

## The Morning Email: TERM TEDS & Dirty TEDS

### Table of Contents

<b>Pg 1</b>	Quotes
<b>Pg 2</b>	Dirty TED: ZT vs Eurodollar Contracts
<b>Pg 3</b>	Dirty TED: ZF vs Eurodollar Contracts
<b>Pg 4</b>	Dirty TED: ZN vs Eurodollar Contracts
<b>Pg 5</b>	TERM TED: 2y vs Eurodollar Contracts
<b>Pg 6</b>	TERM TED: 5y vs Eurodollar Contracts
<b>Pg 7</b>	TERM TED: 10y vs Eurodollar Contracts
<b>Pg 8</b>	Dirty TED Curve
<b>Pg 9</b>	TED Curve
<b>Pg 10</b>	2y Basis TED Curve
<b>Pg 11</b>	5y Basis TED Curve
<b>Pg 12</b>	10y Basis TED Curve
<b>Pg 13</b>	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	108.5000	108.1600	0.927	1.95
ZF	116.9063	116.2900	1.780	1.78
ZN	120.7188	120.2300	2.501	6.02
2y	99.8969	99.2870	0.927	1.96
5y	99.7500	99.2400	1.926	4.74
10y	98.1250	98.0400	2.967	8.62

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.710	1.290	12	0.032	MAR	
EDAM09	98.700	1.300	103	0.281	JUN	White Pack
EDAU09	98.665	1.335	194	0.531	SEP	
EDAZ09	98.525	1.475	285	0.780	DEC	
EDAH10	98.420	1.580	376	1.029	MAR	
EDAM10	98.205	1.795	467	1.279	JUN	Red Pack
EDAU10	97.980	2.020	558	1.528	SEP	
EDAZ10	97.730	2.270	649	1.777	DEC	
EDAH11	97.530	2.470	740	2.027	MAR	
EDAM11	97.295	2.705	831	2.276	JUN	Green Pack
EDAU11	97.075	2.925	929	2.545	SEP	
EDAZ11	96.855	3.145	1020	2.794	DEC	
EDAH12	96.715	3.285	1111	3.043	MAR	
EDAM12	96.575	3.425	1202	3.292	JUN	Blue Pack
EDAU12	96.480	3.520	1293	3.542	SEP	
EDAZ12	96.355	3.645	1384	3.791	DEC	
EDAH13	96.270	3.730	1475	4.040	MAR	
EDAM13	96.175	3.825	1566	4.290	JUN	Gold Pack
EDZU13	96.095	3.905	1657	4.539	SEP	
EDZZ13	96.000	4.000	1748	4.788	DEC	

	Last Yield	Net Yield	Last Price	
White Pack	1.373	-0.625	9865.000	
Red Pack	1.952	-1.250	9808.375	Pack Prices
Green Pack	2.871	-4.000	9718.875	
Blue Pack	3.548	-5.875	9653.125	
Gold Pack	3.957	-7.125	9613.500	

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.

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

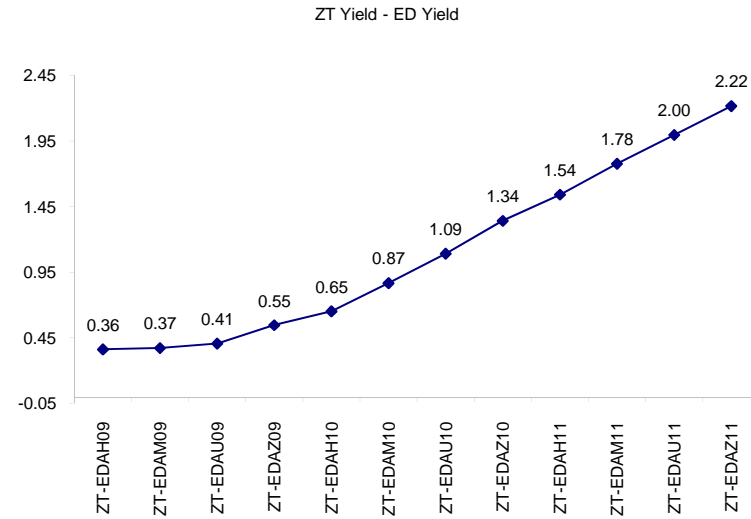
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	9.790	0.36	ZT-EDAH09	33.519
EDAM09	9.800	0.37	ZT-EDAM09	48.016
EDAU09	9.835	0.41	ZT-EDAU09	78.867
EDAZ09	9.975	0.55	ZT-EDAZ09	92.614
EDAH10	10.080	0.65	ZT-EDAH10	97.350
EDAM10	10.295	0.87	ZT-EDAM10	98.025
EDAU10	10.520	1.09	ZT-EDAU10	97.268
EDAZ10	10.770	1.34	ZT-EDAZ10	94.722
EDAH11	10.970	1.54	ZT-EDAH11	89.313
EDAM11	11.205	1.78	ZT-EDAM11	81.678
EDAU11	11.425	2.00	ZT-EDAU11	72.912
EDAZ11	11.645	2.22	ZT-EDAZ11	63.794

