

## **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	108.3813	108.1220	0.956	1.916
ZF	116.8438	116.2700	1.820	1.820
ZN	121.0000	121.0000	2.665	6.289
2y	99.7344	99.2350	1.013	1.926
5y	99.5844	99.1870	1.960	4.698
10y	97.8438	97.2700	3.003	8.577

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.6700	1.330	89	0.2432	JUN	
EDAU09	98.6200	1.380	180	0.4925	SEP	White Pack
EDAZ09	98.4050	1.595	271	0.7418	DEC	
EDAH10	98.3200	1.680	362	0.9911	MAR	
EDAM10	98.1450	1.855	453	1.2404	JUN	
EDAU10	97.9700	2.030	544	1.4898	SEP	Red Pack
EDAZ10	97.7500	2.250	635	1.7391	DEC	
EDAH11	97.5700	2.430	726	1.9884	MAR	
EDAM11	97.3450	2.655	817	2.2377	JUN	
EDAU11	97.1400	2.860	915	2.5062	SEP	Green Pack
EDAZ11	96.9350	3.065	1,006	2.7555	DEC	
EDAH12	96.8200	3.180	1,097	3.0048	MAR	
EDAM12	96.7050	3.295	1,188	3.2541	JUN	
EDAU12	96.6000	3.400	1,279	3.5035	SEP	Blue Pack
EDAZ12	96.4950	3.505	1,370	3.7528	DEC	
EDAH13	96.4350	3.565	1,461	4.0021	MAR	
EDAM13	96.3500	3.650	1,552	4.2514	JUN	
EDAU13	96.2950	3.705	1,643	4.5007	SEP	Gold Pack
EDAZ13	96.2050	3.795	1,734	4.7500	DEC	
EDAH14	96.1500	3.850	1,825	4.9993	MAR	

	Last Yield	Net Yield	Last Price	
White Pack	1.523	3.625	9850.38	
Red Pack	2.183	-0.625	9785.88	Pack Prices
Green Pack	3.003	-1.125	9706.00	
Blue Pack	3.519	-0.625	9655.88	
Gold Pack		-0.500	9625.00	

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)**

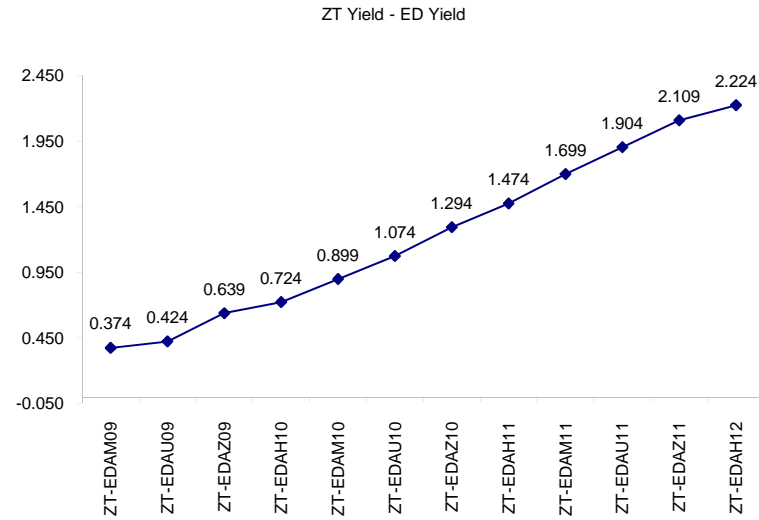
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.71	0.374	ZT-EDAM09	5
EDAU09	9.76	0.424	ZT-EDAU09	20
EDAZ09	9.98	0.639	ZT-EDAZ09	61
EDAH10	10.06	0.724	ZT-EDAH10	63
EDAM10	10.24	0.899	ZT-EDAM10	46
EDAU10	10.41	1.074	ZT-EDAU10	21
EDAZ10	10.63	1.294	ZT-EDAZ10	7
EDAH11	10.81	1.474	ZT-EDAH11	4
EDAM11	11.04	1.699	ZT-EDAM11	8
EDAU11	11.24	1.904	ZT-EDAU11	20
EDAZ11	11.45	2.109	ZT-EDAZ11	30
EDAH12	11.56	2.224	ZT-EDAH12	35

Price = Outright Decimal Price - Euro Contract Price

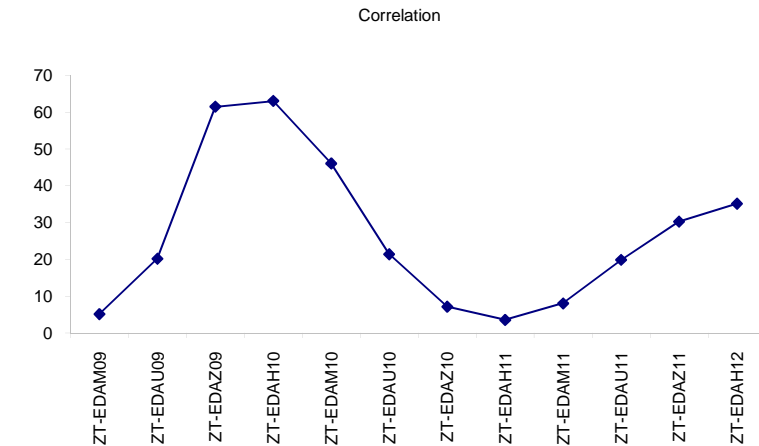
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			ZT Duration	Spread Duration	
EDAM09	0.2432	1.9162	1.6731	ZT-EDAM09		
EDAU09	0.4925	1.9162	1.4237	ZT-EDAU09		
EDAZ09	0.7418	1.9162	1.1744	ZT-EDAZ09		
EDAH10	0.9911	1.9162	0.9251	ZT-EDAH10		
EDAM10	1.2404	1.9162	0.6758	ZT-EDAM10		
EDAU10	1.4898	1.9162	0.4265	ZT-EDAU10		
EDAZ10	1.7391	1.9162	0.1772	ZT-EDAZ10		
EDAH11	1.9884	1.9162	-0.0721	ZT-EDAH11		
EDAM11	2.2377	1.9162	-0.3215	ZT-EDAM11		
EDAU11	2.5062	1.9162	-0.5900	ZT-EDAU11		
EDAZ11	2.7555	1.9162	-0.8393	ZT-EDAZ11		
EDAH12	3.0048	1.9162	-1.0886	ZT-EDAH12		

