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	105.9375	105.300	2.455	1.73
ZF	111.4688	111.150	3.089	3.87
ZN	114.9531	114.305	3.727	5.81
2y	99.272	99.0870	2.510	1.87
5y	99.663	99.2120	3.197	4.46
10y	99.859	99.2750	3.890	8.06

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM08	97.360	2.640	24	0.065	JUN	
EDAU08	97.240	2.760	115	0.314	SEP	White
EDAZ08	96.995	3.005	206	0.564	DEC	Pack
EDAH09	96.810	3.190	297	0.813	MAR	
EDAM09	96.595	3.405	388	1.062	JUN	
EDAU09	96.400	3.600	479	1.312	SEP	Red Pack
EDAZ09	96.205	3.795	570	1.561	DEC	
EDAH10	96.070	3.930	661	1.810	MAR	
EDAM10	95.930	4.070	752	2.060	JUN	
EDAU10	95.805	4.195	843	2.309	SEP	Green
EDAZ10	95.675	4.325	934	2.558	DEC	Pack
EDAH11	95.615	4.385	1025	2.808	MAR	
EDAM11	95.525	4.475	1116	3.057	JUN	
EDAU11	95.475	4.525	1214	3.325	SEP	Blue Pack
EDAZ11	95.380	4.620	1305	3.575	DEC	
EDAH12	95.355	4.645	1396	3.824	MAR	
EDAM12	95.260	4.740	1487	4.073	JUN	
EDAU12	95.265	4.735	1578	4.323	SEP	Gold Pack
EDAZ12	95.145	4.855	1669	4.572	DEC	
EDAH13	95.160	4.840	1760	4.821	MAR	

Pack Prices

	Last Yield	Net Yield	Last Price
White Pack	2.961	2.438	9710.125
Red Pack	3.768	3.625	9631.750
Green Pack	4.349	3.750	9575.625
Blue Pack	4.683	2.625	9543.375
Gold Pack	4.918	2.250	9520.750

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.

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)

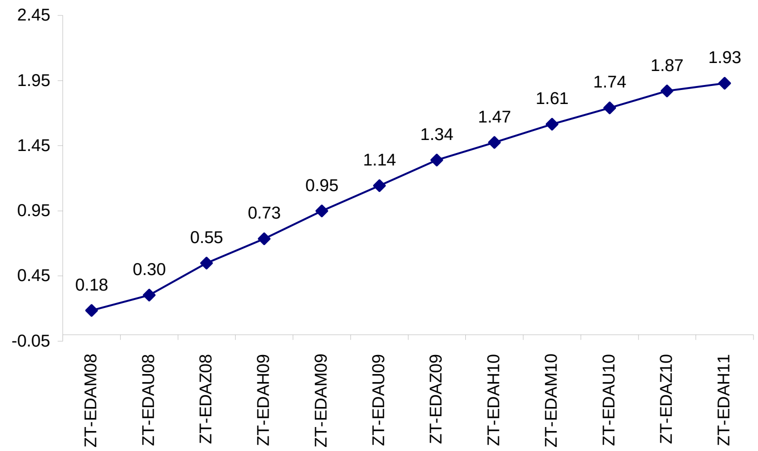
Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days. So, it's much easier to formulate the correlations based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

Dirty TED: ZT vs Eurodollar Contracts

	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	8.577	0.18	ZT-EDAM08	70.336
EDAU08	8.697	0.30	ZT-EDAU08	92.592
EDAZ08	8.942	0.55	ZT-EDAZ08	95.938
EDAH09	9.127	0.73	ZT-EDAH09	99.118
EDAM09	9.342	0.95	ZT-EDAM09	99.343
EDAU09	9.537	1.14	ZT-EDAU09	98.565
EDAZ09	9.732	1.34	ZT-EDAZ09	98.151
EDAH10	9.867	1.47	ZT-EDAH10	97.712
EDAM10	10.008	1.61	ZT-EDAM10	97.302
EDAU10	10.133	1.74	ZT-EDAU10	96.417
EDAZ10	10.263	1.87	ZT-EDAZ10	95.155
EDAH11	10.323	1.93	ZT-EDAH11	94.614

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

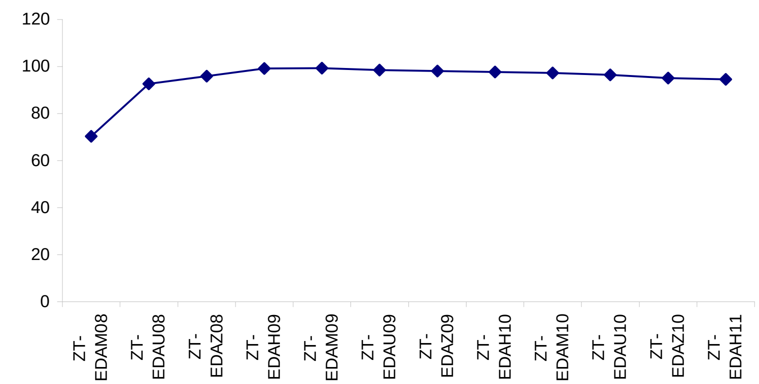
ZT Yield - ED Yield



	ED Duration as Fraction of year	ZT Duration	Spread Duration	
EDAM08	0.065	1.73	1.66	ZT-EDAM08
EDAU08	0.314	1.73	1.41	ZT-EDAU08
EDAZ08	0.564	1.73	1.16	ZT-EDAZ08
EDAH09	0.813	1.73	0.91	ZT-EDAH09
EDAM09	1.062	1.73	0.66	ZT-EDAM09
EDAU09	1.312	1.73	0.41	ZT-EDAU09
EDAZ09	1.561	1.73	0.17	ZT-EDAZ09
EDAH10	1.810	1.73	(0.08)	ZT-EDAH10
EDAM10	2.060	1.73	(0.33)	ZT-EDAM10
EDAU10	2.309	1.73	(0.58)	ZT-EDAU10
EDAZ10	2.558	1.73	(0.83)	ZT-EDAZ10
EDAH11	2.808	1.73	(1.08)	ZT-EDAH11

