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Life insurance as a retirement income tool

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Abstract

Given its tax-preferential treatment, careful study is warranted to determine whether life insurance can play an important role in an overall retirement portfolio. This study develops hypothetical scenarios for different types of individuals with varying ages and distribution periods, while using a historical outlook to determine the proper structure of a variable universal life insurance policy. We compare a variable universal life policy to different investment vehicles (both in qualified and non-qualified accounts) on an after-tax basis to better understand the potential tradeoff for tax-deferral and insurance fees within life insurance. © 2017 Academy of Financial Services. All rights reserved.

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1. Introduction

With the largest generation in the United States entering retirement, retirement planning is growing in prevalence and relevance as baby-boomers worry about how to fund their retirements. Studies such as Bengen (2004) and Steiner (2014) have focused on how to spend from savings during retirement. Baseline assumptions in such studies rarely consider the impact of taxation. However, there remains widespread concern about taxes and their impact on retirees (McCarthy, 2011; Silver, 2013). Different types of investment vehicles offer varying tax treatment. Life insurance is a tax preferential vehicle that one can use as a piece of an overall asset allocation to help satisfy both retirement income needs, and concerns

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regarding taxation. The strategy of using life insurance as a supplemental retirement income vehicle raises the issue of whether it is appropriate and what opportunity costs may exist.

Prior research (Katt, 2009; Parish, 2014; Resnick & Resnick, 2009) has shown there are pitfalls to using life insurance in this manner. However, there are problems with past research approaches, and a goal of this research is to demonstrate a proper structure to analyze the use of life insurance as a retirement income vehicle. After determining the proper structure and framework, this research will then compare how life insurance as an asset class compares to the performance of equities on both a pre- and post-tax basis. This comparison will provide transparency to the embedded costs and suitability of insurance for individuals. Research in this area often does not factor in the tax consequences of accumulation and distribution strategies. One reason is tax situations can vary so dramatically across individuals. This study will make assumptions regarding tax rates to provide a clearer picture of the outcomes net of taxes. The analysis of taxation is crucial as tax savings provide one of the largest benefits to utilizing life insurance as a supplemental income vehicle.

This study develops a framework for properly structuring variable universal life insurance for supplemental cash flow during retirement. Two of the most important numbers for this type of study are the rate of return during the accumulation phase and the safe withdrawal rate during the distribution phase. Establishing a potential proper rate of return and an appropriate withdrawal rate will help avoid some of the pitfalls from previous studies using variable universal life insurance and provide an alternative to the growing problem of taxable income during retirement. After finding sustainable assumptions for accumulation and distribution rates in a variable universal life policy, the life insurance vehicle cash flow generation provides comparison data to an investments-only strategy determining the probability of success that a qualified or non-qualified investment account would be able to generate for the same after-tax income. The variable universal life policy was chosen to be the main source of analysis because it most closely represents a comparison to an investments-only strategy, providing the owner with flexibility in choosing the underlying investments (from a menu of options) and risk of the policy. The comparison will demonstrate any advantages of the tax preferential treatment along with whether life insurance is a viable replacement for, alternative to, or supplement of retirement income.

The key variables in this study include the following: age at initial plan start, gender, health classification, length of accumulation, length of income, amount of death benefit, amount of annual premium paid, historical rates of return, costs of insurance, accumulation rate, and distribution rate. This study will include multiple scenarios for different ages, length of distribution periods, and health classification, but the base case will use the following scenario:

- Age at initial plan start (45),
- Health classification (preferred non-smoker),
- Length of accumulation (19 years),
- Length of distributions (15 years),
- Amount of annual premium paid ($50k),
- Male mortality tables.

Six key research questions reflect the objectives for this study include: (1) What is a safe combined hypothetical accumulation rate and distribution rate to assume when life insurance is intended to serve as a distribution vehicle? (2) What are the disadvantages for using life insurance as a distribution vehicle? (3) What characteristics determine appropriate candidates for using life insurance effectively as a retirement cash flow tool? (4) What is the opportunity cost of using life insurance as an asset class compared with a brokerage account? (5) What are the tax advantages to using life insurance as an asset class? (6) Is life insurance a reasonable choice as a supplemental cash flow vehicle for retirement savings?

Many financial advisors within the industry have shied away from using life insurance as an asset class. Katt (2009), Resnick and Resnick (2009), and Parish (2014) have all studied life insurance as a distribution vehicle indicating that both academic and industry studies have shown poor results. Often this was because of being too aggressive with the hypothetical accumulation or distribution rates. With these poor experiences, this potentially useful and beneficial strategy may become less common or utilized improperly, which can lead to suboptimal outcomes for clients. This study aims to provide an appropriate framework for utilizing life insurance as a supplemental income vehicle and then compare it to other investment options. This comparison will identify the potential positive attributes for the supplemental income strategy and will demonstrate the proper way to structure the policy to obtain more beneficial results. The benefit for at least some individuals will be another source of retirement funds that offers tax advantages. The more sources that an individual can access for retirement income, the more prepared that individual will be for different future economic environments and changing tax regimes.

This study will look at the ability to use life insurance as a distribution vehicle and determine safe hypothetical accumulation and distribution rates to use in conjunction. This study will also compare using life insurance as a distribution vehicle with other investment vehicles on both a pre- and post-tax basis. Several issues arise when looking at using life insurance for this purpose. Life insurance will have different costs for different individuals based on age, gender, health classification, type of policy, and carrier chosen. There are also limitations based on the length of the distribution period for the policy. There is less risk and more income potential for a shorter distribution period. A significant advantage for using life insurance as a distribution vehicle is the tax preferential treatment. The comparisons made to other distribution vehicles with different tax treatment will depend on an individual's tax rates for ordinary income and investment income. While this study utilizes a specific set of assumptions, results will vary in practice based on different individual circumstances.

With retirement planning and subsequently tax planning becoming such prevalent topics, research on efficiencies and different potential approaches can be beneficial. While there are many different approaches to retirement income planning with a variety of investment vehicles, tax planning takes these approaches one-step further. Retirement planning and tax issues can vary widely for everyone, but it is important to look at a large scope of options to tailor fit these approaches and ensure the vetting and availability of different options. Life insurance is a vehicle not originally designed with retirement planning in mind, but because of its tax preferential treatment, it is a potential option. Prior research discusses the accumulation and distribution phases of retirement planning, along with different potential tax planning strategies. Additional research has discussed life insurance as a retirement planning vehicle, but often it has focused on the pitfalls and potential negative ramifications, and concluded that it is not a viable option. This study will review this prior research and look to build and expand upon the potential framework and usefulness of utilizing life insurance as a distribution vehicle for retirement income.

2. Literature review

Retirement planning is more prevalent now than ever before. In past years, U.S. workers often received a defined benefit pension from their employer and could rely on Social Security. The shift to defined contribution retirement plans in the workforce has changed the scope of retirement planning. In addition, the largest generation in the United States is now entering its retirement years. Retirement planning consists of two phases, the accumulation phase, which entails gathering assets, and the distribution phase, which refers to using the accumulated assets to support spending during non-income earning years.