Price = Outright Decimal Price - Euro Contract Price

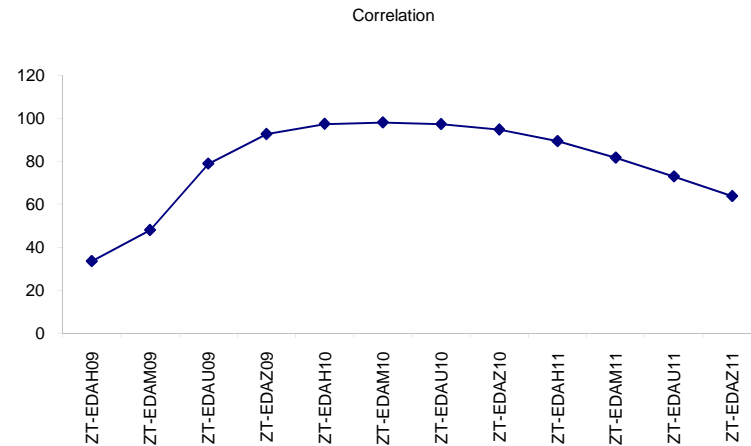
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAH09	0.032	1.95	1.95	1.92	ZT-EDAH09
EDAM09	0.281	1.95	1.95	1.67	ZT-EDAM09
EDAU09	0.531	1.95	1.95	1.42	ZT-EDAU09
EDAZ09	0.780	1.95	1.95	1.17	ZT-EDAZ09
EDAH10	1.029	1.95	1.95	0.93	ZT-EDAH10
EDAM10	1.279	1.95	1.95	0.68	ZT-EDAM10
EDAU10	1.528	1.95	1.95	0.43	ZT-EDAU10
EDAZ10	1.777	1.95	1.95	0.18	ZT-EDAZ10
EDAH11	2.027	1.95	1.95	(0.07)	ZT-EDAH11
EDAM11	2.276	1.95	1.95	(0.32)	ZT-EDAM11
EDAU11	2.545	1.95	1.95	(0.59)	ZT-EDAU11
EDAZ11	2.794	1.95	1.95	(0.84)	ZT-EDAZ11

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

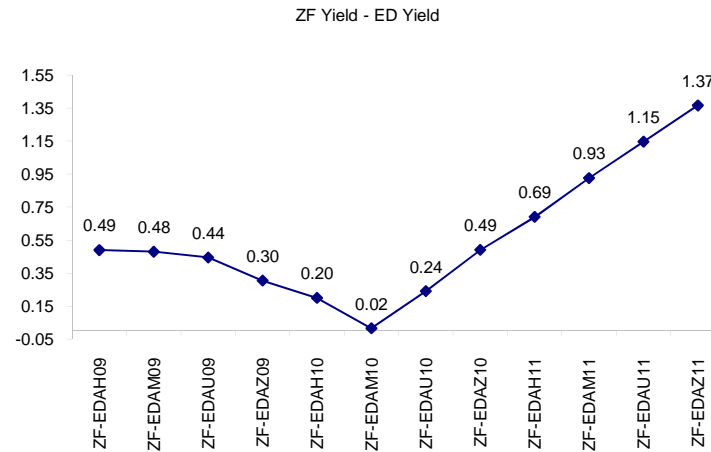


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	18.196	0.49	ZF-EDAH09	54.038
EDAM09	18.206	0.48	ZF-EDAM09	67.828
EDAU09	18.241	0.44	ZF-EDAU09	88.142
EDAZ09	18.381	0.30	ZF-EDAZ09	94.801
EDAH10	18.486	0.20	ZF-EDAH10	94.552
EDAM10	18.701	0.02	ZF-EDAM10	96.859
EDAU10	18.926	0.24	ZF-EDAU10	98.019
EDAZ10	19.176	0.49	ZF-EDAZ10	97.551
EDAH11	19.376	0.69	ZF-EDAH11	95.035
EDAM11	19.611	0.93	ZF-EDAM11	90.356
EDAU11	19.831	1.15	ZF-EDAU11	83.907
EDAZ11	20.051	1.37	ZF-EDAZ11	76.836

Price = Outright Decimal Price - Euro Contract Price

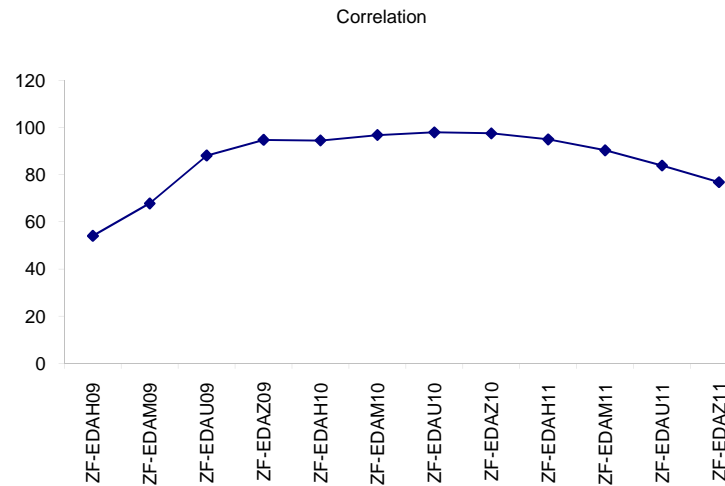
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAH09	0.032	1.78	1.78	1.75	ZF-EDAH09
EDAM09	0.281	1.78	1.78	1.50	ZF-EDAM09
EDAU09	0.531	1.78	1.78	1.25	ZF-EDAU09
EDAZ09	0.780	1.78	1.78	1.00	ZF-EDAZ09
EDAH10	1.029	1.78	1.78	0.75	ZF-EDAH10
EDAM10	1.279	1.78	1.78	0.50	ZF-EDAM10
EDAU10	1.528	1.78	1.78	0.25	ZF-EDAU10
EDAZ10	1.777	1.78	1.78	0.00	ZF-EDAZ10
EDAH11	2.027	1.78	1.78	(0.25)	ZF-EDAH11
EDAM11	2.276	1.78	1.78	(0.50)	ZF-EDAM11
EDAU11	2.545	1.78	1.78	(0.76)	ZF-EDAU11
EDAZ11	2.794	1.78	1.78	(1.01)	ZF-EDAZ11

