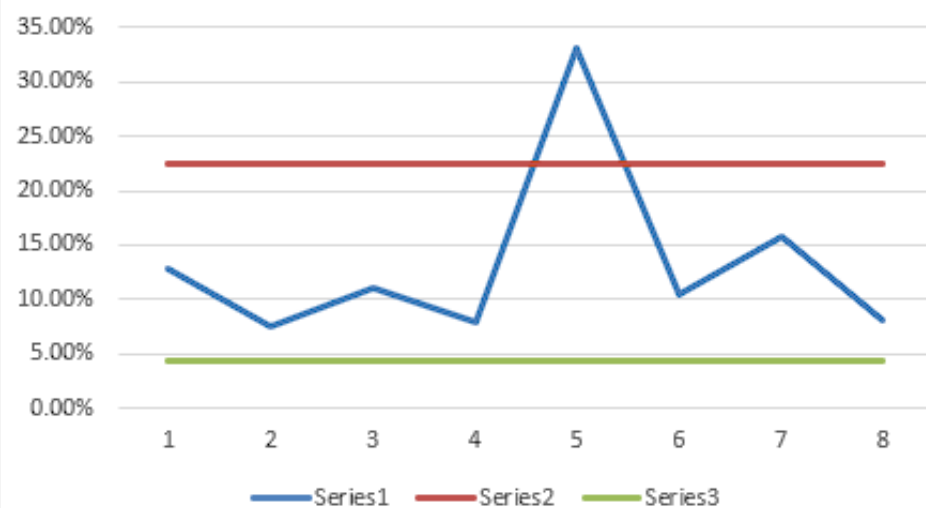


		2016	2017	2018	2019	2020	2021	2022	2023			5yr issue date	4.5yr subsequence date
Volatility	Daily	0.81%	0.48%	0.69%	0.50%	2.08%	0.66%	0.99%	0.52%	Volatility	Daily	1.09%	1.14%
	Annual	12.90%	7.55%	11.02%	7.89%	33.09%	10.48%	15.76%	8.18%		Annual	17.33%	18.08%

std 9.1%

-1 std	mean	+1 std
4.30%	13.43%	22.55%

Historical Volatility



Winsorised

		adj 5yr issue date	adj 4.5yr subsequence date
Volatility	Daily	0.7082%	0.8087%
	Annual	11.2429%	12.8369%

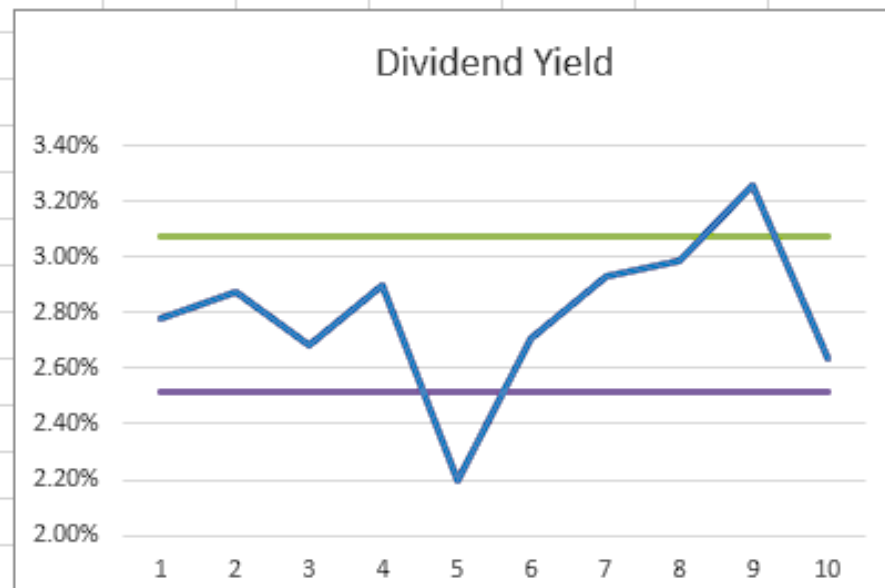
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Dividend	\$ 0.48	\$ 0.53	\$ 0.57	\$ 0.61	\$ 0.45	\$ 0.62	\$ 0.69	\$ 0.73	\$ 0.79	\$ 0.79
Average price	\$17.36	\$18.40	\$21.23	\$21.15	\$20.69	\$23.06	\$23.51	\$24.56	\$24.23	\$30.00
dividend yield	2.78%	2.87%	2.68%	2.90%	2.19%	2.71%	2.93%	2.98%	3.26%	2.64%

