

## **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 Feb-00	Last Yield*	MDuration
ZT	108.2406	108.0770	1.087	1.824
ZF	115.1469	115.0470	2.307	4.100
ZN	116.8438	116.2700	3.103	5.731
2y	99.7344	99.2350	1.132	1.963
5y	100.2250	100.0720	2.576	4.648
10y	96.4688	96.1500	3.551	8.268

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.5250	0.475	42	0.1144	SEP	
EDAZ09	99.3050	0.695	133	0.3637	DEC	White Pack
EDAH10	99.0100	0.990	224	0.6130	MAR	
EDAM10	98.6050	1.395	315	0.8623	JUN	
EDAU10	98.1900	1.810	406	1.1117	SEP	
EDAZ10	97.7750	2.225	497	1.3610	DEC	Red Pack
EDAH11	97.4250	2.575	588	1.6103	MAR	
EDAM11	97.1000	2.900	679	1.8596	JUN	
EDAU11	96.8150	3.185	777	2.1281	SEP	
EDAZ11	96.5450	3.455	868	2.3774	DEC	Green Pack
EDAH12	96.3550	3.645	959	2.6267	MAR	
EDAM12	96.1650	3.835	1,050	2.8760	JUN	
EDAU12	96.0100	3.990	1,141	3.1254	SEP	
EDAZ12	95.8400	4.160	1,232	3.3747	DEC	Blue Pack
EDAH13	95.7400	4.260	1,323	3.6240	MAR	
EDAM13	95.6300	4.370	1,414	3.8733	JUN	
EDAU13	95.5150	4.485	1,505	4.1226	SEP	
EDAZ13	95.3950	4.605	1,596	4.3719	DEC	Gold Pack
EDAH14	95.3050	4.695	1,687	4.6212	MAR	
EDAM14	95.2400	4.760	1,778	4.8706	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.903	0.013	9911.13	
Red Pack	2.425	-0.500	9762.25	Pack Prices
Green Pack	3.611	-0.550	9647.00	
Blue Pack	4.298	-0.487	9580.50	
Gold Pack	4.756	-0.525	9536.38	

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.

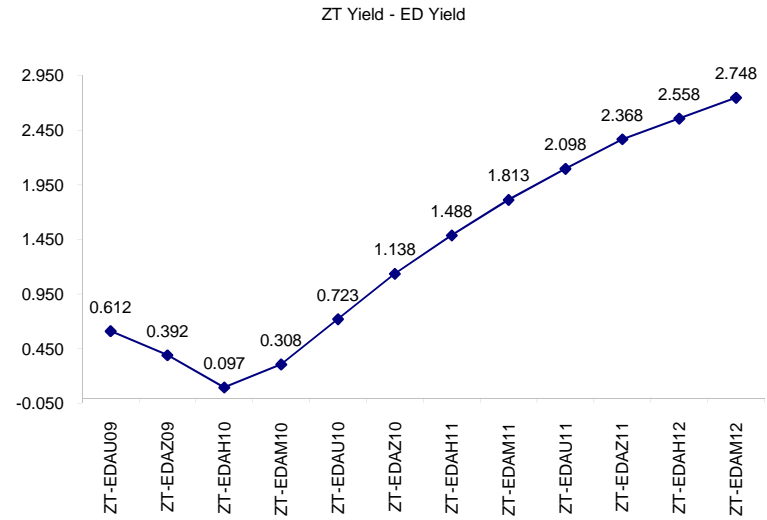
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

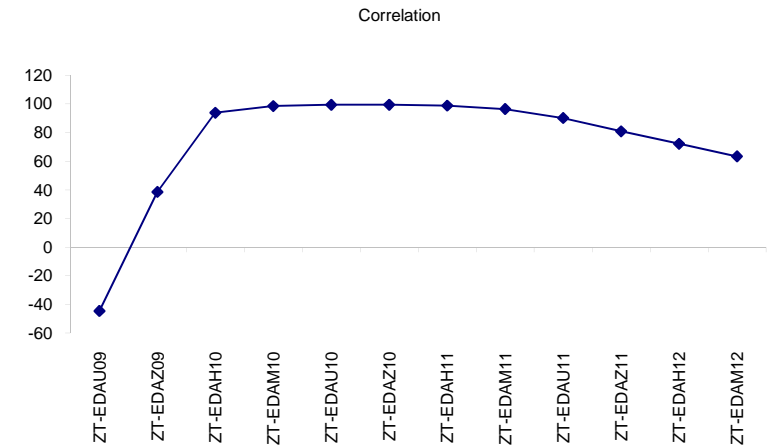
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.72	0.612	ZT-EDAU09	-45
EDAZ09	8.94	0.392	ZT-EDAZ09	39
EDAH10	9.23	0.097	ZT-EDAH10	94
EDAM10	9.64	0.308	ZT-EDAM10	99
EDAU10	10.05	0.723	ZT-EDAU10	99
EDAZ10	10.47	1.138	ZT-EDAZ10	100
EDAH11	10.82	1.488	ZT-EDAH11	99
EDAM11	11.14	1.813	ZT-EDAM11	97
EDAU11	11.43	2.098	ZT-EDAU11	90
EDAZ11	11.70	2.368	ZT-EDAZ11	81
EDAH12	11.89	2.558	ZT-EDAH12	72
EDAM12	12.08	2.748	ZT-EDAM12	63

