The Benefits of Tax-free Savings Accounts – How much will investors benefit and which type of investment portfolios are suitable?

By Daniel R Wessels

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Tax-free Savings Accounts (introduced 1 March 2015)

No tax liabilities; i.e. no income tax, dividend withholding tax, and capital gains tax will be levied on investment growth and withdrawals.

Part 1:

The return benefits across various investment portfolios and time periods

Part 1:

Basic assumptions of model to calculate return benefits (enhancement of returns due to zero tax liabilities)

Annual contribution	30,000
Maximum contribution over lifetime	500,000
Contribution pattern	
First 16 years	30,000
17th year	20,000
thereafter	nil
Distribution assumptions:	
Gross dividend yield	3%
Gross interest rate p.a.	7%

Part 1:

Basic assumptions of model to calculate return benefits (enhancement of returns due to no tax liabilities)

- **Interest-bearing investments (cash, bonds, property): 100% taxable, at marginal income tax rate**
- **Marginal tax rates applicable (tax year 2015/2016): 18%, 26%, 31%, 36%, 39%, 41%**
- **Equity investments: Dividend withholding tax rate of 15%**
- **Capital gains: Proceeds less contributions less interest and dividends (capital growth)**
- **Capital gains tax: Capital gains x 33.3% (inclusion rate) x marginal tax rate**

Part 1:

Tax-free savings account versus discretionary investment
Relevant factors: marginal tax rate and holding period

Outperformance of tax-free savings account over different holding periods due to tax savings

Scenario 1						
100% Interest-bearing investments only						
Expected return	7%					
	Marginal tax rate					
Investment period (years)	18%	26%	31%	36%	39%	41%
5	4%	5%	7%	8%	8%	9%
10	7%	11%	13%	15%	17%	18%
15	11%	17%	20%	24%	26%	28%
20	17%	26%	32%	38%	41%	44%
25	25%	37%	46%	55%	61%	65%
30	32%	50%	62%	75%	83%	89%

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Scenario 2						
25% equities, 75% interest-bearing						
Expected return	8%					
	Marginal tax rate					
Investment period (years)	18%	26%	31%	36%	39%	41%
5	3%	5%	5%	6%	6%	7%
10	6%	9%	10%	12%	13%	13%
15	10%	14%	16%	19%	20%	21%
20	15%	21%	25%	29%	32%	33%
25	21%	30%	36%	42%	46%	48%
30	27%	39%	47%	56%	61%	64%

Part 1:

Tax-free savings account versus discretionary investment
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Outperformance of tax-free savings account over different holding periods due to tax savings

Scenario 3						
50% equities, 50% interest-bearing						
Expected return	10%					
	Marginal tax rate					
Investment period (years)	18%	26%	31%	36%	39%	41%
5	3%	4%	5%	6%	6%	6%
10	6%	8%	10%	11%	12%	12%
15	9%	13%	15%	17%	18%	19%
20	14%	19%	22%	25%	27%	29%
25	19%	26%	30%	35%	38%	40%
30	24%	33%	39%	45%	49%	51%

Part 1:

Tax-free savings account versus discretionary investment
Relevant factors: marginal tax rate and holding period

Outperformance of tax-free savings account over different holding periods due to tax savings

Scenario 4						
75% equities, 25% interest-bearing						
Expected return	11%					
	Marginal tax rate					
Investment period (years)	18%	26%	31%	36%	39%	41%
5	3%	4%	4%	5%	5%	5%
10	6%	7%	8%	9%	10%	10%
15	8%	11%	12%	14%	15%	15%
20	12%	15%	17%	20%	21%	22%
25	16%	20%	23%	26%	28%	29%
30	19%	25%	29%	32%	35%	36%

Part 1:

Tax-free savings account versus discretionary investment
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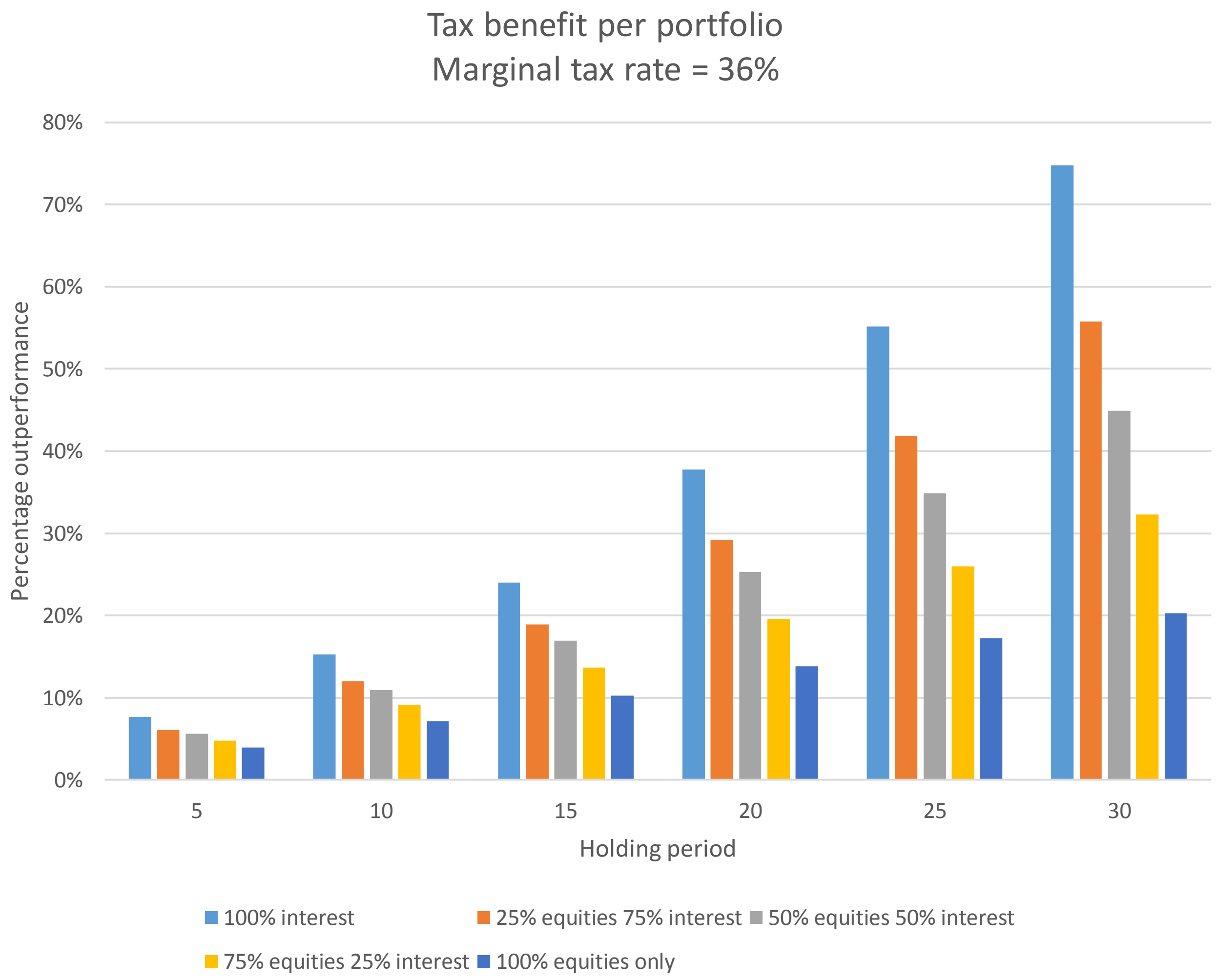
Outperformance of tax-free savings account over different holding periods due to tax savings

