DRW Investment Research

The Short Series on Retirement Planning

5th Edition

Income Coverage and the post-retirement period

By

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Introduction:

Retirees are mostly concerned whether they have sufficient retirement capital to fund their post-retirement income needs for some unknown period in the future. Hence, various rules of thumb exist in the retirement industry to guide retirees in their decision-making. For example, aiming to have retirement capital available between 15 to 20 times your annual income needs at retirement. Or, for every R4,000 per month income required, one should have R1 million in capital available - meaning R5 million in retirement capital to meet R20,000 per month. These rules assume that income needs will adjust with inflation over time.

While these rules are very handy, it does not solve the problem if one's retirement portfolio value does not meet these retirement capital targets. The situation may arise because of many "self-made" causes; inadequate contributions, not re-investing the proceeds upon resignation from a previous employer's retirement fund, irresponsible investment choices, etcetera. Moreover, one could have done all the right things "by the book" leading up to retirement, but market returns were simply poor or subdued for several years before reaching retirement age. Thus, exogenous events led to a situation where capital targets are not met.

But around retirement age, one has limited options of "fixing" the capital shortfall. Maybe one can extent your term of contract with your employer for another year or two, but one might have health issues not making it feasible; also, one's skills set may be redundant, or simply, the situation at work is emotionally unbearable – "you have had enough" of office politics, daily commuting, stress, etcetera.

In such scenarios, does it mean one can't retire as planned, yes, likely, but how much does the "capital shortfall" affect the long-term sustainability of one's retirement plan? What corrective measures should be taken now to address insufficient retirement income at some stage in the future?

An alternative approach is to focus on the income ability of one's retirement fund. What is the current income (interest, dividends, distributions) yielded by one's retirement fund and how closely does it match your income needs? For example, say your current fund at retirement is worth R5 million and is invested in a range of equities, commercial property investments (known as REITs), and interest-bearing investments that over the past year yielded a total income of R200,000 (income yield = 4%). Compare this with your income need of say R300,000, thus the income from your retirement portfolio matches 67% of your annual income needs. This could be referred to as the "income coverage" of one's retirement fund. Given that "coverage", and with proper portfolio management, known as an "income focus" approach, how many years will the retirement plan be sustainable going forward? [1]

In the "income focus" approach of retirement planning the capital amount *per se* is secondary. [2] The basic idea is to focus on the sustainable, income yielding ability of your retirement fund and to align it with your income needs. Note, however, I am not referring to the maximising of income from the portfolio, and thus forsaking any further capital growth over time, but allocating it in such a manner where income is sustainable and growing with inflation-adjusted needs of the retiree for many years to come. Thus, I'm not considering investments that only pay interest with no underlying capital appreciation, typically like call and term deposits.

[1] Bridge Asset Management (formerly known as Grindrod Asset Management) is an active proponent of the income focus approach towards investing for retirement. Please refer to their website for detailed information about their investment philosophies and processes.

[2] It does not mean capital values or growth are not important, but the main emphasis is to manage the investment portfolio to yield a reliable, predictable growing income stream over time.

The “income focus” approach implies a re-organising of your portfolio composition, and investing predominantly in dividend-growing stocks and REITs. An important characteristic of dividend-paying companies is that dividends tend to be “sticky” over time, i.e. companies do not reduce easily their dividend payments to shareholders/investors, bar an economic crisis or a serious company-specific issue, and usually grow their dividends in line with their economic performance, often well above the inflation rate. Many investment portfolios, however, are geared towards maximising capital growth over time, but with little attention paid to actively managing the income yield. In such portfolios, one will find typically investments in businesses that have vast growth potential, or companies busy expanding new growth opportunities, but pay relatively little, if any, dividends. For retirees, however, that have a specific income need today, such investments won’t suffice really.

Focus:

In this article, I’m reviewing different levels of “income coverage” at retirement and how many post-retirement years the retirement plan would have been able to provide inflation-adjusted income each year. For this purpose, I’ve considered “income coverage” levels ranging from 40% to 100%. The underlying investment philosophy is an “income focus” approach, thus investments made up of dividend-paying and -growing stocks and REITs.

Methodology:

Consider the following example:

A person is retiring with R7.5 million in retirement capital and requires an initial income of R400,000 per annum. The retirement portfolio is currently yielding an income of R300,000 per year (4% yield). The "income coverage" is thus 75% currently. For how many post-retirement years will the retirement plan yield inflation-adjusted income before retirement income will drop significantly as the retirement capital base gets eroded?

