BetaVest
INVESTMENT PLANNING SOLUTIONS
www.betavest.com

# CASE
## Management System

# CLIENT REPORTS OVERVIEW

Company Name

1/2/2009

**Prepared By:**

Financial Representative
Company Name
123 Main Street
Anywhere, USA 00000
(555) 555-5555

# INVESTMENT GOAL ANALYSIS





Cashflow, Sequence of Return, Asset Allocation...

Prepared For:

**John and Mary Dollar**
**123 Main Street**
**Anywhere, USA 00000**
**(555) 555-5555**

**Broker/Dealer Securities Disclosure Goes Here**

## Disclosure and Consent

IMPORTANT: The projections or other information generated by the BetaVest CASE Management System (CMS) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results. Resulting historical probabilities of success such as 100 % do not imply or guarantee absolute future success.

This simulation is intended to serve as an educational tool, not investment advice. Your circumstances are unique; therefore, you need to assess your own situation and consult an investment professional for more personal advice. Also, your circumstances will probably change over time, so review your financial strategy periodically to be sure it continues to fit your situation. All examples are hypothetical, are intended for illustrative purposes only, and do not represent the performance of any security or economic condition. You alone are responsible for determining whether any withdrawal strategy is appropriate for you. The software is made available on an as-is, as-available basis. We cannot guarantee that the content is accurate, complete, or timely, or that the analysis tool produces accurate and/or complete results. The results or output may vary with each use and over time. Laws of a particular state or laws which may be applicable to a particular situation may have an impact on the applicability, accuracy, or completeness or information provided. Federal and state laws and regulations may have a material impact on pre- and/or after-tax investment results.

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Investor needs to be aware that no investment plan/asset allocation can eliminate the risk of fluctuating prices and uncertain returns.

This analysis does not incorporate a complete universe of investments and those not considered may have characteristics similar or superior to those analyzed. The CMS does not select any particular securities or favor any particular securities. The general asset classes used are the entire universe analyzed and were selected since there was sufficient historical data available commencing in 1926. Other asset classes not included in the Data Sources did not provide sufficient historical data. All simulations illustrated in the attached reports are based on Indexed return data acquired from CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current calendar year end. International and commodity index data acquired from Global Financial Data, Los Angeles, CA. Index data for annual periods 1926 through 2005. Used with permission . All rights reserved. Post 2005 asset class returns were obtained from publically available data i.e. Wall Street Journal, Barron's etc. (See Data Sources and Methodology).

An Index is a portfolio of specific securities (common examples are the S&P, DJIA, NASDQ), the performance of which is often used as a benchmark in judging the relative performance of certain asset classes. Indices are unmanaged portfolios and investors cannot invest directly in an index. Past performance is not indicative of future results. Investing in a security which tracks an index may result in loss of principal.

Each cash flow simulation assumes that all deposits are made at the beginning of each analysis period and all withdrawals are made at beginning of each analysis period per asset class portfolio mix analyzed. All illustrated portfolios assume annual rebalancing. It should not be construed that the chosen or optimized portfolio will guarantee future results. All calculations and results are before management fees and taxes unless noted otherwise in the reports, and that,if reflected, investment results would be lower.

**Signature:** _____ **Date:** _____

**Joint Client(if app):** _____ **Date:**

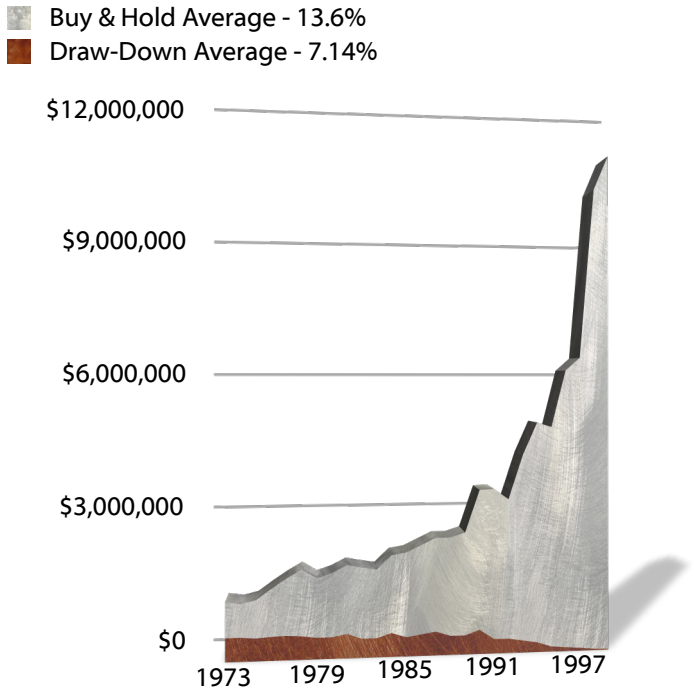
# INTRODUCTION

Today, retirees are facing financial challenges as a result of longer life expectancies and the concern of outliving their retirement savings. Traditional asset allocation models focus primarily on accumulating retirement savings but very few models focus on the unique financial issues concerning retirement income. Accumulation investing vs. withdrawal investing creates the need for a careful understanding of the difference between the two and the need for prudent withdrawal strategies coupled with proper asset allocation strategies.

It is important for a retiree to establish a prudent withdrawal strategy which does not threaten one's long term financial security. Primary concerns are: what amount of income is required, how long you will need the income, how much will be left to heirs, what other sources of income are available other than from investments, and the expected rate of return that will be earned in the future.

A common mistake in estimating your expected rate of return is forecasting a fixed rate of return per year based on a long-term historical average rate of return. For instance, if the S&P 500 Index has averaged 12% per year since 1926, one might logically presume that over the next 25 years the average would continue to be roughly the same. In reality, historical average returns have only a probability of repeating themselves. Our analysis reveals the importance of understanding the probability of achieving a rate of return as it relates to a particular asset class or allocation.

**The graph demonstrates the difference between average returns vs. actual returns and the impact on retirement savings when income withdrawals occur.**




*S&P 500 Composite Index 1973 thru 1999. All capital gains and dividends reinvested before tax. Past performance is not a guarantee of future results. Loss of principal may occur.

For example, between the years 1973 thru 1999 the average annual rate of return for the S&P 500 equaled 13.6%, which would appear as though an annual withdrawal of 6% increasing 3½% annually would have been sustainable. However, because of the actual annual sequence of returns, the original retirement savings would have depleted in 1997 and compounded at 7.14%. (see graph)

Conventional wisdom defines risk as a measure of the ups and downs of an investment or asset class (known as volatility). However, this limited view fails to consider the risk of premature depletion of retirement savings. A more valid definition of risk should identify and balance a portfolio's volatility and probability of success (i.e., not running out of money).

In general, historical asset allocation demonstrates that higher risk (volatility), normally associated with diversified stocks, provides a higher probability of success as portfolio withdrawal rates and length of need increase; as compared with low risk (low volatility) such as US T-Bills, CD's and Intermediate Term Government Bonds.

Our objective is to analyze your individual circumstances and to provide you with a clearer understanding of your probability of retirement success through analysis of historical asset class returns when observed using rolling period analysis. This method provides us with a historically supported perspective of the probability of achieving your retirement goals.

**Overall, Government bonds, T- Bills, and Certificates of Deposit (CDs) represent a legal obligation of the government, meaning that interest and principal is generally paid even in a weak economy. For the holder of Gov't bonds, CDs or T-bills, the loss of principal could occur, if in the extremely rare situation, the issuing government failed to recognize its debt obligations. This means that bonds, CDs, and T-Bills are generally less risky investment, than stocks. As a result, due to the lower risk involved, bond returns are usually lower than stock returns. Note that bonds also face market risk. A recession or inflation affects the bond markets. Sometimes market forces will cause interest rates to rise, leaving the investor holding a bond with a value much lower than the face value. Although stocks may produce returns that may be higher than bonds, T-Bills, or CDs, there is an inherent risk of investing in stocks which may result in a loss of value and principal.**

# INVESTMENT STRATEGY PROCESS


- It is important that your financial data and goals have been properly communicated to us. This information is the foundation of success.
- You have viewed pertinent educational presentations which are intended to form a basic understanding of investment principles necessary to make important decisions concerning your financial future.
- A deposit/withdrawal strategy has been carefully chosen which represents your future financial goals.
- An asset allocation strategy has been carefully chosen that, when combined with your deposit/withdrawal strategy, reveals a historical probability of success which is acceptable to you.
- Within each asset class, we have recommended investments that represent each category, but future diversified performance and conformity cannot be guaranteed.
- It is important that this plan be reviewed and the asset allocation rebalanced periodically.

**No investment strategy process can guarantee results and loss of principal might occur.**

# RETIREMENT SUCCESS

## …or level of success?

Our objective is to emphasize the importance of retirement income planning as it relates to the chosen asset allocation strategy, that when combined, produces an uncertain future end value because of the unpredictable future sequence of returns. The level of annual deposit and/or withdrawal affects the actual compounded return for any possible asset allocation and its future end value.

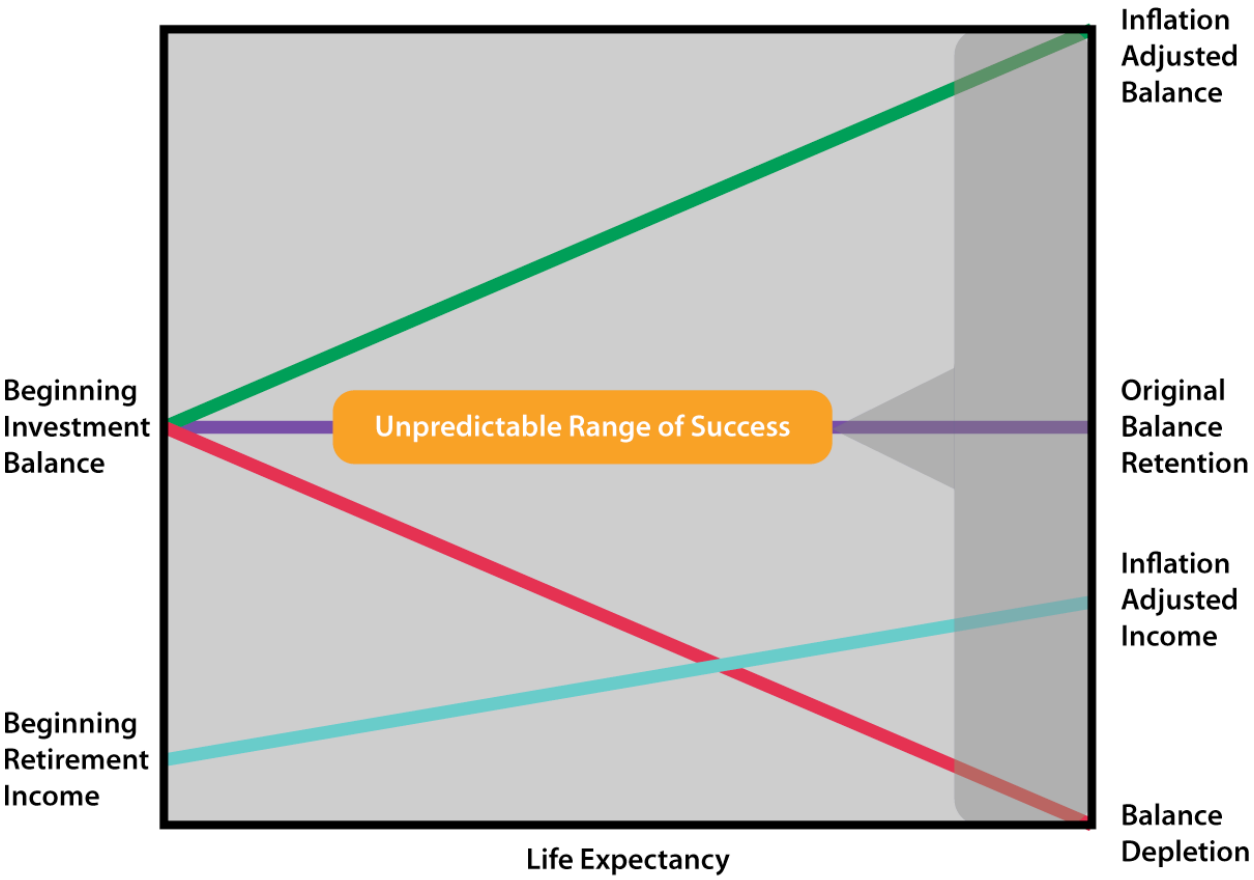



Illustration does not represent any actual investment and does not represent any indication of future or past performance.
Life expectancy does not assume any specific age of investor.

