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 32.00	Last Yield*	MDuration
ZT	108.9594		108.3070	0.702	1.80
ZF	118.5063		118.1620	1.506	1.51
ZN	123.1563		123.0500	1.727	6.19
2y	99.9906		99.3170	0.879	1.97
5y	99.7094		99.2270	1.811	4.76
10y	108.1094		108.0350	2.799	8.17

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAH09	98.730	1.270	42	0.114	MAR	
EDAM09	98.765	1.235	133	0.364	JUN	White Pack
EDAU09	98.695	1.305	224	0.613	SEP	
EDAZ09	98.530	1.470	315	0.862	DEC	
EDAH10	98.365	1.635	406	1.112	MAR	
EDAM10	98.115	1.885	497	1.361	JUN	Red Pack
EDAU10	97.875	2.125	588	1.610	SEP	
EDAZ10	97.625	2.375	679	1.860	DEC	
EDAH11	97.445	2.555	770	2.109	MAR	
EDAM11	97.270	2.730	861	2.358	JUN	Green Pack
EDAU11	97.110	2.890	959	2.627	SEP	
EDAZ11	96.975	3.025	1050	2.876	DEC	
EDAH12	96.925	3.075	1141	3.125	MAR	
EDAM12	96.860	3.140	1232	3.375	JUN	Blue Pack
EDAU12	96.820	3.180	1323	3.624	SEP	
EDAZ12	96.740	3.260	1414	3.873	DEC	
EDAH13	96.625	3.375	1505	4.123	MAR	
EDAM13	96.615	3.385	1596	4.372	JUN	Gold Pack
EDZU13	96.485	3.515	1687	4.621	SEP	
EDZZ13	96.440	3.560	1778	4.871	DEC	

	Last Yield	Net Yield	Last Price
White Pack	1.343	3.625	9868.000
Red Pack	2.043	7.625	9799.500
Green Pack	2.859	4.500	9720.000
Blue Pack	3.233	4.375	9683.625
Gold Pack		0.000	9656.500

Pack Prices

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)

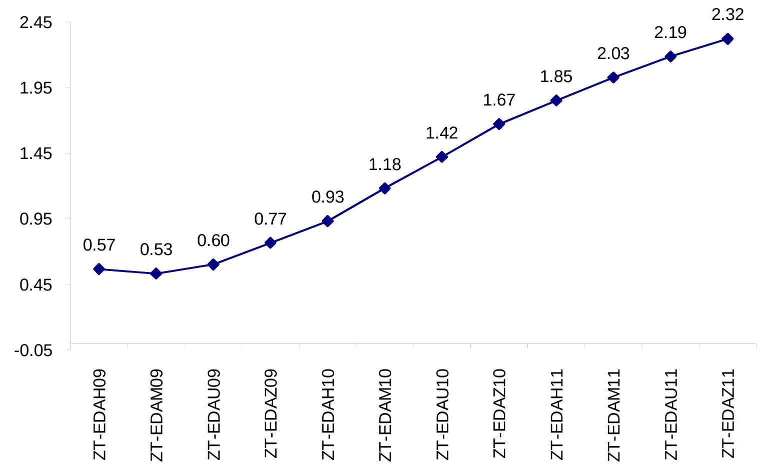
Correlations for the US Cash Treasuries are done on a YIELD basis.
Therefore, you'll see negative values. The reason for this is due to
the new issues. Every new issue takes too long to 'catch up' because
the correlation formula looks back 10days. So, it's much easier
to formulate the correlations based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

Dirty TED: ZT vs Eurodollar Contracts

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	10.229	0.57	ZT-EDAH09	54.952
EDAM09	10.194	0.53	ZT-EDAM09	73.184
EDAU09	10.264	0.60	ZT-EDAU09	84.436
EDAZ09	10.429	0.77	ZT-EDAZ09	91.027
EDAH10	10.594	0.93	ZT-EDAH10	92.289
EDAM10	10.844	1.18	ZT-EDAM10	88.728
EDAU10	11.084	1.42	ZT-EDAU10	85.373
EDAZ10	11.334	1.67	ZT-EDAZ10	85.711
EDAH11	11.514	1.85	ZT-EDAH11	89.816
EDAM11	11.689	2.03	ZT-EDAM11	92.657
EDAU11	11.849	2.19	ZT-EDAU11	93.797
EDAZ11	11.984	2.32	ZT-EDAZ11	94.670

