The Morning Email: TERM TEDS & Dirty TEDS

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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	103.4281	103.137	4.013	1.88
ZF	106.7656	106.245	4.242	3.96
ZN	108.8906	108.285	4.427	5.88
2y	99.969	99.3100	4.012	1.83
5y	99.328	99.1050	4.277	4.40
10y	100.875	100.2800	4.634	7.79

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.130	4.870	82	0.224	DEC	White Pack
EDAH08	95.500	4.500	173	0.473	MAR	
EDAM08	95.600	4.400	264	0.723	JUN	
EDAU08	95.635	4.365	355	0.972	SEP	
EDAZ08	95.610	4.390	446	1.221	DEC	Red Pack
EDAH09	95.530	4.470	537	1.471	MAR	
EDAM09	95.420	4.580	628	1.720	JUN	
EDAU09	95.320	4.680	719	1.969	SEP	
EDAZ09	95.220	4.780	810	2.219	DEC	Green Pack
EDAH10	95.145	4.855	901	2.468	MAR	
EDAM10	95.070	4.930	992	2.717	JUN	
EDAU10	95.000	5.000	1083	2.966	SEP	
EDAZ10	94.925	5.075	1174	3.216	DEC	Blue Pack
EDAH11	94.875	5.125	1265	3.465	MAR	
EDAM11	94.810	5.190	1356	3.714	JUN	
EDAU11	94.730	5.270	1454	3.983	SEP	
EDAZ11	94.670	5.330	1545	4.232	DEC	Gold Pack
EDAH12	94.655	5.345	1636	4.482	MAR	
EDAM12	94.625	5.375	1727	4.731	JUN	
EDAU12	94.570	5.430	1818	4.980	SEP	

	Last Yield	Net Yield	Last Price	
Q.ED.White	4.650	-0.500	9546.625	Pack Prices
Q.ED.Red	4.646	-1.125	9547.000	
Q.ED.Green	5.021	-0.125	9510.875	
Q.ED.Blue		0.000	9483.125	
Q.ED.Gold		0.000	9460.625	

Notes

Futures use CTD for Last Yield

Mduration = Modified Macaulay Duration

#VALUE! = no quote being provided by exchange.

Red pack is a 2yr proxy
Gold pack is a 10 yr proxy
Red pack/Gold pack is a 2/10 proxy
Blue/Gold is a 5/10 proxy

Jim Goulding, jgoulding@ghco.com

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

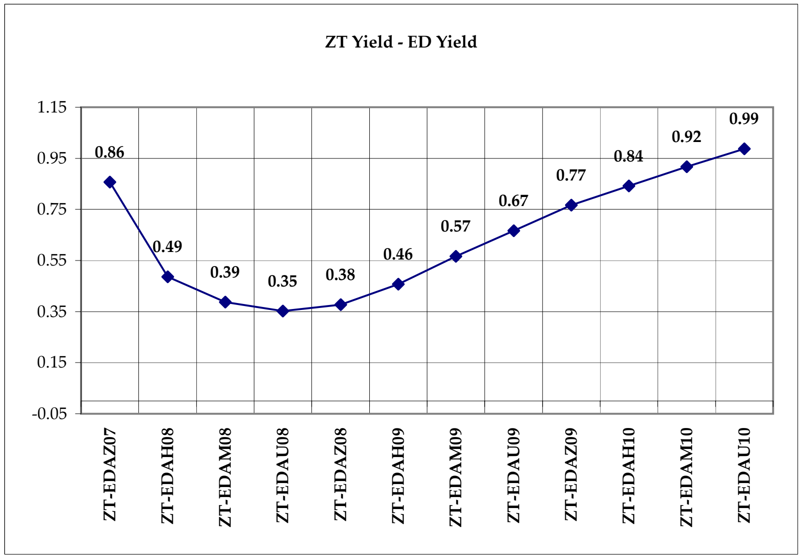
Eurodollar Color Codes for Individual Year Strips:

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

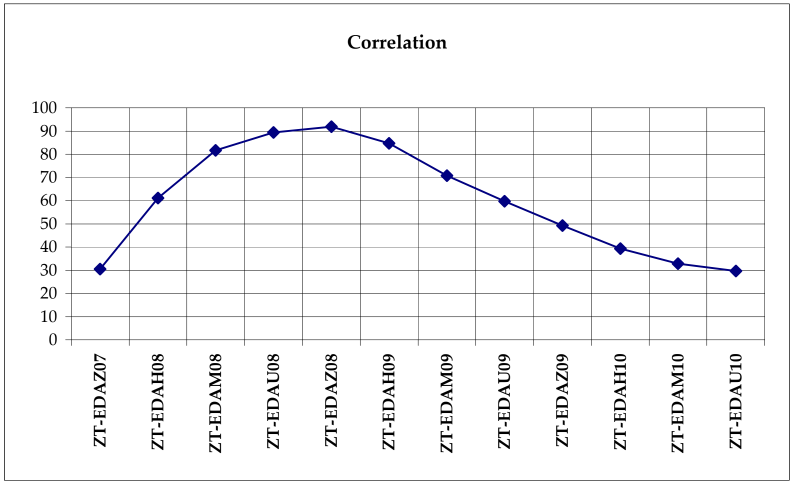
	ZT			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAZ07	8.298	0.86	ZT-EDAZ07	30.465
EDAH08	7.928	0.49	ZT-EDAH08	61.116
EDAM08	7.828	0.39	ZT-EDAM08	81.598
EDAU08	7.793	0.35	ZT-EDAU08	89.419
EDAZ08	7.818	0.38	ZT-EDAZ08	91.906
EDAH09	7.898	0.46	ZT-EDAH09	84.685
EDAM09	8.008	0.57	ZT-EDAM09	70.784
EDAU09	8.108	0.67	ZT-EDAU09	59.656
EDAZ09	8.208	0.77	ZT-EDAZ09	49.251
EDAH10	8.283	0.84	ZT-EDAH10	39.379
EDAM10	8.358	0.92	ZT-EDAM10	32.838
EDAU10	8.428	0.99	ZT-EDAU10	29.599

