



# THE IMPORTANCE OF INTEGRATING A COMPLETE RETIREMENT/ESTATE PLAN WITH INVESTMENTS, LIFE INSURANCE AND INCOME ANNUITIES



Scott Sweet | Strategic Partner J.D., CLU<sup>®</sup>, CFP<sup>®</sup>, RICP<sup>®</sup>, CAP<sup>®</sup>

P: 972-980-2011 scott.sweet@nm.com





**Tom Wunderlick | Partner** 

P: (972) 518-3001 tom.wunderlick@nm.com



Although facing challenges, the US life insurance and retirement industry has enormous potential to grow. Our analysis reveals insights on how best to capitalize on this opportunity.

EY researchers estimate that by 2030, there will be a \$240 trillion retirement savings gap and a \$160 trillion protection gap. Insurers are uniquely positioned to address these gaps with products that offer legacy protection, tax-deferred savings growth and guaranteed income for life. In this paper, we explore how two products can be used to meet investors' savings and protection needs: permanent life insurance (PLI) and a deferred income annuity with increasing income potential (DIA with IIP), which represents deferred income annuities with persistency bonuses and non-guaranteed dividends. Our analysis focuses on whether integrating PLI and a DIA with IIP into a financial plan provides value relative to an investment-only strategy. Can integrating PLI and a DIA with IIP into a retirement plan provide value beyond an investment-only strategy?

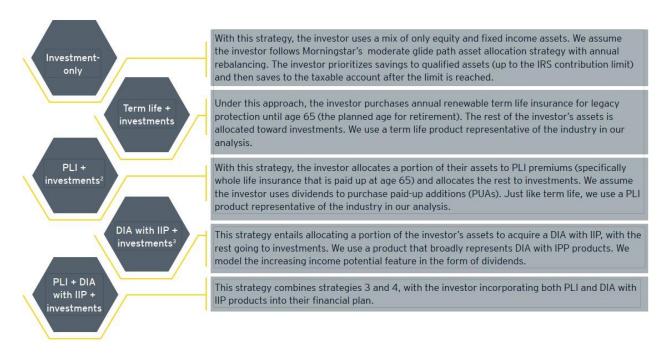
It a complex question to answer. To judge the impact of PLI and DIAs with IIP, we analyzed five strategies, conducted across three different starting ages: 25, 35 and 45. For each strategy, our Monte Carlo analysis generated 1,000 scenarios based on randomized input from a range of factors, such as interest rates, inflation rates, equity returns and bond returns. The high-level results are shown in this summary article and elaborated upon in our full report.

Download full report

PDF (557kb)

# The five strategies compared

We examined a baseline of traditional investment strategies and then compared them against those that also factor in PLI and DIAs with IIP:



In the three strategies that include PLI or DIA with IIP, the value of these products was included in the total financial assets and considered part of the fixed income allocation. Thus, for strategies where an investor allocates a portion of their wealth to an insurance product, the amount invested in bonds decreases compared to the investment-only strategy.

In our analysis, PLI cash value (accessed via surrenders or loans) are used to fund retirement income during periods of market volatility, allowing investors to avoid liquidating assets from their traditional investments that have fallen in value.

We divided the investor's assets between the investments and the insurance products. Different product allocation combinations were simulated in increments of 10% of total annual savings for PLI and projected wealth at age 55 for DIA with IIP. Allocation percentages were capped at 60% for PLI and 30% for DIAs with IIP. For each allocation combination, we calculated the **after tax** retirement income that an investor can sustain in over 90% of the market return scenarios<sup>1</sup>. We also calculated the legacy value at the end of the time horizon.

# The benefit to investors

Following this methodology, strategies involving PLI and DIAs with IIP excelled overall against investment-only approaches — although the implications must be couched in a bit of nuance, depending on whether the investor is focused more on retirement income than legacy. Here are six key insights on how the strategies compare:

**PLI + investments outperform term life + investments:** PLI tends to provide superior returns over fixed income in long-run scenarios, while the term premium acts as a drag on portfolio performance. PLI loans act as a buffer against market volatility as well, improving returns since the investor does not have to sell and realize losses on investments.

DIAs with IIPs + investments outperform all other strategies in retirement income: With DIAs with IIP + investments, the investor uses a portion of the balance to purchase the DIA with IIP and does not receive that balance upon death, boosting retirement income compared to other strategies. Projected legacy tends to be lower than PLI + investments but higher than the legacy from the investment-only strategy. The latter observation is a result of the DIA with IIP outperforming fixed income due to mortality credits and dividends.

Integrated strategies are more efficient than investment-only strategies in both retirement income and legacy. For example, a strategy allocating 30% of annual savings to PLI and 30% of assets at age 55 to a DIA

<sup>&</sup>lt;sup>1</sup> We apply ordinary income tax rates (federal and state) to withdrawals from qualified assets and DIA with PB income. We assume the investor surrenders cash value until the basis and then takes policy loans thereafter. Thus, no income taxes apply on cash flows from PLI.

with IIP produced 5% higher retirement income and 19% more legacy than the investment-only strategy, because PLI and DIA with IIP both outperform fixed income.

For investors with a higher risk appetite, integrated strategies remain better. We performed the same exercise described above, except that we calculated the retirement income (and legacy values) based on the amount that the investor can sustain in over 75% of the market return scenarios, reflecting the expectations of an investor with higher risk. Income and legacy do not improve as much, yet an integrated portfolio still provides benefits relative to an investment-only strategy.

**PLI + DIA with IIP + investments strategies provide investors with flexibility on financial outcomes.** We found that PLI and a DIA with IIP mix well together, whether a person is focused on retirement income, legacy or a balance. Higher allocations to a DIA with IIP emphasize retirement income, while higher PLI boosts legacy protection. The right mix depends on the investor's preferences.

To optimize retirement income and legacy outcomes, consider allocating up to 30% of annual savings to PLI and up to 30% of wealth at age 55 to a DIA with IIP. Results varied by investor starting age. But the projected retirement income and legacy values generally supported allocations of 10% to 30% to both PLI and DIAs with IIPs. An investor solely focused on maximizing legacy may still opt to allocate more to PLI, but when that allocation redirects too many assets away from equities, the reduction to retirement income can be substantial.

The results point to the value of PLI and DIAs with IIPs in a retirement plan: an integrated approach can give comfort and peace of mind to retirement investors by providing legacy protection, tax-deferred savings growth, and guaranteed income for life without sacrificing their present lifestyle. Insurers can use these products to strengthen their relationships with investors, seizing upon the possibilities in a marketplace that has proved challenging.

# Probability Analysis: Retirement Asset Value Projection

Add WLP & PDIA - Max Income

Retirement Asset Value in 2084

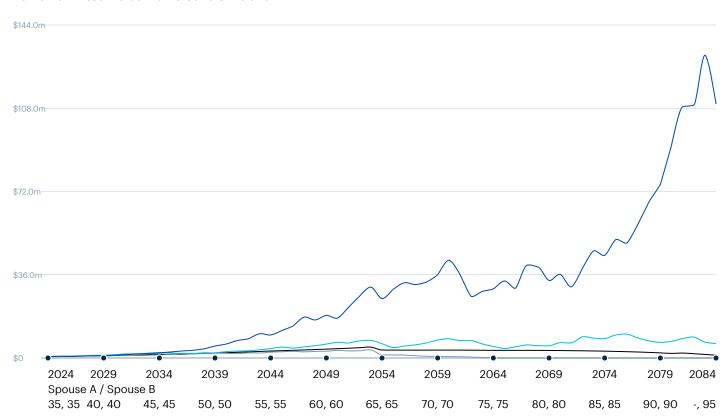
- 90th Percentile \$109,866,041
- 50th Percentile \$6,215,626
- 10th Percentile\$0
- Level Projection<sup>1</sup> \$1,203,034

#### **Key Events**

- 2054: Spouse A retires, 65
- 2054: Spouse B retires, 65
- 2081: Spouse A, 92
- 2084: Spouse B, 95

Here are a few of your trials plotted out. The 50th percentile is the median. That means an equal number of trials had a higher asset value and lower asset value at the end of your plan.

#### Retirement Asset Value Monte Carlo Simulation



<sup>1.</sup> Level Projection demonstrates asset value forecasts with static rate of return assumptions used throughout other parts of your plan.

