



Mill Creek Investment Strategy

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Managing Sequence of Risk Returns

Executive Summary

- **Sequence of Returns Risk:** Defined as the vulnerability of investment portfolios to extended periods of poor performance coupled with distributions, leading to an inability to sustain planned withdrawals.
- **Alleviating Sequence Risk:** Strategies include investment planning to quantify risks, diversification to mitigate drawdowns, and maintaining spending flexibility to adjust distributions during challenging periods.
- **Importance of Planning:** A financial planning process helps investors understand goals, quantify risks, and preplan responses to mitigate the impact of sequence risk, akin to a fire drill in emergency preparedness.
- **Diversification and Spending Flexibility:** Emphasizes the importance of diversification, especially over multigenerational horizons, and advocates for maintaining the ability to adjust spending temporarily to mitigate the two-in-a-row problem associated with sequence risk.

By Michael Crook, Chief Investment Officer

“Francis Fulford and his family have occupied the same 10,000 acres in Devonshire that was given to them in 1240.... When they asked him how on earth he’d managed this achievement...he points up to the ancestral portraits and says...‘Well, if I go back to my ancestors, we’ve had loads of idiots. We’ve had drunken idiots, we’ve had gambling idiots, philandering idiots, idiots who get in prison for treason,’ he said. ‘But we’ve never had two in a row.’”

—Rory Sutherland on EconTalk, November 11, 2019

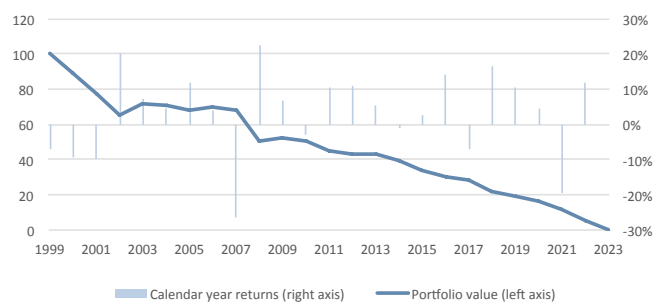
Sequence of returns risk is a “two in a row” problem in investing. It refers to the vulnerability of investment portfolios to extended periods of poor performance. In simple terms, sequence of returns risk happens when sustained poor investment returns, coupled with distributions from the portfolio, result in a situation where the portfolio can no longer support planned distributions. This white paper covers:

- 1) Historical examples of sequence of returns risk,
- 2) Why sequence of returns risk explains “shirtsleeves to shirtsleeves in three generations,” and
- 3) Methods for alleviating sequence risk.

(Don’t) party like it’s 1999

Imagine, if you can, it is late 1999 and the US equity market has returned 250%² cumulatively over the previous five years. You’ve reached your personal wealth goals quite a bit earlier in life than you expected and decide to retire. As a prudent steward of your family’s wealth, you decide to diversify into a 60% global equity/40% municipal bond portfolio and only spend 5% of your initial portfolio value, adjusted for inflation, each year in retirement. Municipal bonds were yielding 5.5% at the time so this plan seemed quite conservative.³

Fig. 1: The year 2000 was a tough year to retire



Source: Bloomberg, Mill Creek. For illustrative purposes only.

What happened next? The 60/40 stock/bond portfolio returned 5.3%¹ annualized from 2000–2023 so the family has been living happily, and free of financial worries, for the last 24 years, right? No, unfortunately they experienced the two-in-a-row problem.

The dot-com crash in 2000 was followed by the global financial crisis (GFC) of 2008, and US equities returned -9% cumulatively over the ten years from January 2000 through December 31, 2009.⁴ The conservative 5% withdrawal had become a risky 8% withdrawal by the mid-2000s and jumped to an impossible-to-maintain 12% withdrawal after the GFC. Strong portfolio returns sustained the portfolio for a while, but it wasn't enough. The portfolio never recovered its 2000 value and was fully depleted in 2023 (Fig. 1).

Sequence of returns risk, illustrated

Looking a bit more closely at the 1999 experience provides a good example of how the sequence of returns can be as important as the magnitude of returns. Fig. 2 on page 3 provides the calendar year returns for a 60/40 global equity/municipal bond portfolio between 2000 and 2023, the same returns in reverse order, and associated portfolio outcomes for each series. While the calendar year returns are exactly the same, the reverse order series experiences mostly positive returns in the first few years whereas the chronological series experiences negative returns in the first few years.

We can see that portfolios without additions or distributions take different paths but end up with the same terminal wealth regardless of the order in which they receive returns. The sequence doesn't matter. On the other hand, portfolios subject to contributions or distributions follow different paths and can end up with very different terminal wealth. Same returns. Same distributions. Very different outcomes. Such is sequence of returns risk.

Bad luck or inevitable?

Sequence of returns risk is a real but infrequent occurrence for retirees. 2000 was clearly a tough year to retire

from an investment standpoint. Retirees in the mid-1960s and early 1970s also had a rough go of it. It's possible that bond-heavy investors will eventually find the 2020s to have been extraordinarily challenging due to the combination of low returns and elevated inflation that has impacted their portfolios.