Bengen (2004) studied what a safe withdrawal rate would be during the distribution phase to avoid outliving assets in an investment portfolio. This research concluded that 4% would be a safe initial withdrawal rate to use based on the worst-case historical outcome from varying 30-year periods in the United States. One critical aspect missing from his original study is a consideration of taxes, which he did discuss in his book in 2006. The safe initial withdrawal of 4% is a gross number before the payment of any taxes and will be lower than 4% on an after-tax basis. His assumption was that the investments would be in a qualified account and, thus, benefit from tax deferral. However, depending on ordinary income tax rates, especially if higher in the future, individuals may not obtain the highest standard of living possible if more tax efficient options are available. Not all retirement assets will be inside a qualified account and taxable investments could be subject to taxation on an ongoing basis, thus reducing the net amount of the 4% safe initial withdrawal rate.

Sumutka, Sumutka, and Coopersmith (2012) use a comprehensive tax model to evaluate different withdrawal strategies, discussing the three different types of investment accounts: tax-deferred, taxable, and tax-free. Sumutka et al. state that the withdrawal sequence from the various accounts will affect overall taxation on the portfolio and find that the optimal tax-efficient strategy produces withdrawal stability utilizing low withdrawal rates during early retirement years. Income stability helps to avoid the loss of itemized deductions, the loss of tax favored long-term capital gains treatment, and the imposition of the AMT. Tax efficiency comes from a withdrawal sequence of taxable assets, tax-deferred assets, and then tax-free assets, keeping in mind offsetting tax deductions and tax-bracket management to avoid higher taxation. Other withdrawal strategies may provide for smaller tax payments, but this results in lower wealth creation. Optimal withdrawal strategies demonstrate the importance of tax planning during retirement and the ability to have multiple asset vehicles to withdraw from during retirement, including tax diversification and asset location.

McCarthy (2011) concludes that taxes will be increasing in the future based on federal spending and the looming federal deficit. Tax increases would decrease the standard of living for many retirees. During retirement, this may mean an increased withdrawal rate, which can shorten the time horizon that assets will last, or force a lower standard of living. McCarthy states that increasing tax burdens creates opportunities for tax planning. The benefits to minimizing taxes may have a compounding effect and mean the difference between running out of money or a lower lifestyle, and living as planned. With tax planning being such a crucial aspect to retirement income planning, the differential taxation of investment vehicles needs consideration to determine a net distribution to an individual.

Silver (2013) concludes that existing retirement planning concepts may have served many retirees well, but with changing laws and historically low tax rates, people are looking for alternative solutions. There are several different types of vehicles for retirement planning, and they fall into the three broad categories of tax deferred, taxable, and tax exempt. Silver references a 2010 survey conducted by Lincoln Financial Group that found taxes constitute 31% of retiree expenses and the amount of taxes paid surprised 11% of retirees. Up to 85% of Social Security benefits can be taxable, and this is a reason planners are looking to minimize taxable income during retirement. Because of the potential to join the next tax bracket and the negative impact on Social Security income, taxable assets are no longer as desired, even if they offer slightly higher rates of returns, if alternative tax advantaged options are available. This is especially true when people believe taxes will be higher in the future.

Many people look at permanent life insurance solely for the death benefit it provides, but life insurance can serve multiple purposes. A major benefit to permanent life insurance, with implications for retirement planning, is the ability to accumulate equity within the contract. What truly makes this an advantage is that the equity accumulates on a tax-deferred basis. Unlike annuities, life insurance distributions are calculated on a first in, first out basis (FIFO). One can withdraw the funds placed into the contract without paying any taxes. The next step is the ability to take loans against the policy. The reason loan provisions are important is that a loan is not a taxable event, even though there is an on-going interest expense. Because of this, it is possible to extract a significant amount of cash from within a life insurance policy without paying taxes. This strategy seems simple and beneficial: accumulate equity, withdraw up to the basis, borrow gains, and never pay taxes because the death benefit will also be income tax free. This would certainly help solve problems retirees face with income tax planning during retirement. However, there are many issues to consider with this basic strategy.

The tax preferential treatment afforded to life insurance is applicable in general to policies that can accrue cash, and not to any specific type of policy. However, there are several different ways to accumulate the cash value, depending on the type of policy. Varying types of permanent life insurance policy have different features and benefits with potentially different accrual methods. Often, the type of policy that a person selects depends on the individual's risk tolerance, desire for control, flexibility, upside potential compared with guarantees, and general beliefs about financial markets.

An individual with a more aggressive risk tolerance that would rather choose from a menu of investments has a better option with a variable universal life policy. Variable universal life policies offer different subaccounts in which one can make investments; thus, allowing an individual to have equity market exposure. This potential equity exposure allows for greater upside potential but also carries risk if the investments do not perform as expected. The owner of a variable universal life policy can purchase additional guarantees to ensure payment of the death benefit regardless of market performance.

Katt (2015) discusses the history of the different types of cash value life insurance policies and the industry's evolution over time. In the 1990s when interest rates began to decline, participating whole life (PWL) and universal life (UL) policies became less attractive. This led to the introduction of variable universal life (VUL) policies. VULs benefited from investment performance based on stock and bond subaccounts instead of relying on dividends or an interest-crediting rate. However, early on there were abuses by agents in illustrating too high of hypothetical rates of return. Most likely this resulted from negligence, but potentially there was an intent to deceive consumers. Regulation capped maximum illustration assumptions. VULs, like other equity assets, can be dangerous if policy owners sell the underlying investments at the wrong time.

Traditional whole life policies work well to provide supplemental income on a tax-advantaged basis. However, non-guaranteed dividends affect cash accumulation, which minimizes investor control and flexibility. Kriesel (2010) concludes that many investors were not happy with the conservative gains found in traditional whole life insurance policies. This led to the creation of UL to take advantage of the higher interest rates of the 1980s. However, the marketing of UL policies frequently included maximizing the death benefit with minimal funding. Unfortunately, when interest rates fell, these policies suffered. Variable universal life policies take advantage of the ability to invest within the policy via mutual funds. Because of the tax advantages afforded to life insurance, this can create an opportunity to use variable universal life policies as a Roth IRA alternative without the income restrictions and contribution limits.

