

A Research Report
for Individuals

The MassMutual Single Premium Immediate Annuity (SPIA) Synergy Study

New Planning Approaches and Strategies
for the Retirement Income Challenge

A Research Report
August 2010



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The MassMutual Single Premium Immediate Annuity (SPIA) Synergy Study

The MassMutual SPIA Synergy Study is based on historical performance of market indexes. The data produced by the study represents hypothetical investments in market indexes, not the actual performance of specific products or planning solutions. Past performance is not indicative of future performance.

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Study Overview

As 60,000 Baby Boomers per week move into retirement, the retirement income challenge has become a reality.¹ Today's wave of retirees must have effective distribution strategies that can maintain income over longer lifetimes and through more volatile markets.

Single Premium Immediate Annuities (SPIAs) are products through which life insurance companies guarantee income that can last for life.* Although SPIAs possess unique attributes for today's retirees, they are not as well understood – and have not been as widely used – as many other retirement income strategies. However, SPIAs are gaining greater acceptance as components of a coordinated retirement distribution strategy capable of meeting each person's lifetime income goals.

The Massachusetts Mutual Life Insurance Company (MassMutual) SPIA Synergy Study is designed to analyze new planning approaches and strategies that combine SPIAs with other techniques to create retirement income synergies. Using historical scenarios, it evaluates how different retirement income strategies hypothetically would have met four separate client goals: sustainable income, liquidity, accessibility and legacy. This Research Report summarizes study findings and includes “planning points” to help readers interpret the study data.

The Study

The Massachusetts Mutual Life Insurance Company (MassMutual) SPIA Synergy Study is designed to analyze new planning approaches and strategies that combine SPIAs with other techniques to create retirement income synergies.

* Guarantees and payments of lifetime income are based on the claims-paying ability of the issuing insurance company and do not apply to the investment performance of variable investment choices.

Introduction

Impacting Retirement Confidence

The ability to enjoy retirement and live it to the fullest can depend on the retired person's state-of-mind and sense of financial security. Plans made and decisions taken near the start of retirement can have a powerful impact on retirement confidence and the quality-of-life.

In specific ways, the retirement income challenge has become more complex than many people anticipated. Economic conditions are more uncertain and financial markets more volatile. Historically low interest rates have cut into the incomes retired people earn from bonds, money market funds and CDs. And, many people have increased concerns over rising government deficits, inflation, pensions and Social Security.

Fundamentally, the challenge has not changed. An effective retirement income planning process, guided by a qualified professional, should aim to convert each person's nest egg into "longevity confidence," which means having enough income to maintain a desired lifestyle as long as the retiree lives. From age 65, the average American male now can expect to live to age 82, and the average female to age 85. Yet, 19% of men and 31% of retiring women will live at least to age 90.²

The ability to enjoy retirement and live it to the fullest can depend on the retired person's state-of-mind and sense of financial security. Plans made and decisions taken near the start of retirement can have a powerful impact on retirement confidence and the quality-of-life. The "key to confidence" often is to plan for a steady income each retired person can't outlive, while also addressing other important goals such as maintaining liquidity or leaving a legacy.

Retirement Income Challenge

On the whole, the financial services industry has focused on helping individuals accumulate assets for retirement more than on planning for retirement income. But, it has become clear that times are changing. More financial professionals and retirees are accepting the challenge of planning incomes and expenses because:

- **Income is a key component of overall retirement planning** – Income planning can help to bring other retirement goals, such as providing for a spouse or leaving a legacy to children, in focus. When individuals have confidence their incomes will last as long as they do, they often have more flexibility to address other important goals.
- **Income is a critical retirement need** – Most affluent Americans need to maximize income in retirement to meet basic living expenses, rising health care costs, long-term care expenses, and unplanned needs. A 2009 survey of retirees with at least \$200,000 in investable assets found that affluent Americans are spending almost two-thirds of their incomes on essential living expenses.³
- **Income may have to last at least 30 years** – For individuals who retire in their early- to mid-60s, it is prudent to plan a retirement income that can last at least 30 years, due to the increased likelihood people will live longer in retirement. The portion of this income that can be provided by long-term bonds is somewhat predictable, based on current yields that can be locked-in near the start of retirement. The portion of retirement income provided by stocks is much less predictable and can vary greatly, depending on whether the stock market environment turns bearish or bullish.

Income is Critical

Most affluent Americans need to maximize income in retirement to meet basic living expenses, rising health care costs, long-term care expenses, and unplanned needs.

Strategies for Meeting the Retirement Income Challenge

Retirees are primarily using three strategies to create retirement income.

Variable Annuities

Variable annuities are long-term retirement products that allow individuals to invest on a tax-deferred basis in variable investment choices.

A Systematic Withdrawal Program (SWP) has been a traditional method used to convert retirement assets, including mutual funds and annuities, into retirement income. A targeted level of steady income is provided first from investment dividends or interest payments and then, if necessary, by liquidating principal. SWPs have at least some risk of running out of money. In particular, an early bear market can place significant strain on an SWP strategy.

As an example, consider an extreme scenario that is still a vivid memory for most, and an unfortunate reality for some. A 5% withdrawal against a 100% stock portfolio beginning in 2000 would have depleted principal to 30% of its original value through the end of 2008.⁴ The probability of sustaining a level income for another 27 years would be greatly diminished.

To reduce exposure to the vulnerabilities of equity-heavy SWPs, some financial professionals suggest a **Variable Annuity with a Guaranteed Minimum Withdrawal Benefit (GMWB)** to assure long-term level income. Variable annuities are long-term retirement products that allow individuals to invest on a tax-deferred basis in variable investment choices. The GMWB is an optional benefit (offered for an additional charge) that generally provides guaranteed lifetime income through withdrawals that can begin immediately from a variable annuity. And, many life insurance companies now offer GMWBs that allow level annual withdrawals for life, regardless of market performance. However, withdrawals in excess of the level annual withdrawal amounts could negatively impact the amount of guaranteed lifetime income. In addition, most GMWBs offer the potential to “step up” the annual withdrawal to a higher amount, particularly if variable annuity performance is strong in the early years. (See the Product Descriptions in the Appendix)

Single Premium Immediate Annuities (SPIAs) are insurance contracts that guarantee fixed payments for the life or lives of the annuitant(s) or for a specific period of time. As **income-focused** products, they have been offered by the life insurance industry for decades. However, compared to **accumulation-focused** products such as deferred annuities, SPIAs historically have been a “niche solution.” As components of a coordinated, professionally-guided income planning process, **SPIAs offer these benefits:**

- **Longevity protection** – SPIAs put the guarantee of an insurance company (subject to its claims-paying ability) behind the promise of an income payout over one or two lifetimes. They provide longevity protection at any age – an income retiree can count on and won’t outlive.
- **Risk pooling** – SPIA payout rates benefit from the pooling of risk among large numbers of annuitants. Income payouts can be higher than non-insured investments (especially when payouts start at older ages) because they reflect the reality that some annuitants will not live to average life expectancy.
- **Return of principal** – Many SPIAs are now commonly being sold with “cash refund” provisions to assure that 100% of remaining premium will be returned to a beneficiary, if the annuitant dies too soon to collect it as income. This eliminates the concern that a contract owner could lose principal in the event of a premature death.
- **Confidence-building simplicity** – SPIAs often are “one-decision” solutions. They increase retirees’ confidence by providing a floor level of periodic income to meet essential expenses.

SPIAs also have drawbacks such as lack of capital growth potential and limited ability to change the income payout or take lump-sum withdrawals after purchase.

