A guide to sustaining your retirement income

Will I run out of money?

Can I leave money for the grandkids?

How much can I spend?

SENECA Reid

www.senecareid.co.uk

© 2019 Timelineapp Tech Limited

timeline

All rights reserved. This material is reproduced under license by Timelineapp Tech Limited. No further changes can be made to this material without written permission.

The content is for educational and illustrative purposes only. Nothing in this document constitutes investment advice and must not be relied on as such. The value of investments and the income from them can go down as well as up. You may get back less than you invest. Past performance is not a guide to what might happen in the future. Transaction costs, taxes and inflation reduce investment returns.

REACHING
THE SUMMIT

It was the crowning moment of his career. On the 14th of July 1865, British mountaineer Ed Whymper stood on the peak of the Matterhorn, the first climber ever to have scaled the treacherous Alpine mountain.

He wrote 'At 1.40pm, the world was at our feet and the Matterhorn was conquered'.

Whymper and his men celebrated at the summit before beginning their descent. Sadly, their joy was short-lived. Although elated at having earned themselves a place in the history books, they were also suffering from extreme fatigue.

Retirement planning is akin to mountaineering in many ways. Accumulating your savings is the ascent and spending them is the descent. Financial planners are like mountain guides – financial Sherpas if you like.

As they clambered down, roped together, one of the men suddenly slipped. Within seconds, four of the climbers were sliding down a near-vertical slope. The rope tightened and their comrades perished.

He would have been better advised to eschew victory celebrations and instead focus his mind on the descent. For mountains as high as the Matterhorn often prove deadlier on the way down than on the way up.

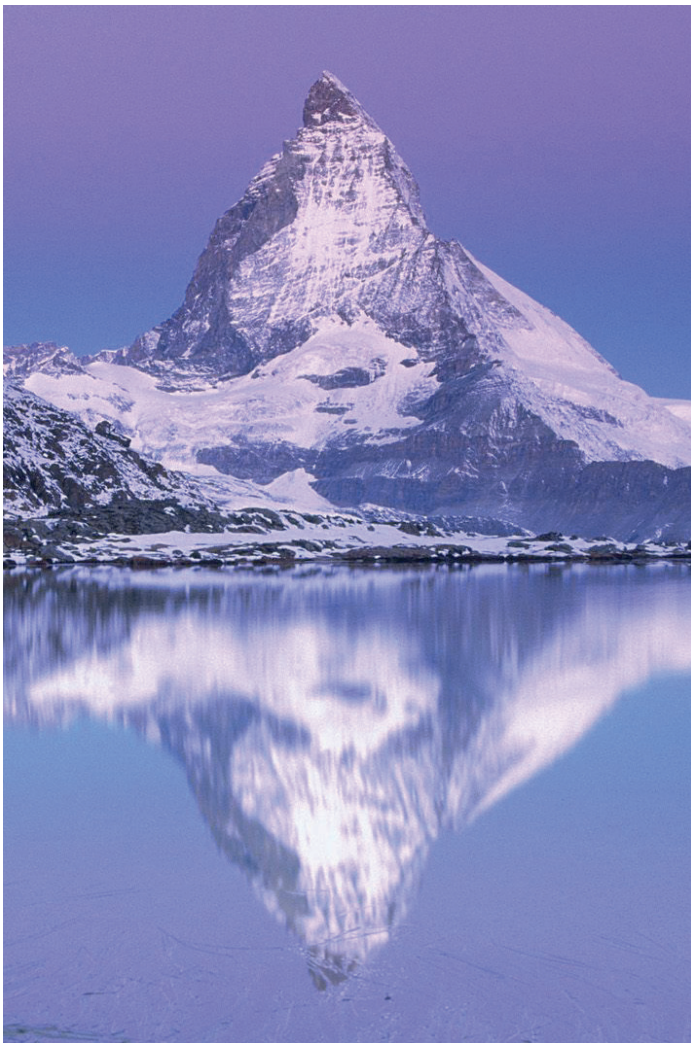
Any mountain guide worth their salt will tell you that the skills needed to reach the summit are quite different to those for getting back down. They'll help you understand the risks associated with both legs of the journey and do their best to help you avoid them.

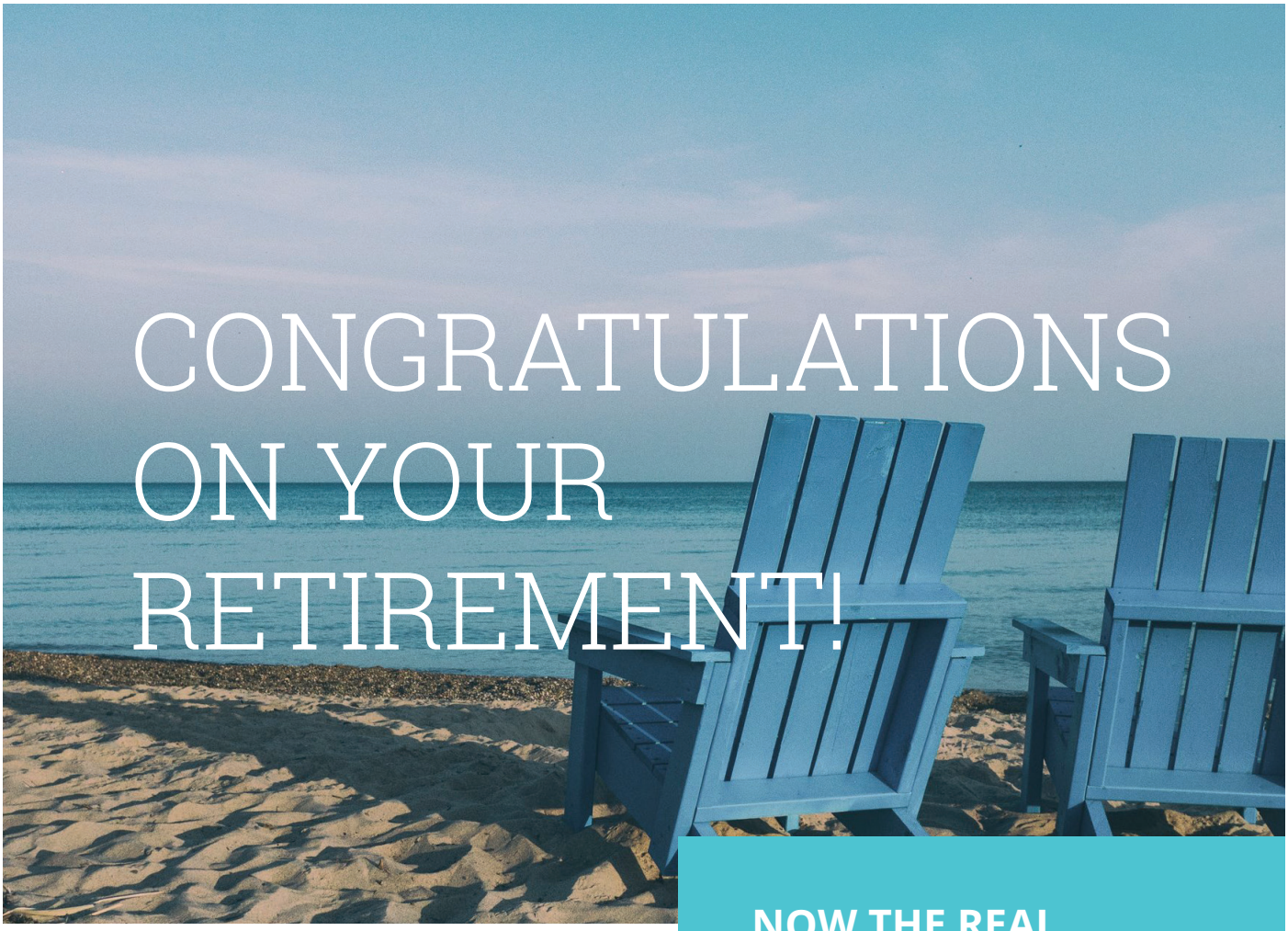
Take the earth's highest mountain, Mount Everest. Reaching its 8,848m summit is an achievement of epic proportions. But we don't often hear about the fatalities. There are no official records, but it's believed that around 280 climbers have died on Everest compared to around 4,000 climbers who've reached the summit.

Research in the British Medical Journal shows that most climbers who die on Mount Everest do so above 8000m, usually during the descent from the summit. According to mountain climbing expert Stewart Green, most deaths occur while descending the upper slope, after they've reached the summit. It's in the area above 8,000m called the 'Death Zone.' The high elevation and corresponding lack of oxygen coupled with extreme temperatures, weather and some dangerous ice falls, create a greater risk of death than on the ascent.

Reaching the summit of a mountain is an incredible achievement, but it's a halfway point. American mountaineer Ed Viesturs, who has climbed Mount Everest seven times, puts it rather succinctly, 'getting to the summit is optional; getting down is mandatory.' The summit is also the point of maximum risk.
Thankfully, most climbers avoid the dangers thanks to the Sherpas they hire to help carry gear, install ropes, and break tracks.