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	
EDAZ07	0.224	1.88	1.66	ZT-EDAZ07
EDAH08	0.473	1.88	1.41	ZT-EDAH08
EDAM08	0.723	1.88	1.16	ZT-EDAM08
EDAU08	0.972	1.88	0.91	ZT-EDAU08
EDAZ08	1.221	1.88	0.66	ZT-EDAZ08
EDAH09	1.471	1.88	0.41	ZT-EDAH09
EDAM09	1.720	1.88	0.16	ZT-EDAM09
EDAU09	1.969	1.88	(0.09)	ZT-EDAU09
EDAZ09	2.219	1.88	(0.34)	ZT-EDAZ09
EDAH10	2.468	1.88	(0.59)	ZT-EDAH10
EDAM10	2.717	1.88	(0.84)	ZT-EDAM10
EDAU10	2.966	1.88	(1.09)	ZT-EDAU10

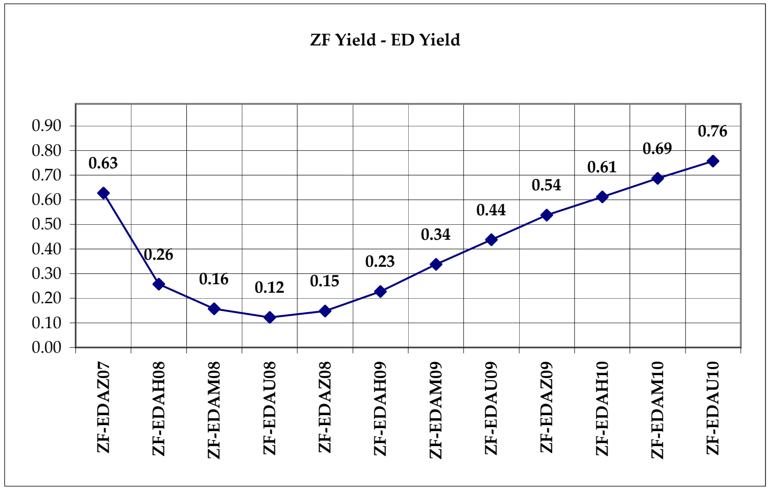
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.64	0.63	ZF-EDAZ07	-1.785
EDAH08	11.27	0.26	ZF-EDAH08	27.832
EDAM08	11.17	0.16	ZF-EDAM08	57.584
EDAU08	11.13	0.12	ZF-EDAU08	66.608
EDAZ08	11.16	0.15	ZF-EDAZ08	77.065
EDAH09	11.24	0.23	ZF-EDAH09	90.254
EDAM09	11.35	0.34	ZF-EDAM09	96.735
EDAU09	11.45	0.44	ZF-EDAU09	98.099
EDAZ09	11.55	0.54	ZF-EDAZ09	97.645
EDAH10	11.62	0.61	ZF-EDAH10	96.158
EDAM10	11.70	0.69	ZF-EDAM10	94.413
EDAU10	11.77	0.76	ZF-EDAU10	93.660

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	
EDAZ07	0.224	3.96	3.74	ZF-EDAZ07
EDAH08	0.473	3.96	3.49	ZF-EDAH08
EDAM08	0.723	3.96	3.24	ZF-EDAM08
EDAU08	0.972	3.96	2.99	ZF-EDAU08
EDAZ08	1.221	3.96	2.74	ZF-EDAZ08
EDAH09	1.471	3.96	2.49	ZF-EDAH09
EDAM09	1.720	3.96	2.24	ZF-EDAM09
EDAU09	1.969	3.96	1.99	ZF-EDAU09
EDAZ09	2.219	3.96	1.74	ZF-EDAZ09
EDAH10	2.468	3.96	1.49	ZF-EDAH10
EDAM10	2.717	3.96	1.24	ZF-EDAM10
EDAU10	2.966	3.96	0.99	ZF-EDAU10

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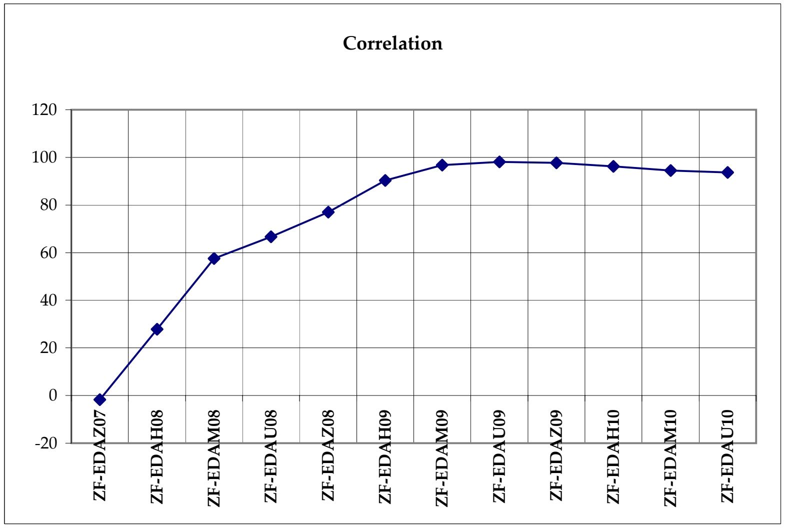
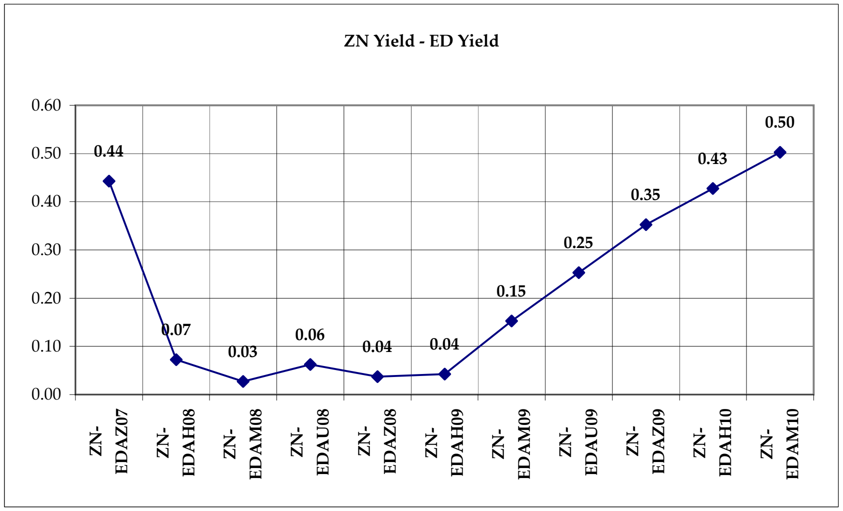


