The Morning Email: TERM TEDS & Dirty TEDS

Table of Contents

Want something added? Let me know: 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 32.00	Last Yield*	MDuration
ZT	108.7875	108.2520	0.789	1.919
ZF	118.5000	118.1600	1.488	1.488
ZN	123.6250	123.2000	2.287	5.966
2y	100.0313	100.0100	0.859	1.970
5y	100.2094	100.0670	1.706	4.761
10y	100.2344	100.0750	2.721	8.566

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	98.8900	1.110	74	0.2021	JUN	White Pack
EDAU09	98.8850	1.115	165	0.4514	SEP	
EDAZ09	98.7100	1.290	256	0.7007	DEC	
EDAH10	98.6500	1.350	347	0.9500	MAR	
EDAM10	98.5000	1.500	438	1.1993	JUN	Red Pack
EDAU10	98.3350	1.665	529	1.4486	SEP	
EDAZ10	98.1300	1.870	620	1.6980	DEC	
EDAH11	97.9650	2.035	711	1.9473	MAR	
EDAM11	97.7550	2.245	802	2.1966	JUN	Green Pack
EDAU11	97.5550	2.445	900	2.4651	SEP	
EDAZ11	97.3400	2.660	991	2.7144	DEC	
EDAH12	97.2050	2.795	1,082	2.9637	MAR	
EDAM12	97.0650	2.935	1,173	3.2130	JUN	Blue Pack
EDAU12	96.9500	3.050	1,264	3.4623	SEP	
EDAZ12	96.8350	3.165	1,355	3.7117	DEC	
EDAH13	96.8000	3.200	1,446	3.9610	MAR	
EDAM13	96.7250	3.275	1,537	4.2103	JUN	Gold Pack
EDAU13	96.6800	3.320	1,628	4.4596	SEP	
EDAZ13	96.5900	3.410	1,719	4.7089	DEC	
EDAH14	96.5650	3.435	1,810	4.9582	MAR	

Pack Prices

	Last Yield	Net Yield	Last Price
White Pack	1.237	-2.125	9878.38
Red Pack	1.800	-5.500	9823.25
Green Pack	2.588	-7.375	9746.38
Blue Pack	3.155	-6.250	9691.25
Gold Pack		-0.750	9663.25

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:

€	1.00	Regression
€	2.00	Engineered
€	3.00	Strip with and without Stubs
€	4.00	Convexity Bias
€	5.00	Weighted
€	6.00	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

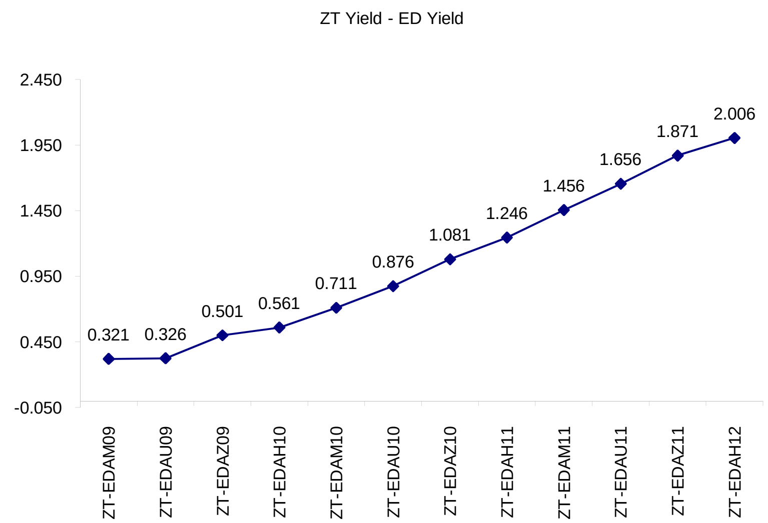
Correlations (Important)

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

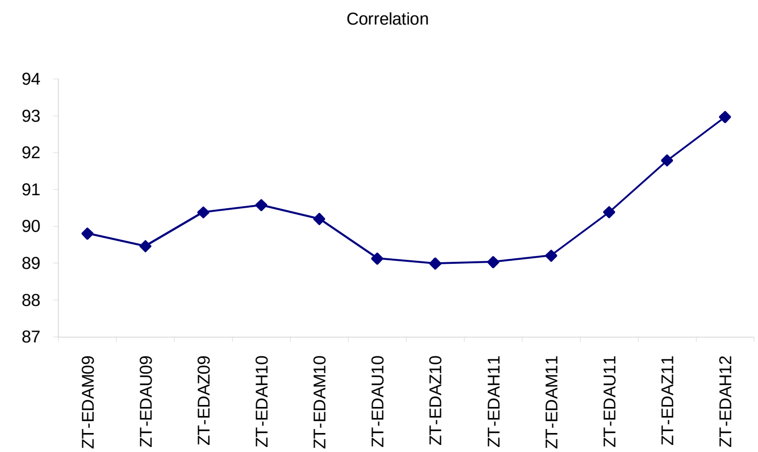
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	9.90	0.321	ZT-EDAM09	90
EDAU09	9.90	0.326	ZT-EDAU09	89
EDAZ09	10.08	0.501	ZT-EDAZ09	90
EDAH10	10.14	0.561	ZT-EDAH10	91
EDAM10	10.29	0.711	ZT-EDAM10	90
EDAU10	10.45	0.876	ZT-EDAU10	89
EDAZ10	10.66	1.081	ZT-EDAZ10	89
EDAH11	10.82	1.246	ZT-EDAH11	89
EDAM11	11.03	1.456	ZT-EDAM11	89
EDAU11	11.23	1.656	ZT-EDAU11	90
EDAZ11	11.45	1.871	ZT-EDAZ11	92
EDAH12	11.58	2.006	ZT-EDAH12	93

