Advanced Retirement Income Planning based on Market History

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Important Points

All charts, tables, data, statements, claims, formulas and content information – except where explicitly noted otherwise - are based on research and findings of the presenter. These can be found in more detail in “Unveiling Retirement Myth – Advanced Retirement Planning Based on Market History”, ISBN 978-0-968963425, a textbook on retirement income planning, authored by the presenter.

The annual updates of the charts and other data are derived by using the propriety software that is marketed as “Otar Retirement Calculator.”

Both will be available to you for further review and due diligence, free of charge, upon conclusion of this presentation.

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Outline

- Flaws of forecast methods
- Market History and Retirement Planning
- The Luck Factor
- The Math of Loss
- Three Warning Signals
- The Zone Strategy

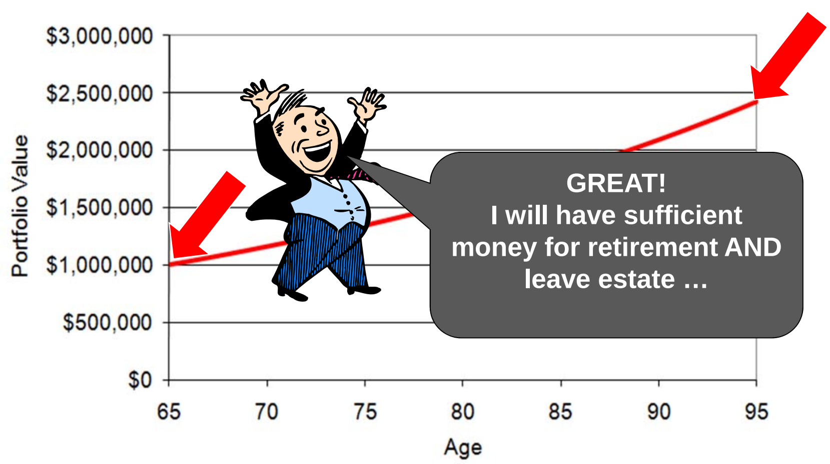
THE DARK AGES: Single-Line Forecast

- Retiring now at age 65
- Starts with $1 million
- Withdrawals of $50,000 / year

ASSUMPTIONS:
- Average Growth Rate: 8% per year
- Average Inflation: 3% per year

Make a 30-year FORECAST!

Single Line Forecast

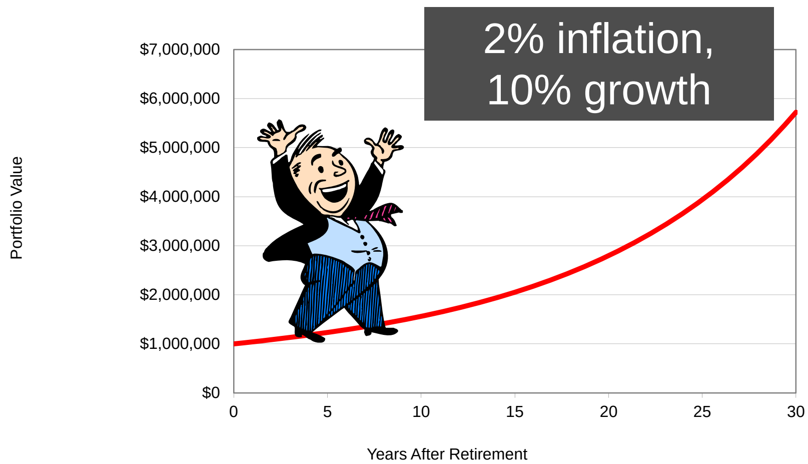


Single Line Forecast

If the forecast is not rosy, there are three ways an advisor can "tweak" for potential "solutions" :

- Use a higher " assumed" portfolio growth rate
- Use a lower "assumed" inflation rate
- Use a lower "assumed" age of death

Single Line Forecast



ACADEMIC FANTASY: Multi-Line Forecast

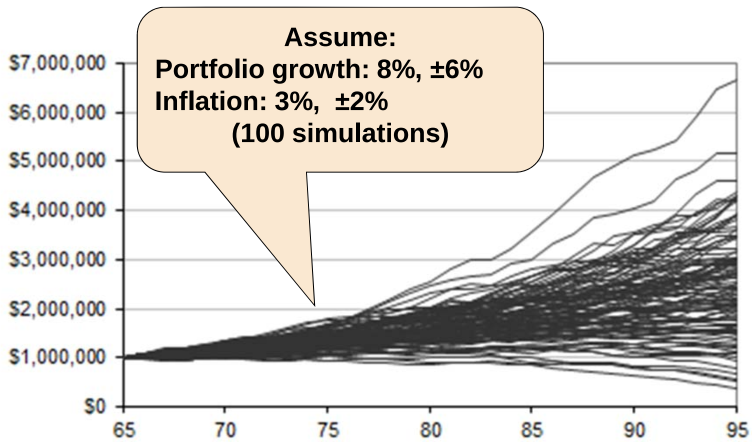
- Retiring now at age 65
- Starts with $1 million
- Withdrawals of $50,000 / year

ASSUMPTIONS:

- Average Growth Rate: 8% $\pm$6% per year
- Average Inflation: 3% $\pm$2% per year

Make a 30-year FORECAST!

ACADEMIC FANTASY: Multi-Line Forecast



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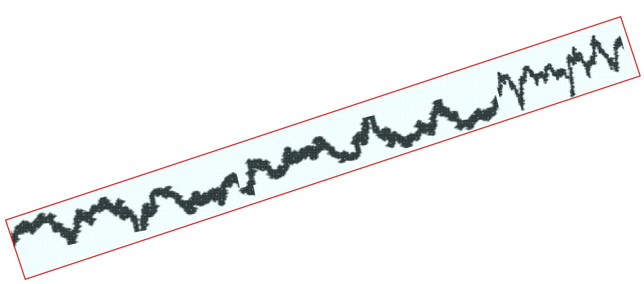
ACADEMIC FANTASY: Multi-Line Forecast

Monte Carlo simulations assume random fluctuations around an “average” growth rate



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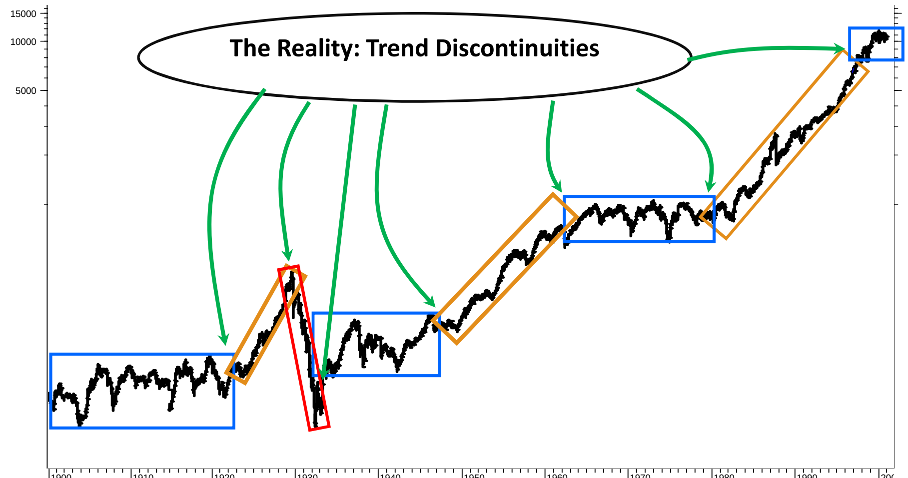
ACADEMIC FANTASY: Multi-Line Forecast

Markets do not have an "average" growth rate applicable for the retiree's time horizon



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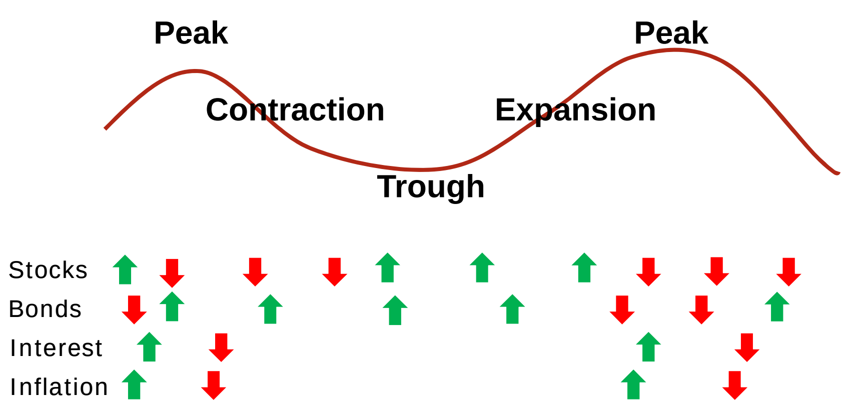
ACADEMIC FANTASY: Multi-Line Forecast

Sequence of Events in Market Cycles



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ACADEMIC FANTASY: Multi-Line Forecast

Monte Carlo Simulators

Randomizing over a business cycle:

- When you randomize the behavior (up or down) of 4 items (stocks, bonds, interest rates and inflation) over 4 phases (peak, contraction, trough, expansion), you have 1 in 16 chance of lining up sequence of returns correctly.
- If you run 16,000 simulations, you'll have 15,000 runs that are basically useless.

