

## **Important Information and Disclosures about Otar Retirement Calculator and its Methodology:**

Important Information and Disclosures are integral part of the client handout.

### **IMPORTANT:**

The projections or other information generated by Otar Retirement Calculator (referred to as “ORC” throughout this document) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. ORC uses the actual historical market and economic data. It does not use any Monte Carlo or any other type of simulation. For the same identical input, the software's results will remain the same with each use during a calendar year. However, each year new historical data is added to its database, and therefore the results may change from year to year to reflect the inclusion of the most recent data. For a more complete description of the methodology used to generate this report, please refer to the Design Philosophy, Limitations, Methodology, and Criteria for Describing the Outcome and Key Assumptions in this report.

While ORC runs a snapshot of historic outcomes based on your current financial data, it cannot foresee or account for all possible situations that could impact your financial situation, -negatively or positively. Financial and retirement objectives do change over time. It is critical that you and/or your advisor review your retirement, investment, and income plans at least once a year.

The following is a summary of how ORC works. For additional details, refer to the “User’s Guide” that is built into the program. You can access this guide by clicking on the “User’s Guide” button on the main page of ORC.

### **DESIGN PHILOSOPHY:**

ORC calculates your retirement asset values based on actual market history. It does not require an assumed average portfolio growth rate or average inflation. It is not a Monte Carlo simulator.

The program calculates the value of portfolio assets as if you were to retire in each one of the years starting with the year 1900, or for some foreign markets, since the earliest available year. Each line on the asset chart represents the asset value of the portfolio as if you retired in that year, i.e. in 1900, 1901, 1902, ..., 1999. This asset line is calculated using historical market fluctuations, inflation and interest rates for each year. Each line representing a particular year of retirement is then plotted on the same chart to give a “bird’s eye” view of all outcomes.

The results are not a "forecast" of your future financial picture. Rather, it presents an “aftcast” of potential outcomes based on actual market history. Observing the history, you might have a more realistic “picture” of your retirement planning compared to other calculators that are assumption-based and/or simulation-based.

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### **LIMITATIONS:**

The information generated by ORC regarding the likelihood of various investment outcomes is hypothetical in nature. It does not reflect actual investment results and is not a guarantee of future results.

Past performance is no guarantee of future results. The data and information provided do not reflect all taxes applicable to your specific situation.

ORC illustrates how a mix of asset classes (stocks, bonds, cash or inflation-indexed bonds) would have fared under historical market conditions. It does not provide a prediction of your ability to meet your goals; rather, it merely reports the hypothetical outcomes that would have occurred in the past.

ORC should not be used as the primary basis for any investment or tax-planning decisions. Results will vary in the future. ORC is not intended to predict the future value of actual investments or actual holdings in your portfolio. It is also not intended to predict the current and future value of actual lifetime income.

ORC displays a 40-year time horizon. If your time horizon between your current age and the age of death is larger than 40 years, then the program calculates the asset value required in 40 years which will provide lifelong withdrawals that are sustainable. If your time horizon is longer than that, ORC is unable to display historical outcomes beyond the first 40 years.

ORC is an educational program developed by Retirementoptimizer.com Inc. Its primary objective is to help you identify a strategy for retirement income planning. It is designed to be a retirement calculator. It is not designed to create a comprehensive financial plan.

This material is provided for general and educational purposes only and is not intended to provide legal, tax or investment advice, or for use to avoid penalties that may be imposed under U.S. federal tax laws. Contact your attorney or other advisors regarding your specific legal, investment or tax situation.

ORC may not always operate or deliver results as intended, and Retirementoptimizer.com Inc. cannot be responsible for errors in functionality or operability, either caused by hardware or software issues, or any other reason.

The estimated income requirement for the retiree, as well as the fees, costs, and other cash flow assumptions, may be materially different over the course of the related planning time horizon than in real life. Any user of the ORC has the ability to control assumptions utilized in the analysis presented in this report. It is important that you clearly understand that small changes in the input can change the outcome significantly. None of the results in this report have been endorsed, validated, or examined by Retirementoptimizer.com Inc.

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### **METHODOLOGY:**

The objective of ORC is to give you the background information that you might need to make important decisions for your retirement.

You need to enter the following basic information:

- Personal information such as current age, retirement age
- Value of retirement assets and the asset mix
- If still earning income, how much of that is saved annually
- Income required after retirement

Entering this basic information is sufficient to analyze your retirement plan.