The following report utilizes historical rolling period analysis as a means to quantify historical probability of success within a three goal criteria:

1) Capital Depletion (not running out of money)
2) Capital retention (maintaining your original portfolio balance)
3) Capital inflation adjusted balance (growing your portfolio)

The primary goal is to generate an inflation adjusted income flow to you over your life expectancy with your final end value falling within the above range of success.

**What is important to understand is:**

*How sequence of returns, cash flow, and asset allocation can affect the probability of success. **

*** Probability of Success as measured by historical outcomes derived from analysis described in "Data Sources & Methodology" section of report.**

# ILLUSTRATION OF ROLLING PERIOD ANALYSIS

The following chart illustrates the method for executing rolling period analysis simulations. Each of the colored bars represent one 10 year simulation period. Our process measures success or failure by simulating portfolio performance over multiple periods thereby measuring historical probability of success or failure for all 10 periods.

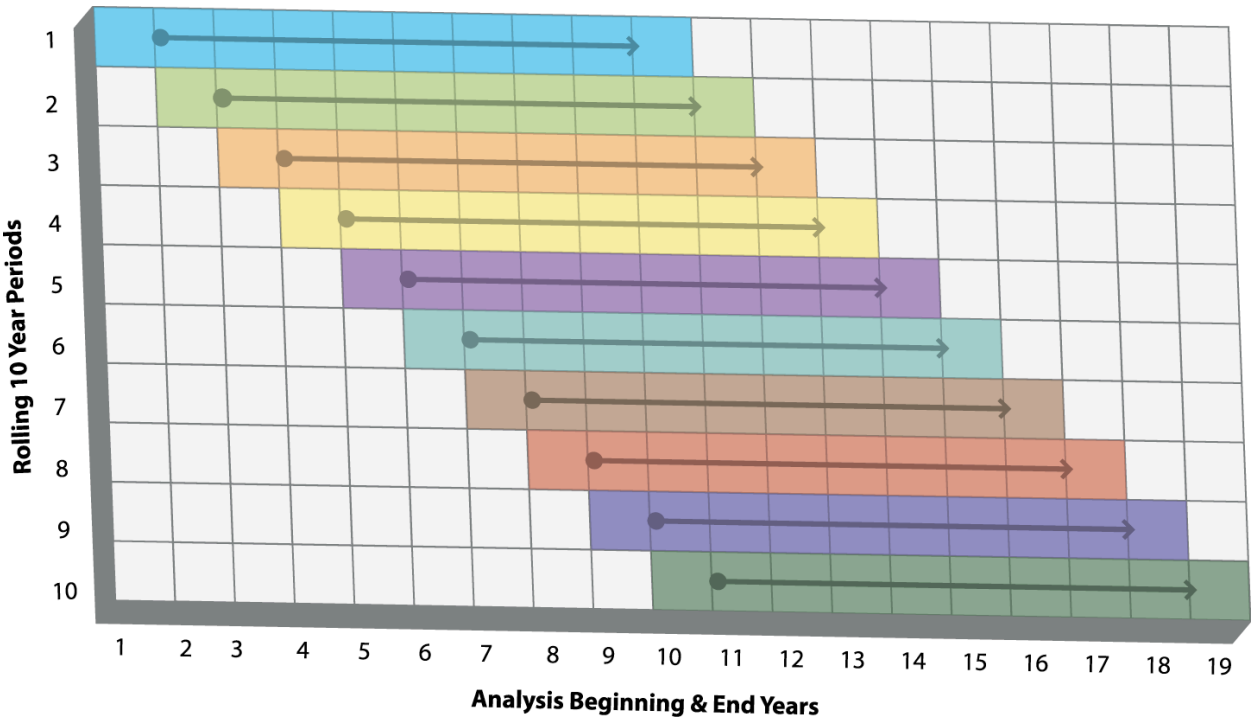



**Figure:** Each of the colored lines is representative of one analysis period. Note that each line's beginning date and ending date is one year later than its predecessor.

For example: In analyzing 10 year periods, we will examine the weighted annual returns for any given portfolio of asset classes (i.e. large co. stocks, intermediate-term government bonds, and U.S. T-Bills) for the earliest common historical beginning date through the first 10 year ending date based on your available investment balance, your anticipated future deposits and withdrawals and their timing. This is done to determine the 10th year ending value. This is repeated for each successive 10 year period in order to determine all historical investment end balances for all of the periods analyzed.

Once these balances are computed, all of the ending values are compared to determine the historical percentage probability of meeting your minimum, medium and maximum investment goals.

# CERTAINTY VS. UNCERTAINTY

The following compares certainty, or no-risk, to uncertainty, high risk. We will describe certainty as a Certificate of Deposit and uncertainty as Diversified Stocks.

| **Certainty:** ***Certificates of Deposit*** | **Uncertainty:** ***Diversified Stocks*** |
|---|---|
| More Predictable End Values & End Date | Unpredictable End Values & End Date |
| No Negative Returns or Investment Losses | May Incur Negative Returns or Investment Losses |
| Historically Poor Inflation Protection | Historically Better Inflation Protection |
| Simple Management | Advanced Management |
| FDIC* Principal Protection | No Principal Guarantee |
| May Increase Probability of Capital Depletion** | May Reduce Probability of Capital Depletion** |

***FDIC: An independent agency created by Congress in 1933, the FDIC supervises banks, insures deposits up to $100,000 and helps maintain a stable and sound banking system.**

****Probability of capital depletion is dependent upon amount of withdrawal and length of withdrawal period.**

## *It's A Difficult Decision....but the Choice is Yours!*

Unfortunately, your financial professional cannot mix and match these characteristics, which creates a difficult decision. The choice is yours to make with the assistance of your financial professional.

**Overall, Government bonds, T- Bills, and Certificates of Deposit (CDs) represent a legal obligation of the government, meaning that interest and principal is generally paid even in a weak economy. For the holder of Government bonds, CDs or T-bills, the loss of principal could occur, in the extremely rare situation, the issuing government failed to recognize its debt obligations. This means that bonds, CDs, and T-Bills are generally less risky investments than stocks. As a result, due to the lower risk involved, bond returns are usually lower than stock returns. Note that bonds also face market risk. A recession or inflation affects the bond markets. Sometimes market forces will cause interest rates to rise, leaving the investor holding a bond with a value much lower than the face value. Although stocks may produce returns that may be higher than bonds, T-Bills, or CDs, there is an inherit risk of investing in stocks which may result in a loss of value or principal.**

# SEQUENCE OF RETURN & UNCERTAINTY

The following case study illustrates three client withdrawal scenarios (Cases 1,2, and 3) as they are applied to four different sequences of returns (portfolio A, B, C, and D) and then compares the outcome of these cash flows and returns (see Investment Results).

The differences in end value and compounded return are caused by the actual sequence of return for each portfolio as it is applied to each cash flow, despite the fact that three portfolios achieved the same 10 year average return of 10% when examined independently. It is possible that a portfolio such as D (8 % Avg.) may result in a higher end value compared to a portfolio such as B (10% Avg.) depending upon cash flow behavior and actual sequence of returns.

All deposits are assumed to be made at the beginning of each 12 month period and all withdrawals are assumed to be made at the end of each 12 month period.

## A Case Study*

| | |
|---|---|
| **Case 1:** | *(Lump Sum)* $100,00 Original Investment; Buy & Hold for 10 years |
| **Case 2:** | *(Saver)* $10,000 deposit per year for 10 years |
| **Case 3:** | *(Spender)* $100,000 Original Investment; Annual Withdrawal of 6% at End of Year with 3.5% Annual Withdrawal Increase for 10 years |

## Annual Returns

| | | |
|---|---|---|
| Portfolio A | 10, 10, 10, 10, 10, 10, 10, 10, 10, 10 | 10% Average |
| Portfolio B | -20, -10, -5, 30, 25, 20, 30, 10, -5, 25 | 10% Average |
| Portfolio C | 35, 25, 30, 20, 15, 10, 5, -8, -15, -17 | 10% Average |
| Portfolio D | 12, 18, 17, 14, -8, -18, 30, 15, 25, -25 | 8% Average |

## Investment Results

| | Portfolio A | | Portfolio B | | Portfolio C | | Portfolio D | |
|---|---|---|---|---|---|---|---|---|
| | End Value | Return | End Value | Return | End Value | Return | End Value | Return |
| Case 1 | $259,370 | 10% | $226,496 | 8.52% | $226,951 | 8.54% | $186,382 | 6.5% |
| Case 2 | $175,312 | 10% | $215,801 | 13.6% | $108,079 | 1.41% | $125,174 | 4.1% |
| Case 3 | $150,161 | 10% | $88,862 | 6.1% | $161,203 | 10.58% | $105,747 | 7.3% |

## Conclusions

*Sequence and Range of return, how much and when you deposit or withdraw, can be more critical to your success than what you "average" in return!*

*** All portfolios and sequences of return are hypothetical and assume initial and any future deposits and withdrawals are made at the beginning of each year. Does not assume the effect of taxes or fees. Annualized returns are computed using a time weighted internal rate of return method (XIRR).**

# ASSET ALLOCATION PROBABILITY OF SUCCESS

The following charts demonstrate the effect of the combination of asset allocation*, withdrawal rate, and length of withdrawal period. The percentages within each table represent the probability of not running out of money comparing a 100% large cap stock portfolio versus a 100% Intermediate Term Government Bond portfolio. Assumes a 3.5% increase in annual withdrawal.

**Large Cap Stocks**
Annual Withdrawal Percentage

| | 3% | 4% | 5% | 6% | 7% |
|---|---|---|---|---|---|
| **25 Years** | 96% | 94% | 87% | 70% | 53% |
| **20 Years** | 98% | 95% | 90% | 76% | 60% |
| **15 Years** | 100% | 97% | 95% | 90% | 81% |

**Intermediate Term Government Bonds**
Annual Withdrawal Percentage

| | 3% | 4% | 5% | 6% | 7% |
|---|---|---|---|---|---|
| **25 Years** | 100% | 55% | 26% | 19% | 4% |
| **20 Years** | 100% | 93% | 47% | 28% | 19% |
| **15 Years** | 100% | 100% | 100% | 68% | 37% |

In general, as withdrawal rate and length of years increase, a more heavily weighted stock portfolio historically produces a higher probability of success.