AFTCAST: My "Reality" Solution

- Developed 13 years ago, uses the actual market history, including growth rate and inflation, as they happened in history.
- Reflects the actual sequence of events, the actual sequence of returns (stocks, interest rates and inflation), the actual correlation between stocks, interest rates and inflation, and actual volatility as they occurred since 1900.
- No assumed growth rate, no assumed future inflation rates.

The Objective of Aftcasting

- We agree whole-heartedly that the past performance is not necessarily an indicator of future performance
- However, if you use aftcasting and design a retirement plan based on the sequence of events as it actually happened in the black swan situations of the past, you can enable the retiree for a more successful retirement.

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Article 24	Retirement Planning #1: Roadmap to Where? (2001 CFP-Board Article Award)	Canadian MoneySaver, December 2000

Retirement Planning: Part 1: Roadmap to Where?

CEMIL OTAR

Do you have a retirement plan?

Here is how it works: Your financial planner interviews you for a couple of hours, collects your vital financial information - how much you have now, how much you can save until your retirement, at what age you wish to retire, how much money you want after retirement, how much legacy you want to leave to your children, to your favorite charities, and to the grandchildren of your cousin-twice-removed.

You can also prepare your retirement plan using one of the many available "do-it-yourself" financial web sites.

You'll end up with a computer-printed report outlining your financial "plan", which invariably includes a graph showing your projected asset growth until the end of your expected life. Typically, it looks similar to the graph shown in Figure 1.

This "standard" retirement plan chart consist of two parts:

1. Saving: The bars rising parabolic on the left hand side of the chart show how your assets build up

After reviewing this chart, you conclude that if you put aside X dollars each month until your retirement, then you can retire at age XX and withdraw XXX dollars from your investments, adjusted for an assumed inflation rate. Now you are confident about your future, and nothing can prevent you reaching this goal. Right?

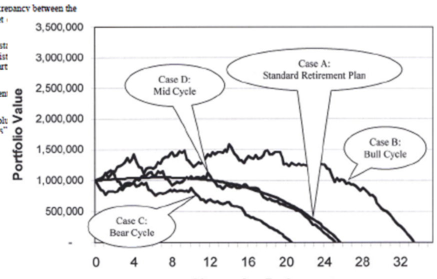
Wrong! My next set of articles will reveal how misleading some "standard" retirement plans can be.

This article, Part 1, shows the discrepancy between the "standard" retirement plan and market ... on historic business cycles.

In Part 2, I will compare the "st... plan with one hundred years of hist... Reader discretion is advised, as this art... frightening scenes.

In Part 3, I will talk about the poten... praised "Dollar Cost Averaging".

In subsequent parts, I will offer solu... mutual funds and "Annuity Ladders"



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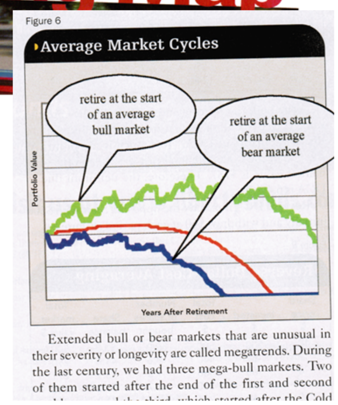
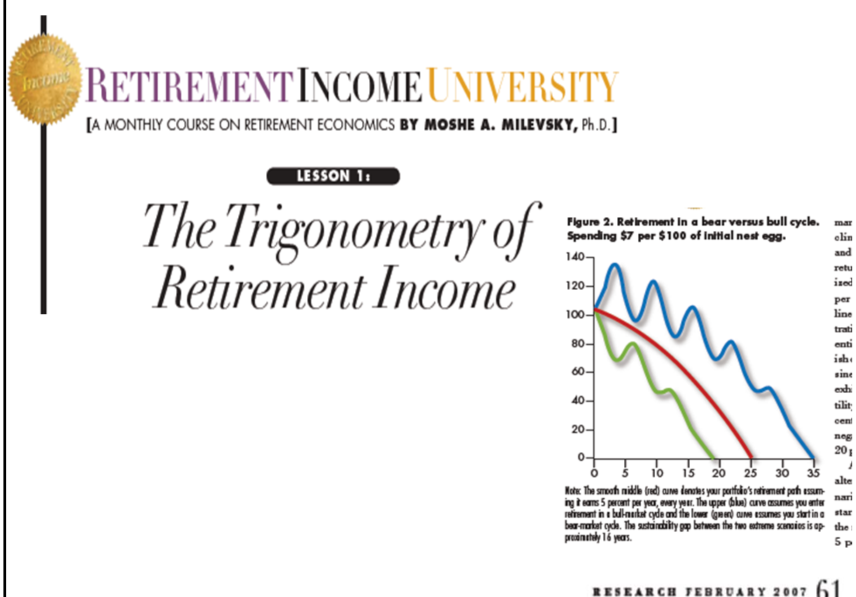
Article 34	Right Road Wrong Map (2002 CFP Board Article Award)	Financial Planning, U.S.A., May 2002



The vast majority of retirement plan projections are overly optimistic because they're based on incorrect or outdated assumptions. **By Jim Otar**



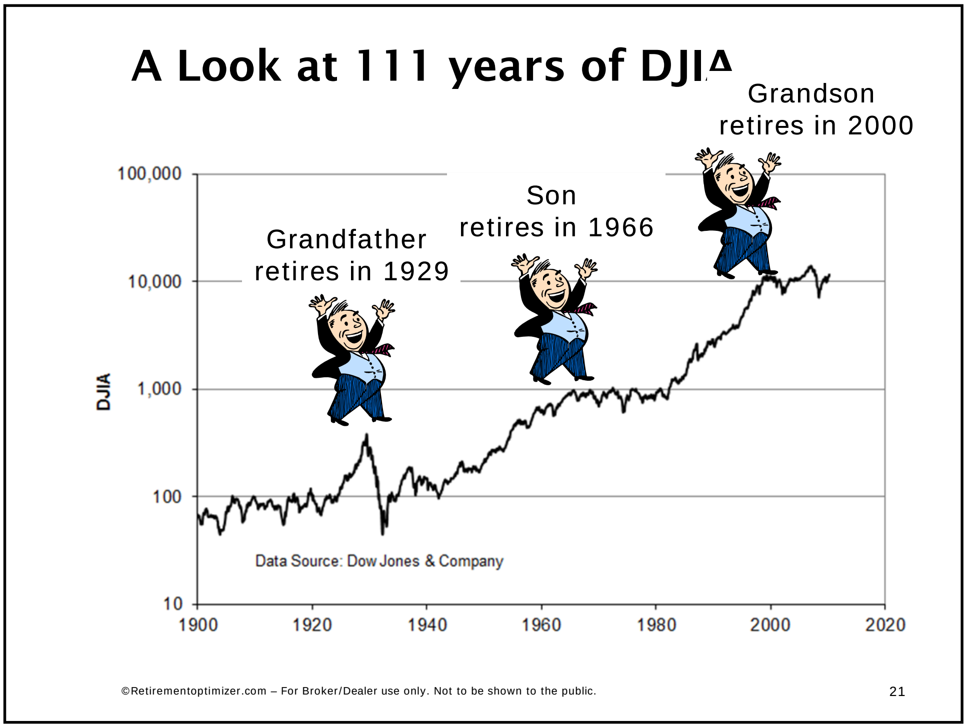
AFTCAST:

- Retiring now at age 65
- Starts with $1 million
- Withdrawals of $50,000 / year

ASSUMPTIONS:
- No assumptions
- No forecast

The Reality - Story of Three Generations

- Using actual market history, let's look at portfolios for three generations .
- We will not make a forecast (no assumed growth rate and no assumed inflation).
- We will make an aftcast. Aftcast means looking at historical outcomes as they would have happened in the past.


