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	103.4750	103.152	3.972	1.90
ZF	107.0000	107.000	4.183	3.98
ZN	109.3594	109.115	4.361	5.90
2y	100.006	100.0020	3.991	1.85
5y	99.584	99.1870	4.215	4.42
10y	101.500	101.1600	4.558	7.81

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.325	4.675	88	0.240	DEC	White Pack
EDAH08	95.615	4.385	179	0.490	MAR	
EDAM08	95.685	4.315	270	0.739	JUN	
EDAU08	95.700	4.300	361	0.988	SEP	
EDAZ08	95.655	4.345	452	1.238	DEC	Red Pack
EDAH09	95.580	4.420	543	1.487	MAR	
EDAM09	95.490	4.510	634	1.736	JUN	
EDAU09	95.410	4.590	725	1.986	SEP	
EDAZ09	95.325	4.675	816	2.235	DEC	Green Pack
EDAH10	95.265	4.735	907	2.484	MAR	
EDAM10	95.185	4.815	998	2.734	JUN	
EDAU10	95.120	4.880	1089	2.983	SEP	
EDAZ10	95.070	4.930	1180	3.232	DEC	Blue Pack
EDAH11	95.020	4.980	1271	3.482	MAR	
EDAM11	94.960	5.040	1362	3.731	JUN	
EDAU11	94.900	5.100	1460	3.999	SEP	
EDAZ11	94.870	5.130	1551	4.249	DEC	Gold Pack
EDAH12	94.800	5.200	1642	4.498	MAR	
EDAM12	94.740	5.260	1733	4.747	JUN	
EDAU12	94.685	5.315	1824	4.997	SEP	

Pack Prices

	Last Yield	Net Yield	Last Price
Q.ED.White	4.530	-1.625	9558.125
Q.ED.Red	4.579	-2.625	9553.375
Q.ED.Green	4.901	-2.625	9522.375
Q.ED.Blue	5.147	-1.000	9498.750
Q.ED.Gold		0.000	9476.500

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

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

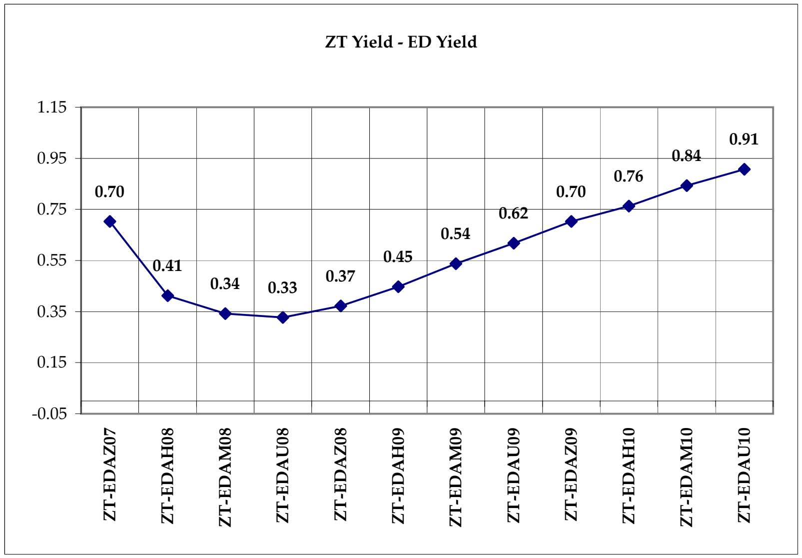
Eurodollar Color Codes for Individual Year Strips:

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

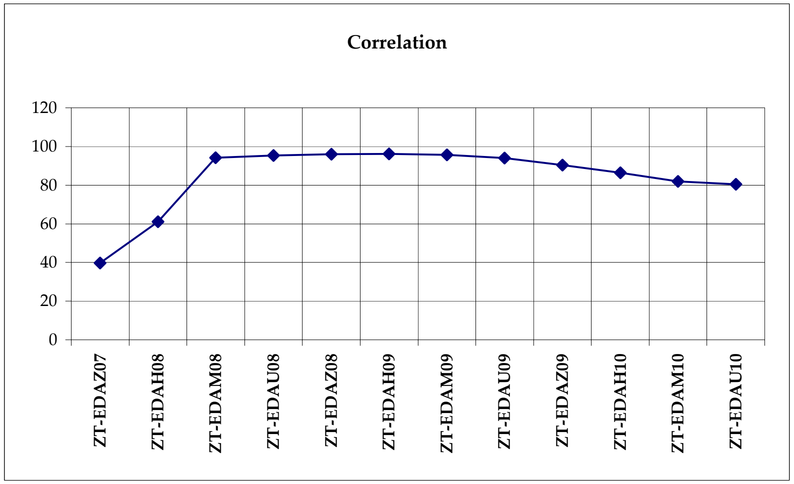
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.150	0.70	ZT-EDAZ07	39.802
EDAH08	7.860	0.41	ZT-EDAH08	61.116
EDAM08	7.790	0.34	ZT-EDAM08	94.197
EDAU08	7.775	0.33	ZT-EDAU08	95.354
EDAZ08	7.820	0.37	ZT-EDAZ08	95.955
EDAH09	7.895	0.45	ZT-EDAH09	96.183
EDAM09	7.985	0.54	ZT-EDAM09	95.685
EDAU09	8.065	0.62	ZT-EDAU09	93.959
EDAZ09	8.150	0.70	ZT-EDAZ09	90.438
EDAH10	8.210	0.76	ZT-EDAH10	86.471
EDAM10	8.290	0.84	ZT-EDAM10	81.958
EDAU10	8.355	0.91	ZT-EDAU10	80.383

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	0.240	1.90	1.66	ZT-EDAZ07
EDAH08	0.490	1.90	1.41	ZT-EDAH08
EDAM08	0.739	1.90	1.16	ZT-EDAM08
EDAU08	0.988	1.90	0.91	ZT-EDAU08
EDAZ08	1.238	1.90	0.66	ZT-EDAZ08
EDAH09	1.487	1.90	0.41	ZT-EDAH09
EDAM09	1.736	1.90	0.16	ZT-EDAM09
EDAU09	1.986	1.90	(0.09)	ZT-EDAU09
EDAZ09	2.235	1.90	(0.34)	ZT-EDAZ09
EDAH10	2.484	1.90	(0.59)	ZT-EDAH10
EDAM10	2.734	1.90	(0.84)	ZT-EDAM10
EDAU10	2.983	1.90	(1.09)	ZT-EDAU10

