.4019	ZF-EDAZ11
EDAH12	2.8377	3.9903	1.1526	1.1526	ZF-EDAH12

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

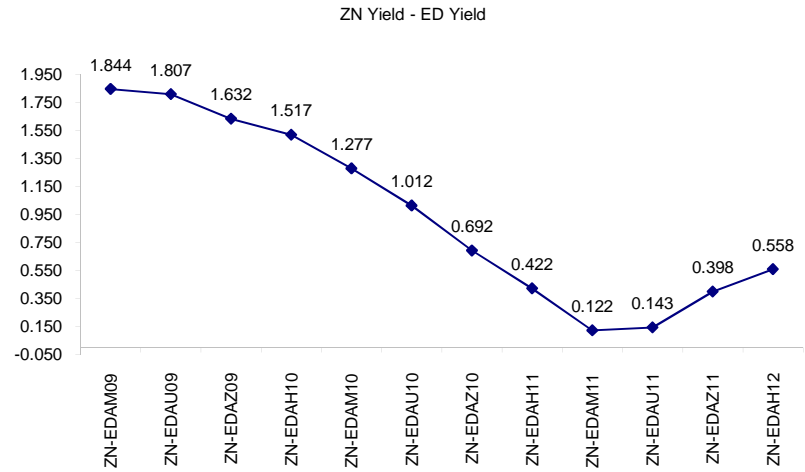


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	22.25	1.844	ZN-EDAM09	62
EDAU09	22.29	1.807	ZN-EDAU09	63
EDAZ09	22.46	1.632	ZN-EDAZ09	69
EDAH10	22.58	1.517	ZN-EDAH10	75
EDAM10	22.82	1.277	ZN-EDAM10	82
EDAU10	23.08	1.012	ZN-EDAU10	87
EDAZ10	23.40	0.692	ZN-EDAZ10	91
EDAH11	23.67	0.422	ZN-EDAH11	94
EDAM11	23.97	0.122	ZN-EDAM11	96
EDAU11	24.24	0.143	ZN-EDAU11	97
EDAZ11	24.49	0.398	ZN-EDAZ11	98
EDAH12	24.65	0.558	ZN-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

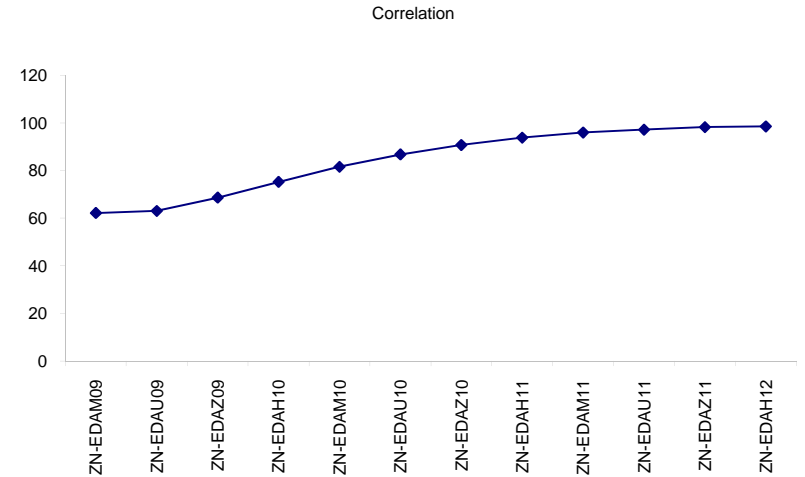
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration
EDAM09	0.0760	5.9724	5.8963
EDAU09	0.3254	5.9724	5.6470
EDAZ09	0.5747	5.9724	5.3977
EDAH10	0.8240	5.9724	5.1484
EDAM10	1.0733	5.9724	4.8991
EDAU10	1.3226	5.9724	4.6498
EDAZ10	1.5719	5.9724	4.4004
EDAH11	1.8212	5.9724	4.1511
EDAM11	2.0706	5.9724	3.9018
EDAU11	2.3391	5.9724	3.6333
EDAZ11	2.5884	5.9724	3.3840
EDAH12	2.8377	5.9724	3.1347