A Look at 111 years of DJIA
Grandson retires in 2000
Son retires in 1966
Grandfather retires in 1929
100,000
10,000
1,000
100
10
DJIA
Data Source: Dow Jones & Company
1900
1920
1940
1960
1980
2000
2020
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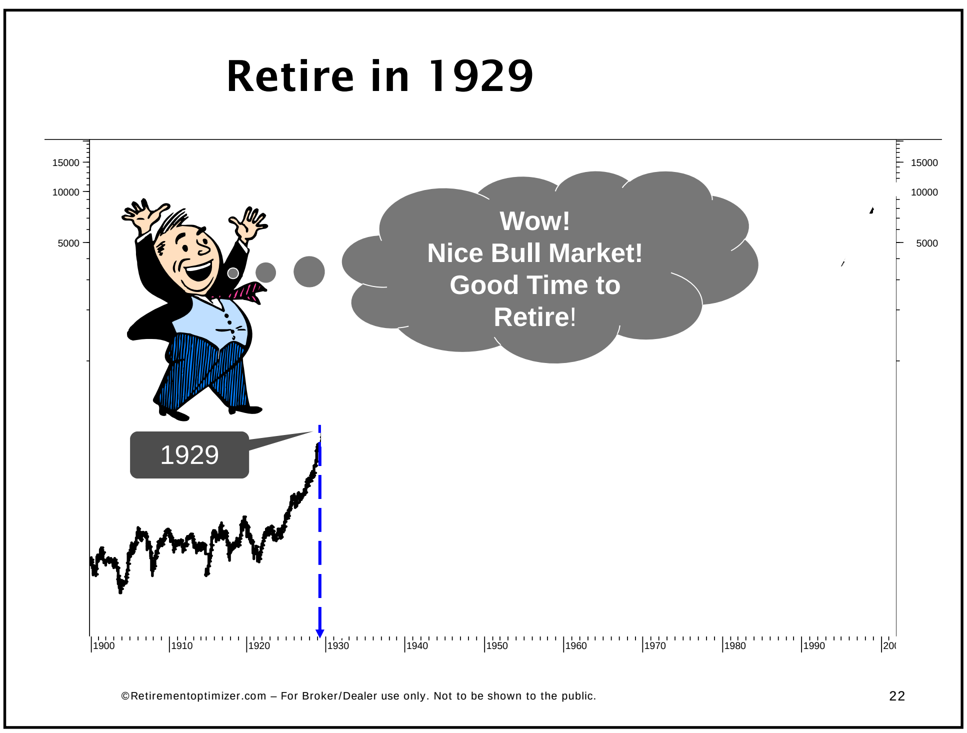
Retire in 1929
15000
10000
5000
Wow!
Nice Bull Market!
Good Time to
Retire!
1929
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
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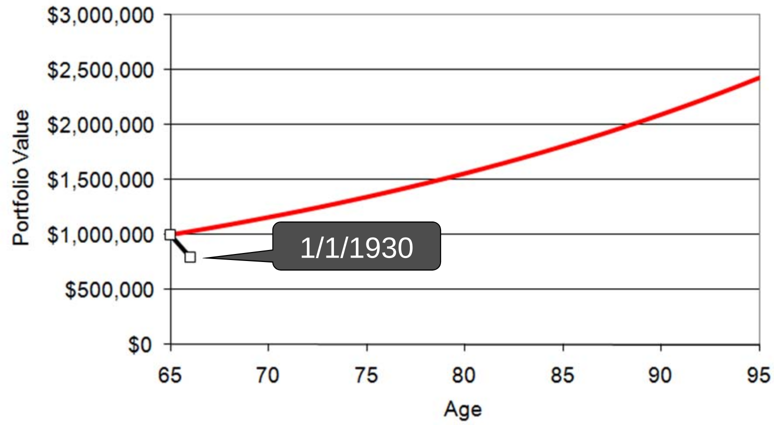
Retire in 1929



Equity index: DJIA, historical total return less 2% portfolio and management costs

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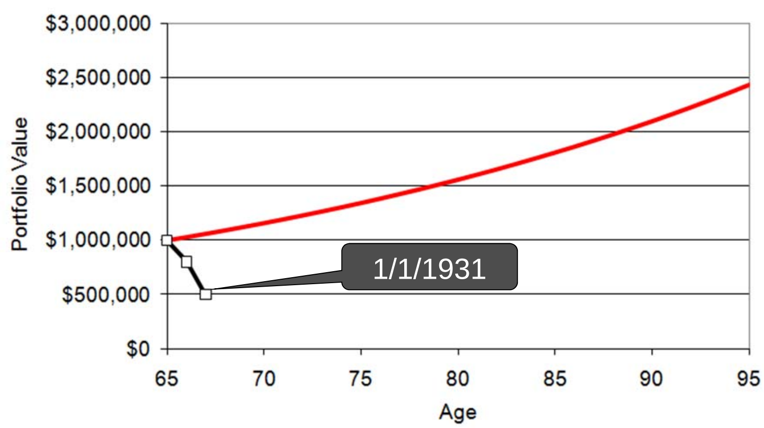
Retire in 1929



Equity index: DJIA, historical total return less 2% portfolio and management costs

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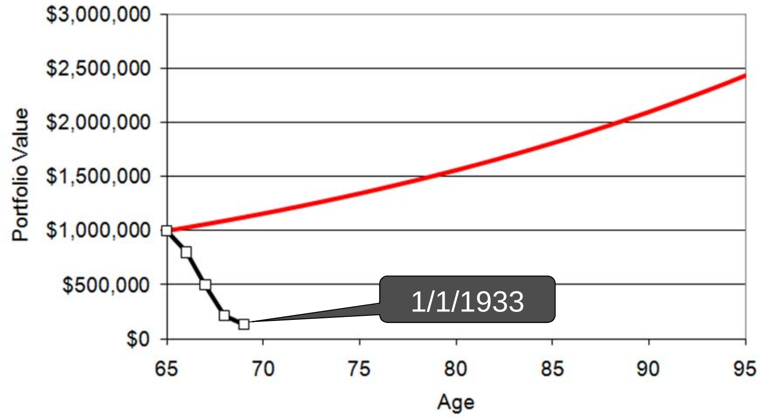
Retire in 1929



Equity index: DJIA, historical total return less 2% portfolio and management costs

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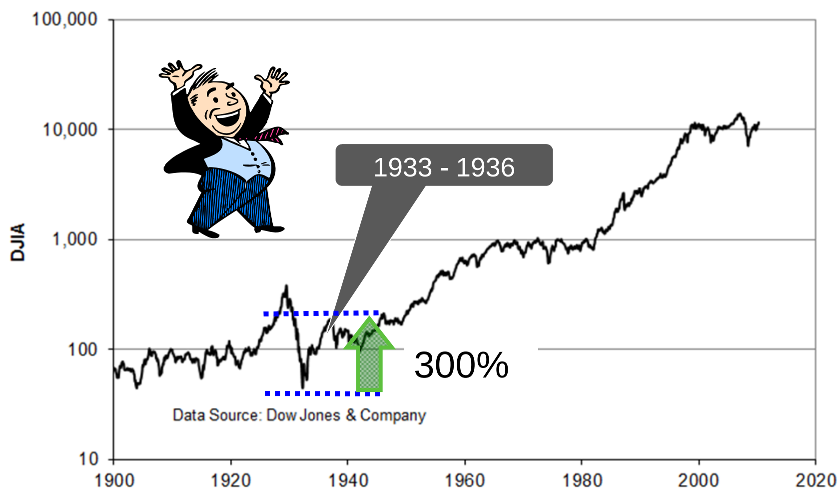
Retire in 1929



