The Morning Email: TERM TEDS & Dirty TEDS

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Want something added? Let me know: jgoulding@ghco.com

Treasury Futures and Cash

	Last Decimal	Last 32	Last Yield*	MDuration
ZT	108.4219	108.1350	0.992	1.933
ZF	116.7813	116.2500	1.814	1.814
ZN	121.7344	121.2350	2.386	6.006
2y	99.7656	99.2450	0.992	1.942
5y	99.7813	99.2500	1.921	4.715
10y	98.8750	98.2800	2.879	8.607

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.6600	1.340	4	0.0103	MAR	White Pack
EDAM09	98.5850	1.415	95	0.2596	JUN	
EDAU09	98.5400	1.460	186	0.5089	SEP	
EDAZ09	98.4000	1.600	277	0.7582	DEC	
EDAH10	98.3400	1.660	368	1.0075	MAR	Red Pack
EDAM10	98.1950	1.805	459	1.2569	JUN	
EDAU10	98.0350	1.965	550	1.5062	SEP	
EDAZ10	97.8250	2.175	641	1.7555	DEC	
EDAH11	97.6500	2.350	732	2.0048	MAR	Green Pack
EDAM11	97.4350	2.565	823	2.2541	JUN	
EDAU11	97.2400	2.760	921	2.5226	SEP	
EDAZ11	97.0300	2.970	1,012	2.7719	DEC	
EDAH12	96.9200	3.080	1,103	3.0212	MAR	Blue Pack
EDAM12	96.8050	3.195	1,194	3.2706	JUN	
EDAU12	96.7100	3.290	1,285	3.5199	SEP	
EDAZ12	96.6050	3.395	1,376	3.7692	DEC	
EDAH13	96.5500	3.450	1,467	4.0185	MAR	Gold Pack
EDAM13	96.4700	3.530	1,558	4.2678	JUN	
EDZU13	96.3900	3.610	1,649	4.5171	SEP	
EDZZ13	96.3000	3.700	1,740	4.7665	DEC	

Pack Prices

	Last Yield	Net Yield	Last Price
White Pack	1.479	1.687	9854.63
Red Pack	1.937	4.500	9809.88
Green Pack	2.716	5.375	9733.88
Blue Pack	3.312	6.125	9676.00
Gold Pack	3.655	5.750	9642.75

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

Correlations (Important)

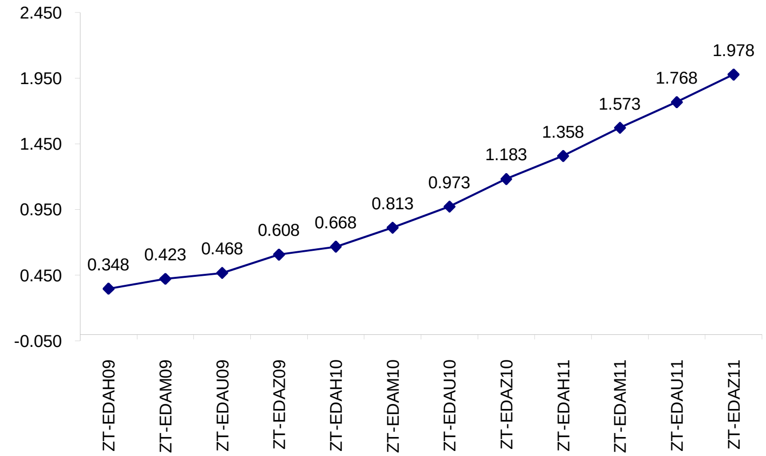
Correlations for the US Cash Treasuries are done on a YIELD basis.
Therefore, you'll see negative values. The reason for this is due to
the new issues. Every new issue takes too long to 'catch up' because
the correlation formula looks back 10days. So, it's much easier
to formulate the correlations based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

Dirty TED: ZT vs Eurodollar Contracts

	ZT			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAH09	9.76	0.348	ZT-EDAH09	10
EDAM09	9.84	0.423	ZT-EDAM09	22
EDAU09	9.88	0.468	ZT-EDAU09	38
EDAZ09	10.02	0.608	ZT-EDAZ09	52
EDAH10	10.08	0.668	ZT-EDAH10	69
EDAM10	10.23	0.813	ZT-EDAM10	74
EDAU10	10.39	0.973	ZT-EDAU10	66
EDAZ10	10.60	1.183	ZT-EDAZ10	55
EDAH11	10.77	1.358	ZT-EDAH11	51
EDAM11	10.99	1.573	ZT-EDAM11	50
EDAU11	11.18	1.768	ZT-EDAU11	49
EDAZ11	11.39	1.978	ZT-EDAZ11	50

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS (Proxy Yield - Implied Euro Contract yield)
*Correlation = ED Correlation to Treasury Future over 10 days