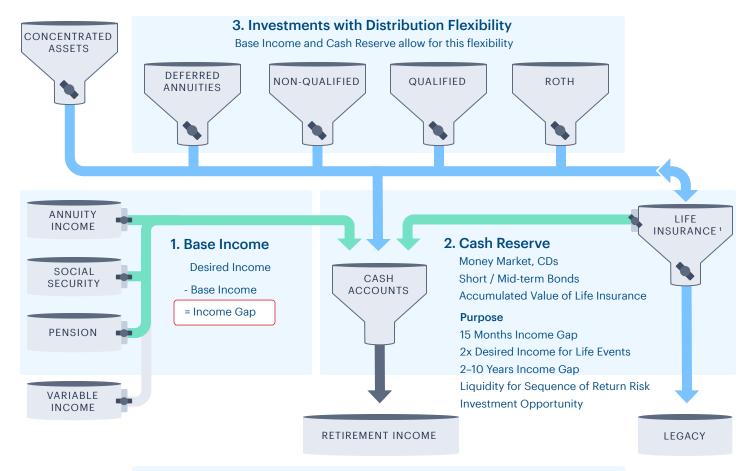
IMPORTANT: The projections or other information generated by the Retirement Probability of Success regarding the likelihood of various outcomes are hypothetical in nature, do not reflect actual investment or life results and are not guarantees of future results. Results may vary with each use and over time. For details regarding the asset allocation that was used in this probability analysis, see the Probability Analysis Assumptions pages at the end of this plan.



# Retirement Planning Strategy

#### **Core Principles**

- 1 Building a Base Income
- 2 Building a Cash Reserve
- 3 Investments with Distribution Flexibility
- 4 Managing the Human Aspects of Personal Planning
- 5 Preparing for Health Care Costs
- Coordinating Your Concentrated
  Capital & Human Life Value
- 7 Tax Bracket Management
- Sequence of Return
  Management
- Efficient Income & Cash
  Distribution Process
- Asset and Creditor Protection
  Guidance
- Legacy: right assets to the people and organizations you love
- Multi-generational relationship with you, your family and your Northwestern Mutual Advisor



Built on the financial strength of Northwestern Mutual, the general account portfolio, and the advisor's access to an open architecture insurance and investment platform

1. The primary purpose for life insurance is to provide a death benefit. Using accumulated value to supplement your retirement income may reduce death benefits and may affect other aspects of your plan.



# Down Market Systematic Distribution Details

A systematic distribution approach has the disadvantage of consistent withdrawals during down market years. Having a Cash Reserve to withdraw in those years allows the investments to recover before making withdrawals again.

What is the effect of negative returns and systematic distributions?

# Ending balance of Traditional IRA account:

#### \$89.590

## **Systematic Distributions**

This example demonstrates the 20-year performance of a Traditional IRA after \$60,000/yr was distributed annually from 2001–2020. Distributions increase 2.1%/yr for inflation.

In 2021, balance goes to \$0 since there are not enough funds to withdraw the full target income amount of \$90,920.

See disclosure on Impacts of Down Markets page on how figures were calculated. The illustrated portfolio would have had a -0.81% return in 2000. \*Distributions occur first of year.

			Systemat	ic Distributions* 200	1–2020
Year, Age	60/40 Return	Beginning Balance	60/40 Portfolio Distribution	Cash Reserve Distribution	Year-End Balance
2001, 65	▼ -3.75%	1,000,000	60,000	_	\$904,750
2002, 66	<b>▼</b> -9.16%	904,750	61,260	-	\$766,226
2003, 67	<b>1</b> 8.85%	766,226	62,546	<del>-</del>	\$836,324
2004, 68	<b>▲</b> 8.26%	836,324	63,859	<del>-</del>	\$836,271
2005, 69	<b>▲</b> 3.92%	836,271	65,200	<del>-</del>	\$801,297
2006, 70	<b>1</b> 1.21%	801,297	66,569	_	\$817,091
2007, 71	<b>▲</b> 6.08%	817,091	67,967	<del>-</del>	\$794,671
2008, 72	<b>▼</b> -20.10%	794,671	69,394	-	\$579,496
2009, 73	<b>1</b> 8.25%	579,496	70,851	<del>-</del>	\$601,473
2010, 74	<b>1</b> 1.65%	601,473	72,339	_	\$590,778
2011, 75	<b>4.40%</b>	590,778	73,858	_	\$539,664
2012, 76	<b>1</b> 1.29%	539,664	75,409	_	\$516,669
2013, 77	<b>1</b> 8.62%	516,669	76,993	_	\$521,544
2014, 78	<b>1</b> 0.60%	521,544	78,610	_	\$489,885
2015, 79	<b>1.05%</b>	489,885	80,261	_	\$413,925
2016, 80	<b>▲</b> 8.23%	413,925	81,946	_	\$359,301
2017, 81	<b>1</b> 4.52%	359,301	83,667	_	\$315,656
2018, 82	<b>▼</b> -2.63%	315,656	85,424	-	\$224,177
2019, 83	<b>22.38%</b>	224,177	87,218	-	\$167,610
2020, 84	<b>1</b> 4.04%	167,610	89,050	_	\$89,590
		Total Distributions:	1,472,421	-	



# Down Market Strategic Distribution Details

Using an integrated approach helps to preserve your account balance by strategically withdrawing funds from a Cash Reserve instead of from a Traditional IRA in the years following down markets.

What is the effect of "skipping IRA withdrawals" after negative years?

Compare ending balances of Traditional IRA accounts:

#### \$89.590

**Systematic Distributions** 

(previous page)

## \$1,007,990

**Strategic Distributions** 

(this page)

Utilizing a total \$257,743 of
Cash Reserve Distributions
(after down market years)
resulted in an ending balance
\$918,400 higher.

See disclosure on Impacts of Down Markets page on how figures were calculated. The illustrated portfolio would have had a -0.81% return in 2000. \*Distributions occur first of year.

		Strategic Distributions* 2001–2020				
Year, Age	60/40 Return	Beginning Balance	60/40 Portfolio Distribution	Cash Reserve Distribution	Total Distribution	Year-End Balance
2001, 65	▼ -3.75%	1,000,000	-	60,000	60,000	\$962,500
2002, 66	<b>▼</b> -9.16%	962,500	-	61,260	61,260	\$874,335
2003, 67	<b>1</b> 8.85%	874,335	_	62,546	62,546	\$1,039,147
2004, 68	<b>▲</b> 8.26%	1,039,147	63,859	-	63,859	\$1,055,847
2005, 69	<b>▲</b> 3.92%	1,055,847	65,200	-	65,200	\$1,029,480
2006, 70	<b>11.21%</b>	1,029,480	66,569	-	66,569	\$1,070,853
2007, 71	<b>▲</b> 6.08%	1,070,853	67,967	-	67,967	\$1,063,861
2008, 72	<b>▼</b> -20.10%	1,063,861	69,394	-	69,394	\$794,579
2009, 73	<b>1</b> 8.25%	794,579	RMD 32,170	38,681	70,851	\$901,549
2010, 74	<b>11.65%</b>	901,549	72,339	-	72,339	\$925,813
2011, 75	<b>4.40</b> %	925,813	73,858	-	73,858	\$889,441
2012, 76	<b>1</b> 1.29%	889,441	75,409	-	75,409	\$905,936
2013, 77	<b>1</b> 8.62%	905,936	76,993	-	76,993	\$983,292
2014, 78	<b>1</b> 0.60%	983,292	78,610	-	78,610	1,000,578
2015, 79	<b>1.05%</b>	1,000,578	80,261	-	80,261	\$929,980
2016, 80	<b>8.23%</b>	929,980	81,946	-	81,946	\$917,827
2017, 81	<b>1</b> 4.52%	917,827	83,667	_	83,667	\$955,280
2018, 82	<b>▼</b> -2.63%	955,280	85,424	-	85,424	\$846,979
2019, 83	<b>22.38%</b>	846,979	RMD 51,962	35,256	87,218	\$972,942
2020, 84	<b>1</b> 4.04%	972,942	89,050	_	89,050	\$1,007,990
		Total Distributions:	\$1,214,678	\$257,743		



# Targeting the right mix of assets at retirement to optimize income and legacy

# EXECUTIVE SUMMARY<sup>1</sup>

This research extends prior studies by considering a hypothetical couple nearing retirement and exploring how different asset mixes at the point of retirement affect their retirement outcomes. It compares asset mixes of 100% investments (e.g., 60% equity and 40% fixed income) to those including differing amounts of whole life insurance (WL), a dividend-paying deferred income annuity (dividend-paying DIA), or both (e.g., 60% equity, 20% WL accumulated value and 20% dividend-paying DIA implied account value). It shows that the "right asset mix" depends on the clients' goals and preferences for maximizing income versus legacy. Adding a dividend-paying DIA to the mix tends to drive income improvements while adding WL tends to drive improvements in legacy. A combination of investments, a dividend-paying DIA, and WL tends to improve both retirement income and legacy. Advisors may consider these findings when assisting clients as they choose the version of a "better outcome" that is right for them.



