The Morning Email: TERM TEDS & Dirty TEDS

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eCBOT fixed income futures have been rolled to DEC 07.

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.

Want something added? Let me know: jgoulding@ghco.com

Quotes

	F.I. Futures and Cash			
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	102.9688	102.310	4.255	1.91
ZF	106.4063	106.130	4.315	4.02
ZN	108.8594	108.275	4.420	5.94
2y	99.594	99.1900	4.216	1.89
5y	99.194	99.0620	4.303	4.46
10y	101.453	101.1450	4.566	7.86

eCBOT fixed income futures have been rolled to DEC 07.

	Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAU07	94.473	5.528	17	0.046	SEP	White Pack
EDAZ07	95.020	4.980	108	0.295	DEC	
EDAH08	95.315	4.685	199	0.545	MAR	
EDAM08	95.400	4.600	290	0.794	JUN	
EDAU08	95.400	4.600	381	1.043	SEP	Red Pack
EDAZ08	95.370	4.630	472	1.292	DEC	
EDAH09	95.320	4.680	563	1.542	MAR	
EDAM09	95.260	4.740	654	1.791	JUN	
EDAU09	95.225	4.775	745	2.040	SEP	Green Pack
EDAZ09	95.155	4.845	836	2.290	DEC	
EDAH10	95.130	4.870	927	2.539	MAR	
EDAM10	95.070	4.930	1018	2.788	JUN	
EDAU10	95.020	4.980	1109	3.038	SEP	Blue Pack
EDAZ10	94.945	5.055	1200	3.287	DEC	
EDAH11	94.940	5.060	1291	3.536	MAR	
EDAM11	94.885	5.115	1382	3.786	JUN	
EDAU11	94.795	5.205	1480	4.054	SEP	Gold Pack
EDAZ11	94.755	5.245	1571	4.303	DEC	
EDAH12	94.720	5.280	1662	4.553	MAR	
EDAM12	94.635	5.365	1753	4.802	JUN	

	Last Yield	Net Yield	Last Price	
Q.ED.White	5.080	-10.438	9505.188	Pack Prices
Q.ED.Red	4.783	-11.500	9533.750	
Q.ED.Green	4.983	-6.875	9514.500	
Q.ED.Blue		-2.375	9495.125	
Q.ED.Gold		-1.000	9474.500	
Q.ED.Purple		-1.000	9474.500	

Red pack is a 2yr proxy
Gold pack is a 10 yr proxy
Red pack/Gold pack is a 2/10 proxy

<u>Notes</u>
Futures use CTD for Last Yield
Mduration = Modified Macaulay Duration
#VALUE! = no quote being provided by exchange.

Overview of Hedging

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

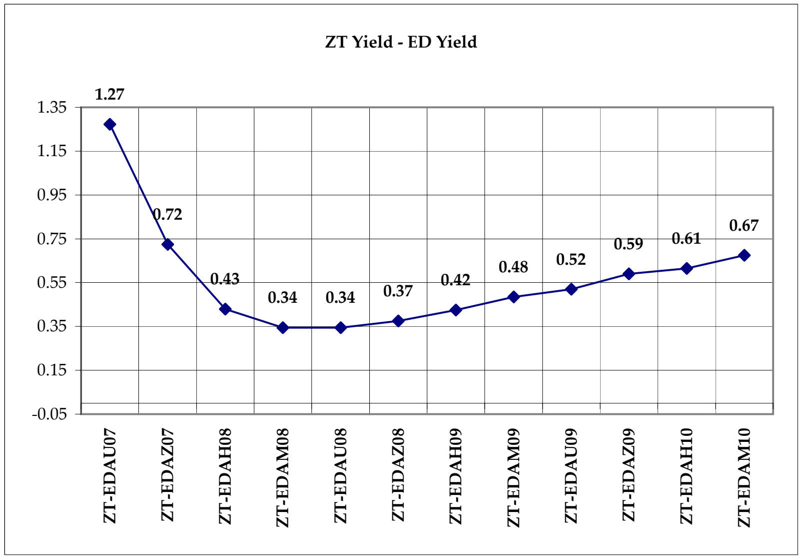
Eurodollar Color Codes for Individual Year Strips:

Color	Year	Contracts
White	One	1 – 4
Red	Two	5 – 8
Green	Three	9 – 12
Blue	Four	13 – 16
Gold	Five	17 – 20
Purple	Six	21 – 24
Orange	Seven	25 – 28
Pink	Eight	29 – 32
Silver	Nine	33 – 36
Copper	Ten	37 – 40

Dirty TED: ZT vs Eurodollar Contracts

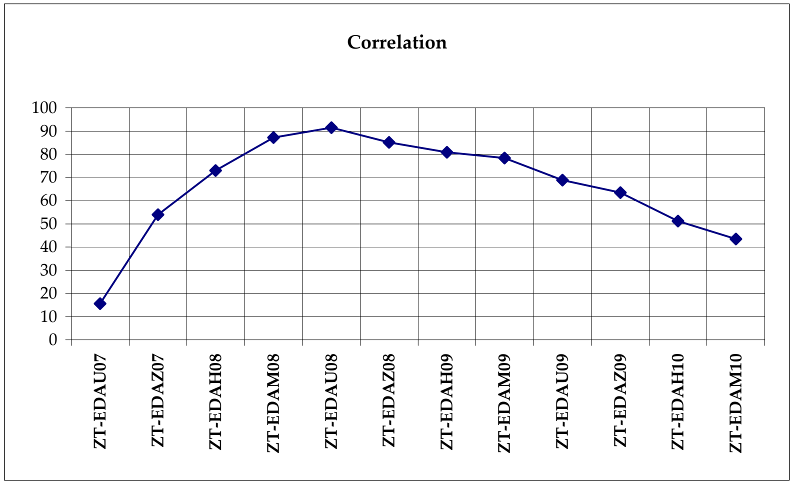
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	8.496	1.27	ZT-EDAU07	15.628
EDAZ07	7.949	0.72	ZT-EDAZ07	53.969
EDAH08	7.654	0.43	ZT-EDAH08	72.911
EDAM08	7.569	0.34	ZT-EDAM08	87.111
EDAU08	7.569	0.34	ZT-EDAU08	91.450
EDAZ08	7.599	0.37	ZT-EDAZ08	85.119
EDAH09	7.649	0.42	ZT-EDAH09	80.786
EDAM09	7.709	0.48	ZT-EDAM09	78.286
EDAU09	7.744	0.52	ZT-EDAU09	68.788
EDAZ09	7.814	0.59	ZT-EDAZ09	63.506
EDAH10	7.839	0.61	ZT-EDAH10	51.139
EDAM10	7.899	0.67	ZT-EDAM10	43.424

