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	108.2656	108.085	1.050	1.77
ZF	115.8656	115.277	2.315	4.32
ZN	115.8125	115.260	3.550	6.43
2y	100.547	100.1750	1.214	1.93
5y	101.344	101.1100	2.458	4.62
10y	102.188	102.0600	3.726	7.97

Eurodollars (ED)

	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ08	98.160	1.840	33	0.090	DEC	
EDAH09	98.275	1.725	124	0.339	MAR	White Pack
EDAM09	98.180	1.820	215	0.588	JUN	
EDAU09	98.020	1.980	306	0.838	SEP	
EDAZ09	97.770	2.230	397	1.087	DEC	
EDAH10	97.600	2.400	488	1.336	MAR	Red Pack
EDAM10	97.310	2.690	579	1.586	JUN	
EDAU10	96.975	3.025	670	1.835	SEP	
EDAZ10	96.560	3.440	761	2.084	DEC	
EDAH11	96.270	3.730	852	2.334	MAR	Green Pack
EDAM11	96.000	4.000	943	2.583	JUN	
EDAU11	95.785	4.215	1041	2.851	SEP	
EDAZ11	95.550	4.450	1132	3.101	DEC	
EDAH12	95.500	4.500	1223	3.350	MAR	Blue Pack
EDAM12	95.390	4.610	1314	3.599	JUN	
EDAU12	95.335	4.665	1405	3.849	SEP	
EDAZ12	95.200	4.800	1496	4.098	DEC	
EDAH13	95.165	4.835	1587	4.347	MAR	Gold Pack
EDAM13	95.090	4.910	1678	4.597	JUN	
EDZU13	94.885	5.115	1860	5.095	DEC	

Pack Prices

	Last Yield	Net Yield	Last Price
White Pack	1.875	4.125	9815.875
Red Pack	2.639	7.125	9741.375
Green Pack	3.938	8.000	9615.375
Blue Pack	4.673	4.875	9544.375
Gold Pack		4.875	9510.250

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

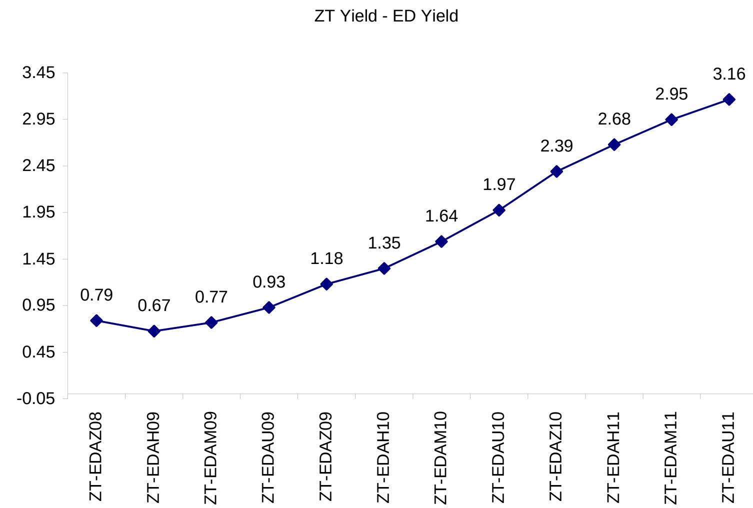
Correlations (Important)

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

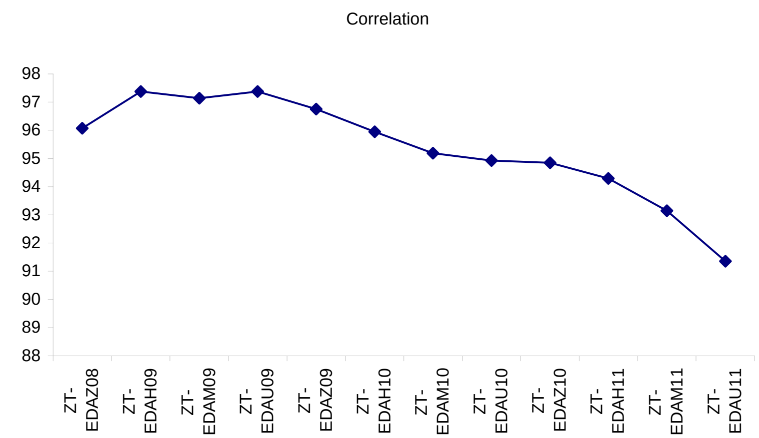
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	10.106	0.79	ZT-EDAZ08	96.076
EDAH09	9.991	0.67	ZT-EDAH09	97.374
EDAM09	10.086	0.77	ZT-EDAM09	97.133
EDAU09	10.246	0.93	ZT-EDAU09	97.374
EDAZ09	10.496	1.18	ZT-EDAZ09	96.751
EDAH10	10.666	1.35	ZT-EDAH10	95.947
EDAM10	10.956	1.64	ZT-EDAM10	95.194
EDAU10	11.291	1.97	ZT-EDAU10	94.927
EDAZ10	11.706	2.39	ZT-EDAZ10	94.850
EDAH11	11.996	2.68	ZT-EDAH11	94.293
EDAM11	12.266	2.95	ZT-EDAM11	93.148
EDAU11	12.481	3.16	ZT-EDAU11	91.355

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	
EDAZ08	0.090	1.77	1.68	ZT-EDAZ08
EDAH09	0.339	1.77	1.43	ZT-EDAH09
EDAM09	0.588	1.77	1.18	ZT-EDAM09
EDAU09	0.838	1.77	0.94	ZT-EDAU09
EDAZ09	1.087	1.77	0.69	ZT-EDAZ09
EDAH10	1.336	1.77	0.44	ZT-EDAH10
EDAM10	1.586	1.77	0.19	ZT-EDAM10
EDAU10	1.835	1.77	(0.06)	ZT-EDAU10
EDAZ10	2.084	1.77	(0.31)	ZT-EDAZ10
EDAH11	2.334	1.77	(0.56)	ZT-EDAH11
EDAM11	2.583	1.77	(0.81)	ZT-EDAM11
EDAU11	2.851	1.77	(1.08)	ZT-EDAU11

