Tracking Portfolio Value riding the 2000 sequence of stock and bond returns

A 4.5% spending rate ($45,000 constant dollar spending for $1 million) does not deplete a portfolio that rode along the second-most harmful return sequence in history – defined by the percent of decline by the ninth year.

This sequence starts with the third worst three-year return for stocks in the last 98 years. It hit the ~worst one-year return in the ninth year (2008).

A portfolio depleted to 38% of its initial value in nine years. The constant dollar withdrawal rate was more that 12% the next year, but high returns after 2008 meant a portfolio did not spiral to depletion.

Withdrawal Rate	Mix Stocks	85%	Investing cost
4.50%	Mix Bonds	15%	0.10%

		Before the start of the year			For the year			End of the year		
	Yr	Portfolio	Constant Dollar Withdrawn	Amount after	Real Returns Stocks	Real Returns Bonds	Portfolio Return	Portfolio Value	Investing Cost	Ending Portfolio
2000	1	1,000,000	45,000	955,000	-12.08%	12.23%	-8.43%	874,459	915	873,545
2001	2	873,545	45,000	828,545	-13.23%	4.41%	-10.58%	740,846	785	**740,061**
2002	3	740,061	45,000	695,061	-23.91%	12.21%	-18.49%	566,529	631	565,898
2003	4	565,898	45,000	520,898	26.31%	0.13%	22.38%	637,493	579	636,913
2004	5	636,913	45,000	591,913	7.39%	2.64%	6.68%	631,435	612	630,823
2005	6	630,823	45,000	585,823	1.45%	0.59%	1.32%	593,565	590	592,976
2006	7	592,976	45,000	547,976	12.93%	-0.23%	10.96%	608,012	578	607,434
2007	8	607,434	45,000	562,434	1.36%	5.67%	2.01%	573,718	568	573,150
2008	9	573,150	45,000	528,150	-37.06%	18.41%	-28.74%	376,363	452	375,910
2009	10	375,910	45,000	330,910	23.11%	-10.47%	18.07%	390,715	361	390,355
2010	11	390,355	45,000	345,355	13.36%	6.78%	12.38%	388,099	367	387,732
2011	12	387,732	45,000	342,732	-0.84%	14.03%	1.39%	347,505	345	347,160
2012	13	347,160	45,000	302,160	13.91%	0.88%	11.95%	338,279	320	337,958
2013	14	337,958	45,000	292,958	30.19%	-7.26%	24.58%	364,959	329	364,630
2014	15	364,630	45,000	319,630	12.84%	12.38%	12.77%	360,442	340	360,102
2015	16	360,102	45,000	315,102	0.65%	-0.39%	0.49%	316,646	316	316,330
2016	17	316,330	45,000	271,330	9.68%	-0.72%	8.12%	293,373	282	293,091
2017	18	293,091	45,000	248,091	19.31%	2.80%	16.84%	289,861	269	289,592
2018	19	289,592	45,000	244,592	-6.17%	-2.09%	-5.56%	230,992	238	230,755
2019	20	230,755	45,000	185,755	28.55%	8.03%	25.47%	233,075	209	232,865