Katt (2013) further discusses how cash value within life insurance policies is different from a bank account. A client example discusses a situation where an upset client results from the charging of interest to access the cash value within the policy and feels that there should not be a penalty to do so. This is one of the large misunderstandings when it comes to cash value life insurance. Katt indicates that it should not be thought about as a bank account, but rather as more like an asset that can serve as collateral to be borrowed against. Katt further explains a phenomenon known as phantom income, which occurs with the generation of taxable income from the lapsing of a policy that contains no cash value. Repaying loans can often be the only option for a client that has an economic benefit since a lapse or surrender of a policy may result in a substantial taxable event. Another potential issue can be in the form of surrender charges, which most forms of universal life policies have. While a surrender charge is also known as an early exit penalty, the calculation on an illustration is the difference between the accumulation value and the surrender value. Where additional misconceptions and confusion can occur is if a client reduces the death benefit during the surrender period. Even without a cash value withdrawal, the surrender charge still takes place for the reduced portion of the death benefit. There are primarily two different death benefit options for structuring a life insurance policy and the cash value accumulation plays an important role in both approaches. Policies most commonly consist of a level death benefit in which the cash value accumulation does not increase the death benefit, but borrowing against or withdrawing the cash value decreases the death benefit.

The level death benefit approach helps mitigate the increasing cost of insurance structure by lowering the net at-risk amount to the insurance company. The net at-risk amount to an insurance company is the difference between the death benefit and cash value within the policy. Cost of insurance increases as life expectancy decreases. The payment of death benefit proceeds exists when there is at least $1 of cash value and does not change if there is a much higher cash value amount. For this reason, in theory it would be beneficial not to accrue more than necessary. This would require knowing at what age a person will pass away, which is why typical policies project to age 100 or beyond. However, if there is a reduction in life expectancy because of major health concerns, a reduction in premiums can prevent unnecessary cash value accumulation. Managing a life insurance policy around cash value accumulation and current life expectancy can provide maximum efficiency.

The type of life insurance policy selected dictates the method and capacity for accumulation of cash value. Each contains its own unique risks for accumulating cash. However, they all also contain another risk that could nullify the previously mentioned tax advantages of life insurance. If a policy is deemed to be a Modified Endowment Contract (MEC), the FIFO account method is no longer available and will contain additional penalties for accessing the cash value before age 59 ½. The determination comes from a "7 Pay test" and looks to avoid excessive overfunding of a life policy up-front. This needs to be a consideration when cash accumulation is a goal.

An additional risk exists even when there is the proper structure of a life insurance policy to avoid MEC rules. Commito (2012) concludes that a Tax court and subsequently an Appeals court both ruled that a case involving the lapse of a life insurance policy that contained significant policy loans resulted in tax due because of the significant difference in the loan balance and cost basis. The client argued that discharge of indebtedness should apply because of the loan outstanding being greater than the total net worth at the time of the taxable event, rendering the client insolvent. The Tax court ruled differently, stating that this did not apply because the client was solvent at the time and loan repayment occurred from the policy values. This ruling now means that in all situations a taxable event will occur if a policy lapses with a loan balance greater than cost basis.

Further discussion continues about how managing risk is also crucial during retirement. It is more involved than simply accumulating enough and providing retirement income. An entire retirement plan can be at risk if additional unexpected medical expenses or an extended long-term care need occurs. Unexpected market downturns, inflation, and increasing taxes all pose additional risks. The design of life insurance helps with transferring multiple retirement risks by creating the availability of additional resources and riders to provide further flexibility for policy owners. Policy reprojections, also known as in-force illustrations, provide an understanding of policy longevity incorporating any market returns or interest crediting received up to the date of the reprojection. In-force illustrations have a similar layout to the originally provided sales illustration during policy purchase, but will project policy longevity based on the current interest crediting assumptions, which are usually different from the original. In-force illustrations are readily available from the insurance companies and help monitor the status of a policy to provide a more accurate estimate of income potential during retirement compared with the original projection. Overloan protection riders help prevent policies from lapsing because of too many distributions, automatically placing them in a paid-up status and avoiding the unexpected taxable event from occurring. Other riders are also available for additional risk management against long-term care, chronic illness, and death benefit acceleration upon terminal illness. With a supplemental income objective, variable universal life is the type of policy that many investors gravitate toward because they can experience market exposure and upside potential within the tax efficient wrapper of life insurance.

3. Methodology

Life insurance is a tax-advantaged vehicle that can generate supplemental income. Discussions around the need for a tax advantaged vehicle during retirement such as life insurance, which offers tax deferred accumulation, along with the potential for tax-free distributions, warrants research to the viability of such a vehicle. However, discussions have also identified that when using life insurance with the intended purpose of supplemental income, agents often used too aggressive of a hypothetical accumulation rate as well as too aggressive of a distribution rate. This has resulted in large negative consequences for individuals with the misunderstanding of how the policy works and the taxable consequences should the strategy not work as originally designed. This research will first determine an appropriate hypothetical rate of return to avoid the overestimation issues that have occurred in the past. It will then provide a safe withdrawal rate in conjunction with the determined accumulation rate, once premiums have stopped, to prevent the withdrawal of too many distributions that causes the policy to lapse with a taxable event. Utilizing these two determined rates jointly will alleviate the issues that have caused trouble for this strategy as noted in previous discussions. Overall, this research will show the proper structure for these vehicles based on historical data and rolling period simulations. Thus, this will enhance financial literacy on life insurance strategies by providing clarification on previous misuses and solutions on the correct structure for this strategy to be successful.

This study will use a quantitative research approach using historical data, combined with other select variables to develop a new quantitative approach when assessing life insurance as a retirement asset. The goal is to determine a quantitative value for the accumulation rate and its associated distribution rate for a set of client circumstances. Historical performance will determine the accumulation rate, which is the first part of the equation, as it does not depend on the distribution rate. However, the distribution rate does depend on the accumulation rate when generating the same amount of cash flow (higher accumulation rate, lower distribution rate, and vice-versa). Cost of insurance is dependent upon several variables, including gender, age, health classification, and the amount of the death benefit. For this study, these arbitrarily selected variables are necessary to determine the cost of insurance component of the policy. The distribution rate will be dependent upon the duration of the distribution period, cost of insurance, and accumulation rate. Another arbitrarily specified variable is the length of distributions. Three different life insurance companies will provide a sample of costs of insurance. For the baseline, the study considers a 45-year old male client. Starting ages of 35 and 55 will be used for additional scenarios.

For this research, we will also assume preferred non-smoker health for the base case, with an additional scenario utilizing a standard non-smoker health classification. Preferred non-smoker is often the second-best health rating given by insurance companies. Typically, the best classification is uncommon and the goal of this research is to be able to have applicable findings for the widest possible audience.

Meanwhile, length of accumulation determines how long the assets will be able to accumulate before providing distributions, with longer periods allowing for greater potential asset growth. For this research, the base case will assume a 19-year accumulation period, which for the assumed 45-year-old individual, would put retirement age at 65. Additional scenarios will include a 9-year accumulation period for a 55-year-old individual and a 29-year accumulation period for a 35-year-old individual.