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	0.2021	1.9186	1.7165	ZT-EDAM09
EDAU09	0.4514	1.9186	1.4672	ZT-EDAU09
EDAZ09	0.7007	1.9186	1.2179	ZT-EDAZ09
EDAH10	0.9500	1.9186	0.9686	ZT-EDAH10
EDAM10	1.1993	1.9186	0.7193	ZT-EDAM10
EDAU10	1.4486	1.9186	0.4700	ZT-EDAU10
EDAZ10	1.6980	1.9186	0.2206	ZT-EDAZ10
EDAH11	1.9473	1.9186	-0.0287	ZT-EDAH11
EDAM11	2.1966	1.9186	-0.2780	ZT-EDAM11
EDAU11	2.4651	1.9186	-0.5465	ZT-EDAU11
EDAZ11	2.7144	1.9186	-0.7958	ZT-EDAZ11
EDAH12	2.9637	1.9186	-1.0451	ZT-EDAH12

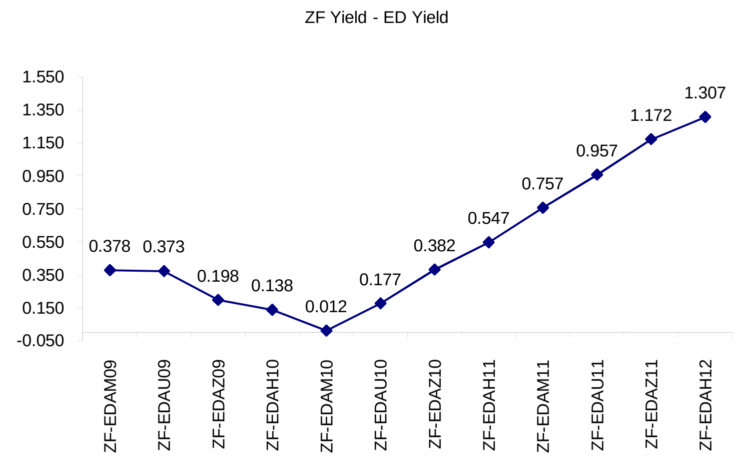
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

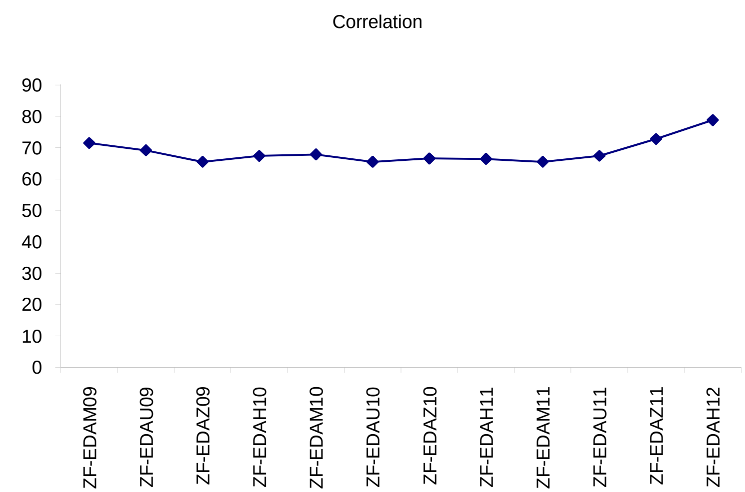
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	19.61	0.378	ZF-EDAM09	72
EDAU09	19.62	0.373	ZF-EDAU09	69
EDAZ09	19.79	0.198	ZF-EDAZ09	66
EDAH10	19.85	0.138	ZF-EDAH10	67
EDAM10	20.00	0.012	ZF-EDAM10	68
EDAU10	20.17	0.177	ZF-EDAU10	66
EDAZ10	20.37	0.382	ZF-EDAZ10	67
EDAH11	20.54	0.547	ZF-EDAH11	66
EDAM11	20.75	0.757	ZF-EDAM11	66
EDAU11	20.95	0.957	ZF-EDAU11	67
EDAZ11	21.16	1.172	ZF-EDAZ11	73
EDAH12	21.30	1.307	ZF-EDAH12	79

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	0.2021	1.4880	1.2859	ZF-EDAM09
EDAU09	0.4514	1.4880	1.0366	ZF-EDAU09
EDAZ09	0.7007	1.4880	0.7873	ZF-EDAZ09
EDAH10	0.9500	1.4880	0.5380	ZF-EDAH10
EDAM10	1.1993	1.4880	0.2887	ZF-EDAM10
EDAU10	1.4486	1.4880	0.0394	ZF-EDAU10
EDAZ10	1.6980	1.4880	-0.2099	ZF-EDAZ10
EDAH11	1.9473	1.4880	-0.4593	ZF-EDAH11
EDAM11	2.1966	1.4880	-0.7086	ZF-EDAM11
EDAU11	2.4651	1.4880	-0.9771	ZF-EDAU11
EDAZ11	2.7144	1.4880	-1.2264	ZF-EDAZ11
EDAH12	2.9637	1.4880	-1.4757	ZF-EDAH12

