

# Why the Sequence of Returns Matters

The sequence of returns may have less of an impact on the portfolio of a long-term investor who is accumulating assets for retirement. However, *during* retirement, the interplay between an investor's rate of withdrawal and the sequence of returns can have a dramatic impact on a portfolio's overall ability to last.

## FACTORS AFFECTING PORTFOLIO RESULTS BEFORE AND AFTER RETIREMENT

### ACCUMULATION PHASE

- Average Annualized Returns
- Asset Allocation
- Staying Invested

### RETIREMENT PHASE

- Sequence of Returns
- Sustainable Withdrawal Rate
- Product Allocation

Starting value for portfolio A and portfolio B = \$30,000  
Annual income withdrawal = None

AGE	PORTFOLIO A POOR EARLY RETURNS		PORTFOLIO B STRONG EARLY RETURNS	
	RETURN	ACC. VALUE	RETURN	ACC. VALUE
40	-	\$30,000	-	\$30,000
41	-34.2%	\$19,740	28.2%	\$38,460
42	-10.6%	\$17,648	22.0%	\$46,921
43	13.6%	\$20,048	17.9%	\$55,320
44	11.5%	\$22,353	7.4%	\$59,414
45	27.4%	\$28,478	19.8%	\$71,178
46	1.5%	\$28,905	9.8%	\$78,153
47	-18.4%	\$23,586	25.8%	\$98,317
48	2.0%	\$24,058	-2.2%	\$96,154
49	-8.7%	\$21,965	35.8%	\$130,577
50	14.0%	\$25,040	19.7%	\$156,300
51	12.4%	\$28,145	7.8%	\$168,492
52	12.0%	\$31,523	28.6%	\$216,680
53	-9.5%	\$28,528	-9.5%	\$196,096
54	28.6%	\$36,687	12.0%	\$219,627
55	7.8%	\$39,549	12.4%	\$246,861
56	19.7%	\$47,340	14.0%	\$281,421
57	35.8%	\$64,287	-8.7%	\$256,938
58	-2.2%	\$62,873	2.0%	\$262,077
59	25.8%	\$79,094	-18.4%	\$213,854
60	9.8%	\$86,846	1.5%	\$217,062
61	19.8%	\$104,041	27.4%	\$276,537
62	7.4%	\$111,740	11.5%	\$308,339
63	17.9%	\$131,741	13.6%	\$350,273
64	22.0%	\$160,725	-10.6%	\$313,144
65	28.2%	\$206,049	-34.2%	\$206,049
	8.0%	\$206,049	8.0%	\$206,049

Starting value for portfolio A and portfolio B = \$206,049  
Annual income withdrawals = \$10,302 (5% of first-year value) adjusted thereafter for inflation. Inflation Rate = 3%

AGE	PORTFOLIO A POOR EARLY RETURNS			PORTFOLIO B STRONG EARLY RETURNS		
	RETURN	WITHDRAWAL	ACC. VALUE	RETURN	WITHDRAWAL	ACC. VALUE
65	-	-	\$206,049	-	-	\$206,049
66	-34.2%	\$10,302	\$128,801	28.2%	\$10,302	\$250,947
67	-10.6%	\$10,612	\$105,662	22.0%	\$10,612	\$293,209
68	13.6%	\$10,930	\$107,615	17.9%	\$10,930	\$332,807
69	11.5%	\$11,258	\$107,439	7.4%	\$11,258	\$345,344
70	27.4%	\$11,595	\$122,104	19.8%	\$11,595	\$399,831
71	1.5%	\$11,943	\$111,813	9.8%	\$11,943	\$425,901
72	-18.4%	\$12,302	\$81,201	25.8%	\$12,302	\$520,308
73	2.0%	\$12,671	\$69,901	-2.2%	\$12,671	\$496,469
74	-8.7%	\$13,051	\$51,904	35.8%	\$13,051	\$656,482
75	14.0%	\$13,442	\$43,847	19.7%	\$13,442	\$769,718
76	12.4%	\$13,846	\$33,721	7.8%	\$13,846	\$814,831
77	12.0%	\$14,261	\$21,796	28.6%	\$14,261	\$1,029,533
78	-9.5%	\$14,689	\$6,432	-9.5%	\$14,689	\$918,434
79	28.6%	\$6,432	\$0	12.0%	\$15,129	\$1,011,701
80	7.8%	-	\$0	12.4%	\$15,583	\$1,119,636
81	19.7%	-	\$0	14.0%	\$16,051	\$1,258,087
82	35.8%	-	\$0	-8.7%	\$16,532	\$1,133,539
83	-2.2%	-	\$0	2.0%	\$17,028	\$1,138,841
84	25.8%	-	\$0	-18.4%	\$17,539	\$914,982
85	9.8%	-	\$0	1.5%	\$18,065	\$910,371
86	19.8%	-	\$0	27.4%	\$18,607	\$1,136,107
87	7.4%	-	\$0	11.5%	\$19,166	\$1,245,389
88	17.9%	-	\$0	13.6%	\$19,741	\$1,392,337
89	22.0%	-	\$0	-10.6%	\$20,333	\$1,226,572
90	28.2%	-	\$0	-34.2%	\$20,943	\$793,304
	8.0%	\$167,334	\$0	8.0%	\$375,619	\$793,304

NO DIFFERENCE

Total income generated by portfolio during retirement = \$167,334

BIG DIFFERENCE

\$375,619

Returns are hypothetical and not actual returns. The sequence of returns has an average compounded annualized return of eight per cent over 25 years and year-to-year volatility that is consistent with a portfolio predominantly comprised of stocks. The accumulation portfolios assume a starting value of \$30,000 at age 40 and the retirement portfolios assume a starting value of \$206,049 at age 65.

Difference in Withdrawals	\$	\$208,285
Difference in End Value	\$	\$793,304