



6 min read

## How to understand the risks you face in retirement

*The people who have the most successful retirement plans are the ones who have an understanding of the financial risks they face. This article brings alive the four key risks with straightforward explanations and an easy to understand example.*

### *An easy to understand example*

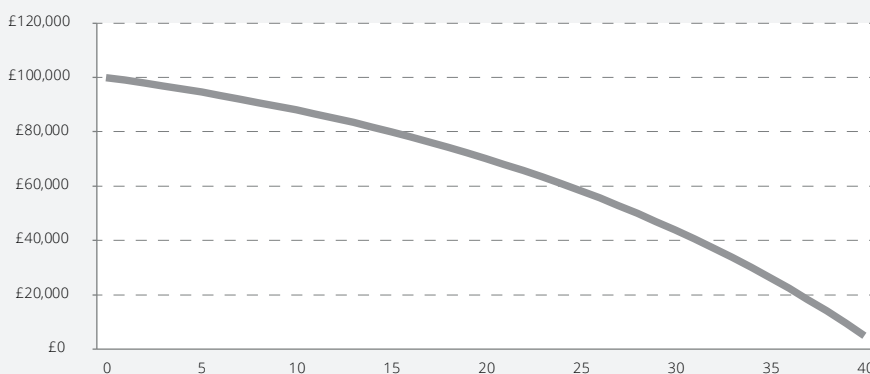
The example used throughout this article is an individual who:

- has £100,000,
- withdraws £5,000 at the end of every year
- achieves 4% per year growth on their pension after all charges.



If we take the example and draw the outcome, we can see that over time, the £100,000 will be eroded by the withdrawals and the fund will run out shortly after the 40th anniversary.

**Chart 1:** Longevity Risk



— 4% pa Average Return

Therefore the fund can run out. If you are still alive at this point, you face financial hardship because you can no longer rely on your pension. This is longevity risk.



## Sequence of return risk

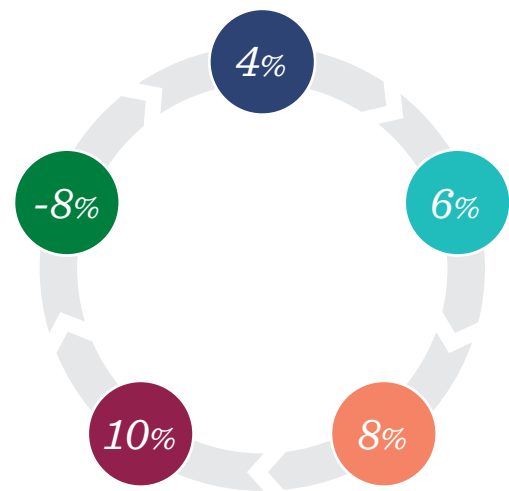
The investment markets do not go up every year by a fixed amount (i.e. 4% per year). They fluctuate over time. To show how the investment markets work, we need a basic sequence of returns.

This basic sequence of investment returns is over a five-year period. The average over that period is 4% per year. From this basic sequence, we can create five sequences of returns. Each one starts at a different point on the circle. You just chose the starting point for the sequence and then follow the numbers in a clockwise direction.

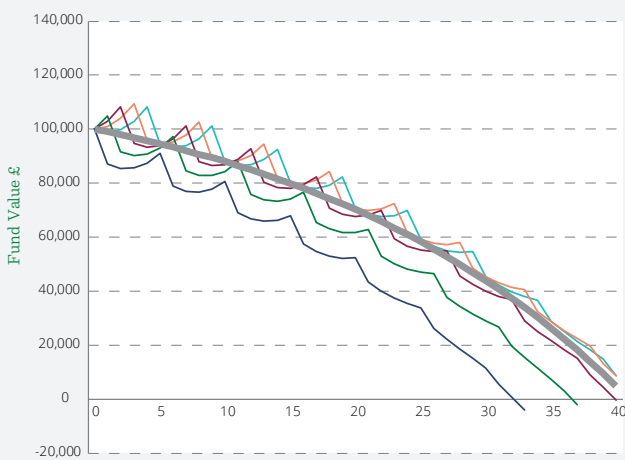
1. 4%, 6%, 8%, 10%, -8%
2. 6%, 8%, 10%, -8%, 4%
3. 8%, 10%, -8%, 4%, 6%
4. 10%, -8%, 4%, 6%, 8%
5. -8%, 4%, 6%, 8%, 10%

To create a sequence that is longer than 5 years, you just keep going clockwise around the circle and repeating the five-year cycle.

You can then use these sequences within your simple example and draw the outcome.



