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	106.4688	106.150	2.240	1.80
ZF	112.5313	112.170	2.876	3.94
ZN	116.5781	116.185	3.559	6.65
2y	100.866	100.2770	2.292	1.88
5y	101.578	101.1850	3.027	4.52
10y	101.703	101.2250	3.793	8.19

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU08	97.145	2.855	27	0.073	SEP	
EDAZ08	96.950	3.050	118	0.323	DEC	White Pack
EDAH09	96.990	3.010	209	0.572	MAR	
EDAM09	96.875	3.125	300	0.821	JUN	
EDAU09	96.675	3.325	391	1.071	SEP	
EDAZ09	96.385	3.615	482	1.320	DEC	Red Pack
EDAH10	96.160	3.840	573	1.569	MAR	
EDAM10	95.945	4.055	664	1.818	JUN	
EDAU10	95.760	4.240	755	2.068	SEP	
EDAZ10	95.610	4.390	846	2.317	DEC	Green Pack
EDAH11	95.535	4.465	937	2.566	MAR	
EDAM11	95.465	4.535	1028	2.816	JUN	
EDAU11	95.420	4.580	1126	3.084	SEP	
EDAZ11	95.345	4.655	1217	3.334	DEC	Blue Pack
EDAH12	95.310	4.690	1308	3.583	MAR	
EDAM12	95.245	4.755	1399	3.832	JUN	
EDAU12	95.200	4.800	1490	4.082	SEP	
EDAZ12	95.195	4.805	1581	4.331	DEC	Gold Pack
EDAH13	95.155	4.845	1672	4.580	MAR	
EDAM13	95.055	4.945	1763	4.829	JUN	

Pack Prices

	Last Yield	Net Yield	Last Price
White Pack	3.075	2.375	9699.000
Red Pack	3.796	4.125	9629.125
Green Pack	4.519	2.375	9559.250
Blue Pack		1.375	9533.125
Gold Pack		2.125	9515.375

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

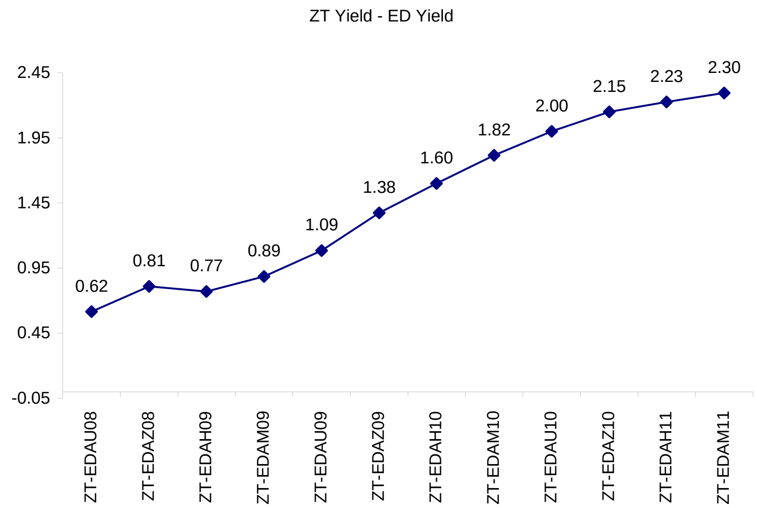
Correlations (Important)

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

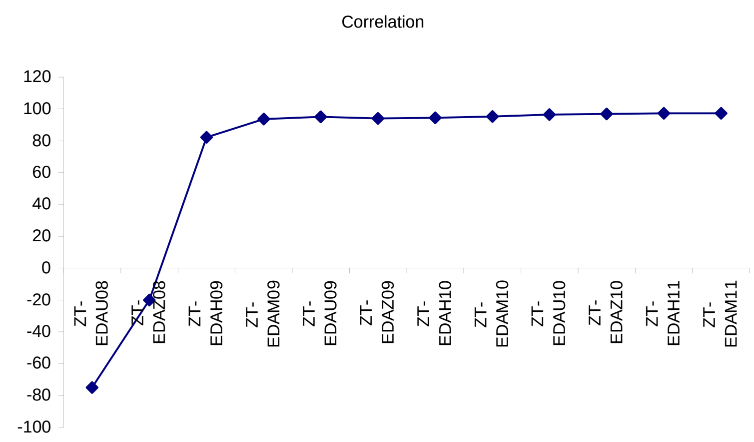
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	9.324	0.62	ZT-EDAU08	-74.941
EDAZ08	9.519	0.81	ZT-EDAZ08	-20.118
EDAH09	9.479	0.77	ZT-EDAH09	82.171
EDAM09	9.594	0.89	ZT-EDAM09	93.701
EDAU09	9.794	1.09	ZT-EDAU09	94.975
EDAZ09	10.084	1.38	ZT-EDAZ09	93.967
EDAH10	10.309	1.60	ZT-EDAH10	94.346
EDAM10	10.524	1.82	ZT-EDAM10	95.202
EDAU10	10.709	2.00	ZT-EDAU10	96.525
EDAZ10	10.859	2.15	ZT-EDAZ10	96.766
EDAH11	10.934	2.23	ZT-EDAH11	97.167
EDAM11	11.004	2.30	ZT-EDAM11	97.342