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

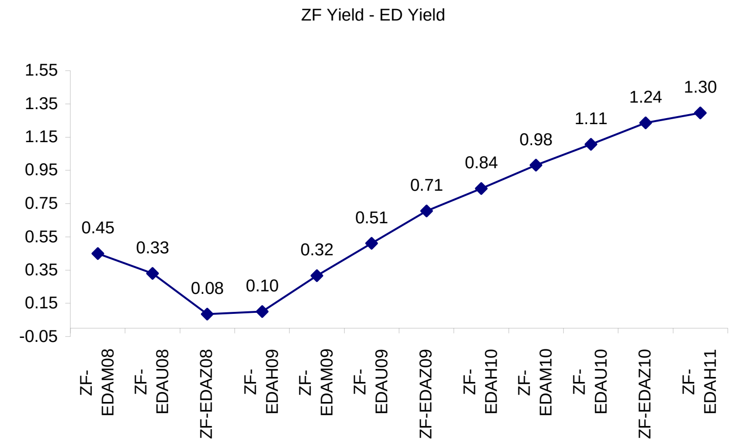
Correlation



Dirty TED: ZF vs Eurodollar Contracts

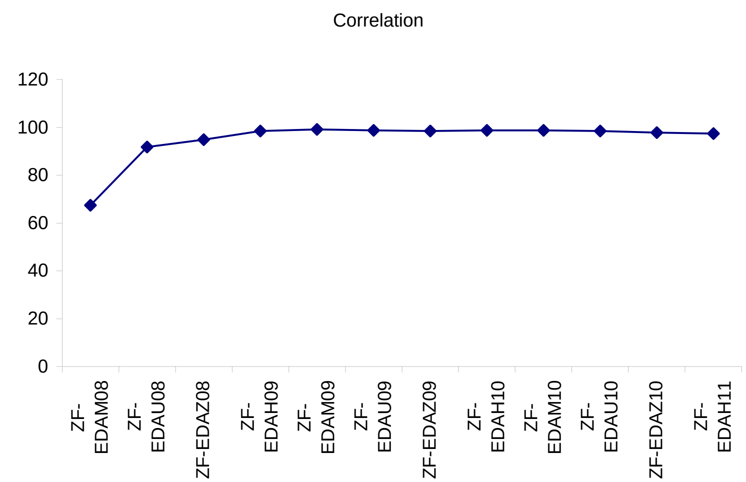
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	14.109	0.45	ZF-EDAM08	67.391
EDAU08	14.229	0.33	ZF-EDAU08	91.725
EDAZ08	14.474	0.08	ZF-EDAZ08	94.900
EDAH09	14.659	0.10	ZF-EDAH09	98.520
EDAM09	14.874	0.32	ZF-EDAM09	99.124
EDAU09	15.069	0.51	ZF-EDAU09	98.680
EDAZ09	15.264	0.71	ZF-EDAZ09	98.528
EDAH10	15.399	0.84	ZF-EDAH10	98.715
EDAM10	15.539	0.98	ZF-EDAM10	98.783
EDAU10	15.664	1.11	ZF-EDAU10	98.473
EDAZ10	15.794	1.24	ZF-EDAZ10	97.727
EDAH11	15.854	1.30	ZF-EDAH11	97.432

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	
EDAM08	0.065	3.87	3.80	ZF-EDAM08
EDAU08	0.314	3.87	3.55	ZF-EDAU08
EDAZ08	0.564	3.87	3.30	ZF-EDAZ08
EDAH09	0.813	3.87	3.05	ZF-EDAH09
EDAM09	1.062	3.87	2.80	ZF-EDAM09
EDAU09	1.312	3.87	2.55	ZF-EDAU09
EDAZ09	1.561	3.87	2.30	ZF-EDAZ09
EDAH10	1.810	3.87	2.06	ZF-EDAH10
EDAM10	2.060	3.87	1.81	ZF-EDAM10
EDAU10	2.309	3.87	1.56	ZF-EDAU10
EDAZ10	2.558	3.87	1.31	ZF-EDAZ10
EDAH11	2.808	3.87	1.06	ZF-EDAH11

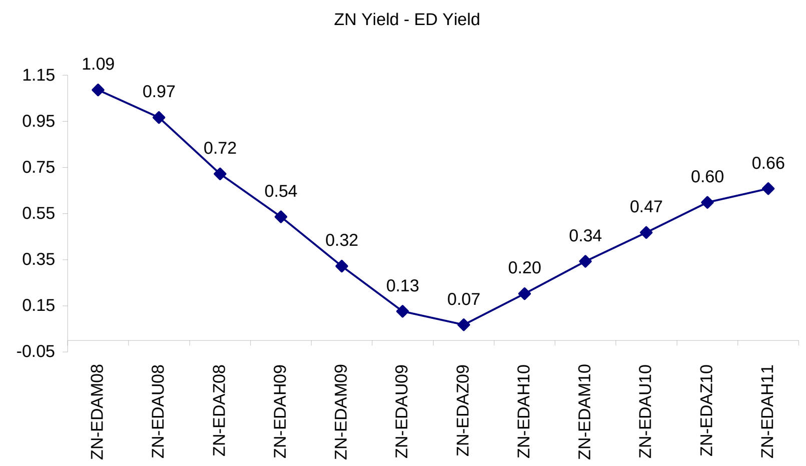
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