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.76	0.144	2y-EDAM09	-84
EDAU09	0.79	0.107	2y-EDAU09	-85
EDAZ09	0.97	0.068	2y-EDAZ09	-87
EDAH10	1.08	0.183	2y-EDAH10	-90
EDAM10	1.32	0.423	2y-EDAM10	-93
EDAU10	1.59	0.688	2y-EDAU10	-94
EDAZ10	1.91	1.008	2y-EDAZ10	-94
EDAH11	2.18	1.278	2y-EDAH11	-94
EDAM11	2.48	1.578	2y-EDAM11	-93
EDAU11	2.74	1.843	2y-EDAU11	-91
EDAZ11	3.00	2.098	2y-EDAZ11	-90
EDAH12	3.16	2.258	2y-EDAH12	-89

Price = Outright Decimal Price - Euro Contract Price

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

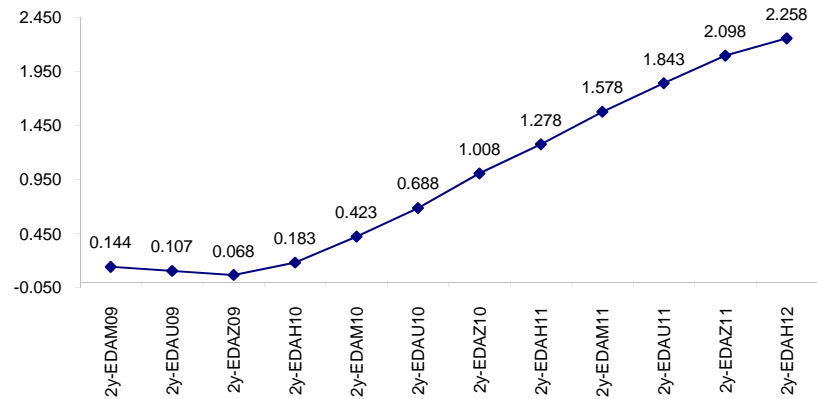
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

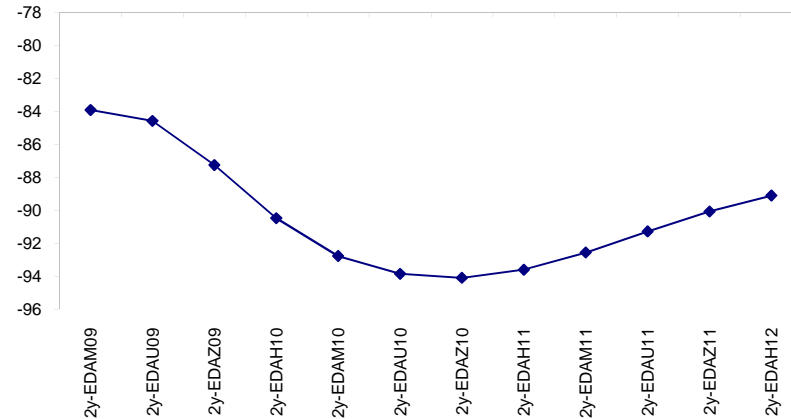
	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0760	1.9272	1.8511	2y-EDAM09
EDAU09	0.3254	1.9272	1.6018	2y-EDAU09
EDAZ09	0.5747	1.9272	1.3525	2y-EDAZ09
EDAH10	0.8240	1.9272	1.1032	2y-EDAH10
EDAM10	1.0733	1.9272	0.8539	2y-EDAM10
EDAU10	1.3226	1.9272	0.6046	2y-EDAU10
EDAZ10	1.5719	1.9272	0.3553	2y-EDAZ10
EDAH11	1.8212	1.9272	0.1059	2y-EDAH11
EDAM11	2.0706	1.9272	-0.1434	2y-EDAM11
EDAU11	2.3391	1.9272	-0.4119	2y-EDAU11
EDAZ11	2.5884	1.9272	-0.6612	2y-EDAZ11
EDAH12	2.8377	1.9272	-0.9105	2y-EDAH12

