ACTUARIAL SOCIETY OF SOUTH AFRICA

The Business of Change: 2010 and Beyond

Living Annuities: The Advisory Process

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University of the Witwatersrand: Honours Paper 2007

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Agenda

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1. Introduction
2. Interviews with financial advisers
3. Description of the model
4. Model Results
5. Post varsity life
6. Conclusion
7. Questions

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Introduction

- Living Annuities
  - Definition
  - Attractive features
  - Risks
- Two components to the paper
  - Interviews with financial advisers
  - Model to determine sustainable drawdown rates and appropriate portfolio allocations

Questions to Answer

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- Interviews
  - How do advisers decide on portfolio allocations and sustainable drawdown rates?
  - Assessing the quality of advice and mis-selling
- Model
  - What drawdown rates are sustainable for a given investor?
  - What portfolio reduces the probability of financial ruin for a given drawdown rate?

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Interviews: Drawdown rates

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- Sample of 20 advisers
- Living annuities comprise 67% of annuity sales
- Drawdown Rates
  - Rule of thumb: 5% to 8% a year
    - 20% of advisors: less than 5% a year
- 45% used models to determine sustainable drawdown rates
  - Models reinforce recommendations to clients
  - Appropriate assumptions?
  - Models vs experience

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Interviews: Portfolios

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- Determining portfolio allocations
  - Income requirements drive asset allocation
  - Types of funds
  - 20% of advisers: income in cash component
- Portfolios containing both living annuities and conventional annuities
- Optimal time to annuitise
- Bequest motive

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Interviews: Quality of Advice

- No significant differences by qualification
- Would sell living annuity against their recommendation if the client insists on it
- Reasons for mis-selling
  - Adviser doesn't understand product or general economy
  - Inappropriate asset allocation
  - Advisers have pressure to deliver the income required by the client
  - Clients not suitably informed that their capital can fall
  - Clients do not save enough for retirement
  - Unscrupulous behaviour

Interviews: Quality of Advice (2)

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- Explaining the concepts
  - 20% said clients do not always understand them
- Improvements to be made
  - More frequent communication with the client
  - Improved software
  - More training

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Model: Introduction

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- Cashflow model
  - Fund increased with investment returns and reduced by drawdown
  - Financial Ruin:

    Ruined if the maximum income that can be drawn down at time t is less than the minimum income required.

  - Allowance for mortality
  - Expenses ignored

- Results based on female with R1 000 000 in her LA at retirement.

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Model: Investment Returns

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- Thomson-Gott model
  - Real returns for different asset classes

ASSET CLASS	EQUITY	LONG ILB	SHORT ILB	LONG CB	SHORT CB
AVERAGE	3,67%	2,31%	2,15%	2,97%	2,41%
STANDARD DEVIATION OF RETURN	20,16%	6,16%	1,61%	16,38%	4,51%