In fact, there is no single “silver bullet” that provides a solution to the retirement income challenge. When a variety of products and planning techniques are combined to meet each person’s unique needs, the whole can be stronger than the sum of the parts. For example, an allocation of some retirement assets to a SPIA can create the confidence clients need to invest other assets more aggressively, and increase the likelihood of sustaining portfolio assets over longer lifetimes or through challenging market environments.

Meeting the Challenge

There is no single “silver bullet” that provides a solution to the retirement income challenge. When a variety of products and planning techniques are combined to meet each person’s unique needs, the whole can be stronger than the sum of the parts.

The MassMutual SPIA Synergy Study

The MassMutual SPIA Synergy Study evaluated hypothetical retirement strategies assuming an immediate income need over many different historical periods, including scenarios in which the stock market was bearish, bullish, or flat in the early years of retirement.

This study was constructed to understand how different strategies can work over time, and it is not intended to replicate a real planning situation or particular person's circumstance. **Data produced by the study represents hypothetical investments in market indexes, not the actual performance of specific products or planning solutions. Past performance is not indicative of future performance.**

After briefly explaining the rationale and methodology of the study, this report summarizes key study findings and their implications for SPIA Synergy Strategies. Detailed results and assumptions are included in the Study Methodology and Details section, at the end of the report. To understand the study's design parameters and limitations, plus a detailed description of the products discussed in this report, see the Appendix.

Design of the MassMutual SPIA Synergy Study

One goal in designing the MassMutual SPIA Synergy Study was to address retirement income planning situations that are typical and realistic – similar to those retired people commonly face. Another goal was to “level the field” across different strategies, so results would be comparable. To fulfill these competing goals, we modeled hypothetical results for a 65 year old male who has accumulated a nest egg of \$1 million for retirement income purposes, and whose goal is to produce a level 5% (\$50,000) annual floor income over a 35-year period. (For a joint life analysis, see the Addendum to this report.)

A basic hypothesis built into the study is that SPIAs often add value to retirement income strategies when they are used in combination with other products. For this reason, we studied historical hypothetical results of two different strategies that create synergies between SPIAs and other products:

1 | SPIA with Mutual Fund (MF) Side Fund – We “shopped” for an average of SPIA quotes from five top carriers in today’s market. (For details, see Study Methodology and Details.) To produce \$50,000 of level annual guaranteed income based on these quotes, we assumed \$760,616 was committed to a SPIA. The balance of a \$1 million nest egg (\$239,384) was assumed to be invested in a mutual fund “side fund” invested 100% in equities. We chose a 100% equity allocation because we consider SPIA a fixed asset class. Therefore, the strategy’s total equity allocation is approximately 24%. To address the concern that a SPIA can be unrewarding if the annuitant dies in the early years, we shopped for SPIAs with a “cash refund” feature – i.e., if the annuitant dies before receiving back at least the initial premium paid in income payments, a lump-sum benefit equal to the remaining premiums is paid to the beneficiary. We assumed fees for the mutual fund, as explained under Study Methodology and Details.

The Hypothesis

A basic hypothesis built into the study is that SPIAs often add value to retirement income strategies when they are used in combination with other products.

Design of the MassMutual SPIA Synergy Study (continued)

2 | SPIA and Mutual Fund (MF) SWP – This strategy acknowledges that some people may be unwilling to make a SPIA purchase as large as the one previously described, because it would require giving up too much liquidity in early retirement years. In this strategy, we assumed the SPIA would only cover 50% of the target income, which meant the SPIA purchase was cut in half (to \$380,308). We allocated the remainder of assets (\$619,692) to a Systematic Withdrawal Program (SWP) assumed to be invested in mutual funds allocated 70% to equities and 30% to bonds. With less income guaranteed by the SPIA, we chose to be more conservative with this equity allocation than in the first strategy. (See Study Methodology and Details.)

We then compared these two “SPIA Synergy Strategies” to two other retirement income strategies:

3 | Pure SWP – All \$1 million was assumed to be invested in a mutual fund allocated 60% to equities and 40% to bonds. A level \$50,000 per year (5% of principal) was assumed to be withdrawn at the start of each year. This strategy uses the most conservative asset allocation because we believe it would be consistent with the risk tolerance of a 65-year-old investing with no guarantees. (See Study Methodology and Details.)

4 | Variable Annuity (VA) with GMWB – All \$1 million was assumed to be invested in a variable annuity allocated 70% to equities and 30% to bonds. We assumed the GMWB would guarantee a \$50,000 level annual withdrawal for life, starting immediately. However, GMWB withdrawals exceeding \$50,000 per year, due to step-ups in the Benefit Base, were withdrawn from the variable annuity and re-invested in a hypothetical mutual fund “side fund” (i.e. a separate mutual fund outside the variable annuity) assuming a 100% equity allocation. We assumed a slightly more aggressive variable annuity asset allocation due to the guarantee offered by the GMWB. We assumed a 100% equity “side fund” allocation, consistent with the SPIA with Mutual Fund Side Fund strategy. We assumed fees for the VA and GMWB as explained under Study Methodology and Details.

For more information on the products described above, including a comparison of their features and tax treatment, see the Appendix.

Assumptions Overview

In all cases, we assumed a 4% annual return (before fees) on bond investments, which corresponded to yields on long-term U.S. Treasury bonds at the time of the study's design. This assumption allows for consistency, since both SPIA (rates as of the study's design) and bonds reflect the same low current interest rate environment. Actual historical returns including dividends (before fees) were used for equities.

We then modeled hypothetical results over 12,678 historical scenarios of 35 years in length, beginning on the first trading day of 1950 (1/3/50). For each of the first 6,339 historical scenarios, we moved the historical start date forward by one trading day, with the final scenario beginning on 4/21/75 and ending on 4/21/10. To capture the bull market years of the '80s and '90s earlier in the scenarios, when they would have had a greater impact on retirement income, we ran all 6,339 scenarios in reverse order to achieve the total of 12,678 scenarios. Finally, we singled out scenarios for special emphasis, to highlight the impact of different stock market environments near the start of retirement:

- **Bear Market start (1973-2003)** – This 30-year period (starting in February of 1973) was chosen to show the impact of a negative stock market in the first five years. (Annualized first 5-year return = -2.5%).
- **Bull Market start (1982-2010)** – This 28-year period was chosen to show the impact of a strongly positive stock market in the first five years. (Annualized first five-year return = 16.9%). The period is only 28 years long because the end date falls near the present.
- **Flat Market start (1966-96)** – This 30-year period was chosen to show the impact of a flat stock market in the first five years. (Annualized first five-year return = 1.9%).

Study Methodology and Details

A detailed description of the study methodology and assumptions is available on page 26.

Retirement Goals Studied

Typical Retiree Goals:

The MassMutual SPIA Synergy Study evaluated four typical retiree goals:

- Sustainable Income
- Liquidity
- Accessibility
- Legacy

To implement effective retirement income plans, retired individuals often are challenged to balance the need for retirement income with other client goals. The MassMutual SPIA Synergy Study evaluated four typical retiree goals:

- 1 | **Sustainable Income** – How successful was each strategy in maintaining the target (\$50,000) annual income over a 35-year retirement income planning period?
- 2 | **Liquidity** – What assets could be liquidated at any point in time, regardless of impact on floor income security?
- 3 | **Accessibility** – What assets are accessible without forfeiting floor income at various ages throughout retirement?
- 4 | **Legacy** – This is the amount received by heirs under each strategy, which includes any Cash Refund on the SPIA, the value of the mutual fund, and the VA's guaranteed death benefit.

We believe these four goals provide a realistic framework for evaluating combinations and tradeoffs in retirement income planning. For example, some retired people may want to put the weight of their planning on one of these goals or else a mix of two or three. The study was designed to suggest synergies between SPIAs and other choices in meeting diverse client objectives.