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

ZT Yield - ED Yield



Correlation

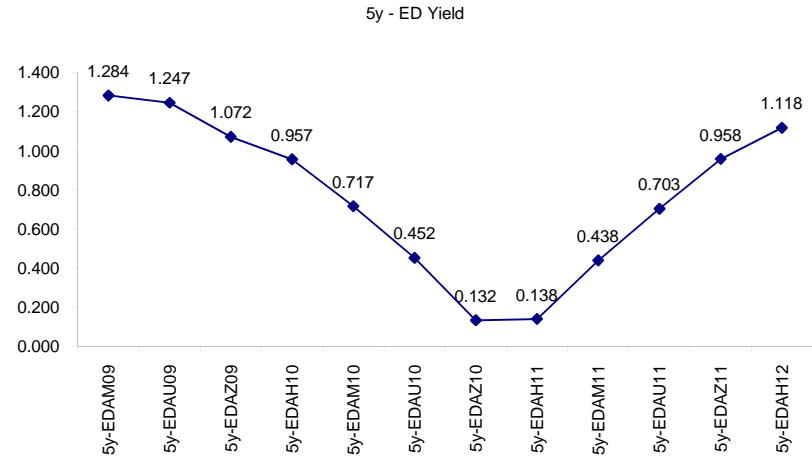


	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.18	1.284	5y-EDAM09	-57
EDAU09	0.22	1.247	5y-EDAU09	-57
EDAZ09	0.39	1.072	5y-EDAZ09	-63
EDAH10	0.51	0.957	5y-EDAH10	-69
EDAM10	0.75	0.717	5y-EDAM10	-75
EDAU10	1.01	0.452	5y-EDAU10	-80
EDAZ10	1.33	0.132	5y-EDAZ10	-84
EDAH11	1.60	0.138	5y-EDAH11	-88
EDAM11	1.90	0.438	5y-EDAM11	-91
EDAU11	2.17	0.703	5y-EDAU11	-92
EDAZ11	2.42	0.958	5y-EDAZ11	-94
EDAH12	2.58	1.118	5y-EDAH12	-94

Price = Outright Decimal Price - Euro Contract Price

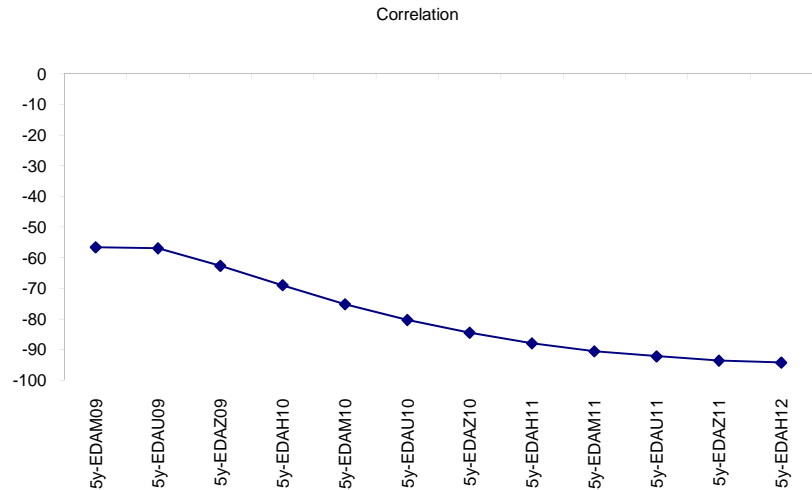
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAM09	0.0760	4.6972	4.6211	5y-EDAM09	
EDAU09	0.3254	4.6972	4.3718	5y-EDAU09	
EDAZ09	0.5747	4.6972	4.1225	5y-EDAZ09	
EDAH10	0.8240	4.6972	3.8732	5y-EDAH10	
EDAM10	1.0733	4.6972	3.6239	5y-EDAM10	
EDAU10	1.3226	4.6972	3.3745	5y-EDAU10	
EDAZ10	1.5719	4.6972	3.1252	5y-EDAZ10	
EDAH11	1.8212	4.6972	2.8759	5y-EDAH11	
EDAM11	2.0706	4.6972	2.6266	5y-EDAM11	
EDAU11	2.3391	4.6972	2.3581	5y-EDAU11	
EDAZ11	2.5884	4.6972	2.1088	5y-EDAZ11	
EDAH12	2.8377	4.6972	1.8595	5y-EDAH12	