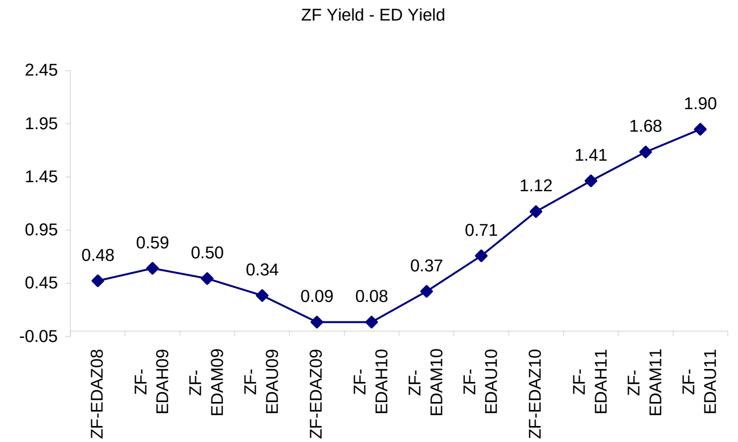
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

	ZF			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAZ08	17.706	0.48	ZF-EDAZ08	94.117
EDAH09	17.591	0.59	ZF-EDAH09	94.099
EDAM09	17.686	0.50	ZF-EDAM09	95.294
EDAU09	17.846	0.34	ZF-EDAU09	96.303
EDAZ09	18.096	0.09	ZF-EDAZ09	96.406
EDAH10	18.266	0.08	ZF-EDAH10	96.674
EDAM10	18.556	0.37	ZF-EDAM10	96.422
EDAU10	18.891	0.71	ZF-EDAU10	96.248
EDAZ10	19.306	1.12	ZF-EDAZ10	96.483
EDAH11	19.596	1.41	ZF-EDAH11	96.576
EDAM11	19.866	1.68	ZF-EDAM11	96.476
EDAU11	20.081	1.90	ZF-EDAU11	95.906

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**	
EDAZ08	0.090	4.32	4.23	ZF-EDAZ08
EDAH09	0.339	4.32	3.98	ZF-EDAH09
EDAM09	0.588	4.32	3.73	ZF-EDAM09
EDAU09	0.838	4.32	3.48	ZF-EDAU09
EDAZ09	1.087	4.32	3.23	ZF-EDAZ09
EDAH10	1.336	4.32	2.98	ZF-EDAH10
EDAM10	1.586	4.32	2.73	ZF-EDAM10
EDAU10	1.835	4.32	2.48	ZF-EDAU10
EDAZ10	2.084	4.32	2.23	ZF-EDAZ10
EDAH11	2.334	4.32	1.98	ZF-EDAH11
EDAM11	2.583	4.32	1.73	ZF-EDAM11
EDAU11	2.851	4.32	1.47	ZF-EDAU11

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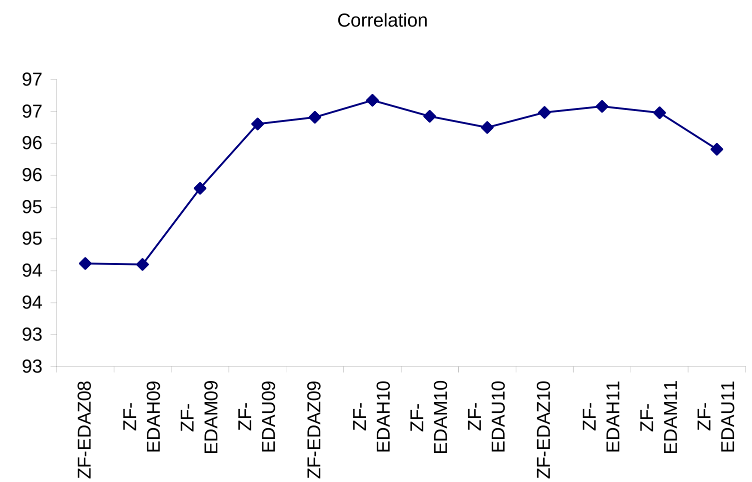

Dirty TED: ZN vs Eurodollar Contracts

	ZN			
	Spread Price	**Spread Yield**	**Spread Name**	**Correlation* (percent)**
EDAZ08	17.653	1.71	ZN-EDAZ08	93.390
EDAH09	17.538	1.82	ZN-EDAH09	95.297
EDAM09	17.633	1.73	ZN-EDAM09	96.369
EDAU09	17.793	1.57	ZN-EDAU09	97.302
EDAZ09	18.043	1.32	ZN-EDAZ09	97.828
EDAH10	18.213	1.15	ZN-EDAH10	97.904
EDAM10	18.503	0.86	ZN-EDAM10	96.422
EDAU10	18.838	0.52	ZN-EDAU10	96.248
EDAZ10	19.253	0.11	ZN-EDAZ10	96.483
EDAH11	19.543	0.18	ZN-EDAH11	96.576
EDAM11	19.813	0.45	ZN-EDAM11	96.476
EDAU11	20.028	0.67	ZN-EDAU11	95.906