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



	GE Duration as Fraction of year	ZT Duration	Spread Duration	
EDAU07	0.046	1.91	1.86	ZT-EDAU07
EDAZ07	0.295	1.91	1.61	ZT-EDAZ07
EDAH08	0.545	1.91	1.36	ZT-EDAH08
EDAM08	0.794	1.91	1.12	ZT-EDAM08
EDAU08	1.043	1.91	0.87	ZT-EDAU08
EDAZ08	1.292	1.91	0.62	ZT-EDAZ08
EDAH09	1.542	1.91	0.37	ZT-EDAH09
EDAM09	1.791	1.91	0.12	ZT-EDAM09
EDAU09	2.040	1.91	(0.13)	ZT-EDAU09
EDAZ09	2.290	1.91	(0.38)	ZT-EDAZ09
EDAH10	2.539	1.91	(0.63)	ZT-EDAH10
EDAM10	2.788	1.91	(0.88)	ZT-EDAM10

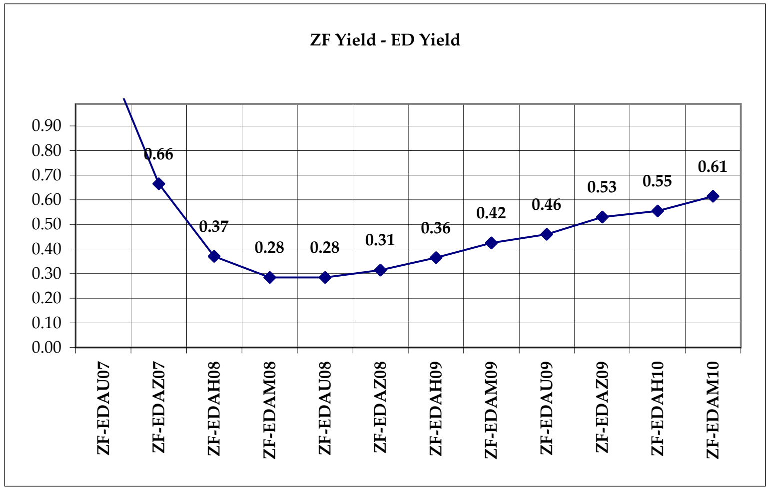
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

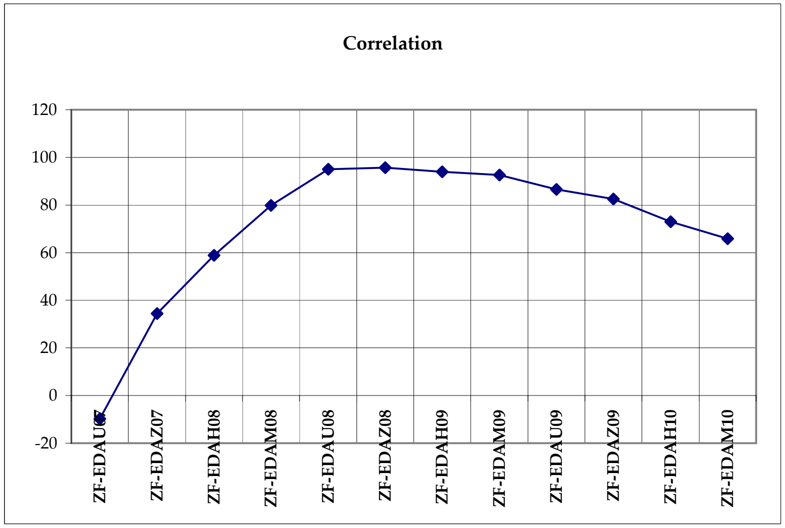
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	11.93	1.21	ZF-EDAU07	-9.819
EDAZ07	11.39	0.66	ZF-EDAZ07	34.397
EDAH08	11.09	0.37	ZF-EDAH08	58.866
EDAM08	11.01	0.28	ZF-EDAM08	79.834
EDAU08	11.01	0.28	ZF-EDAU08	94.987
EDAZ08	11.04	0.31	ZF-EDAZ08	95.739
EDAH09	11.09	0.36	ZF-EDAH09	93.881
EDAM09	11.15	0.42	ZF-EDAM09	92.573
EDAU09	11.18	0.46	ZF-EDAU09	86.484
EDAZ09	11.25	0.53	ZF-EDAZ09	82.556
EDAH10	11.28	0.55	ZF-EDAH10	72.948
EDAM10	11.34	0.61	ZF-EDAM10	65.857

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



	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAU07	0.046	4.02	3.98	ZF-EDAU07
EDAZ07	0.295	4.02	3.73	ZF-EDAZ07
EDAH08	0.545	4.02	3.48	ZF-EDAH08
EDAM08	0.794	4.02	3.23	ZF-EDAM08
EDAU08	1.043	4.02	2.98	ZF-EDAU08
EDAZ08	1.292	4.02	2.73	ZF-EDAZ08
EDAH09	1.542	4.02	2.48	ZF-EDAH09
EDAM09	1.791	4.02	2.23	ZF-EDAM09
EDAU09	2.040	4.02	1.98	ZF-EDAU09
EDAZ09	2.290	4.02	1.73	ZF-EDAZ09
EDAH10	2.539	4.02	1.48	ZF-EDAH10
EDAM10	2.788	4.02	1.23	ZF-EDAM10

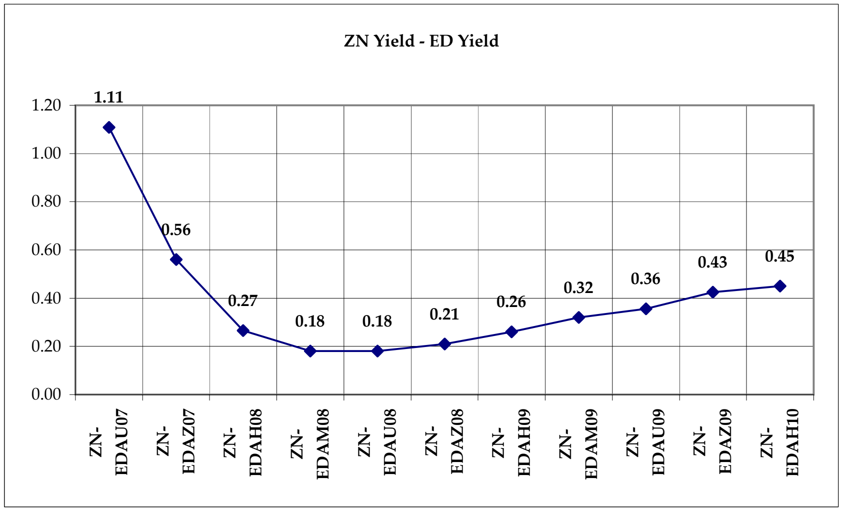
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