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	
EDAU09	0.1144	1.8244	1.7100	ZT-EDAU09		
EDAZ09	0.3637	1.8244	1.4607	ZT-EDAZ09		
EDAH10	0.6130	1.8244	1.2114	ZT-EDAH10		
EDAM10	0.8623	1.8244	0.9621	ZT-EDAM10		
EDAU10	1.1117	1.8244	0.7128	ZT-EDAU10		
EDAZ10	1.3610	1.8244	0.4634	ZT-EDAZ10		
EDAH11	1.6103	1.8244	0.2141	ZT-EDAH11		
EDAM11	1.8596	1.8244	-0.0352	ZT-EDAM11		
EDAU11	2.1281	1.8244	-0.3037	ZT-EDAU11		
EDAZ11	2.3774	1.8244	-0.5530	ZT-EDAZ11		
EDAH12	2.6267	1.8244	-0.8023	ZT-EDAH12		
EDAM12	2.8760	1.8244	-1.0516	ZT-EDAM12		

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

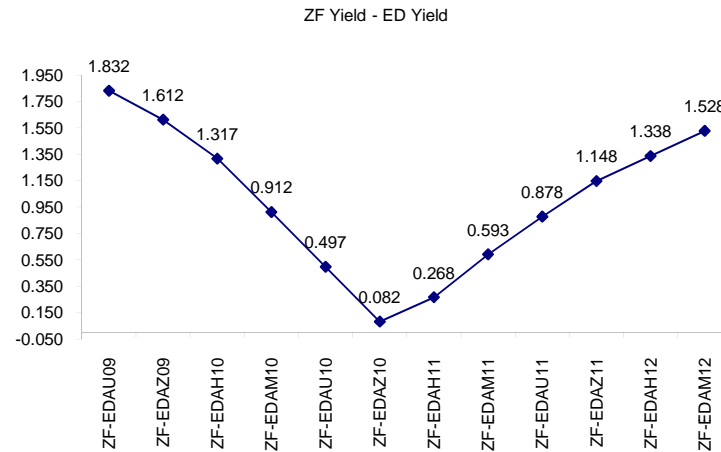


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	15.62	1.832	ZF-EDAU09	-16
EDAZ09	15.84	1.612	ZF-EDAZ09	60
EDAH10	16.14	1.317	ZF-EDAH10	94
EDAM10	16.54	0.912	ZF-EDAM10	93
EDAU10	16.96	0.497	ZF-EDAU10	91
EDAZ10	17.37	0.082	ZF-EDAZ10	89
EDAH11	17.72	0.268	ZF-EDAH11	90
EDAM11	18.05	0.593	ZF-EDAM11	94
EDAU11	18.33	0.878	ZF-EDAU11	97
EDAZ11	18.60	1.148	ZF-EDAZ11	96
EDAH12	18.79	1.338	ZF-EDAH12	94
EDAM12	18.98	1.528	ZF-EDAM12	90

Price = Outright Decimal Price - Euro Contract Price

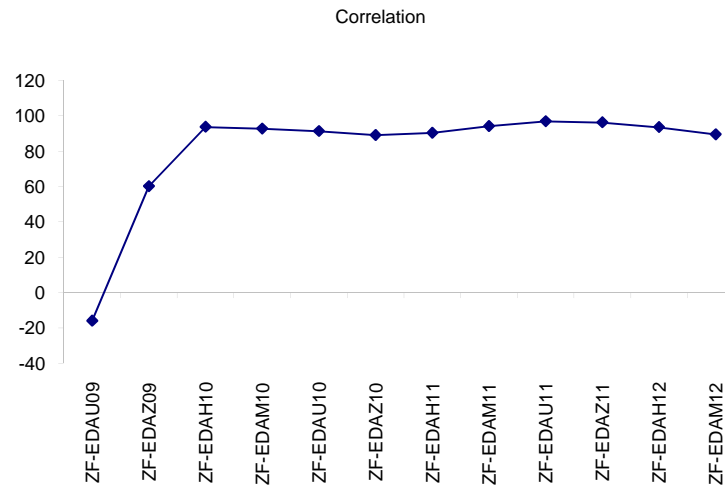
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1144	4.0995	3.9851	ZF-EDAU09	
EDAZ09	0.3637	4.0995	3.7358	ZF-EDAZ09	
EDAH10	0.6130	4.0995	3.4865	ZF-EDAH10	
EDAM10	0.8623	4.0995	3.2372	ZF-EDAM10	
EDAU10	1.1117	4.0995	2.9879	ZF-EDAU10	
EDAZ10	1.3610	4.0995	2.7386	ZF-EDAZ10	
EDAH11	1.6103	4.0995	2.4892	ZF-EDAH11	
EDAM11	1.8596	4.0995	2.2399	ZF-EDAM11	
EDAU11	2.1281	4.0995	1.9714	ZF-EDAU11	
EDAZ11	2.3774	4.0995	1.7221	ZF-EDAZ11	
EDAH12	2.6267	4.0995	1.4728	ZF-EDAH12	
EDAM12	2.8760	4.0995	1.2235	ZF-EDAM12	