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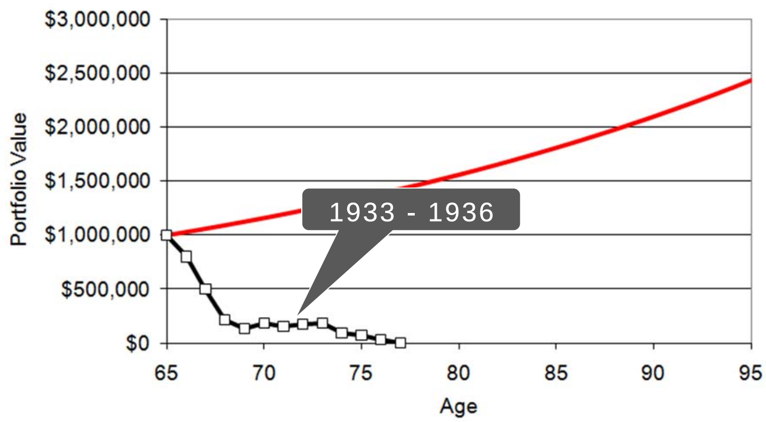
Retire in 1929



Equity index: DJIA, historical total return less 2% portfolio and management costs

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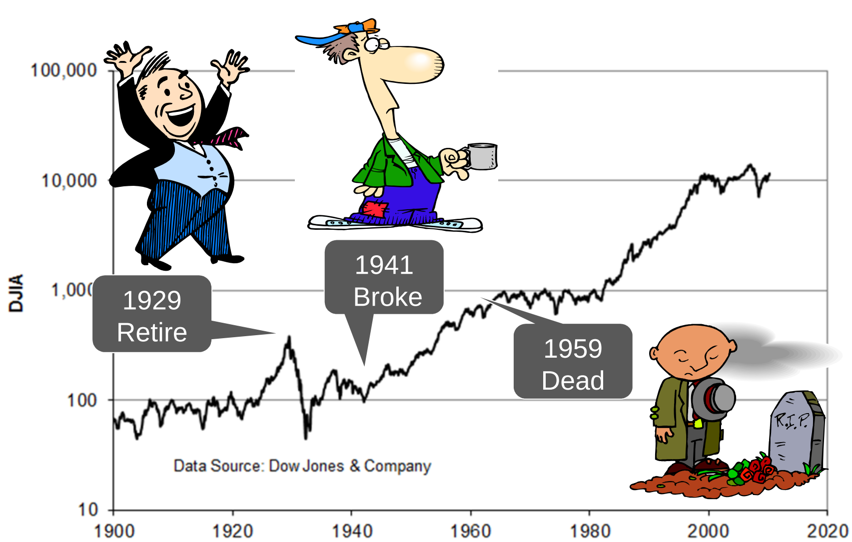
Retire in 1929



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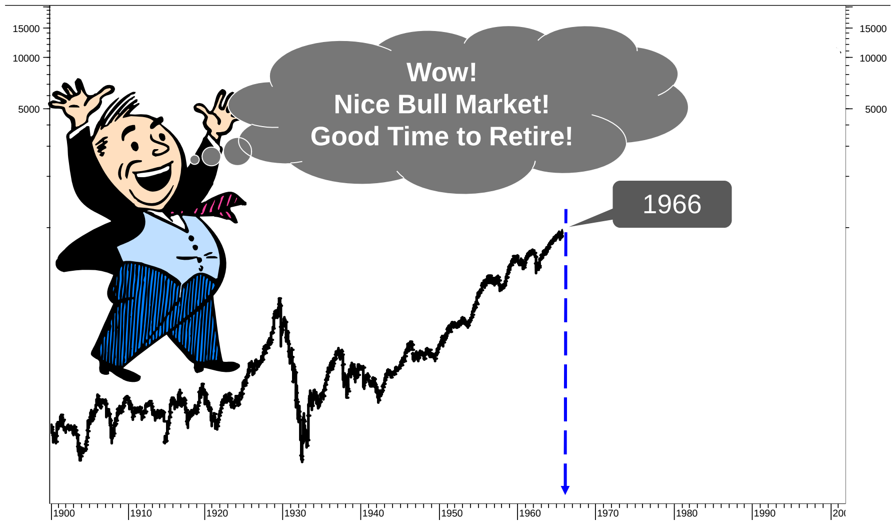
Retire in 1966



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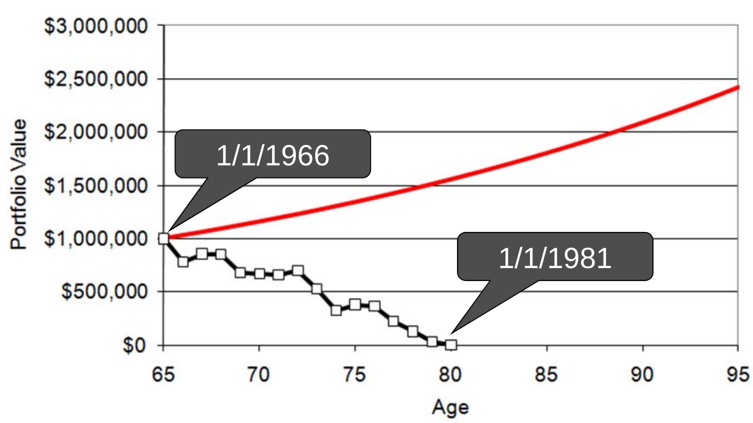
Retire in 1966



Equity index: DJIA, historical total return less 2% portfolio and management costs

