



LIFE INSURANCE VALUATION

MORTALITY AND DISCOUNT RATES



I. LIFE EXPECTANCY OVERVIEW

When valuing life insurance or life insurance-linked instruments such as split-dollar collateral assignment receivables or split-dollar promissory notes, the three elements of Fair Market Value are: (1) the illustrations from the insurance company projecting expenses, premiums, and cash values, (2) the mortality rates applicable to the insured life as of the valuation date, and (3) the discount rates applicable to the cash flows from the policy as of any given year. This section discusses mortality estimates.

MORTALITY ESTIMATES

A mortality table is a statistical table showing the probability of death at each age. It is usually subdivided by gender, smoking status, and risk classification. A mortality table represents a large group of people covering a long period of time. Mortality tables are used in a wide variety of circumstances where it is important to know how long a person is approximately expected to live, given their unique circumstances. The first mortality tables of any scientific value were created by the American Society of Actuaries (“SOA”) in 1916. Through the ensuing years, numerous mortality tables have been created by the SOA, U.S. Government, and others. These tables have been used to price life insurance, annuities, business contracts, and other applications, and have evolved through much iteration.

To estimate life expectancy, typically confidential medical information is used to create a series of debits for unhealthy conditions and credits for healthy conditions, which are totaled to a score that indicates if the person may live longer or shorter than average. If the score is greater than 100, the person is expected to live shorter than average (a higher score means more health issues exist). If the score is less than 100, the person is expected to live longer than average. This scoring process is known as the “debit/credit methodology,” and the score is the person’s mortality rating, or relative mortality. For example, a mortality rating of 200 percent would mean that an insured (or, more accurately, a group of similar people with the same mortality rating) would be expected to die at twice the rate of death of a normal, healthy population. The score, or mortality rating, is applied to an actuarial mortality table that is selected to be most representative of the population being evaluated. The product of the mortality rating applied to the mortality table gives the probabilities of dying in each future year, and this forms the basis for computing an insured’s life expectancy. Below are some of the conditions that are often considered in the scoring:

- i. Uncontrolled high blood pressure, elevated cholesterol, obesity and other cardiovascular risk factors;
- ii. Decreased kidney function;
- iii. Depression and mood disorders;
- iv. Asthma, emphysema, sleep apnea and other respiratory impairments;
- v. Diabetes and uncontrolled blood sugar levels;
- vi. Cancers;
- vii. Coronary artery disease, heart valve impairments;
- viii. Cardiac arrhythmia, heart failure, and other cardiovascular impairments;
- ix. Stroke or TIA history;
- x. Memory loss or other possible symptoms of dementia;
- xi. Morbid obesity.

Applying the score to the mortality table results in specific cumulative survival curve for an individual. This curve starts at the person's current age and reflects the chances that a person will live into the future. Because most people generally exhibit a higher probability of surviving at early ages, the curve typically is relatively flat early on, and gradually decreases as age increases to the point at which 50 percent of all people represented by the curve are expected to be living. That 50 percent point approximates the age that will be recorded as the person's life expectancy. The probability of continuing to live decreases as the curve continues down with age. Eventually, at about age 100 to 105, the curve projects a low chance of surviving. The life expectancy number is an "estimate" based on medical records and population data, and there may be wide variations of life expectancy estimates provided by different parties.

LIFE EXPECTANCY UNDERWRITING FOR LIFE INSURANCE AND LIFE SETTLEMENTS

When pricing life insurance products, life insurance providers use mortality tables to provide a guideline of the life expectancies of each cohort market group. Mortality tables and ratings allow insurance companies to project future premium revenues and expected death benefit payments (including lapses), so that they may estimate the potential profit potential for each insurance product. Based on a life expectancy estimate, insurers assign each insured into one of several typical risk classifications. The assigned risk category determines whether a life insurance policy will be issued, and if so, the policy premium cost associated with the policy. The typical risk categories used by insurers include the following:

- i. Preferred Plus, Non Smoking (also referred to as Preferred Best or Super Preferred);
- ii. Preferred Non Smoking
- iii. Preferred Smoking
- iv. Standard Non Smoking
- v. Standard Smoking; and
- vi. Substandard / Not Insurable.

Life expectancy underwriting for life settlements is both similar to and different than underwriting by insurers for the purchase of a life insurance policy. The similarities relate to the general methodology used to evaluate risk, while the differences pertain to the demographic characteristics of the life insurance versus the life settlement market. For example, insured individuals who sell life insurance policies in the life settlement market tend to have higher income levels than the average insured, which correlates with longer life expectancies. Another important difference between life insurance and life settlement underwriting has to do with the shape of the mortality curve used to estimate life expectancy. Mortality rates associated with a life settlement population tend to be lower than those associated with a life insurance population in the years just following underwriting. However, as the level of impairments increase among the life settlement population, the mortality curve becomes steeper as it approaches the point at which 50 percent of the population is expected to have died. This phenomenon is not reflected in life insurance mortality tables because life insurers will not underwrite an individual with significant impairments.