Price = Outright Decimal Price - Euro Contract Price
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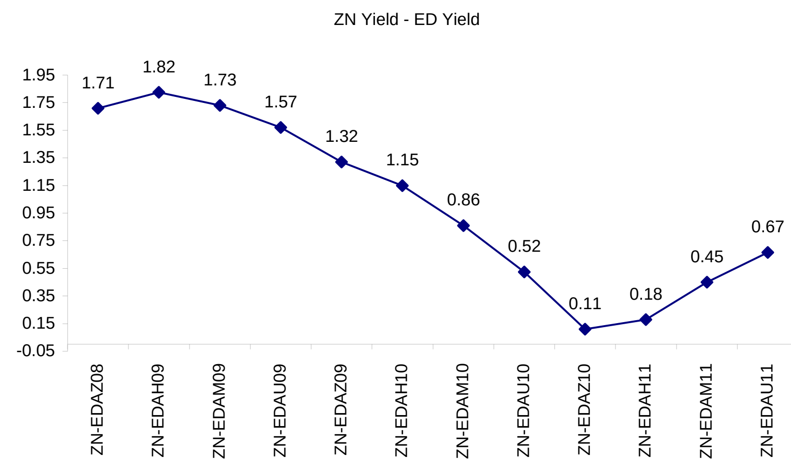
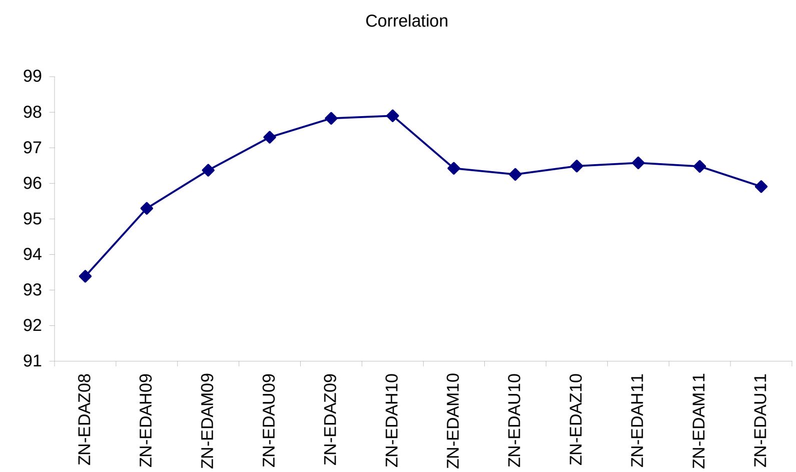


	ED Duration as Fraction of year	**ZN Duration**	**Spread Duration**	
EDAZ08	0.090	6.43	6.34	ZN-EDAZ08
EDAH09	0.339	6.43	6.09	ZN-EDAH09
EDAM09	0.588	6.43	5.84	ZN-EDAM09
EDAU09	0.838	6.43	5.59	ZN-EDAU09
EDAZ09	1.087	6.43	5.34	ZN-EDAZ09
EDAH10	1.336	6.43	5.09	ZN-EDAH10
EDAM10	1.586	6.43	4.84	ZN-EDAM10
EDAU10	1.835	6.43	4.59	ZN-EDAU10
EDAZ10	2.084	6.43	4.34	ZN-EDAZ10
EDAH11	2.334	6.43	4.09	ZN-EDAH11
EDAM11	2.583	6.43	3.84	ZN-EDAM11
EDAU11	2.851	6.43	3.57	ZN-EDAU11

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)**
EDAZ08	2.387	0.63	2y-EDAZ08	-97.411
EDAH09	2.272	0.51	2y-EDAH09	-96.218
EDAM09	2.367	0.61	2y-EDAM09	-94.468
EDAU09	2.527	0.77	2y-EDAU09	-93.868
EDAZ09	2.777	1.02	2y-EDAZ09	-92.581
EDAH10	2.947	1.19	2y-EDAH10	-93.463
EDAM10	3.237	1.48	2y-EDAM10	-94.813
EDAU10	3.572	1.81	2y-EDAU10	-96.368
EDAZ10	3.987	2.23	2y-EDAZ10	-97.085
EDAH11	4.277	2.52	2y-EDAH11	-96.911
EDAM11	4.547	2.79	2y-EDAM11	-95.988
EDAU11	4.762	3.00	2y-EDAU11	-94.828

Price = Outright Decimal Price - Euro Contract Price
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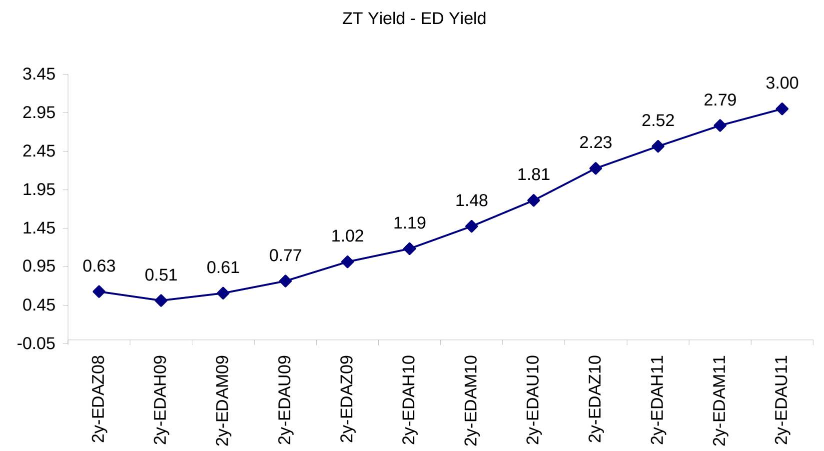
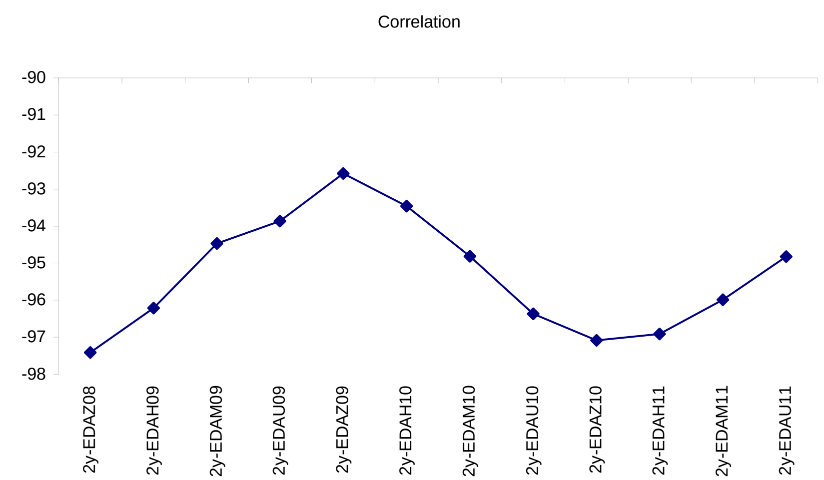


