

How Long will a portfolio last?

1. Base "Usual" Case: Rebalance at end of year after withdrawal to design mix of stocks and bonds.

Conclusion: 21 years of full withdrawals for spending.

Inputs

Initial portfolio value	1,000
Constant dollar (C\$) withdrawal for spending	44 "4.40% withdrawal rate"
Stock Mix first of each year	80%
Total investing cost	0.10%

Spending Year	Withdrawal for spending in the next year	Portfolio at start of year after withdrawal	Portfolio Return at Stock Mix	Portfolio Value		Real Returns*
				Value at end of year net of investing cost	Percent decline from prior year initial value	
1	44.0	956.0	-12.7%	833.6	-16.6%	1969 -13.8% -8.5%
2	44.0	789.6	0.5%	792.5	-4.9%	1970 -1.6% 8.5%
3	44.0	748.5	9.9%	822.1	3.7%	1971 10.6% 7.4%
4	44.0	778.1	12.4%	874.1	6.3%	1972 15.1% 1.9%
5	44.0	830.1	-18.6%	675.3	-22.7%	1973 -21.6% -6.5%
6	44.0	631.3	-28.8%	448.7	-33.5%	1974 -34.5% -6.4%
7	44.0	404.7	22.9%	496.8	10.7%	1975 28.2% 1.4%
8	44.0	452.8	16.5%	526.9	6.1%	1976 18.2% 9.5%
9	44.0	482.9	-11.6%	426.3	-19.1%	1977 -13.0% -6.0%
10	44.0	382.3	-3.2%	369.6	-13.3%	1978 -2.3% -7.2%
11	44.0	325.6	1.6%	330.6	-10.5%	1979 4.7% -10.5%
12	44.0	286.6	12.1%	321.0	-2.9%	1980 17.9% -11.0%
13	44.0	277.0	-10.8%	246.8	-23.1%	1981 -12.7% -3.0%
14	44.0	202.8	12.5%	228.0	-7.6%	1982 17.0% -5.4%
15	44.0	184.0	14.5%	210.5	-7.7%	1983 18.1% 0.2%
16	44.0	166.5	3.9%	172.8	-17.9%	1984 2.2% 10.4%
17	44.0	128.8	25.8%	161.8	-6.4%	1985 26.9% 21.1%
18	44.0	117.8	17.6%	138.3	-14.5%	1986 17.3% 18.5%
19	44.0	94.3	-0.2%	94.1	-32.0%	1987 0.8% -4.1%
20	44.0	50.1	10.0%	55.0	-41.5%	1988 11.7% 3.3%
21	44.0	11.0	22.8%	13.5	-75.4%	1989 25.8% 10.6%
						1990 -8.7% 1.7%
						1991 26.6% 13.9%
						1992 4.6% 4.6%
						1993 7.1% 11.7%

OUCH!

Downward spiral to depletion.

FAILURE. There is not enough for a full withdrawal at the end of the 21st year for spending for the next year.

* Data Source: Stocks, Bonds, Bills and Inflation. Ibbotson, et al.
 I used returns for US Large Company stocks – the S&P 500. Cumulative returns for Large and Small Company stocks have been virtually identical for the past 40 years.
 I used the average of returns for Long-term and Intermediate-term US gov't bonds; I judge that this average is closer to what an investor will hold from a broad-based bond index fund.