

## **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	108.4219	108.1350	0.962	1.866
ZF	115.5375	115.1720	2.194	4.143
ZN	117.0938	117.0300	3.040	5.775
2y	100.3031	100.0970	0.962	1.920
5y	100.8656	100.2770	2.436	4.611
10y	96.4531	96.1450	3.552	8.308

Eurodollars (ED)						
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU09	99.4600	0.540	59	0.1610	SEP	
EDAZ09	99.2300	0.770	150	0.4103	DEC	White Pack
EDAH10	98.9900	1.010	241	0.6596	MAR	Pack
EDAM10	98.6600	1.340	332	0.9090	JUN	
EDAU10	98.3000	1.700	423	1.1583	SEP	
EDAZ10	97.9000	2.100	514	1.4076	DEC	Red Pack
EDAH11	97.5300	2.470	605	1.6569	MAR	Pack
EDAM11	97.1550	2.845	696	1.9062	JUN	
EDAU11	96.8200	3.180	794	2.1747	SEP	
EDAZ11	96.5100	3.490	885	2.4240	DEC	Green Pack
EDAH12	96.2800	3.720	976	2.6733	MAR	Pack
EDAM12	96.0700	3.930	1,067	2.9226	JUN	
EDAU12	95.9100	4.090	1,158	3.1720	SEP	
EDAZ12	95.7600	4.240	1,249	3.4213	DEC	Blue Pack
EDAH13	95.6600	4.340	1,340	3.6706	MAR	Pack
EDAM13	95.5500	4.450	1,431	3.9199	JUN	
EDAU13	95.4450	4.555	1,522	4.1692	SEP	
EDAZ13	95.3300	4.670	1,613	4.4185	DEC	Gold Pack
EDAH14	95.2650	4.735	1,704	4.6679	MAR	Pack
EDAM14	95.1800	4.820	1,795	4.9172	JUN	

	Last Yield	Net Yield	Last Price	
White Pack	0.930	1.500	9908.50	
Red Pack	2.324	-0.125	9772.13	Pack Prices
Green Pack	3.663	-0.500	9642.00	
Blue Pack	4.386	0.125	9572.00	
Gold Pack	4.817	1.000	9530.50	

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:**

Jan-00 Regression  
Jan-00 Engineered  
Jan-00 Strip with and without Stubs  
Jan-00 Convexity Bias  
Jan-00 Weighted  
Jan-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.

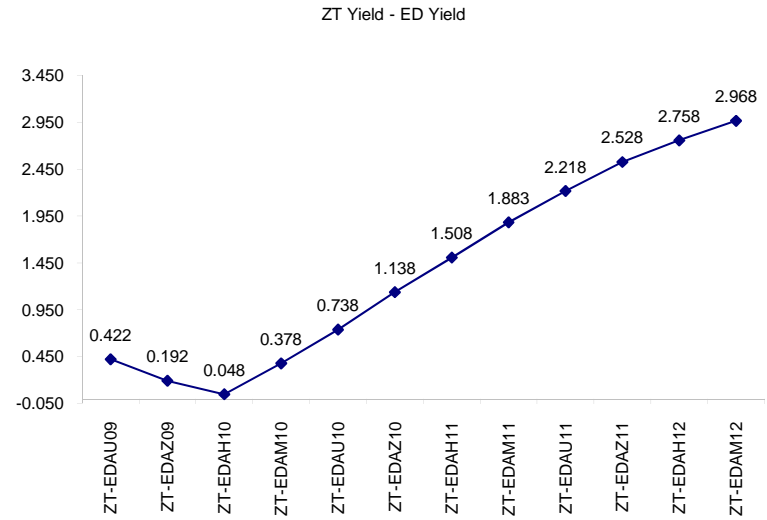
[jgoulding@ghco.com](mailto:jgoulding@ghco.com)

#### **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.

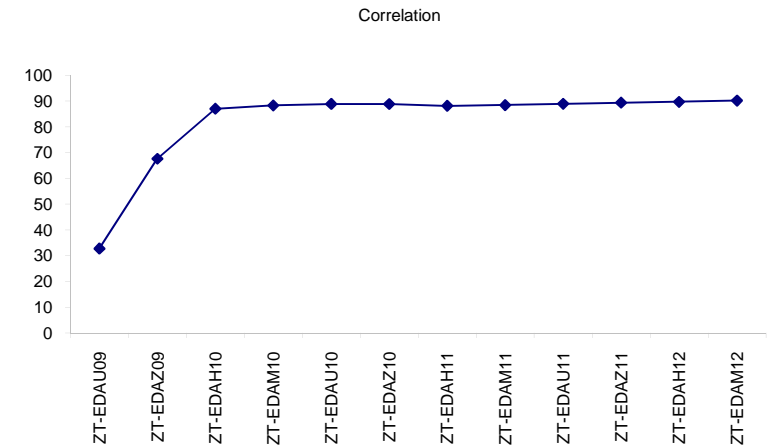
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	8.96	0.422	ZT-EDAU09	33
EDAZ09	9.19	0.192	ZT-EDAZ09	68
EDAH10	9.43	0.048	ZT-EDAH10	87
EDAM10	9.76	0.378	ZT-EDAM10	88
EDAU10	10.12	0.738	ZT-EDAU10	89
EDAZ10	10.52	1.138	ZT-EDAZ10	89
EDAH11	10.89	1.508	ZT-EDAH11	88
EDAM11	11.27	1.883	ZT-EDAM11	88
EDAU11	11.60	2.218	ZT-EDAU11	89
EDAZ11	11.91	2.528	ZT-EDAZ11	89
EDAH12	12.14	2.758	ZT-EDAH12	90
EDAM12	12.35	2.968	ZT-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			ZT Duration	Spread Duration	
EDAU09	0.1610	1.8662	1.7052	ZT-EDAU09		
EDAZ09	0.4103	1.8662	1.4559	ZT-EDAZ09		
EDAH10	0.6596	1.8662	1.2066	ZT-EDAH10		
EDAM10	0.9090	1.8662	0.9573	ZT-EDAM10		
EDAU10	1.1583	1.8662	0.7079	ZT-EDAU10		
EDAZ10	1.4076	1.8662	0.4586	ZT-EDAZ10		
EDAH11	1.6569	1.8662	0.2093	ZT-EDAH11		
EDAM11	1.9062	1.8662	-0.0400	ZT-EDAM11		
EDAU11	2.1747	1.8662	-0.3085	ZT-EDAU11		
EDAZ11	2.4240	1.8662	-0.5578	ZT-EDAZ11		
EDAH12	2.6733	1.8662	-0.8071	ZT-EDAH12		
EDAM12	2.9226	1.8662	-1.0564	ZT-EDAM12		