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

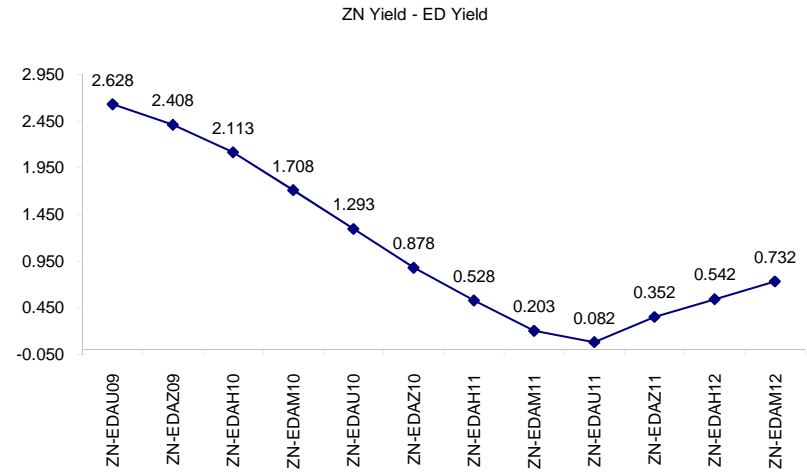


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAU09	17.32	2.628	ZN-EDAU09	12
EDAZ09	17.54	2.408	ZN-EDAZ09	72
EDAH10	17.83	2.113	ZN-EDAH10	82
EDAM10	18.24	1.708	ZN-EDAM10	76
EDAU10	18.65	1.293	ZN-EDAU10	73
EDAZ10	19.07	0.878	ZN-EDAZ10	69
EDAH11	19.42	0.528	ZN-EDAH11	72
EDAM11	19.74	0.203	ZN-EDAM11	80
EDAU11	20.03	0.082	ZN-EDAU11	90
EDAZ11	20.30	0.352	ZN-EDAZ11	96
EDAH12	20.49	0.542	ZN-EDAH12	98
EDAM12	20.68	0.732	ZN-EDAM12	99

Price = Outright Decimal Price - Euro Contract Price

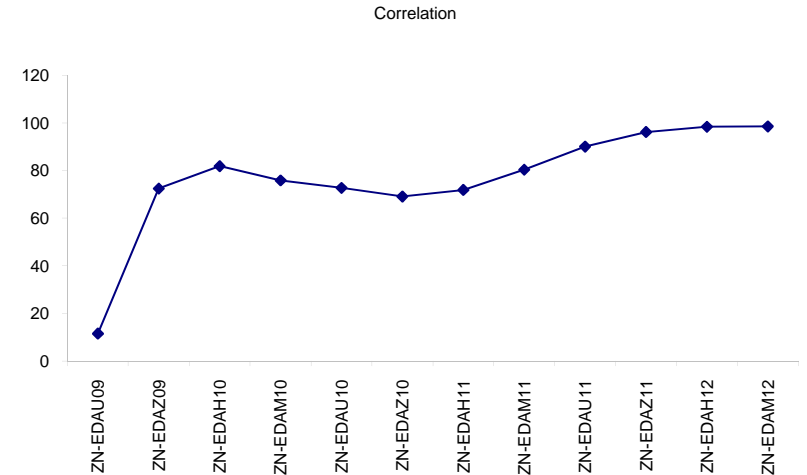
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	Duration	Duration	
EDAU09	0.1144	5.7314	5.6170	ZN-EDAU09
EDAZ09	0.3637	5.7314	5.3677	ZN-EDAZ09
EDAH10	0.6130	5.7314	5.1183	ZN-EDAH10
EDAM10	0.8623	5.7314	4.8690	ZN-EDAM10
EDAU10	1.1117	5.7314	4.6197	ZN-EDAU10
EDAZ10	1.3610	5.7314	4.3704	ZN-EDAZ10
EDAH11	1.6103	5.7314	4.1211	ZN-EDAH11
EDAM11	1.8596	5.7314	3.8718	ZN-EDAM11
EDAU11	2.1281	5.7314	3.6033	ZN-EDAU11
EDAZ11	2.3774	5.7314	3.3540	ZN-EDAZ11
EDAH12	2.6267	5.7314	3.1046	ZN-EDAH12
EDAM12	2.8760	5.7314	2.8553	ZN-EDAM12

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



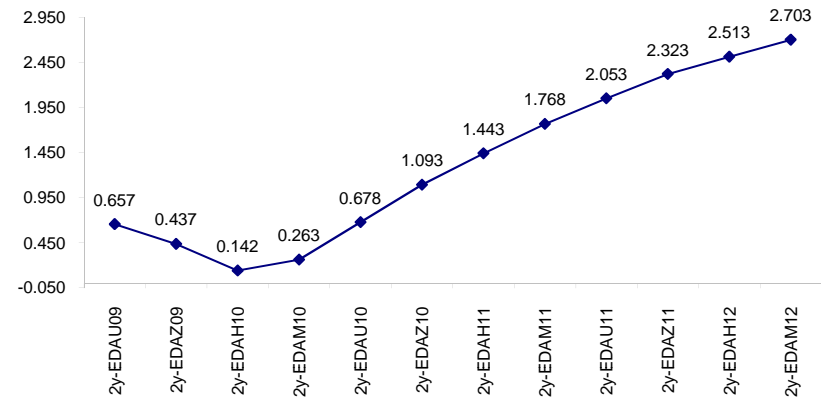
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.21	0.657	2y-EDAU09	66
EDAZ09	0.43	0.437	2y-EDAZ09	-13
EDAH10	0.72	0.142	2y-EDAH10	-81
EDAM10	1.13	0.263	2y-EDAM10	-90
EDAU10	1.54	0.678	2y-EDAU10	-93
EDAZ10	1.96	1.093	2y-EDAZ10	-94
EDAH11	2.31	1.443	2y-EDAH11	-92
EDAM11	2.63	1.768	2y-EDAM11	-86
EDAU11	2.92	2.053	2y-EDAU11	-75
EDAZ11	3.19	2.323	2y-EDAZ11	-63
EDAH12	3.38	2.513	2y-EDAH12	-52
EDAM12	3.57	2.703	2y-EDAM12	-42

