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	107.4906	107.1570	1.345	1.927
ZF	113.0063	113.0020	2.640	4.240
ZN	113.8281	113.2650	3.509	5.853
2y	99.1563	99.0500	1.310	1.946
5y	97.2188	97.0700	2.854	4.659
10y	94.1094	94.0350	3.844	8.382

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAM09	99.3425	0.657	6	0.0154	JUN	White Pack
EDAU09	99.1750	0.825	97	0.2647	SEP	
EDAZ09	98.7500	1.250	188	0.5140	DEC	
EDAH10	98.4050	1.595	279	0.7633	MAR	
EDAM10	98.0200	1.980	370	1.0126	JUN	Red Pack
EDAU10	97.6600	2.340	461	1.2620	SEP	
EDAZ10	97.2850	2.715	552	1.5113	DEC	
EDAH11	96.9650	3.035	643	1.7606	MAR	
EDAM11	96.6050	3.395	734	2.0099	JUN	Green Pack
EDAU11	96.2700	3.730	832	2.2784	SEP	
EDAZ11	95.9300	4.070	923	2.5277	DEC	
EDAH12	95.6950	4.305	1,014	2.7770	MAR	
EDAM12	95.4850	4.515	1,105	3.0263	JUN	Blue Pack
EDAU12	95.3050	4.695	1,196	3.2757	SEP	
EDAZ12	95.1350	4.865	1,287	3.5250	DEC	
EDAH13	95.0350	4.965	1,378	3.7743	MAR	
EDAM13	94.9150	5.085	1,469	4.0236	JUN	Gold Pack
EDAU13	94.8100	5.190	1,560	4.2729	SEP	
EDAZ13	94.6900	5.310	1,651	4.5222	DEC	
EDAH14	94.6300	5.370	1,742	4.7715	MAR	

Pack Prices

	Last Yield	Net Yield	Last Price
White Pack	1.100	10.312	9891.81
Red Pack	2.569	18.000	9748.25
Green Pack	3.968	13.500	9612.50
Blue Pack	4.884	10.500	9524.00
Gold Pack	5.381	10.125	9476.25

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 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

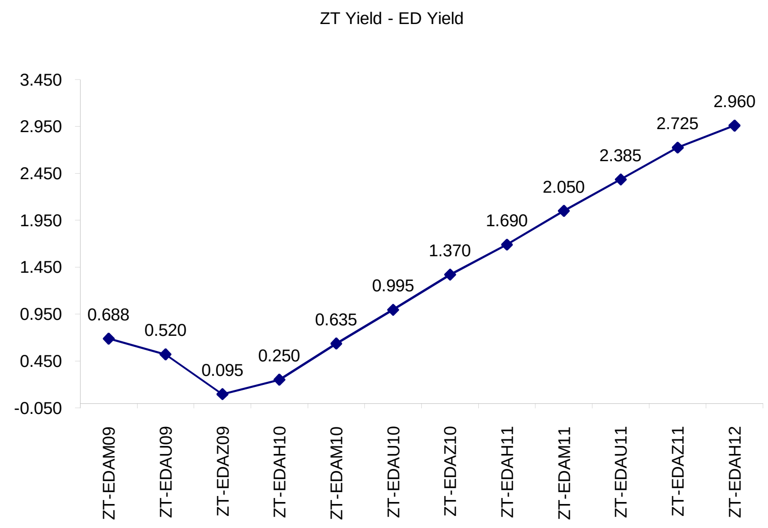
Correlations (Important)

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

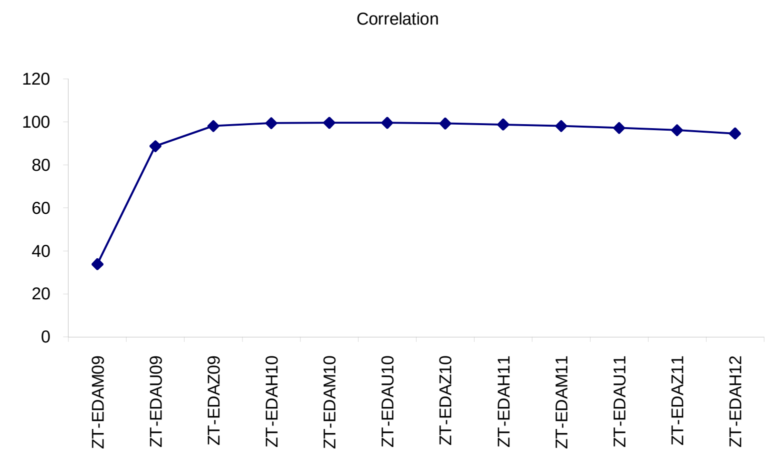
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	8.15	0.688	ZT-EDAM09	34
EDAU09	8.32	0.520	ZT-EDAU09	89
EDAZ09	8.74	0.095	ZT-EDAZ09	98
EDAH10	9.09	0.250	ZT-EDAH10	99
EDAM10	9.47	0.635	ZT-EDAM10	100
EDAU10	9.83	0.995	ZT-EDAU10	100
EDAZ10	10.21	1.370	ZT-EDAZ10	99
EDAH11	10.53	1.690	ZT-EDAH11	99
EDAM11	10.89	2.050	ZT-EDAM11	98
EDAU11	11.22	2.385	ZT-EDAU11	97
EDAZ11	11.56	2.725	ZT-EDAZ11	96
EDAH12	11.80	2.960	ZT-EDAH12	95