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

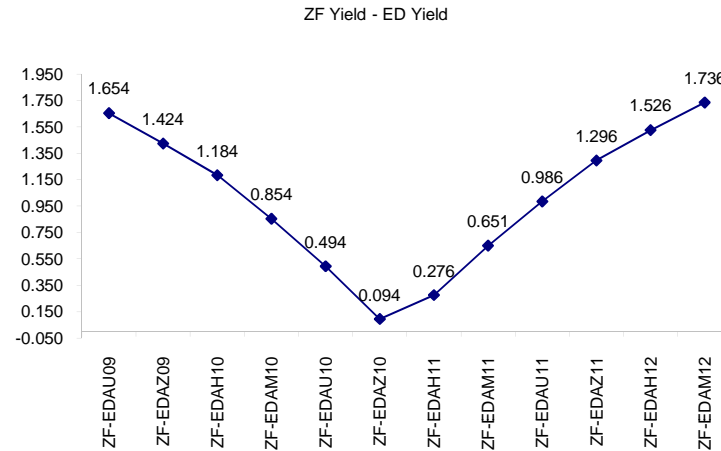


	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	16.08	1.654	ZF-EDAU09	34
EDAZ09	16.31	1.424	ZF-EDAZ09	67
EDAH10	16.55	1.184	ZF-EDAH10	88
EDAM10	16.88	0.854	ZF-EDAM10	91
EDAU10	17.24	0.494	ZF-EDAU10	92
EDAZ10	17.64	0.094	ZF-EDAZ10	92
EDAH11	18.01	0.276	ZF-EDAH11	92
EDAM11	18.38	0.651	ZF-EDAM11	92
EDAU11	18.72	0.986	ZF-EDAU11	93
EDAZ11	19.03	1.296	ZF-EDAZ11	93
EDAH12	19.26	1.526	ZF-EDAH12	94
EDAM12	19.47	1.736	ZF-EDAM12	95

Price = Outright Decimal Price - Euro Contract Price

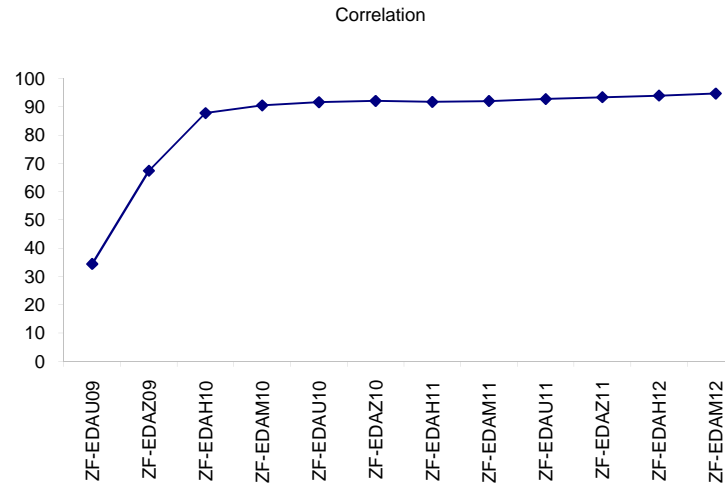
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year		ZF Duration	Spread Duration	
EDAU09	0.1610	4.1429	3.9819	ZF-EDAU09	
EDAZ09	0.4103	4.1429	3.7326	ZF-EDAZ09	
EDAH10	0.6596	4.1429	3.4832	ZF-EDAH10	
EDAM10	0.9090	4.1429	3.2339	ZF-EDAM10	
EDAU10	1.1583	4.1429	2.9846	ZF-EDAU10	
EDAZ10	1.4076	4.1429	2.7353	ZF-EDAZ10	
EDAH11	1.6569	4.1429	2.4860	ZF-EDAH11	
EDAM11	1.9062	4.1429	2.2367	ZF-EDAM11	
EDAU11	2.1747	4.1429	1.9682	ZF-EDAU11	
EDAZ11	2.4240	4.1429	1.7189	ZF-EDAZ11	
EDAH12	2.6733	4.1429	1.4695	ZF-EDAH12	
EDAM12	2.9226	4.1429	1.2202	ZF-EDAM12	