Price = Outright Decimal Price - Euro Contract Price

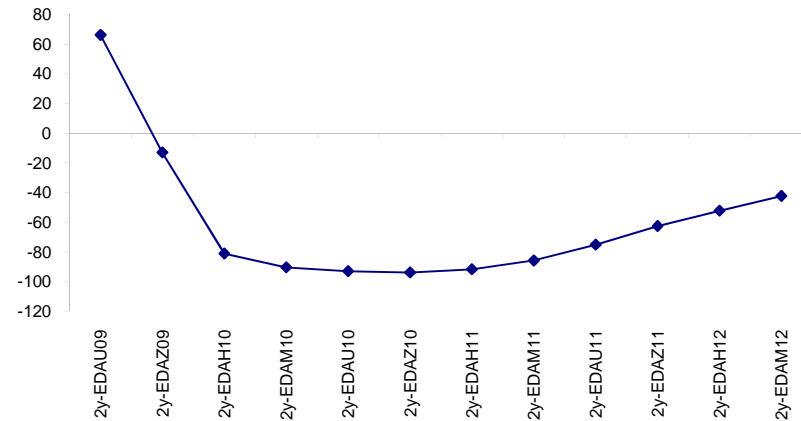
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



ED Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAU09	0.1144	1.9631	1.8487	2y-EDAU09
EDAZ09	0.3637	1.9631	1.5994	2y-EDAZ09
EDAH10	0.6130	1.9631	1.3501	2y-EDAH10
EDAM10	0.8623	1.9631	1.1008	2y-EDAM10
EDAU10	1.1117	1.9631	0.8515	2y-EDAU10
EDAZ10	1.3610	1.9631	0.6022	2y-EDAZ10
EDAH11	1.6103	1.9631	0.3528	2y-EDAH11
EDAM11	1.8596	1.9631	0.1035	2y-EDAM11
EDAU11	2.1281	1.9631	-0.1650	2y-EDAU11
EDAZ11	2.3774	1.9631	-0.4143	2y-EDAZ11
EDAH12	2.6267	1.9631	-0.6636	2y-EDAH12
EDAM12	2.8760	1.9631	-0.9129	2y-EDAM12

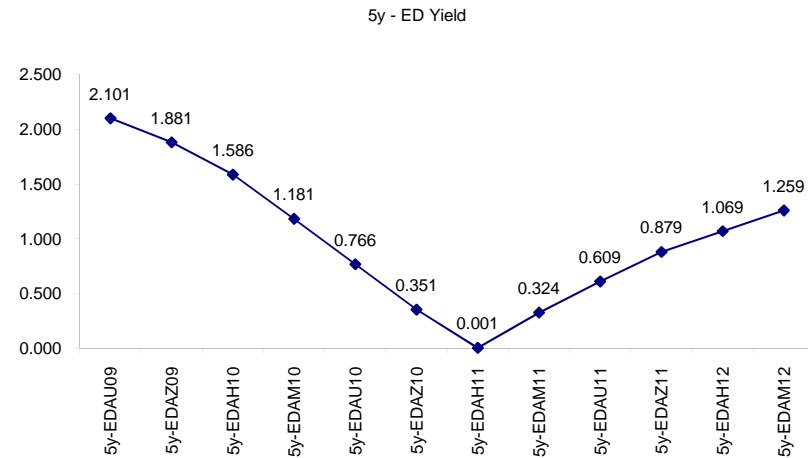
The farther away from 0 the spread duration is the riskier the trade.

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.70	2.101	5y-EDAU09	39
EDAZ09	0.92	1.881	5y-EDAZ09	-39
EDAH10	1.22	1.586	5y-EDAH10	-89
EDAM10	1.62	1.181	5y-EDAM10	-93
EDAU10	2.04	0.766	5y-EDAU10	-93
EDAZ10	2.45	0.351	5y-EDAZ10	-91
EDAH11	2.80	0.001	5y-EDAH11	-91
EDAM11	3.13	0.324	5y-EDAM11	-92
EDAU11	3.41	0.609	5y-EDAU11	-91
EDAZ11	3.68	0.879	5y-EDAZ11	-87
EDAH12	3.87	1.069	5y-EDAH12	-83
EDAM12	4.06	1.259	5y-EDAM12	-77