- Tested 8 portfolios with different holdings

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Probabilities of Ruin

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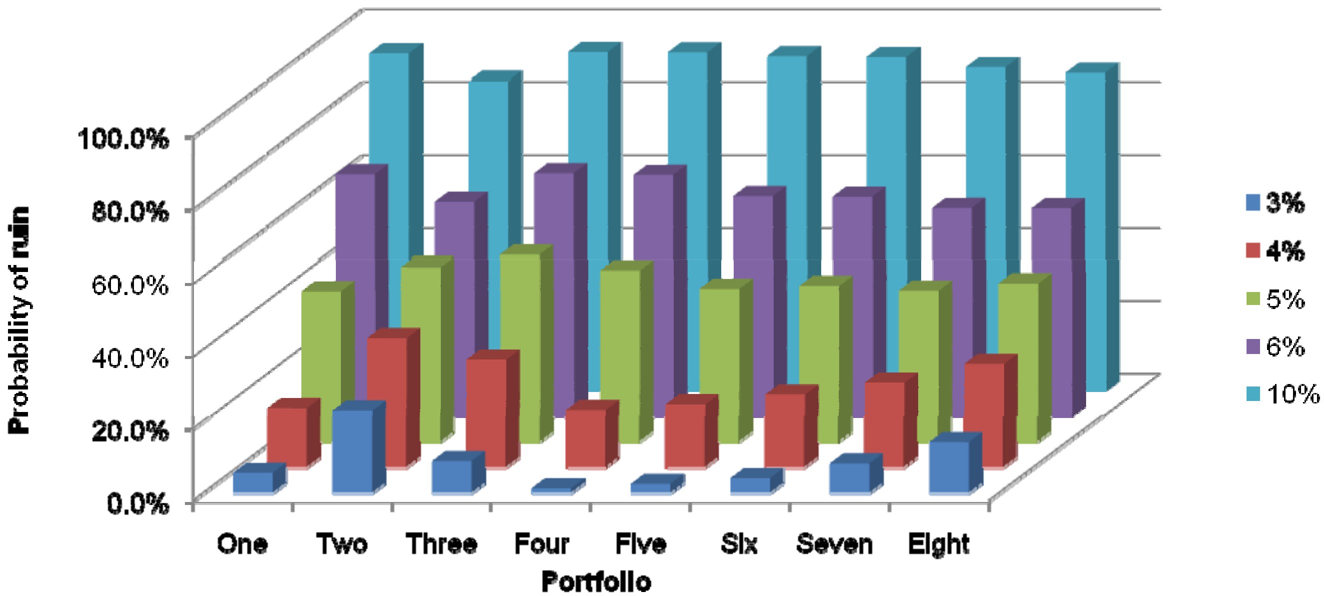

Portfolio	One	Two	Three	Four	Five	Six	Seven	Eight
Equity		100%			20%	20%	50%	75%
Long ILB	100%			50%	20%		15%	20%
Short ILB					20%	50%	20%	5%
Long CB			100%	25%	20%	30%	15%	
Short CB				25%	20%			

