

A New Approach to Auto-Enrolment

Higher Pensions for Half the Cost

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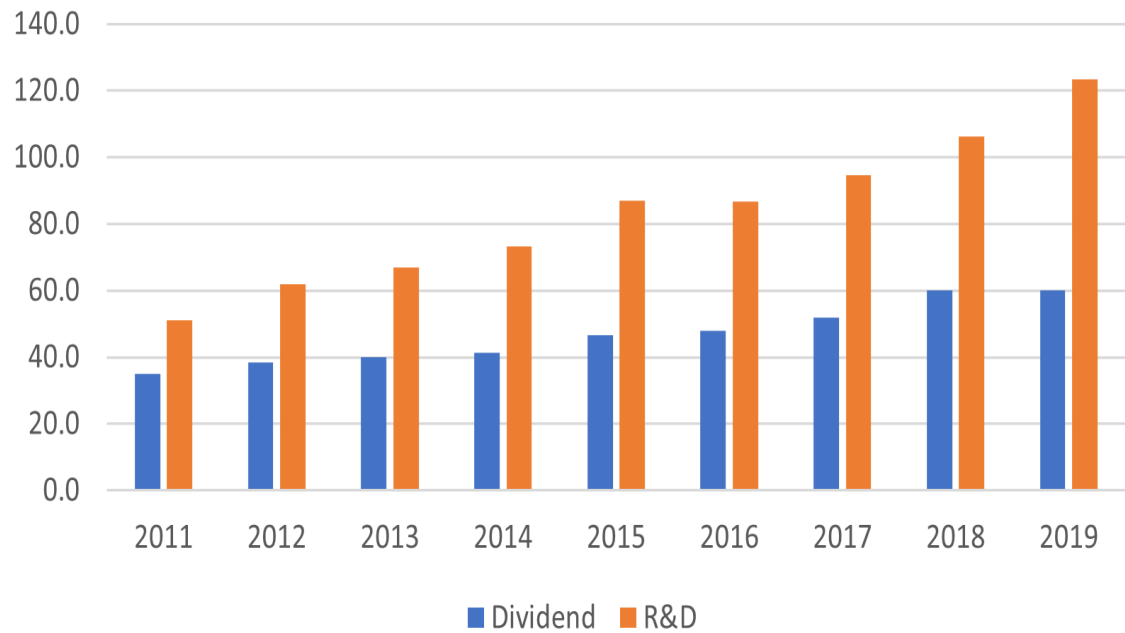
Higher pensions for half the cost

Reasonable pension for 7% instead of 14%

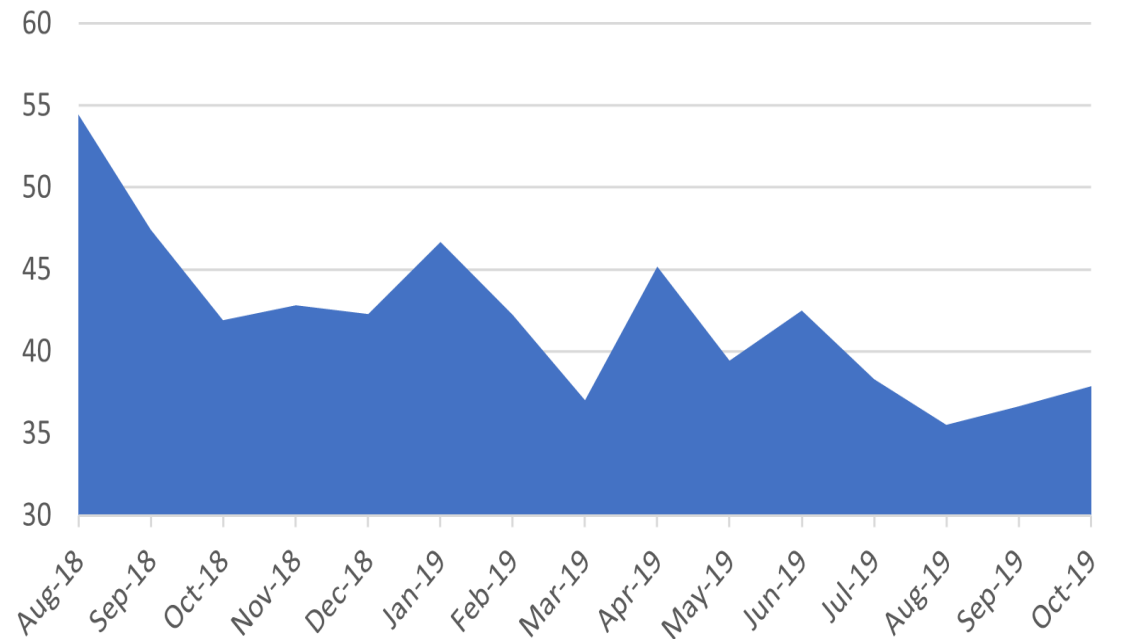
- Everything in 'equities' from joining until death (90 or 100, or whenever)
- Pooling of risks and smoothing of returns to minimise volatility
- Retirement date is a staging post, not an end-point
 - Reduces frictional costs at retirement
- Simplify, simplify: Just one account, like a bank or credit union account
 - Money added to account when working, withdrawn when retired
 - Same 'interest rate' for everyone. Interest credited monthly (or quarterly)
- "It's a pension, not a piggy-bank"
 - Regular contributions, no transfers (out or in), Money out for gratuity, pension, death
 - (with one possible exception)

Renishaw: Real World v Share Price

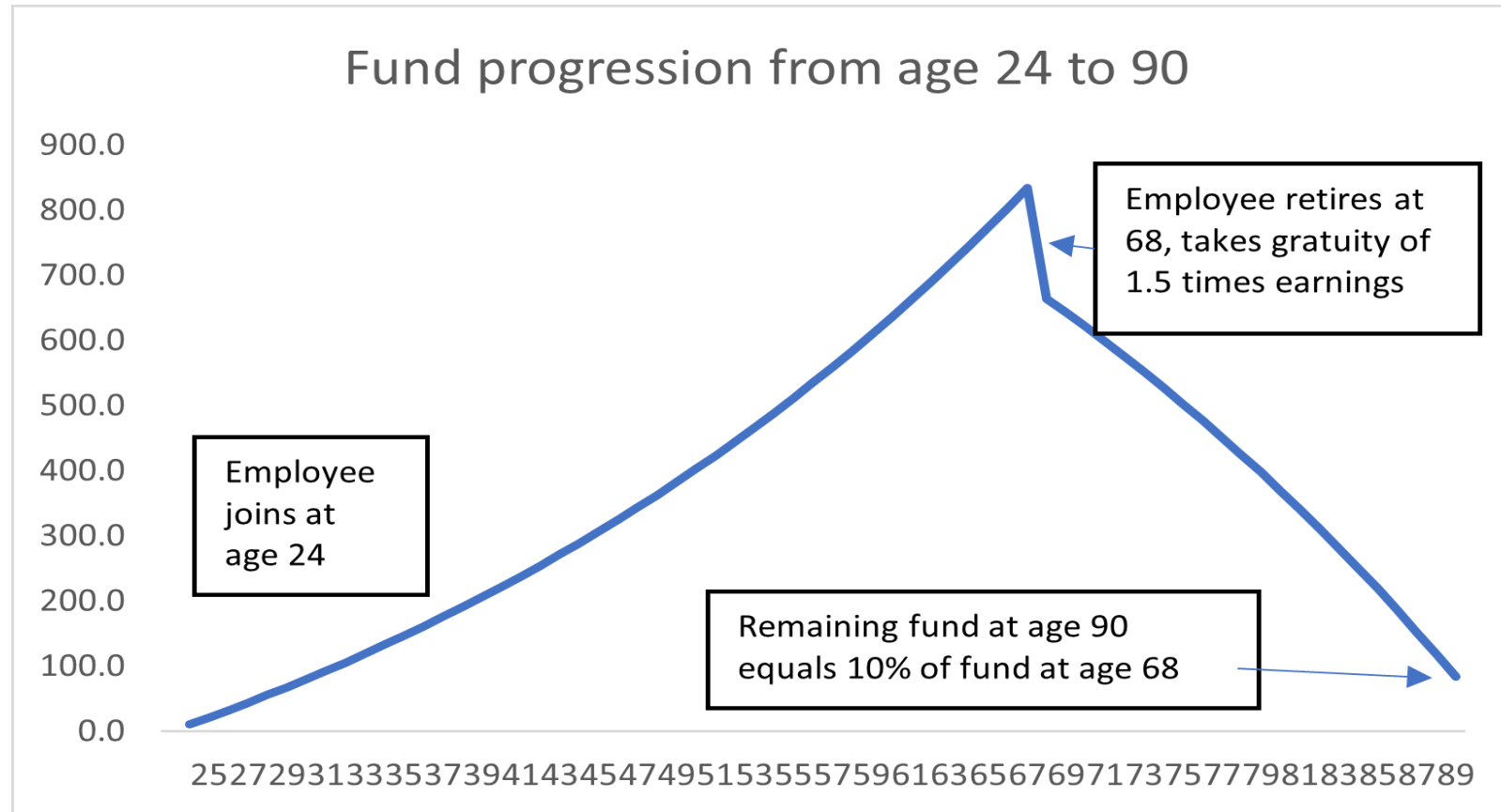
Renishaw dividends and R&D investment per share: 2011 to 2019



Renishaw share price August 2018 to October 2019



A Seamless Vision of DC Pensions



Risk and Reward

Outcome and probability	Outcome * Probability	Expectation
Outcome 1 €1,030 with absolute certainty:	€1,030 * 100% Expectation	<u>€1,030</u> €1,030
Outcome 2. €1,300 with probability 2 in 3: €650 with probability 1 in 3:	€1,300*2/3 €650*1/3 Expectation:	€866.67 <u>€216.67</u> €1,083.33

Risk and reward (2)

- Risk aversion part of human nature.
- Pension consultants can accentuate flight to safety
 - Clients take credit for good outcomes but blame adviser for poor outcomes
- “Genius investors get out at the right time”
 - Joe Kennedy selling in 1929 after a shoeshine boy gave him a share tip
 - Warren Buffett: “Rule number 1, rule number 2”
- “When it comes to market timing, there are two sorts of people, those who can’t do it and those who know they can’t do it. It is safer and more profitable to be in the latter camp” (Terry Smith)
- **Best hope: stay fully invested at all times**