Key Study Findings - Sustainable Income

The two SPIA Synergy Strategies and the Variable Annuity with GMWB provided lifetime sustainability of the \$50,000 target income in all 12,678 historical scenarios. The SWP also did a fairly good job of sustaining income – with all 35 years of level income provided in 99% of scenarios. While only 1% of SWP scenarios failed, it is worth noting that all failing scenarios occurred when the first year of retirement coincided with the recent economic downturn of 2008 and 2009. (All were among the scenarios run in reverse.)

In the three selected “market environment” scenarios (Bear-start, Bull-start, Flat-start), the target income was maintained by all strategies.

Planning Points

- When only a level annual income is targeted (e.g., 5% of principal), history suggests that a retired person stands a good chance of sustaining a level, non-increasing income for up to 35 years in a variety of strategies.
- The two SPIA Synergy Strategies and the Variable Annuity with GMWB provide the additional confidence of guaranteed income, regardless of market environment. Income from a pure SWP strategy alone can be vulnerable over time if the client experiences a bear market in the early years of retirement.

Historical Scenarios

While only 1% of SWP scenarios failed, it is worth noting that all failing scenarios occurred when the first year of retirement coincided with the recent economic downturn of 2008 and 2009. (All were among the scenarios run in reverse.)

In the three selected “market environment” scenarios (Bear-start, Bull-start, Flat-start), the target income was maintained by all strategies.

Key Study Findings - Liquidity

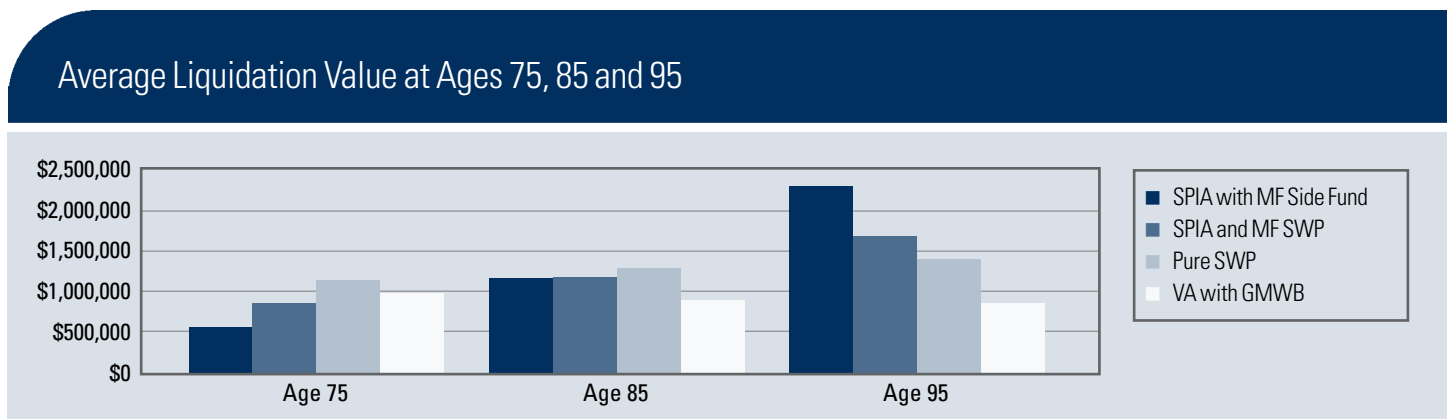
What if the retiree changes his/her mind about retirement objectives?

How much money is liquid – i.e., may be made available quickly and easily under each strategy, without regard to impact on floor income?

For all historical scenarios studied, the answers to the question are shown below.

Average Liquidation Value at Ages 75, 85, and 95

The table below summarizes the average liquidation value in each of the four strategies, for all 12,678 historical scenarios, at ages 75, 85, and 95.



Highest Liquidation Value by Strategy at Ages 75, 85 and 95

The table below summarizes the percentage of all historical scenarios in which each of the four strategies produced the highest liquidation value. The purpose of this table is to show a distribution of results by strategy. (Averages can be distorted by extreme scenarios.)

Highest Liquidation Value by Strategy at Ages 75, 85 and 95			
Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund*	0%	36%	91%
2. SPIA and MF SWP*	0%	0%	1%
3. Pure SWP	100%	60%	8%
4. VA with GMWB	0%	4%	0%

***Please note:** Only the SPIA Synergy Strategies provide a continuation of guaranteed annual income after liquidation. The SPIA with MF Side Fund continues to provide \$50,000 for life while the SPIA with Mutual Fund SWP provides \$25,000 for life.

Bear, Bull and Flat Scenarios

These tables summarize the liquidation values for each of the three market scenarios chosen at ages 75, 85 and 95.

Bear Market (1973-2003)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$294,209	\$944,788	\$2,046,865
2. SPIA and MF SWP	\$462,785	\$732,947	\$1,092,205
3. Pure SWP	\$641,358	\$665,457	\$596,720
4. VA with GMWB	\$423,795	\$33,295	\$0*

* Liquidity = zero after year 21

Bull Market (1982-2010)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$844,557	\$2,423,895	\$2,418,949
2. SPIA and MF SWP	\$1,206,198	\$2,399,424	\$2,430,762
3. Pure SWP	\$1,578,466	\$2,631,745	\$2,541,816
4. VA with GMWB	\$1,476,287	\$2,375,686	\$1,848,106

Flat Market (1966-1996)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$245,848	\$591,849	\$1,807,947
2. SPIA and MF SWP*	\$437,396	\$484,928	\$742,163
3. Pure SWP	\$624,326	\$422,775	\$127,841
4. VA with GMWB	\$441,297	\$0**	\$0**

** Liquidity = zero after year 19.

Key Study Findings - Liquidity (continued)

Liquidity and Income

Liquidation means “the end of the income” in all strategies except those with SPIAs. SPIA Synergy Strategies allow total liquidation of the amounts shown in the table (which include all accounts, except the SPIA) plus a continuation of guaranteed income.

Planning Points

- Most retirees believe they must sacrifice guaranteed income to emphasize liquidity, and vice versa. The analysis shows that this belief is more compelling in some strategies and market environments than others.
- The VA with GMWB is the highest-cost solution, in terms of product fees. In return for paying these costs to guarantee annual income withdrawals for life, this strategy can enable retired clients to invest more aggressively than they otherwise might. (This is reflected in the 70% equity, 30% bond allocation of this strategy.) The study results show that the VA with GMWB can make an excellent liquidity provider in bull market environments and a poor liquidity provider in bear or flat markets. Higher fees and withdrawals on a declining asset base were key contributors to lower liquid account values. The impact can be severe in bear and flat markets.
- The Pure SWP provides the best pure liquidity in the early years of retirement. The SPIA with MF Side Fund scores highest on liquidity in the later years of retirement. For clients who want to maintain consistent liquidity across all retirement years and in various market environments, the SPIA and MF SWP may be an attractive choice.
- Liquidation means “the end of the income” in all strategies except those with SPIAs. SPIA Synergy Strategies allow total liquidation of the amounts shown in the table (which include all accounts, except the SPIA) plus a continuation of guaranteed income.

Key Study Findings - Accessibility

We defined accessibility as the amount of assets that can be withdrawn from the retiree's portfolio without impacting the security of the floor income.

In the SPIA with MF Side Fund, it is always equal to the amount of the side fund. Quantifying accessibility for the other strategies requires a computation of assets that are accessible without compromising the GMWB guarantee or the reasonable expectation of sustaining mutual fund SWP withdrawals.

