

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

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Want something added? Let me know: [jgoulding@ghco.com](mailto:jgoulding@ghco.com)

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Treasury Futures and Cash				
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	108.6313	108.2020	0.870	1.866
ZF	117.8813	117.2820	1.614	4.066
ZN	123.0313	123.0100	2.359	5.933
2y	99.9375	99.3000	0.908	1.918
5y	99.7719	99.2470	1.796	4.707
10y	99.3281	99.1050	2.825	8.503

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.8900	1.110	55	0.1500	JUN	
EDAU09	98.8500	1.150	146	0.3994	SEP	White Pack
EDAZ09	98.6450	1.355	237	0.6487	DEC	
EDAH10	98.5300	1.470	328	0.8980	MAR	
EDAM10	98.3300	1.670	419	1.1473	JUN	
EDAU10	98.1300	1.870	510	1.3966	SEP	Red Pack
EDAZ10	97.9050	2.095	601	1.6459	DEC	
EDAH11	97.7350	2.265	692	1.8952	MAR	
EDAM11	97.5300	2.470	783	2.1446	JUN	
EDAU11	97.3400	2.660	881	2.4131	SEP	Green Pack
EDAZ11	97.1400	2.860	972	2.6624	DEC	
EDAH12	97.0250	2.975	1,063	2.9117	MAR	
EDAM12	96.9000	3.100	1,154	3.1610	JUN	
EDAU12	96.8050	3.195	1,245	3.4103	SEP	Blue Pack
EDAZ12	96.6950	3.305	1,336	3.6596	DEC	
EDAH13	96.6450	3.355	1,427	3.9089	MAR	
EDAM13	96.5850	3.415	1,518	4.1583	JUN	
EDAU13	96.5100	3.490	1,609	4.4076	SEP	Gold Pack
EDAZ13	96.4250	3.575	1,700	4.6569	DEC	
EDAH14	96.3950	3.605	1,791	4.9062	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.293	-1.000	9872.88	
Red Pack	2.012	-1.750	9802.50	Pack Prices
Green Pack	2.799	-1.750	9725.88	
Blue Pack	3.311	0.125	9676.13	
Gold Pack	3.602	2.375	9647.88	

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:**

- € 1.00 Regression
- € 2.00 Engineered
- € 3.00 Strip with and without Stubs
- € 4.00 Convexity Bias
- € 5.00 Weighted
- € 6.00 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)**

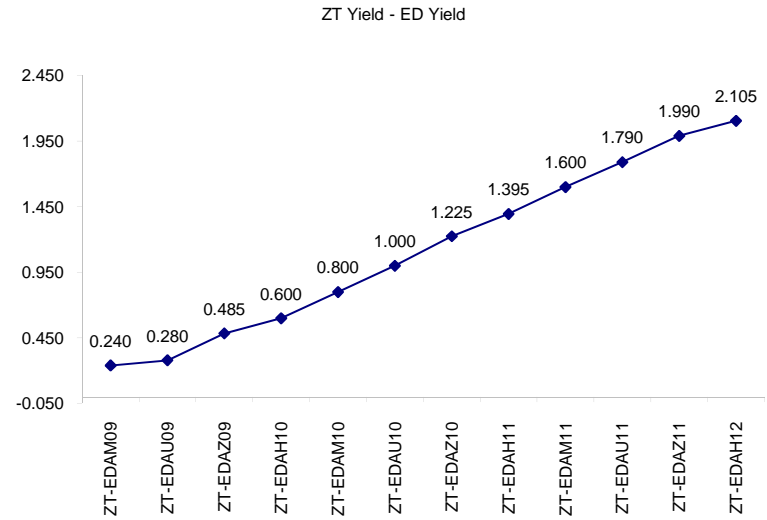
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.74	0.240	ZT-EDAM09	50
EDAU09	9.78	0.280	ZT-EDAU09	77
EDAZ09	9.99	0.485	ZT-EDAZ09	87
EDAH10	10.10	0.600	ZT-EDAH10	88
EDAM10	10.30	0.800	ZT-EDAM10	88
EDAU10	10.50	1.000	ZT-EDAU10	87
EDAZ10	10.73	1.225	ZT-EDAZ10	87
EDAH11	10.90	1.395	ZT-EDAH11	86
EDAM11	11.10	1.600	ZT-EDAM11	85
EDAU11	11.29	1.790	ZT-EDAU11	84
EDAZ11	11.49	1.990	ZT-EDAZ11	83
EDAH12	11.61	2.105	ZT-EDAH12	81

Price = Outright Decimal Price - Euro Contract Price

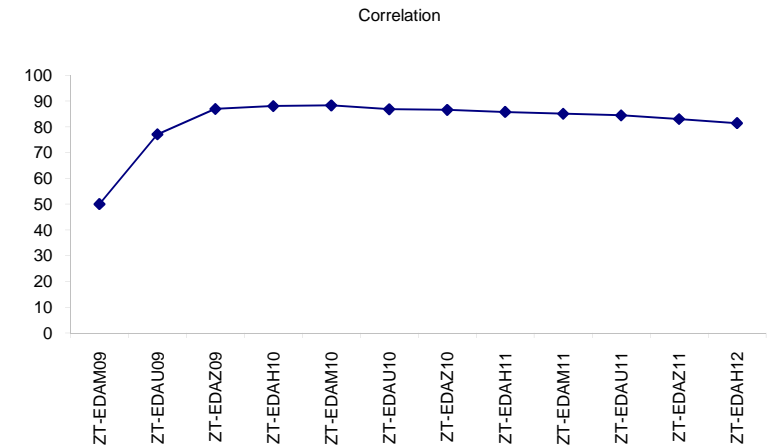
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