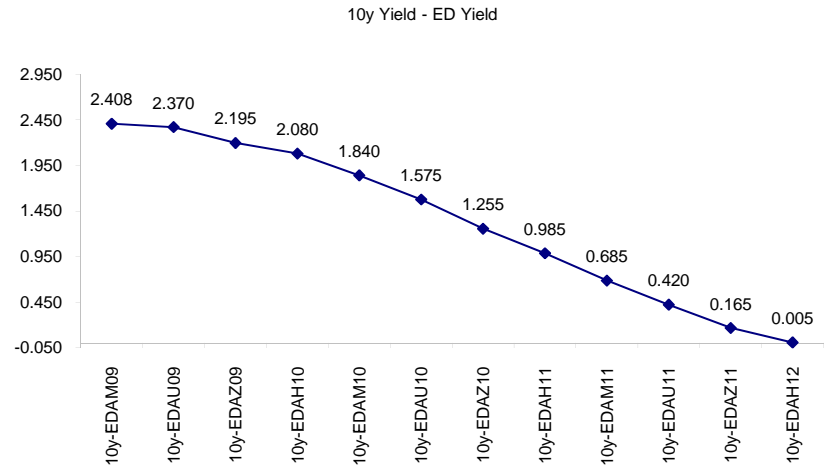
The farther away from 0 the spread duration is the riskier the trade.





10y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.18	2.408	10y-EDAM09	-45
EDAU09	0.22	2.370	10y-EDAU09	-46
EDAZ09	0.39	2.195	10y-EDAZ09	-54
EDAH10	0.51	2.080	10y-EDAH10	-60
EDAM10	0.75	1.840	10y-EDAM10	-67
EDAU10	1.01	1.575	10y-EDAU10	-72
EDAZ10	1.33	1.255	10y-EDAZ10	-77
EDAH11	1.60	0.985	10y-EDAH11	-81
EDAM11	1.90	0.685	10y-EDAM11	-84
EDAU11	2.17	0.420	10y-EDAU11	-87
EDAZ11	2.42	0.165	10y-EDAZ11	-89
EDAH12	2.58	0.005	10y-EDAH12	-91

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	
EDAM09	0.0760	8.5226	8.4466	10y-EDAM09		
EDAU09	0.3254	8.5226	8.1973	10y-EDAU09		
EDAZ09	0.5747	8.5226	7.9480	10y-EDAZ09		
EDAH10	0.8240	8.5226	7.6986	10y-EDAH10		
EDAM10	1.0733	8.5226	7.4493	10y-EDAM10		
EDAU10	1.3226	8.5226	7.2000	10y-EDAU10		
EDAZ10	1.5719	8.5226	6.9507	10y-EDAZ10		
EDAH11	1.8212	8.5226	6.7014	10y-EDAH11		
EDAM11	2.0706	8.5226	6.4521	10y-EDAM11		
EDAU11	2.3391	8.5226	6.1836	10y-EDAU11		
EDAZ11	2.5884	8.5226	5.9343	10y-EDAZ11		
EDAH12	2.8377	8.5226	5.6849	10y-EDAH12		