# Introduction 🔾

As most people approach retirement, they have two fundamental questions:

- 1. Income: Will our assets produce the adequate desired lifetime income that we want?
- 2. Legacy: Will our investable assets and our home leave a financial legacy that meets our desires for our loved ones?

Retirees also worry about many risks in retirement, including the following:

- Outliving their savings
- Stock market declines depleting their investments
- Improperly budgeting or selling investments at the wrong time

An advisor's role is to work with their client to develop a plan that mitigates or addresses as many of these risks as possible so that the client can enjoy their retirement years. A question that advisors and clients often face is: What is the right mix of assets that a client should have at retirement to be best positioned to navigate these potential risks?

<sup>&</sup>lt;sup>1</sup> This research is intended to be educational in nature and is not an offer to provide investment advisory services with respect to securities. It also is not intended to be a recommendation to purchase any particular insurance or annuity product.



## The Ernst & Young (EY) Research

The traditional 60/40 balanced portfolio, widely used in retirement, has faced criticism, prompting many individuals and advisors to explore alternatives beyond 60% equities and 40% fixed income for their retirement portfolios. Research from EY demonstrates that combining permanent life insurance, deferred income annuities with increasing income potential (i.e., a dividend-paying DIA), and investments can outperform an investment-only approach over the long-term.<sup>2</sup> Including life insurance and annuities can lead to a retiree having more income and leaving a larger legacy than investments alone. To optimize retirement and legacy outcomes, EY's research suggests allocating up to 30% of annual savings to permanent life insurance and up to 30% of wealth at age 55 to a dividend-paying DIA.<sup>3</sup> Their research provides evidence in favor of developing a different asset allocation than the traditional investment-only asset allocation.

#### Northwestern Mutual Research Confirms and Extends EY's Findings

Northwestern Mutual research both confirms and extends the EY research. One Northwestern Mutual study has examined how younger clients in their 20s to 40s who allocate their assets to investments and insurance products over time can achieve better outcomes.<sup>4</sup> These clients have a long-term horizon to retirement (20 to 40 years) and a death benefit need to insure their human capital and provide loved ones with a legacy upon death to help maintain quality of life. The study assumes these clients allocate 20% of their gross income to a combination of investments and insurance. When 20% to 40% of that allocation pays whole life insurance premiums over the accumulation period,<sup>5</sup> these clients accrue 5% to 10% of their portfolio of assets in whole life (WL) accumulated value at retirement. The research showed they also experience lifts in retirement income and legacy over the investment-only strategy as well as protection against common retirement risks.

Another Northwestern Mutual study focuses on high-net-worth households that have accumulated more than enough assets to meet their retirement spending goals and are interested in maximizing after-tax wealth transfer and tax efficiency.<sup>6</sup> It finds that high-net-worth clients may also benefit from combining insurance products with investments, though it does not specify the ideal blend of these products for a high-net-worth client to achieve the most favorable outcomes.

# Comprehensive Asset Allocation (CAA) Can Drive Better Outcomes

In the prior studies and here, results are driven by the key concept of Comprehensive Asset Allocation (CAA). This means that WL accumulated value and the implied account value<sup>7</sup> of a dividend-paying DIA are considered fixed income alternatives<sup>8</sup> due to their similar characteristics of stability and income. Including insurance assets in the client's asset allocation allows a portion of fixed income to be reallocated to equity, resulting in higher growth potential that is still in line with the client's overall risk profile.

- <sup>2</sup> Visit <a href="https://www.ey.com/en\_us/insurance/how-life-insurers-can-provide-differentiated-retirement-benefits">https://www.ey.com/en\_us/insurance/how-life-insurers-can-provide-differentiated-retirement-benefits</a> to access EY's "Benefits of integrating insurance products into a retirement plan" research paper.
- <sup>3</sup> EY assumes saving 20% of gross income. Therefore, 30% of the annual savings budget of 20% of gross income translates to allocating up to 6% of gross income to permanent life insurance premiums.
- <sup>4</sup> Visit <a href="https://www.northwesternmutual.com/assets/pdf/unlocking-PLI-benefits.pdf">https://www.northwesternmutual.com/assets/pdf/unlocking-PLI-benefits.pdf</a> to access Northwestern Mutual's "Unlocking client benefits based on the size of whole life insurance" research paper.
- <sup>5</sup> This replicates EY's optimal outcome of 30% allocation to permanent life insurance premiums from the 20% savings budget, or 6% of gross income. In Northwestern Mutual's research, 4% to 8% of gross income to whole life insurance premiums is equivalent to 20% to 40% of the 20% budget.
- <sup>6</sup> Visit <a href="https://www.northwesternmutual.com/assets/pdf/maximizing-wealth-transfer.pdf">https://www.northwesternmutual.com/assets/pdf/maximizing-wealth-transfer.pdf</a> to access Northwestern Mutual's "Maximizing wealth transfer: planning strategies for high-net-worth clients" paper.
- <sup>7</sup> See the definition of implied account value in the **Important Disclosures** at the end.
- 8 This is not to say that life insurance accumulated value or a dividend-paying DIA are the same as a fixed income investment. There are important differences in liquidity, guarantee of principal, immediate access to income and underlying risk.

#### TARGETING THE RIGHT MIX OF ASSETS AT RETIREMENT TO OPTIMIZE INCOME AND LEGACY

# CAA is characterized by:

- The right mix of investments and insurance to best match the client's goals, personality, and risk profile so that a client can live the kind of retirement they want to have while achieving their legacy goals.
- Effectively managing the client's invested asset allocation involves considering their overall mix of investments and insurance. This ensures that their CAA, or allocation of risk products and investments, aligns with their risk profile. Also, having an investment platform capable of facilitating a distribution plan that takes advantage of the client's asset mix is crucial.

Northwestern Mutual research has studied various target retirement asset allocations from 0% to 100% equity in 10% increments and demonstrated that when clients own WL and an income annuity, they can achieve better outcomes by managing their investments in combination with those products toward a target CAA.<sup>9</sup>

# Repositioning Assets to Achieve the Right Mix

This research considers a hypothetical couple nearing retirement and explores how different asset mixes affect their retirement outcomes. It attempts to find the right mix of assets at retirement — investments, WL insurance, and a dividend-paying DIA — for clients who wish to maximize their retirement income and legacy outcomes. These clients can reposition some of their assets to take advantage of potential opportunities, particularly taxable assets in cash or fixed income. Pursuing an optimal mix of investments and insurance products may allow these clients to enjoy spending more in retirement, leaving a greater legacy, or a combination of both.

Asset mixes of 100% investments (e.g., 60% equity and 40% fixed income) are compared to those including differing amounts of WL, dividend-paying DIA, or both (e.g., 60% equity, 20% WL accumulated value and 20% dividend-paying DIA implied account value). The "right asset mix" for clients depends on their goals and preferences for maximizing income versus maximizing legacy. In general,

- an increase in dividend-paying DIA tends to drive improvements in income.
- an increase in WL tends to drive improvements in legacy.
- a combination of investments, dividend-paying DIA, and WL tends to improve both income and legacy.

#### Methodology and Assumptions

The hypothetical couple in this research has accumulated \$2.5 million in assets (\$2 million taxable and \$500K qualified) and has an income of \$500,000 a year. Both individuals are 55 years old. By saving 20% of their income per year, they expect their portfolio balance to grow to around \$5 million at their desired retirement age of 65. They are in good health and expect to live to age 95, making an income annuity and insurance options, such as 10-Pay Whole Life, viable solutions. The **Appendix** includes additional key assumptions and details. The couple considers the following strategies.

<sup>&</sup>lt;sup>9</sup> Visit <a href="https://www.northwesternmutual.com/assets/pdf/managing-asset-allocation.pdf">https://www.northwesternmutual.com/assets/pdf/managing-asset-allocation.pdf</a> to access Northwestern Mutual's "Managing asset allocation to drive better outcomes" research paper.