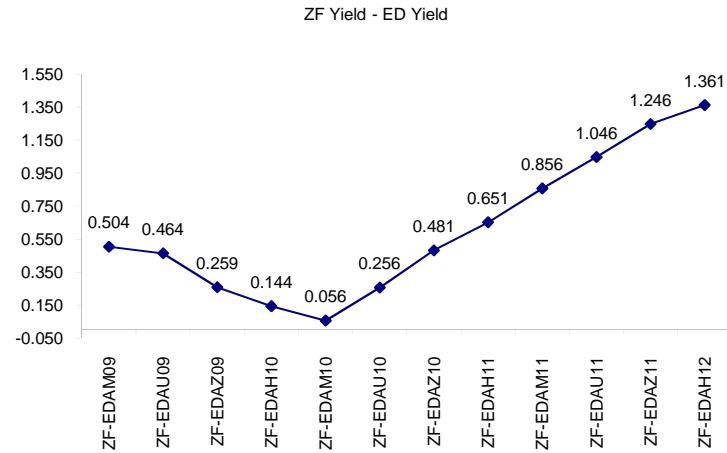
	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.1500	1.8661	1.7160	ZT-EDAM09		
EDAU09	0.3994	1.8661	1.4667	ZT-EDAU09		
EDAZ09	0.6487	1.8661	1.2174	ZT-EDAZ09		
EDAH10	0.8980	1.8661	0.9681	ZT-EDAH10		
EDAM10	1.1473	1.8661	0.7188	ZT-EDAM10		
EDAU10	1.3966	1.8661	0.4695	ZT-EDAU10		
EDAZ10	1.6459	1.8661	0.2202	ZT-EDAZ10		
EDAH11	1.8952	1.8661	-0.0292	ZT-EDAH11		
EDAM11	2.1446	1.8661	-0.2785	ZT-EDAM11		
EDAU11	2.4131	1.8661	-0.5470	ZT-EDAU11		
EDAZ11	2.6624	1.8661	-0.7963	ZT-EDAZ11		
EDAH12	2.9117	1.8661	-1.0456	ZT-EDAH12		

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



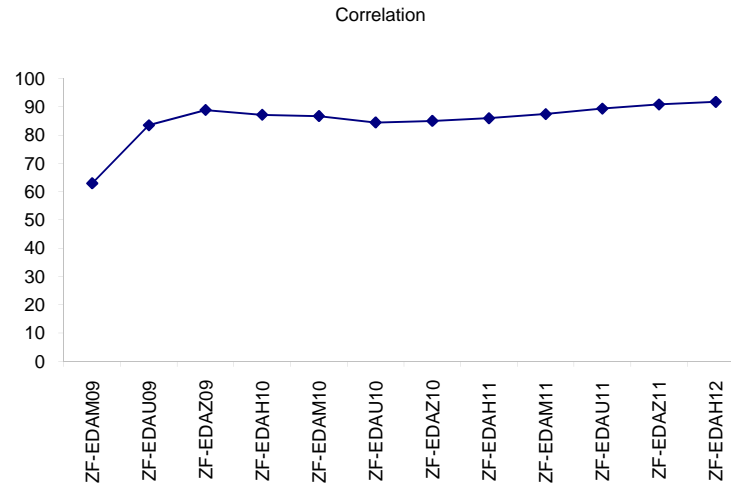
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	18.99	0.504	ZF-EDAM09	63
EDAU09	19.03	0.464	ZF-EDAU09	84
EDAZ09	19.24	0.259	ZF-EDAZ09	89
EDAH10	19.35	0.144	ZF-EDAH10	87
EDAM10	19.55	0.056	ZF-EDAM10	87
EDAU10	19.75	0.256	ZF-EDAU10	85
EDAZ10	19.98	0.481	ZF-EDAZ10	85
EDAH11	20.15	0.651	ZF-EDAH11	86
EDAM11	20.35	0.856	ZF-EDAM11	87
EDAU11	20.54	1.046	ZF-EDAU11	89
EDAZ11	20.74	1.246	ZF-EDAZ11	91
EDAH12	20.86	1.361	ZF-EDAH12	92

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	0.1500	4.0661	3.9161	ZF-EDAM09	
EDAU09	0.3994	4.0661	3.6668	ZF-EDAU09	
EDAZ09	0.6487	4.0661	3.4175	ZF-EDAZ09	
EDAH10	0.8980	4.0661	3.1681	ZF-EDAH10	
EDAM10	1.1473	4.0661	2.9188	ZF-EDAM10	
EDAU10	1.3966	4.0661	2.6695	ZF-EDAU10	
EDAZ10	1.6459	4.0661	2.4202	ZF-EDAZ10	
EDAH11	1.8952	4.0661	2.1709	ZF-EDAH11	
EDAM11	2.1446	4.0661	1.9216	ZF-EDAM11	
EDAU11	2.4131	4.0661	1.6531	ZF-EDAU11	
EDAZ11	2.6624	4.0661	1.4038	ZF-EDAZ11	
EDAH12	2.9117	4.0661	1.1544	ZF-EDAH12	