The same is true for successful retirement planning. We believe that everyone benefits from having a retirement Sherpa, a financial planner who applies robust and empirical evidence to retirement income planning.





CONGRATULATIONS ON YOUR RETIREMENT!

NOW THE REAL WORK BEGINS...

If you've recently retired or are just about to do so, congratulations! You've reached the peak of the mountain. You've worked very hard and saved carefully over the last few decades. However, it's only half the battle. Now, your challenge is to make sure that you don't run out of money.

Many factors contribute to a successful retirement; figuring what you're going to do with your time, keeping physically and mentally active, and managing your financial resources in a way that helps you achieve what matters to you.

This guide is dedicated to the financial aspect – specifically, how to make sure your retirement portfolio lasts for as long as you need.

This guide probably isn't for you if you've decided to buy an annuity, or if your retirement income is mainly from defined benefit and State pensions. These give you a guaranteed income for life.

However, if you're thinking about – or already – drawing income from a drawdown pot or any kind of investment, this guide is for you.

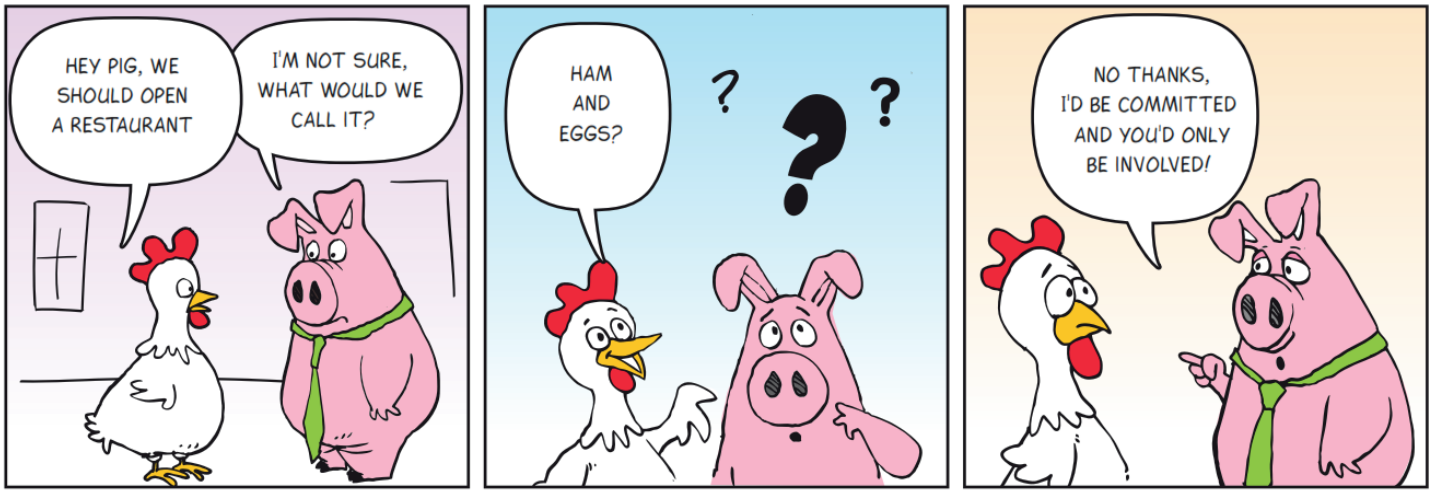
It'll help you understand the specific risks with this and how to make sure your money lasts a lifetime.

KEY RETIREMENT RISKS

FABLE

A Pig and a Chicken are walking down the road.

The Chicken says: 'Hey Pig, I was thinking we should open a restaurant!'
Pig replies: 'Hmm, maybe, what would we call it?'
The Chicken responds: 'How about 'ham-n-eggs'?'
The Pig thinks for a moment and says: 'No thanks. I'd be committed, but you'd only be involved.



This fable illustrates one of the key differences between the saving and spending phases.

The point is, in a breakfast of eggs and bacon, the pig has a lot more to lose than the chicken. Retirement is the stage when your pension pot transitions from a chicken into a pig. It becomes a lot more than just a number on a statement. You rely on it to pay your day-to-day bills, fund your lifestyle and enjoy your newly found freedom. When you're retired, you have more skin in the game so to speak.

Sadly, when it comes to retirement income planning, many people continue to think like chickens, when they should think more like pigs!

Here are some of the unique risks associated with retirement income planning. They sum up the differences between the saving and spending stages.

1

Diminished Earning Flexibility

Retirement happens at the tail end of your working life, long after earnings have peaked. Returning to work after retirement isn't a viable option for many. So, as we rely more on our financial assets, we want to take less risk with them.

2

Inflation Risk

A major challenge is how to prevent inflation – the thief that keeps on taking – from depleting the buying power of your income over what may be a 30-year retirement, or possibly longer. A yearly income of £1,000 in 1988 had the buying power of £476 by the end of 2018 – a reduction of over 50% over a 30-year period using the Consumer Price Index (CPI).



Real purchasing power of £1000 over 30 years

3

Decreasing Cognitive Abilities

As people get older, their ability to make a financial decision is impaired. It's estimated that financial capability declines at a rate of 1% to 2% each year from age 60. But, people still think they're just as capable as when they were younger. This is dubbed the overconfidence gap. It makes it challenging for people to manage a drawdown portfolio. It may even be challenging to give their adviser informed consent to manage it on their behalf.

4

Longevity Risk and Unknown Time Horizon

The fear of dying is high on the list of people's biggest fears. But actually, for retirees, the greatest fear should be of living too long! Indeed, research suggests that running out of money is a huge concern for many. Retirement income planning is particularly challenging because we're planning for a finite, but precisely unknown retirement period. Without the proverbial crystal ball, it's tricky to estimate how long we're likely to live.

5

Heightened Sequence Risk

Investment returns early in retirement can cause untold damage to your prospects of a decent income for life. Sequence risk is often confused with volatility, a traditional measure of investment risk. But it's a distinct and visible risk – particularly at the retirement income stage. We know that capital markets deliver good returns over the long term. But you'll most likely need income from your portfolio monthly or yearly. More on this in a moment.

All these risks are uniquely associated with retirement income planning and we should approach them in a scientific way.

It's all the more reason why is make sense to work with a financial adviser to help you.

PLAYING ALL THE RIGHT NOTES **BUT NOT IN THE RIGHT ORDER**

Rise of new markets

The most significant risk to maintaining a lifetime income from your portfolio is known as sequence risk.

Sequence risk is the risk that the order of investment returns is going to be unfavourable. Returns in the early period of your retirement have a disproportionate effect on the overall outcome, regardless of long-term returns over your entire retirement period. And it must be properly managed to avoid disaster.

This risk exists when you're saving too, but it's amplified when you take money out of your portfolio during retirement (or the spending stage).

Research shows that your investment return in the first ten years of retirement largely determines whether you're likely to run out of money over a typical 30-year period.

If you get good returns in the early part of retirement, you're unlikely to run out of money. If you get poor or even mediocre returns in the early part of retirement, you may have a problem.

IT'S NOT VOLATILITY, **STUPID!**

It is important to understand that, sequence risk is NOT the same as portfolio volatility. The two are often confused, even by financial professionals. Volatility is the day-to-day movement in your portfolio. It's measured using standard deviation – the amount your portfolio return deviates from the average over any given time period. Sequence risk on the other hand relates to the order of portfolio returns.

Sequence risk is the number one investment risk to manage in your retirement. Not volatility.

Many people try to avoid investment volatility when they're taking income from their portfolio. But, controlling volatility doesn't necessarily control sequence risk. This is because sequence risk is exacerbated by withdrawals from a portfolio, not by volatility.



The easiest way to think of sequence risk is to think of the words of the legendary Eric Morecambe, 'I'm playing all the right notes, but not necessarily in the right order.'

SOLVING THE 'NASTIEST, HARDEST PROBLEM IN FINANCE'

THE KEY QUESTION YOU NEED TO CONFRONT IS, 'HOW MUCH CAN I WITHDRAW FROM MY PORTFOLIO, TO AVOID THE RISK OF RUNNING OUT?'

This is what Nobel Prize winner William Sharpe calls the single 'nastiest, hardest problem in finance.[4] Sharpe should know – he's an 84-year-old retired professor of finance from Stanford University, Nobel Prize winner and has an investment metric (the Sharpe Ratio) named after him.

Don't be tempted to confront this question by using one of the commonly available retirement calculators though. These are mostly based on cashflow projections. Expert Dr William Bernstein calls any tool like this a 'retirement calculator from hell'. He notes that 'these calculators all make the same erroneous assumption – that your expected rate of return is the same each and every year.[5] The real world doesn't work that way.'

To address this problem, Bill Bengen, an aeronautical engineer turned financial adviser, proposed using extensive historical data to explore how well a withdrawal approach might fare under a wide range of market conditions.