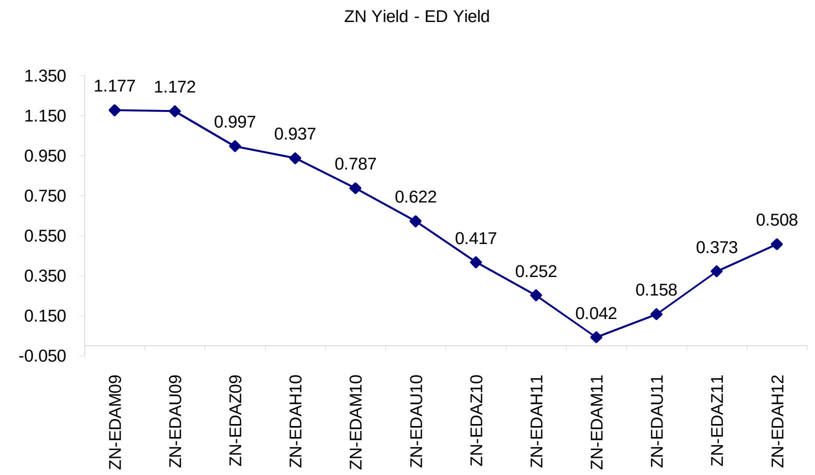
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

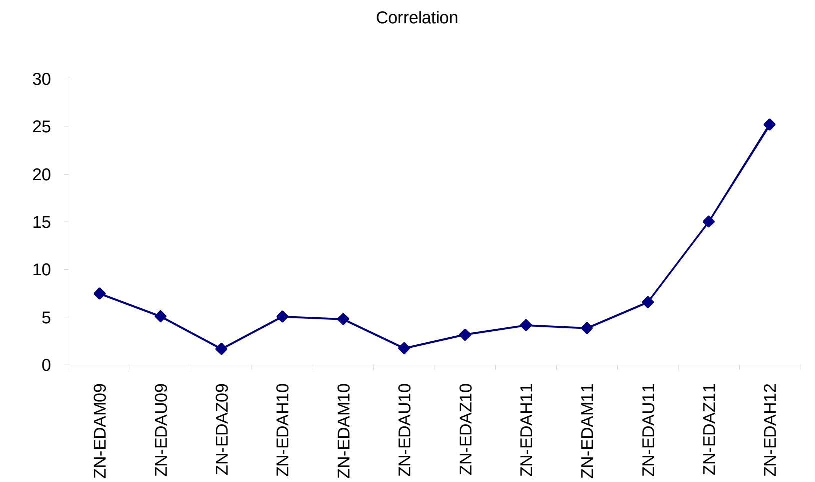
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	24.74	1.177	ZN-EDAM09	7
EDAU09	24.74	1.172	ZN-EDAU09	5
EDAZ09	24.92	0.997	ZN-EDAZ09	2
EDAH10	24.98	0.937	ZN-EDAH10	5
EDAM10	25.13	0.787	ZN-EDAM10	5
EDAU10	25.29	0.622	ZN-EDAU10	2
EDAZ10	25.50	0.417	ZN-EDAZ10	3
EDAH11	25.66	0.252	ZN-EDAH11	4
EDAM11	25.87	0.042	ZN-EDAM11	4
EDAU11	26.07	0.158	ZN-EDAU11	7
EDAZ11	26.29	0.373	ZN-EDAZ11	15
EDAH12	26.42	0.508	ZN-EDAH12	25

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	ZN Duration	Spread Duration	
EDAM09	0.2021	5.9657	5.7636	ZN-EDAM09
EDAU09	0.4514	5.9657	5.5143	ZN-EDAU09
EDAZ09	0.7007	5.9657	5.2650	ZN-EDAZ09
EDAH10	0.9500	5.9657	5.0156	ZN-EDAH10
EDAM10	1.1993	5.9657	4.7663	ZN-EDAM10
EDAU10	1.4486	5.9657	4.5170	ZN-EDAU10
EDAZ10	1.6980	5.9657	4.2677	ZN-EDAZ10
EDAH11	1.9473	5.9657	4.0184	ZN-EDAH11
EDAM11	2.1966	5.9657	3.7691	ZN-EDAM11
EDAU11	2.4651	5.9657	3.5006	ZN-EDAU11
EDAZ11	2.7144	5.9657	3.2513	ZN-EDAZ11
EDAH12	2.9637	5.9657	3.0019	ZN-EDAH12