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

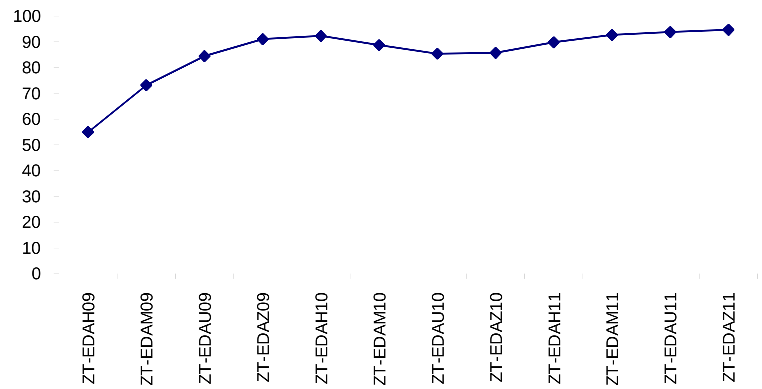
ZT Yield - ED Yield



	ED Duration as Fraction of year	ZT Duration	Spread Duration	
EDAH09	0.114	1.80	1.68	ZT-EDAH09
EDAM09	0.364	1.80	1.43	ZT-EDAM09
EDAU09	0.613	1.80	1.18	ZT-EDAU09
EDAZ09	0.862	1.80	0.93	ZT-EDAZ09
EDAH10	1.112	1.80	0.68	ZT-EDAH10
EDAM10	1.361	1.80	0.43	ZT-EDAM10
EDAU10	1.610	1.80	0.19	ZT-EDAU10
EDAZ10	1.860	1.80	(0.06)	ZT-EDAZ10
EDAH11	2.109	1.80	(0.31)	ZT-EDAH11
EDAM11	2.358	1.80	(0.56)	ZT-EDAM11
EDAU11	2.627	1.80	(0.83)	ZT-EDAU11
EDAZ11	2.876	1.80	(1.08)	ZT-EDAZ11

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

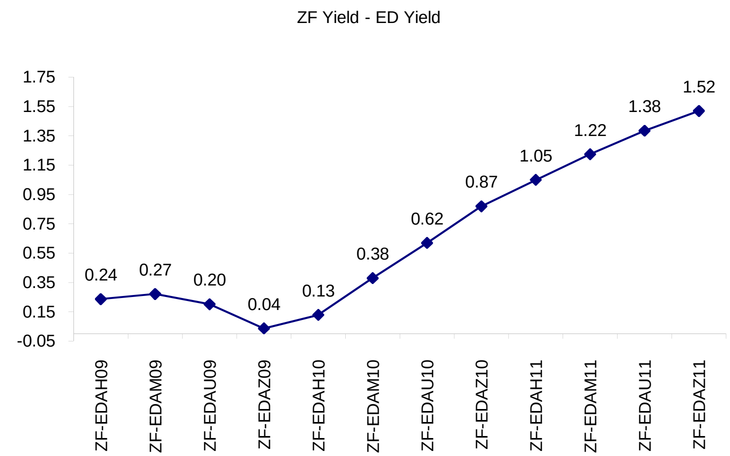
Correlation



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	19.776	0.24	ZF-EDAH09	65.995
EDAM09	19.741	0.27	ZF-EDAM09	79.900
EDAU09	19.811	0.20	ZF-EDAU09	88.049
EDAZ09	19.976	0.04	ZF-EDAZ09	92.140
EDAH10	20.141	0.13	ZF-EDAH10	95.076
EDAM10	20.391	0.38	ZF-EDAM10	94.736
EDAU10	20.631	0.62	ZF-EDAU10	93.998
EDAZ10	20.881	0.87	ZF-EDAZ10	94.773
EDAH11	21.061	1.05	ZF-EDAH11	97.483
EDAM11	21.236	1.22	ZF-EDAM11	98.545
EDAU11	21.396	1.38	ZF-EDAU11	98.127
EDAZ11	21.531	1.52	ZF-EDAZ11	97.623

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	0.114	1.51	1.39	ZF-EDAH09
EDAM09	0.364	1.51	1.14	ZF-EDAM09
EDAU09	0.613	1.51	0.89	ZF-EDAU09
EDAZ09	0.862	1.51	0.64	ZF-EDAZ09
EDAH10	1.112	1.51	0.39	ZF-EDAH10
EDAM10	1.361	1.51	0.15	ZF-EDAM10
EDAU10	1.610	1.51	(0.10)	ZF-EDAU10
EDAZ10	1.860	1.51	(0.35)	ZF-EDAZ10
EDAH11	2.109	1.51	(0.60)	ZF-EDAH11
EDAM11	2.358	1.51	(0.85)	ZF-EDAM11
EDAU11	2.627	1.51	(1.12)	ZF-EDAU11
EDAZ11	2.876	1.51	(1.37)	ZF-EDAZ11

