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Retirement planning re-focused

By Daniel R Wessels

In our fast-paced and ever-changing world it is often worthwhile to pause and think about our beliefs and standard practices, i.e. what we are doing today is still relevant for the needs of tomorrow.

It was the German philosopher, Karl Popper, that proclaimed that we should spend our days in search of evidence that what we believe are false, are indeed false, and not the other way around. But the latter is typically what we as humans do, we go the extra mile to find or extract evidence that will validate our theories and beliefs. Often we make no clear distinction between "evidence of no proof" and "no evidence of proof". Moreover, we forget that many of the major scientific breakthroughs or innovations have been discovered or developed by people not willing to conform to the accepted norms or practices. Thus, we find old habits die hard and widely-accepted beliefs change very slowly over time. No wonder Max Planck made the observation that science advances one funeral at a time!

For example, consider our views on far-reaching and emotional subjects, like education. No one would dare to question the value of schooling and, in fact, many developing countries are in dire need of more and better schools/education centres and teachers.[1] The real question is whether the schooling curriculum in its current format are still appropriate for the post-industrial needs of our world? We know innovation and creativity towards problem-solving issues are the key differentiators between success and failure in today's knowledge environment. Some commentators, like Sir Ken Robinson once remarked: "We don't know how the world will look like in five years' time, yet we train scholars as if it will still be relevant for the next forty to fifty years!" Robinson believes that schools tend to suppress kids' creativity talents because such heavy emphasis is placed on the classic "learning subjects", but at the same time very little on those that stimulate creativity, like the arts or music. Or,

[1] Interestingly, countries like Brazil and India, however, with dire shortages of quality teachers are embracing technology and innovative teaching methods. Thereby pupils, who in the classical sense never would have had the opportunity, are exposed to quality education and career opportunities.

much more focus are placed on the development of the left-brain versus right-brain activities.

This dogma worked very well in a mechanical, industrial, and organisational business-type environment, but much less so in today's less formally structured organisations where especially the service sectors are playing a much larger role in economies than before. Moreover, competition is rife, often with little or no physical boundaries. Competitors are very capable of pushing you quickly out of business if you are not embracing the latest technology trends, meeting consumer demands or creating new markets. In short, to be today's leader, you need to be at the forefront of "disruptive change" and not necessarily aiming to be the biggest organisation.

On this note, has anyone noticed that many of the new-generation, billionaire (US$) businesspeople around the world have not achieved their ultra-successes due to their academic accomplishments, but by providing innovative and creative solutions to their markets. To the contrary, many of these top business personalities may have been dropouts from their colleges/universities, and definitely not because they were not bright, but simply because the curriculum did not meet their expectations. Sadly, often universities cannot instil an environment of innovation or creativity, perhaps they are not run by innovators or trendsetters in the first place, but rather tend to develop into lumpy, bureaucratic organisations and invariably "behind the curve". Academic qualifications and prestige are highly valued and often considered the pinnacle of success in such institutions, but in my opinion it is far removed from the pressing needs and demands of today's real world.

But in all sincerity, I'm perhaps not best qualified to make such bold statements about education matters and should leave this debate to much better informed commentators. I've used a lengthy prelude to set the tone that our standard practices or views are not always the best answer. Likewise, I believe it is the case with my actual topic, namely retirement planning and how we think about achieving the goal of accumulating sufficient retirement capital to match our

retirement income needs and longevity risks. Like my question on the appropriateness of today's education curriculum, I question the standard beliefs and practices when planning for a sustainable retirement.