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	10 year	10 yrs removed outliers
Average	2.79%	2.81%
continuous	2.75%	2.77140%

	5 year	5 yrs repalce outliers
Average	2.90%	2.81%
continuous	2.86%	2.77435%

	std	0.28%	
10 year	-1 std	mean	+1 std
	2.52%	2.79%	3.07%
	std	0.25%	
5 year	-1 std	mean	+1 std
	2.66%	2.90%	3.15%



2022 AUG 09																			
Date	Expiry Date	S	K	rf	Dividend	Volatility	T	Call/Put	Model price	Settlement Price	Error	Implied Volatility	Smaller than MX			Expiry Date	Term	Implied Volatility	
2022-08-09	2022-08-12	\$ 29.94	\$ 30.00	2.86%	2.77%	14.94%	0.008219178	-1	\$ 0.20	\$ 0.20	0.00	18.389	TRUE			2022-08-12	0.008	0.149354253	
2022-08-09	2022-08-26	\$ 29.94	\$ 30.00	2.86%	2.77%	14.42%	0.046575342	-1	\$ 0.42	\$ 0.42	0.00	15.66	TRUE			2022-08-26	0.047	0.144178185	
2022-08-09	2022-09-02	\$ 29.94	\$ 30.00	2.86%	2.77%	14.63%	0.065753425	-1	\$ 0.50	\$ 0.50	0.00	15.536	TRUE			2022-09-02	0.066	0.146332257	
2022-08-09	2022-09-09	\$ 29.94	\$ 30.00	2.86%	2.77%	14.80%	0.084931507	-1	\$ 0.57	\$ 0.57	0.00	15.745	TRUE			2022-09-09	0.085	0.148024701	
2022-08-09	2022-09-23	\$ 29.94	\$ 30.00	2.86%	2.77%	15.94%	0.123287671	-1	\$ 0.73	\$ 0.73	0.00	16.517	TRUE			2022-09-23	0.123	0.159435621	
2022-08-09	2022-08-19	\$ 29.94	\$ 30.00	2.86%	2.77%	14.93%	0.02739726	-1	\$ 0.34	\$ 0.34	0.00	17.277	TRUE			2022-08-19	0.027	0.14930629	
2022-08-09	2022-09-16	\$ 29.94	\$ 30.00	2.86%	2.77%	14.86%	0.104109589	-1	\$ 0.63	\$ 0.63	0.00	15.966	TRUE			2022-09-16	0.104	0.148644423	
2022-08-09	2022-10-21	\$ 29.94	\$ 30.00	2.86%	2.77%	17.38%	0.2	-1	\$ 1.00	\$ 1.00	0.00	17.741	TRUE			2022-10-21	0.200	0.173829207	
2022-08-09	2022-11-18	\$ 29.94	\$ 30.00	2.90%	2.77%	17.13%	0.276712329	-1	\$ 1.15	\$ 1.15	0.00	18.343	TRUE			2022-11-18	0.277	0.171257668	
2022-08-09	2022-12-16	\$ 29.94	\$ 30.00	3.03%	2.77%	17.44%	0.353424658	-1	\$ 1.31	\$ 1.31	0.00	18.211	TRUE			2022-12-16	0.353	0.174371692	
2022-08-09	2023-01-20	\$ 29.94	\$ 30.00	3.19%	2.77%	18.89%	0.449315068	-1	\$ 1.58	\$ 1.58	0.00	18.559	FALSE			2024-03-15	1.599	0.217719702	
2022-08-09	2023-03-17	\$ 29.94	\$ 30.00	3.33%	2.77%	19.38%	0.602739726	-1	\$ 1.85	\$ 1.85	0.00	18.597	FALSE			2025-03-21	2.615	0.211175093	
2022-08-09	2023-06-16	\$ 29.94	\$ 30.00	3.47%	2.77%	20.03%	0.852054795	-1	\$ 2.23	\$ 2.23	0.00	18.899	FALSE						