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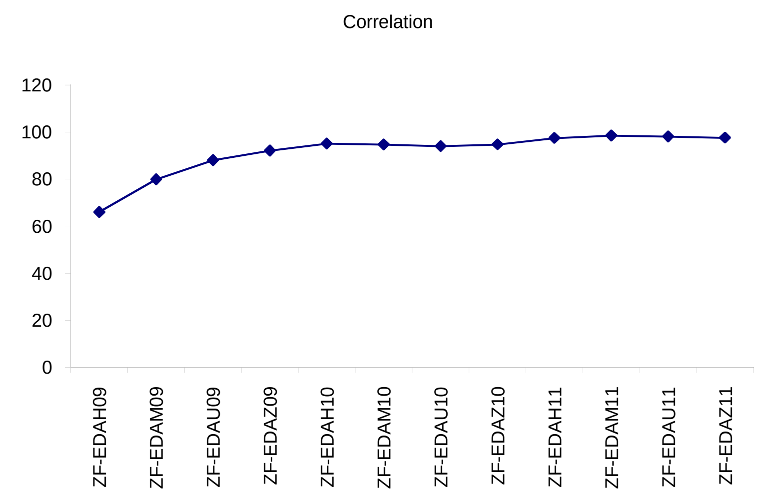
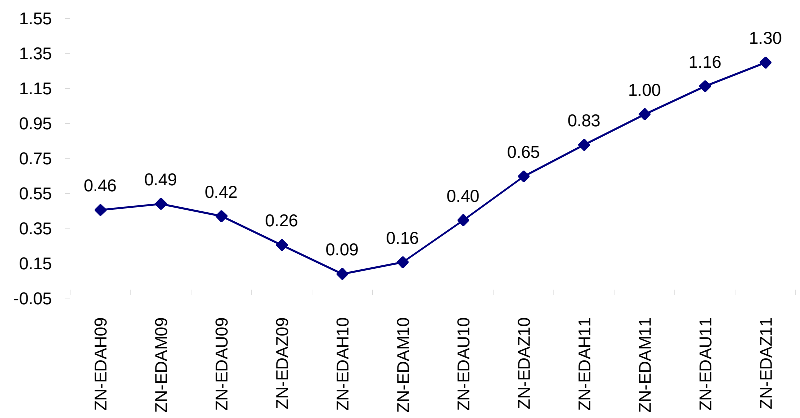


Dirty TED: ZN vs Eurodollar Contracts

	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	24.426	0.46	ZN-EDAH09	69.976
EDAM09	24.391	0.49	ZN-EDAM09	82.035
EDAU09	24.461	0.42	ZN-EDAU09	87.912
EDAZ09	24.626	0.26	ZN-EDAZ09	90.003
EDAH10	24.791	0.09	ZN-EDAH10	91.436
EDAM10	25.041	0.16	ZN-EDAM10	89.951
EDAU10	25.281	0.40	ZN-EDAU10	89.023
EDAZ10	25.531	0.65	ZN-EDAZ10	90.401
EDAH11	25.711	0.83	ZN-EDAH11	95.041
EDAM11	25.886	1.00	ZN-EDAM11	97.375
EDAU11	26.046	1.16	ZN-EDAU11	97.397
EDAZ11	26.181	1.30	ZN-EDAZ11	97.232

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

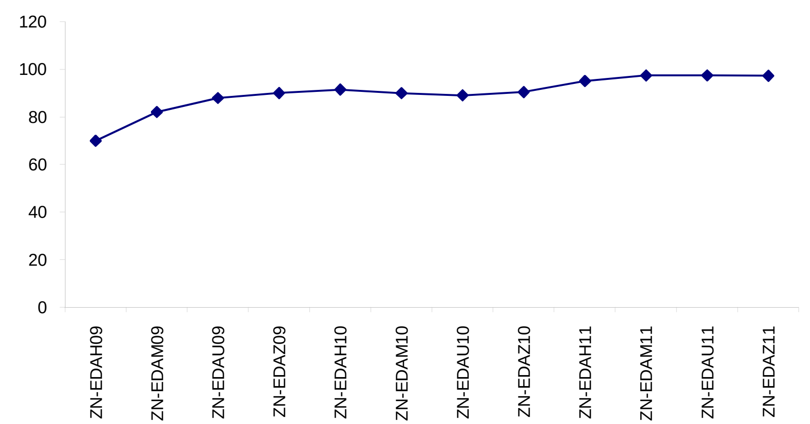
ZN Yield - ED Yield



	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAH09	0.114	6.19	6.07	ZN-EDAH09
EDAM09	0.364	6.19	5.82	ZN-EDAM09
EDAU09	0.613	6.19	5.57	ZN-EDAU09
EDAZ09	0.862	6.19	5.32	ZN-EDAZ09
EDAH10	1.112	6.19	5.08	ZN-EDAH10
EDAM10	1.361	6.19	4.83	ZN-EDAM10
EDAU10	1.610	6.19	4.58	ZN-EDAU10
EDAZ10	1.860	6.19	4.33	ZN-EDAZ10
EDAH11	2.109	6.19	4.08	ZN-EDAH11
EDAM11	2.358	6.19	3.83	ZN-EDAM11
EDAU11	2.627	6.19	3.56	ZN-EDAU11
EDAZ11	2.876	6.19	3.31	ZN-EDAZ11

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

Correlation



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	1.261	0.39	2y-EDAH09	-43.861
EDAM09	1.226	0.36	2y-EDAM09	-62.605
EDAU09	1.296	0.43	2y-EDAU09	-75.595
EDAZ09	1.461	0.59	2y-EDAZ09	-83.907
EDAH10	1.626	0.76	2y-EDAH10	-86.953
EDAM10	1.876	1.01	2y-EDAM10	-83.945
EDAU10	2.116	1.25	2y-EDAU10	-81.186
EDAZ10	2.366	1.50	2y-EDAZ10	-82.102
EDAH11	2.546	1.68	2y-EDAH11	-86.806
EDAM11	2.721	1.85	2y-EDAM11	-90.399
EDAU11	2.881	2.01	2y-EDAU11	-92.275
EDAZ11	3.016	2.15	2y-EDAZ11	-93.403