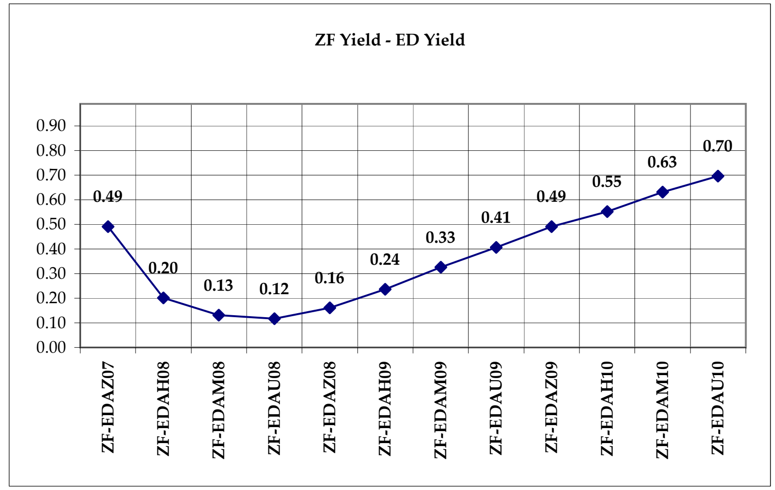
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	11.68	0.49	ZF-EDAZ07	1.349
EDAH08	11.39	0.20	ZF-EDAH08	59.838
EDAM08	11.32	0.13	ZF-EDAM08	75.060
EDAU08	11.30	0.12	ZF-EDAU08	76.625
EDAZ08	11.35	0.16	ZF-EDAZ08	81.780
EDAH09	11.42	0.24	ZF-EDAH09	89.222
EDAM09	11.51	0.33	ZF-EDAM09	94.064
EDAU09	11.59	0.41	ZF-EDAU09	96.760
EDAZ09	11.68	0.49	ZF-EDAZ09	97.689
EDAH10	11.74	0.55	ZF-EDAH10	97.465
EDAM10	11.82	0.63	ZF-EDAM10	96.817
EDAU10	11.88	0.70	ZF-EDAU10	96.663

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	0.240	3.98	3.74	ZF-EDAZ07
EDAH08	0.490	3.98	3.49	ZF-EDAH08
EDAM08	0.739	3.98	3.24	ZF-EDAM08
EDAU08	0.988	3.98	2.99	ZF-EDAU08
EDAZ08	1.238	3.98	2.74	ZF-EDAZ08
EDAH09	1.487	3.98	2.49	ZF-EDAH09
EDAM09	1.736	3.98	2.24	ZF-EDAM09
EDAU09	1.986	3.98	1.99	ZF-EDAU09
EDAZ09	2.235	3.98	1.74	ZF-EDAZ09
EDAH10	2.484	3.98	1.49	ZF-EDAH10
EDAM10	2.734	3.98	1.24	ZF-EDAM10
EDAU10	2.983	3.98	0.99	ZF-EDAU10

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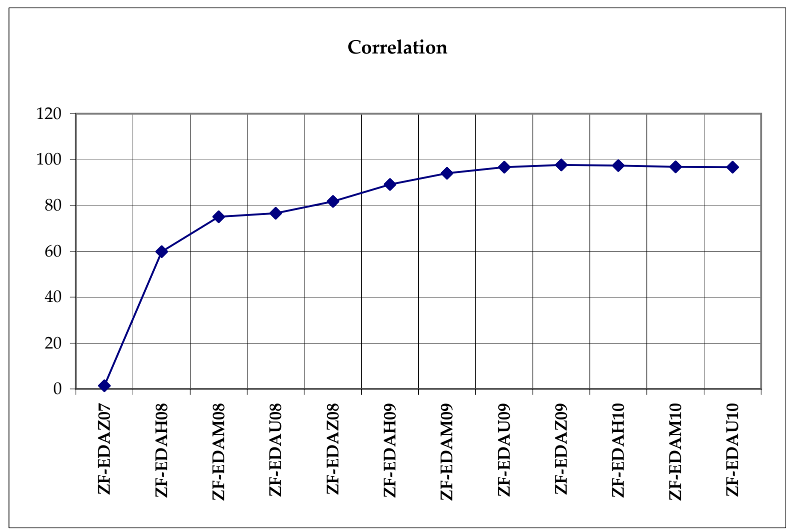
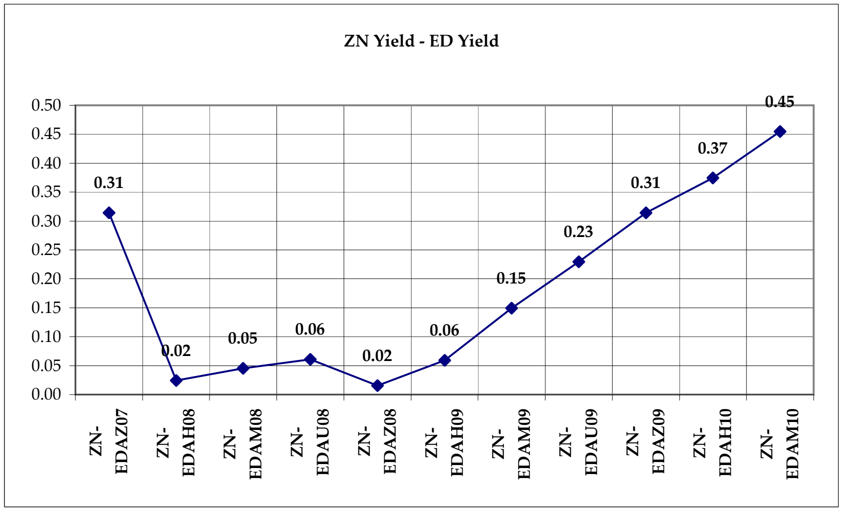