Dirty TED: ZN vs Eurodollar Contracts

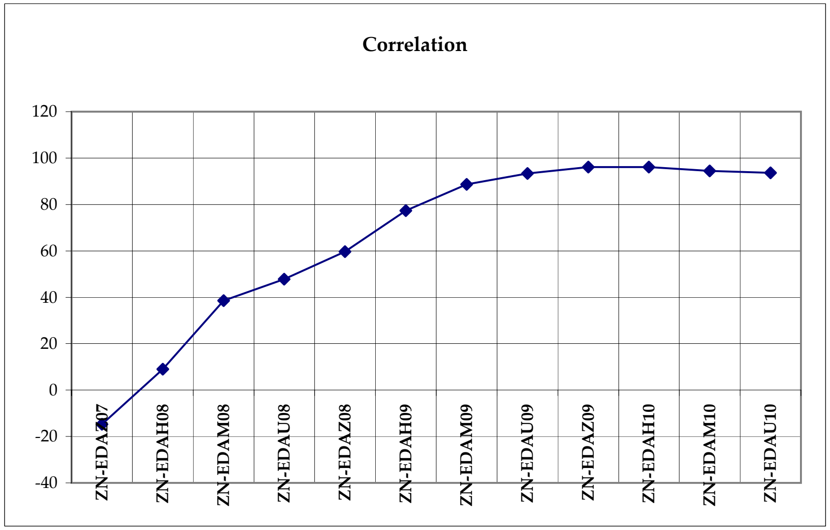
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	13.76	0.44	ZN-EDAZ07	-14.78
EDAH08	13.39	0.07	ZN-EDAH08	9.03
EDAM08	13.29	0.03	ZN-EDAM08	38.51
EDAU08	13.26	0.06	ZN-EDAU08	47.83
EDAZ08	13.28	0.04	ZN-EDAZ08	59.73
EDAH09	13.36	0.04	ZN-EDAH09	77.30
EDAM09	13.47	0.15	ZN-EDAM09	88.70
EDAU09	13.57	0.25	ZN-EDAU09	93.42
EDAZ09	13.67	0.35	ZN-EDAZ09	96.18
EDAH10	13.75	0.43	ZN-EDAH10	96.16
EDAM10	13.82	0.50	ZN-EDAM10	94.41
EDAU10	13.89	0.57	ZN-EDAU10	93.66

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	
EDAZ07	0.224	5.88	5.65	ZN-EDAZ07
EDAH08	0.473	5.88	5.40	ZN-EDAH08
EDAM08	0.723	5.88	5.15	ZN-EDAM08
EDAU08	0.972	5.88	4.90	ZN-EDAU08
EDAZ08	1.221	5.88	4.65	ZN-EDAZ08
EDAH09	1.471	5.88	4.40	ZN-EDAH09
EDAM09	1.720	5.88	4.16	ZN-EDAM09
EDAU09	1.969	5.88	3.91	ZN-EDAU09
EDAZ09	2.219	5.88	3.66	ZN-EDAZ09
EDAH10	2.468	5.88	3.41	ZN-EDAH10
EDAM10	2.717	5.88	3.16	ZN-EDAM10
EDAU10	2.966	5.88	2.91	ZN-EDAU10

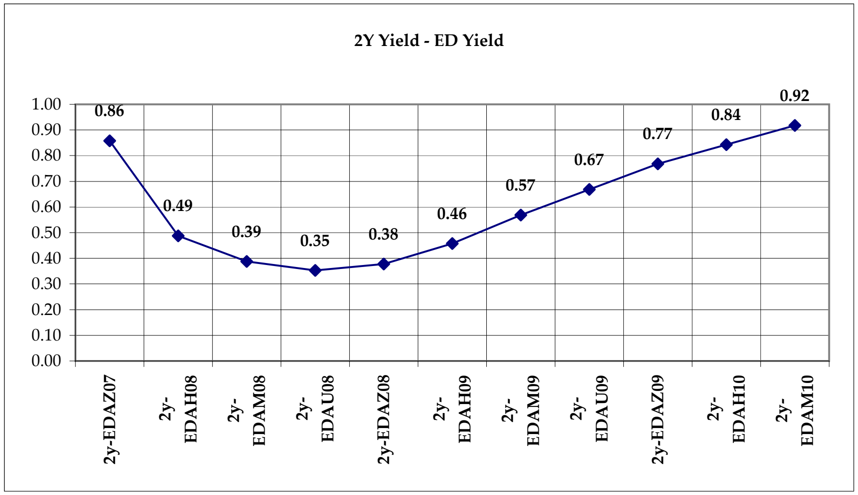
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

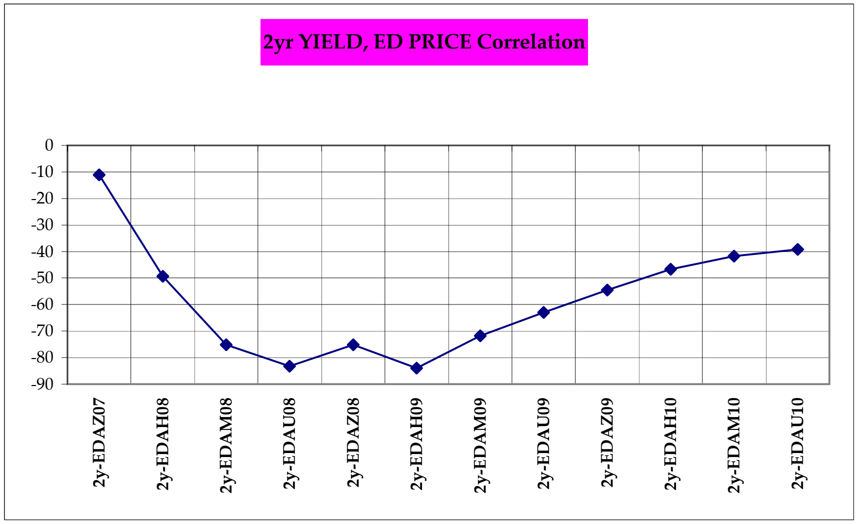
	2y			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAZ07	4.84	0.86	2y-EDAZ07	-11.116
EDAH08	4.47	0.49	2y-EDAH08	-49.356
EDAM08	4.37	0.39	2y-EDAM08	-75.113
EDAU08	4.33	0.35	2y-EDAU08	-83.243
EDAZ08	4.36	0.38	2y-EDAZ08	-75.113
EDAH09	4.44	0.46	2y-EDAH09	-83.980
EDAM09	4.55	0.57	2y-EDAM09	-71.836
EDAU09	4.65	0.67	2y-EDAU09	-62.984
EDAZ09	4.75	0.77	2y-EDAZ09	-54.548
EDAH10	4.82	0.84	2y-EDAH10	-46.648
EDAM10	4.90	0.92	2y-EDAM10	-41.748
EDAU10	4.97	0.99	2y-EDAU10	-39.172