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	
EDAU08	0.073	1.80	1.73	ZT-EDAU08
EDAZ08	0.323	1.80	1.48	ZT-EDAZ08
EDAH09	0.572	1.80	1.23	ZT-EDAH09
EDAM09	0.821	1.80	0.98	ZT-EDAM09
EDAU09	1.071	1.80	0.73	ZT-EDAU09
EDAZ09	1.320	1.80	0.48	ZT-EDAZ09
EDAH10	1.569	1.80	0.23	ZT-EDAH10
EDAM10	1.818	1.80	(0.02)	ZT-EDAM10
EDAU10	2.068	1.80	(0.27)	ZT-EDAU10
EDAZ10	2.317	1.80	(0.52)	ZT-EDAZ10
EDAH11	2.566	1.80	(0.77)	ZT-EDAH11
EDAM11	2.816	1.80	(1.02)	ZT-EDAM11

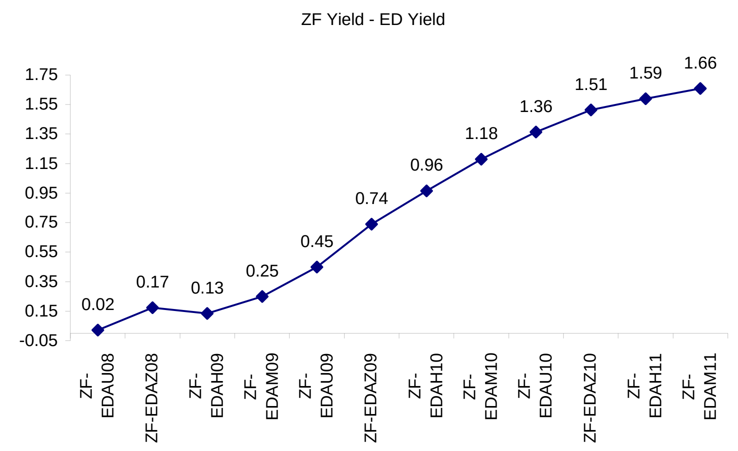
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	15.386	0.02	ZF-EDAU08	-72.644
EDAZ08	15.581	0.17	ZF-EDAZ08	-17.225
EDAH09	15.541	0.13	ZF-EDAH09	83.828
EDAM09	15.656	0.25	ZF-EDAM09	95.227
EDAU09	15.856	0.45	ZF-EDAU09	97.297
EDAZ09	16.146	0.74	ZF-EDAZ09	96.910
EDAH10	16.371	0.96	ZF-EDAH10	97.245
EDAM10	16.586	1.18	ZF-EDAM10	97.899
EDAU10	16.771	1.36	ZF-EDAU10	98.692
EDAZ10	16.921	1.51	ZF-EDAZ10	98.601
EDAH11	16.996	1.59	ZF-EDAH11	98.597
EDAM11	17.066	1.66	ZF-EDAM11	98.484

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	
EDAU08	0.073	3.94	3.86	ZF-EDAU08
EDAZ08	0.323	3.94	3.62	ZF-EDAZ08
EDAH09	0.572	3.94	3.37	ZF-EDAH09
EDAM09	0.821	3.94	3.12	ZF-EDAM09
EDAU09	1.071	3.94	2.87	ZF-EDAU09
EDAZ09	1.320	3.94	2.62	ZF-EDAZ09
EDAH10	1.569	3.94	2.37	ZF-EDAH10
EDAM10	1.818	3.94	2.12	ZF-EDAM10
EDAU10	2.068	3.94	1.87	ZF-EDAU10
EDAZ10	2.317	3.94	1.62	ZF-EDAZ10
EDAH11	2.566	3.94	1.37	ZF-EDAH11
EDAM11	2.816	3.94	1.12	ZF-EDAM11

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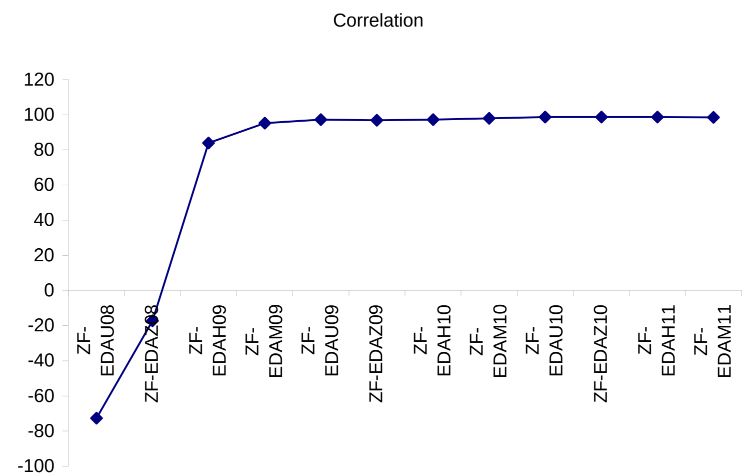

Dirty TED: ZN vs Eurodollar Contracts

	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	19.433	0.70	ZN-EDAU08	-70.997
EDAZ08	19.628	0.51	ZN-EDAZ08	-13.017
EDAH09	19.588	0.55	ZN-EDAH09	85.687
EDAM09	19.703	0.43	ZN-EDAM09	96.248
EDAU09	19.903	0.23	ZN-EDAU09	98.063
EDAZ09	20.193	0.06	ZN-EDAZ09	97.561
EDAH10	20.418	0.28	ZN-EDAH10	97.245
EDAM10	20.633	0.50	ZN-EDAM10	97.899
EDAU10	20.818	0.68	ZN-EDAU10	98.692
EDAZ10	20.968	0.83	ZN-EDAZ10	98.601
EDAH11	21.043	0.91	ZN-EDAH11	98.597
EDAM11	21.113	0.98	ZN-EDAM11	98.484