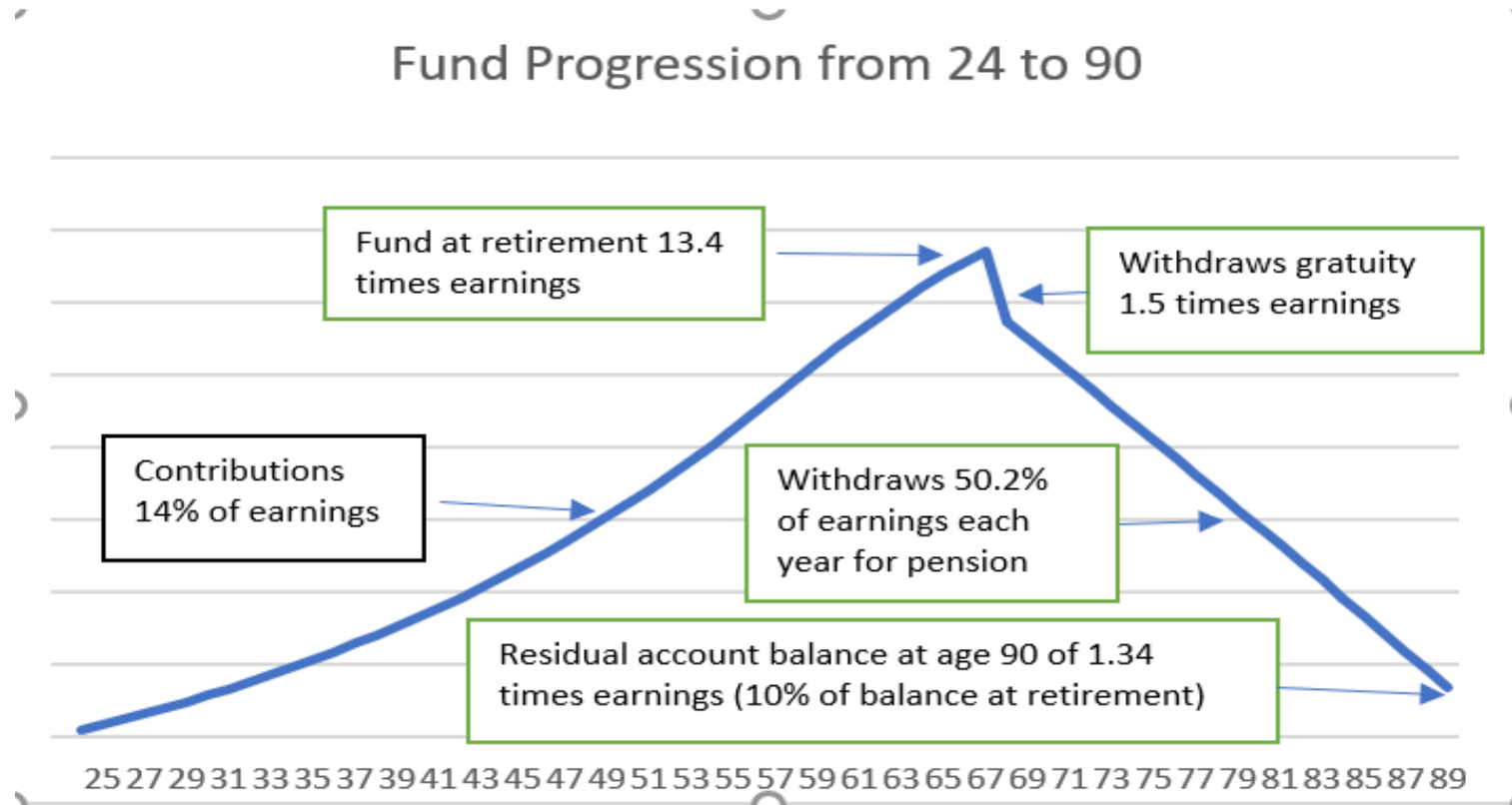
Risk and reward (3)

- Losses on the way to a happy long-term result can be painful
- Markets fell 15.1% in March 2020, were down 25% at one stage
- Can also fall and remain low for long periods
 - Fell 50% in 1974
 - At end 2019, Japanese market below its level of 30 years previously
 - Real value of US market at end 1941 25% below its level 13 years previously

Key lesson is that advocates of an equity only strategy must allow for sustained underperformance, possibly extending over many years

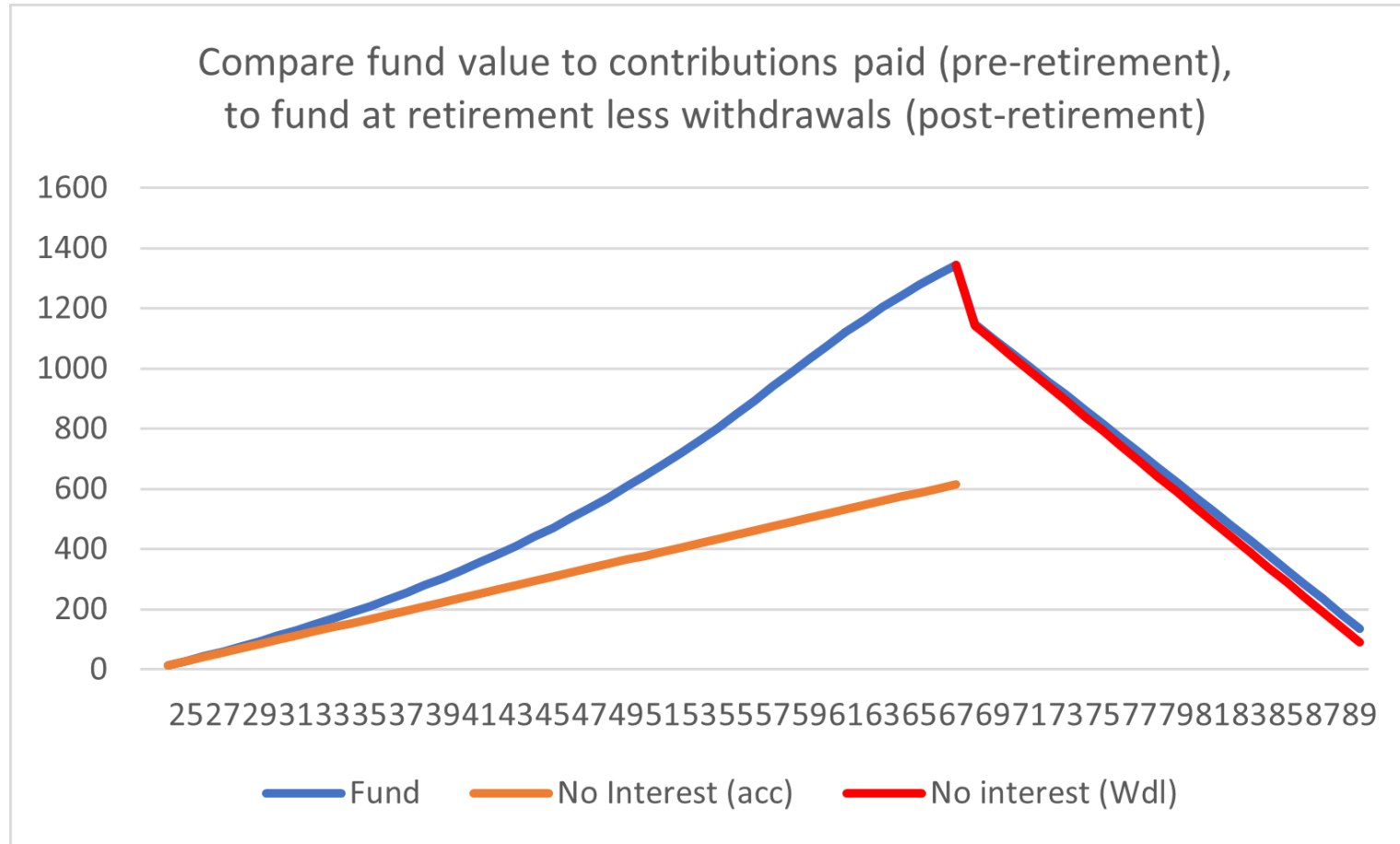
Fund progression under lifestyle approach

(80% in equities until 10 years from retirement, falling gradually to 20% from retirement date onwards)



Lifestyle approach to asset allocation

Impact of investment return pre- and post-retirement



Net investment returns pre-retirement and post-retirement

Lifestyle approach – net investment return until 10 years before retirement

5% return on 80% of fund invested in equities:	4.0% (5% on 80%)
1% return on 20% of fund invested in bonds/cash:	0.2% (1% on 20%)
Less: 0.5% a year in charges:	<u>-0.5%</u>
Net return until 10 years before retirement:	3.7%

Lifestyle approach – net investment return from retirement date onwards

5% return on 20% of fund invested in equities:	1.0% (5% on 20%)
1% return on 80% of fund invested in bonds/cash:	0.8% (1% on 80%)
Less: 1.5% a year in charges:	<u>-1.5%</u>
Net return post-retirement:	0.3%

Making market values our servants, not allowing them to be our masters

- Achieved by members transacting with the scheme at smoothed values rather than market values –when contributing and claiming benefits.
- I am in good company. Warren Buffett sees a fall in the value of a quality business as an opportunity to add to his holding on the cheap.
- But we depart from market values at our peril
 - If the trustees value assets at more than market value, there is a risk that members will contribute less and withdraw more. The converse is also true.
 - Managers of funds where investors can join and leave at will **MUST** price assets at market value, no matter of how crazy markets have become.
- But, but! Automatic Enrolment is NOT a normal fund
 - Employees and employers sign up to pay x% of earnings over many years
 - Outgo (other than gratuity) spread over decades from retirement to death
 - Must eliminate risk of mass exits if smoothed value greater than market value

