Silicon Valley Chapter
American Association of Individual Investors

Financial Planning Workshops

Retirement Planning II

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- Chapter website: www.siliconvalleyaaii.org
- Meetups: www.meetup.com/AAII-Silicon-Valley-Meetup
- Facebook: www.facebook.com/sv.aa
- Slides and Recordings

  www.siliconvalleyaaii.org/financialplanning/
- AAII National website: www.aaii.com
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Our Next Event and Special Interest Group Webcasts

- Main Event: Saturday March 8, 2025
  - David Saito-Chung – Deputy Markets Editor, IBD Live Co-host
- Financial Planning Discussion Group
  - Debra Stikes: September to June First or Second Wednesday of each month at 6:30pm. 2025-2026 session will return to Second Wednesday of each month.
- Investing Discussion Group
  - Lynn Gillette: Fourth Monday of each month at 6:30pm except Dec.
- Computerized Investing Group
  - Don Mauer: First Thursday of each month at 6:30pm

Financial Planning Workshops

- Financial Planning … The Big Picture
- Investing 1: Modern Portfolio Theory, Building a diversified portfolio
- Investing 2: Efficient Market Hypothesis; Can you beat the market?
- Taxes: TCJA, SECURE Act, Tax diversification, Asset location, QCDs
- Retirement Planning 1: Tax-advantaged plans, RMDs
- Retirement Planning 2: Safe withdrawal rates, Bengen's 4% rule
- Risk Management/Insurance: Annuities, Long-term care, Litigation
- Social Security and Medicare: Claiming strategies, Medicare traps
- Estate Planning: Probate, Executor/trustee duties, Philanthropy
- Wrap-up: Case study reviewing previous material

Today We Will Cover …

- Bengen's Four Percent Rule
- Variations on Bengen's Rule
- RMD drawdown method
- Bucket strategies
- Equity glide paths

Most people spend more time planning a two-week vacation than their retirement.

Anonymous

Background to Bengen's Rule

- Ibbotson data from 1926 to 1992
  - Common stocks 10.3% annual growth rate
  - Intermediate Treasuries 5.1% growth rate
  - Inflation 3% per annum
- Portfolio of 60% stocks/40% bonds
  - Average return = 8.2% per annum
  - Real Return = 5.2% per annum
- Withdrawal rate of 5% pa should be OK ?

Let's Try An Experiment

- Assume $1M retirement portfolio on 1/1/1980
  - Invest 60% stock index + 40% intermediate bonds
  - Rebalance annually
- Withdraw 4% ($40,000) to fund expenses for 1980
- Withdraw the same amount on January 1 each year increased 3% per annum for inflation
- How long does the portfolio last?
- Repeat for various withdrawal rates

Simple Diversified Portfolio

- 60% Stock: S&P 500 Index (VFINX)

  Compound annual growth rate 1980-2020 = 11.1%

- + 40% Bonds: 5-year Treasuries

  Compound annual growth rate 1980-2020 = 5.2%

- = Simple diversified portfolio

  Compound annual growth rate 1980-2020 = 9.1%

  Real growth rate after 3% annual inflation = 6.1%

  $1M grows to $35M over 41 years with no withdrawals

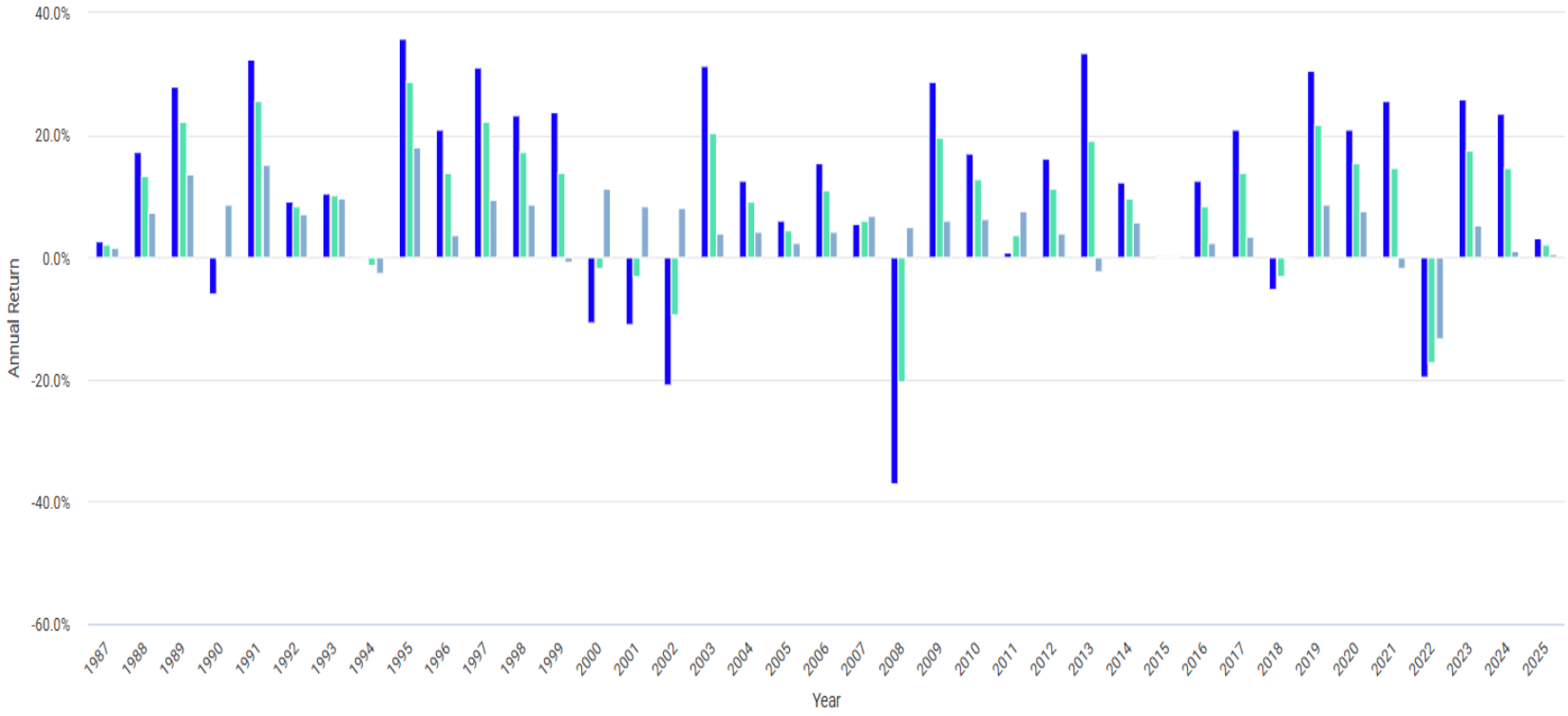
Portfolios

- Portfolio 1
  - 100% US Stock Market
- Portfolio 2
  - 60% US Stock Market
  - 40% Total US Bond Market
- Portfolio 3
  - 100% Total US Bond Market

Following portfolio information is from Portfolio Virtualizer.

Portfolios Annual Returns (1987-2025)

Annual Returns



Trailing Returns

	Total Return			Annualized Return				Annualized Standard Deviation	
Name	3 Month	Year To Date	1 year	3 year	5 year	10 year	Full	3 year	5 year
Portfolio 1	6.57%	3.09%	26.03%	11.13%	14.39%	13.03%	10.84%	17.44%	18.85%
Portfolio 2	4.07%	2.10%	16.37%	6.14%	8.46%	8.35%	8.85%	12.83%	12.76%
Portfolio 3	-0.01%	0.63%	2.02%	-1.68%	-0.76%	1.03%	5.01%	7.63%	6.31%

Trailing return and volatility are as of last calendar month ending January 2025

Portfolios Performance Summary (1987-2025)

Performance Summary

Metric	Portfolio 1	Portfolio 2	Portfolio 3
Start Balance	$10,000	$10,000	$10,000
End Balance	$503,727	$252,757	$64,373
Annualized Return (CAGR)	10.84%	8.85%	5.01%
Standard Deviation	15.48%	9.71%	4.26%
Best Year	35.79%	28.74%	18.18%
Worst Year	-37.04%	-20.20%	-13.25%
Maximum Drawdown	-50.89%	-30.72%	-17.57%
Sharpe Ratio	0.55	0.61	0.47
Sortino Ratio	0.79	0.90	0.69

Portfolios Drawdowns (1987-2025)

Drawdowns for Portfolio 1

Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Nov 2007	Feb 2009	1 year 4 months	Mar 2012	3 years 1 month	4 years 5 months	-50.89%
2	Sep 2000	Sep 2002	2 years 1 month	Apr 2006	3 years 7 months	5 years 8 months	-44.11%
3	Sep 1987	Nov 1987	3 months	May 1989	1 year 6 months	1 year 9 months	-29.34%
4	Jan 2022	Sep 2022	9 months	Dec 2023	1 year 3 months	2 years	-24.94%
5	Jan 2020	Mar 2020	3 months	Jul 2020	4 months	7 months	-20.89%
6	Jul 1998	Aug 1998	2 months	Nov 1998	3 months	5 months	-17.57%
7	Jun 1990	Oct 1990	5 months	Feb 1991	4 months	9 months	-16.20%
8	Oct 2018	Dec 2018	3 months	Apr 2019	4 months	7 months	-14.28%
9	Jun 2015	Sep 2015	4 months	May 2016	8 months	1 year	-8.88%
10	Apr 2000	May 2000	2 months	Aug 2000	3 months	5 months	-8.44%

