A step by step guide to obtaining a long and prosperous retirement

Lesson 3 – Risk Multiplier

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Introduction

This document is part of the comprehensive training material written to assist Kiwi's in their 50's or 60's that are looking at retirement but have no idea what to do, what is needed, and how or where to get help. Or those that already have some ideas of how to survive retirement, are looking at alternatives, or just checking they are on the right path. They might even be looking on behalf of their 'elderly' parents, to ensure they are considering all options available to them.

This course provides a simple comprehensive step by step process to create your own retirement plan. It includes a summary guide, road map, lessons and discussion topics to help you prepare for your retirement. It will help you answer questions such as:

- *How much money do I need in retirement?*
- *How much money will I receive from Government Superannuation?*
- *How, and from where, can I get more money?*
- *Where can I safely investment my money?*
- *How much should I put into KiwiSaver?*
- *Should I buy a 2nd property, a business, or invest in the share market?*
- *How much do I need to keep aside for a rainy day?*

all from a very New Zealand perspective.

Lesson outline

This document is "Lesson 3 – Risk Multiplier" of the course material supporting our simple step by step approach to creating your financial retirement plan.

All course material is free, and comprises:

- a summary 'Retirement Planning Guide"
- a 'Retirement Roadmap'
- a supporting 'Retirement Planning excel spreadsheet'
- more comprehensive training guides ("Lessons") for various tasks and topics along the way if you need them
- additional supporting forms and spreadsheets if you need further assistance

All material can be downloaded and printed from the downloads page on our website: http://www.bizxtra.co.nz/

Most people complete their retirement plan using just the Planning Guide, Roadmap and the Excel spreadsheet that supports the guide. Additional information is provided to support you along the way if you get stuck, don't understand a concept, or just need some further ideas to try out as part of your planning.

"If you follow our easy step by step guide and RoadMap, you will increase your financial literacy while preparing your own retirement plan for a long and prosperous retirement."

Lesson Contents

Latest Version

Market prices, superannuation and benefit rates, Government policies, inflation, costs of living, house values etc. all change on a regular basis. The numbers in this document have been updated to reflect the market position as at July 2025.

Lesson 3 – Risk Multiplier

When preparing a retirement plan, we need to calculate the amount of investments needed in the future to generate the income needed to live comfortably throughout retirement i.e. the money needed for 'Financial Freedom in Retirement'. We may get it wrong first time, but we will know how to get it right as we move through the process.

As this number is an estimate of the value of investments in the future (say in 25 years time), what we really need is an estimate of the amount required now, that through the power of compounding interest will get us to this higher value in the future.

For example, if we wanted to travel in 24 months time, and we estimated our trip was going to cost us $5,000, if we put the money in a bank account for 24 months, we wouldn't need to put $5,000 aside, we could put anything between $4,500 and $4,900 depending upon the interest rate the bank would pay us.

The higher the interest rate we are able to get from the bank, the less money we need to set aside (deposit) into the bank account:

- Obviously if we received 0% interest, we would need $5000 to have $5000 in 2 years time
- But at 2% interest, we would only need to deposit $4805 for the 2 years
- If we could get 5%, then the amount would be $4525 for 2 years.

The more risk we are prepared to take, then the higher the interest rate we might be able to enjoy over the 2 years.

- At 6% we would only need $4449
- Or at 8% $4286

Calculating these returns based on the duration, level of risk involved (i.e. interest rate), and amount involves a very complex mathematical formula:

$$PV = FV\frac{1}{(1+r)^n}$$

PV = present value
FV = future value
r = rate of return
n = number of periods

When looking at retirement, the main variables that you change are: the interest rate (based on how much risk you are prepared to take), the timeframe (the number of years before you need the money) and the $ amount needed (based on the cost of your retirement).

In all the examples above, the amount required is less than the amount needed, as we expect the initial amount to grow at the average annual interest rate to get to the desired value. The longer the number of years, the less we initially need. This could be anything in the range 95% to 48% of the desired target value.

Quick Multiplier to use					
Yrs in retirement					
1- 5	6-10	11-15	16-20	21-25	26+
95%	90%	85%	80%	75%	70%
90%	85%	80%	75%	70%	65%
85%	80%	75%	70%	65%	60%
82%	77%	72%	67%	59%	52%
79%	74%	69%	64%	55%	50%
77%	72%	67%	62%	53%	48%

On the Roadmap, to calculate the amount of investments needed for retirement, we use this discount as an approximation of the complex formula to calculate an answer. When we enter the data into the planning spreadsheet, the computer will use the real formula, so we are able to calculate a more accurate number.

First, look at how comfortable you are taking risks with your money, to determine the average annual interest rate you should achieve. The more risk, the higher the interest rate.