Smoothing Formula

- **$SV_{t+1} = .015 * MV_{t+1} + .985 * (SV_t + CF_t) * (1 + i_t)$**

where

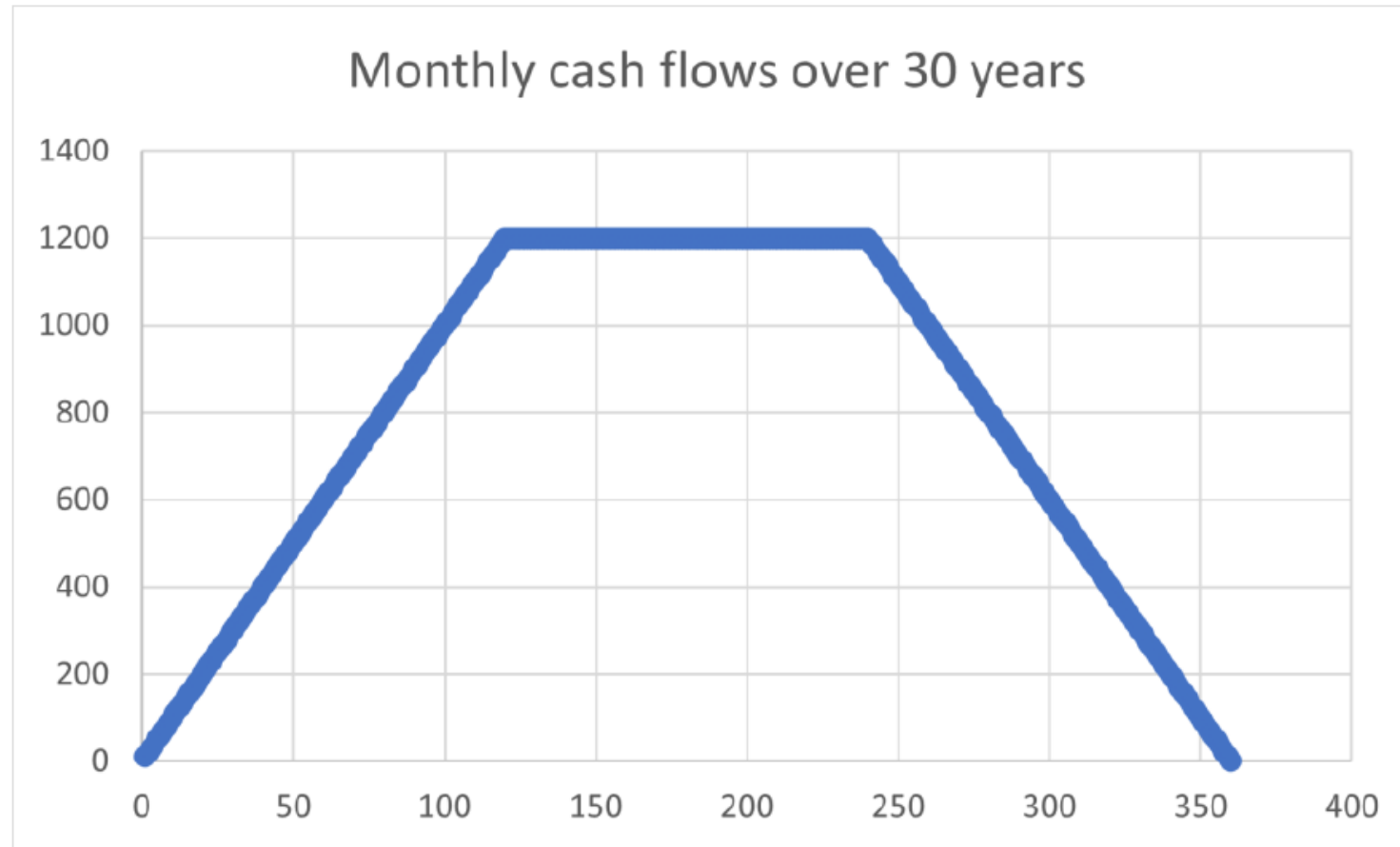
- SV_{t+1} = Smoothed Value of Fund at end month t+1
- MV_{t+1} = Market Value of Fund at end month t+1
- SV_t = Smoothed Value of Fund at end month t
- CF_t = Cash Flow in month t (start of month)
- i_t = Monthly return at assumed long-term rate (including ERP)

Smoothed Returns First 6 months of 2020 (assuming scheme started on 1 Jan 2020)

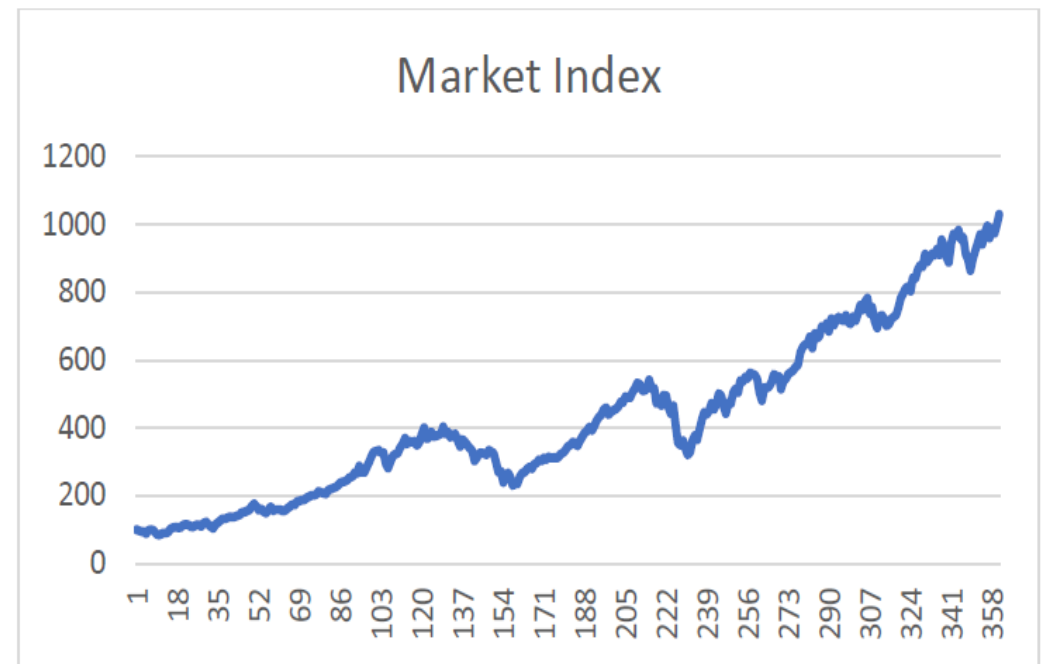
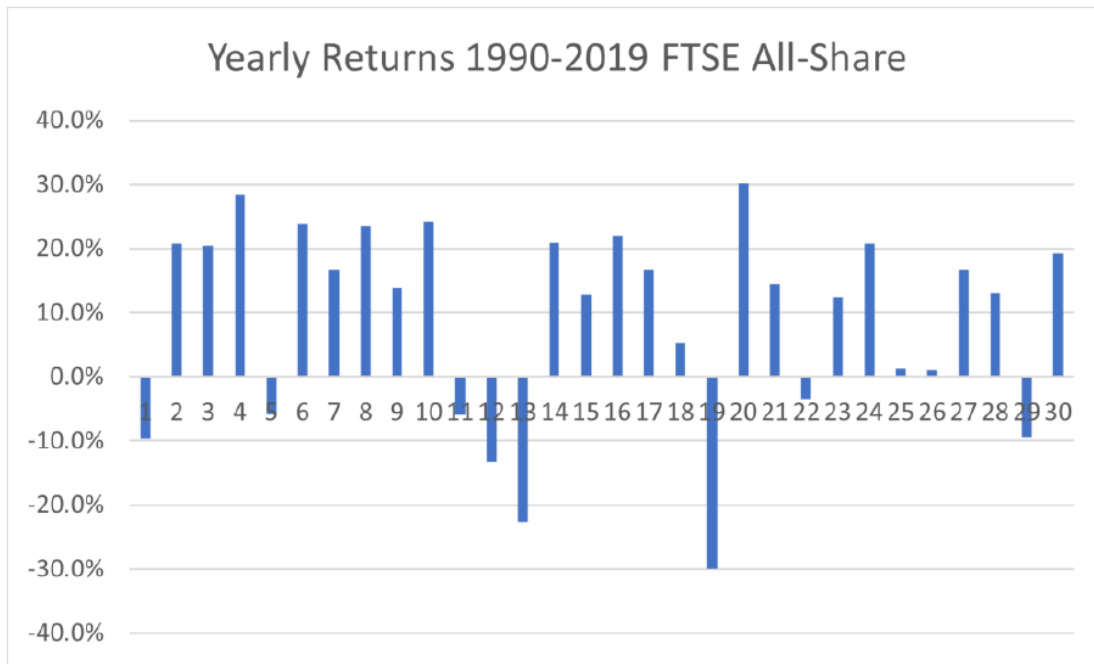
Month	Jan 20	Feb	Mar	Apr	May	Jun 20
Net investment at start of month:	10	20	30	40	50	60
Investment Return (mark to market)	-3.3%	-8.9%	-15.1%	+4.9%	+3.4%	+1.5%
Market value at month end:	9.67	27.04	48.44	92.79	147.68	210.87

Calculation of monthly smoothed returns						
(a) Smoothed value at start of month	10	30.03	60.08	100.10	150.32	210.78
(b) Market value at end of month	9.67	27.04	48.44	92.79	147.68	210.87
(c) Smoothed value at end of month = 98.5% of (a) increased by 0.33% + 1.5% of (b):	10.03	30.08	60.10	100.32	150.78	211.47
Smoothed return = (c)/(a)-1:	0.28%	0.18%	0.04%	0.22%	0.30%	0.33%
Smoothed Value/Market Value:	103.6%	111.3%	124.1%	108.1%	102.1%	100.3%

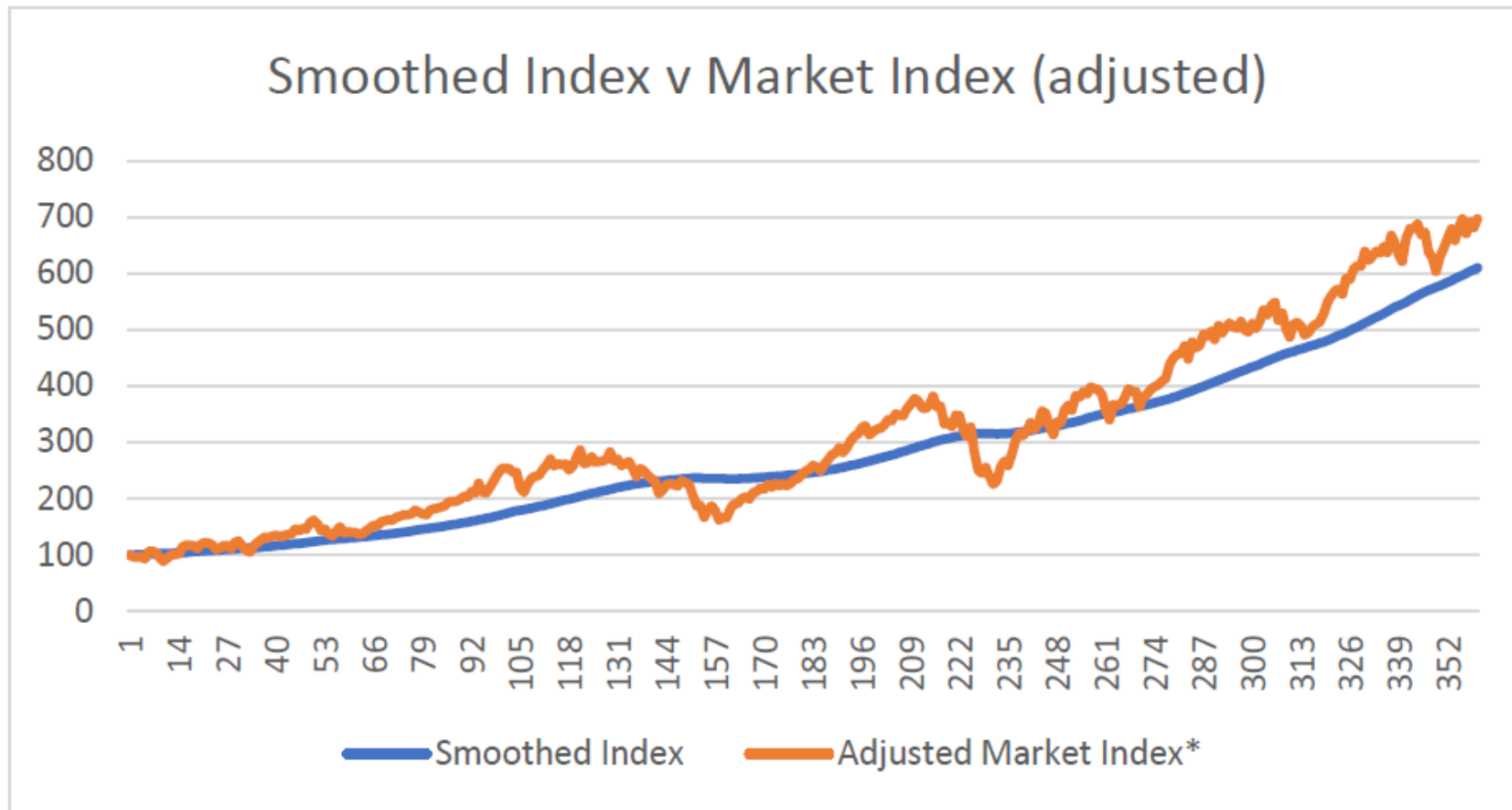
Cash flow projections for calculating smoothed returns