**All deposits and withdrawals are made at the beginning of each year and withdrawal increases are annual. Investment allocation does not assure or guarantee performance and cannot eliminate the risk of investment loss. Past performance does not guarantee future results.**

**Index of Intermediate Maturity Government Bonds (7 years) performance data and NYSE Large Cap Based Portfolios Index performance data source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end.**

**Overall, Government bonds, T- Bills, and Certificates of Deposit (CDs) represent a legal obligation of the government, meaning that interest and principal is generally paid even in a weak economy. For the holder of Government bonds, CDs or T-bills, the loss of principal could occur, if in the extremely rare situation, the issuing government failed to recognize its debt obligations. This means that bonds, CDs, and T-Bills are generally less risky investment, than stocks. As a result, due to the lower risk involved, bond returns are usually lower than stock returns. Note that bonds also face market risk. A recession or inflation affects the bond markets. Sometimes market forces will cause interest rates to rise, leaving the investor holding a bond with a value much lower than the face value. Although stocks may produce returns that may be higher than bonds, T-Bills, or CDs, there is an inherent risk of investing in stocks which may result in a loss of value and principal.**

***Asset allocation does not assure a profit or protect against loss in a declining market and investments are subject to market risk and may lose value.**

# CONCLUSION

In summary, the factors that most influence your financial success are asset allocation, sequence of return, and deposit & withdrawal strategy.


**All factors will vary with each individual investor. Therefore, future outcome is unpredictable and does not guarantee success.**

Of these, you as the client are most able to control the deposits and withdrawals. Thus, it is important that you communicate any change in the cash flow strategy that you and your financial professional have discussed.\

Asset allocation is the factor that your financial professional will most be able to control. An asset allocation strategy will be provided for you that is based on a combination of your preferred level of risk and the realistic probability of achieving your goals within that risk level.

Finally, Sequence of Return is a factor that cannot be controlled by either you or your financial professional. However, this uncertainty can be dealt with using strategies that your financial professional will custom tailor to your needs in an attempt to manage the probability of meeting your income goals.

# Client Profile Summary

This information was gathered through interviews and information supplied by you and is assumed to be accurate.

## Personal Data

| | | | |
|---|---|---|---|
| Client 1 Name: | John A. Dollar | Date of Birth: | 1/1/1942 |
| Client 2 Name: | Mary Dollar | Date of Birth: | 1/1/1944 |
| Address: | | | |
| City | Anytown | State: USA | Zip: 999999 |
| Home Phone: | (555) 555-5555 | Office Phone: | Other Phone: |

## Desired/Adjusted Client Goals

| | |
|---|---|
| Desired first-year retirement income need (today's dollars): | $100,000.00 |
| Adjusted first-year retirement income need: | $132,218.51 |
| Plan Beginning Age(Client 1) / Client 1 Retirement age: | 53 / 65 |
| Plan Beginning Age (Client 2) / Client 2 Retirement age: | 51 / 65 |
| Client 1/Client 2 life expectancy: | 85 / 90 |
| Pre/Post-retirement inflation increase: | 3.50% / 3.50% |
| Desired Balance to Heirs (current/inflation adjusted): | $750,000.00 / $2,869,028.78 |

## Non-Investment Income Sources

| Income Source | Yrly Amount | Yrly Increase | Beg Age | End Age |
|---|---|---|---|---|
| Social Security-John | $18,000.00 | 2.00% | 65 | 85 |
| Social Security-Mary | $9,000.00 | 2.00% | 65 | 85 |
| Surv SS | $18,000.00 | 0.00% | 86 | 90 |

## Additional Deposits / Investments

| Description | Yrly Amount | Yrly Increase | Beg Age | End Age |
|---|---|---|---|---|
| John- 401k Deposit | $5,000.00 | 3.00% | 53 | 64 |
| Lump Sum Pension Rollover | $250,000.00 | 0.00% | 65 | 65 |

## Current Investment Portfolio

| Description | Value | Qual/Non-Qual |
|---|---|---|
| 401(k) | $165,000.00 | Qual |
| IRA | $93,000.00 | Qual |
| Stock Brokerage | $200,000.00 | Qual |
| CD | $80,000.00 | Non-Qual |
| **Total** | **$538,000.00** | |

## Analysis Overview

Your investment goal analysis has been thoughtfully prepared using goals and data provided by you and is assumed to be accurate. Going forward, any changes in your financial situation should be communicated to us in order to anticipate the potential effect of such changes. Your range of future outcome depends on our mutual management of the uncertainties that will occur throughout your financial future. History provides a sound basis for our conclusions, but is no guarantee of the future.

We have developed a cash flow plan indicating a beginning gross annual retirement income of $132,218.51 beginning at your age 65. We have assumed your spending needs will progress as reflected in the cash flow report.

The historical probability analysis indicates a 87% chance of having at least $1.00 or more remaining; a 84% chance of retaining your original capital balance plus any future deposits; and a 81% chance of having your original capital plus future deposits increased by at least 3.5% growth rate at the goal period of Mary's estimated life expectancy of 90.

Your optimized risk level is Moderate Risk and your original asset allocation and strategies are recommended per the investment strategy report. Future changes will depend upon the actual sequence of annual returns for the chosen portfolio and strategies. Actual results may differ from the historical probabilities observed in this analysis.

From this point forward, your actual investment results will depend upon general investment market behavior for the asset classes included in your portfolio. It is unrealistic to expect absolute positive results all of the time and to own only those investments which will deliver positive results from year to year. The illustrated range of outcomes reflects the historical fact that short-term investment gains and losses will occur within successful as well as failed future outcomes.

You should not expect to experience positive returns in down markets nor negative returns in up markets. The combined effect of your cash flow behavior, asset allocation, and the sequence of your portfolio returns will result in **your** investment results which are as unique as your own fingerprint. Remember, the media will report "investment returns," but "investor returns" will differ because of these individual factors.

By examining uncertainty of the past, we can better understand and manage uncertainty of the future.

## Risk Tolerance Questionnaire Results

**Is it more important to you to...**

**Reduce your chance of principal depletion.**

Maximize the value of your investments.

**If your investments lost 10% and you needed 8% of your investments for living expenses would you:**

**Seek outside earned income.**

Reduce your living expenses.

Withdraw shortfall from principal.

**Are you a...**

**Spender (require regular income from your investments).**

Lump sum buy-and-hold investor.

Periodic saver (accumulator).

**Is it more important to you to...**

**Earn a lower rate of return with ~~less~~ risk and with a higher probability of depleting your investments.**

Earn a potentially higher rate of return with more risk and a lower probability of depleting investments.

**With which investment portfolio would you be more comfortable? A portfolio with a potential high and low annual rate of return within these ranges:**

**High of 10%; Low of -10%.**

High of 25%; Low of -25%.

High of 40%; Low of -40%.

**Your past investment experience has included the following percentage of stocks:**

0%

1% to 40%

**41% to 60%.**

61% to 100%.

**Your answers to the above questionnaire indicated that you have a Low risk tolerance. However, based on the following analysis, you have chosen to change your risk tolerance to Moderate.**

| **Client Initials:** _____ | **Spouse Initials:** _____ | **Date:** _____ |
|---|---|---|

* Conventional definitions of risk involve statistical measures such as standard deviation, beta, correlation, etc. These indicators are traditionally used to measure the volatility (the ups and downs) of an investment or a combination of investments comprising a portfolio. Although these are important statistical tools, they may fail to properly represent the investor's probability of depletion and range of potential outcomes given individual investor cash flow behavior during various holding periods.

Having $1 or more remaining

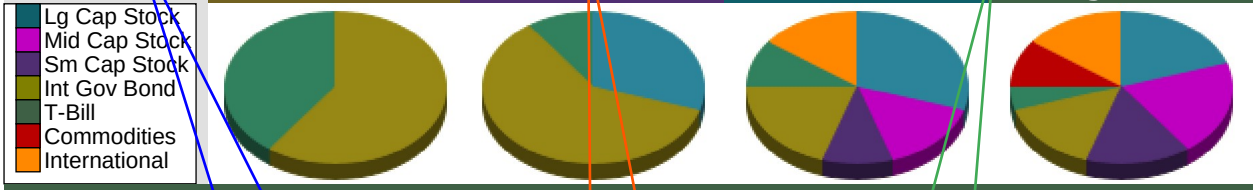
Having original principle plus all future deposits remaining (non-inflated)

Having original principle plus all future deposits remaining (inflation-adjusted)

# Investment Allocation Analysis - Goal Probabilities

**Minimum Goal End Val: $1.00** | **Medium Goal End Val: $948,960.15** | **Maximum Goal End Val: $3,201,410.17**

**PORTFOLIOS**

| | Minimal Risk | Low Risk | Moderate Risk | High Risk |
|---|---|---|---|---|
| |  | | | |
| **Cash flow: Buy & Hold Portfolio (No Withdrawals)** | | | | |
| **High End Value:** | $9,832,084.79 | $15,810,171.25 | $41,820,340.62 | $40,822,907.76 |
| **Low End Value:** | $1,957,438.12 | $4,970,043.12 | $11,745,677.77 | $13,236,522.42 |
| **Early Depletion Yr.** | 0 / 0 to 38 | 0 / 0 to 38 | 0 / 0 to 38 | 0 / 0 to 38 |
| **Prob Min % Goal:** | 100% | 100% | 100% | 100% |
| **Prob Med % Goal:** | 100% | 100% | 100% | 100% |
| **Prob Max % Goal:** | 45% | 100% | 100% | 100% |
| **Cash flow: $100,000.00 with a 3.50% per year increase.** | | | | |
| **High End Value:** | $0.00 | $0.00 | $7,998,456.81 | $11,635,414.86 |
| **Low End Value:** | $0.00 | $0.00 | $0.00 | $0.00 |
| **Early Depletion Yr.** | 20 / 1949 to 1987 | 22 / 1930 to 1968 | 22 / 1929 to 1967 | 23 / 1929 to 1967 |
| **Prob Min % Goal:** | 0% | 0% | 55% | 68% |
| **Prob Med % Goal:** | 0% | 0% | 48% | 65% |
| **Prob Max % Goal:** | 0% | 0% | 32% | 42% |
| **Cash flow:$100,000.00 with a 20.00% increase every 5 years.** | | | | |
| **High End Value:** | $0.00 | $0.00 | $9,653,836.46 | $12,760,373.06 |
| **Low End Value:** | $0.00 | $0.00 | $0.00 | $0.00 |
| **Early Depletion Yr.** | 20 / 1946 to 1984 | 22 / 1929 to 1967 | 23 / 1929 to 1967 | 24 / 1929 to 1967 |
| **Prob Min % Goal:** | 0% | 0% | 65% | 74% |
| **Prob Med % Goal:** | 0% | 0% | 58% | 71% |
| **Prob Max % Goal:** | 0% | 0% | 39% | 55% |
| **Cash flow: Yearly income of 5.00% of portfolio's year-end balance.** | | | | |
| **High End Value:** | $2,461,404.32 | $3,957,982.93 | $10,469,475.10 | $10,219,773.68 |
| **Low End Value:** | $490,033.06 | $1,244,220.92 | $2,940,461.01 | $3,313,685.16 |
| **Early Depletion Yr.** | 0 / 0 to 38 | 0 / 0 to 38 | 0 / 0 to 38 | 0 / 0 to 38 |
| **Prob Min % Goal:** | 100% | 100% | 100% | 100% |
| **Prob Med % Goal:** | 42% | 100% | 100% | 100% |
| **Prob Max % Goal:** | 0% | 19% | 94% | 100% |
| **Cash flow: Custom / Optimized Cash Flow** | | | | |
| **High End Value:** | $0.00 | $0.00 | $20,377,986.63 | $21,123,409.47 |
| **Low End Value:** | $0.00 | $0.00 | $0.00 | $0.00 |
| **Early Depletion Yr.** | 24 / 1944 to 1982 | 28 / 1929 to 1967 | 34 / 1929 to 1967 | 37 / 1929 to 1967 |
| **Prob Min % Goal:** | 0% | 0% | 87% | 94% |
| **Prob Med % Goal:** | 0% | 0% | 84% | 87% |
| **Prob Max % Goal:** | 0% | 0% | 77% | 84% |

Lg Cap Stock
Mid Cap Stock
Sm Cap Stock
Int Gov Bond
T-Bill
Commodities
International

Initial Risk Tolerance Level | Optimized/Custom Cash Flow & Risk Level

* Asset class allocations are based on yearly asset class index return data acquired from CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end. Portfolio allocations and cash flow scenarios provided are for illustrative purposes only and should not be construed as investment advice.