Length of distributions determines how long assets will be able to support cash flow. This duration directly affects the amount of cash flow generation, along with a correlation of risk for the policy to lapse. For the base case, this research will assume a 15-year distribution period, from ages 65 through 79. The intention is for supplemental cash flow during the early part of retirement. This approach is not intended to provide the core source of retirement income over the individual's lifetime. Testing the combination of accumulation and distribution rates also includes monitoring the policy once distributions stop at age 79. The purpose of testing after distributions have ceased will be to make sure the policy remains in force and avoids lapsing for an additional 21 years until age 100, to avoid triggering a taxable event. Additional scenarios will include distribution periods of 20 and 30 years.

The amount of death benefit directly affects the cost of insurance. A higher death benefit leads to higher costs of insurance. For this research, the goal is to provide supplemental cash flow and because this is the focus, the study will solve for the minimum death benefit that does not trigger a MEC. A minimum non-MEC death benefit will minimize the cost of insurance, while also preserving the tax advantages of the life insurance policy. The minimum non-MEC death benefit allows for overfunding of the policy, which helps alleviate concerns about policies becoming underfunded.

The type of death benefit payout directly affects the cost of insurance based on the net at-risk amount to the insurance carrier. This study will assume an increasing (Option 2) death benefit payout during the accumulation period, switching to a level (Option 1) death benefit payout upon the start of the distribution period. An increasing death benefit is the total of a base death benefit amount plus the cash value, while a level death benefit does not include the cash value.

The amount of premium paid directly affects with a positive correlation the amount of insurance, cost of insurance, and potential distributions. This research will assume annual premiums of $50,000. Additional scenarios of $10,000 and $25,000 annual premiums will be tested to confirm the linear relationship between premiums and cash flow generation.

Historical rates of return in the equity markets over an extended period will help determine an accumulation rate suitable to use for variable universal life insurance contracts. The assumed portfolio will be 100% equity investments, using large-capitalization U.S. stocks.

The cost of insurance has a negative correlation with the total potential for accumulation and distributions. Age, health classification, and mortality tables determine the cost of insurance for each individual insurance company. This study will compare the cost of insurance and fees from three separate insurance companies with the goal of providing an accurate representation of the market. It is important to note that the rates for cost of insurance are subject to increase up to a maximum allowable amount. An increase to the maximum allowable amount is historically unlikely, but increases and decreases have occurred. Actuarial pricing and experience dictates cost of insurance, which may cause higher or lower costs for different ages.

Policy fees have a negative correlation to the total potential for accumulation and distributions. Policy fees include premium loads, administrative charges, and death benefit charges. This study will compare the fees and cost of insurance from three separate insurance companies with the goal of showing an accurate representation of the market.

This study looks to determine a suitable accumulation rate for variable universal life insurance contracts. This is the hypothetical rate of return to use for illustration purposes when someone is buying a new life insurance contract. A proper accumulation rate will avoid setting an unrealistic or too aggressive of a return expectation that results in the policy becoming underfunded and lapsing, if no corrective action occurs. This study also looks to determine a suitable decumulation rate for variable universal life insurance contracts. This is the hypothetical withdrawal rate to use for illustration purposes when someone is buying a new life insurance contract. A proper decumulation rate will avoid taking too many distributions from the policy and causing it to lapse.

This study will assume that the distributions from the variable universal life policy will consist of both withdrawals and loans. Withdrawals occur until the full recovery of cost-basis, after which loans against the policy occur for remaining distributions. All loans will assume a contractual fixed loan interest rate of 3%. Current pricing dictates the loan rate used, but has been higher historically and can be higher or lower in the future.

While life insurance in general receives the tax preferential treatment as previously discussed, this research will focus on utilizing a 100% equity based variable universal life policy. The 100% equity based policy provides an equity alternative and minimizes fund expenses and variations within the allocation options between policies. The design of the policy for the hypothetical participants will be with the intended goal of providing supplemental retirement cash flow. With this goal, the VUL policy can take on more risk as it is only a piece of the overall portfolio, rather than being the main source of retirement income. A key aspect of the policy design is increasing flexibility during retirement with the intention of being a complement to the rest of the portfolio and not a portfolio income replacement. This design will lead to providing the minimum death benefit allowed by IRS standards that avoids becoming a MEC and losing the previously discussed tax advantages upon distribution. The minimum death benefit design minimizes the insurance costs and looks to meet the stated objective of maximum supplemental cash flow from policy distributions.

Policy design is crucial to the success of utilizing life insurance as a supplemental cash flow vehicle. The minimum non-MEC death benefit minimizes insurance costs and overfunds the policy as much as allowable by IRS code while keeping the tax preferential treatment. The overfunding of the policy creates a larger margin of error before poor performance and underfunding jeopardize the policy. Underfunded life insurance policies are the primary concern and pitfall experienced when trying to generate supplemental cash flow. In addition to the minimum non-MEC death benefit, the type of death benefit payout is also crucial to the design. The structure of the death benefit payout will also help maximize the income generation and minimize the cost of insurance throughout the life of the policy.

With the goal of showing an accurate representation of the marketplace, quotes from three separate insurance companies are used to determine the cost of insurance. Volume of variable universal life insurance policies sold and financial strength ratings determine the companies selected. This will provide a good example of carriers likely to implement this strategy as described in the research. While variable universal life policies typically allow for the selection of many different subaccounts with varying equity and bond allocations, this study will assume an all equity allocation maximizing the potential upside accumulation and distributions. With the all equity allocation assumptions, this research will be using an aggressive strategy.

For equity returns, this study uses Robert Shiller's data set of historical returns from 1871 through 2015 for large-capitalization U.S. stocks (Shiller, 2016). Rolling historical periods created from the data determine the combined accumulation rate and distribution rates. Statistical analysis will stress test various accumulation and distribution rates to determine the historical probability of success. This research will define successful combined accumulation and distribution rates as those that would have had a 95% or greater probability of success based on historical equity performance. Testing the combination of accumulation and distribution rates will also include monitoring the policy after discontinuing distributions beyond age 79. The purpose of testing after distributions have ceased will be to make sure the policy remains in force an additional 21 years until age 100 and avoids lapsing, which would trigger a taxable event. The expectation of the statistical analysis are results showing that people implementing life insurance as a supplemental cash flow vehicle may have been too aggressive with the rate of return assumptions and the rates should be more conservative.

To conduct this research, the recreation of a variable universal life insurance policy with different assumed starting points is necessary. First, multiple life insurance carrier illustrations with the same parameters show the different costs and charges within the policies. The hypothetical variable universal life policy assumes a 100% investment into a large-capitalization stock index fund. The aggressive allocation will facilitate equity portfolio comparisons while minimizing variations of fund costs. For the base case in this study, we assume the life of the policy will last from age 45 through age 100, with accumulation occurring during the first nineteen years and distributions occurring during the next fifteen years. Beyond age 79, the policy contains no inflow or outflow of cash, but requires making sure the policy remains in-force and does not lapse because of insufficient funds potentially causing a taxable event. This means that policy simulations require 55 years of investment returns. The simulations for this research assume a starting point for each year from 1871 through 1961. The study creates 91 simulated life insurance policies, each with a different 55-year historical return scenario. Compiling this data into a sample life policy allowed for the calculation of the maximum cash flow distribution rate to keep the policy in-force through age 100.