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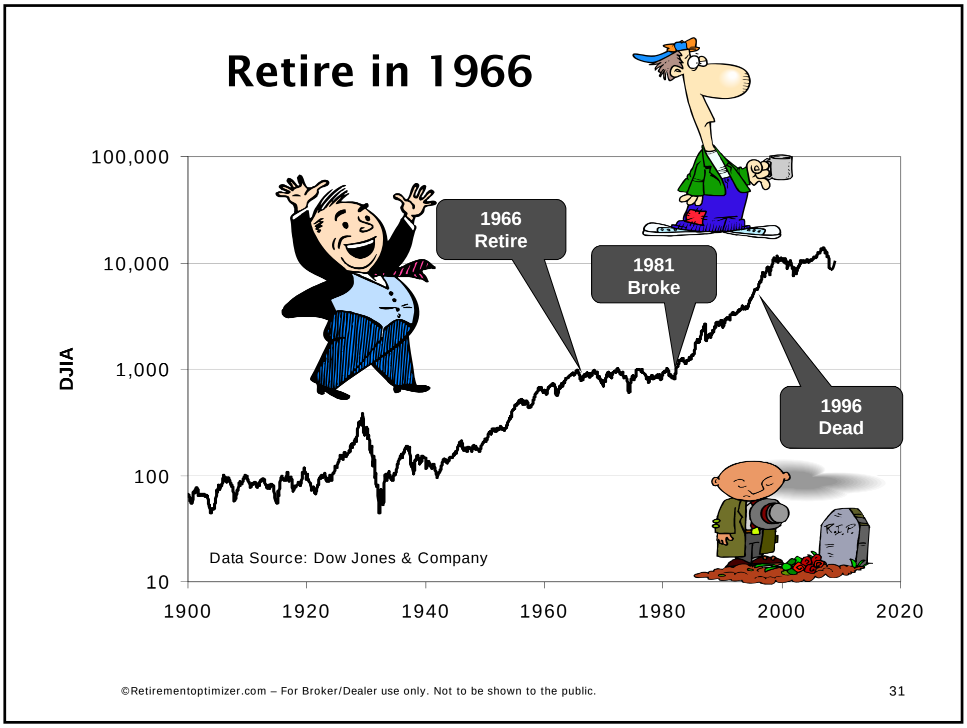
Retire in 1966
100,000
10,000
1,000
100
10
DJIA
1966
Retire
1981
Broke
1996
Dead
Data Source: Dow Jones & Company
1900
1920
1940
1960
1980
2000
2020
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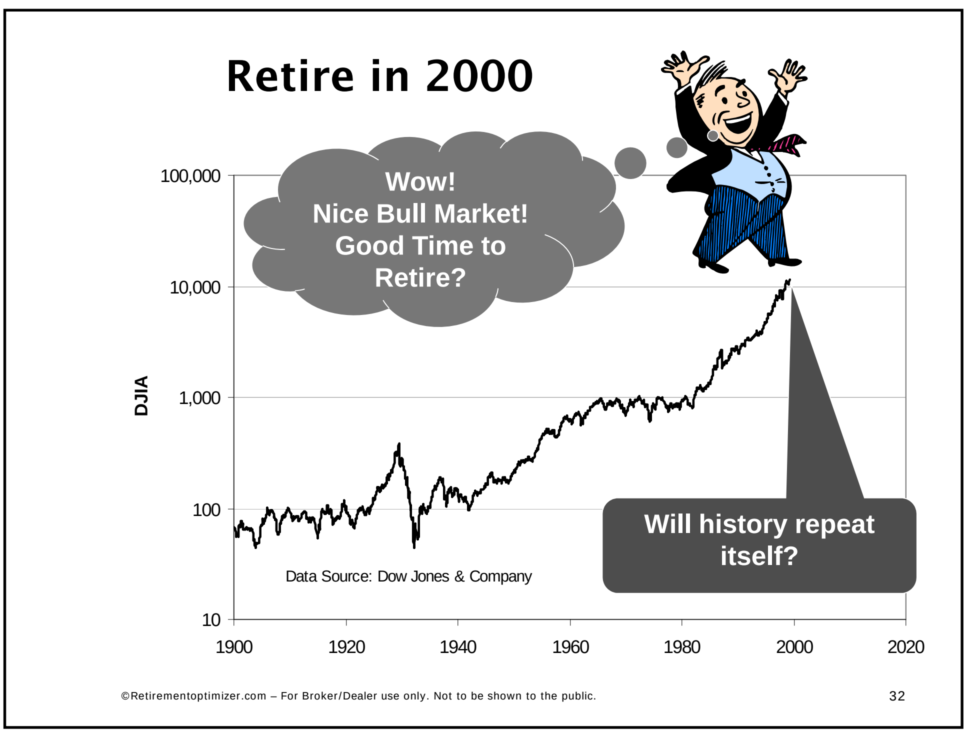
Retire in 2000
Wow!
Nice Bull Market!
Good Time to
Retire?
100,000
10,000
1,000
100
10
DJIA
Will history repeat
itself?
Data Source: Dow Jones & Company
1900
1920
1940
1960
1980
2000
2020
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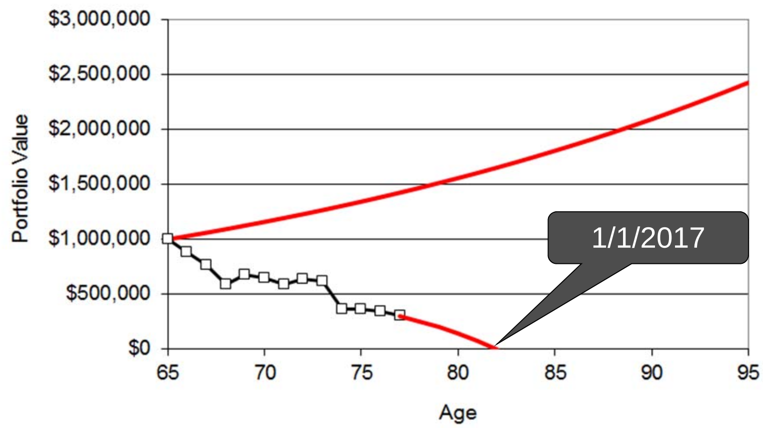
Retire in 2000



Equity index: DJIA, historical total return less 2% portfolio and management costs

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The Reality - Story of Three Generations

Each retired at age 65 and took out 5% initial withdrawal rate.

- The **grandfather** retired in 1929.
  - ➔He ran out of money at age **77**.
- The **son** retired in 1966.
  - ➔He ran out of money at age **80**.
- The **grandson** retired in 2000.
  - ➔He will likely run out of money by age **82**.

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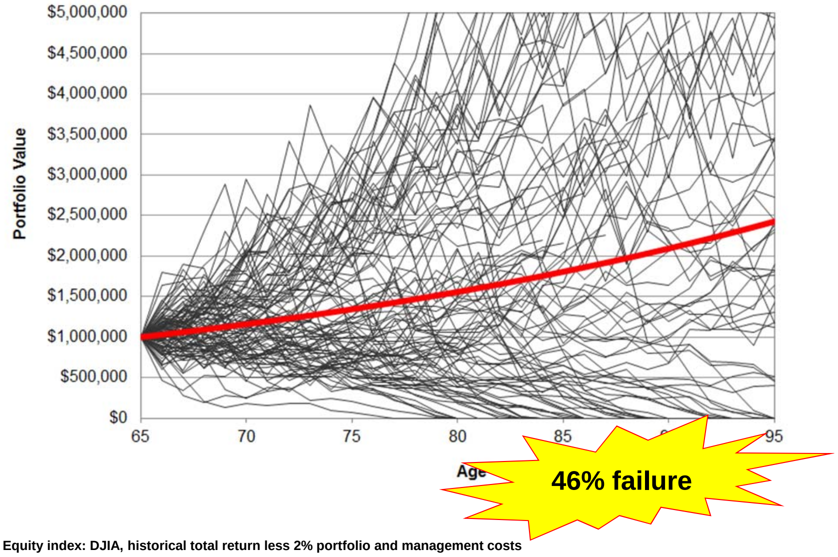
Retire in Any Year Since 1900, DJIA



Equity index: DJIA, historical total return less 2% portfolio and management costs

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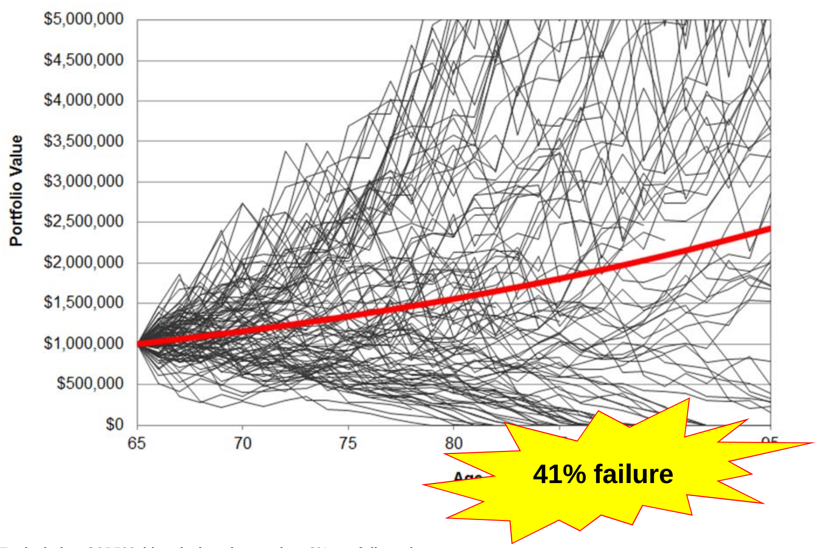
Retire in Any Year Since 1900, S&P500



Equity index: S&P500, historical total return less 2% portfolio and management costs

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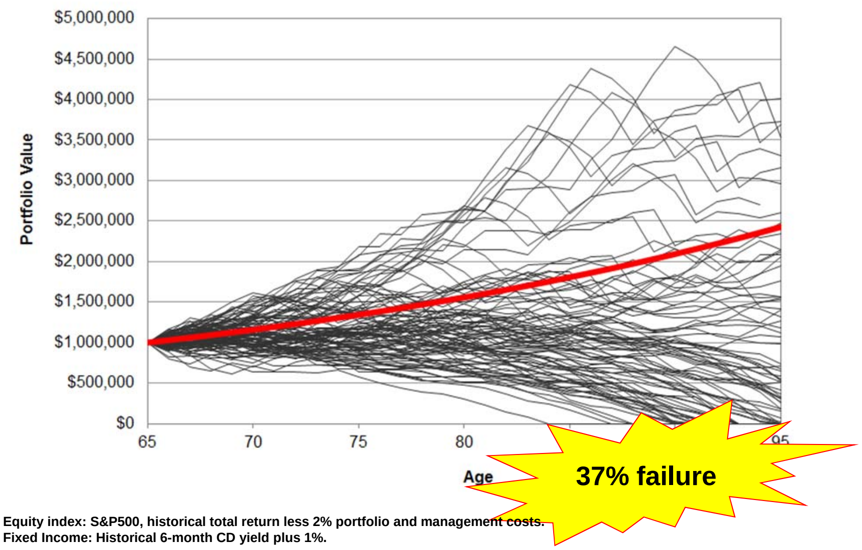
The Magic of Asset Allocation
Balanced 40/60 S&P500 / FI



Equity index: S&P500, historical total return less 2% portfolio and management costs.
Fixed Income: Historical 6-month CD yield plus 1%.