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

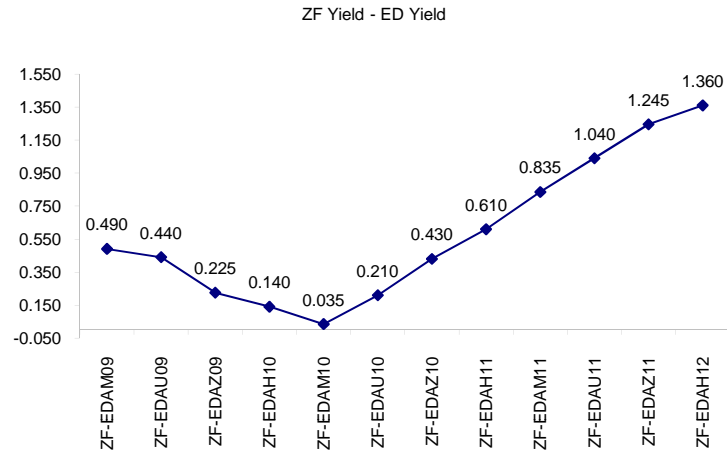


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	18.17	0.490	ZF-EDAM09	32
EDAU09	18.22	0.440	ZF-EDAU09	49
EDAZ09	18.44	0.225	ZF-EDAZ09	79
EDAH10	18.52	0.140	ZF-EDAH10	88
EDAM10	18.70	0.035	ZF-EDAM10	81
EDAU10	18.87	0.210	ZF-EDAU10	64
EDAZ10	19.09	0.430	ZF-EDAZ10	53
EDAH11	19.27	0.610	ZF-EDAH11	50
EDAM11	19.50	0.835	ZF-EDAM11	53
EDAU11	19.70	1.040	ZF-EDAU11	61
EDAZ11	19.91	1.245	ZF-EDAZ11	69
EDAH12	20.02	1.360	ZF-EDAH12	71

Price = Outright Decimal Price - Euro Contract Price

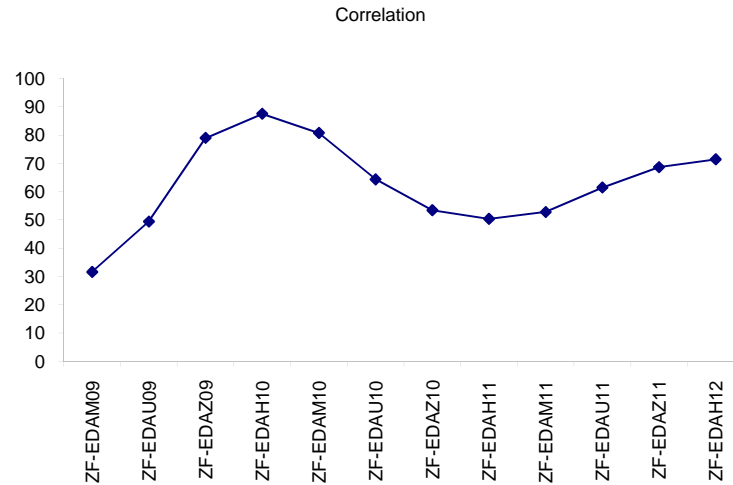
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAM09	0.2432	1.8203	1.5771	ZF-EDAM09	
EDAU09	0.4925	1.8203	1.3278	ZF-EDAU09	
EDAZ09	0.7418	1.8203	1.0785	ZF-EDAZ09	
EDAH10	0.9911	1.8203	0.8292	ZF-EDAH10	
EDAM10	1.2404	1.8203	0.5799	ZF-EDAM10	
EDAU10	1.4898	1.8203	0.3305	ZF-EDAU10	
EDAZ10	1.7391	1.8203	0.0812	ZF-EDAZ10	
EDAH11	1.9884	1.8203	-0.1681	ZF-EDAH11	
EDAM11	2.2377	1.8203	-0.4174	ZF-EDAM11	
EDAU11	2.5062	1.8203	-0.6859	ZF-EDAU11	
EDAZ11	2.7555	1.8203	-0.9352	ZF-EDAZ11	
EDAH12	3.0048	1.8203	-1.1845	ZF-EDAH12	