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

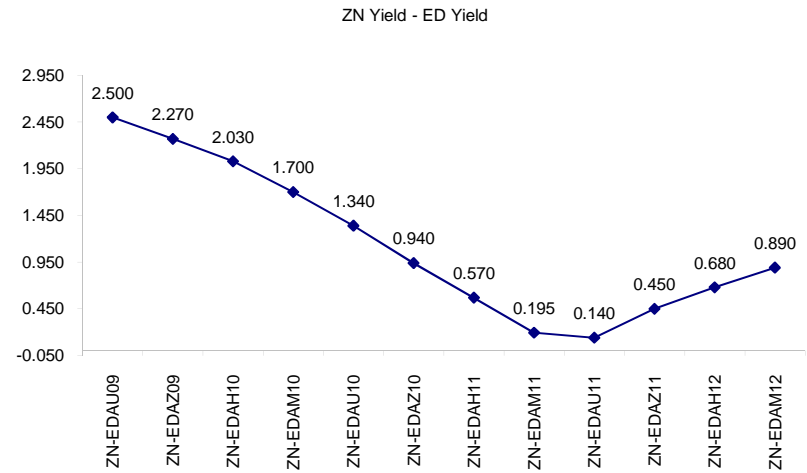


	ZN			Correlation* (percent)
	Spread Price	Spread Yield	Spread Name	
EDAU09	17.63	2.500	ZN-EDAU09	41
EDAZ09	17.86	2.270	ZN-EDAZ09	69
EDAH10	18.10	2.030	ZN-EDAH10	84
EDAM10	18.43	1.700	ZN-EDAM10	86
EDAU10	18.79	1.340	ZN-EDAU10	86
EDAZ10	19.19	0.940	ZN-EDAZ10	86
EDAH11	19.56	0.570	ZN-EDAH11	85
EDAM11	19.94	0.195	ZN-EDAM11	86
EDAU11	20.27	0.140	ZN-EDAU11	86
EDAZ11	20.58	0.450	ZN-EDAZ11	87
EDAH12	20.81	0.680	ZN-EDAH12	88
EDAM12	21.02	0.890	ZN-EDAM12	90

Price = Outright Decimal Price - Euro Contract Price

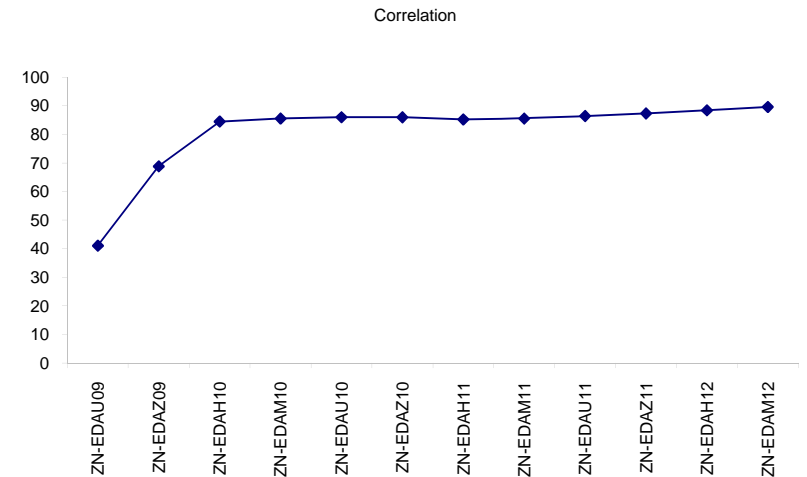
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as			ZN Spread Duration
	Fraction of year	ZN Duration	Spread Duration	
EDAU09	0.1610	5.7755	5.6145	ZN-EDAU09
EDAZ09	0.4103	5.7755	5.3651	ZN-EDAZ09
EDAH10	0.6596	5.7755	5.1158	ZN-EDAH10
EDAM10	0.9090	5.7755	4.8665	ZN-EDAM10
EDAU10	1.1583	5.7755	4.6172	ZN-EDAU10
EDAZ10	1.4076	5.7755	4.3679	ZN-EDAZ10
EDAH11	1.6569	5.7755	4.1186	ZN-EDAH11
EDAM11	1.9062	5.7755	3.8692	ZN-EDAM11
EDAU11	2.1747	5.7755	3.6008	ZN-EDAU11
EDAZ11	2.4240	5.7755	3.3514	ZN-EDAZ11
EDAH12	2.6733	5.7755	3.1021	ZN-EDAH12
EDAM12	2.9226	5.7755	2.8528	ZN-EDAM12

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



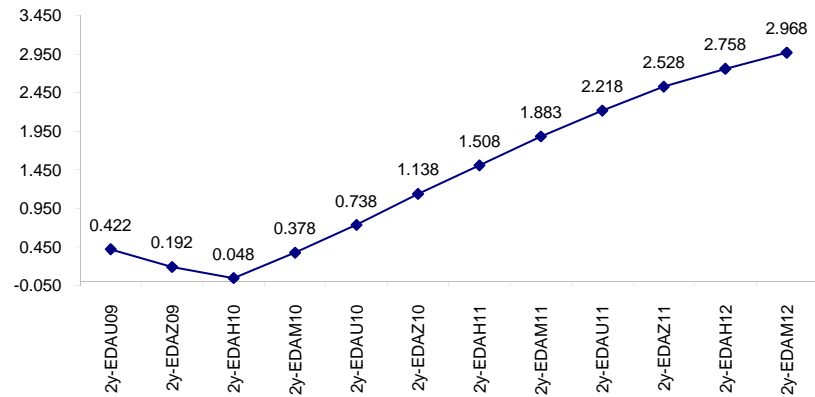
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	0.84	0.422	2y-EDAU09	-31
EDAZ09	1.07	0.192	2y-EDAZ09	-69
EDAH10	1.31	0.048	2y-EDAH10	-90
EDAM10	1.64	0.378	2y-EDAM10	-92
EDAU10	2.00	0.738	2y-EDAU10	-92
EDAZ10	2.40	1.138	2y-EDAZ10	-92
EDAH11	2.77	1.508	2y-EDAH11	-92
EDAM11	3.15	1.883	2y-EDAM11	-92
EDAU11	3.48	2.218	2y-EDAU11	-92
EDAZ11	3.79	2.528	2y-EDAZ11	-92
EDAH12	4.02	2.758	2y-EDAH12	-92
EDAM12	4.23	2.968	2y-EDAM12	-92