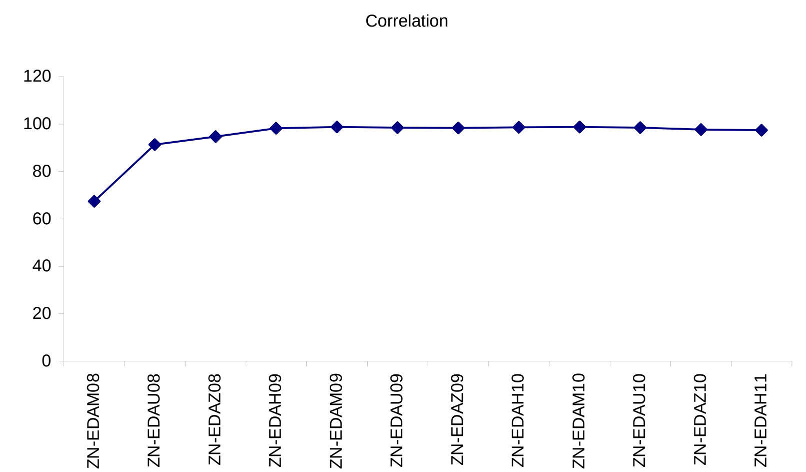
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	17.593	1.09	ZN-EDAM08	67.486
EDAU08	17.713	0.97	ZN-EDAU08	91.335
EDAZ08	17.958	0.72	ZN-EDAZ08	94.755
EDAH09	18.143	0.54	ZN-EDAH09	98.233
EDAM09	18.358	0.32	ZN-EDAM09	98.826
EDAU09	18.553	0.13	ZN-EDAU09	98.560
EDAZ09	18.748	0.07	ZN-EDAZ09	98.415
EDAH10	18.883	0.20	ZN-EDAH10	98.715
EDAM10	19.023	0.34	ZN-EDAM10	98.783
EDAU10	19.148	0.47	ZN-EDAU10	98.473
EDAZ10	19.278	0.60	ZN-EDAZ10	97.727
EDAH11	19.338	0.66	ZN-EDAH11	97.432

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	
EDAM08	0.065	5.81	5.74	ZN-EDAM08
EDAU08	0.314	5.81	5.49	ZN-EDAU08
EDAZ08	0.564	5.81	5.24	ZN-EDAZ08
EDAH09	0.813	5.81	4.99	ZN-EDAH09
EDAM09	1.062	5.81	4.74	ZN-EDAM09
EDAU09	1.312	5.81	4.50	ZN-EDAU09
EDAZ09	1.561	5.81	4.25	ZN-EDAZ09
EDAH10	1.810	5.81	4.00	ZN-EDAH10
EDAM10	2.060	5.81	3.75	ZN-EDAM10
EDAU10	2.309	5.81	3.50	ZN-EDAU10
EDAZ10	2.558	5.81	3.25	ZN-EDAZ10
EDAH11	2.808	5.81	3.00	ZN-EDAH11

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



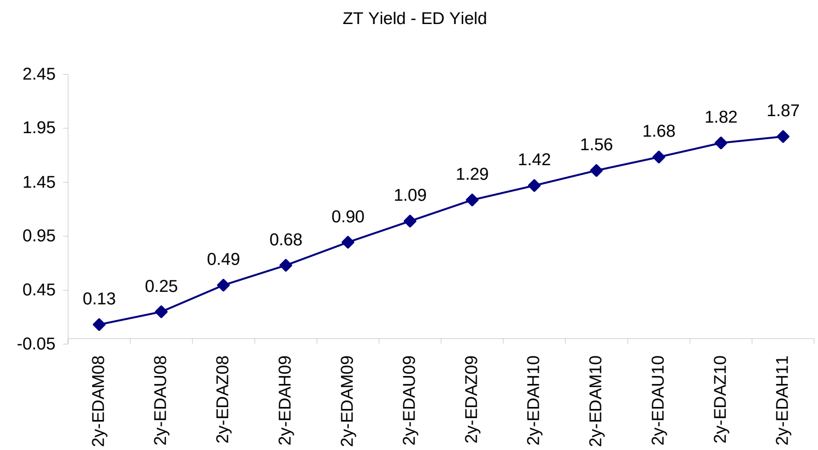
TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAM08	1.912	0.13	2y-EDAM08	-54.968
EDAU08	2.032	0.25	2y-EDAU08	-83.747
EDAZ08	2.277	0.49	2y-EDAZ08	-87.662
EDAH09	2.462	0.68	2y-EDAH09	-93.679
EDAM09	2.677	0.90	2y-EDAM09	-96.495
EDAU09	2.872	1.09	2y-EDAU09	-96.661
EDAZ09	3.067	1.29	2y-EDAZ09	-96.504
EDAH10	3.202	1.42	2y-EDAH10	-96.961
EDAM10	3.342	1.56	2y-EDAM10	-96.984
EDAU10	3.467	1.68	2y-EDAU10	-96.518
EDAZ10	3.597	1.82	2y-EDAZ10	-96.134
EDAH11	3.657	1.87	2y-EDAH11	-95.517