'Favourable' scenario repeats UK 1990-2019

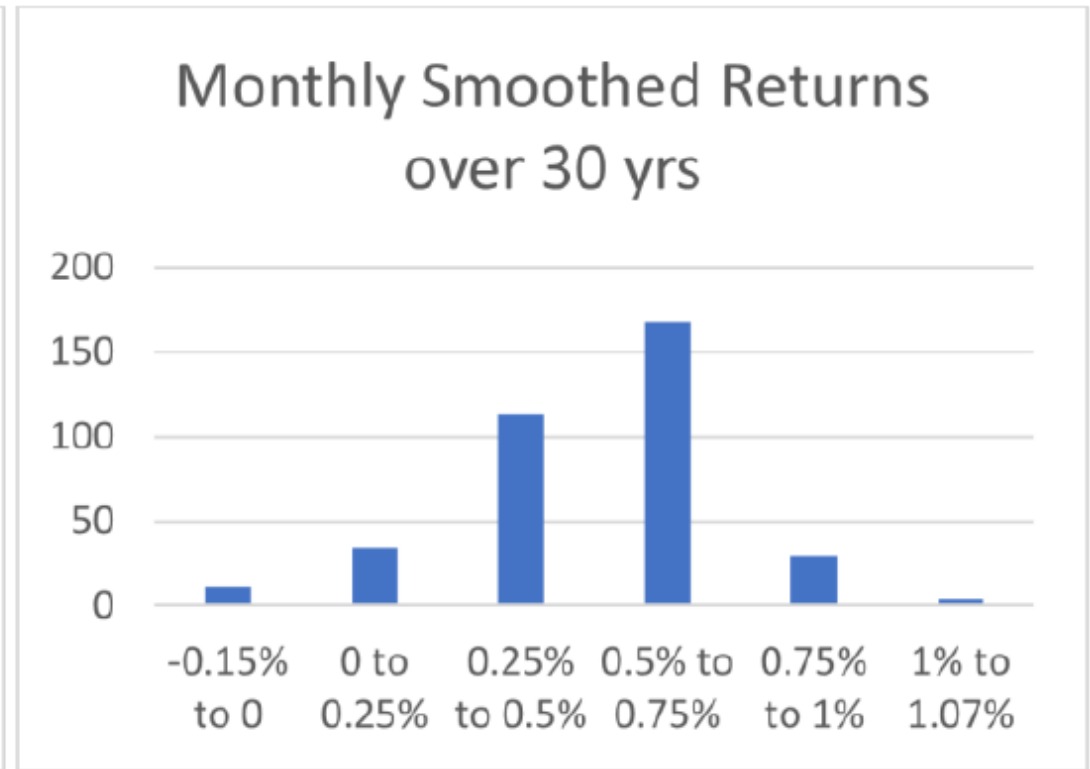
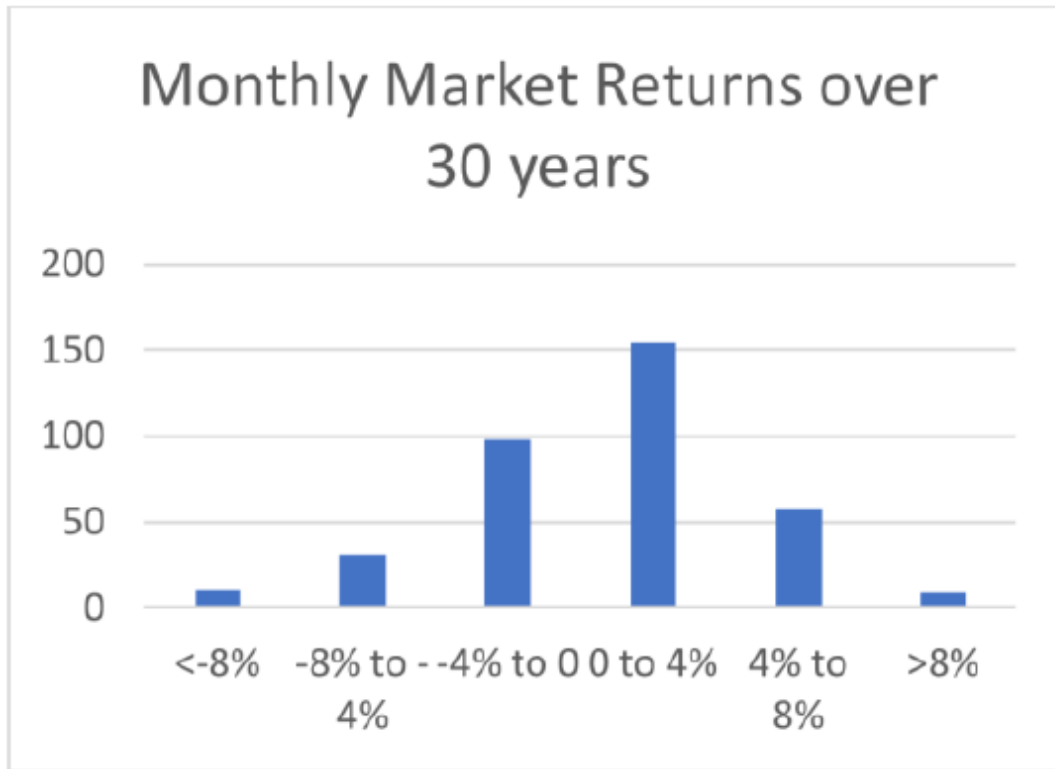


