



Sequence of Return Risk

The risk of receiving lower or negative returns early in a period when withdrawals are made from an investment portfolio is known as sequence of return risk. If you are taking withdrawals from your portfolio, the order or the sequence of investment returns can significantly impact your portfolios overall value.

Consider the following hypothetical investment scenarios for Mr. Green and Mr. Brown:

Mr. Green and Mr. Brown both started with a \$1 million investment portfolio at age 65. Both averaged a 6% annual return that grows to the same value after 25 years, but they experience their annual returns in an inverse order from each other. See the chart below demonstrating their different paths to their ending values.

Age	"Up" Market—Mr. Green		"Down" Market—Mr. Brown	
	Annual Return	Year End Value	Annual Return	Year End Value
65		\$1,000,000		\$1,000,000
66	5%	\$1,050,000	-25%	\$750,000
67	28%	\$1,344,000	-14%	\$645,000
68	22%	\$1,639,680	-10%	\$580,500
69	-5%	\$1,557,696	16%	\$673,380
70	20%	\$1,869,235	21%	\$814,790
71	19%	\$2,224,390	5%	\$855,529
72	23%	\$2,736,000	-16%	\$718,645
73	9%	\$2,982,240	8%	\$776,136
74	16%	\$3,459,398	14%	\$884,795
75	23%	\$4,255,059	24%	\$1,097,146
76	22%	\$5,191,172	14%	\$1,250,747
77	-26%	\$3,841,468	5%	\$1,313,284
78	-15%	\$3,265,247	-15%	\$1,116,291
79	5%	\$3,428,510	-26%	\$826,056
80	14%	\$3,908,501	22%	\$1,007,788
81	24%	\$4,846,541	23%	\$1,239,579
82	14%	\$5,525,057	16%	\$1,437,912
83	8%	\$5,967,062	9%	\$1,567,324
84	-16%	\$5,012,332	23%	\$1,927,808
85	5%	\$5,262,949	19%	\$2,294,092
86	21%	\$6,368,168	20%	\$2,752,910
87	16%	\$7,387,075	-5%	\$2,615,264
88	-10%	\$6,648,367	22%	\$3,190,623
89	-14%	\$5,717,596	28%	\$4,083,997
90	-25%	\$4,288,197	5%	\$4,288,197
Average Return	6%		6%	

In this case, the sequence of investment returns had no bearing on portfolio values because the average annual rate of return was the same and no distributions were taken from the account.



Sequence of Return Risk, *continued.*

Now let's look at how the sequence of returns can impact a portfolio when taking distributions:

Mr. Green and Mr. Brown still start with an initial \$1 million investment portfolio. But in this example, they start taking 5% withdrawals (of the initial value) beginning immediately at age 65. Mr. Green begins taking withdrawals in an up market, giving him the optimal environment to maintain his portfolio value long-term. Unfortunately for Mr. Brown, he starts taking income in a down market and depletes his entire portfolio before reaching age 83.

Age	"Up" Market—Mr. Green			"Down" Market—Mr. Brown		
	5% Annual Withdrawals	Annual Return	Year End Value	5% Annual Withdrawals	Annual Return	Year End Value
65			\$1,000,000			\$1,000,000
66	\$50,000	5%	\$1,000,000	\$50,000	-25%	\$700,000
67	\$50,000	28%	\$1,230,000	\$50,000	-14%	\$552,000
68	\$50,000	22%	\$1,450,600	\$50,000	-10%	\$446,800
69	\$50,000	-5%	\$1,328,070	\$50,000	16%	\$468,288
70	\$50,000	20%	\$1,543,684	\$50,000	21%	\$516,628
71	\$50,000	19%	\$1,786,984	\$50,000	5%	\$492,460
72	\$50,000	23%	\$2,147,990	\$50,000	-16%	\$363,666
73	\$50,000	9%	\$2,291,309	\$50,000	8%	\$342,760
74	\$50,000	16%	\$2,607,919	\$50,000	14%	\$340,746
75	\$50,000	23%	\$3,157,740	\$50,000	24%	\$372,525
76	\$50,000	22%	\$3,802,443	\$50,000	14%	\$374,679
77	\$50,000	-26%	\$2,763,808	\$50,000	5%	\$343,412
78	\$50,000	-15%	\$2,299,237	\$50,000	-15%	\$241,901
79	\$50,000	5%	\$2,364,199	\$50,000	-26%	\$129,006
80	\$50,000	14%	\$2,645,186	\$50,000	22%	\$107,388
81	\$50,000	24%	\$3,230,031	\$50,000	23%	\$82,087
82	\$50,000	14%	\$3,632,235	\$50,000	16%	\$45,221
83	\$50,000	8%	\$3,872,814	\$50,000	9%	\$0
84	\$50,000	-16%	\$3,203,164	\$50,000	23%	\$0
85	\$50,000	5%	\$3,313,322	\$50,000	19%	\$0
86	\$50,000	21%	\$3,959,120	\$50,000	20%	\$0
87	\$50,000	16%	\$4,542,579	\$50,000	-5%	\$0
88	\$50,000	-10%	\$4,038,321	\$50,000	22%	\$0
89	\$50,000	-14%	\$3,422,956	\$50,000	28%	\$0
90	\$50,000	-25%	\$2,517,217	\$50,000	5%	\$0
Average Return		6%			6%	

The sequence of investment returns can significantly impact your investment portfolio when taking distributions. It is important to manage this risk in retirement by maintaining sound asset allocation strategies, product diversification, and an understanding of how best to respond to changing market conditions.