Risk Tolerance		Avg Annual Retn
None	*I don't want to take any risks with my money*	2%
Very Low	*I don't like taking risks, but appreciate some are necessary in life*	3%
Low	*I want to sleep at night and not worry what my money is doing.*	4%
Medium	*I'm ok with some risk, but am really more conservative*	5%
High	*I am happy to take high risks, and accept it might be a bit of a rollercoaster*	6%
Very High	*Strap me in, I'm an adrenaline junky. I love riding rollercoasters.*	7%

Next, look at the amount of time you before you need the money. This is generally the number of years you have in retirement, or until you need the money. And the more time you have, the greater the discount.

Risk Tolerance			Quick Multiplier to use					
			Yrs in retirement					
Risk	Investor Type	Avg annual Return	1- 5	6-10	11-15	16-20	21-25	26+
None	Cash	2%	95%	90%	85%	80%	75%	70%
VL	Defensive	3%	90%	85%	80%	75%	70%	65%
L	Conservative	4%	85%	80%	75%	70%	65%	60%
M	Balanced	5%	82%	77%	72%	67%	59%	52%
H	Growth	6%	79%	74%	69%	64%	55%	50%
VH	Aggressive	7%	77%	72%	67%	62%	53%	48%

We just look across the row based on our 'Risk Tolerance', to the column that has our 'Years in retirement' to find the appropriate % multiplier to use. We then multiply the amount of investments needed for retirement by the multiplier, to calculate the amount needed at retirement.

For example, if our tolerance towards taking risks was Medium – 5%, and we had 15 yrs until we needed the money, we would multiple the amount needed by 72%. If we needed $1,000,000 in 15 yrs time, we need to find $720,000 and invest it at 5%

Summary

If you are using our free retirement planning Excel template to create your retirement plan, you can use the spreadsheet to change things (like lifestyle costs and risk tolerance) and see how these changes impact the amount of money needed for retirement.

Try changing the information in the worksheet and see what happens to your financial gaps. You can change these on your Roadmap, you just need a good pencil and eraser.

The risk multiplier is just a simple approximation of a very complex formula, that is used to calculate the amount if investments needed for retirement.

The risk multiplier is based on your initial guess at your tolerance towards taking risks with your money. It is used throughout the retirement planning so the sooner you obtain a solid understanding of this the better. There are many online questionnaires you can use to better understand your tolerance towards taking risks. Some are just 'risk' others look at the amount of time you have to invest, and some make recommendations of the type of investments you should consider (the type of investor you are). We also look at these three factors later in our planning when we look at options to fill any financial gaps that get identified in your planning.

Planning is all about making assumptions and then testing and refining them as we go along. We will keep on challenging them as we move forward, and as our financial understanding grows. Once you have your plan, you may only revisit it once a year, or when things change.

Example Risk Assessment

For each question circle the number of points for your desired answer.

1. I plan to begin withdrawing money from my investments in:

Less than 3 years	1
3–5 years	3
6–10 years	7
11 years or more	10

2. Once I begin withdrawing funds from my investments, I plan to spend all of the funds in:

Less than 2 years	0
2–5 years	1
6–10 years	4
11 years or more	8

Add up the total points from questions 1 and 2. Time Horizon Score: _____

If your Time Horizon Score is less than 3, stop here.

A score of less than 3 indicates a very short investment time horizon. For such a short time horizon, low-risk investments such as bonds or cash (term deposits) is suggested, as other types of investments may be significantly more volatile in the short term.

If your score is 3 or more, please continue with the remaining questions.

3. I would describe my knowledge of investments as:

None	0
Limited	2
Good	4
Extensive	8

4. What amount of financial risk are you willing to take when you invest?

Take lower than average risks expecting to earn lower than average returns	0
Take average risks expecting to earn Average returns	4
Take above average risks expecting to earn above average returns	8

5. Select the investments you currently own or have owned:

Money market fund or cash investments	0
Bonds and/or bond funds	3
Stocks and/or stock funds	6
International securities and/or international funds	8

If you own multiple types of investments, your score is the one with the highest points.

6. Consider this scenario: Imagine that in the past three months, the overall stock market lost 25% of its value. An individual stock investment you own also lost 25% of its value. What would you do?

Sell all of my shares	0
Sell some of my shares	2
Do nothing	5
Buy more shares	8

7. Review the table below. This table shows most likely best-case and worst-case annual returns of five hypothetical investment plans. Which range of possible outcomes is most acceptable to you?

Plan	Average Annual Return	Best-case	Worst-case	**Points**
A	7.1%	22.8%	-9.5%	0
B	8.3%	27.0%	-13.3%	3
C	9.2%	30.9%	-20.9%	6
D	9.8%	34.4%	-29.5%	8
E	10.2%	39.9%	-36.0%	10

Enter the total points from questions 3 through 7. Risk Score: _____

Finally, using the chart below, look at the intersection between you time horizon and risk scores. This suggests your overall tolerance towards risk.