	ED Duration as Fraction of year	**2Y Duration**	**Spread Duration**	
EDAZ08	0.090	1.93	1.84	2y-EDAZ08
EDAH09	0.339	1.93	1.59	2y-EDAH09
EDAM09	0.588	1.93	1.34	2y-EDAM09
EDAU09	0.838	1.93	1.09	2y-EDAU09
EDAZ09	1.087	1.93	0.84	2y-EDAZ09
EDAH10	1.336	1.93	0.59	2y-EDAH10
EDAM10	1.586	1.93	0.34	2y-EDAM10
EDAU10	1.835	1.93	0.09	2y-EDAU10
EDAZ10	2.084	1.93	(0.16)	2y-EDAZ10
EDAH11	2.334	1.93	(0.41)	2y-EDAH11
EDAM11	2.583	1.93	(0.66)	2y-EDAM11
EDAU11	2.851	1.93	(0.92)	2y-EDAU11

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)**
EDAZ08	3.184	0.62	5y-EDAZ08	-90.237
EDAH09	3.069	0.73	5y-EDAH09	-91.822
EDAM09	3.164	0.64	5y-EDAM09	-92.388
EDAU09	3.324	0.48	5y-EDAU09	-93.431
EDAZ09	3.574	0.23	5y-EDAZ09	-93.761
EDAH10	3.744	0.06	5y-EDAH10	-94.892
EDAM10	4.034	0.23	5y-EDAM10	-95.249
EDAU10	4.369	0.57	5y-EDAU10	-95.198
EDAZ10	4.784	0.98	5y-EDAZ10	-95.084
EDAH11	5.074	1.27	5y-EDAH11	-95.112
EDAM11	5.344	1.54	5y-EDAM11	-95.788
EDAU11	5.559	1.76	5y-EDAU11	-96.208

Price = Outright Decimal Price - Euro Contract Price
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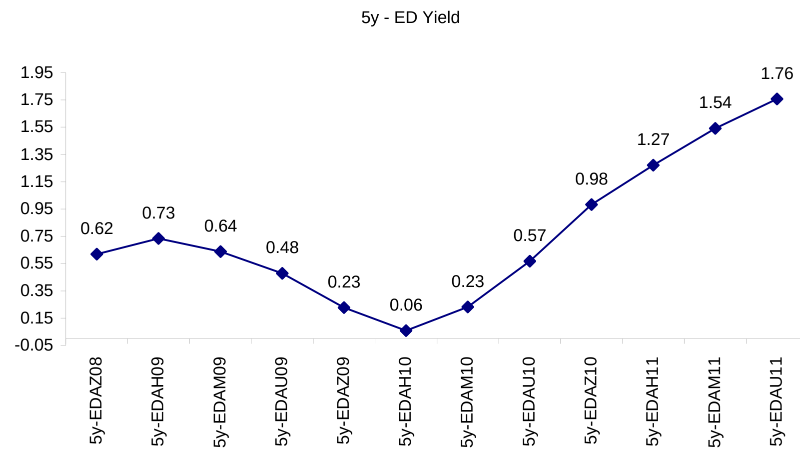
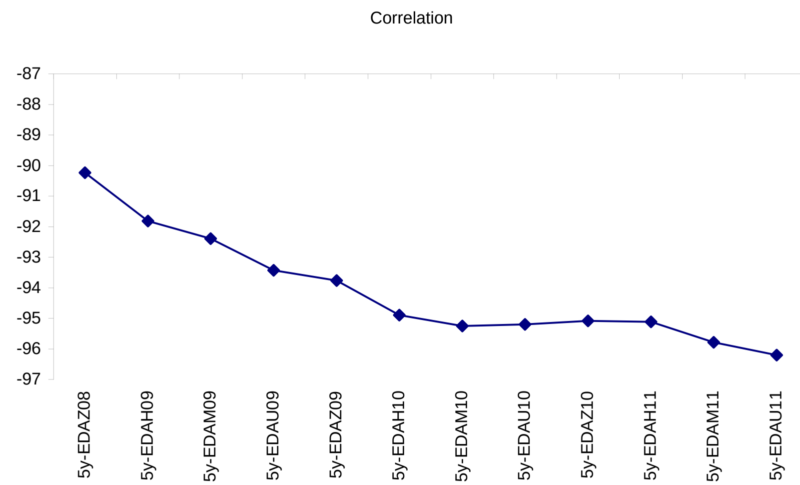