Smoothed and Adjusted Market Index Favourable Scenario

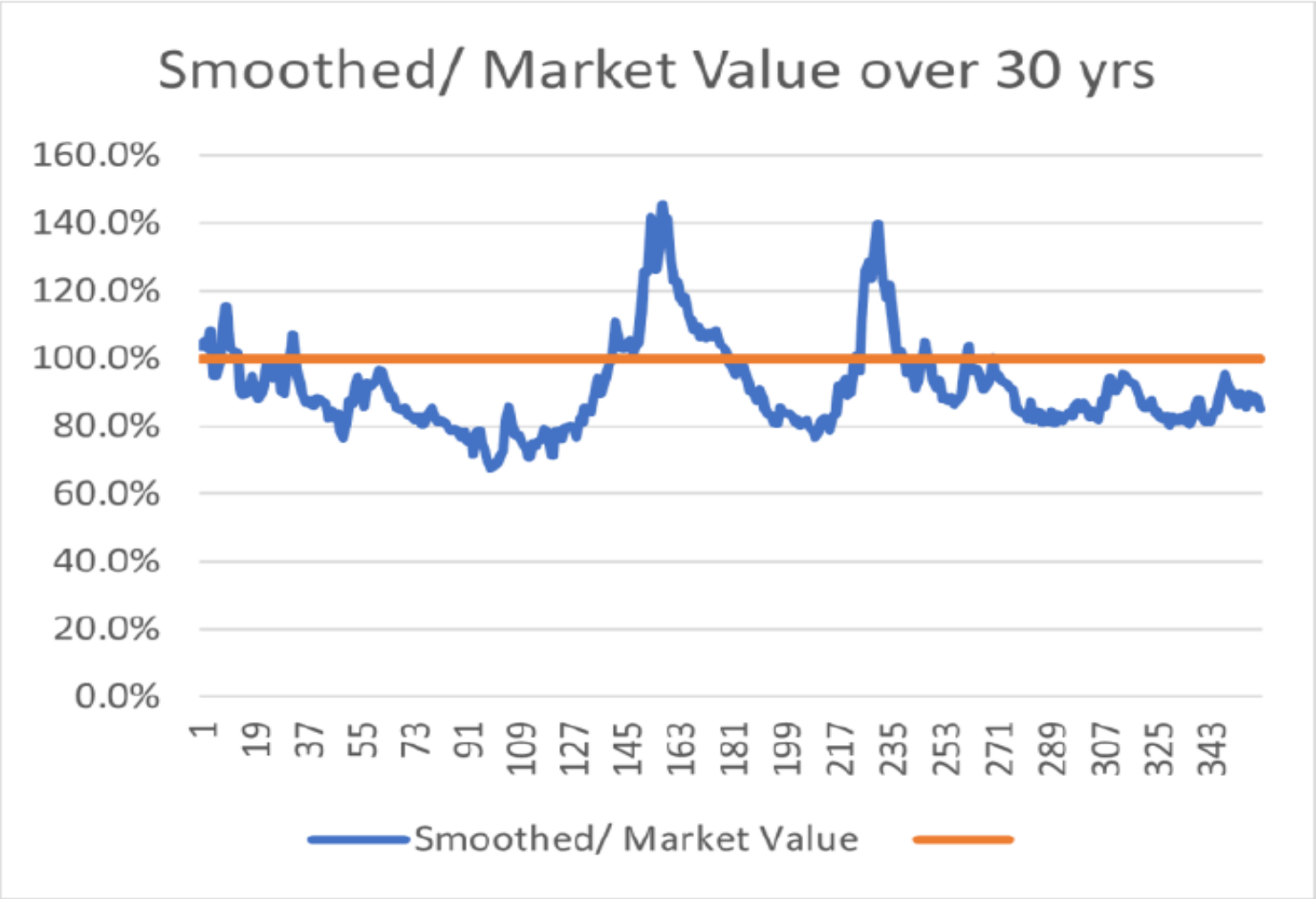


'Favourable' scenario

Contrast between smoothed and market returns



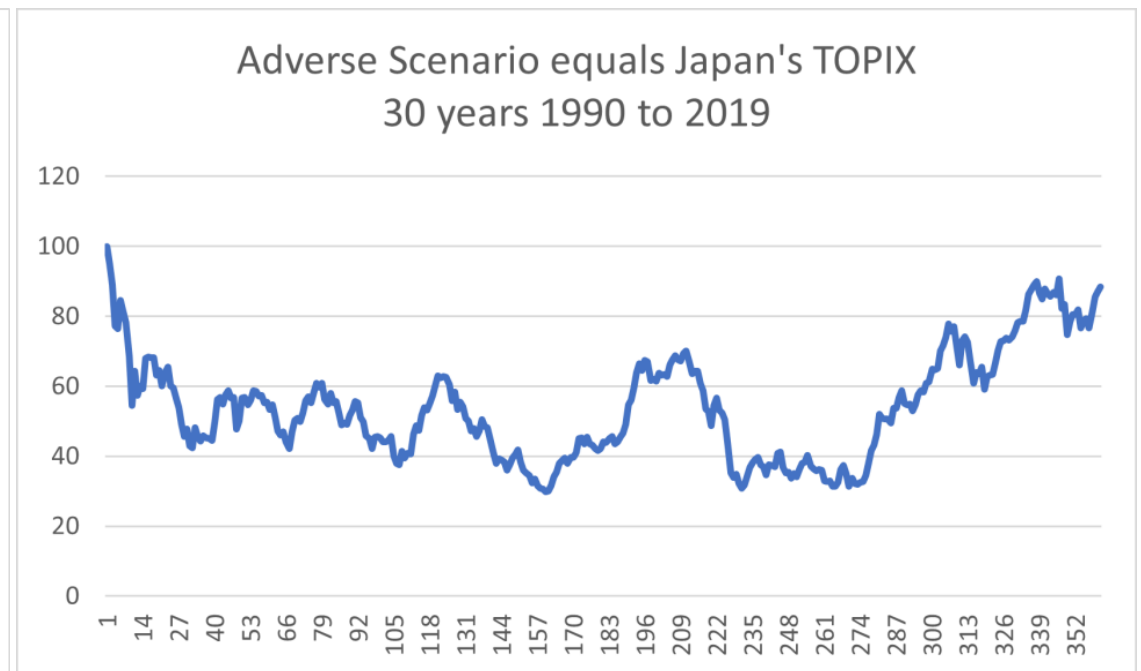
Ratio of smoothed value to market value for 'favourable' scenario



Adverse scenario: “The Age of Disorder”

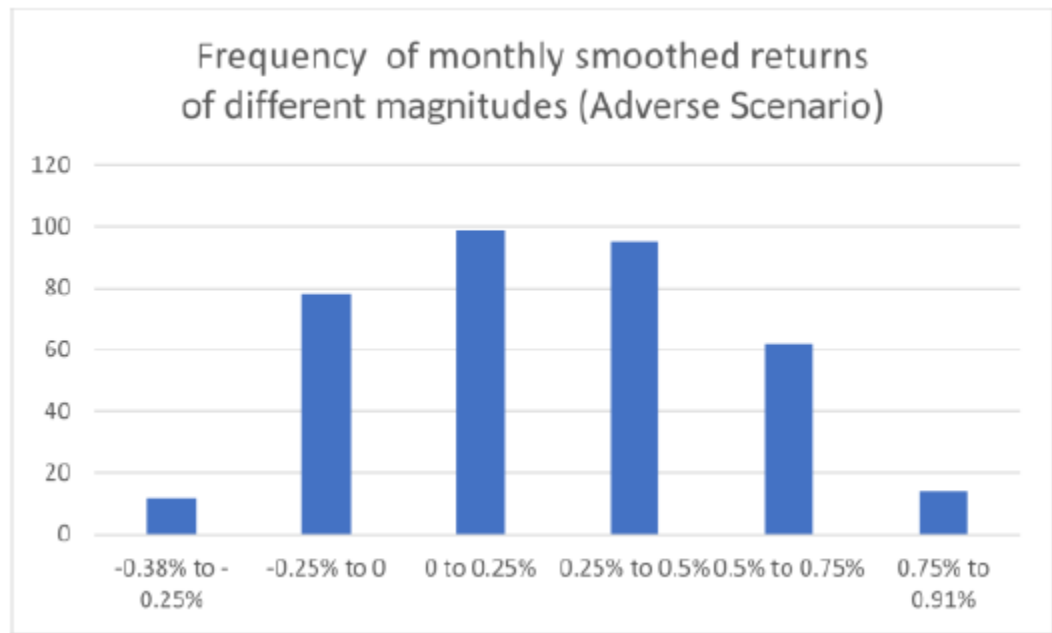
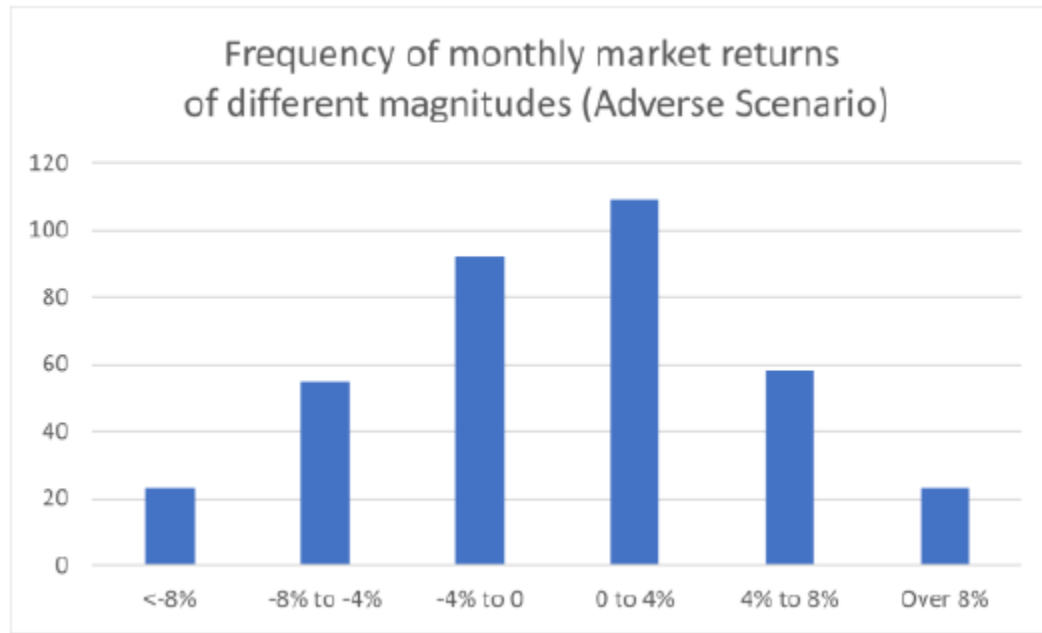
- Deteriorating US/China relations; reversal of unfettered globalisation
- Make-or-break decade for Europe; muddle-through less likely post Covid-19
- Even higher debt and MMT/helicopter money becoming mainstream
- Inflation or deflation? Unlikely to calibrate as easily as over last few decades
- Inequality worsens before backlash and reversal take place
- Intergenerational divide widens before Millennials and younger voters start having the numbers to win elections and reverse decades of policy
- Climate debate will build, with more voters sympathetic and creating disorder to current world order
- We are in the midst of technology revolution with astonishing equity valuations reflecting expectations for a serious disruption to status quo. Revolution or Bubble? Also, if WFH becomes more permanent, will it cause major changes to societies and economies. Big cities were huge winners. This could reverse.

