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Spending Rates from Retirement Portfolios

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This article discusses safe spending rates from investment portfolios and the likelihood of not running out of money. Examples of risk scenarios are provided. The appendix includes the

Will you have enough money to last through your retirement years? Two primary factors can help determine your likelihood of having enough money:

1. How much you spend (as a percent of your total investment portfolio)
2. How you invest the money you have.

Larry Swedroe, in an excellent book titled *Rational Investing in Irrational Time*, provides us with some helpful information that we can use to guide our spending and investment portfolios. The following tables show the odds (in percent) of not running out of money over a specified time period given the withdrawal percentages in the initial year and adjusted by inflation thereafter. The tables span 30-year, 20-year, and 15-year retirement horizons.

Withdrawal Rate, Adjusted Annually for Inflation

Asset Allocation	4%	5%	6%	7%
100% stocks	95	85	68	59
75% stocks/ 25% bonds	98	83	68	49
50% stocks/ 50% bonds	95	76	51	17
25% stocks/ 75% bonds	71	27	20	12
100% bonds	20	17	12	0

Table 1 30-Year Time Periods between 1926 and 1996

Withdrawal Rate, Adjusted Annually for Inflation

Asset Allocation	4%	5%	6%	7%
100% stocks	100	88	75	63
75% stocks/ 25% bonds	100	90	75	61
50% stocks/ 50% bonds	100	90	75	55
25% stocks/ 75% bonds	100	82	47	31
100% bonds	90	47	20	14

Table 2 20-Year Time Periods between 1926 and 1996

Withdrawal Rate, Adjusted Annually for Inflation

Asset Allocation	4%	5%	6%	7%
100% stocks	100	100	91	63
75% stocks/ 25% bonds	100	100	95	82
50% stocks/ 50% bonds	100	100	93	79
25% stocks/ 75% bonds	100	100	89	70
100% bonds	100	100	71	39

Table 3 15-Year Time Periods between 1926 and 1996

Examples

To understand how this research applies, first consider a 55-year-old female retiree. Based on IRS life expectancy tables (shown in the appendix), she expects to be retired for 30 more years. Here is how we would use the research:

1. We choose table 1 above (30-Year Time Periods) to match her remaining retirement length.
2. Next we look down the first column to find her stock/bond Asset Allocation. For this example she'll choose 75% stocks / 25% bonds.
3. Next she selects her withdrawal rate from the first row of the table. For this example, she'll plan on 4% per year.
4. The number in the corresponding box of the table is 98 percent (shown in blue).

What this tells us is that if she spends 4% of her investment portfolio this year and increases her spending amount each year by the rate of inflation, she has a 98% chance (shown in blue) of not running out of money before her 30 years are up.

As a second example, consider a 73-year old retiree who hopes to be retired another 15 years. In this case, he would like to maximize income from his retirement portfolio in order to travel but he would also like to minimize the risk of running out of money. Here is how we would use the research:

1. We choose table 3 (15-Year Time Periods) to match his remaining retirement length.
2. Next we look down the first column to find his stock/bond Asset Allocation. For this example he has 75% stocks / 25% bonds.
3. Next we choose his withdrawal rate from the first row of the table. For this example, he'll plan on 5% to 6% per year.
4. With the current stock/bond allocation, the number in the corresponding box of the table is 100 percent (shown in blue) if he spends 5%, and 95% if he spends 6%. If he spends 7% of his investment portfolio per year, his chance of not running out of money drops to 82%.
5. If he were to shift his allocation to 50% stocks / 50% bonds, his risk of running out of money would increase at 6% or 7% spending rates.

Conclusions and Implementation Recommendations

For young retirees (with a 30-year or greater retirement horizon) a very conservative investment approach (50% stocks or less) actually increases the odds of the retiree running out of money over their life expectancy.

As the retirement time period becomes shorter (from 30 years to 15 years) the safe withdrawal rate increases and the ideal stock/bond ratio gets smaller.

How much should you spend?

- First, determine your retirement horizon. How long do you expect to live? How long could you live? If you have a spouse, how long could they live? Remember that there is a 50% chance you will outlive your life expectancy and a 75% chance that you or your spouse will outlive the life expectancies.
- Second, select a stock/bond mix that you are comfortable with given your life expectancies and risk tolerance.
- Next, assemble an intelligently diversified stock and bond portfolio, rather than a random collection of investments. A poorly diversified investment portfolio will dramatically increase the odds of running out of money.

- Finally, spend no more than the percentage shown according to the table(s) above and your risk comfort level. Review your actual spending and consider adjusting your spending annually based upon your investment performance.