Price = Outright Decimal Price - Euro Contract Price

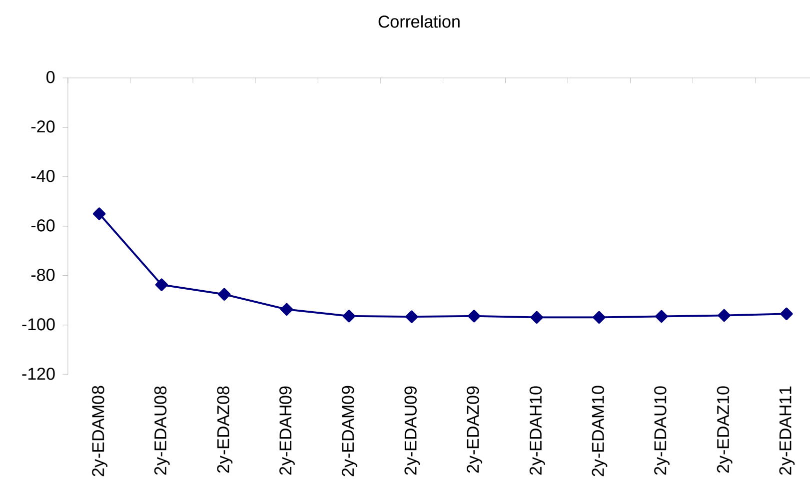
Yield = ABS (Proxy Yield - Implied Euro Contract yield)

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



	ED Duration as Fraction of year	**2Y Duration**	**Spread Duration**	
EDAM08	0.065	1.87	1.81	2y-EDAM08
EDAU08	0.314	1.87	1.56	2y-EDAU08
EDAZ08	0.564	1.87	1.31	2y-EDAZ08
EDAH09	0.813	1.87	1.06	2y-EDAH09
EDAM09	1.062	1.87	0.81	2y-EDAM09
EDAU09	1.312	1.87	0.56	2y-EDAU09
EDAZ09	1.561	1.87	0.31	2y-EDAZ09
EDAH10	1.810	1.87	0.06	2y-EDAH10
EDAM10	2.060	1.87	(0.19)	2y-EDAM10
EDAU10	2.309	1.87	(0.43)	2y-EDAU10
EDAZ10	2.558	1.87	(0.68)	2y-EDAZ10
EDAH11	2.808	1.87	(0.93)	2y-EDAH11

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

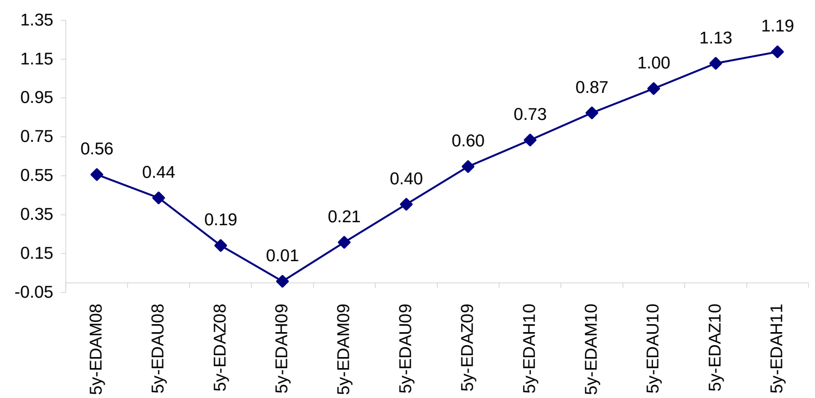


TERM TED: 5y vs Eurodollar Contracts

	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.303	0.56	5y-EDAM08	-54.798
EDAU08	2.423	0.44	5y-EDAU08	-84.191
EDAZ08	2.668	0.19	5y-EDAZ08	-54.798
EDAH09	2.853	0.01	5y-EDAH09	-92.130
EDAM09	3.068	0.21	5y-EDAM09	-94.271
EDAU09	3.263	0.40	5y-EDAU09	-94.374
EDAZ09	3.458	0.60	5y-EDAZ09	-94.501
EDAH10	3.593	0.73	5y-EDAH10	-95.945
EDAM10	3.733	0.87	5y-EDAM10	-96.919
EDAU10	3.858	1.00	5y-EDAU10	-97.634
EDAZ10	3.988	1.13	5y-EDAZ10	-98.126
EDAH11	4.048	1.19	5y-EDAH11	-98.333