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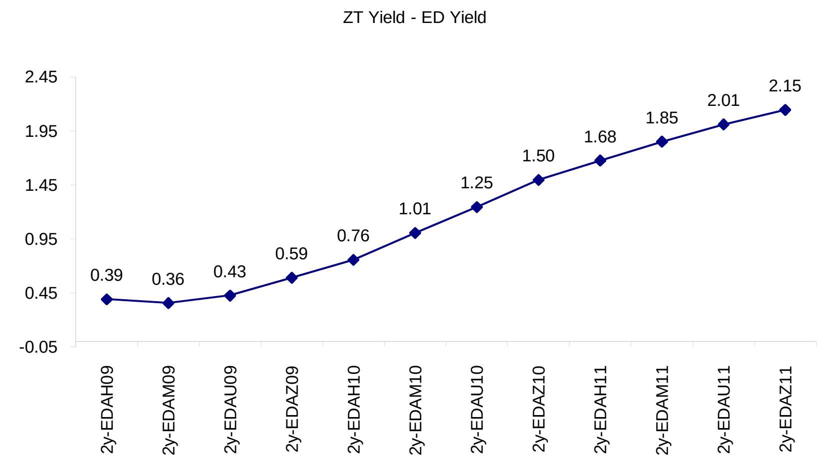
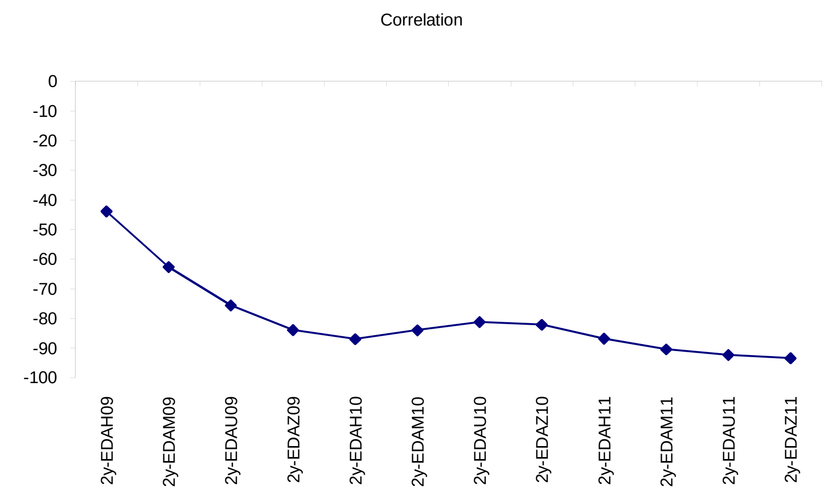


	ED Duration as Fraction of year	2Y Duration	Spread Duration	
EDAH09	0.114	1.97	1.86	2y-EDAH09
EDAM09	0.364	1.97	1.61	2y-EDAM09
EDAU09	0.613	1.97	1.36	2y-EDAU09
EDAZ09	0.862	1.97	1.11	2y-EDAZ09
EDAH10	1.112	1.97	0.86	2y-EDAH10
EDAM10	1.361	1.97	0.61	2y-EDAM10
EDAU10	1.610	1.97	0.36	2y-EDAU10
EDAZ10	1.860	1.97	0.11	2y-EDAZ10
EDAH11	2.109	1.97	(0.14)	2y-EDAH11
EDAM11	2.358	1.97	(0.39)	2y-EDAM11
EDAU11	2.627	1.97	(0.66)	2y-EDAU11
EDAZ11	2.876	1.97	(0.91)	2y-EDAZ11

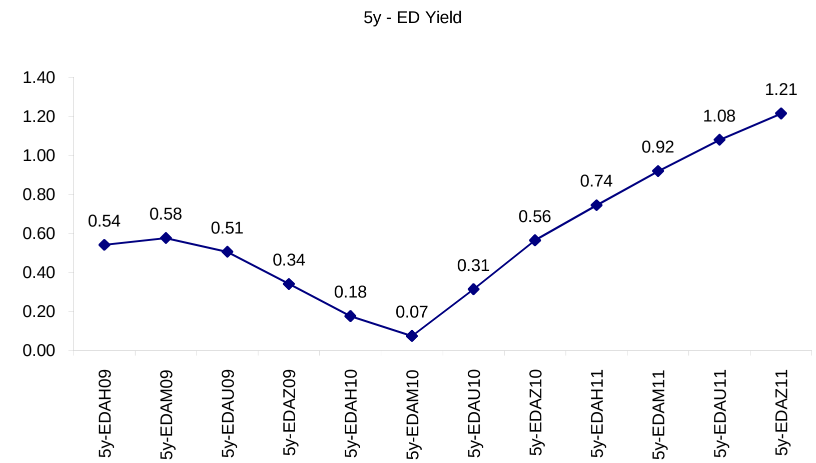
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