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

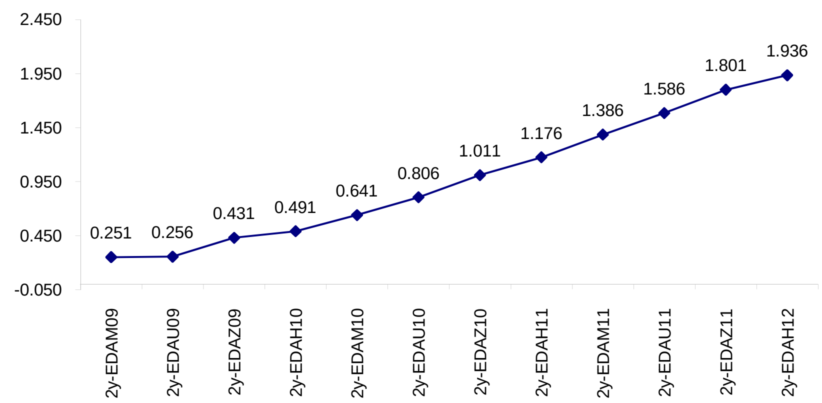


TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.14	0.251	2y-EDAM09	-84
EDAU09	1.15	0.256	2y-EDAU09	-82
EDAZ09	1.32	0.431	2y-EDAZ09	-80
EDAH10	1.38	0.491	2y-EDAH10	-81
EDAM10	1.53	0.641	2y-EDAM10	-82
EDAU10	1.70	0.806	2y-EDAU10	-80
EDAZ10	1.90	1.011	2y-EDAZ10	-81
EDAH11	2.07	1.176	2y-EDAH11	-81
EDAM11	2.28	1.386	2y-EDAM11	-80
EDAU11	2.48	1.586	2y-EDAU11	-82
EDAZ11	2.69	1.801	2y-EDAZ11	-85
EDAH12	2.83	1.936	2y-EDAH12	-89

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

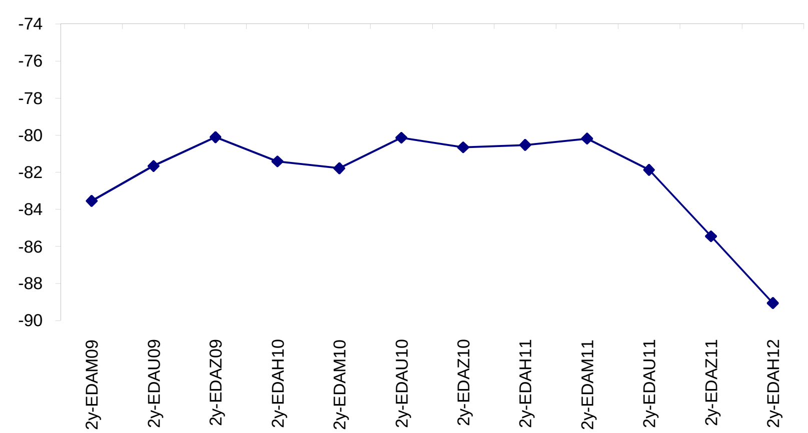
ZT Yield - ED Yield



	ED Duration as Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.2021	1.9703	1.7682	2y-EDAM09
EDAU09	0.4514	1.9703	1.5189	2y-EDAU09
EDAZ09	0.7007	1.9703	1.2696	2y-EDAZ09
EDAH10	0.9500	1.9703	1.0203	2y-EDAH10
EDAM10	1.1993	1.9703	0.7710	2y-EDAM10
EDAU10	1.4486	1.9703	0.5217	2y-EDAU10
EDAZ10	1.6980	1.9703	0.2724	2y-EDAZ10
EDAH11	1.9473	1.9703	0.0230	2y-EDAH11
EDAM11	2.1966	1.9703	-0.2263	2y-EDAM11
EDAU11	2.4651	1.9703	-0.4948	2y-EDAU11
EDAZ11	2.7144	1.9703	-0.7441	2y-EDAZ11
EDAH12	2.9637	1.9703	-0.9934	2y-EDAH12

