Vanguard Retirement Income Builder

RIB Tool assumptions | As at 1 July 2024

The intention of the Retirement Income Builder tool is to provide an illustration and probability of outcomes a client can potentially expect from current and future financial scenarios. All representations are illustrative only, and there are assumptions and disclaimers that cover the illustrative nature of the outputs from the tool. The tool is updated periodically and the assumptions used are in line with the date of this document.

Effective date
Social security rules, age pension rates, thresholds and tax rates are as at 1 July 2024.

Financial markets uncertainty and stochastic forecast

- The Retirement Income Builder produces a stochastic forecast of retirement income and wealth over time.
- The forecast takes into account uncertainty about financial markets performance and produces a broad range of potential retirement outcomes in the future.
- It is based on many economic scenarios and uses market return assumptions from the Vanguard Capital Markets Model® (VCMM) (see **Economic scenarios** for more information)

Economic scenarios

- Economic scenarios are generated by the VCMM as at 31 March 2024.
- The VCMM is a proprietary financial simulation tool developed and maintained by the Vanguard Investment Strategy Group (ISG). The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies.
- The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.
- The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.
- Actual asset classes used in the forecast depend on selected investment options for superannuation and investment assets and their asset allocation (see **Investment options** for more information).
- The theoretical and empirical foundation for the VCMM is that the returns of various asset classes reflect the compensation investors

require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Results produced by the tool will vary with each use and over time.

- **Appendix 1: VCMM long-term market outlook** provides the return and volatility forecasts over the next 30 years for inflation and Vanguard's diversified funds. The actual horizon of returns used by the VCMM in a projection may differ from the 30 year projection shown, and will depend on the age of investors. Actual returns used in the calculations vary each year.

Types of assets

- The following generic types of assets are considered in the tool: personal assets; superannuation assets in defined contribution funds in the accumulation or account based pension accounts; investment assets outside of superannuation; and investment property assets.
- Personal assets – This includes items such as cars, boats and household contents.
- Superannuation assets – Contributions made by you or your employer to save for retirement.
- Account-based pension assets – A fund that pays you an income in retirement.
- Investment assets outside of superannuation – This includes items such as bank accounts, term deposits and shares.
- Investment property assets – Real estate purchased for rental income, capital growth or both.
- Any negative asset values are excluded from the modelling.
- Projections for superannuation and investment assets are stochastic. Their asset allocation is defined as per the asset allocation of selected investment options (see Investment options).
- Personal assets and investment property assets are assumed to have constant real dollar value, i.e. they change in line with inflation (see Inflation).

Types of income

- The following sources of income are included in the tool: income from employment; other income (e.g. rental income); age pension; income from drawdown of generic superannuation and investment assets.
- Dividends and interest income from superannuation and investment asset outside superannuation are calculated from the stochastic returns of the chosen investment option.

	INVESTMENT OPTIONS, ASSET ALLOCATION			
ASSET CLASS	CONSERVATIVE (%)	BALANCED (%)	GROWTH (%)	HIGH GROWTH (%)
Cash	10.0	0	0	0
Australian fixed interest	18.0	15.0	9.0	3.0
International fixed interest hedged	42.0	35.0	21.0	7.0
Australian equities	12.0	20.0	28.0	36.0
International equities unhedged	8.5	14.5	20.5	26.5
International equities hedged	5.5	9.0	12.5	16.0
International small companies	2.0	3.5	5.0	6.5
Emerging markets equities	2.0	3.0	4.0	5.0

The above four investment options represent Vanguard's diversified portfolios as at the date of this document.

Investment options

- Investment options available in the tool are the same as the asset allocations for Vanguard Australia's four diversified funds.
- The list of investment options for superannuation and investment assets and their target asset allocation are located on the previous page
- ISG conducts an annual review of the strategic asset allocation (SAA) of the funds. The ISG team presents a recommendation to maintain or change the SAA to Vanguard's global Strategic Asset Allocation Committee (SAAC), who oversees Vanguard's multi-asset funds.
- Upon approval of a change to the SAA, Vanguard assesses the feasibility, tax impact, and costs of the recommended changes and presents to the Board of Vanguard Australia for approval prior to implementing the changes.

Fees

- An annual dollar and/or percentage based fee can be applied to each partners superannuation and non-super investment assets (excluding investment properties and personal assets). This includes all platform, investment, advice and other fees.

Likelihood of outcomes for income and wealth

- Total income and wealth are calculated and presented based on their likelihood at a certain point of time in the future:
  - Likelihood: Above 95% – income or wealth in this range is more than 95% likely.
  - Likelihood: 50-95% – income or wealth in this range is 50 to 95% likely.
  - Likelihood: 25-50% – income or wealth in this range is 25 to 50% likely.