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

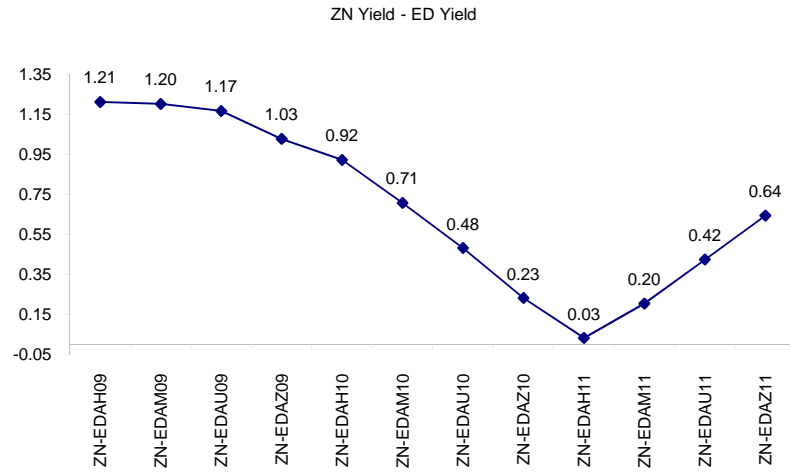


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	22.009	1.21	ZN-EDAH09	71.357
EDAM09	22.019	1.20	ZN-EDAM09	80.452
EDAU09	22.054	1.17	ZN-EDAU09	93.743
EDAZ09	22.194	1.03	ZN-EDAZ09	94.233
EDAH10	22.299	0.92	ZN-EDAH10	89.470
EDAM10	22.514	0.71	ZN-EDAM10	91.589
EDAU10	22.739	0.48	ZN-EDAU10	92.473
EDAZ10	22.989	0.23	ZN-EDAZ10	93.436
EDAH11	23.189	0.03	ZN-EDAH11	93.988
EDAM11	23.424	0.20	ZN-EDAM11	93.379
EDAU11	23.644	0.42	ZN-EDAU11	90.281
EDAZ11	23.864	0.64	ZN-EDAZ11	86.471

Price = Outright Decimal Price - Euro Contract Price

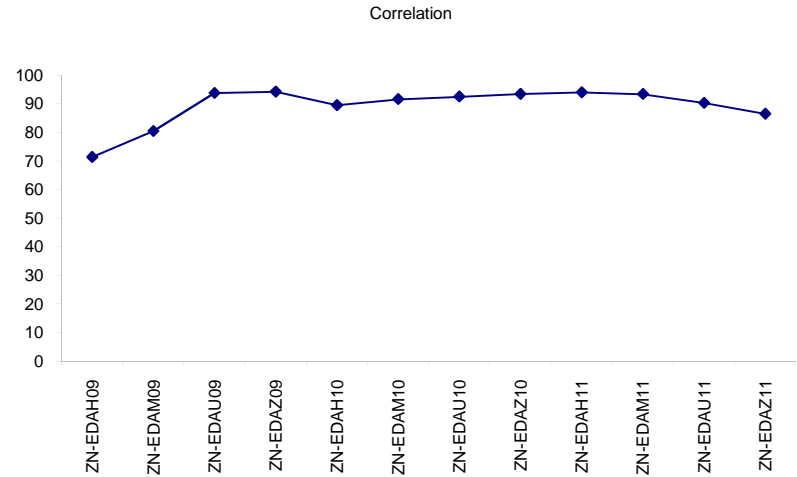
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year				
	Fraction of year	ZN Duration	Spread Duration	
EDAH09	0.032	6.02	5.99	ZN-EDAH09
EDAM09	0.281	6.02	5.74	ZN-EDAM09
EDAU09	0.531	6.02	5.49	ZN-EDAU09
EDAZ09	0.780	6.02	5.24	ZN-EDAZ09
EDAH10	1.029	6.02	4.99	ZN-EDAH10
EDAM10	1.279	6.02	4.74	ZN-EDAM10
EDAU10	1.528	6.02	4.49	ZN-EDAU10
EDAZ10	1.777	6.02	4.24	ZN-EDAZ10
EDAH11	2.027	6.02	3.99	ZN-EDAH11
EDAM11	2.276	6.02	3.75	ZN-EDAM11
EDAU11	2.545	6.02	3.48	ZN-EDAU11
EDAZ11	2.794	6.02	3.23	ZN-EDAZ11