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	0.0154	1.9266	1.9112	ZT-EDAM09
EDAU09	0.2647	1.9266	1.6619	ZT-EDAU09
EDAZ09	0.5140	1.9266	1.4126	ZT-EDAZ09
EDAH10	0.7633	1.9266	1.1633	ZT-EDAH10
EDAM10	1.0126	1.9266	0.9139	ZT-EDAM10
EDAU10	1.2620	1.9266	0.6646	ZT-EDAU10
EDAZ10	1.5113	1.9266	0.4153	ZT-EDAZ10
EDAH11	1.7606	1.9266	0.1660	ZT-EDAH11
EDAM11	2.0099	1.9266	-0.0833	ZT-EDAM11
EDAU11	2.2784	1.9266	-0.3518	ZT-EDAU11
EDAZ11	2.5277	1.9266	-0.6011	ZT-EDAZ11
EDAH12	2.7770	1.9266	-0.8504	ZT-EDAH12

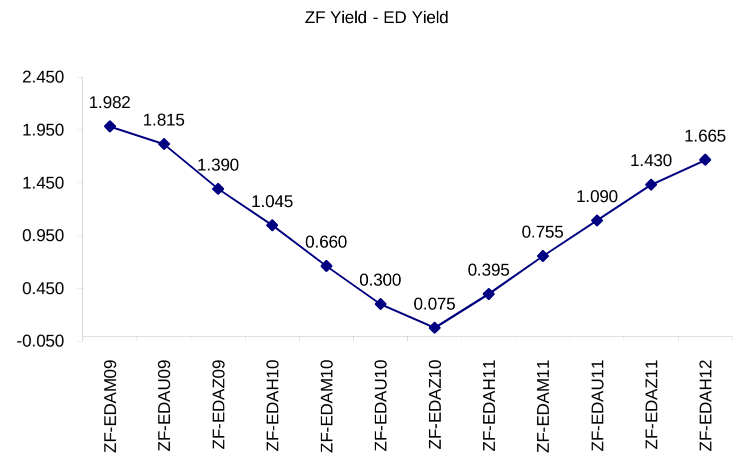
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

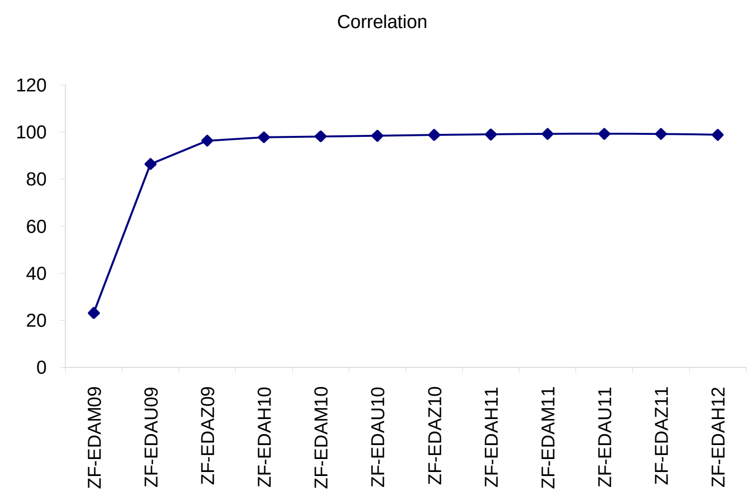
	ZF Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAM09	13.66	1.982	ZF-EDAM09	23
EDAU09	13.83	1.815	ZF-EDAU09	86
EDAZ09	14.26	1.390	ZF-EDAZ09	96
EDAH10	14.60	1.045	ZF-EDAH10	98
EDAM10	14.99	0.660	ZF-EDAM10	98
EDAU10	15.35	0.300	ZF-EDAU10	99
EDAZ10	15.72	0.075	ZF-EDAZ10	99
EDAH11	16.04	0.395	ZF-EDAH11	99
EDAM11	16.40	0.755	ZF-EDAM11	99
EDAU11	16.74	1.090	ZF-EDAU11	99
EDAZ11	17.08	1.430	ZF-EDAZ11	99
EDAH12	17.31	1.665	ZF-EDAH12	99

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	0.0154	4.2396	4.2242	ZF-EDAM09
EDAU09	0.2647	4.2396	3.9749	ZF-EDAU09
EDAZ09	0.5140	4.2396	3.7256	ZF-EDAZ09
EDAH10	0.7633	4.2396	3.4763	ZF-EDAH10
EDAM10	1.0126	4.2396	3.2269	ZF-EDAM10
EDAU10	1.2620	4.2396	2.9776	ZF-EDAU10
EDAZ10	1.5113	4.2396	2.7283	ZF-EDAZ10
EDAH11	1.7606	4.2396	2.4790	ZF-EDAH11
EDAM11	2.0099	4.2396	2.2297	ZF-EDAM11
EDAU11	2.2784	4.2396	1.9612	ZF-EDAU11
EDAZ11	2.5277	4.2396	1.7119	ZF-EDAZ11
EDAH12	2.7770	4.2396	1.4626	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	14.49	2.851	ZN-EDAM09	25
EDAU09	14.65	2.684	ZN-EDAU09	87
EDAZ09	15.08	2.259	ZN-EDAZ09	94
EDAH10	15.42	1.914	ZN-EDAH10	95
EDAM10	15.81	1.529	ZN-EDAM10	95
EDAU10	16.17	1.169	ZN-EDAU10	95
EDAZ10	16.54	0.794	ZN-EDAZ10	96
EDAH11	16.86	0.474	ZN-EDAH11	96
EDAM11	17.22	0.114	ZN-EDAM11	97
EDAU11	17.56	0.221	ZN-EDAU11	97
EDAZ11	17.90	0.561	ZN-EDAZ11	98
EDAH12	18.13	0.796	ZN-EDAH12	98