Price = Outright Decimal Price - Euro Contract Price

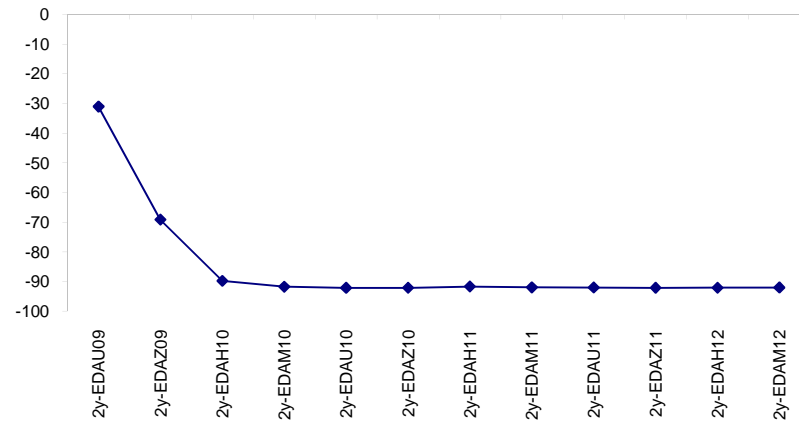
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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

ZT Yield - ED Yield



Correlation



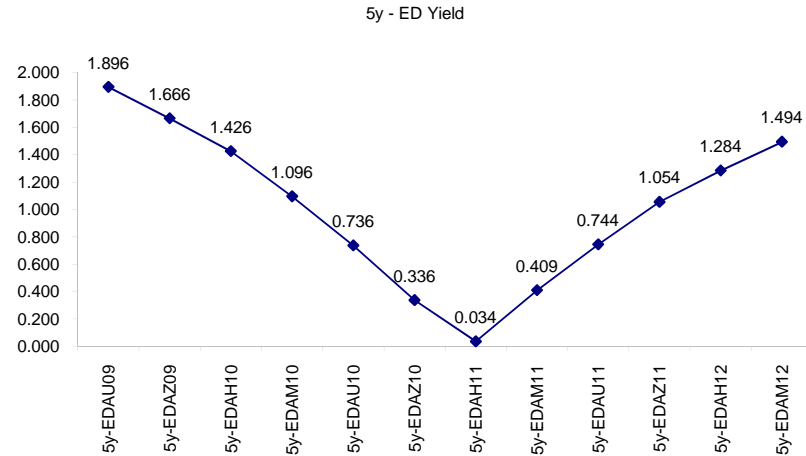
ED Duration as

	Fraction of year	2Y Duration	Spread Duration	
EDAU09	0.1610	1.9197	1.7587	2y-EDAU09
EDAZ09	0.4103	1.9197	1.5094	2y-EDAZ09
EDAH10	0.6596	1.9197	1.2601	2y-EDAH10
EDAM10	0.9090	1.9197	1.0108	2y-EDAM10
EDAU10	1.1583	1.9197	0.7615	2y-EDAU10
EDAZ10	1.4076	1.9197	0.5121	2y-EDAZ10
EDAH11	1.6569	1.9197	0.2628	2y-EDAH11
EDAM11	1.9062	1.9197	0.0135	2y-EDAM11
EDAU11	2.1747	1.9197	-0.2550	2y-EDAU11
EDAZ11	2.4240	1.9197	-0.5043	2y-EDAZ11
EDAH12	2.6733	1.9197	-0.7536	2y-EDAH12
EDAM12	2.9226	1.9197	-1.0029	2y-EDAM12