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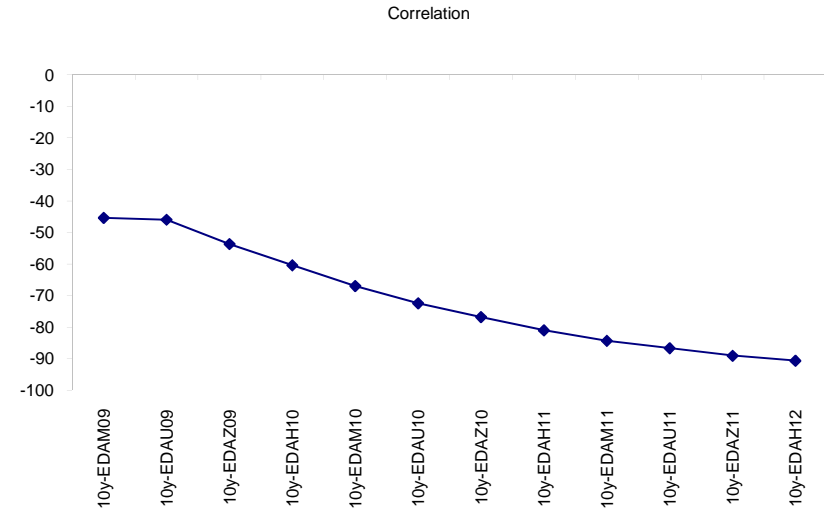