# Strategies<sup>10</sup>

- Investment-only: Invests in equity and fixed income only.
- **Dividend-paying DIA:** Annual savings are invested in equity and fixed income. Purchases a hypothetical non-guaranteed dividend-paying DIA using taxable assets at age 55. The joint life (100% to survivor) payout begins at age 65.
- 10-Pay WL: Purchases a hypothetical WL policy with annual premiums for 10 years for the healthy male client at age 55.<sup>11</sup> Non-guaranteed dividends purchase paid-up additions to increase death benefit and accumulated value. Depending on the size of the policy, annual premiums are paid using a combination of cash flow and by repositioning taxable assets.<sup>12</sup> Any remaining portion of the 20% income allocation after insurance premiums is invested in equity and fixed income.
- Integrated: Combines a dividend-paying DIA and a 10-Pay WL policy with investments.

This research models a hypothetical couple's financial future to and through retirement. It runs 1,000 trials, using a Monte Carlo analysis, to simulate randomness in variables whose behavior is expected to be uncertain. Each year, interest rates, inflation rates, equity returns, and fixed income returns are varied. The same randomized variables of each trial are applied to each asset mix tested to ensure they all experience the same economic conditions for a fair comparison. These simulations generate two outcomes that are analyzed: (1) after-tax retirement income that can be sustained with 90% probability of success<sup>13</sup> and (2) the resulting median legacy value.<sup>14</sup>

Investment returns are based on Northwestern Mutual 2023 Long-Term Capital Market Assumptions (CMAs). The CMAs forecast asset class rates of return over the next 80 years and provide expectations of risk-return profiles for the asset classes. The dividend interest rate (DIR) is modeled using a formula that is a weighted average of the prior year's DIR and ten-year Treasury return to simulate the impact of different economic scenarios.<sup>15</sup>

## Results

IMPORTANT: The projections or other information generated by the Monte Carlo analysis regarding the likelihood of various investment and insurance outcomes are hypothetical in nature, do not reflect actual investment, insurance, or life results, and are not guarantees of future results. Results may vary with each use and over time.

<sup>&</sup>lt;sup>10</sup> Both the WL and DIA discussed herein are hypothetical, dividend-paying and assume industry average mortality and expenses. See the **Important Disclosures** section at the end of this paper for further details.

<sup>&</sup>lt;sup>11</sup> In real life, both clients would purchase insurance for death benefit needs, but for ease of calculation, only one policy is purchased on the healthy male here. This is a conservative assumption due to the shorter life expectancy of males and hence higher premiums.

<sup>12</sup> See the Appendix for premium and death benefit details. Policies include waiver of premium when available subject to premium limit.

<sup>&</sup>lt;sup>13</sup> A trial was deemed successful if the portfolio could maintain the inflation-adjusted level of income until the client's death.

<sup>14</sup> Median legacy averages the legacy values of the two middle trials (500 and 501 out of 1,000) when ranked by legacy.

<sup>15</sup> The DIR starts at 4.78% and is based on this formula: DIR(d) = (4.78 + 0.63\*(DIR(d-1) - 4.78) + 0.32\*(10-Yr Treasury(d-1) - 3.13))/100. The 80-year projected average for the DIR is 4.78% with a 2.0% standard deviation. The 10-year Treasury has a projected average of 3.13% with a 2.45% standard deviation over the same period.

# Baseline Asset Mix — Invested Assets Only

The baseline asset mix consists entirely of invested assets — equities and fixed income — in retirement. Figure 1 shows the initial annual retirement income achievable at 90% probability of success $^{16}$  along with the corresponding median legacy value at age  $95^{17}$  for six different asset allocations. Allocations in the range from 50% equity/50% fixed income to 100% equity/0% fixed income in 10% increments are maintained from age 55 to 95 with annual rebalancing.

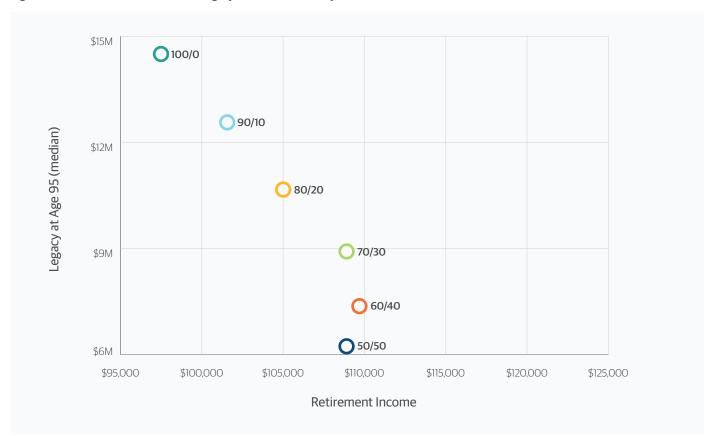


Figure 1. Retirement Income & Median Legacy for Investment-Only at Various Asset Allocations

Legacy increases for allocations with greater equity exposure. As equities increase above 60%, the increased legacy (and increased volatility) comes with a trade-off of reduced income. The most aggressive asset allocations result in the widest ranges of portfolio values at retirement, which correlate with lower income achievable at 90% probability of success as well as a wider range of legacy values. Even when the legacy is high at the median, scenarios near the bottom 10th percentile have very low legacy values when solving for income at a 90% probability of success.

<sup>&</sup>lt;sup>16</sup> From Monte Carlo, a 90% probability of success means that in 900 of the 1,000 trials, retirement income needs are fully funded; the other 100 trials run out of money to fully fund retirement income needs. Retirement income is generated from equity, fixed income, and any cash for the investment-only strategy. For the other strategies, retirement income also includes any annuity income and/or withdrawals from WL accumulated value. Individuals may wish to enlist the help of a trusted financial advisor to navigate complex issues that may arise when raising cash for spending in retirement. See the **Important Disclosures** at the end of this paper for impacts to WL when used during life.

<sup>&</sup>lt;sup>17</sup> Median legacy refers to the middle value at the end of the plan, or the 50th percentile ending legacy, which is an average of the two middle trials out of 1,000. Legacy includes the total value at death of any cash, taxable assets, qualified assets (minus an assumed beneficiary tax rate of 25%), plus WL death benefit, where applicable.

The income achievable at 90% probability of success from the Monte Carlo analysis is under \$110,000 annually after tax at age 65 for the investment-only strategy. This is the amount of retirement income that can be generated from assets. The couple also receives Social Security income on top of this figure. The 60% equity/40% fixed income portfolio has the highest income at 90% probability of success. This allocation appears to provide a balance between the legacy, driven by equity growth, and a higher sustainable retirement income, created from the relative safety and income from fixed income. In the next section, we compare multiple asset mixes that include WL and dividend-paying DIA relative to the investment-only strategy at this allocation.

#### 60/40 CAA Asset Mixes with WL and Dividend-Paying DIA

Since — as demonstrated above — the 60/40 asset allocation leads to the highest income and as it is a common retirement allocation, the first set of asset mixes investigated is at the 60/40 asset allocation using CAA. In comparison to investment-only, a variety of asset mixes substitute some portion of the 40% allocation to fixed income for dividend-paying DIA implied account value, WL accumulated value, or a combination of both as shown in **Table 1**. All asset mixes are reported at retirement at the median.

Table 1. 60/40 CAA Asset Mixes at Age 65 at the Median and Corresponding Invested Asset Allocations

	Comprehensive Asset Allocation (CAA)			Investmen	t Allocation	
Strategy	Equity	Fixed Income	Dividend-Paying DIA Implied Account Value	WL Accumulated Value	Equity	Fixed Income
Investment-only	60%	40%			60%	40%
	60%	30%	10%		67%	33%
Dividend Device DIA	60%	20%	20%		75%	25%
Dividend-Paying DIA	60%	10%	30%		86%	14%
	60%		40%		100%	0%
	60%	30%		10%	67%	33%
10 Pay WI	60%	20%		20%	75%	25%
10-Pay WL	60%	10%		30%	86%	14%
	60%			40%	100%	0%
	60%		30%	10%	100%	0%
Integrated	60%		25%	15%	100%	0%
	60%		20%	20%	100%	0%
	60%		15%	25%	100%	0%
	60%		10%	30%	100%	0%

Several of the asset mixes substitute the entire 40% allocation from fixed income to dividend-paying DIA implied account value, WL accumulated value, or both. These include 40% dividend-paying DIA, 40% WL, and each mix of the integrated strategy tested. Notice that when all fixed income is replaced in the portfolio, the resulting investment allocation is 100% equity. In addition, the asset mixes fluctuate over retirement and throughout the

<sup>&</sup>lt;sup>18</sup> For comparison, the couple earns \$500,000 annually before taxes (gross income) today, and they save 20%. After savings and taxes, their net income is less than half of their gross income today. The retirement income achievable at 90% probability of success should be compared to the net figure, adjusted over time, and is dependent here on assumptions, including the starting assets used in the analysis. In reality, when the 90% probability of success income is lower than desired, clients will need to save more. all else equal, to increase it.