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	
EDAZ07	0.224	1.83	1.61	2y-EDAZ07
EDAH08	0.473	1.83	1.36	2y-EDAH08
EDAM08	0.723	1.83	1.11	2y-EDAM08
EDAU08	0.972	1.83	0.86	2y-EDAU08
EDAZ08	1.221	1.83	0.61	2y-EDAZ08
EDAH09	1.471	1.83	0.36	2y-EDAH09
EDAM09	1.720	1.83	0.11	2y-EDAM09
EDAU09	1.969	1.83	(0.14)	2y-EDAU09
EDAZ09	2.219	1.83	(0.39)	2y-EDAZ09
EDAH10	2.468	1.83	(0.64)	2y-EDAH10
EDAM10	2.717	1.83	(0.89)	2y-EDAM10
EDAU10	2.966	1.83	(1.14)	2y-EDAU10

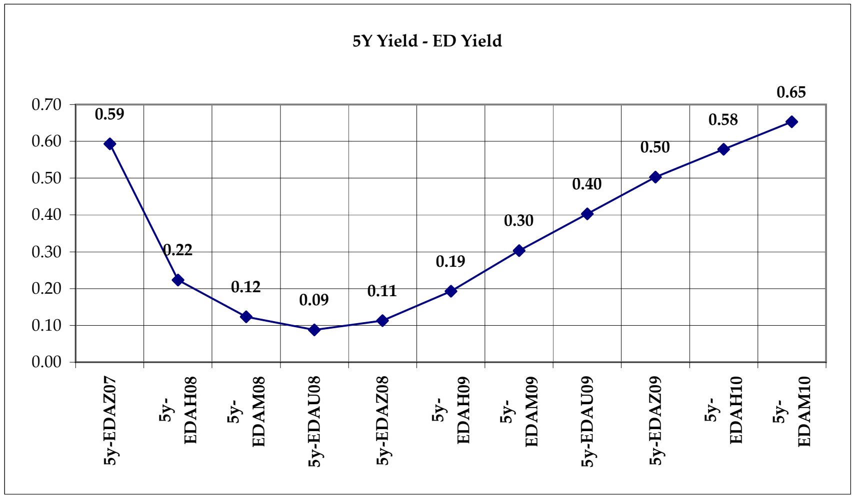
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

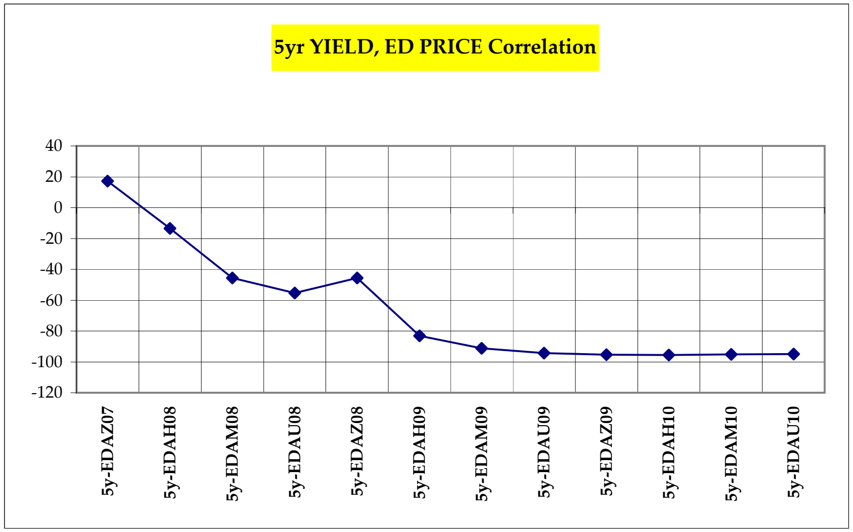
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.20	0.59	5y-EDAZ07	17.196
EDAH08	3.83	0.22	5y-EDAH08	-13.375
EDAM08	3.73	0.12	5y-EDAM08	-45.523
EDAU08	3.69	0.09	5y-EDAU08	-55.269
EDAZ08	3.72	0.11	5y-EDAZ08	-45.523
EDAH09	3.80	0.19	5y-EDAH09	-83.179
EDAM09	3.91	0.30	5y-EDAM09	-91.143
EDAU09	4.01	0.40	5y-EDAU09	-94.222
EDAZ09	4.11	0.50	5y-EDAZ09	-95.348
EDAH10	4.18	0.58	5y-EDAH10	-95.482
EDAM10	4.26	0.65	5y-EDAM10	-95.142
EDAU10	4.33	0.72	5y-EDAU10	-94.830

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	
EDAZ07	0.224	4.40	4.17	5y-EDAZ07
EDAH08	0.473	4.40	3.93	5y-EDAH08
EDAM08	0.723	4.40	3.68	5y-EDAM08
EDAU08	0.972	4.40	3.43	5y-EDAU08
EDAZ08	1.221	4.40	3.18	5y-EDAZ08
EDAH09	1.471	4.40	2.93	5y-EDAH09
EDAM09	1.720	4.40	2.68	5y-EDAM09
EDAU09	1.969	4.40	2.43	5y-EDAU09
EDAZ09	2.219	4.40	2.18	5y-EDAZ09
EDAH10	2.468	4.40	1.93	5y-EDAH10
EDAM10	2.717	4.40	1.68	5y-EDAM10
EDAU10	2.966	4.40	1.43	5y-EDAU10