*** Asset allocation does not assure a profit or protect against loss in a declining market and investments are subject to market risk and may lose value.**

# Cash Flow Report

The following represents a cash flow based on a customized set of deposits and withdrawals. You and your financial professional have estimated this to be your expected future cash flow needs. Any change should be communicated immediately to your financial professional so that the effect of such change can be evaluated.

## Cash Flow Details

| Cl 1 | Cl 2 | Non-Inv Inc | Withdrawals | Deposits | Total Inc Need |
|---|---|---|---|---|---|
| 53 | 51 | $0.00 | $0.00 | (1+)$12,500.00 | $0.00 |
| 54 | 52 | $0.00 | $0.00 | $12,650.00 | $0.00 |
| 55 | 53 | $0.00 | $0.00 | $12,804.50 | $0.00 |
| 56 | 54 | $0.00 | $0.00 | $12,963.64 | $0.00 |
| 57 | 55 | $0.00 | $0.00 | $13,127.54 | $0.00 |
| 58 | 56 | $0.00 | $0.00 | $13,296.37 | $0.00 |
| 59 | 57 | $0.00 | $0.00 | $13,470.26 | $0.00 |
| 60 | 58 | $0.00 | $0.00 | $13,649.37 | $0.00 |
| 61 | 59 | $0.00 | $0.00 | $13,833.85 | $0.00 |
| 62 | 60 | $0.00 | $0.00 | $14,023.87 | $0.00 |
| 63 | 61 | $0.00 | $0.00 | $14,219.58 | $0.00 |
| 64 | 62 | $0.00 | $0.00 | $14,421.17 | $0.00 |
| 65 | 63 | 1*)$30,500.00 | $101,718.51 | (2+)$250,000.00 | $132,218.51 |
| 66 | 64 | $30,860.00 | $101,358.51 | $0.00 | $132,218.51 |
| 67 | 65 | (2*,$40,227.20 | (3+)$76,991.31 | $0.00 | (3+)$117,218.51 |
| 68 | 66 | $40,781.74 | $76,436.77 | $0.00 | $117,218.51 |
| 69 | 67 | $41,347.38 | $75,871.13 | $0.00 | $117,218.51 |
| 70 | 68 | $41,924.32 | $101,737.89 | $0.00 | $143,662.21 |
| 71 | 69 | $30,012.81 | $113,649.40 | $0.00 | $143,662.21 |
| 72 | 70 | $30,613.07 | $113,049.14 | $0.00 | $143,662.21 |
| 73 | 71 | $31,225.33 | $112,436.88 | $0.00 | $143,662.21 |
| 74 | 72 | $31,849.84 | $111,812.37 | $0.00 | $143,662.21 |
| 75 | 73 | $32,486.83 | $142,907.82 | $0.00 | $175,394.65 |
| 76 | 74 | $33,136.57 | $142,258.08 | $0.00 | $175,394.65 |
| 77 | 75 | $33,799.30 | $141,595.35 | $0.00 | $175,394.65 |
| 78 | 76 | $34,475.29 | $140,919.36 | $0.00 | $175,394.65 |
| 79 | 77 | $35,164.80 | $140,229.85 | $0.00 | $175,394.65 |
| 80 | 78 | $35,868.09 | $177,605.49 | $0.00 | $213,473.58 |
| 81 | 79 | $36,585.45 | $176,888.13 | $0.00 | $213,473.58 |
| 82 | 80 | $37,317.17 | $176,156.41 | $0.00 | $213,473.58 |
| 83 | 81 | $38,063.50 | $175,410.08 | $0.00 | $213,473.58 |
| 84 | 82 | $38,824.77 | $174,648.81 | $0.00 | $213,473.58 |
| 85 | 83 | $39,601.27 | $219,567.03 | $0.00 | $259,168.30 |
| 86 | 84 | $13,111.30 | $246,057.00 | $0.00 | $259,168.30 |
| 87 | 85 | $13,373.53 | $245,794.77 | $0.00 | $259,168.30 |
| 88 | 86 | (3*,$18,000.00 | $241,168.30 | $0.00 | $259,168.30 |
| 89 | 87 | $18,000.00 | $241,168.30 | $0.00 | $259,168.30 |

**No cash flow strategy can assure profits or protect against loss. Although, changes in cash flow can have a significant impact on your retirement goals.**

This report is not valid unless accompanied by an attached explanation of annotated income sources and deposits.

This report is not valid unless accompanied by the Disclosure & Consent, Data Sources, and Glossary Terms & Disclosure pages.

| | | | | | |
|---|---|---|---|---|---|
| 90 | 88 | $18,000.00 | $296,001.96 | $0.00 | $314,001.96 |
| 91 | 89 | $18,000.00 | $296,001.96 | $0.00 | $314,001.96 |

**No cash flow strategy can assure profits or protect against loss. Although, changes in cash flow can have a significant impact on your retirement goals.**

This report is not valid unless accompanied by an attached explanation of annotated income sources and deposits.

This report is not valid unless accompanied by the Disclosure & Consent, Data Sources, and Glossary Terms & Disclosure pages.

# Cash Flow Report

## Explanation of Deposits, Withdrawals and Non-Investment Income Sources

The following footnotes apply to the foregoing cash flow projection. The footnotes contained within the projection indicate the first year of projected item and the following explanation defines those items in more detail.

## * Non-Investment Income Sources

(1*) Social Security-John in the amount of $18,000.00 beginning at age 65
(2*) Social Security-Mary in the amount of $9,000.00 beginning at age 65
(3*) Surv SS in the amount of $18,000.00 beginning at age 86

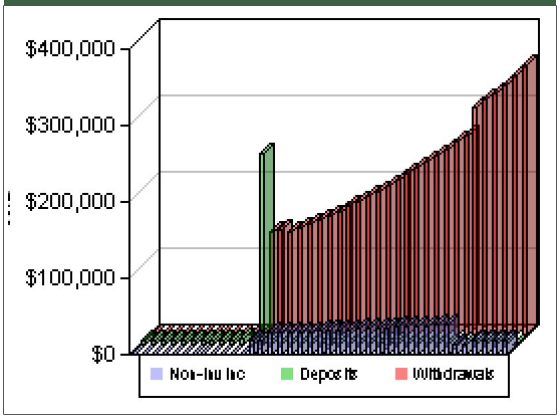
## + Additional Portfolio Deposits & Withdrawals

(1+) John- 401k Deposit in the amount of $5,000.00 beginning at age 53
(2+) Lump Sum Pension Rollover in the amount of $250,000.00 beginning at age 65
(3+) Reduce income need when mortgage is paid off

# Cash Flow Analysis

The following recommendations assume an investment time horizon of 39 years. All are cash flow options that have been analyzed historically showing the historical probability of success for each of the indicated risk levels.

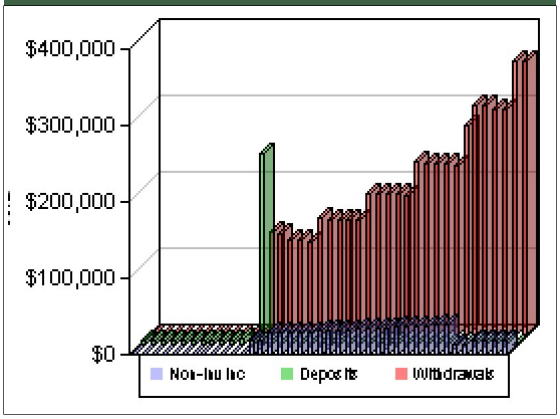
**$100,000.00 with a 3.50% annual increase**




| Historical Probability of Success | | | |
|---|---|---|---|
| No Risk | Low Risk | Mod Risk | High Risk |
| 0% | 0% | 55% | 68% |

This is the most commonly used method of illustrating the effects of income withdrawal and the impact of inflation. This is sometimes misleading as it assumes a constant increase in spending need which may vary significantly in real-life scenarios.

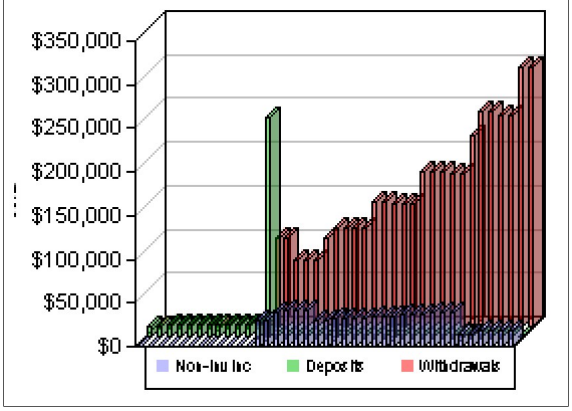
**$100,000.00 with a 20.00% increase every 5 yrs**




| Historical Probability of Success | | | |
|---|---|---|---|
| No Risk | Low Risk | Mod Risk | High Risk |
| 0% | 0% | 73% | 74% |

This method considers the future impact of inflation, but assumes the retiree can live on a fixed level of income for a certain fixed period. Increases are projected at intervals thereby creating a stepped level income flow throughout retirement.

**Custom/Optimized Cash Flow**




| Historical Probability of Success | | | |
|---|---|---|---|
| No Risk | Low Risk | Mod Risk | High Risk |
| 0% | 0% | 87% | 94% |

This method is based upon actual anticipated inflows and outflows which the retiree has a reasonable assurance of occurring. Here, the financial professional can custom design a schedule which increases your probability of success.

**5.00% of annual portfolio balance.**

**Preview Not Available!**

Unable to graph uneven cash flow stream as a result of constant withdrawal percent method.

| Historical Probability of Success | | | |
|---|---|---|---|
| No Risk | Low Risk | Mod Risk | High Risk |
| 100% | 100% | 100% | 100% |

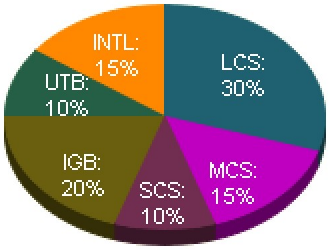
This method, although it prevents capital depletion, is considered unrealistic because of the potential fluctuations in annual income. This method should only be considered by individuals capable of living within the uncertain income ranges.

*** Probability of Success = Historical End Value equal to or greater than $1.00**

## Recommended Allocation & Withdrawal Strategy

The following recommendations assume an investment time horizon of 39 years.

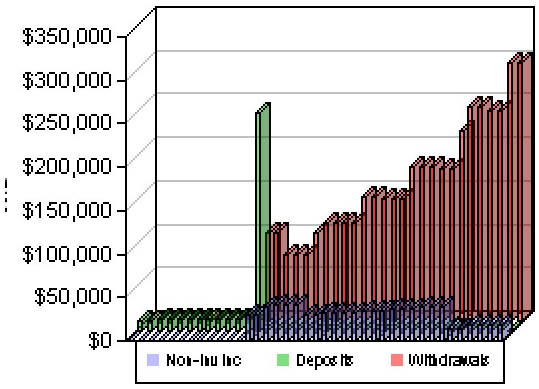
### Chosen Portfolio Allocation




**Moderate Risk Portfolio**

You have chosen the portfolio illustrated above. It is important to select individual investments within each class which historically have conformed with the appropriate asset class style. Inadvertent style-drift can cause unexpected variances in asset class performance which can alter the future probabilities of success. No guarantee can be construed as to future performance or asset class conformity.