	ED Duration as Fraction of year	**5Y Duration**	**Spread Duration**	
EDAZ08	0.090	4.62	4.53	5y-EDAZ08
EDAH09	0.339	4.62	4.28	5y-EDAH09
EDAM09	0.588	4.62	4.03	5y-EDAM09
EDAU09	0.838	4.62	3.78	5y-EDAU09
EDAZ09	1.087	4.62	3.53	5y-EDAZ09
EDAH10	1.336	4.62	3.28	5y-EDAH10
EDAM10	1.586	4.62	3.03	5y-EDAM10
EDAU10	1.835	4.62	2.78	5y-EDAU10
EDAZ10	2.084	4.62	2.53	5y-EDAZ10
EDAH11	2.334	4.62	2.28	5y-EDAH11
EDAM11	2.583	4.62	2.03	5y-EDAM11
EDAU11	2.851	4.62	1.76	5y-EDAU11

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



	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ08	3.184	1.89	10y-EDAZ08	-78.417
EDAH09	3.069	2.00	10y-EDAH09	-81.974
EDAM09	3.164	1.91	10y-EDAM09	-84.260
EDAU09	3.324	1.75	10y-EDAU09	-86.614
EDAZ09	3.574	1.50	10y-EDAZ09	-88.400
EDAH10	3.744	1.33	10y-EDAH10	-89.918
EDAM10	4.034	1.04	10y-EDAM10	-89.757
EDAU10	4.369	0.70	10y-EDAU10	-88.495
EDAZ10	4.784	0.29	10y-EDAZ10	-87.585
EDAH11	5.074	0.00	10y-EDAH11	-87.572
EDAM11	5.344	0.27	10y-EDAM11	-89.294
EDAU11	5.559	0.49	10y-EDAU11	-90.910

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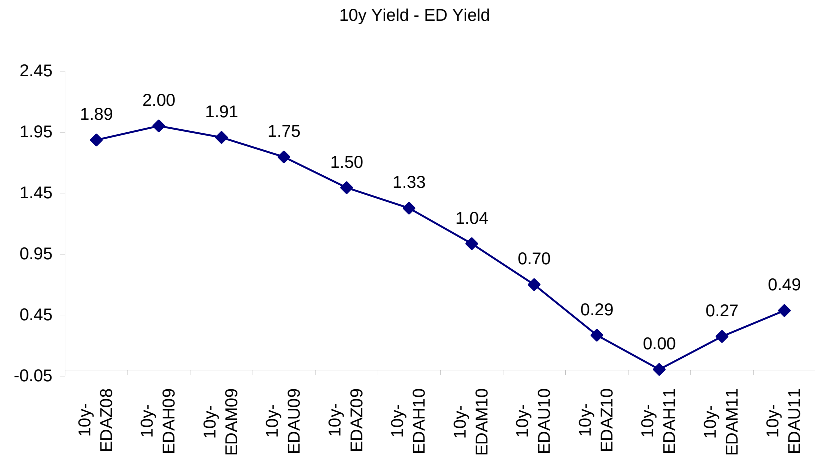
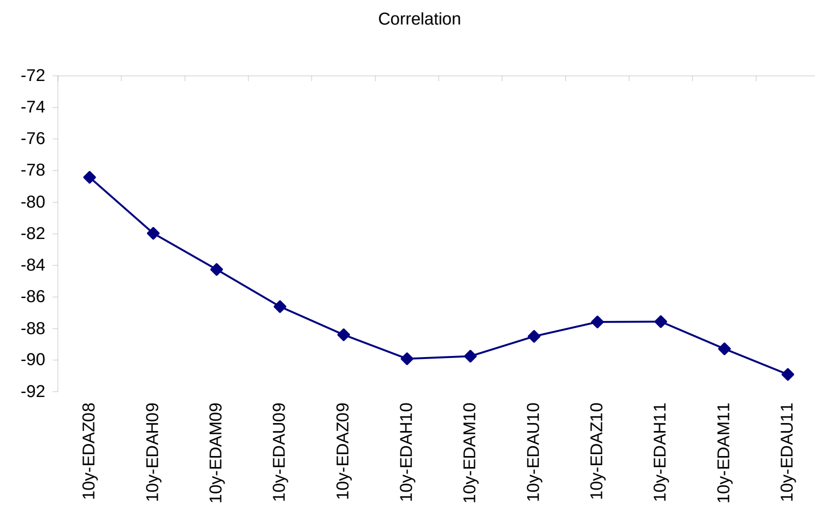


	ED Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ08	0.090	7.97	7.88	10y-EDAZ08
EDAH09	0.339	7.97	7.63	10y-EDAH09
EDAM09	0.588	7.97	7.38	10y-EDAM09
EDAU09	0.838	7.97	7.13	10y-EDAU09
EDAZ09	1.087	7.97	6.88	10y-EDAZ09
EDAH10	1.336	7.97	6.63	10y-EDAH10
EDAM10	1.586	7.97	6.38	10y-EDAM10
EDAU10	1.835	7.97	6.13	10y-EDAU10
EDAZ10	2.084	7.97	5.88	10y-EDAZ10
EDAH11	2.334	7.97	5.63	10y-EDAH11
EDAM11	2.583	7.97	5.39	10y-EDAM11
EDAU11	2.851	7.97	5.12	10y-EDAU11