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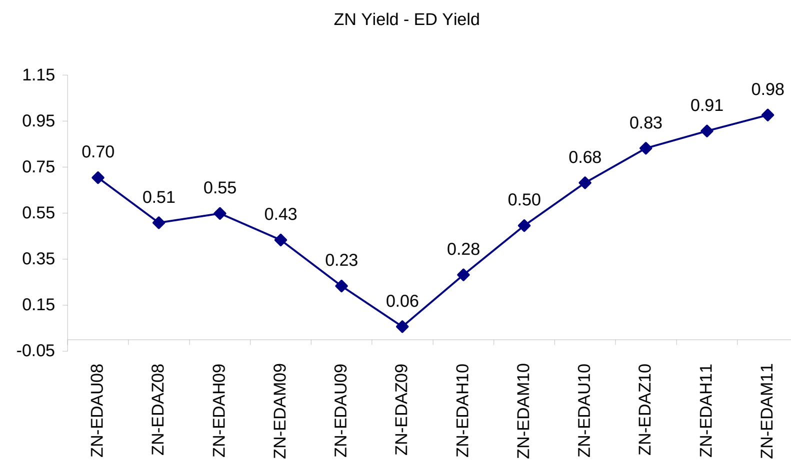
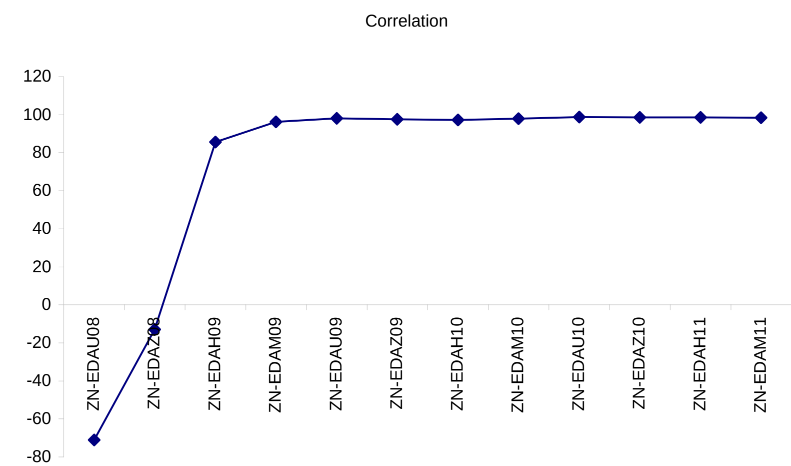


	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAU08	0.073	6.65	6.58	ZN-EDAU08
EDAZ08	0.323	6.65	6.33	ZN-EDAZ08
EDAH09	0.572	6.65	6.08	ZN-EDAH09
EDAM09	0.821	6.65	5.83	ZN-EDAM09
EDAU09	1.071	6.65	5.58	ZN-EDAU09
EDAZ09	1.320	6.65	5.33	ZN-EDAZ09
EDAH10	1.569	6.65	5.08	ZN-EDAH10
EDAM10	1.818	6.65	4.83	ZN-EDAM10
EDAU10	2.068	6.65	4.58	ZN-EDAU10
EDAZ10	2.317	6.65	4.34	ZN-EDAZ10
EDAH11	2.566	6.65	4.09	ZN-EDAH11
EDAM11	2.816	6.65	3.84	ZN-EDAM11

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)**
EDAU08	3.721	0.56	2y-EDAU08	70.498
EDAZ08	3.916	0.76	2y-EDAZ08	14.550
EDAH09	3.876	0.72	2y-EDAH09	-85.007
EDAM09	3.991	0.83	2y-EDAM09	-94.942
EDAU09	4.191	1.03	2y-EDAU09	-95.554
EDAZ09	4.481	1.32	2y-EDAZ09	-94.323
EDAH10	4.706	1.55	2y-EDAH10	-94.430
EDAM10	4.921	1.76	2y-EDAM10	-95.029
EDAU10	5.106	1.95	2y-EDAU10	-96.201
EDAZ10	5.256	2.10	2y-EDAZ10	-96.298
EDAH11	5.331	2.17	2y-EDAH11	-96.473
EDAM11	5.401	2.24	2y-EDAM11	-96.352

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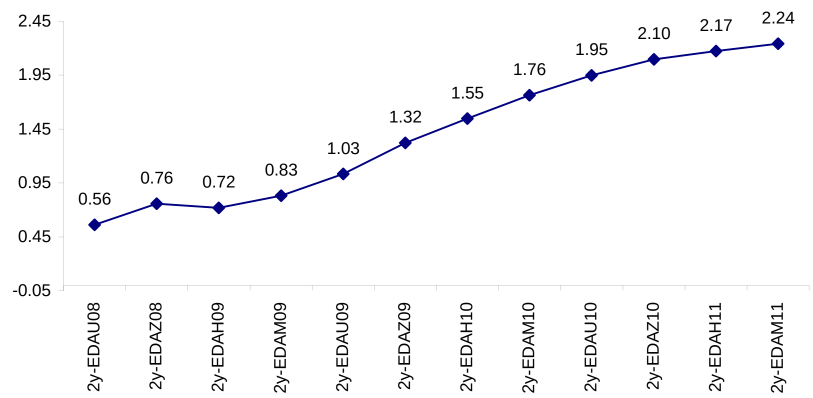
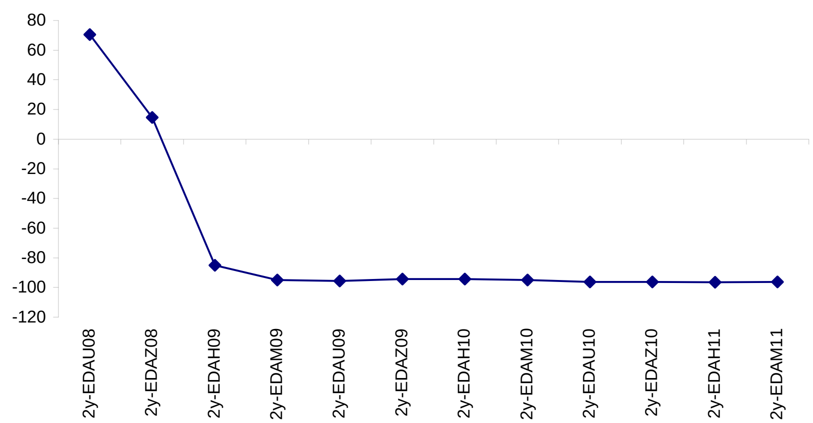
ZT Yield - ED Yield