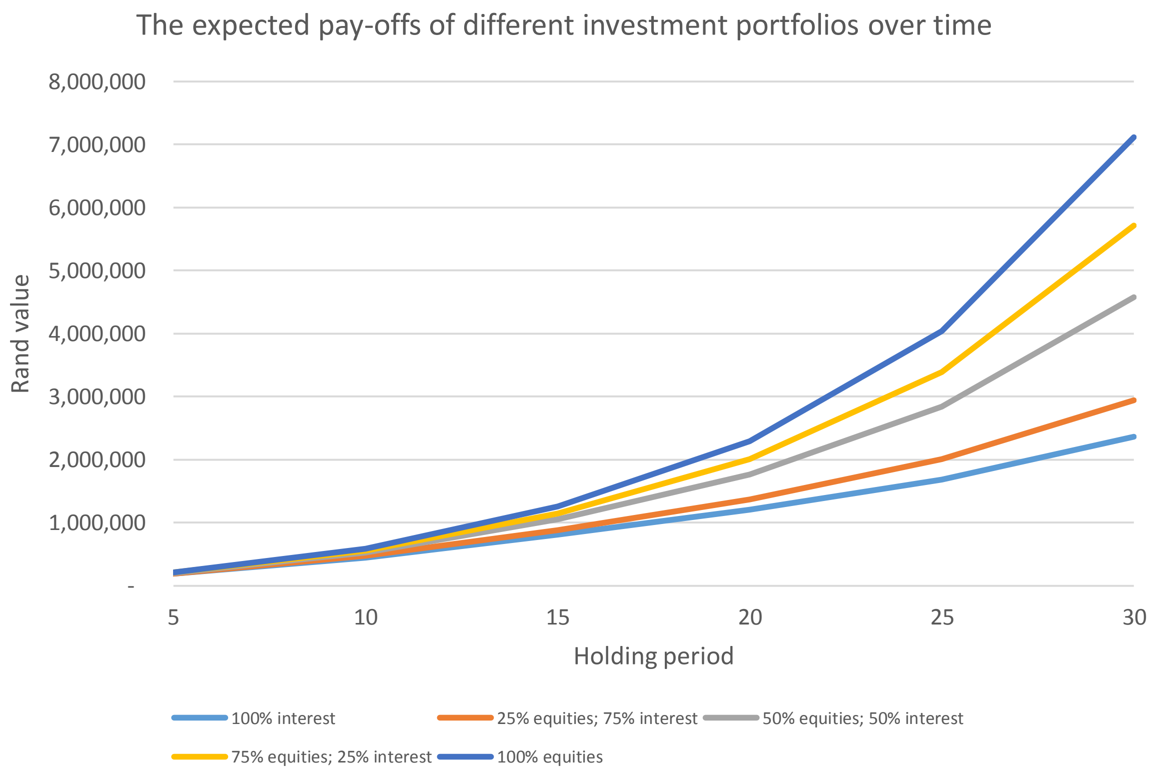
Scenario 5						
100% equities only						
Expected return	12%					
	Marginal tax rate					
Investment period (years)	18%	26%	31%	36%	39%	41%
5	3%	3%	4%	4%	4%	4%
10	5%	6%	6%	7%	8%	8%
15	7%	8%	9%	10%	11%	11%
20	10%	12%	13%	14%	15%	15%
25	13%	15%	16%	17%	18%	19%
30	15%	17%	19%	20%	21%	22%

Summary:

The higher one's marginal tax rate and the longer the investment will be held, the greater the return benefits will be…interest-bearing investments will have the most direct tax benefits….



But one must consider also the most likely **portfolio return outcomes** over different holding periods…the long-term investor will most likely be best served by equity-related investments…



But how certain is that? The tax savings are relatively certain, but the actual returns from especially equity investments are not. For further clarity, check Part 2 for possible answers…

Part 2: What investment portfolio to use for the tax-free savings account?

Consider the expected outcome (in rand) if the following returns for the different portfolios will materialise:

100% interest-bearing investment only – 7% p.a.
75% interest-bearing, 25% equities – 8% p.a.
50% interest-bearing, 50% equities – 10% p.a.
25% interest-bearing, 75% equities – 11% p.a.
100% equities investment only – 12% p.a.