Note that this research agrees well with Monte Carlo simulations of retirement spending. Monte Carlo simulations are another respected method of establishing safe retirement spending levels. With this alternate method, estimates of a portfolio's return and volatility are entered into a computer which then simulates a large number of "random" retirements and reports the odds of not running out of money before the end of the time period.

Bickford Investment provides clients with intelligent investment portfolio construction and management on a fee-only (no commission) basis at less than half the fees charged by the average investment advisor.

Appendices: IRS Life Expectancy Tables

Below are life expectancy tables which can be used for estimating remaining retirement years. Appendix 1 shows how much longer the Internal Revenue Service expects an individual to live given their current age. Appendix 2 shows the joint life expectancy of two people given their current ages. The joint life expectancy is the estimated number of years until the second person dies.

Many more tables covering other age ranges are available in IRS Publication 590 which can be downloaded from <http://www.irs.gov>.

Appendix 1: Single Life Expectancy							
Age	Life Expectancy	Age	Life Expectancy	Age	Life Expectancy	Age	Life Expectancy
0	82.4	28	55.3	56	28.7	84	8.1
1	81.6	29	54.3	57	27.9	85	7.6
2	80.6	30	53.3	58	27.0	86	7.1
3	79.7	31	52.4	59	26.1	87	6.7
4	78.7	32	51.4	60	25.2	88	6.3
5	77.7	33	50.4	61	24.4	89	5.9
6	76.7	34	49.4	62	23.5	90	5.5
7	75.8	35	48.5	63	22.7	91	5.2
8	74.8	36	47.5	64	21.8	92	4.9
9	73.8	37	46.5	65	21.0	93	4.6
10	72.8	38	45.6	66	20.2	94	4.3
11	71.8	39	44.6	67	19.4	95	4.1
12	70.8	40	43.6	68	18.6	96	3.8
13	69.9	41	42.7	69	17.8	97	3.6
14	68.9	42	41.7	70	17.0	98	3.4
15	67.9	43	40.7	71	16.3	99	3.1
16	66.9	44	39.8	72	15.5	100	2.9
17	66.0	45	38.8	73	14.8	101	2.7
18	65.0	46	37.9	74	14.1	102	2.5
19	64.0	47	37.0	75	13.4	103	2.3
20	63.0	48	36.0	76	12.7	104	2.1
21	62.1	49	35.1	77	12.1	105	1.9
22	61.1	50	34.2	78	11.4	106	1.7
23	60.1	51	33.3	79	10.8	107	1.5
24	59.1	52	32.3	80	10.2	108	1.4
25	58.2	53	31.4	81	9.7	109	1.2
26	57.2	54	30.5	82	9.1	110	1.1
27	56.2	55	29.6	83	8.6	111+	1.0

Appendix 2 shows the joint life expectancy of two people given their current ages. The joint life expectancy is the estimated number of years until the second person dies.

Appendix 2: Joint Life and Last Survivor Expectancy										
Ages	60	61	62	63	64	65	66	67	68	69
60	30.9	30.4	30.0	29.6	29.2	28.8	28.5	28.2	27.9	27.6
61	30.4	29.9	29.5	29.0	28.6	28.3	27.9	27.6	27.3	27.0
62	30.0	29.5	29.0	28.5	28.1	27.7	27.3	27.0	26.7	26.4
63	29.6	29.0	28.5	28.1	27.6	27.2	26.8	26.4	26.1	25.7
64	29.2	28.6	28.1	27.6	27.1	26.7	26.3	25.9	25.5	25.2
65	28.8	28.3	27.7	27.2	26.7	26.2	25.8	25.4	25.0	24.6
66	28.5	27.9	27.3	26.8	26.3	25.8	25.3	24.9	24.5	24.1
67	28.2	27.6	27.0	26.4	25.9	25.4	24.9	24.4	24.0	23.6
68	27.9	27.3	26.7	26.1	25.5	25.0	24.5	24.0	23.5	23.1
69	27.6	27.0	26.4	25.7	25.2	24.6	24.1	23.6	23.1	22.6
70	27.4	26.7	26.1	25.4	24.8	24.3	23.7	23.2	22.7	22.2
71	27.2	26.5	25.8	25.2	24.5	23.9	23.4	22.8	22.3	21.8
72	27.0	26.3	25.6	24.9	24.3	23.7	23.1	22.5	22.0	21.4
73	26.8	26.1	25.4	24.7	24.0	23.4	22.8	22.2	21.6	21.1
74	26.6	25.9	25.2	24.5	23.8	23.1	22.5	21.9	21.3	20.8
75	26.5	25.7	25.0	24.3	23.6	22.9	22.3	21.6	21.0	20.5