Although the debit/credit methodology is common to both life insurance and life settlement underwriting, its application is more complex for life settlements. Life insurance underwriting generally involves a younger, healthier population, whose mortality rates don't change

In 2008, all life expectancy underwriters lengthened their life expectancy estimates, either by making adjustments to their underwriting methodologies, or by instituting changes to their proprietary mortality tables.

dramatically from year to year. Life settlements, however, involve an older age population. Also, the risk factors for life settlements are different. For example, for a 35-year old, there would be concern about cardiovascular risk factors, such as elevated cholesterol or a family history of heart attacks at a young age. However, by the time this person is 75 years old, cardiovascular risk factors would be less important. At this point the risk is based on actual cardiovascular impairments, not a risk factor suggesting a propensity for those impairments. If, on the other hand, cardiovascular disease has not manifested in the 75-year old, there is a lesser likelihood of developing cardiac disease, in spite of the risk factors.

When developing a mortality table, it is important to use data that is comparable to the population for which it will be used. The life settlement population is older, typically ages 65-85, and has above-average income. Insurance industry data provides a good starting point, but that information must be augmented with information from actual life settlement experience. Fortunately, the life settlement experience database is growing. The experience to date suggests that the average mortality of the insured in the early years following a life settlement transaction is lower than the average mortality of the overall population of comparable ages, and lower than the comparable insurance industry population. There is also evidence that the shape of the mortality curve changes as the overall level of impairment changes. Because of these unique characteristics, most of the life settlement underwriters have chosen to develop their own mortality tables, based on life settlement experience, rather than relying on life insurance or population mortality tables.

In 2008, all life expectancy underwriters lengthened their life expectancy estimates, either by making adjustments to their underwriting methodologies, or by instituting changes to their proprietary mortality tables. The changes resulted from a combination of studies of their own internal data as well as SOA's newly released 2008 VBT. The 2008 VBT indicate improved mortality (i.e., longer life expectancy) for the senior population, which in turn resulted in longer life expectancies for life settlements and caused investors to hold back from investing in life insurance policies, resulting in demand and pricing decreases. The development of the 2008 VBT tables included \$7.4 trillion of life insurance, 75 million policies, and nearly 700,000 death claims from 35 contributing companies.

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II. SUMMARY OF DISCOUNT RATE DATA

In this section, we discuss the data and analysis used for determining an appropriate discount rate to apply to the projected cash flows to the holder of a policy or related note or receivable.

OVERVIEW

An investment's required rate of return (also referred to as "yield" or "discount rate") primarily corresponds to the duration and level of risk associated with receiving the projected cash flows from the investment and the degree of liquidity for the investment. Yields may range from a low of near 0.0 percent for short-term, liquid and low-risk investments, such as treasury bills or certificates of deposit, to upwards of 70.0 percent and greater for high-risk investments, such as venture capital investments.

The best method for valuing an investment is to compare it to identical or similar investments that have sold. Whenever "fixed income" securities or other assets with contractual cash flows are sold, the discount rate can be calculated based on the price paid for such securities or assets compared with the expected future cash flows expected to be received from such securities or assets. When determining the appropriate discount rate for a policy or related receivable, we review a number of data sources regarding the required rates of return (also referred to the "discount rate") for the following four classes of investments: (i) life settlements; (ii) structured settlements; (iii) lottery prizes; and (iv) illiquid promissory notes. In this section, we provide a summary of this data.

LIFE SETTLEMENTS

The cash flows associated with life settlements are long-dated, backed by highly rated obligors (e.g., life insurance companies), and illiquid due to the inability to accelerate the payments as well as regulations regarding transfer. Life settlements typically involve policies insuring individuals with less than 12-15 years of life expectancy who are either old or have material health impairments. The life settlement market has experienced significant growth in recent years, and many qualifying life insurance policies may be sold relatively quickly and efficiently in this market. The discount rates from transactions that we've reviewed on lottery prize transfers indicate a reasonable range from 15 to 25 percent.

STRUCTURED SETTLEMENTS

The future cash flows associated with structured settlements are typically fixed (and therefore the specific timing and amount of all future payments is known), long-dated, backed by highly rated obligors (e.g., insurance companies), and illiquid due to the inability to accelerate the payments as well as regulations regarding transfer. Regarding the degree of liquidity of these investments, while structured settlements are subject to regulations regarding transferability, this has not prevented the development of a relatively active market for the purchase of structured settlements. No such market has developed for the purchase of investments such as collateral assignment receivables and related notes, but there is a relatively active market for life insurance policies (with reasonably short life expectancies). The discount rates from transactions that we've reviewed on structured settlement transfers indicate a reasonable range from 17 to 19 percent.

LOTTERY PRIZES

The future cash flows associated with lottery prizes are fixed (and therefore the specific timing and amount of all future payments is known), long-dated, backed by highly rated

obligors (e.g., state governments), and illiquid due to the inability to accelerate the payments as well as legal restrictions on transfer. Regarding the degree of liquidity of these investments, lottery prizes are subject to legal restrictions on transfer, while no such legal restrictions exist for the transfer of policies or related receivables. The discount rates from transactions that we've reviewed on lottery prize transfers indicate a reasonable range from 15 to 35 percent.