After entering your financial data, ORC can help you:

- See how a portfolio similar to yours may grow or shrink over time.
- Determine the optimum asset mix of equities and fixed income.
- Identify probabilities of success and failure.
- Analyze stress test scenarios.

### **CRITERIA FOR DESCRIBING THE OUTCOME:**

If you are already retired or just a few years away from retirement, the following two criteria must be met for a successful retirement plan:

- Depletion of Assets: The probability of portfolio depletion must not exceed 10% at the age of death entered.
- Depletion of Purchasing Power: The probability of receiving full income in real terms (adjusted for inflation) must exceed 90% at any age.

The outcome is indicated as “excellent” if the probability of depletion is 0% and the probability of receiving full income is 100% at all ages during retirement.

The outcome is indicated as “inadequate” if the probability of depletion exceeds 10% or the probability of receiving full income –indexed to inflation, is less than 90% at any age during retirement.

In between the “excellent” and “inadequate” outcomes, there are two additional descriptions, “good” and “adequate”. They depend on the level of these two probabilities.

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The impact of recovery from a potential market downturn becomes less severe if there is a sufficient time horizon for further accumulation and recovery. If you are not retiring within the next five years, then this 10% threshold for the adequacy criteria is relaxed. For example, if you are planning to retire in 30 years, then the outcome will be indicated as “inadequate” only if the portfolio value required in 40 years for sustainable withdrawals is larger than the bottom 35% of all historic outcomes.

### KEY ASSUMPTIONS:

#### Asset Classes:

**Equity:** ORC includes the market history for US and Canadian stock markets. The report's analysis applies only to these indexes.

The historical data since 1900 is used for the U.S. markets and since 1919 for the Canadian equity market.

**Cash:** ORC uses the historical interest rate. The historical interest rate used is the interest rate on the 6-month term deposits invested in January and then reinvested for another six months reinvested in July, for all years until and including 1996. Starting with years 1997 and later, 90-day AA Financial Commercial paper year-end interest rate is used.

**Fixed Income:** ORC takes the historical interest rate on the 6-month term deposit and adds a premium (the default is 1.5% less 0.5% for management fees) to arrive at an approximate long-term fixed-income yield. This reflects approximately a fixed income portfolio with an average duration of 6 years, held to maturity. ORC disregards any capital gains or losses for fixed-income securities that might occur during the holding period.

U.S.A.: CDs are FDIC insured, subject to certain limitations and conditions, and offer a fixed rate of return if held to maturity.

Canada: GICs are CDIC insured, subject to certain limitations and conditions, and offer a fixed rate of return if held to maturity.

**Inflation Indexed Bonds:** The model uses historic inflation plus the imputed real yield (the default imputed real yield is 1.5% less 0.5% for management fees) to arrive at an approximate long-term yield. ORC disregards any capital gains or losses for inflation-indexed bonds that might occur during the holding period.

All historical data on interest rates and inflation is based on the historical US market data, regardless of which country's equity index is selected.

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Bonds are subject to market and interest rate risk. Selling bonds prior to maturity may make the actual yield differ from their advertised yield and may involve a loss or gain. Bond values will decline as interest rates rise and are subject to availability and change in price.

### **Cash Flow:**

All dollar amounts are in current dollars unless specifically indicated as future dollars. Generally, lump sum amounts of deposits and withdrawals that occur at a specific age, are in future dollars.

ORC does not consider any income tax consideration in any part of the program. Therefore, when entering the income required during retirement, you must treat income taxes just like any other expense. The total income required must always include the estimated income taxes during retirement.

The Main page is designed to enter the basic information for a simple retirement plan.

### **ADDITIONAL INFORMATION:**

For additional details, refer to the “User Guide” that is built into the program. You can access this guide by clicking on the “User Guide” button on the main page of ORC. Additional information such as frequently asked questions, troubleshooting, program update notices are available at: [www.retirementoptimizer.com](http://www.retirementoptimizer.com)

Retirementoptimizer.com Inc. does not endorse or evaluate any advisor. Investors should understand that financial advisors must be registered in certain states and/or registered with various regulatory agencies (and/or Self Regulatory Organizations) or may be exempt from registration (as may be applicable) and must provide certain disclosures to their clients and prospective clients based on applicable regulations.

If you are not completely confident in your understanding of the complexity of these points, you should seek the advice of a financial advisor who thoroughly understands the implications of the analysis and any assumptions used. Retirementoptimizer.com Inc. has not endorsed, tested, or validated any of the assumptions and input that you or your advisor might have entered.