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

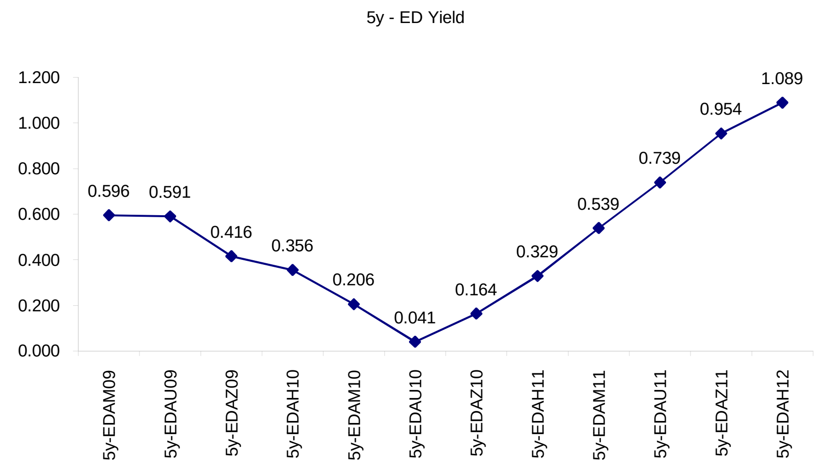
Correlation



TERM TED: 5y vs Eurodollar Contracts

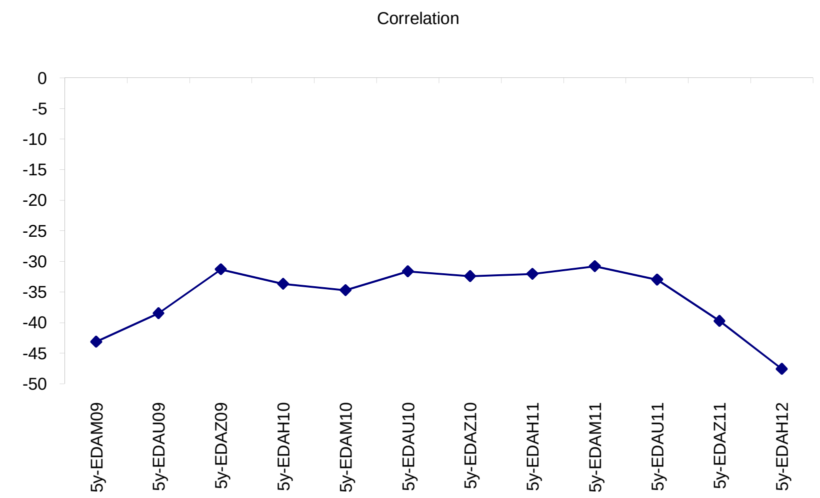
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.32	0.596	5y-EDAM09	-43
EDAU09	1.32	0.591	5y-EDAU09	-38
EDAZ09	1.50	0.416	5y-EDAZ09	-31
EDAH10	1.56	0.356	5y-EDAH10	-34
EDAM10	1.71	0.206	5y-EDAM10	-35
EDAU10	1.87	0.041	5y-EDAU10	-32
EDAZ10	2.08	0.164	5y-EDAZ10	-32
EDAH11	2.24	0.329	5y-EDAH11	-32
EDAM11	2.45	0.539	5y-EDAM11	-31
EDAU11	2.65	0.739	5y-EDAU11	-33
EDAZ11	2.87	0.954	5y-EDAZ11	-40
EDAH12	3.00	1.089	5y-EDAH12	-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	
EDAM09	0.2021	4.7607	4.5587	5y-EDAM09
EDAU09	0.4514	4.7607	4.3094	5y-EDAU09
EDAZ09	0.7007	4.7607	4.0600	5y-EDAZ09
EDAH10	0.9500	4.7607	3.8107	5y-EDAH10
EDAM10	1.1993	4.7607	3.5614	5y-EDAM10
EDAU10	1.4486	4.7607	3.3121	5y-EDAU10
EDAZ10	1.6980	4.7607	3.0628	5y-EDAZ10
EDAH11	1.9473	4.7607	2.8135	5y-EDAH11
EDAM11	2.1966	4.7607	2.5641	5y-EDAM11
EDAU11	2.4651	4.7607	2.2957	5y-EDAU11
EDAZ11	2.7144	4.7607	2.0463	5y-EDAZ11
EDAH12	2.9637	4.7607	1.7970	5y-EDAH12

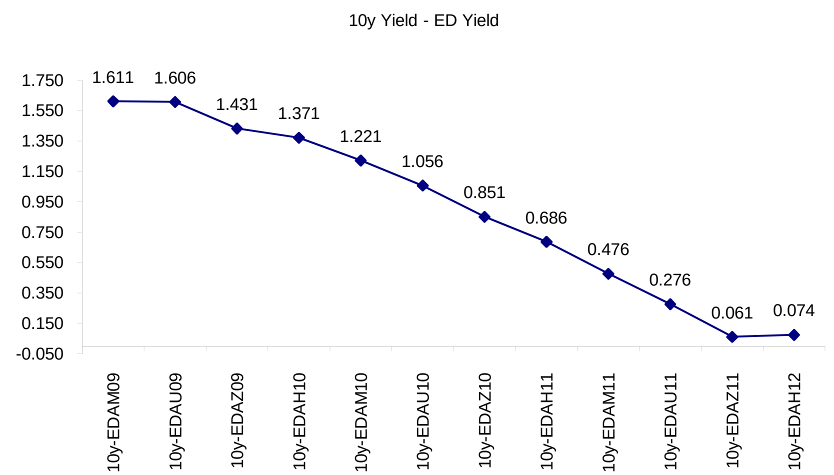
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	1.32	1.611	10y-EDAM09	-30
EDAU09	1.32	1.606	10y-EDAU09	-27
EDAZ09	1.50	1.431	10y-EDAZ09	-23
EDAH10	1.56	1.371	10y-EDAH10	-25
EDAM10	1.71	1.221	10y-EDAM10	-25
EDAU10	1.87	1.056	10y-EDAU10	-22
EDAZ10	2.08	0.851	10y-EDAZ10	-22
EDAH11	2.24	0.686	10y-EDAH11	-22
EDAM11	2.45	0.476	10y-EDAM11	-21
EDAU11	2.65	0.276	10y-EDAU11	-24
EDAZ11	2.87	0.061	10y-EDAZ11	-32
EDAH12	3.00	0.074	10y-EDAH12	-41

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	0.2021	8.5660	8.3640	10y-EDAM09
EDAU09	0.4514	8.5660	8.1147	10y-EDAU09
EDAZ09	0.7007	8.5660	7.8654	10y-EDAZ09
EDAH10	0.9500	8.5660	7.6160	10y-EDAH10
EDAM10	1.1993	8.5660	7.3667	10y-EDAM10
EDAU10	1.4486	8.5660	7.1174	10y-EDAU10
EDAZ10	1.6980	8.5660	6.8681	10y-EDAZ10
EDAH11	1.9473	8.5660	6.6188	10y-EDAH11
EDAM11	2.1966	8.5660	6.3695	10y-EDAM11
EDAU11	2.4651	8.5660	6.1010	10y-EDAU11
EDAZ11	2.7144	8.5660	5.8517	10y-EDAZ11
EDAH12	2.9637	8.5660	5.6023	10y-EDAH12