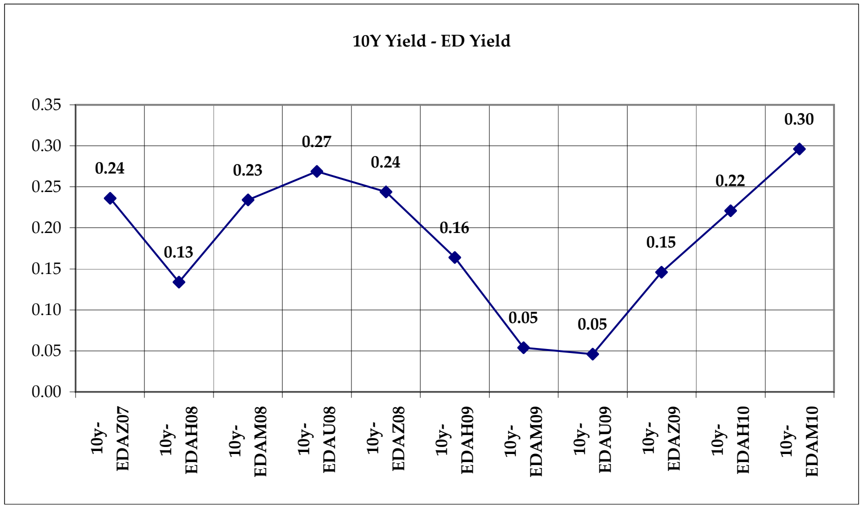
The farther away from 0 the spread duration is
the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

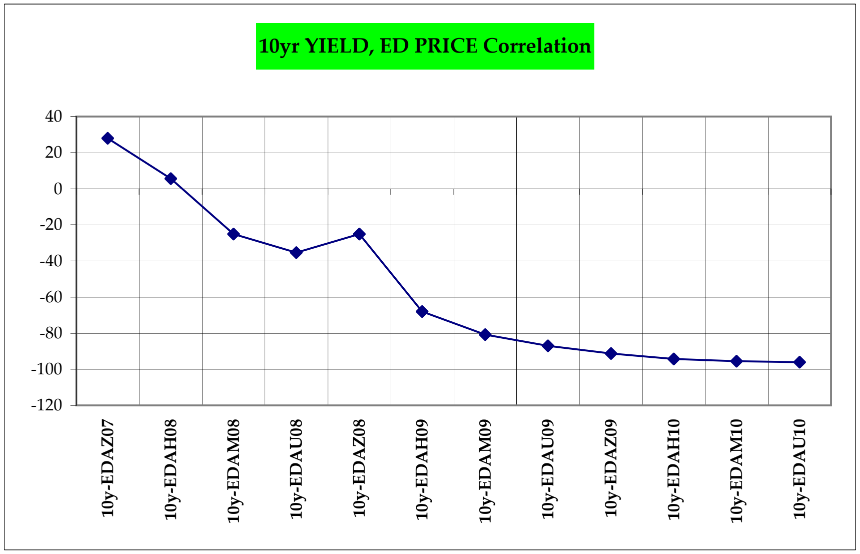
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.20	0.24	10y-EDAZ07	27.999
EDAH08	3.83	0.13	10y-EDAH08	5.602
EDAM08	3.73	0.23	10y-EDAM08	-25.155
EDAU08	3.69	0.27	10y-EDAU08	-35.363
EDAZ08	3.72	0.24	10y-EDAZ08	-25.155
EDAH09	3.80	0.16	10y-EDAH09	-68.063
EDAM09	3.91	0.05	10y-EDAM09	-80.815
EDAU09	4.01	0.05	10y-EDAU09	-86.995
EDAZ09	4.11	0.15	10y-EDAZ09	-91.274
EDAH10	4.18	0.22	10y-EDAH10	-94.246
EDAM10	4.26	0.30	10y-EDAM10	-95.475
EDAU10	4.33	0.37	10y-EDAU10	-96.095

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.



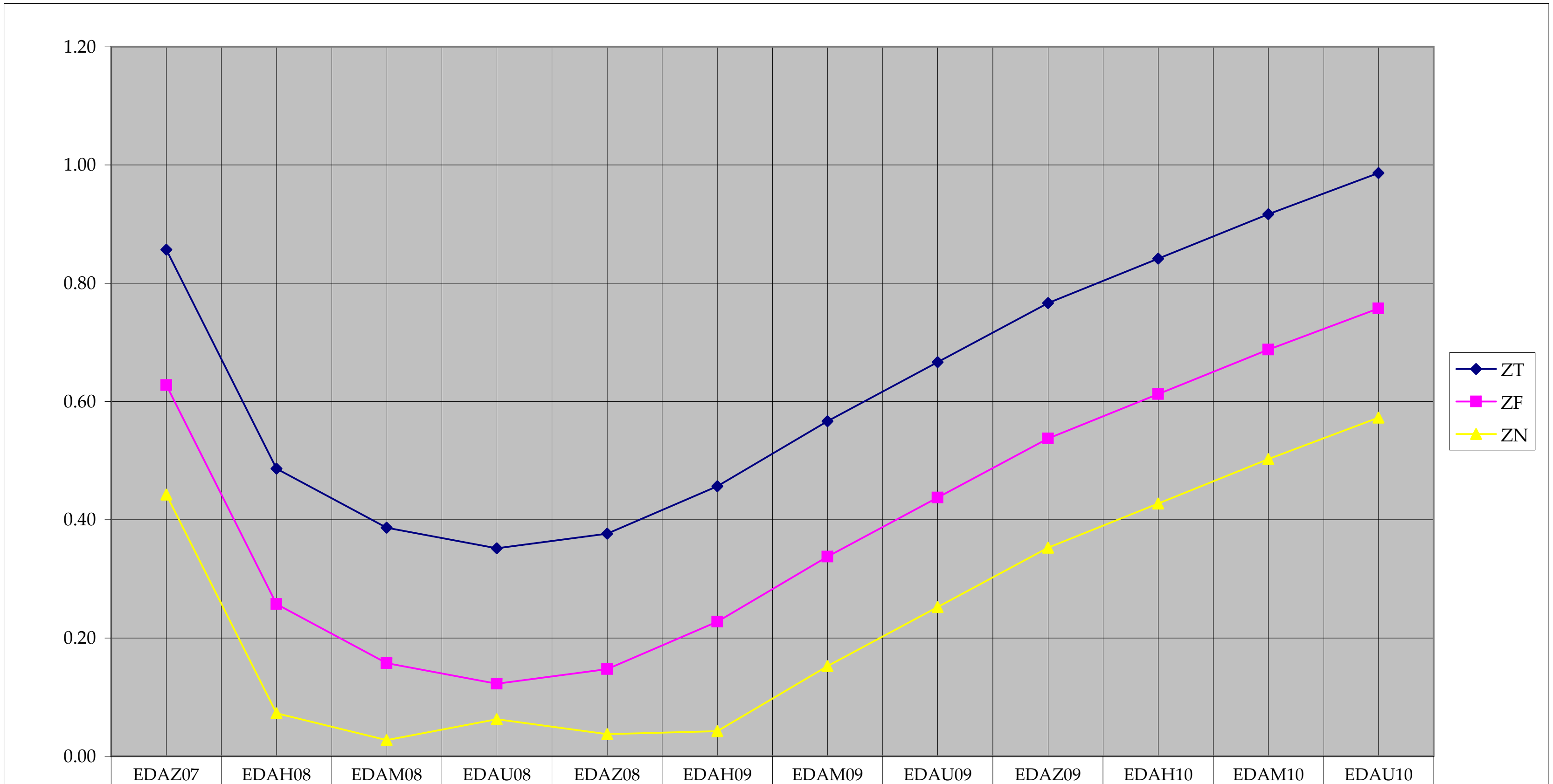
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.224	7.79	7.56	10y-EDAZ07
EDAH08	0.473	7.79	7.31	10y-EDAH08
EDAM08	0.723	7.79	7.07	10y-EDAM08
EDAU08	0.972	7.79	6.82	10y-EDAU08
EDAZ08	1.221	7.79	6.57	10y-EDAZ08
EDAH09	1.471	7.79	6.32	10y-EDAH09
EDAM09	1.720	7.79	6.07	10y-EDAM09
EDAU09	1.969	7.79	5.82	10y-EDAU09
EDAZ09	2.219	7.79	5.57	10y-EDAZ09
EDAH10	2.468	7.79	5.32	10y-EDAH10
EDAM10	2.717	7.79	5.07	10y-EDAM10
EDAU10	2.966	7.79	4.82	10y-EDAU10