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

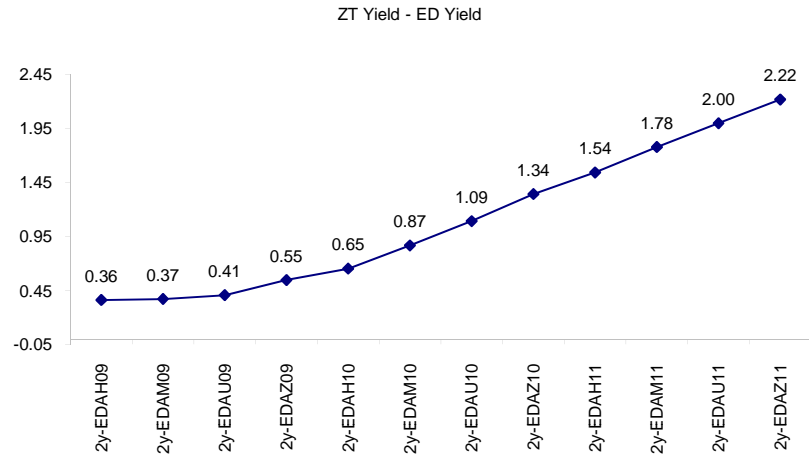


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.187	0.36	2y-EDAH09	-25.671
EDAM09	1.197	0.37	2y-EDAM09	-40.338
EDAU09	1.232	0.41	2y-EDAU09	-73.644
EDAZ09	1.372	0.55	2y-EDAZ09	-88.803
EDAH10	1.477	0.65	2y-EDAH10	-94.909
EDAM10	1.692	0.87	2y-EDAM10	-94.583
EDAU10	1.917	1.09	2y-EDAU10	-92.643
EDAZ10	2.167	1.34	2y-EDAZ10	-88.357
EDAH11	2.367	1.54	2y-EDAH11	-80.771
EDAM11	2.602	1.78	2y-EDAM11	-71.373
EDAU11	2.822	2.00	2y-EDAU11	-60.999
EDAZ11	3.042	2.22	2y-EDAZ11	-50.755

Price = Outright Decimal Price - Euro Contract Price

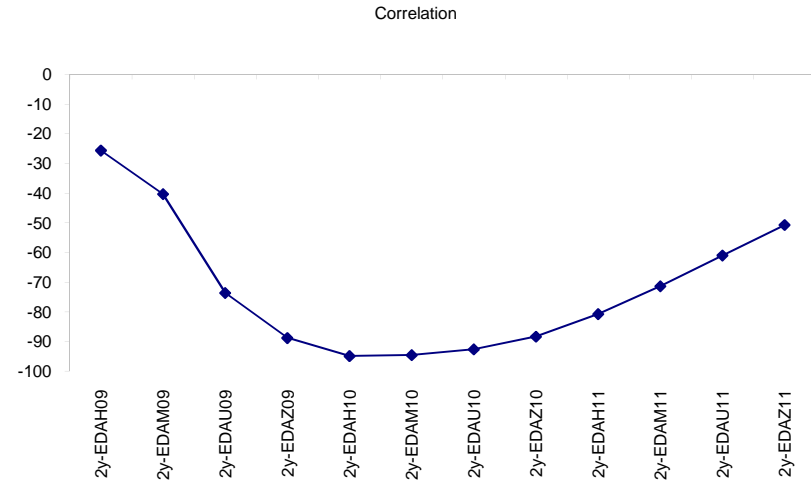
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		2Y Duration	Spread Duration	
EDAH09	0.032	1.96	1.96	1.93	2y-EDAH09
EDAM09	0.281	1.96	1.96	1.68	2y-EDAM09
EDAU09	0.531	1.96	1.96	1.43	2y-EDAU09
EDAZ09	0.780	1.96	1.96	1.18	2y-EDAZ09
EDAH10	1.029	1.96	1.96	0.93	2y-EDAH10
EDAM10	1.279	1.96	1.96	0.69	2y-EDAM10
EDAU10	1.528	1.96	1.96	0.44	2y-EDAU10
EDAZ10	1.777	1.96	1.96	0.19	2y-EDAZ10
EDAH11	2.027	1.96	1.96	(0.06)	2y-EDAH11
EDAM11	2.276	1.96	1.96	(0.31)	2y-EDAM11
EDAU11	2.545	1.96	1.96	(0.58)	2y-EDAU11
EDAZ11	2.794	1.96	1.96	(0.83)	2y-EDAZ11

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



	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.040	0.64	5y-EDAH09	-56.762
EDAM09	1.050	0.63	5y-EDAM09	-70.349
EDAU09	1.085	0.59	5y-EDAU09	-83.922
EDAZ09	1.225	0.45	5y-EDAZ09	-86.870
EDAH10	1.330	0.35	5y-EDAH10	-85.260
EDAM10	1.545	0.13	5y-EDAM10	-89.293
EDAU10	1.770	0.09	5y-EDAU10	-92.130
EDAZ10	2.020	0.34	5y-EDAZ10	-94.793
EDAH11	2.220	0.54	5y-EDAH11	-96.158
EDAM11	2.455	0.78	5y-EDAM11	-95.203
EDAU11	2.675	1.00	5y-EDAU11	-91.671
EDAZ11	2.895	1.22	5y-EDAZ11	-86.637