PRIVATE NOTES

In our analysis, we also survey various note brokers regarding the environment for private notes. While note brokers do not transact in notes purely comparable to the function of life settlements, they provide market pricing information for notes with credit risk and illiquidity parameters that are similar to life insurance policies and collateral assignments.

The future cash flows associated with private notes are fixed and the time table of payment is known, long-dated, backed by preapproved obligors, and illiquid due to no formal market for these notes and restrictions on transfer. Overall, note brokers indicate yields ranging from 8.0 percent to 16.0 percent for first-lien secured real estate notes. Such notes provide the note holder with collateral that can be liquidated in the event of default. The discount rates used in private note transactions vary widely with collateral and other note characteristics.

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III. LIFE SETTLEMENTS INDUSTRY OVERVIEW

A life settlement is a transaction in which a life insurance policyholder sells to a third party investor the rights to all or a portion of the death benefit associated with the policy. A typical transaction involves a purchaser (generally a life settlement firm representing one or more third party investors) providing a cash payment to a policyholder in excess of the policy's cash surrender value (“CSV”), and receiving the right to the policy's death benefit payable upon the death of the insured. The purchaser continues to make premium payments on the policy until the insured dies and the death benefit is paid to the purchaser.

The life settlements market offers policyholders an option that didn't exist before the development of a secondary market for life insurance policies, and a chance to realize the market value of their policies. By selling policies, policyholders not only eliminate the burden of having to fund future and often increasing premium payments, but they also receive an up-front cash lump sum. That cash can potentially be used by policyholders to access better health care, long-term care, and to widen lifestyle choices. For investors, life settlements provide exposure to longevity risk through the purchase of securities whose performance is life contingent, and thereby largely uncorrelated with other financial markets.

HISTORY

Historically, if a life insurance policyholder wanted to cash out a policy before the insured's death in order to cut expenses, to pay for medical or living expenses, or to improve quality of remaining life, the only avenue available was for the policyholder to surrender the policy to the issuing company for the policy's CSV, which often represents a small fraction of the policy's death benefit. In the late 1980s, a trend emerged whereby insured individuals with terminal illnesses sold their existing life insurance policies to investors at prices in excess of CSV. The investors held the policies until insureds passed away, at which point the policies matured and the investors collected the death benefits. The purchase of a life insurance policy from an insured individual with a diagnosis of a terminal illness became known as a “viatical settlement.”

In the mid-1990s, another step in the evolution of the life settlement market occurred. Industry participants recognized the ability for seniors who do not necessarily have terminal illnesses, but in many cases have significant chronic or degenerative conditions, to benefit from a transaction similar to a viatical settlement, which became known as a “life settlement.” Life settlements rapidly gained popularity with investors. While the time frame of viatical settlements could potentially extend far beyond investors’ expectations due to misdiagnoses and medical advances, life settlements provided a more finite window, as there is no cure for old age. Life settlements were attractive to senior aged policy holders for two primary reasons: (i) many seniors needed money to meet rising medical costs; and (ii) more seniors found themselves over-insured due to changes in estate tax laws. In both cases, seniors found strong motivation to seek life settlement solutions.

Because of its attractiveness to both investors and policyholders, the life settlement market grew to approximately \$5.0 billion by the turn of the century. With approximately \$500.0 billion of outstanding life insurance on people age 65 or older, the market is in its infancy and is poised for growth. According to Pacific West Capital Group, Inc. (“PacificWest”), life settlements have recently become an increasingly popular alternative asset class, especially in light of the recent mortgage mess, financial turmoil on Wall Street, and government bailouts. The life settlement market has rapidly grown into a \$20.0 billion industry and is predicted by Bernstein Research to develop into a \$160.0 billion market in a few short years. According to Melville Capital, based on information provided by the American Council of Life Insurers (“ACLI”), there was between \$15.0 billion and \$20.0 billion of total transaction value in 2007. Studies conducted by two of the leading research organizations for the life insurance industry, Conning, Inc. and Matthew Greenwald Associates, estimate the annual total net death benefit (“NDB”) of policies settled in the U.S. increased from \$2.0 billion in 2002 to \$12.2 billion in 2007, and decreased to \$3.8 billion in 2010. The life insurance industry reports that currently there are approximately \$14.5 trillion of in-force policies in the U.S., with more than 10.0 percent owned by senior citizens. The Wharton Financial Institutions Center recently reported that more than 20.0 percent of policyholders over the age of 65 are estimated to hold policies whose economic values far exceed their cash surrender values.

