

How Long will a Portfolio Last?

#2. NOT QUITE TRUE HYBRID. Sell only bonds for spending if stocks decline by 10% or worse real return in a year. Then rebalance back to your original design mix.

Conclusion: 21 years of full withdrawals for spending.

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

Spending Year	Withdrawal for spending in the next year	Portfolio, start of year after withdrawal	Portfolio Composition at start of year			Portfolio Value			Percent decline from prior year initial value	Real Return*		
			Stocks	Bonds	Stock Mix	Stocks	Bonds	Total		Year	Stocks	Bonds
1	44.0	956.0	764.8	191.2	80%	658.8	174.8	833.6	-16.6%	1969	-13.8%	-8.5%
2	44.0	789.6	658.8	130.8	83%	648.0	141.8	789.8	-5.3%	1970	-1.6%	8.5%
3	44.0	745.8	596.6	149.2	80%	659.1	160.0	819.1	3.7%	1971	10.6%	7.4%
4	44.0	775.1	620.1	155.0	80%	712.8	157.9	870.7	6.3%	1972	15.1%	1.9%
5	44.0	826.7	661.4	165.3	80%	518.1	154.5	672.5	-22.8%	1973	-21.6%	-6.5%
6	44.0	628.5	518.1	110.5	82%	339.2	103.3	442.5	-34.2%	1974	-34.5%	-6.4%
7	44.0	398.5	339.2	59.3	85%	434.5	60.1	494.6	11.8%	1975	28.2%	1.4%
8	44.0	450.6	360.5	90.1	80%	425.8	98.6	524.4	6.0%	1976	18.2%	9.5%
9	44.0	480.4	384.3	96.1	80%	333.9	90.2	424.1	-19.1%	1977	-13.0%	-6.0%
10	44.0	380.1	333.9	46.2	88%	326.0	42.8	368.9	-13.0%	1978	-2.3%	-7.2%
11	44.0	324.9	259.9	65.0	80%	271.8	58.1	329.9	-10.6%	1979	4.7%	-10.5%
12	44.0	285.9	228.7	57.2	80%	269.4	50.8	320.2	-2.9%	1980	17.9%	-11.0%
13	44.0	276.2	221.0	55.2	80%	192.6	53.5	246.2	-23.1%	1981	-12.7%	-3.0%
14	44.0	202.2	192.6	9.6	95%	225.2	9.0	234.2	-4.9%	1982	17.0%	-5.4%
15	44.0	190.2	152.2	38.0	80%	179.5	38.1	217.6	-7.1%	1983	18.1%	0.2%
16	44.0	173.6	138.8	34.7	80%	141.8	38.3	180.1	-17.2%	1984	2.2%	10.4%
17	44.0	136.1	108.9	27.2	80%	138.0	32.9	171.0	-5.1%	1985	26.9%	21.1%
18	44.0	127.0	101.6	25.4	80%	119.1	30.1	149.1	-12.8%	1986	17.3%	18.5%
19	44.0	105.1	84.1	21.0	80%	84.7	20.1	104.8	-29.7%	1987	0.8%	-4.1%
20	44.0	60.8	48.7	12.2	80%	54.3	12.6	66.9	-36.2%	1988	11.7%	3.3%
21	44.0	22.9	18.3	4.6	80%	23.0	5.0	NOT ENUF	#VALUE!	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%

Downward spiral to depletion.

\$66.9 at the end of year 20 allows for a full withdrawal for year 21. Not enough at the end of year 21 for full withdrawal for the next year.

* Data Source: Stocks, Bonds, Bills and Inflation. Ibbotson, et al.
 I used returns for Large Company stocks – the S&P 500 – and the average of Long-term and Intermediate-term Government Bonds.