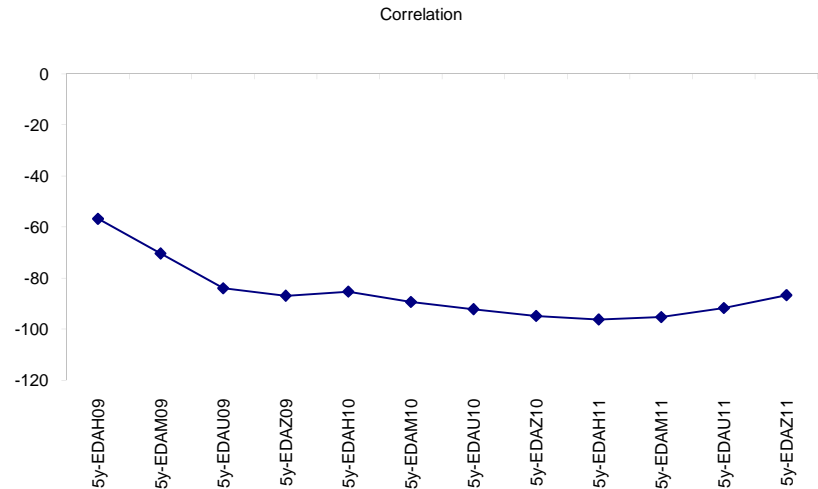
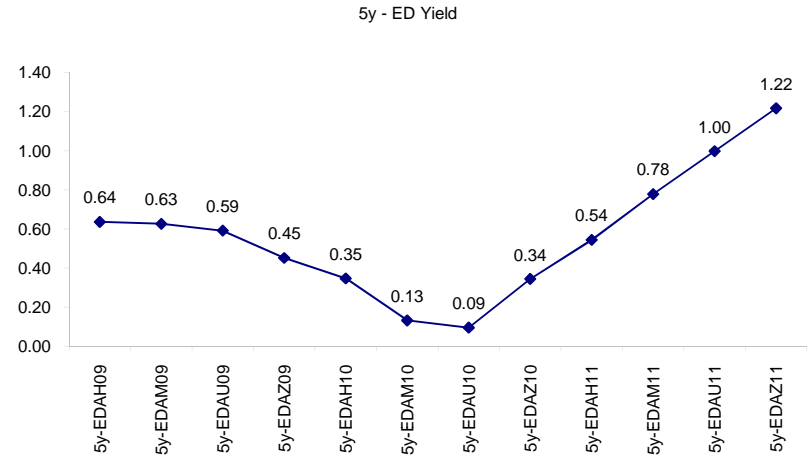
Price = Outright Decimal Price - Euro Contract Price

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	
EDAH09	0.032		4.74	4.70	5y-EDAH09
EDAM09	0.281		4.74	4.46	5y-EDAM09
EDAU09	0.531		4.74	4.21	5y-EDAU09
EDAZ09	0.780		4.74	3.96	5y-EDAZ09
EDAH10	1.029		4.74	3.71	5y-EDAH10
EDAM10	1.279		4.74	3.46	5y-EDAM10
EDAU10	1.528		4.74	3.21	5y-EDAU10
EDAZ10	1.777		4.74	2.96	5y-EDAZ10
EDAH11	2.027		4.74	2.71	5y-EDAH11
EDAM11	2.276		4.74	2.46	5y-EDAM11
EDAU11	2.545		4.74	2.19	5y-EDAU11
EDAZ11	2.794		4.74	1.94	5y-EDAZ11

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

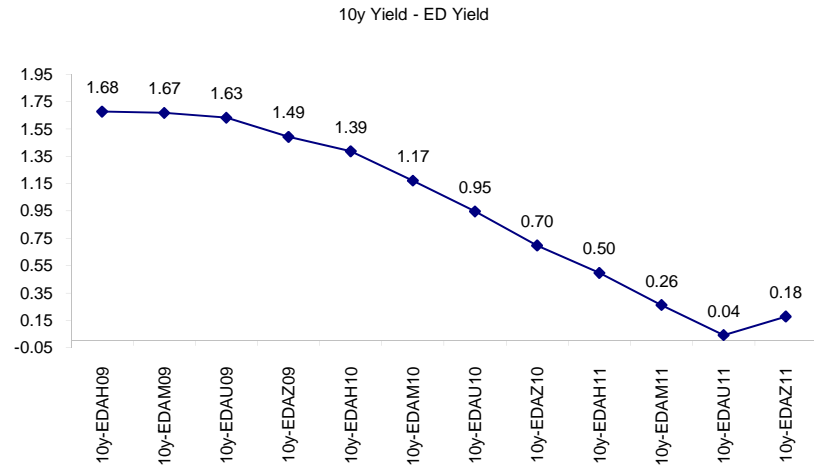


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.040	1.68	10y-EDAH09	-77.005
EDAM09	1.050	1.67	10y-EDAM09	-80.654
EDAU09	1.085	1.63	10y-EDAU09	-70.715
EDAZ09	1.225	1.49	10y-EDAZ09	-60.404
EDAH10	1.330	1.39	10y-EDAH10	-50.760
EDAM10	1.545	1.17	10y-EDAM10	-56.715
EDAU10	1.770	0.95	10y-EDAU10	-61.951
EDAZ10	2.020	0.70	10y-EDAZ10	-69.473
EDAH11	2.220	0.50	10y-EDAH11	-78.730
EDAM11	2.455	0.26	10y-EDAM11	-87.082
EDAU11	2.675	0.04	10y-EDAU11	-91.838
EDAZ11	2.895	0.18	10y-EDAZ11	-94.333

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		
EDAH09	0.032	8.62	8.59	10y-EDAH09
EDAM09	0.281	8.62	8.34	10y-EDAM09
EDAU09	0.531	8.62	8.09	10y-EDAU09
EDAZ09	0.780	8.62	7.84	10y-EDAZ09
EDAH10	1.029	8.62	7.59	10y-EDAH10
EDAM10	1.279	8.62	7.34	10y-EDAM10
EDAU10	1.528	8.62	7.09	10y-EDAU10
EDAZ10	1.777	8.62	6.84	10y-EDAZ10
EDAH11	2.027	8.62	6.59	10y-EDAH11
EDAM11	2.276	8.62	6.34	10y-EDAM11
EDAU11	2.545	8.62	6.07	10y-EDAU11
EDAZ11	2.794	8.62	5.83	10y-EDAZ11