'Adverse' scenario repeats Japan 1990 - 2019



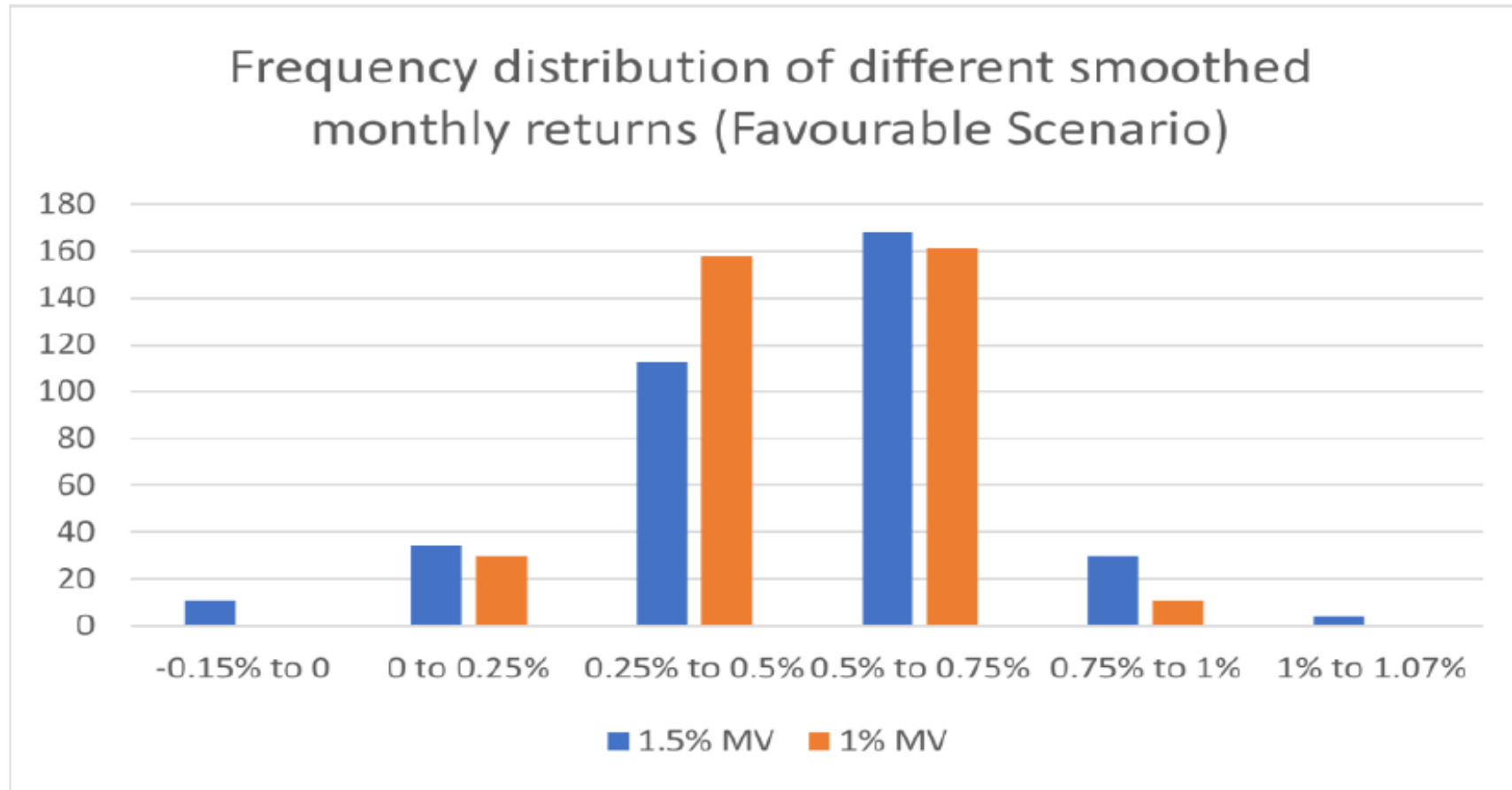
'Unfavourable' scenario

Contrast between smoothed and market returns

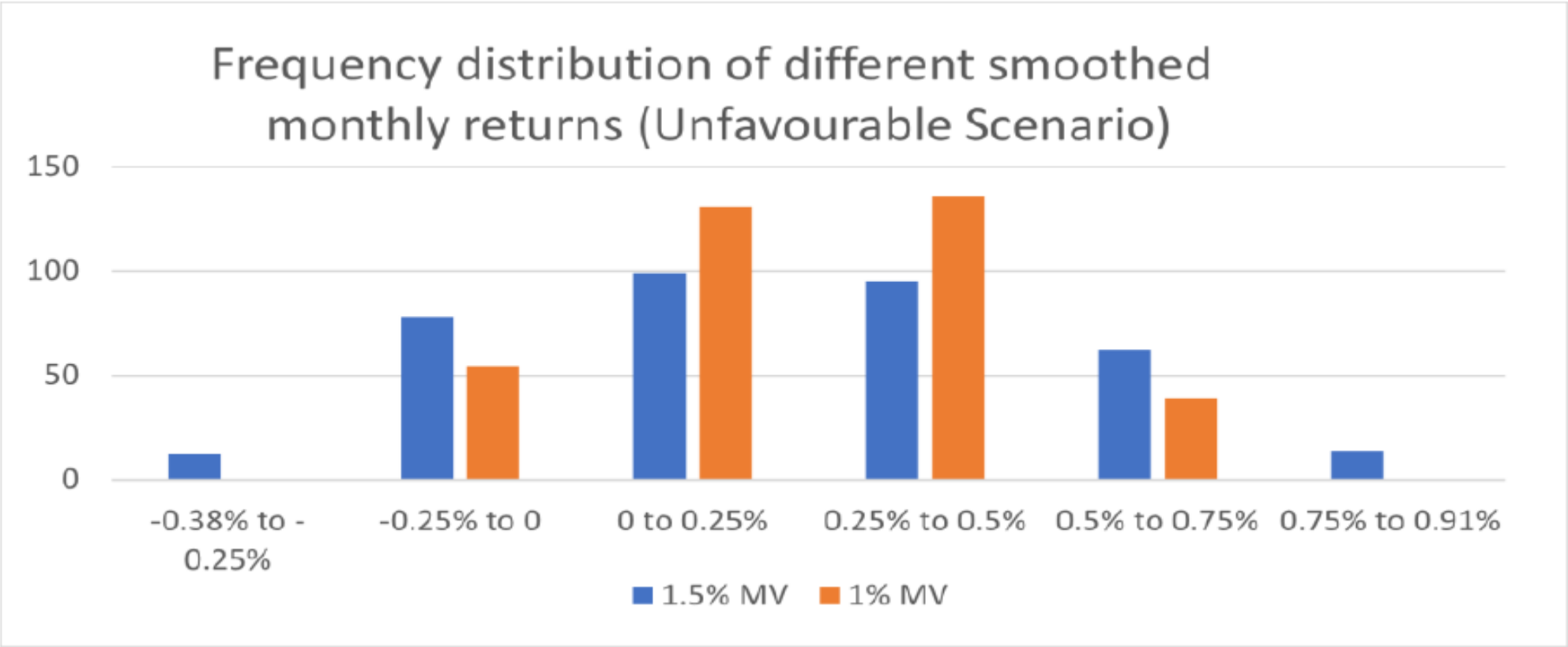


'Favourable' scenario

Monthly smoothed returns 1.5% v 1% weighting to market value



'Unfavourable' scenario
Monthly smoothed returns 1.5% v 1% weighting to market value



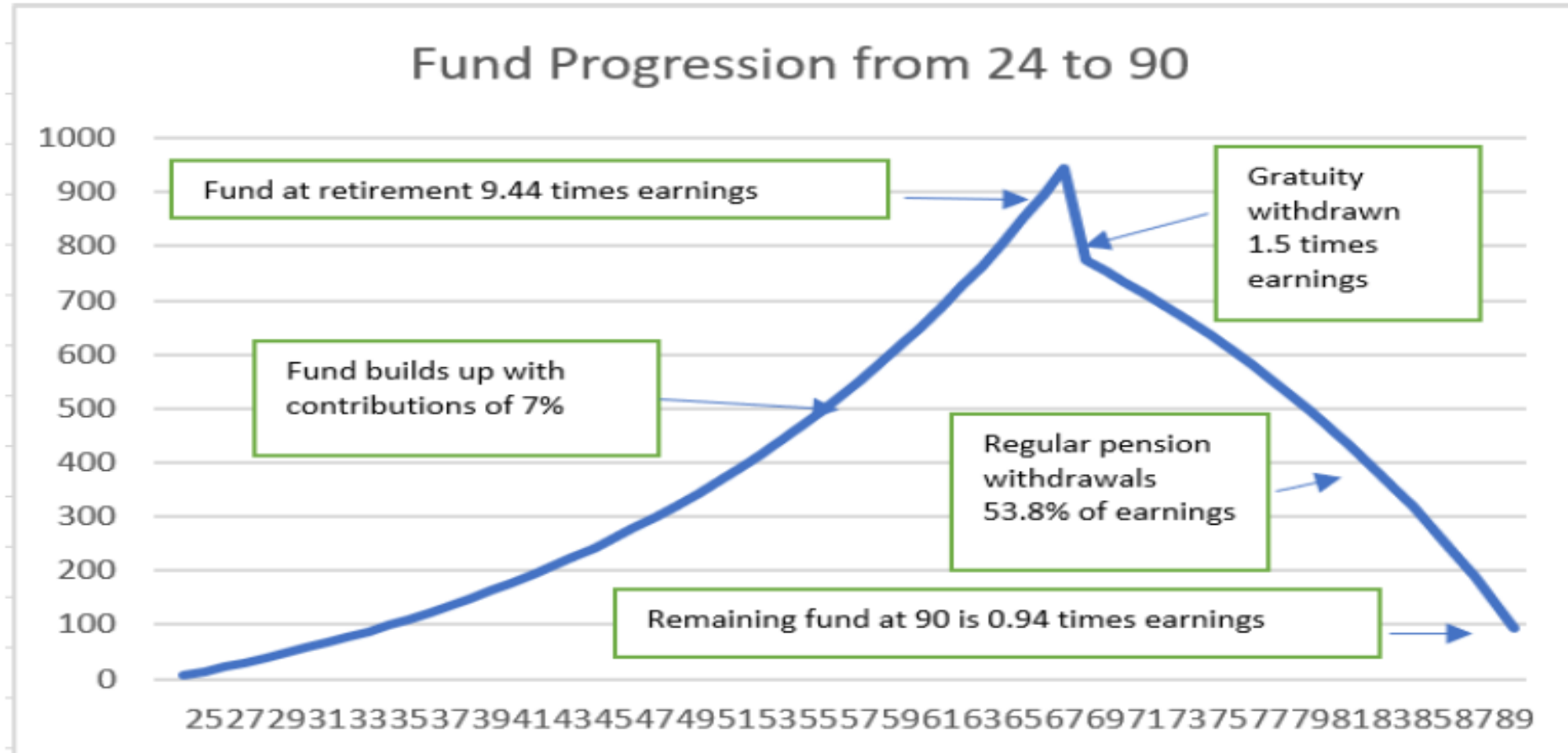
Estimated benefits under smoothed approach

- 100% investment in equity-type assets from joining until death
- No need for separate funds for different ages, membership categories, risk classifications
 - The same smoothed return for all, calculated monthly or possibly quarterly
 - Contrast with conventional funds which must quote daily or weekly returns
- Significant savings from having just one account for everyone
 - NEST has 46 different retirement date funds, plus specialist funds
- Estimated costs less than 0.5% a year (pre- and post retirement)
 - Assume that costs under 'lifestyle' approach increase to 1.5% post-retirement

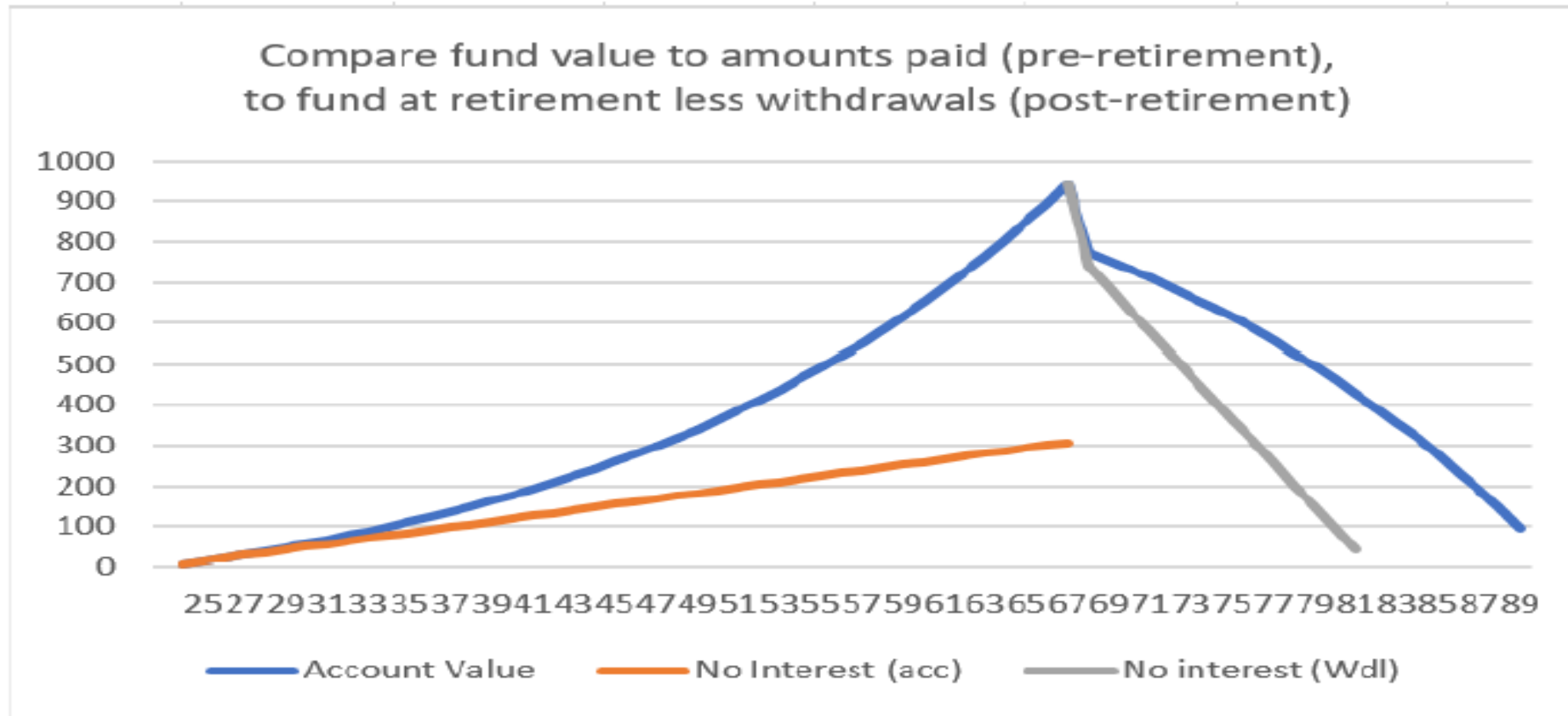
Comparison of 'lifestyle' and 'smoothed' approaches for joiner at age 24