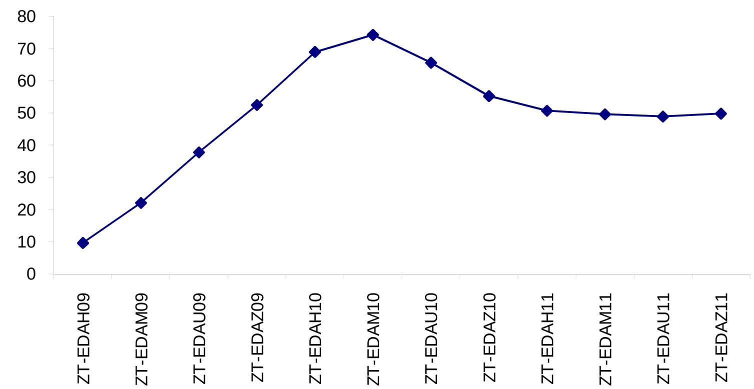
ZT Yield - ED Yield



	ED Duration as Fraction of year	**ZT Duration**	**Spread Duration**	
EDAH09	0.0103	1.9328	1.9225	ZT-EDAH09
EDAM09	0.2596	1.9328	1.6732	ZT-EDAM09
EDAU09	0.5089	1.9328	1.4239	ZT-EDAU09
EDAZ09	0.7582	1.9328	1.1746	ZT-EDAZ09
EDAH10	1.0075	1.9328	0.9253	ZT-EDAH10
EDAM10	1.2569	1.9328	0.6760	ZT-EDAM10
EDAU10	1.5062	1.9328	0.4267	ZT-EDAU10
EDAZ10	1.7555	1.9328	0.1773	ZT-EDAZ10
EDAH11	2.0048	1.9328	-0.0720	ZT-EDAH11
EDAM11	2.2541	1.9328	-0.3213	ZT-EDAM11
EDAU11	2.5226	1.9328	-0.5898	ZT-EDAU11
EDAZ11	2.7719	1.9328	-0.8391	ZT-EDAZ11

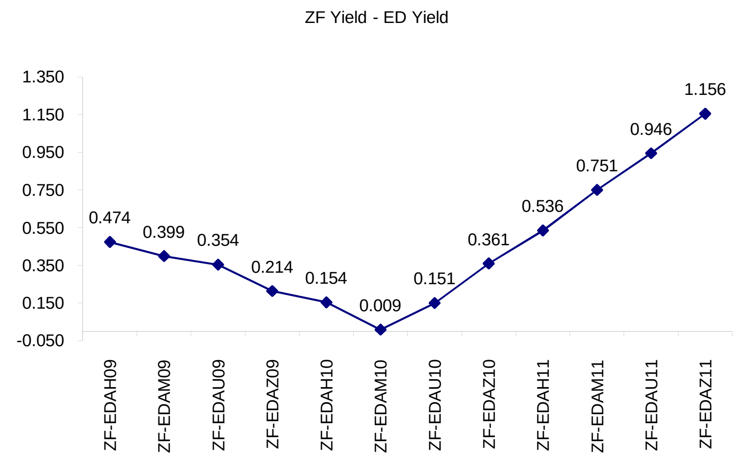
The farther away from 0 the spread duration is the riskier the trade.

Correlation



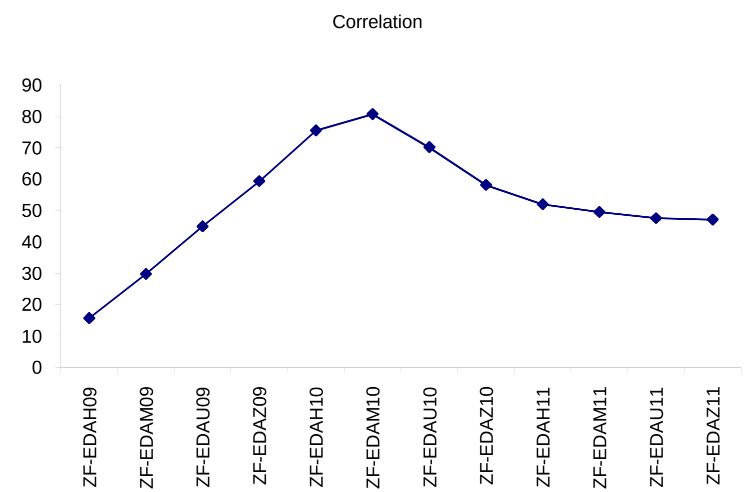
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	18.12	0.474	ZF-EDAH09	16
EDAM09	18.20	0.399	ZF-EDAM09	30
EDAU09	18.24	0.354	ZF-EDAU09	45
EDAZ09	18.38	0.214	ZF-EDAZ09	59
EDAH10	18.44	0.154	ZF-EDAH10	75
EDAM10	18.59	0.009	ZF-EDAM10	81
EDAU10	18.75	0.151	ZF-EDAU10	70
EDAZ10	18.96	0.361	ZF-EDAZ10	58
EDAH11	19.13	0.536	ZF-EDAH11	52
EDAM11	19.35	0.751	ZF-EDAM11	50
EDAU11	19.54	0.946	ZF-EDAU11	48
EDAZ11	19.75	1.156	ZF-EDAZ11	47

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	
EDAH09	0.0103	1.8144	1.8041	ZF-EDAH09
EDAM09	0.2596	1.8144	1.5548	ZF-EDAM09
EDAU09	0.5089	1.8144	1.3055	ZF-EDAU09
EDAZ09	0.7582	1.8144	1.0562	ZF-EDAZ09
EDAH10	1.0075	1.8144	0.8069	ZF-EDAH10
EDAM10	1.2569	1.8144	0.5575	ZF-EDAM10
EDAU10	1.5062	1.8144	0.3082	ZF-EDAU10
EDAZ10	1.7555	1.8144	0.0589	ZF-EDAZ10
EDAH11	2.0048	1.8144	-0.1904	ZF-EDAH11
EDAM11	2.2541	1.8144	-0.4397	ZF-EDAM11
EDAU11	2.5226	1.8144	-0.7082	ZF-EDAU11
EDAZ11	2.7719	1.8144	-0.9575	ZF-EDAZ11

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



	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	23.07	1.046	ZN-EDAH09	-43
EDAM09	23.15	0.971	ZN-EDAM09	-41
EDAU09	23.19	0.926	ZN-EDAU09	-28
EDAZ09	23.33	0.786	ZN-EDAZ09	-13
EDAH10	23.39	0.726	ZN-EDAH10	15
EDAM10	23.54	0.581	ZN-EDAM10	46
EDAU10	23.70	0.421	ZN-EDAU10	71
EDAZ10	23.91	0.211	ZN-EDAZ10	83
EDAH11	24.08	0.036	ZN-EDAH11	89
EDAM11	24.30	0.179	ZN-EDAM11	92
EDAU11	24.49	0.374	ZN-EDAU11	95
EDAZ11	24.70	0.584	ZN-EDAZ11	96