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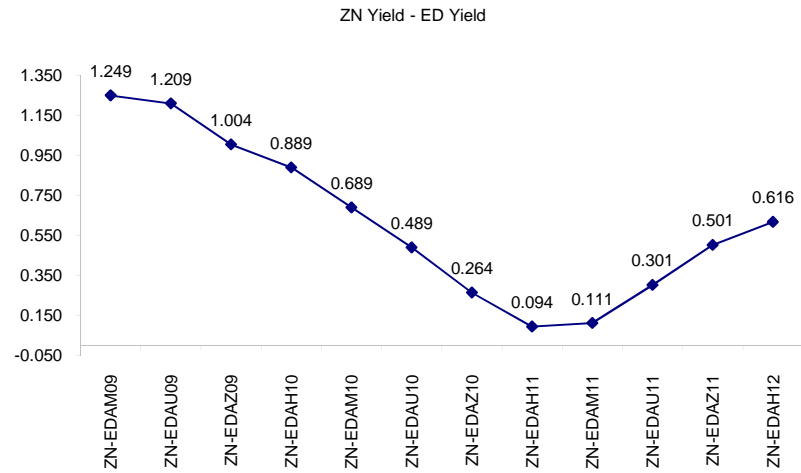


	ZN			Correlation*
	Spread Price	Spread Yield	Spread Name	(percent)
EDAM09	24.14	1.249	ZN-EDAM09	66
EDAU09	24.18	1.209	ZN-EDAU09	83
EDAZ09	24.39	1.004	ZN-EDAZ09	86
EDAH10	24.50	0.889	ZN-EDAH10	82
EDAM10	24.70	0.689	ZN-EDAM10	81
EDAU10	24.90	0.489	ZN-EDAU10	78
EDAZ10	25.13	0.264	ZN-EDAZ10	78
EDAH11	25.30	0.094	ZN-EDAH11	80
EDAM11	25.50	0.111	ZN-EDAM11	82
EDAU11	25.69	0.301	ZN-EDAU11	86
EDAZ11	25.89	0.501	ZN-EDAZ11	89
EDAH12	26.01	0.616	ZN-EDAH12	92

Price = Outright Decimal Price - Euro Contract Price

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

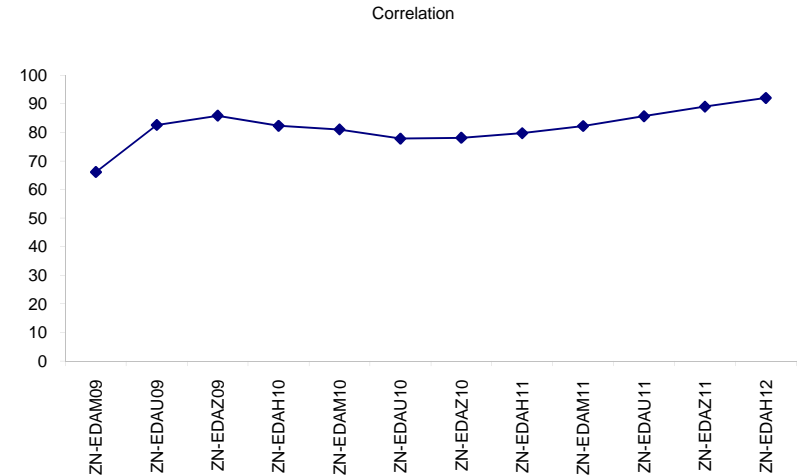
\*Correlation = ED Correlation to Treasury Future over 10 days



ED Duration as

	Fraction of year	ZN Duration	Spread Duration	
EDAM09	0.1500	5.9329	5.7828	ZN-EDAM09
EDAU09	0.3994	5.9329	5.5335	ZN-EDAU09
EDAZ09	0.6487	5.9329	5.2842	ZN-EDAZ09
EDAH10	0.8980	5.9329	5.0349	ZN-EDAH10
EDAM10	1.1473	5.9329	4.7856	ZN-EDAM10
EDAU10	1.3966	5.9329	4.5362	ZN-EDAU10
EDAZ10	1.6459	5.9329	4.2869	ZN-EDAZ10
EDAH11	1.8952	5.9329	4.0376	ZN-EDAH11
EDAM11	2.1446	5.9329	3.7883	ZN-EDAM11
EDAU11	2.4131	5.9329	3.5198	ZN-EDAU11
EDAZ11	2.6624	5.9329	3.2705	ZN-EDAZ11
EDAH12	2.9117	5.9329	3.0212	ZN-EDAH12

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



	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.05	0.202	2y-EDAM09	-44
EDAU09	1.09	0.242	2y-EDAU09	-72
EDAZ09	1.29	0.447	2y-EDAZ09	-82
EDAH10	1.41	0.562	2y-EDAH10	-83
EDAM10	1.61	0.762	2y-EDAM10	-84
EDAU10	1.81	0.962	2y-EDAU10	-83
EDAZ10	2.03	1.187	2y-EDAZ10	-83
EDAH11	2.20	1.357	2y-EDAH11	-83
EDAM11	2.41	1.562	2y-EDAM11	-82
EDAU11	2.60	1.752	2y-EDAU11	-82
EDAZ11	2.80	1.952	2y-EDAZ11	-81
EDAH12	2.91	2.067	2y-EDAH12	-80