Table 1 Base variable universal life example with a 6.3% accumulation rate and insurance carrier software default 9.41% distribution rate

Age	Premiums	Cash value starting balance	Fees	COI	Income	Cost basis	Loan balance	Cash value ending balance	Death benefit
46	$50,000	$ -	−$6,712	−$1,380	$ -	$50,000		$44,548	$1,088,117
47	$50,000	$44,548	−$4,712	−$1,510	$ -	$100,000		$93,891	$1,137,460
48	$50,000	$93,891	−$4,712	−$1,653	$ -	$150,000		$146,190	$1,189,759
49	$50,000	$146,190	−$4,712	−$931	$ -	$200,000		$202,551	$1,246,120
50	$50,000	$202,551	−$4,712	−$1,059	$ -	$250,000		$262,327	$1,305,896
51	$50,000	$262,327	−$4,712	−$1,174	$ -	$300,000		$325,747	$1,369,316
52	$50,000	$325,747	−$4,712	−$1,282	$ -	$350,000		$393,048	$1,436,617
53	$50,000	$393,048	−$4,712	−$1,400	$ -	$400,000		$464,463	$1,508,032
54	$50,000	$464,463	−$4,712	−$1,543	$ -	$450,000		$540,225	$1,583,794
55	$50,000	$540,225	−$4,712	−$1,719	$ -	$500,000		$620,573	$1,664,142
56	$50,000	$620,573	−$2,120	−$1,863	$ -	$550,000		$708,585	$1,752,154
57	$50,000	$708,585	−$2,120	−$2,139	$ -	$600,000		$801,849	$1,845,418
58	$50,000	$801,849	−$2,120	−$2,482	$ -	$650,000		$900,623	$1,944,192
59	$50,000	$900,623	−$2,120	−$2,841	$ -	$700,000		$1,005,239	$2,048,808
60	$50,000	$1,005,239	−$2,120	−$3,217	$ -	$750,000		$1,116,046	$2,159,615
61	$50,000	$1,116,046	−$2,120	−$3,773	$ -	$800,000		$1,233,242	$2,276,811
62	$50,000	$1,233,242	−$2,120	−$4,131	$ -	$850,000		$1,357,442	$2,401,011
63	$50,000	$1,357,442	−$2,120	−$4,516	$ -	$900,000		$1,489,056	$2,532,625
64	$50,000	$1,489,056	−$2,120	−$4,478	$ -	$950,000		$1,629,003	$2,532,625
65	$ -	$1,629,003	−$120	−$4,390	−$153,289	$796,711		$1,573,547	$2,388,120
66	$ -	$1,573,547	−$120	−$4,381	−$153,289	$643,422		$1,514,607	$2,234,876
67	$ -	$1,514,607	−$120	−$4,211	−$153,289	$490,132		$1,452,134	$2,081,632
68	$ -	$1,452,134	−$120	−$4,004	−$153,289	$336,843		$1,385,945	$1,928,388
69	$ -	$1,385,945	−$120	−$3,758	−$153,289	$183,554		$1,315,848	$1,775,144
70	$ -	$1,315,848	−$120	−$3,473	−$153,289	$30,265		$1,241,638	$1,621,900
71	$ -	$1,241,638	−$120	−$3,142	−$153,289	−$123,024	−$ 126,715	$1,159,414	$1,467,035
72	$ -	$1,159,414	−$120	−$2,734	−$153,289		−$ 288,405	$1,071,536	$1,307,582
73	$ -	$1,071,536	−$120	−$2,233	−$153,289		−$ 454,945	$978,653	$1,143,346
74	$ -	$978,653	−$120	−$1,664	−$153,289		−$ 626,481	$880,524	$974,182
75	$ -	$880,524	−$120	−$1,269	−$153,289		−$ 803,163	$776,633	$832,473
76	$ -	$776,633	−$120	−$1,397	−$153,289		−$ 985,146	$666,060	$723,789
77	$ -	$666,060	−$120	−$1,606	−$153,289		−$1,172,588	$548,299	$607,674
78	$ -	$548,299	−$120	−$1,842	−$153,289		−$1,365,654	$422,869	$483,615
79	$ -	$422,869	−$120	−$2,106	−$153,289		−$1,564,511	$289,255	$351,068
80	$ -	$289,255	−$120	−$2,401	$ -		−$1,611,446	$304,798	$368,050
—	—	—	—	—	—	—	—	—	—
100	$ -	$800,873	−$120	$ -	$ -		−$2,910,451	$851,200	$851,200

This table utilizes the life insurance carrier default distribution rate of 9.41% with a user selected 6.3% accumulation rate showing the cash flow each year. Displayed are the end of year age, premiums paid, starting cash value balance, deductions for policy fees and cost of insurance, income received, cost basis, loan balance upon recovery of the cost basis, ending cash value balance, and death benefit. The starting base death benefit amount for the policy is $1,043,569. Not displayed but factored into the calculations are the annual investment returns. Base case for a 45-year old preferred non-smoker male.

4. Results

Table 1 demonstrates the "base" illustration using a specific carrier default 9.41% distribution rate with a selected 6.3% accumulation rate. The illustration shows the end of policy year age of the individual, amount of premium payments each year, the cash account balance, the administrative fees and charges within the policy, cost of insurance (COI), income, cost

Table 2 Historical probability of success for joint assumptions with a 19-year accumulation period, 15-year distribution period, and non-lapse for an additional 21 years