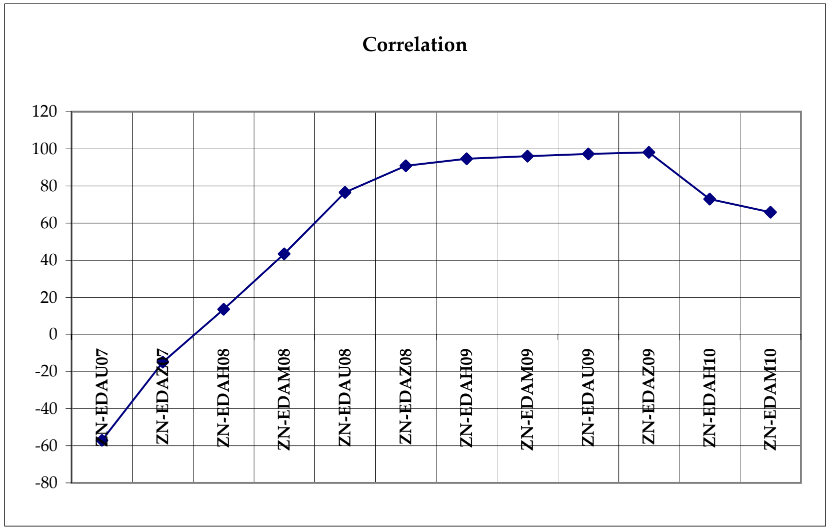
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	14.39	1.11	ZN-EDAU07	-57.05
EDAZ07	13.84	0.56	ZN-EDAZ07	-14.91
EDAH08	13.54	0.27	ZN-EDAH08	13.61
EDAM08	13.46	0.18	ZN-EDAM08	43.35
EDAU08	13.46	0.18	ZN-EDAU08	76.50
EDAZ08	13.49	0.21	ZN-EDAZ08	90.82
EDAH09	13.54	0.26	ZN-EDAH09	94.63
EDAM09	13.60	0.32	ZN-EDAM09	95.97
EDAU09	13.63	0.36	ZN-EDAU09	97.27
EDAZ09	13.70	0.43	ZN-EDAZ09	98.16
EDAH10	13.73	0.45	ZN-EDAH10	72.95
EDAM10	13.79	0.51	ZN-EDAM10	65.86

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



	GE Duration as Fraction of year	ZN Duration	Spread Duration	
EDAU07	0.046	5.94	5.89	ZN-EDAU07
EDAZ07	0.295	5.94	5.64	ZN-EDAZ07
EDAH08	0.545	5.94	5.39	ZN-EDAH08
EDAM08	0.794	5.94	5.14	ZN-EDAM08
EDAU08	1.043	5.94	4.90	ZN-EDAU08
EDAZ08	1.292	5.94	4.65	ZN-EDAZ08
EDAH09	1.542	5.94	4.40	ZN-EDAH09
EDAM09	1.791	5.94	4.15	ZN-EDAM09
EDAU09	2.040	5.94	3.90	ZN-EDAU09
EDAZ09	2.290	5.94	3.65	ZN-EDAZ09
EDAH10	2.539	5.94	3.40	ZN-EDAH10
EDAM10	2.788	5.94	3.15	ZN-EDAM10

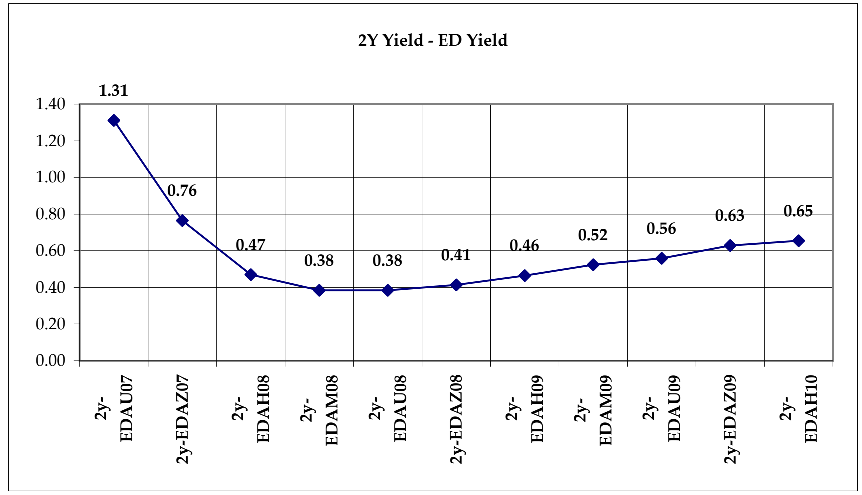
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

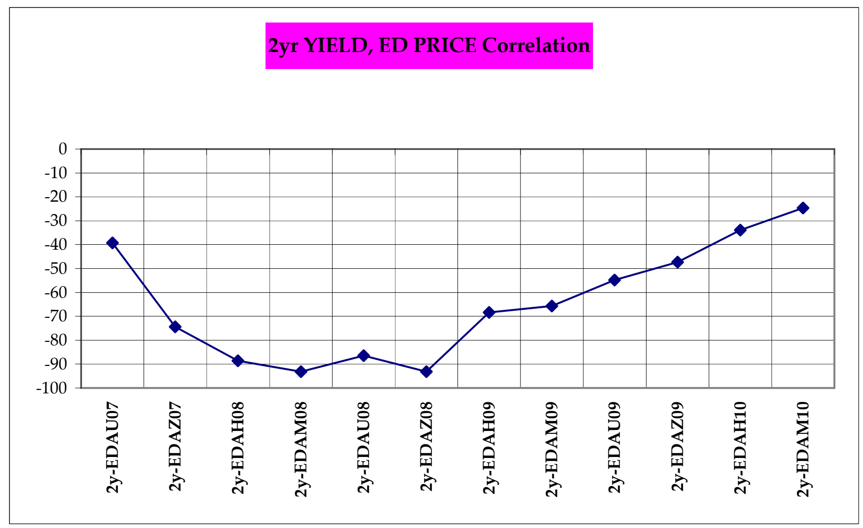
	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	5.12	1.31	2y-EDAU07	-39.327
EDAZ07	4.57	0.76	2y-EDAZ07	-74.390
EDAH08	4.28	0.47	2y-EDAH08	-88.558
EDAM08	4.19	0.38	2y-EDAM08	-93.210
EDAU08	4.19	0.38	2y-EDAU08	-86.445
EDAZ08	4.22	0.41	2y-EDAZ08	-93.210
EDAH09	4.27	0.46	2y-EDAH09	-68.309
EDAM09	4.33	0.52	2y-EDAM09	-65.626
EDAU09	4.37	0.56	2y-EDAU09	-54.877
EDAZ09	4.44	0.63	2y-EDAZ09	-47.282
EDAH10	4.46	0.65	2y-EDAH10	-33.921
EDAM10	4.52	0.71	2y-EDAM10	-24.710