Drawdowns for Portfolio 2

Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Nov 2007	Feb 2009	1 year 4 months	Oct 2010	1 year 8 months	3 years	-30.72%
2	Sep 2000	Sep 2002	2 years 1 month	Jan 2004	1 year 4 months	3 years 5 months	-21.68%
3	Jan 2022	Sep 2022	9 months	Feb 2024	1 year 5 months	2 years 2 months	-20.83%
4	Sep 1987	Nov 1987	3 months	Jan 1989	1 year 2 months	1 year 5 months	-19.17%
5	Feb 2020	Mar 2020	2 months	Jul 2020	4 months	6 months	-11.94%
6	Jul 1998	Aug 1998	2 months	Nov 1998	3 months	5 months	-10.18%
7	May 2011	Sep 2011	5 months	Jan 2012	4 months	9 months	-9.08%
8	Jul 1990	Oct 1990	4 months	Jan 1991	3 months	7 months	-8.52%
9	Sep 2018	Dec 2018	4 months	Mar 2019	3 months	7 months	-8.46%
10	Feb 1994	Jun 1994	5 months	Feb 1995	8 months	1 year 1 month	-6.47%

Worst 10 drawdowns included above

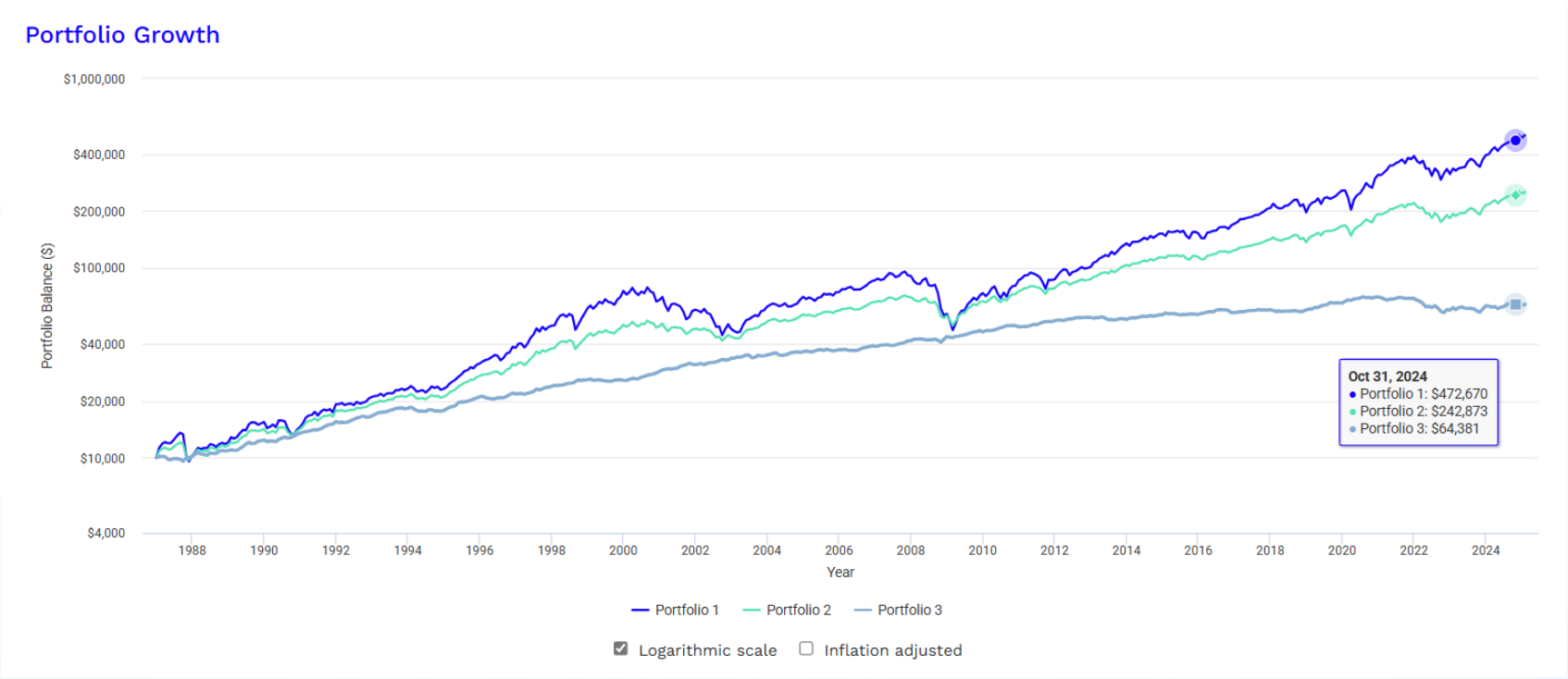
Portfolios Drawdowns (1987-2025)

Drawdowns for Portfolio 3

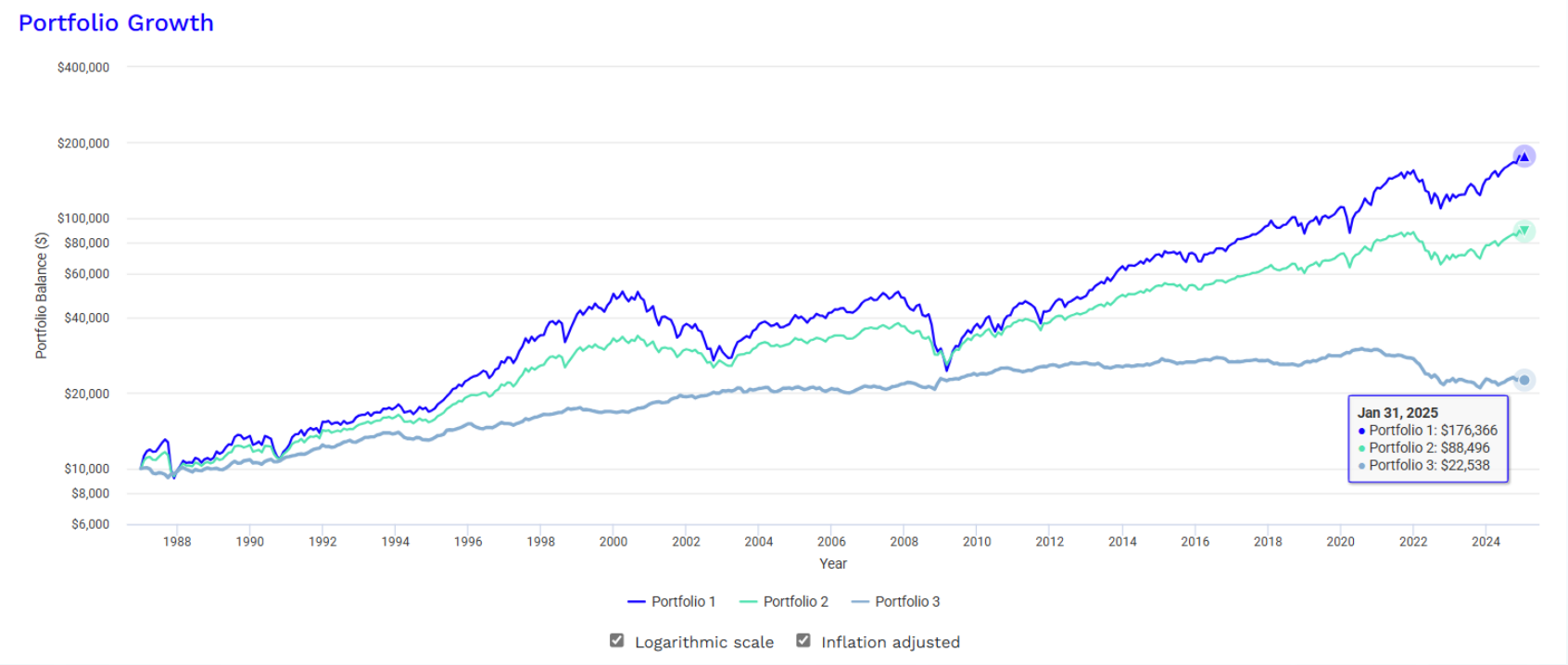
Rank	Start	End	Length	Recovery By	Recovery Time	Underwater Period	Drawdown
1	Aug 2020	Oct 2022	2 years 3 months				-17.57%
2	Mar 1987	Sep 1987	7 months	Jan 1988	4 months	11 months	-5.86%
3	Feb 1994	Jun 1994	5 months	Mar 1995	9 months	1 year 2 months	-5.01%
4	Apr 2008	Oct 2008	7 months	Dec 2008	2 months	9 months	-3.99%
5	May 2013	Aug 2013	4 months	May 2014	9 months	1 year 1 month	-3.76%
6	Aug 2016	Nov 2016	4 months	Aug 2017	9 months	1 year 1 month	-3.67%
7	Jun 2003	Jul 2003	2 months	Jan 2004	6 months	8 months	-3.47%
8	Feb 1996	May 1996	4 months	Oct 1996	5 months	9 months	-3.16%
9	Apr 2004	May 2004	2 months	Aug 2004	3 months	5 months	-3.03%
10	Mar 1988	May 1988	3 months	Sep 1988	4 months	7 months	-2.64%