2022-08-09	2024-03-15	\$ 29.94	\$ 30.00	3.28%	2.77%	19.51%	1.598540146	-1	\$ 2.91	\$ 2.91	0.00	18.325	FALSE						
2022-08-09	2025-03-21	\$ 29.94	\$ 30.00	3.11%	2.77%	21.39%	2.614647502	-1	\$ 4.00	\$ 4.00	0.00	19.523	FALSE						
2022-08-09	2022-08-12	\$ 29.94	\$ 30.00	2.86%	2.77%	24.58%	0.008219178	1	\$ 0.25	\$ 0.25	0.00	17.311	FALSE						
2022-08-09	2022-08-26	\$ 29.94	\$ 30.00	2.86%	2.77%	22.87%	0.046575342	1	\$ 0.59	\$ 0.59	0.00	19.199	FALSE						
2022-08-09	2022-09-02	\$ 29.94	\$ 30.00	2.86%	2.77%	22.98%	0.065753425	1	\$ 0.71	\$ 0.71	0.00	19.703	FALSE						
2022-08-09	2022-09-09	\$ 29.94	\$ 30.00	2.86%	2.77%	22.41%	0.084931507	1	\$ 0.79	\$ 0.79	0.00	19.594	FALSE						
2022-08-09	2022-09-23	\$ 29.94	\$ 30.00	2.86%	2.77%	22.02%	0.123287671	1	\$ 0.94	\$ 0.94	0.00	19.658	FALSE						
2022-08-09	2022-08-19	\$ 29.94	\$ 30.00	2.86%	2.77%	19.71%	0.02739726	1	\$ 0.38	\$ 0.38	0.00	15.994	FALSE						
2022-08-09	2022-09-16	\$ 29.94	\$ 30.00	2.86%	2.77%	20.74%	0.104109589	1	\$ 0.81	\$ 0.81	0.00	18.828	FALSE						
2022-08-09	2022-10-21	\$ 29.94	\$ 30.00	2.86%	2.77%	21.24%	0.2	1	\$ 1.16	\$ 1.16	0.00	19.277	FALSE		Max date: 2025-03-21				
2022-08-09	2022-11-18	\$ 29.94	\$ 30.00	2.90%	2.77%	21.25%	0.276712329	1	\$ 1.37	\$ 1.37	0.00	19.455	FALSE		Period	Valuation Date	T	Implied Volatility	
2022-08-09	2022-12-16	\$ 29.94	\$ 30.00	3.03%	2.77%	21.86%	0.353424658	1	\$ 1.60	\$ 1.60	0.00	21.102	FALSE		0	2022-08-09	0	0.149354253	Implied Volatility
2022-08-09	2023-01-20	\$ 29.94	\$ 30.00	3.19%	2.77%	21.09%	0.449315068	1	\$ 1.75	\$ 1.75	0.00	20.141	FALSE		1	2023-08-01	0.9781	0.1961188	Implied Volatility
2022-08-09	2023-03-17	\$ 29.94	\$ 30.00	3.33%	2.77%	21.94%	0.602739726	1	\$ 2.12	\$ 2.12	0.00	21.444	FALSE		2	2024-08-01	1.979	0.215269118	Implied Volatility
2022-08-09	2023-06-16	\$ 29.94	\$ 30.00	3.47%	2.77%	21.65%	0.852054795	1	\$ 2.50	\$ 2.50	0.00	21.62	FALSE		3	2025-08-01	2.9788	0.112428674	Historical Volatility
2022-08-09	2024-03-15	\$ 29.94	\$ 30.00	3.28%	2.77%	21.77%	1.598540146	1	\$ 3.39	\$ 3.39	0.00	22.764	TRUE		4	2026-07-31	3.9759	0.112428674	Historical Volatility
2022-08-09	2025-03-21	\$ 29.94	\$ 30.00	3.11%	2.77%	21.12%	2.614647502	1	\$ 4.10	\$ 4.10	0.00	21.67	TRUE		5	2027-07-30	4.9731	0.112428674	Historical Volatility

