



Asset Allocation  
Investing in the new reality...

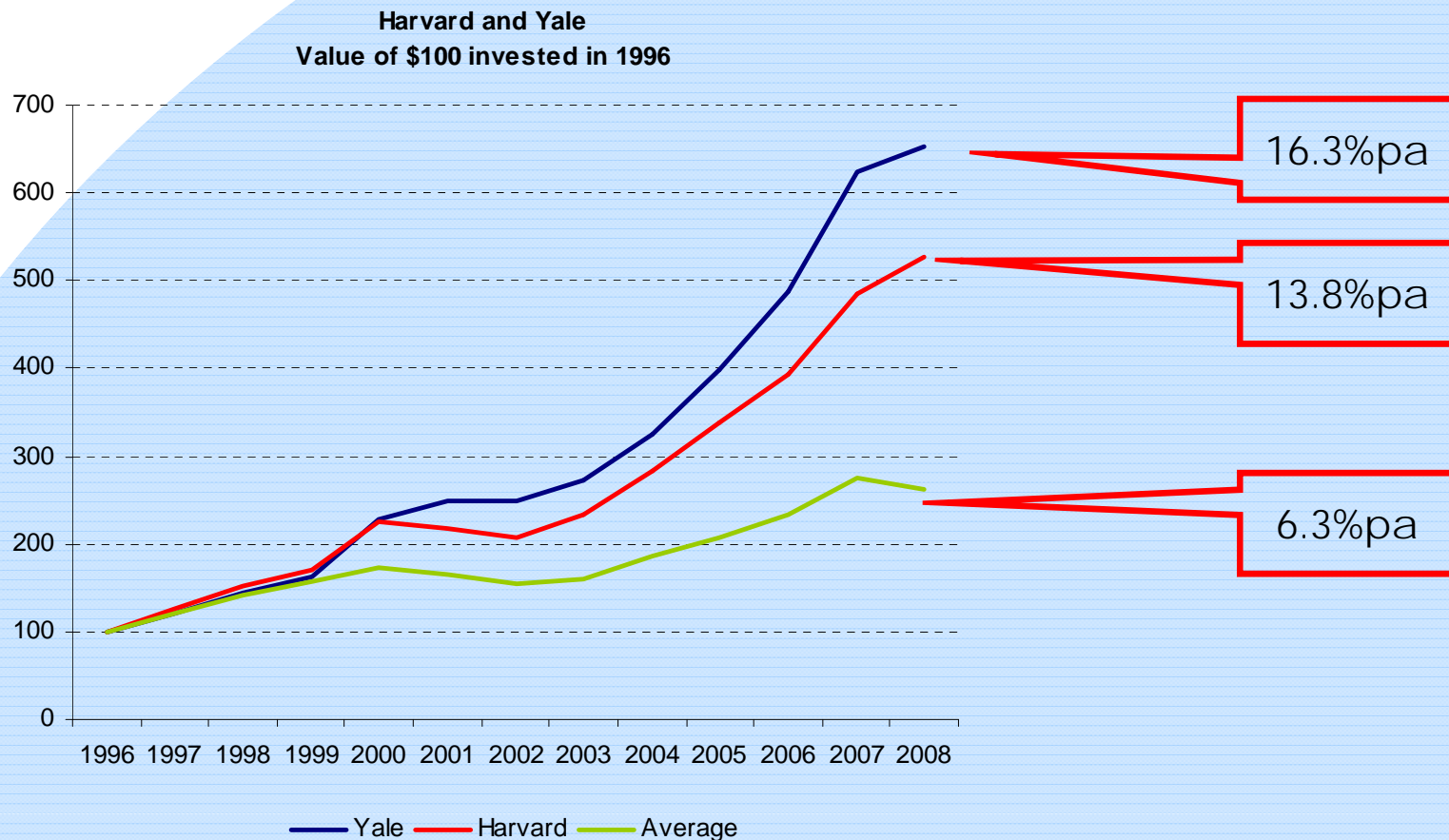


CONFERENCE

# New frameworks for asset allocation Harvard, Yale and risk profiling...

Tim Farrelly  
August 2009

# Harvard and Yale : the super endowments



# Asset allocation – really quite different

|  | Harvard      | Yale         | Avg Endowment |
|--|--------------|--------------|---------------|
| US Equities                            | 12.0         | 11.0         | 26.3          |
| Foreign Equities                       | 12.0         | 5.6          | 15.5          |
| Emerging markets equity                | 10.0         | 8.5          | 6.6           |
| Private equity                         | 11.0         | 18.7         | 7.0           |
| <b>Equities</b>                        | <b>45.0%</b> | <b>43.8%</b> | <b>55.4%</b>  |
| Absolute return                        | 18.0         | 23.3         | 19.5          |
| High yield                             | 1.0          | -            | -             |
| Real assets*                           | 26.0         | 27.1         | 10.1          |
| <b>Alternatives</b>                    | <b>45.0%</b> | <b>50.4%</b> | <b>29.6%</b>  |
| <b>Alternatives inc Private equity</b> | <b>56.0%</b> | <b>69.1%</b> | <b>36.6%</b>  |
| Domestic bonds                         | 5.0          | 4.0          | 12.7          |
| Foreign bonds                          | 3.0          |              |               |
| Inflation indexed bonds                | 7.0          |              |               |
| Cash                                   | -5.0         | 1.9          | 2.3           |
| <b>Defensives</b>                      | <b>10.0%</b> | <b>5.9%</b>  | <b>15.0%</b>  |

## But it's not all about asset allocation...

| Harvard :10 year Performance to June 2008 |              |             |                     |
|---|--------------|-------------|---------------------|
|   | Harvard      | Benchmark   | Harvard v Benchmark |
| US Equities                               | 6.7          | 4.2         | 2.5%                |
| Foreign Equities                          | 8.7          | 6.1         | 2.6%                |
| Emerging markets equity                   | 18.5         | 17.2        | 1.3%                |
| Private equity                            | 28.3         | 11.7        | 16.6%               |
| Absolute return                           | 12.9         | 9.6         | 3.3%                |
| High yield                                | 7.5          | 3.9         | 3.6%                |
| Real assets*                              | 16.7         | 12.6        | 4.1%                |
| Domestic bonds                            | 13.3         | 6.4         | 6.9%                |
| Foreign bonds                             | 15.3         | 6.5         | 8.8%                |
| Inflation indexed bonds                   | 7.0          | 6.2         | 0.8%                |