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

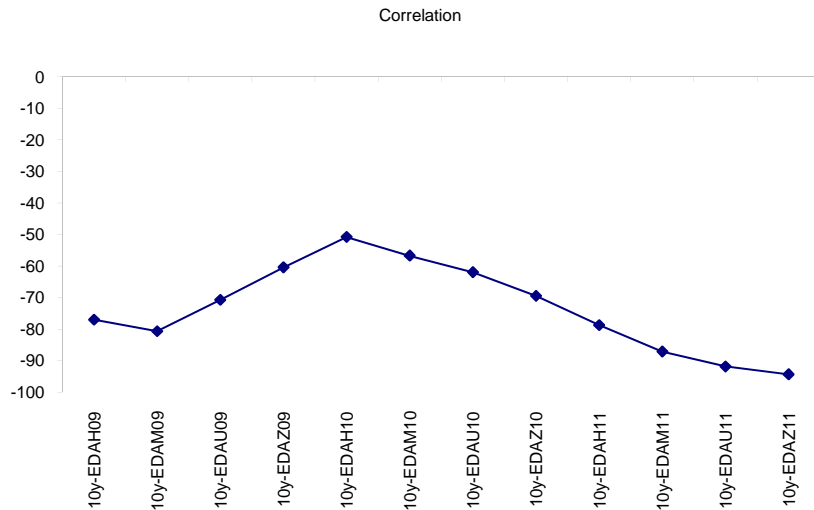


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