#### TARGETING THE RIGHT MIX OF ASSETS AT RETIREMENT TO OPTIMIZE INCOME AND LEGACY

distribution of economic scenarios modeled by the Monte Carlo simulation. In other words, this is a snapshot of all assets at the median at retirement.

The investment-only asset mix with 60/40 allocation has an achievable retirement income of nearly \$110,000/ year annually after-tax. How does this compare to different asset mixes at 60/40 that include and strategically leverage insurance products?

Figure 2 shows a variety of asset mixes consisting of invested assets along with a dividend-paying DIA and/or WL purchases of different sizes.

The four asset mixes with dividend-paying DIA only are represented by the dots with the bottom half of the circle filled in, where the dividend-paying DIA implied account values vary in size from 10% to 40% of total assets at retirement in increments of 10%. As expected, income increases as the size of the dividend-paying DIA increases. Median annual income is greatest for the strategy with 40% dividend-paying DIA implied account value at retirement. However, legacy peaks for the asset mix with 30% dividend-paying DIA implied account value.

Figure 2. Retirement Income & Median Legacy for Various Asset Mixes at the 60/40 Asset Allocation



<sup>&</sup>lt;sup>19</sup> The amount of income achievable at 90% probability of success includes any annuity income, income generated from invested assets, and any withdrawals from WL accumulated value that supplement retirement income. The 90% income amounts reported do not include Social Security income, which are included in the analysis in addition to these amounts.

The four asset mixes with WL only are represented by the dots with the top half of the circle filled in. The WL policies vary in size from 10% to 40% WL accumulated value as a percentage of total assets at retirement in increments of 10%. Notice that median legacy is greatest for 30% WL accumulated value at retirement compared to all other asset mixes tested. The 40% WL asset mix is dominated by 30% WL, which provides both higher income and higher legacy.

Finally, the five asset mixes with integrated strategies — containing both WL and dividend-paying DIA — are represented by the dots that are completely filled in. At retirement, 40% of assets are made up of different combinations of WL accumulated value and dividend-paying DIA implied account value. Notice that these integrated asset mixes benefit from both the WL and dividend-paying DIA. As the mix includes more WL, legacy generally increases. Income increases for mixes with more dividend-paying DIA.

In comparison to the investment-only asset mix, all asset mixes that include investments and insurance have higher income and legacy at the 60/40 allocation. For example, income increases 15% (~\$110,000 to over \$126,000/year) when comparing investment-only to the integrated asset mix with 30% dividend-paying DIA and 10% WL. For the integrated asset mix with 10% dividend-paying DIA and 30% WL, median legacy increases over 20% (~\$7.4M to over \$8.9M) when compared to investment-only.

**Table 2** shows the lifts in income and legacy for each asset mix with a dividend-paying DIA or WL or both relative to investment-only. As the percentage of dividend-paying DIA increases at retirement, income increases over investment-only. For the dividend-paying DIA strategies, the increases over investment-only in terms of income are larger than the increases in legacy. For the 10-Pay WL strategies, income increases over investment-only with higher percentages up to WL 30%. The increases over investment-only in terms of legacy are larger than the increases in income. The integrated strategies provide the most flexibility in achieving and balancing income and legacy increases.

Table 2. Increases in Retirement Income and Median Legacy from Including a Dividend-Paying DIA, WL or Both Relative to Investment-Only at 60/40 Asset Allocation

	Asset Mix		% Increase over	Investment-only
Strategy	DIA	WL	Retirement Income	Median Legacy
	10%		7%	4%
Dividend Daving DIA	20%		13%	8%
Dividend-Paying DIA	30%		14%	11%
	40%		15%	9%
		10%	4%	8%
10 Day WI		20%	4%	19%
10-Pay WL		30%	5%	24%
		40%	3%	18%
	30%	10%	15%	15%
	25%	15%	13%	18%
Integrated	20%	20%	11%	19%
	15%	25%	8%	20%
	10%	30%	7%	22%

Some of these asset mixes replace most or all fixed income in the allocation with either dividend-paying DIA implied account value or WL accumulated value. The guaranteed lifetime income from the dividend-paying DIA provides more benefit the longer a client lives, yet the tradeoff is loss of liquidity and depletion of assets available to leave to heirs. Substantial income needs beyond typical retirement income spending (e.g., a large unplanned or emergency expenditure) may be more constrained. Alternatively, WL provides more benefit the earlier a client dies, and WL accumulated value provides liquidity during life. WL accumulated value can be used to supplement income at any age for any reason, often tax-free.<sup>20</sup>

Going Beyond the 60/40 Allocation: How CAA Asset Mixes Perform at Other Asset Allocations While the 60/40 allocation shows the highest investment-only retirement income of all the asset allocations tested, some clients may be willing to trade a small amount of retirement income for the additional legacy potential afforded by more aggressive asset allocations.

Do the gains from including insurance products hold at other asset allocations? **Figure 3** shows various mixes of investments and insurance relative to investment-only for the 70/30, 80/20, and 90/10 asset allocations in comparison to the 60/40 results. Note that the label by each dot with insurance products specifies the percentage of whole life accumulated value followed by dividend-paying DIA implied account value. For instance, 20/0 indicates the strategy that results in 20% WL AV and 0% DIA IAV at retirement at the median.

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Figure 3. Retirement Income & Median Legacy for Various Asset Mixes at Different Asset Allocations



<sup>&</sup>lt;sup>20</sup> See the **Important Disclosures** at the end of this paper.

Target retirement mixes including WL, dividend-paying DIA, or both produce better outcomes than investment-only at each target asset allocation, confirming prior research results that owning insurance products and managing them together with investments can result in more income and higher legacy at comparable levels of risk. **Table 3** shows the lifts in income and legacy for each asset mix with a dividend-paying DIA or WL or both relative to investment-only.

Table 3. Increases in Retirement Income and Median Legacy from Including a Dividend-Paying DIA, WL or Both Relative to Investment-Only at Different Asset Allocations

		Asset Mix		% Increase over	Investment-only
Asset Allocation	Strategy	DIA	WL	Retirement Income	Median Legacy
	Dividend-Paying DIA	15%		9%	4%
	Dividend-Paying DIA	30%		11%	6%
70/30	10 Pay/W/		15%	4%	10%
	10-Pay WL		30%	4%	13%
	Integrated	15%	15%	8%	12%
	Dividend-Paying DIA	10%		6%	4%
		20%		10%	2%
80/20	10-Pay WL		10%	4%	6%
			20%	3%	5%
	Integrated	10%	10%	8%	4%
	Dividend-Paying DIA	10%		5%	1%
90/10	10-Pay WL		10%	3%	0%
	Integrated	5%	5%	3%	2%

## Combining Whole Life Insurance and Annuities with CAA to Create Better Retirement Outcomes

The combination of WL and an income annuity work together uniquely to protect against major retirement risks as shown in **Table 4**. It outlines financial risks — each with a behavioral aspect — in retirement, how they can negatively impact retirees, and the positive effects of adding an income annuity and whole life insurance to a retirement plan.

Table 4. Insurance Solutions Can Help Protect Retirement Income and Legacy

	Income Annuity	Whole Life Insurance	
Stock Market Risk Sudden market drops in retirement often make retirees panic and abandon even the best retirement plans.	Guaranteed lifetime income lowers dependency on assets invested in the market to generate retirement spending.	Accumulated value grows steadily over time, not based on market performance. It can be accessed at any time and for any reason, often tax-free, providing flexibility and financial security.	
retrement plans.	These safer sources can ease fears in down markets and keep retirees from making decisions that hurt their long-term retirement plans.		
Longevity Risk Since life expectancy is unknown, concern of outliving savings often leaves retirees scared to spend, forcing them to live below their means.	Guaranteed lifetime income provides confidence to spend without the fear of running out of money, even if a retiree lives longer than expected.	It provides a death benefit that cannot be outlived, giving retirees peace of mind that their heirs will receive a benefit, regardless of life expectancy.	
Legacy Risk Retirees relying on invested assets worry about depleting their financial legacy for loved ones in the face of unknown longevity and stock market declines.	In exchange for the consistent income for life that the annuity provides, a retiree may have less liquidity and fewer assets available to leave to heirs.	The death benefit to beneficiaries is generally tax-free and allows for legacy planning, easing concerns about the impact of spending during life.	

