

# Safe Withdrawal Rates from your Retirement Portfolio

## Distribution phase

Income from 3-legged stool: Pension, Social Security, Retirement portfolio

## Before Bengen: Ibbotson date from 1926 to 1992

Common stocks cagr = 10.3% Intermediate Treasuries cagr = 5.1% Inflation = 3% pa

Average return for 60% stocks / 40% bonds portfolio = 8.2% pa

Real return after inflation = 5.2% pa

Withdrawing 5% pa and adjusting for inflation should be OK, right ?

Let's try an experiment

Assume \$1M retirement portfolio on 1/1/1980

60% stock: S&P 500 Index (VFINX); Cagr from 1980 - 2015 = 10.4%

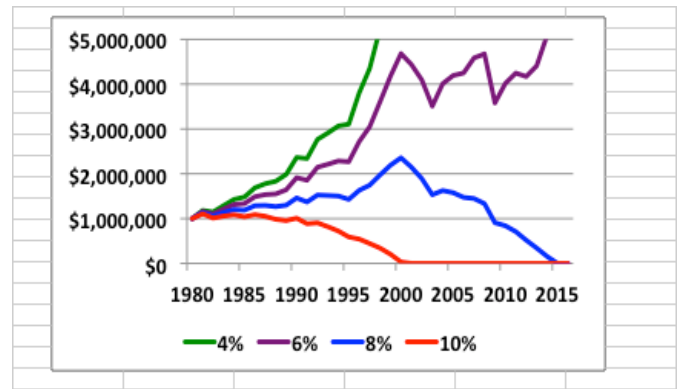
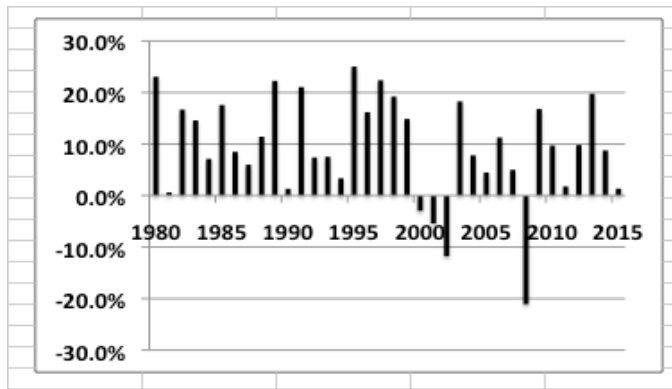
+ 40% bonds (5-year Treasuries); Cagr from 1980 - 2015 = 5.9%

Average return = 9.0%, Real return after inflation = 6.0%

Withdraw 4% (\$40,000) to fund expenses in 1980; Increase by 3% pa for subsequent years

How long does the portfolio last?

Repeat experiment with other withdrawal rates.

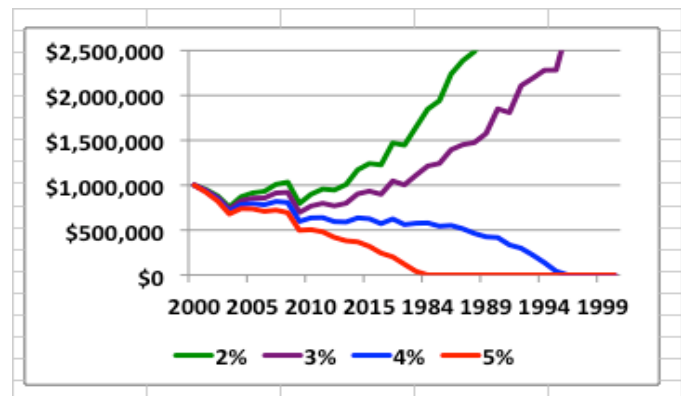
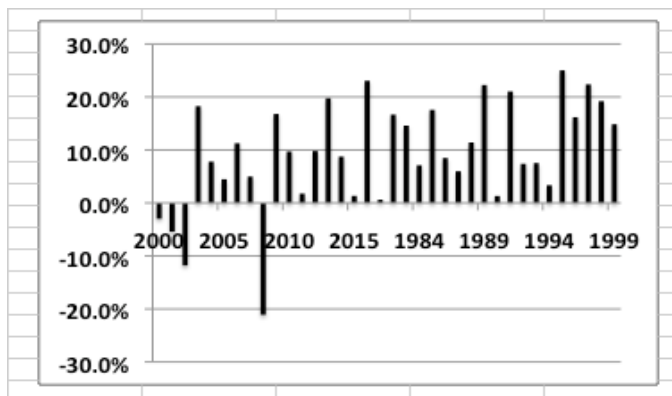