Price = Outright Decimal Price - Euro Contract Price

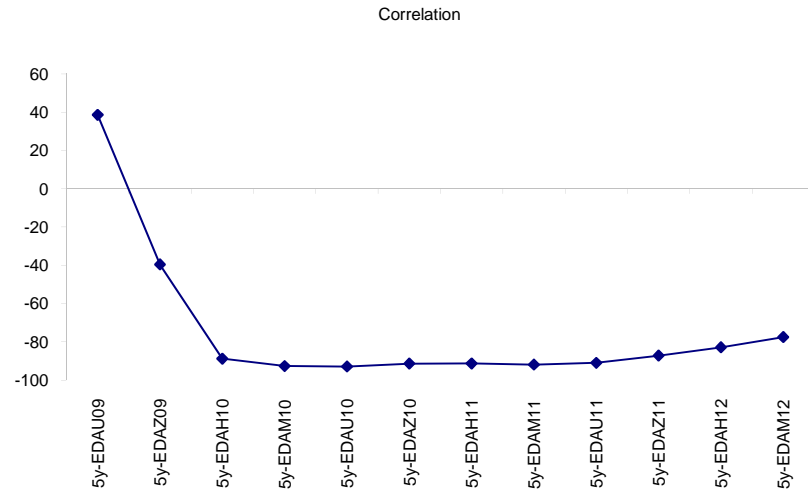
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year			
	5Y Duration	Spread Duration		
EDAU09	0.1144	4.6480	4.5336	5y-EDAU09
EDAZ09	0.3637	4.6480	4.2843	5y-EDAZ09
EDAH10	0.6130	4.6480	4.0350	5y-EDAH10
EDAM10	0.8623	4.6480	3.7857	5y-EDAM10
EDAU10	1.1117	4.6480	3.5364	5y-EDAU10
EDAZ10	1.3610	4.6480	3.2870	5y-EDAZ10
EDAH11	1.6103	4.6480	3.0377	5y-EDAH11
EDAM11	1.8596	4.6480	2.7884	5y-EDAM11
EDAU11	2.1281	4.6480	2.5199	5y-EDAU11
EDAZ11	2.3774	4.6480	2.2706	5y-EDAZ11
EDAH12	2.6267	4.6480	2.0213	5y-EDAH12
EDAM12	2.8760	4.6480	1.7720	5y-EDAM12

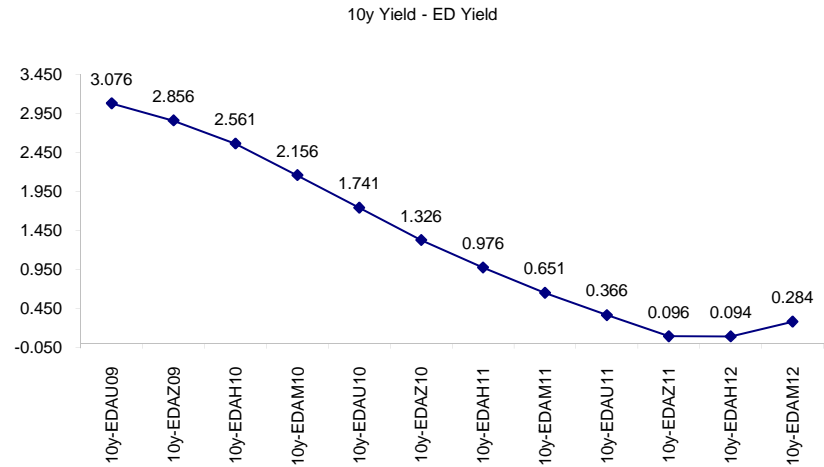
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	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.70	3.076	10y-EDAU09	-28
EDAZ09	0.92	2.856	10y-EDAZ09	-65
EDAH10	1.22	2.561	10y-EDAH10	-56
EDAM10	1.62	2.156	10y-EDAM10	-48
EDAU10	2.04	1.741	10y-EDAU10	-44
EDAZ10	2.45	1.326	10y-EDAZ10	-39
EDAH11	2.80	0.976	10y-EDAH11	-42
EDAM11	3.13	0.651	10y-EDAM11	-53
EDAU11	3.41	0.366	10y-EDAU11	-68
EDAZ11	3.68	0.096	10y-EDAZ11	-80
EDAH12	3.87	0.094	10y-EDAH12	-88
EDAM12	4.06	0.284	10y-EDAM12	-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			
	10Y Duration	Spread Duration		
EDAU09	0.1144	8.2680	8.1536	10y-EDAU09
EDAZ09	0.3637	8.2680	7.9043	10y-EDAZ09
EDAH10	0.6130	8.2680	7.6549	10y-EDAH10
EDAM10	0.8623	8.2680	7.4056	10y-EDAM10
EDAU10	1.1117	8.2680	7.1563	10y-EDAU10
EDAZ10	1.3610	8.2680	6.9070	10y-EDAZ10
EDAH11	1.6103	8.2680	6.6577	10y-EDAH11
EDAM11	1.8596	8.2680	6.4084	10y-EDAM11
EDAU11	2.1281	8.2680	6.1399	10y-EDAU11
EDAZ11	2.3774	8.2680	5.8906	10y-EDAZ11
EDAH12	2.6267	8.2680	5.6412	10y-EDAH12
EDAM12	2.8760	8.2680	5.3919	10y-EDAM12