### Chosen Deposit/Withdrawal Strategy



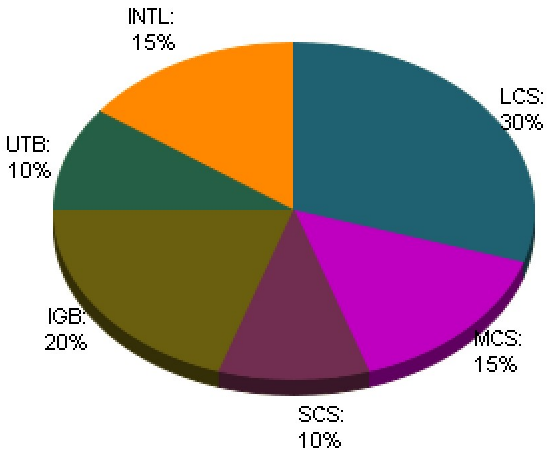

**Custom/Optimized Cash Flows**

You have chosen a deposit/withdrawal strategy that represents your future financial goals and time horizon. Any change to this schedule can result in either a positive or negative change to future results, and should be reviewed by your financial advisor to analyze the consequences of such change.

# Investment Strategy

## Chosen Portfolio

**Based on the analysis that has been performed, you have chosen a portfolio allocation similar to the following:**




* Asset classes used here are not meant to represent actual investments. You should consult your financial professional and read all prospectuses prior to choosing any individual investment.

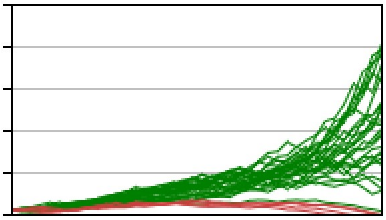
## Historical Portfolio Analysis:

**The following analysis represents historical outcomes for the chosen portfolio allocation before any strategy is applied:**

| | |
|---|---|
| **Highest End Value:** | **$20,377,986.63** |
| **Lowest End Value:** | **$0.00** |
| **Median + End Value:** | **$10,699,207.54** |
| **Hist Prob of Success:** | **87%** |

**Range of Outcome**

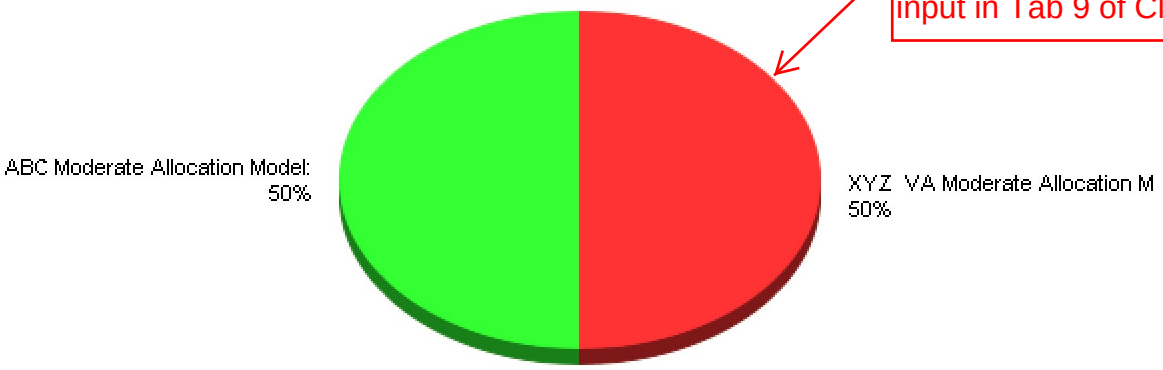
**Each of the lines on the chart represents one 39 year analysis period. The red lines were periods where the portfolio depleted before the end of the analysis period.**



## Recommended Strategy

**Although we have recommended the above portfolio as a long term allocation objective, we recommend utilizing the following strategies which, due to short and intermediate term fundamental and technical economic conditions can warrant variances from the above recommended long term allocation periodically. Additional asset classes may be added or substituted for further diversification or specific investment objectives as recommended by your financial professional.**

Actual portfolio allocation is input in Tab 9 of Client Profile




*** It is important that you receive and review each prospectus and all descriptions of methodology for each strategy to be utilized. Please note applicable fees and charges. No strategy can guarantee against investment losses and may alter future outcome either positively or negatively. Past performance is no guarantee of future results**

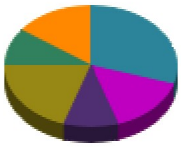
## Plan Summary

This summary contains a synopsis of the information that you and your advisor have analyzed historically using asset classes within the risk level and cash flow scenario that you have chosen. They represent historical outcomes that may not repeat.

### Plan Details

- Chosen Risk Level = Moderate
- Cashflow Strategy: What If

| Asset Class | Initial | Optimized | Chosen |
|---|---|---|---|
| Large Cap. Stocks | 30.00% | 30.00% | 30.00% |
| Mid Cap. Stocks | 0.00% | 15.00% | 15.00% |
| Small Company Stocks | 0.00% | 10.00% | 10.00% |
| Intermediate Gov't Bonds | 60.00% | 20.00% | 20.00% |
| U.S. Treasury Bill | 10.00% | 10.00% | 10.00% |
| Commodities | 0.00% | 0.00% | 0.00% |
| International | 0.00% | 15.00% | 15.00% |



- Historical probability of success:

  87% Min Goal % (Capital Depletion Goal) = End Bal. = $1.00 or greater

  84% Med Goal % (Capital Retention Goal) = End Bal. = $948,960.15 or greater

  77% Max Goal % (Capital Inflation Goal) = End Bal. = $3,201,410.17 or greater

- Beginning Gross Annual Income Need = $132,218.51
- End Balance Goal Non-Inflated = $750,000.00 = 83.87% probability / End Balance Goal Inflated = $2,869,028.78 = 83.87% probability
- Historical Range of Returns:

  The following rates of return indicate the internal rate of return for all 39 year rolling periods from 1926 using the chosen cash flow scenario and chosen portfolio allocations.

  Low: 5.87% High: 10.83%

  Avg: 9.16% Median: 9.53%

  Client/Spouse Life Expectancy: 85 / 90

### Investment Policy

☐ (See AssetMark ADV and porfolio Description for details).

### Assumptions for Success

☐ DYNAMIC INPUT - OPTIONAL

Not Required, but can be input in Tabs 6 & 8 of Client Profile

# Client Action List

## Cash-Flow Management

**Reduce Income**

lower income to increase probability

## Estate Planning

**Review wills**

more

## Investments

**Transfer assets to AssetMark**

-Moderate growth portfolio

## Risk Management

**Consider Moving to Moderate Risk Level**

Increase equity allocation to increase probability

**Consider LTC insurance**

- Submit application

Action Items are input in Tab 6 of Client Profile

client action items should be bullet-point concise statements instead of prose style paragraphs.

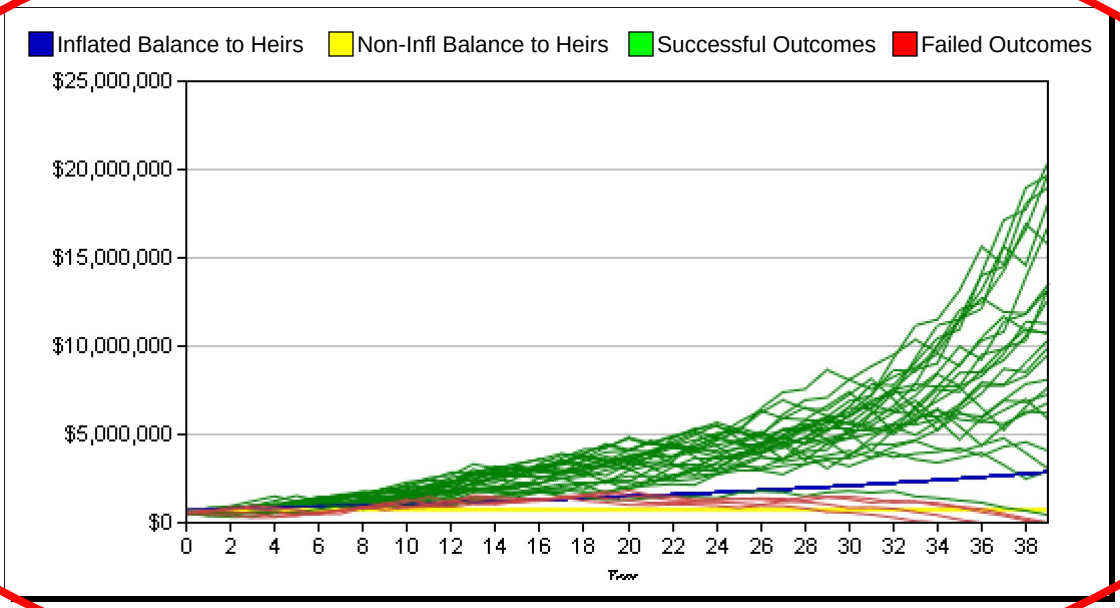
This original plan graph will be used for all future annual reviews indicating the clients progress relative to the original plan range of historical outcomes.

## Range of Historical Outcomes

**Moderate Risk** **What if**

The following graph represents the full range of historical outcomes for the portfolio option and withdrawal strategy that you have chosen.

Each line on the graph represents a rolling analysis period. Periods where the portfolio balance was depleted before the end of the period are red and those that were successful are green.




**Graph represents historical range of outcomes; therefore, your outcomes may vary with each use and over time.**

*** All deposits and withdrawals are assumed to be made at the beginning of each 12 month period. Past Performance does not guarantee future results.**

*** Historical Asset Class performance data source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end.**

# Lump Sum Pension Analysis

## Pension Information

| | |
|---|---|
| **Lump Sum Pension Amount:** | $250,000.00 |
| **Life only:** | $1,700.00 |
| **50% Survivor:** | $1,500.00 |
| **75% Survivor:** | $1,200.00 |
| **Client 1 Life Expectancy:** | 85 |
| **Client 2 Life Expectancy:** | 90 |

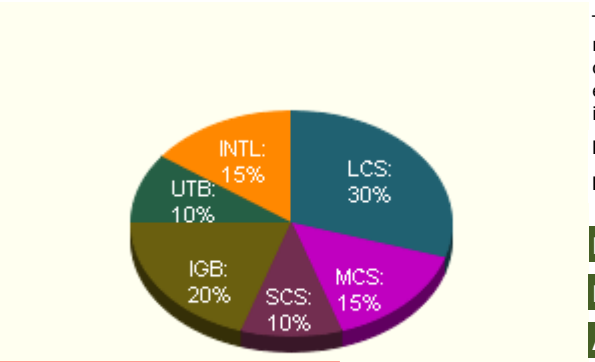
## Pension Rate of Return Calculations

The rate of return shown below for each pension option illustrates the compounded annual rate of return necessary to duplicate the above pension payment for each option through life expectancy.

| | |
|---|---|
| **Life only:** | 5.88% |
| **50% Survivor:** | 5.43% |
| **75% Survivor:** | 3.42% |

These are actual internal ROR required to duplicate individual pension options to life expectancies.

## Lump Sum Asset Allocation Analysis




The chart below provides historical rolling period internal rates of return per the chosen portfolio. The percentage of success in the chart represents the historical probability of equaling or exceeding the pension rate of returns from above through indicated life expectancies.

| Life Expt | 20 years | 27 years | 27 years |
|---|---|---|---|
| **Pension Option** | **Life** | **50%** | **75%** |
| **High%:** | 16.12% | 13.79% | 13.96% |
| **Low%:** | -7.01% | -1.07% | -4.36% |
| **Avg%:** | 9.19% | 9.47% | 8.99% |
| **Median%** | 9.78% | 10.21% | 9.71% |
| **Success:** | 86.15% | 87.50% | 91.07% |

Historical probabilities of achieving individual pension payment options assuming lump sum is originally invested in indicated portfolio.

results.

