FIRECalc and Vanguard Monte Carlo Retirement Withdrawal Calculators
give very different results in portfolio value over time.

Display of year-by-year ending values for two series of six-year returns.
One series is returns from 1929 - 1934. a period of deflation. The other is from 1969 - 1974, a period of above average inflation.
Both are in the top four of MOST HORRIBLE six-year sequences of real, inflation-adjusted stock returns since 1926.
(Reference: see blog post of February 23, 2018)

Start with $1 million. Withdraw spending for the upcoming year right before the start of that year.

Case #1. Very poor returns in a period of deflation: 1929 through 1934

FIRECalc method

Real return rate = 75% stocks, 25% bonds
$ rounded to nearest $10

		Beg Value	Withdrawal	Start of Year	Real Return in Year	Real Portfolio Value end of year
1	1929	1,000,000	45,000	955,000	-5.64%	901,160
2	1930	901,160	45,000	856,160	-12.22%	751,580
3	1931	751,580	45,000	706,580	-26.86%	516,770
4	1932	516,770	45,000	471,770	9.33%	515,770
5	1933	515,770	45,000	470,770	39.76%	657,960
6	1934	657,960	45,000	612,960	-0.59%	**609,340**

Vanguard Method

Nominal return rate = 75% stocks, 25% bonds
$ rounded to nearest $10

		Beg Value	Withdrawal	Start of Year	Nominal Return in Year	Amount calculated at end of year	Inflation in year
1	1929	1,000,000	45,000	955,000	-5.09%	906,430	0.58%
2	1930	906,430	46,350	860,080	-17.83%	706,730	-6.40%
3	1931	706,730	47,740	658,990	-33.68%	437,060	-9.32%
4	1932	437,060	49,170	387,890	-1.90%	380,500	-10.27%
5	1933	380,500	50,650	329,850	40.83%	464,530	0.76%
6	1934	464,530	52,170	412,360	0.92%	**416,140**	1.52%

Vanguard method looks much WORSE – more than 30% worse – than what really happened to a portfolio's real spending power.

Vanguard WORSE by	(193,200)
Percentage WORSE	**-32%**

Case #2. Very poor returns in a period of above average iflation: 1969 through 1974

FIRECalc method

Real return rate = 75% stocks, 25% bonds
$ rounded to nearest $10

		Beg Value	Withdrawal	Start of Year	Real Return in Year	Real Portfolio Value end of year
1	1969	1,000,000	45,000	955,000	-12.96%	831,230
2	1970	831,230	45,000	786,230	0.41%	789,450
3	1971	789,450	45,000	744,450	10.33%	821,350
4	1972	821,350	45,000	776,350	11.85%	868,350
5	1973	868,350	45,000	823,350	-18.47%	671,280
6	1974	671,280	45,000	626,280	-27.59%	**453,490**

Vanguard Method

Nominal return rate = 75% stocks, 25% bonds
$ rounded to nearest $10

		Beg Value	Withdrawal	Start of Year	Nominal Return in Year	Amount calculated at end of year	Inflation in year
1	1929	1,000,000	45,000	955,000	-7.57%	882,720	6.20%
2	1930	882,720	46,350	836,370	6.00%	886,530	5.57%
3	1931	886,530	47,740	838,790	13.93%	955,660	3.27%
4	1932	955,660	49,170	906,490	15.66%	1,048,470	3.41%
5	1933	1,048,470	50,650	997,820	-11.37%	884,370	8.71%
6	1934	884,370	52,170	832,200	-18.66%	**676,920**	12.34%

Vanguard method looks much BETTER – about 50% better – than what really happened to a portfolio's real spending power.

Vanguard BETTER by	223,430
Percentage BETTER	**49%**