Price = Outright Decimal Price - Euro Contract Price

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

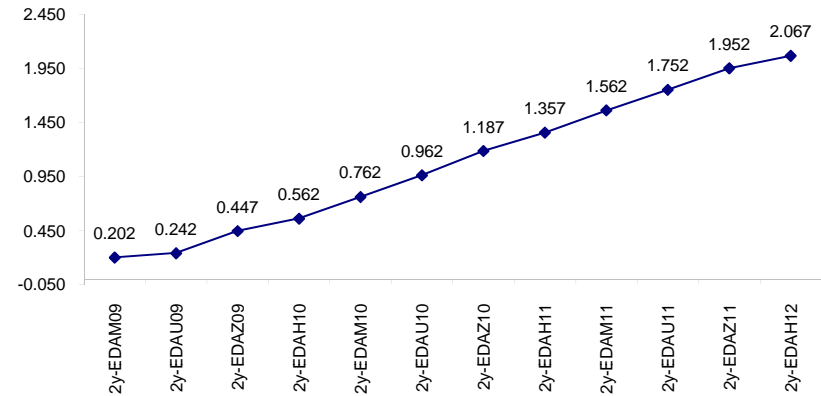
\*Correlation = ED Correlation to Treasury Future over 10 days.

ED Duration as

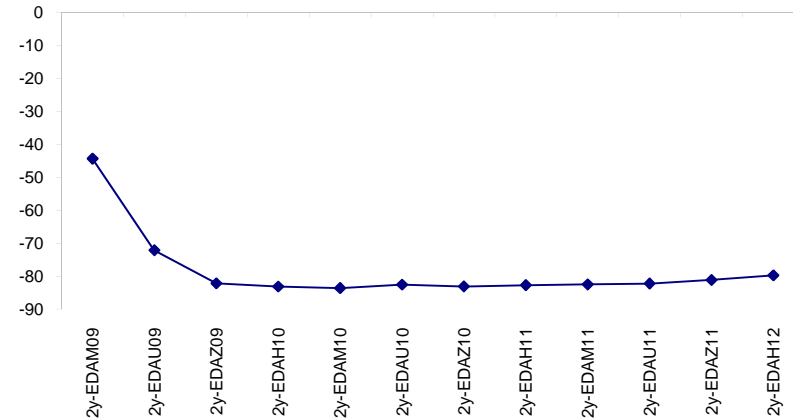
	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.1500	1.9182	1.7681	2y-EDAM09
EDAU09	0.3994	1.9182	1.5188	2y-EDAU09
EDAZ09	0.6487	1.9182	1.2695	2y-EDAZ09
EDAH10	0.8980	1.9182	1.0202	2y-EDAH10
EDAM10	1.1473	1.9182	0.7709	2y-EDAM10
EDAU10	1.3966	1.9182	0.5215	2y-EDAU10
EDAZ10	1.6459	1.9182	0.2722	2y-EDAZ10
EDAH11	1.8952	1.9182	0.0229	2y-EDAH11
EDAM11	2.1446	1.9182	-0.2264	2y-EDAM11
EDAU11	2.4131	1.9182	-0.4949	2y-EDAU11
EDAZ11	2.6624	1.9182	-0.7442	2y-EDAZ11
EDAH12	2.9117	1.9182	-0.9935	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	0.88	0.686	5y-EDAM09	-64
EDAU09	0.92	0.646	5y-EDAU09	-82
EDAZ09	1.13	0.441	5y-EDAZ09	-86
EDAH10	1.24	0.326	5y-EDAH10	-82
EDAM10	1.44	0.126	5y-EDAM10	-82
EDAU10	1.64	0.074	5y-EDAU10	-79
EDAZ10	1.87	0.299	5y-EDAZ10	-81
EDAH11	2.04	0.469	5y-EDAH11	-82
EDAM11	2.24	0.674	5y-EDAM11	-85
EDAU11	2.43	0.864	5y-EDAU11	-88
EDAZ11	2.63	1.064	5y-EDAZ11	-91
EDAH12	2.75	1.179	5y-EDAH12	-93

Price = Outright Decimal Price - Euro Contract Price

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

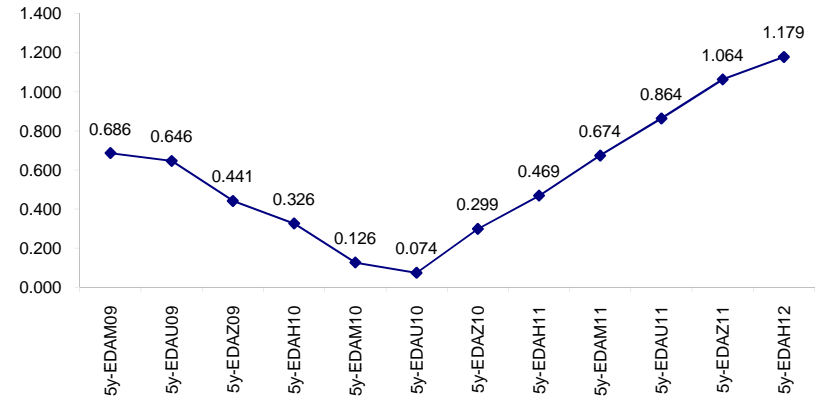
\*Correlation = ED Correlation to Treasury Future over 10 days