	ED Duration as Fraction of year	**2Y Duration**	**Spread Duration**	
EDAU08	0.073	1.88	1.81	2y-EDAU08
EDAZ08	0.323	1.88	1.56	2y-EDAZ08
EDAH09	0.572	1.88	1.31	2y-EDAH09
EDAM09	0.821	1.88	1.06	2y-EDAM09
EDAU09	1.071	1.88	0.81	2y-EDAU09
EDAZ09	1.320	1.88	0.56	2y-EDAZ09
EDAH10	1.569	1.88	0.31	2y-EDAH10
EDAM10	1.818	1.88	0.07	2y-EDAM10
EDAU10	2.068	1.88	(0.18)	2y-EDAU10
EDAZ10	2.317	1.88	(0.43)	2y-EDAZ10
EDAH11	2.566	1.88	(0.68)	2y-EDAH11
EDAM11	2.816	1.88	(0.93)	2y-EDAM11

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)
EDAU08	4.433	0.17	5y-EDAU08	66.198
EDAZ08	4.628	0.02	5y-EDAZ08	8.641
EDAH09	4.588	0.02	5y-EDAH09	-87.553
EDAM09	4.703	0.10	5y-EDAM09	-96.772
EDAU09	4.903	0.30	5y-EDAU09	-97.604
EDAZ09	5.193	0.59	5y-EDAZ09	-96.644
EDAH10	5.418	0.81	5y-EDAH10	-96.615
EDAM10	5.633	1.03	5y-EDAM10	-97.181
EDAU10	5.818	1.21	5y-EDAU10	-98.094
EDAZ10	5.968	1.36	5y-EDAZ10	-98.198
EDAH11	6.043	1.44	5y-EDAH11	-98.205
EDAM11	6.113	1.51	5y-EDAM11	-97.908

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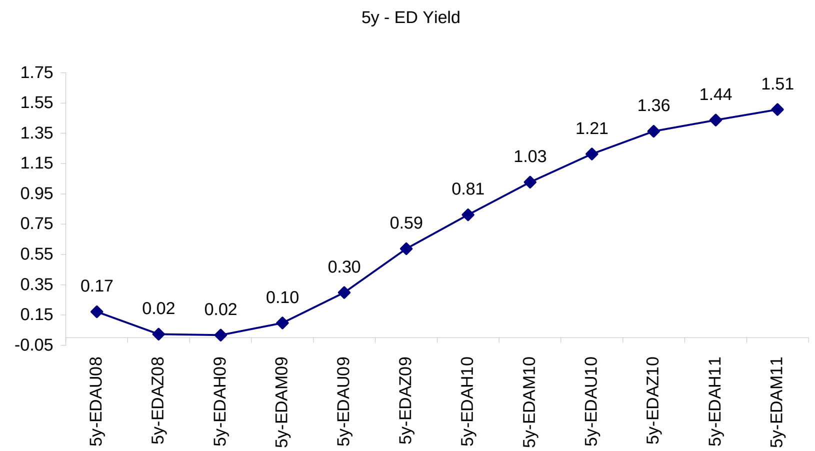
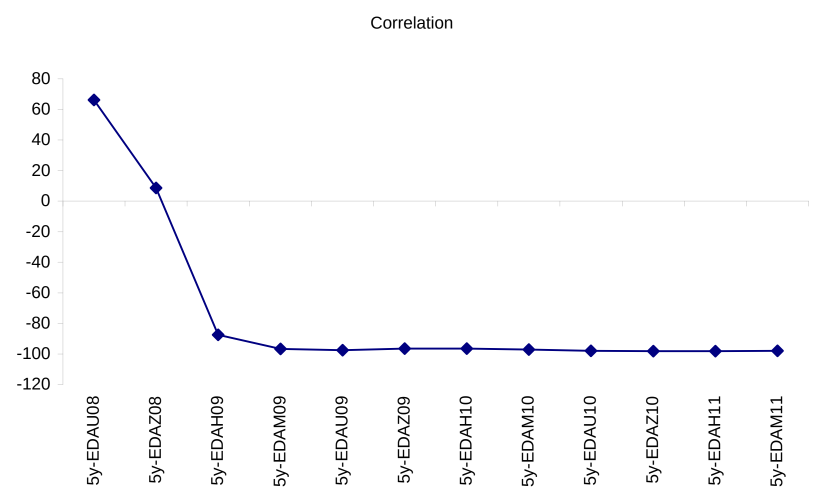


