An **Educational** Guide
for Individuals

The Impact of the Sequence of Investment Returns

Why a 10% return doesn't ensure success

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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. In retirement, it's often the sequence of returns that will cause investment success or failure. Investment losses early in retirement may jeopardize the sustainability of a portfolio and its ability to generate meaningful income that will last a lifetime.

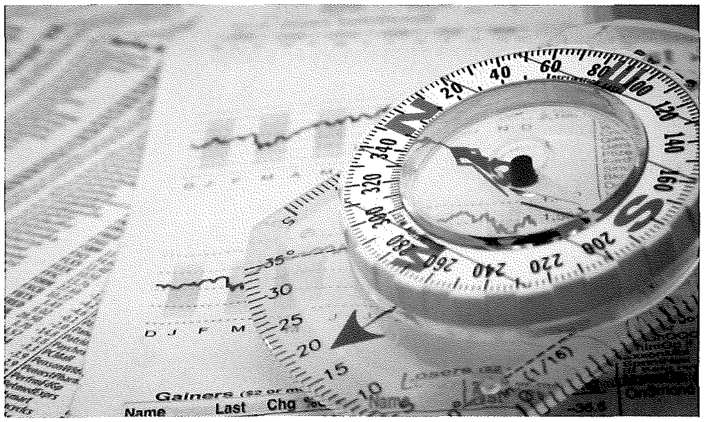
Impact of the Sequence of Investment Returns

The example below illustrates two hypothetical retirement portfolios assuming:

- Initial Portfolio Values: $500,000
- Portfolio 1 – S&P 500[1] calendar year returns from 1969-1994
- Portfolio 2 – reverses the order of the S&P 500 returns
- $30,000 withdrawals
- Withdrawals increase 3% per year for inflation

	Portfolio 1			Portfolio 2		
Year	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.



Summary

	Portfolio 1	Portfolio 2
Average Annual Return	10.1%	10.1%
Total Income	$1,156,591	$1,156,591
Ending Account Balance	**$19,369**	**$2,555,498**

No one can predict the variability of investment returns and their impact on a retirement portfolio. At best, you can try to minimize volatility by diversifying your portfolio across various asset classes.* However, even with diversification, there is no guarantee your portfolio can sustain you through retirement once you begin taking income.

*Asset allocation does not assure a profit and does not protect against loss in a declining market.

Variable Annuities

Variable annuities are long-term investment vehicles designed to help investors accumulate and protect assets for retirement. Variable annuity features include:

- Tax deferred accumulation potential[2,3]
- Professionally managed investment choices
- Living benefits
- Death benefits

Annuity Payouts – Income You Can't Outlive

Variable annuities also provide annuity payouts which can be an excellent way to create retirement income for the following reasons.

- Eliminate the risk of outliving your assets
- Guarantee payments for life or for a specific period of time
- Fixed payments – provide steady income
- Variable payments – offer income growth potential

Guarantees are based on the claims-paying ability of the issuing company and do not apply to the investment performance or the safety of amounts held in the variable investment choices.

Variable annuities have certain fees and charges. Variable annuities are also subject to market risk, including the potential loss of principal. Investment return and principal value of an investment will vary so that units, when redeemed, may be worth more or less than their original cost.

Compelling Alternative

Annuity payouts are guaranteed for as long as you live (life annuity option). For this reason, they can be a compelling alternative to systematic withdrawals from a portfolio that **can't** guarantee lifetime income.

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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.

2 Taxable withdrawals are subject to income tax and, if made prior to age 59½, may be subject to a 10% federal income tax penalty.

3 Variable annuities do not provide any additional tax advantage when used to fund a qualified plan. Investors should consider buying a variable annuity to fund a qualified plan for the annuity's additional features, such as lifetime income payments and death benefit protection.

The information provided herein is not written or intended as tax or legal advice and may not be relied on for purposes of avoiding any federal tax penalties. Entities or persons distributing this information are not authorized to give tax or legal advice. Individuals are encouraged to seek specific advice from their personal tax or legal counsel.

Variable annuities are sold by prospectus. Before purchasing a variable annuity contract, investors should carefully consider the investment objectives, risks, charges and expenses of the variable annuity contract and its underlying investment choices. For this and other information, obtain the prospectuses for the variable annuity contract and its underlying investment choices from your registered representative. Please read the prospectuses carefully before investing or sending money.

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