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

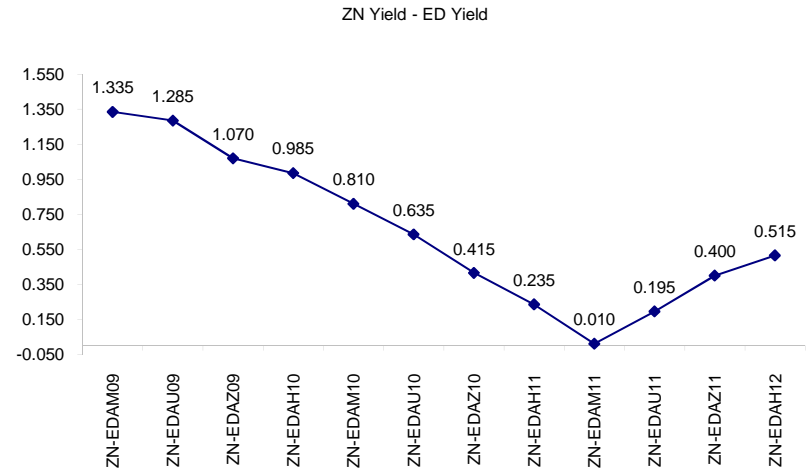


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAM09	22.33	1.335	ZN-EDAM09	-3
EDAU09	22.38	1.285	ZN-EDAU09	11
EDAZ09	22.60	1.070	ZN-EDAZ09	55
EDAH10	22.68	0.985	ZN-EDAH10	73
EDAM10	22.86	0.810	ZN-EDAM10	77
EDAU10	23.03	0.635	ZN-EDAU10	68
EDAZ10	23.25	0.415	ZN-EDAZ10	63
EDAH11	23.43	0.235	ZN-EDAH11	63
EDAM11	23.66	0.010	ZN-EDAM11	68
EDAU11	23.86	0.195	ZN-EDAU11	77
EDAZ11	24.07	0.400	ZN-EDAZ11	83
EDAH12	24.18	0.515	ZN-EDAH12	86

Price = Outright Decimal Price - Euro Contract Price

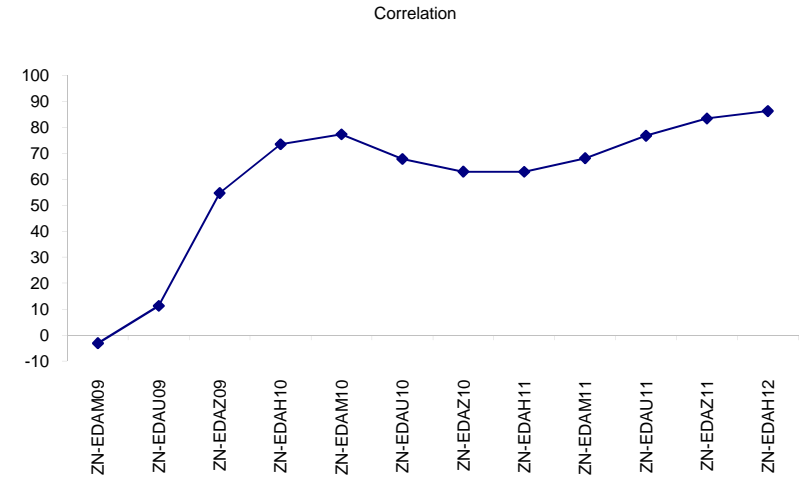
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	Duration	Spread Duration	
EDAM09	0.2432	6.2892	6.0460	ZN-EDAM09
EDAU09	0.4925	6.2892	5.7967	ZN-EDAU09
EDAZ09	0.7418	6.2892	5.5474	ZN-EDAZ09
EDAH10	0.9911	6.2892	5.2981	ZN-EDAH10
EDAM10	1.2404	6.2892	5.0488	ZN-EDAM10
EDAU10	1.4898	6.2892	4.7995	ZN-EDAU10
EDAZ10	1.7391	6.2892	4.5502	ZN-EDAZ10
EDAH11	1.9884	6.2892	4.3008	ZN-EDAH11
EDAM11	2.2377	6.2892	4.0515	ZN-EDAM11
EDAU11	2.5062	6.2892	3.7830	ZN-EDAU11
EDAZ11	2.7555	6.2892	3.5337	ZN-EDAZ11
EDAH12	3.0048	6.2892	3.2844	ZN-EDAH12

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

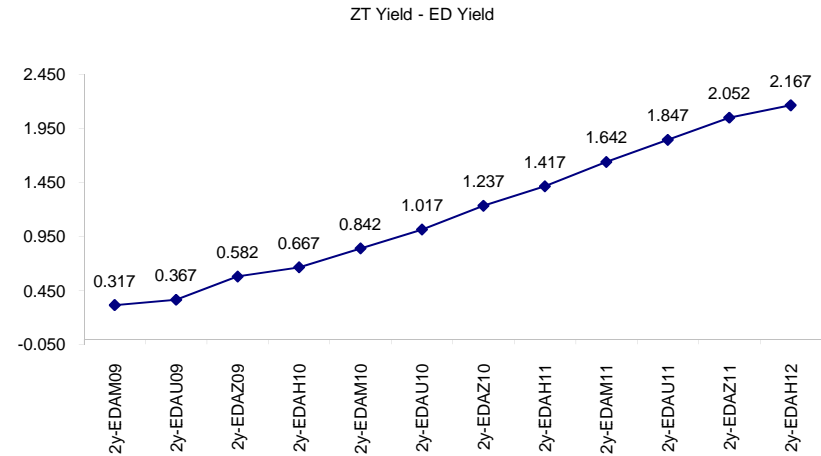


	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.06	0.317	2y-EDAM09	-7
EDAU09	1.11	0.367	2y-EDAU09	-22
EDAZ09	1.33	0.582	2y-EDAZ09	-65
EDAH10	1.41	0.667	2y-EDAH10	-67
EDAM10	1.59	0.842	2y-EDAM10	-51
EDAU10	1.76	1.017	2y-EDAU10	-26
EDAZ10	1.98	1.237	2y-EDAZ10	-13
EDAH11	2.16	1.417	2y-EDAH11	-11
EDAM11	2.39	1.642	2y-EDAM11	-18
EDAU11	2.59	1.847	2y-EDAU11	-30
EDAZ11	2.80	2.052	2y-EDAZ11	-41
EDAH12	2.91	2.167	2y-EDAH12	-46