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

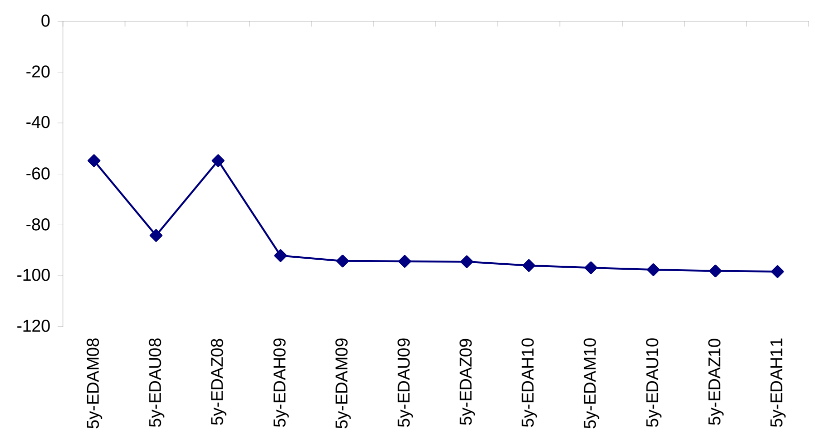
5y - ED Yield



	ED Duration as Fraction of year	5Y Duration	Spread Duration	
EDAM08	0.065	4.46	4.39	5y-EDAM08
EDAU08	0.314	4.46	4.14	5y-EDAU08
EDAZ08	0.564	4.46	3.90	5y-EDAZ08
EDAH09	0.813	4.46	3.65	5y-EDAH09
EDAM09	1.062	4.46	3.40	5y-EDAM09
EDAU09	1.312	4.46	3.15	5y-EDAU09
EDAZ09	1.561	4.46	2.90	5y-EDAZ09
EDAH10	1.810	4.46	2.65	5y-EDAH10
EDAM10	2.060	4.46	2.40	5y-EDAM10
EDAU10	2.309	4.46	2.15	5y-EDAU10
EDAZ10	2.558	4.46	1.90	5y-EDAZ10
EDAH11	2.808	4.46	1.65	5y-EDAH11

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

Correlation

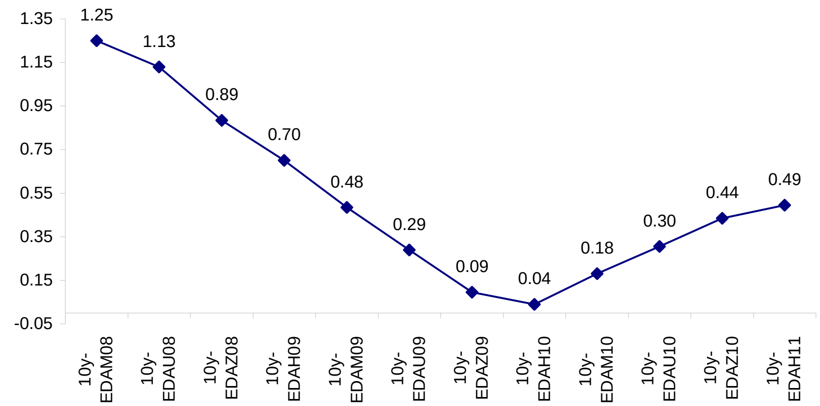


TERM TED: 10y vs Eurodollar Contracts

	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM08	2.303	1.25	10y-EDAM08	-64.464
EDAU08	2.423	1.13	10y-EDAU08	-88.389
EDAZ08	2.668	0.89	10y-EDAZ08	-64.464
EDAH09	2.853	0.70	10y-EDAH09	-91.204
EDAM09	3.068	0.48	10y-EDAM09	-90.627
EDAU09	3.263	0.29	10y-EDAU09	-89.757
EDAZ09	3.458	0.09	10y-EDAZ09	-89.719
EDAH10	3.593	0.04	10y-EDAH10	-91.224
EDAM10	3.733	0.18	10y-EDAM10	-92.635
EDAU10	3.858	0.30	10y-EDAU10	-93.893
EDAZ10	3.988	0.44	10y-EDAZ10	-94.443
EDAH11	4.048	0.49	10y-EDAH11	-95.716

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

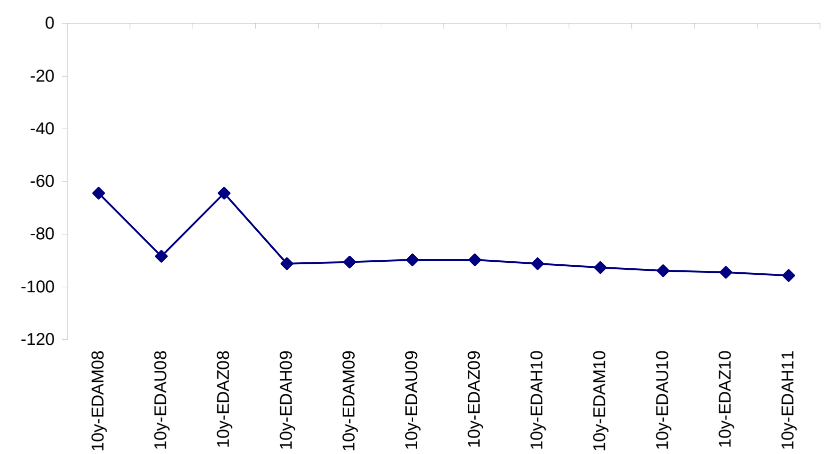
10y Yield - ED Yield



	ED Duration as Fraction of year	10Y Duration	Spread Duration	
EDAM08	0.065	8.06	7.99	10y-EDAM08
EDAU08	0.314	8.06	7.74	10y-EDAU08
EDAZ08	0.564	8.06	7.49	10y-EDAZ08
EDAH09	0.813	8.06	7.25	10y-EDAH09
EDAM09	1.062	8.06	7.00	10y-EDAM09
EDAU09	1.312	8.06	6.75	10y-EDAU09
EDAZ09	1.561	8.06	6.50	10y-EDAZ09
EDAH10	1.810	8.06	6.25	10y-EDAH10
EDAM10	2.060	8.06	6.00	10y-EDAM10
EDAU10	2.309	8.06	5.75	10y-EDAU10
EDAZ10	2.558	8.06	5.50	10y-EDAZ10
EDAH11	2.808	8.06	5.25	10y-EDAH11