Worst 10 drawdowns included above

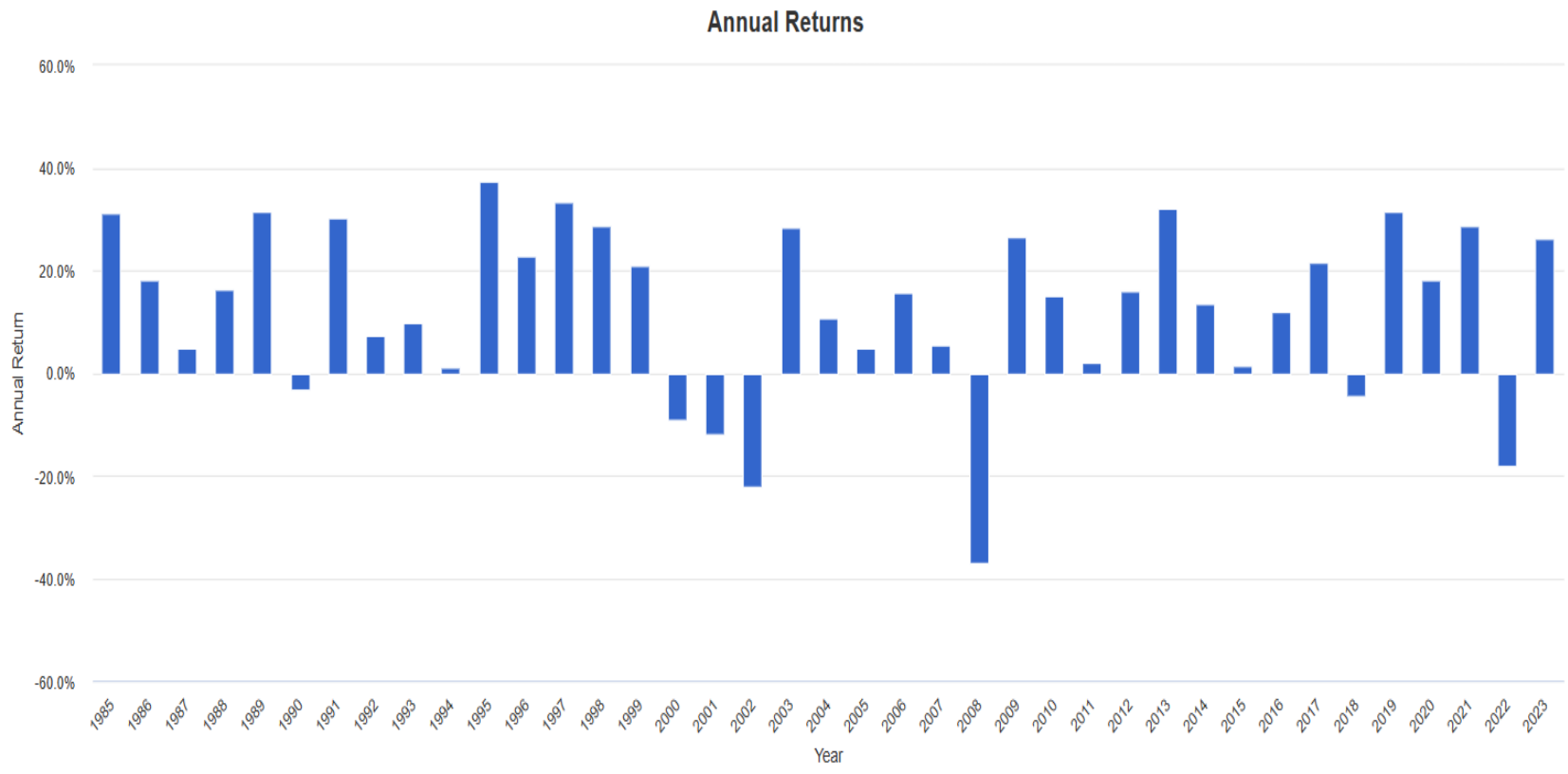
Portfolios (1987-2025)



Portfolios (1987-2025)



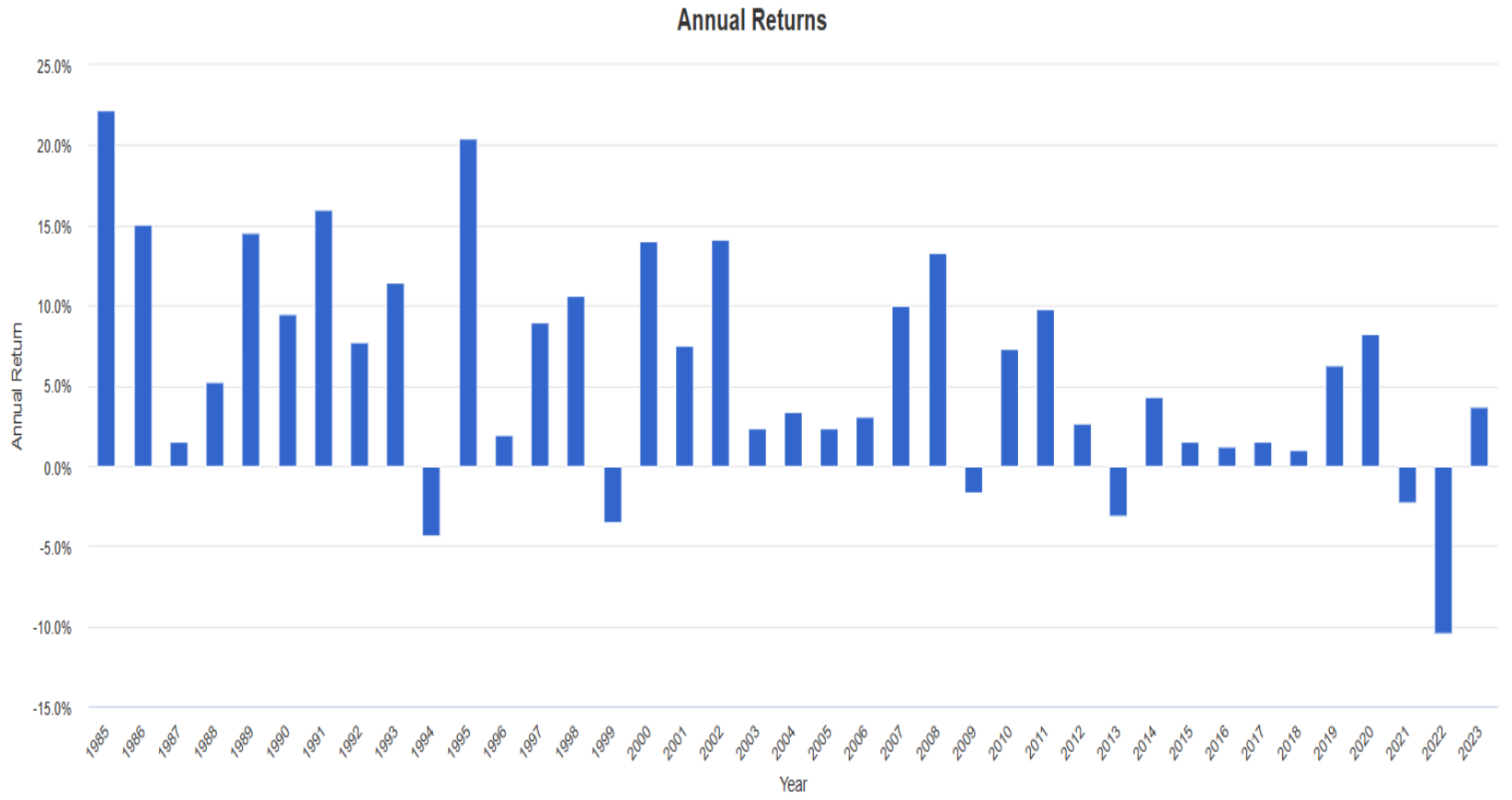
S&P 500 Total Return (VFINX) (1985-2023)



Performance Summary

Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	Market Correlation
Vanguard 500 Index Investor	$10,000	$648,237	11.29%	15.33%	37.45%	-37.02%	-50.97%	0.57	0.84	0.99

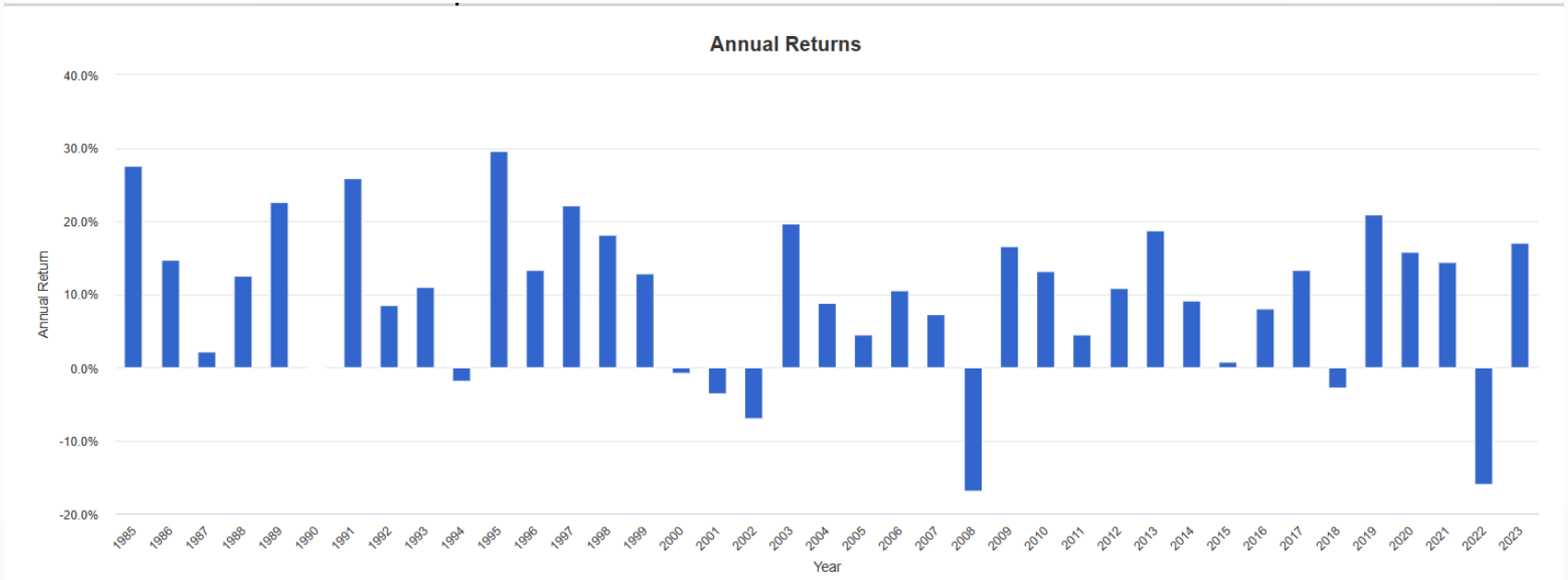
Intermediate Term Treasuries (1985-2023)



Performance Summary

Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	Market Correlation
Intermediate Term Treasury	$10,000	$92,479	5.87%	5.02%	22.24%	-10.43%	-14.45%	0.54	0.87	0.00

60% Stock/40% Intermediate Bond (1985-2023)