Price = Outright Decimal Price - Euro Contract Price

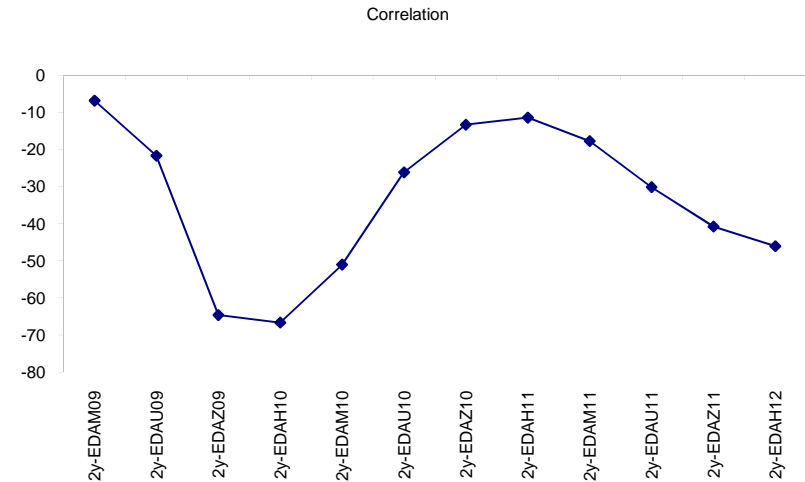
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as		Spread Duration	
	Fraction of year	2Y Duration		
EDAM09	0.2432	1.9256	1.6824	2y-EDAM09
EDAU09	0.4925	1.9256	1.4331	2y-EDAU09
EDAZ09	0.7418	1.9256	1.1838	2y-EDAZ09
EDAH10	0.9911	1.9256	0.9344	2y-EDAH10
EDAM10	1.2404	1.9256	0.6851	2y-EDAM10
EDAU10	1.4898	1.9256	0.4358	2y-EDAU10
EDAZ10	1.7391	1.9256	0.1865	2y-EDAZ10
EDAH11	1.9884	1.9256	-0.0628	2y-EDAH11
EDAM11	2.2377	1.9256	-0.3121	2y-EDAM11
EDAU11	2.5062	1.9256	-0.5806	2y-EDAU11
EDAZ11	2.7555	1.9256	-0.8299	2y-EDAZ11
EDAH12	3.0048	1.9256	-1.0793	2y-EDAH12

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

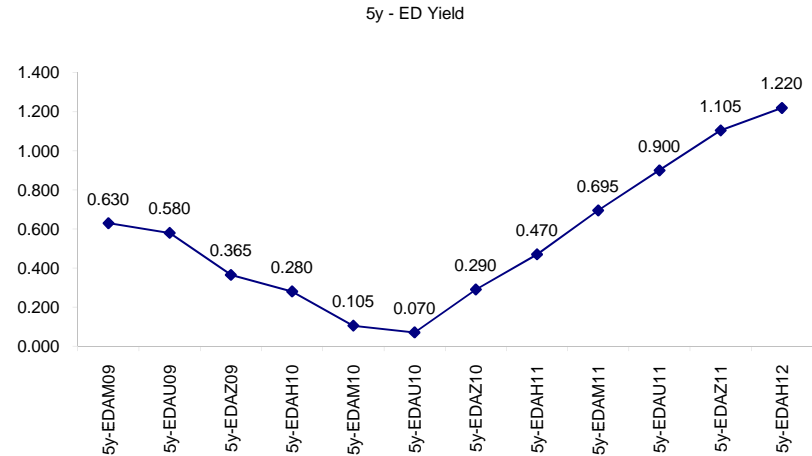


5y				
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.91	0.630	5y-EDAM09	-11
EDAU09	0.96	0.580	5y-EDAU09	-26
EDAZ09	1.18	0.365	5y-EDAZ09	-69
EDAH10	1.26	0.280	5y-EDAH10	-77
EDAM10	1.44	0.105	5y-EDAM10	-69
EDAU10	1.61	0.070	5y-EDAU10	-51
EDAZ10	1.83	0.290	5y-EDAZ10	-41
EDAH11	2.01	0.470	5y-EDAH11	-40
EDAM11	2.24	0.695	5y-EDAM11	-46
EDAU11	2.44	0.900	5y-EDAU11	-57
EDAZ11	2.65	1.105	5y-EDAZ11	-65
EDAH12	2.76	1.220	5y-EDAH12	-69