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

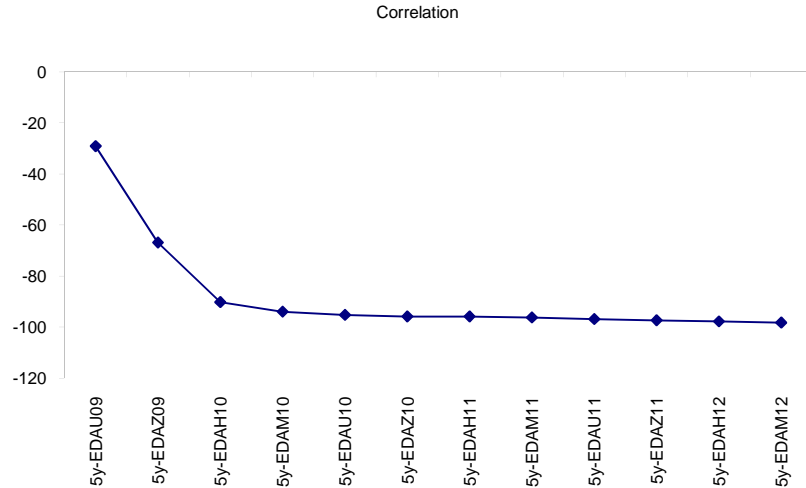
5y				Correlation* (percent)
Spread Price	Spread Yield	Spread Name		
EDAU09	1.41	1.896	5y-EDAU09	-29
EDAZ09	1.64	1.666	5y-EDAZ09	-67
EDAH10	1.88	1.426	5y-EDAH10	-90
EDAM10	2.21	1.096	5y-EDAM10	-94
EDAU10	2.57	0.736	5y-EDAU10	-95
EDAZ10	2.97	0.336	5y-EDAZ10	-96
EDAH11	3.34	0.034	5y-EDAH11	-96
EDAM11	3.71	0.409	5y-EDAM11	-96
EDAU11	4.05	0.744	5y-EDAU11	-97
EDAZ11	4.36	1.054	5y-EDAZ11	-97
EDAH12	4.59	1.284	5y-EDAH12	-98
EDAM12	4.80	1.494	5y-EDAM12	-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		Spread Duration	
	Fraction of year	5Y Duration		
EDAU09	0.1610	4.6109	4.4499	5y-EDAU09
EDAZ09	0.4103	4.6109	4.2006	5y-EDAZ09
EDAH10	0.6596	4.6109	3.9513	5y-EDAH10
EDAM10	0.9090	4.6109	3.7020	5y-EDAM10
EDAU10	1.1583	4.6109	3.4527	5y-EDAU10
EDAZ10	1.4076	4.6109	3.2033	5y-EDAZ10
EDAH11	1.6569	4.6109	2.9540	5y-EDAH11
EDAM11	1.9062	4.6109	2.7047	5y-EDAM11
EDAU11	2.1747	4.6109	2.4362	5y-EDAU11
EDAZ11	2.4240	4.6109	2.1869	5y-EDAZ11
EDAH12	2.6733	4.6109	1.9376	5y-EDAH12
EDAM12	2.9226	4.6109	1.6883	5y-EDAM12

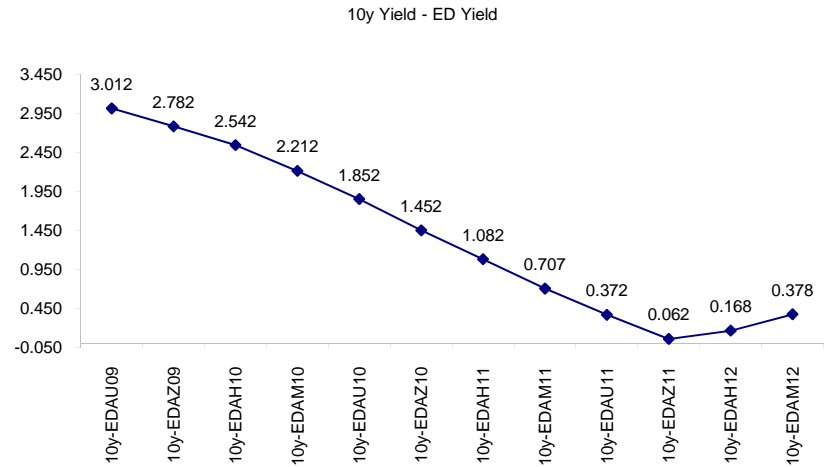
The farther away from 0 the spread duration is the riskier the trade.





	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU09	1.41	3.012	10y-EDAU09	-32
EDAZ09	1.64	2.782	10y-EDAZ09	-68
EDAH10	1.88	2.542	10y-EDAH10	-90
EDAM10	2.21	2.212	10y-EDAM10	-93
EDAU10	2.57	1.852	10y-EDAU10	-94
EDAZ10	2.97	1.452	10y-EDAZ10	-95
EDAH11	3.34	1.082	10y-EDAH11	-95
EDAM11	3.71	0.707	10y-EDAM11	-95
EDAU11	4.05	0.372	10y-EDAU11	-96
EDAZ11	4.36	0.062	10y-EDAZ11	-97
EDAH12	4.59	0.168	10y-EDAH12	-97
EDAM12	4.80	0.378	10y-EDAM12	-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		
EDAU09	0.1610	8.3079	8.1469	10y-EDAU09
EDAZ09	0.4103	8.3079	7.8976	10y-EDAZ09
EDAH10	0.6596	8.3079	7.6483	10y-EDAH10
EDAM10	0.9090	8.3079	7.3990	10y-EDAM10
EDAU10	1.1583	8.3079	7.1496	10y-EDAU10
EDAZ10	1.4076	8.3079	6.9003	10y-EDAZ10
EDAH11	1.6569	8.3079	6.6510	10y-EDAH11
EDAM11	1.9062	8.3079	6.4017	10y-EDAM11
EDAU11	2.1747	8.3079	6.1332	10y-EDAU11
EDAZ11	2.4240	8.3079	5.8839	10y-EDAZ11
EDAH12	2.6733	8.3079	5.6346	10y-EDAH12
EDAM12	2.9226	8.3079	5.3853	10y-EDAM12