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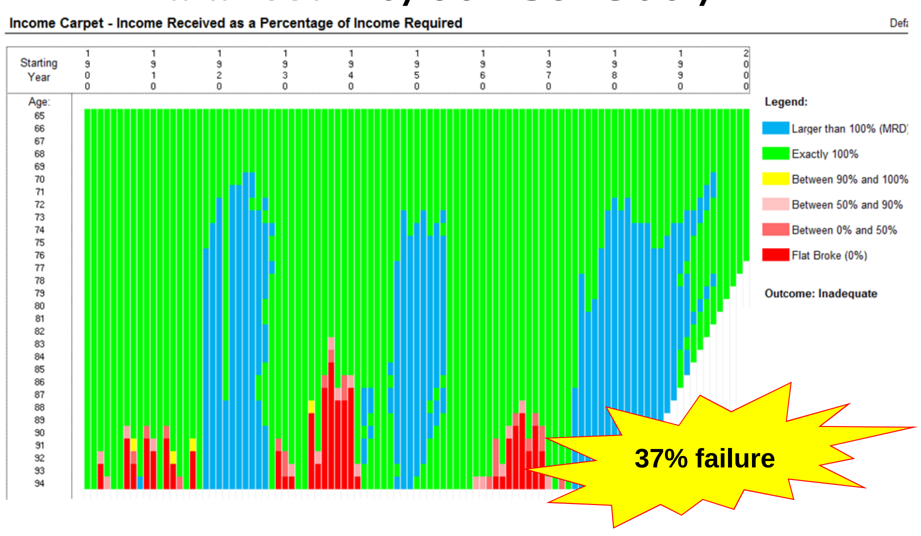
Income Carpet
Balanced 40/60 S&P500 / FI



Equity index: S&P500, historical total return less 2% portfolio and management costs.
Fixed Income: Historical 6-month CD yield plus 1%.

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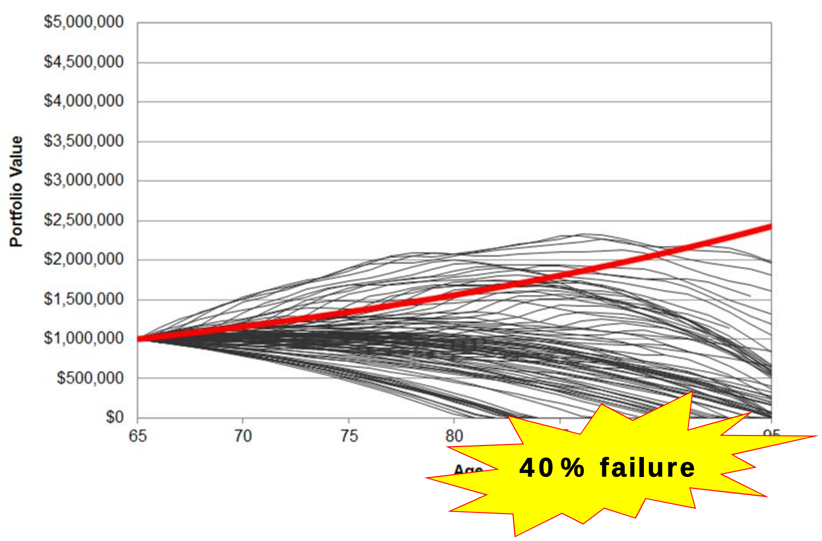
The Luck Factor

If the Withdrawal Rate is over 3.5%, Luck is the most important factor for portfolio longevity.

Retire in Any Year Since 1900: 100% Fixed Income



Fixed Income: Historical 6-month CD yield plus 1%.

Determinants of Success in Distribution Portfolios

	Initial Withdrawal Rate 4%	6%	8%
Sequence of Returns	32%	30%	35%
Inflation	21%	31%	34%
Asset/Fund Selection	11%	10%	8%
Asset Allocation	20%	17%	11%
Portfolio Costs	14%	8%	9%
Others	1%	11%	7%

Equity proxy: S&P500

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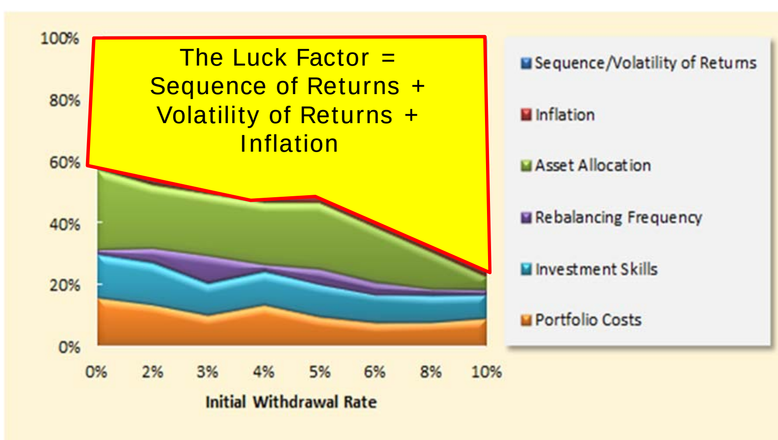
Determinants of Portfolio Growth



Otar, Jim: White Paper, "Determinants of Growth in Distribution Portfolios: A Non-Gaussian Analysis", 2011

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Mathematics of Loss

The mathematics of loss in a distribution portfolio works entirely different from an accumulation portfolio.

Distribution Portfolios

- Each time you make a withdrawal after a loss, you create a permanent loss in the portfolio.
- Subsequently, you need to recover from the initial losses, as well as from these permanent losses.
- Recovery in a distribution portfolio is a lot harder than in an accumulation portfolio.

Gain Required to Break Even

	Initial Withdrawal Rate		
	0%	4%	8%
% Loss	% Gain Required over 3 years		
10%	11%	26%	41%
20%	25%	42%	60%
30%	43%	63%	86%
50%	100%	132%	169%

Market versus Portfolio Behavior

MARKET	Accumulation PORTFOLIO	Distribution PORTFOLIO
DOWN	DOWN	DOWN
SIDEWAYS	SIDEWAYS	DOWN
UP	UP	SIDEWAYS

When the withdrawal rate is over 4%, the chances are, a distribution portfolio will never increase in value during bullish trends.

Mathematics of Loss - Distribution

- The concept of the “long-term” does not exist in distribution portfolios, because a longer time horizon has no effect on sequence of returns.
- One unlucky month at the start of retirement can chop the portfolio life by 10 years.

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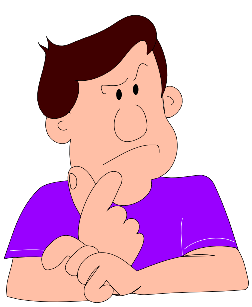
Three Warning Signals



How do you know when you might be running out of luck?