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS (Proxy Yield - Implied Euro Contract yield)
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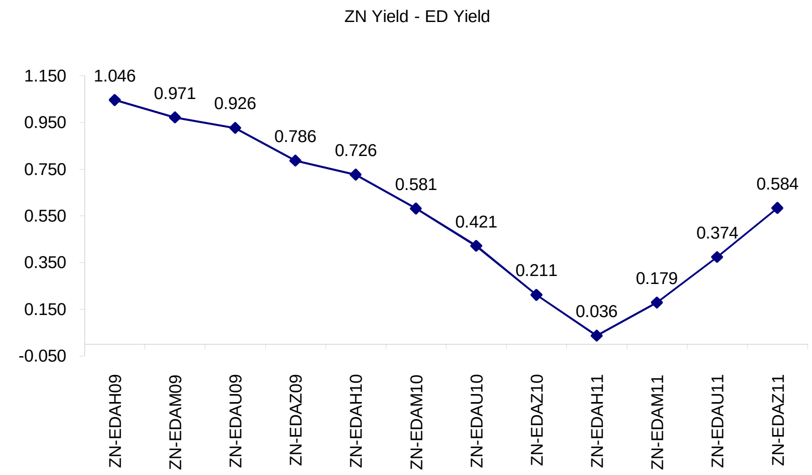
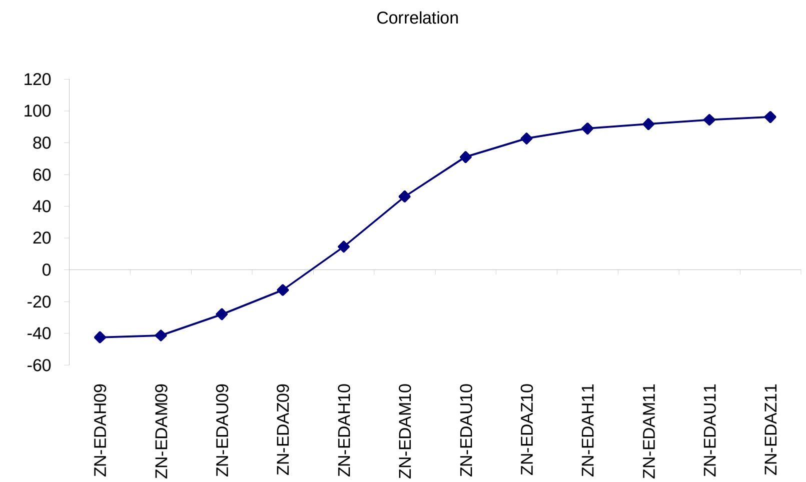


	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAH09	0.0103	6.0063	5.9960	ZN-EDAH09
EDAM09	0.2596	6.0063	5.7466	ZN-EDAM09
EDAU09	0.5089	6.0063	5.4973	ZN-EDAU09
EDAZ09	0.7582	6.0063	5.2480	ZN-EDAZ09
EDAH10	1.0075	6.0063	4.9987	ZN-EDAH10
EDAM10	1.2569	6.0063	4.7494	ZN-EDAM10
EDAU10	1.5062	6.0063	4.5001	ZN-EDAU10
EDAZ10	1.7555	6.0063	4.2508	ZN-EDAZ10
EDAH11	2.0048	6.0063	4.0014	ZN-EDAH11
EDAM11	2.2541	6.0063	3.7521	ZN-EDAM11
EDAU11	2.5226	6.0063	3.4836	ZN-EDAU11
EDAZ11	2.7719	6.0063	3.2343	ZN-EDAZ11

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



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.11	0.348	2y-EDAH09	-48
EDAM09	1.18	0.423	2y-EDAM09	-65
EDAU09	1.23	0.468	2y-EDAU09	-77
EDAZ09	1.37	0.608	2y-EDAZ09	-85
EDAH10	1.43	0.668	2y-EDAH10	-89
EDAM10	1.57	0.813	2y-EDAM10	-77
EDAU10	1.73	0.973	2y-EDAU10	-50
EDAZ10	1.94	1.183	2y-EDAZ10	-27
EDAH11	2.12	1.358	2y-EDAH11	-15
EDAM11	2.33	1.573	2y-EDAM11	-10
EDAU11	2.53	1.768	2y-EDAU11	-5
EDAZ11	2.74	1.978	2y-EDAZ11	-2