Performance Summary

Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	Market Correlation
Portfolio 1	$10,000	$330,520	9.38%	9.52%	29.65%	-16.89%	-27.98%	0.66	0.99	0.97

Comparisons (1985-2023)

Performance Summary

Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	Market Correlation
Vanguard 500 Index Investor	$10,000	$648,237	11.29%	15.33%	37.45%	-37.02%	-50.97%	0.57	0.84	0.99

Performance Summary

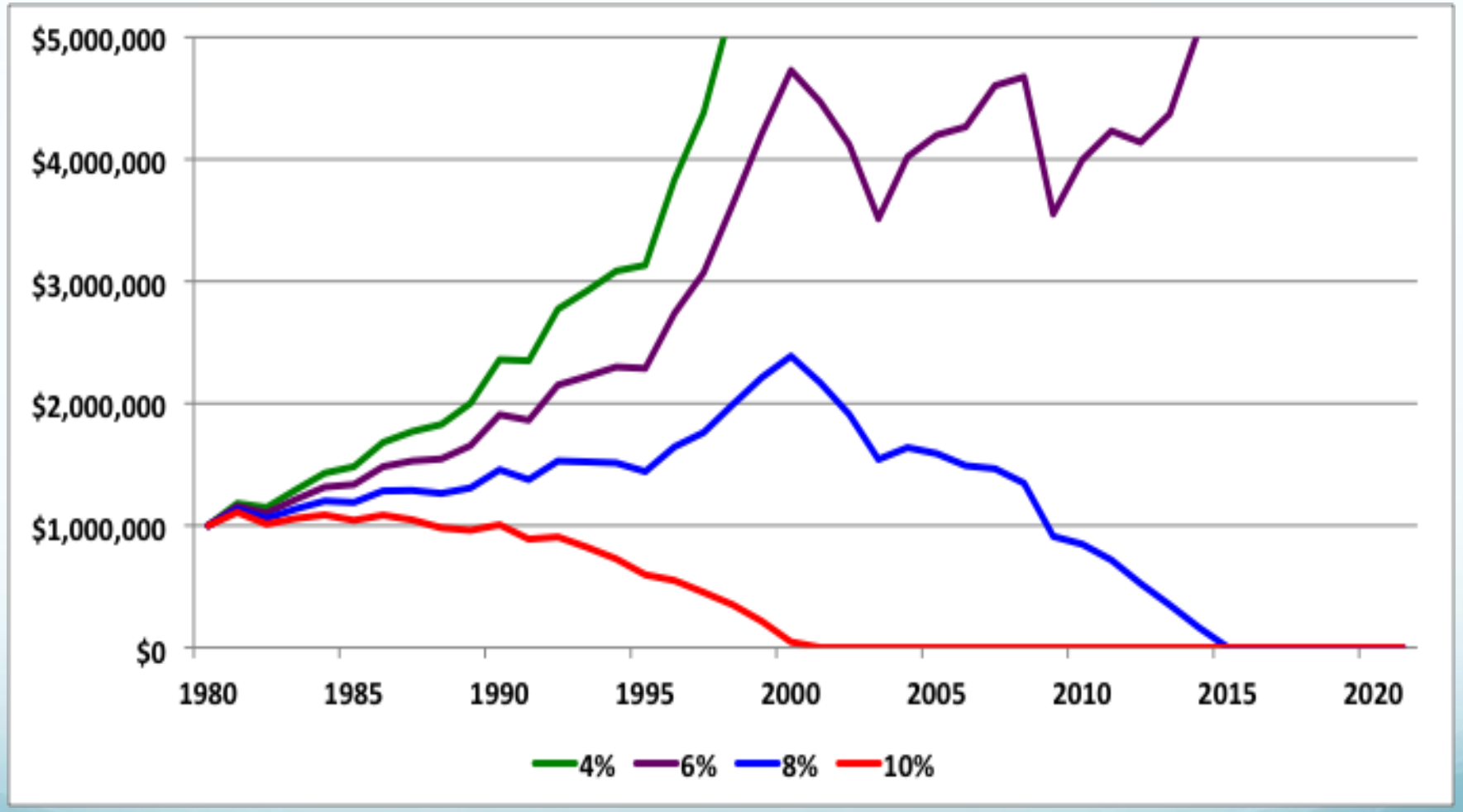
Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	Market Correlation
Intermediate Term Treasury	$10,000	$92,479	5.87%	5.02%	22.24%	-10.43%	-14.45%	0.54	0.87	0.00

US Stock Market	60.00%
Intermediate Term Treasury	40.00%

Performance Summary

Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	Market Correlation
Portfolio 1	$10,000	$330,520	9.38%	9.52%	29.65%	-16.89%	-27.98%	0.66	0.99	0.97

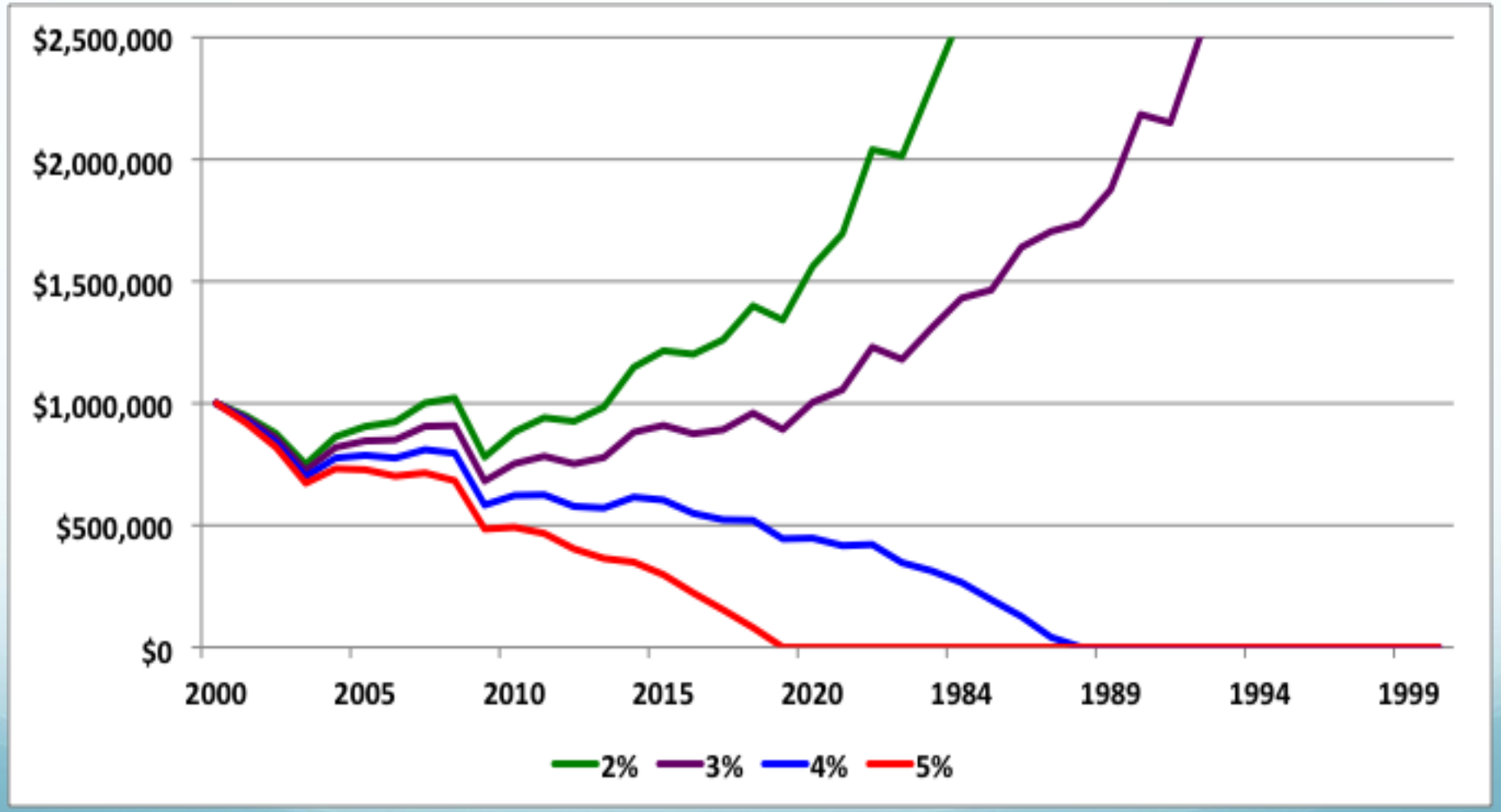
Portfolio Value with Various Withdrawal Rates



How About Less Favorable Timing?

- What happens if we start the draw downs in 2000?
- Use the total returns from 2000 thru 2020 for the first years of retirement, followed by the data from years 1980 thru 1999
- Same 9.1% compound annual growth rate over the total 41 year period so long as there are no cash-flows
- How does this affect our retirement plan with annual draw downs?