1. Technical Signal
2. Fundamental Signal
3. Fourth-Year Checkup

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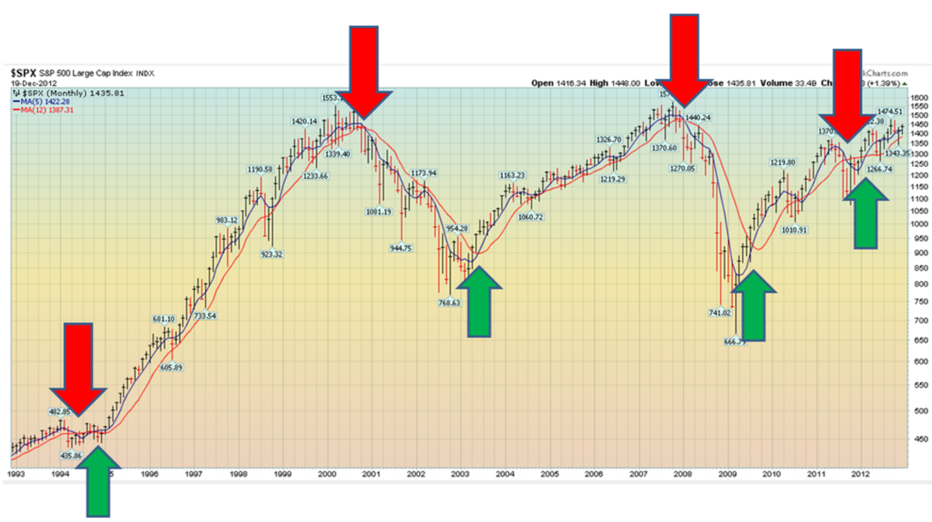
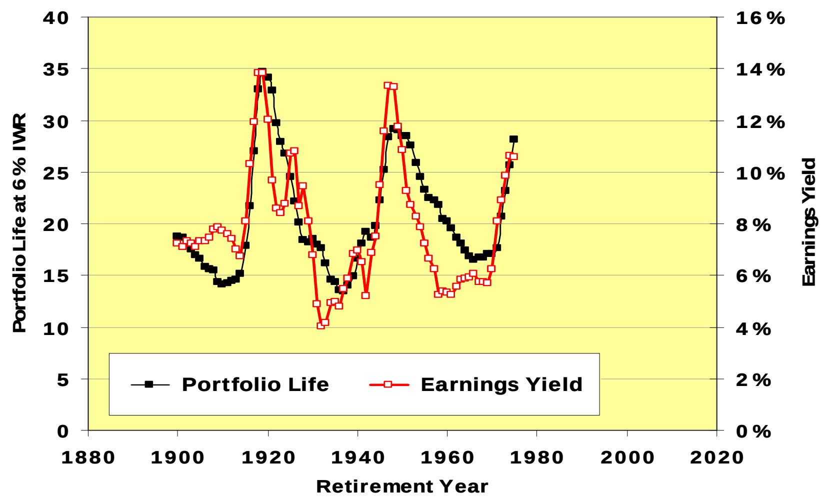
Warning Signal # 1: Hurricane Warning

- Look at the monthly S&P500 chart
- Draw 5-month and 12 month moving average (MA)
- Hurricane Warning Starts: when the 5-month MA goes below the 12-month MA and 12-month MA is declining
- Hurricane Warning Ends: when the 5-month MA goes above the 12-month MA.

Warning Signal # 1: Hurricane Warning



Warning Signal # 2: The PE Ratio



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Warning Signal # 2: The PE Ratio

Take the Average Market PE, then estimate the portfolio life:

- Portfolio Life @6% IWR= 4 + (250 / PE)
- Portfolio Life @5% IWR= 4 + (360 / PE)

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Warning Signal # 2: The PE Ratio

Check your Luck Factor:

When? At the start of retirement

Generally, if the market average PE is above 12, it is unlikely that you'll have lifelong income.

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Warning Signal # 3: Fourth Year Check-up

Check your Luck Factor:

When? On the 4th anniversary of retirement

How? Ask: "Do I have now more money or less money in my portfolio compared to four years ago?"

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Warning Signal # 2: Fourth Year Check-up

	If Portfolio Value is Higher	If Portfolio Value is Lower
Initial Withdrawal Rate	Probability of Depletion After 20 years	
5%	0%	7%
6%	2%	38%
8%	6%	72%

40/60 DJIA/ FI

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Warning Signal # 3: Fourth Year Check-up

- If a retirement portfolio loses money in the early years and does not recover within 3 or 4 years, then it is highly likely that it will expire before its owner does.
- Don't lose, give away or donate money in the first 4 years!

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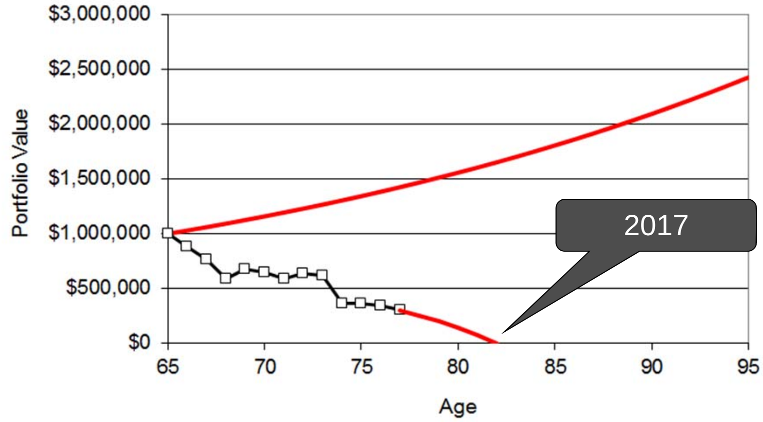
Warning Signals - Retire in 2000



Equity index: DJIA, historical total return less 2% portfolio and management costs

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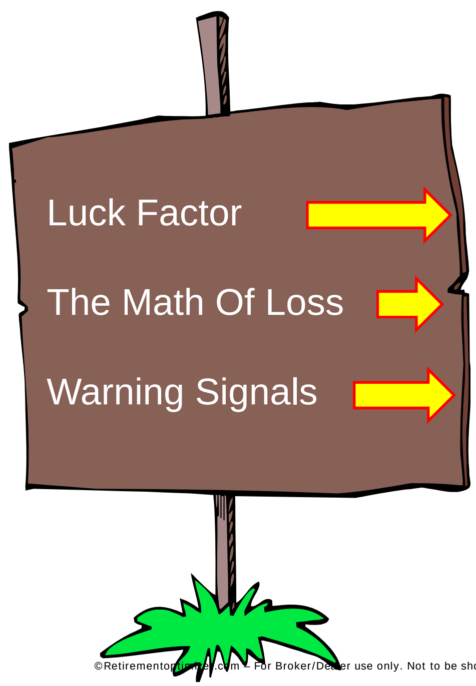

Create a "Personal Pension" using Guaranteed Income to cover the Basic Expenses

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Zone Strategy

Purpose of Zone Strategy:

- For your client: Provide lifelong income
- For you: Manage your business
  - Use your time more efficiently
  - Attract and keep profitable prospects
  - Avoid future problems, litigation

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Zone Strategy:

STEP 1: How much money *do **you*** want?

WR - Withdrawal Rate

STEP 2: How much can the ***market*** give you?

SWR - Sustainable Withdrawal Rate

STEP 3: How much does an ***annuity*** pay you?

AR – Annuity Payout Rate

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STEP 2:
How Much Can the Market Pay?

Sustainable **W**ithdrawal **R**ate (SWR)

Retirement Time Horizon	SWR
40 years	3.0%
30 years	3.6%
20 years	5.1%

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STEP 2:
How Much Can the Market Pay?

Sustainable Withdrawal Rate (SWR)

Say, you have $1 million, retiring at age 65, then SWR 3.6% of $1 million is:

SWR = $36,000

indexed to inflation for the rest of your life.

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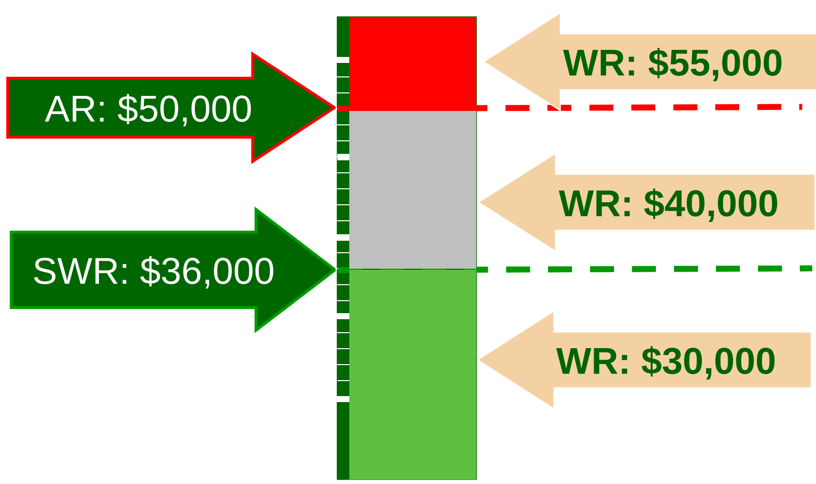
STEP 3:
How Much Does the Insurance Company Pay?