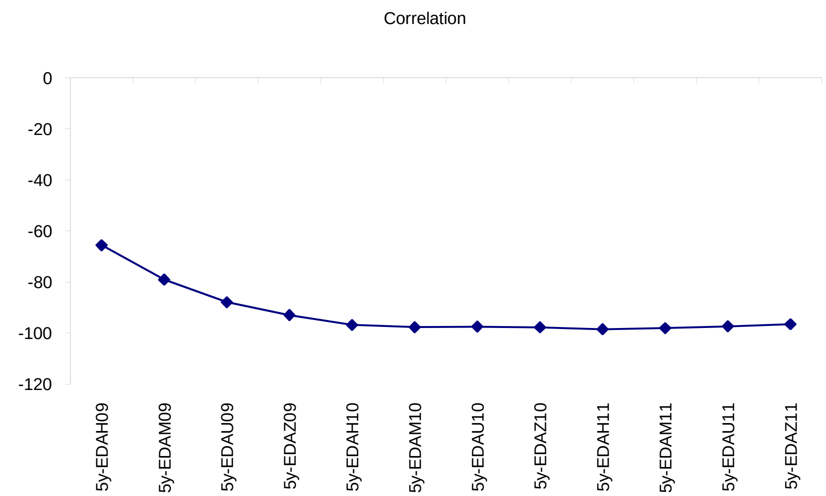
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.979	0.54	5y-EDAH09	-65.454
EDAM09	0.944	0.58	5y-EDAM09	-79.000
EDAU09	1.014	0.51	5y-EDAU09	-87.870
EDAZ09	1.179	0.34	5y-EDAZ09	-92.898
EDAH10	1.344	0.18	5y-EDAH10	-96.789
EDAM10	1.594	0.07	5y-EDAM10	-97.663
EDAU10	1.834	0.31	5y-EDAU10	-97.459
EDAZ10	2.084	0.56	5y-EDAZ10	-97.731
EDAH11	2.264	0.74	5y-EDAH11	-98.486
EDAM11	2.439	0.92	5y-EDAM11	-98.018
EDAU11	2.599	1.08	5y-EDAU11	-97.322
EDAZ11	2.734	1.21	5y-EDAZ11	-96.500

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	0.114	4.76	4.64	5y-EDAH09
EDAM09	0.364	4.76	4.39	5y-EDAM09
EDAU09	0.613	4.76	4.14	5y-EDAU09
EDAZ09	0.862	4.76	3.90	5y-EDAZ09
EDAH10	1.112	4.76	3.65	5y-EDAH10
EDAM10	1.361	4.76	3.40	5y-EDAM10
EDAU10	1.610	4.76	3.15	5y-EDAU10
EDAZ10	1.860	4.76	2.90	5y-EDAZ10
EDAH11	2.109	4.76	2.65	5y-EDAH11
EDAM11	2.358	4.76	2.40	5y-EDAM11
EDAU11	2.627	4.76	2.13	5y-EDAU11
EDAZ11	2.876	4.76	1.88	5y-EDAZ11

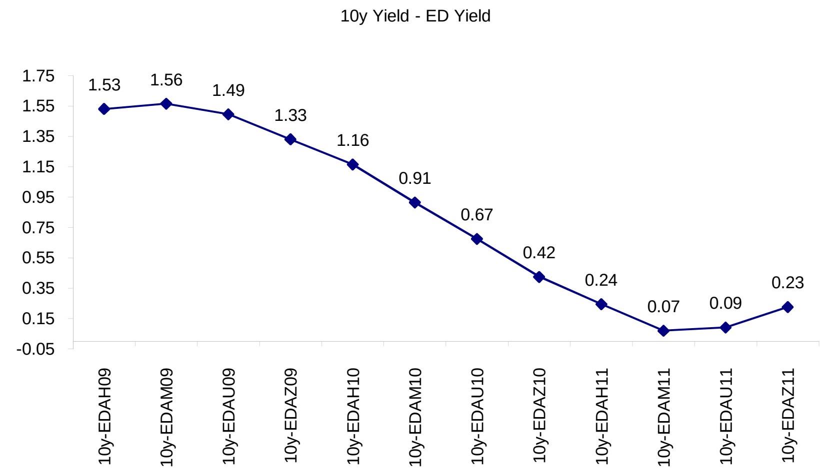
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

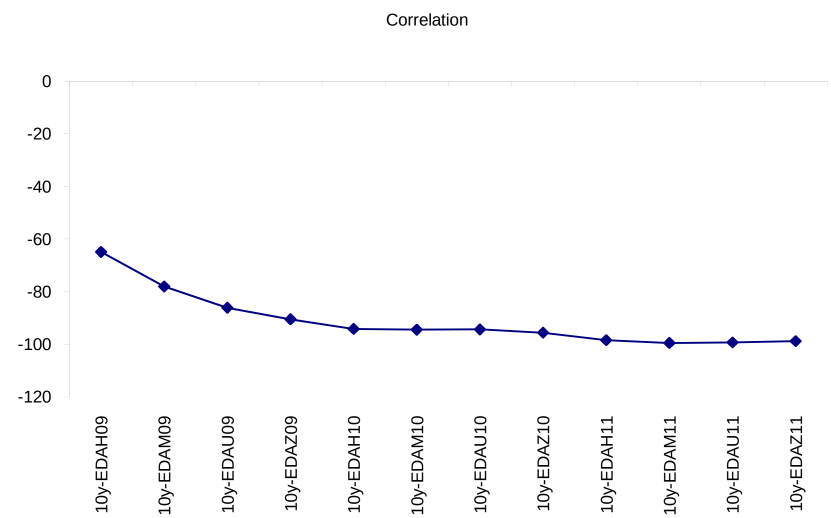
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAH09	0.979	1.53	10y-EDAH09	-64.872
EDAM09	0.944	1.56	10y-EDAM09	-78.037
EDAU09	1.014	1.49	10y-EDAU09	-86.138
EDAZ09	1.179	1.33	10y-EDAZ09	-90.541
EDAH10	1.344	1.16	10y-EDAH10	-94.206
EDAM10	1.594	0.91	10y-EDAM10	-94.476
EDAU10	1.834	0.67	10y-EDAU10	-94.376
EDAZ10	2.084	0.42	10y-EDAZ10	-95.633
EDAH11	2.264	0.24	10y-EDAH11	-98.493
EDAM11	2.439	0.07	10y-EDAM11	-99.562
EDAU11	2.599	0.09	10y-EDAU11	-99.340
EDAZ11	2.734	0.23	10y-EDAZ11	-98.849