| <b>Total</b>                              | <b>13.8%</b> | <b>9.5%</b> | <b>4.3%</b>         |
| Median fund                               |              | 6.1%        |                     |

# Yale has similarly spectacular results

| Yale :10 year Performance to June 2008 |              |             |                  |
|--|--------------|-------------|------------------|
|  | Yale         | Benchmark   | Yale v Benchmark |
| US Equities                            | 11.1         | 5.3         | 5.8%             |
| Foreign Equities (inc EM)              | 17.3         | 11.3        | 6.0%             |
| Private equity                         | 35.9         | 14.2        | 21.7%            |
| Absolute return                        | 12.0         | 10.5        | 1.5%             |
| Real assets*                           | 19.4         | 10.1        | 9.3%             |
| Fixed interest                         | 6.2          | 5.8         | 0.4%             |
| <b>Total</b>                           | <b>16.3%</b> | <b>9.9%</b> | <b>6.4%</b>      |
| Median fund                            |              | 6.1%        |                  |

\* Commodities, timber, property

## Similar outcome, different means...

| Sector value add : 10 years average %pa |                        |                      |
|---|------------------------|----------------------|
|   | Harvard<br>To Jun 2008 | Yale<br>To June 2008 |
| US Equities                             | 2.5%                   | 7.5%                 |
| Foreign Equities                        | 2.6%                   | 6.0%                 |
| Emerging markets equity                 | 1.3%                   | -                    |
| Private equity                          | 16.6%                  | 21.7%                |
| Absolute return                         | 3.3%                   | 1.5%                 |
| High yield                              | 3.6%                   | -                    |
| Real assets*                            | 4.1%                   | 9.3%                 |
| Domestic bonds                          | 6.9%                   | 0.4%                 |
| Foreign bonds                           | 8.8%                   | -                    |
| <b>Asset class value add</b>            | <b>4.3</b>             | <b>8.1%</b>          |
| <b>Asset allocation</b>                 | <b>3.4</b>             | <b>2.1%</b>          |
| <b>Total</b>                            | <b>7.7%</b>            | <b>10.2%</b>         |

# Real assets

Yale - Value add 9%pa

- Timber
- Direct property
- Oil and gas partnerships

Harvard – value add 4%pa

- Timber
- Direct property
- Commodity futures



## **Innovators, imitators and idiots**

Monday, 24 November 2008 10:30am

Yale Endowment wannabes trying to emulate their heroes with high exposures to timber products pushed up prices to 30 times pre-tax cash flow, setting them up for big falls in 2009.