Likelihood of achieving income goals

- The tool calculates the likelihood of achieving all regular and lump sum income goals, excluding any figure nominated for an Estate.
- This likelihood is defined as the likelihood of achieving a selected level of income in each year of retirement calculated across all stochastic simulations.

Retirement phase

- Retirement phase is defined as the time period between the retirement age and the end of the planning horizon (run-out age).
- It is assumed that regular income preferences begin at the start of the retirement phase.
- In the retirement phase the tool combines wealth in all assets accumulated until retirement and any other income with asset class return projections, investment options asset allocation, superannuation access rules, tax rules, age pension eligibility rules, and regular and lump sum income preferences to produce a forecast of available net income and wealth over time until the end of the retirement phase.
- If the selected retirement age is below the current preservation age, no income from superannuation assets is allowed.

Accumulation phase

- Accumulation phase is defined as the time period between the day when the forecast is produced and the retirement age.
- In the accumulation phase the tool combines current wealth in all assets, employment and other income, superannuation contributions (employer contributions, concessional and non-concessional contributions and government co-contributions) with asset class return projections, investment options asset allocation, and tax rules to produce a forecast of available net income and wealth over time until the end of the accumulation phase.

Couples with different current or retirement age

- For couples with different current or retirement age the following rules apply:
  - It is assumed that regular retirement income preferences begin from the date when the first partner retires.
  - Projections end when the younger partner reaches age 100.
- Income preferences are assumed to be the same in all situations including when one partner is in the accumulation phase and another partner is in the retirement phase.
- Eligibility for the age pension is assessed in accordance with the current rules and takes into account accumulation or retirement

phase of both partners (e.g. eligibility for work bonuses, assessment of superannuation assets in the asset test etc).

- Access to superannuation is determined individually for each partner and in accordance with the preservation age rules.

Regular income preferences (goals)

- Two types of regular income preferences (drawdown strategies) are available in the tool:
  1. **Life stage income.** The preferred level of income starts in retirement at the level selected for the early stage of retirement. At the end of this stage it declines uniformly until it reaches the income level set for the final stage of retirement. It remains at a fixed level thereafter.
  2. **Constant income.** The preferred level of income in retirement remains fixed throughout retirement at the level selected in the tool.
- If income available from employment, other income, and age pension exceeds the preferred level of income, excess income is assumed to be reinvested into investment assets. If no investment asset has been added, excess income is reinvested in the same investment option selected for superannuation assets.
- All income preferences are in today's dollars (real terms) and therefore are adjusted for inflation.

Income sources

- When determining the mix of income sources in order to fund income goals, income sources are used in the following order:
  1. Employment income and other income;
  2. Age pension;
  3. Superannuation assets of the partner in the retirement phase (see Retirement phase);
  4. Investment assets of the partner in the retirement phase;
  5. Investment assets of the partner in the accumulation phase (see Accumulation phase);
  6. Superannuation assets of the partner in the accumulation phase (subject to preservation age).
- In rare scenarios where income goals exceed all available income from the first five income sources it is assumed that superannuation assets of the partner in the accumulation phase can be accessed provided that the partner has reached the preservation age. The drawdown of superannuation assets in this scenario does not include any possible tax implications.

Minimum withdrawal rules

- Standard legislated minimum withdrawal rules are applied to superannuation assets in the retirement phase in accordance with the legislated schedule.
- In scenarios where minimum withdrawal payments from superannuation assets together with any income from employment, other income and age pension exceed income goals, excess income is assumed to be reinvested into investment assets. If no investment asset has been added, excess income is reinvested in the same investment option selected for superannuation assets.

Age pension

- Age pension eligibility is determined based on a number of factors including age, home ownership, assets and income.
- Eligibility for the age pension is not guaranteed, and has only been illustrated based on the data entered in this calculator. Confirm eligibility with Centrelink prior to making any decision as to potential age pension entitlements.
- Other factors which might affect individual age pension eligibility such as residency requirements, personal preference not to apply for or delaying age pension application, complex financial or living situation etc. are not considered in the tool
- The tool assumes that all superannuation assets are invested into an account-based pension after reaching retirement age.
- The tool assumes that all investment assets are split 50/50 between partners for age pension asset test purposes.
- The tool does not cater for social security grandfathering rules.