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



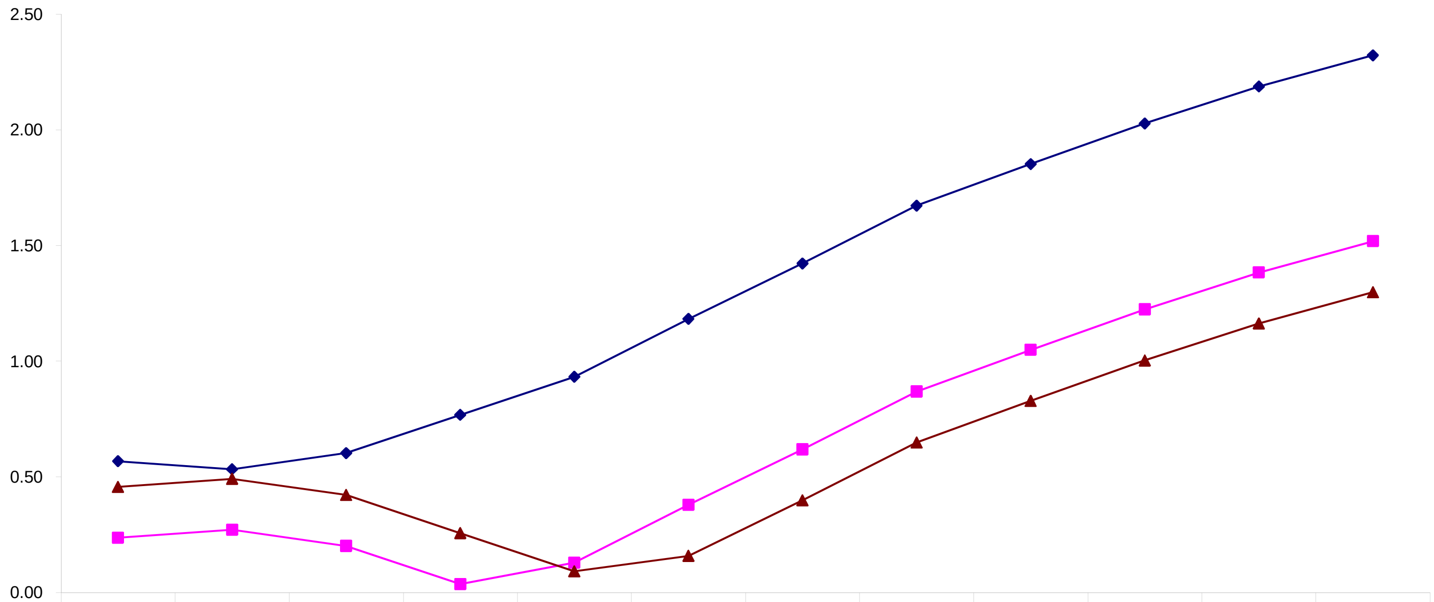
	ED Duration as Fraction of year	10Y Duration	Spread Duration	
EDAH09	0.114	8.17	8.05	10y-EDAH09
EDAM09	0.364	8.17	7.80	10y-EDAM09
EDAU09	0.613	8.17	7.56	10y-EDAU09
EDAZ09	0.862	8.17	7.31	10y-EDAZ09
EDAH10	1.112	8.17	7.06	10y-EDAH10
EDAM10	1.361	8.17	6.81	10y-EDAM10
EDAU10	1.610	8.17	6.56	10y-EDAU10
EDAZ10	1.860	8.17	6.31	10y-EDAZ10
EDAH11	2.109	8.17	6.06	10y-EDAH11
EDAM11	2.358	8.17	5.81	10y-EDAM11
EDAU11	2.627	8.17	5.54	10y-EDAU11
EDAZ11	2.876	8.17	5.29	10y-EDAZ11