## es Between Lump-Sum or Pension Election

| Lump-Sum Distribution | Pension Options |
|---|---|
| **Advantages:**<br>■ Control over investment decision.<br>■ Potential balance to heirs.<br>■ Potential to increase annual income. | **Advantages:**<br>■ Retirement income guarantee.<br>■ Inability to overspend.<br>■ No investment risk. |
| **Disadvantages:**<br>■ Assumption of investment risk.<br>■ Accessibility to overspend.<br>■ No retirement income guarantee. | **Disadvantages:**<br>■ No inflation adjustment on annual income.<br>■ Potential income reduction to spouse beneficiary.<br>■ No balance to heirs. |

## Client Election

Based upon the foregoing analysis, I elect to accept my pension option in the following form:

☐ **Lump-Sum** ☐ **Pension** **Client Signature:** _____ **Date** _____

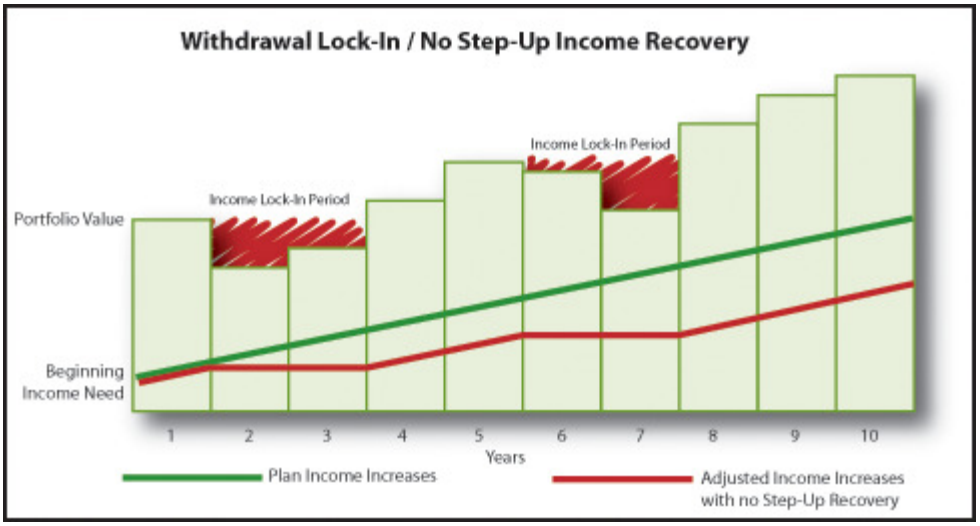
* Pension payments and future guarantees are regulated by the Employee Retirement Income Security Act of 1974 (ERISA) and guaranteed by the Pension Benefit Guarantee Corp (PBGC) up to a maximum benefit, which is currently $4,312.50 per month or $51,750 per year. The guarantee is lower for those who retire early or when there is a benefit for a survivor. The guarantee is increased for those who retire after age 65. Lump-Sum rollovers or distributions of pension amounts are neither guaranteed or subject to ERISA rules and, therefore, the individual assumes future investment risk and potential loss of a guaranteed retirement income. Results may vary with each use and over time. Loss of principal could occur.

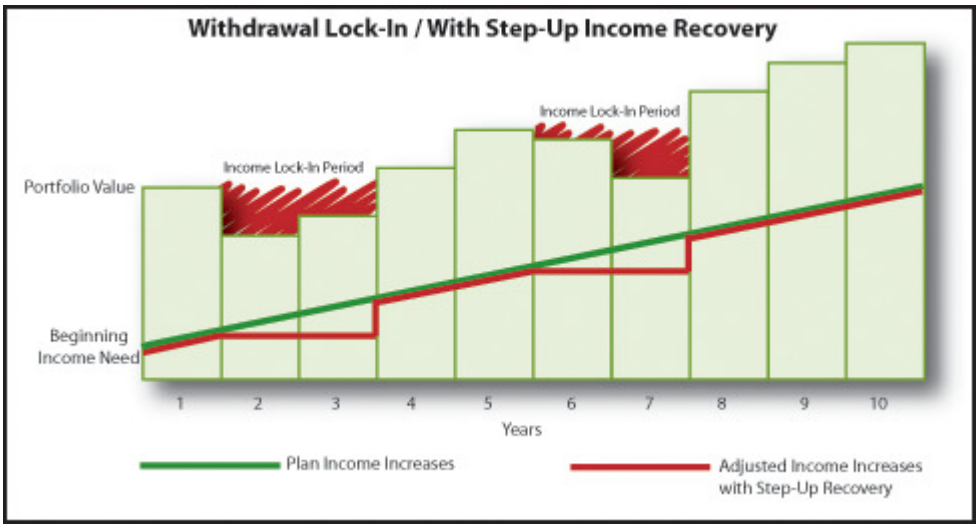
## Withdrawal Strategy Analysis

No investment or cash flow strategy is complete unless a prudent withdrawal strategy is planned for during sustained periods of negative portfolio performance. Although this overall plan has considered historical sequence of returns and their impact on your cashflow goals, it is advisable to plan for adjustments in your cash flow which could positively impact your probability of success.

The following graphs illustrate two such withdrawal strategies: 1) Withdrawal Lock-In /No Step-Up Income Recovery and 2) Withdrawal Lock-In / With Step-Up Income Recovery. Both allow for leveling or "Lock-In" of portfolio withdrawals during sustained periods of negative performance; the former returning locked-in withdrawals to planned "rate" of increase after portfolio recovery; the latter method allowing for the full recovery or "step-up" to the actual planned withdrawal amounts after portfolio recovery.

The attached historical rolling period analysis illustrated the effects of each method compared to the original asset allocation/cashflow plan.



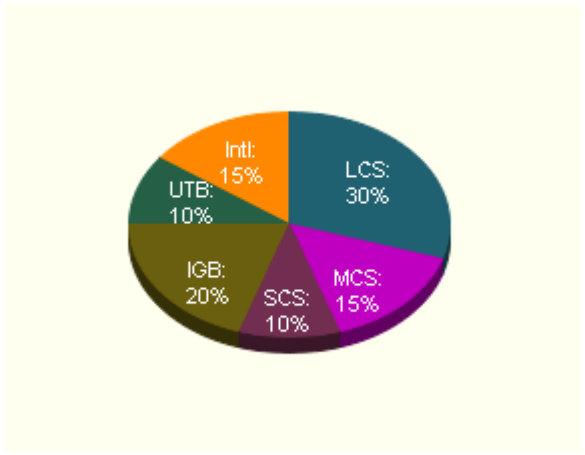




**No withdrawal method can insure against loss. Past performance does not reflect nor guarantee future results. See disclosure, indices, methodology for further details.**

## Withdrawal Strategy Analysis

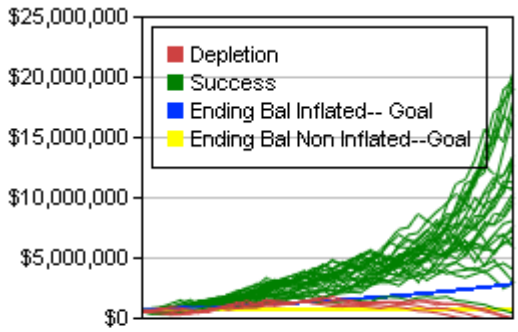
### Chosen Cash Flow: What-If

**Portfolio Percents**



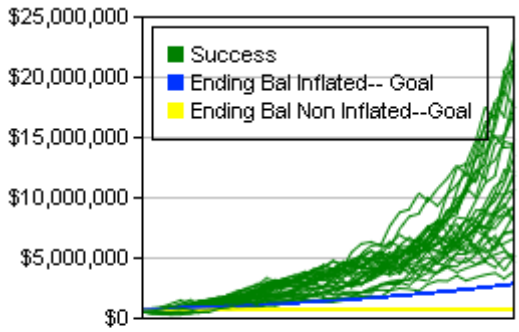

Delaying withdrawal increases can have a material impact on end values, depletion, and historical probablities. The outcomes table and chart below illustrate the effect of changing end values, depletion years and historical probabliites.

**Continued Increasing Withdrawals**




| | |
|---|---|
| **High End Value:** | $20,377,986.63 |
| **Median End Value:** | $10,699,207.54 |
| **Low End Value:** | $0.00 |
| **Early Depletion Yr.** | 34 / 1929 to 1967 |
| **Hist Prob %:** | 87% |

**Withdrawal Recovery Through Skipped**




| | |
|---|---|
| **High End Value:** | $23,115,807.79 |
| **Median End Value:** | $11,759,102.94 |
| **Low End Value:** | $3,880,706.63 |
| **Early Depletion Yr.** | n/a |
| **Hist Prob %:** | 100% |

## Indicators vs. Valuations

(Overview)

The following analysis provides a comparison of various indicators [1]; dividend yields, long term interest rates, price earnings ratios, and ten-year trailing price earning ratios as compared to rolling period end values.

As demonstrated in the graphs below, by comparing the graphs vertically (blue vertical lines) one can evaluate the rolling period historical end values in the top graph with the indicators (as described below*) in the lower graph which tend to have a very high correlation between these indicators and higher rolling period historical end values.

| | | | |
|---|---|---|---|
| *Dividend yields | - High | } | higher end values |
| Long term interest rates | - Low | | |
| PE Ratio | - Low | | |
| PE Ten Year Trailing | - Low | | |

In contrast using the (red vertical lines), one can evaluate the rolling period historical end values in the top graph and the correlation with the indicators (as described below**) in the lower graph which tend to have a very high correlation between indicators and lower rolling period historical end values.

| | | | |
|---|---|---|---|
| *Dividend yields | - Low | } | lower end values |
| Long term interest rates | - High | | |
| PE Ratio | - High | | |
| PE Ten Year Trailing | - High | | |

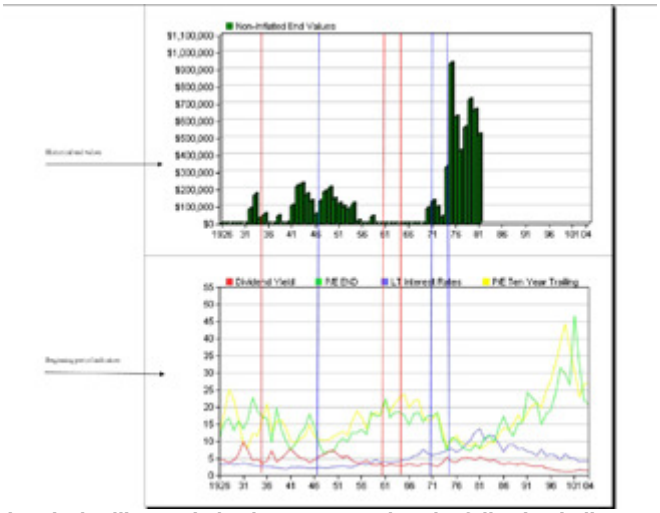
When comparing rolling periods of less than 10 years the implied correlations may not be as conclusive as longer term rolling periods.

**Note: Historical analysis does not indicate that particular events or results will occur in the future, and does not predict future outcomes or results.**

*Illustration:*

Moderate Risk Portfolio:
60% Large Cap Stock; 40% IT-Gov't Bonds

Assumptions:
$100,000 portfolio balance
$6,000 initial annual withdrawal with 3.5% withdrawal increase per year
25 year historical rolling periods




**This graph demonstrates historical rolling period values compared to the following indicators dividend yields, long term interest rates and year end price to earnings ratio and ten-year trailing price to earning values. (see glossary, indices & methodology for further details)**

[1] *Market Volatility,* Cambridge, Mass.: MIT Press, 1989,

***INDICATORS*** [2]

**Dividend Yields:**
Dividend yield is a way to measure how much cash flow you are getting for each dollar invested in an equity position. Investors who require a minimum stream of cash flow from their investment portfolio can secure this cash flow by investing in stocks paying relatively high, stable, dividend yields.