Dirty TED: ZN vs Eurodollar Contracts

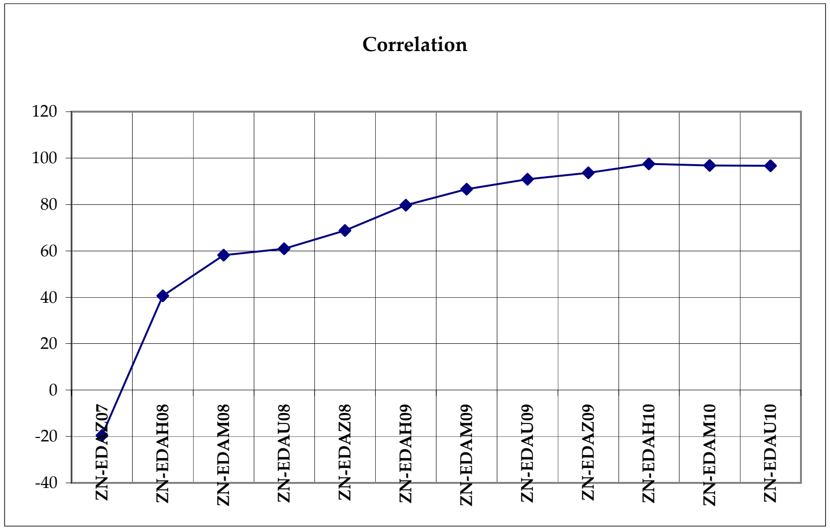
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	14.03	0.31	ZN-EDAZ07	-19.54
EDAH08	13.74	0.02	ZN-EDAH08	40.59
EDAM08	13.67	0.05	ZN-EDAM08	58.15
EDAU08	13.66	0.06	ZN-EDAU08	60.88
EDAZ08	13.70	0.02	ZN-EDAZ08	68.77
EDAH09	13.78	0.06	ZN-EDAH09	79.70
EDAM09	13.87	0.15	ZN-EDAM09	86.66
EDAU09	13.95	0.23	ZN-EDAU09	90.85
EDAZ09	14.03	0.31	ZN-EDAZ09	93.67
EDAH10	14.09	0.37	ZN-EDAH10	97.46
EDAM10	14.17	0.45	ZN-EDAM10	96.82
EDAU10	14.24	0.52	ZN-EDAU10	96.66

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	0.240	5.90	5.65	ZN-EDAZ07
EDAH08	0.490	5.90	5.41	ZN-EDAH08
EDAM08	0.739	5.90	5.16	ZN-EDAM08
EDAU08	0.988	5.90	4.91	ZN-EDAU08
EDAZ08	1.238	5.90	4.66	ZN-EDAZ08
EDAH09	1.487	5.90	4.41	ZN-EDAH09
EDAM09	1.736	5.90	4.16	ZN-EDAM09
EDAU09	1.986	5.90	3.91	ZN-EDAU09
EDAZ09	2.235	5.90	3.66	ZN-EDAZ09
EDAH10	2.484	5.90	3.41	ZN-EDAH10
EDAM10	2.734	5.90	3.16	ZN-EDAM10
EDAU10	2.983	5.90	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	4.68	0.68	2y-EDAZ07	-21.209
EDAH08	4.39	0.39	2y-EDAH08	-75.283
EDAM08	4.32	0.32	2y-EDAM08	-87.752
EDAU08	4.31	0.31	2y-EDAU08	-88.124
EDAZ08	4.35	0.35	2y-EDAZ08	-87.752
EDAH09	4.43	0.43	2y-EDAH09	-94.172
EDAM09	4.52	0.52	2y-EDAM09	-96.011
EDAU09	4.60	0.60	2y-EDAU09	-96.838
EDAZ09	4.68	0.68	2y-EDAZ09	-95.350
EDAH10	4.74	0.74	2y-EDAH10	-93.162
EDAM10	4.82	0.82	2y-EDAM10	-90.323
EDAU10	4.89	0.89	2y-EDAU10	-89.356

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
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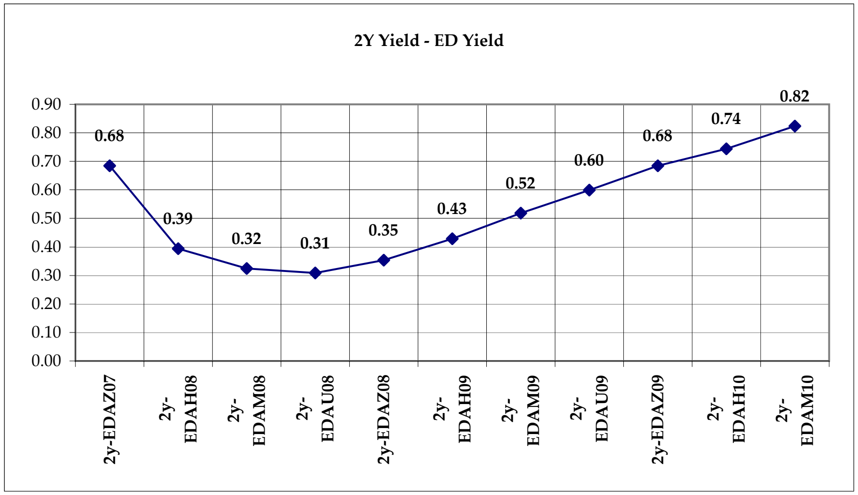
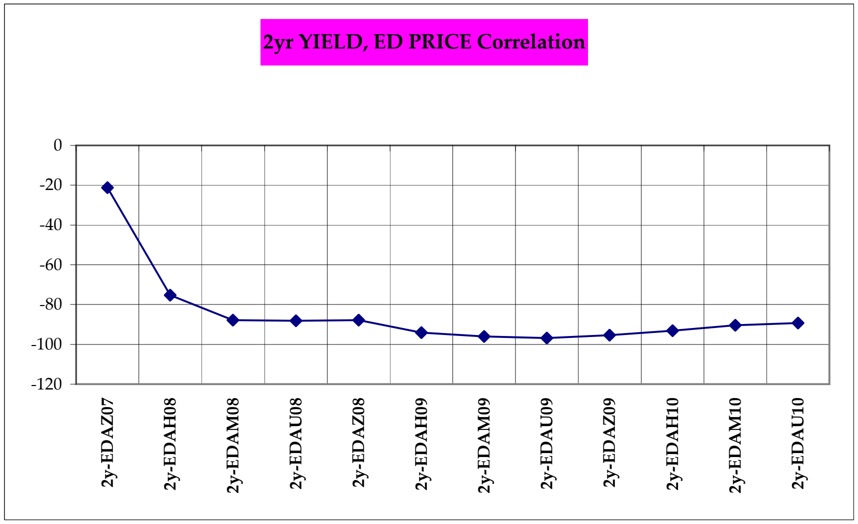
These are measuring YIELD correlations.