Outside of these specific instances, diversified investment portfolios have done a good job over the last 45 years of supporting spending rates of 5% while maintaining the inflation-adjusted value of the corpus. When viewed from the individual lifetime perspective, sequence of returns risk hasn't been hiding around every corner waiting to ruin retirements.

Multigenerational portfolios, however, will inevitably be subject to sequence risk. The long-term historical inflation-adjusted return on a 60/40 stock/bond portfolio has been about 5% annualized with a volatility of 11%. A family that spends 4% of the portfolio but cannot cut spending in dollar terms during extended bear markets would fully deplete the portfolio, on average, in about 45 years. Adding some distribution flexibility would extend the lifetime of the portfolio a bit more, but it's easy to see why it's hard to sustain wealth if multiple generations create a reliance on distributions—that cannot be reduced when necessary—from the portfolio.

Mitigating sequence risk

While sequence of returns risk cannot be eliminated, we believe there are steps that can be taken to mitigate sequence risk:

1) Investment planning: A financial planning process can help investors develop a clearer understanding of their goals and objectives, quantify investment risks to those goals (including sequence of returns risk), and preplan how they will handle those risks were they to manifest.

We think about this aspect of planning as analogous to a fire drill. Most people will fortunately never have to evacuate a home or commercial building due to fire, but fire drills help remove the uncertainty from a stressful situation if it does occur.

2) Diversification: While portfolio diversification can sometimes seem like an overused buzzword, diversified portfolios (i.e., portfolios with high risk-adjusted returns) will suffer less significant drawdowns and thereby be less subject to sequence of returns risk than similar-risk concentrated portfolios.

This point about diversification extends to maintaining a balance between stocks and bonds, taking steps to reduce concentrated positions as much as possible, and utilizing alternative assets—particularly in periods where stocks and bonds are positively correlated like they have been in the post-COVID environment.

Fig. 2: Sequence of returns risk can show up when portfolios have to support distributions

Year	Chronological (2000 -> 2024)			Reverse Chronological (2024 -> 2000)		
	Calendar year return	Portfolio value – No distribution	Portfolio value – Annual distribution	Calendar year return	Portfolio value – No distribution	Portfolio value – Annual distribution
0		\$100	\$100		\$100	\$100
1	-7%	\$93	\$88	12%	\$112	\$106
2	-9%	\$84	\$76	-20%	\$90	\$82
3	-10%	\$76	\$64	4%	\$94	\$80
4	20%	\$92	\$71	10%	\$104	\$83
5	7%	\$98	\$70	16%	\$121	\$90
6	4%	\$103	\$68	-7%	\$112	\$79
7	12%	\$115	\$71	14%	\$128	\$85
8	4%	\$119	\$68	3%	\$132	\$82
9	-26%	\$88	\$47	-1%	\$131	\$76
10	23%	\$108	\$51	5%	\$137	\$75
11	7%	\$115	\$49	11%	\$153	\$78
12	-3%	\$112	\$43	11%	\$169	\$81
13	11%	\$123	\$42	-3%	\$163	\$73
14	11%	\$137	\$41	7%	\$175	\$73
15	5%	\$144	\$38	23%	\$214	\$83
16	-1%	\$143	\$33	-26%	\$158	\$58
17	3%	\$147	\$28	4%	\$164	\$55
18	14%	\$168	\$27	12%	\$184	\$56
19	-7%	\$156	\$20	4%	\$192	\$53
20	16%	\$182	\$18	7%	\$206	\$51
21	10%	\$200	\$14	20%	\$247	\$56
22	4%	\$209	\$9	-10%	\$223	\$46
23	-20%	\$168	\$4	-9%	\$202	\$37
24	12%	\$188	\$-	-7%	\$188	\$30

Source: Mill Creek, Bloomberg. The “annual distribution” columns assume a constant inflation-adjusted withdrawal from the portfolio at the beginning of each calendar year. Returns and portfolio values are inflation-adjusted. Illustrates returns for a 60/40 global equity/municipal bond portfolio using the MSCI World Equity Index and the Bloomberg Aggregate Bond Index. Assumes an annual distribution of 5% of the starting value of the portfolio that increases every year with inflation as measured by the Consumer Price Index.

Perhaps against conventional wisdom, our analysis shows that diversification becomes more important, not less, as time horizon extends. Investors seeking to sustain wealth over multigenerational horizons should diversify to the full-est extent possible.

3) Spending flexibility: Perhaps the most important aspect of avoiding sequence of returns risk comes from maintaining the ability to temporarily reduce portfolio distributions. Slight spending adjustments can usually go a long way toward solving the two-in-a-row-problem.

¹ Based on a portfolio consisting of 60% MSCI World Equity Index / 40% Bloomberg Aggregate Bond Index.

² The S&P 500 returned nearly 250% between June 30, 1994 and June 30, 1999.

³ Based on the yield to worst of the Bloomberg Municipal Bond Index.

⁴ S&P 500.

Disclosure

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