The frenzy, reported by Barrons, a newsletter published by the Wall Street Journal, was because junior endowment funds were rushing to lift their timber allocations from 9 to 11 per cent.

For current investors it creates a lucrative secondary market, which will come in handy as some endowment funds are reporting overall fund write-downs as high as 15 per cent due to the post-June market shakedown, they reported.

Barron's said Jeremy Grantham, head of GMO, is now more concerned about the Yale wannabes than he is about properly resourced players such as Yale.

"It's obvious to me that few of those emulating Yale have the resources of Yale and the talent of Yale to pick the right managers."

Paraphrasing market guru Warren Buffet, Barron's said, "First come the innovators, then the imitators and, finally, the idiots."

Financial Standard

# Real assets value add..

| Contributions to overall added value : 10 years average %pa |                        |                      |
|---|------------------------|----------------------|
|   | Harvard<br>To Jun 2008 | Yale<br>To June 2008 |
| US Equities   | 0.4%                   | 1.0%                 |
| Foreign Equities  | 0.3%                   | 0.8%                 |
| Emerging markets equity                                     | 0.1%                   | -                    |
| Private equity  | 2.2%                   | 3.9%                 |
| Absolute return   | 0.4%                   | 0.4%                 |
| High yield  | 0.1%                   | -                    |
| Real assets*  | 0.8%                   | 2.0%                 |
| Domestic bonds  | 0.7%                   | 0.0%                 |
| Foreign bonds   | 0.4%                   | -                    |
| <b>Asset class value add</b>                                | <b>4.3%</b>            | <b>8.1%</b>          |
| <b>Asset allocation</b>                                     | <b>3.4%</b>            | <b>2.1%</b>          |
| <b>Total</b>  | <b>7.7%</b>            | <b>10.2%</b>         |

# Real assets bailed out the Harvard fund in year ending June 2008

- +41% for commodities (+3.7% of 8.6%)
- +33% for timber and property(+6% of 8.6%pa)
- Commodities since crashed
- Property and timber?????

# Private equity value very significant part of the overall value add

| Contributions to overall added value : 10 years average %pa |                        |                      |
|---|------------------------|----------------------|
|   | Harvard<br>To Jun 2008 | Yale<br>To June 2008 |
| US Equities   | 0.4%                   | 1.0%                 |
| Foreign Equities  | 0.3%                   | 0.8%                 |
| Emerging markets equity                                     | 0.1%                   | -                    |
| Private equity  | 2.2%                   | 3.9%                 |
| Absolute return   | 0.4%                   | 0.4%                 |
| High yield  | 0.1%                   | -                    |
| Real assets*  | 0.8%                   | 2.0%                 |
| Domestic bonds  | 0.7%                   | 0.0%                 |
| Foreign bonds   | 0.4%                   | -                    |
| <b>Asset class value add</b>                                | <b>4.3%</b>            | <b>8.1%</b>          |
| <b>Asset allocation</b>                                     | <b>3.4%</b>            | <b>2.1%</b>          |
| <b>Total</b>  | <b>7.7%</b>            | <b>10.2%</b>         |