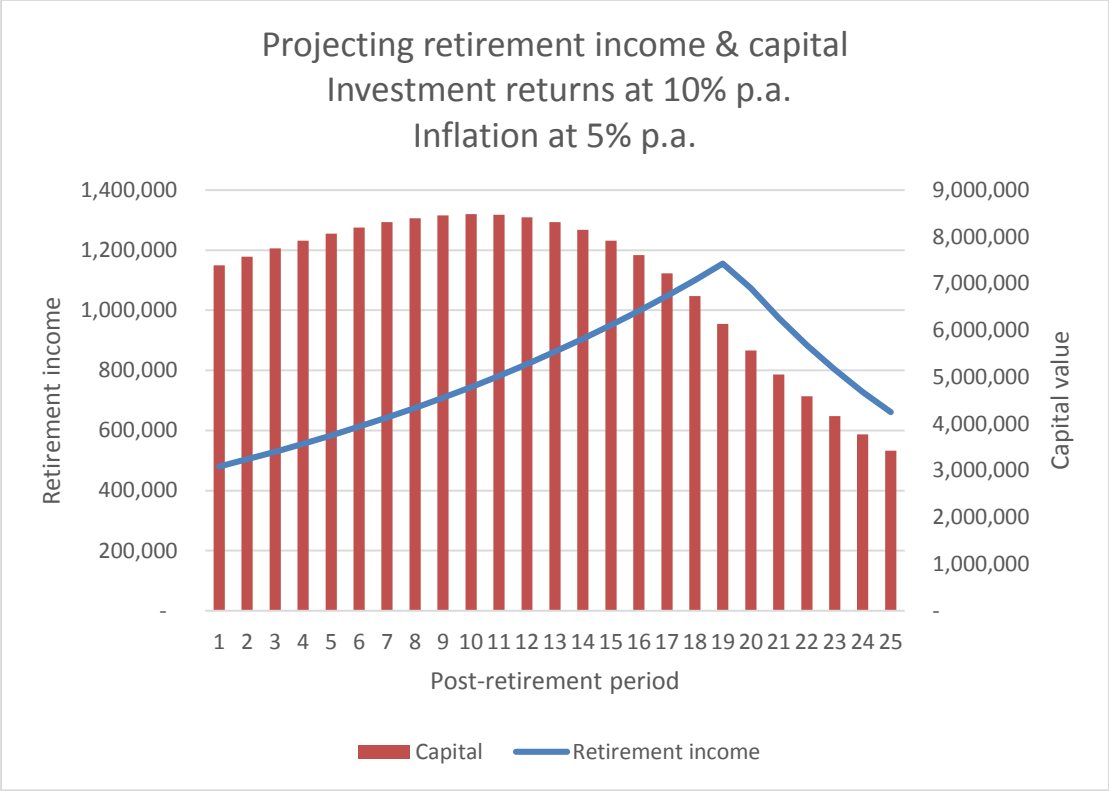
What is the "standard practice" of retirement planning? Basically, it entails to project your future capital needs at retirement that will yield a certain amount of retirement income for a post-retirement period of, say, twenty to thirty years. Given the amount of retirement capital required, it is then possible to calculate how much one should save every year or month during your working career to accomplish this goal. It is all kosher thus far, except that you have to make certain assumptions on the return your investment portfolio will yield over time. And remember, because retirement planning projections are projected over long periods of time, faulty assumptions will compound to enormous miscalculations.

Herein lies the crux of my problem with this approach. Invariably, most planners will use return numbers what we've become used to in the recent past as an anchoring point. Perhaps it is akin to ask economists to predict the oil price – in the beginning of 2014 most of them would have predicted anything between $100 - $125 per barrel, yet in the beginning of 2015 the same group would have predicted the one-year forward oil price to be anything between $50 and $75 per barrel. Well, it turns out they tend to use the prevailing price as the departure point for their projections.