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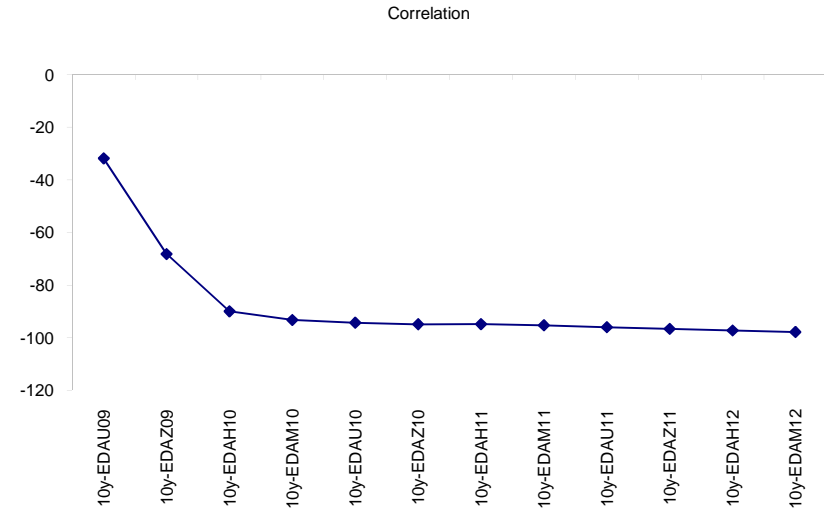


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.