# No longer immune to falls...

## **NY Times : 4 December 2008**

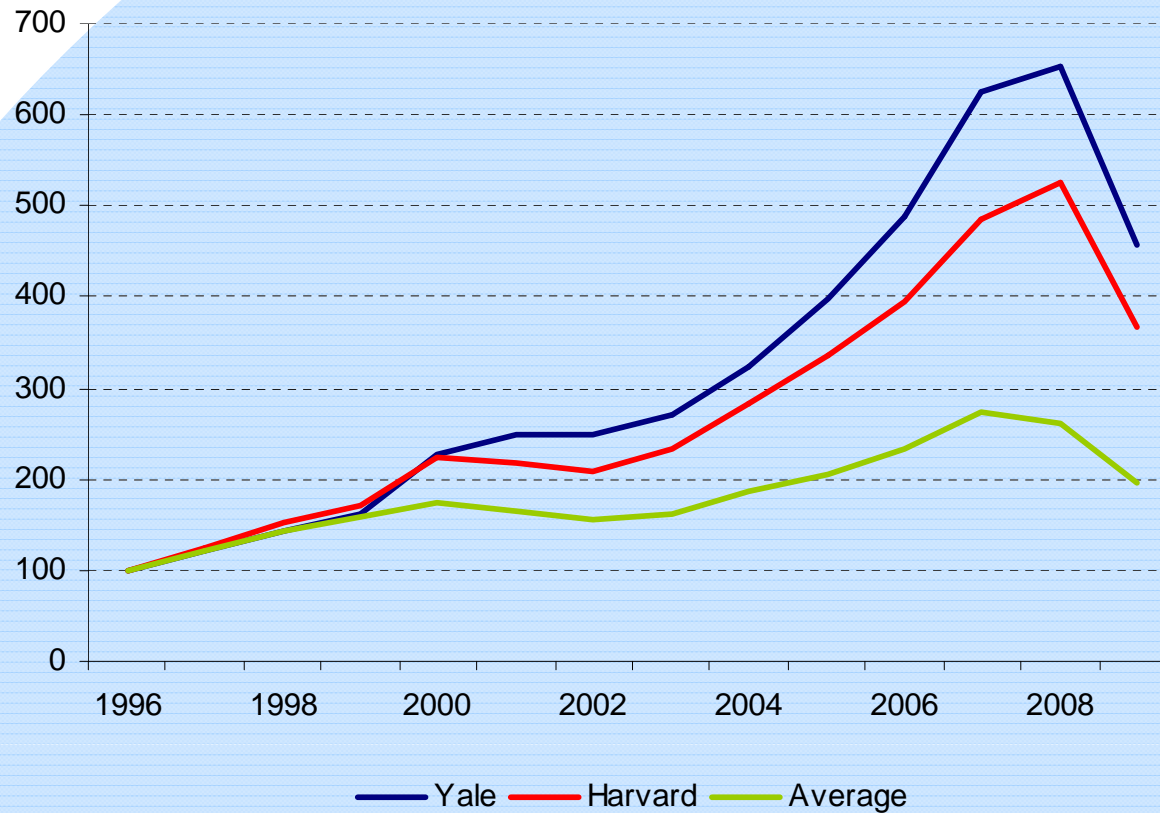
In a sign of the economic times Harvard has sent a letter to its deans saying that the university's \$36.9 billion endowment fund lost 22 percent of its value in the last four months and could decline as much as 30 percent by the end of the fiscal year on June 30.

## **Boston Globe :17 December 2008**

Yale University, the second-wealthiest US institution of higher learning at the end of June, estimated that its endowment has since fallen 25 percent, to \$17 billion.

# Still miles ahead...

Harvard and Yale  
Value of \$100 invested in 1996



# The secret

According to one former Harvard official, its endowment fund has done so well because it has avoided taking advice from the economics faculty.

# Harvard and Yale...

- Asset allocation has important
- Manager and stock selection even more important
- Chasing successful strategies just as bad as chasing past returns