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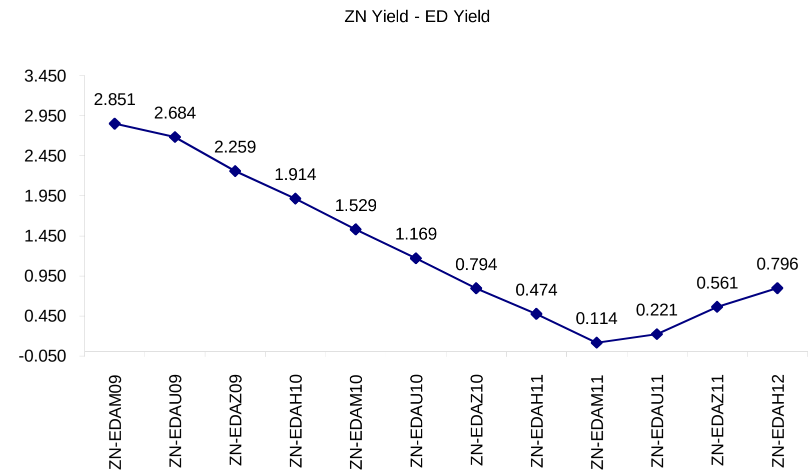
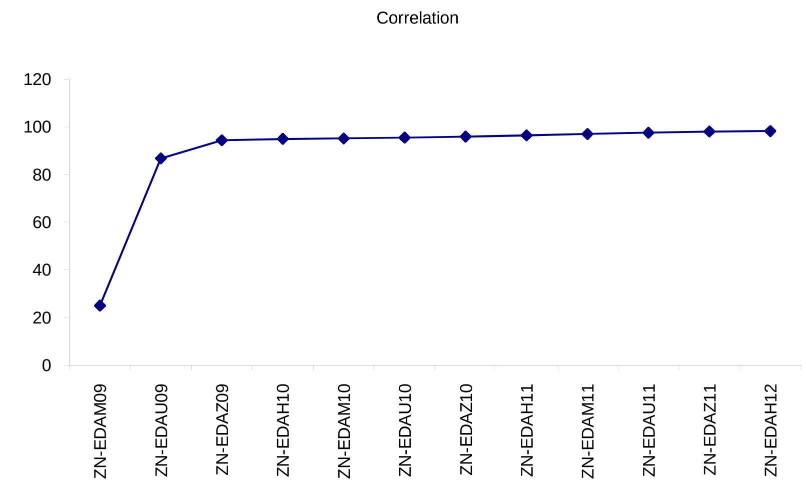


	ED Duration as Fraction of year	ZN Duration	Spread Duration	
EDAM09	0.0154	5.8531	5.8378	ZN-EDAM09
EDAU09	0.2647	5.8531	5.5884	ZN-EDAU09
EDAZ09	0.5140	5.8531	5.3391	ZN-EDAZ09
EDAH10	0.7633	5.8531	5.0898	ZN-EDAH10
EDAM10	1.0126	5.8531	4.8405	ZN-EDAM10
EDAU10	1.2620	5.8531	4.5912	ZN-EDAU10
EDAZ10	1.5113	5.8531	4.3419	ZN-EDAZ10
EDAH11	1.7606	5.8531	4.0925	ZN-EDAH11
EDAM11	2.0099	5.8531	3.8432	ZN-EDAM11
EDAU11	2.2784	5.8531	3.5747	ZN-EDAU11
EDAZ11	2.5277	5.8531	3.3254	ZN-EDAZ11
EDAH12	2.7770	5.8531	3.0761	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	-0.19	0.653	2y-EDAM09	-33
EDAU09	-0.02	0.485	2y-EDAU09	-88
EDAZ09	0.41	0.060	2y-EDAZ09	-98
EDAH10	0.75	0.285	2y-EDAH10	-99
EDAM10	1.14	0.670	2y-EDAM10	-100
EDAU10	1.50	1.030	2y-EDAU10	-99
EDAZ10	1.87	1.405	2y-EDAZ10	-99
EDAH11	2.19	1.725	2y-EDAH11	-99
EDAM11	2.55	2.085	2y-EDAM11	-98
EDAU11	2.89	2.420	2y-EDAU11	-97
EDAZ11	3.23	2.760	2y-EDAZ11	-96
EDAH12	3.46	2.995	2y-EDAH12	-94

