

## **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	107.3125	107.1000	1.404	1.920
ZF	112.6563	112.2100	2.731	4.232
ZN	113.1563	113.0500	3.545	5.845
2y	99.0063	99.0020	1.382	1.940
5y	96.8125	96.2600	2.945	4.651
10y	93.1406	93.0450	3.966	8.363

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.3600	0.640	4	0.0103	JUN	
EDAU09	99.2050	0.795	95	0.2596	SEP	White Pack
EDAZ09	98.7700	1.230	186	0.5089	DEC	
EDAH10	98.3750	1.625	277	0.7582	MAR	
EDAM10	97.9300	2.070	368	1.0076	JUN	
EDAU10	97.5200	2.480	459	1.2569	SEP	Red Pack
EDAZ10	97.1200	2.880	550	1.5062	DEC	
EDAH11	96.7750	3.225	641	1.7555	MAR	
EDAM11	96.4050	3.595	732	2.0048	JUN	
EDAU11	96.0700	3.930	830	2.2733	SEP	Green Pack
EDAZ11	95.7650	4.235	921	2.5226	DEC	
EDAH12	95.5350	4.465	1,012	2.7719	MAR	
EDAM12	95.3500	4.650	1,103	3.0213	JUN	
EDAU12	95.2000	4.800	1,194	3.2706	SEP	Blue Pack
EDAZ12	95.0650	4.935	1,285	3.5199	DEC	
EDAH13	94.9400	5.060	1,376	3.7692	MAR	
EDAM13	94.8350	5.165	1,467	4.0185	JUN	
EDAU13	94.7450	5.255	1,558	4.2678	SEP	Gold Pack
EDAZ13	94.6450	5.355	1,649	4.5171	DEC	
EDAH14	94.5700	5.430	1,740	4.7665	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.091	-1.625	9892.75	
Red Pack	2.719	-6.375	9733.63	Pack Prices
Green Pack	4.155	-6.250	9594.38	
Blue Pack		-1.000	9514.50	
Gold Pack		0.000	9472.63	

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)**

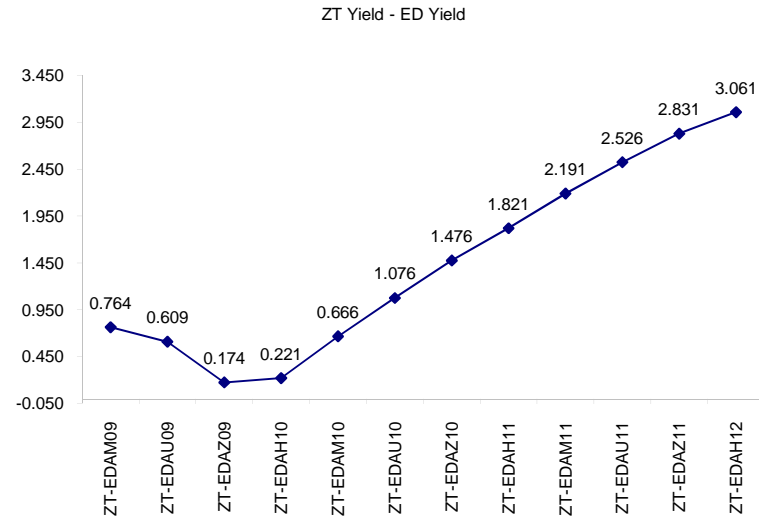
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	7.95	0.764	ZT-EDAM09	35
EDAU09	8.11	0.609	ZT-EDAU09	72
EDAZ09	8.54	0.174	ZT-EDAZ09	94
EDAH10	8.94	0.221	ZT-EDAH10	98
EDAM10	9.38	0.666	ZT-EDAM10	99
EDAU10	9.79	1.076	ZT-EDAU10	100
EDAZ10	10.19	1.476	ZT-EDAZ10	99
EDAH11	10.54	1.821	ZT-EDAH11	99
EDAM11	10.91	2.191	ZT-EDAM11	98
EDAU11	11.24	2.526	ZT-EDAU11	98
EDAZ11	11.55	2.831	ZT-EDAZ11	97
EDAH12	11.78	3.061	ZT-EDAH12	96

Price = Outright Decimal Price - Euro Contract Price

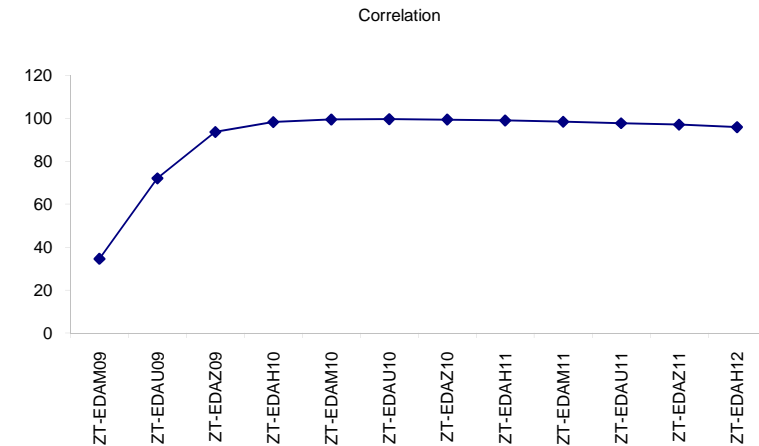
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZT Duration	Spread Duration	
EDAM09	0.0103	1.9204	1.9102	ZT-EDAM09	
EDAU09	0.2596	1.9204	1.6608	ZT-EDAU09	
EDAZ09	0.5089	1.9204	1.4115	ZT-EDAZ09	
EDAH10	0.7582	1.9204	1.1622	ZT-EDAH10	
EDAM10	1.0076	1.9204	0.9129	ZT-EDAM10	
EDAU10	1.2569	1.9204	0.6636	ZT-EDAU10	
EDAZ10	1.5062	1.9204	0.4143	ZT-EDAZ10	
EDAH11	1.7555	1.9204	0.1649	ZT-EDAH11	
EDAM11	2.0048	1.9204	-0.0844	ZT-EDAM11	
EDAU11	2.2733	1.9204	-0.3529	ZT-EDAU11	
EDAZ11	2.5226	1.9204	-0.6022	ZT-EDAZ11	
EDAH12	2.7719	1.9204	-0.8515	ZT-EDAH12	