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



	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAU07	0.046	1.89	1.85	2y-EDAU07
EDAZ07	0.295	1.89	1.60	2y-EDAZ07
EDAH08	0.545	1.89	1.35	2y-EDAH08
EDAM08	0.794	1.89	1.10	2y-EDAM08
EDAU08	1.043	1.89	0.85	2y-EDAU08
EDAZ08	1.292	1.89	0.60	2y-EDAZ08
EDAH09	1.542	1.89	0.35	2y-EDAH09
EDAM09	1.791	1.89	0.10	2y-EDAM09
EDAU09	2.040	1.89	(0.15)	2y-EDAU09
EDAZ09	2.290	1.89	(0.40)	2y-EDAZ09
EDAH10	2.539	1.89	(0.65)	2y-EDAH10
EDAM10	2.788	1.89	(0.89)	2y-EDAM10

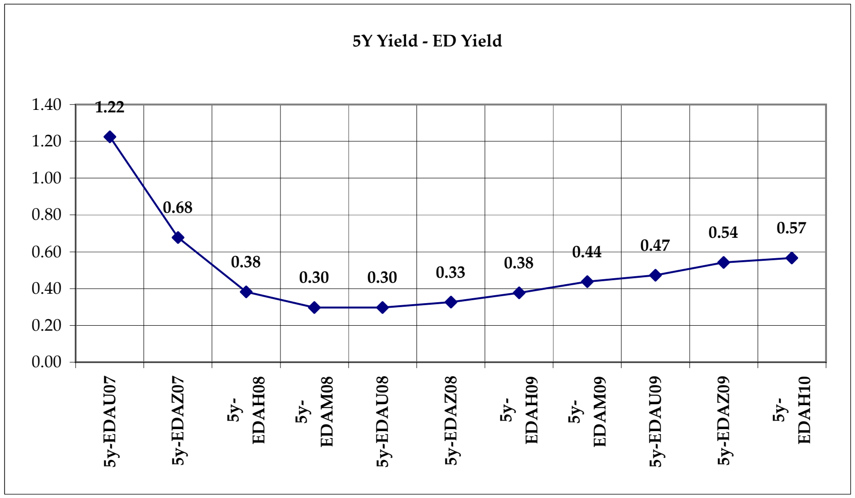
The farther away from 0 the spread duration is
the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

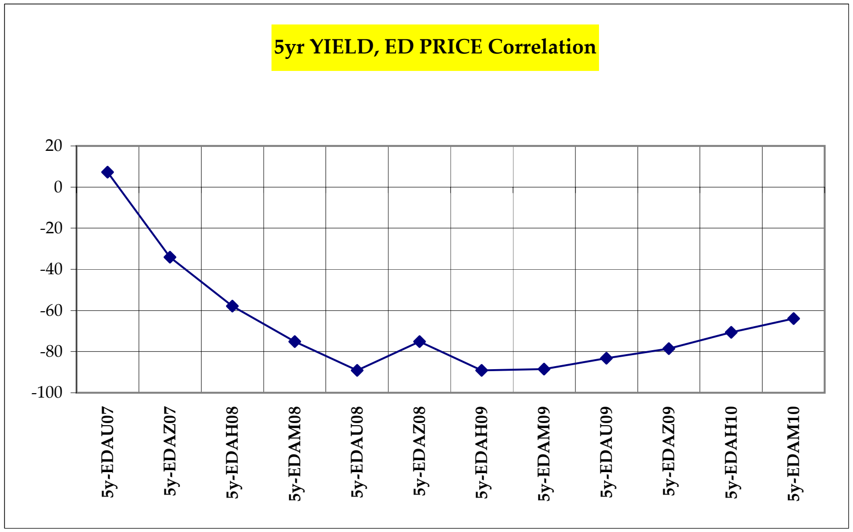
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	4.72	1.22	5y-EDAU07	7.256
EDAZ07	4.17	0.68	5y-EDAZ07	-34.116
EDAH08	3.88	0.38	5y-EDAH08	-57.799
EDAM08	3.79	0.30	5y-EDAM08	-75.078
EDAU08	3.79	0.30	5y-EDAU08	-89.189
EDAZ08	3.82	0.33	5y-EDAZ08	-75.078
EDAH09	3.87	0.38	5y-EDAH09	-89.106
EDAM09	3.93	0.44	5y-EDAM09	-88.563
EDAU09	3.97	0.47	5y-EDAU09	-83.191
EDAZ09	4.04	0.54	5y-EDAZ09	-78.498
EDAH10	4.06	0.57	5y-EDAH10	-70.670
EDAM10	4.12	0.63	5y-EDAM10	-63.880

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



	GE Duration as Fraction of year	5Y Duration	Spread Duration	
EDAU07	0.046	4.46	4.42	5y-EDAU07
EDAZ07	0.295	4.46	4.17	5y-EDAZ07
EDAH08	0.545	4.46	3.92	5y-EDAH08
EDAM08	0.794	4.46	3.67	5y-EDAM08
EDAU08	1.043	4.46	3.42	5y-EDAU08
EDAZ08	1.292	4.46	3.17	5y-EDAZ08
EDAH09	1.542	4.46	2.92	5y-EDAH09
EDAM09	1.791	4.46	2.67	5y-EDAM09
EDAU09	2.040	4.46	2.42	5y-EDAU09
EDAZ09	2.290	4.46	2.17	5y-EDAZ09
EDAH10	2.539	4.46	1.92	5y-EDAH10
EDAM10	2.788	4.46	1.67	5y-EDAM10