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



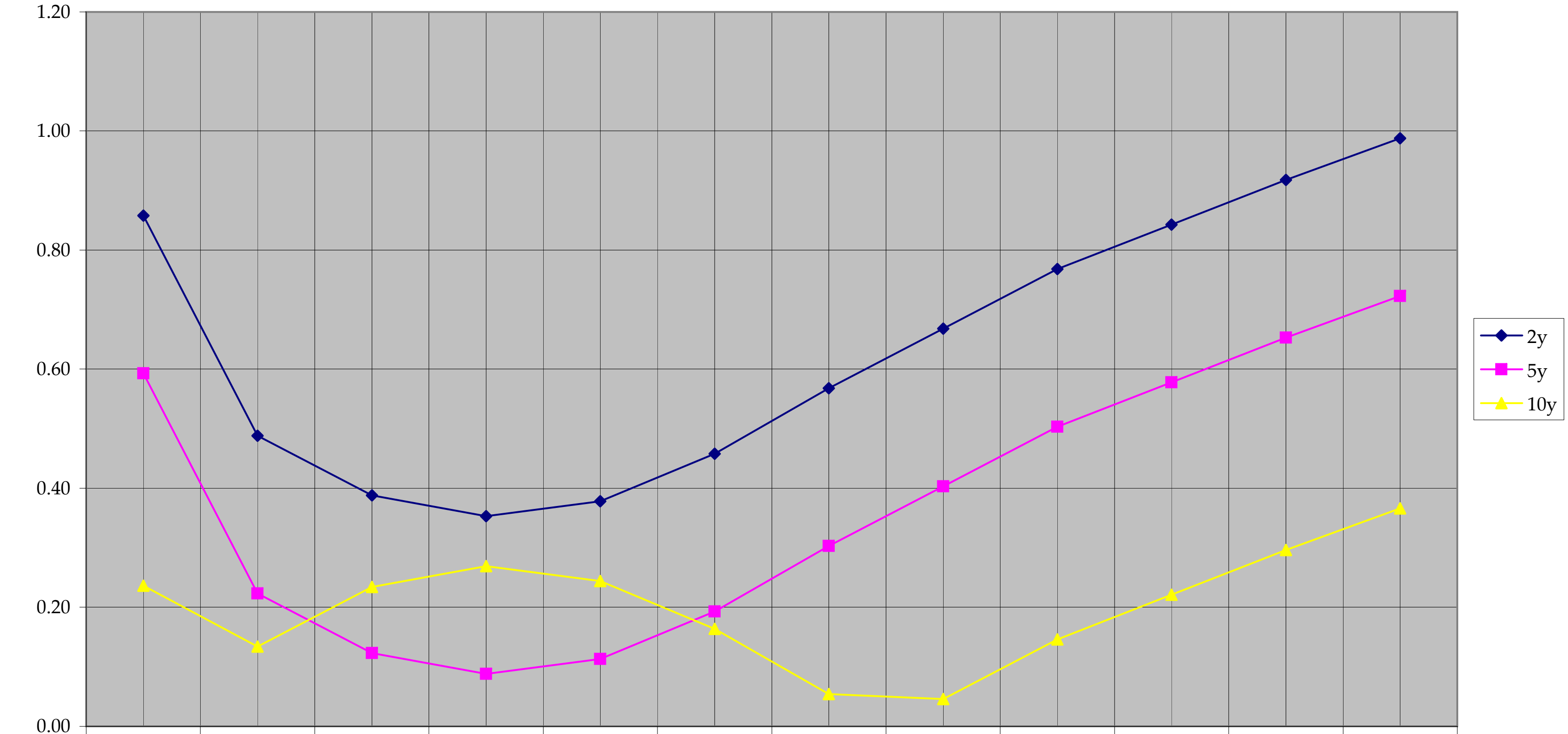
Dirty TED Curve

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.