For example, if two companies both pay annual dividends of $1 per share, but ABC company's stock is trading at $20 while XYZ company's stock is trading at $40, then ABC has a dividend yield of 5% while XYZ is only yielding 2.5%. Thus, assuming all other factors are equivalent, an investor looking to supplement his/her income would likely prefer ABC's stock over that of XYZ.

**Long term interest rates:**

The Treasury Yield Curve

In the United States, the Treasury yield curve (or term structure) is the first mover of all domestic interest rates and an influential factor in setting global rates. Interest rates on all other domestic bond categories rise and fall with Treasuries, which are the debt securities issued by the U.S. government. To attract investors, any bond or debt security that contains greater risk than that of a similar Treasury bond must offer a higher yield. For example, the 30-year mortgage rate historically runs 1% to 2% above the yield on 30-year Treasury bonds.

Long Rates Tend to Follow Short Rates, Somewhat

Technically, the Treasury yield curve can change in various ways: it can move up or down (a parallel shift), become flatter or steeper (a shift in slope), or become more or less humped in the middle (a change in curvature).

Let's compare the 10-year Treasury yield to the one-year Treasury yield:

First, the two rates move up and down somewhat together. Therefore, parallel shifts are common. Second, although long rates directionally follow short rates, they tend to lag in magnitude. Specifically, when short rates rise, the spread between 10-year and one-year yields tends to narrow, and when short rates fall, the spread widens. In particular, the increase in rates from 1977 to 1981 was accompanied by a flattening and inversion of the curve (negative spread); the drop in rates from 1990 to 1993 created a steeper curve in the spread, and the marked drop in rates from Mar 2000 to the end of 2003 produced a very steep curve by historical standards.

**Price Earnings Ratio (P/E)**
In general, a high P/E suggests that investors are expecting higher earnings growth in the future compared to companies with a lower P/E. However, the P/E ratio doesn't tell us the whole story by itself. It's usually more useful to compare the P/E ratios of one company to other companies in the same industry, to the market in general or against the company's own historical P/E. It would not be useful for investors using the P/E ratio as a basis for their investment to compare the P/E of a technology company (high P/E) to a utility company (low P/E) as each industry has much different growth prospects.

The P/E is sometimes referred to as the "multiple", because it shows how much investors are willing to pay per dollar of earnings. If a company were currently trading at a multiple (P/E) of 20, the interpretation is that an investor is willing to pay $20 for $1 of current earnings.

The sum of a company's price-to-earnings, calculated by taking the current stock price and dividing it by the trailing earnings per share for the past 10 years. This measure differs from forward P/E, which uses earnings estimates.

The trailing P/E ratio is calculated as follows:

$$\text{Trailing P/E Ratio} = \frac{\text{Current Share Price}}{\text{Trailing Ten Years' Earnings Per Share}}$$

This is a commonly used P/E measure because it is based on actual earnings and, therefore, is the most accurate. However, stock prices are constantly moving while earnings remain fixed. As a result, forward P/E can sometimes be more relevant to investors when evaluating a company.

It is important that investors note an important problem that arises with the P/E measure, and to avoid basing a decision on this measure alone. The denominator (earnings) is based on an accounting measure of earnings that is susceptible to forms of manipulation, making the quality of the P/E only as good as the quality of the underlying earnings number.

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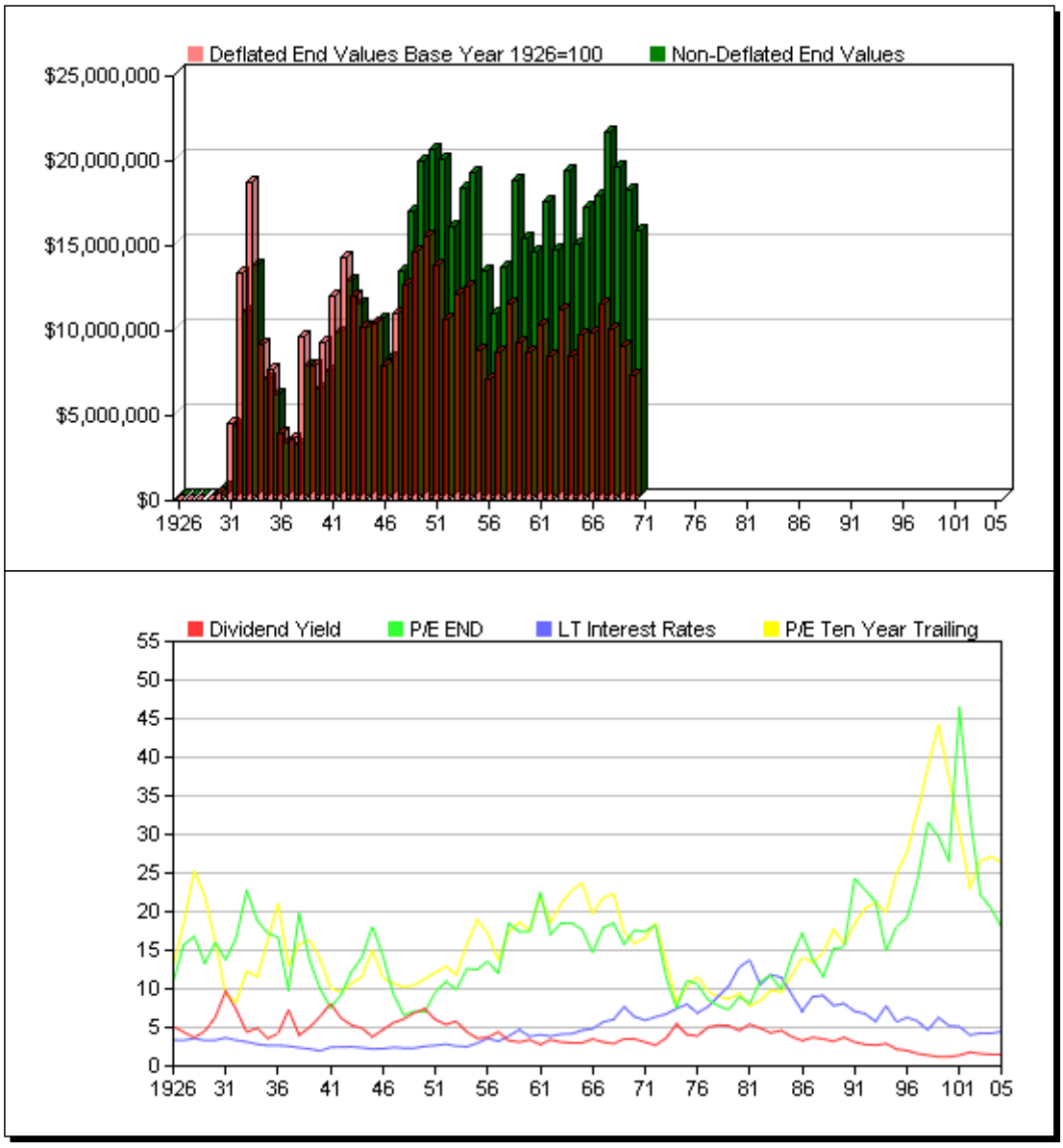
[2] Source: http://www.investopedia.com/dictionary/

**Moderate Risk Portfolio** **What-If**




**This graph demonstrates historical rolling period values compared to the following indicators dividend yields, long term interest rates and year end price to earnings ratio and ten-year trailing price to earning values. (see glossary, indices & methodology for further details)**

## Methodology

Central to the workings of these analyses is the concept of rolling periods. Rolling periods are sequential time intervals. The analysis period most often selected is the longest life expectancy or individual goal term. If a 25 year analysis period was chosen, the first 25 year period would be from 1926 to 1951. For the next period, the first and last year of the periods would be advanced by one year (i.e. 1927 through 1952). This process of generating rolling periods would be continued until all possible analysis periods were used through the most recent full calendar year. The number of rolling periods equals the current year less the number of years in the analysis period, then by subtracting 1926 from the previous sum plus one results in the number of rolling periods. For example, 2004 minus an analysis period of 25 years, would be determined as follows: 2004 minus 25yrs = 1979. 1979+1-1926 results in 54 rolling periods being analyzed. These rolling periods are used in determining the sequence of returns used to determine historical asset class outcomes.

All analyses within Case Management System (CMS) are limited to the available data for the chosen asset classes; generally data is available from 1926 to last completed calendar year. Asset class return information is available back to 1926 for the asset class used. (see definition of Asset Classes used in Data Sources above). The rates of return are computed for each year as a function of the portfolio percent weights times the asset classes return for that particular year. Deposits and withdrawals are applied to the beginning annual balances to compute a final portfolio balance for each year.

Probabilities are calculated by the number of times a threshold amount is equaled or surpassed. The software calculation results reflect the historical performance of the chosen asset classes combined with cash flow data. Probabilities are determined by this historic performance for the number of periods that a specific goal was met divided by the total number of periods analyzed.

The results are influenced by beginning portfolio balance, chosen analysis period, cash flow strategy, and asset class allocations. The results further depend on the information supplied, income expectations, risk tolerance, when deposits and withdrawals are taken, analysis period and asset class choice. Refinements are made base on responses given for the risk questions under "Tools" tab within the CMS.

Risk is divided into two categories, namely volatility and capital depletion risk. Generally, lower volatility increases the probability of capital depletion but may extend time period for early depletion. The user of CMS must properly understand the two risk trade-off and should carefully balance these risks with each individual case considering beginning capital balance, future deposits and withdrawals, investment time horizon, and asset class allocation. Furthermore, CMS has the ability to optimize cash flow projections and asset class allocation percentages using the same methodology as above.

Generally CMS measures outcome goals historically by probability of success (i.e. having at least $1 remaining at life expectancy); median goal probability (i.e. having original capital balance plus all future deposits at life expectancy) ; and high end value probability (i.e. having original capital balance plus all future deposits plus estimated inflation increases at life expectancy) .

The future sequence of return patterns may or may not repeat for chosen asset class combinations. Asset class returns may or may not be influenced by the same factors or to the extent such asset classes were previously influenced. External events may or may not affect markets and asset classes as in the past.