Bengen's idea is very simple; consider how your withdrawal would have fared in good times and bad times. Then, choose a conservative approach that survived most or all situations over the last 100 years or so. You'll still have to adjust along the way, but you can be confident that market conditions would have to be worse than any we've seen in the past to be a problem.

Bill Bengen established this key framework to manage sequence risk back in 1994. He developed a Sustainable Withdrawal Rate (SWR). This rate is a percentage of the initial withdrawal. Ongoing amounts are then adjusted for inflation. This SWR was capable of surviving any 30-year period in last 100 years.

Using US historical data, Bengen established what is now known as the 4% rule. In other words, an initial withdrawal of $40,000 from a $1,000,000 portfolio invested in 50% US Equities and 50% US Intermediate Bonds would have lasted 30 years, in the very worst-case scenarios.

The most important point to remember is the withdrawal percentage is based only on the portfolio value in the first year of retirement. So, for instance, a withdrawal rate of 4% from a £1,000,000 portfolio gives an income of £40,000 in the first year. This £40,000 a year then increases or decreases in line with inflation each year, regardless of the ongoing portfolio value.

BENGEN'S FOCUS ON THE WORST-CASE SCENARIOS IS IMPORTANT.

It creates a high level of confidence that a plan will succeed. Of course, no one really knows what the future holds, but it's reasonable to suggest that a withdrawal plan that survived WWI, WW2, The Great Depression and many other severe market conditions, is likely to be successful.

However, we shouldn't necessarily consider just the absolute historical worst-case scenario for a SWR. We can also bring in the concept of probability of success (PoS, or success rate) or the probability of failure (PoF or failure rate). The success rate gives us the percentage of times that a given withdrawal approach has lasted the full retirement period.

Defining one's retirement strategy in terms of probability of success or failure may seem odd at first. But it just acknowledges that there's always a risk associated with any retirement plan. There are no absolute guarantees here!

The concept of probability is used in many other fields, including medicine – particularly surgery, where lives may be at risk. Compare this with retirement, where one's money (and lifestyle) is at risk. Arguably, if it's good enough for medicine, it's good enough for retirement planning. Success rate simply tells us the chances that we may run into market conditions that would force us to adjust withdrawals in the future, if we want to avoid running out of money.

Many experts believe that working to an overall probability of success of 80%-90% or more is reasonable in retirement income planning. This means that there's a 10%-20% chance you'll have to make an unplanned adjustment to your withdrawal plan if you experience poor returns early in retirement.



'I know of no way of judging the future but by the past' –
Patrick Henry

WHAT DOES THIS
MEAN FOR ME?

DON'T RELY BLINDLY ON THE 4% RULE! EVERYONE NEEDS THEIR OWN PERSONALISED SUSTAINABLE WITHDRAWAL STRATEGY.

While Bengen's idea is very useful, it's important to stress that the 4% rule itself does NOT apply to everyone for the following reasons:

- Your portfolio is likely to be different to the one Bengen used. The mix between equity, bonds and other mainstream asset classes makes a difference to the sustainability of the withdrawal
- You may have longer or shorter time scales than the 30 years used in Bengen's research
- You have to account for the investment fees and taxes you'll pay
- Typical spending in retirement isn't static in real terms

RULES-BASED WITHDRAWAL STRATEGIES

LEARN

Since Bengen's original work, other researchers have added to the body of knowledge and developed other sustainable withdrawal strategies.

These are called rule-based strategies; they have a higher withdrawal rate but use safeguards (rules) to stop you running out of money. Typically, people will adjust their spending gradually downwards if they face poor returns early in retirement. Some of the more popular strategies include:



Fixed Withdrawal With No Inflation Adjustment

This approach assumes that you don't adjust your withdrawals for inflation at all during your retirement. So, your income declines in real terms over time.



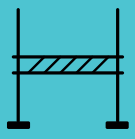
Guyton Inflation Adjustment

This approach recommends adjusting your withdrawals for inflation each year except after a negative portfolio return.



Cap & Collar

Under this approach, you set an upper (cap) and lower (collar) inflation limit. You adjust your withdrawals each year for inflation on this basis.



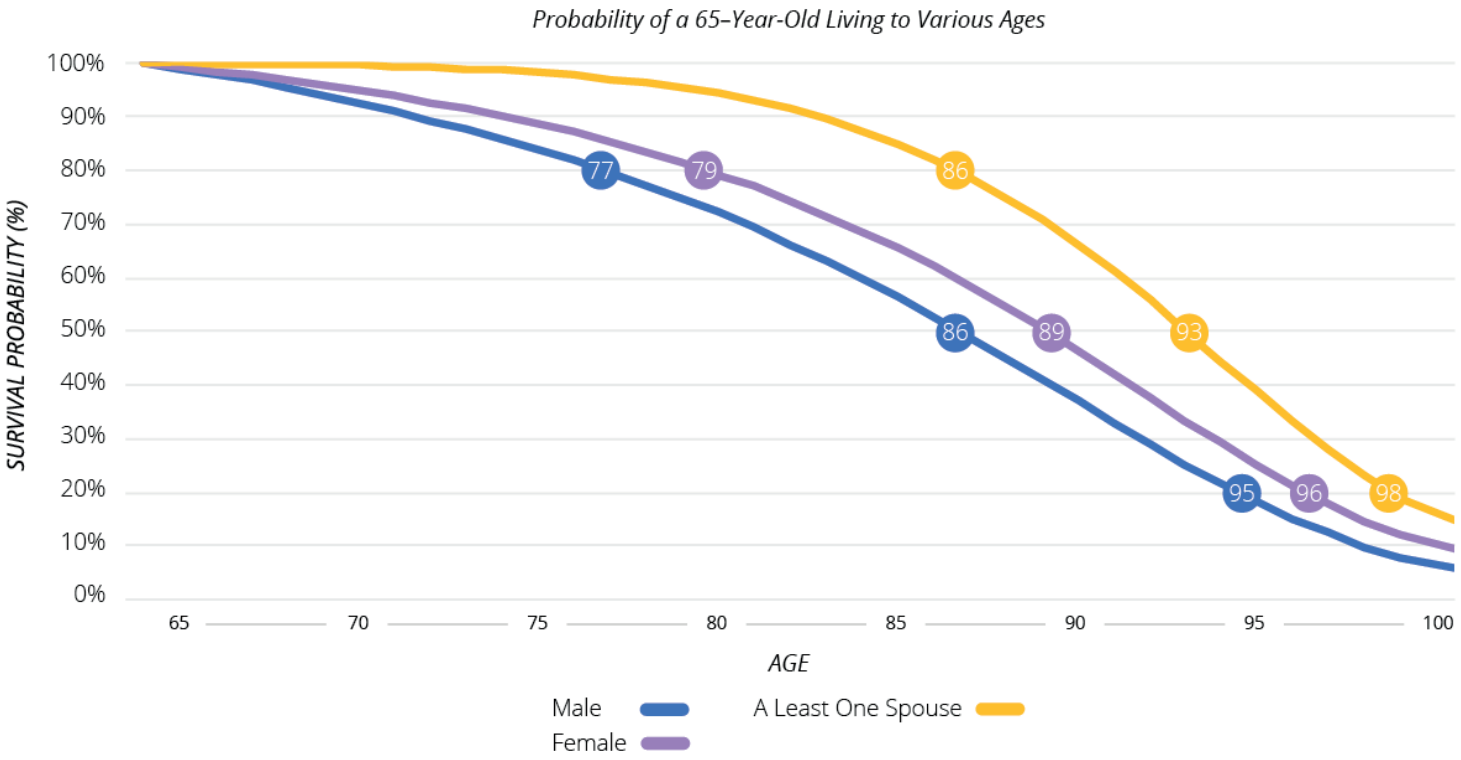
Guardrails

You can reduce or increase what you spend based on a predefined percentage of your initial withdrawal rate.

As you can see, these rules can be complex to define and understand! Each of these has its pros and cons. A good financial adviser can help you work out the best approach for you.

MANAGING LONGEVITY RISK

FIG 3: SURVIVAL PROBABILITY FOR A 65-YEAR OLD MALE, FEMALE OR COUPLE



A major challenge to working out whether you'll run out of money is understanding how long you'll live (longevity).

In retirement planning, it's best to think of it in terms of survival probability gives us an idea of the chances you'll live to a certain age.

The ONS cohort data in the chart above shows the survival probability for a 65-year-old male and female. There's an 11% chance a 65-year-old male will celebrate their 100th birthday, and that rises to 15% for a female of the same age. For a couple of the same age, the probability that at least one of them will live to age 100 is a whopping 24%!

Ideally, a withdrawal plan should go right through to the tail end, where an individual or a couple only has a 10% to 20% probability of surviving. The goal isn't to precisely predict how long you may live. The goal is to address the risk that you outlive your wealth.