WL insurance can pay a death benefit that delivers additional retirement income and liquidity to a surviving spouse. Guaranteed lifetime income from an income annuity<sup>21</sup> allows retirees the freedom to spend that money, and it provides a floor for the minimum amount of retirement income. That base income, combined with Social Security payments and other safe sources of retirement income, serve as a stable foundation for retirement spending.

## Using Whole Life Insurance and Annuities to Hedge Unknown Life Expectancy

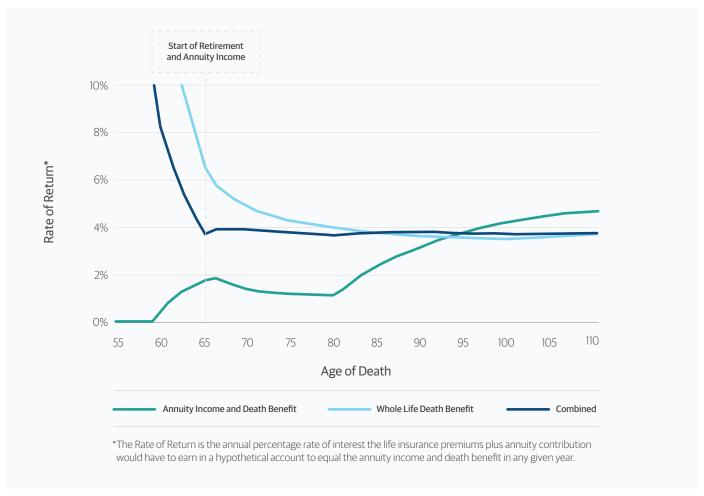
Using an income annuity and WL together can provide a hedge against the risk of unknown life expectancy as shown in the example in **Figure 4**. Based on hypothetical insurance product illustrations, it plots rates of return of WL death benefit, annuity income and death benefit, and the combination of the two for various life expectancies.<sup>22</sup> The rate of return is the annual percentage rate of interest the life insurance premiums plus annuity contribution would have to earn in a hypothetical account to equal the annuity income and death benefit in any given year. The figure shows the relationship between the rate of return of the death benefit and annuity income relative to the possible spectrum of life expectancy.

WL death benefit has a high rate of return if the insured dies early. This is because its death benefit is high relative to the cumulative premiums paid early in the policy. Over time, the return from the death benefit declines until it reaches an equilibrium value, close to 3.5% around the point of endowment in this example.

<sup>&</sup>lt;sup>21</sup> Guaranteed income is based on the claims-paying ability of the issuing insurance company.

<sup>&</sup>lt;sup>22</sup> The illustrations in this example are based on the 20% WL 20% dividend-paying DIA strategy shown in the research, including an \$895,000 annuity contribution and a WL policy with an initial \$1,288,000 death benefit for a 55-year-old male. Here, the illustration includes both a deferral period death benefit and a cash refund benefit during the payout phase for the income annuity. Both the deferral period death benefit and the cash refund benefit protect the value of annuity contribution in the event of an early death, but both benefits also reduce the amount of the guaranteed income payments that would otherwise be payable under the income annuity.

# Figure 4. Mitigating Risks: How Whole Life Insurance and an Income Annuity Work Together



Income payments from a dividend-paying DIA show the opposite relationship between life expectancy and rate of return. The return is low early on, and the inclusion of a deferral period death benefit prevents the return from being negative in the event of an early death. However, the longer the annuitant lives and continues to receive annuity payments, the higher it gets. In this example, the dividend-paying DIA includes a deferral period death benefit based on a cash refund benefit during the payout phase. The return increases from 0% to nearly 2% as the dividend-paying DIA deferral period death benefit grows during the deferral period up to age 65. Then, the income stream begins, and the dividend-paying DIA's cash refund benefit (which guarantees a minimum payout in the event of early death) is phased out over time, causing the rate of return to decline to around 1%. From age 80 on, the rate of return increases continuously with additional income payments. By age 95, the return from the annuity surpasses the return from the WL death benefit.

The combined return shows the hedging benefits when both insurance products are owned. While the combined return for dying young is lower than that from the WL death benefit alone, it is still quite high in the early years. Similarly, the combined return for living a long time is not as high as from the dividend-paying DIA alone, but it is above that for the WL death benefit alone. The combined return reaches a minimum at age 80 that is 3.7% in this example and then remains in the range of 3.7% to 3.8% over time.

# Conclusion

This research builds upon prior findings by demonstrating that retirement income and legacy may be optimized by varying the mix of assets at retirement. For high-net-worth clients near retirement who have not purchased life insurance or income annuities, purchasing insurance products such as 10-Pay WL or a dividend-paying DIA may result in better retirement income and legacy outcomes than investments alone. Even clients with some WL and annuities already may want to consider repositioning assets to shift to an asset mix with additional insurance for better outcomes. Doing so helps ensure clients are well-prepared to navigate several common retirement risks, including leaving a legacy, outliving savings, market volatility, and behavioral risks.

Advisors can help clients optimize their retirement portfolio by considering adding insurance products to their retirement mix. What is the right mix of assets at retirement? It will depend on the client's preferences for risk as well as their desire to maximize retirement income, leave a legacy, or balance the two.

Clients with large taxable balances, especially those in cash or taxable fixed income, may benefit from reallocating those balances to obtain the mortality and longevity protection provided by WL insurance and income annuities, respectively.<sup>23</sup> Advisors may use this research to model a proposed appropriate asset mix in their clients' financial plans to highlight the differences in outcomes.

<sup>&</sup>lt;sup>23</sup> Asset repositioning is not advised for qualified assets prior to age 59.5 due to early withdrawal penalties.

#### TARGETING THE RIGHT MIX OF ASSETS AT RETIREMENT TO OPTIMIZE INCOME AND LEGACY

#### Important Disclosures

All investments carry some level of risk including the loss of principal. No investment strategy can guarantee a profit or protect against a loss.

All depicted WL policies are hypothetical products, reflect industry-average mortality and expenses and a dividend interest rate that correlates to but lags changes in interest rates. They do not represent or approximate any actual policies sold by Northwestern Mutual. Growth in the accumulated value and/or death benefit of any hypothetical WL policy is based on assumed policy guarantees and the payment of non-guaranteed dividends. WL insurance is not an investment or fixed income investment and is purchased to meet death benefit needs.

Using the accumulated value through policy loans, surrenders, or cash withdrawals will reduce both the death benefit and surrender value of the policy, may necessitate a greater premium outlay than anticipated, and may result in an unintended policy lapse and/or an unexpected taxable event.

Generally, the death benefit of life insurance policies that have not been transferred for value is received free from ordinary income tax. Estate taxes may apply. Partial surrenders of life insurance policies are treated first as tax-free distributions of the investment in the contract up to the cost basis followed by taxable distributions of gain once all the cost basis has been distributed. Policy loans are not treated as taxable distributions at the time they are taken. Unpaid loan interest is capitalized to the loan principal and the loan balance may grow large enough to cause the policy to lapse. If a policy lapses or is surrendered prior to the insured's death, the loan will be repaid from the policy's cash value and taxed as a distribution, subject to ordinary income taxation to the extent the loan exceeds the cost basis.

Implied account value represents the present value of future expected income payments from a dividend-paying DIA, which has no cash value or withdrawal rights and cannot be surrendered or exchanged for another contract. Income payments are generally not available until retirement. An assumed sales load of 10% is subtracted from the dividend-paying DIA premium. Then, an industry mortality table is used to calculate the payments and implied account value. Dividend-paying DIAs depicted herein are hypothetical and assume industry-average mortality and expenses and a dividend interest rate that correlates to but lags changes in interest rates. They do not represent or approximate any actual policies sold by Northwestern Mutual. Dividends are not guaranteed.

This publication is not intended as legal or tax advice. Northwestern Mutual and its representatives do not render tax advice. Consult with a tax professional for tax advice that is specific to your situation.