- All assets types (see **Types of assets**) are assessed in the assets test.
- Employment income (gross amount before tax, before voluntary contributions, and after super guarantee contributions), other income, deemed income from superannuation assets in the retirement phase and investment assets are assessed in the income test.
- If other income is given as a negative amount (e.g. net rental income is a loss), other income is not included in the income test, i.e. it does not offset other types of income in the income test.
- Work bonus is applied to the employment income of any partner in the household who has reached the age pension age.
- Investment property and personal assets are not deemed.
- Any lump sum withdrawals are assumed to be spent on personal spending needs and not gifted to other parties or invested elsewhere. Age pension gifting rules are not applied to lump sum withdrawals.
- All legislated age pension rates and thresholds are assumed to change in line with inflation.

Employment and other income

- Employment and other income details collected in the finances and investments section of the tool are assumed to be before tax; employment income is also assumed to be inclusive of superannuation.
- Employment and other income details in the projections are given after tax; employment income is also given after employer and voluntary superannuation contributions (see Contributions).
- Employment and other income are assumed to change in line with inflation.

Contributions

- The tool caters to annual and one-off concessional and non-concessional superannuation contributions and contributions to investment assets.
- Annual contributions are assumed to be each year until your client's selected retirement age.
- It is assumed that 11.5% of the employment income is paid into superannuation as part of employer super guarantee contributions (SGC).
- For future years it is assumed that:
  - Employer concessional contributions will change in line with the employment income (see Employment and other income);
  - Voluntary contributions will change in line with the inflation (see Inflation);
  - The employer contributions rate will increase in line with the legislated schedule.
- Concessional and non-concessional superannuation contribution caps and transfer balance caps are not taken into account.
- Additional tax on concessional contributions (division 293 tax) for individuals with combined income over $250,000 is not applied.
- It is assumed that work test rules are satisfied and concessional and non-concessional superannuation contributions are allowed until the age of 75.
- Concessional contributions are taxed at 15% rate in the superannuation account.
- Non-concessional contributions are not taxed in the superannuation account since they are paid from after-tax income.
- All one-off contributions are assumed to be made on 1 July of the financial year corresponding to the actual nominated date.

Government co-contributions

- The total income used to determine financial eligibility for government co-contributions is based on the annual assessable income calculated for each year in each stochastic simulation (see Income tax)
- The projection also allows for the Government Low Income Superannuation Tax Offset (LISTO) benefits.

Lump sum withdrawals

- All nominated lump sum withdrawals are assumed to be made on 1 July of the financial year corresponding to the actual nominated date.
- Lump sum withdrawals are funded in accordance with the order of income sources defined above (see Income sources).

- Lump sum withdrawals are assumed to be spent on personal non-investment spending needs only.

Inflation

- All amounts for income and wealth are adjusted for inflation.
- Inflation assumptions are stochastic and internally consistent with projections for other variables in each economic scenario. They are based on economic scenario assumptions from VCMM (see **Appendix 1: VCMM long-term market outlook**).

Timing of cash flows

- All calculations are performed on an annual basis.
- It is assumed all income and outgoings, apart from the first year, occur on 1 July. Cash flows in the first year are assumed to be made on the date the forecast is produced.

Portfolio rebalancing

- It is assumed that superannuation and investment assets are rebalanced annually mid-year on 1 July to their original investment option asset allocation.
- Transaction and rebalancing costs are not considered.

Income tax

- All income from employment, other income and investments are adjusted for income tax.
- Income generated from the drawdown of superannuation assets in the retirement phase is tax-free.
- Tax on employment and other income earned in the next period is paid at the beginning of that period.

PHASE	TAX	SUPERANNUATION	INVESTMENTS
Accumulation	CAPITAL GAINS	10%	50% OF THE MARGINAL TAX RATE*
	INCOME	15%	MARGINAL TAX RATE
Retirement	CAPITAL GAINS	0%	50% OF THE MARGINAL TAX RATE*
	INCOME	0%	MARGINAL TAX RATE

* It is assumed that investment assets are held in the account for more than 12 months and 50% discount is applied to capital gains.

- Tax on investment assets is paid from employment and other income at the end of the period (when investment returns for that period are known).
- If employment and other income is not sufficient to pay tax on investment assets, tax is paid out of investment assets.
- Tax on superannuation assets is paid out of superannuation assets.
- All income and capital gains generated by superannuation and investment assets are reinvested.
- Tax rates for superannuation and investment assets are assumed to be the following:
- It is assumed that capital gains or losses are realised each year and tax or tax credits are paid at the end of each year.
- Part of the superannuation and investment assets allocated to the Australian equities asset class are assumed to earn franking credits. See Franking credits.
- Income tax rates and threshold are based on the current legislation (as at the date of this document).
- In addition to income and capital gains tax the following taxes and rules are considered in the calculation:
  - Medicare levy, including Medicare levy reduction for low income earners
  - Low Income Tax Offset (LITO)
  - Seniors and Pensioners Tax Offset (SAPTO)

- For the purpose of the income assessment for the eligibility for SAPTO, LISTO and government co-contribution assessable income includes:
  - Employment income before tax, before personal concessional contributions and excluding employer super guarantee contributions
  - Other income added in the financial details Finances & investments section of the tool (or, if it is a negative amount, the absolute value of other income)
  - Income from investment assets
- If other income is given as a negative amount (e.g. net rental income is a loss), it offsets income from other sources when calculating assessable income for income tax purposes.
- No provisions are made for tax deductions (e.g. interest on investment loans, charitable tax deductions, other expenses associated with investments etc).
- All tax thresholds are assumed to change in line with the inflation.