Price = Outright Decimal Price - Euro Contract Price

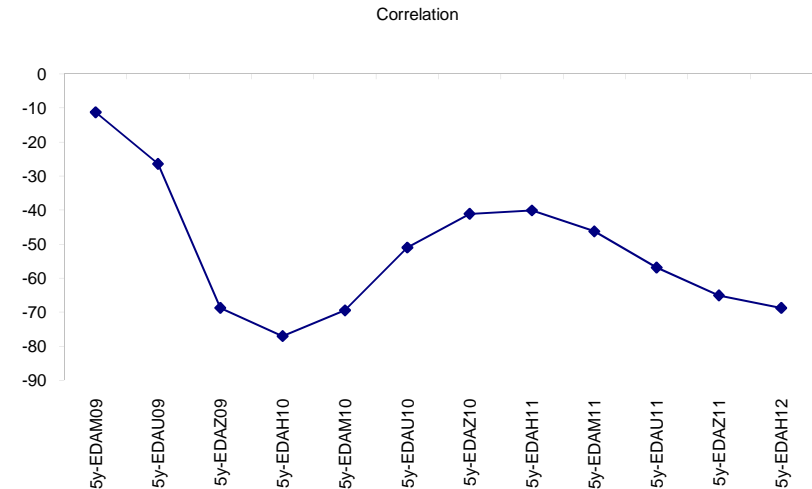
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



ED Duration as			
	Fraction of year	5Y Duration	Spread Duration
EDAM09	0.2432	4.6979	4.4548
EDAU09	0.4925	4.6979	4.2054
EDAZ09	0.7418	4.6979	3.9561
EDAH10	0.9911	4.6979	3.7068
EDAM10	1.2404	4.6979	3.4575
EDAU10	1.4898	4.6979	3.2082
EDAZ10	1.7391	4.6979	2.9589
EDAH11	1.9884	4.6979	2.7096
EDAM11	2.2377	4.6979	2.4602
EDAU11	2.5062	4.6979	2.1917
EDAZ11	2.7555	4.6979	1.9424
EDAH12	3.0048	4.6979	1.6931

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



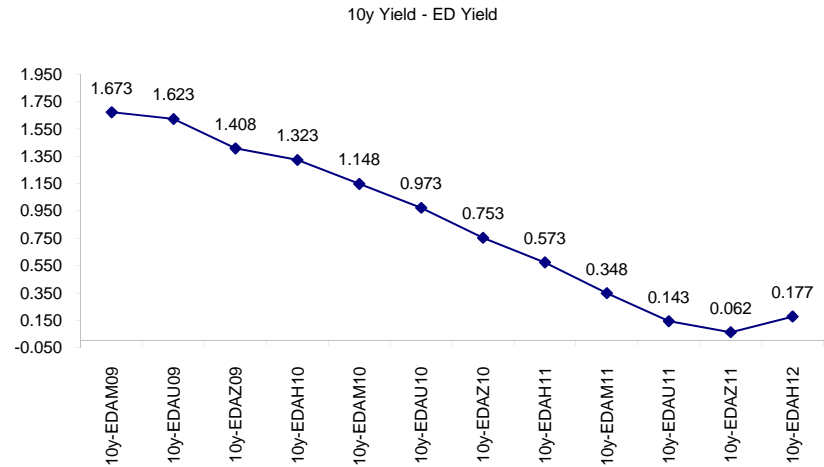


	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	0.91	1.673	10y-EDAM09	12
EDAU09	0.96	1.623	10y-EDAU09	1
EDAZ09	1.18	1.408	10y-EDAZ09	-48
EDAH10	1.26	1.323	10y-EDAH10	-60
EDAM10	1.44	1.148	10y-EDAM10	-56
EDAU10	1.61	0.973	10y-EDAU10	-40
EDAZ10	1.83	0.753	10y-EDAZ10	-34
EDAH11	2.01	0.573	10y-EDAH11	-35
EDAM11	2.24	0.348	10y-EDAM11	-44
EDAU11	2.44	0.143	10y-EDAU11	-55
EDAZ11	2.65	0.062	10y-EDAZ11	-63
EDAH12	2.76	0.177	10y-EDAH12	-68

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	0.2432	8.5771	8.3339	10y-EDAM09
EDAU09	0.4925	8.5771	8.0846	10y-EDAU09
EDAZ09	0.7418	8.5771	7.8353	10y-EDAZ09
EDAH10	0.9911	8.5771	7.5860	10y-EDAH10
EDAM10	1.2404	8.5771	7.3366	10y-EDAM10
EDAU10	1.4898	8.5771	7.0873	10y-EDAU10
EDAZ10	1.7391	8.5771	6.8380	10y-EDAZ10
EDAH11	1.9884	8.5771	6.5887	10y-EDAH11
EDAM11	2.2377	8.5771	6.3394	10y-EDAM11
EDAU11	2.5062	8.5771	6.0709	10y-EDAU11
EDAZ11	2.7555	8.5771	5.8216	10y-EDAZ11
EDAH12	3.0048	8.5771	5.5723	10y-EDAH12