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS (Proxy Yield - Implied Euro Contract yield)
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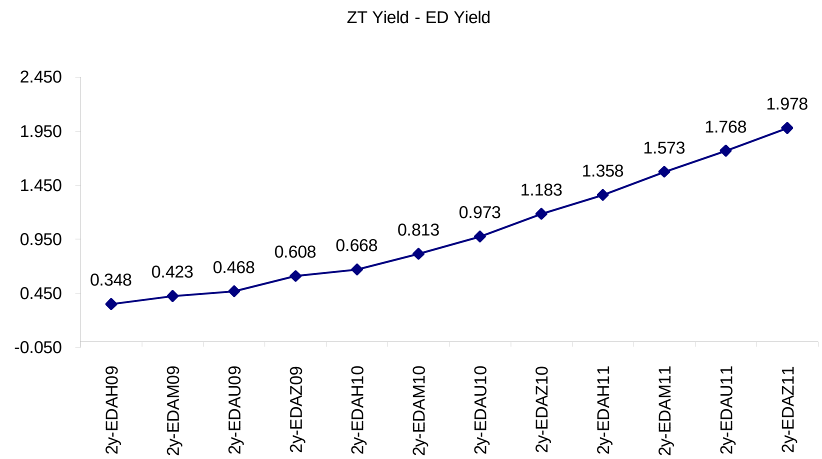
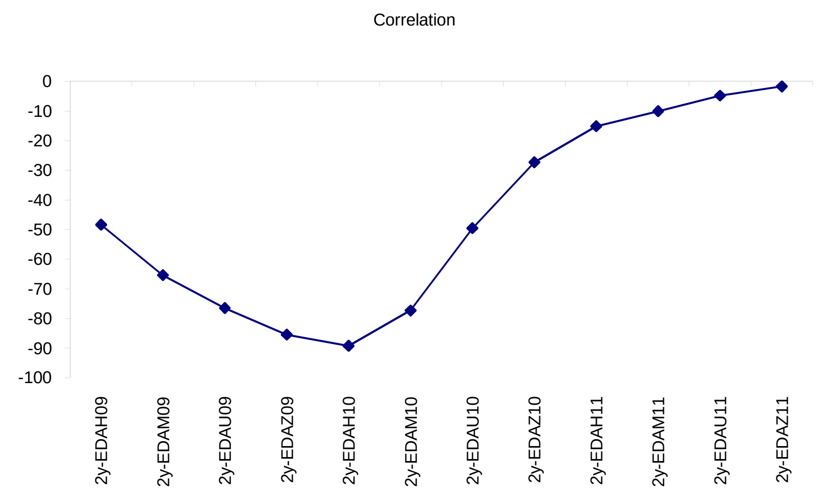


	ED Duration as Fraction of year	2Y Duration	Spread Duration	
EDAH09	0.0103	1.9420	1.9317	2y-EDAH09
EDAM09	0.2596	1.9420	1.6824	2y-EDAM09
EDAU09	0.5089	1.9420	1.4331	2y-EDAU09
EDAZ09	0.7582	1.9420	1.1838	2y-EDAZ09
EDAH10	1.0075	1.9420	0.9344	2y-EDAH10
EDAM10	1.2569	1.9420	0.6851	2y-EDAM10
EDAU10	1.5062	1.9420	0.4358	2y-EDAU10
EDAZ10	1.7555	1.9420	0.1865	2y-EDAZ10
EDAH11	2.0048	1.9420	-0.0628	2y-EDAH11
EDAM11	2.2541	1.9420	-0.3121	2y-EDAM11
EDAU11	2.5226	1.9420	-0.5806	2y-EDAU11
EDAZ11	2.7719	1.9420	-0.8299	2y-EDAZ11

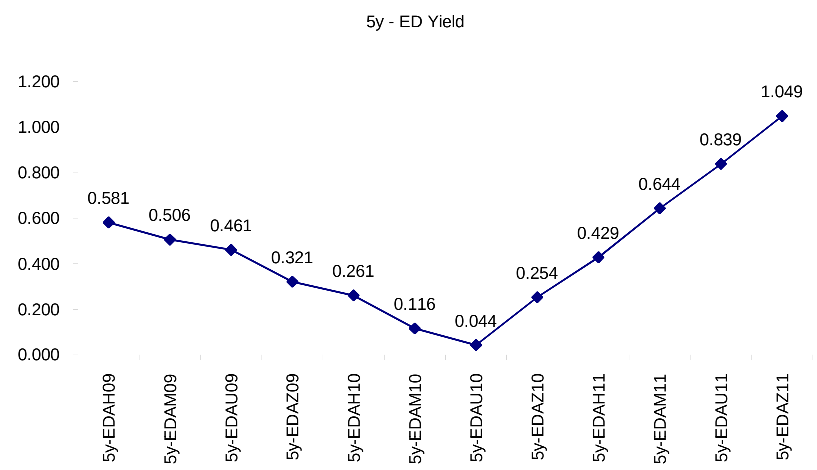
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

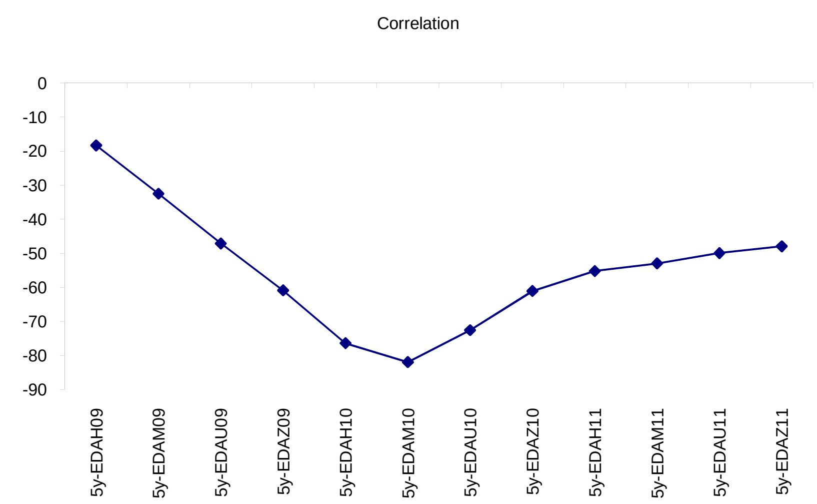
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.12	0.581	5y-EDAH09	-18
EDAM09	1.20	0.506	5y-EDAM09	-32
EDAU09	1.24	0.461	5y-EDAU09	-47
EDAZ09	1.38	0.321	5y-EDAZ09	-61
EDAH10	1.44	0.261	5y-EDAH10	-76
EDAM10	1.59	0.116	5y-EDAM10	-82
EDAU10	1.75	0.044	5y-EDAU10	-73
EDAZ10	1.96	0.254	5y-EDAZ10	-61
EDAH11	2.13	0.429	5y-EDAH11	-55
EDAM11	2.35	0.644	5y-EDAM11	-53
EDAU11	2.54	0.839	5y-EDAU11	-50
EDAZ11	2.75	1.049	5y-EDAZ11	-48