# **APPENDIX**

Table A.1. Other Assumptions

Other Assumptions	
Advisory Fees	1%
Investment Management Fees	0.25%
Taxes	2023 Federal income tax brackets + 6% state income tax
Beneficiary Tax Rate	25%
Annual Turnover	25%
Initial Basis for Taxable Equity	50%
Taxable Annual Turnover	15%
10 Pay Whole Life (WL) Policy	Hypothetical WL purchased at initial age 55 by a healthy male. Non-guaranteed dividends purchase paid-up additions to increase death benefit and accumulated value.
Dividend-Paying Deferred Income Annuity (dividend-paying DIA)	Hypothetical dividend-paying deferred income annuity (joint life, 100% to survivor) purchased at age 55 with taxable assets. An assumed sales load of 10% is subtracted from the DIA premium. 100% of dividends purchase additional income until age 65, when income starts. Then, 50% of dividends purchase future income and 50% are taken as cash distributions for current income. The annuity pays out for the annuitant's entire lifetime.

Table A.2. 60/40 Strategies

60/40 Strategies						
	Annuity Premium	Initial WL Death Benefit	WL Annual Premium			
DIA Strategy						
DIA 10%	\$462,800	_	_			
DIA 20%	\$930,800	_	_			
DIA 30%	\$1,378,000	_	_			
DIA 40%	\$1,747,200	_	_			
WL Strategy						
WL 10%	_	\$652,000	\$53,046			
WL 20%	_	\$1,288,000	\$104,790			
WL 30%	_	\$1,884,000	\$150,362*			
WL 40%	_	\$2,563,000	\$204,553*			
Integrated Strategy						
WL 10% DIA 30%	\$1,332,057	\$652,000	\$53,046			
WL 15% DIA 25%	\$1,109,634	\$960,000	\$78,105			
WL 20% DIA 20%	\$895,000	\$1,288,000	\$104,790			
WL 25% DIA 15%	\$670,000	\$1,604,000	\$130,500			
WL 30% DIA 10%	\$445,000	\$1,884,000	\$150,362*			

 $<sup>*</sup>WL\ policy\ does\ not\ include\ waiver\ of\ premium\ benefit\ because\ the\ annual\ premium\ exceeds\ the\ limit\ for\ eligibility.$ 

Table A.3. 70/30 Strategies

70/30 Strategies					
	Annuity Premium	Initial WL Death Benefit	WL Annual Premium		
DIA Strategy					
DIA 15%	\$634,400	_	_		
DIA 30%	\$1,245,400	_	_		
WL Strategy					
WL 15%	_	\$925,500	\$75,298		
WL 30%	_	\$1,812,500	\$144,656*		
Integrated Strategy					
WL 10% DIA 20%	\$824,106	\$636,000	\$51,744		
WL 15% DIA 15%	\$615,432	\$955,500	\$77,739		
WL 20% DIA 10%	\$407,500	\$1,255,765	\$102,168		

<sup>\*</sup>WL policy does not include waiver of premium benefit because the annual premium exceeds the limit for eligibility.

Table A.4. 80/20 Strategies

80/20 Strategies					
	Annuity Premium	Initial WL Death Benefit	WL Annual Premium		
DIA Strategy					
DIA 10%	\$494,000	_	_		
DIA 20%	\$949,000	_	_		
WL Strategy					
WL 10%	_	\$709,000	\$57,684		
WL 20%	_	\$1,383,000	\$112,519		
Integrated Strategy					
WL 10% DIA 10%	\$483,040	\$709,000	\$57,684		

Table A.5. 90/10 Strategies

90/10 Strategies						
Annuity Premium Initial WL Death Benefit WL Annual Premium						
DIA Strategy						
DIA 10%	\$449,800	_	_			
WL Strategy						
WL 10%	_	\$673,000	\$54,755			
Integrated Strategy						
WL 5% DIA 5%	\$224,768	\$335,000	\$27,255			

# Capital Market Assumptions (CMAs)

The Investment Risk Management division of Northwestern Mutual develops the CMAs, including standard deviations and correlations. These CMAs are based on forecasts of asset class returns over the next 80 years, and the table below includes both expected geometric mean returns and expected arithmetic mean returns. For purposes of performing any probability analysis, CMAs are calculated for each year and vary over time. The model for simulating asset class returns assumes that risk factors in the economy (such as nominal and real interest rates, investment grade corporate spreads and equity factors) are the drivers of asset class returns. Based on the historical correlation between these risk factors and the prices and performance of asset classes, a statistical model is constructed that could explain the prices of asset classes over time. Current valuation levels of asset classes are also considered.

In each of the 1,000 trials, the economic risk factors are randomized to create a possible future path of the economy, and asset prices and returns are calculated each year based on the randomized correlated risk factors. For example, if the risk factors show the economy in a recession, higher corporate spreads correspond to the lower equity returns. The risk factors are randomized using a time series model with mean reversion, meaning that the values in one year are the starting point for determining the values in the next year. However, on average at each year the risk factors are at their long-term economic assumptions that underlie the CMAs and not necessarily at historical averages.

The reported CMAs are long-term CMAs, which are not influenced by cyclical developments or current prices but instead reflect long-term structural assumptions about the economy and markets. Northwestern Mutual CMAs are intended to put into perspective realistic expectations of investment risk-returns profiles of various asset classes and to reflect the relative behavior of the asset classes over the long-term. Our CMAs are forward-looking estimates that are appropriate for long-term financial planning. They are not investment recommendations, projections, or guarantees of actual future performance.

# Limitations of this Analysis

The results of this analysis are based on assumptions that may differ significantly from your own facts and circumstances. Results may vary based on differing assumptions regarding net worth, time horizon, salary, and other variables. This analysis also uses an assumed portfolio that may not be appropriate for you depending on your risk tolerance and investment objectives. Use of a different assumed portfolio may cause results to differ. This analysis does not project the results of any actual investments or holdings and should not be interpreted as a recommendation of any particular investment or investment strategy.

#### TARGETING THE RIGHT MIX OF ASSETS AT RETIREMENT TO OPTIMIZE INCOME AND LEGACY

Asset Class	Expected Return - Geometric	Expected Return - Arithmetic	Standard Deviation
US Equity - Large Cap	6.88%	8.15%	16.37%
US Equity - Mid Cap	7.26%	8.85%	18.18%
US Equity - Small Cap	7.72%	9.74%	20.71%
Int'l Developed Markets	6.98%	8.35%	17.02%
Int'l Emerging Markets	7.92%	10.09%	21.66%
Real Estate Securities	6.55%	8.20%	18.92%
Commodities	3.53%	4.81%	16.82%
Fixed Income	4.11%	4.22%	5.22%
Cash	2.44%	2.46%	2.74%

Correlations: The following asset class correlation coefficients were used (rounded to nearest hundredth).

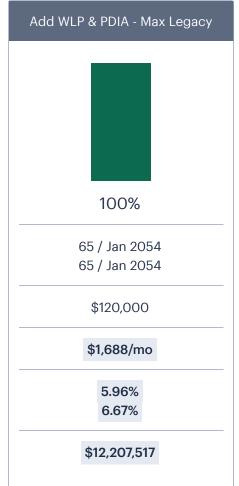
Asset Class	US Equity Large Cap	US Equity Mid Cap	US Equity Small Cap	Int'l Developed Markets	Int'l Emerging Markets	Real Estate Securities	Com- modities	Fixed Income	Cash
US Equity - Large Cap	1.00	0.97	0.88	0.88	0.73	0.73	0.37	0.08	0.20
US Equity - Mid Cap		1.00	0.95	0.87	0.74	0.75	0.39	0.07	0.18
US Equity - Small Cap			1.00	0.78	0.67	0.70	0.30	0.02	0.17
Int'l Developed Markets				1.00	0.85	0.65	0.47	0.12	0.19
Int'l Emerging Markets					1.00	0.52	0.50	0.14	0.14
Real Estate Securities						1.00	0.23	0.35	0.12
Commodities							1.00	0.08	0.14
Fixed Income								1.00	0.38
Cash									1.00

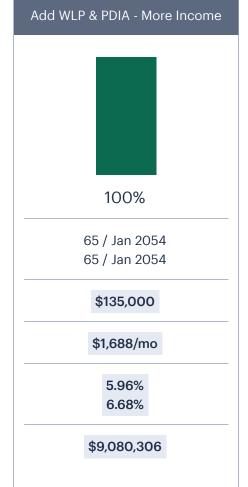
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# Retirement Scenario Comparison