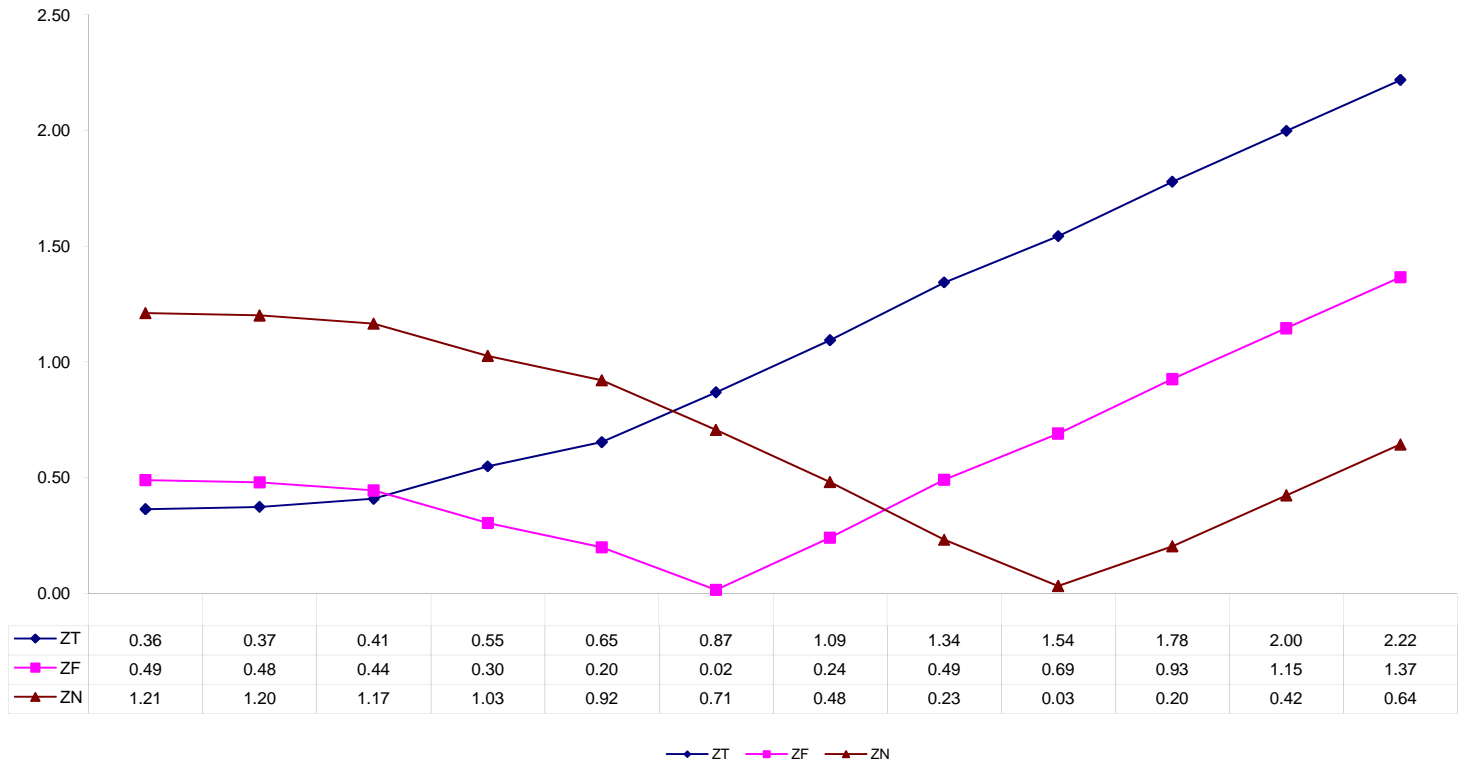
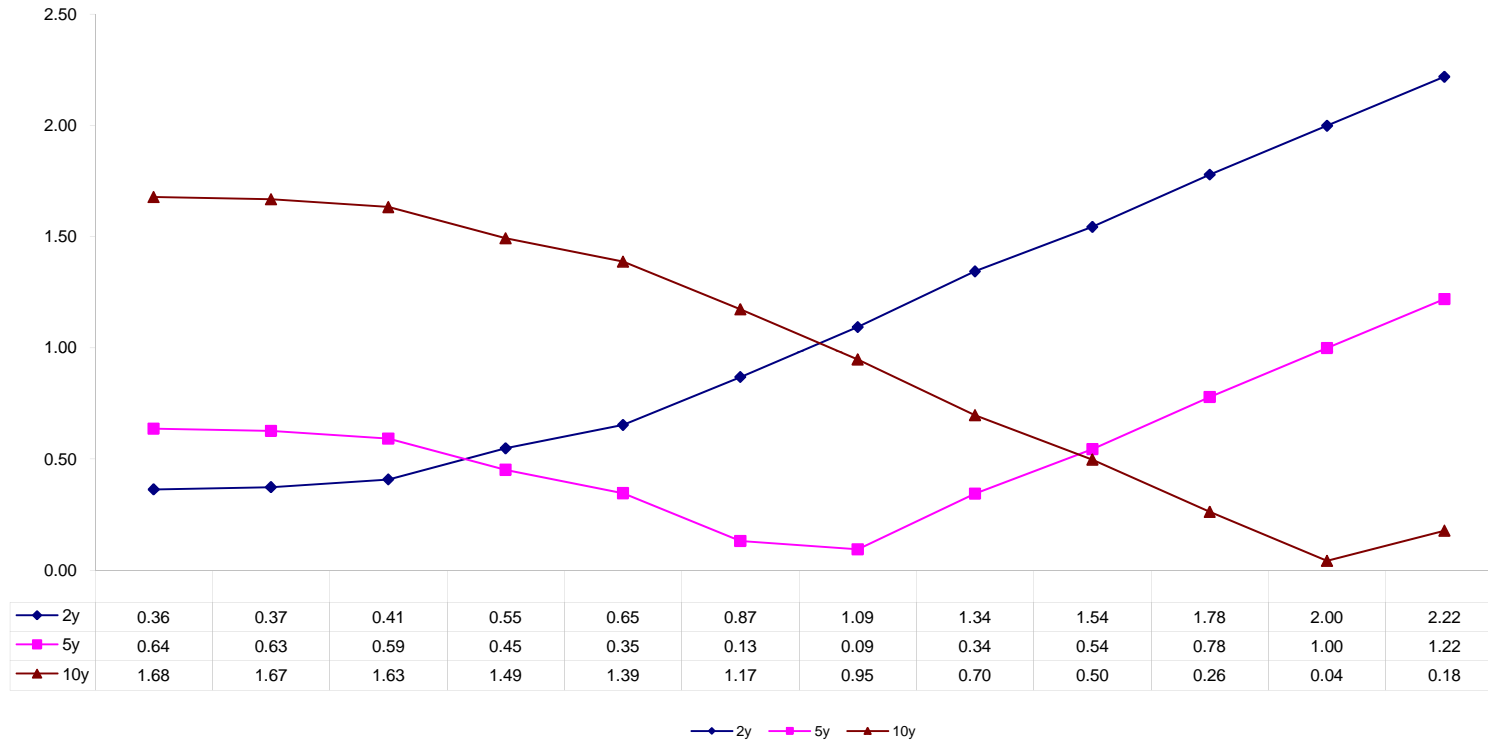
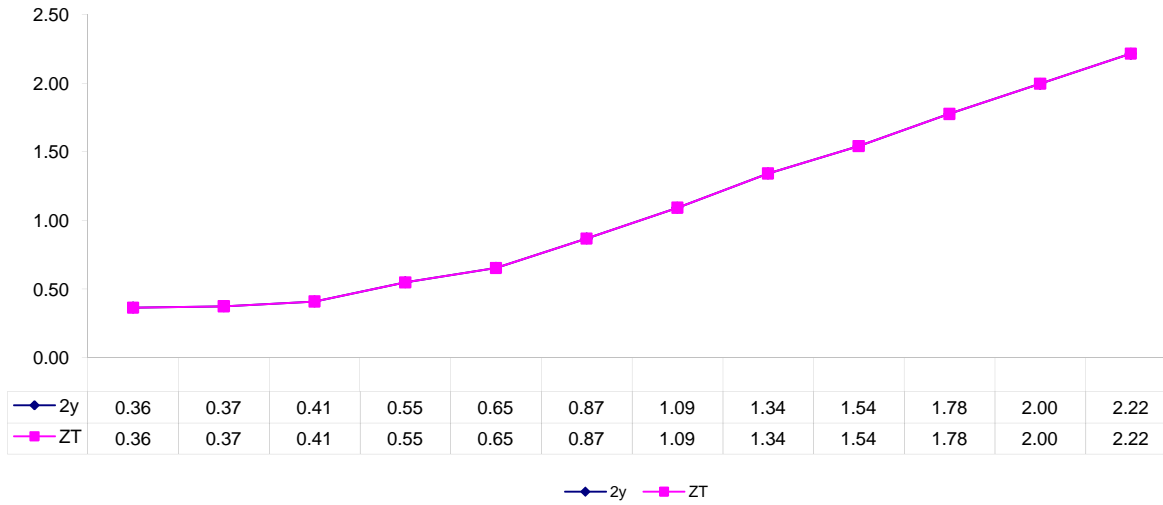
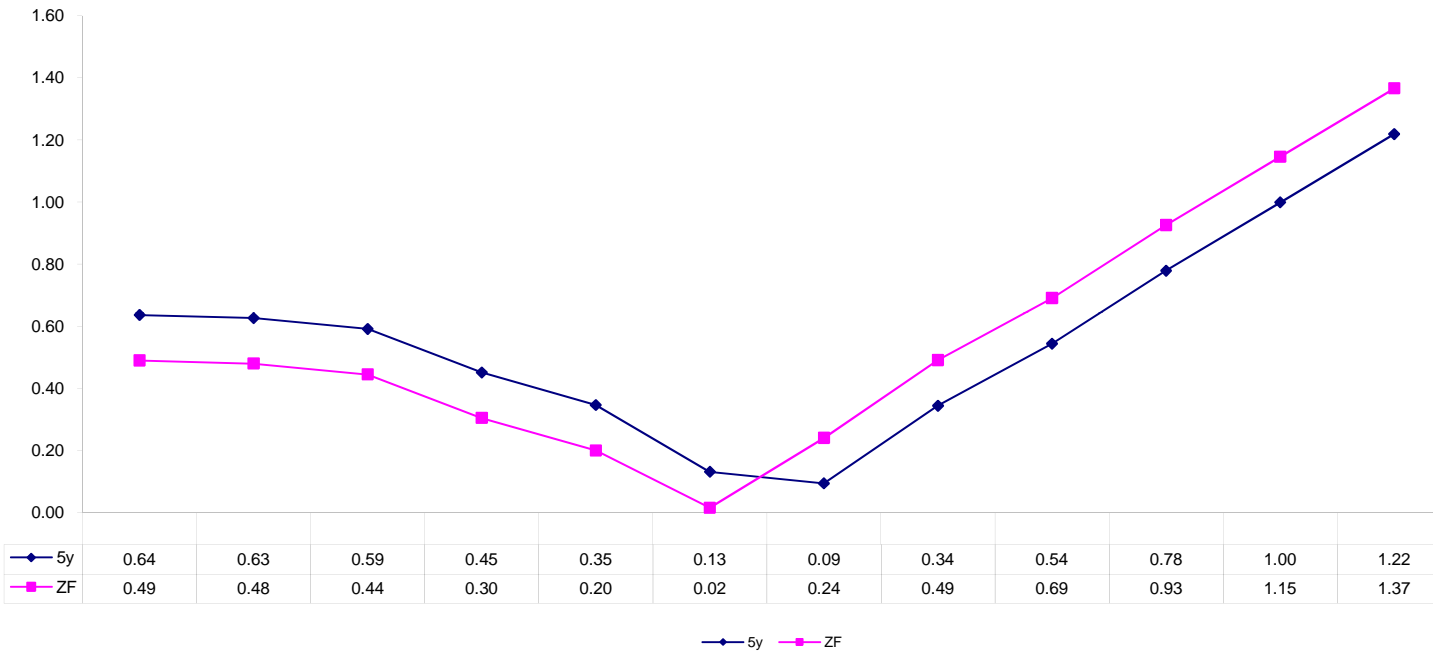