Franking credits

- Superannuation and investment assets allocated to Australian equities are assumed to earn franking credits.
- Franking credits are calculated using the income part of the return for the Australian equities asset class (net dividend yield) as per the economic scenario assumptions from the VCMM according to the formula:

  Franking credits =
  Gross dividend yield –
  Net dividend yield, where

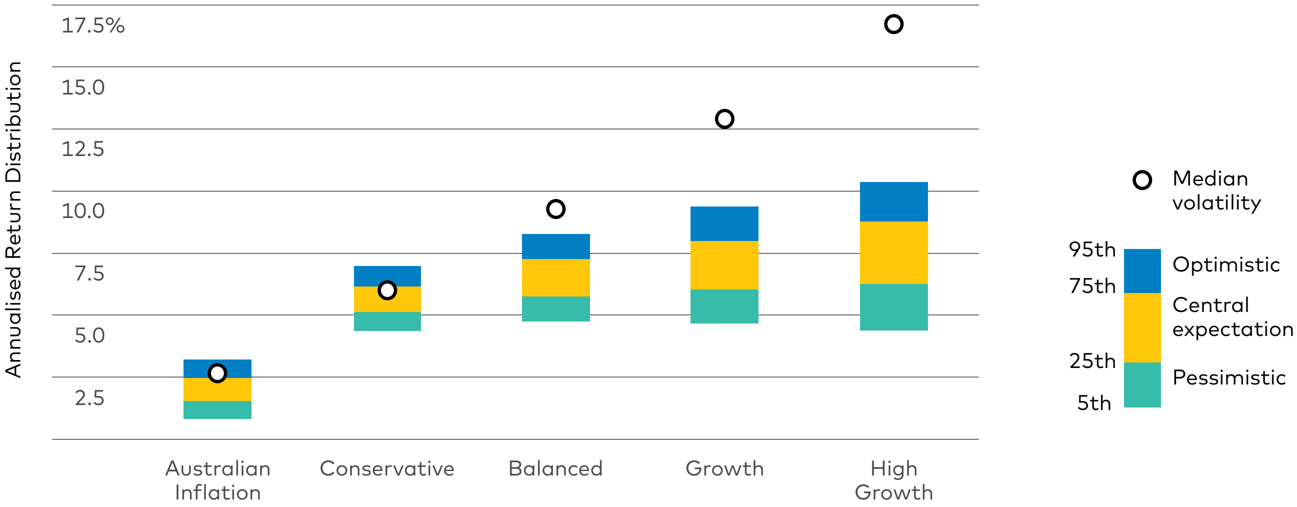
  Gross dividend yield =
  Net dividend yield ×
  (1 – % franked dividend) +
  Net dividend yield ×
  % franked dividends ÷
  (1 – Corporate tax rate of 30%)
- It is further assumed that 70% of the income return (dividends) from Australian equities are franked.
- All franking credits are assumed to be reinvested.

Insurance premiums

- No provisions are made for insurance premiums paid for insurance policies in or outside of superannuation.

Appendix 1. VCMM long-term market outlook

The chart and table below shows the VCMM annualised return and volatility forecasts over the next 30 years for inflation and Vanguard's diversified funds as at 31 March 2024.



Return percentile

	5TH	25TH	MEDIAN	75TH	95TH	MEDIAN VOL.
Australian Inflation	0.8%	1.5%	2.0%	2.5%	3.2%	2.7%
Conservative	4.4%	5.2%	5.7%	6.2%	7.0%	6.0%
Balanced	4.7%	5.7%	6.4%	7.2%	8.2%	9.3%
Growth	4.6%	6.0%	7.0%	8.0%	9.4%	12.9%
High Growth	4.4%	6.2%	7.4%	8.7%	10.4%	16.7%

Source: Vanguard, as of 1 July 2024, using 31 March 2024 VCMM simulation.

Returns in the above chart and table are before taxes and fees. The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for each modeled asset class in AUD. VCMM results will vary with each use and over time.

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