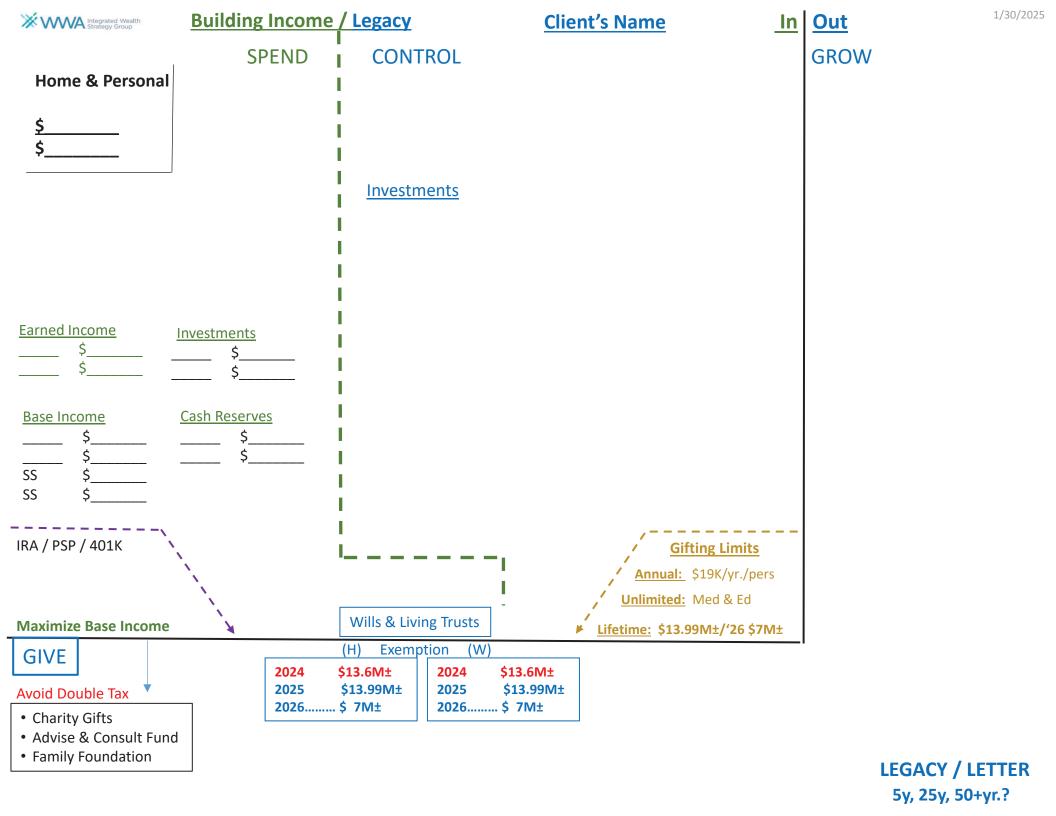


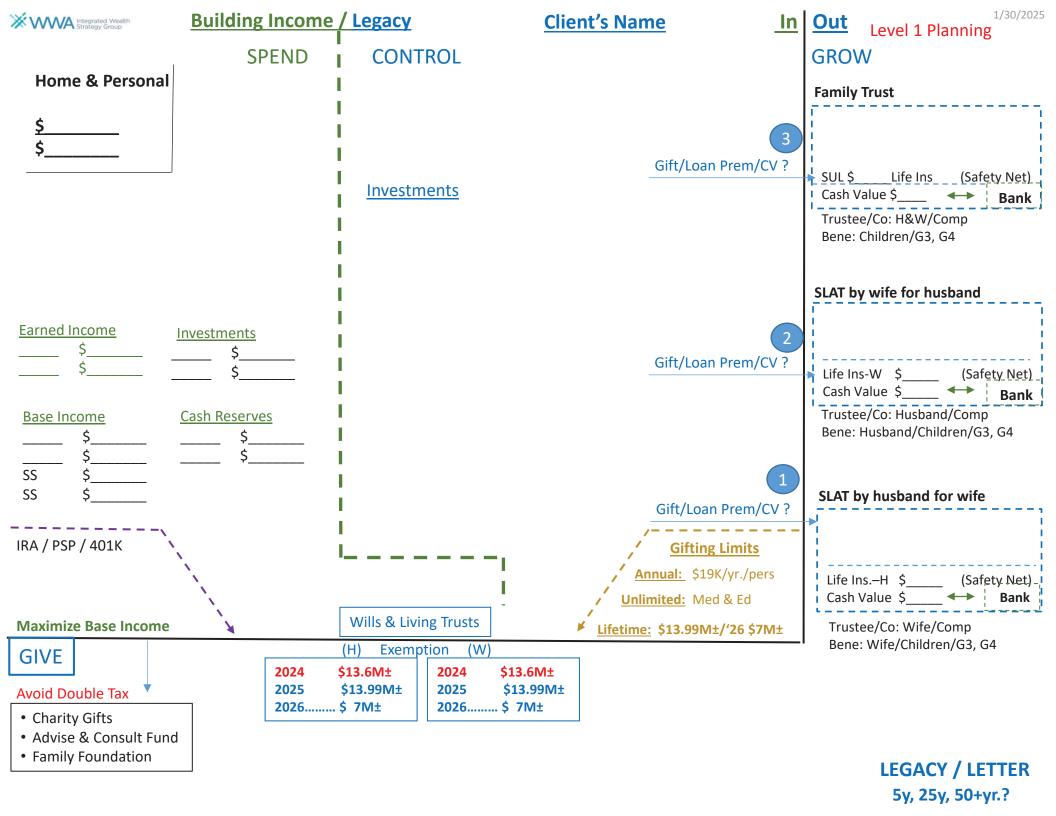


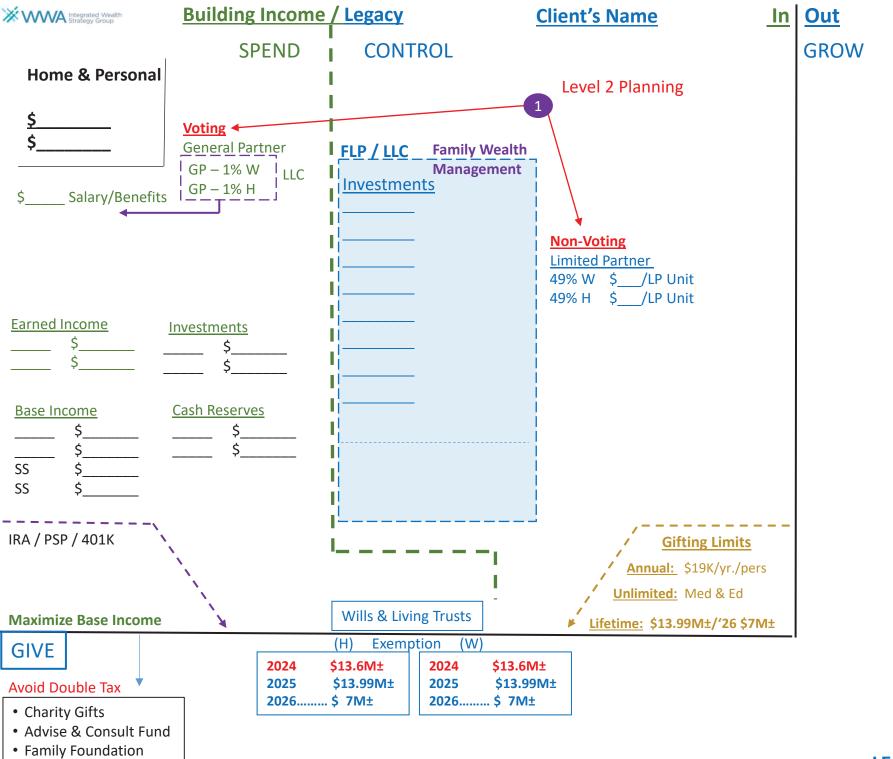
Add WLP & PDIA - Max Income						
100%						
65 / Jan 2054 65 / Jan 2054						
\$170,000						
\$1,688/mo						
5.96% 6.75%						
\$2,395,542						

Rates of return used to grow assets are hypothetical assumptions that you believe are reasonable for this plan and are not guarantees or projections. If your plan includes a probability analysis or an analysis of your current or target asset allocation, those analyses may use assumptions regarding rates of return that are different from those used to model growth of your assets. 1. Legacy includes net death benefit proceeds. Legacy Does not include lifetime gifting or income from trusts. Legacy is in future dollars.









1/30/2025