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

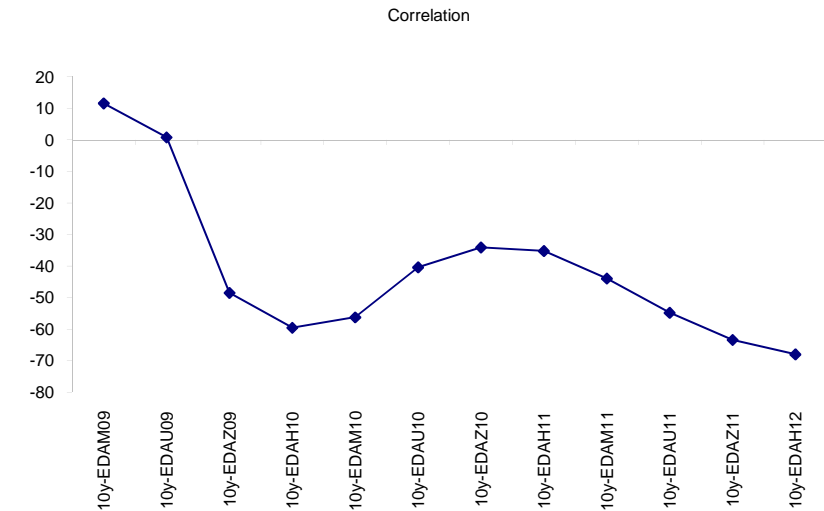


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