Portfolio Value with Various Withdrawal Rates and Unfavorable Timing



Lessons Learned

- Not good enough to look just at the averages for investment returns and inflation
- Must look at what actually happened year-by-year
- Performance during the early retirement years is critically important
  - Sequence of returns risk
  - Beware a severe stock market downturn "event" coupled with high inflation at start of retirement
  - Similar problem also exists for later years of the accumulation phase according to Michael Kitces

Bengen's Research (1994)

- Use Ibbotson's annual data from 1926 thru 1992
  - 50% common stocks + 50% intermediate treasuries
  - Rebalanced annually
- Withdraw 3% of portfolio at the start of every year
  - Adjusted for 3% per annum inflation
- Evaluate portfolio performance over consecutive 30-year periods, e.g. 1926-1955, 1927-1956, etc.
- Repeat for 4%, 5%, 6% withdrawal rates

Bengen's Results

Initial withdrawal rate	Portfolio longevity
3% pa	> 50 years
4% pa	35 years
5% pa	20 years
6% pa	17 years

- Worst starting years, ranked by severity of problem:

  1966, 1965, 1968, 1969, 1937, 1962, 1973, 1939, 1940

Bengen's Four Percent Rule

- Set up 50% - 75% of portfolio in equities with the balance in intermediate Treasuries
- Withdraw 4% of assets in first year
- Increase by inflation for subsequent years
- Most portfolios should last over 50 years
- Worst case portfolio lasts 35 years

Variations on Bengen's 4% Rule

- Bengen (2004)

  OK to use 4.5% withdrawal rate if small cap stocks are included

  35% Large cap stocks

  18% Small cap stocks

  47% Intermediate Treasuries

- Bengen (2012)
  - Informal Rule: Take pre-emptive action if current withdrawal rate exceeds the initial rate by 25%

Trinity Study (1998)

- Similar to Bengen's research except ...
  - Used long-term high-grade corporate bonds instead of intermediate treasuries
  - Used Ibbotson data from 1926 through 1995
  - Calculated "portfolio success rates" instead of worst case portfolio longevity

    i.e. percentage of all past payout periods where the portfolio ended with a positive balance
  - 75% Stocks/25% Bonds with CPI adjusted withdrawals
- Results:

Withdrawal rates:	3%	4%	5%	6%	7%
Port success rate:	100%	98%	83%	68%	49%

Israelsen (2016)

- Evaluated two different portfolios using Ibbotson data from 1926 through 2014
  - Conservative portfolio:

    15% large cap + 10% small cap stocks
    + 55% bonds + 20% cash

  - Moderate portfolio:

    40% large cap + 25% small cap stocks
    + 25% bonds + 10% cash

- Used fixed inflation from 0% thru 6%/year

Israelsen's Results

	Probability of Success (COLA = 3%)	
W'draw Rate	Conserv. Port.	Moderate Port.
3%	100%	100%
4%	93%	98%
5%	58%	91%
6%	33%	87%
7%	20%	71%

Guyton and Klinger (2006)

- Eight-asset diversified portfolio, 40 year longevity
- Portfolio management rule
  - Determines the source of each withdrawal
  - Limits withdrawals from equities with negative returns
- Inflation rule
  - Caps maximum annual CPI increase at 6%
- Capital preservation and prosperity rules
  - Act as +/- 20% “guardrails” around initial rate
- With these rules 5.2% to 6.2% initial rate OK

Kitces (2015)

- Most people following the 4% rule die with a final portfolio significantly greater than the original value
- Ratcheting 4% Rule
  - Start with a conservative withdrawal rate for the early retirement years, say 4%
  - Any year the portfolio balance is greater than 50% higher than the original value, increase the withdrawal rate, including all COLA increases, by 10%
  - Limit this 10% ratchet to a maximum of once every third year.

Pfau and Dokken (2015)

- Current Environment
  - Dangerous to use historic data
  - The 4% rule may be optimistic today
    - Unprecedented low interest rates
    - High stock market valuations (Shiller PE10)
    - 40 year horizon from retirement date is more appropriate
  - 4% withdrawal rate from a 75% stock portfolio has only a 73% success rate
  - Even a 2% withdrawal rate has only a 90% success rate i.e. 10% chance of failure

William Sharpe (2013)

- For any retirement portfolio the amount you withdraw should depend on
  1. How much money you have in the account
  2. How long you are likely to need it
- After the first year all Bengen's "x"% rules no longer depend on Item 1 above.

Limitations of Bengen-Like Rules

- Cash flow determined only by initial portfolio value; no dependence on current market value
- Constant fixed real cash flow
- Unravels in periods of high inflation
- Assumes historical worst case sequence of returns risk
- Typically $$$ from excess returns left on the table for heirs
  - May be significantly greater than initial portfolio
  - Could have funded improved life style

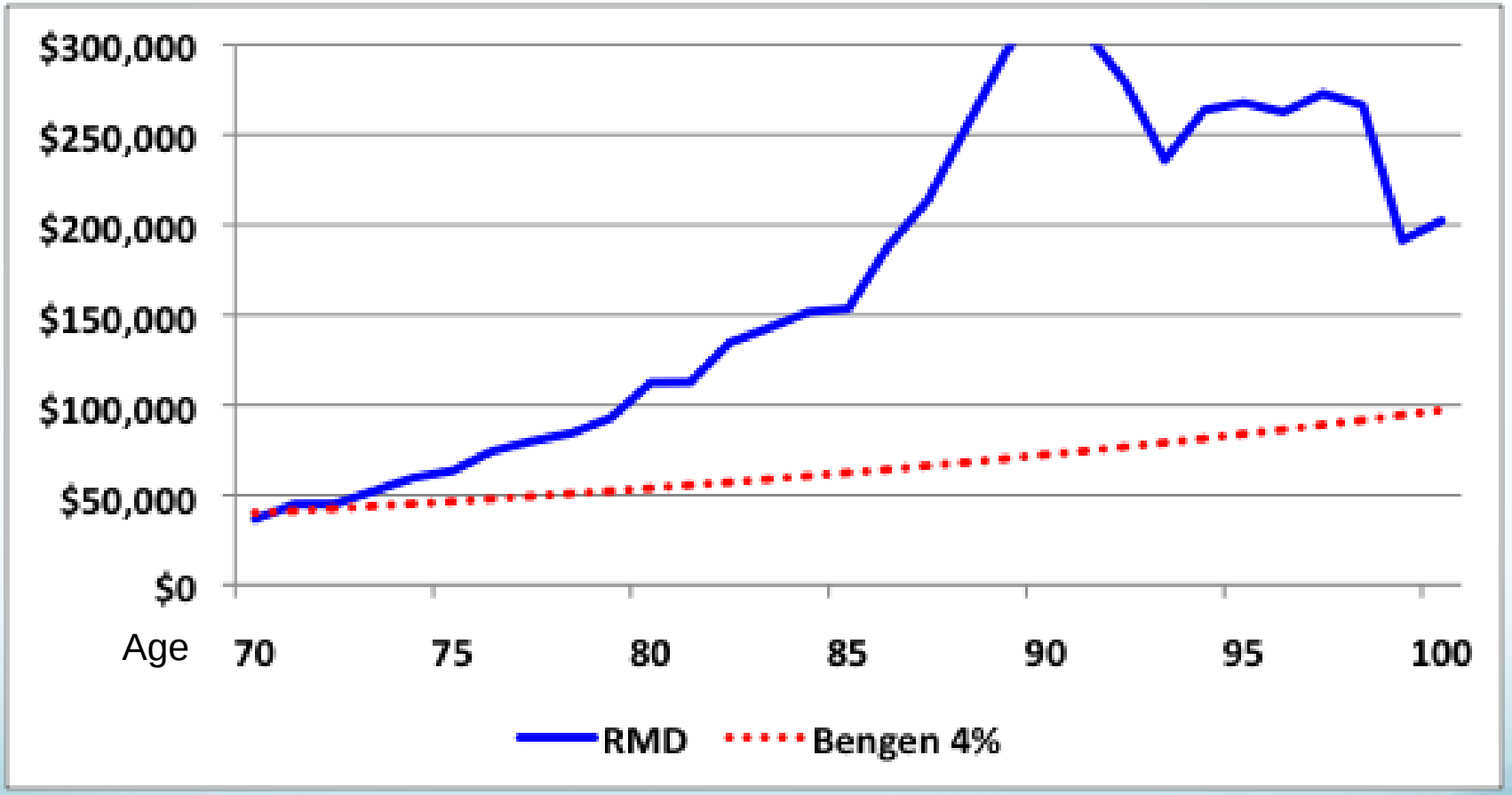
IRS Required Minimum Distribution RMD Method

- Sun and Webb (2012)
- Advantages
  - Easy to follow
  - Conservative withdrawal rate
  - Does not drive asset allocation
  - Responds to current market value
- Disadvantages
  - Variable withdrawals
  - Withdrawals not tailored to needs