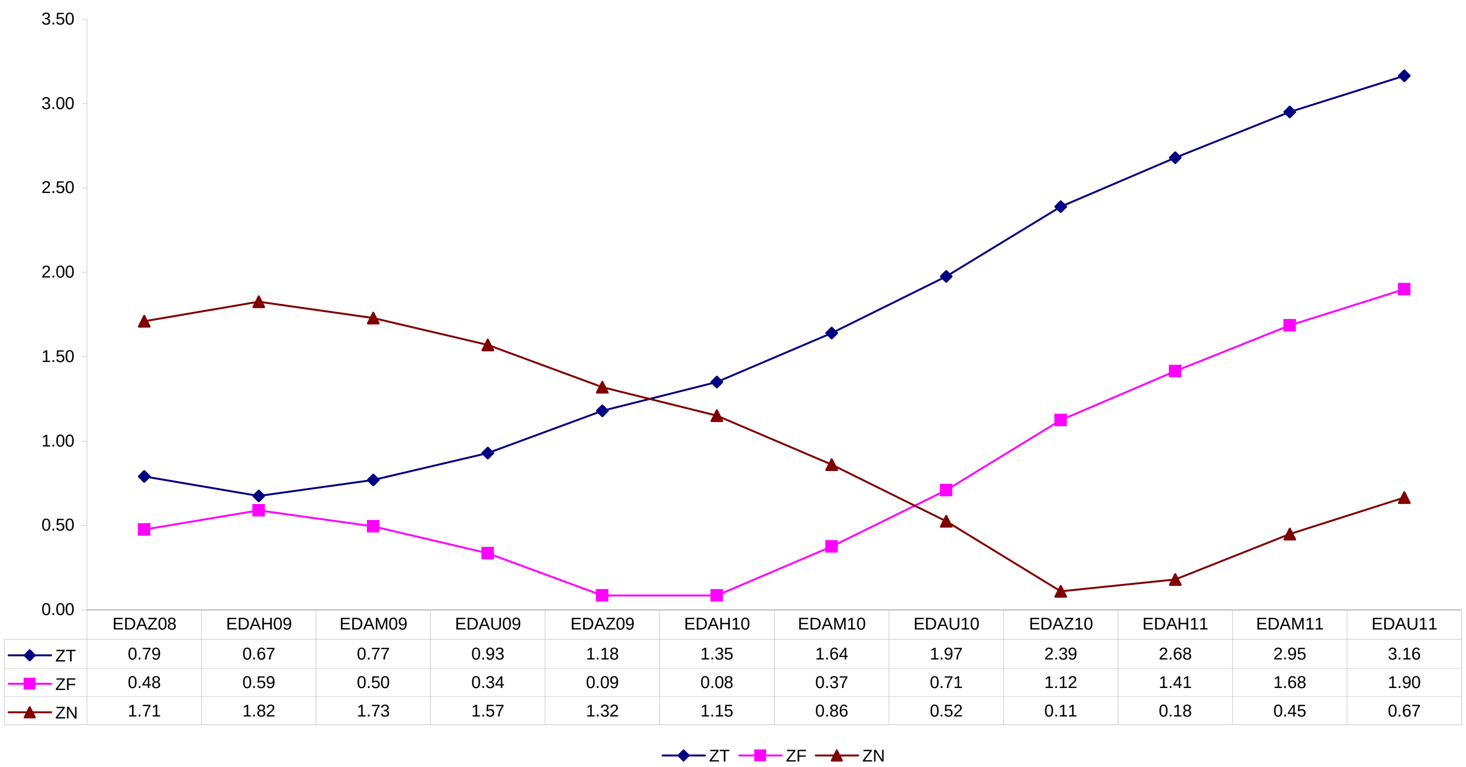
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED Curve

Chart values show the differences between ED contract and Treasury Futures contract. Those values can be seen in the table at the bottom of the chart.

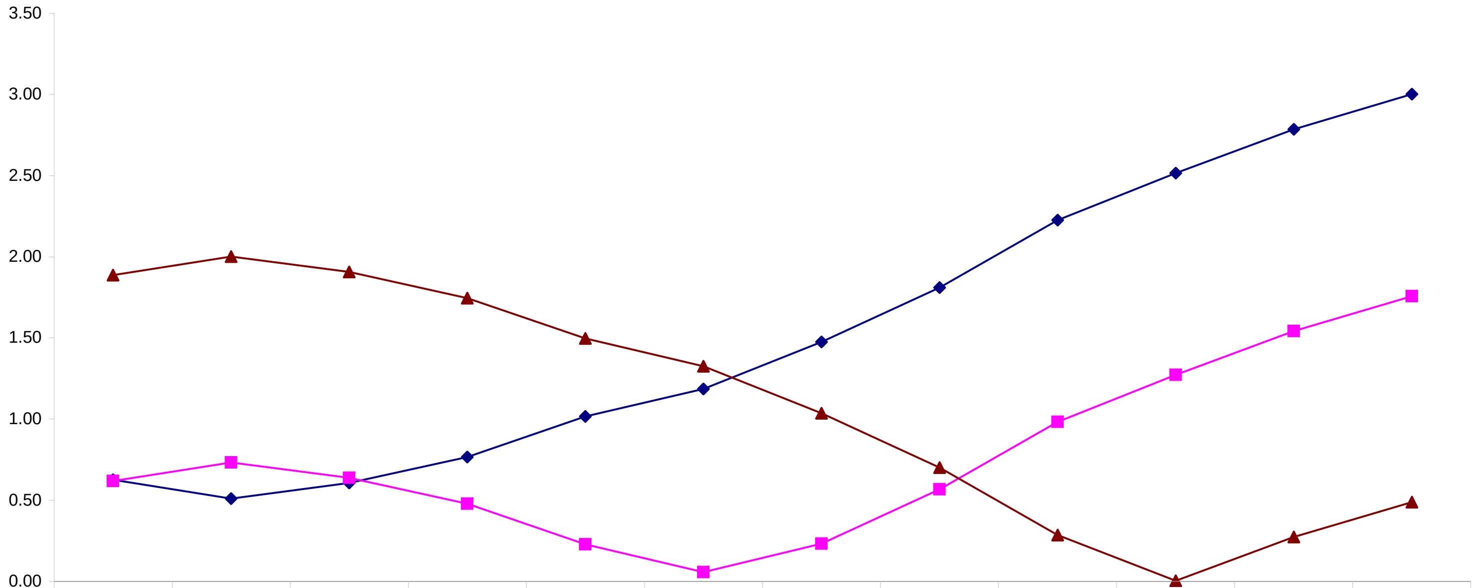
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11	EDAU11
ZT	0.79	0.67	0.77	0.93	1.18	1.35	1.64	1.97	2.39	2.68	2.95	3.16
ZF	0.48	0.59	0.50	0.34	0.09	0.08	0.37	0.71	1.12	1.41	1.68	1.90
ZN	1.71	1.82	1.73	1.57	1.32	1.15	0.86	0.52	0.11	0.18	0.45	0.67