In 2008, Coventry First introduced retained death benefit (“RDB”) life settlements, which have become more common in the life settlement market in recent years. According to Coventry First, RDB life settlements were a component in 30.0 percent of life settlement transactions in 2011. RDB settlements allow policy owners to retain a portion of the death benefit coverage while eliminating the financial burden of further ongoing premium payments. This feature can be particularly attractive to policyholders that can no longer afford to pay the increasing costs of their policy or may have a reduced insurance need, and may have difficulty buying new coverage in the primary market due to a deterioration in the insured’s health. These transactions offer the policy owner an option that is similar to the reduced paid up nonforfeiture option typically embedded in life insurance policies, with an important difference: RDB settlements are based on current market valuation which reflects the insured’s current health condition, which is more valuable for insureds with health impairment. Investors like RDB life settlements because they provide better alignment of incentives between investors and policy owners.

According to the Life Partners Holdings, Inc. (“LPH”), from the early 2000’s through 2007, the market for life settlements grew substantially from both the demand and the supply sides. Following the 2008 and 2009 financial crisis, however, the value of transactions declined

dramatically. In reports issued in 2011 and 2012, insurance research group Conning & Co. (“Conning”) estimated that the life settlement industry completed \$11.8 billion in face value of transactions in 2008, but dropped to \$7.6 billion in 2009, \$3.8 billion in 2010 and \$1.2 billion in 2011. In its 2012 report, Conning estimated the market would drop to approximately \$1.0 billion in 2012. Based on LPH’s research from other providers, publicly reported data and estimates based on historical data, LPH believes that the total amount of face value of transactions completed by the life settlement industry in calendar 2012 increased to about \$2.0 billion. Conning’s 2012 report suggests the decrease in the life settlement market results from a lack of capital due to investor concern regarding liquidity. Conning forecasts that the life settlement market overall will remain flat for the next few years. We concur with Conning’s predictions about the 2013 market and we believe the total market is likely to remain relatively flat for the next year. However, the 2012 Conning report notes that life settlements remain an attractive alternative investment because the asset class has a low correlation to fixed income and equity securities and offers investors the potential to generate competitive returns. LPH believes that life settlements should be appealing as an asset class, especially given the low interest rate environment for fixed income investments and concern regarding possible equity market volatility.

Weaker demand should not diminish the supply of attractive policies, primarily because policy holders desiring to monetize their policies have few viable alternatives. The attractiveness of a life settlement for an insured is in the value that they can realize from life settlements, which exceeds the cash surrender value that life insurance companies will pay and the avoided costs of letting policies lapse. A growing awareness among policy owners and their financial professionals and advisors of the value to be realized from life settlements and an aging population should produce an ample supply of attractive policies, especially policies with higher face values.

PARTICIPANTS

LPH believes the number of active participants in the life settlement market has increased to approximately 20 companies, which is up from 15 active participants in 2011. While precise industry and company-specific data are not readily available, LPH estimates that its largest industry competitor currently has approximately 19.0 percent of the total market share based on the estimated face value of 2012 calendar year transactions, which is up from a 16.0 percent market share in calendar year 2011. Another market participant appears to have had approximately 14.5 percent of the market in 2012 and the third and fourth largest market participants had approximately a 10.0 percent market share each. LPH estimates its market share was approximately 5.0 percent in 2012, which is unchanged from its estimated market share in 2011. In the remainder of the market, LPH estimates all other market participants had less than 10.0 percent of the total market share in 2011, with most having less than 5.0 percent.

INVESTORS

Life settlements are generally used by investors as a diversification tool and as a defensive strategy, as returns are not dependent on or affected by a soft economy, stock market volatility, interest rate fluctuations, the softening of the real estate market and the mortgage meltdown, soaring oil prices, unexpected global events, or other traditional economic factors. Risks associated with the asset class include liquidity risk, underwriting risk, operational risk, legal and regulatory risk, and longevity risk. For international investors, there may also be currency risk.

Historically, the primary participants in the life settlement industry were institutional investors comprised of brokerage houses, hedge funds and other alternative asset managers, and pension plans. Purchasing whole policies or developing comprehensive proprietary portfolios to hold until maturity or for resale has been attractive to capital rich investors who want to carve out investments that fit their particular specifications. In recent years, new investment choices in the life settlement market have become available. Certain firms, including PacificWest Capital Group (“PacificWest”), offer to large and small investors the ability to purchase fractional interests in the death benefit in a policy or group of policies. Fractional interests in life insurance policies can be attractive for those who cannot invest enough capital to create their own diverse portfolio of whole policies.

To diversify their positions, retail purchasers represented by the LPH, which serves as purchasing agent to institutional investors and high net worth individuals, generally buy fractional interests in one or more policies and not an entire policy, while institutional purchasers tend to purchase entire policies.

NATURE OF POLICIES ACQUIRED

The life settlement industry focuses on certain types of life insurance policies, policies of a certain size, policies with a certain amount of ongoing premium requirements, insurers with strong credit ratings, and insureds with a certain range of remaining life expectancy.

POLICY TYPES

Life insurance contracts either provide for coverage over a specified term, referred to as term life insurance, or over the entire remaining life of an insured (unless the policy is terminated sooner), referred to as permanent life insurance. Term policies are usually not eligible for life settlements, unless they can be converted into universal life policies, because of the risk to investors that the insured will outlive the policy’s stated term. According to PacificWest, only permanent forms of life insurance policies are considered for life settlement purchases. However, other firms may be less selective, such as Melville Capital, which states that potential life settlement candidates involve universal life, variable universal life, survivorship, term life, or whole life insurance policies.