ED Duration as

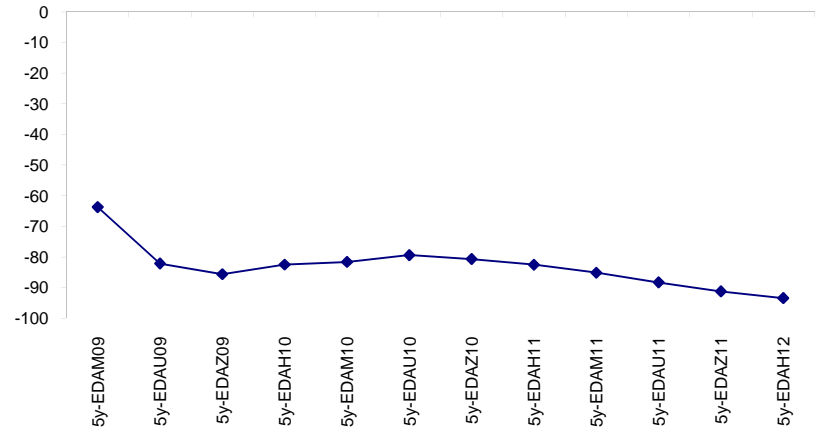
	Fraction of year	5Y Duration	Spread Duration	
EDAM09	0.1500	4.7066	4.5566	5y-EDAM09
EDAU09	0.3994	4.7066	4.3073	5y-EDAU09
EDAZ09	0.6487	4.7066	4.0580	5y-EDAZ09
EDAH10	0.8980	4.7066	3.8086	5y-EDAH10
EDAM10	1.1473	4.7066	3.5593	5y-EDAM10
EDAU10	1.3966	4.7066	3.3100	5y-EDAU10
EDAZ10	1.6459	4.7066	3.0607	5y-EDAZ10
EDAH11	1.8952	4.7066	2.8114	5y-EDAH11
EDAM11	2.1446	4.7066	2.5621	5y-EDAM11
EDAU11	2.4131	4.7066	2.2936	5y-EDAU11
EDAZ11	2.6624	4.7066	2.0443	5y-EDAZ11
EDAH12	2.9117	4.7066	1.7949	5y-EDAH12

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

5y - ED Yield



Correlation

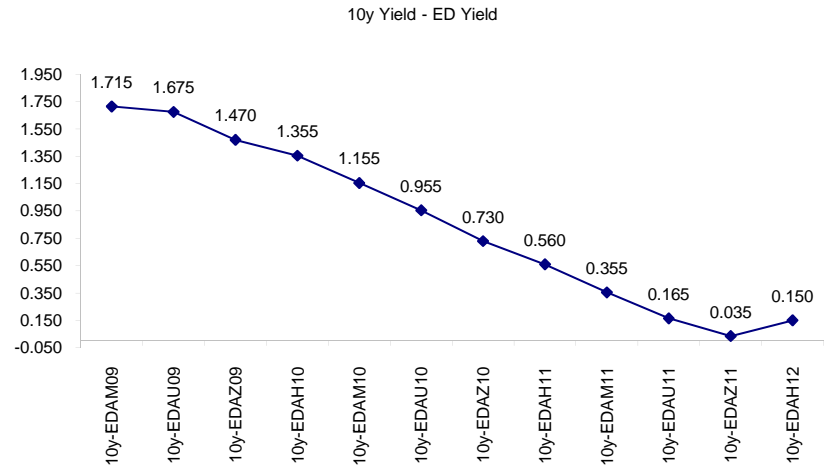


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.88	1.715	10y-EDAM09	-51
EDAU09	0.92	1.675	10y-EDAU09	-73
EDAZ09	1.13	1.470	10y-EDAZ09	-78
EDAH10	1.24	1.355	10y-EDAH10	-76
EDAM10	1.44	1.155	10y-EDAM10	-75
EDAU10	1.64	0.955	10y-EDAU10	-72
EDAZ10	1.87	0.730	10y-EDAZ10	-74
EDAH11	2.04	0.560	10y-EDAH11	-75
EDAM11	2.24	0.355	10y-EDAM11	-78
EDAU11	2.43	0.165	10y-EDAU11	-81
EDAZ11	2.63	0.035	10y-EDAZ11	-85
EDAH12	2.75	0.150	10y-EDAH12	-87

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	0.1500	8.5033	8.3533	10y-EDAM09
EDAU09	0.3994	8.5033	8.1040	10y-EDAU09
EDAZ09	0.6487	8.5033	7.8546	10y-EDAZ09
EDAH10	0.8980	8.5033	7.6053	10y-EDAH10
EDAM10	1.1473	8.5033	7.3560	10y-EDAM10
EDAU10	1.3966	8.5033	7.1067	10y-EDAU10
EDAZ10	1.6459	8.5033	6.8574	10y-EDAZ10
EDAH11	1.8952	8.5033	6.6081	10y-EDAH11
EDAM11	2.1446	8.5033	6.3588	10y-EDAM11
EDAU11	2.4131	8.5033	6.0903	10y-EDAU11
EDAZ11	2.6624	8.5033	5.8409	10y-EDAZ11
EDAH12	2.9117	8.5033	5.5916	10y-EDAH12