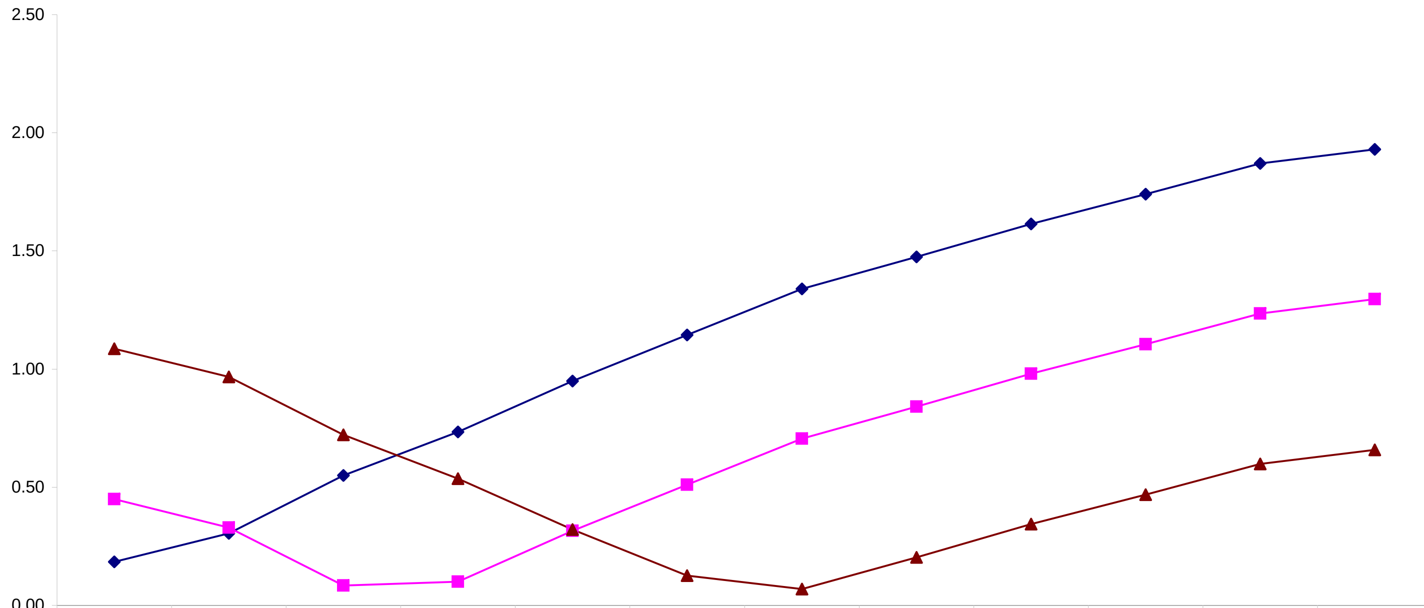
The farther away from 0 the spread duration is the riskier the trade.

Correlation



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.

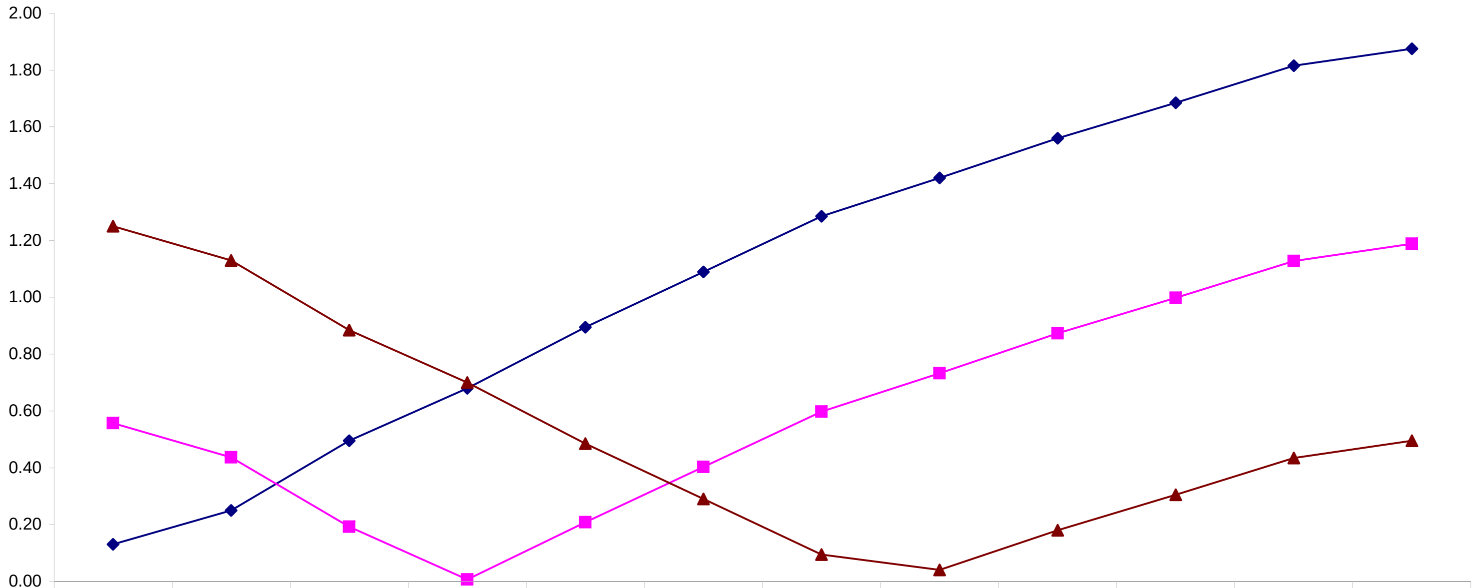


	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11
ZT	0.18	0.30	0.55	0.73	0.95	1.14	1.34	1.47	1.61	1.74	1.87	1.93
ZF	0.45	0.33	0.08	0.10	0.32	0.51	0.71	0.84	0.98	1.11	1.24	1.30
ZN	1.09	0.97	0.72	0.54	0.32	0.13	0.07	0.20	0.34	0.47	0.60	0.66