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



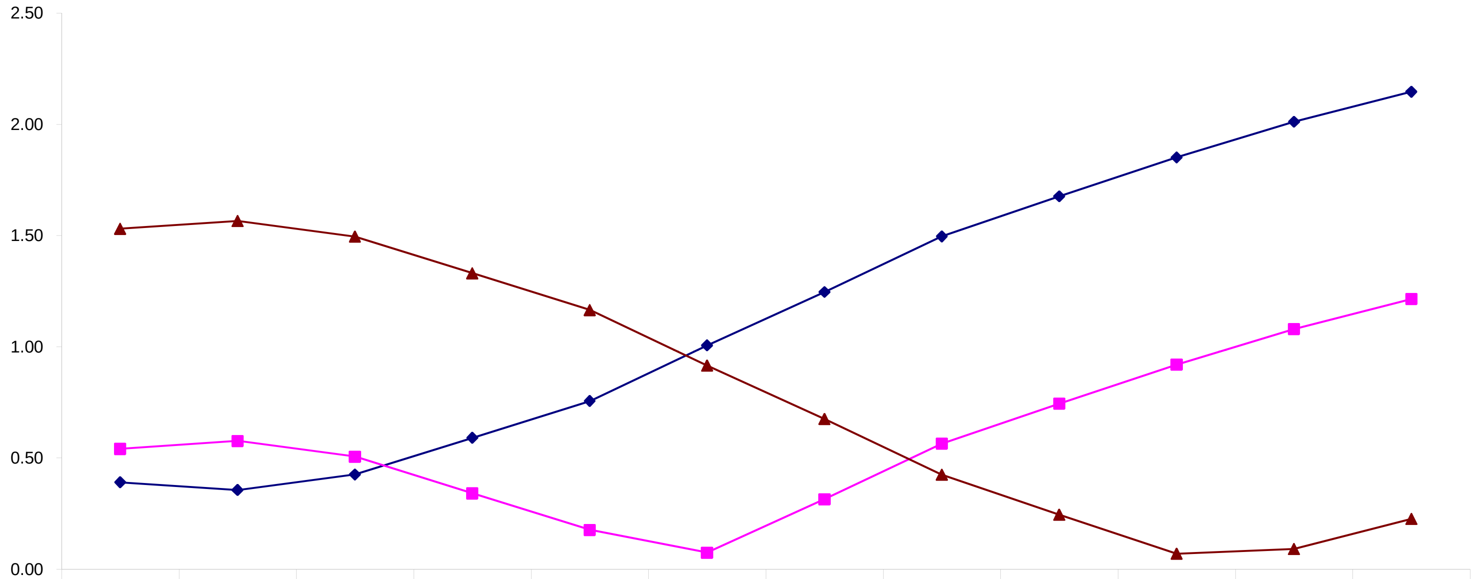
Dirty TED Curve

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.



ZT	0.57	0.53	0.60	0.77	0.93	1.18	1.42	1.67	1.85	2.03	2.19	2.32
ZF	0.24	0.27	0.20	0.04	0.13	0.38	0.62	0.87	1.05	1.22	1.38	1.52
ZN	0.46	0.49	0.42	0.26	0.09	0.16	0.40	0.65	0.83	1.00	1.16	1.30

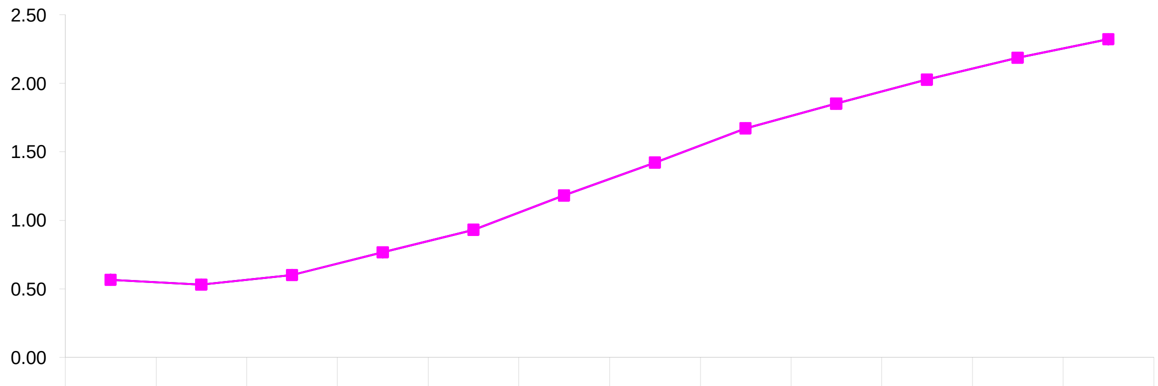
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y	0.39	0.36	0.43	0.59	0.76	1.01	1.25	1.50	1.68	1.85	2.01	2.15
5y	0.54	0.58	0.51	0.34	0.18	0.07	0.31	0.56	0.74	0.92	1.08	1.21
10y	1.53	1.56	1.49	1.33	1.16	0.91	0.67	0.42	0.24	0.07	0.09	0.23