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

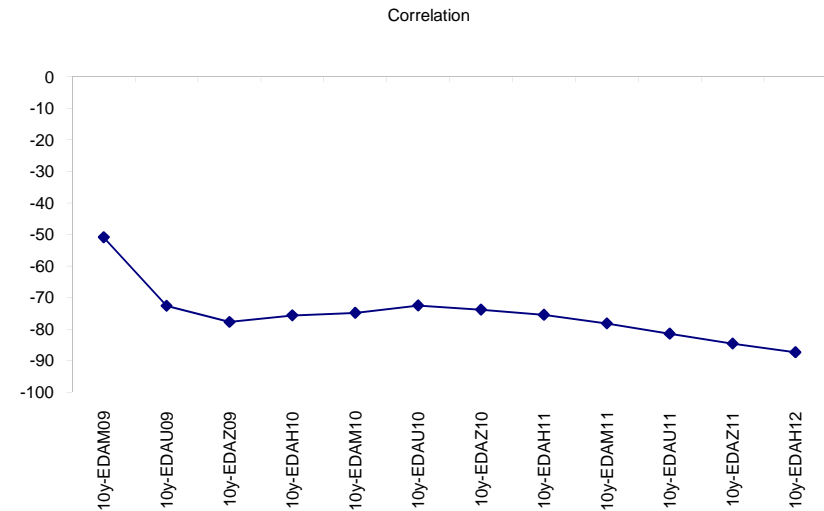


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