For this purpose, I used simulated investment returns and inflation rates, based on the following assumptions: The expected portfolio return is 10% per annum with a standard deviation of 12%, while the average inflation is expected to be 5% per annum with 2% standard deviation. The income yield of the investment portfolio is expected to remain fairly constant at an expected 4% per annum with 0.5% standard deviation.

Table 1: Simulated output

Period	Initial capital	Portfolio return	Income yield	Income from portfolio	End capital	Inflation rate	Income need	Income paid
1	7,500,000	-12.1%	4.3%	271,411	6,241,151	5.0%	400,000	400,000
2	6,241,151	2.3%	3.8%	226,988	5,937,506	9.5%	437,933	437,933
3	5,937,506	20.7%	4.0%	262,576	6,597,814	8.0%	472,841	472,841
4	6,597,814	13.6%	2.6%	179,471	6,932,403	5.2%	497,503	497,503
5	6,932,403	7.8%	4.2%	291,506	6,921,424	3.0%	512,447	512,447
6	6,921,424	27.7%	3.9%	317,053	8,146,685	5.3%	539,828	539,828
7	8,146,685	17.0%	3.4%	301,618	8,869,271	5.3%	568,692	568,692
8	8,869,271	15.8%	4.5%	434,215	9,552,034	9.4%	622,128	622,128
9	9,552,034	3.3%	4.7%	430,517	9,198,212	3.9%	646,346	646,346
10	9,198,212	24.5%	4.1%	439,016	10,599,934	5.4%	681,480	681,480
11	10,599,934	13.7%	3.9%	434,999	11,244,696	4.4%	711,758	711,758

Period	Initial capital	Portfolio return	Income yield	Income from portfolio	End capital	Inflation rate	Income need	Income paid
12	11,244,696	16.8%	5.0%	613,512	12,246,075	6.8%	760,345	760,345
13	12,246,075	17.7%	4.1%	557,555	13,474,427	5.4%	801,568	801,568
14	13,474,427	18.7%	4.0%	604,714	14,985,480	6.6%	854,248	854,248
15	14,985,480	1.3%	4.3%	613,169	14,247,541	7.3%	916,375	916,375
16	14,247,541	9.2%	3.4%	498,950	14,501,938	6.0%	971,600	971,600
17	14,501,938	11.7%	4.7%	702,031	15,054,987	5.9%	1,029,263	1,029,263
18	15,054,987	20.8%	4.3%	717,319	16,831,365	9.2%	1,124,253	1,124,253
19	16,831,365	13.5%	3.7%	648,628	17,729,872	7.5%	1,209,122	1,209,122
20	17,729,872	4.4%	4.4%	764,197	17,193,280	4.0%	1,257,089	1,257,089
21	17,193,280	-0.2%	4.7%	748,163	15,819,894	7.1%	1,346,580	1,346,580
22	15,819,894	-17.8%	4.3%	504,019	11,830,554	6.2%	1,430,213	1,430,213
23	11,830,554	6.0%	5.5%	599,068	10,943,445	5.6%	1,510,306	1,510,306
24	10,943,445	12.5%	4.3%	454,878	10,554,512	3.3%	1,559,842	1,559,842
25	10,554,512	-0.1%	4.2%	374,066	8,869,074	7.4%	1,675,715	1,675,715
26	8,869,074	-5.5%	4.0%	277,433	6,911,613	5.5%	1,768,707	1,552,088
27	6,911,613	21.5%	4.9%	338,329	6,928,915	4.4%	1,847,390	1,209,532
28	6,928,915	6.7%	3.5%	214,564	6,098,685	7.1%	1,978,528	1,212,560
29	6,098,685	-10.6%	4.0%	179,630	4,498,073	6.5%	2,106,194	1,067,270
30	4,498,073	26.0%	3.9%	184,318	4,674,387	2.9%	2,166,561	787,163

Outcome of simulated result:

The plan would have been able to provide inflation-adjusted income every year for a period of 25 years after retirement, i.e. for how many years the plan would have paid income equal to the income needed (drawdown = blue line, orange bars = retirement capital).