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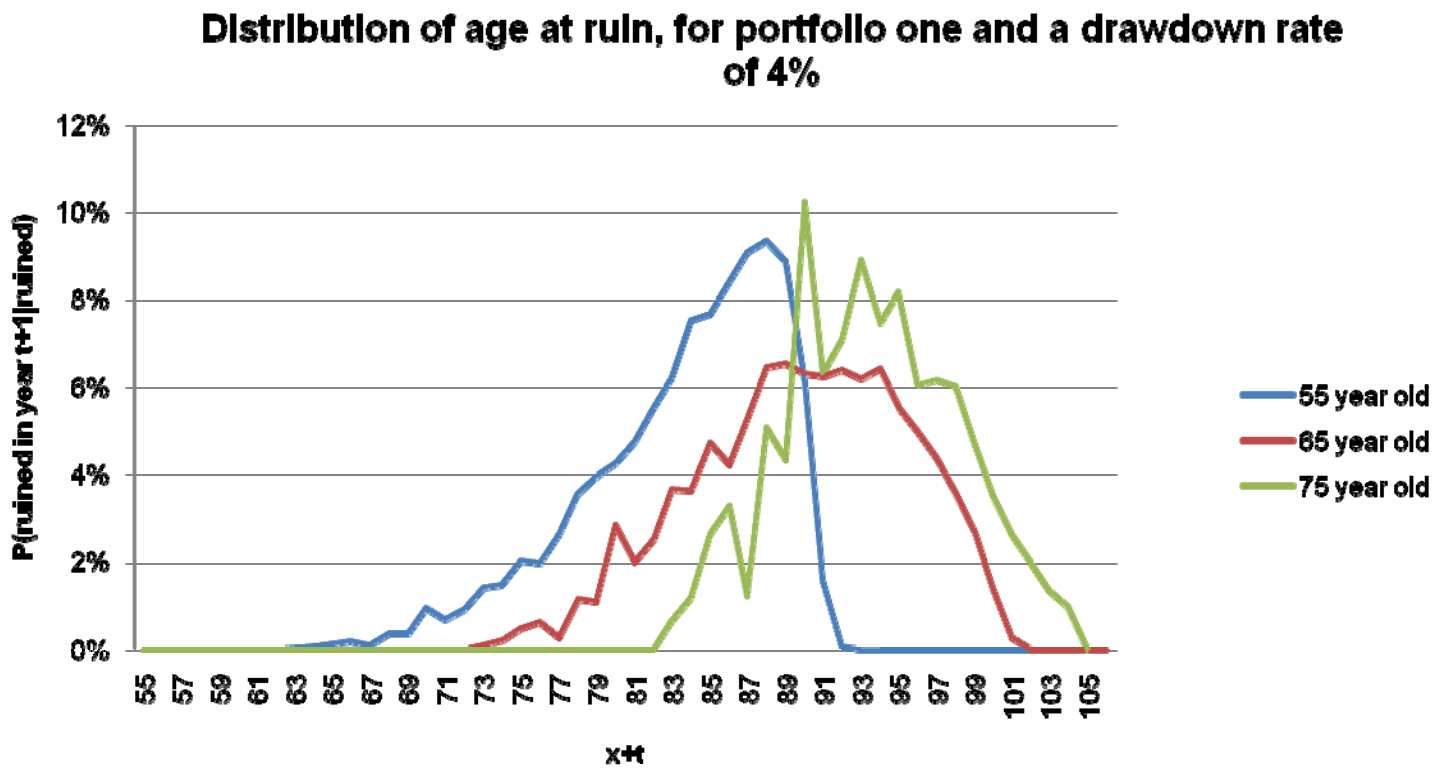
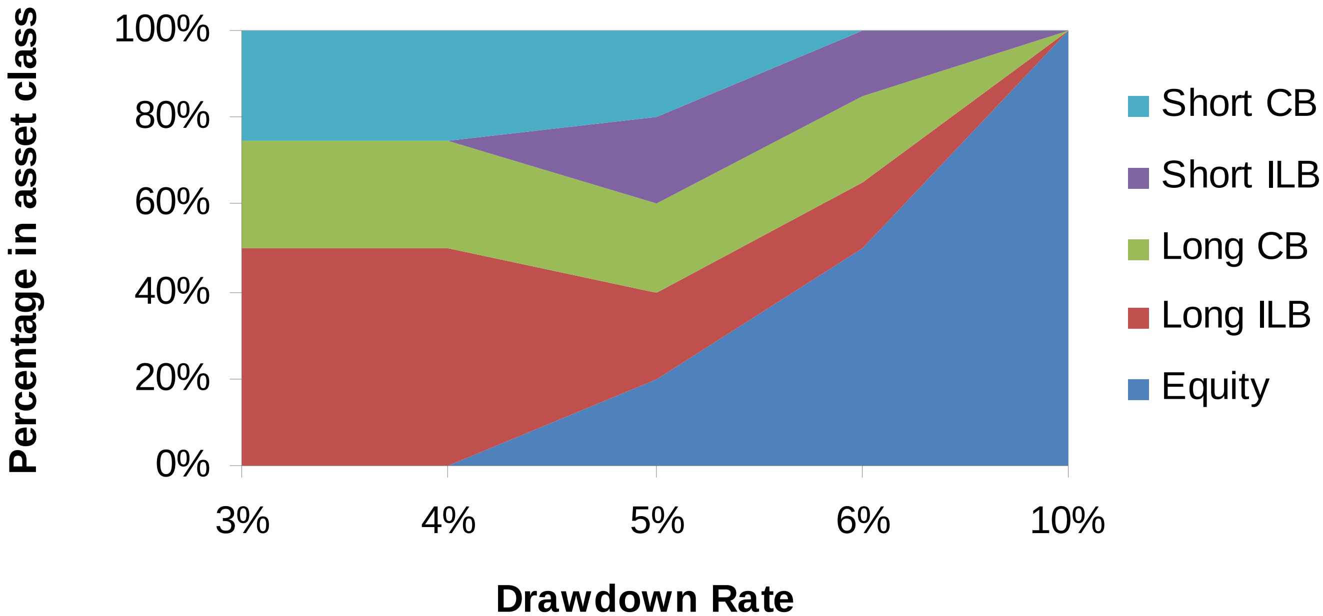
Age at Ruin