	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAZ07	0.240	1.85	1.61	2y-EDAZ07
EDAH08	0.490	1.85	1.36	2y-EDAH08
EDAM08	0.739	1.85	1.11	2y-EDAM08
EDAU08	0.988	1.85	0.86	2y-EDAU08
EDAZ08	1.238	1.85	0.61	2y-EDAZ08
EDAH09	1.487	1.85	0.36	2y-EDAH09
EDAM09	1.736	1.85	0.11	2y-EDAM09
EDAU09	1.986	1.85	(0.14)	2y-EDAU09
EDAZ09	2.235	1.85	(0.39)	2y-EDAZ09
EDAH10	2.484	1.85	(0.64)	2y-EDAH10
EDAM10	2.734	1.85	(0.89)	2y-EDAM10
EDAU10	2.983	1.85	(1.14)	2y-EDAU10

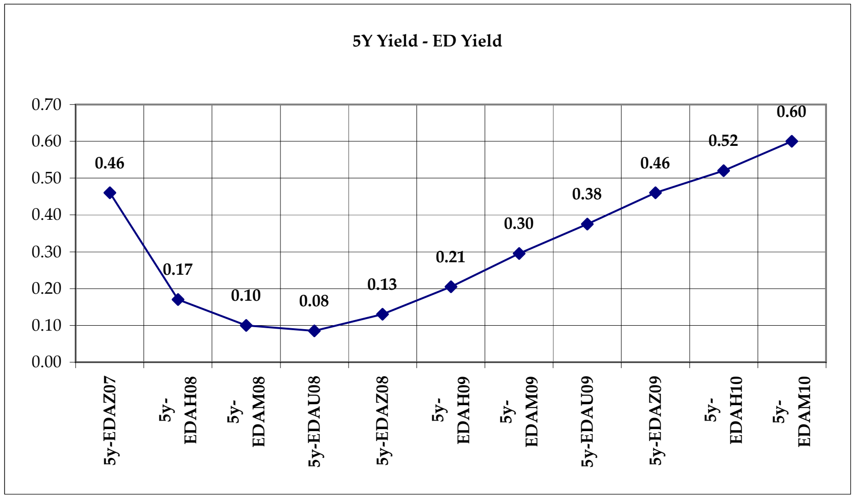
The farther away from 0 the spread duration is
the riskier the trade.



TERM TED: 5y vs Eurodollar Contracts

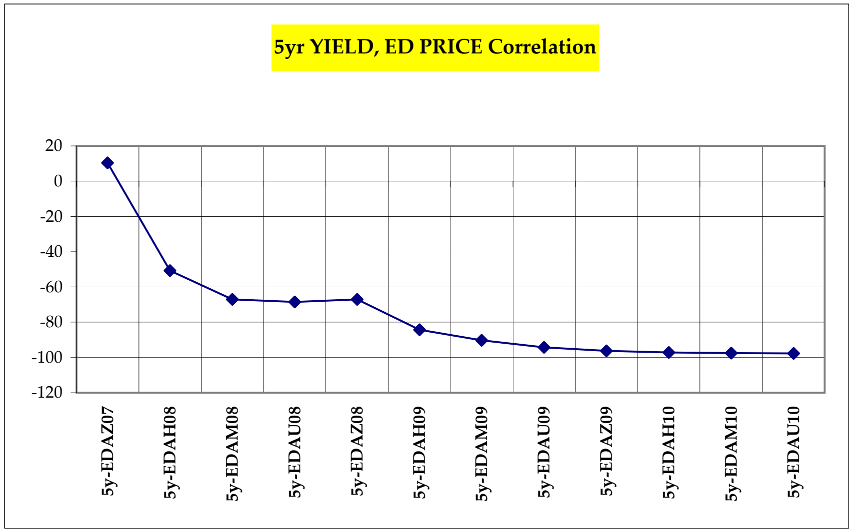
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.26	0.46	5y-EDAZ07	10.407
EDAH08	3.97	0.17	5y-EDAH08	-50.772
EDAM08	3.90	0.10	5y-EDAM08	-67.134
EDAU08	3.88	0.08	5y-EDAU08	-68.508
EDAZ08	3.93	0.13	5y-EDAZ08	-67.134
EDAH09	4.00	0.21	5y-EDAH09	-84.226
EDAM09	4.09	0.30	5y-EDAM09	-90.262
EDAU09	4.17	0.38	5y-EDAU09	-94.268
EDAZ09	4.26	0.46	5y-EDAZ09	-96.228
EDAH10	4.32	0.52	5y-EDAH10	-97.120
EDAM10	4.40	0.60	5y-EDAM10	-97.559
EDAU10	4.46	0.66	5y-EDAU10	-97.722

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	0.240	4.42	4.18	5y-EDAZ07
EDAH08	0.490	4.42	3.93	5y-EDAH08
EDAM08	0.739	4.42	3.68	5y-EDAM08
EDAU08	0.988	4.42	3.43	5y-EDAU08
EDAZ08	1.238	4.42	3.18	5y-EDAZ08
EDAH09	1.487	4.42	2.93	5y-EDAH09
EDAM09	1.736	4.42	2.68	5y-EDAM09
EDAU09	1.986	4.42	2.43	5y-EDAU09
EDAZ09	2.235	4.42	2.18	5y-EDAZ09
EDAH10	2.484	4.42	1.93	5y-EDAH10
EDAM10	2.734	4.42	1.68	5y-EDAM10
EDAU10	2.983	4.42	1.43	5y-EDAU10