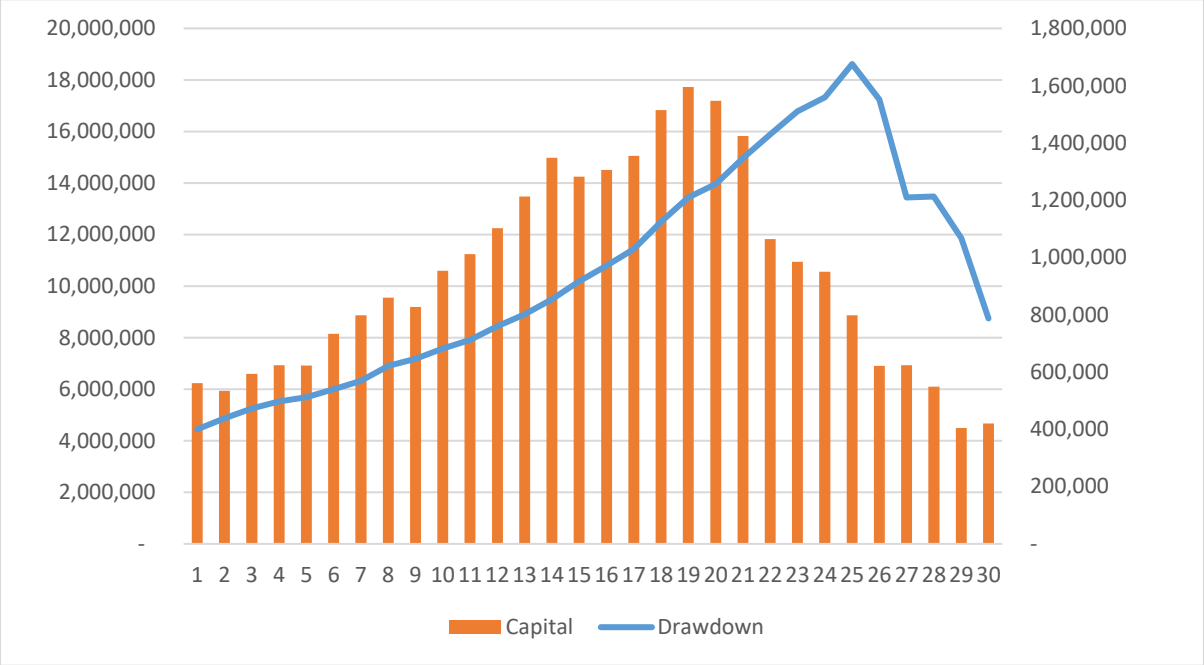

Figure 1: Graphical illustration of simulated result

The above result would have been considered a favourable outcome for a retiree, but many outcomes are possible, depending on investment returns the investor would experience over time. Therefore, it is appropriate to repeat the simulation multiple times (1,000 repetitions) to formulate a probability distribution of the relative success of the longevity of the retirement plan, given the "income coverage" at retirement date.

Results of multiple simulations:

Table 2: Probability that retirement plan will provide sufficient retirement income

Coverage	40%	50%	60%	70%	80%	90%	100%
10 years or more	22%	63%	87%	96%	99%	100%	100%
15 years or more	7%	30%	59%	81%	89%	95%	98%
20 years or more	2%	16%	37%	63%	76%	86%	92%
25 years or more	1%	10%	26%	48%	64%	76%	84%
30 years or more	1%	7%	19%	39%	54%	66%	76%

For example:

At an income coverage of 40% there is a high probability (78%) that the retirement plan will only provide sufficient income for less than 10 years after retirement. At an “income coverage” of 60% at retirement, there is an 87% chance that the plan will yield sufficient income for at least ten years and longer after retirement. This probability drops to 59% for periods of 15 years and longer, and only a 26% chance that it will provide the required income for 25 years and longer after retirement. When the “income coverage” increases to 80% and more at retirement, the odds are much more favourable that the retirement plan will be sustainable even over very long post-retirement periods.

Synopsis:

If a person at retirement knows how much income her retirement portfolio is currently yielding, and express that as a percentage of her annual income needs, one should have a fair idea of the potential longevity of the plan. An important provision, however, is that her investment should be managed with an “income focus” approach, combining dividend-paying and -growing stocks with REITs, to make it possible for the plan to yield sufficient income for a relatively long period after retirement. The analysis showed that retirees with an “income coverage” of around 80% and more at retirement should have a high probability that their plans will be sustainable over long post-retirement periods.