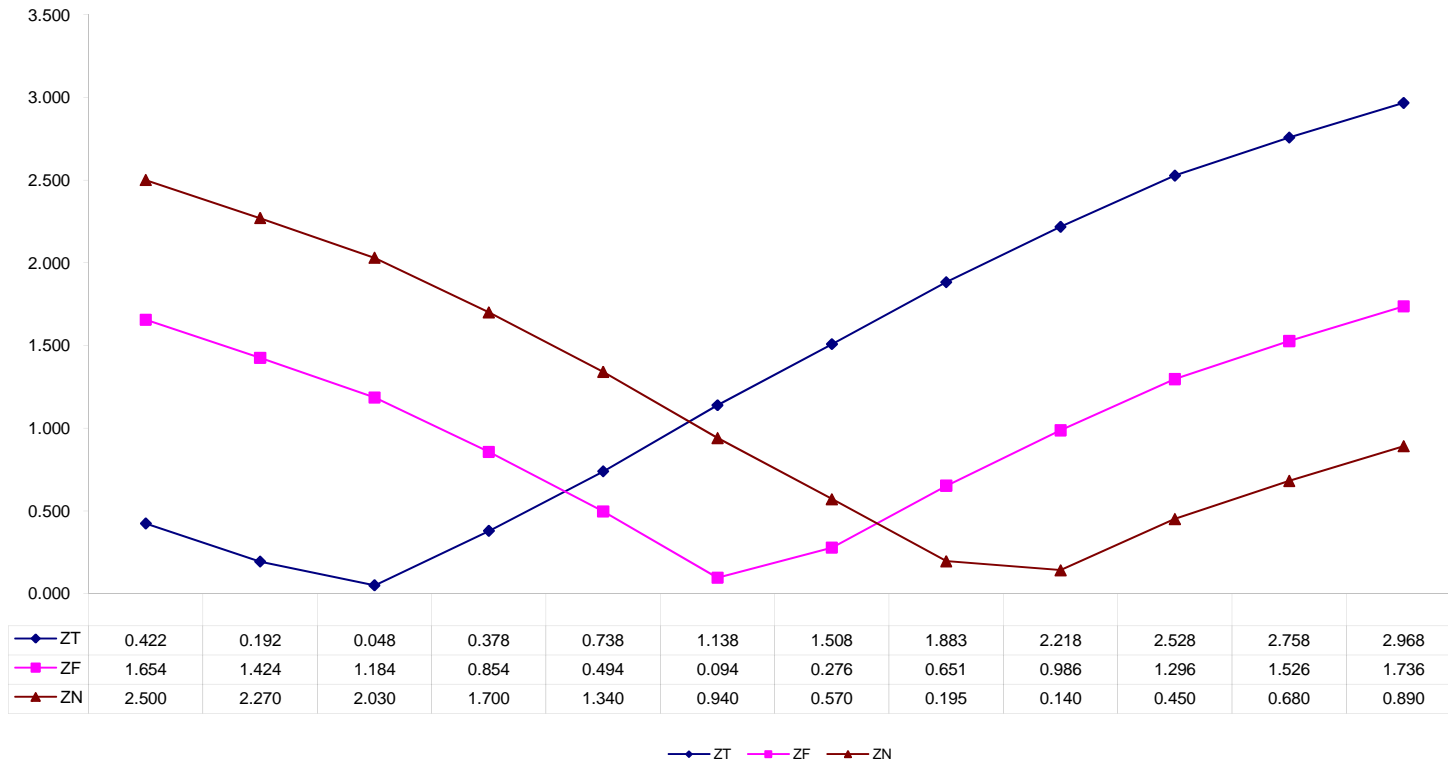
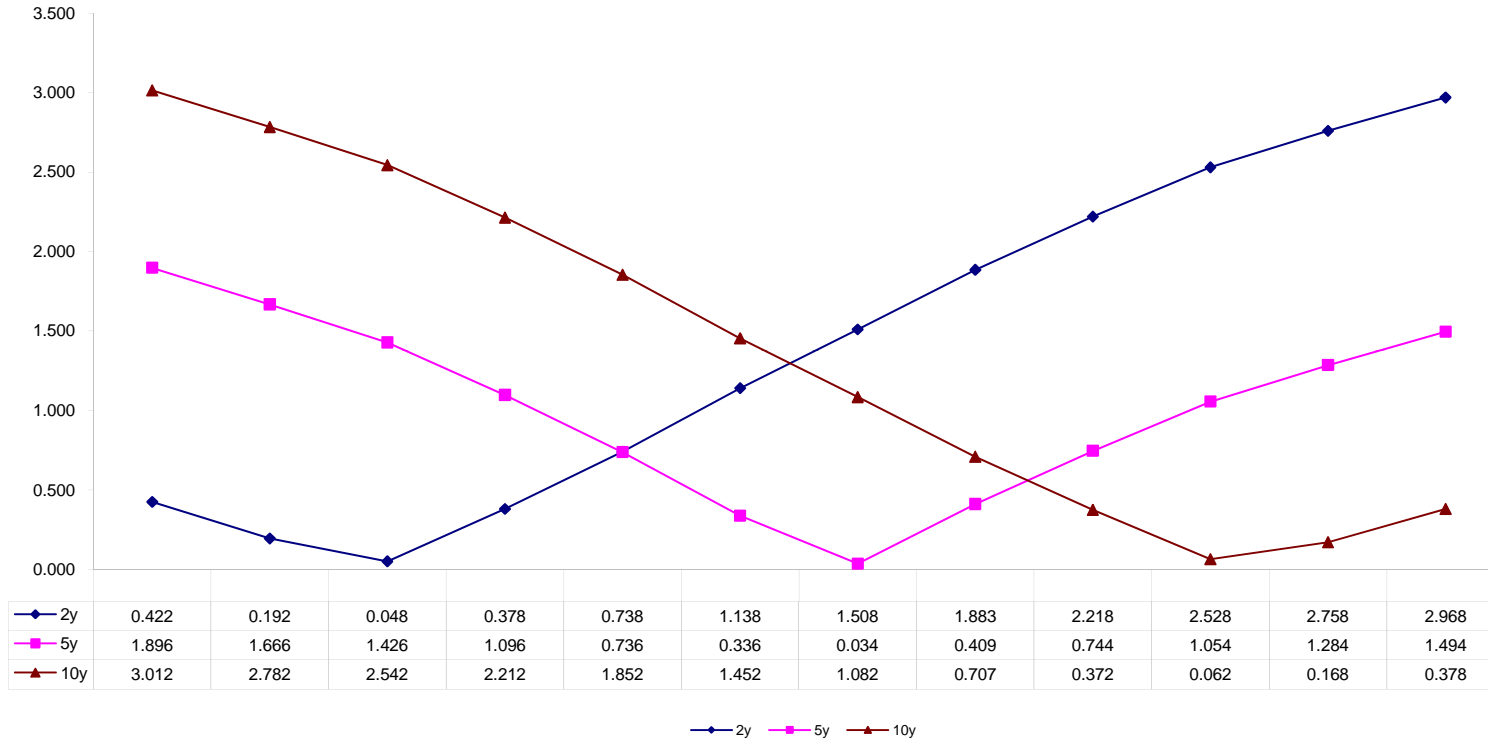
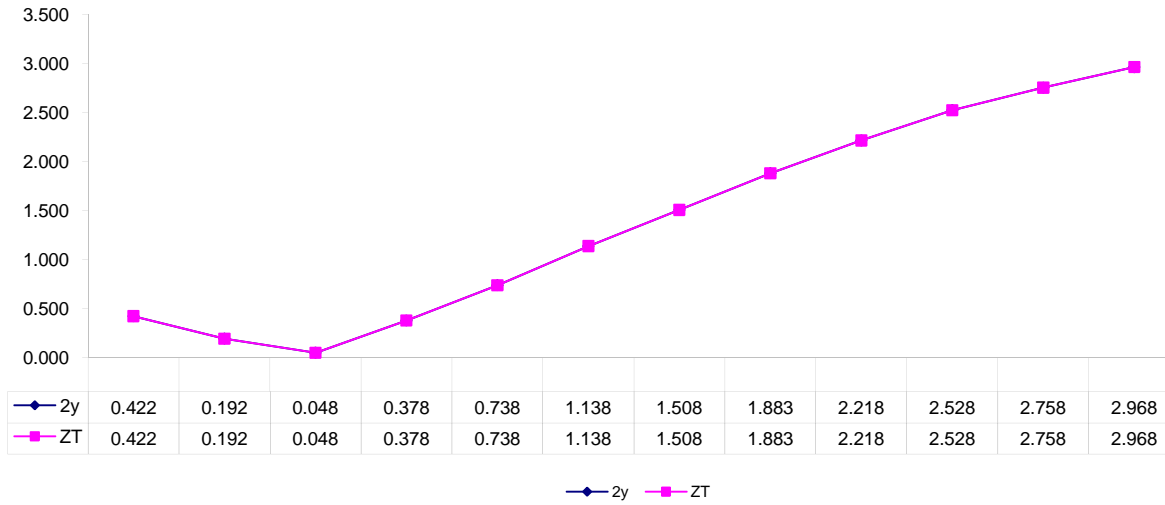
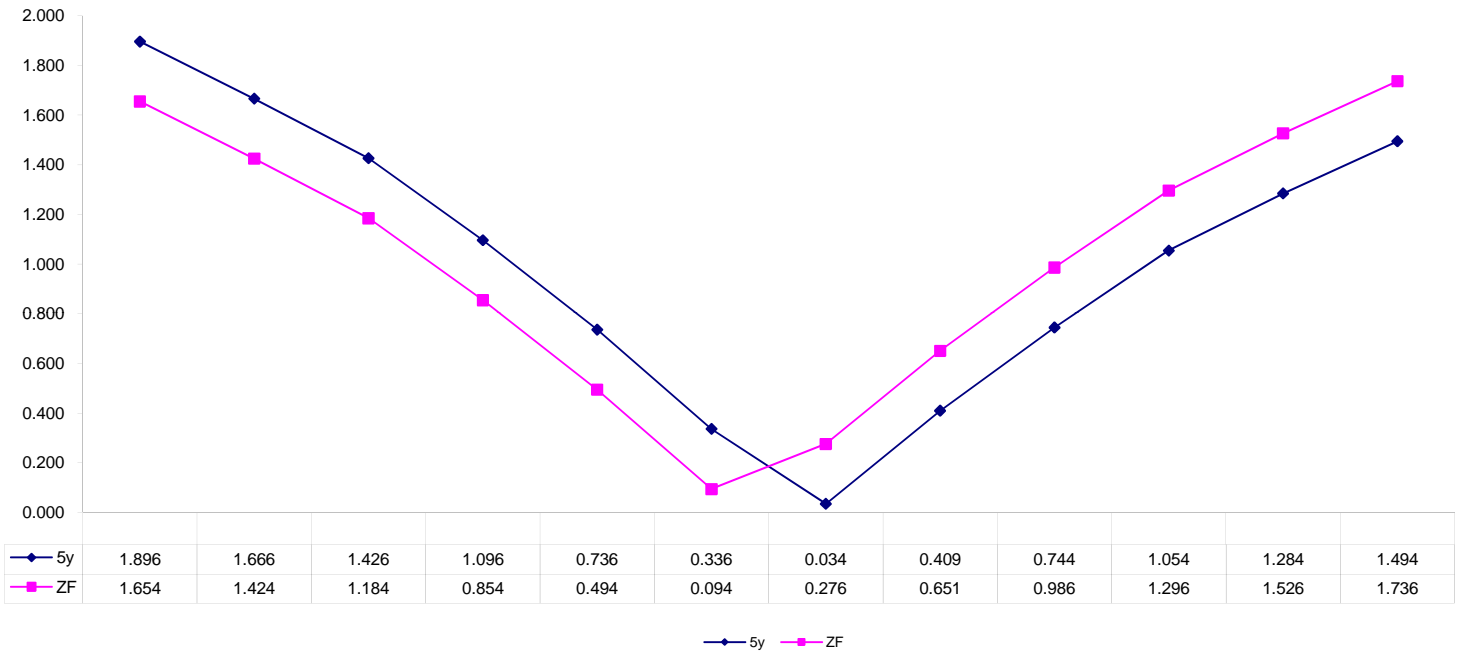