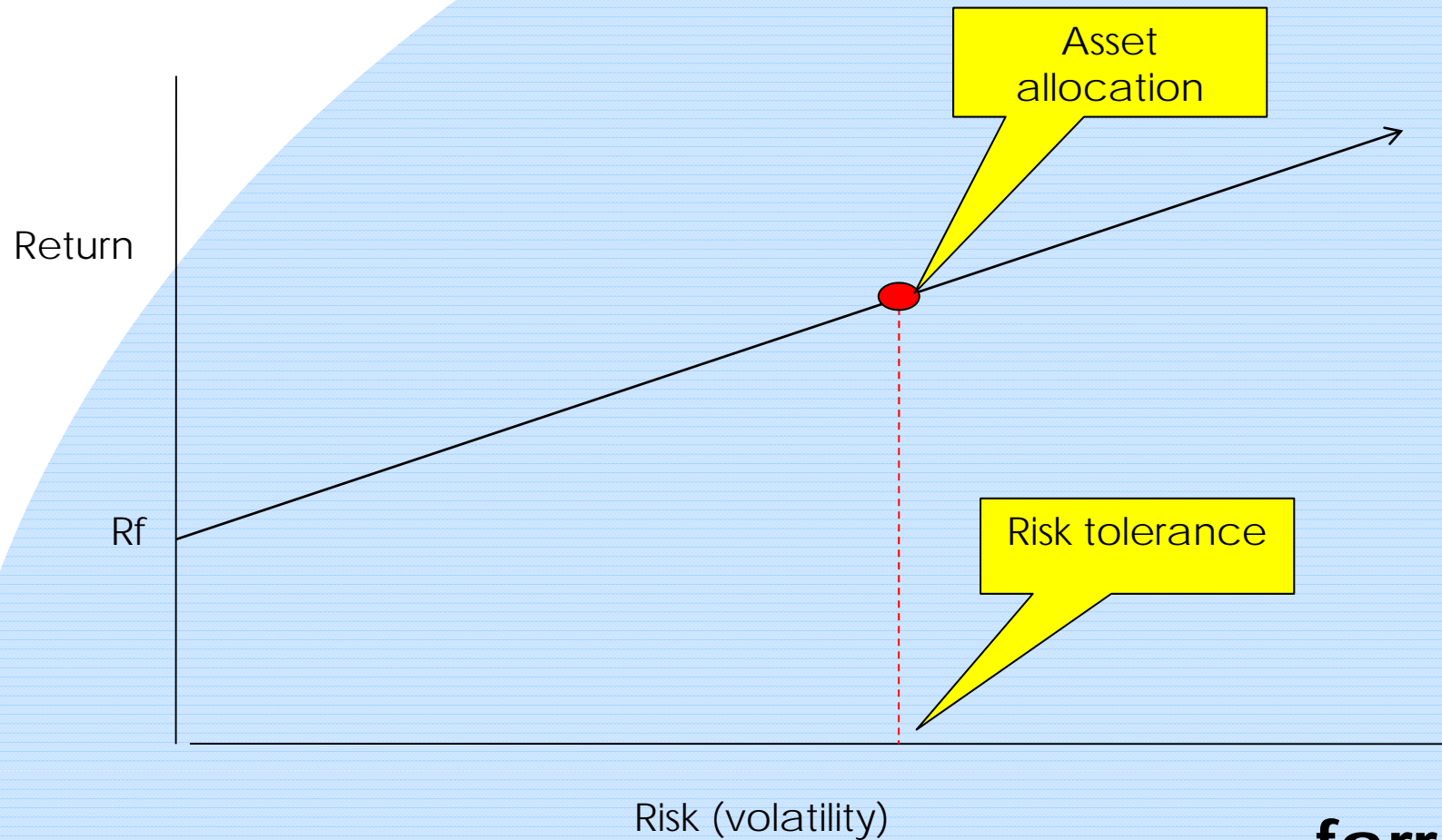
# New thinking about risk profiling

Tim Farrelly  
August 2009

# The equity risk premium and risk tolerance

- Equities have higher volatility and therefore command a risk premium
- So they outperform in the long term
- We work out risk tolerance (ability to tolerate volatility)
- We maximize returns by positioning investors at their maximum risk tolerance
- Maximise standard of living by maximising returns