	'Lifestyle' Approach	Smoothed Approach
Total contribution (ratios 3:3:1 for employee, employer, and state)	14% of earnings	7% of earnings
Gratuity on retirement at age 68	1½ times earnings	1½ times earnings
Yearly Pension from 68 to 90:	50.2% of earnings	53.8% of earnings
Residual Fund at age 90:	1.34 times earnings	0.94 times earnings

Fund growth and decline under smoothed approach

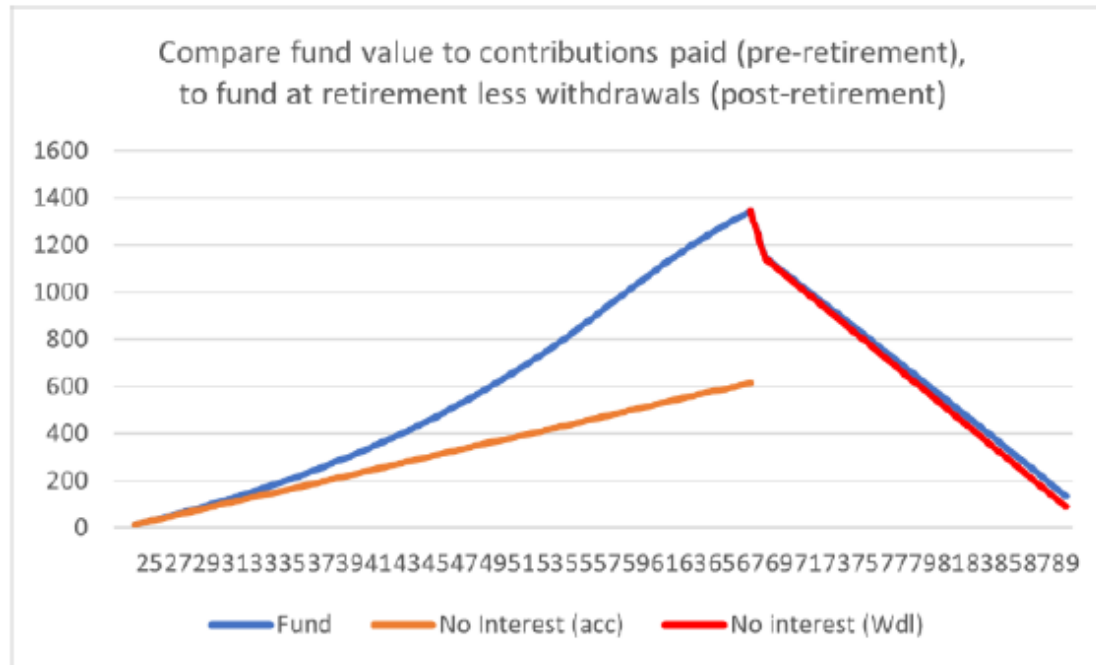


Smoothed approach: Impact of investment return

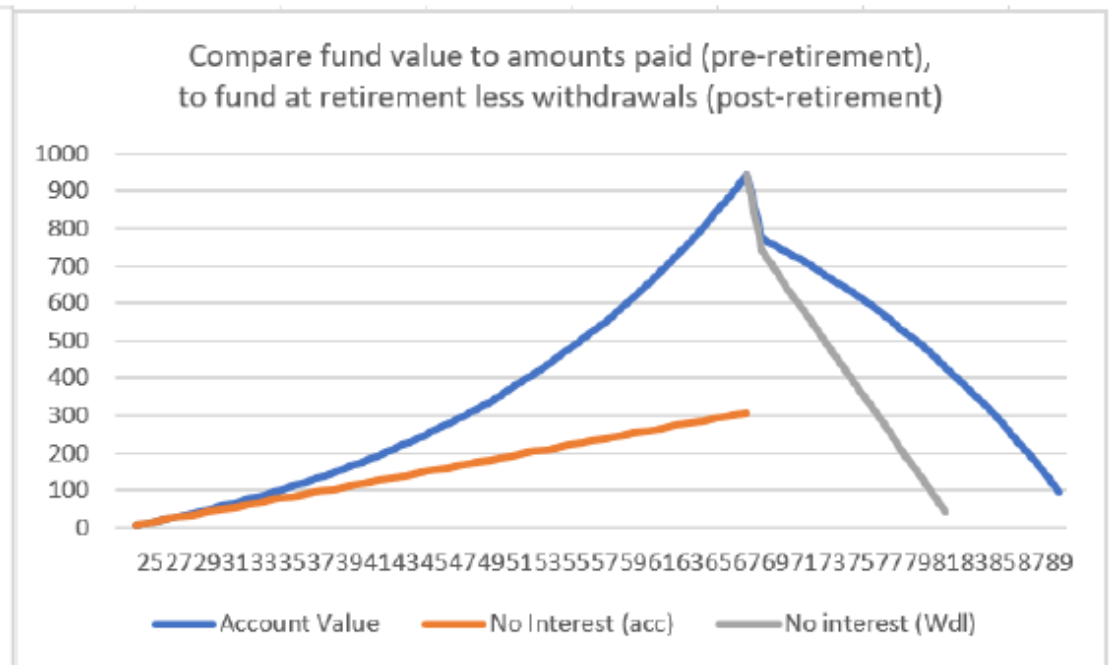


Contrast between two approaches for fund growth and (especially) fund decline

Lifestyle approach



Smoothed approach



Contrasting returns under lifestyle and smoothing approaches

Lifestyle approach – net investment return until 10 years before retirement

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Smoothed approach – net investment return before and after retirement

5% return on 100% of fund invested in equities:	5% (5% on 100%)
Less: 0.5% a year in charges	-0.5%
Net return pre- and post-retirement	4.5%

Section 11

Addressing the challenge of longevity

- My 'Style adviser' requested that most should go into an appendix!
- A simple explanation:
 - Suppose retiree gets to age 75 and decides to transfer €150,000 of pension 'pot' to the 'Lifetime Income Account'.
 - Divided into 15 subaccounts, each worth €10,000 at the start.
 - The interest rate on each subaccount is 2.45% less than on an 'ordinary' a/c
 - They cash one subaccount each year for the next 15 years (to age 90).
 - If they're still alive after 15 years, trustees add a new subaccount (i.e. €10,000 plus interest for number of years since age 75), for the rest of their days.
 - Thus, guaranteed to get €10,000 pa (plus interest) even if they live to 120.

Section 12: Ensuring the scheme's solvency

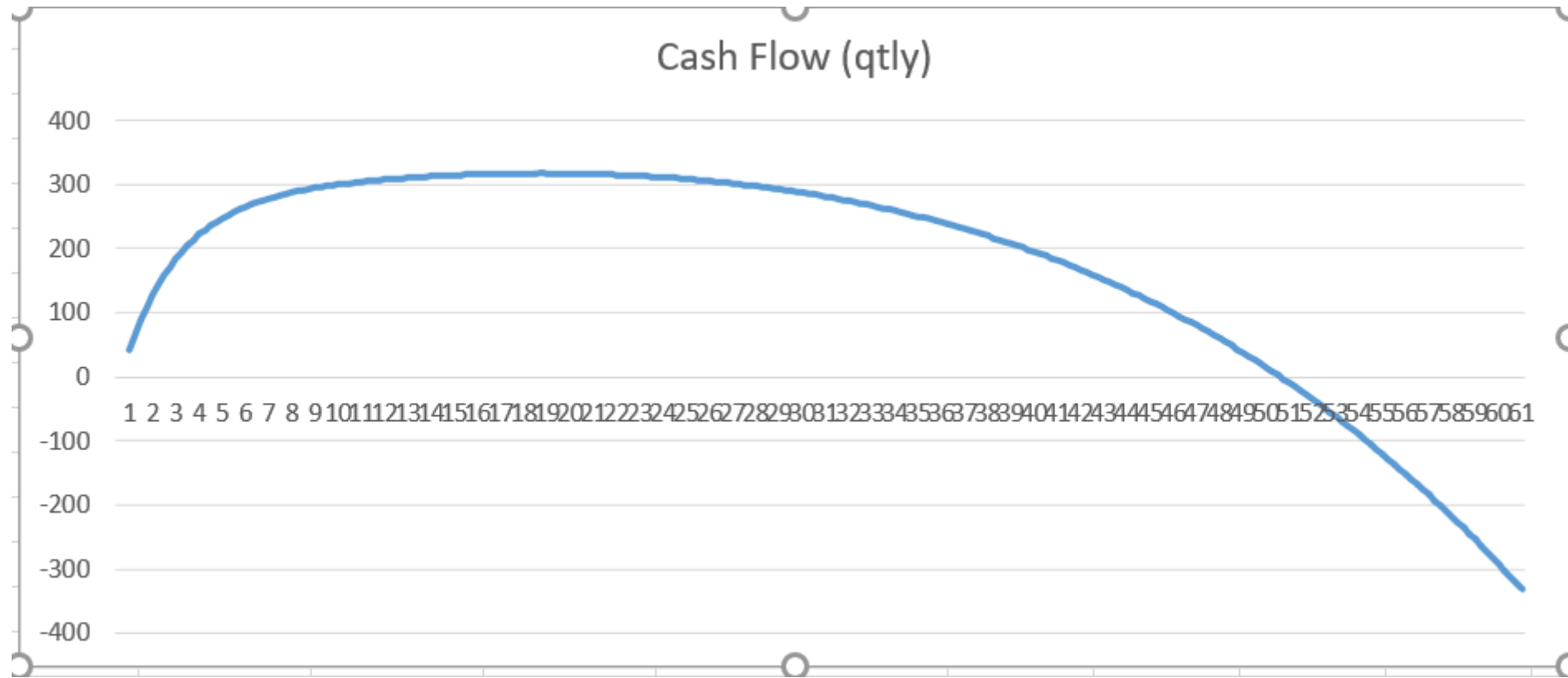
- Extremely long duration of liabilities creates bulwark against insolvency
- In 'Japan' scenario, the smoothed value of a single contribution on day 1 will be below market value after 25 years
 - Smoothing cannot undo wreck of market collapse but makes pain more bearable
 - With regular contributions, smoothed value < market value 12 times in first 4 years
- Positive cash flows always bring ratio SV/MV back to 100%
 - Detailed projection model indicates positive cash flows for first 50 years

Are positive cash flows assured?