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

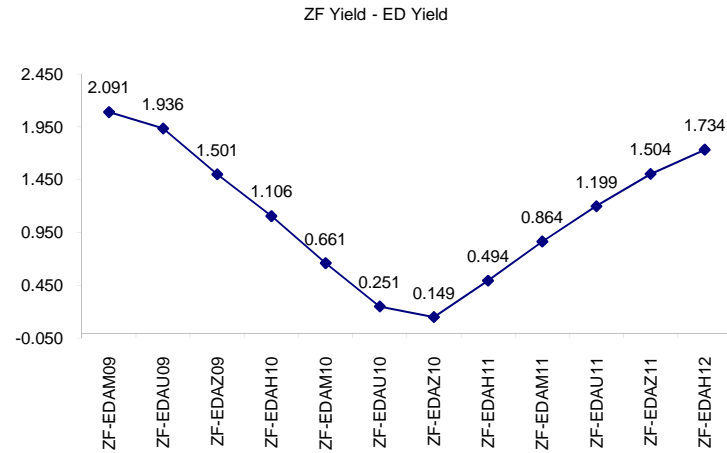


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	13.30	2.091	ZF-EDAM09	32
EDAU09	13.45	1.936	ZF-EDAU09	72
EDAZ09	13.89	1.501	ZF-EDAZ09	93
EDAH10	14.28	1.106	ZF-EDAH10	97
EDAM10	14.73	0.661	ZF-EDAM10	99
EDAU10	15.14	0.251	ZF-EDAU10	99
EDAZ10	15.54	0.149	ZF-EDAZ10	99
EDAH11	15.88	0.494	ZF-EDAH11	99
EDAM11	16.25	0.864	ZF-EDAM11	99
EDAU11	16.59	1.199	ZF-EDAU11	99
EDAZ11	16.89	1.504	ZF-EDAZ11	99
EDAH12	17.12	1.734	ZF-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

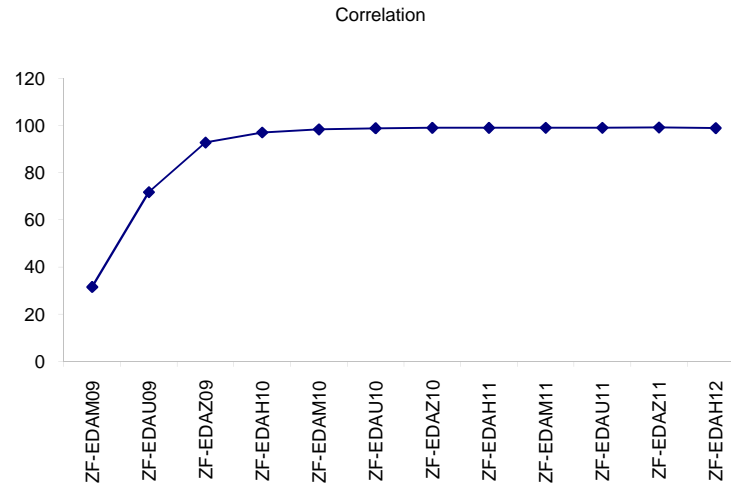
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.0103	4.2319	4.2216	ZF-EDAM09	
EDAU09	0.2596	4.2319	3.9723	ZF-EDAU09	
EDAZ09	0.5089	4.2319	3.7229	ZF-EDAZ09	
EDAH10	0.7582	4.2319	3.4736	ZF-EDAH10	
EDAM10	1.0076	4.2319	3.2243	ZF-EDAM10	
EDAU10	1.2569	4.2319	2.9750	ZF-EDAU10	
EDAZ10	1.5062	4.2319	2.7257	ZF-EDAZ10	
EDAH11	1.7555	4.2319	2.4764	ZF-EDAH11	
EDAM11	2.0048	4.2319	2.2271	ZF-EDAM11	
EDAU11	2.2733	4.2319	1.9586	ZF-EDAU11	
EDAZ11	2.5226	4.2319	1.7092	ZF-EDAZ11	
EDAH12	2.7719	4.2319	1.4599	ZF-EDAH12	