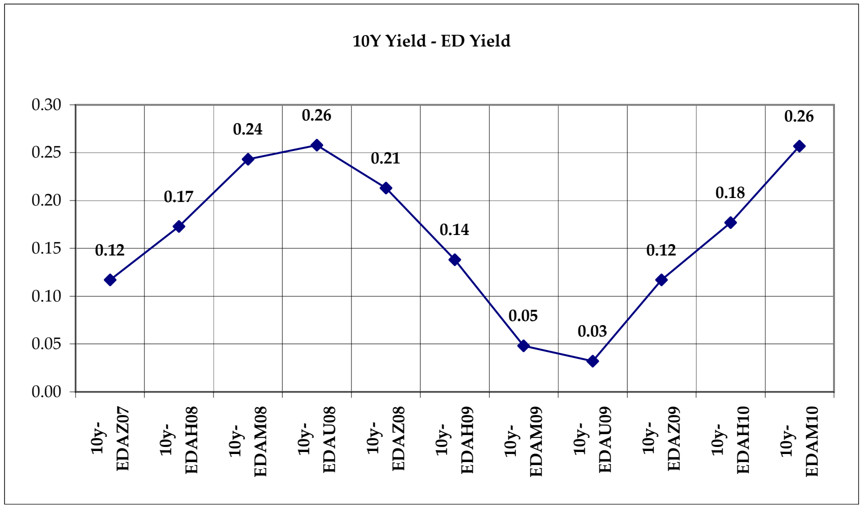
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

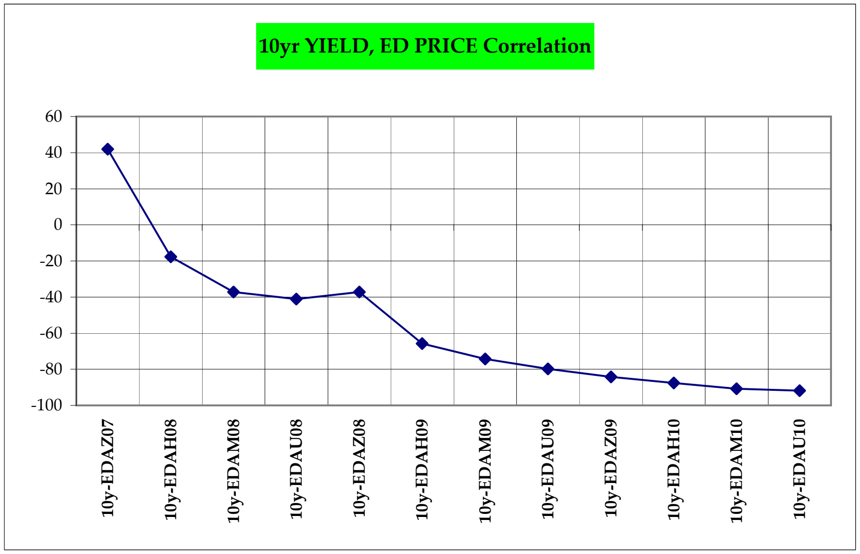
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.26	0.12	10y-EDAZ07	41.968
EDAH08	3.97	0.17	10y-EDAH08	-17.660
EDAM08	3.90	0.24	10y-EDAM08	-37.157
EDAU08	3.88	0.26	10y-EDAU08	-41.106
EDAZ08	3.93	0.21	10y-EDAZ08	-37.157
EDAH09	4.00	0.14	10y-EDAH09	-65.834
EDAM09	4.09	0.05	10y-EDAM09	-74.267
EDAU09	4.17	0.03	10y-EDAU09	-79.798
EDAZ09	4.26	0.12	10y-EDAZ09	-84.171
EDAH10	4.32	0.18	10y-EDAH10	-87.606
EDAM10	4.40	0.26	10y-EDAM10	-90.786
EDAU10	4.46	0.32	10y-EDAU10	-91.927

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.



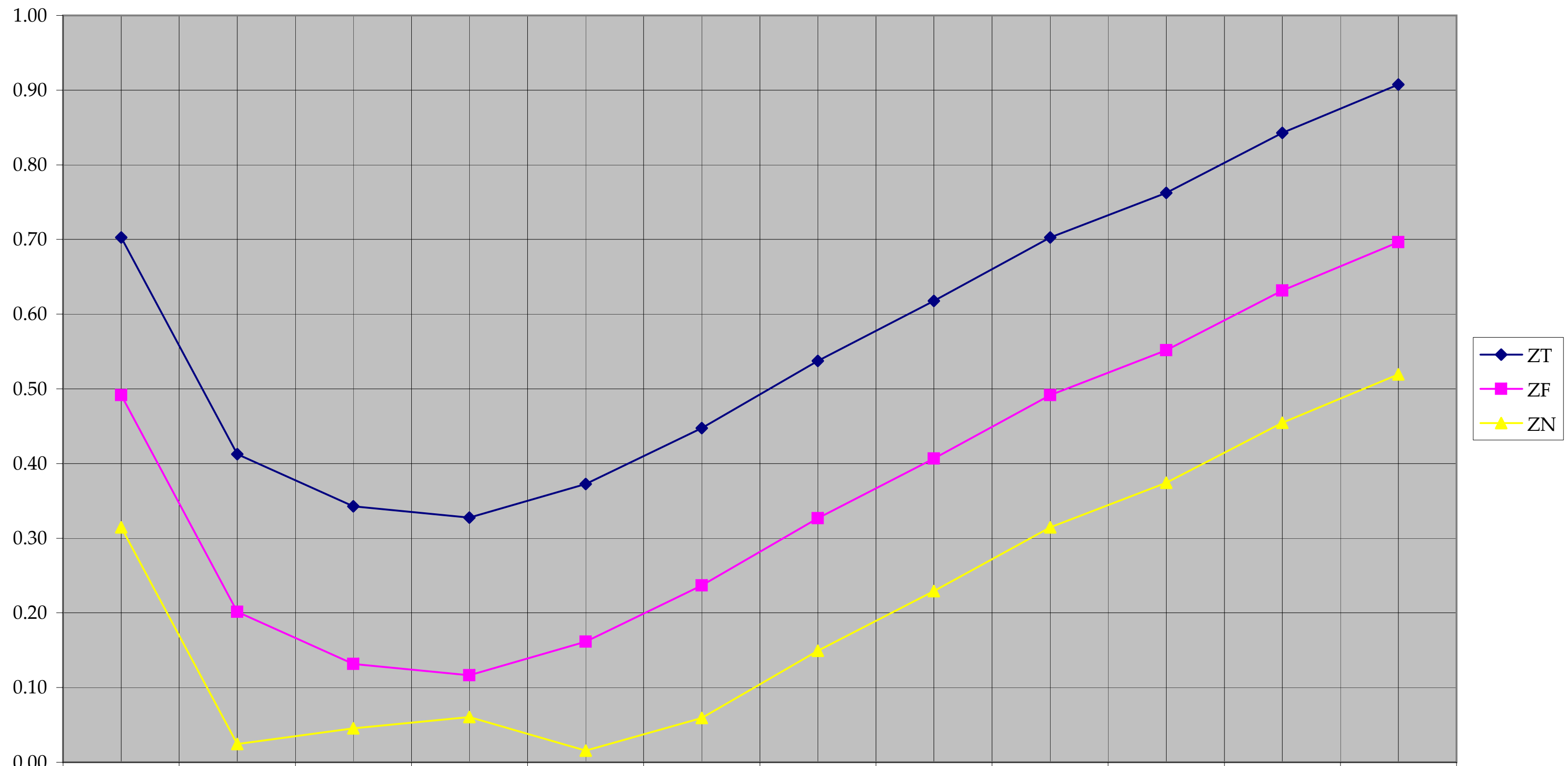
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.240	7.81	7.57	10y-EDAZ07
EDAH08	0.490	7.81	7.32	10y-EDAH08
EDAM08	0.739	7.81	7.07	10y-EDAM08
EDAU08	0.988	7.81	6.83	10y-EDAU08
EDAZ08	1.238	7.81	6.58	10y-EDAZ08
EDAH09	1.487	7.81	6.33	10y-EDAH09
EDAM09	1.736	7.81	6.08	10y-EDAM09
EDAU09	1.986	7.81	5.83	10y-EDAU09
EDAZ09	2.235	7.81	5.58	10y-EDAZ09
EDAH10	2.484	7.81	5.33	10y-EDAH10
EDAM10	2.734	7.81	5.08	10y-EDAM10
EDAU10	2.983	7.81	4.83	10y-EDAU10