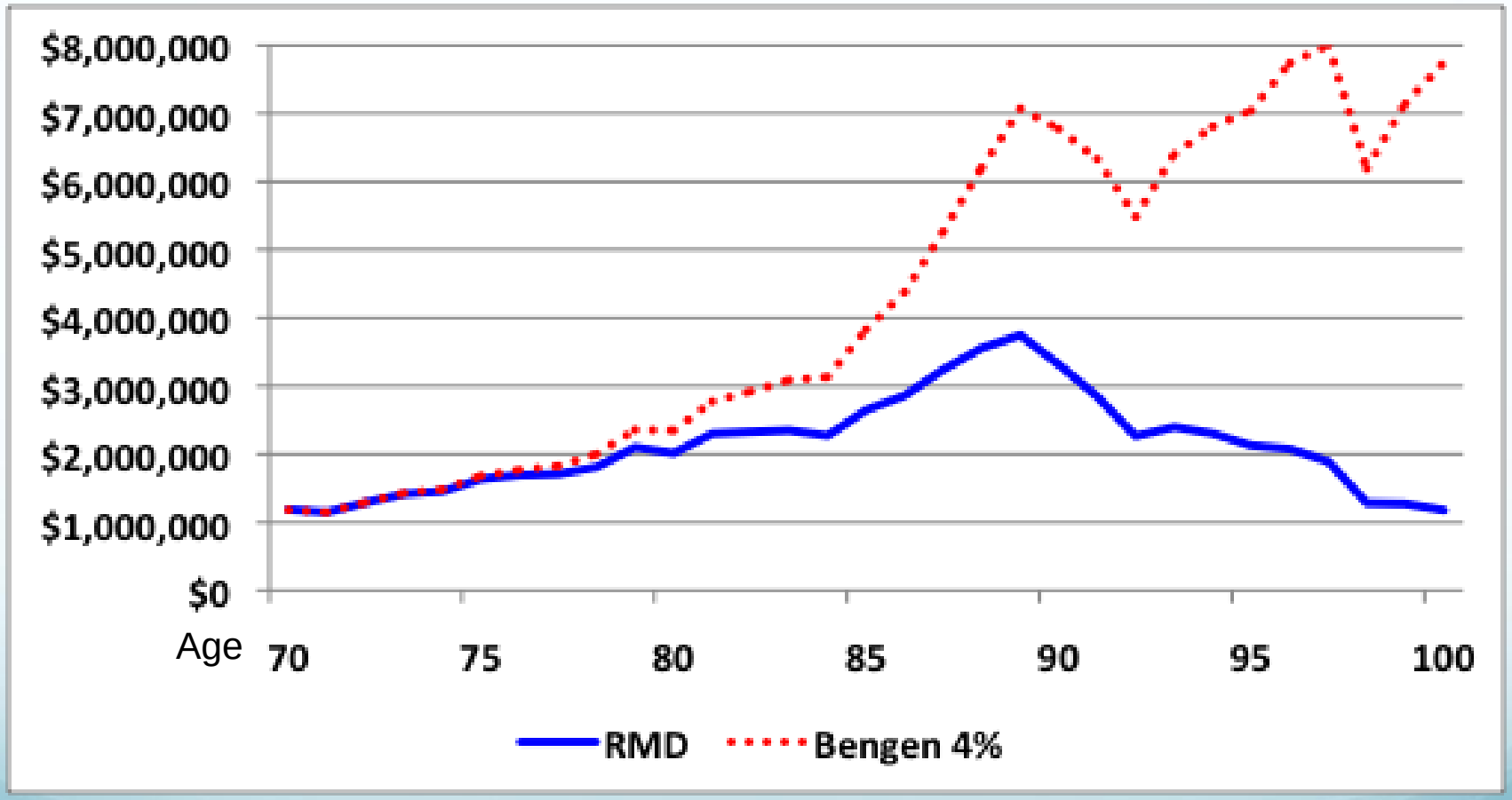
IRS RMD Table III Uniform Lifetime

Age	Years	RMD		Age	Years	RMD
70	27.4	3.6%		86	14.1	7.1%
71	26.5	3.8%		87	13.4	7.5%
72	25.6	3.9%		88	12.7	7.9%
73	24.7	4.0%		89	12.0	8.3%
74	23.8	4.2%		90	11.6	8.8%
75	22.9	4.4%		91	10.8	9.3%
76	22.0	4.5%		92	10.2	9.8%
77	21.2	4.7%		93	9.6	10.4%
78	20.3	4.9%		94	9.1	11.0%
79	19.5	5.1%		95	8.6	11.6%
80	18.7	5.3%		96	8.1	12.3%
81	17.9	5.6%		97	7.6	13.2%
82	17.1	5.8%		98	7.1	14.1%
83	16.3	6.1%		99	6.7	14.9%
84	15.5	6.5%		100	6.3	15.9%
85	14.8	6.8%		.	.	.

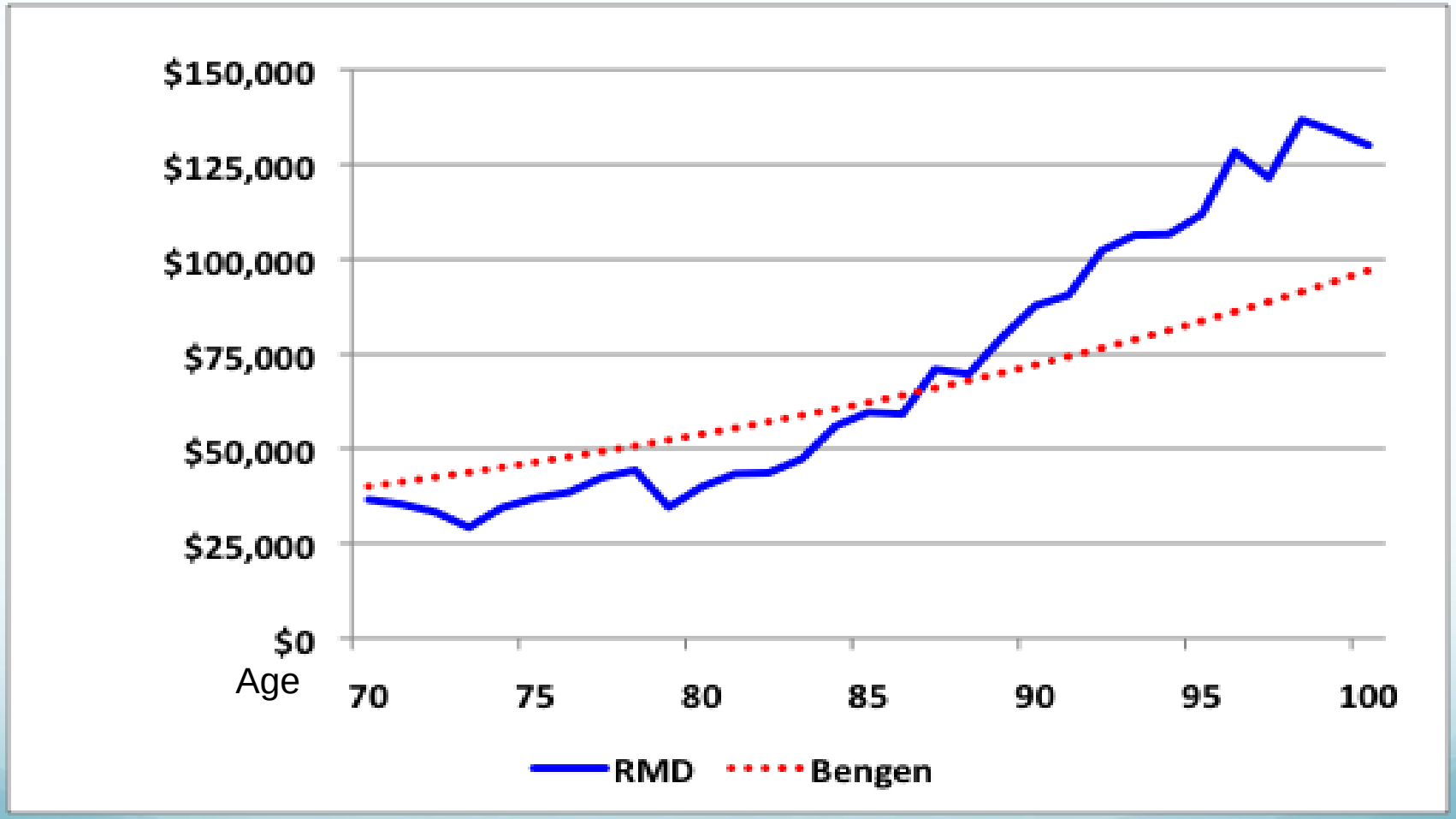
RMD and Bengen Withdrawals
Favorable Conditions Starting in 1980



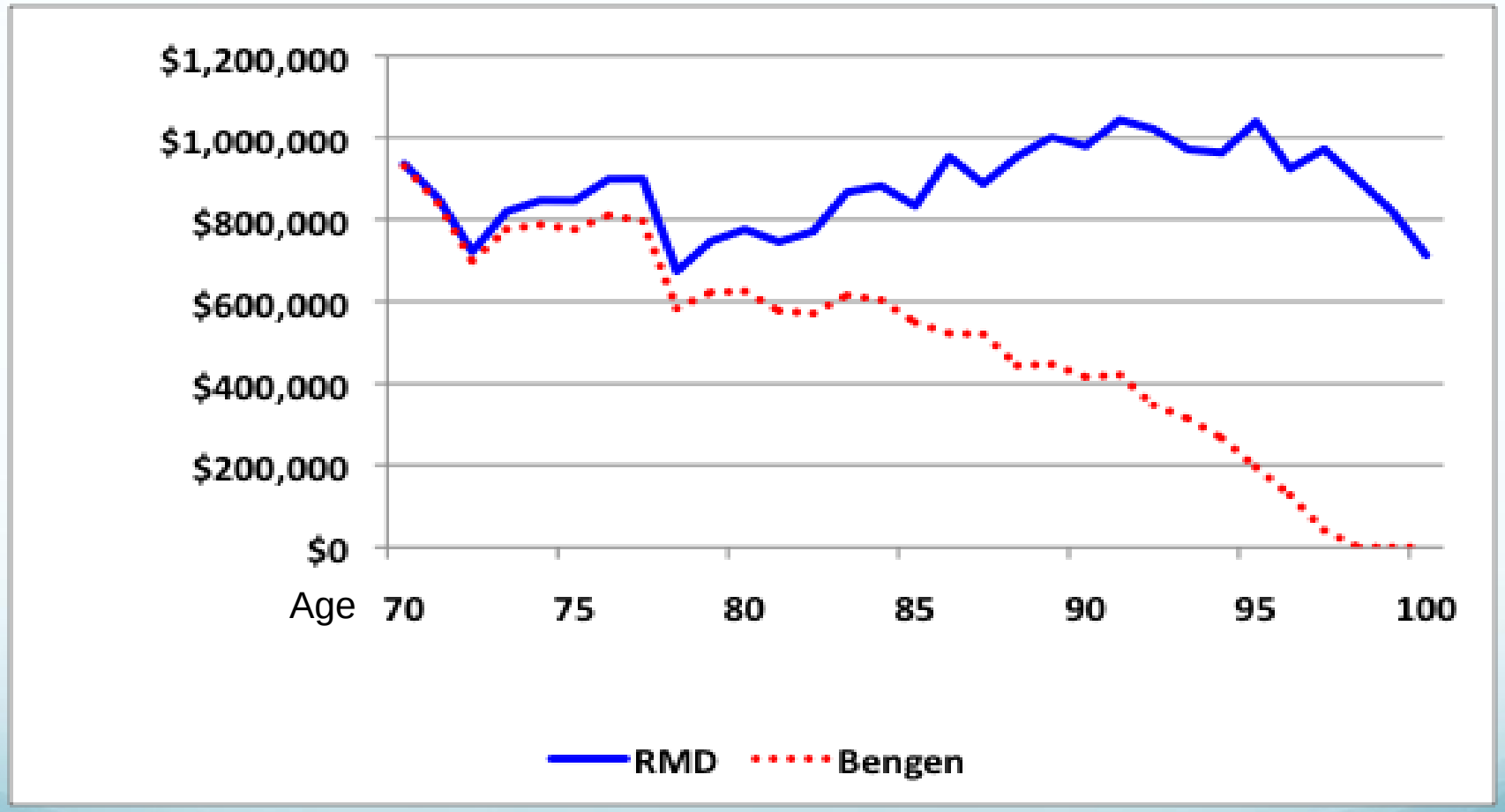
Portfolio Value
Favorable Conditions Starting in 1980



RMD and Bengen Withdrawals
Unfavorable Conditions Starting in 2000



Portfolio Value
Unfavorable Conditions Starting in 2000



Simple Bucket Model

	Bucket 1	Bucket 2
Purpose:	Living expenses	Growth
	Inflation protection	
Timeframe:	Short-term	Long-term
Assets:	Cash, CDs, T-bills	Diversified portfolio
	MM funds, etc.	Stocks, Bonds, etc.