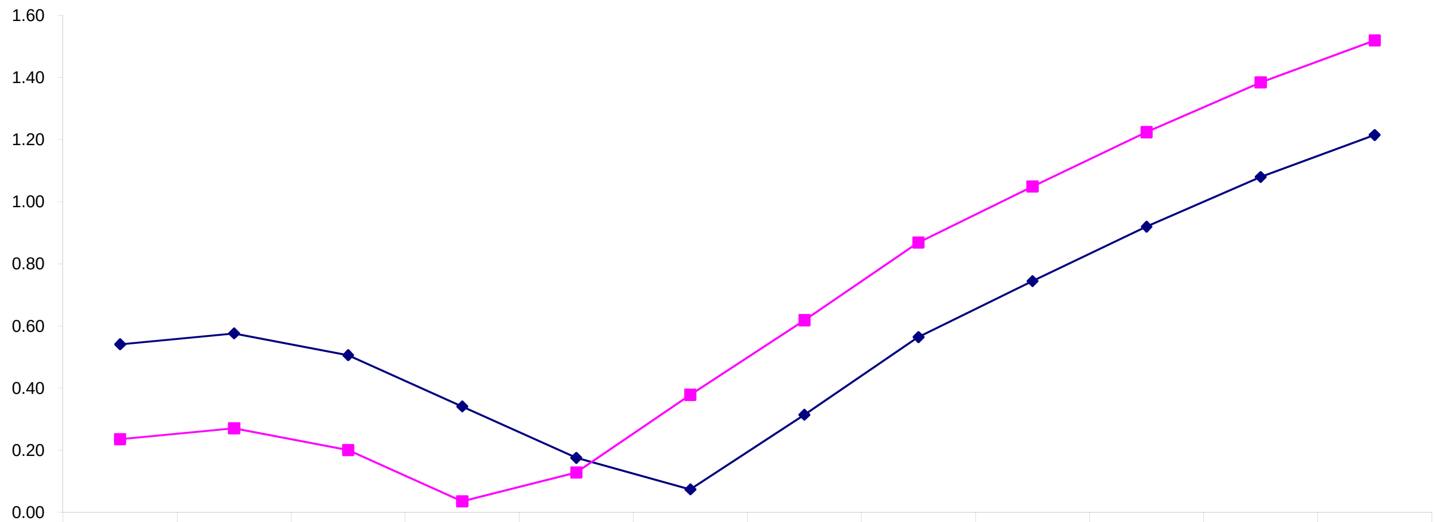
2y 5y 10y

2y Basis TED Curve



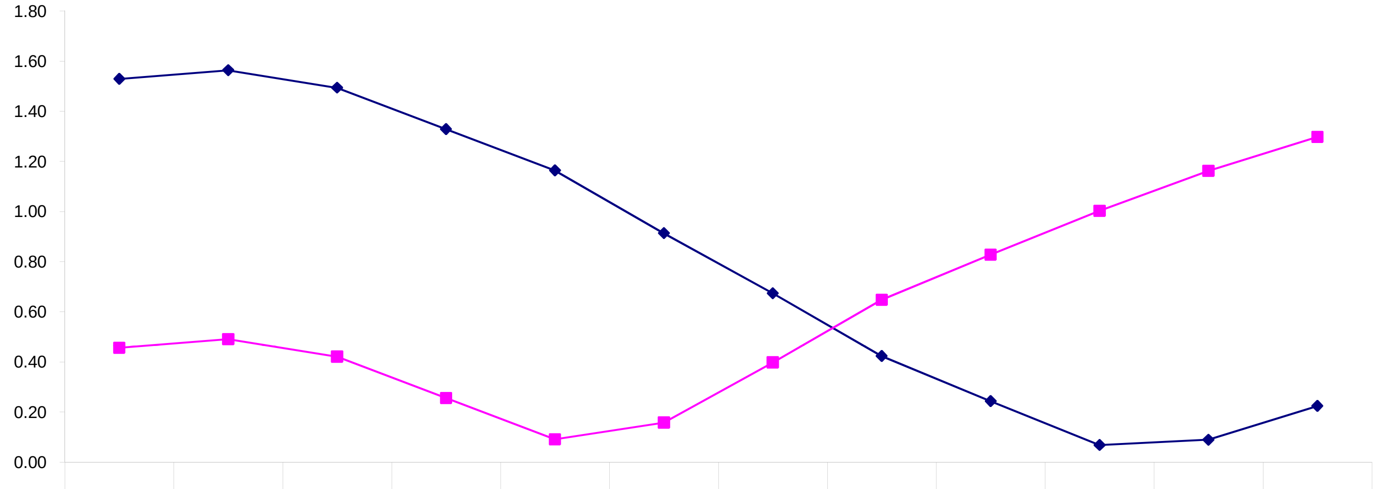
2y	0.57	0.53	0.60	0.77	0.93	1.18	1.42	1.67	1.85	2.03	2.19	2.32
ZT	0.57	0.53	0.60	0.77	0.93	1.18	1.42	1.67	1.85	2.03	2.19	2.32

2y ZT



5y	0.54	0.58	0.51	0.34	0.18	0.07	0.31	0.56	0.74	0.92	1.08	1.21
ZF	0.24	0.27	0.20	0.04	0.13	0.38	0.62	0.87	1.05	1.22	1.38	1.52

5y ZF



10y	1.53	1.56	1.49	1.33	1.16	0.91	0.67	0.42	0.24	0.07	0.09	0.23
ZN	0.46	0.49	0.42	0.26	0.09	0.16	0.40	0.65	0.83	1.00	1.16	1.30

	Last Yield	Net Last Yield	Last Price
White Pack	1.343	3.625	9868.000
Red Pack	2.043	7.625	9799.500
Green Pack	2.859	4.500	9720.000
Blue Pack	3.233	4.375	9683.625
Gold Pack		0.000	9656.500