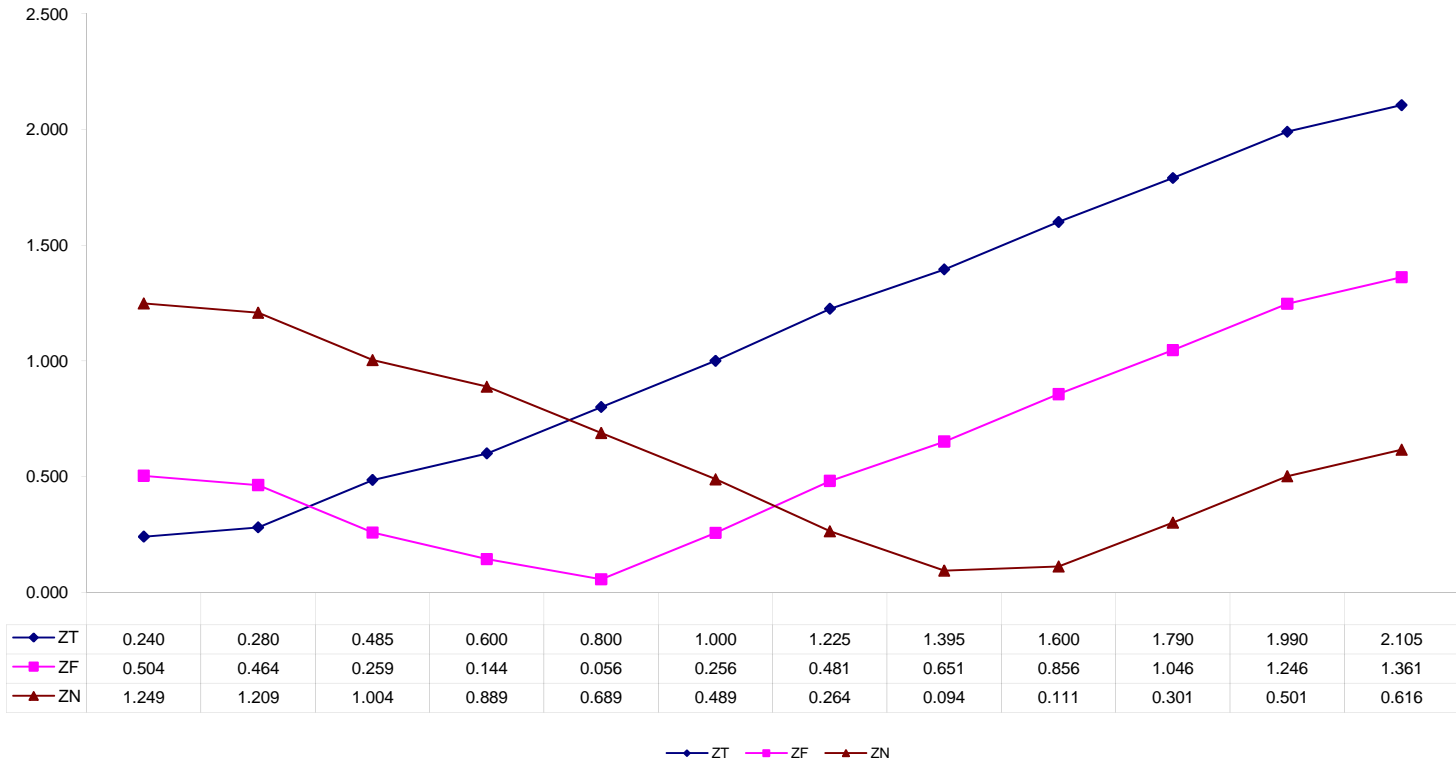
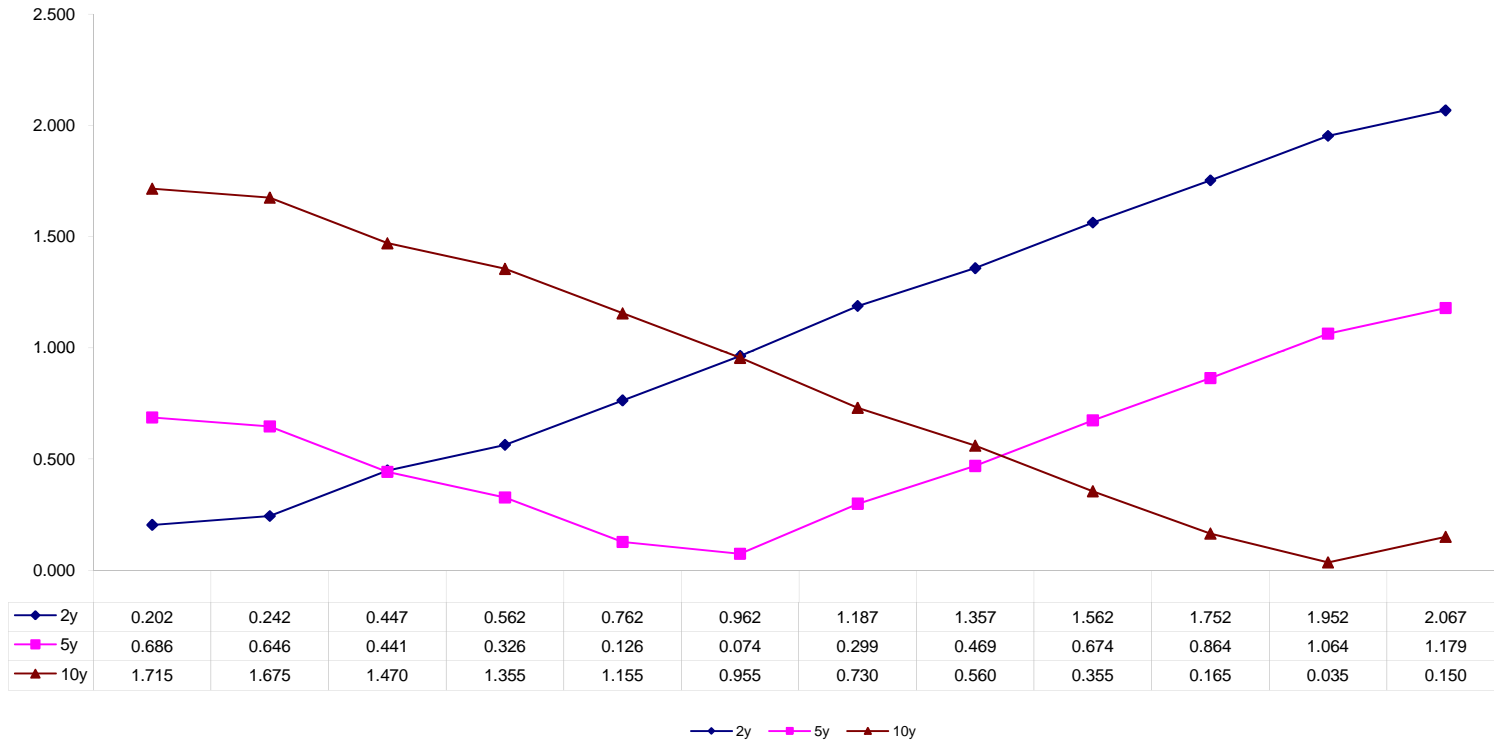
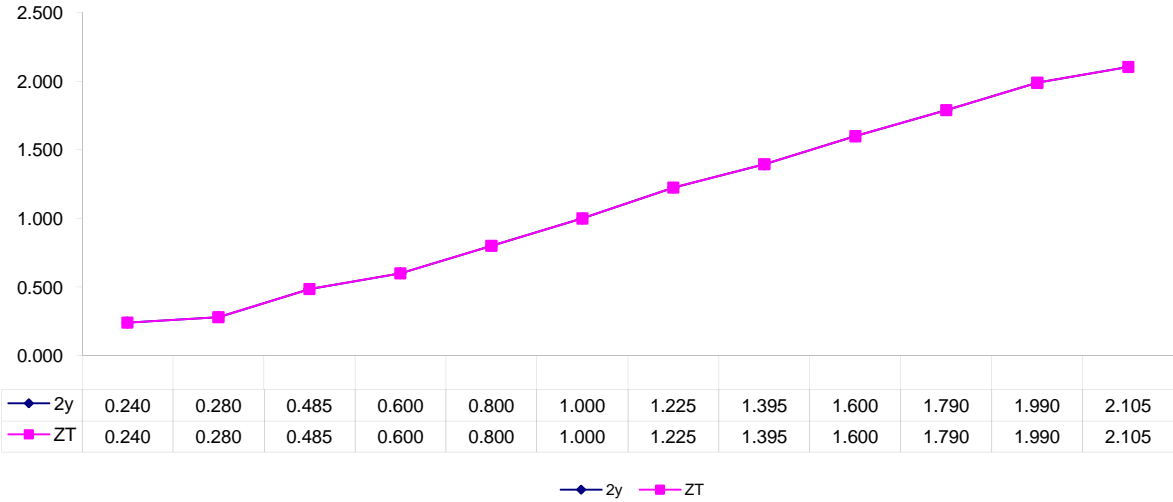
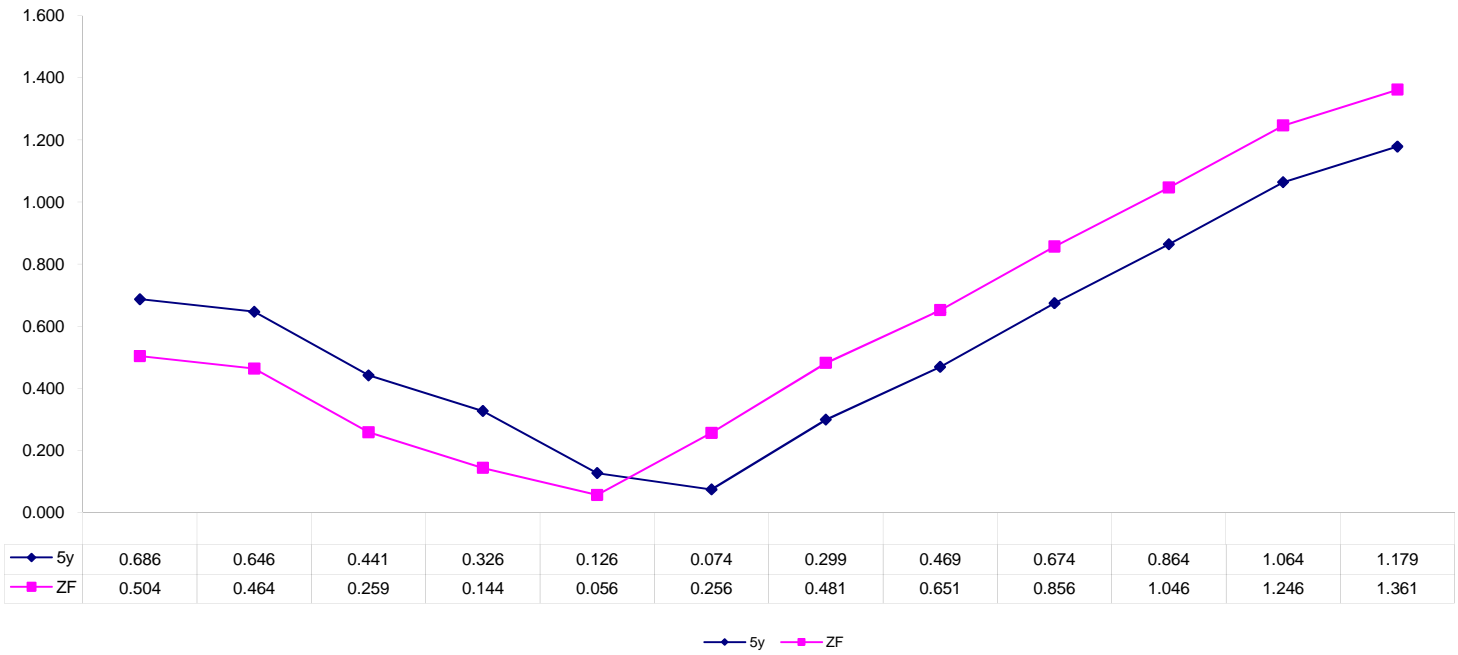