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

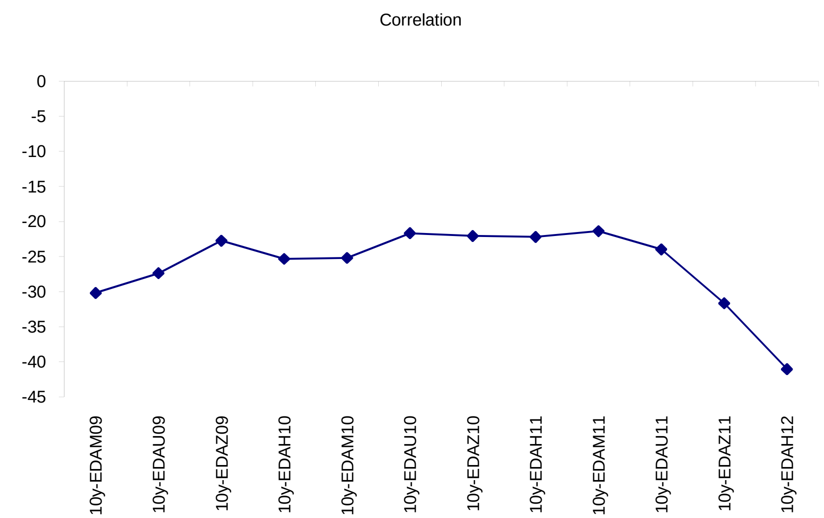
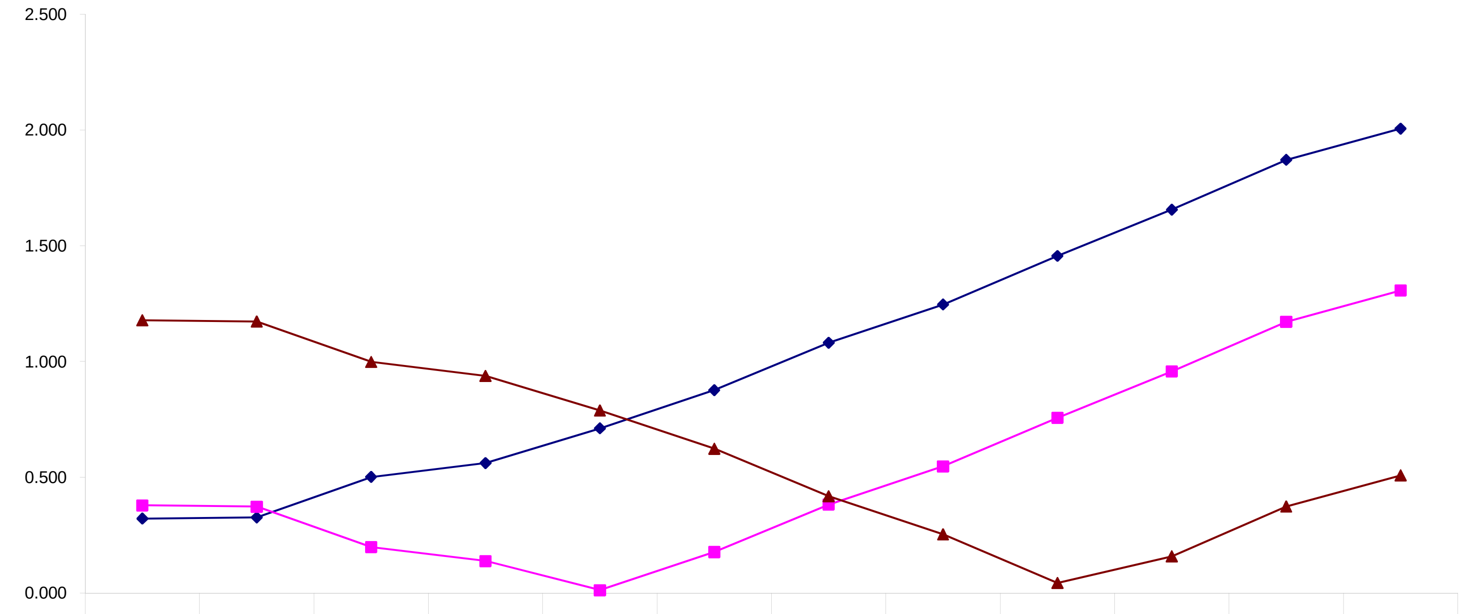