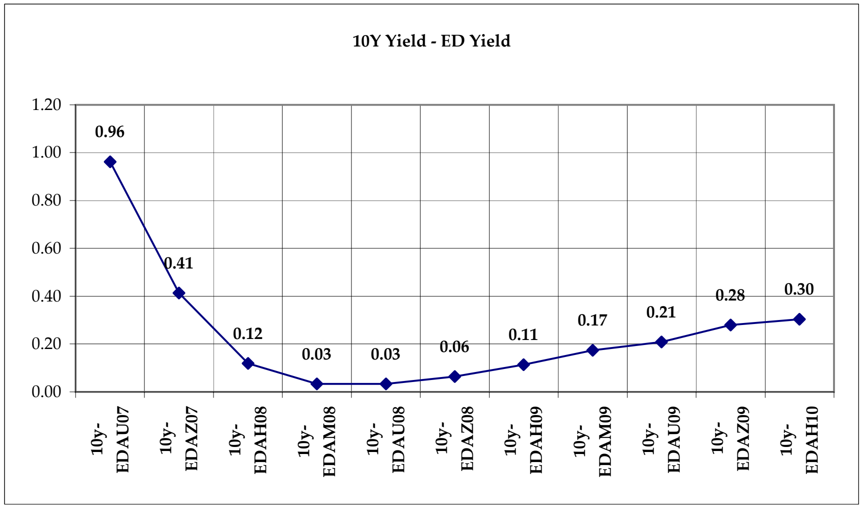
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

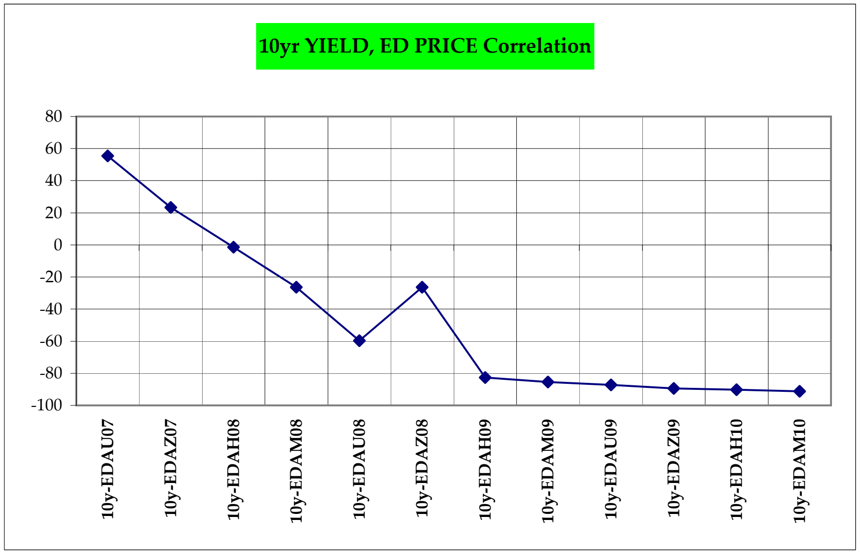
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAU07	4.72	0.96	10y-EDAU07	55.358
EDAZ07	4.17	0.41	10y-EDAZ07	23.274
EDAH08	3.88	0.12	10y-EDAH08	-1.337
EDAM08	3.79	0.03	10y-EDAM08	-26.369
EDAU08	3.79	0.03	10y-EDAU08	-59.741
EDAZ08	3.82	0.06	10y-EDAZ08	-26.369
EDAH09	3.87	0.11	10y-EDAH09	-82.580
EDAM09	3.93	0.17	10y-EDAM09	-85.394
EDAU09	3.97	0.21	10y-EDAU09	-87.224
EDAZ09	4.04	0.28	10y-EDAZ09	-89.416
EDAH10	4.06	0.30	10y-EDAH10	-90.230
EDAM10	4.12	0.36	10y-EDAM10	-91.151

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



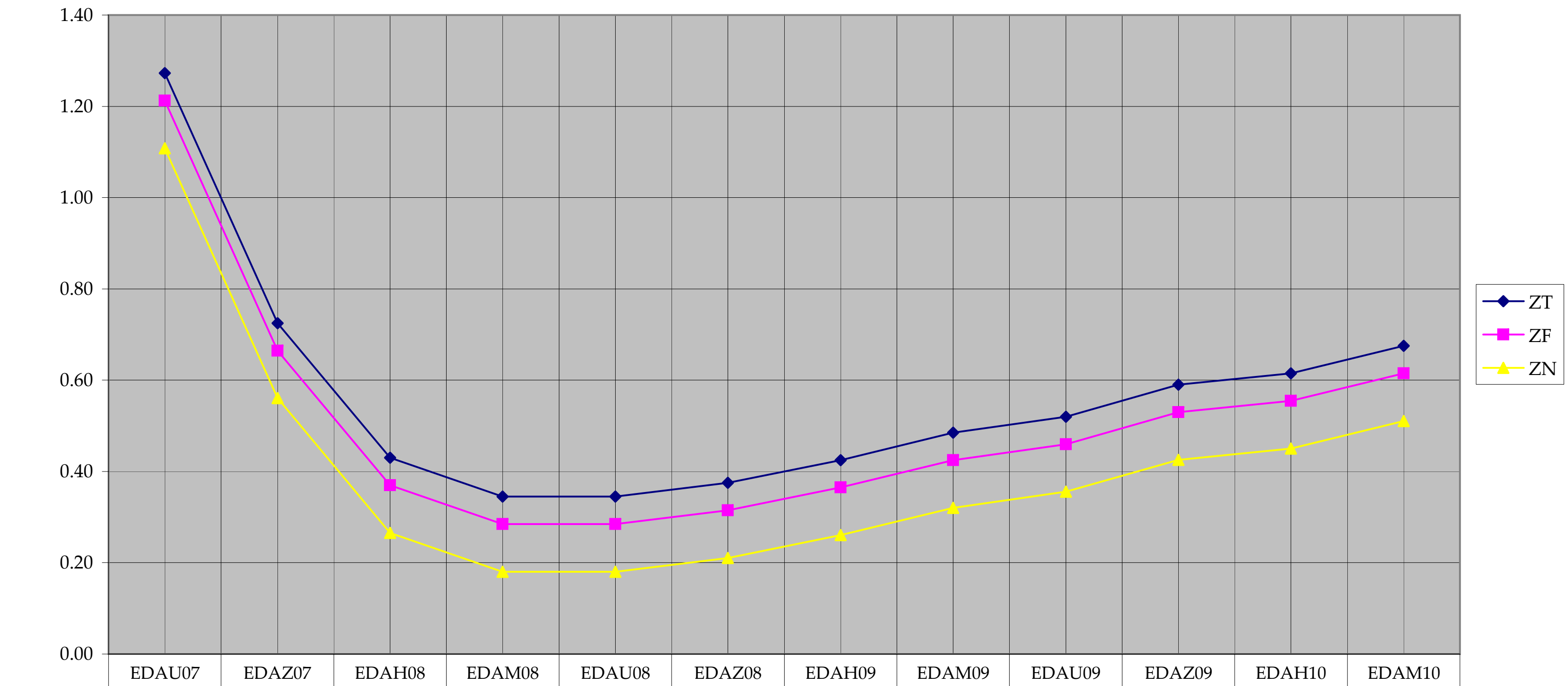
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAU07	0.046	7.86	7.81	10y-EDAU07
EDAZ07	0.295	7.86	7.57	10y-EDAZ07
EDAH08	0.545	7.86	7.32	10y-EDAH08
EDAM08	0.794	7.86	7.07	10y-EDAM08
EDAU08	1.043	7.86	6.82	10y-EDAU08
EDAZ08	1.292	7.86	6.57	10y-EDAZ08
EDAH09	1.542	7.86	6.32	10y-EDAH09
EDAM09	1.791	7.86	6.07	10y-EDAM09
EDAU09	2.040	7.86	5.82	10y-EDAU09
EDAZ09	2.290	7.86	5.57	10y-EDAZ09
EDAH10	2.539	7.86	5.32	10y-EDAH10
EDAM10	2.788	7.86	5.07	10y-EDAM10