WHAT'S YOUR SUSTAINABLE WITHDRAWAL STRATEGY?

A sustainable withdrawal strategy is your plan for NOT running out of money in retirement.

This plan is unique to each individual or couple. There's no one-size-fits-all solution when it comes to spending your nest egg. You need a highly personalised approach tailored to reflect your goals and circumstances.

Managing withdrawals is a delicate balancing act, thanks to the complex and nuanced nature of mitigating sequence and longevity risk. There's a myriad of decisions to make including:



Your Withdrawal Strategy

This should include guidelines on likely future changes and how to deal with one-off lump sum withdrawals over and above normal income needs.



Portfolio Management Strategy

This should include asset allocation, re-balancing, what proportion of portfolio (if any) to hold as a cash buffer, what order you'll sell from asset classes and tax wrappers.



Your Longevity

This is an estimate of how long you're likely to live.



Success Rate

This tells us the chances that we may run into market conditions that would force us to adjust withdrawals in the future, if we want to avoid running out of money.



Any Legacy You Want to Leave



Your Fees and Taxes

These are just some of the things to consider and you'd be forgiven for wondering where to start!

Thanks to technology, your adviser can use extensive historical data to model and illustrate how these decisions could impact the amount you can take from your portfolio in the best and worst of market conditions.



THE WITHDRAWAL POLICY STATEMENT

THE COMPLEXITY OF THE DECISIONS MEANS THAT MANY PEOPLE -

and financial advisers – find it useful to agree and document how they'll make these decisions through retirement. This is known as a withdrawal policy statement (WPS). It's a set of guiding principles around how to manage retirement portfolio withdrawals in line with your income objectives.

Financial planner Jonathan Guyton, one of the early proponents of the WPS, notes that 'a withdrawal policy statement specifies the goals, policies, and parameters that the client and adviser agree to adopt to guide future decision-making regarding the use of the client's financial capital to help fund their lifestyle during their retirement years.'

The policy should be broad enough to encompass unexpected events as they happen and specific enough, so your adviser is rarely in doubt about the action to take when things change.

Of course, it's possible to implement a withdrawal strategy without a WPS. But because many of the strategies can have a direct impact on your lifestyle, having something you've agreed up-front with your adviser can make the process easier to manage.

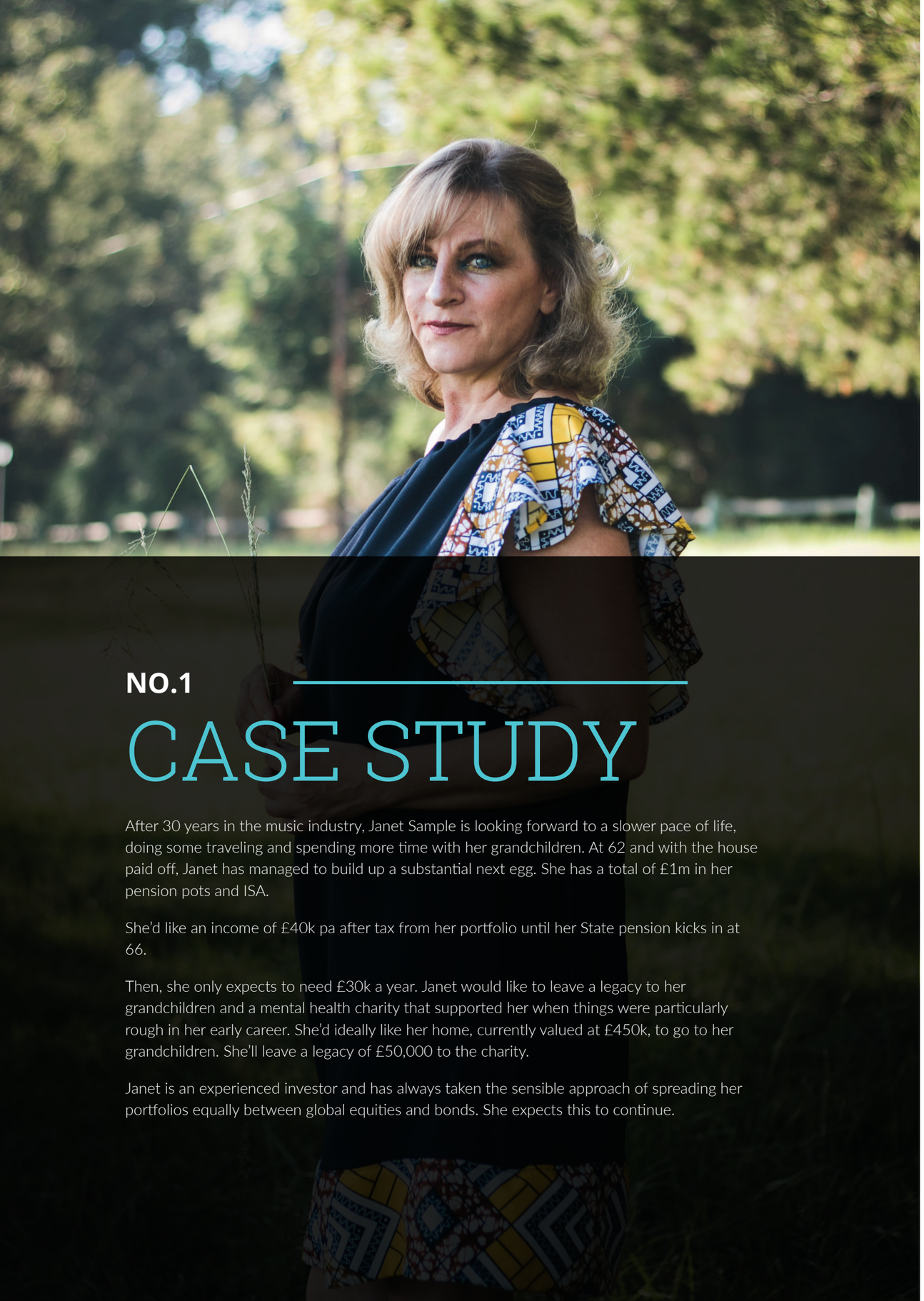
It's impossible for anyone – including a financial adviser – to anticipate every possible market condition. But, a WPS provides an anchor point for you both when things are changing rapidly

Here are the essential components of a good withdrawal policy statement:

- Goal(s) including the income and legacy requirements, and the assets to which the WPS applies
- The withdrawal strategy, including how to decide the withdrawal amount in subsequent years, as well as the triggers and size of adjustments
- The probability of success
- You'll find an example of a WPS in the Appendix

To bring this all to life, here are two case studies that show how a financial adviser can help clients make sure they don't run out of money.

In these scenarios, the adviser has used technology to model different scenarios with their client and they have a good WPS in place.



NO.1

CASE STUDY

After 30 years in the music industry, Janet Sample is looking forward to a slower pace of life, doing some traveling and spending more time with her grandchildren. At 62 and with the house paid off, Janet has managed to build up a substantial next egg. She has a total of £1m in her pension pots and ISA.

She'd like an income of £40k pa after tax from her portfolio until her State pension kicks in at 66.

Then, she only expects to need £30k a year. Janet would like to leave a legacy to her grandchildren and a mental health charity that supported her when things were particularly rough in her early career. She'd ideally like her home, currently valued at £450k, to go to her grandchildren. She'll leave a legacy of £50,000 to the charity.

Janet is an experienced investor and has always taken the sensible approach of spreading her portfolios equally between global equities and bonds. She expects this to continue.

THE OUTCOME

After a detailed analysis, her financial adviser suggested some changes to improve her income sustainability.

- Janet's withdrawals are to increase in line with inflation less 1%. This means that her income will rise but at a slower pace than inflation. There is extensive research to suggest the people tend to spend progressively less as they get older.
- A portfolio mix with 60% allocation to equities, instead of the current allocation of 50%. The rest is allocated to global bonds.

This plan significantly increased the chances of meeting Janet's income goal to 89%. This means that, with small adjustments along the way, Janet's portfolio will last until she's 95. Even taking into account some of the severe market conditions. However, she might have to leave less money for her favourite charity in some of the worst scenarios. Of course, if market conditions more favourable, then she'll achieve this goal.

Here's a snapshot of the analysis and Janet's WPS.

timeline

Withdrawal Policy Statement

Janet Sample
62 y.o.

Total Portfolio

£1,000,000
as at Apr 9th, 2019

Required Income

From age 62 to 65: **£40,000**
From age 66 onwards: **£30,000**

Fees

Pension - 1.50% each year
ISA - 1.50% each year

Snapshot

I've done some thorough analysis to test your plan in a wide range of scenarios. I've summarised the results below.

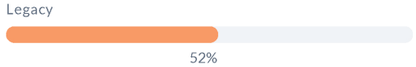
Success Rate



89%

Your plan is likely to stay on track in 89 out of every 100 scenarios. We may need to tweak the plan to achieve your objectives.