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	
EDAH09	0.0103	4.7152	4.7049	5y-EDAH09
EDAM09	0.2596	4.7152	4.4556	5y-EDAM09
EDAU09	0.5089	4.7152	4.2063	5y-EDAU09
EDAZ09	0.7582	4.7152	3.9570	5y-EDAZ09
EDAH10	1.0075	4.7152	3.7077	5y-EDAH10
EDAM10	1.2569	4.7152	3.4583	5y-EDAM10
EDAU10	1.5062	4.7152	3.2090	5y-EDAU10
EDAZ10	1.7555	4.7152	2.9597	5y-EDAZ10
EDAH11	2.0048	4.7152	2.7104	5y-EDAH11
EDAM11	2.2541	4.7152	2.4611	5y-EDAM11
EDAU11	2.5226	4.7152	2.1926	5y-EDAU11
EDAZ11	2.7719	4.7152	1.9433	5y-EDAZ11

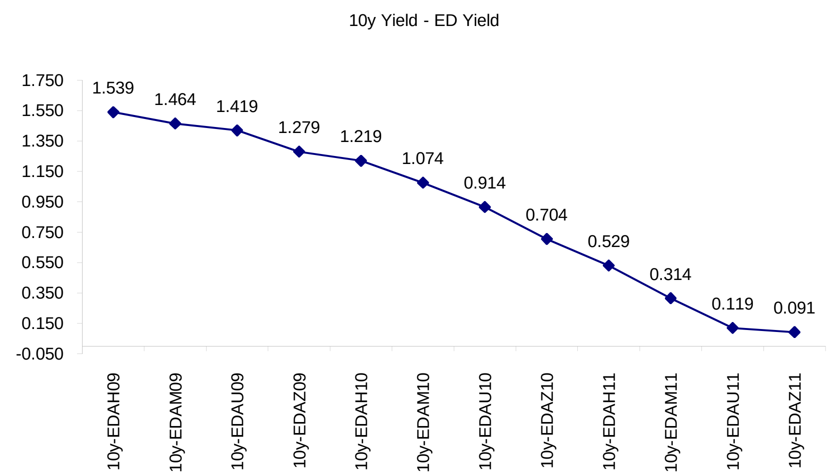
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.12	1.539	10y-EDAH09	10
EDAM09	1.20	1.464	10y-EDAM09	3
EDAU09	1.24	1.419	10y-EDAU09	-12
EDAZ09	1.38	1.279	10y-EDAZ09	-27
EDAH10	1.44	1.219	10y-EDAH10	-50
EDAM10	1.59	1.074	10y-EDAM10	-72
EDAU10	1.75	0.914	10y-EDAU10	-81
EDAZ10	1.96	0.704	10y-EDAZ10	-81
EDAH11	2.13	0.529	10y-EDAH11	-81
EDAM11	2.35	0.314	10y-EDAM11	-82
EDAU11	2.54	0.119	10y-EDAU11	-82
EDAZ11	2.75	0.091	10y-EDAZ11	-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	10Y Duration	Spread Duration	
EDAH09	0.0103	8.6065	8.5962	10y-EDAH09
EDAM09	0.2596	8.6065	8.3469	10y-EDAM09
EDAU09	0.5089	8.6065	8.0976	10y-EDAU09
EDAZ09	0.7582	8.6065	7.8483	10y-EDAZ09
EDAH10	1.0075	8.6065	7.5990	10y-EDAH10
EDAM10	1.2569	8.6065	7.3497	10y-EDAM10
EDAU10	1.5062	8.6065	7.1003	10y-EDAU10
EDAZ10	1.7555	8.6065	6.8510	10y-EDAZ10
EDAH11	2.0048	8.6065	6.6017	10y-EDAH11
EDAM11	2.2541	8.6065	6.3524	10y-EDAM11
EDAU11	2.5226	8.6065	6.0839	10y-EDAU11
EDAZ11	2.7719	8.6065	5.8346	10y-EDAZ11