ZT ZF ZN

TED Curve

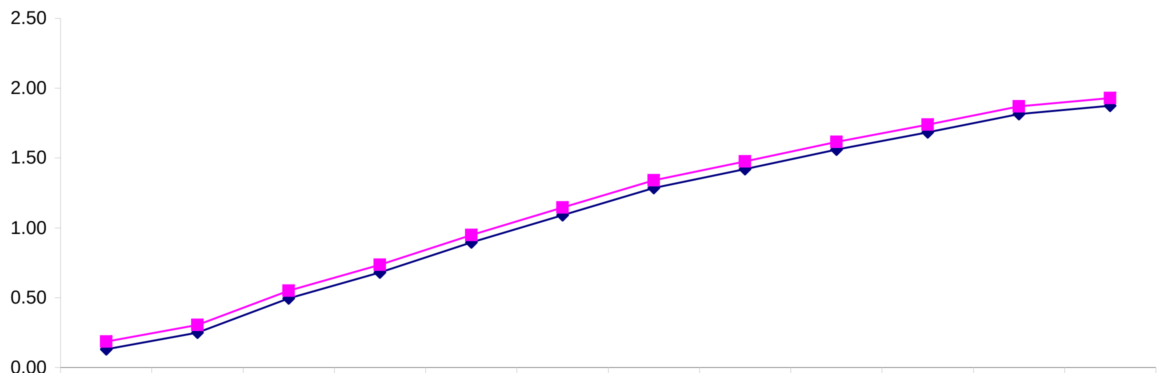
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11
2y	0.13	0.25	0.49	0.68	0.90	1.09	1.29	1.42	1.56	1.68	1.82	1.87
5y	0.56	0.44	0.19	0.01	0.21	0.40	0.60	0.73	0.87	1.00	1.13	1.19
10y	1.25	1.13	0.89	0.70	0.48	0.29	0.09	0.04	0.18	0.30	0.44	0.49

2y 5y 10y

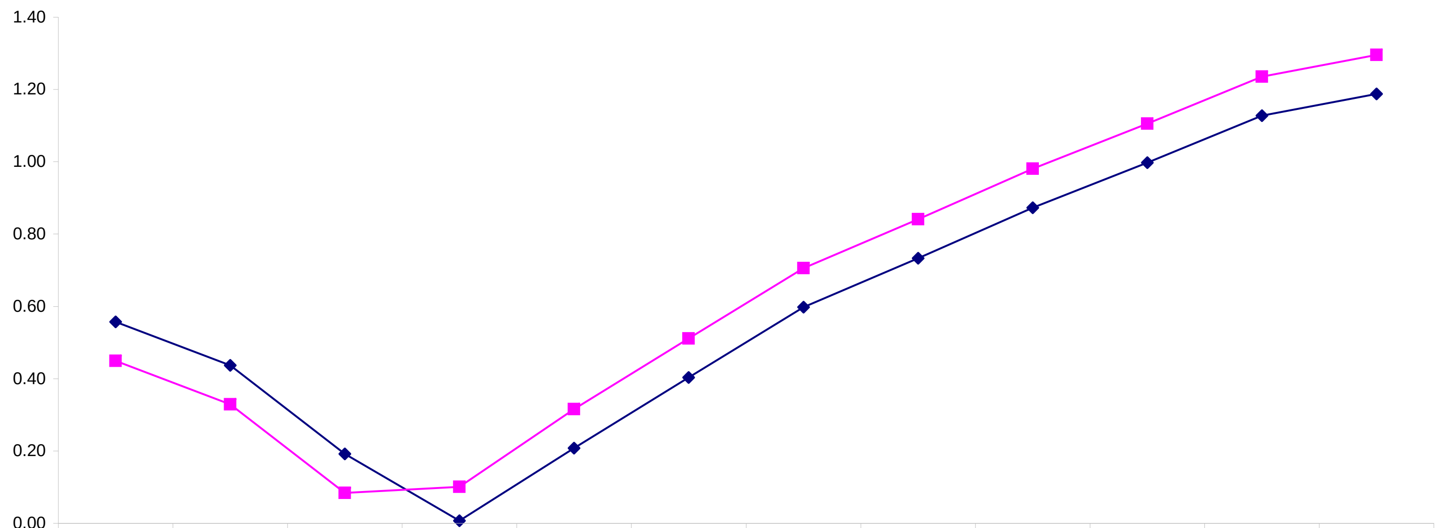
2y Basis TED Curve



	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11
2y	0.13	0.25	0.49	0.68	0.90	1.09	1.29	1.42	1.56	1.68	1.82	1.87
ZT	0.18	0.30	0.55	0.73	0.95	1.14	1.34	1.47	1.61	1.74	1.87	1.93