	ED Duration as Fraction of year	5Y Duration	Spread Duration	
EDAU08	0.073	4.52	4.45	5y-EDAU08
EDAZ08	0.323	4.52	4.20	5y-EDAZ08
EDAH09	0.572	4.52	3.95	5y-EDAH09
EDAM09	0.821	4.52	3.70	5y-EDAM09
EDAU09	1.071	4.52	3.45	5y-EDAU09
EDAZ09	1.320	4.52	3.20	5y-EDAZ09
EDAH10	1.569	4.52	2.95	5y-EDAH10
EDAM10	1.818	4.52	2.70	5y-EDAM10
EDAU10	2.068	4.52	2.46	5y-EDAU10
EDAZ10	2.317	4.52	2.21	5y-EDAZ10
EDAH11	2.566	4.52	1.96	5y-EDAH11
EDAM11	2.816	4.52	1.71	5y-EDAM11

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



	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU08	4.433	0.94	10y-EDAU08	73.326
EDAZ08	4.628	0.74	10y-EDAZ08	19.784
EDAH09	4.588	0.78	10y-EDAH09	-82.063
EDAM09	4.703	0.67	10y-EDAM09	-94.227
EDAU09	4.903	0.47	10y-EDAU09	-96.626
EDAZ09	5.193	0.18	10y-EDAZ09	-96.094
EDAH10	5.418	0.05	10y-EDAH10	-96.512
EDAM10	5.633	0.26	10y-EDAM10	-97.368
EDAU10	5.818	0.45	10y-EDAU10	-98.056
EDAZ10	5.968	0.60	10y-EDAZ10	-98.062
EDAH11	6.043	0.67	10y-EDAH11	-98.151
EDAM11	6.113	0.74	10y-EDAM11	-97.905

Price = Outright Decimal Price - Euro Contract Price
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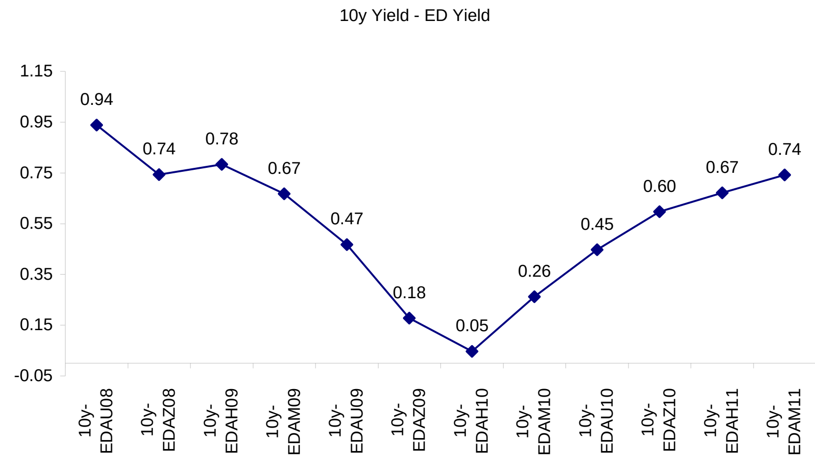
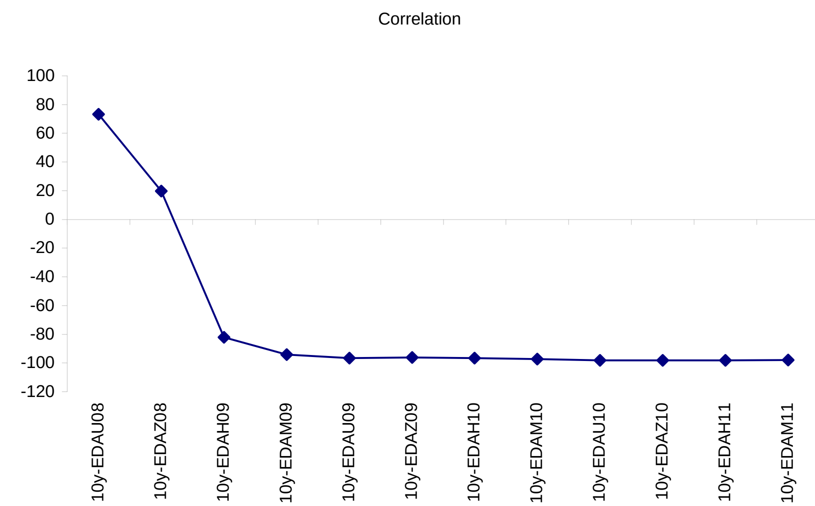