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

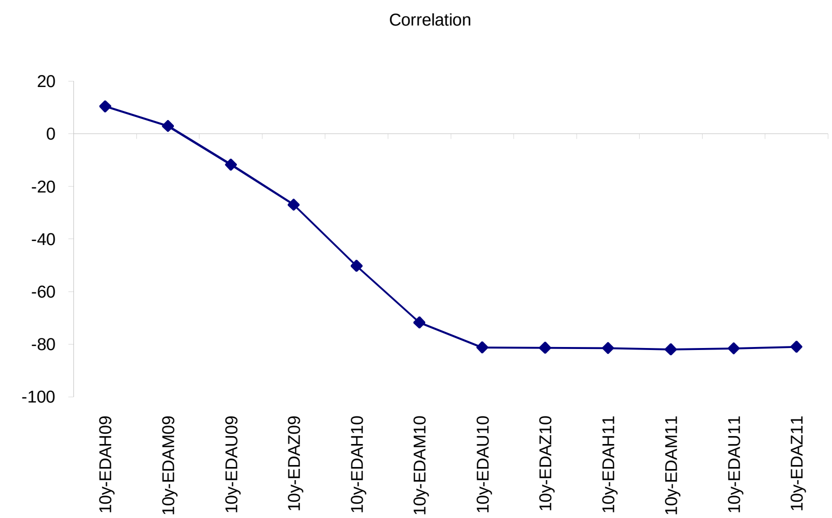
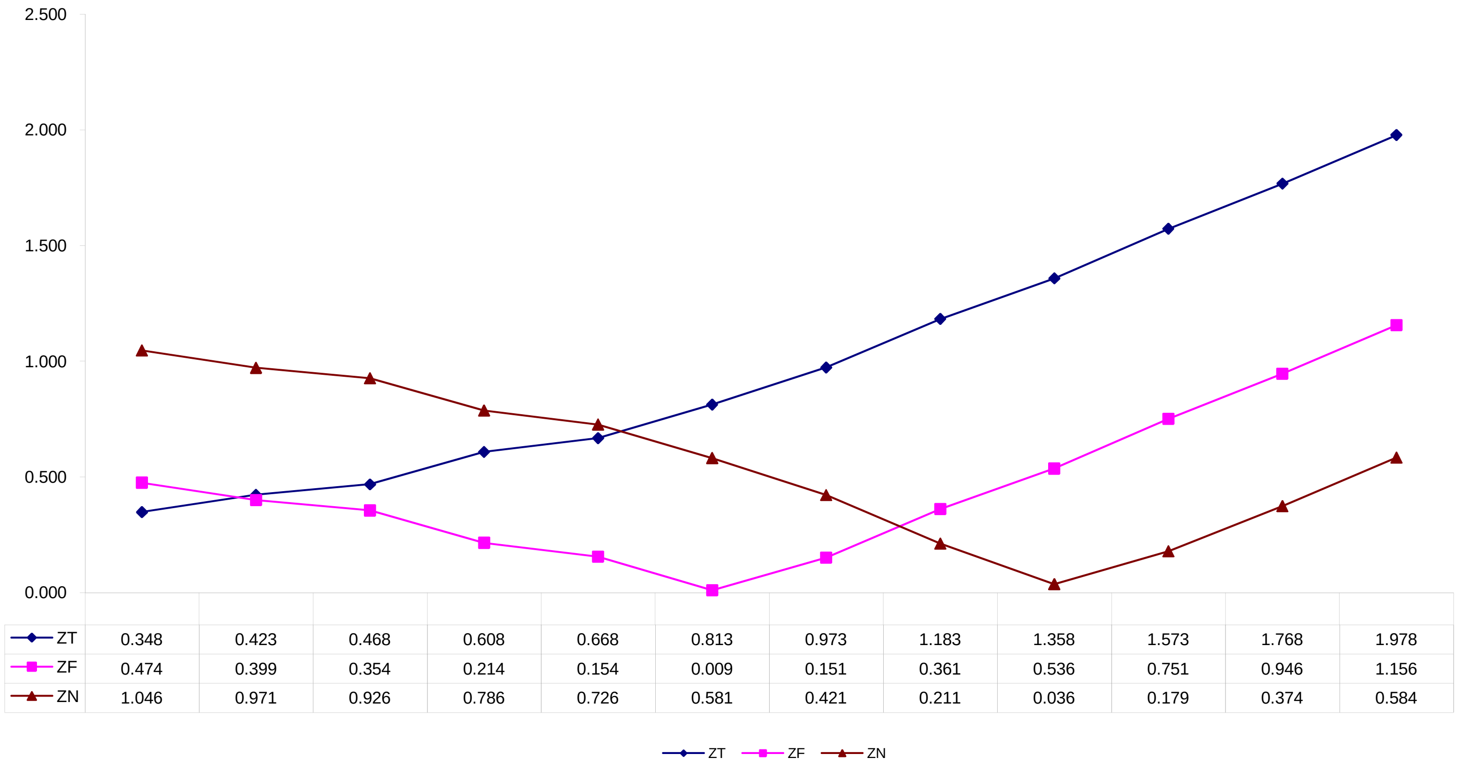
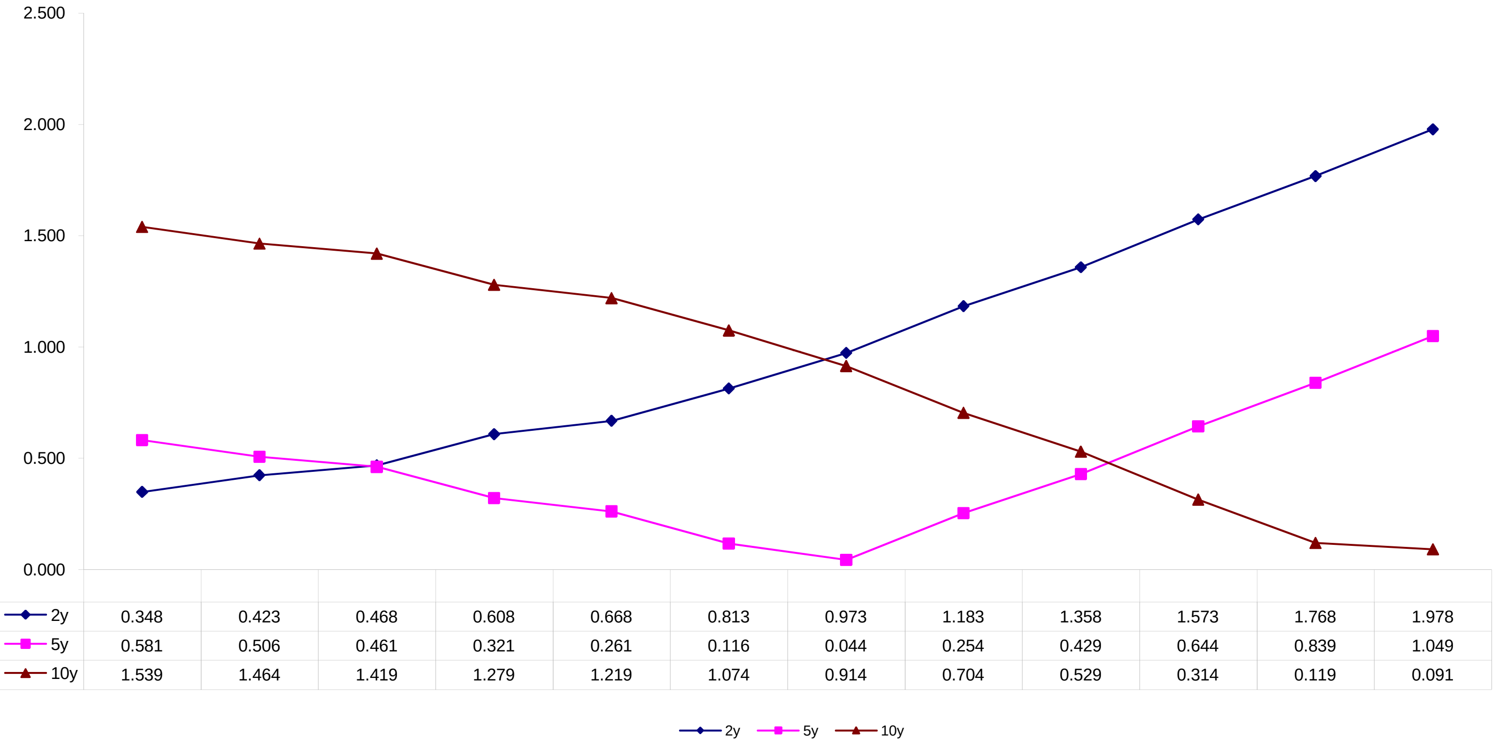