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

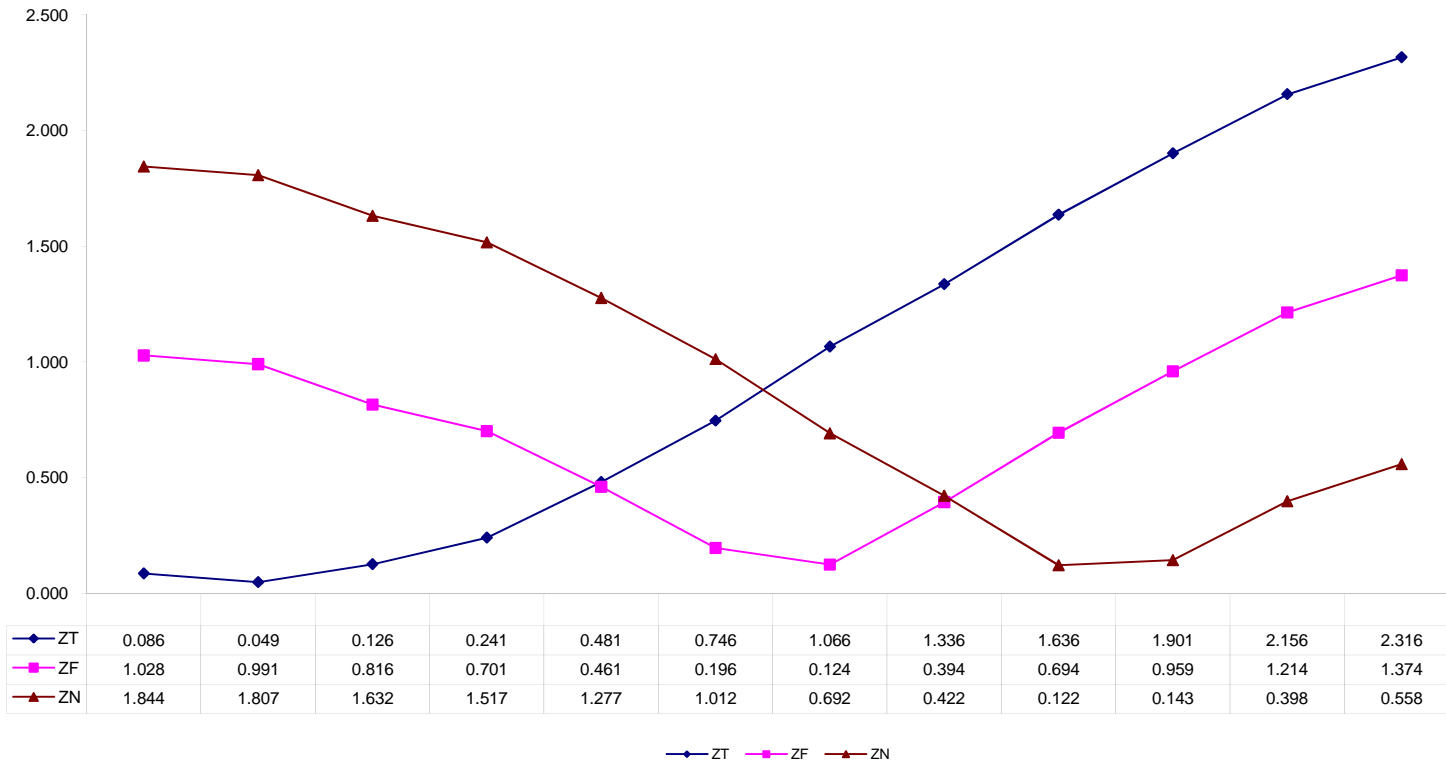