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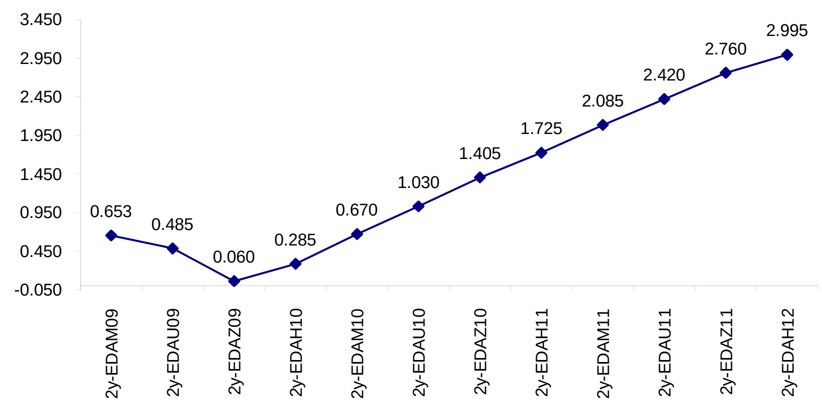
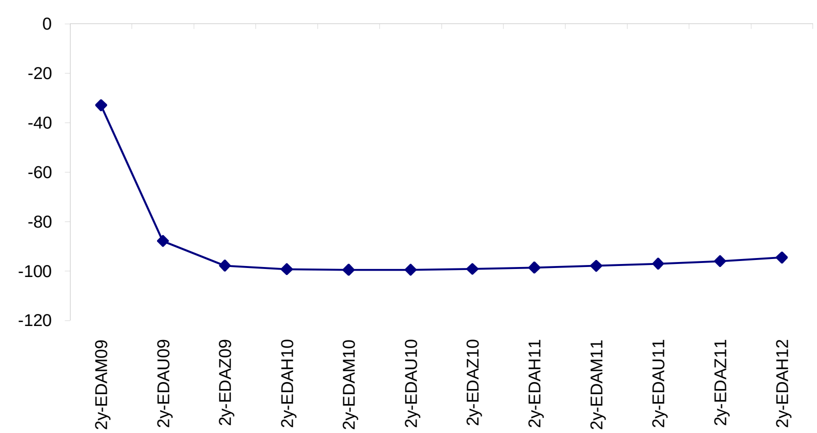
ZT Yield - ED Yield



	ED Duration as Fraction of year	2Y Duration	Spread Duration	
EDAM09	0.0154	1.9465	1.9311	2y-EDAM09
EDAU09	0.2647	1.9465	1.6818	2y-EDAU09
EDAZ09	0.5140	1.9465	1.4325	2y-EDAZ09
EDAH10	0.7633	1.9465	1.1832	2y-EDAH10
EDAM10	1.0126	1.9465	0.9338	2y-EDAM10
EDAU10	1.2620	1.9465	0.6845	2y-EDAU10
EDAZ10	1.5113	1.9465	0.4352	2y-EDAZ10
EDAH11	1.7606	1.9465	0.1859	2y-EDAH11
EDAM11	2.0099	1.9465	-0.0634	2y-EDAM11
EDAU11	2.2784	1.9465	-0.3319	2y-EDAU11
EDAZ11	2.5277	1.9465	-0.5812	2y-EDAZ11
EDAH12	2.7770	1.9465	-0.8305	2y-EDAH12

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

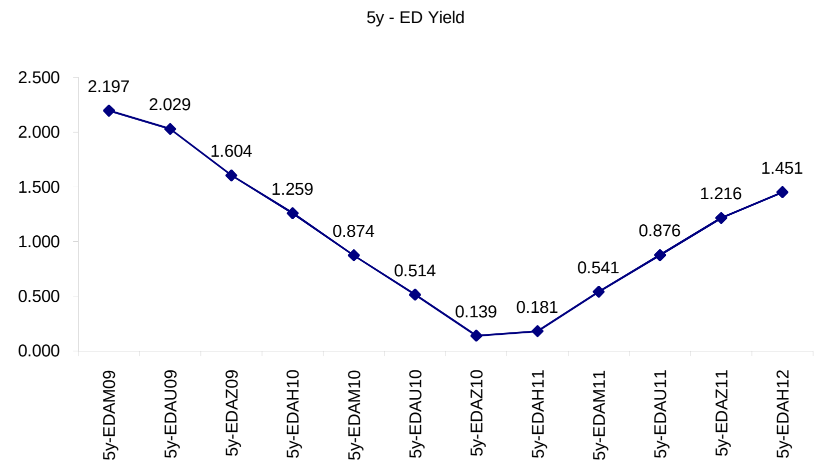
Correlation



TERM TED: 5y vs Eurodollar Contracts

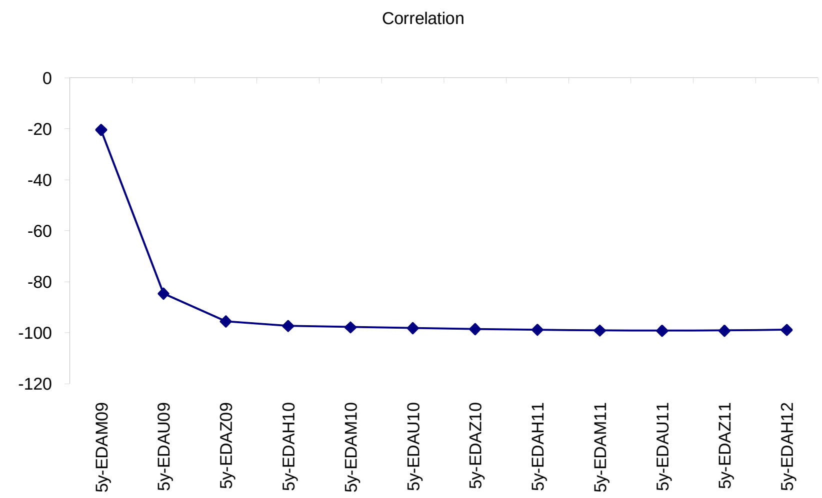
	5y			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAM09	-2.12	2.197	5y-EDAM09	-20
EDAU09	-1.96	2.029	5y-EDAU09	-85
EDAZ09	-1.53	1.604	5y-EDAZ09	-95
EDAH10	-1.19	1.259	5y-EDAH10	-97
EDAM10	-0.80	0.874	5y-EDAM10	-98
EDAU10	-0.44	0.514	5y-EDAU10	-98
EDAZ10	-0.07	0.139	5y-EDAZ10	-99
EDAH11	0.25	0.181	5y-EDAH11	-99
EDAM11	0.61	0.541	5y-EDAM11	-99
EDAU11	0.95	0.876	5y-EDAU11	-99
EDAZ11	1.29	1.216	5y-EDAZ11	-99
EDAH12	1.52	1.451	5y-EDAH12	-99