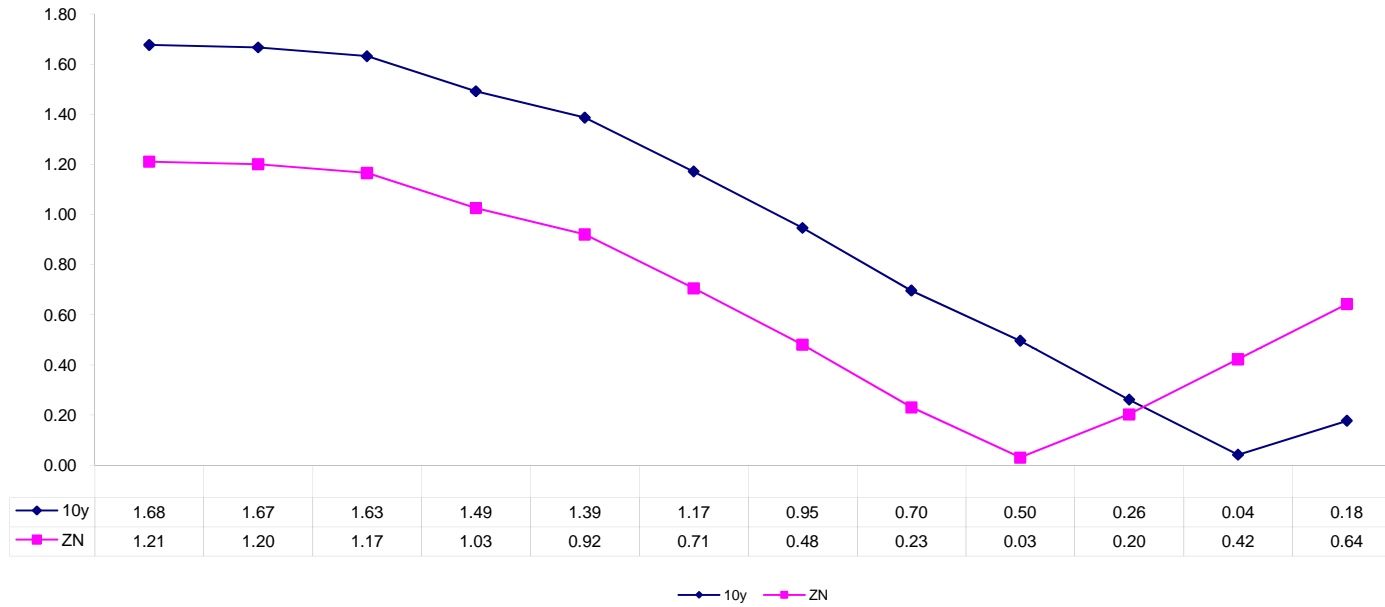
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.373	-0.625	9865.000
Red Pack	1.952	-1.250	9808.375
Green Pack	2.871	-4.000	9718.875
Blue Pack	3.548	-5.875	9653.125
Gold Pack	3.957	-7.125	9613.500