There are four main types of permanent life insurance: whole life, universal life, variable life, and variable universal life. Each of these is described in greater detail below.

Whole Life: Whole life is a contract designed to provide level death benefit coverage over the entire lifetime of the insured. It is the oldest, and for many years the only, form of cash value insurance. Whole Life has had many names and variations over the years, including adjustable whole life, participating and non-participating whole life, current assumption whole life, modified premium whole life, and increasing premium whole life. The form of whole life that is most commonly available today is a straightforward version of the product. Level or fixed periodic premiums are computed on the assumption that the contract can be retained, assuming premiums are paid, for as long as the insured lives. Premiums are level (higher than actual term costs in early years and lower than the cost of insurance in later years) to make the whole life contract affordable for as long as the policy owner wants to pay, and is able to pay, premiums. Policy cash values (i.e., what the policy owner can realize if the policy is surrendered and the insurer is no longer liable for a continuing obligation to keep the coverage in force) are an outgrowth and natural byproduct of the level premium system. Whole life policies are issued with a table that illustrates the guaranteed fixed cash values

the owner of the contract can obtain in any given year, by either borrowing or surrendering the policy.

Universal Life: Universal life is a flexible premium, current assumption, adjustable death benefit, cash value insurance contract, and is also referred to as flexible premium adjustable life. Universal life was developed in the late 1970s, as interest rates soared and the change in dividend rates of whole life policies significantly lagged behind the interest rates available in the market. Unlike whole life policies, universal life contracts are flexible and generally accept premiums at any time and in any amount. Flexible premiums allow policy holders more freedom to adapt their future cash flow commitments to the changing interest rate world and their own financial circumstances. Mechanically, as long as there is enough cash inside a universal life policy to support that month's charges, the policy will continue to provide full coverage for another month. The actual recommended premium for a universal life policy is a function of (i) how long the coverage is desired, (ii) the number of years the owner wishes to pay premiums, and (iii) the assumed rate of interest backing the policy.

Variable Life: Variable life is essentially a whole life policy that allows the policy owner to select among (and typically switch annually or more frequently between, or rebalance among) a menu of insurer-determined investments similar in many respects to stocks, bonds, and money market mutual funds. Variable life provides a guaranteed minimum face amount (death benefit) and a level premium, but differs from classic whole life in three important ways. First, net premiums after charges for expenses, sales costs, and mortality costs, are placed in an investment account that is financially separate and legally distinct from the insurer's general investment fund, allowing for a greater allocation to riskier investments than insurer's general accounts may allow. For policy holders who desire exposure to equities, variable life policies may be preferred. However, variable life contracts shift investment risk entirely to policy owners, and insurers provide no guarantees with respect to policy cash values. Second, cash values in variable life contracts are determined as of a given date based on the policy owner's share of the market value of the assets in the separate account. And third, the death benefit in a variable life contract is variable, and may grow or shrink (but not below a stated and guaranteed minimum) according to a formula based on the separate account's investment performance.

Variable Universal Life: Variable universal life combines the flexible premium design of universal life with variable life's ability to choose the asset allocation supporting the contract, and is sometimes called flexible premium variable life. Variable universal life policy owners may, within limits, determine the timing and amount of premium payments, eliminate one or more premium payments entirely (assuming the cash value is sufficient to pay mortality and expense charges), increase or decrease death benefits, make withdrawals of cash without generating a loan against the policy and without interest charges, and select between death benefit options.

The life settlement industry has overwhelmingly favored universal life policies, which represent an estimated 95.0 percent of life settlements. Investors offer the best prices for these policies because they are effective to age 100 or older, provide better flexibility with respect to premium payments, and have predictable interest rates that help determine expected investment returns. Variable universal life settlements comprise a very small part of the market, because they are regulated as securities by the Financial Industry Regulation Authority ("FINRA"), and there are not many registered broker-dealers who will work with

them. Whole life policies often don't price well, unless the insured's life expectancy is very short, because the premium structure is fixed and the dividends are less predictable.

POLICY SIZE

Typically, policies must have at least \$50,000 in face value (death benefit), however most investors prefer policies above \$500,000. PacificWest and Melville Capital, for example, state that they target policies with face amounts of at least \$500,000. The average face value of the policies for which LPH served as purchasing agent for was \$2.9 million in 2012 and \$3.1 million in 2013.

PREMIUM REQUIREMENTS

The level of required premiums relative to the policy's face amount is also an important factor. Brokers generally decide if a policy has market value in excess of CSV by calculating a "premium ratio," the amount of annual premiums divided by the face amount. Generally, if the ratio is under 5.0 percent, it is worth pursuing a deal, while policies with premium ratios higher than 5.0 percent usually do not price well unless the anticipated life expectancy is very short.