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

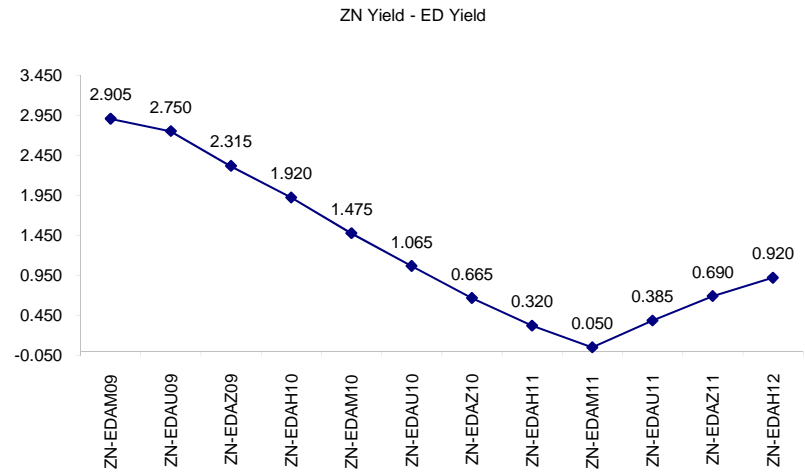


ZN				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	13.80	2.905	ZN-EDAM09	31
EDAU09	13.95	2.750	ZN-EDAU09	72
EDAZ09	14.39	2.315	ZN-EDAZ09	91
EDAH10	14.78	1.920	ZN-EDAH10	95
EDAM10	15.23	1.475	ZN-EDAM10	96
EDAU10	15.64	1.065	ZN-EDAU10	96
EDAZ10	16.04	0.665	ZN-EDAZ10	97
EDAH11	16.38	0.320	ZN-EDAH11	97
EDAM11	16.75	0.050	ZN-EDAM11	97
EDAU11	17.09	0.385	ZN-EDAU11	98
EDAZ11	17.39	0.690	ZN-EDAZ11	98
EDAH12	17.62	0.920	ZN-EDAH12	99

Price = Outright Decimal Price - Euro Contract Price

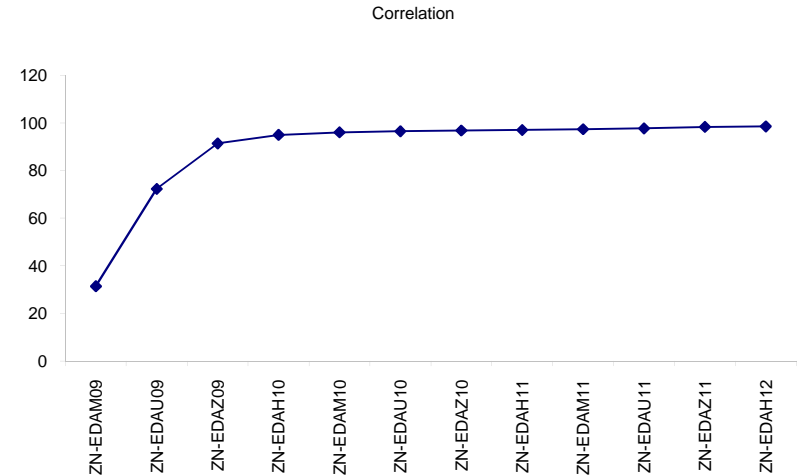
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as Fraction of year			
	Fraction of year	ZN Duration	Spread Duration
EDAM09	0.0103	5.8455	5.8352
EDAU09	0.2596	5.8455	5.5859
EDAZ09	0.5089	5.8455	5.3366
EDAH10	0.7582	5.8455	5.0873
EDAM10	1.0076	5.8455	4.8379
EDAU10	1.2569	5.8455	4.5886
EDAZ10	1.5062	5.8455	4.3393
EDAH11	1.7555	5.8455	4.0900
EDAM11	2.0048	5.8455	3.8407
EDAU11	2.2733	5.8455	3.5722
EDAZ11	2.5226	5.8455	3.3229
EDAH12	2.7719	5.8455	3.0736

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



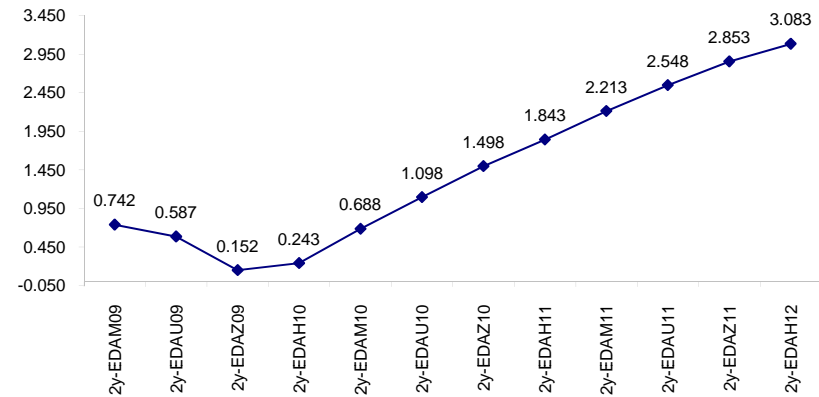
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-0.35	0.742	2y-EDAM09	-31
EDAU09	-0.20	0.587	2y-EDAU09	-70
EDAZ09	0.24	0.152	2y-EDAZ09	-93
EDAH10	0.63	0.243	2y-EDAH10	-98
EDAM10	1.08	0.688	2y-EDAM10	-99
EDAU10	1.49	1.098	2y-EDAU10	-100
EDAZ10	1.89	1.498	2y-EDAZ10	-99
EDAH11	2.23	1.843	2y-EDAH11	-99
EDAM11	2.60	2.213	2y-EDAM11	-99
EDAU11	2.94	2.548	2y-EDAU11	-98
EDAZ11	3.24	2.853	2y-EDAZ11	-97
EDAH12	3.47	3.083	2y-EDAH12	-96