Simple Bucket Strategy

- Every year ...
  ... Withdraw living expenses from Bucket 1

  ... Transfer 3% to 5% from Bucket 2 to Bucket 1

  Transfer may include: Interest and dividends

  Proceeds from rebalancing

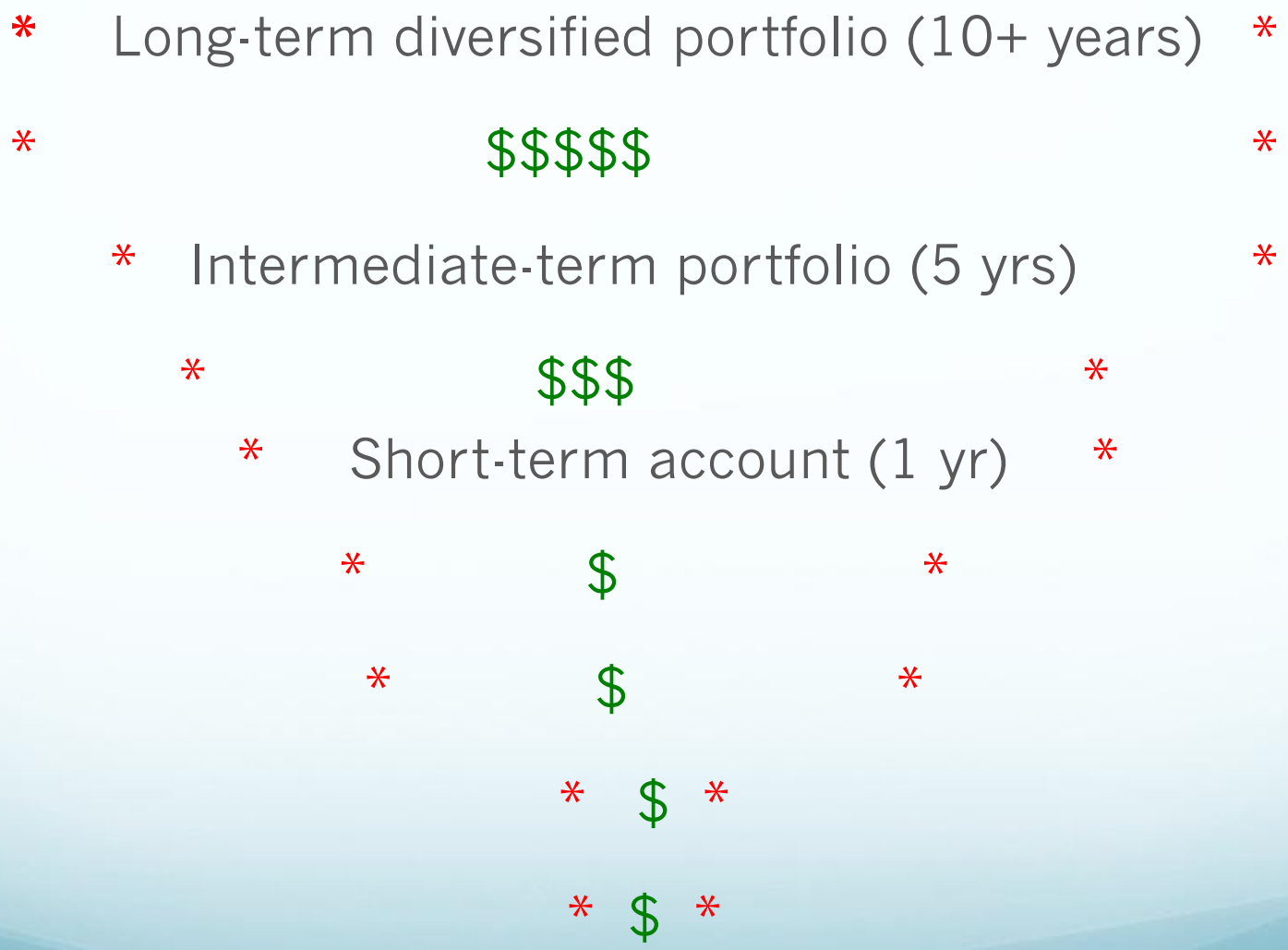
  Proceeds from tax-loss harvesting

  Sale of principal

Three Bucket Variation

- Bucket 1: Short-term (1-2 years)
  - Cash, Checking/savings accounts
  - Money market fund, T-bills, Short-term CDs, etc.
- Bucket 2: Intermediate term (2-10 years)
  - CD ladder, short/intermediate-term bonds, etc.
  - High quality dividend paying stocks
- Bucket 3: Long-term (>10 years)
  - Diversified long–term portfolio
  - Stocks, long-term bonds, etc.

Funnel View


Long-term diversified portfolio (10+ years)
$$$$$
Intermediate-term portfolio (5 yrs)
$$$
Short-term account (1 yr)
$
$
$
$

Constant Percentage Strategy

- Typical mechanical approach
  - Transfer say 3 to 5% annually of Bucket 3 to Bucket 2
  - Transfer say 20% annually of Bucket 2 to Bucket 1
  - Withdraw monthly living expenses from Bucket 1
- Easy to implement
- May require selling from Bucket 3 in down market

Setting Up a Bucket Strategy

- Estimate “paycheck” needs
  - Living expenses less Social Security, pension, etc.
- Select a bucket management strategy
  - Pick a sustainable withdrawal rate
- Create and fund buckets
  - Buckets 1, 2 and 3 (1-2yrs, 2-10yrs and 10+ yrs)
- Document the plan
- Monitor progress annually

Standby Reverse Mortgage and Your Bucket Strategy

- Consider integrating a Home Equity Conversion Mortgage (HECM) line of credit into your bucket strategy
- Use a smaller short-term bucket to minimize "dead money" in today's environment, plus a HECM line of credit to supplement it for emergencies
- Also use the HECM to avoid selling assets in a bear market
  - Borrow against HECM line of credit in down markets Repay in bull market

Equity Glide Paths for Your Retirement Portfolio

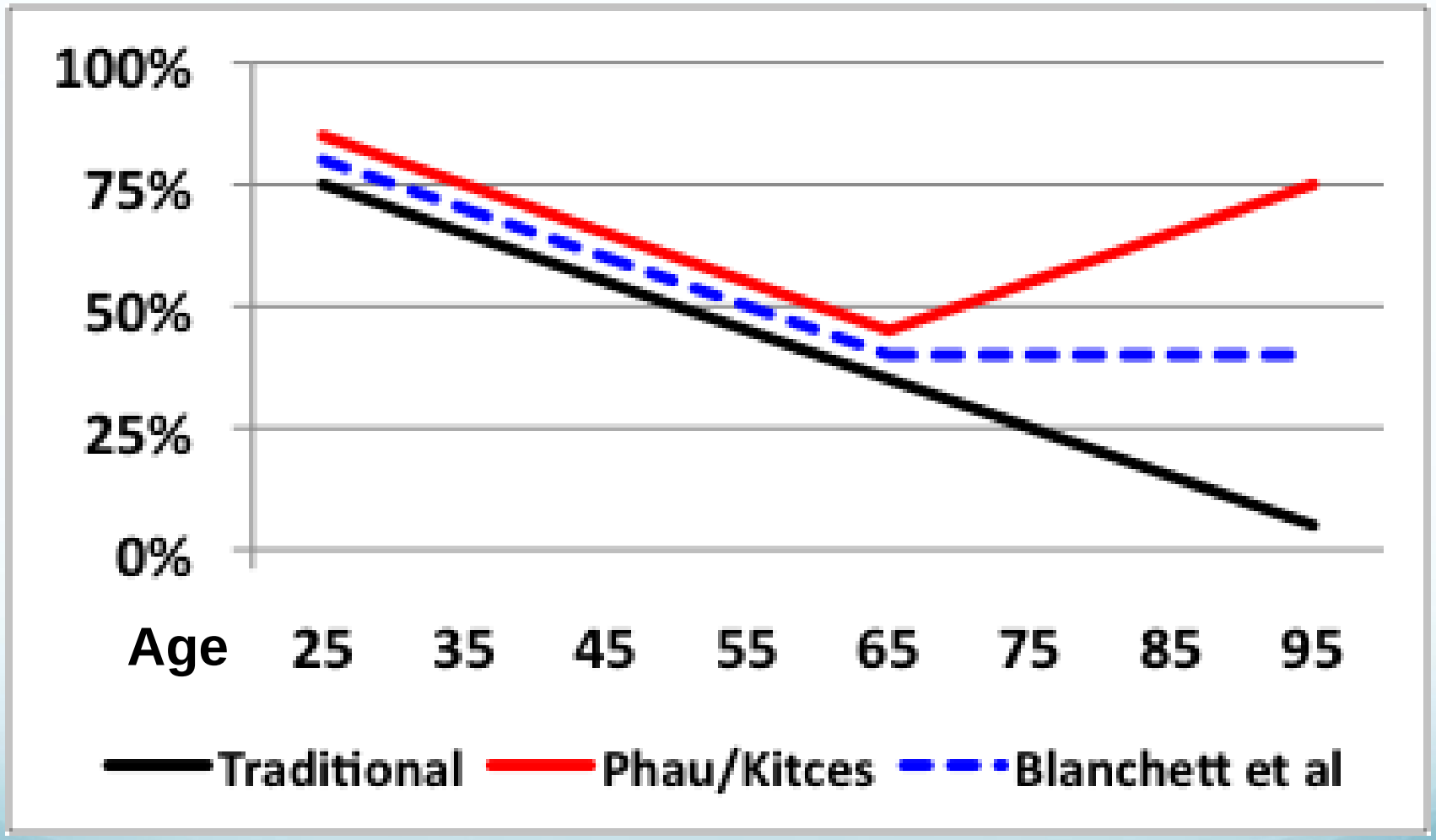
- Traditional glide path
  - "Age in fixed income", Balance in equities
  - Declining equity glide path thru accumulation and decumulation phases