	Distribution rate															
	8	8.2	8.4	8.6	8.8	9	9.2	9.4	9.6	9.8	10	10.2	10.4	10.6	10.8	11
Accumulate rate																
6	100	100	100	100	100	100	100	100	98.9	95.6	95.6	94.5	94.5	93.4	93.4	92.3
6.2	100	100	100	100	100	100	100	98.9	95.6	95.6	94.5	94.5	93.4	93.4	92.3	90.1
6.4	100	100	100	100	100	100	98.9	95.6	95.6	94.5	94.5	93.4	93.4	91.2	90.1	85.7
6.6	100	100	100	100	100	98.9	95.6	95.6	94.5	94.5	93.4	93.4	91.2	87.9	84.6	79.1
6.8	100	100	100	100	98.9	95.6	95.6	94.5	94.5	93.4	93.4	91.2	87.9	83.5	78	65.9
7	100	100	100	98.9	95.6	95.6	94.5	94.5	93.4	93.4	91.2	87.9	83.5	76.9	63.7	53.8
7.2	100	100	98.9	95.6	95.6	94.5	94.5	93.4	92.3	91.2	87.9	82.4	74.7	61.5	52.7	50.5
7.4	100	100	95.6	95.6	94.5	94.5	93.4	92.3	91.2	87.9	82.4	72.5	60.4	52.7	50.5	48.4
7.6	100	95.6	95.6	94.5	94.5	93.4	92.3	90.1	86.8	80.2	67	59.3	50.5	49.5	48.4	46.2
7.8	96.7	95.6	94.5	94.5	93.4	92.3	90.1	86.8	79.1	65.9	57.1	50.5	49.5	48.4	46.2	44
8	95.6	94.5	94.5	93.4	92.3	90.1	85.7	79.1	65.9	56	50.5	48.4	48.4	46.2	41.8	40.7
8.2	94.5	94.5	93.4	92.3	90.1	85.7	79.1	65.9	53.8	50.5	48.4	47.3	45.1	41.8	39.6	37.4
8.4	94.5	93.4	92.3	90.1	85.7	79.1	64.8	53.8	50.5	48.4	47.3	45.1	41.8	38.5	37.4	34.1
8.6	93.4	92.3	90.1	85.7	79.1	63.7	53.8	50.5	48.4	47.3	45.1	41.8	37.4	36.3	34.1	34.1
8.8	93.4	91.2	85.7	79.1	63.7	53.8	50.5	48.4	47.3	45.1	41.8	37.4	35.2	34.1	34.1	33
9	91.2	86.8	79.1	63.7	53.8	50.5	48.4	46.2	44	40.7	37.4	35.2	34.1	34.1	31.9	30.8
9.2	87.9	79.1	64.8	53.8	50.5	48.4	46.2	44	40.7	37.4	34.1	34.1	33	30.8	30.8	30.8
9.4	79.1	65.9	53.8	50.5	48.4	46.2	44	39.6	37.4	34.1	34.1	33	30.8	30.8	30.8	28.6
9.6	65.9	53.8	50.5	48.4	46.2	42.9	39.6	37.4	34.1	34.1	33	30.8	30.8	30.8	28.6	27.5
9.8	53.8	50.5	48.4	46.2	41.8	39.6	37.4	34.1	34.1	33	30.8	30.8	30.8	27.5	27.5	27.5
10	50.5	48.4	46.2	41.8	39.6	37.4	34.1	34.1	31.9	30.8	30.8	30.8	27.5	27.5	27.5	25.3

Base case for 45-year old preferred non-smoker male.

basis, loan balance, ending balance for the cash account, and death benefit. The age of the individual for the base case illustrations will remain between 45 and 100. The beginning and ending cash account balances are crucial to demonstrate the fluctuation of cash value and impact that the fees, insurance costs, investment returns, and income all have. If the policy has a positive cash value, the policy will remain in-force and not lapse, preventing a potential taxable event. If the insured dies, the proceeds of the death benefit pay off the loan and the beneficiary receives the net death benefit. If a death benefit payment occurs, regardless of amount, there is no taxable event. In this example, after distributions and loan balance growth, a death benefit of $851,200 remains at age 100. With the primary focus of this study being supplemental retirement cash flow, the death benefit aspects of the policy receive little focus.

With the base example being setup utilizing a carrier default distribution rate of 9.41% and a selected 6.3% accumulation rate, further analysis and testing provided the impact of different accumulation and distribution rates. With the creation of and ability to manipulate a base illustration, the historical performance for each potential starting year determined the maximum distribution rate while keeping the policy from lapsing.

With a goal of providing a safe assumed rate of return for both the overall accumulation and distribution periods of the life insurance policy based on historical data, this study will look at a 95% success rate for the combined accumulation and distribution rates. Table 2 summarizes the success rate for each combination of an accumulation and distribution rate for the hypothetical variable universal life policy with accumulation rates from a selected range of 6% through 10% and distribution rates from a selected range of 8% through 11%, all in 0.2% increments. The combined accumulation and distribution rates are cash flow generation focused and would look different if the intended goal was to provide more consideration to the death benefit feature.

Across the range of accumulation and distribution rates, multiple combinations allowed for a 95% or greater historical success. The table shows that within the specified 6% to 10% accumulation rate range and 8% to 11% distribution rate range, the upper limit for the accumulation rate is 8%, with anything greater resulting in less than 95% success for the lowest distribution rate shown of 8%. An 8% accumulation rate combined with an 8% distribution rate results in a 95.6% probability of success. In addition, the table shows that within the specified ranges the upper limit for a distribution rate is 10%, with anything greater having a less than 95% success rate with the lowest accumulation rate shown of 6%. A 10% distribution rate results from the accumulation rate being 6%. It is also important to note that a combination of a 7.6% accumulation rate with an 8% distribution rate had a 100% historical probability of success, which represents the highest accumulation rate to do so. With a 6% accumulation rate, a 9.4% distribution rate also results in a 100% historical probability of success.

Upon further testing of the combined accumulation and distribution rates providing at least a 95% probability of success, the combination that generated the highest supplemental cash flow from the hypothetical variable universal life policy was a 7% accumulation rate with a 9% distribution rate. This combination supported distributions of $158,453. The VUL rates have been determined with an approach like Bengen's (2004) SAFEMAX 4% rule approach, utilizing rolling historical equity returns to determine the maximum feasible numbers for a given historical probability of success.

The base case scenario for this research utilizes $50,000 annual premiums, however, additional premium scenarios were tested for $10,000 and $25,000 (20% and 50% of the base case premiums, respectively). These scenarios resulted in 19.2% and 49.5% of the base case cash flow, respectively. The majority of the life insurance policy expenses are linear with only the monthly policy administrative expense being a fixed cost. This results in a fairly linear relationship between premiums and cash flow generation.

In addition to the base scenario of this research study, involving a 45-year old male in preferred non-smoker health supplementing cash flow for 15 years, further analyses provide scenarios with the assumption of a standard non-smoker health classification as well as for varying accumulation and distribution periods. Table 3 summarizes the success rate for each combination of an accumulation and distribution rate for the hypothetical variable universal life policy assuming a standard non-smoker health classification with accumulation rates from a selected range of 5% through 10% and distribution rates from a selected range of 7% through 10.75%, all in 0.25% increments. The change in health classification from preferred health to standard health resulted in a 0.50% decrease, 7% to 6.5%, in the accumulation rate with the same 9% distribution rate. This combination supports annual distributions of $145,210, a decrease from the $158,453 annual distributions with the assumed preferred health. For individuals in poor health, this may be a less viable strategy based on the higher costs of insurance. A standard health rating results in a ~8.4% cash flow reduction within the given parameters, with further reductions expected for substandard health.