For the SPIA and Mutual Fund SWP, Pure SWP, and VA with GMWB strategies, we considered the account value(s) remaining after annuitizing an amount sufficient to produce the target income at a current age. For the GMWB strategy, if a greater accessible value was produced we used the dollar amount of assets which could be withdrawn while maintaining a benefit base sufficient to produce the target income. Here are the summary results:

- The two SPIA Synergy Strategies, on average, provided the highest accessible value at any age. The accessibility advantage they produce increases with age. In the SPIA with MF Side Fund, this occurs because the side fund is completely accessible since it is not used to produce income and can grow unhindered over time. The SPIA with MF SWP produces similar results since the mutual funds are producing only half the target income from account values (SPIA produces the rest) versus the Pure SWP and VA with GMWB which produce all income from the account values.
- More than other strategies, the VA with GMWB strategy had the most instances in which it provided no accessibility, as the side fund had no account value and the withdrawal of any amount from the VA would reduce the guaranteed income below the \$50,000 target income.
- The VA with GMWB had no accessibility in 19% of the scenarios at age 75, 21% of the scenarios at age 85, and 22% of the scenarios at age 95.

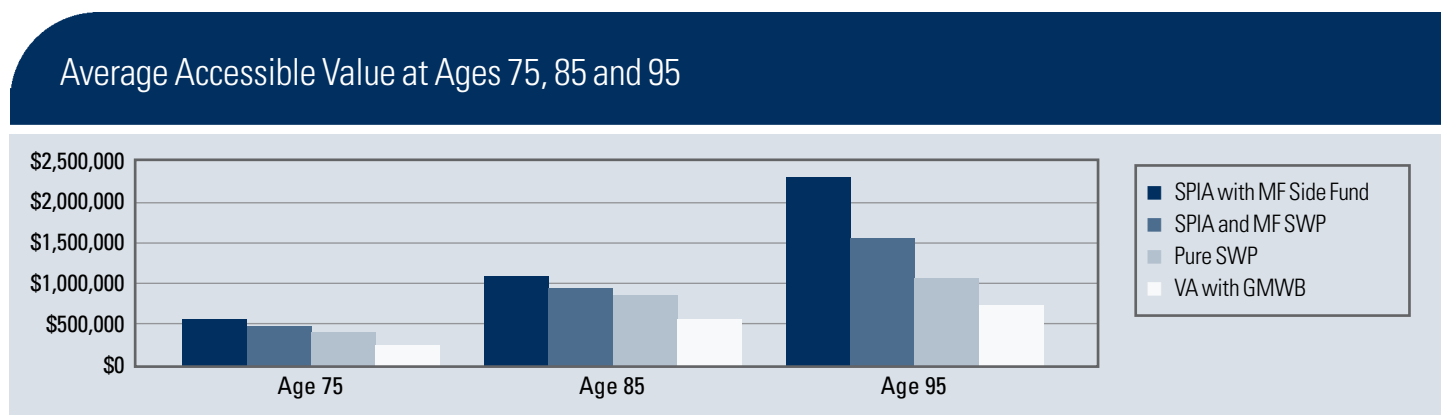
Supporting data is available on the next page.

More than other strategies, the VA with GMWB strategy had the most instances in which it provided no accessibility, as the side fund had no account value and the withdrawal of any amount from the VA would reduce the guaranteed income below the \$50,000 target income.

Key Study Findings - Accessibility (continued)

Average Accessible Value at Ages 75, 85 and 95

The table below summarizes the average accessible value in each of the four strategies, for all 12,678 historical scenarios, at ages 75, 85, and 95.



Highest Accessible Value by Strategy at Ages 75, 85 and 95

This table summarizes the percentage of all historical scenarios in which each of the four strategies produced the highest accessible value. The purpose of this chart is to show a distribution of results by strategy. (Averages can be distorted by extreme scenarios.)

Highest Accessible Value by Strategy at Ages 75, 85 and 95

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	75%	93%	99%
2. SPIA and MF SWP	3%	4%	0%
3. Pure SWP	22%	2%	1%
4. VA with GMWB	0%	1%	0%

Bear, Bull and Flat Scenarios

These tables summarize the accessible values for each of the three market scenarios chosen at ages 75, 85 and 95.

Bear Market (1973-2003)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$294,209	\$944,788	\$2,046,865
2. SPIA and MF SWP	\$112,203	\$498,293	\$945,775
3. Pure SWP	\$0	\$196,149	\$303,860
4. VA with GMWB	\$0	\$0	\$0

\$0 – no money accessible without reducing floor income

Bull Market (1982-2010)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$844,557	\$2,423,895	\$2,418,949
2. SPIA and MF SWP	\$855,616	\$2,164,771	\$2,269,835
3. Pure SWP	\$877,303	\$2,162,437	\$2,219,962
4. VA with GMWB	\$775,124	\$1,906,378	\$1,563,597

Flat Market (1966-1996)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$245,848	\$591,849	\$1,807,947
2. SPIA and MF SWP	\$86,814	\$250,275	\$595,733
3. Pure SWP	\$0	\$0	\$0
4. VA with GMWB	\$0	\$0	\$0

\$0 – no money accessible without reducing floor income

Key Study Findings - Accessibility (continued)

The SPIA with MF Side Fund is the only one of the four strategies studied in which liquid value always equals accessible value. Because 100% of the target income is provided by the SPIA, the full value of the Side Fund can be accessed at all times.

Planning Points

- Many retirees may not consider that the longer they live, the more likely they are to need accessible cash for a special opportunity, one-time purchase, medical need, gift, or other purpose. They can plan for this contingency by choosing strategies that offer the flexibility to access money, when necessary.
- The SPIA with MF Side Fund is the only one of the four strategies studied in which liquid value always equals accessible value. Because 100% of the target income is provided by the SPIA, the full value of the Side Fund can be accessed at all times.
- Unless the early years of retirement coincide with a bull market, Pure SWPs and Variable Annuities with GMWBs may not meet accessibility goals. Given weak investment performance, accessibility can be compromised in these strategies fairly early in retirement.

Key Study Findings - Legacy

SPIAs have remained a niche retirement solution, in part, because some people have perceived them to be incompatible with legacy goals. Logically, it is true that the same nest egg assets can't be converted into a lifetime income stream (with risk-pooling) and also be left to heirs.

An important design element of our study was to measure how effectively SPIA Synergy Strategies may work for clients who want to emphasize both sustainable income and legacy goals. For this reason, we included a "cash refund" feature in the SPIA Synergy Strategies, to enhance their ability to meet legacy goals in the event of a premature death.

The legacy value of each strategy is the amount available to heirs, which includes any cash refund on the SPIA, the value of the mutual fund, and the VA's guaranteed death benefit.

Income Goals vs. Legacy Goals

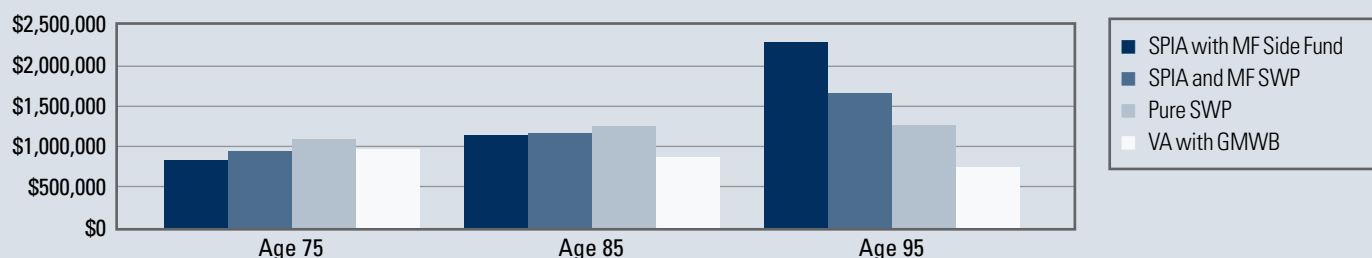
An important design element of our study was to measure how effectively SPIA Synergy Strategies may work for clients who want to emphasize both sustainable income and legacy goals. For this reason, we included a "cash refund" feature in the SPIA Synergy Strategies, to enhance their ability to meet legacy goals in the event of a premature death.