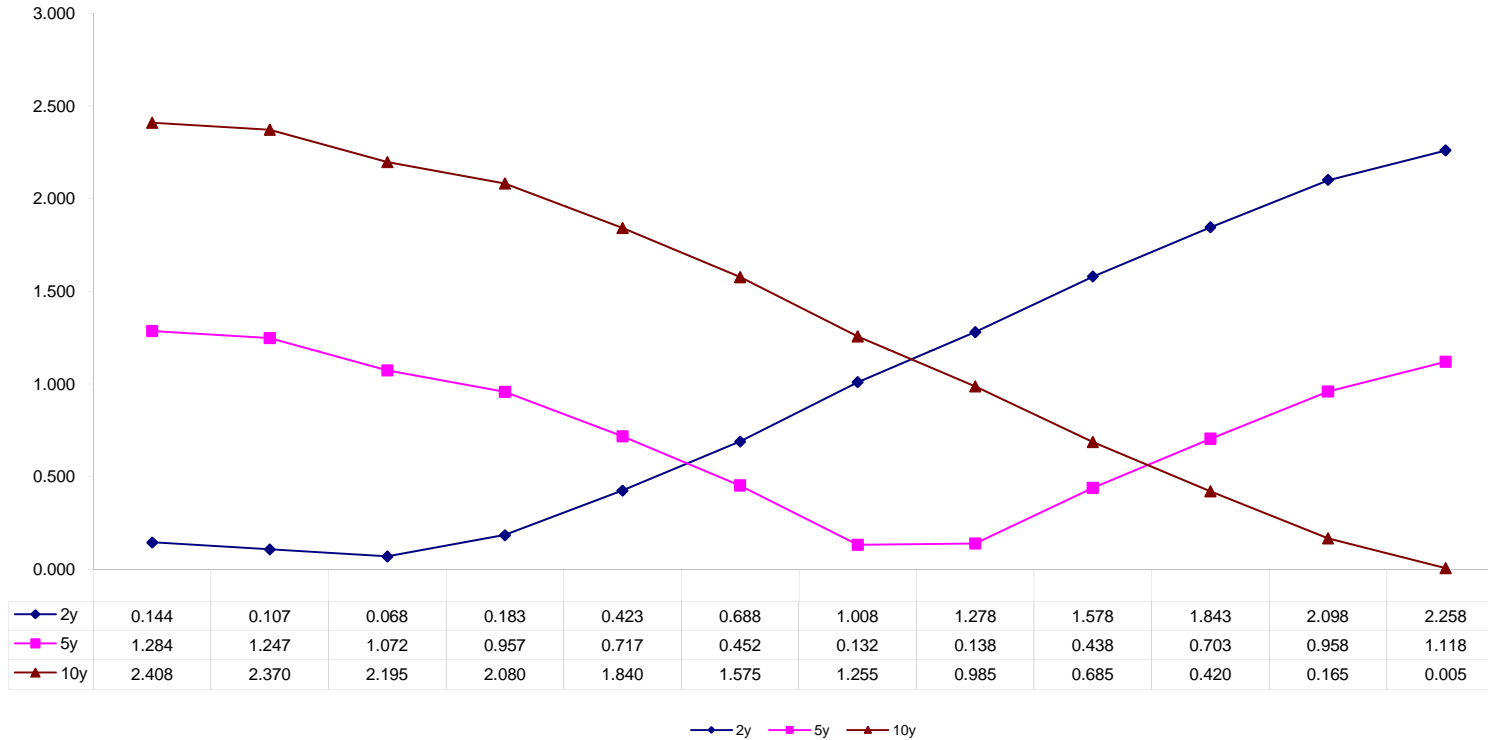
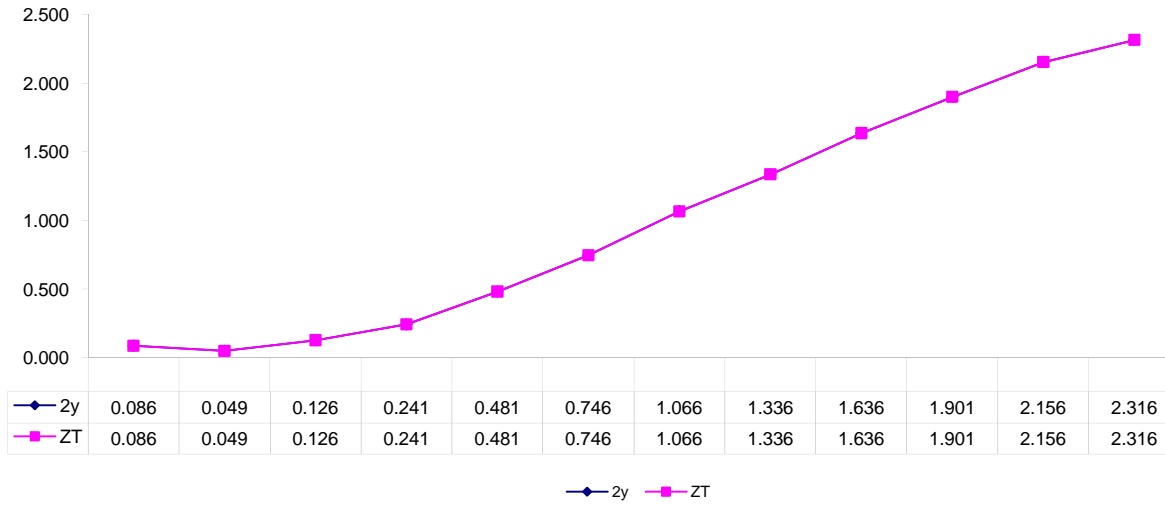
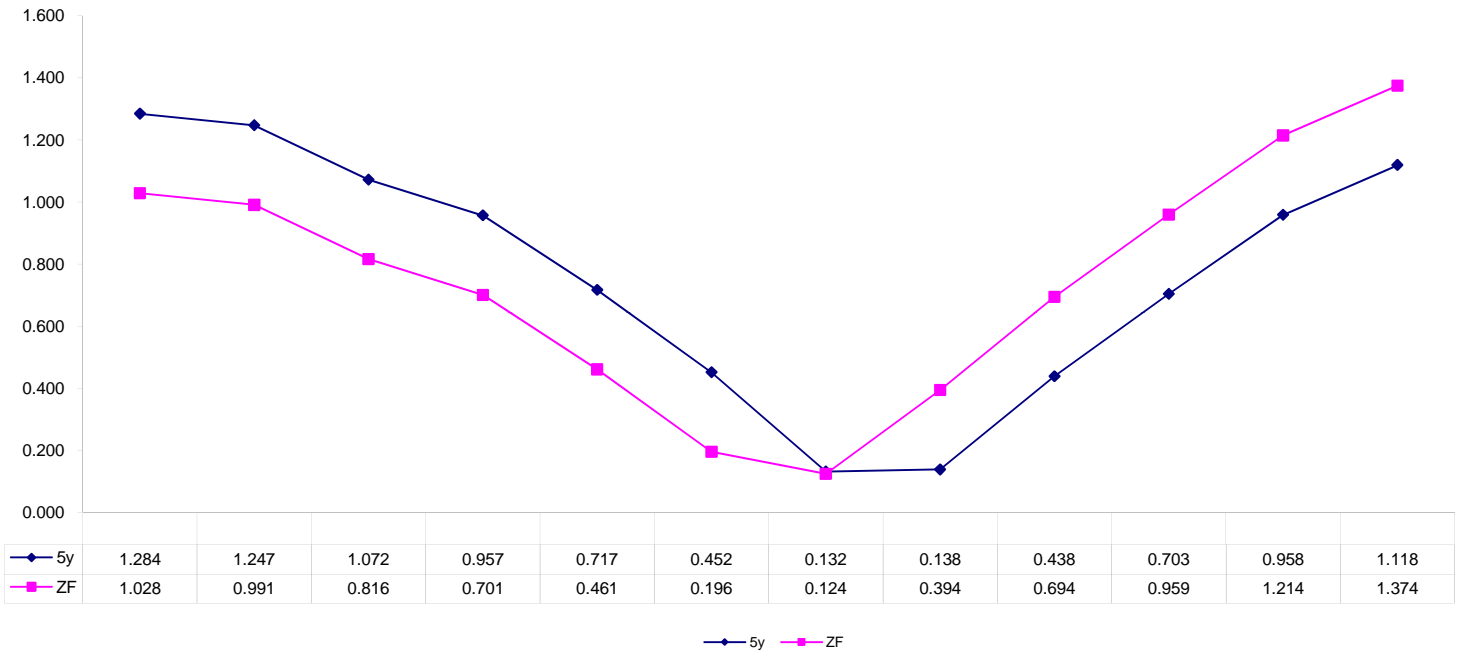