Results: Portfolio lasts 35 years even with 8% pa withdrawal.

How about less favorable timing?

Suppose we start the drawdowns in 2000, i.e. use returns from 2000 - 2015, followed by 1980 - 1999

Same 9.0% pa average return and 6.0% real return as before



Results: With 4% initial withdrawal rate portfolio barely lasts 31 years

Conclusion: Performance during the early years is critically important, i.e. "sequence of returns" risk.

## **Bengen's 4% Rule**, published in October 1994

Used Ibbotson data from 1926 thru 1992

50% common stocks + 50% intermediate treasuries, rebalanced annually

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

Summary: Worst starting years: 1966, 1965, 1968, 1969, 1937, 1962, 1973, 1939, 1940  
Set up 50% - 75% of portfolio in equities, balance in intermediate Treasuries  
Withdraw 4% of assets in first year, increasing by inflation in subsequent years  
Most portfolios should last over 50 years, worst case timing lasts 35 years.

## **Variations on Bengen's 4% Rule**

Trinity Study (1998): used 75% stocks + 25% long-term corporate bonds, 35 year retirement

Withdrawal rate:	3%	4%	5%	6%	7%
Success rate:	100%	98%	83%	68%	49%

Bengen (2004): Portfolio mix = 35% large cap stock + 18% small cap stocks + 47% Treasuries  
Safe withdrawal rate can be increased to 4.5% for first year.

Guyton and Klinger (2006): 5.2% - 6.2% rate may be OK if certain rules/ guardrails are used

Kitces (2015): Start with a conservative rate, say 4%, for early years, then ratchet up later

Pfau and Dokken (2015): 4% rule may be optimistic in today's environment; Use 2% to 3%

Israelsen (2016): Gives data for conservative and moderate portfolios, and a range of inflation data

## **Limitation of all Bengen-Like Rules**

Cash flow is determined only by the initial portfolio value; no dependence on current market value

Constant fixed real cash flow; may not fit retirement needs

Unravels in periods of high inflation

Assumes historical worst case sequence of returns risk

In most cases \$\$\$ from favorable returns left on the table for heirs

## **Required Minimum Distribution (RMD) Method**

Sun and Webb (2012): Use IRS RMD tables to determine withdrawal rate by age

Advantages: Easy to follow, conservative withdrawal rate, responds to current market value

Disadvantages: Variable withdrawals, may not be tailored to retirement needs.

## **Bucket Strategies**

Bucket 1, Short-term (1-2 years): Cash, checking/savings accts, money markets, T-bills, CDs, etc.

Bucket 2, Intermediate term (2-10 years): CD ladder, short/intermediate bonds, dividend stocks

Bucket 3, Long term (>10 years): Diversified long-term portfolio, stocks

\*\*\*\*\* Transfer say 3-5% annually from Bucket 3 to Bucket 2 \*\*\*\*\*

\*\*\*\*\* Transfer say 20% from Bucket 2 to Bucket 1 \*\*\*\*\*

\*\*\* Withdraw monthly living expenses from Bucket 1 \*\*\*

May require selling from Bucket 3 in a down market; Consider using a standby reverse mortgage

## **Equity glide paths**

Kitces, Pfau, Blanchett suggest increasing stock allocation later in retirement

**Next month**, March 14<sup>th</sup>, 2018: Social Security and Medicare

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