Price = Outright Decimal Price - Euro Contract Price

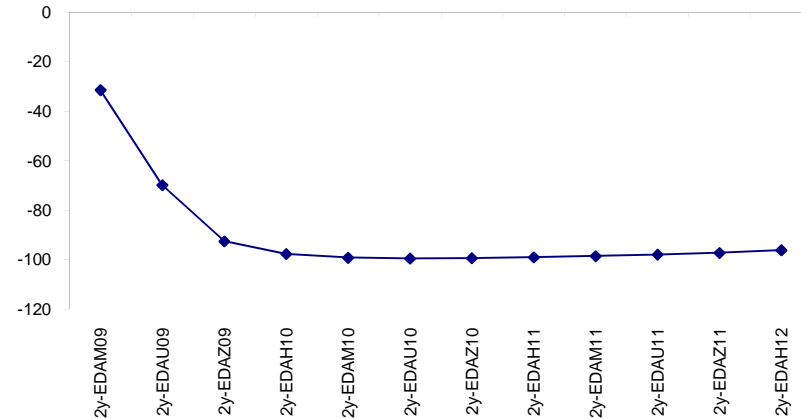
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



ED Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0103	1.9405	1.9302	2y-EDAM09
EDAU09	0.2596	1.9405	1.6809	2y-EDAU09
EDAZ09	0.5089	1.9405	1.4316	2y-EDAZ09
EDAH10	0.7582	1.9405	1.1822	2y-EDAH10
EDAM10	1.0076	1.9405	0.9329	2y-EDAM10
EDAU10	1.2569	1.9405	0.6836	2y-EDAU10
EDAZ10	1.5062	1.9405	0.4343	2y-EDAZ10
EDAH11	1.7555	1.9405	0.1850	2y-EDAH11
EDAM11	2.0048	1.9405	-0.0643	2y-EDAM11
EDAU11	2.2733	1.9405	-0.3328	2y-EDAU11
EDAZ11	2.5226	1.9405	-0.5821	2y-EDAZ11
EDAH12	2.7719	1.9405	-0.8315	2y-EDAH12

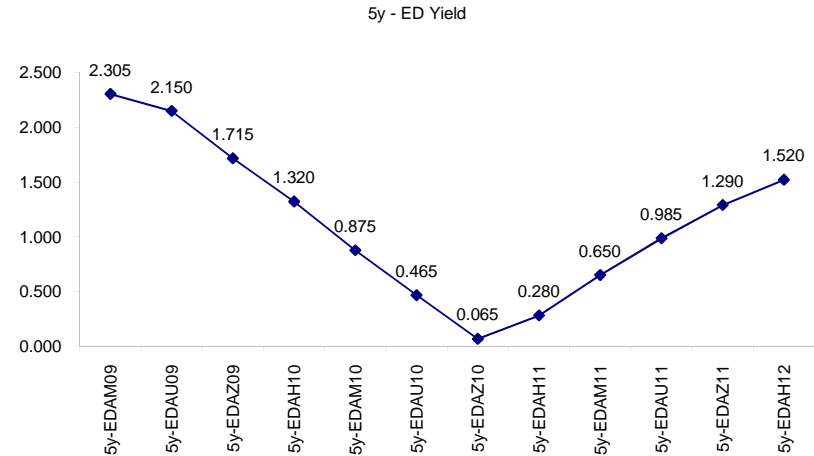
The farther away from 0 the spread duration is the riskier the trade.

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-2.55	2.305	5y-EDAM09	-26
EDAU09	-2.39	2.150	5y-EDAU09	-67
EDAZ09	-1.96	1.715	5y-EDAZ09	-90
EDAH10	-1.56	1.320	5y-EDAH10	-96
EDAM10	-1.12	0.875	5y-EDAM10	-98
EDAU10	-0.71	0.465	5y-EDAU10	-99
EDAZ10	-0.31	0.065	5y-EDAZ10	-99
EDAH11	0.04	0.280	5y-EDAH11	-99
EDAM11	0.41	0.650	5y-EDAM11	-99
EDAU11	0.74	0.985	5y-EDAU11	-99
EDAZ11	1.05	1.290	5y-EDAZ11	-100
EDAH12	1.28	1.520	5y-EDAH12	-99