2y ZT

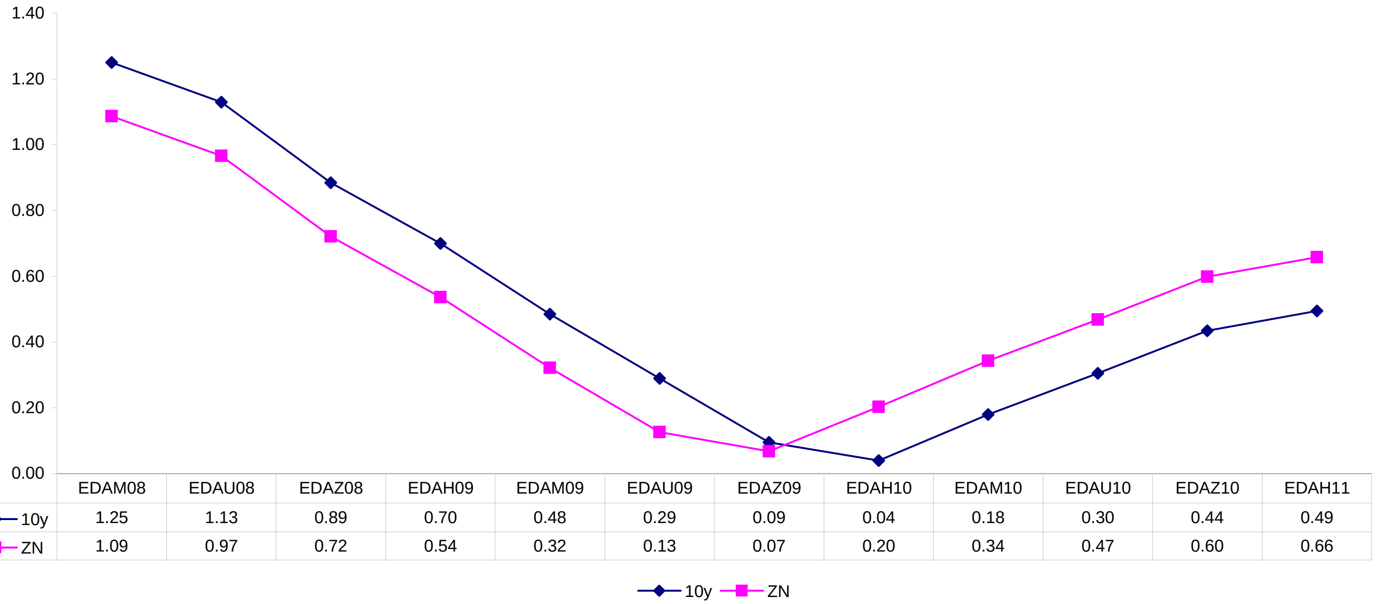
5y Basis TED Curve



	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11
5y	0.56	0.44	0.19	0.01	0.21	0.40	0.60	0.73	0.87	1.00	1.13	1.19
ZF	0.45	0.33	0.08	0.10	0.32	0.51	0.71	0.84	0.98	1.11	1.24	1.30

5y ZF

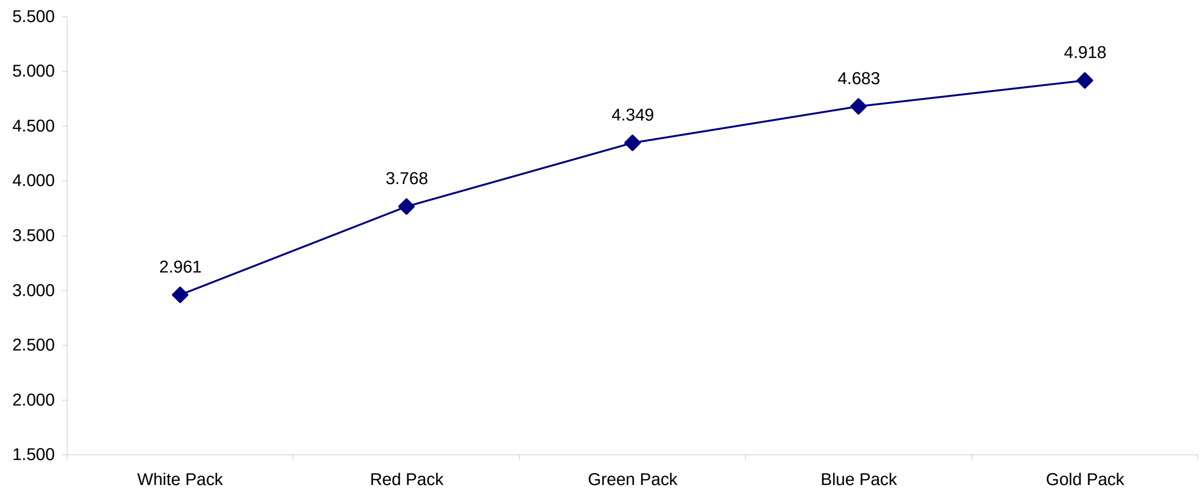
10y Basis TED Curve



	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11
10y	1.25	1.13	0.89	0.70	0.48	0.29	0.09	0.04	0.18	0.30	0.44	0.49
ZN	1.09	0.97	0.72	0.54	0.32	0.13	0.07	0.20	0.34	0.47	0.60	0.66

Packs

	Last Yield	Net Last Yield	Last Price
White Pack	2.961	2.438	9710.125
Red Pack	3.768	3.625	9631.750
Green Pack	4.349	3.750	9575.625
Blue Pack	4.683	2.625	9543.375
Gold Pack	4.918	2.250	9520.750



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