- On average, a 4% drawdown rate is sustainable for 20 to 25 years

Asset composition for best portfolios



- As drawdown rates increase, the holding in equity increases

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Impact of age of the investor

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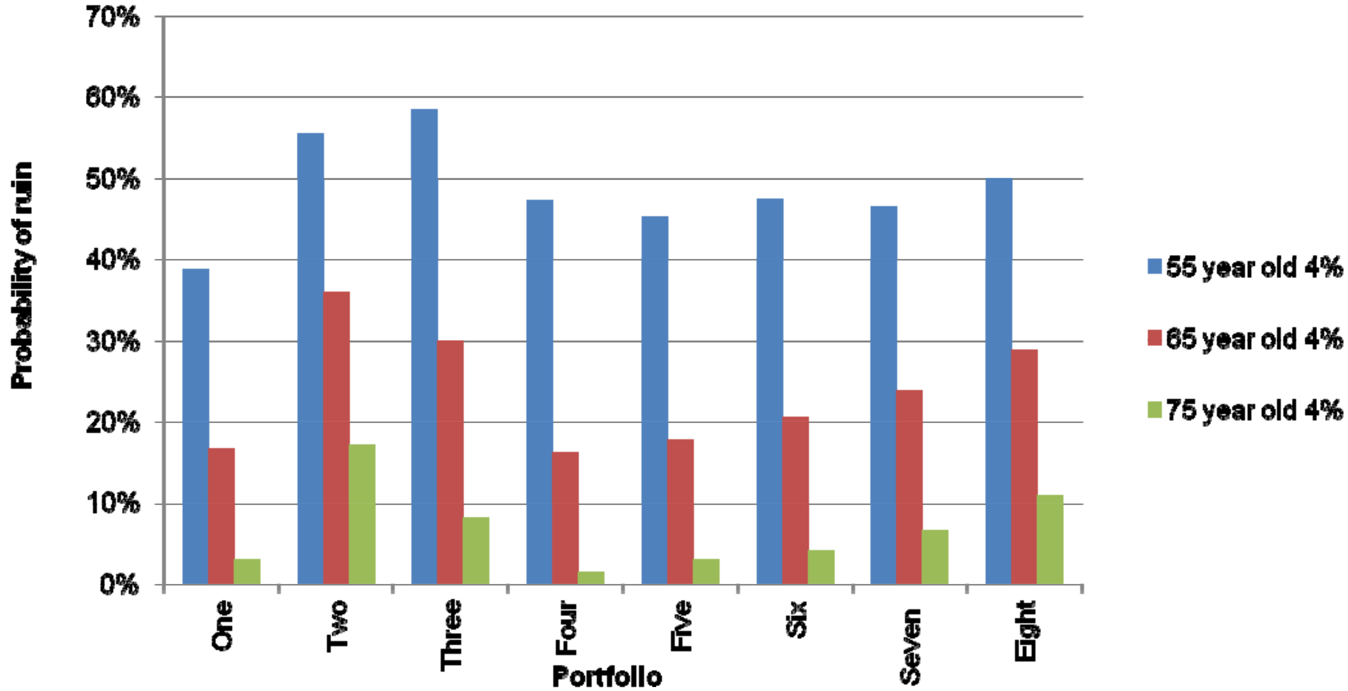

- As age increases, probability of ruin decreases

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Summary of Results of the Model