Price = Outright Decimal Price - Euro Contract Price

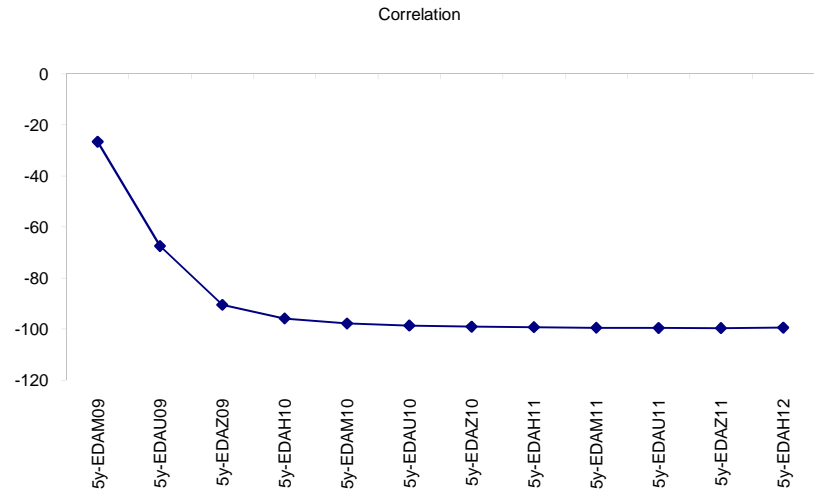
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		5Y Duration	Spread Duration	
EDAM09	0.0103	4.6508	4.6405	5y-EDAM09	
EDAU09	0.2596	4.6508	4.3912	5y-EDAU09	
EDAZ09	0.5089	4.6508	4.1419	5y-EDAZ09	
EDAH10	0.7582	4.6508	3.8926	5y-EDAH10	
EDAM10	1.0076	4.6508	3.6433	5y-EDAM10	
EDAU10	1.2569	4.6508	3.3940	5y-EDAU10	
EDAZ10	1.5062	4.6508	3.1446	5y-EDAZ10	
EDAH11	1.7555	4.6508	2.8953	5y-EDAH11	
EDAM11	2.0048	4.6508	2.6460	5y-EDAM11	
EDAU11	2.2733	4.6508	2.3775	5y-EDAU11	
EDAZ11	2.5226	4.6508	2.1282	5y-EDAZ11	
EDAH12	2.7719	4.6508	1.8789	5y-EDAH12	

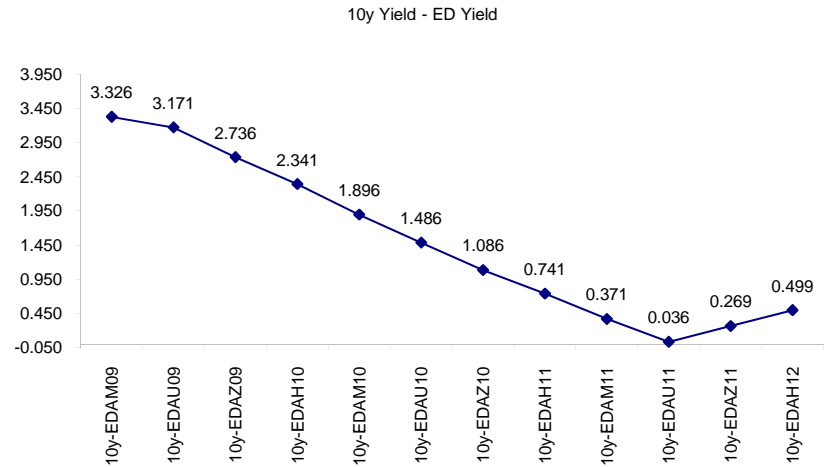
The farther away from 0 the spread duration is the riskier the trade.





	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	-2.55	3.326	10y-EDAM09	-19
EDAU09	-2.39	3.171	10y-EDAU09	-60
EDAZ09	-1.96	2.736	10y-EDAZ09	-83
EDAH10	-1.56	2.341	10y-EDAH10	-90
EDAM10	-1.12	1.896	10y-EDAM10	-93
EDAU10	-0.71	1.486	10y-EDAU10	-94
EDAZ10	-0.31	1.086	10y-EDAZ10	-95
EDAH11	0.04	0.741	10y-EDAH11	-96
EDAM11	0.41	0.371	10y-EDAM11	-97
EDAU11	0.74	0.036	10y-EDAU11	-98
EDAZ11	1.05	0.269	10y-EDAZ11	-98
EDAH12	1.28	0.499	10y-EDAH12	-98

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	0.0103	8.3631	8.3528	10y-EDAM09
EDAU09	0.2596	8.3631	8.1035	10y-EDAU09
EDAZ09	0.5089	8.3631	7.8542	10y-EDAZ09
EDAH10	0.7582	8.3631	7.6049	10y-EDAH10
EDAM10	1.0076	8.3631	7.3555	10y-EDAM10
EDAU10	1.2569	8.3631	7.1062	10y-EDAU10
EDAZ10	1.5062	8.3631	6.8569	10y-EDAZ10
EDAH11	1.7555	8.3631	6.6076	10y-EDAH11
EDAM11	2.0048	8.3631	6.3583	10y-EDAM11
EDAU11	2.2733	8.3631	6.0898	10y-EDAU11
EDAZ11	2.5226	8.3631	5.8405	10y-EDAZ11
EDAH12	2.7719	8.3631	5.5912	10y-EDAH12