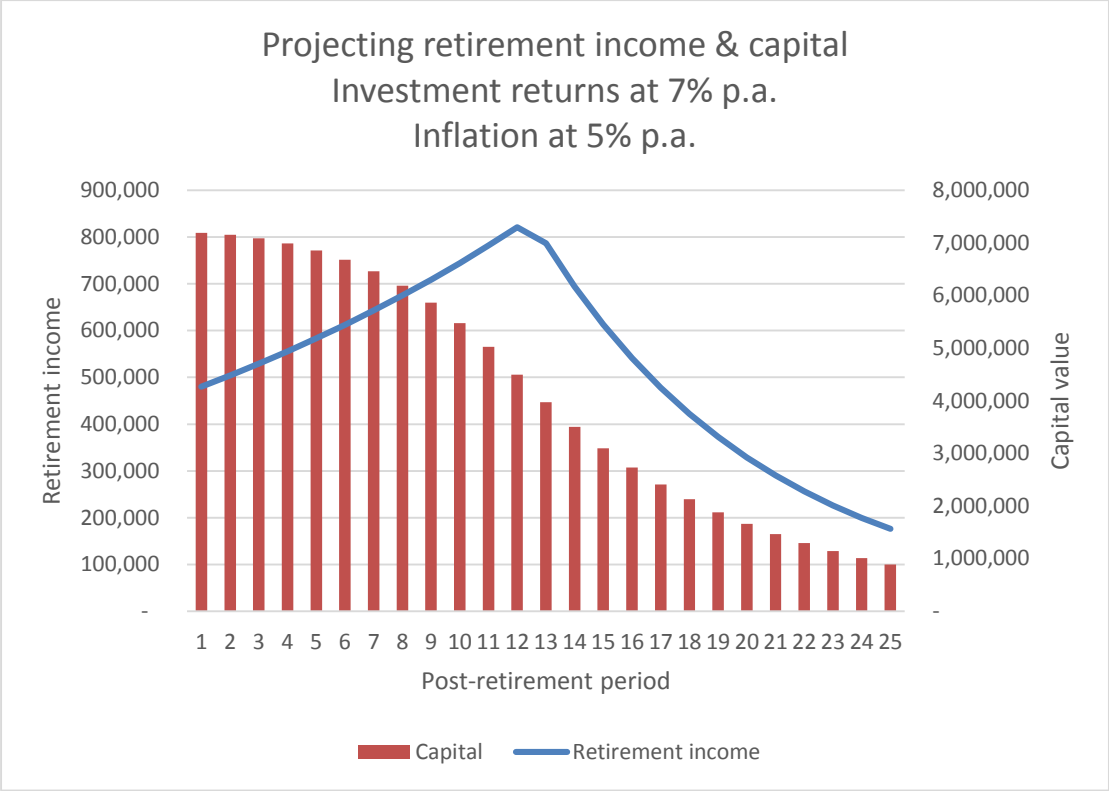
Outliers do occur, it is basically an economic reality. In fact, what is considered an outlier today might become the new normal tomorrow! The acid test of your retirement plan is whether it can withstand those outlier events. Let me illustrate this principle by using an example:

Consider, for example, a person retiring with an amount of R7.2 million today with an income need of R480,000 per year. This income amount needs to be adjusted upwards every year with the inflation rate. Assume an investment return of 10% p.a. and inflation rate of 5% p.a. over the next 25 years, which is

the projected post-retirement period. The assumptions seem to be realistic, and may be even considered conservative when benchmarked against the historical market returns of recent decades.