**Use of the CMS does not assure profits and a loss of value or principal may occur. Results from the use of the CMS may vary with each use and over time.**

## Glossary Terms & Disclosure

| | |
|---|---|
| **Average Positive End Value** | Arithmetic average positive end value for all periods analyzed |
| **Deposits and Withdrawals** | Sources of additional capital contributions and spending needs |
| **High End Value** | Highest historical end value calculated for all periods analyzed |
| **Initial Risk Tolerance** | The risk level determined by client answers to risk tolerance questionnaire used to illustrate initial historical range of outcomes for applicable asset allocation |
| **Low End Value** | Lowest historical end value calculated for all periods analyzed |
| **Median End Value** | Value where half of the positive end values are greater than this amount and half are lower than this amount |
| **Non-Investment Income Sources** | Sources of income not derived from investment balance such as social security, pension, part-time income etc |
| **Optimized Risk Tolerance** | Computer simulated goal & asset allocation analysis comparing initial risk tolerance with desired range of end value goals to determine if an adjusted risk tolerance is necessary to historically achieve the client's goal expectations |
| **Optimized Portfolio** | The optimized portfolio represents a mix of asset classes that have been analyzed using rolling period analysis and have historically met or exceeded the percentage probabilities of achieving a minimum, medium and maximum investment goal |
| **Probability of Failure** | The historical percentage chance of depleting principal balance prior to the end of analysis periods |
| **Probability of Maximum Goal** | The historical percentage chance of increasing your original principal balance plus deposits by the assumed rate of inflation at the end of analysis periods |
| **Probability of Medium Goal** | The historical percentage chance of at least maintaining original principal balance plus deposits at the end of analysis periods |
| **Probability of Minimum Goal** | The historical percentage chance of at least retaining one dollar of principal balance at end of analysis periods |
| **Probability of Success** | The historical percentage chance of not depleting principal balance prior to the end of analysis periods. Historical probability of success does not guarantee future investment success because historical probabilities are calculated using historical events and market conditions that occurred in the past but may not occur in the future. This is significant in that it only illustrates how market conditions have impacted investment performance in the past and does not indicate that these probabilities provide sufficient evidence to make future investment decisions. Loss of principal could occur. Resulting historical probabilities of success such as 100 % do not imply or guarantee absolute future success. |
| **Range of Outcomes** | All possible individual historical period outcomes resulting from original investment balance, all future deposits, non-investment income sources, withdrawals, and asset allocation per chosen analysis period illustrating the probability of success and failure |
| **Rolling Period Analysis** | The chosen period in years necessary to represent the client's goal term (i.e., life expectancy, number of years to retirement, number of years to goal requirement ) that is simulated by evaluating each successive historical goal term period since 1926 to current date |
| **Surplus Income** | Excess non-investment income not currently needed which is added to investment balance when received |

## Data Sources and Methodology

**Market Capitalization:**

First, we need to define "cap," which refers to market capitalization and is calculated by multiplying the price of a stock by the number of shares outstanding. Generally speaking, this represents the market's estimate of the "value" of the company; however, it should be noted that while this is the common conception of market capitalization, to calculate the total market value of a company, you actually need to add the market value of any of the company's publicly traded bonds. The definitions of big and small cap differ slightly between the brokerage houses and have changed over time. The differences between the brokerage definitions are relatively superficial and only matter for the companies that lie on the edges. The classification is important for borderline companies because mutual funds use it to determine which stocks to buy.

**Large-Cap Stocks (LCS)**

NYSE Large Cap Based Portfolios 1-2 Index performance data. Source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end. This asset class seeks long term capital preservation by investing in stocks of large size companies, as determined by market capitalization. Typically, this asset classification is generally defined to include the top 70% of U.S. stocks in terms of market capitalization. Large Cap stocks generally include some of the biggest and most established companies in America. One of the biggest advantages of investing in large-cap stocks is the amount of research by the market analyst which concentrates on the large-cap market. Since a larger cap stock often has more money available to it and its earnings are generally more stable, it can present less risk than a Mid or Small Cap stock. Although, large in of itself does not mean most profitable, highest rate of return or risk free. Keep in mind that classifications such as "large cap", "mid cap", or "small cap" are only approximations that change over time. Also, the exact definition can vary between brokerage houses. The stocks involve investment risks which may include the loss of principal invested.

**Mid-Cap Stocks (MCS)**

AMEX Mid-Cap based portfolios 3-5 Index performance data. Source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end. This asset class seeks long term capital appreciation by investing in stocks of medium size companies, as determined by market capitalization. Typically, capitalization between $1 billion and $5 billion are considered medium capitalization. Mid Caps are all the stocks too large and established to be Small Caps, but not large enough or established long enough to be Large Caps. Keep in mind that classifications such as "large cap", "mid cap", or "small cap" are only approximations that change over time. Also, the exact definition can vary between brokerage houses. The stocks involve investment risks which may include the loss of principal invested.

**Small-Cap Stocks (SCS)**

NASDQ Small Cap based portfolios 6-8 Index performance data. Source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end. Stocks of small or emerging companies may have less liquidity than those of larger established companies and may be subject to greater price volatility and risk than the overall stock market. This asset class seeks maximum capital appreciation by investing primarily in stocks of domestic small companies, as determined by market capitalization. Typically, this asset classification is generally defined to include stocks with a capitalization under $1 billion are classified as small capitalization stocks. Small Cap stocks tend to be newer companies. Quite often Small Caps are young companies in newer markets and industries. One of the biggest advantages of investing in small-cap stocks is the opportunity to achieve higher returns than institutional investors. Investing in these companies generally incurs more risk than investing in a large or mid cap stock. Keep in mind that classifications such as "large cap", "mid cap", or "small cap" are only approximations that change over time. Also, the exact definition can vary between brokerage houses. The stocks involve investment risks which may include the loss of principal invested.

**Intermediate Government Bonds (IGB)**

Index of Intermediate Maturity Government Bonds (7 years) performance data. Source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end. While the asset class invests primarily in securities of the U.S. government and its agencies, the market value is not guaranteed by these entities. This investment category contains a significant percentage of securities issued or guaranteed by the Government, its agencies or instrumentalities and generally have maturities under 10 years. The securities involve investment risks which may include the loss of principal invested.

**United States T-Bills (UTB)**

Index of 90 Day Maturity United States Treasury Bill performance data. Source: CRSP, Center for Research in Security Prices. Graduate School of Business, The University of Chicago (2003). Used with permission. All rights reserved. www.crsp.uchicago.edu. Data provided for monthly, quarterly and annual periods beginning 1926 through current month end. 90-Day Treasury Bills based upon the average monthly yield of 90-day Treasury Bills. Treasury Bills are secured by the full faith and credit of the U.S. Government and offer fixed rates of return.

**Commodities (COM) :**

This index was first calculated in September 1956 by CRB because of dissatisfaction with the BLS index whose composition had gone unchanged for several decades. The BLS index was discontinued in 1981 and has been largely replaced by the CRB index. To give a more complete index, the BLS data have been appended onto the CRB index on a monthly basis for the period August 1918 through August 1956. Beginning in September 1956, the actual CRB data are used. The CRB index was revised in December 1995 to reduce the influence of grains. Soybean meal, soybean oil, lumber and pork bellies were removed from the index, and natural gas replaced unleaded gasoline leaving the index with 17 components. This was the ninth revision since its inception in 1956. The current index includes energy 18% (crude oil, heating oil, natural gas), grains and oilseed 18% (corn, soybeans, wheat), industrials 11% (copper, cotton), livestock 11% (live cattle, live hogs), precious metals 18% (gold, platinum, silver), softs 24% (cocoa, coffee, orange juice, sugar). As early as January 1934, at the request of the U.S. Department of the Treasury, the Bureau of Labor Statistics began the computation of a daily commodity price index, using quotations for sensitive commodities. It was released first to the general public in January 1940. In 1952, in connection with the revision of all its major price index series, the Bureau issued a new Daily Index of Spot Market Prices. The new index was not a continuation of the old series, but was based on a new sample of 22 commodities and was calculated on a 1947-49 base; in contrast, the old index was based on 28 commodities and was calculated with August 1939 as base. In January 1962, the 22-commodity index was recalculated on a 1957-59 = 100 base to correspond to the base period adopted for other Federal Government general purpose indices. In January 1971, the index was rebased again in accordance with government-wide practice, this time to a 1967 = 100 base. In 1969, computation of the index on a daily basis was discontinued. The index was then prepared for Tuesday of each week until May 1981 when Commodity Research Bureau (CRB) began calculating the index on a daily basis. The 22 commodities are combined into an "All Commodities" grouping, with two major subdivisions: Raw Industrials, and Foodstuffs. Raw Industrials include burlap, copper scrap, cotton, hides, lead scrap, print cloth, rosin, rubber, steel scrap, tallow, tin, wool tops, and zinc. Foodstuffs include butter, cocoa beans, corn, cottonseed oil, hogs, lard, steers, sugar, and wheat. The items upon which the index is based are classified further into four smaller groups: Metals, Textiles and Fibers, Livestock and Products, and Fats and Oils. However, some of the 22 commodities do not fall into one of these four groupings. For example, sugar is not included in any special group. Furthermore, the groupings are not mutually exclusive. Lard, for instance, is in both the Livestock and Products Index and in the Fats and Oils Index. Source: Global Fianacial Data used with permission.

**International (INTL)**

Global Financial Data has used its database to calculate global indices going back as far as possible. To calculate these indices, the broadest domestic index available was used as the basis for the index, and if the index was in dollars, the local index values were converted into a dollar index by dividing the local index by the exchange rate. Some methodological notes need to be made. All of the historical indices are monthly. Although all stock markets provide daily indices today, for most of the world's stock markets, only monthly index calculations were made prior to the 1960s for developing countries and the 1930s for developed countries. Consequently, in order to make long-term comparisons, the indices must be monthly. One unavoidable problem is that stock markets occasionally close, and there are no data available for those months. To provide continuity to the indices, we have used the previous month's value for the index during that month, although we have used the current month's exchange rate rather than the previous month's exchange rate. The one period of time when the dollar values for these indices should not be taken as very reliable is the period around World War II. President Roosevelt suspended exchange rate quotations during the war, so no reliable source for exchange rates is available, and exchange rates often changed dramatically when economic reforms were introduced. Consequently, there are sudden changes in the values of the indices when, for example, the United States introduced an exchange rate of 360 yen to the dollar. For the three stock markets that have data back to the civil war period, the gold dollar exchange rate is used rather than the paper dollar exchange rate to remove the distortions that would have been created by the index values when the U.S. left the gold standard during the civil war. Of course, these indices can easily be adjusted to paper values by using the paper exchange rate. During the Bretton Woods period (1946-1970) when exchange rates were fixed, we have used Pick's black market exchange rates since we felt these would better reflect the market value of the foreign stock market to a U.S. investor than the official exchange rate. In order to compare the performance of foreign stock markets to one another, Global Financial Data has calculated world/ world excluding the US and Europe indices back to 1919. We have weighted each country according to their relative Gross Domestic Products and Stock Market capitalizations. GDP and stock market capitalization data are not available back to 1919, so we have approximated what these relative values would have been. We have chosen not to rebalance the indices with different weights because we feel this would create greater fluctuations in the indices' values. Since the Morgan Stanley World index was not calculated before 1970, an index has been put together to simulate how a World Index would have performed had it been calculated back to 1919. The indices were weighted in January 1919 as follows: North America 44% (USA 41%, Canada 3%), Europe 44% (United Kingdom 12%, Germany 8%, France 8%, Italy 4%, Switzerland 2.5%, Netherlands 2.5%, Belgium 2%, Spain 2%, Denmark 1%, Norway 1% and Sweden 1%), Asia and the Far East 12% (Japan 6%, India 2%, Australia 2%, South Africa Gold 1%, South Africa Industrials 1%). It was assumed that the country weights did not change until 1970. The EAFE, Europe, and Asia indices use the same relative weights. Capitalization weightings are used beginning in 1970 using the same countries that are included in the MSCI indices. In several cases, such as Germany or Japan, hyperinflations caused their stock markets to lose over 90% of their value. Rebalancing the portfolio would have created a ten-fold or greater adjustment in an investor's weighting of that country in their portfolio. To simplify matters, we have taken a true buy-and-hold approach, setting the country weights in 1919, and leaving them unchanged until 1970. We have taken the total return series for Australia, Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Spain, the United Kingdom and the United States to extend the total return indices back to December 1925. The World x/USA index is divided between Europe (80%) and Pacific (20%). Europe's weightings are France 25%, Germany 25%, Italy 12.5% and the United Kingdom 37.5% from 1925 through 1950; Europe's weightings are Belgium 7.5%, France 17.5%, Germany 17.5%, Netherlands, 7.5%, Spain 7.5%, and the United Kingdom 30% from 1951 through 1969. The Pacific region's weights are Australia 50% and Japan 50% from 1925 through 1950, and Australia 30%, Japan 70% from 1951 through 1969. Canada is included in the index beginning in 1934. From 1970 on, the indices are capitalization weighted and include the same 20 countries as are included in the MSCI World Index. Source: Global Financial Data used with permission.

**Footnote: The CMS does not select any particular securities or favor any particular securities. The above general asset classes are the entire universe analyzed and were selected since there was sufficient historical data available commencing in 1926. Other asset classes not included in the Data Sources did not provide sufficient historical data.**