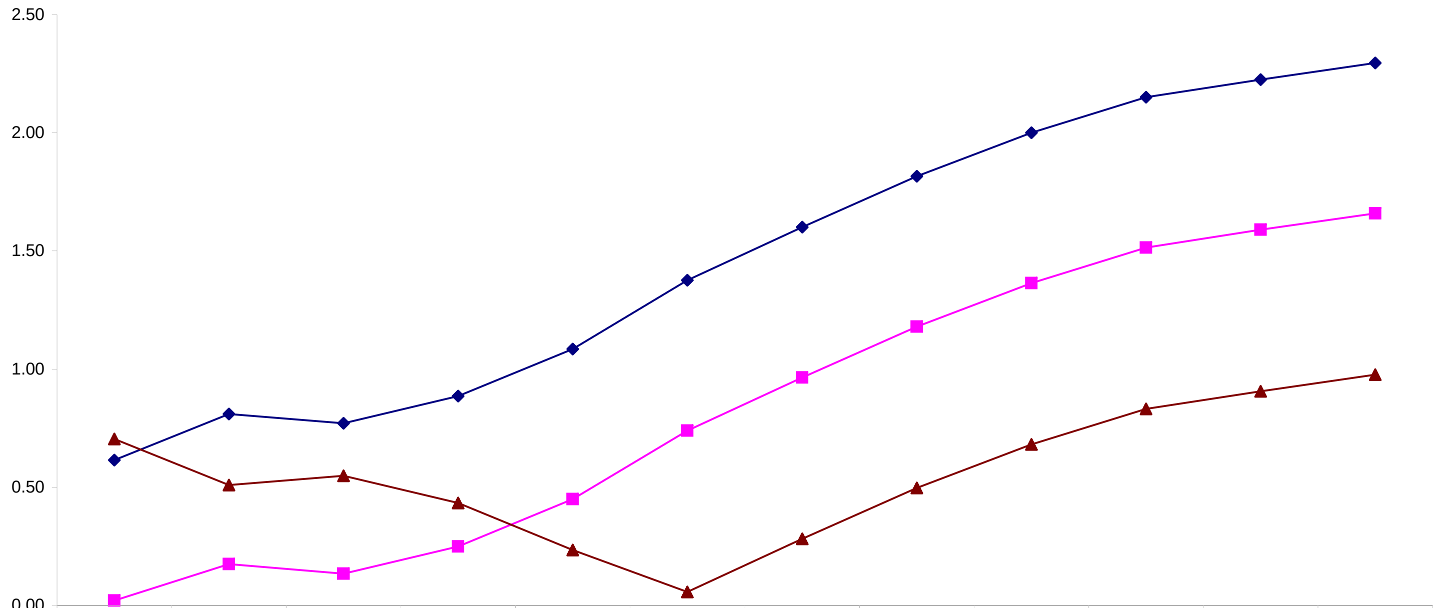
	ED Duration as Fraction of year	10Y Duration	Spread Duration	
EDAU08	0.073	8.19	8.11	10y-EDAU08
EDAZ08	0.323	8.19	7.86	10y-EDAZ08
EDAH09	0.572	8.19	7.62	10y-EDAH09
EDAM09	0.821	8.19	7.37	10y-EDAM09
EDAU09	1.071	8.19	7.12	10y-EDAU09
EDAZ09	1.320	8.19	6.87	10y-EDAZ09
EDAH10	1.569	8.19	6.62	10y-EDAH10
EDAM10	1.818	8.19	6.37	10y-EDAM10
EDAU10	2.068	8.19	6.12	10y-EDAU10
EDAZ10	2.317	8.19	5.87	10y-EDAZ10
EDAH11	2.566	8.19	5.62	10y-EDAH11
EDAM11	2.816	8.19	5.37	10y-EDAM11

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



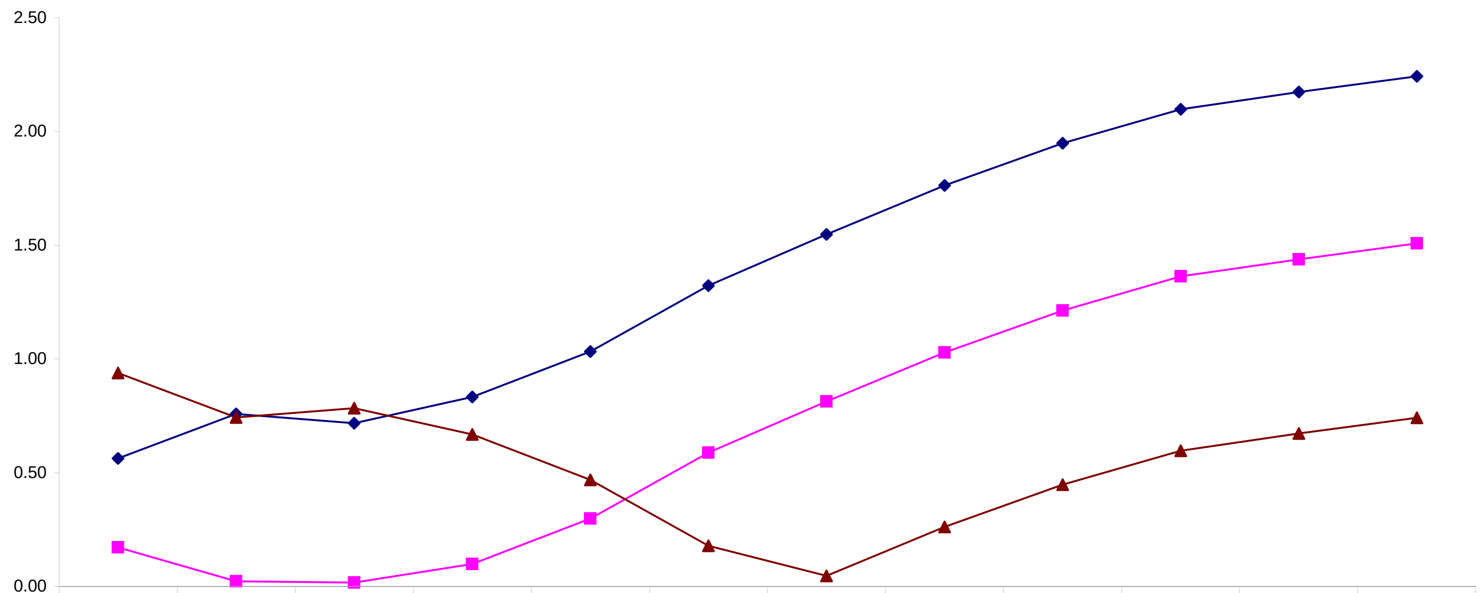
Dirty TED Curve

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.