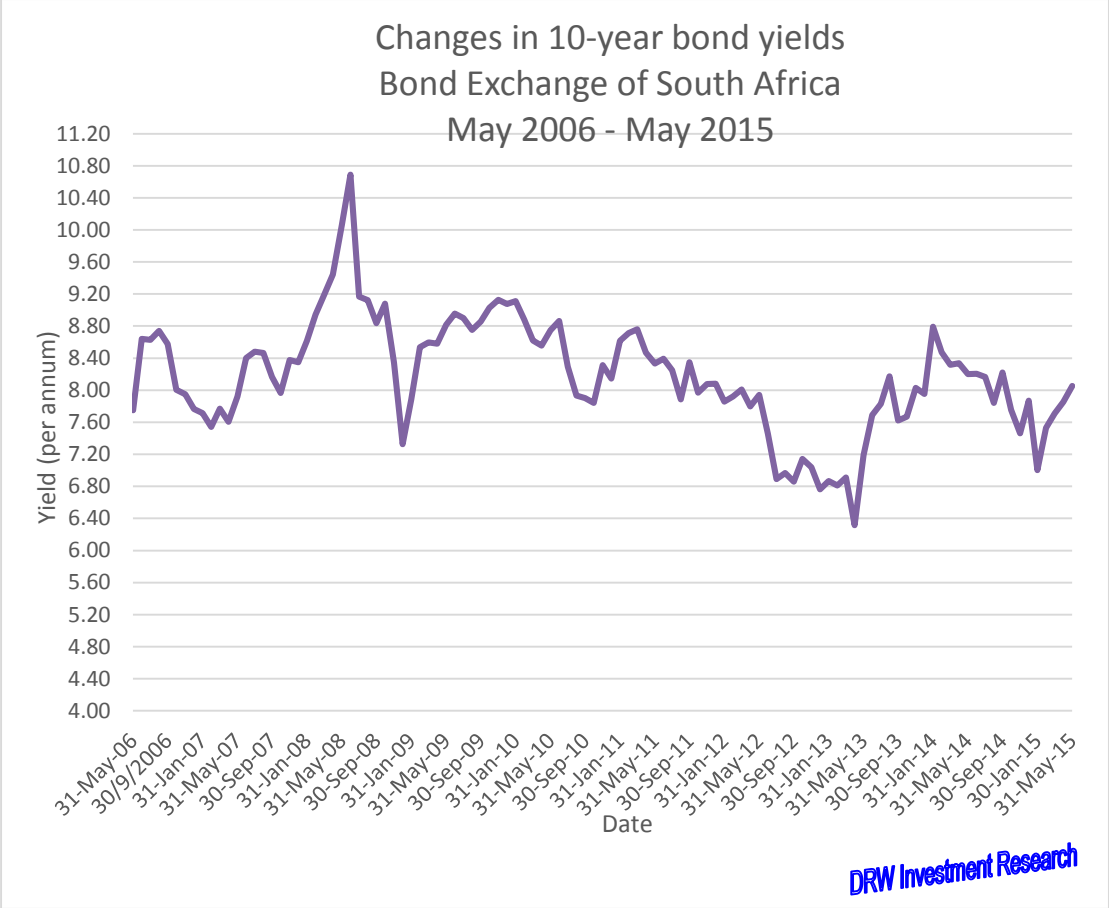


In this version it is shown that the retirement plan will be able to sustain income needs for about twenty years after retirement before declining thereafter, but significant “legacy capital” should still be available after twenty five years in retirement. But what if we tweaked the investment return assumption downwards, say, 7% p.a. instead of 10% p.a.?



Now, the same plan seems much more fragile than the previous version. Under this return scenario retirement income will dwindle quickly after only twelve years in retirement and capital will be eroded with not much remaining after the full post-retirement period.

An alternative approach to this assumption problem is to consider how annuity rates change over time. One tends to think these rates should remain relatively stable, but in fact it is not as long-term bond yields, which are used as a determinant of the annuity rate, move up or down over time. The lower the annuity rate, the more retirement capital is required to yield a certain amount of desired retirement income, and vice versa. Note, however, big swings in the underlying bond yields are not required to have a profound effect on the level of retirement income that can be bought with a certain amount of retirement capital available.