Table 3 Historical probability of success for joint assumptions with a 19-year accumulation period, 15-year distribution period, and 21 years of additional non-lapse for a 45-year old nonsmoker with a standard health classification

	Distribution rate															
	7	7.25	7.5	7.75	8	8.25	8.5	8.75	9	9.25	9.5	9.75	10	10.25	10.5	10.75
Accumulate rate																
6	100	100	100	100	100	100	100	100	100	98.9	95.6	94.5	94.5	93.4	93.4	91.2
6.25	100	100	100	100	100	100	100	100	98.9	95.6	94.5	94.5	93.4	93.4	91.2	87.9
6.5	100	100	100	100	100	100	100	98.9	95.6	94.5	94.5	93.4	93.4	91.2	87.9	80.2
6.75	100	100	100	100	100	100	98.9	95.6	94.5	94.5	93.4	93.4	91.2	85.7	79.1	67
7	100	100	100	100	100	98.9	95.6	94.5	94.5	93.4	93.4	91.2	84.6	79.1	63.7	52.7
7.25	100	100	100	100	100	95.6	94.5	94.5	93.4	93.4	91.2	83.5	75.8	63.7	51.6	49.5
7.5	100	100	100	100	95.6	94.5	94.5	93.4	93.4	90.1	83.5	75.8	61.5	51.6	49.5	47.3
7.75	100	100	100	97.8	94.5	94.5	93.4	93.4	90.1	83.5	73.6	58.2	51.6	49.5	47.3	45.1
8	100	100	97.8	95.6	94.5	93.4	93.4	90.1	83.5	71.4	57.1	51.6	49.5	47.3	44	40.7
8.25	100	97.8	95.6	94.5	93.4	93.4	90.1	83.5	71.4	57.1	50.5	49.5	47.3	42.9	38.5	37.4
8.5	98.9	95.6	94.5	93.4	93.4	91.2	83.5	71.4	57.1	50.5	48.4	47.3	42.9	37.4	37.4	34.1
8.75	95.6	94.5	93.4	93.4	91.2	83.5	71.4	57.1	50.5	48.4	47.3	41.8	37.4	37.4	34.1	34.1
9	94.5	94.5	93.4	91.2	83.5	72.5	57.1	50.5	48.4	46.2	41.8	37.4	35.2	34.1	33	30.8
9.25	94.5	93.4	91.2	84.6	75.8	57.1	50.5	48.4	46.2	40.7	37.4	35.2	34.1	33	30.8	30.8
9.5	93.4	91.2	85.7	75.8	58.2	50.5	48.4	46.2	40.7	37.4	35.2	34.1	33	30.8	30.8	28.6
9.75	92.3	87.9	79.1	60.4	50.5	48.4	46.2	40.7	37.4	34.1	34.1	31.9	30.8	30.8	27.5	27.5
10	89	79.1	63.7	51.6	48.4	46.2	40.7	37.4	34.1	34.1	30.8	30.8	30.8	27.5	27.5	26.4

Table 4 summarizes the corresponding accumulation and distribution rates for a 35, 45, and 55-year-old male in preferred non-smoker health, with 15, 20, and 30-year distribution periods. It is important to note that retirement stays at age 65, which is the first year a distribution occurs. Shorter accumulation periods and longer income periods both work to reduce the combined feasible accumulation and distribution rates.

To compare the life insurance design to a more traditional investment portfolio, examples will use the same specified parameters, including amount of investment, and length of accumulation and distribution periods. Utilizing the same historical equity returns, a probability of success for generating the same after-tax distributions inside both a qualified and non-qualified account determines whether the tax advantages overcome the life insurance policy expenses. There are several different types of investment accounts, because they vary

Table 4 Joint assumptions summary for accumulation and distribution rates for different ages and distribution lengths based on retirement at age 65

	Age					
	35 (29-year accumulation)		45 (19-year accumulation)		55 (9-year accumulation)	
Income duration						
15	7.50%	8.75%	7.00%	9.00%	6.75%	7.75%
20	7.50%	7.75%	7.00%	7.75%	7.00%	6.75%
30	7.50%	6.75%	7.00%	6.50%	6.75%	6.00%

Accumulation/distribution rates. Each scenario assumes retirement at age 65 which is the first distribution year. All scenarios continue to monitor and avoid a policy lapse through age 100.

Table 5 Probability of success for non-qualified account to generate matching after-tax income with various tax rates

Dividend and LTCG tax rates	Probability of success: Matching $158,453 spending for preferred non-smoker	Probability of success: Matching $145,210 spending for standard non-smoker
15%	95.6%	100.0%
20%	90.0%	95.6%
23%	84.4%	93.3%
30%	44.4%	77.8%
35%	40.0%	46.7%
45%	36.7%	41.1%

in the application of taxation. Non-qualified (taxable) accounts can often benefit from reduced taxation on dividends and long-term capital gains. Qualified accounts benefit from deferring all taxes until distribution. However, upon distribution all income is subject to taxation as ordinary income. Tax-free investment accounts, such as a Roth-IRA, receive the same potential tax-preferential treatment as life insurance with tax-deferred growth and then tax-free distributions. The Roth IRA is the best investment account from a taxation standpoint and therefore does not require further analysis. However, it may not be available for all individuals based on its income and contribution limits.

This study compares life insurance to both a qualified account and a non-qualified account. The non-qualified account will assume on-going taxation of historical annual dividends, with the tax-deferral of price appreciation until withdrawals begin. During withdrawals, taxation occurs upon recovery of the cost basis. While it is not entirely possible to simply withdraw the cost basis first within a non-qualified account, based on the average cost basis, after adjusting for dividends, the first eight distributions are tax-free, and then the remaining seven distributions are taxable. A common approach is to use the annual taxation method for non-qualified accounts, however, it is very unlikely that a non-qualified account will have turnover every year such that there would be annual taxation on the price appreciation. Multiple scenarios of varying taxation rates on the annual dividend and distributions demonstrate the relationship between higher taxation and probability of success. Taxation rates will range from 15% to 45%, even though the current maximum taxation on dividends and long-term capital gains is 23.8%. The higher taxation scenarios demonstrate potential increases in current taxation levels.

Table 5 summarizes the probability of success that a non-qualified account with various dividend and long-term capital gains taxation rates can generate the same $158,453 after-tax cash flow as the variable universal life insurance policy for a preferred non-smoker. As taxation increases, the probability of success decreases. While the variable universal life insurance policy has a 95.6% probability of success, the non-qualified account has a lower probability of success with any assumed dividend and long-term capital gains tax rate greater than 15%. It should be noted that one bias in using historical data ranging from 1871 to 2015, is that the historical average dividend yield on stocks was higher in the earlier years than in more recent times. Therefore, this procedure will overstate the gains associated with a non-qualified account. Table 5 also summarizes the probability of success that a non-

Table 6 Probability of success for qualified account to generate matching after-tax income with various tax rates

Pre-retirement tax bracket	Grossed-up investment	Retirement tax bracket	Probability of success: Matching $158,453 spending for preferred non-smoker	Probability of success: Matching $145,210 spending for standard non-smoker
35%	$76,923	35%	100.0%	100.0%
35%	$76,923	45%	95.6%	100.0%
35%	$76,923	55%	55.6%	90.0%
45%	$90,909	35%	100.0%	100.0%
45%	$90,909	45%	100.0%	100.0%
45%	$90,909	55%	94.4%	100.0%
55%	$111,111	35%	100.0%	100.0%
55%	$111,111	45%	100.0%	100.0%
55%	$111,111	55%	100.0%	100.0%

qualified account can generate the same $145,210 after-tax cash flow as the variable universal life insurance policy when assuming standard non-smoker health. With a reduced stress on the portfolio needing to generate less cash flow, the probability of success increases. However, any assumed tax rate greater than 20% results in a lower probability of success than the variable universal life insurance policy.