# Risk profiling and asset allocation



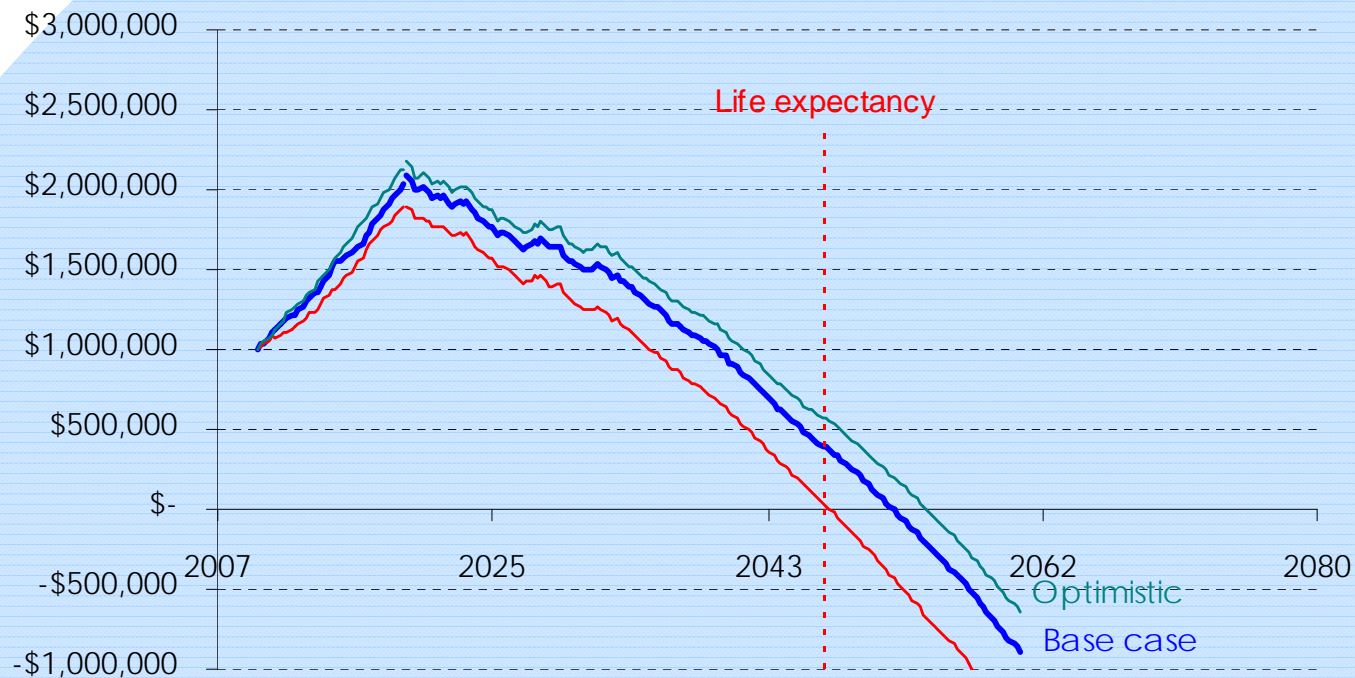
**So what?**

# Case study : Bill

- Assets \$1,000,000
- Earns \$120,000pa after tax
- Spends \$95,000pa
- Age 55
- Expected retirement 65
- Life expectancy 93