For example, consider the amount of retirement income that will be bought by a guaranteed joint life annuity product, with a 5% income escalation p.a. clause, at various annuity rates:

R5m retirement capital

JL annuity, esc	Annuity p.a.
4.0%	200,000
4.5%	225,000
5.0%	250,000
5.5%	275,000
6.0%	300,000
6.5%	325,000
7.0%	350,000
7.5%	375,000
8.0%	400,000

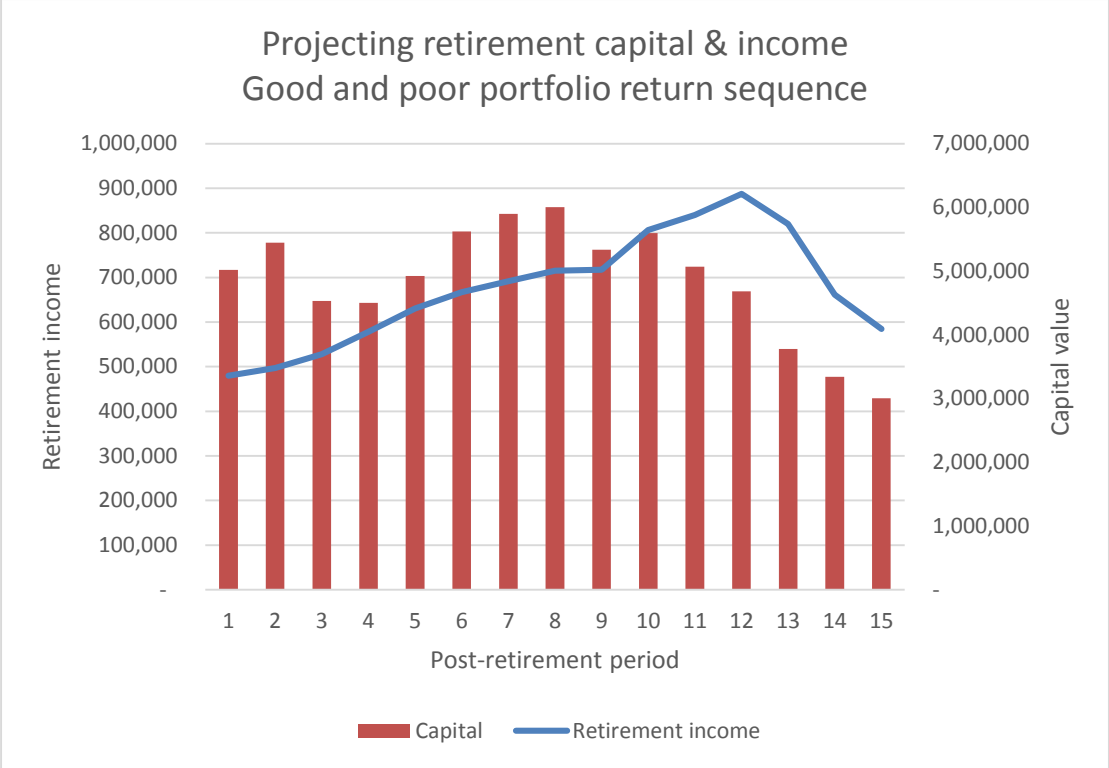
Or, consider the amount of retirement capital required to yield a certain retirement income:

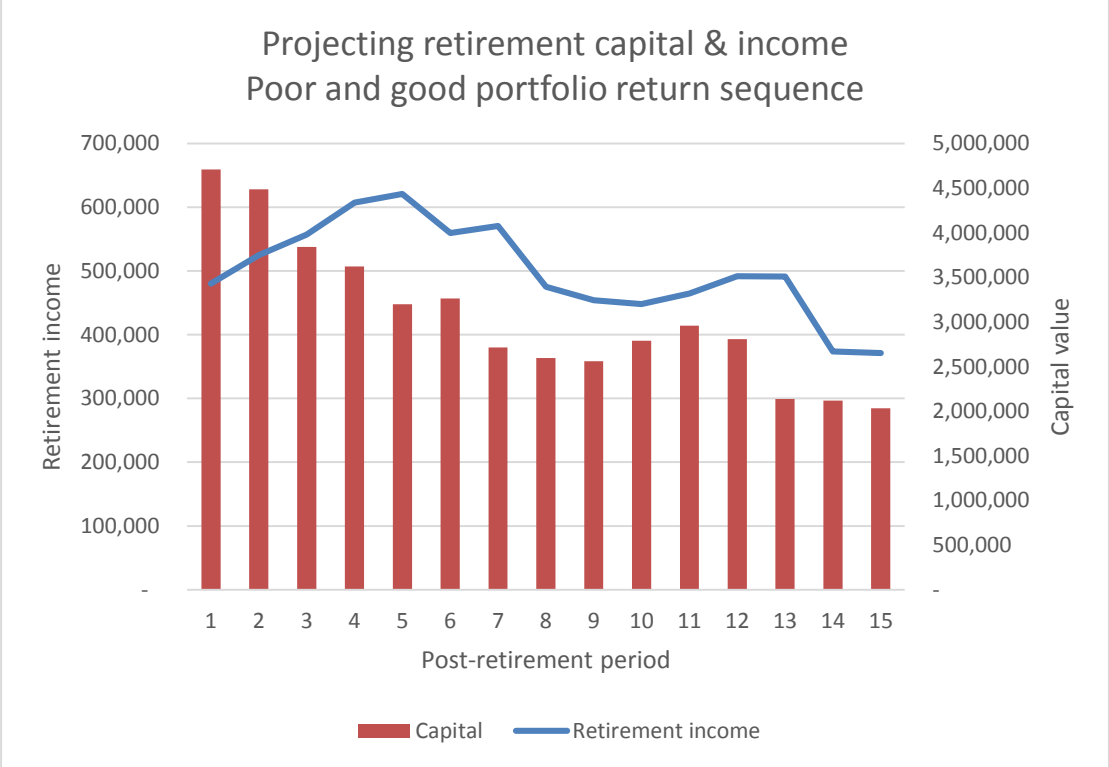
R300,000 retirement income required

JL annuity, esc	Capital required
4.0%	7,500,000
4.5%	6,666,667
5.0%	6,000,000
5.5%	5,454,545
6.0%	5,000,000
6.5%	4,615,385
7.0%	4,285,714
7.5%	4,000,000
8.0%	3,750,000

A second major problem arises when planners use constant or straight-line return assumptions. Thereby an important principle is ignored in so far returns fluctuate between good and bad outcomes over time. The specific sequence and order of good and bad returns can make a huge difference in the sustainability of a retirement plan, where regular income withdrawals are required. More specifically, if one was unfortunate to experience a series of poor returns at the onset of one's retirement, the plan will be less sustainable than the same plan that started off with a series of good returns.

This principle is illustrated by the following two examples that show the outcome of a retirement plan with regular withdrawals and the same set of portfolio returns, but the return sequence is reversed in the second plan. In the first example good returns are experienced initially and thereafter followed by a series of poor or moderate returns. This plan is more sustainable to yield sufficient retirement income for a longer post-retirement period than the second plan that started off with a spate of poor returns followed by better returns in later years.


Projecting retirement capital & income
Good and poor portfolio return sequence
Retirement income
Capital value
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Post-retirement period
Capital
Retirement income


Projecting retirement capital & income
Poor and good portfolio return sequence
Retirement income
Capital value
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
5,000,000
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Post-retirement period
Capital
Retirement income

Planners, however, can overcome these types of gross over-simplifications and errors by making use of simulation models that present multiple outcome scenarios. A probability distribution can then be drawn from the simulated outcomes and the most likely scenario can be identified that will form the basis of one's recommendations.

Finally, and perhaps the biggest challenge in evaluating the progress of one's retirement plan is the specific focus or metric that will be used to check whether your plan is on track. The standard or easy way is to look at your portfolio return over a specific period, and if not happy, to make some portfolio changes. Typically, poor performers are replaced with star performers by referring to the latest performance data. In the process we tend to ignore one inconvenient truth, namely "past performance is no indication of future performance". Also, this type of focus causes a wide-spread "disease" that many investors and industry players are suffering from, namely investor myopia (short-sightedness or short-termism). At the end, after all the smart talk, predictions and switching have been done, many investors will realise they have achieved actually very little (and I'm quite liberal by saying "little").