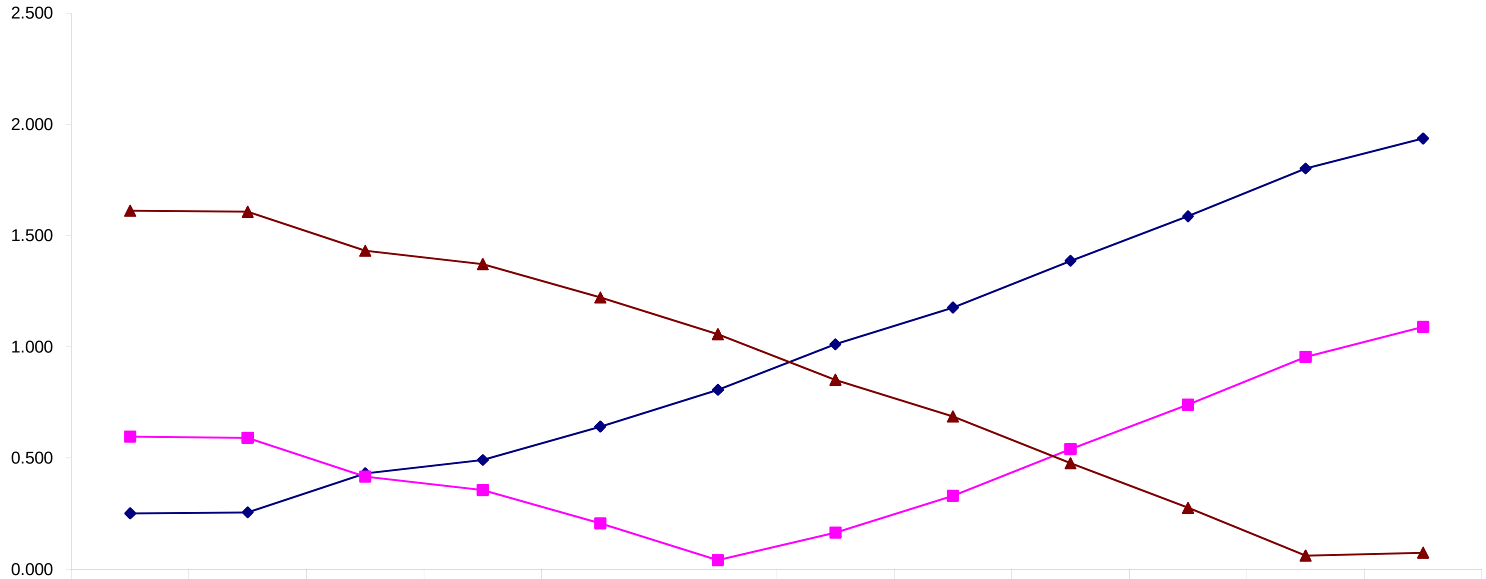
Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



ZT	0.321	0.326	0.501	0.561	0.711	0.876	1.081	1.246	1.456	1.656	1.871	2.006
ZF	0.378	0.373	0.198	0.138	0.012	0.177	0.382	0.547	0.757	0.957	1.172	1.307
ZN	1.177	1.172	0.997	0.937	0.787	0.622	0.417	0.252	0.042	0.158	0.373	0.508

ZT ZF ZN

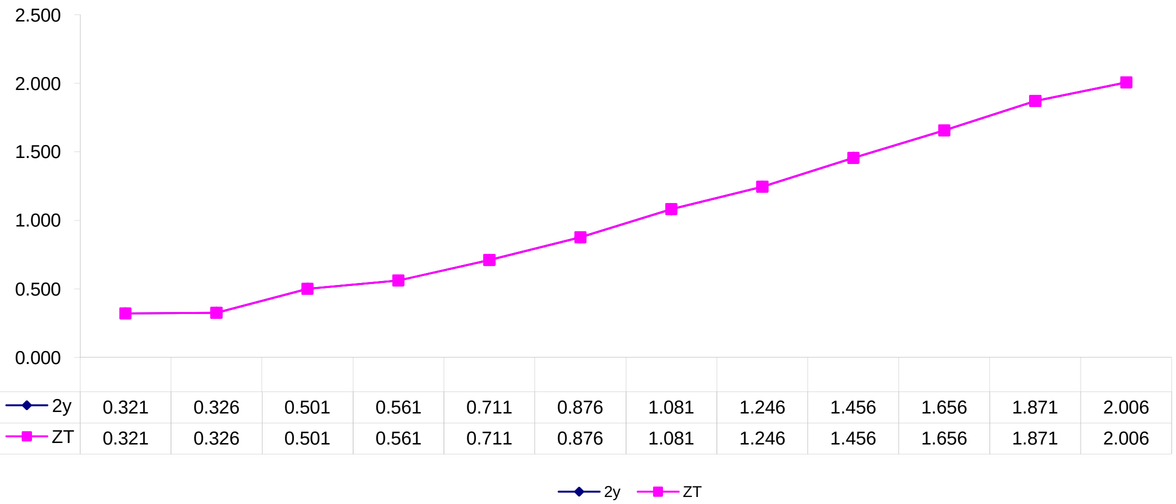
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y	0.251	0.256	0.431	0.491	0.641	0.806	1.011	1.176	1.386	1.586	1.801	1.936
5y	0.596	0.591	0.416	0.356	0.206	0.041	0.164	0.329	0.539	0.739	0.954	1.089
10y	1.611	1.606	1.431	1.371	1.221	1.056	0.851	0.686	0.476	0.276	0.061	0.074