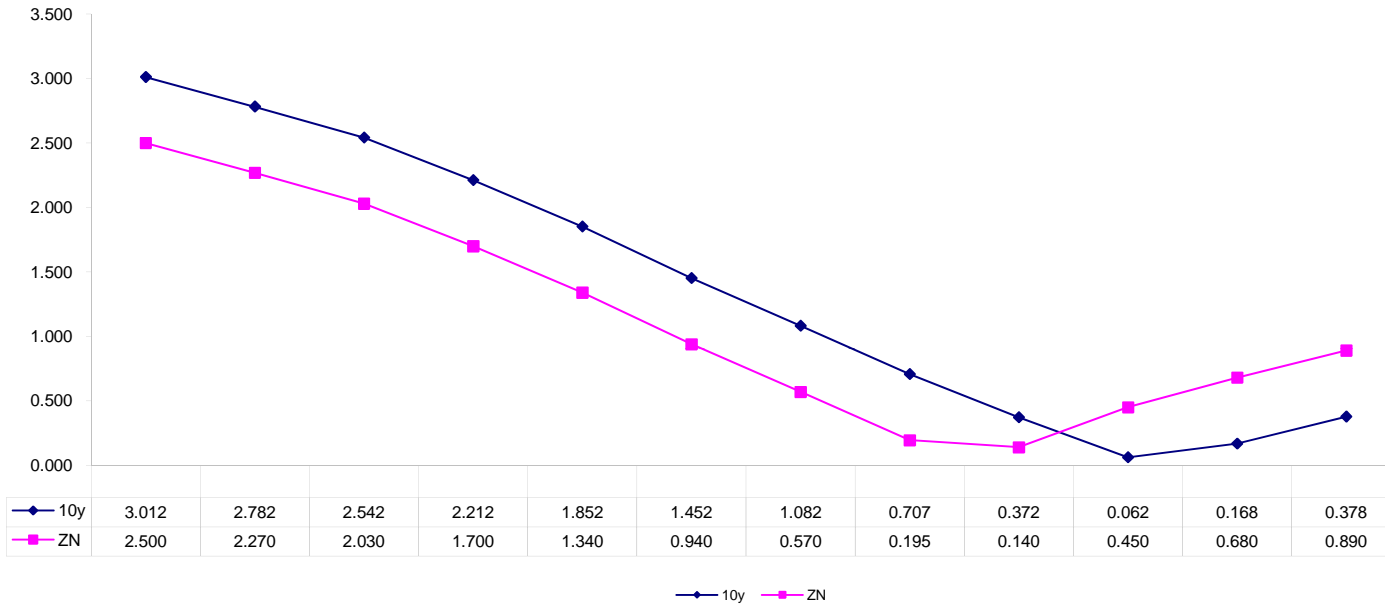
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart. Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y Basis TED Curve







	Last Yield	Net Last Yield	Last Price
White Pack	0.930	1.500	9908.5000
Red Pack	2.324	-0.125	9772.1250
Green Pack	3.663	-0.500	9642.0000
Blue Pack	4.386	0.125	9572.0000
Gold Pack	4.817	1.000	9530.5000