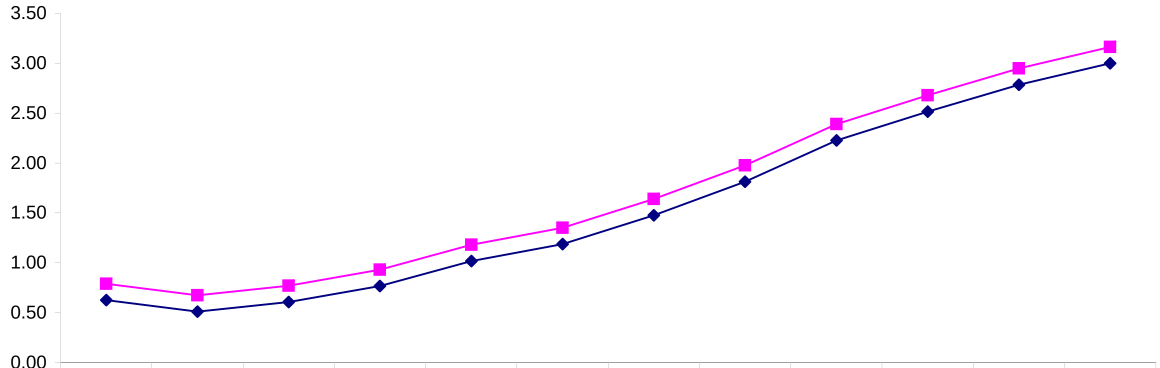
TED Curve

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.



	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11	EDAU11
2y	0.63	0.51	0.61	0.77	1.02	1.19	1.48	1.81	2.23	2.52	2.79	3.00
5y	0.62	0.73	0.64	0.48	0.23	0.06	0.23	0.57	0.98	1.27	1.54	1.76
10y	1.89	2.00	1.91	1.75	1.50	1.33	1.04	0.70	0.29	0.00	0.27	0.49

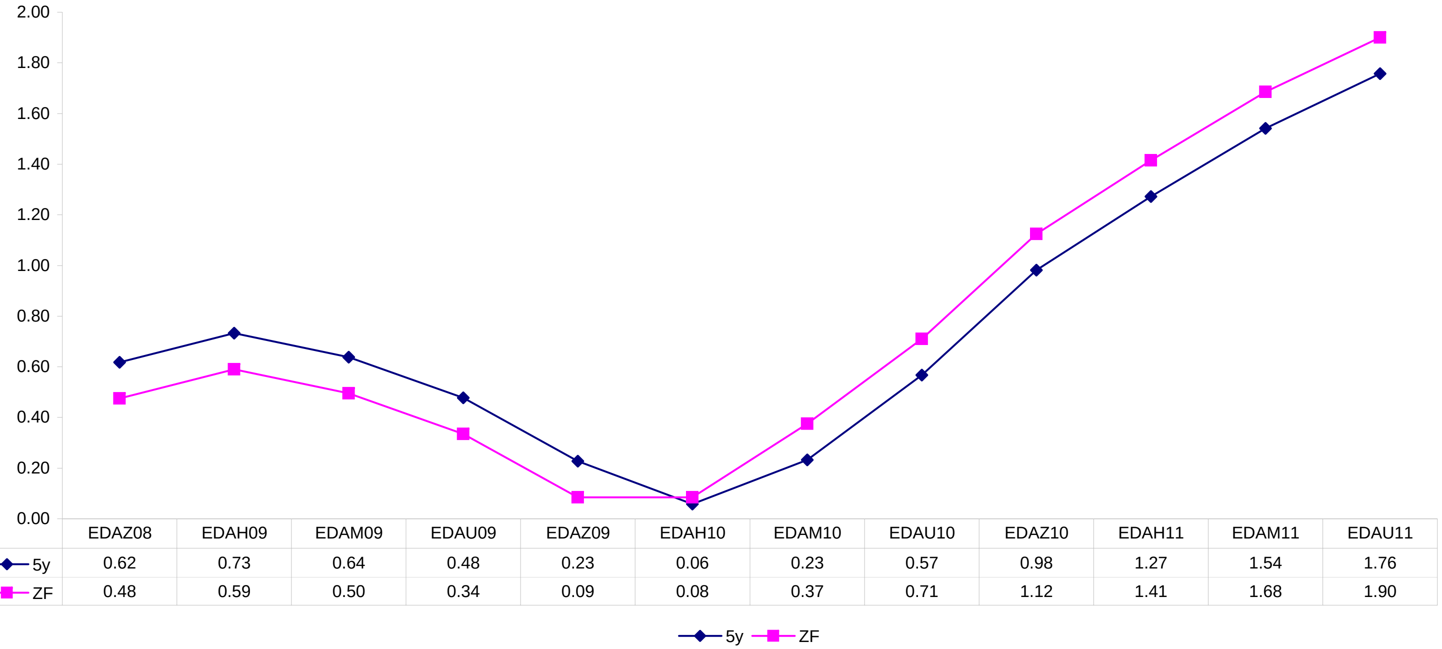
2y Basis TED Curve



	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11	EDAU11
2y	0.63	0.51	0.61	0.77	1.02	1.19	1.48	1.81	2.23	2.52	2.79	3.00
ZT	0.79	0.67	0.77	0.93	1.18	1.35	1.64	1.97	2.39	2.68	2.95	3.16