AGE	SUSTAINABLE DRAWDOWN	BEST PORTFOLIOS
65	3% - 4%	BOND PORTFOLIOS
75	4%	MOST PORTFOLIOS

- Probability of ruin decreases as:
  - Age of investor increases
  - As drawdown rate decreases
- Balanced portfolios often performed poorly relative to other portfolios

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Post-varsity life

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- Increased real returns for equity by 4%

ASSET CLASS	EQUITY	LONG ILB	SHORT ILB	LONG CB	SHORT CB
AVERAGE	7,67%	2,31%	2,15%	2,97%	2,41%
STANDARD DEVIATION OF RETURN	20,16%	6,16%	1,61%	16,38%	4,51%

- Again tested the 8 portfolios

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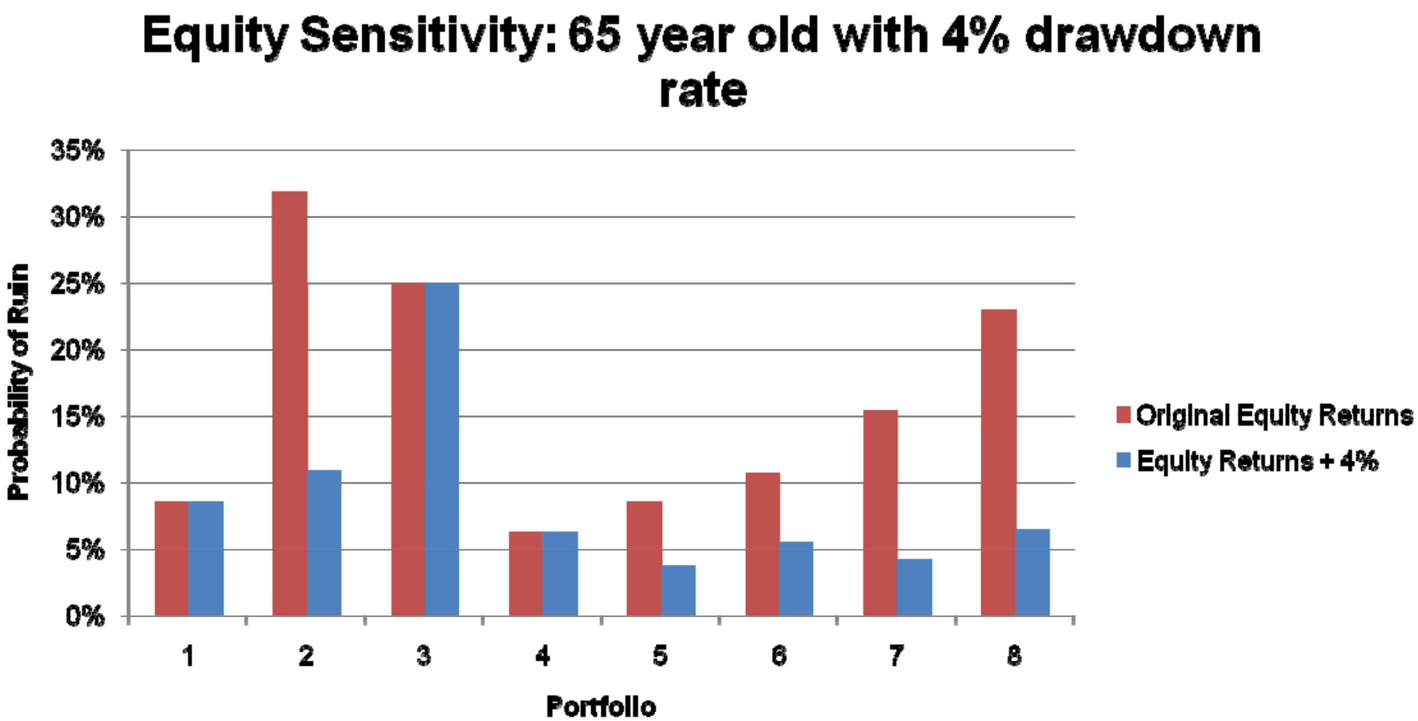