The reality is that individually we have very limited control and predictability over the outcome of market returns. We confuse luck with skill, and we tend to follow those that have been successful, even if they have had a good run for only a three- to five-year period, which statistically/mathematically does not prove skill beyond luck, at all.

We should, however, focus more on the aspects that are within our control or are somewhat predictable, for example, how much we save and for how long we are saving during the accumulation phase of our retirement plan. (See also my research on appropriate saving rates and contribution periods for sustainable retirement plans). And, once at retirement, how much we are withdrawing from our portfolios, but obviously, withdrawal rates are to a certain extent determined by how much retirement capital are available to meet one's retirement income needs. Regarding portfolio selection and returns we should

focus on the one aspect that tends not to be as volatile as capital growth returns, namely the income or distribution yield of the portfolio. And, we should focus our attention on the growth of this income yield over time; i.e. the mix of asset classes (equities, properties, bonds and cash) we will use in our portfolios.

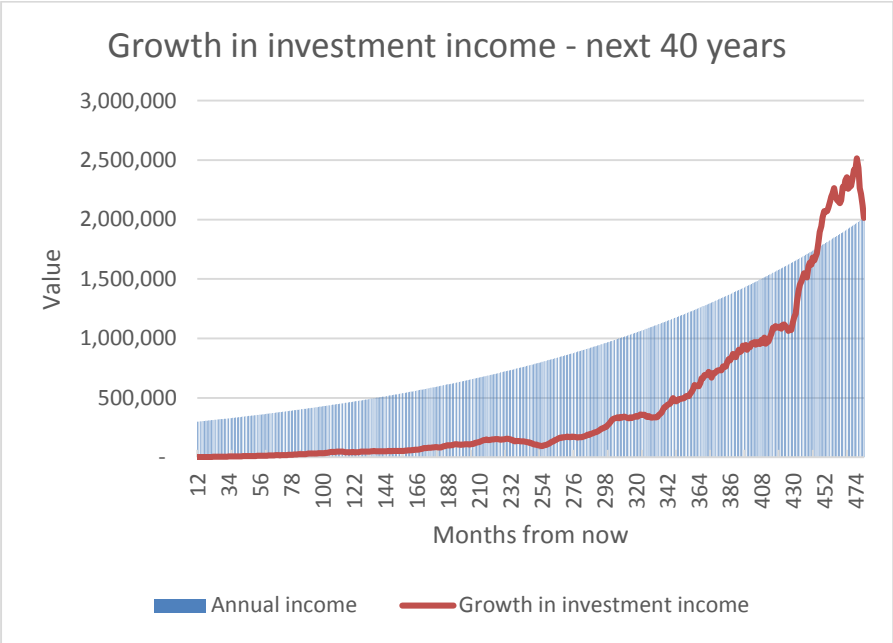
Let me explain this concept further. Since 1960 the average capital growth of the FTSE JSE All Share Index has been around 1.1% per month, but with relatively high volatility of 5.4% per month, thus fluctuating widely around the mean return. The dividend yield (dividends paid out over the past 12 months as a function of the current share price), however, has averaged near 3%, but with a volatility of only 0.6% per month. Thus, dividend yield is a much more predictable and reliable yardstick than capital growth. Dividend pay-outs tend to be “sticky”; something that you can bank on because well-established companies do not easily drop their dividend payments, except maybe during extreme harsh economic conditions, like the global financial crisis of 2008.

The basic investment idea is to grow the dividend or distribution amount over time. Since 1960 dividend growth has been growing 4-5% better than the inflation rate. Ideally, at retirement the income that you will receive from your investment portfolio will cover your retirement income needs. That, in simple terms, is the definition of real investment success.

Let me share with you an example of a simulated outcome for a person saving for retirement with a specific focus on income distribution and distribution growth. A typical investment portfolio will consist of 50% invested in dividend-paying equities, 15-20% invested in listed properties and the balance in fixed interest instruments.