ISSUER CREDIT RATING

According to PacificWest, only life insurance policies that have been issued by "A" rated or better life insurance companies, as rated by Standard & Poor's, are considered for life settlement purchases. According to its public filings, Life Partners Holdings, Inc. ("LPH"), which serves a purchasing agent to institutional investors and high net worth individuals, generally purchases policies issued by carriers having an A.M. Best Company rating of B+ or better.

LIFE EXPECTANCY

Life expectancy is the single most determining variable in projecting and monitoring life settlement returns. Investors pay more for policies if life expectancy is shorter, and they pay less if life expectancy is longer. Life expectancy underwriting must be accurate and consistent. If mortality distribution estimates are too high, investors will overpay for policies and end up with lower returns than expected. Conversely, mortality distribution estimates that are too low will result in prices that are under the policies' economic value and sellers will not receive fair value for their policies.

Human life expectancy is constantly changing. Due to changes in medical status, lifestyle, socio-economics, and healthcare advancements, life expectancy (as measured from birth) in the U.S. has increased from just less than 50 years in 1900 to just under 80 years today. The life settlement market has demonstrated a changing preferences for life expectancies, beginning with a focus on AIDS cases with viatical settlements and advancing to the current focus on retirees having reasonably normal health, with some impairment.

The target market for life settlements is generally limited to policies on the lives of individuals above age 65 with life expectancies of as little as two years and as high as 12 to 15 years, and has historically focused on a range of 4-10 years. PacificWest states that it only purchases policies with insureds ages 75 years and older who are typically experiencing chronic or degenerative health conditions, and Melville Capital states that it generally only considers life settlements involving insureds over age 70. Based on information provided by ACLI, in 2007, the average age of insureds selling policies in life settlement transactions was 74. According

to a study of the life settlement market published in 2013 by PhD students at the London Business School (“LBS Study”), during 2002, the average life expectancy estimate was 7.2 years for males and 6.6 years for females, while during 2011, the average life expectancy estimate was 11.2 years for males and 10.2 years for females.

In order to estimate life expectancy, confidential medical information is used to create a series of debits for unhealthy conditions and credits for healthy conditions, which are totaled to a score that indicates if the person may live longer or shorter on average. This score, or mortality rating, is applied to an actuarial mortality table that is selected to be most representative of the population being evaluated. While medical records are generally used by underwriters of life settlements, policies with face values of under \$1.0 million are often purchased based on a review of the responses to a medical questionnaire rather than an assessment of detailed medical records.

Based on the LBS Study findings, policies purchased in the secondary market predominantly involve insureds with health impairments. In terms of health impairment relative to standard health, during 2002 the average life expectancy estimates are shorter than average by 6.3 years for males and 7.4 years for females, while the average life expectancy estimates in 2011 are shorter than average by 3.5 years for males and 2.3 years for females. According to the LBS Study, the convergence of life expectancy estimates towards those of individuals with standard health could be the result of a combination of factors, including the following: (i) more realistic/conservative life expectancy estimates, as the life settlements market matures and medical underwriters are better able to estimate life expectancy; (ii) an improvement in actual life expectancy of insured individuals in the sample (e.g. from more effective medical treatments); and (iii) an increase in demand for policies with stronger life expectancy estimates.

In 2013, 21st Services, LLC (“21st Services”), one of the top life expectancy providers, announced significant revisions to its underwriting methodology, which according to 21st Services, has generally lengthened the average reported life expectancy by 19.0 percent.

TRANSACTION PRICING AND REQUIRED RATES OF RETURN

The consideration paid for life insurance policies is dictated by a numbers of factors including the insured’s health and age, the commissions by various brokers, and more. The following will discuss the factors that determine pricing, commissions, and required rate of returns.

PRICING

The amount paid for life insurance policies depends on a range of factors including the insured’s age, policy size, policy terms and conditions, the insured’s health, the experience of the agent/broker, and the number of active buyers in the secondary market. However, the purchase price for successful transactions is always greater than the policy’s CSV, and can provide on average 3.0 times to 4.0 times more than the CSV according to the Life Insurance Settlement Association (“LISA”). When the life settlements industry was young, insureds could receive a purchase price of 20.0 percent to 30.0 percent of a policy’s face value. Based on information provided by ACLI, in 2007 the average offer price as a percentage of face value was between 18.0 percent and 22.0 percent, and the average offer represented a multiple of 3.5 times to 5.0 times the policy’s CSV. More recently, insureds have expected policies to sell at price equal to approximately 8.0 percent to 15.0 percent of face value. The LBS Study also found that by selling their policies in the secondary market, policy owners

during 2001 – 2011 collectively received more than 4.0 times the amount they would have received had they surrendered their policies to their respective life insurance companies.

Founded in 2006 and incorporated in Florida, Imperial Holdings, Inc. (NYSE: IFT) (“IFT”) owns and manages a portfolio of 612 life insurance policies acquired in life settlements transactions that had an aggregate death benefit of approximately \$3.0 billion. IFT earns income on these policies from changes in their fair value and through death benefits when a policy matures. IFT estimated that the fair value of its portfolio was \$303.0 million as of December 31, 2013, equal to approximately 10.0 percent of the aggregate death benefit.