Key Study Findings - Legacy (continued)

Average Legacy Value at Ages 75, 85 and 95

This table summarizes the average legacy value in each of the four strategies for all 12,678 historical scenarios, at ages 75, 85, and 95. In each case, data assumes no previous withdrawals.

Average Legacy Value at Ages 75, 85 and 95



Highest Legacy Value by Strategy at Ages 75, 85 and 95

This table summarizes the percentage of all historical scenarios in which each of the four strategies produced the highest legacy value. The purpose of this chart is to show a distribution of results by strategy. (Averages can be distorted by extreme scenarios.)

Highest Legacy Value by Strategy at Ages 75, 85 and 95

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	0%	36%	91%
2. SPIA and MF SWP	0%	0%	1%
3. Pure SWP	98%	60%	8%
4. VA with GMWB	2%	4%	0%

Bear, Bull and Flat Scenarios

This table summarizes the legacy values for each of the three market scenarios chosen at ages 75, 85 and 95.

Bear Market (1973-2003)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$554,825	\$944,788	\$2,046,865
2. SPIA and MF SWP	\$593,093	\$732,947	\$1,092,205
3. Pure SWP	\$641,358	\$665,457	\$596,720
4. VA with GMWB	\$500,000	\$33,295	\$0*

* Legacy = zero after year 21

Bull Market (1982-2010)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$1,105,173	\$2,423,895	\$2,418,949
2. SPIA and MF SWP	\$1,336,506	\$2,399,424	\$2,430,762
3. Pure SWP	\$1,578,466	\$2,631,745	\$2,541,816
4. VA with GMWB	\$1,476,287	\$2,375,686	\$1,848,106

Flat Market (1966-1996)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	\$506,464	\$591,849	\$1,807,947
2. SPIA and MF SWP	\$567,704	\$484,928	\$742,163
3. Pure SWP	\$624,326	\$422,775	\$127,841
4. VA with GMWB	\$500,000	\$0**	\$0**

** Legacy = zero after year 20

Key Study Findings - Legacy (continued)

SPIA Synergy

SPIAs with MF Side Funds will work best for those who greatly outlive life expectancy because 100% of income is generated by the SPIA, meaning more money is left to accumulate over time.

This is a prime example of SPIA synergy.

Planning Points

- The Pure SWP strategy generally works best to meet legacy goals when death occurs in the early years of retirement. However, the longer the retiree lives, the more likely either of the two SPIA Synergy Strategies probably will provide more assets for heirs. In 92% of historical cases studied, one of these two strategies provided the highest legacy value at age 95. (The Pure SWP worked best in the other 8% of cases.)
- By early in year 15, the cash refund feature built into the SPIA with MF Side Fund has no additional value because the full premium has been recovered. ($\$760,616$ premium divided by $\$50,000 = 15.2$.) From that point on, the strategy's liquid, accessible and legacy values are equal, with all three generated 100% by the Side Fund.
- In the Pure SWP and VA with GMWB strategies, it may be legacy value that is most impacted by bearish or flat market environments near the start of retirement. For example, under our Bear market scenario, the VA with GMWB provided guaranteed income for life – but it left nothing for heirs after age 85 (year 20), because the VA's guaranteed death benefit had been reduced to zero. A death benefit is no longer available once the account value goes to zero and the client has received at least a return of premium through withdrawals, even with a GMWB.
- From an heir's perspective, Pure SWPs will work best for those who don't live very long in retirement because money that might otherwise be used to purchase a SPIA is available in the early years. SPIAs with MF Side Funds will work best for those who greatly outlive life expectancy because 100% of income is generated by the SPIA, meaning more money is left to accumulate over time. This is a prime example of SPIA synergy. If legacy goals are important and retirees have average health and longevity prospects, the SPIA and MF SWP split the difference.

Conclusion

SPIAs traditionally have been a niche retirement product, and this may be due to perceptions that they stand alone in retirement planning, apart from traditional strategies such as SWPs and VAs with living benefits. The MassMutual SPIA Synergy Study has demonstrated creative applications for integrating SPIAs into planning near the start of retirement, to help meet diverse personal goals with greater assurance and efficiency.

Retirement can be a long journey, and most retired people need a map and guide to navigate unfamiliar territory and obstacles. A weak market environment in the early years of retirement poses one obstacle. “Longevity risk,” the potential that money may run out in the later years, poses another. Even if retired people manage to maintain adequate income while coping with these obstacles, their liquidity, accessibility or legacies ultimately may be diminished.

For many Baby Boomers now moving into retirement, the severe bear market of 2008 and early 2009 was a wake-up call. It demonstrated that even if you plan conservatively, the timing of retirement can be a significant variable and have heavy impact on long-term financial security, especially in Pure SWPs. Retirees who started VA/living benefit strategies just before the bear market began have some assurance of income or withdrawals they can’t outlive. However, post-Bear market, any retirement goals they may have involving liquidity, accessibility or legacy could be unattainable. MassMutual hopes our SPIA Synergy Study has been useful in helping you evaluate a variety of retirement income choices.

Liquidity Risk

A weak market environment in the early years of retirement poses one obstacle. “Longevity risk,” the potential that money may run out in the later years, poses another. Even if retired people manage to maintain adequate income while coping with these obstacles, their liquidity, accessibility or legacies ultimately may be diminished.

The MassMutual SPIA Synergy Study has demonstrated creative applications for integrating SPIAs into planning near the start of retirement, to help meet diverse personal goals with greater assurance and efficiency.

Study Methodology and Details

Hypothetical Client:

Male, age 65 with \$1,000,000 set aside to generate sustainable income and address other retirement goals.

Sustainable Income Goals:

- Provide a level \$50,000 per year of “floor income” to fund essential expenses over a 35-year period.
- Meet other needs such as liquidity, accessibility and legacy.

Strategies:

SPIA with Mutual Fund (MF) Side Fund:

- \$760,616 premium to purchase lifetime income of \$50,000 (male age 65) with cash refund; cash refund pays the beneficiary a lump-sum upon the annuitant’s death equal to premiums less all income payments to date.
- \$239,384 invested into “Side Fund” – a mutual fund with 100% equity allocation and 1.50% fund fee deducted from overall annual returns.
- SPIA rates are assumed based on average costs of 4/25/2010 from Cannex for five insurance companies, sufficient to produce \$50,000 annual income using a life with cash refund feature.
- Total Return = S&P 500 Price Index Return + 1.9% hypothetical dividend (before fees); 4% constant return for bond allocation (before fees).
- The Standard & Poor’s 500 Price Index is a list of securities frequently used as a measure of U.S. stock market performance. It does not account for dividends. The S&P 500 Price Index is unmanaged and does not represent the performance of a specific underlying fund. An investment can not be made directly in an index.

SPIA and Mutual Fund (MF) SWP:

- \$380,308 invested into cash refund lifetime SPIA for male age 65.
- \$619,692 invested into mutual funds with a 70% equity and 30% bond allocation.
- The SPIA funds an income of \$25,000 annually; \$25,000 is withdrawn (SWP) annually from mutual funds.
- Mutual fund fees of 1.50% per year were assumed.
- Total Return = S&P 500 Price Index Return + 1.9% hypothetical dividend (before fees); 4% constant return for bond allocation (before fees).