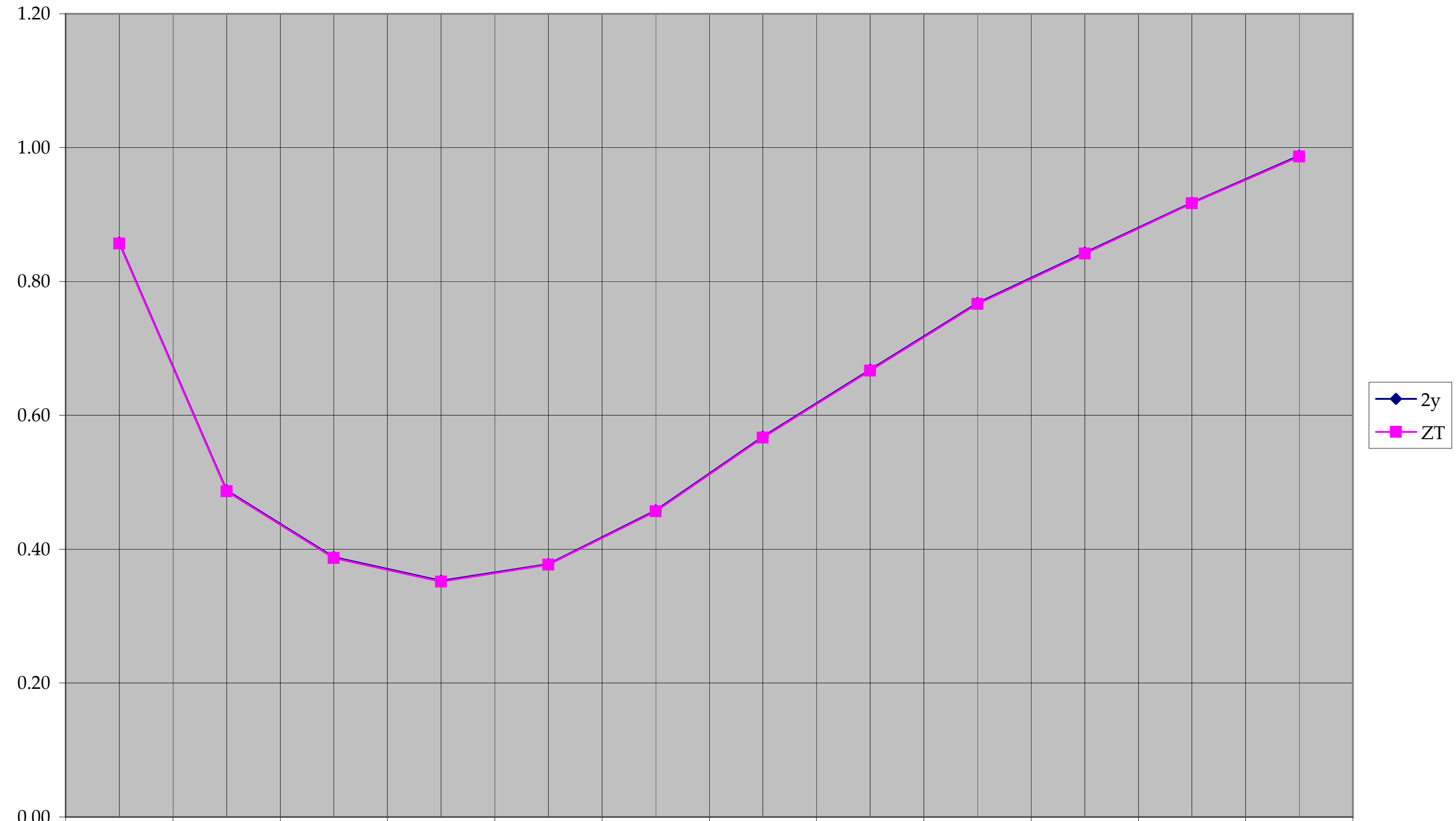
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
ZT	0.86	0.49	0.39	0.35	0.38	0.46	0.57	0.67	0.77	0.84	0.92	0.99
ZF	0.63	0.26	0.16	0.12	0.15	0.23	0.34	0.44	0.54	0.61	0.69	0.76
ZN	0.44	0.07	0.03	0.06	0.04	0.04	0.15	0.25	0.35	0.43	0.50	0.57

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.



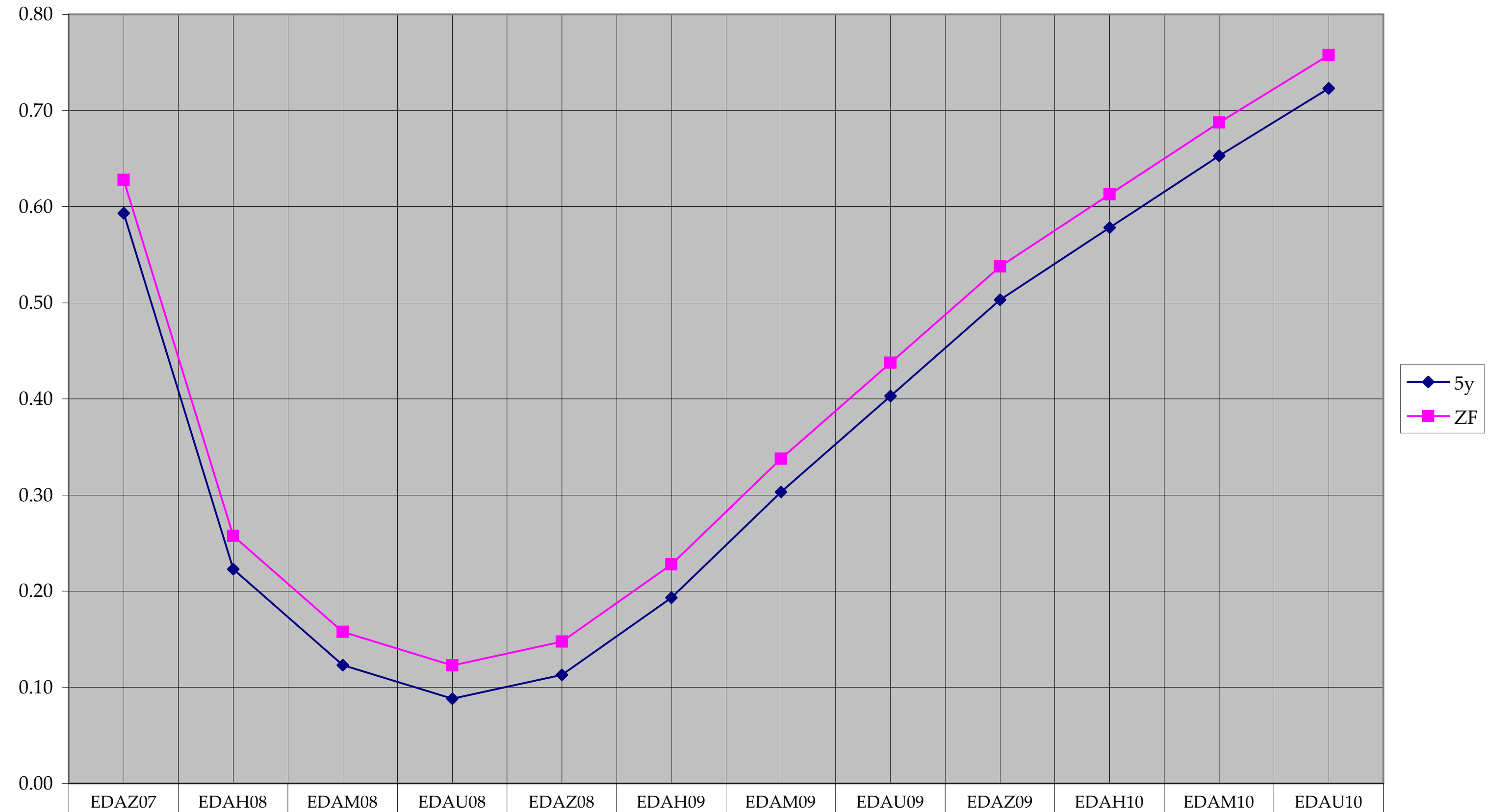
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	0.86	0.49	0.39	0.35	0.38	0.46	0.57	0.67	0.77	0.84	0.92	0.99
5y	0.59	0.22	0.12	0.09	0.11	0.19	0.30	0.40	0.50	0.58	0.65	0.72
10y	0.24	0.13	0.23	0.27	0.24	0.16	0.05	0.05	0.15	0.22	0.30	0.37