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



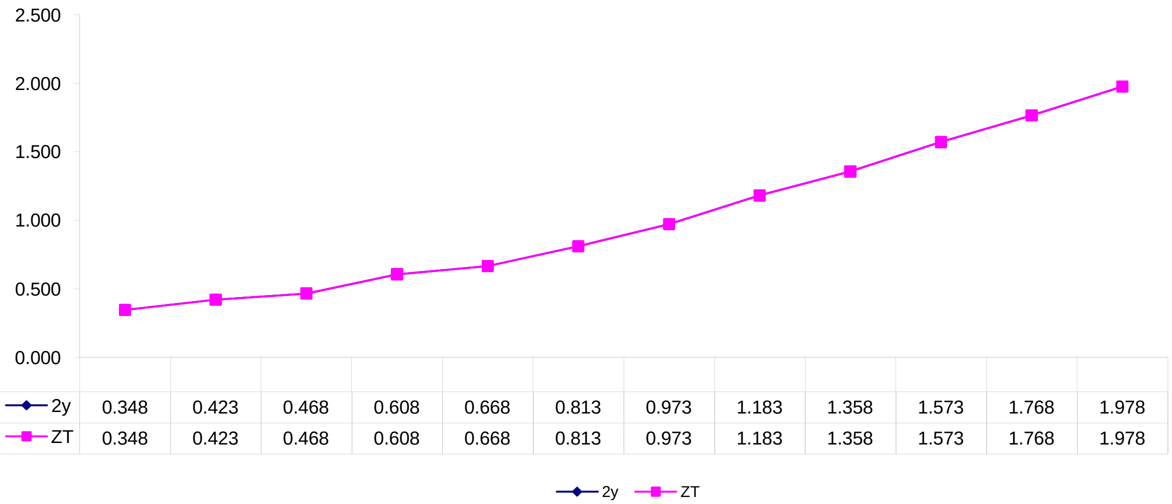
ZT	0.348	0.423	0.468	0.608	0.668	0.813	0.973	1.183	1.358	1.573	1.768	1.978
ZF	0.474	0.399	0.354	0.214	0.154	0.009	0.151	0.361	0.536	0.751	0.946	1.156
ZN	1.046	0.971	0.926	0.786	0.726	0.581	0.421	0.211	0.036	0.179	0.374	0.584

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.