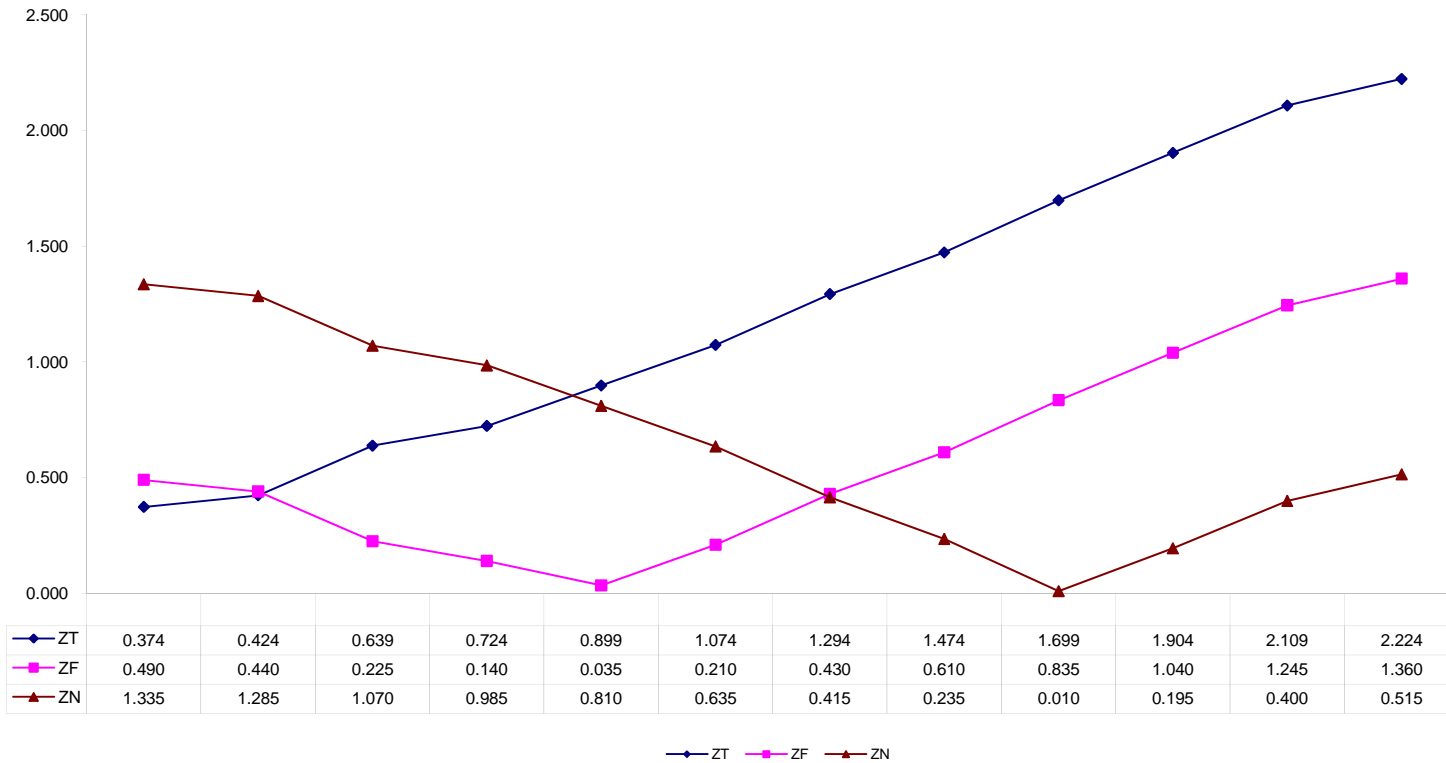
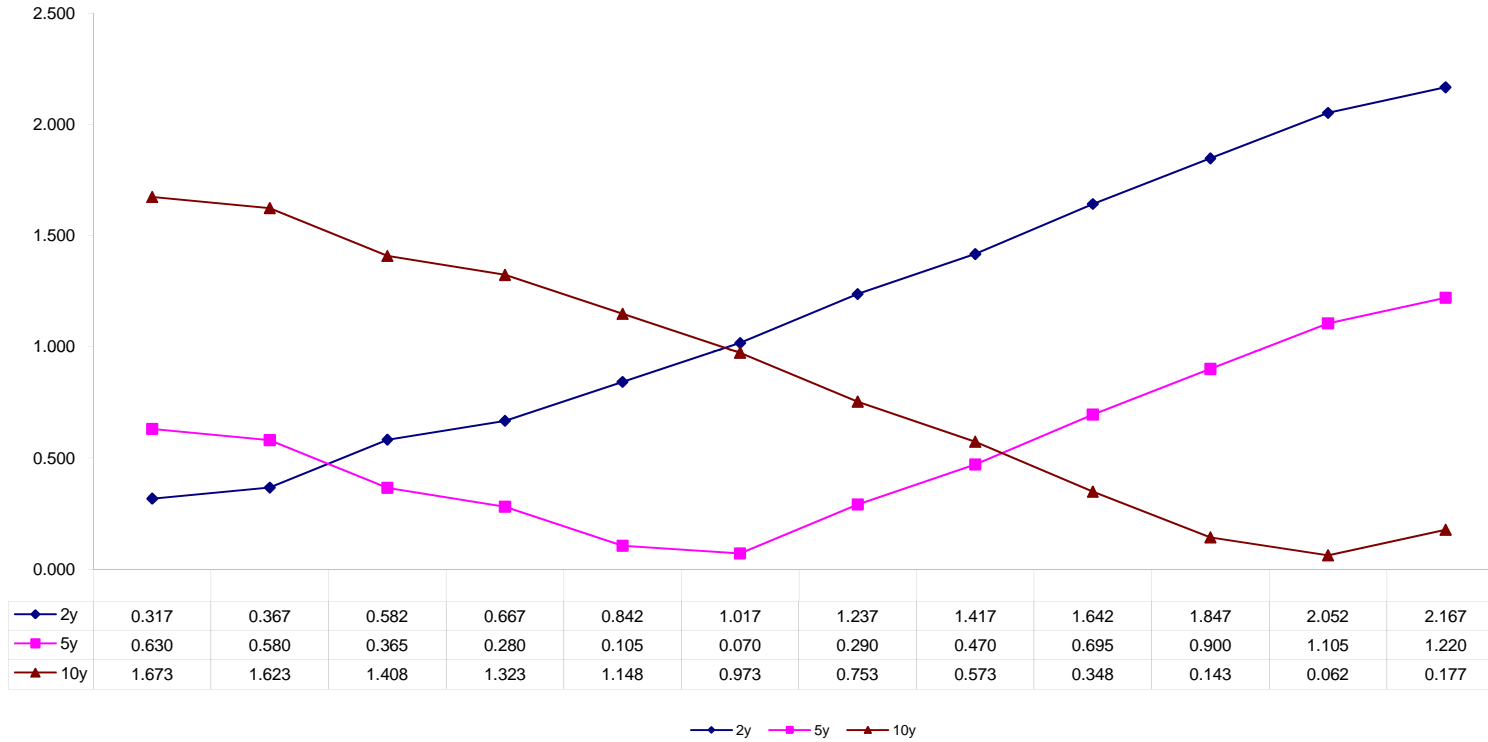
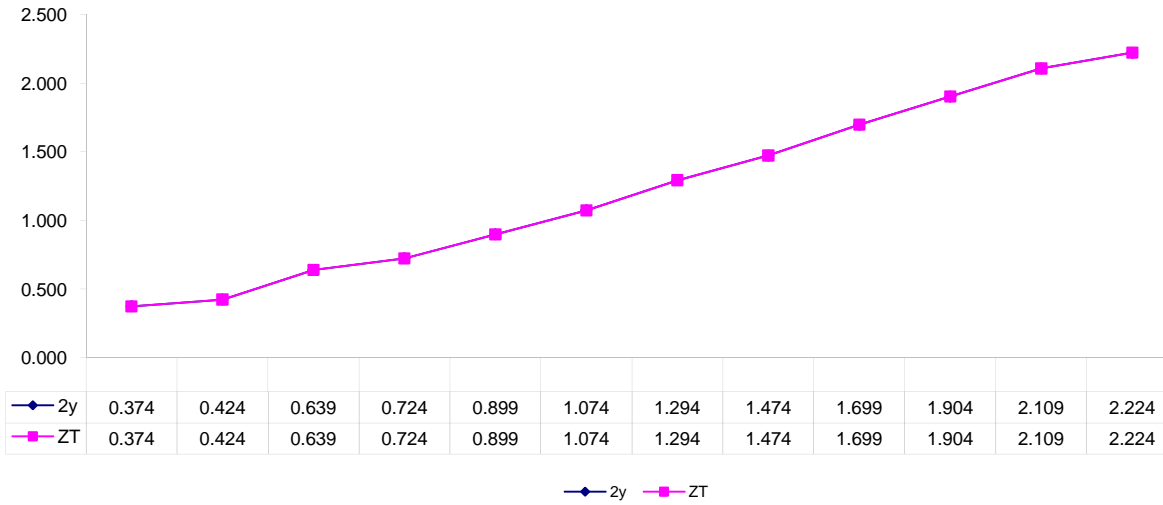
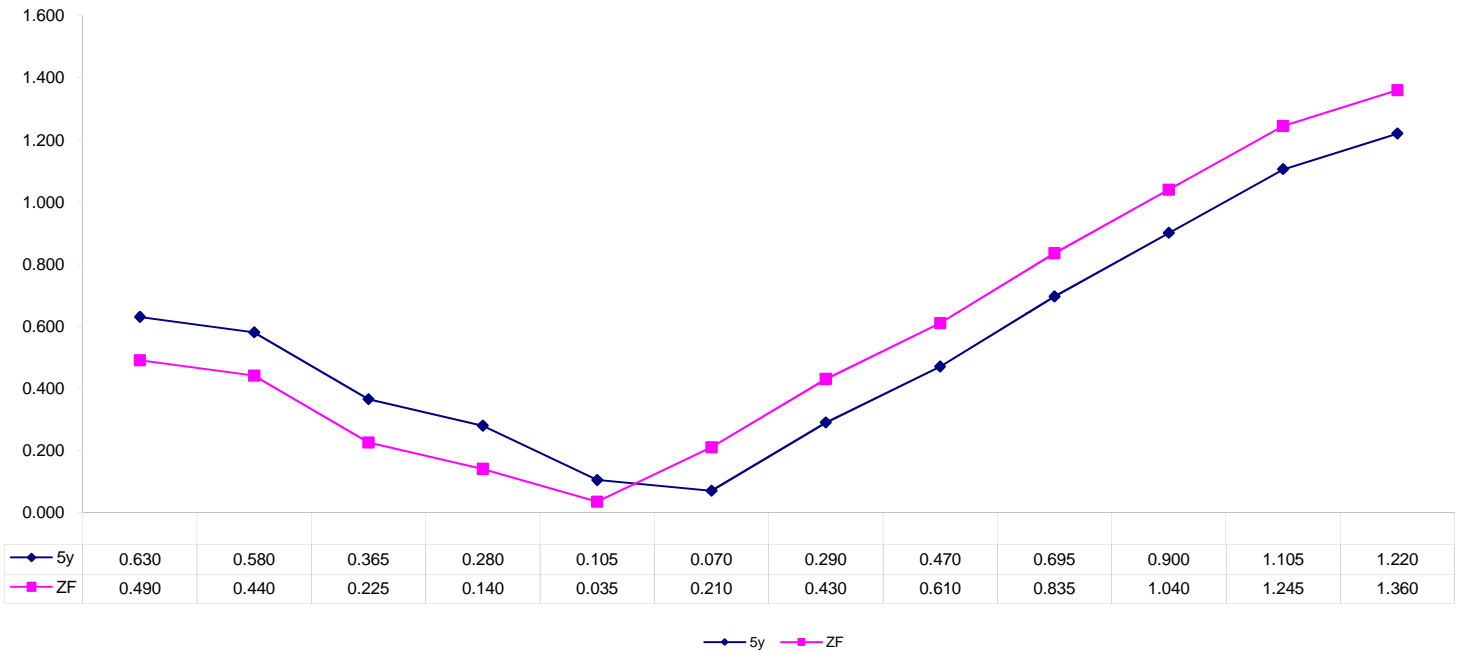