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

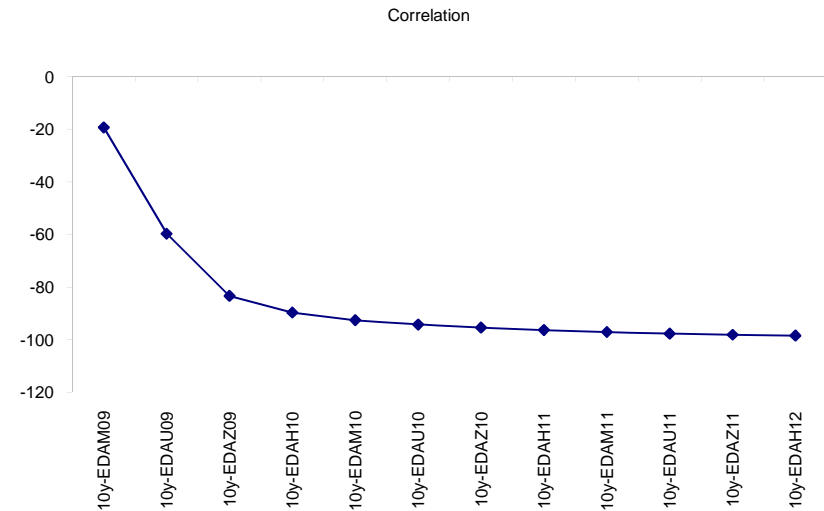


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