Age	Fixed Income	Equities
25	25%	75%
45	45%	55%
65	65%	35%
85	85%	15%
95	95%	5%

Recent Research

- Retirees face maximum risk on retirement day
  - Longevity risk (30-40 years)
  - Sequence of return risk
  - Lowest allocation to stocks
- Pfau and Kitces (2014)
  - V-shaped equity glide path
  - High early in career, 80% to 100%
  - Lowest on retirement day, most vulnerable, 20% to 40%
  - Increasing thereafter as we age, 60% to 80%
- Blanchett (2015)
  - Optimum glide path depends on initial environment

Equity Glide Paths



Personal Philosophical Question

- Two approaches to funding your retirement
  - Probability-based approach
    - Diversified portfolio of "risky" assets
    - Withdraw X% annually to fund living expenses
    - Accept some probability of success, risk of failure
  - Safety-first approach
    - Fund essential expenses with "risk-free" investments
      - Social Security, pension
      - Bond ladder
      - Immediate or deferred annuity
    - Fund discretionary expenses with more volatile investments; greater upside, but also downside risk
- Subjective tradeoff: Current live-style versus safety

When Does "Safety-First" Trump Current Lifestyle?

- Picking too high a withdrawal rate may necessitate reducing your withdrawals significantly to avoid running out of money
- Picking too low a withdrawal rate could mean that you end up with a significant unintended portfolio surplus when you die, while missing out on lifestyle when alive
- Know thyself! Review your Personal Investor Profile (PIP) and Investment Policy Statement (IPS) to determine where you stand

Parting Thoughts

- There is no rule to satisfy an optimum withdrawal stream from a retirement portfolio of volatile assets with unknown expected returns for an indeterminate period
- The future may be very different to the past
- There is no such thing as a "safe withdrawal rate"
  - "Safe" means "Safe **as far as we can tell**"
- Be conservative initially, more aggressive later
- Consider a longevity annuity starting at age 85
- Stay flexible; Review your plan regularly.

Further Reading

- *Determining Withdrawal Rates Using Historical Data*, William P. Bengen, Journal of Financial Planning, October 1994
- *How Much Is Enough?*, William P. Bengen, Financial Advisor Magazine, May 2012
- *Retirement Savings: Choosing a Withdrawal Rate That Is Sustainable*, Phillip I. Cooley st al, AAII Journal, February 1998 (Trinity study)
- *Decision Rules and Maximum Initial Withdrawal Rates*, Jonathan T. Guyton and William J. Klinger, Journal of Financial Planning, March 2006
- *The Mathematics of Retirement Portfolios*, Craig Israelsen, AAII Journal, January 2016
- *Many Retirees Limit Withdrawals to the RMD Amount*, AAII Journal, November 2020
- *Estimating the End (of Retirement)*, David Blanchett, Morningstar, April 2020

Further Reading continued

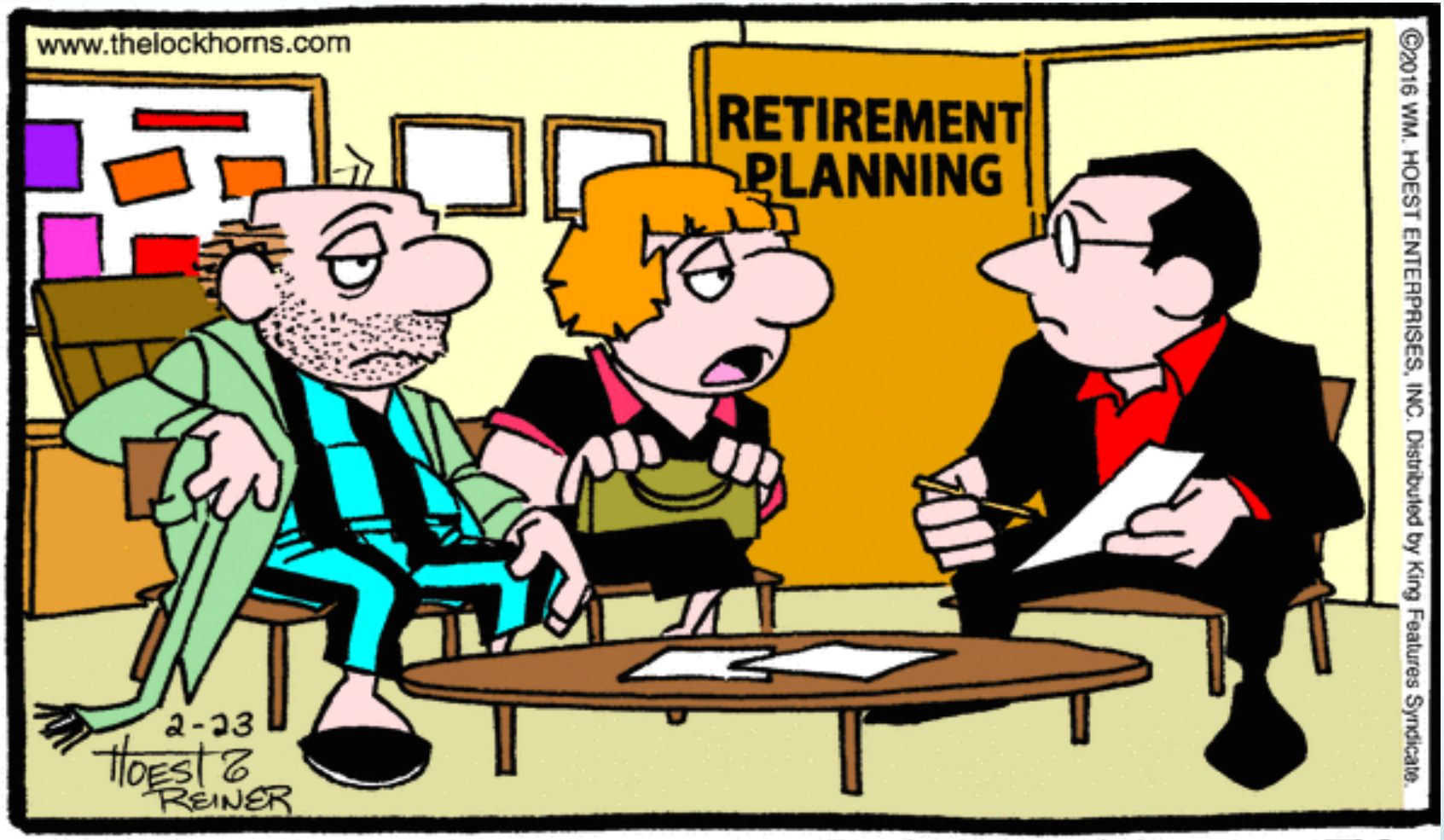
- *Why 4% Could Fail*, Wade Pfau and Wade Dokken, Financial Advisor Magazine, September 2015
- *The X% Rule*, William Sharpe, Retirement Income Scenarios blog, December 2013
- *Retirement Withdrawals: Can You Base Them on RMDs*?, Wei Sun and Anthony Webb, AAII Journal, December 2012
- *A More Dynamic Approach to Retirement Spending*, Colleen Jaconetti et al, AAII Journal, April 2014
- *Using the Bucket Approach With Your Retirement Portfolio*, Christine Benz, AAII Journal, October 2013
- *Standby Reverse Mortgages: A Risk Management Tool for Retirement Distributions*, John Salter, Shaun Pfeiffer and Harold Evensky, Journal of Financial Planning, August 2011

Further Reading continued

- *Reducing Retirement Risk with a Rising Equity Glide Path*, Wade D. Pfau and Michael E. Kitces, Journal of Financial Planning, January 2014
- *Reduce Stock Exposure in Retirement, or Gradually Increase It?*, Michael Kitces and Wade Pfau, AAII Journal, April 2014
- *Retirement Risk, Rising Equity Glide Paths, and Valuation-Based Asset Allocation*, Michael Kitces and Wade Pfau, Journal of Financial Planning, March 2015
- *Increasing Retirement Withdrawal Rates Through Asset Allocation*, Michael Kitces and Wade Pfau, AAII Journal, April 2015
- *Mathematical Support for Rising Equity Glide Paths*, Luke Delorme, AAII Journal, September 2015
- *Initial Conditions and Optimal Retirement Glide Paths*, David Blanchett, Journal of Financial Planning, September 2015
- *Exploring the Optimal Equity Allocation path for Retirees*, David Blanchett, AAII Journal, December 2015

Useful Websites

- http://aaii.com Broad selection of investing material
- http://siliconvalleyaaii.org Previous presentations on various topics
- https://sccld.org/resources/business/ Business & Money
  Morningstar Research Center, S&P's NetAdvantage, Value Line
- https://vanguard.com Numerous articles on Retirement Planning
- https://RetirementIncomeScenarios.blogspot.com Bill Sharpe
- https://caniretireyet.com/the-best-retirement-calculators/ Darrow Kirkpatrick
- https://Livingto100.com Calculates your life expectancy
- https://Reversefunding.com FAQs on reverse mortgages
- https://bogleheads.org/



"LEROY HAS A CERTAIN LIFESTYLE HE WANTS TO MAINTAIN."