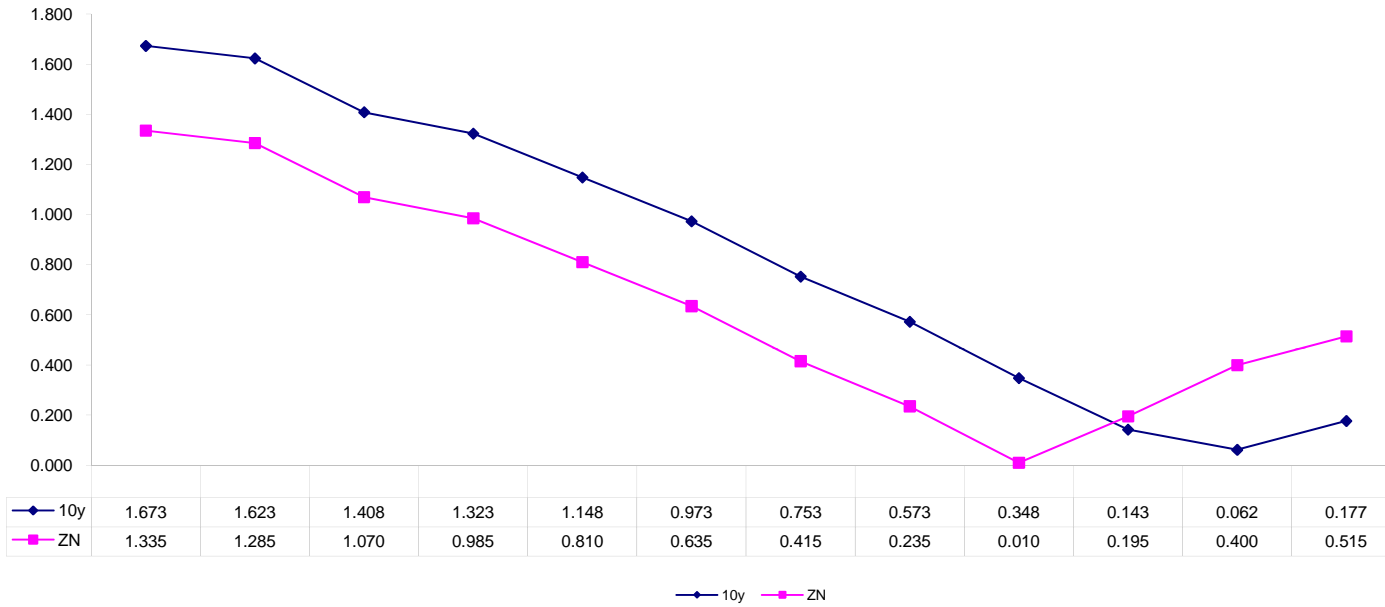
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	1.523	3.625	9850.3750
Red Pack	2.183	-0.625	9785.8750
Green Pack	3.003	-1.125	9706.0000
Blue Pack	3.519	-0.625	9655.8750
Gold Pack		-0.500	9625.0000