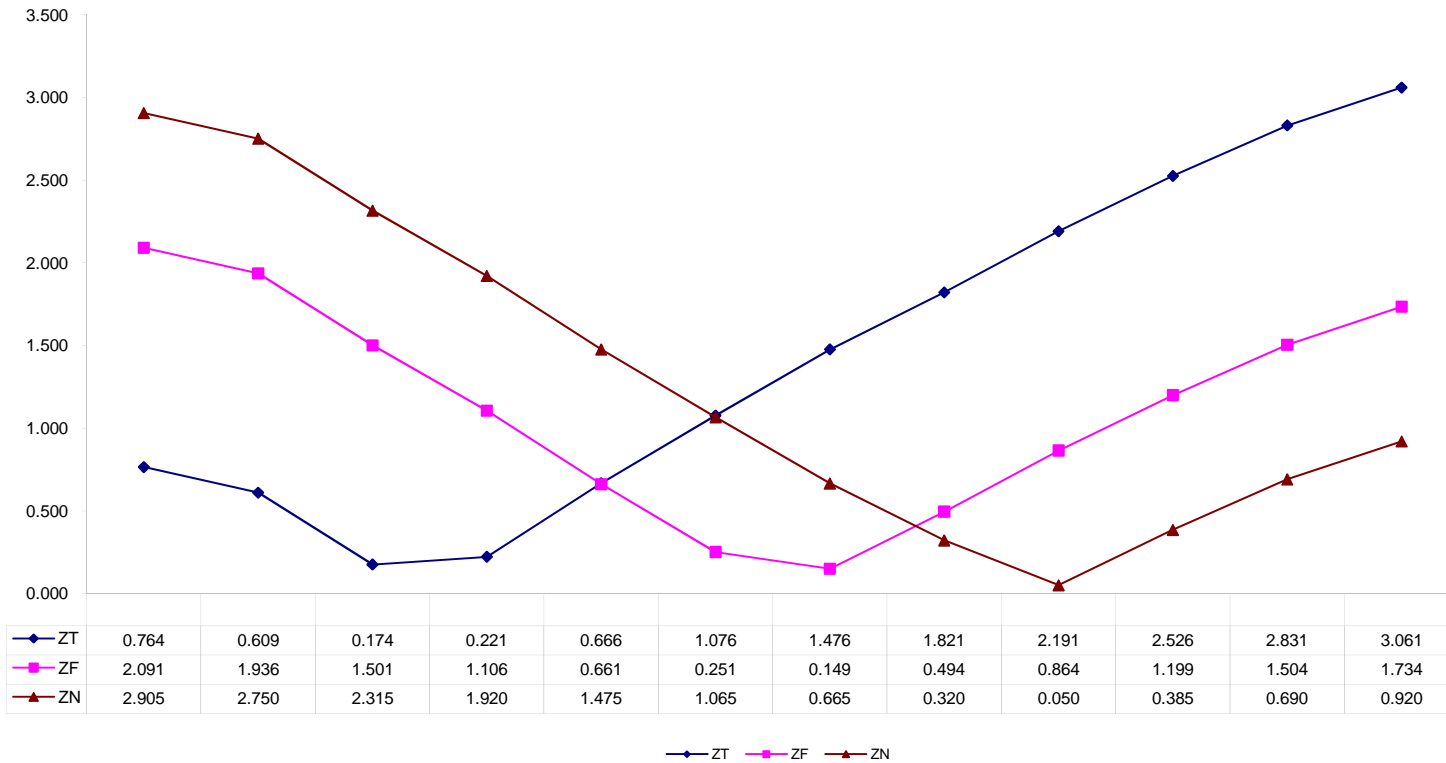
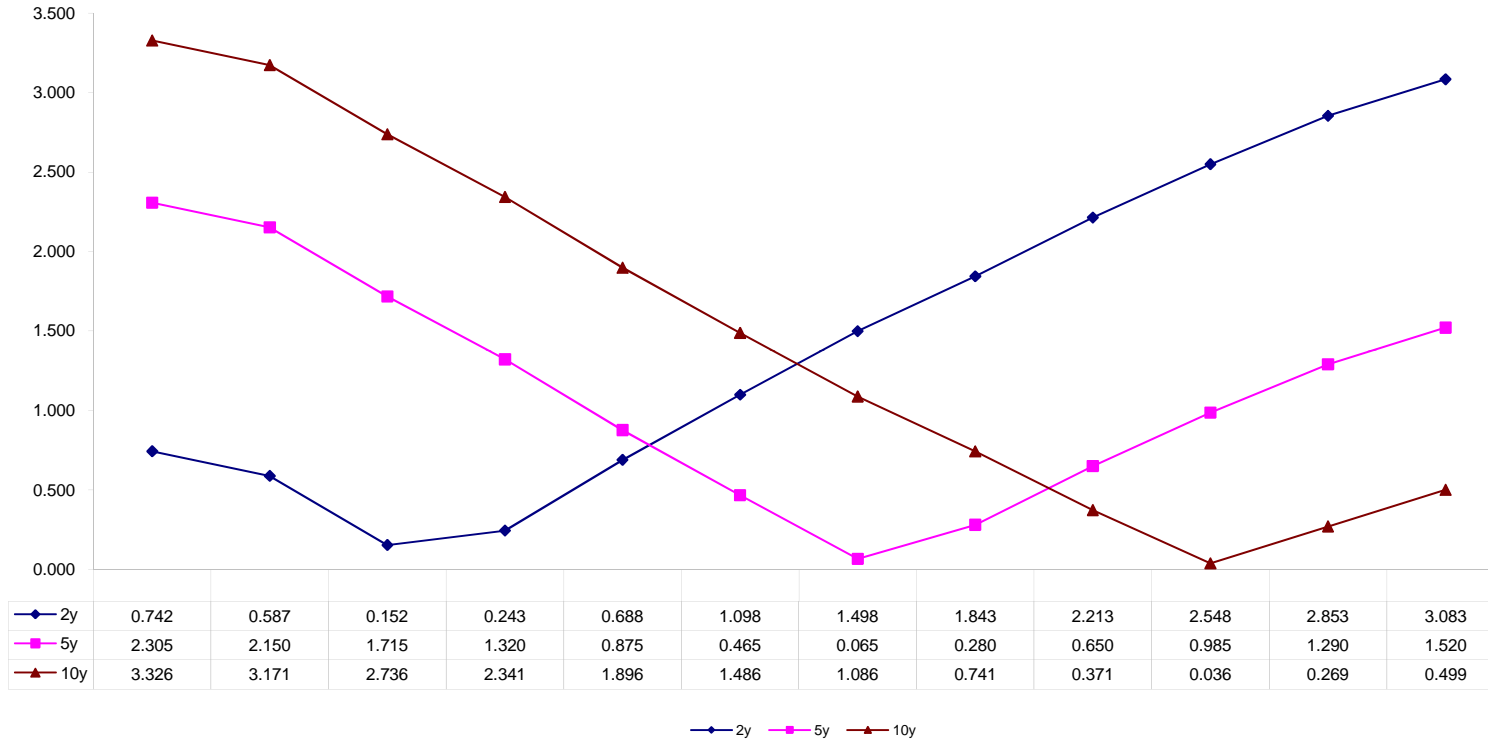
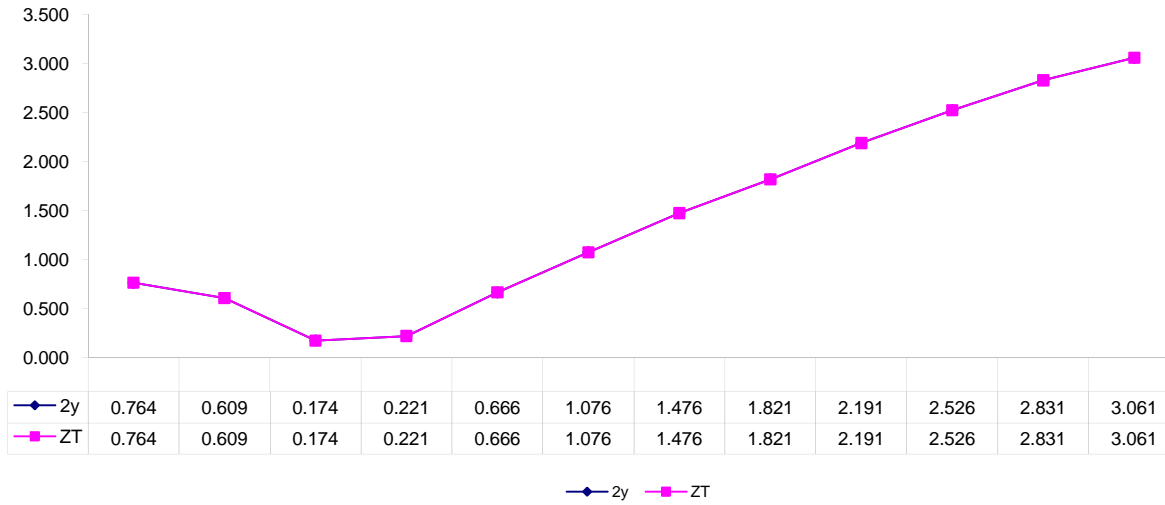
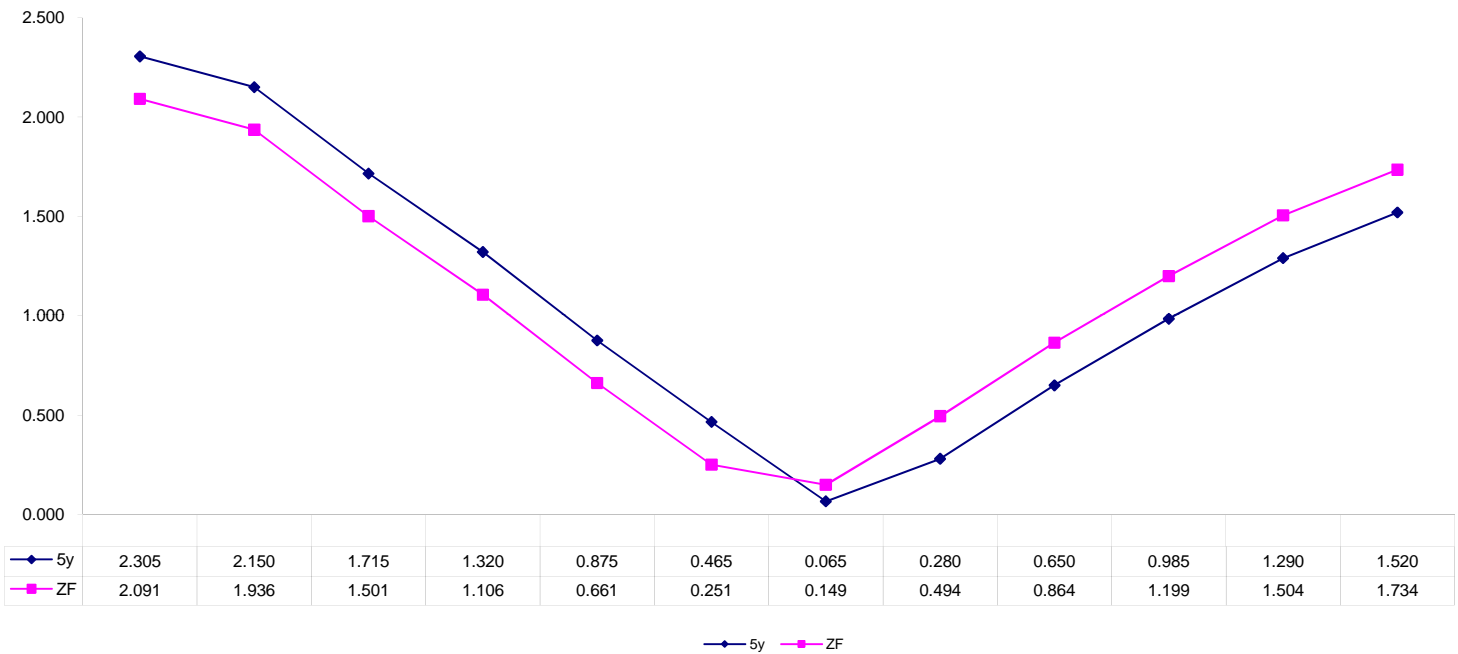