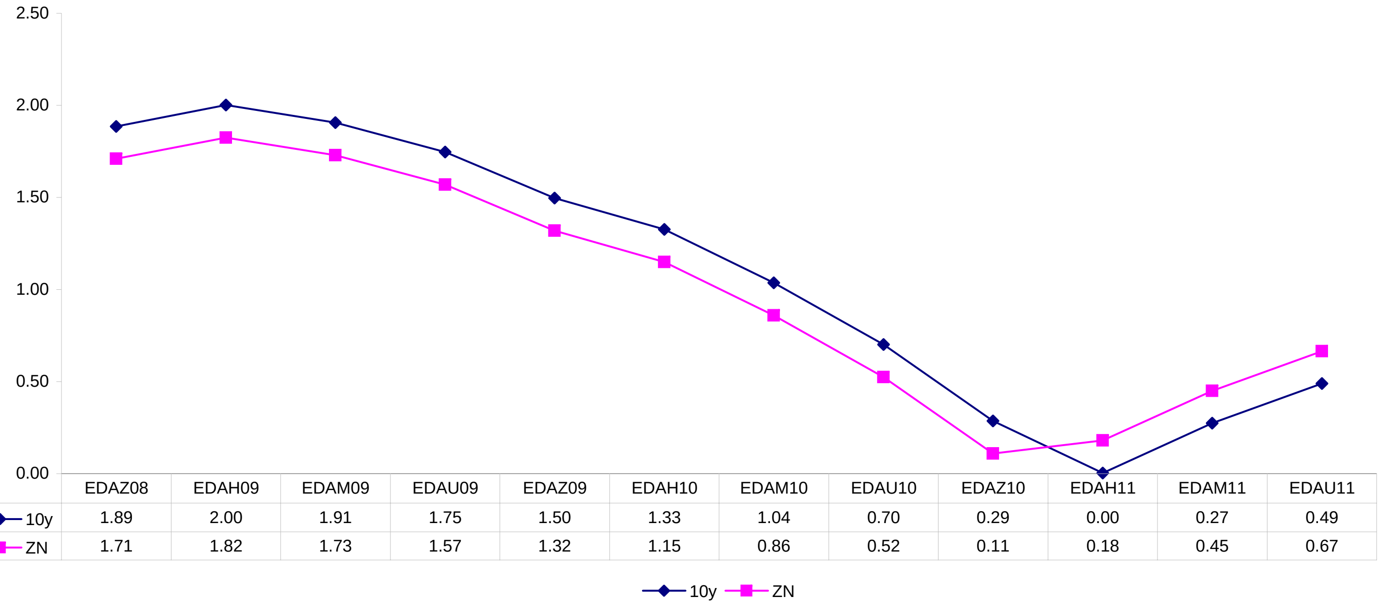
2y ZT

5y Basis TED Curve



	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11	EDAU11
5y	0.62	0.73	0.64	0.48	0.23	0.06	0.23	0.57	0.98	1.27	1.54	1.76
ZF	0.48	0.59	0.50	0.34	0.09	0.08	0.37	0.71	1.12	1.41	1.68	1.90

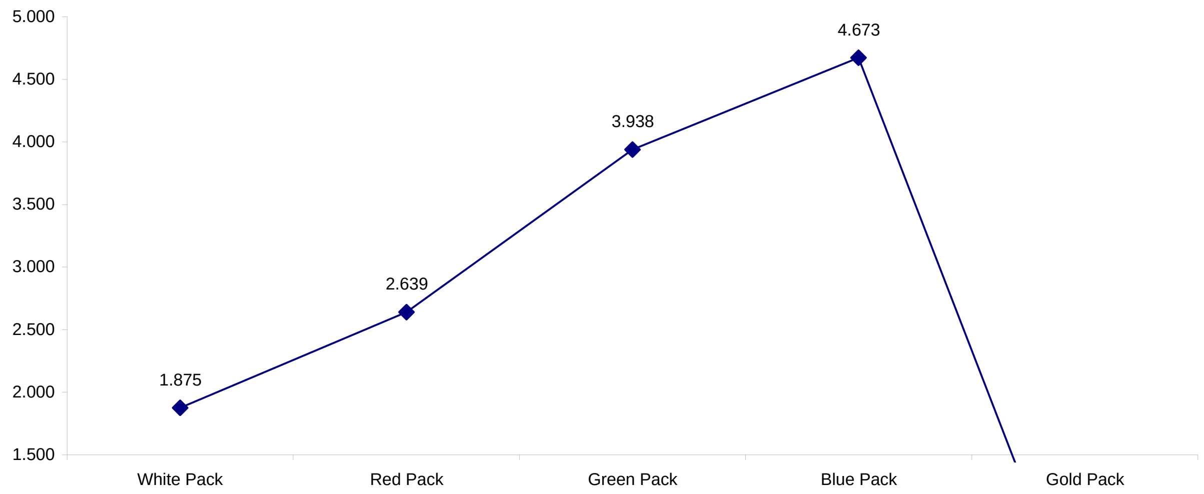
10y Basis TED Curve



	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10	EDAZ10	EDAH11	EDAM11	EDAU11
10y	1.89	2.00	1.91	1.75	1.50	1.33	1.04	0.70	0.29	0.00	0.27	0.49
ZN	1.71	1.82	1.73	1.57	1.32	1.15	0.86	0.52	0.11	0.18	0.45	0.67

Packs

	Last Yield	Net Last Yield	Last Price
White Pack	1.875	4.125	9815.875
Red Pack	2.639	7.125	9741.375
Green Pack	3.938	8.000	9615.375
Blue Pack	4.673	4.875	9544.375
Gold Pack		4.875	9510.250



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