# A typical plan if equities consistently outperform...

Lifetime Capital  
in today's dollars

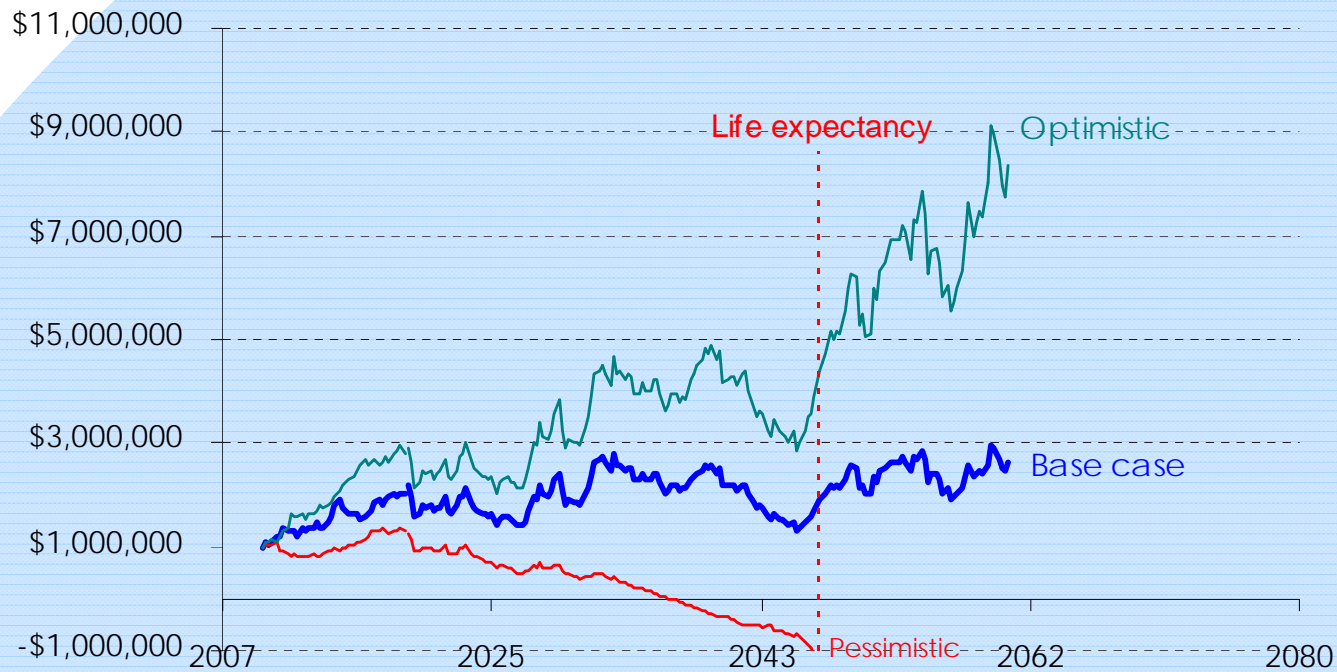


Balanced portfolio, spends 95000 pa,  
8.8% return

farrelly's

# Reality is more like this...

Lifetime Capital  
in today's dollars

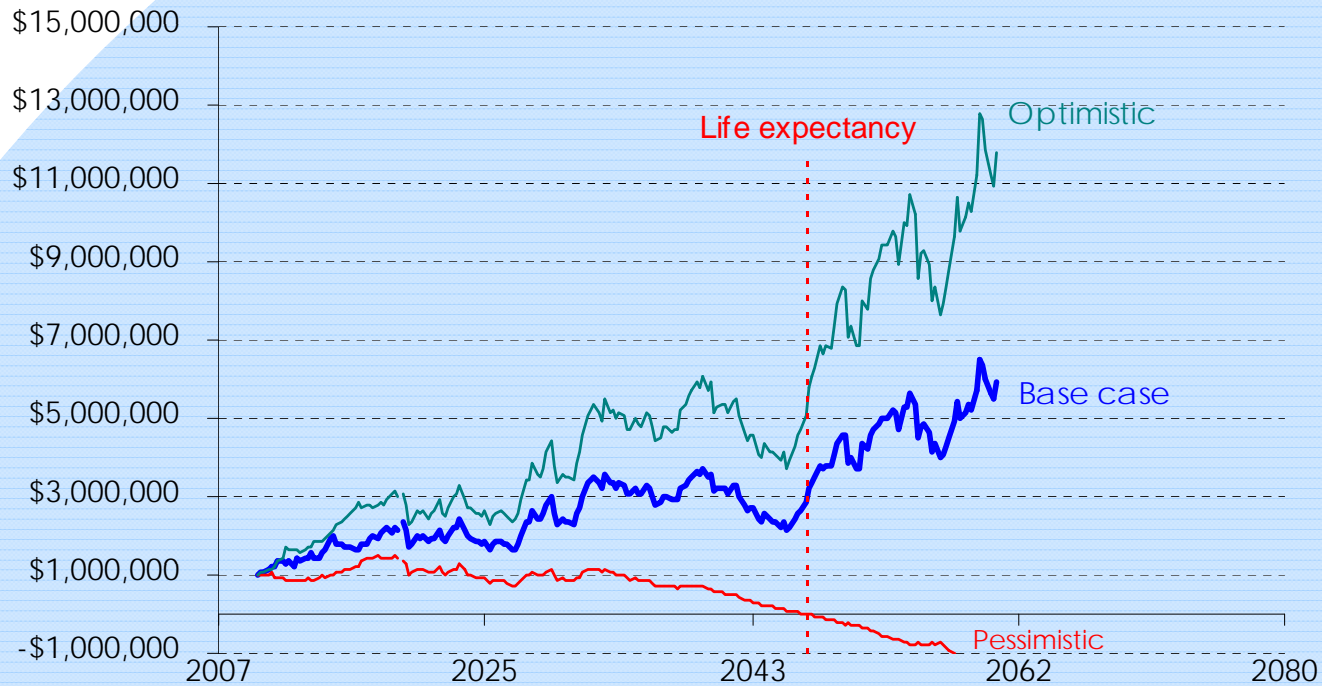


Balanced portfolio, spends 95,000 pa,  
8.8% return

farrelly's

# Way too much spending....

Lifetime Capital  
in today's dollars



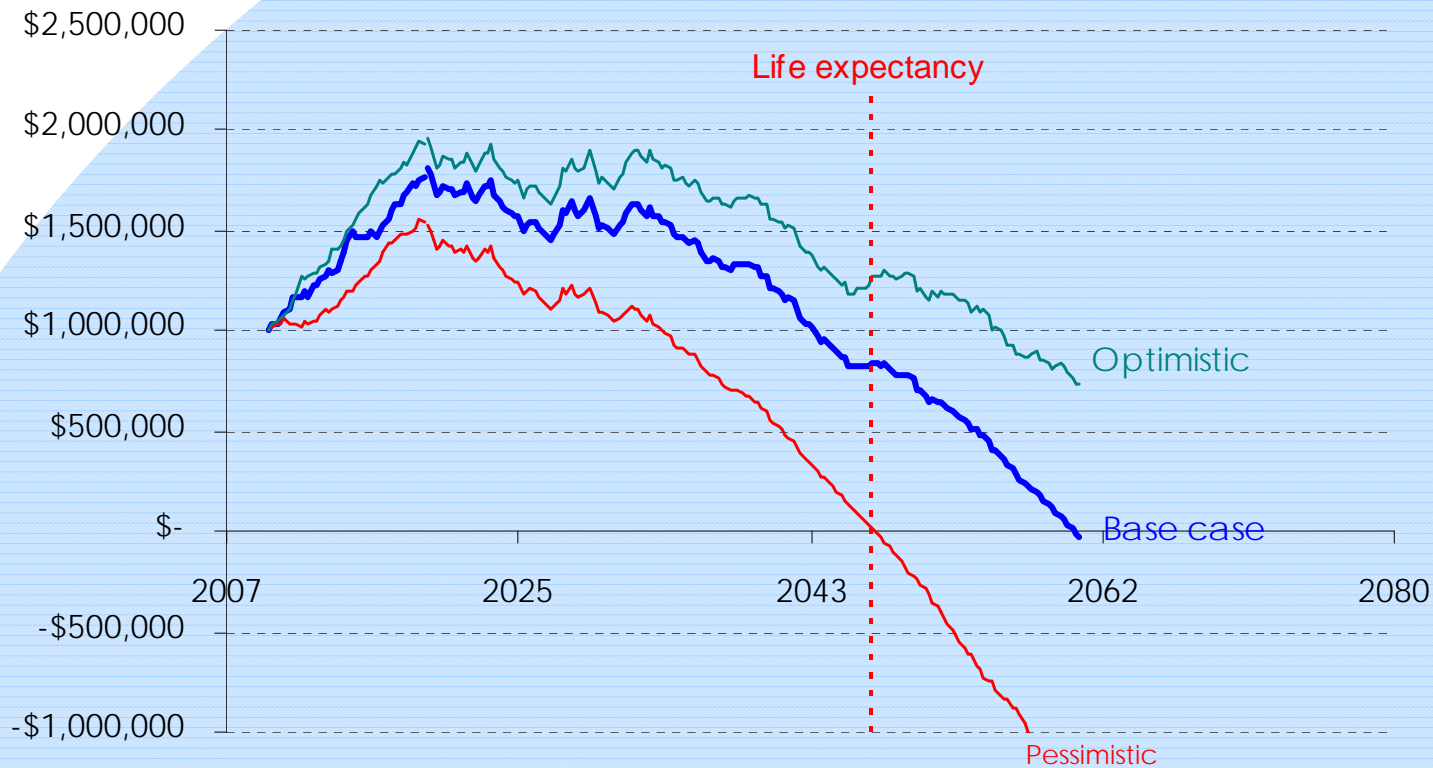
Balanced portfolio, spends 82,000pa

farrelly's



# Less risk means better lifestyle!

Lifetime Capital  
in today's dollars



Conservative portfolio, spends \$90,000pa,  
6.4% forecast return

farrelly's

# The equity risk premium and risk tolerance

- Equities have higher volatility and therefore **should** command a risk premium
- So they **should** outperform in the long term – **but may not**
- We work out risk tolerance (ability to tolerate volatility) **and financial risk capacity (ability to tolerate low returns)**
- Maximise standard of living by **optimising balance between maximising returns and minimising uncertainty**
- Review case by case

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