	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11
ZT	0.62	0.81	0.77	0.89	1.09	1.38	1.60	1.82	2.00	2.15	2.23	2.30
ZF	0.02	0.17	0.13	0.25	0.45	0.74	0.96	1.18	1.36	1.51	1.59	1.66
ZN	0.70	0.51	0.55	0.43	0.23	0.06	0.28	0.50	0.68	0.83	0.91	0.98

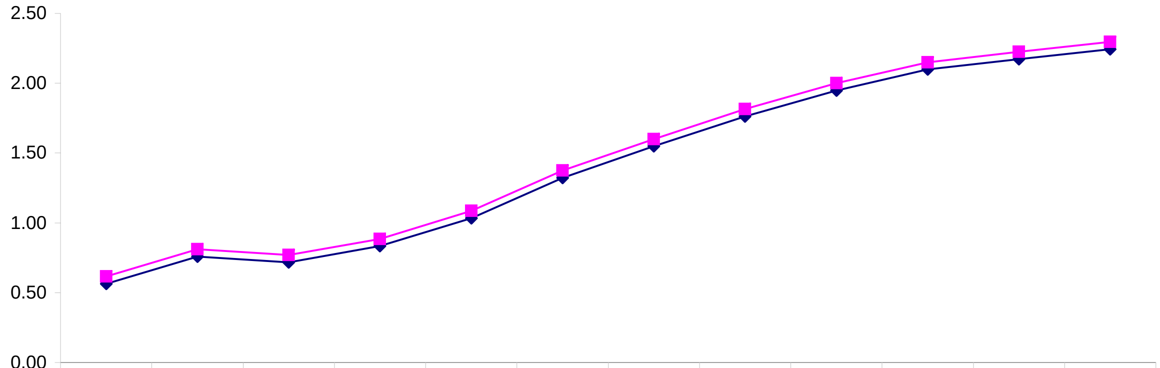
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11
2y	0.56	0.76	0.72	0.83	1.03	1.32	1.55	1.76	1.95	2.10	2.17	2.24
5y	0.17	0.02	0.02	0.10	0.30	0.59	0.81	1.03	1.21	1.36	1.44	1.51
10y	0.94	0.74	0.78	0.67	0.47	0.18	0.05	0.26	0.45	0.60	0.67	0.74

2y 5y 10y

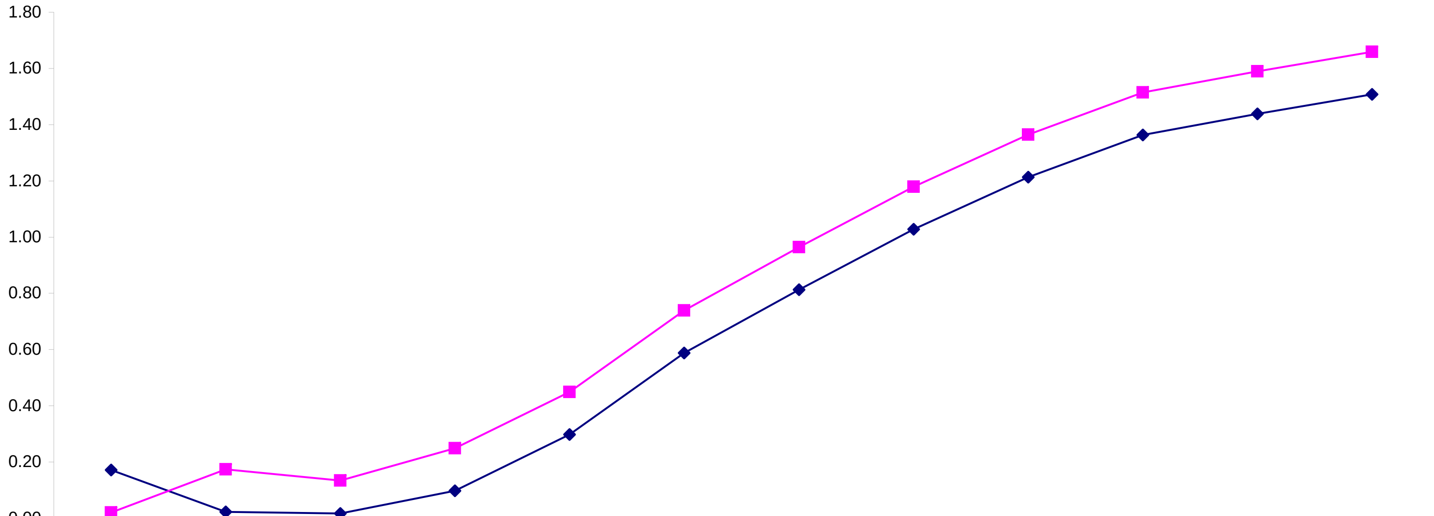
2y Basis TED Curve



	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11
2y	0.56	0.76	0.72	0.83	1.03	1.32	1.55	1.76	1.95	2.10	2.17	2.24
ZT	0.62	0.81	0.77	0.89	1.09	1.38	1.60	1.82	2.00	2.15	2.23	2.30