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

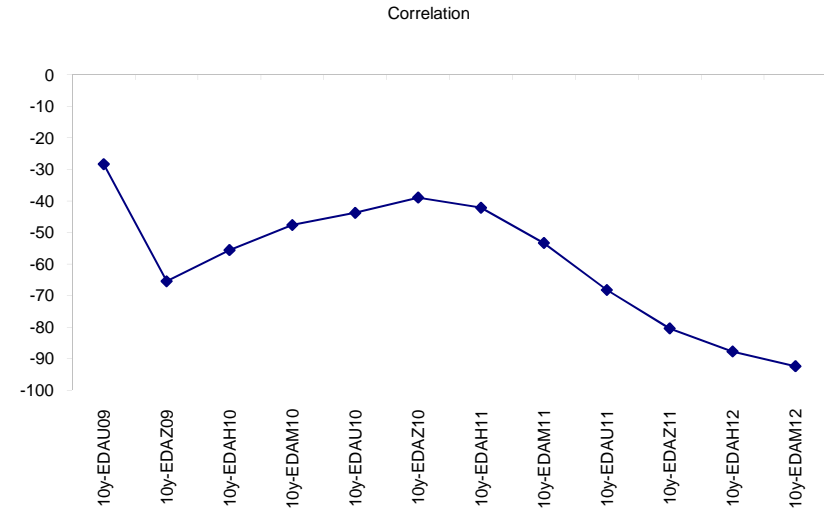


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