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	0.0154	4.6591	4.6437	5y-EDAM09
EDAU09	0.2647	4.6591	4.3944	5y-EDAU09
EDAZ09	0.5140	4.6591	4.1450	5y-EDAZ09
EDAH10	0.7633	4.6591	3.8957	5y-EDAH10
EDAM10	1.0126	4.6591	3.6464	5y-EDAM10
EDAU10	1.2620	4.6591	3.3971	5y-EDAU10
EDAZ10	1.5113	4.6591	3.1478	5y-EDAZ10
EDAH11	1.7606	4.6591	2.8985	5y-EDAH11
EDAM11	2.0099	4.6591	2.6492	5y-EDAM11
EDAU11	2.2784	4.6591	2.3807	5y-EDAU11
EDAZ11	2.5277	4.6591	2.1313	5y-EDAZ11
EDAH12	2.7770	4.6591	1.8820	5y-EDAH12

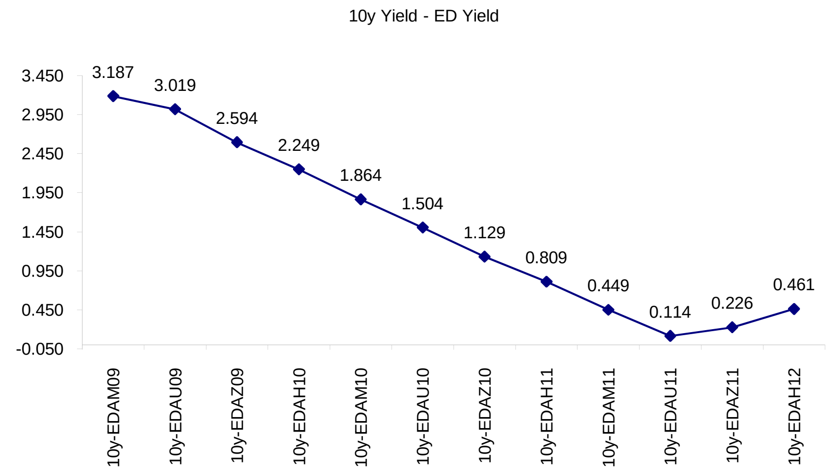
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

	Spread Price (10y)	Spread Yield (10y)	Spread Name (10y)	Correlation* (percent)
EDAM09	-2.12	3.187	10y-EDAM09	-42
EDAU09	-1.96	3.019	10y-EDAU09	-83
EDAZ09	-1.53	2.594	10y-EDAZ09	-88
EDAH10	-1.19	2.249	10y-EDAH10	-88
EDAM10	-0.80	1.864	10y-EDAM10	-88
EDAU10	-0.44	1.504	10y-EDAU10	-89
EDAZ10	-0.07	1.129	10y-EDAZ10	-89
EDAH11	0.25	0.809	10y-EDAH11	-90
EDAM11	0.61	0.449	10y-EDAM11	-90
EDAU11	0.95	0.114	10y-EDAU11	-91
EDAZ11	1.29	0.226	10y-EDAZ11	-91
EDAH12	1.52	0.461	10y-EDAH12	-92

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	0.0154	8.3821	8.3667	10y-EDAM09
EDAU09	0.2647	8.3821	8.1174	10y-EDAU09
EDAZ09	0.5140	8.3821	7.8681	10y-EDAZ09
EDAH10	0.7633	8.3821	7.6188	10y-EDAH10
EDAM10	1.0126	8.3821	7.3695	10y-EDAM10
EDAU10	1.2620	8.3821	7.1201	10y-EDAU10
EDAZ10	1.5113	8.3821	6.8708	10y-EDAZ10
EDAH11	1.7606	8.3821	6.6215	10y-EDAH11
EDAM11	2.0099	8.3821	6.3722	10y-EDAM11
EDAU11	2.2784	8.3821	6.1037	10y-EDAU11
EDAZ11	2.5277	8.3821	5.8544	10y-EDAZ11
EDAH12	2.7770	8.3821	5.6051	10y-EDAH12