**Chart 2:** Sequence of Return Risk



- |  |  |
|--|--|
| <span style="color: cyan;">—</span> Sequence 1   | <span style="color: orange;">—</span> Sequence 2         |
| <span style="color: maroon;">—</span> Sequence 3 | <span style="color: green;">—</span> Sequence 4          |
| <span style="color: blue;">—</span> Sequence 5   | <span style="color: grey;">—</span> 4% pa Average Return |

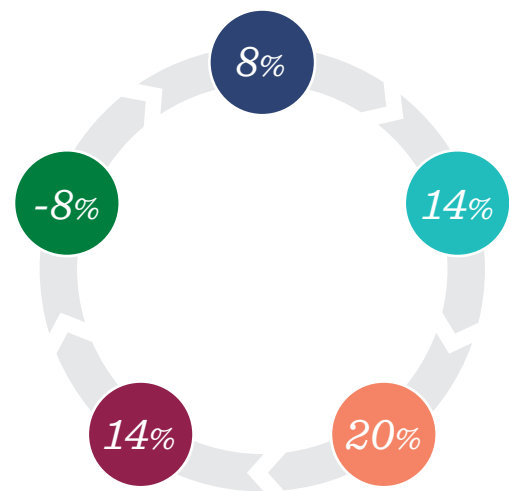
Here you can see that the sequences have different outcomes. Two of the sequences result in more money remaining after 40 years than the average 4% pa return we used for longevity risk. Three sequences result in money running out sooner. The worst-case scenario in this example is the pension fund runs out after 33 years. This is sequence of return risk. It is important to remember that no one can predict future investment performance and we have used 4% as an example only. The value of investments can fall as well as rise and you may not get back the amount invested.



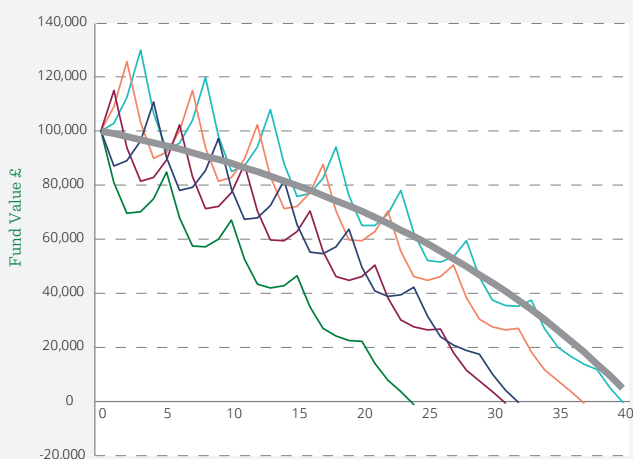
## Volatility risk

What happens if the investment returns go up and down by greater amounts (i.e. they are more volatile)? To demonstrate the concept of volatility risk we can take our basic sequence of returns and make them more volatile. This example keeps to the average over the five-year period as 4% per year.

Using the same method as before, you can use these sequences within the basic example and draw the outcome.



**Chart 3: The Impact of Volatility**



- Sequence 1
- Sequence 2
- Sequence 3
- Sequence 4
- Sequence 5
- 4% pa Average Return

Here you can see that volatility has a harmful impact. All the sequences result in money running out sooner than the 4% pa average return. The worst-case scenario is the pension fund runs out after 23 years. This is volatility risk. It is important to remember that no one can predict future investment performance and we have used 4% as an example only. The value of investments can fall as well as rise and you may not get back the amount invested.

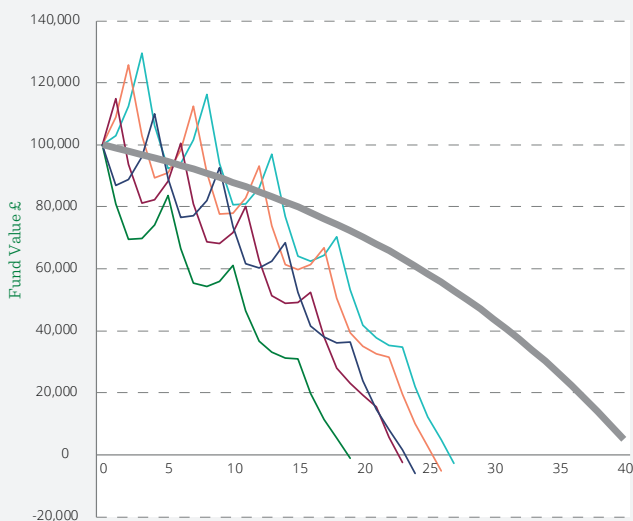


## Inflation Risk

In this example, we take the example used to show volatility risk and just increase the amount being taken each year by inflation. We do this to maintain the purchasing power of the withdrawals.

The example uses an inflation rate of 2% per year and the outcome is drawn below.

**Chart 4:** The Impact of Inflation



Sequence 1  
Sequence 2  
Sequence 3  
Sequence 4  
Sequence 5  
4% pa Average Return

This outcome is now showing you all four risks. You can see that their combined effect is very different to where we started with just longevity risk. The worst-case scenario in this example is the fund running out after 19 years. The best-case scenario is 27 years.

### What you should do next

Take the time to think about this basic example and the four risks. Our financial advice will assess your personal circumstances and help you put in place a plan that will manage these risks.

This article was inspired by the Sequencing of Returns paper written by Milvesky in 2006.

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