2022-08-09				
Period	Valuation Date	Term	Spot Rate	Forward Rate
0	2022-08-09	0.0000	2.86%	0.00%
1	2023-08-01	0.9781	3.53%	3.53%
2	2024-08-01	1.9790	3.22%	2.91%
3	2025-08-01	2.9788	3.05%	2.73%
4	2026-07-31	3.9759	2.91%	2.48%
5	2027-07-30	4.9731	2.80%	2.35%

Payoff	
Mean	\$ 95.71
St.Error	0.15266512
Min	\$ 95.31
Max	\$ 96.10
Average Payput period	2.66 year
issue price	\$ 100.00
difference	Over value
% difference	-4.29%
NBC estimated price	\$ 95.70
% difference	0.01%

Fixed

Valuation	Call Threshold	Fixed Return	Redemption Payment
1	0	0.12	112
2	0	0.24	124

				Regular trials				Antithetic trials					Regular trials				Antithetic trials			
	payout period		Random				Disc.				Disc.	Random				Disc.				Disc.
Regular	Antithetic	Avg.	Number	Index	Return	Payoff	Payoff	Index	Return	Payoff	Payoff	Number	Index	Return	Payoff	Payoff	Index	Return	Payoff	Payoff
2.00	4.00	3.00	0.48949	29.44	-0.017	0.00	0.000	29.75	-0.006	0.0000	0.000	0.57713	30.04	0.003	124.0000	116.268	27.91	-0.068	0.0000	0.000
1.00	5.00	3.00	0.64182	31.78	0.061	112.00	108.111	27.56	-0.080	0.0000	0.000	0.54092	31.79	0.062	0.0000	0.000	26.38	-0.119	0.0000	0.000
3.00	1.00	2.00	0.37333	27.78	-0.072	0.00	0.000	31.53	0.053	112.0000	108.111	0.57141	28.25	-0.056	0.0000	0.000	29.68	-0.009	0.0000	0.000
1.00	5.00	3.00	0.63354	31.64	0.057	112.00	108.111	27.68	-0.076	0.0000	0.000	0.61233	32.92	0.100	0.0000	0.000	25.47	-0.149	0.0000	0.000
1.00	5.00	3.00	0.83387	35.79	0.195	112.38	108.475	24.47	-0.183	0.0000	0.000	0.44408	33.98	0.135	0.0000	0.000	24.68	-0.176	0.0000	0.000
1.00	5.00	3.00	0.71343	33.05	0.104	112.00	108.111	26.50	-0.115	0.0000	0.000	0.66561	35.46	0.184	0.0000	0.000	23.65	-0.210	0.0000	0.000
5.00	1.00	3.00	0.46749	29.12	-0.027	0.00	0.000	30.07	0.004	112.0000	108.111	0.38754	26.80	-0.105	0.0000	0.000	31.29	0.045	0.0000	0.000
5.00	1.00	3.00	0.34924	27.43	-0.084	0.00	0.000	31.93	0.066	112.0000	108.111	0.30474	24.04	-0.197	0.0000	0.000	34.87	0.165	0.0000	0.000
1.00	4.00	2.50	0.69210	32.66	0.091	112.00	108.111	26.82	-0.104	0.0000	0.000	0.42563	30.69	0.025	0.0000	0.000	27.32	-0.087	0.0000	0.000
5.00	1.00	3.00	0.13986	23.94	-0.200	0.00	0.000	36.58	0.222	112.5094	108.603	0.26630	20.48	-0.316	0.0000	0.000	40.94	0.367	0.0000	0.000
1.00	5.00	3.00	0.91240	38.61	0.290	112.85	108.929	22.69	-0.242	0.0000	0.000	0.51640	38.11	0.273	0.0000	0.000	22.00	-0.265	0.0000	0.000