LPH states that it prices settlements based on a combination of the policy face amount, the anticipated life expectancy of an insured, and policy maintenance costs. LPH does not estimate life expectancies in-house, but relies on outside sources such as physicians and 21st Services, LLC. These professionals either use a deterministic methodology, in which they adjust an insured’s standard life expectancy to account for the insured’s medical conditions, family health history, and lifestyle, or they assign a median life expectancy based on proprietary mortality tables that are adjusted to account for the insured’s medical conditions, family health history, and social/lifestyle factors. When pricing the settlement, LPH considers the policy face amount and the acquisition costs, including future premium and transaction costs. LPH then deducts the estimated maintenance costs and the transaction costs from the face amount and takes a further discount as a hedge for the imprecise nature of the estimates, which protects the investment return to some extent if an insured lives beyond the estimated life expectancy.

COMMISSIONS AND FEES

Life settlements brokers are typically compensated based on a percentage of the face value of the policy sold, which is negotiated between the policyholder and the broker and is paid upon the closing of a settlement. Estimates for the typical brokerage commission range from approximately 6.0 percent to 12.0 percent of a policy’s face value. Assuming that the gross purchase price for the policy represents approximately 15.0 percent to 30.0 percent of face value, brokerage commissions as a percent of gross purchase price would range from approximately 20.0 percent to 40.0 percent.

REQUIRED RATES OF RETURN

PacificWest claims its investment structure produces a minimum 100.0 percent total fixed return, and that some policies pay as much as 150.0 percent total fixed return. This fixed-return investment is a lump-sum payout at an unknown time in the future, rather than an interest or income-producing investment. Although the time-frame for a single policy can never be predetermined, over approximately the last 15 years, it is widely accepted that this market provides investors with internal rates of return (“IRRs”) in a range of 12.0 percent to 14.0 percent. In a 2005 research call, Bernstein estimated IRRs in a range of 9.0 percent to 13.0 percent over an average holdings period of 7-8 years.

According to PacificWest, its strict criteria for selecting policies with respect to age and health should produce even higher IRRs. These returns are particularly attractive on a risk-adjusted basis, because (i) everyone will eventually pass away, and (ii) life insurance companies have high credit ratings. Bernstein Research reported that in 2005, IRRs of life settlement transactions ranged from 9.0 percent to 13.0 percent for an average holding period of seven to eight years.

The authors of the LBS Study examined the target IRRs at underwriting for a sample of 7,811 life settlements between 2001 and 2011, weighted by cost of purchase as well as equally weighted. The average cost of purchase-weighted target IRR over the entire period was 12.5 percent, or 8.4 percent in excess of treasury yields. The target IRR ranges from a high of 18.9 percent in 2001 to a low of 11.0 percent in 2005, 2006, and 2007. The average target IRR rose substantially to 18.3 percent per annum in 2011, or 15.9 percent in excess of treasury yields. The target IRRs in excess of treasury yields follow a similar pattern, decreasing from 14.6 percent in 2001 to 6.1 percent in 2006, and increasing to 15.9 percent in 2011. During the early years of the life settlement market, there were fewer players resulting in lower competition and greater expected returns to investors. Investors may also have had concerns about the ability of medical underwriters in analyzing non-viatial policies, which could have resulted in investors demanding a higher rate of return on life settlements. As the market developed with more players entering during 2003-2006, competition increased and investor confidence may have increased through greater familiarity with the asset class. This would have resulted in the bidding up for policies, resulting in lower expected returns. This bottom of the expected returns seems to have occurred in 2006-2007. The LBS Study authors conjecture that after witnessing the flight to quality and flight to liquidity during the 2008 crisis, the \$85.0 billion bailout of American International Group (one of the world's largest life insurers), and the collapse of Lehman Brothers, investors' appetite for illiquid insurance-linked securities with negative cash flows during the holding period and a promise of a future payment declined. As a result, investors demanded much higher rates of return for investing in life settlements. The reduced number of policies settled and substantial increase in expected IRRs in 2010-2011 corroborate this.

From an investor's point of view, all else being equal, longer estimates of life expectancy lower the expected returns. The authors of the LBS Study extended all life expectancy estimates and found that the average expected IRR in their sample decreased from 12.5 percent to 9.0 percent, 6.1 percent, and 3.2 percent as they extended all life expectancy estimates by 12, 24, and 36 months, respectively. Accordingly, while actual returns are materially dependent on the accuracy of the life expectancy estimates, significant under estimations of life expectancies may still produce positive investment returns. The LBS Study's focus was to examine expected returns as opposed to realized returns. Challenges to the assessment of realized returns for life settlements include the fact that a majority of policies examined had not yet matured, and there was insufficient activity and transparency in tertiary markets to establish an accurate market discount rate for, and hence valuation of, policies then in force.