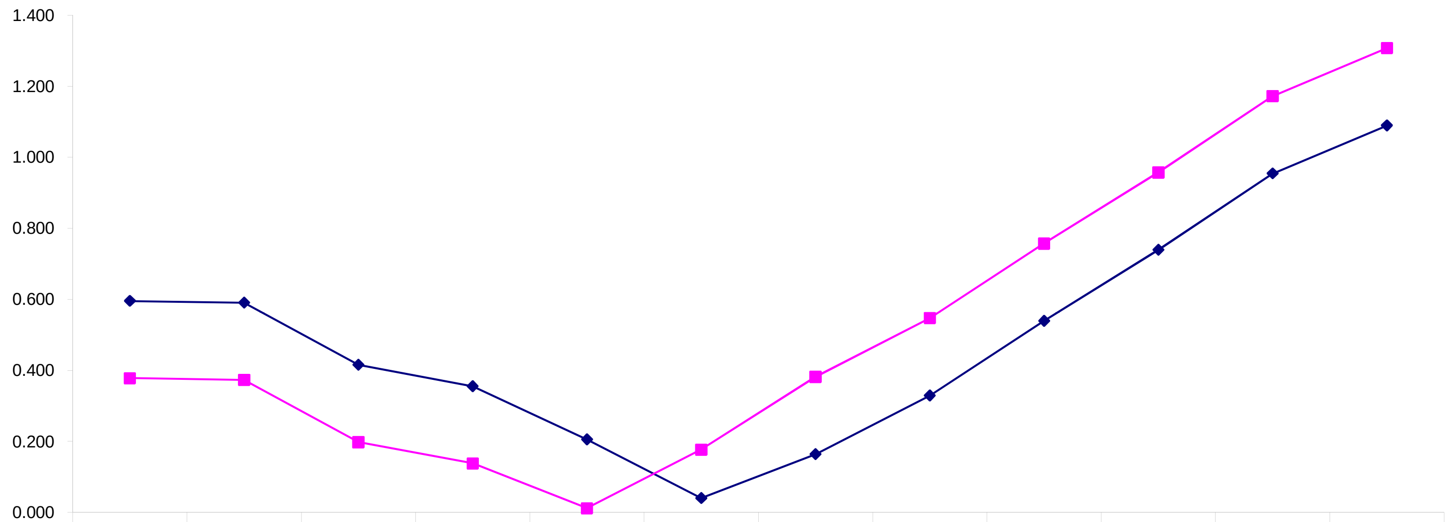
2y 5y 10y

2y Basis TED Curve



2y	0.321	0.326	0.501	0.561	0.711	0.876	1.081	1.246	1.456	1.656	1.871	2.006
ZT	0.321	0.326	0.501	0.561	0.711	0.876	1.081	1.246	1.456	1.656	1.871	2.006

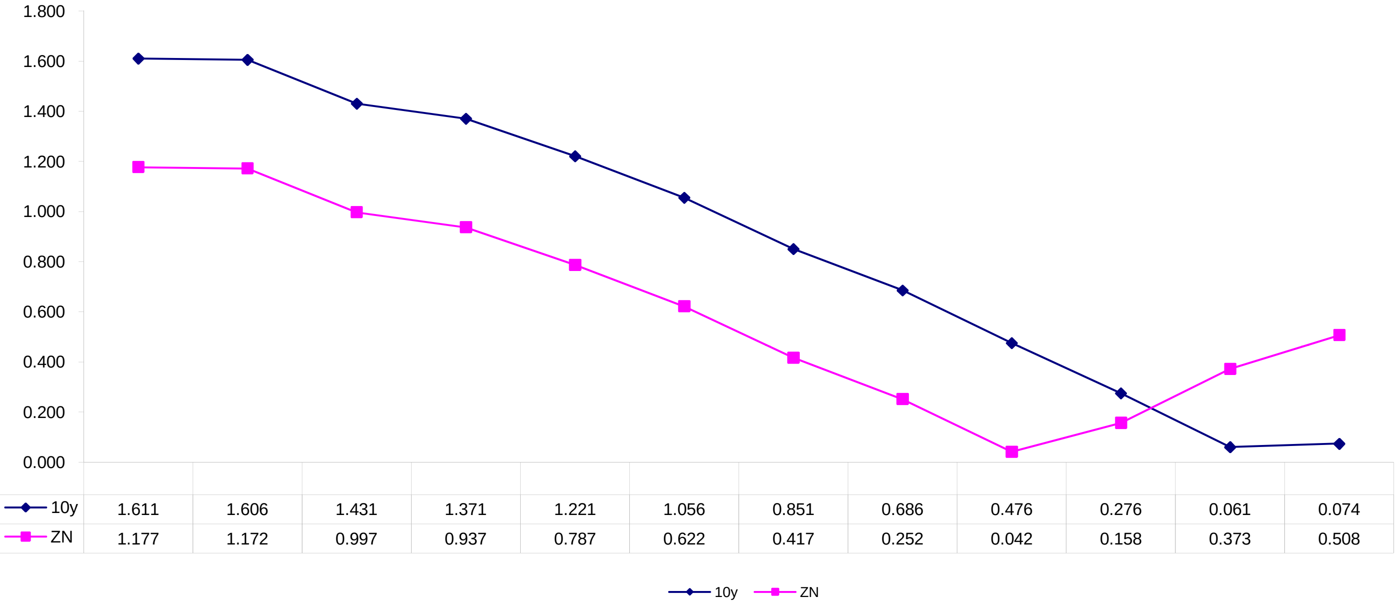
5y Basis TED Curve



5y	0.596	0.591	0.416	0.356	0.206	0.041	0.164	0.329	0.539	0.739	0.954	1.089
ZF	0.378	0.373	0.198	0.138	0.012	0.177	0.382	0.547	0.757	0.957	1.172	1.307

5y ZF

10y Basis TED Curve



10y	1.611	1.606	1.431	1.371	1.221	1.056	0.851	0.686	0.476	0.276	0.061	0.074
ZN	1.177	1.172	0.997	0.937	0.787	0.622	0.417	0.252	0.042	0.158	0.373	0.508

	Last Yield	Net Last Yield	Last Price
White Pack	1.237	-2.125	9878.3750
Red Pack	1.800	-5.500	9823.2500
Green Pack	2.588	-7.375	9746.3750
Blue Pack	3.155	-6.250	9691.2500
Gold Pack		-0.750	9663.2500