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



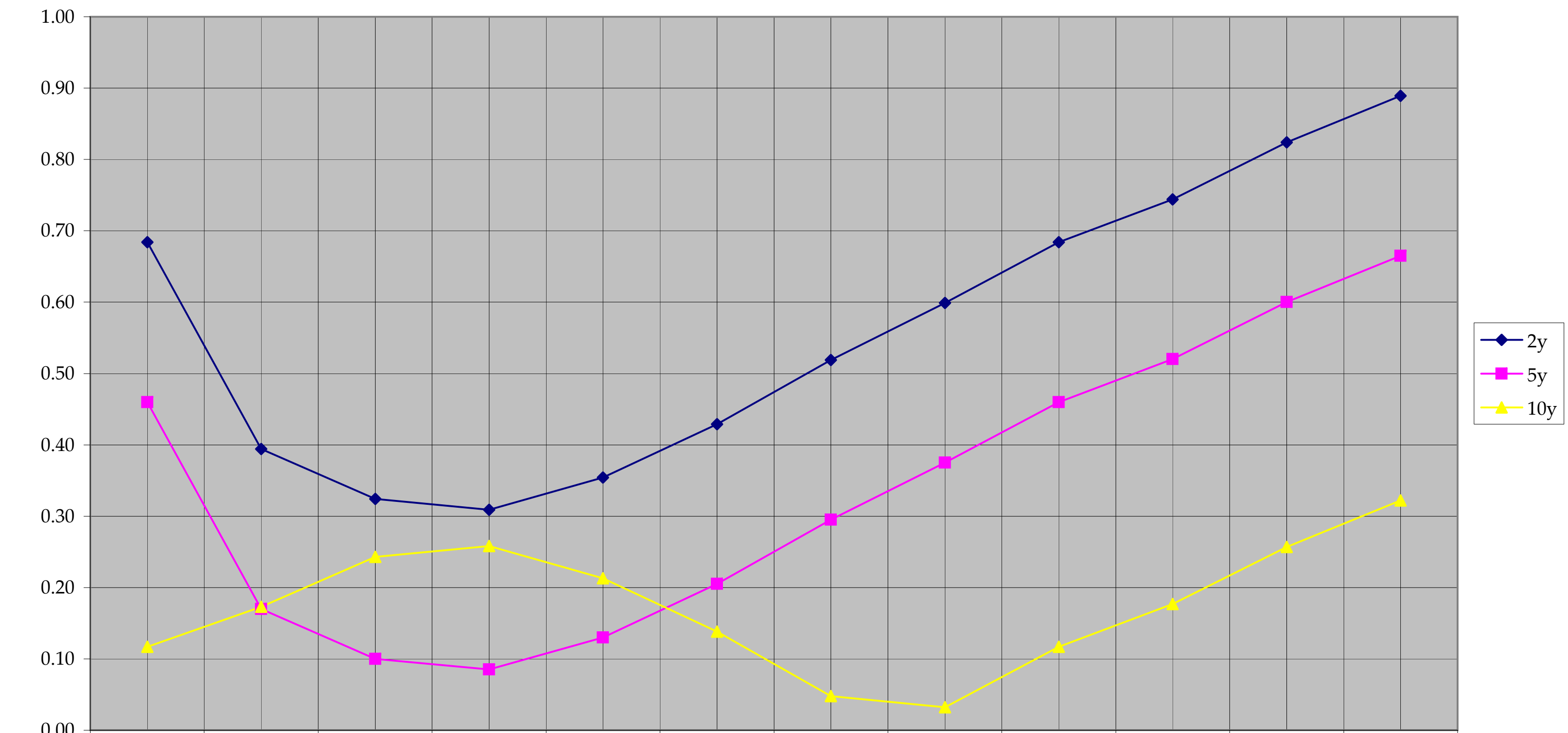
Dirty TED Curve

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.