Holding period	5	10	15	20	25	30
100% interest	184,645	444,426	808,970	1,200,275	1,685,208	2,371,302
25% equities; 75% interest	189,426	467,932	881,253	1,369,304	2,020,787	2,949,365
50% equities; 50% interest	200,419	525,092	1,060,691	1,788,178	2,875,515	4,664,564
75% equities; 25% interest	206,764	561,612	1,163,009	2,037,884	3,420,661	5,750,045
100% equities	214,582	597,509	1,263,474	2,322,142	4,124,599	7,003,520

But equity returns do not accumulate in a straight line (not linear) – many outcomes are possible. A simulation of possible outcomes will shed light on the probabilities that certain outcomes will materialise over time.

For this simulation experiment I used the following return parameters:

Portfolio	Average return	Standard Deviation of return
100% interest-bearing	7%	4%
75% interest-bearing, 25% equities	8%	8%
50% interest-bearing, 50% equities	10%	12%
25% interest-bearing, 75% equities	11%	16%
100% equities	12%	20%

In this scenario 50% of all outcomes will be better than the one shown here (median or midpoint)…

Based on 1,000 simulations

Holding period (years)	5	10	15	20	25	30
100% interest	184,539	442,274	802,268	1,185,564	1,669,439	2,305,599
25% equities; 75% interest	189,136	463,027	859,736	1,323,726	1,922,764	2,771,688
50% equities; 50% interest	201,130	514,827	1,014,380	1,634,883	2,511,181	4,037,652
75% equities; 25% interest	204,435	531,454	1,056,336	1,738,840	2,822,849	4,505,206
100% equities	207,429	550,084	1,123,389	1,972,699	3,159,887	5,169,639

It seems that equity-related investment portfolios should be the preferred choice when investing for holding periods of five years and more…but what if really bad return outcomes occur (worst-case return scenarios)?

Where 75% of all outcomes will be better (25th percentile)…that point representing the worst 25% of simulated outcomes…

Based on 1,000 simulations

Holding period (years)	5	10	15	20	25	30
100% interest	177,185	419,334	752,161	1,092,487	1,509,634	2,066,248
25% equities; 75% interest	173,796	415,907	759,114	1,133,344	1,575,441	2,238,299
50% equities; 50% interest	179,724	445,813	824,943	1,271,236	1,867,270	2,779,820
75% equities; 25% interest	172,739	423,856	810,806	1,273,436	1,899,272	2,798,789
100% equities	174,381	418,149	803,969	1,219,277	1,842,815	2,781,149

Or, where 90% of all outcomes will be better (10th percentile)…that point representing the worst 10% of simulated outcomes!

Based on 1,000 simulations

Holding period (years)	5	10	15	20	25	30
100% interest	171,717	396,922	705,712	1,006,131	1,372,047	1,862,595
25% equities; 75% interest	161,307	382,229	677,579	983,345	1,294,220	1,802,256
50% equities; 50% interest	160,155	381,853	704,571	1,026,934	1,422,897	2,108,665
75% equities; 25% interest	151,073	356,706	638,275	965,558	1,303,140	1,850,772
100% equities	148,666	321,214	577,618	843,360	1,183,425	1,666,803

Synopsis:

- **If you are a bit of a market return sceptic, (believing poor returns do follow your investments!) then it is not a foregone conclusion that equity-dominant portfolios should be the best portfolio choice, even for long-term holding periods!**

- **However, I would not build my recommendations on worst-case scenarios like the *10th percentile* outcome – that is too pessimistic given the historical precedent of market returns spanning well over hundred years. I would give some consideration to the 25th percentile outcome and what portfolios did well in those market conditions.**

- **For my money I would follow this strategy: For planned investment periods of shorter than 10 years, invest the bulk of your investments in interest-bearing investments, and equities should typically not exceed more than 50% of the portfolio (e.g. low-equity multi-asset or absolute return mandates). For holding periods of 10 to 20 years, invest 50 – 75% in equities (high-equity multi-asset portfolios, and for holding periods longer than that, perhaps 100% in equities.**

DRW

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