2y Basis TED Curve



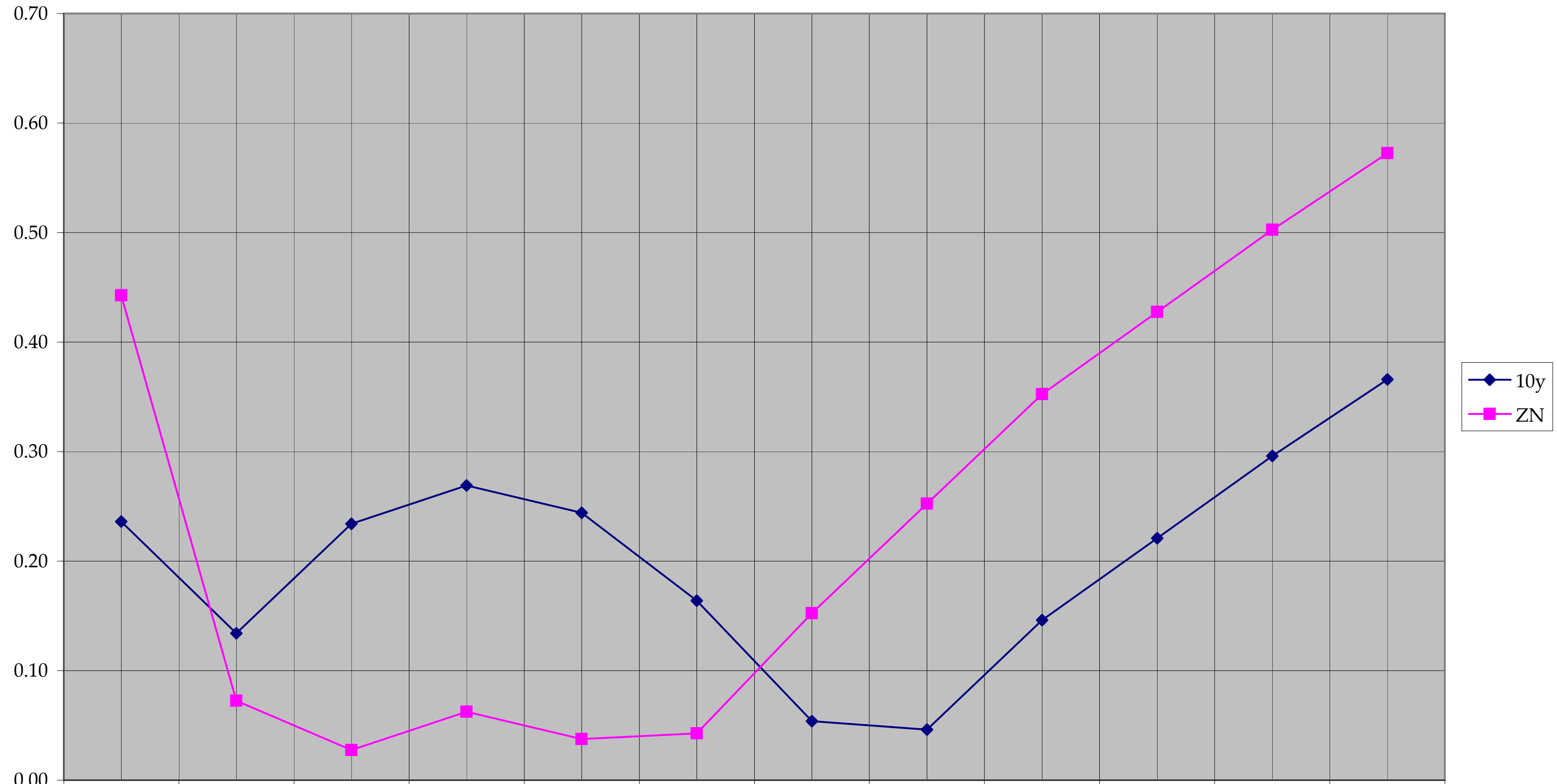
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	0.86	0.49	0.39	0.35	0.38	0.46	0.57	0.67	0.77	0.84	0.92	0.99
ZT	0.86	0.49	0.39	0.35	0.38	0.46	0.57	0.67	0.77	0.84	0.92	0.99

5y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
5y	0.59	0.22	0.12	0.09	0.11	0.19	0.30	0.40	0.50	0.58	0.65	0.72
ZF	0.63	0.26	0.16	0.12	0.15	0.23	0.34	0.44	0.54	0.61	0.69	0.76

10y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
10y	0.24	0.13	0.23	0.27	0.24	0.16	0.05	0.05	0.15	0.22	0.30	0.37
ZN	0.44	0.07	0.03	0.06	0.04	0.04	0.15	0.25	0.35	0.43	0.50	0.57

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.650	-0.500	9546.625
Q.ED.Red	4.646	-1.125	9547.000
Q.ED.Green	5.021	-0.125	9510.875
Q.ED.Blue		0.000	9483.125
Q.ED.Gold		0.000	9460.625