

An **Educational** Guide
for Individuals

The Impact of the Sequence of Investment Returns



Why a 10% return doesn't
ensure success



We'll help you get there.®

Impact of the sequence of investment returns

Most people would jump at the chance to earn a 10% average annual return in retirement. But averages can be misleading, especially for retirement portfolios used to generate income. As the following example shows, it's often the sequence of returns that will result in investment success or failure in retirement. Let's look at the assumptions used for this example.

Two hypothetical retirement portfolios:

- Each has an initial value of \$500,000
- Portfolio 1 reflects S&P 500¹ calendar year returns from 1969 to 1994
- Portfolio 2 reverses the order of those S&P returns
- \$30,000 annual withdrawals, beginning in year 1 for both portfolios
- Withdrawals increase 3% annually for inflation

Year	Portfolio 1			Portfolio 2		
	Investment Return	Withdrawal	Account Balance	Investment Return	Withdrawal	Account Balance
1	-8.4%	\$30,000	\$427,900	1.3%	\$30,000	\$476,600
2	4.0%	\$30,900	\$414,030	10.1%	\$30,900	\$493,646
3	14.3%	\$31,827	\$441,410	7.6%	\$31,827	\$499,385
4	19.0%	\$32,782	\$492,275	30.4%	\$32,782	\$618,417
5	-14.8%	\$33,765	\$385,752	-3.1%	\$33,765	\$565,419
6	-26.5%	\$34,778	\$248,942	31.5%	\$34,778	\$708,917
7	37.3%	\$35,822	\$305,976	16.8%	\$35,822	\$792,335
8	23.7%	\$36,896	\$341,596	5.2%	\$36,896	\$796,799
9	-7.3%	\$38,003	\$278,793	18.6%	\$38,003	\$906,602
10	6.6%	\$39,143	\$257,966	32.0%	\$39,143	\$1,157,844
11	18.6%	\$40,317	\$265,631	6.1%	\$40,317	\$1,188,270
12	32.1%	\$41,527	\$309,451	22.4%	\$41,527	\$1,412,559
13	-4.9%	\$42,773	\$251,484	21.1%	\$42,773	\$1,667,978
14	21.1%	\$44,056	\$260,516	-4.9%	\$44,056	\$1,542,024
15	22.4%	\$45,378	\$273,416	32.1%	\$45,378	\$1,992,099
16	6.1%	\$46,739	\$243,383	18.6%	\$46,739	\$2,315,890
17	32.0%	\$48,141	\$273,197	6.6%	\$48,141	\$2,419,903
18	18.6%	\$49,585	\$274,290	-7.3%	\$49,585	\$2,194,633
19	5.2%	\$51,073	\$237,535	23.7%	\$51,073	\$2,663,688
20	16.8%	\$52,605	\$224,883	37.3%	\$52,605	\$3,604,638
21	31.5%	\$54,183	\$241,605	-26.5%	\$54,183	\$2,597,028
22	-3.1%	\$55,809	\$178,282	-14.8%	\$55,809	\$2,157,378
23	30.4%	\$57,483	\$174,997	19.0%	\$57,483	\$2,508,718
24	7.6%	\$59,208	\$129,107	14.3%	\$59,208	\$2,808,257
25	10.1%	\$60,984	\$81,111	4.0%	\$60,984	\$2,859,042
26	1.3%	\$62,813	\$19,369	-8.4%	\$62,813	\$2,555,498

This hypothetical example is for illustrative purposes, and is not representative of any MassMutual product. Past performance is no guarantee of future results.

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Analysis

This example shows that investment losses early in retirement may jeopardize the sustainability of a portfolio and its ability to generate meaningful income that will last a lifetime. Just when the owner of Portfolio 1 retires and begins taking systematic income withdrawals, the market delivers negative returns. Although performance improves, Portfolio 1 is unable to recover from its initial losses. By year 26 it is nearly depleted, with only \$19,369 in assets remaining.

For Portfolio 2, market performance is positive when systematic income withdrawals begin. By year 26, Portfolio 2 has a projected available balance of more than \$2 million.

These results are dramatic and can have implications for both a retiree and his or her heirs.

A period of market losses that occurs when a person is transitioning into retirement can have a devastating impact on the income-generating potential of his or her portfolio. To help safeguard retirement income, it's important to consider multiple strategies that will generate income for as long as you need it.



Annuity payouts – income you can't outlive

Did you know that there are only three types of income that are guaranteed for life? They are: Social Security, an employer pension plan (if you're fortunate enough to have one) and annuities (when you choose a life annuity option). For this reason, annuities can be a compelling addition to a systematic withdrawal plan.

Types of annuities

Annuities are designed to help you meet long-term goals, like saving for retirement. When you are ready, they can provide a stream of income, for life or for a period of time you choose. Different types of annuities address specific needs and risk tolerances. Depending on your choice, an annuity may help you to:

- Mitigate the risk of outliving your assets
- Generate a guaranteed income for life or for a specific period of time
- Provide steady income in the form of fixed payments
- Offer income growth potential with variable payments.

It's important to get the facts on any annuity that you may be considering because there are significant differences among them. Would you prefer a fixed, predictable income stream or the growth potential associated with variable annuities? Do you need your income to begin immediately, or at some time in the future? Is liquidity important to you? What about death benefit protection? The answers to these and many other questions will help you to make a decision that's right for you.

Your financial professional can help you identify your needs and clarify your objectives so that you can evaluate all of the options available to you.

¹ The S&P 500 Index is a list of securities frequently used as a measure of U.S. stock market performance. Indices are unmanaged and do not represent the performance of any MassMutual product or specific underlying fund. Indices are not available for direct investment. Past performance is not indicative of future results. Source: S&P Micropal.

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