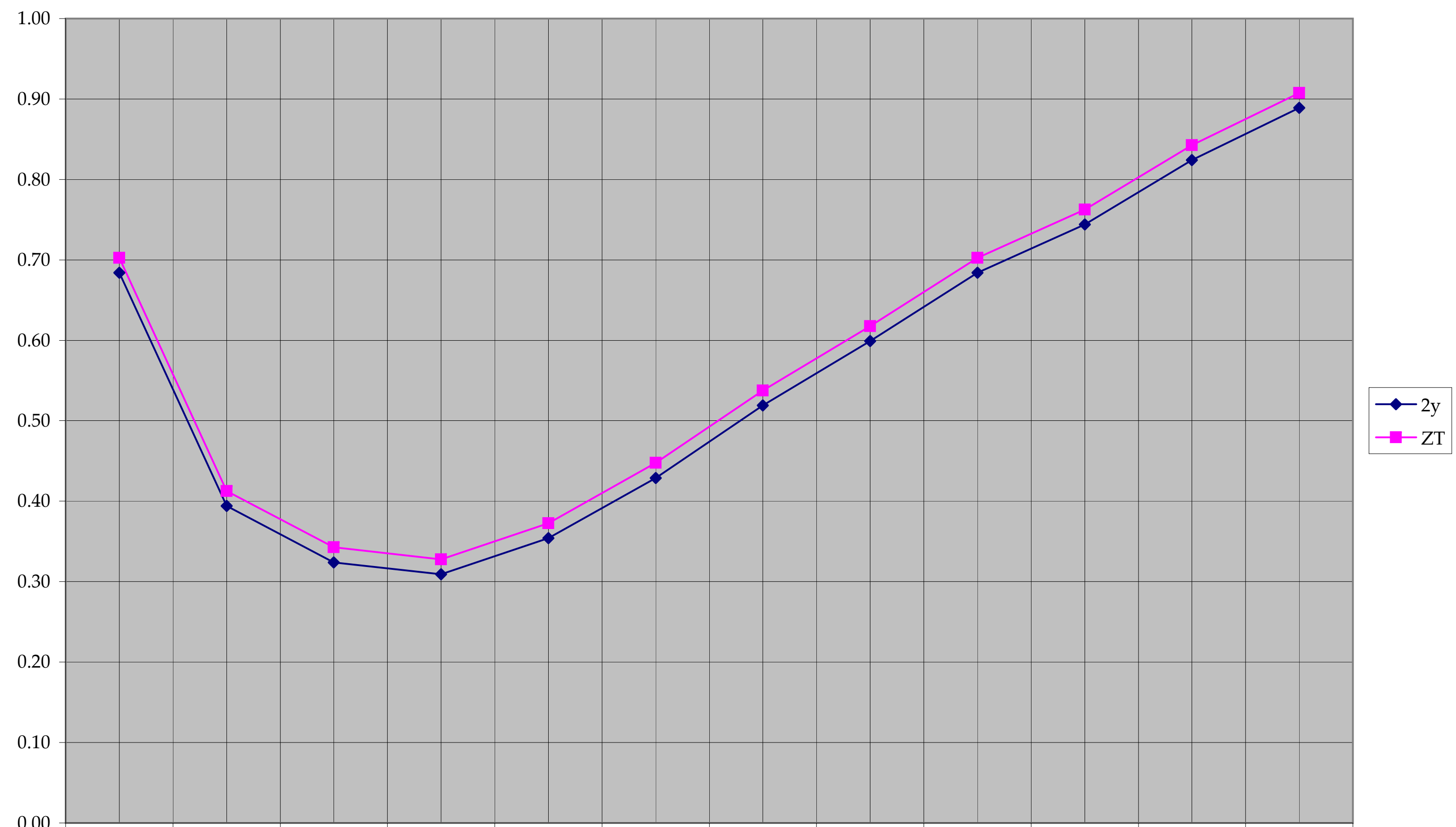
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
ZT	0.70	0.41	0.34	0.33	0.37	0.45	0.54	0.62	0.70	0.76	0.84	0.91
ZF	0.49	0.20	0.13	0.12	0.16	0.24	0.33	0.41	0.49	0.55	0.63	0.70
ZN	0.31	0.02	0.05	0.06	0.02	0.06	0.15	0.23	0.31	0.37	0.45	0.52

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.



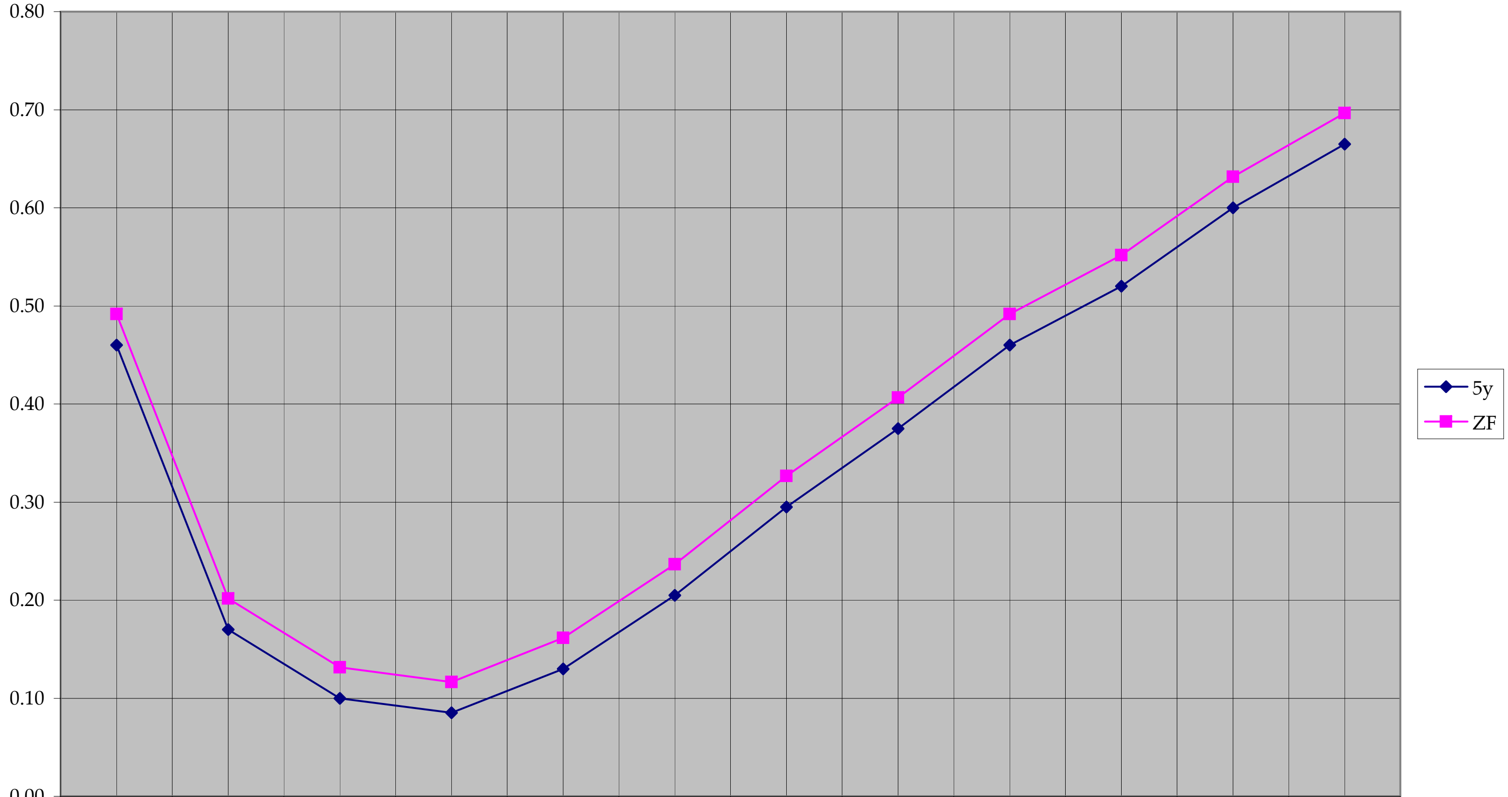
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	0.68	0.39	0.32	0.31	0.35	0.43	0.52	0.60	0.68	0.74	0.82	0.89
5y	0.46	0.17	0.10	0.08	0.13	0.21	0.30	0.38	0.46	0.52	0.60	0.66
10y	0.12	0.17	0.24	0.26	0.21	0.14	0.05	0.03	0.12	0.18	0.26	0.32