Legacy



£26.1k

When you're aged 95, you could have £26.1k left in your portfolio. That's £23.9k less than your planned legacy of £50k. You could end up with a higher amount in 9 out of 10 scenarios

Longevity



95 years old

You expect to live to age 95. This portfolio could last until you're 95. This is in the 10th percentile scenario

Lifetime Income



£933.1k

You need a total lifetime income of £1.03m. By age 95, the total you've taken (adjusted for inflation) is £96.9k less than you need in the 10th percentile scenario

Note: We don't know what the future holds, so I've analysed extensive historical data that reflects asset class behaviour and inflation. Past performance is no guarantee of future returns, but it gives some insight into how your plan could fare in a wide range of market conditions.



NO.2

CASE STUDY

The Miggins have just sold their business and their home in Essex. They've decided to retire to Cornwall. They've both recently turned 66, so they've started to draw their State pension. After buying a new retirement home, they expect to have £600k left in their pension pots. They need an income of £30,000 after tax, as well as their State Pension.

The Miggins are comfortable with equity risk and are prepared to hold as much as 70% of their portfolio in equities and the rest in bonds.

The Miggins recognise that flexibility with their income is the price they'll have to pay for the high level of withdrawals they want to make. Accordingly, they're quite happy to fall back on their property if they need to. They're not particularly keen on leaving wealth to their relatives; they've spent much of their lives supporting their children, so now it's time to enjoy their own lives.

THE OUTCOME

After a detailed analysis, their financial adviser suggested some significant changes to their withdrawal plan.

- The withdrawal of £30,000 after tax isn't sustainable. The Miggins will be able to spend £24,000pa after tax and fees as long as they accept they'll have to make some changes to their spending if market conditions demand it. These changes will be guided by the following rules:
  - Their withdrawal will be adjusted every 3 years as follows:
    - If their withdrawal rate goes above 7% within the first 15 years of retirement, they reduce their spending by 5%
    - If their withdrawal rate drops below 3% within the first 15 years of retirement, they can increase their spending rate by 10%

This plan significantly reduces their risk of running out of money. The analysis shows that even under severe market conditions, the risk of running out of money before Mrs Miggins's 99th birthday is minimal. However, there's a price to pay - their spending would have to be reduced in the event of severe market conditions in the early stage of their retirement.

Here's a snapshot of the results of the analysis and their WPS.

timeline

Withdrawal Policy Statement

Jo Miggins
66 y.o.

Jake Miggins
66 y.o.

Total Portfolio

£600,000
as at Apr 9th, 2019

Required Income

From age 66 onwards: **£24,000**

Fees

Pension - 1.50% each year

Snapshot

I've done some thorough analysis to test your plan in a wide range of scenarios. I've summarised the results below.

Success Rate

93%

Your plan is likely to stay on track in 93 out of every 100 scenarios. We may need to tweak the plan to achieve your objectives.

Legacy

Legacy
0%

£0

When you're aged 99, you could have £0 left in your portfolio. That's £1 less than your planned legacy of £1. You could end up with a higher amount in 10 out of 10 scenarios

Longevity

99 years old

You and your spouse expect to live to age 99. This portfolio could last until Jake Miggins is 99. This is in the 10th percentile scenario

Lifetime Income

£668.8k

You need a total lifetime income of £792k. By age 99, the total you've taken (adjusted for inflation) is £123.2k less than you need in the 10th percentile scenario

Note: We don't know what the future holds, so I've analysed extensive historical data that reflects asset class behaviour and inflation. Past performance is no guarantee of future returns, but it gives some insight into how your plan could fare in a wide range of market conditions.

THE POWER OF ONE-DEGREE COURSE CORRECTION

TAKE FLIGHT

IN 1979 A PASSENGER JET WITH 257 PEOPLE ON BOARD LEFT NEW ZEALAND FOR A SIGHTSEEING FLIGHT TO ANTARCTICA AND BACK.

Unknown to the pilots, someone had modified the flight coordinates by a mere two degrees. This error placed the aircraft 28 miles (45km) to the east of where the pilots assumed, they were. As they approached Antarctica, the pilots descended to a lower altitude to give passengers a better look at the landscape.

Although both were experienced pilots, neither had made this particular flight before, and they had no way of knowing that the incorrect coordinates had placed them directly in the path of Mount Erebus, an active volcano that rises from the frozen landscape to a height of more than 12,000 feet (3,700 m).

As the pilots flew onward, the white of the snow and ice covering the volcano blended with the white of the clouds above, making it appear as though they were flying over flat ground. By the time the instruments sounded the warning that the ground was rising fast towards them, it was too late. The airplane crashed into the side of the volcano, killing everyone on board.

It was a tragedy caused by a minor error—a matter of only a few degrees.

Experts in air navigation have a rule of thumb known as the one-in-60 rule. It states that for every one degree a plane veers off its course, you'll miss your target by one mile for every 60 miles you fly. And more importantly, the further you travel, the further you are from your destination. If you veer off course by one degree, flying around the equator will land you almost 500 miles off target!

The point here is that managing a withdrawal strategy in drawdown isn't a set-and-forget approach.

The flexible withdrawal strategies illustrate exactly this point, despite what some people incorrectly believe.

To enjoy a fulfilling retirement, confident that you won't run out of money, it's crucial to review your plan regularly with your financial adviser and make course corrections where necessary.

REFERENCES

i. Based on the account of Giles Milton (2016): When Churchill Slaughtered Sheep and Stalin Robbed a Bank: History's Unknown Chapters

ii. Firth P G et all (2008) Mortality on Mount Everest, 1921-2006: BMJ 2008; 337 doi: http://dx.doi.org/10.1136/bmj.a2654 (Published 11 December 2008) :BMJ 2008;337:a2654

iii. Finke M, Howe J and Huston S (2011) Old Age and the Decline in Financial Literacy, Social Science Research Network, Available at SSRN: http://ssrn.com/abstract=1948627

iv. 'Tackling the 'Nastiest, Hardest Problem in Finance' By Barry Ritholtz June 2017, https://www.bloomberg.com/opinion/articles/2017-06-05/tackling-the-nastiest-hardest-problem-in-finance

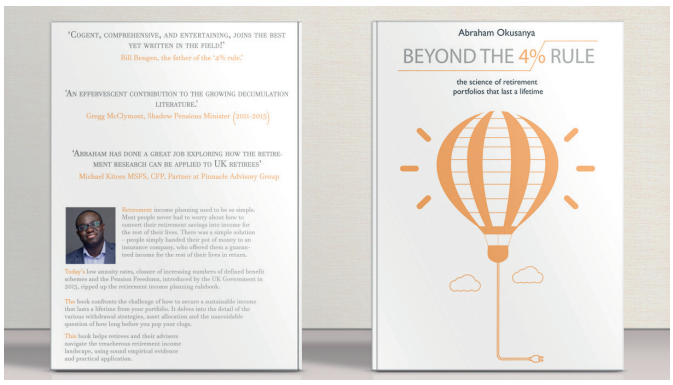
v. The Retirement Calculator from Hell http://www.efficientfrontier.com/ef/998/hell.htm

RECOMMENDED READING

BEYOND THE 4% RULE: THE SCIENCE OF RETIREMENT PORTFOLIOS THAT LAST A LIFETIME

Abraham Okusanya

This is primarily for financial advisers. However, if you're interested in exploring the science behind retirement income planning in more detail – and don't mind if it gets a bit technical – this a must-read book.



APPENDIX
SAMPLE WITHDRAWAL POLICY STATEMENT

timeline

Withdrawal Policy Statement



Janet Sample
62 y.o.

Total Portfolio

£1,000,000

as at Apr 9th, 2019

Required Income

From age 62 to 65: **£40,000**

From age 66 onwards: **£30,000**

Fees

Pension - 1.50% each year

ISA - 1.50% each year

Snapshot

I've done some thorough analysis to test your plan in a wide range of scenarios. I've summarised the results below.

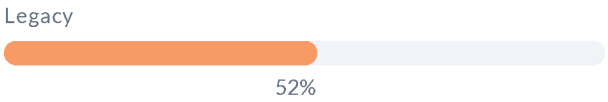
Success Rate



89%

Your plan is likely to stay on track in 89 out of every 100 scenarios. We may need to tweak the plan to achieve your objectives.

Legacy



£26.1k

When you're aged 95, you could have £26.1k left in your portfolio. That's £23.9k less than your planned legacy of £50k. You could end up with a higher amount in 9 out of 10 scenarios

Longevity



95 years old

You expect to live to age 95. This portfolio could last until you're 95. This is in the 10th percentile scenario

Lifetime Income



£933.1k

You need a total lifetime income of £1.03m. By age 95, the total you've taken (adjusted for inflation) is £96.9k less than you need in the 10th percentile scenario

Note: We don't know what the future holds, so I've analysed extensive historical data that reflects asset class behaviour and inflation. Past performance is no guarantee of future returns, but it gives some insight into how your plan could fare in a wide range of market conditions.