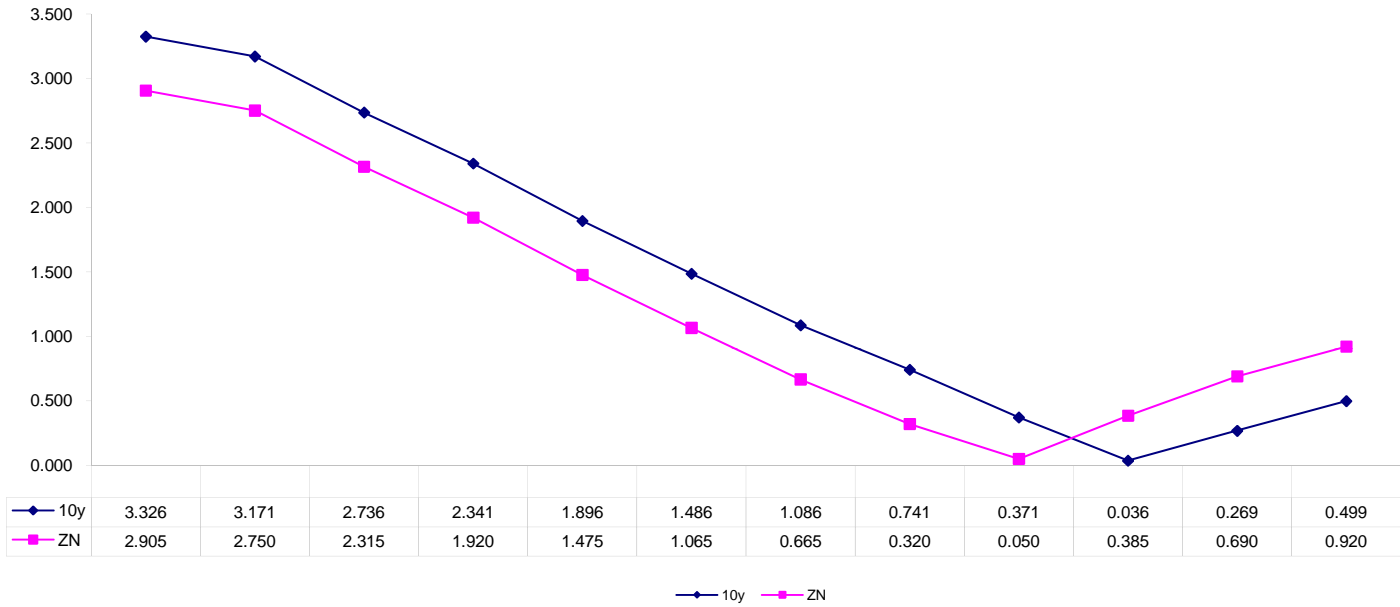
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.091	-1.625	9892.7500
Red Pack	2.719	-6.375	9733.6250
Green Pack	4.155	-6.250	9594.3750
Blue Pack		-1.000	9514.5000
Gold Pack		0.000	9472.6250