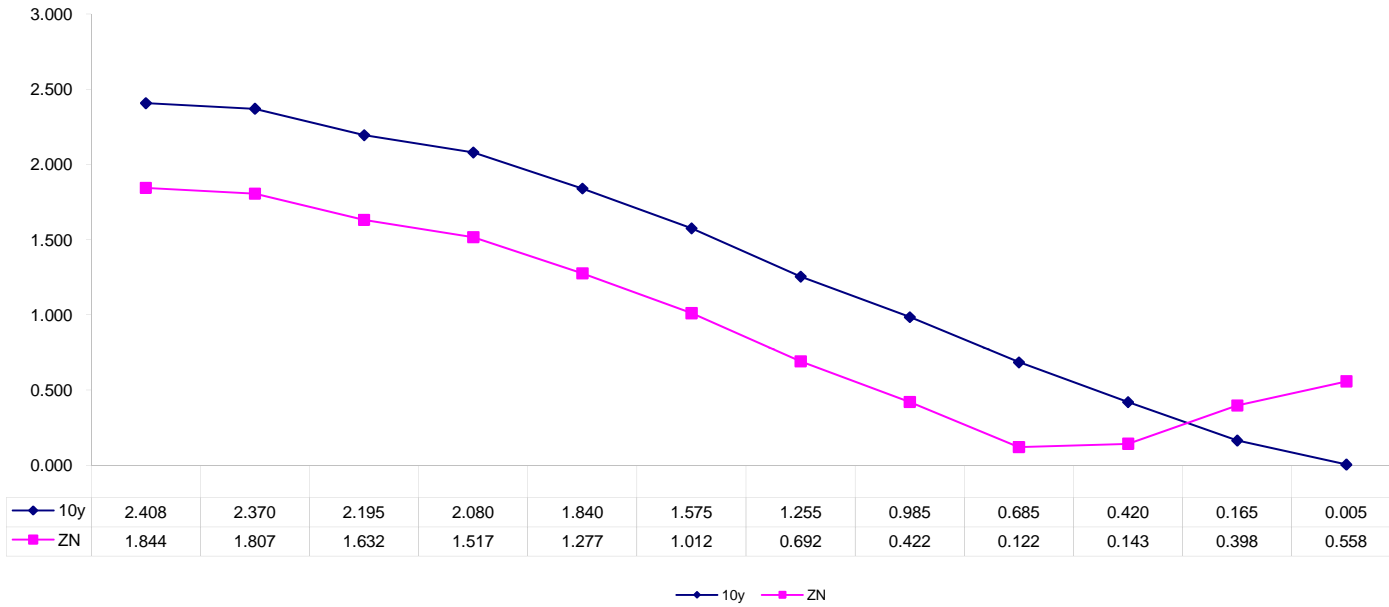
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.861	3.937	9915.3125
Red Pack	1.727	2.375	9830.3750
Green Pack	2.850	2.000	9720.8750
Blue Pack	1.125	9654.1250	
Gold Pack		0.000	9614.3750