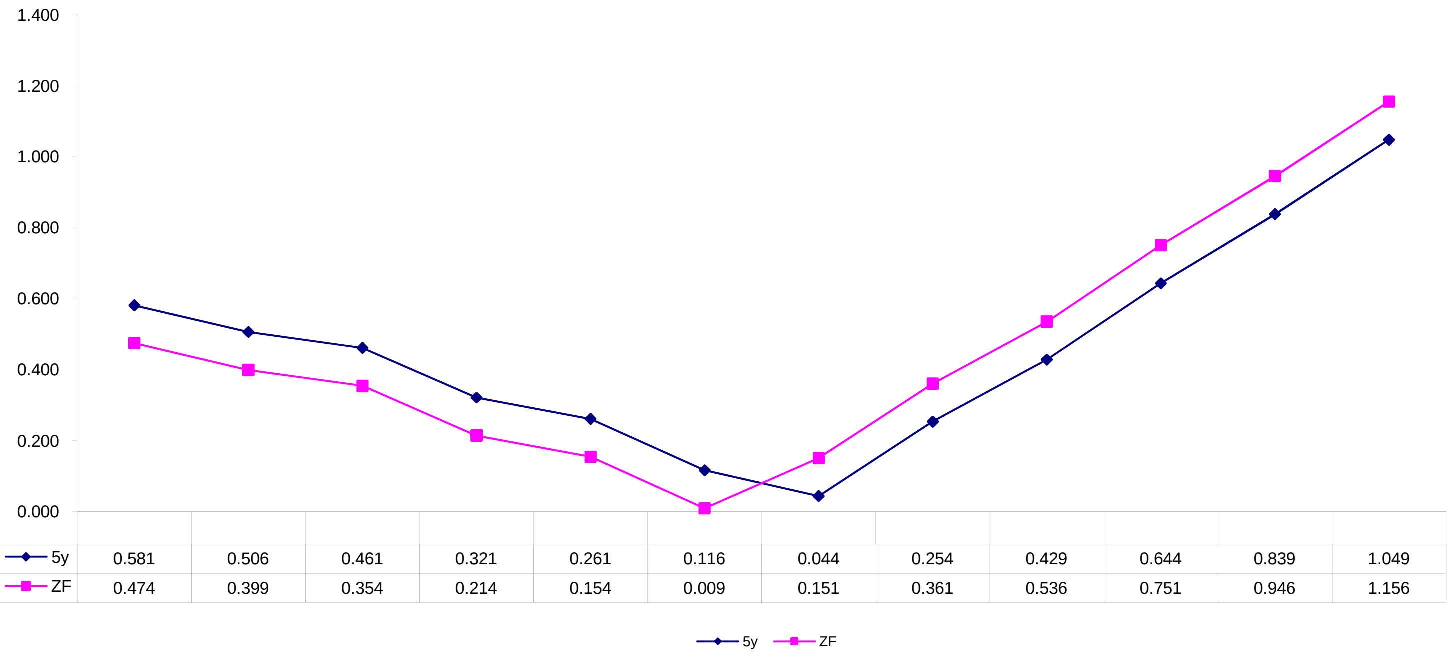


2y	0.348	0.423	0.468	0.608	0.668	0.813	0.973	1.183	1.358	1.573	1.768	1.978
5y	0.581	0.506	0.461	0.321	0.261	0.116	0.044	0.254	0.429	0.644	0.839	1.049
10y	1.539	1.464	1.419	1.279	1.219	1.074	0.914	0.704	0.529	0.314	0.119	0.091

2y Basis TED Curve

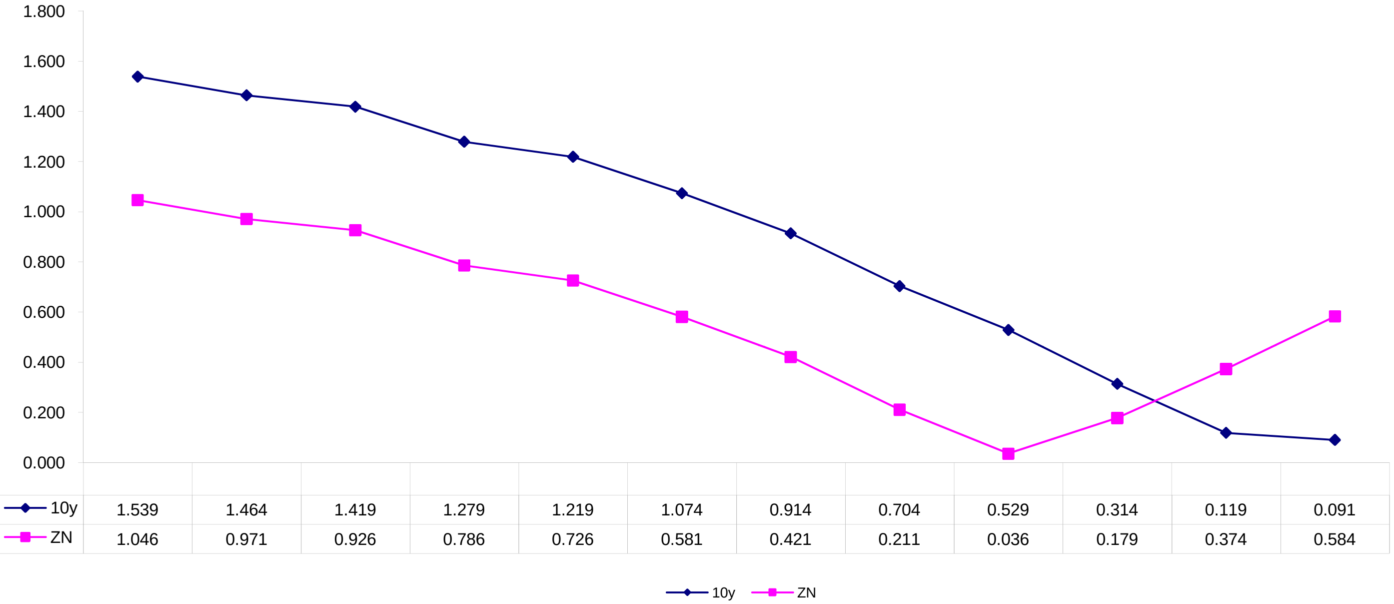


2y	0.348	0.423	0.468	0.608	0.668	0.813	0.973	1.183	1.358	1.573	1.768	1.978
ZT	0.348	0.423	0.468	0.608	0.668	0.813	0.973	1.183	1.358	1.573	1.768	1.978



5y	0.581	0.506	0.461	0.321	0.261	0.116	0.044	0.254	0.429	0.644	0.839	1.049
ZF	0.474	0.399	0.354	0.214	0.154	0.009	0.151	0.361	0.536	0.751	0.946	1.156

10y Basis TED Curve



10y	1.539	1.464	1.419	1.279	1.219	1.074	0.914	0.704	0.529	0.314	0.119	0.091
ZN	1.046	0.971	0.926	0.786	0.726	0.581	0.421	0.211	0.036	0.179	0.374	0.584

	Last Yield	Net Last Yield	Last Price
White Pack	1.4793403	1.6875	9854.625
Red Pack	1.9369566	4.5	9809.875
Green Pack	2.7164201	5.375	9733.875
Blue Pack	3.3118609	6.125	9676
Gold Pack	3.6547485	5.75	9642.75