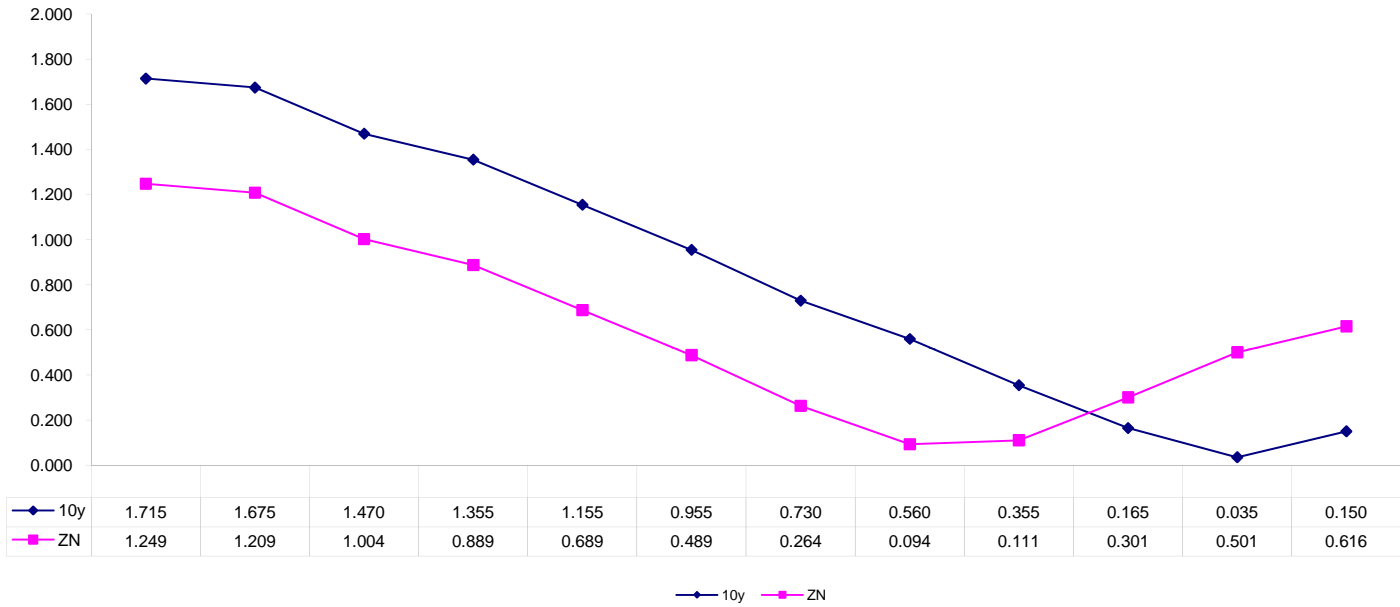
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.293	-1.000	9872.8750
Red Pack	2.012	-1.750	9802.5000
Green Pack	2.799	-1.750	9725.8750
Blue Pack	3.311	0.125	9676.1250
Gold Pack	3.602	2.375	9647.8750