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

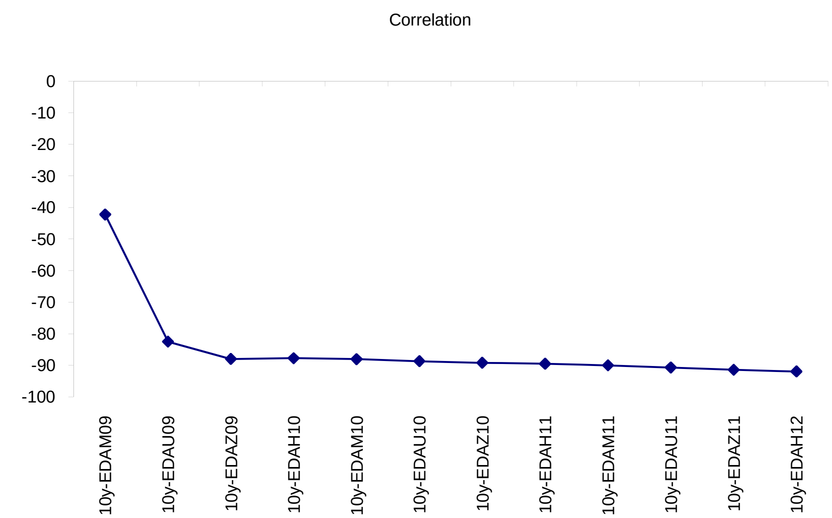
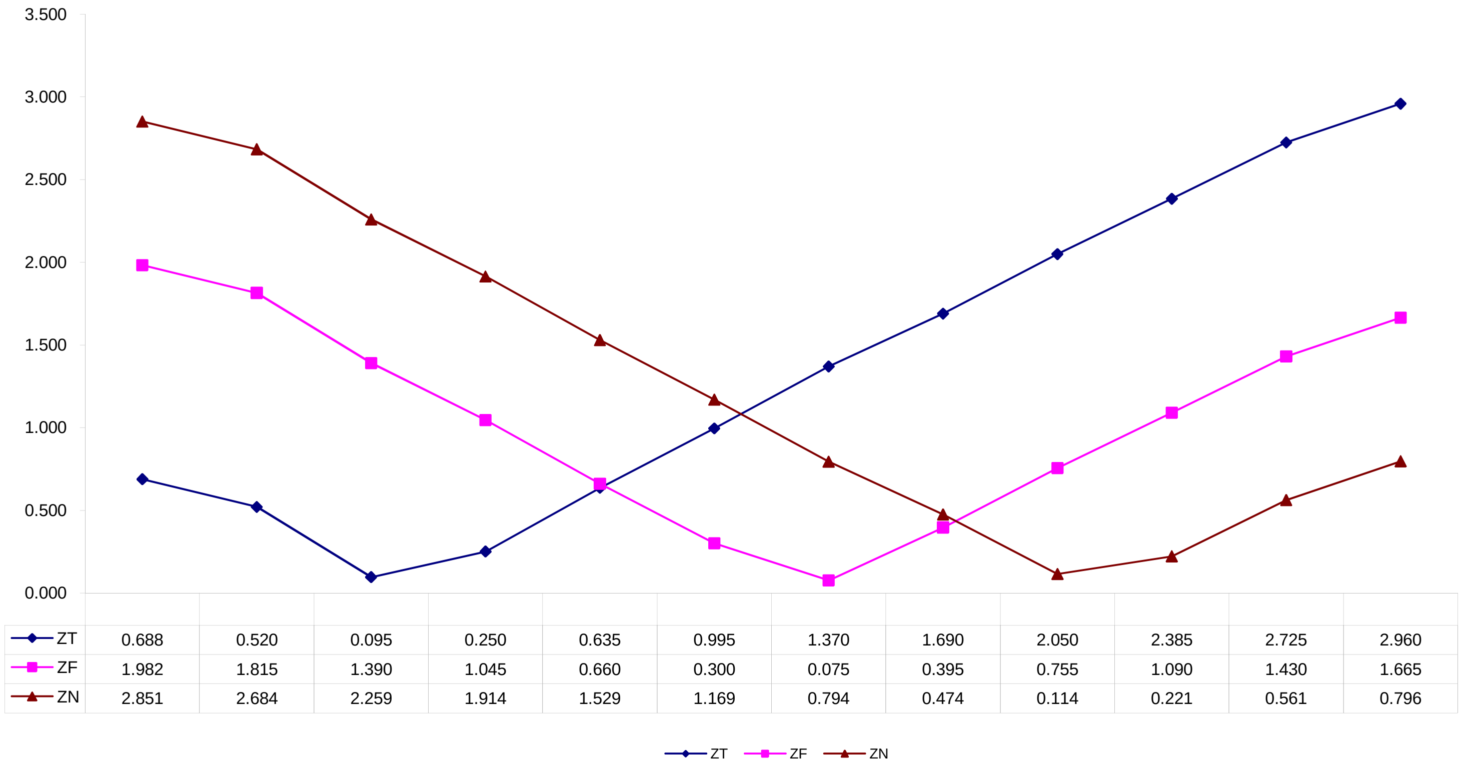
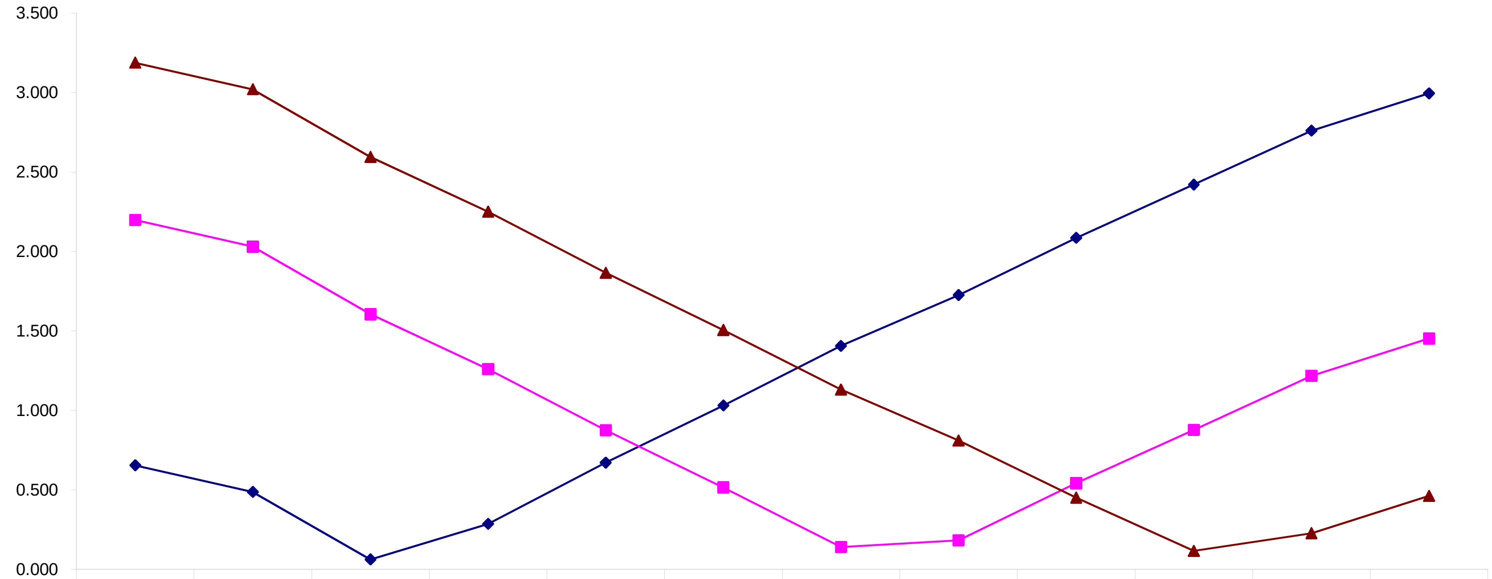


Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



ZT	0.688	0.520	0.095	0.250	0.635	0.995	1.370	1.690	2.050	2.385	2.725	2.960
ZF	1.982	1.815	1.390	1.045	0.660	0.300	0.075	0.395	0.755	1.090	1.430	1.665
ZN	2.851	2.684	2.259	1.914	1.529	1.169	0.794	0.474	0.114	0.221	0.561	0.796

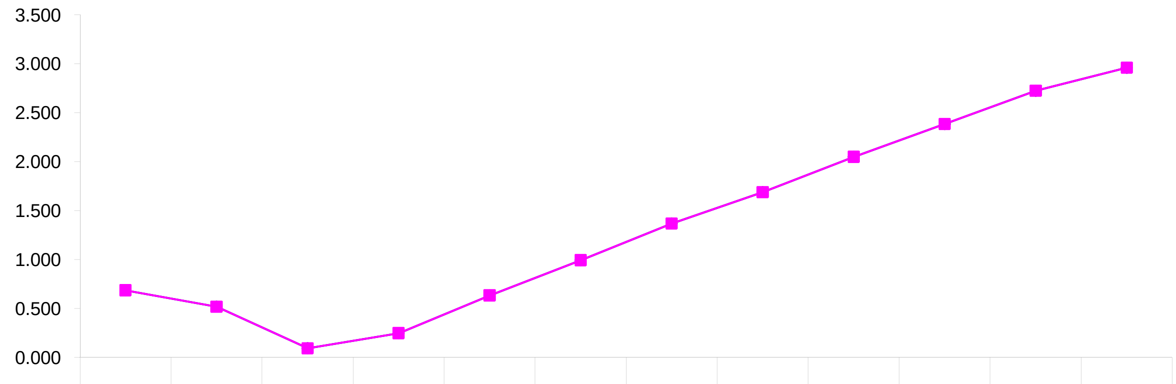
Chart values show the differences between ED contract and Treasury Cash contract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



2y	0.653	0.485	0.060	0.285	0.670	1.030	1.405	1.725	2.085	2.420	2.760	2.995
5y	2.197	2.029	1.604	1.259	0.874	0.514	0.139	0.181	0.541	0.876	1.216	1.451
10y	3.187	3.019	2.594	2.249	1.864	1.504	1.129	0.809	0.449	0.114	0.226	0.461