Pure Systematic Withdrawal Plan (SWP):

- \$1,000,000 principal invested in mutual funds with a 60% equity and 40% bond allocation.
- Total Return = S&P 500 Price Index Return + 1.9% hypothetical dividend (before fees); 4% constant return for bond allocation (before fees).
- \$50,000 withdrawn at the beginning of each year.
- Mutual fund fees of 1.50% per year were assumed.

Variable Annuity with GMWB:

- \$1,000,000 principal invested in a variable annuity with an allocation of 70% equity and 30% bond.
- Total Return = S&P 500 Price Index Return + 1.9% hypothetical dividend (before fees); 4% constant return for bond allocation (before fees).
- GMWB factor of 5.00% (\$50,000), guaranteed for life.
- GMWB withdrawals begin immediately.
- 1.25% VA M&E fee, 1.00% underlying fund fee deducted from overall annual return.
- 1.00% GMWB rider fee on benefit base, deducted at end of year.
- At the start, the Benefit Base = Premium.
- If Account Value exceeds the Benefit Base, then the Benefit Base steps up to Account Value. (The Benefit Base can't decline.) The 5.00% annual withdrawal factor is fixed, based on the Benefit Base.
- Full allowable income taken each year:
 - \$50,000 taken to fund essential expenses.
 - Income in excess of \$50,000 is put into side fund for growth.
 - The side fund is a mutual fund with 100% equity allocation and 1.50% in total fund fees.

- Legacy value = the VA contract's guaranteed death benefit plus any side fund value. Guaranteed death benefit equals the greater of account value or premiums minus withdrawals. Please note: Most VA death benefits are no longer available once the account value goes to zero and the client has received at least a return of premium through withdrawals, even with a GMWB.

Historical Scenarios Modeled:

- S&P 500 Index (priced index) performance from 1/3/50 through 4/21/10, based on periods of 35 years.
- Each scenario moves forward by one trading day: Scenario 1: 1/3/50 to 1/3/85; Scenario 2: 1/4/50 to 1/4/85; Scenario 6,339: 4/21/75 to 4/21/10.
- All 6,339 scenarios above were then run in reverse order to produce 12,678 scenarios in total.

Appendix: Study Design Parameters and Limitations

There is no intention to suggest that inflation can be ignored in real-world retirement planning, regardless of the strategy employed. To the contrary, our study results suggest a variety of opportunities to plan for an increasing income over time.

For purposes of this study we chose not to consider the income tax implications of the alternative strategies. Our rationale in focusing solely on gross income streams has been to make the analysis simpler and more useful to the reader.

Because the design parameters of our study focused on comparability, we did not include some criteria that retirement income planners often emphasize. For example, many retired people have other income sources in addition to investment nest eggs such as Social Security and pensions. A \$50,000 annual income clearly would not meet all clients' needs.

We also did not model retirement income that increases annually to offset inflation. Since most GMWBs guarantee only a level annual income, a SPIA with an inflation protection feature (which is commonly available) could not be compared objectively with potential and uncertain income step-ups in a GMWB (also commonly available). Instead, to facilitate an accurate comparison, the SPIA was assumed to be level for 35 years. For scenarios in which a GMWB would provide a guaranteed income step-up from the initial \$50,000, the study assumed the additional income was invested separately into a mutual fund side fund (i.e., similar to the assumptions for assets held in the retiree's portfolio outside the SPIA).

There is no intention to suggest that inflation can be ignored in real-world retirement planning, regardless of the strategy employed. To the contrary, our study results suggest a variety of opportunities to plan for an increasing income over time. To achieve an accurate comparison of the income implications of each income planning approach studied, the guaranteed income of the two insured approaches (GMWB and SPIA), as well as the income withdrawn using the uninsured SWP-only approach, was held constant over a 35-year period.

Finally, for purposes of this study we chose not to consider the income tax implications of the alternative strategies. Our rationale in focusing solely on gross income streams has been to make the analysis simpler and more useful to the reader. We recognize that many professionals would want to take into account any tax impact, as well as clients' need to maximize after-tax income.

Appendix: Product Descriptions

Mutual Funds – Mutual funds are open-end investment companies that pool the assets of many investors to purchase securities such as stocks, bonds or money market instruments. Mutual funds are professionally managed for a fee by investment advisory firms. Each investor pays the management fee, plus fund expenses, based on his/her pro rata share of total fund assets. The fund's fees and expenses are described as a percentage of assets invested.

Mutual funds are redeemed directly by the fund, based on a Net Asset Value (NAV) that normally is calculated daily, after the close of market trading. The major benefits offered by mutual funds include professional management, liquidity of share redemptions, and the ability to participate in diversified portfolios. Most mutual funds also offer shareholder services such as **Systematic Withdrawal Plans** for income.

Variable Annuities – Variable annuities (VAs) are insurance company contracts that may include an accumulation phase and an income phase. They can be purchased with one lump-sum payment or a series of payments. In the accumulation phase, assets may be allocated among several investment choices that invest in underlying stock and bond funds. These underlying funds are professionally managed and each holds a diversified group of securities. The insurance company does not guarantee principal held in variable investment choices and performance can fluctuate. However, many VAs include a Fixed Account feature, in which principal and interest are guaranteed. Guarantees are based on the claims-paying ability of the issuing insurance company.

Earnings are not taxed until withdrawals or income payments are taken, and tax-free exchanges may be made between investment choices. Taxable withdrawals are subject to income tax and, if made prior to age 59½, may be subject to a 10%

federal income tax penalty. During the income phase, the contract value is (“annuitized”) or converted into a stream of income through annuity payments. Annuity payments may continue for life or a fixed number of years (“period certain”) and can be fixed or variable. Variable payments fluctuate in value with the performance of investment choices selected.

Variable annuities generally include a guaranteed minimum death benefit (GMDB), through which the contract's beneficiary is guaranteed to receive upon the death of the contract holder (during the accumulation phase) no less than the sum of all payments into the contract, less any withdrawals taken. In addition, the VA may include optional “living benefit riders.”

Variable annuities do not provide any additional tax advantage when used to fund a qualified plan. Investors should consider buying a variable annuity to fund a qualified plan for the annuity's additional features such as lifetime income payments, living benefits and death benefit protection.

Guaranteed Minimum Withdrawal Benefit (GMWB) – This is an optional variable annuity living benefit rider that normally is chosen when the contract is purchased for an additional continuing charge. It guarantees the contract owner the right to make a series of annual withdrawals, up to a specified amount, regardless of investment performance. A GMWB may guarantee withdrawals over a period of years or for the lifetime of the contract owner. The “benefit base,” upon which the amount of each withdrawal is determined, may increase (but may not decline) due to the contract's investment performance.

GMWB's may be non-cancellable and their costs may continue for the life of the contract, whether or not they are used. Any withdrawals may reduce the value available to the beneficiary under a Guaranteed Minimum Death Benefit.

Appendix: Product Descriptions (continued)

Withdrawals above the specified amount may reduce the availability of withdrawals in subsequent years, and could even cause the rider to be discontinued. In some cases, withdrawals may continue after the contract value drops to zero, but in this case the contract owner and beneficiary may have no other rights or values.

Single Premium Immediate Annuities (SPIAs) – SPIAs are insurance company contracts in which income payments must begin within 12-months of contract issue. Income payments are guaranteed by the insurance company to continue for: 1) the lifetime of the annuitant; 2) the longer lifetime of two joint annuitants (e.g., a married couple); or 3) a specified number of years (period certain).