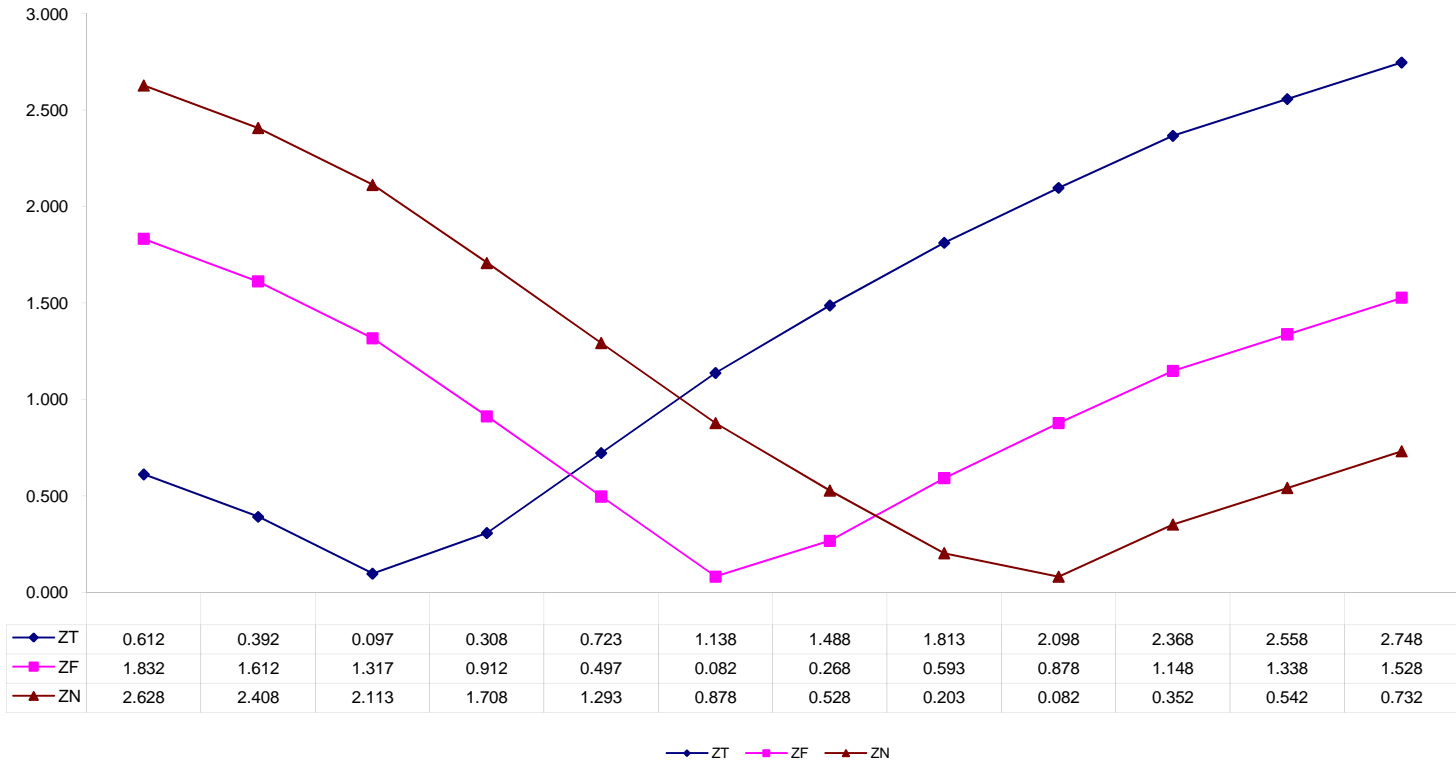
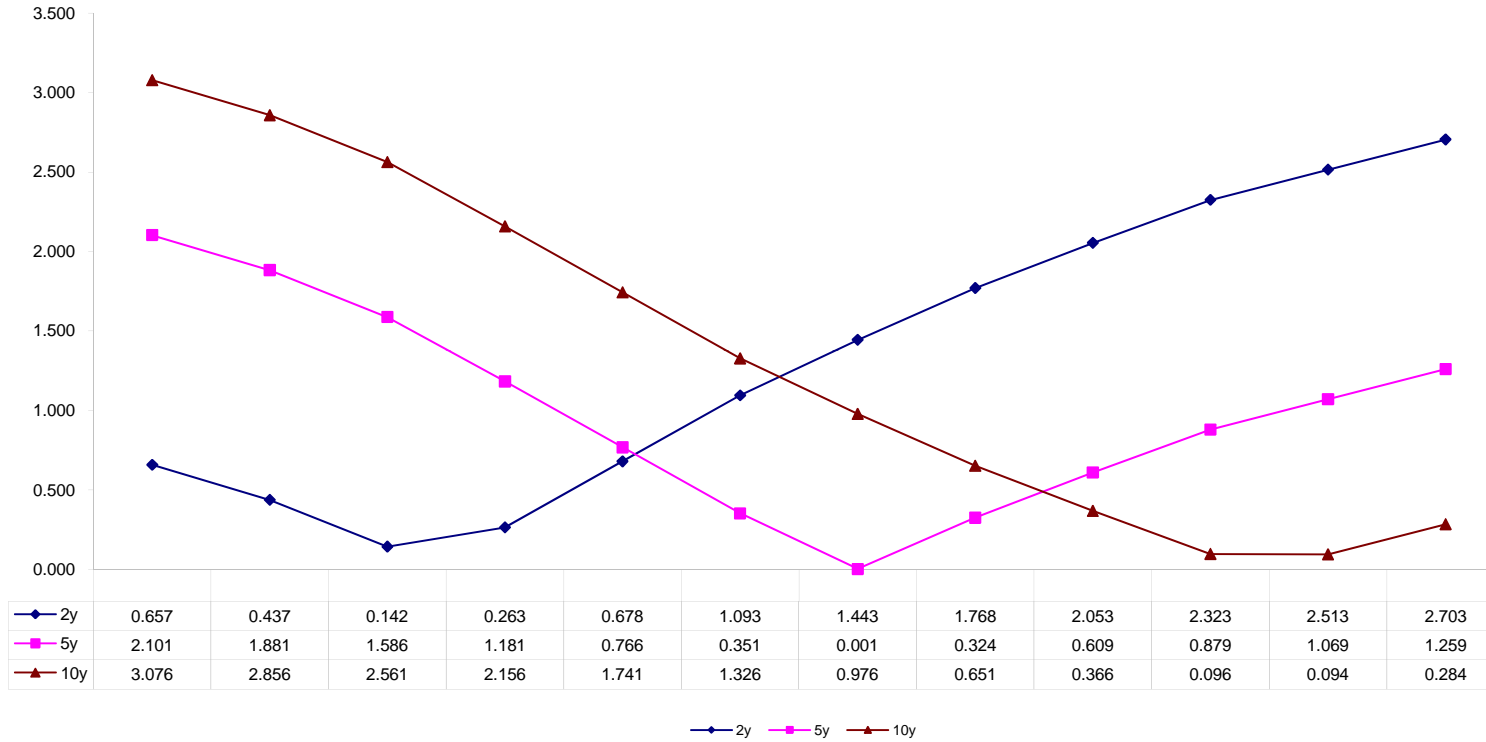
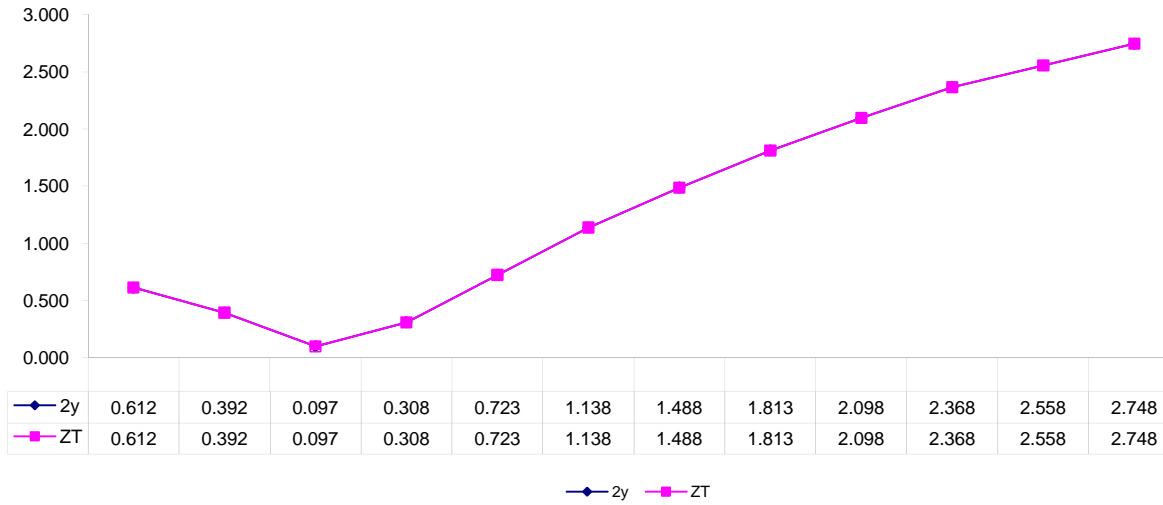
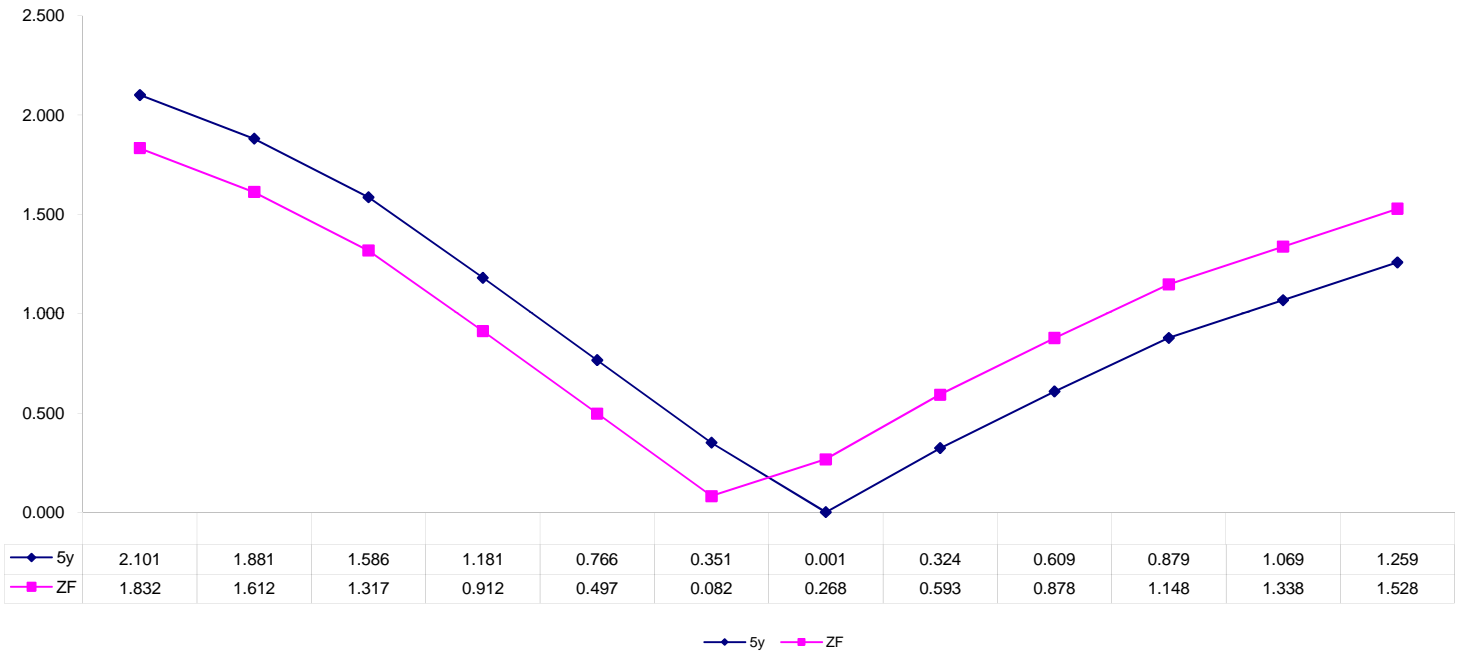