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



Dirty TED Curve

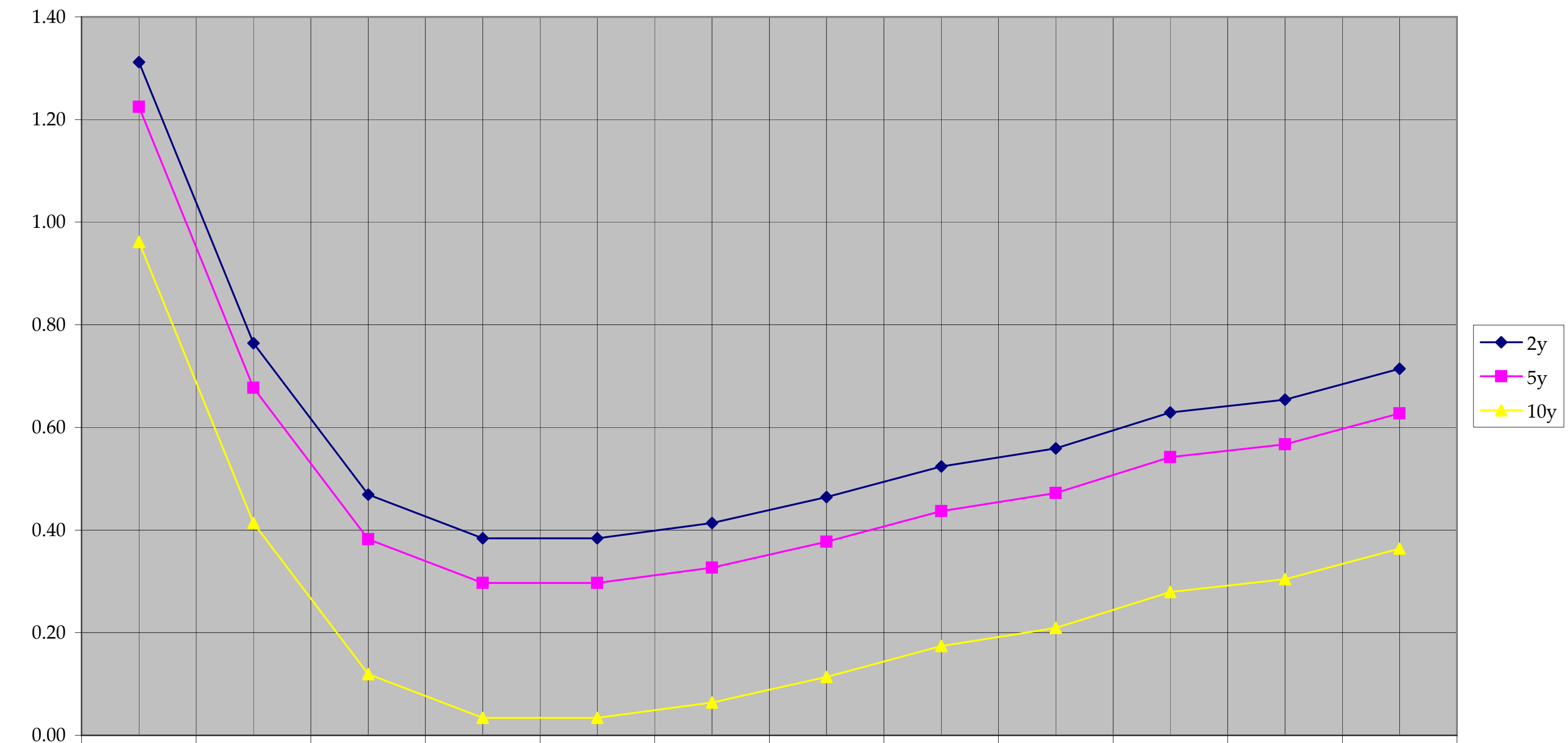
Chart values show the differences between ED contract and Treasury Futures conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



	EDAU07	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10
ZT	1.27	0.72	0.43	0.34	0.34	0.37	0.42	0.48	0.52	0.59	0.61	0.67
ZF	1.21	0.66	0.37	0.28	0.28	0.31	0.36	0.42	0.46	0.53	0.55	0.61
ZN	1.11	0.56	0.27	0.18	0.18	0.21	0.26	0.32	0.36	0.43	0.45	0.51