2y ZT

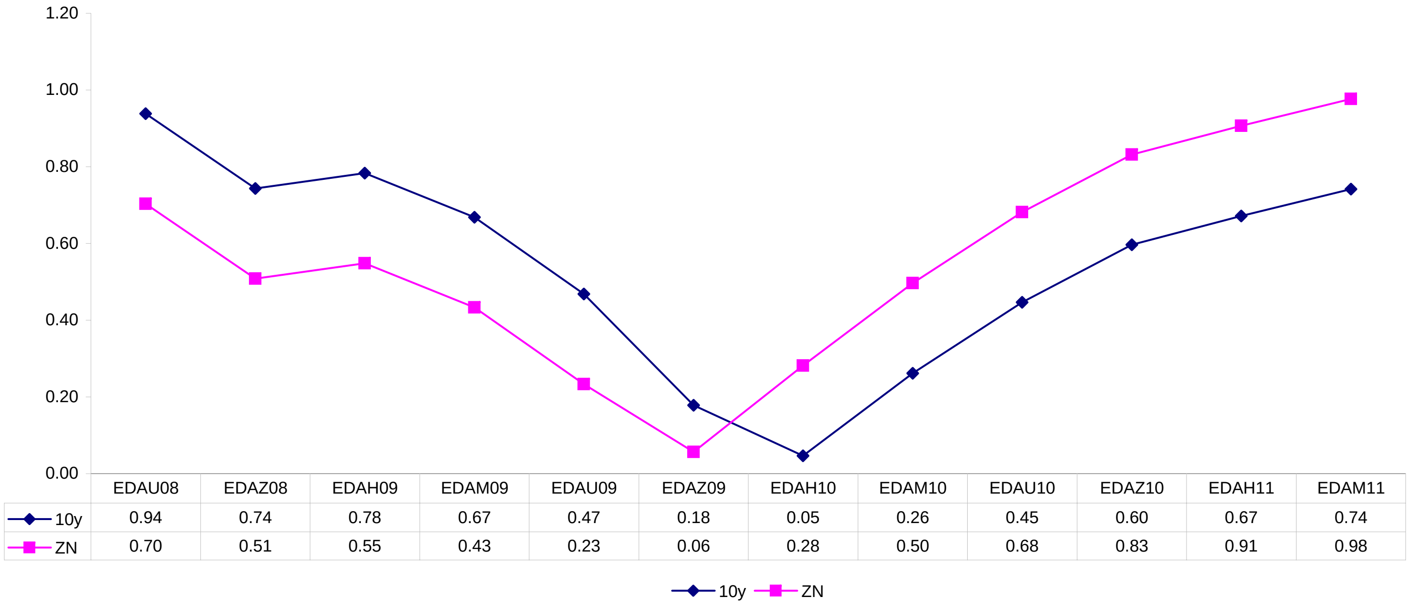
5y Basis TED Curve



	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11
5y	0.17	0.02	0.02	0.10	0.30	0.59	0.81	1.03	1.21	1.36	1.44	1.51
ZF	0.02	0.17	0.13	0.25	0.45	0.74	0.96	1.18	1.36	1.51	1.59	1.66

5y ZF

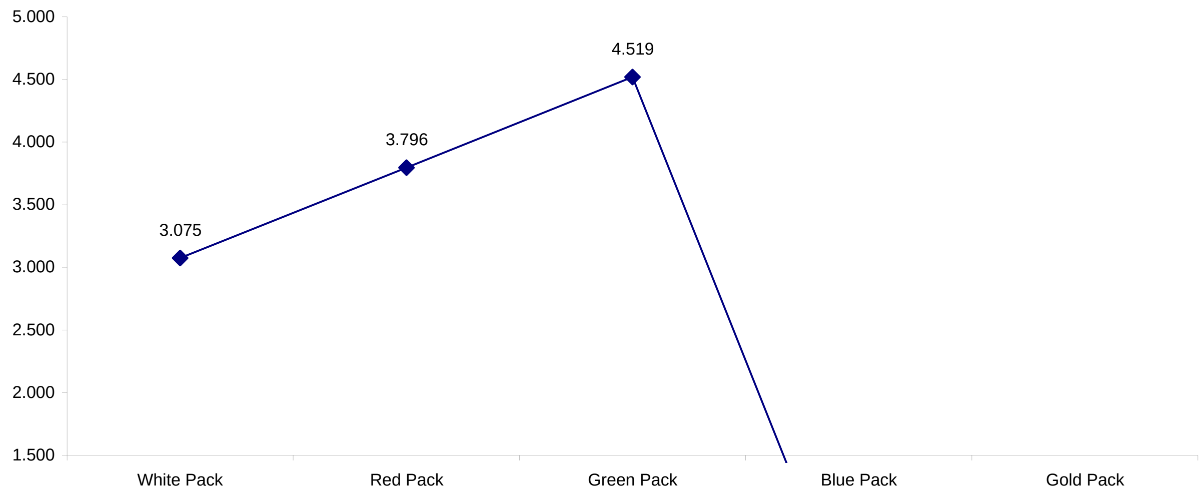
10y Basis TED Curve



	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11
10y	0.94	0.74	0.78	0.67	0.47	0.18	0.05	0.26	0.45	0.60	0.67	0.74
ZN	0.70	0.51	0.55	0.43	0.23	0.06	0.28	0.50	0.68	0.83	0.91	0.98

Packs

	Last Yield	Net Last Yield	Last Price
White Pack	3.075	2.375	9699.000
Red Pack	3.796	4.125	9629.125
Green Pack	4.519	2.375	9559.250
Blue Pack		1.375	9533.125
Gold Pack		2.125	9515.375



2y, 5y, 10y Basis Curves vs ED