Payout methods also may be combined, so that an SPIA will pay out over the lifetime of the annuitant but not less than a specified number of years. If the annuitant dies before the specified number of years, the remaining payments are made to the beneficiary. Income payments generally consist of both interest and a return of principal.

SPIAs are a competitive market and they normally are evaluated based on “quotes” provided by insurance companies. It is important to evaluate not only the amount of income a SPIA provides but also the financial strength of the insurance company. SPIAs’ guaranteed income payments are based on the insurance company’s financial ability to meet its claims. Normally, once a contract is issued the income payout period and payment amount cannot be changed. Generally, there is no ability to fully withdraw contract value, and the ability to access amounts (other than scheduled income payments) may be limited. However, “cash refund” features if offered (and elected) assure that 100% of premium will be returned to a beneficiary, if the annuitant dies too soon to collect it as income.

Tax Treatment of the Products

Each of the products described previously may be held inside or outside retirement plan accounts. When they are held **inside** retirement plan accounts, such as 401(k)s or IRAs, they are taxed by the federal government the same as other investments and financial instruments held by these plans.

When they are held **outside** retirement plans, their federal tax treatment is as described below. For details, including state and local tax treatment, each individual should consult a personal tax advisor.

Mutual funds – Distributions of income and capital gains are taxable for the year declared. Any gains on sales of shares are taxed as either long-term or short-term gains, depending on the holding period.

Variable annuities (with or without GMWBs) – Earnings accumulate in the VA on a tax-deferred basis until withdrawal or death. Any withdrawals generally are taxed first as ordinary income and then as a non-taxable return of principal (basis). Taxable withdrawals are subject to income tax and, if made prior to age 59½, may be subject to a 10% federal income tax penalty. Distributions paid to a beneficiary generally have the same tax character as if they had been distributed to a living account owner.

SPIAs – Each income payment consists of two parts: 1) taxable ordinary income that represents interest earned; and 2) non-taxable return of principal (basis). This treatment continues until the cost basis is reduced to zero over life expectancy. Remaining income payments are taxable as ordinary income.

Appendix: Product Comparison Table

The table below compares features of mutual funds, variable annuities (VAs), VAs with GMWBs, and SPIAs.

Product Comparison Table				
Feature	Mutual Funds	Variable Annuities (VAs)	VAs with Guaranteed Minimum Withdrawal Benefits (GMWBs)	Single Premium Immediate Annuities (SPIAs)
Professionally managed?	Yes	Yes	Yes	No
Diversified among securities?	Yes	Yes	Yes	No
Guaranteed withdrawals or income?	No	Yes, annuity payments	Yes, GMWB withdrawals	Yes
Guaranteed death benefit?	No	Yes	Yes	Income may continue to a beneficiary, if a "period certain" payout is chosen or the contract has a "cash refund" feature.
Longevity protection (income you can't outlive)	No	Yes, annuity payments	Yes, GMWB withdrawals	Yes
How is retirement income generated?	Through a Systematic Withdrawal Plan (SWP)	Through SWP or annuity payments	Through a series of GMWB withdrawals, regardless of market performance	Through an insurance company's guarantee to make income payments.
What are the costs?	Investment management fees and expenses; front-end or continuing sales (distribution) costs.	Mortality & expense and administrative charges, investment management fees and expenses; additional costs for any riders chosen. A withdrawal charge may be assessed in early contract years.	Mortality & expense and administrative charges, investment management fees and expenses; additional GMWB rider charge. A withdrawal charge may be assessed in early contract years.	All contract costs are reflected in the amount of guaranteed income quoted.
Risks	Investment performance is not guaranteed; risk varies with the objective of the fund.	Investment performance is not guaranteed; risk varies with the objective of the portfolios chosen. Guarantees are backed only by the issuing life insurance company.	Performance is not guaranteed; risk varies with the objective of the portfolios chosen. Excess GMWB withdrawals may adversely impact the GMWB. GMWB guarantees are backed only by the life insurance company.	Guaranteed income payments are backed only by the issuing life insurance company.

Study data is hypothetical, not actual. Past performance is not indicative of future performance.

Addendum: Key Study Findings Based on Joint Life Payments

Financial professionals often face the challenge of helping couples plan for retirement. This addendum provides a quick overview of SPIA Synergy Study results assuming joint life payments. All assumptions previously explained in the Study apply, except the following:

The two SPIA Synergy Strategies assume:

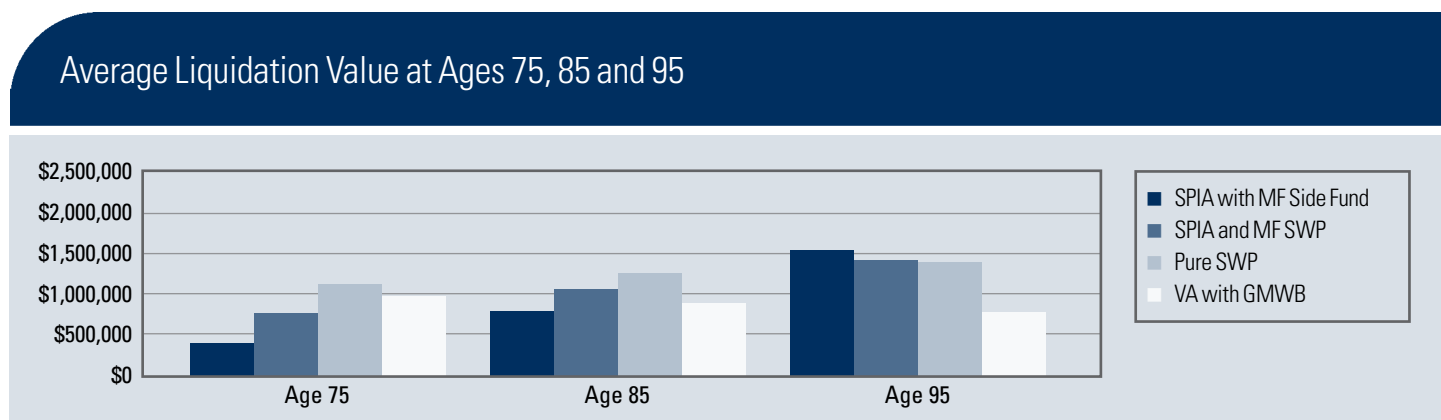
- Joint life with cash refund payments based on a 65-year old male and a 65-year old female. Payments continue in the same amount over the longer of two lives.

Variable Annuity with GMWB assumes:

- Joint life payments (5% withdrawal rate).
- 1.10% GMWB rider fee (versus 1.00% for single life) on the benefit base, deducted at the end of each year

Average Liquidation Value at Ages 75, 85 and 95

This table summarizes the average liquidation value in each of the four strategies, for all 12,678 historical scenarios, at ages 75, 85, and 95.



Highest Liquidation Value by Strategy at Ages 75, 85 and 95

This table summarizes the percentage of all historical scenarios in which each of the four strategies produced the highest liquidation value. The purpose of this chart is to show a distribution of results by strategy. (Averages can be distorted by extreme scenarios.)