- Normal assumption that fall in market values causes fall in contributions & rise in redemptions, causing reduction in cash flows
- Rules of proposed scheme will prohibit unscheduled withdrawals
 - Can only withdraw money on retirement (25% max), death or regular pension
- Members have strong incentive to keep contributing even if markets turn sour
 - For every €100 contributed, employee's account grows by €233.
 - Important consideration that smoothed values can rise even if markets fall
 - Remember example of first three months of 2020, when markets fell 25%
 - Members unlikely to move to another provider if it delivering worse returns

Cash flow projections for first 60 years

Turn negative after 50 years (cautious)

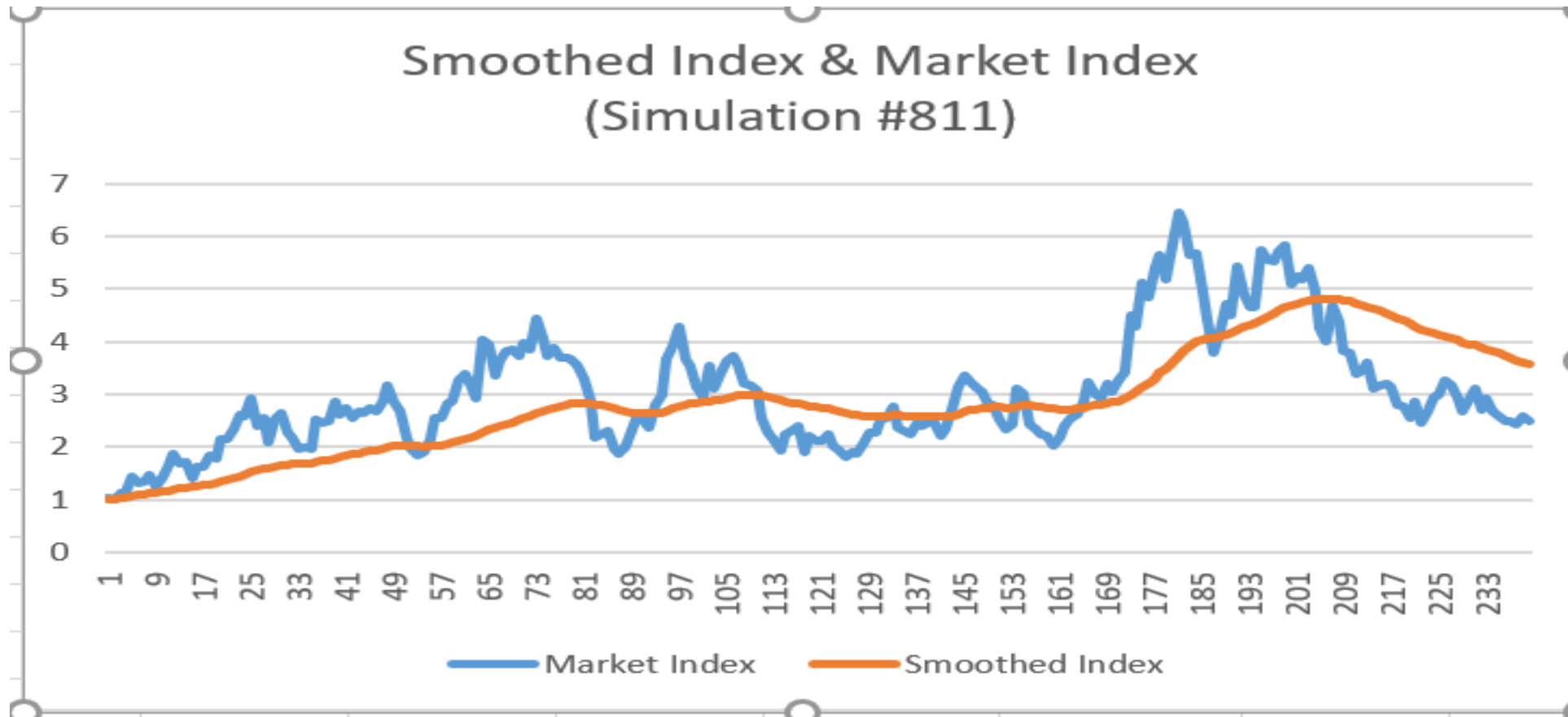


2,000 Monte Carlo simulations

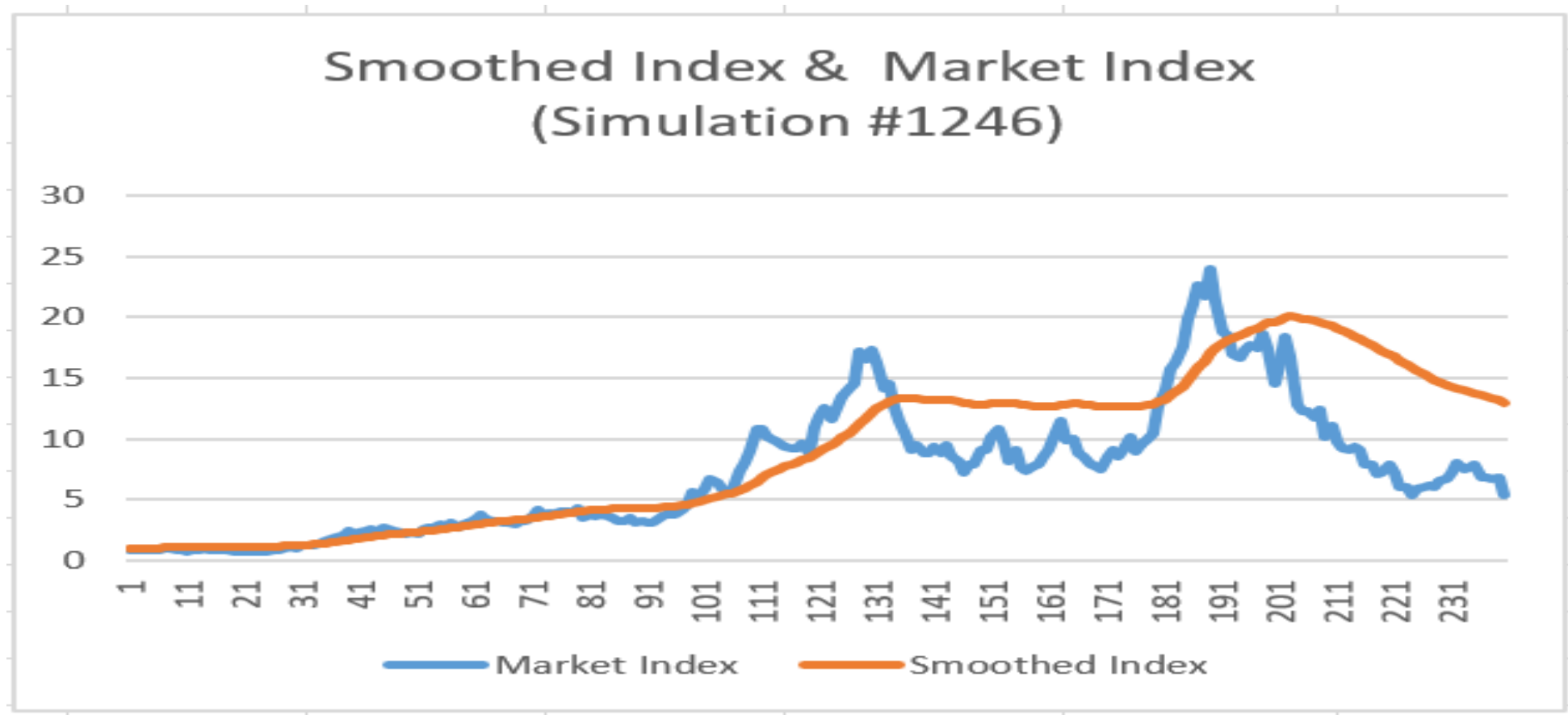
Each for 60 years =>12,000 projection years

- All 2,000 showed the scheme remaining solvent for 60 years
 - “Solvency” defined in the narrow sense that fund values remained positive for the entire period and smoothing formula could be applied to calculate smoothed returns at all times
- Having seen no failures at the crude level, we then searched for simulations where smoothed returns were negative for the last eight years or longer.
- Two out of 2,000 simulations met this criterion.
- Likelihood is that these simulations would eventually cause the scheme to become insolvent sometime after year 60.
 - Need to look in more detail at ‘near failures’: Simulations #811 and #1246

Sim 811: MV down 55% in last 11 years;
negative return on cash flows over 60 years



Sim 1246: MV's down 75% in last 13 years;
average 1.9% return on cash flows over 60 yrs



Need for a buffer account when cash flows turn negative

- Two out of 2,000 simulations indicate possibility of eventual insolvency
- Both simulations result from highly implausible financial trajectories
- Tempting to conclude that scheme will never face risk of insolvency
- However, negative cash flows (from year 50) will pose new challenges, which will require new solutions.
- Negative cash flows a source of instability if smoothed values exceed market values
- Propose to use 0.2% annual surplus on 0.5% management fee to create a buffer account for when cash flows turn negative
 - Buffer account would cover shortfall of market values from smoothed values, even in two 'near failure' simulations.
- Additional safeguard of giving trustees the right to increase the management fee from 0.5% in extreme circumstances.

Conclusions (1)

- Argument that smoothed approach delivers higher benefits at half the cost is not demonstrably unreasonable
 - But calculations, analysis, and conclusions need to be reviewed thoroughly
- Even if ERP is lower than assumed, smoothing still delivers much superior outcomes for members
- Keeping employees in scheme after retirement results in significant savings.
- Proposal that members' transactions with scheme take place at smoothed values rather than market values is eminently reasonable
 - Why should transactions between marginal buyers and sellers drive so much?

Conclusions (2)

- Investment strategy: Principles straightforward, but detail a minefield
 - It is members' money, not government's or do-gooders'
 - Trustees must manage assets to achieve target returns for members
 - Yet investment strategy can be honed for good purposes in the long-term
 - Short-term, simplest to invest in passive world equity fund. Reconsider after (say) five years. Scheme assets at that stage only €4 billion.
- Analysis indicates that scheme will be capable of withstanding severe adverse financial and economic conditions
 - But its unique structure could make it difficult to meet detailed S2 regulations
 - Carrot at EU level is the possibility of the proposed scheme being a template for similar schemes in other member states

Conclusions (3)

- Detailed, independent study required of paper's proposals, analysis and conclusions.
 - Will need input from economists, behavioural psychologists, investment experts – and actuaries!
 - Brian Woods and I will be more than happy to help in any way we can.
- Asking government to commission that study (possibly jointly with EU?)
- The prize for success is vastly superior pension prospects for future generations of workers.

Please click on the 'Raise Hand' icon
to ask a question
and
wait to be unmuted

or

Use the Q&A function