on Valuation Call Threshold Fixed Return Payment 3 0 0.36 136									on Valuation Call Threshold Fixed Return Payment 4 0 0.48 148									on Valuation Call Threshold Fixed Return Payment 5 0 0.6 160												
Regular trials					Antithetic trials				Regular trials					Antithetic trials				Regular trials					Antithetic trials							
Random Number	Index	Return	Payoff	Disc. Payoff	Index	Return	Payoff	Disc. Payoff	Random Number	Index	Return	Payoff	Disc. Payoff	Index	Return	Payoff	Disc. Payoff	Random Number	Index	Return	Payoff 1 XIU>=Call Barrier<=> XIU<Barrier	Payoff 2	Payoff 3	Disc. Payoff	Index	Return	Payoff 1 XIU>=Call Barrier<=> XIU<Barrier	Payoff 2	Payoff 3	Disc. Payoff
0.53104	30.10	0.005	0.0000	0.000	27.48	-0.082	0.0000	0.000	0.08950	25.64	-0.144	0.0000	0.000	31.67	0.058	148.0000	131.736	0.24079	23.44	-0.217	0.00	0.00	0.00	0.000	33.92	0.133	0.00	0.00	0.00	0.000
0.93926	37.58	0.255	0.0000	0.000	22.01	-0.265	0.0000	0.000	0.77359	40.52	0.353	0.0000	0.000	20.04	-0.330	0.0000	0.000	0.04154	33.00	0.102	0.00	0.00	0.00	0.000	24.10	-0.195	0.00	100.00	0.00	86.942
0.77278	30.53	0.020	136.0000	124.092	27.10	-0.095	0.0000	0.000	0.25892	28.12	-0.061	0.0000	0.000	28.88	-0.035	0.0000	0.000	0.39024	26.97	-0.099	0.00	0.00	0.00	0.000	23.49	-0.015	0.00	0.00	0.00	0.000
0.35761	31.39	0.048	0.0000	0.000	26.36	-0.120	0.0000	0.000	0.38143	30.06	0.004	0.0000	0.000	27.02	-0.098	0.0000	0.000	0.99850	41.53	0.387	0.00	0.00	0.00	0.000	19.15	-0.360	0.00	0.00	63.97	55.615
0.93945	40.18	0.342	0.0000	0.000	20.59	-0.312	0.0000	0.000	0.77150	43.28	0.446	0.0000	0.000	18.77	-0.373	0.0000	0.000	0.27175	40.00	0.336	0.00	0.00	0.00	0.000	19.88	-0.336	0.00	0.00	66.41	57.739
0.09816	30.46	0.017	0.0000	0.000	27.16	-0.093	0.0000	0.000	0.99004	39.21	0.310	0.0000	0.000	20.71	-0.308	0.0000	0.000	0.87993	44.28	0.479	0.00	0.00	0.00	0.000	17.96	-0.400	0.00	0.00	59.99	52.159
0.75147	28.73	-0.040	0.0000	0.000	28.80	-0.038	0.0000	0.000	0.06942	24.10	-0.195	0.0000	0.000	33.70	0.126	0.0000	0.000	0.07855	20.34	-0.321	0.00	0.00	67.95	59.073	39.10	0.306	0.00	0.00	0.00	0.000
0.67237	25.11	-0.161	0.0000	0.000	32.94	0.100	0.0000	0.000	0.06470	20.98	-0.299	0.0000	0.000	38.71	0.293	0.0000	0.000	0.37372	20.02	-0.331	0.00	0.00	66.88	58.147	39.72	0.327	0.00	0.00	0.00	0.000
0.20575	27.79	-0.072	0.0000	0.000	29.77	-0.006	0.0000	0.000	0.42294	26.94	-0.100	0.0000	0.000	30.14	0.007	148.0000	131.736	0.07748	22.72	-0.241	0.00	0.00	0.00	0.000	35.00	0.169	0.00	0.00	0.00	0.000
0.98415	25.90	-0.135	0.0000	0.000	31.94	0.067	0.0000	0.000	0.03872	21.04	-0.297	0.0000	0.000	38.60	0.289	0.0000	0.000	0.11440	18.19	-0.393	0.00	0.00	60.75	52.815	43.73	0.461	0.00	0.00	0.00	0.000
0.28648	35.53	0.187	0.0000	0.000	23.28	-0.222	0.0000	0.000	0.76021	38.12	0.273	0.0000	0.000	21.31	-0.288	0.0000	0.000	0.73610	40.50	0.353	0.00	0.00	0.00	0.000	19.64	-0.344	0.00	0.00	65.60	57.031