In this example the current dividend yield of the portfolio is 4% with an expected monthly standard deviation of 0.8% (equities has a dividend yield of 3%, listed properties/REITS has a distribution rate of 6%, and fixed interest investments yield 7% per annum). I expect an average portfolio return of 0.9% per month, but with a standard deviation of 4.5% per month.

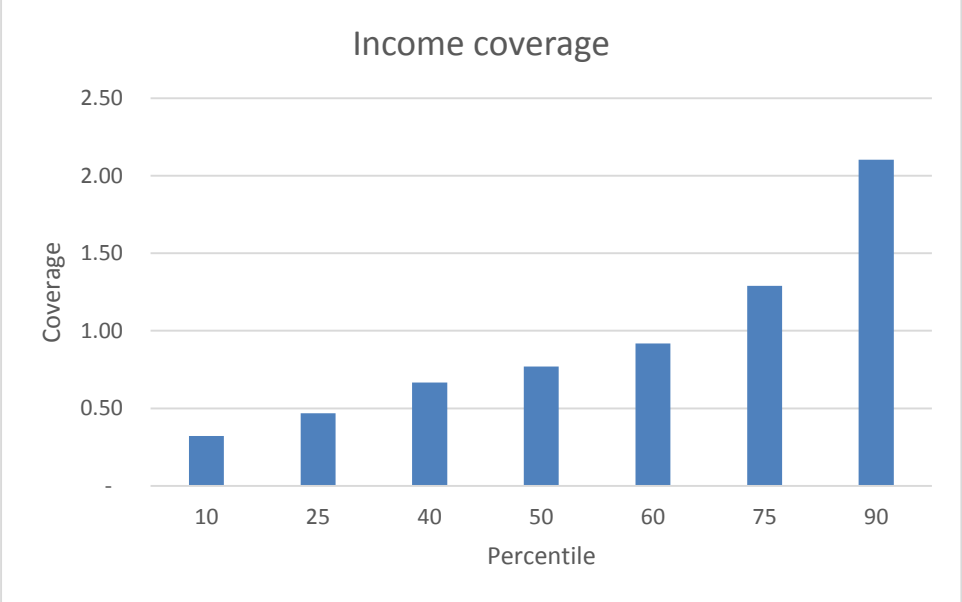
Inflation p.a.	5%
Salary/Income growth	5%
Net Savings Rate (percentage of gross income)	15%
Current annual income	300,000
Years to retirement	40
Final year's income pre-retirement	2,011,425
Annual income from investment at retirement	1,834,944
Income Coverage	0.91
Yield from investment at retirement	3.2%



I intentionally do not show the growth in capital values, because the idea is to focus primarily on the growth in investment income – in this scenario the investor basically achieved her goal of investment income meeting her income needs; indicated by the "income coverage" ratio of 0.91.[2]

[2] Defined as investment income as a ratio of income needs at retirement; a phrase used by *Grindrod Asset Management* who is an active proponent of following this philosophy in their investment approach.

This example, however, depicts only one outcome out of many possibilities. Therefore, multiple simulations are run and a probability distribution can be set up to show the likelihood of achieving the goal of investment income matching income needs.



The median point (50th percentile – 50% of the simulation results are better or worse) shows a coverage ratio of 0.77, which are not bad, but the investor can improve her success rate, for example, by increasing her saving rates or extending her contribution period.

A focus on income and income growth is actually a very simple, fool-proof method of investing, but extremely difficult to sustain throughout your investment career because the industry's focus is always on capital values and growth, or if you like, what's hot or not. The media headlines are made up of how well the share price of company x has been doing lately and how much more fireworks are expected going forward. Or, one will definitely hear how much the prices of equities or properties have dropped over a certain period and how bad the future prospects may be, but very seldom one will hear that despite the drop in values, the dividend pay-outs remained largely in place. That is, after all, what any retirement investor really should care about – that is the real, true economy of investing and planning for retirement!