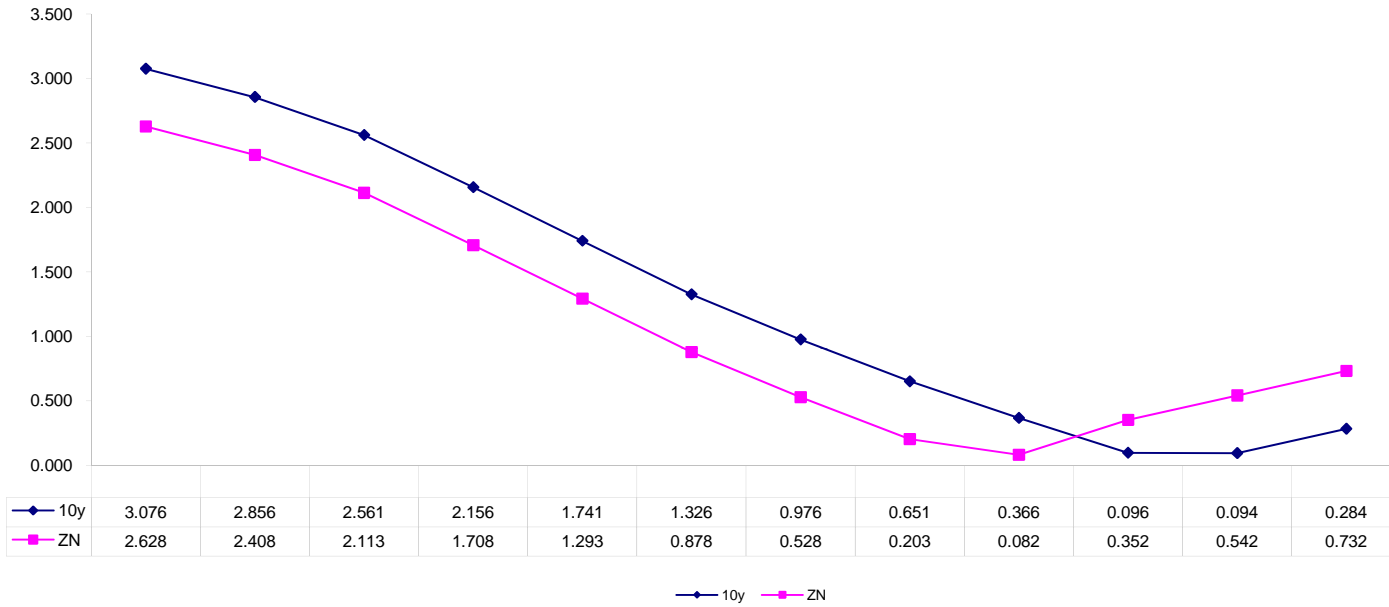
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.903	0.013	9911.1250
Red Pack	2.425	-0.500	9762.2500
Green Pack	3.611	-0.550	9647.0000
Blue Pack	4.298	-0.487	9580.5000
Gold Pack	4.756	-0.525	9536.3750