Depending on the assumed tax rate, there is a lower probability of success for generating the same after-tax cash flow as the VUL policy. However, that does not mean the VUL policy is a replacement for taxable investment accounts, as there are significant differences. Most notable is the cash value within each vehicle after the specified cash flow period has ended. The life insurance policy will have cash value that may be accessible for additional distributions, but it is important not to overdraw the policy and cause it to lapse, triggering a taxable event. Therefore, most of the cash value remaining is not accessible. There is a death benefit remaining within the VUL policy, however, that does not provide additional resources to the insured, only the beneficiary, which will have varying levels of importance depending on the individual. This differs with the non-qualified account because any additional remaining value has full accessibility should the individual choose to use it, which provides additional economic benefit.

The qualified account scenarios reflect that all price appreciation and dividends are tax deferred until distribution, at which time the full distribution receives ordinary income taxation treatment. Because of the tax deductibility of qualified accounts, the annual investments are grossed-up based on an assumed preretirement tax bracket. Nine total scenarios demonstrate varying pre- and post-retirement tax brackets ranging from 35% to 55%.

Table 6 summarizes the probability of success that a qualified account with various pre- and post-retirement ordinary income taxation rates can generate the same $158,453 after-tax cash flow as the variable universal life insurance policy assuming preferred non-smoker health. Within the nine scenarios, only two have a lower probability of success than the VUL policy, both of which have a higher ordinary income taxation rate during retirement compared with the preretirement taxation rate. One of the compelling arguments for the life insurance policy is protection against a rising tax environment. However, if tax rates do not rise substantially the qualified plan is clearly more beneficial. With six of the nine scenarios showing a higher probability of success within the qualified plan compared with the VUL, individuals should maximize their available qualified plans first before utilizing a life insurance policy as a retirement vehicle. Even in the scenario of a modest increase in taxation from 35% to 45%, the qualified plan has the same probability of success as the VUL. With the VUL also incurring more risk than the qualified plan, the VUL should not be viewed as a replacement, but rather a supplement when additional tax deferral is desired.

Table 6 also summarizes the probability of success that a qualified account with various pre- and post-retirement ordinary income taxation rates can generate the same $145,210 after-tax cash flow as the variable universal life insurance policy assuming standard non-smoker health. With a reduced stress on the portfolio needing to generate less cash flow, the probability of success increases, resulting in only one scenario of the nine that has a lower probability of success than the VUL policy. The lone scenario with a lower probability of success results from a 20% increased tax rate during retirement. As previously noted with the non-qualified account, the qualified account would also provide additional flexibility to withdraw and deplete any remaining values if an individual chooses to do so. However, any additional distributions are taxed at ordinary income taxation rates.

5. Conclusions

This study has determined that for the given parameters of the base case, the safe combined accumulation and distributions rates are 7% and 9%, respectively. These rates assume a 100% equity allocation towards U.S. large capitalization stocks. Although other combinations of rates provided a 95% or higher probability of success based on historical returns, this combination yielded the highest supplemental cash flow with a minimum of 95% probability of success. These parameters demonstrate success based on historical performance, but in practice it is crucial to monitor the policy performance on an on-going basis. One of the largest benefits of a variable universal life policy is its flexible nature, which allows for adjustments to be made. This will allow higher or lower distributions to occur based on actual performance. This study has also determined that if an individual does not qualify for preferred health, but standard health, the safe accumulation rate based on historical returns reduces from 7% to 6.5% with the same 9% distribution rate, which results in a ~8.4% decrease in income with the given parameters.

This research shows that while life insurance can generate cash flow, there are additional risks that could result in a policy lapsing and triggering a taxable event. If an individual is in a lower tax bracket during retirement, the tax-preferential treatment would be less advantageous. The higher the taxation assumptions, the more competitive the life insurance options become on an after-tax basis because of increased efficiency. However, even in the scenarios where the life insurance policy provides a higher probability of success compared with the traditional investment accounts, the residual value after the distribution period has limited use. This is a result of the need to maintain the policy in-force to avoid taxation. The investment accounts do not impose such limitations and would provide full access to any residual values available beyond the distribution period. While the insurance policies have a tax-free death benefit, it is for a beneficiary and not the insured.

Life insurance when used as a supplemental cash flow vehicle needs continuous monitoring. Using life insurance as an asset class should be a supplement to an existing retirement income portfolio and, therefore, is not suitable for every individual. Life insurance can add benefits for individuals in higher income tax brackets, but for individuals in lower income tax brackets or individuals who do not have other income solutions, life insurance may not be appropriate. The reason it is not appropriate for individuals without other income solutions is that life insurance should not be the primary source of retirement income. In addition, while the VUL policy is flexible in premiums, concerns could grow if the ability to make premium payments is no longer possible. While corrective action may be available, such as reducing the death benefit or surrendering the policy, the payment for costs of insurance may unnecessarily occur.

While this study focused on utilizing life insurance as a retirement vehicle, it is not appropriate for everyone. Life insurance is illiquid for generating cash flow and is a long-term time horizon vehicle. Many policies have a fee or penalty associated with liquidating the contract during the early years. In addition, because of embedded fees, it often takes 10 years or more before gains appear within the contract. For these reasons, life insurance should be a supplement to the overall portfolio for individuals with a long-term time horizon before requiring income. Individuals considering this strategy should also be healthy to help balance the costs of insurance associated with the death benefit of the policy. Individuals who have other retirement income vehicles, are in a higher tax bracket, or believe that they will be in the future, and can monitor the policy on an on-going basis, may want to consider utilizing life insurance as a supplemental cash flow vehicle.

The purpose of this research is to show that life insurance is usable as a retirement vehicle when properly structured. The tax preferential treatment provided to life insurance allows a consumer to have greater flexibility over which dollars to use during retirement. The cash accumulation within the policy grows on a tax-deferred basis and then upon retirement, access to the cash value can occur on a tax-free basis. The life insurance policy provides an additional option, like the current Roth IRA, but without funding and income limitations.

This research focused on a specific set of parameters to provide supplemental cash flow to a retirement portfolio. The tax advantages of life insurance as a cash flow vehicle increase for individuals who are in a higher income tax bracket or individuals who are looking to protect against future increases in ordinary income tax rates. Tax deferral has been shown to be beneficial, but some individuals may have limited access to qualified investment accounts. Life insurance removes limitations to contribution limits. Uncertainty around future taxation or availability for long-term capital gains treatment may provide reason to look at other vehicles to supplement a portfolio.

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