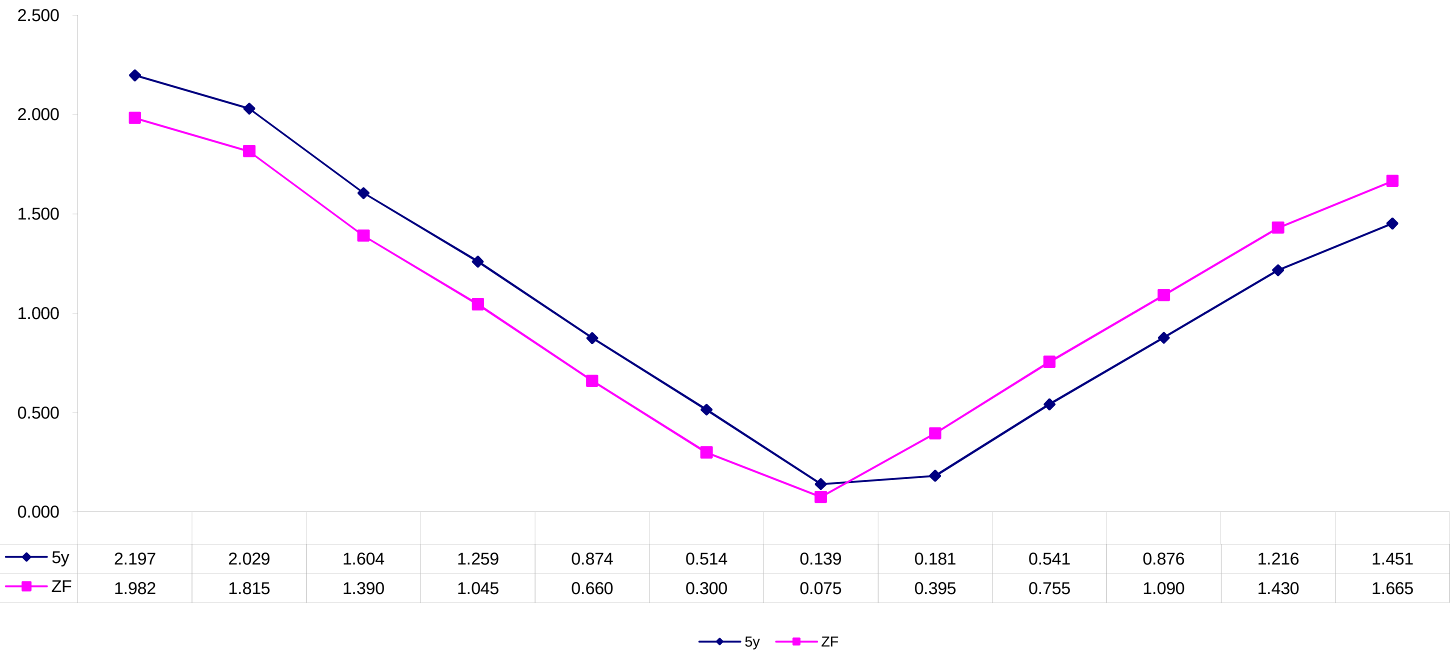
2y 5y 10y

2y Basis TED Curve

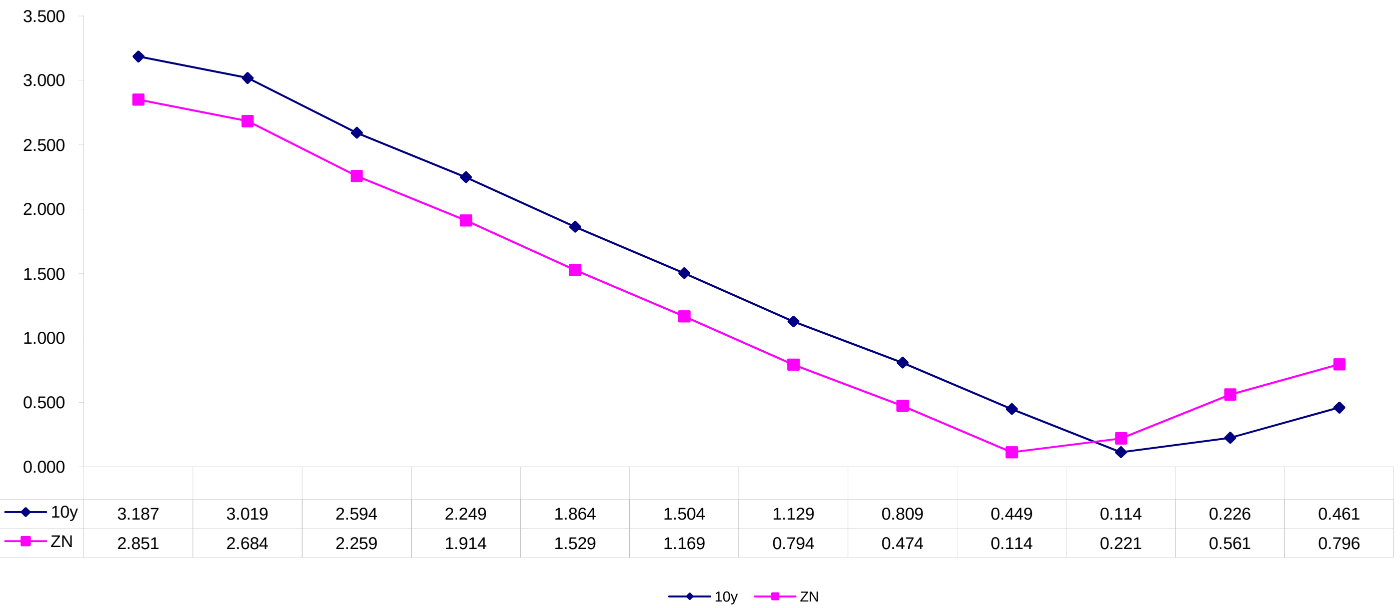


2y	0.688	0.520	0.095	0.250	0.635	0.995	1.370	1.690	2.050	2.385	2.725	2.960
ZT	0.688	0.520	0.095	0.250	0.635	0.995	1.370	1.690	2.050	2.385	2.725	2.960

2y ZT



5y	2.197	2.029	1.604	1.259	0.874	0.514	0.139	0.181	0.541	0.876	1.216	1.451
ZF	1.982	1.815	1.390	1.045	0.660	0.300	0.075	0.395	0.755	1.090	1.430	1.665



10y	3.187	3.019	2.594	2.249	1.864	1.504	1.129	0.809	0.449	0.114	0.226	0.461
ZN	2.851	2.684	2.259	1.914	1.529	1.169	0.794	0.474	0.114	0.221	0.561	0.796

	Last Yield	Net Last Yield	Last Price
White Pack	1.100	10.312	9891.8125
Red Pack	2.569	18.000	9748.2500
Green Pack	3.968	13.500	9612.5000
Blue Pack	4.884	10.500	9524.0000
Gold Pack	5.381	10.125	9476.2500