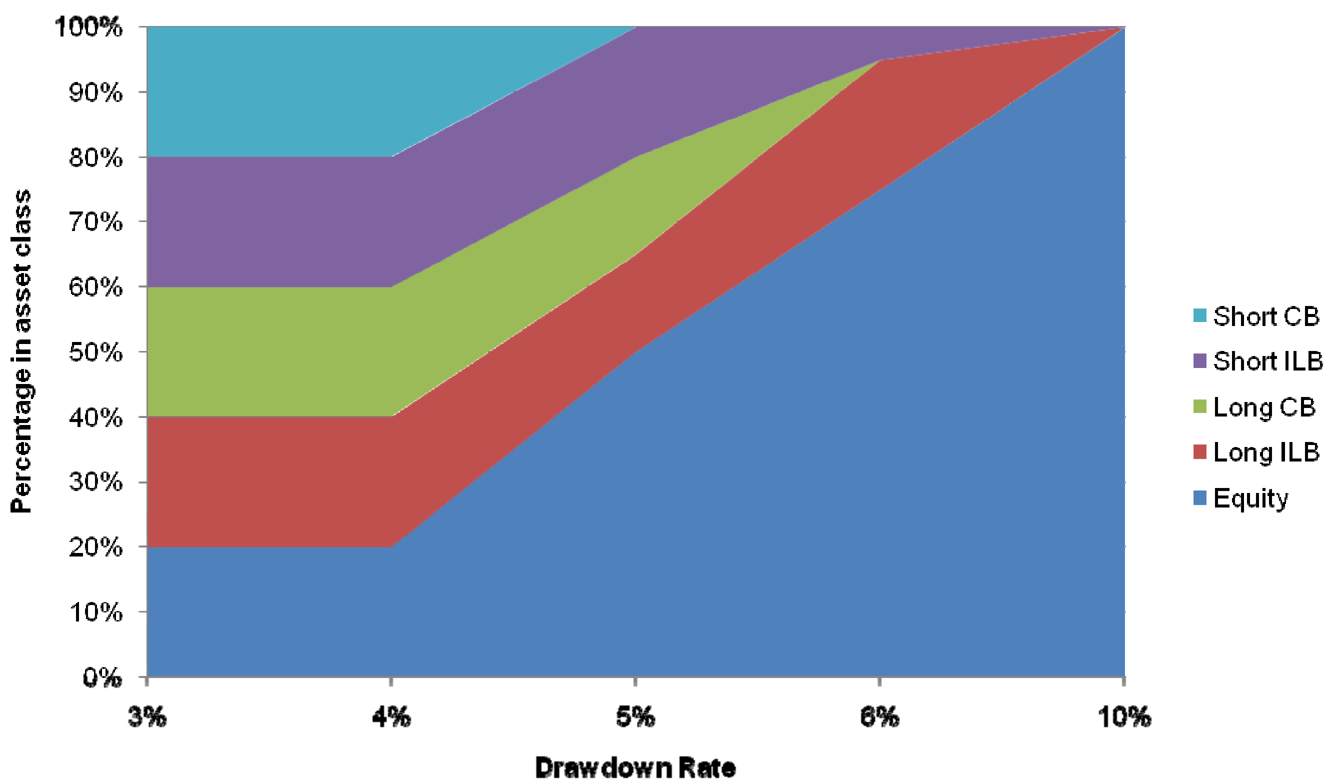
Equity Sensitivity



- Lower probabilities of ruin
- Portfolios containing some equity now perform better

Asset composition for best portfolios



- As drawdown rates increase, the holding in equity increases

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Conclusion

- Discussed the advisory process
  - Advisers generally felt useful to make use of mathematical framework when advising clients
- Range of bonds tended to produce the lowest probabilities of ruin
- When sensitivity testing with higher equity returns, balanced portfolios performed much better
- Drawdown rates less than 5% appear to be sustainable

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Thank you

Questions?