Withdrawal Strategy

Account Name	Value	Assumed Account Tax	Assumed Income Tax *	Fees
Pension	£500,000	0%	20%	**Variable:** 1.5% yr. * **Fixed:** £0 yr.
ISA	£500,000	0%	0%	**Variable:** 1.5% yr. * **Fixed:** £0 yr.

* Variable fees are a percentage of the total balance. They are deducted at the end of each month.

* Income Tax is paid on withdrawal

Withdrawal needed	Your income each year, after tax will be: From age 62 to 65: **£40,000** From age 66 onwards: **£30,000**
Legacy Goal	£50,000
Inflation adjustment	We adjust your withdrawals for inflation each year, in line with CPI minus 1.0%.
Ongoing withdrawal adjustment	The withdrawals are only adjusted for inflation.

Confirmation that you understand and agree

I acknowledge that I have read and understood this Withdrawal Policy Statement. Specifically, I realise that there may be times that I will be advised to freeze or reduce the amount I withdraw and that there is a risk the portfolio could run out of money. The aim is to maintain my portfolio's long-term sustainability.

NAME

SIGNATURE

DATE

Investment Strategy

Pension

Asset Allocation

Global Equities	60%
Global Aggregate Bonds	30%
Cash (UK T. Bills)	5%
Global Short-Dated Bond (< 5yrs)	5%

Rebalance Rule

We'll rebalance your portfolio every year.

Withdrawal Order

We sell assets evenly based on the portfolio allocation.

ISA

Asset Allocation

Global Equities	60%
Global Aggregate Bonds	40%

Rebalance Rule

We'll rebalance your portfolio every year.

Withdrawal Order

We sell assets evenly based on the portfolio allocation.

Guiding Principles

We agreed that the best way to create a retirement investing plan is:

1. Identify your goal
2. Create a plan to achieve the goal
3. Create a portfolio

The objective of the portfolio is to execute the plan.

- Our overall philosophy of investment advice is goal-focused and planning-driven. This is different to a market-focused and current-events-driven approach.
- We never forecast the economy, attempt to time the markets, or predict which market sectors will 'outperform' others over the next block of time. We're financial planners not fortune-tellers.
- Our essential principles of portfolio management are as follows:

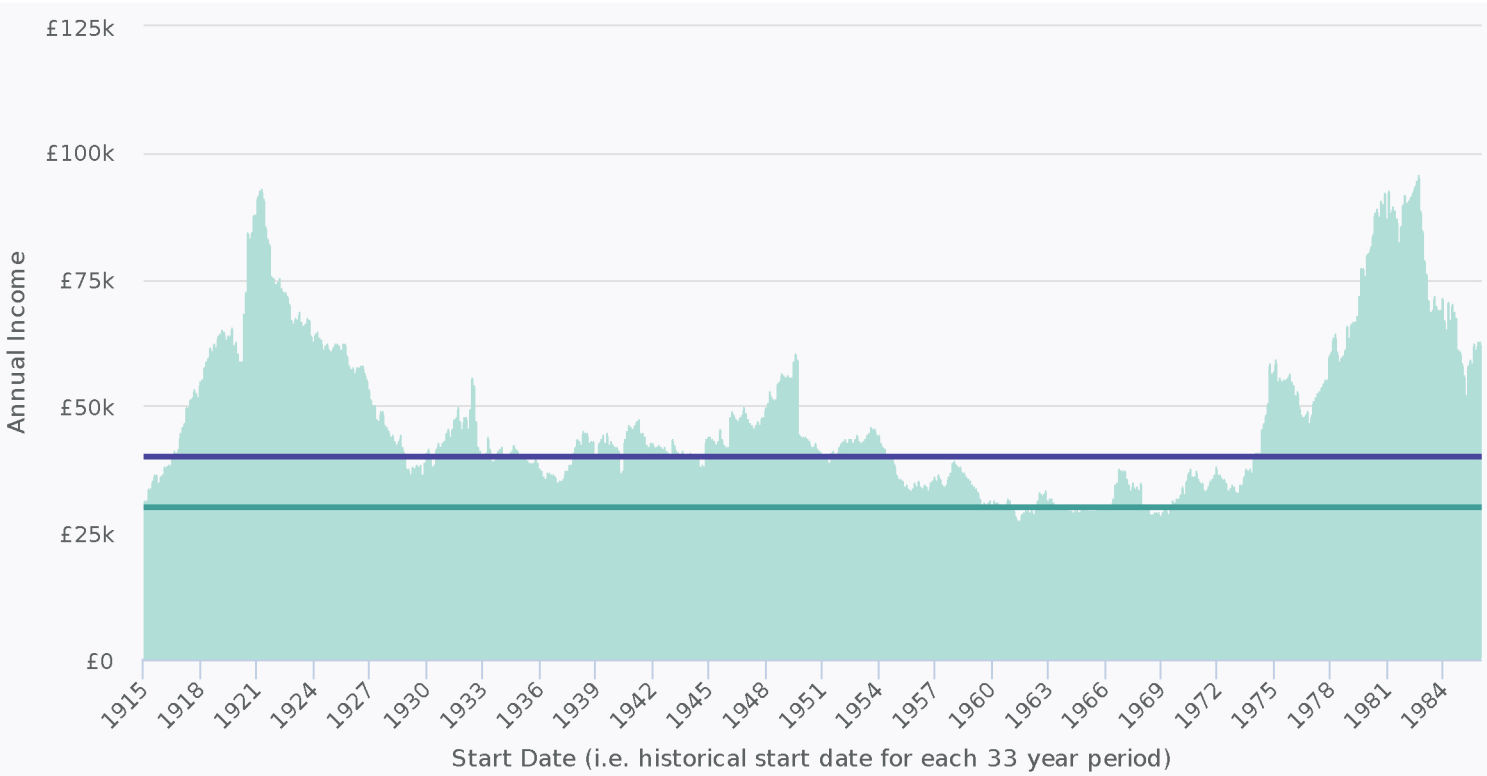
    1. The performance of a portfolio relative to a benchmark is largely irrelevant to long-term financial success
    2. The only benchmark we should follow is whether you're on track to achieve your financial goals
    3. We measure risk as the probability that you won't achieve your goals
    4. The investing objective is to minimise that risk

We've agreed to review our overall investment and withdrawal strategy regularly. However, as long as your goals don't change in the interim, we don't expect to materially change your portfolio.

Sustainable Withdrawal Illustration

The figure below is the historical maximum sustainable income. This is the highest amount of income you could have taken without running out of money within 33 years of each start date.

We don't know what the future holds, so we use a wide range of historical market conditions to help us decide a withdrawal approach for you that has a high probability of success.



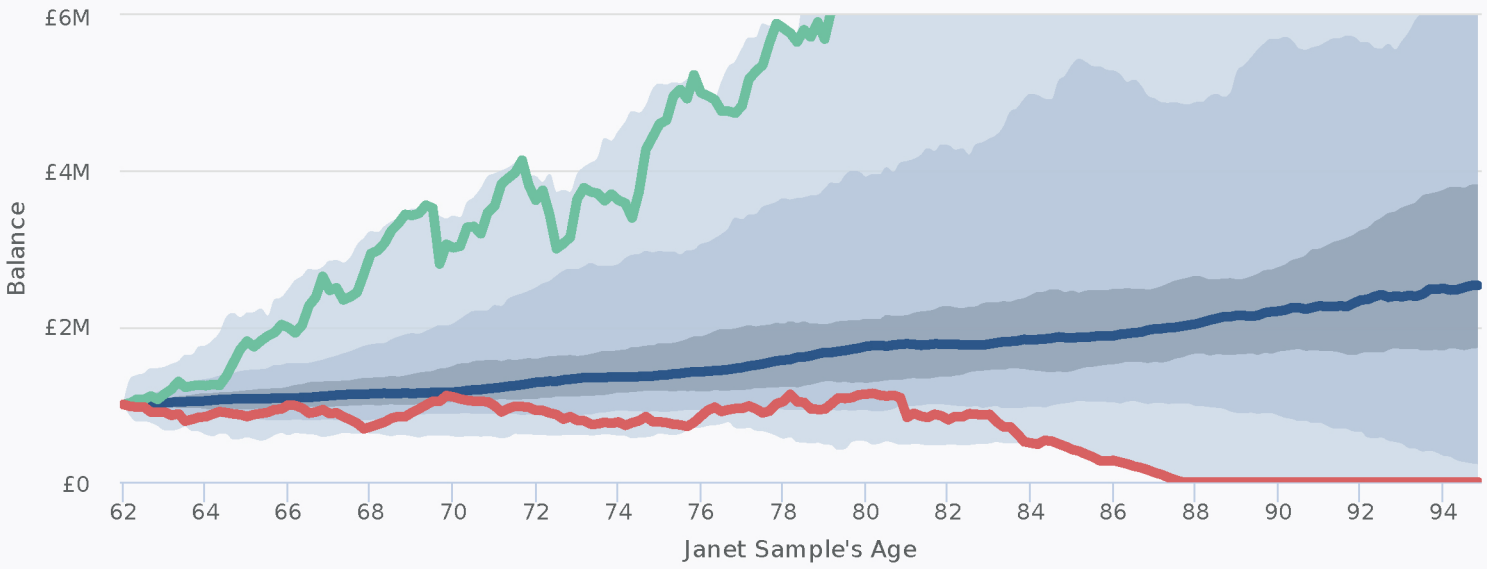
- **Required Income:** The income you want to take from your portfolio.
- **Maximum Sustainable Withdrawal:** This is the highest amount of income you could have taken without running out of money within 33 years, based on the historical scenarios.