2y Basis TED Curve



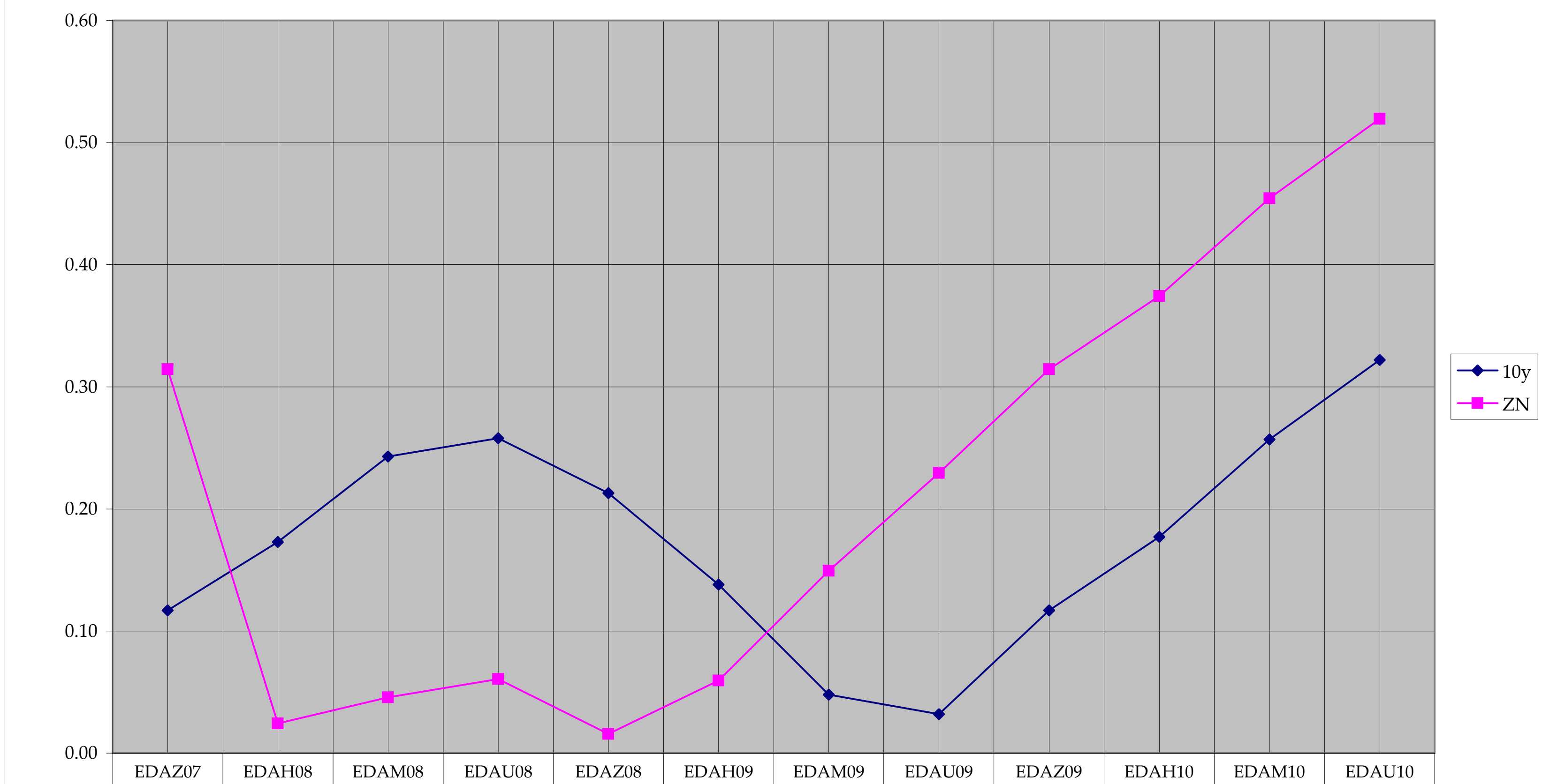
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	0.68	0.39	0.32	0.31	0.35	0.43	0.52	0.60	0.68	0.74	0.82	0.89
ZT	0.70	0.41	0.34	0.33	0.37	0.45	0.54	0.62	0.70	0.76	0.84	0.91

5y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
5y	0.46	0.17	0.10	0.08	0.13	0.21	0.30	0.38	0.46	0.52	0.60	0.66
ZF	0.49	0.20	0.13	0.12	0.16	0.24	0.33	0.41	0.49	0.55	0.63	0.70

10y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
10y	0.12	0.17	0.24	0.26	0.21	0.14	0.05	0.03	0.12	0.18	0.26	0.32
ZN	0.31	0.02	0.05	0.06	0.02	0.06	0.15	0.23	0.31	0.37	0.45	0.52

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.530	-1.625	9558.125
Q.ED.Red	4.579	-2.625	9553.375
Q.ED.Green	4.901	-2.625	9522.375
Q.ED.Blue	5.147	-1.000	9498.750
Q.ED.Gold		0.000	9476.500