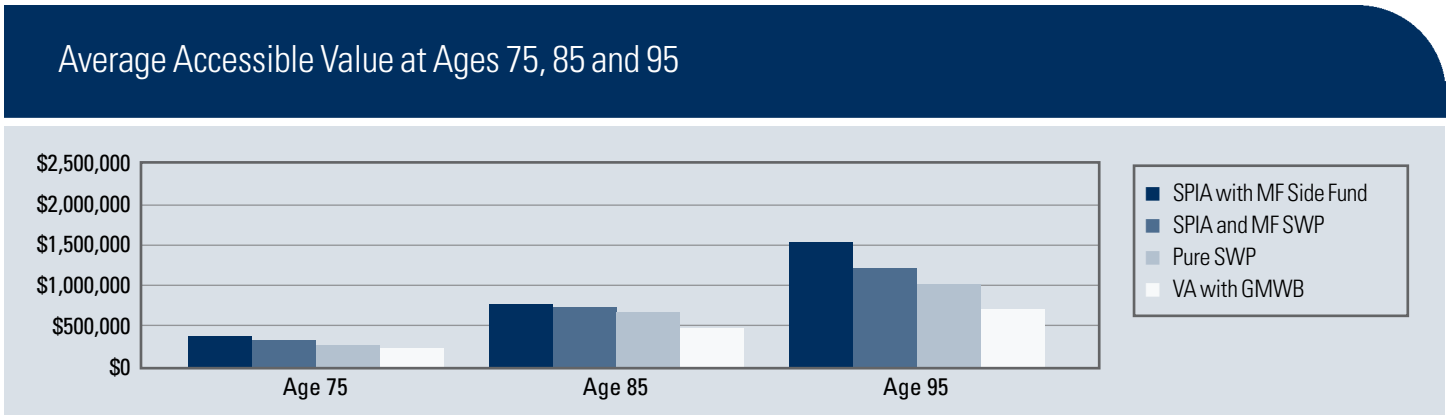
Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund*	0%	3%	53%
2. SPIA and MF SWP*	0%	0%	2%
3. Pure SWP	100%	94%	44%
4. VA with GMWB	0%	3%	1%

***Please note:** Only the SPIA Synergy Strategies provide a continuation of guaranteed annual income after liquidation. The SPIA with MF Side Fund continues to provide \$50,000 for the longer life while the SPIA with Mutual Fund SWP provides \$25,000 for the longer life.

Study data is hypothetical, not actual. Past performance is not indicative of future performance.

Average Accessible Value at Ages 75, 85 and 95

This table summarizes the average accessible value in each of the four strategies, for all 12,678 historical scenarios, at ages 75, 85, and 95.



Highest Accessible Value by Strategy at Ages 75, 85 and 95

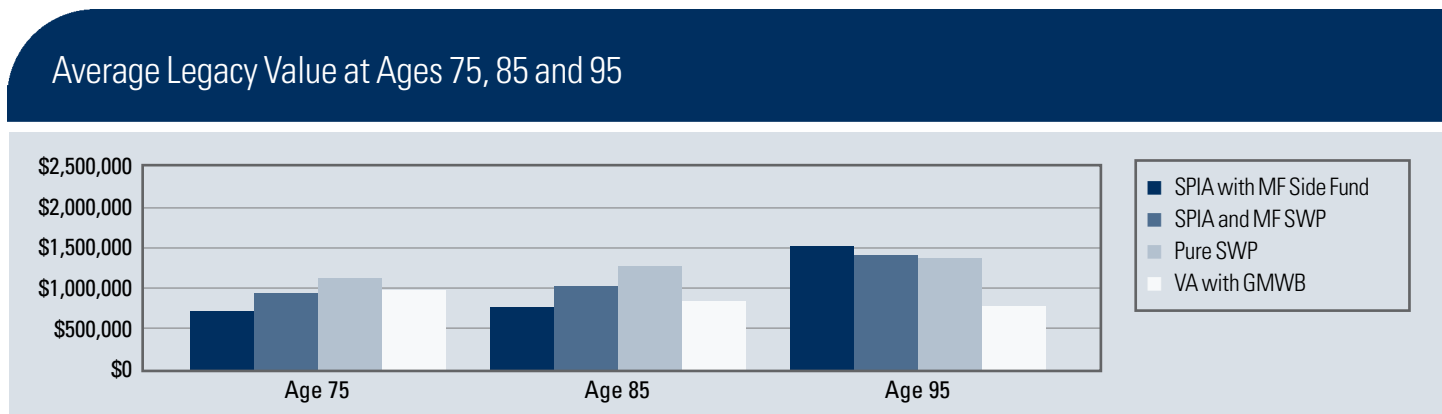
This table summarizes the percentage of all historical scenarios in which each of the four strategies produced the highest accessible value. The purpose of this chart is to show a distribution of results by strategy. (Averages can be distorted by extreme scenarios.)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	64%	60%	67%
2. SPIA and MF SWP	16%	9%	15%
3. Pure SWP	18%	28%	15%
4. VA with GMWB	2%	3%	3%

Addendum: Key Study Findings Based on Joint Life Payments (continued)

Average Legacy Value at Ages 75, 85 and 95

This table summarizes the average legacy value in each of the four strategies, for all 12,678 historical scenarios, at ages 75, 85, and 95. In each case, data assumes no previous withdrawals.



Highest Legacy Value by Strategy at Ages 75, 85 and 95

This table summarizes the percentage of all historical scenarios in which each of the four strategies produced the highest legacy value. The purpose of this chart is to show a distribution of results by strategy. (Averages can be distorted by extreme scenarios.)

Strategy	Age 75	Age 85	Age 95
1. SPIA with MF Side Fund	0%	3%	53%
2. SPIA and MF SWP	0%	0%	2%
3. Pure SWP	98%	94%	44%
4. VA with GMWB	2%	3%	1%

Study data is hypothetical, not actual. Past performance is not indicative of future performance.

Planning Points

- The results of the joint life analysis are very similar to the single life analysis with a couple of exceptions.
- Pure SWP performs relatively better because there is no additional cost. The account values stay the same, but it should be noted the life expectancy of joint lives is longer, so the chance of running out of money becomes higher. For example, according to mortality tables, a male age 65 has a 16.5% chance of surviving to age 95, but a joint couple (male and female) both age 65 have a 35.7% chance that at least one of them will survive to age 95.⁵
- The SPIA Synergy Strategies require more money to purchase the same amount of income guaranteed for two lives, therefore less money is invested in the side funds. The GMWB results are slightly less favorable due to the increase in the rider fee which impacts the performance of the contract.
- The SPIA Synergy Strategies continue to do the best job for accessibility across the board because the side funds can accumulate with no or less withdrawal drag than the other strategies.
- While the SWP strategies do better than they did in the single life analysis, the SPIA Synergy Strategies perform better than the GMWB in all spots except for early liquidity.

The SPIA Synergy Strategies require more money to purchase the same amount of income guaranteed for two lives, therefore less money is invested in the side funds. The GMWB results are slightly less favorable due to the increase in the rider fee which impacts the performance of the contract.

The SPIA Synergy Strategies continue to do the best job for accessibility across the board because the side funds can accumulate with no or less withdrawal drag than the other strategies.

Source Footnotes:

¹ Annual Estimates of the Resident Population, U.S. Census Bureau, 2009.

² Social Security Period Life Table, 2006, based on total U.S. population mortality. See: <http://www.ssa.gov/OACT/STATS/table4c6.html>

³ LIMRA, The Positioning of Assets in Retirement, 2009.

⁴ Assumes \$1,000,000 investment in the S&P 500 index (with hypothetical dividend) and \$50,000 annual withdrawals (assumes Pure SWP strategy expenses).

⁵ Annuity 2000 Mortality Table, Society of Actuaries.

Variable annuities are sold by prospectus. Before purchasing a variable annuity contract, investors should carefully consider the investment objectives, risks, charges and expenses of the variable annuity contract and its underlying investment choices. For this and other information, obtain the prospectus for the variable annuity contract and its underlying investment choices from your registered representative. Please read the prospectuses carefully before investing or sending money.

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Massachusetts Mutual Life Insurance Company
1295 State Street
Springfield, MA 01111