Say, you have $1 million, retiring at age 65

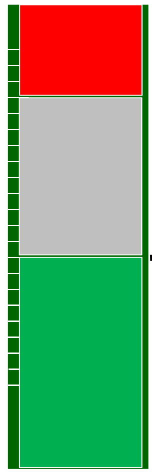
Annuity (SPIA or VA) pays for life

AR= $50,000 / year

The Zone Strategy



Zone Strategy: What is the Primary Risk?



Sequence of Returns

(time is your enemy)

Volatility of Returns

(time is your friend)

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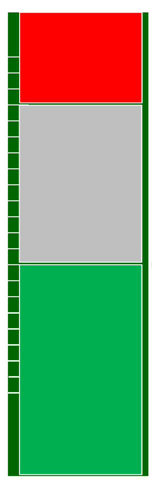
Zone Strategy: Export or Retain Risk?



MUST EXPORT RISK

CAN RETAIN RISK

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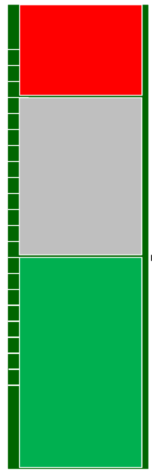
Zone Strategy: Sell Fear or Hope?



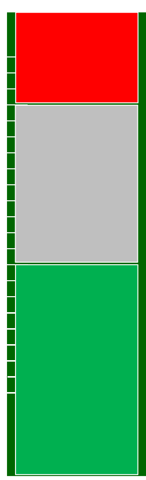
Sell FEAR

(of running out of money)

Sell HOPE

(of leaving an estate)

Zone Strategy: Is it Accumulation or Decumulation?

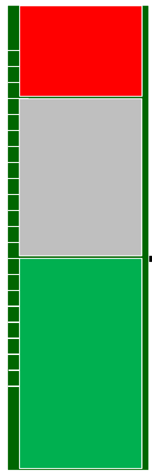


Decumulation

Either, depends on luck

Accumulation

Zone Strategy: Planning Focus



- **Cash Flow Planning**
- **Retirement Planning**
- **Risk Planning**

- **Investment Planning**
- **Tax Planning**
- **Estate Planning**

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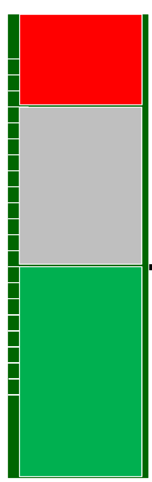
Zone Strategy: Estate Planning



Don't include children in the estate discussion until retirement plan is firmly in place

Include children in estate planning

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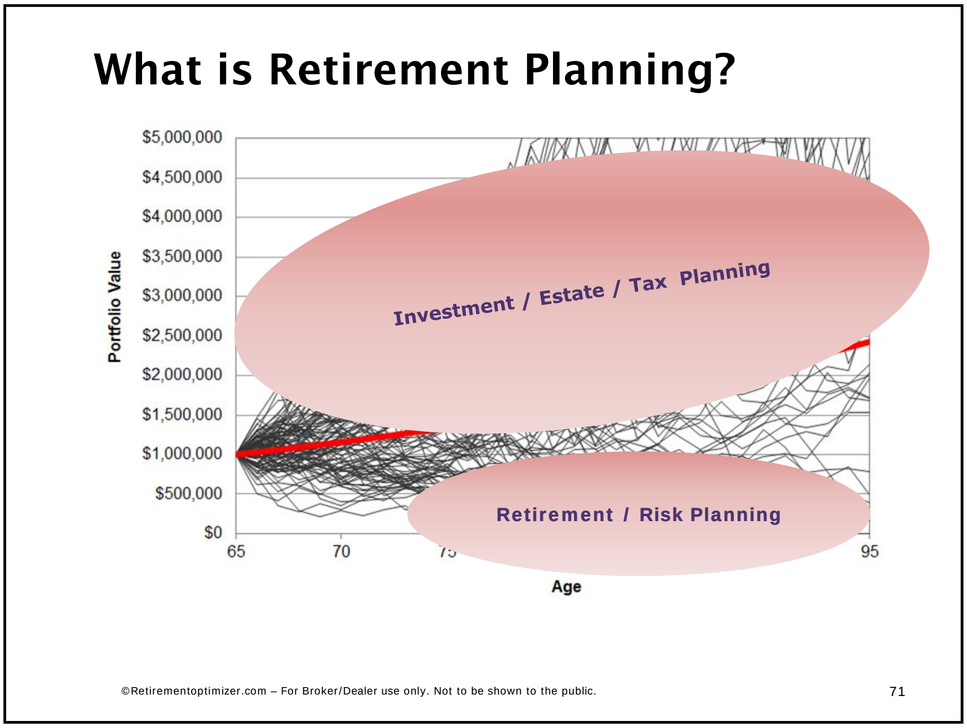
What is Retirement Planning?
$5,000,000
$4,500,000
$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
$0
Portfolio Value
65
70
95
Age
Investment / Estate / Tax Planning
Retirement / Risk Planning
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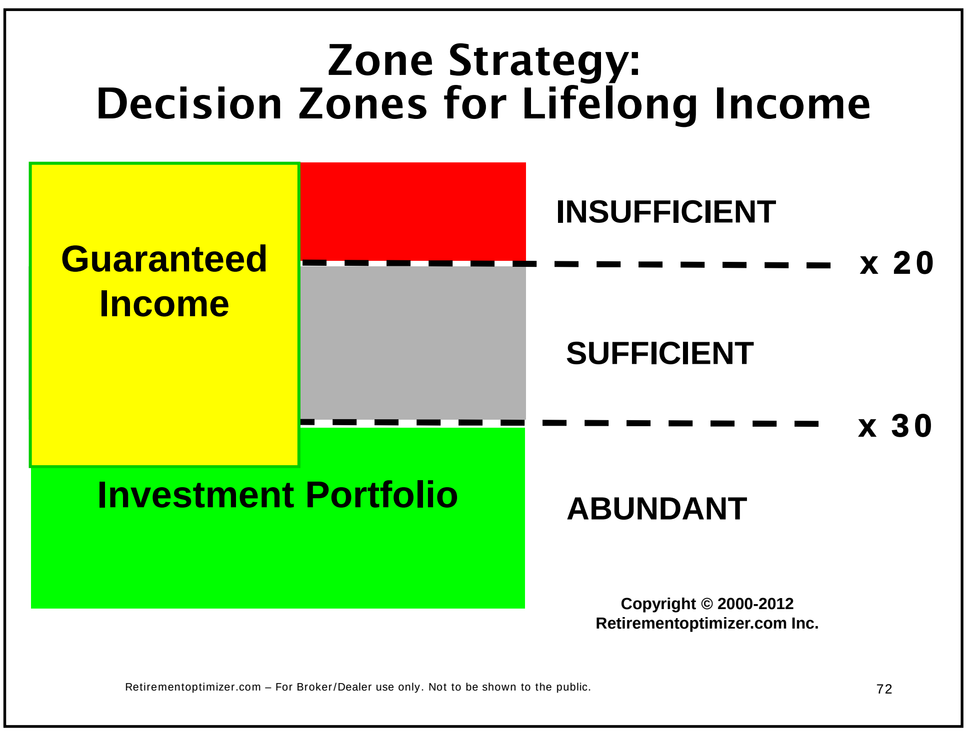
Zone Strategy:
Decision Zones for Lifelong Income
Guaranteed Income
INSUFFICIENT
x 20
SUFFICIENT
x 30
Investment Portfolio
ABUNDANT
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Summary

- The most important decision in retirement planning is not the asset mix, not what stocks or mutual funds to buy, not the choice of small cap/large cap, domestic/foreign, emerging/developing.
- The most important decision is to figure out if you have the **financial capacity** to generate retirement income from investments.
- The dividing line between HOPE and FEAR is 3.6%.

More info:

1. Send email for a free copy of my book, "Unveiling the Retirement Myth" (read-only, pdf format) and/or my Excel-based aftcast retirement calculator
2. Register for my webinar, the next one is on March 14th

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