Balance Illustration

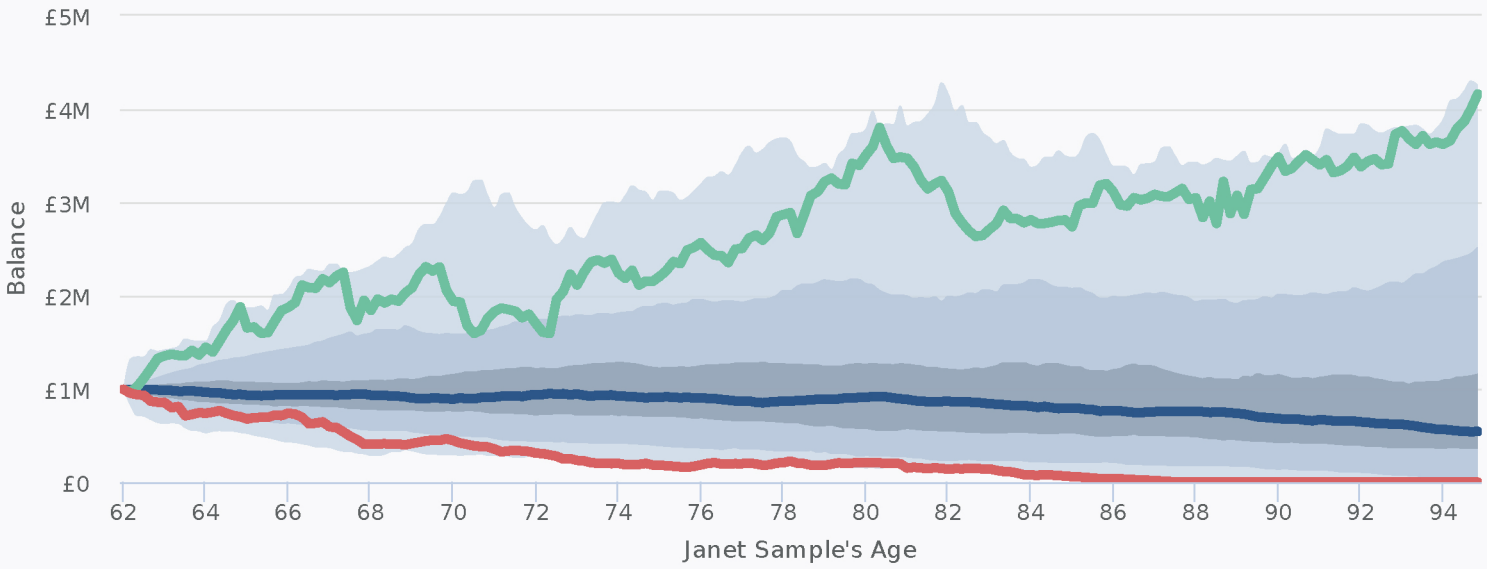
Here are two views of the portfolio balance under various historical market scenarios. The real balance has been adjusted to take account of inflation. The nominal balance hasn't.

Some market conditions are better than others. Ideally, your plan should be able to survive severe market conditions. We don't know what the future holds, you may need to make changes to your plan along the way

Nominal



Real



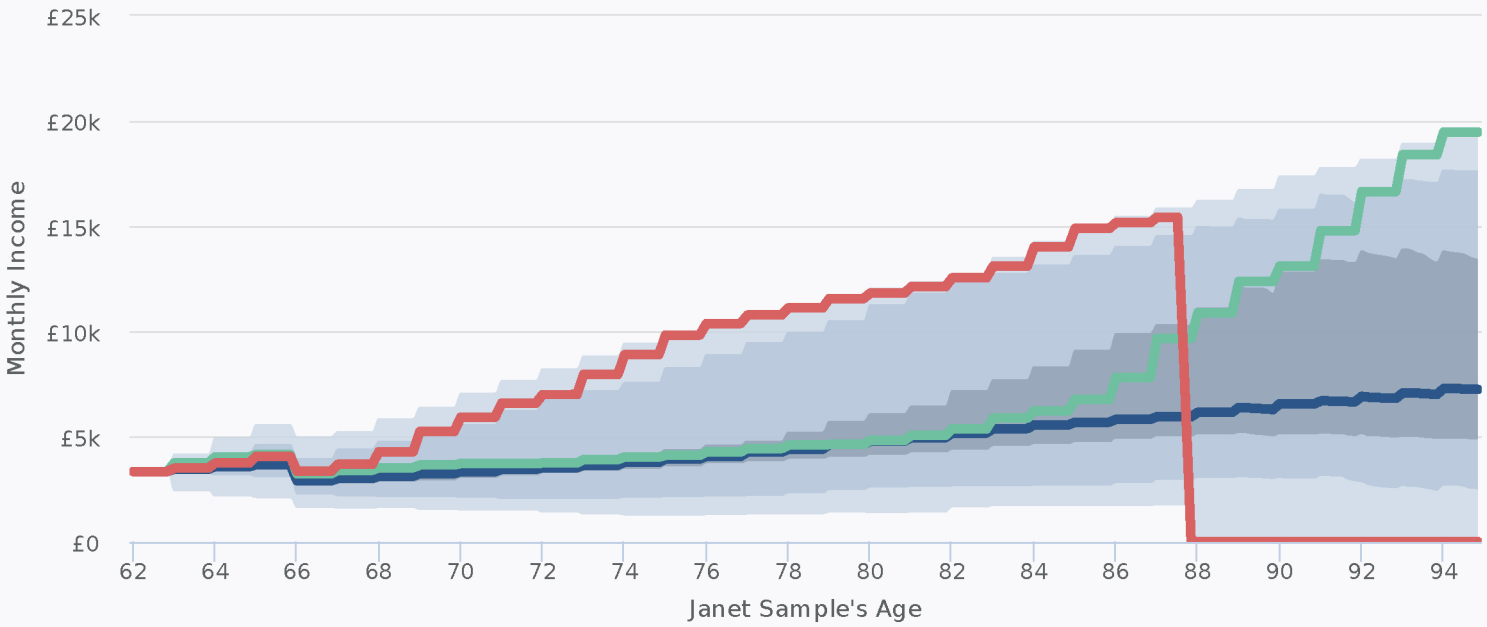
- **Median:** This is the 50th percentile or median scenario, with relatively modest inflation and good sequence of return.
- **Best:** This is the best scenario.
- **Worst:** This is the worst scenario
- **Likely:** This range of outcomes represent the 30th to 70th percentile scenarios.
- **Less Likely:** This range of outcomes represent the 70th to 90th percentile scenarios and 10th to 30th percentile scenarios.
- **Rare:** This range of outcomes represent the 90th to 100th percentile scenarios and 1st to 10th percentile scenarios.