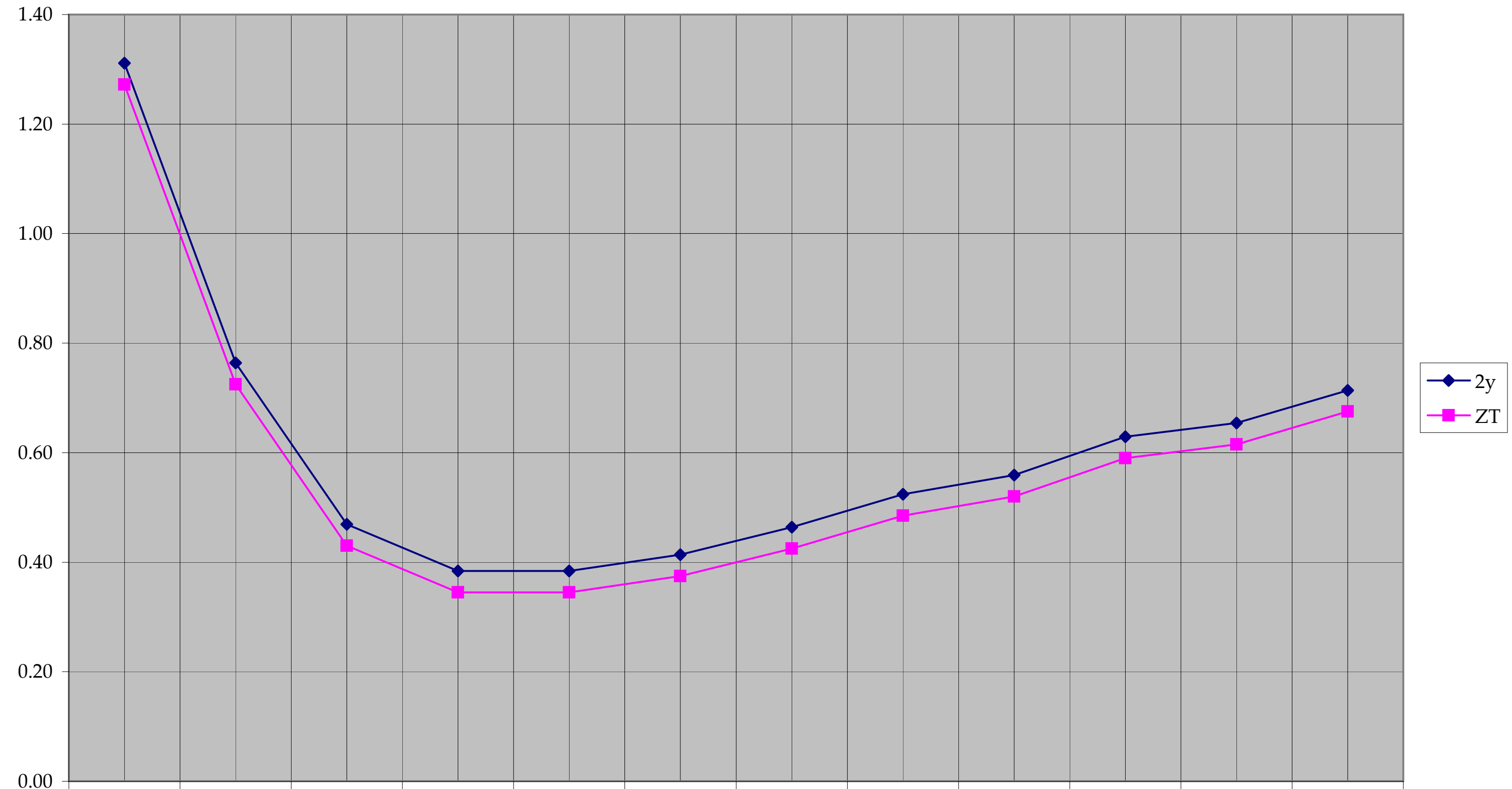
TED Curve

Chart values show the differences between ED contract and Treasury Cash conctract. 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.



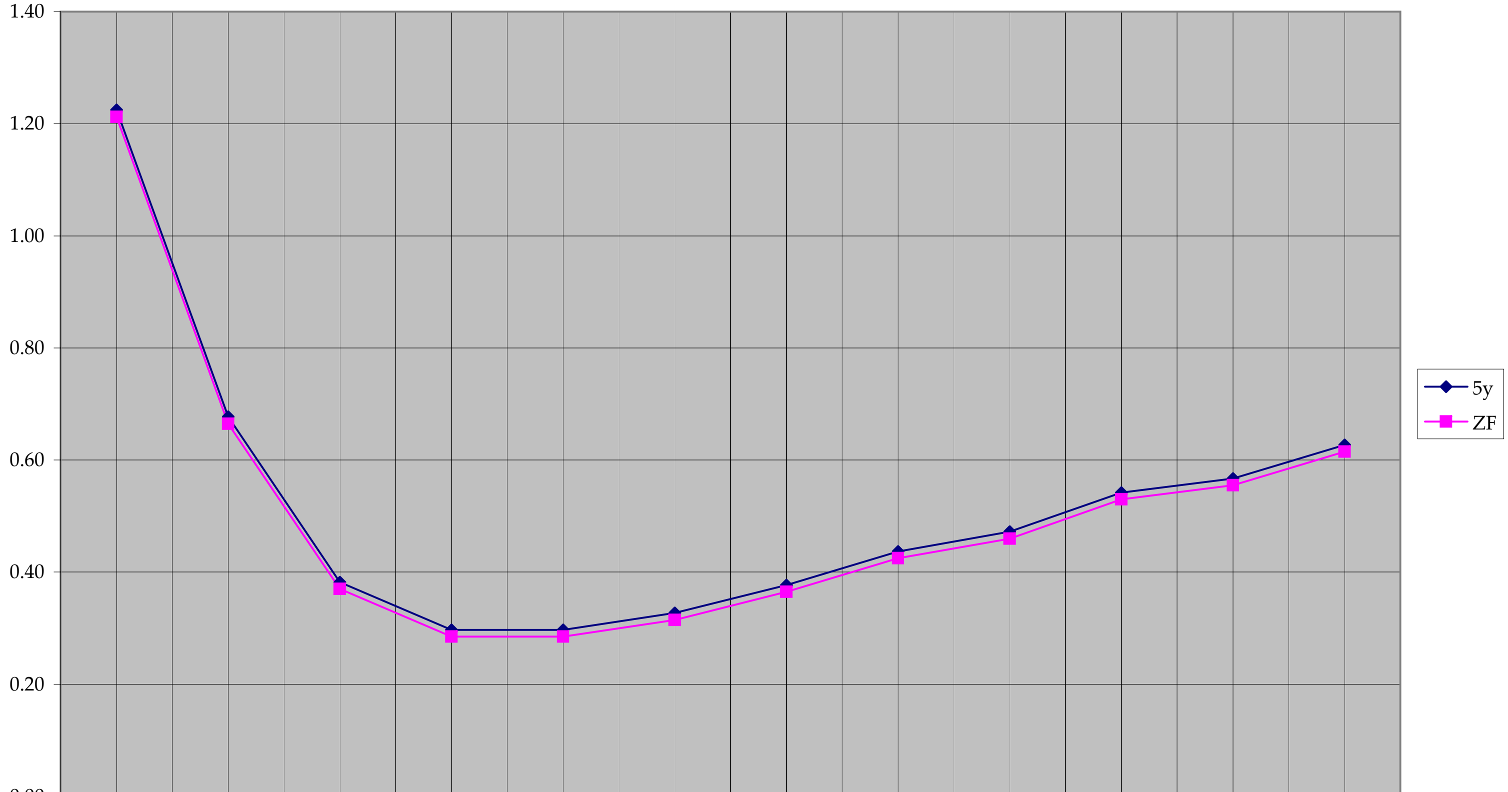
	EDAU07	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10
2y	1.31	0.76	0.47	0.38	0.38	0.41	0.46	0.52	0.56	0.63	0.65	0.71
5y	1.22	0.68	0.38	0.30	0.30	0.33	0.38	0.44	0.47	0.54	0.57	0.63
10y	0.96	0.41	0.12	0.03	0.03	0.06	0.11	0.17	0.21	0.28	0.30	0.36

2y Basis TED Curve



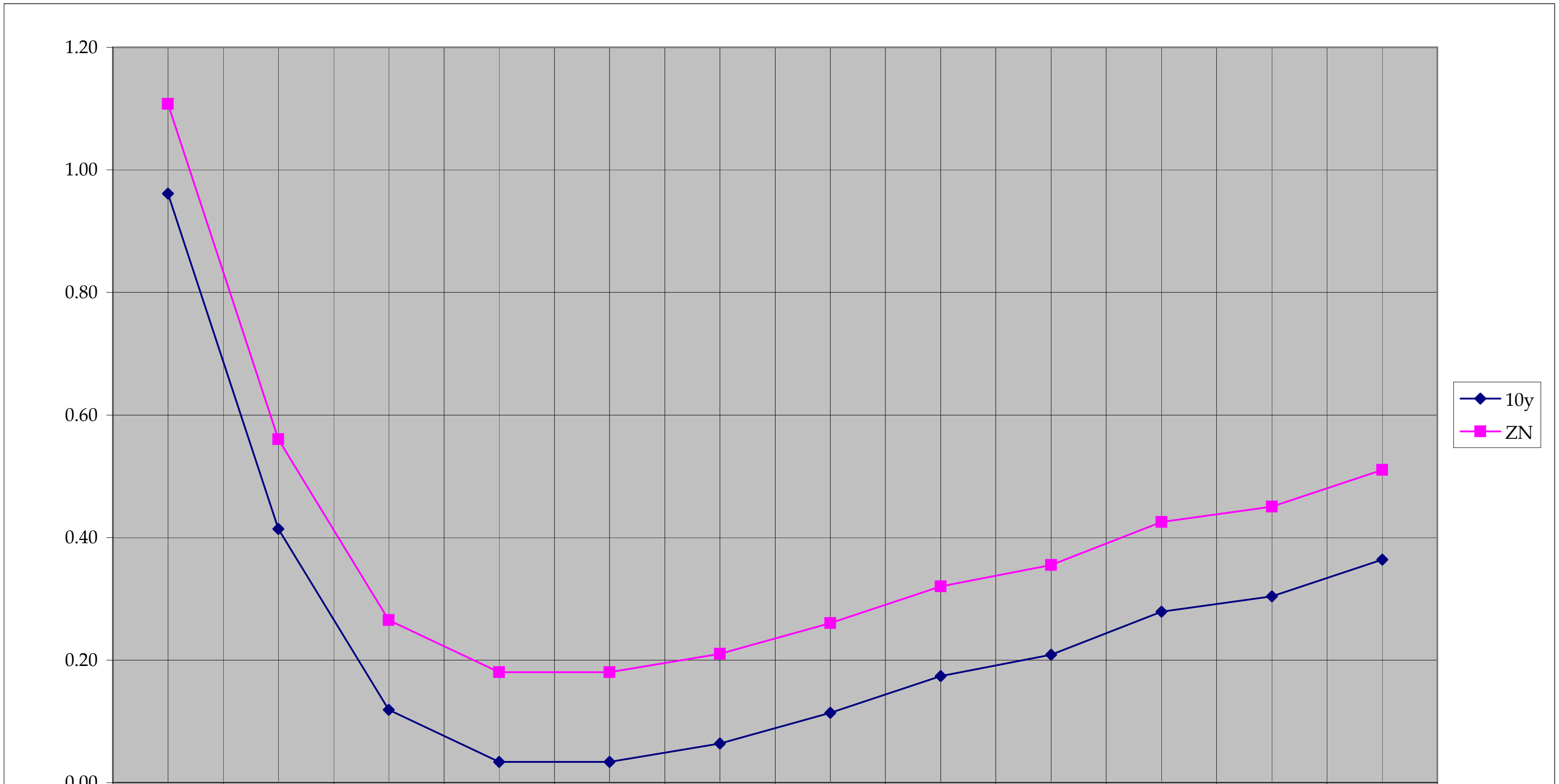
	EDAU07	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10
2y	1.31	0.76	0.47	0.38	0.38	0.41	0.46	0.52	0.56	0.63	0.65	0.71
ZT	1.27	0.72	0.43	0.34	0.34	0.37	0.42	0.48	0.52	0.59	0.61	0.67

5y Basis TED Curve



	EDAU07	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10
5y	1.22	0.68	0.38	0.30	0.30	0.33	0.38	0.44	0.47	0.54	0.57	0.63
ZF	1.21	0.66	0.37	0.28	0.28	0.31	0.36	0.42	0.46	0.53	0.55	0.61

10y Basis TED Curve



	EDAU07	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10
10y	0.96	0.41	0.12	0.03	0.03	0.06	0.11	0.17	0.21	0.28	0.30	0.36
ZN	1.11	0.56	0.27	0.18	0.18	0.21	0.26	0.32	0.36	0.43	0.45	0.51

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	5.080	-10.438	9505.188
Q.ED.Red	4.783	-11.500	9533.750
Q.ED.Green	4.983	-6.875	9514.500
Q.ED.Blue		-2.375	9495.125
Q.ED.Gold		-1.000	9474.500
Q.ED.Purple		-1.000	9474.500