Income Illustration

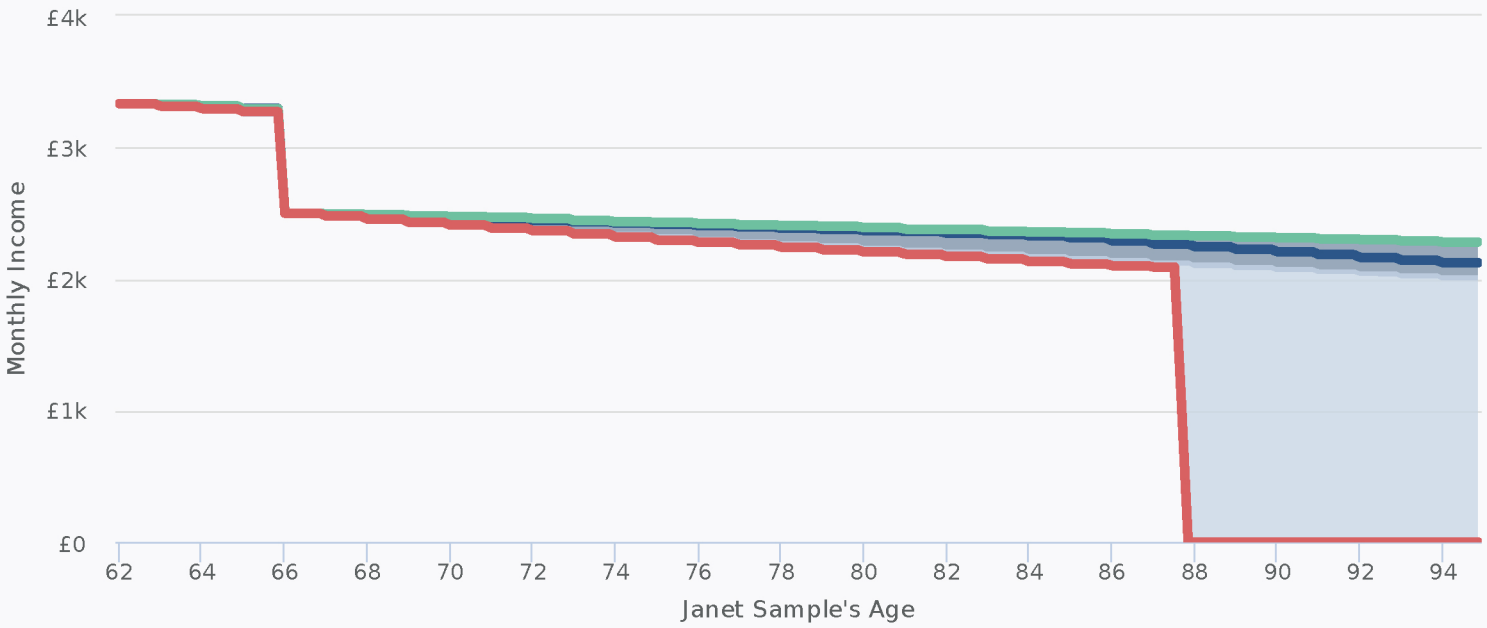
Here are two views of the annual income you could have taken under various historical market scenarios. The real income has been adjusted to take account of inflation. The nominal income hasn't.

Some market conditions are better than others . Ideally your plan should be able to survive severe market conditions. We may need to adjust your income, depending on future market conditions and inflation. But, we'll aim to keep changes to a minimum

Nominal



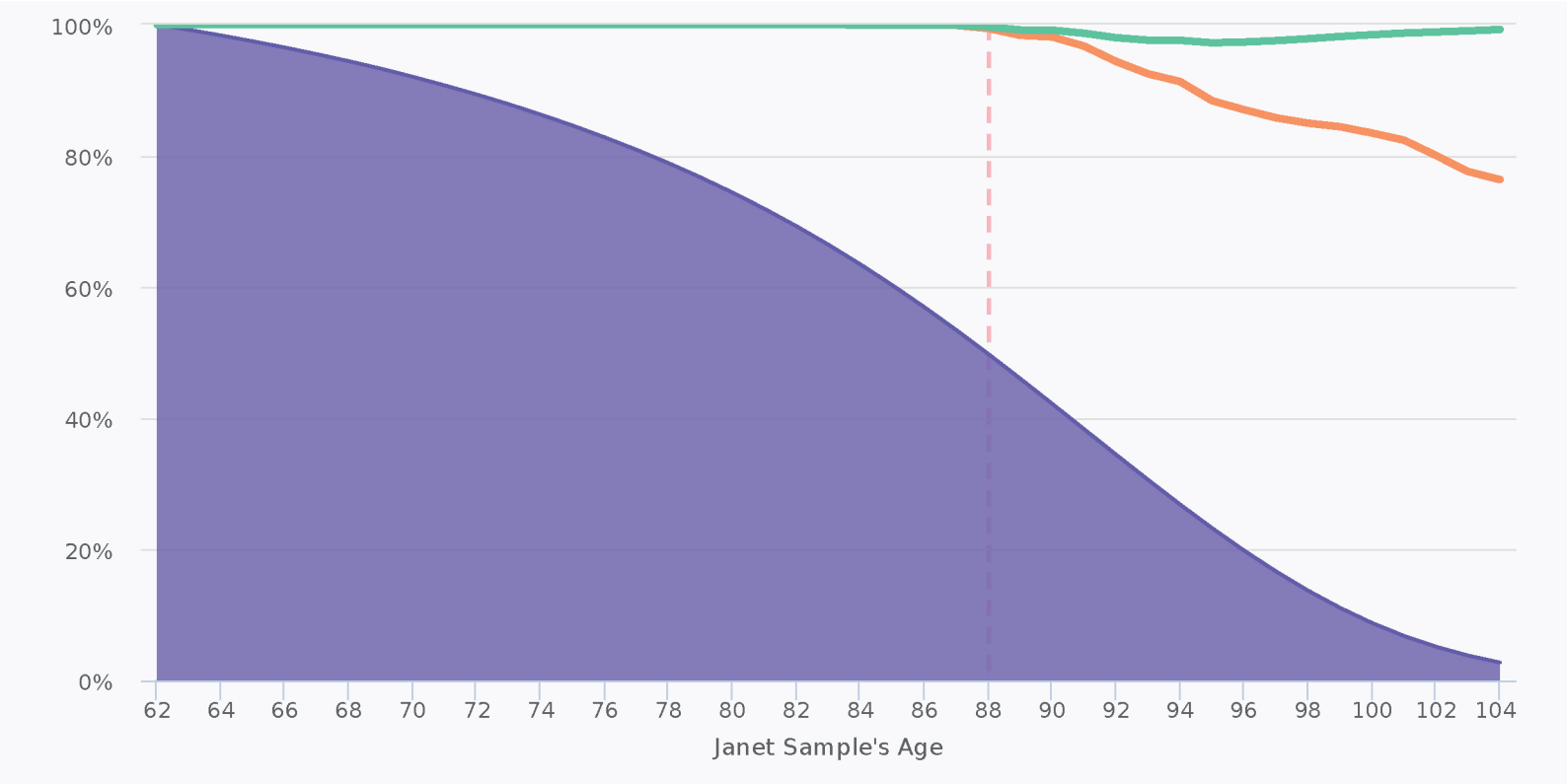
Real



- **Median:** This is the 50th percentile or median scenario, with relatively modest inflation and good sequence of return.
- **Best:** This is the best scenario.
- **Worst:** This is the worst scenario.
- **Likely:** This range of outcomes represent the 30th to 70th percentile scenarios.
- **Less Likely:** This range of outcomes represent the 70th to 90th percentile scenarios and 10th to 30th percentile scenarios.
- **Rare:** This range of outcomes represent the 90th to 100th percentile scenarios and 1st to 10th percentile scenarios.

Longevity Illustration

This analysis shows your chances of living until a given age, and the odds of your portfolio lasting that long! Your portfolio would have lasted at least until your 95th birthday in 88% of historical market scenarios.



- **Portfolio Success Rate:** This estimates the percentage of historical scenarios in which the portfolio lasted for a given number of years.
- **Longevity-Adjusted Success Rate:** This shows the chances of the portfolio lasting until a given age, given your chances of living that long.

Risk Warnings

This report is not intended as a forecast. The future is unknown. Rather, the report explores how a retirement income strategy fares under various market conditions. This report is for illustrative purposes only. The value of investments and the income from them can go down as well as up. You may get back less than you invest. Past performance is not a guide to what might happen in the future. Transaction costs, taxes and inflation reduce investment returns.

Capital Market Return and Inflation Data: Timeline uses data from the following reputable sources:

Stocks, Bonds, Bills, and Inflation (SBBI) : This is the industry standard performance data reference, with comprehensive records of US stocks, long-term government bonds, long-term corporate bonds, Treasury bills, and the Consumer Price Index dating back to 1926.

Global Financial Data: GFP provides data going back 200 years. The dataset includes annual and monthly returns of the major asset classes, inflation, and currency, as well as other metrics such as bond yield, equity yields and PE ratios.

Bank of England OBRA Dataset: A millennium of macroeconomic data v3.1 (2016): Originally called Three Centuries of Macroeconomic Data, but has now been renamed to reflect its broader coverage. The dataset contains a broad set of macroeconomic and financial data for the UK, stretching back in some cases to the 13th century.

Ken French Data Library: The library is compiled by Professor Kenneth French, the Roth Family Distinguished Professor of Finance at the Tuck School of Business at Dartmouth College. This library consists of extensive return data on factor-based equity portfolios.

Longevity Data: Timeline uses ONS Cohort Life Tables 2014 (Projected) for the longevity analysis. The cohort life table is based on age-specific probabilities of death which are calculated using observed deaths (mortality) data from the cohort. A cohort life table uses a combination of observed mortality rates for past years and projections about mortality rates for the cohort in future years. It is important to understand that these are projections and not forecasts. As we do not know what the future will hold, the ONS makes assumptions about how mortality rates will change in the future. Information on how mortality rates have changed in the past is used to estimate the current rate of mortality improvement by age and sex and to make assumptions about improvements in mortality in the future.

A guide to sustaining your retirement income

Will I run out of money?

Can I leave money for the grandkids?

How much can I spend?

SENECA Reid

www.senecareid.co.uk