LBS STUDY - TARGET IRRS												
	ALL	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
No. of Observations	7,811	42	317	359	601	834	1,301	848	1,360	1,349	508	292
EXPECTED IRRS												
CP-Weighted IRRs												
Life Expectancy	12.5%	18.9%	16.3%	14.7%	12.6%	11.0%	11.0%	11.0%	11.3%	13.0%	18.8%	18.3%
Life Expectancy + 12 Months	9.0%	14.3%	11.8%	11.0%	8.9%	7.7%	7.0%	8.4%	8.4%	9.6%	13.8%	13.9%
Life Expectancy + 24 Months	6.1%	10.7%	7.5%	7.8%	5.8%	4.5%	4.7%	6.0%	5.8%	6.6%	9.5%	10.2%
Life Expectancy + 36 Months	3.2%	7.7%	3.4%	4.5%	3.0%	1.3%	1.6%	3.9%	3.3%	3.7%	5.8%	7.2%
Equal-Weighted IRRs												
Life Expectancy	12.9%	19.8%	17.0%	15.6%	13.4%	11.9%	11.2%	11.5%	11.5%	12.9%	17.2%	17.2%
Life Expectancy + 12 Months	9.2%	14.9%	12.0%	11.2%	9.2%	8.1%	7.5%	8.6%	8.4%	9.3%	12.4%	12.6%
Life Expectancy + 24 Months	5.9%	11.1%	7.6%	7.5%	5.6%	4.7%	4.3%	5.9%	5.8%	6.1%	8.2%	8.7%
Life Expectancy + 36 Months	2.6%	7.9%	3.3%	3.5%	2.3%	1.0%	0.7%	3.3%	3.1%	2.9%	4.2%	5.3%
SPREAD OVER U.S. TREASURIES												
CP-Weighted IRRs												
Life Expectancy	8.4%	14.6%	12.3%	11.1%	8.6%	6.7%	6.1%	6.4%	7.6%	9.6%	15.6%	15.9%
Life Expectancy + 12 Months	4.8%	9.8%	7.6%	7.1%	4.7%	3.0%	2.1%	3.7%	4.5%	5.9%	10.3%	11.2%
Life Expectancy + 24 Months	1.8%	6.0%	3.7%	3.7%	1.4%	-0.3%	-0.3%	1.3%	1.8%	2.8%	5.8%	7.3%
Life Expectancy + 36 Months	-1.1%	2.8%	0.1%	0.4%	-1.7%	-3.0%	-3.4%	-0.8%	-0.8%	-0.3%	2.0%	4.0%
Equal-Weighted IRRs												
Life Expectancy	8.9%	15.4%	12.8%	11.9%	9.3%	7.5%	6.3%	6.9%	7.6%	9.5%	13.9%	14.5%
Life Expectancy + 12 Months	5.0%	10.3%	7.7%	7.4%	4.9%	3.7%	2.6%	3.8%	4.5%	5.6%	8.8%	9.7%
Life Expectancy + 24 Months	1.6%	6.3%	3.2%	3.4%	1.1%	0.1%	-0.6%	1.1%	1.7%	2.3%	4.4%	5.6%
Life Expectancy + 36 Months	-1.7%	3.0%	-1.1%	-0.7%	-2.5%	-3.3%	-4.2%	-1.5%	-1.0%	-1.1%	0.5%	2.0%

We reviewed a survey of life settlement companies regarding completed purchases of life settlements. From the transactions, we gathered the terms and calculated the expected return based on the stated internal rate of return (“IRR”). We analyzed the various data. As shown in Exhibit 3A, the median stated IRR of all the transactions was 16.3 percent. The majority of the transactions ranged from 15.0 to 17.0 percent. Additionally, the data indicated that the purchasers would expect greater returns on individuals who were relatively young, and with shorter life expectancies.

Additionally, we reviewed the public filings of IFT, which owns and manages a portfolio of 612 life insurance policies acquired in life settlements transactions, with a fair value of \$303.0 million and an aggregate death benefit of approximately \$3.0 billion at December 31, 2013. IFT earns income on these policies from changes in their fair value and through death benefits when a policy matures. IFT uses a probabilistic method of valuing life insurance policies, meaning the individual insured’s probability of survival and probability of death are applied to the required premium and net death benefit of the policy to extrapolate the likely cash flows over the life expectancy. As of December 31, 2013, IFT discounted the projected cash flows from each of its life settlements using discounts ranging from 14.80 percent to 26.80 percent. The weighted average discount rate for the entire portfolio of 612 policies was 19.14 percent.

We also reviewed the public filings of JGWPT Holdings, Inc. (NYSE: JGW) (“JGW”), which provides liquidity to its customers by purchasing structured settlements, annuity and lottery payment streams, life settlements, and interests in the proceeds of legal claims. For financial reporting purposes, JGW regularly estimates the fair value of these investments. As shown in Exhibit 3A, in determining the fair value of its portfolio of life settlements, which had an

average life of 12.3 years, the weighted average discount rate used was 18.5 percent as of December 31, 2012 and 2013.

REGULATORY ENVIRONMENT

There are some common features of U.S. insurance law which create a sound foundation on which the secondary market for U.S. life insurance policies is able to operate. This includes the existence of a “non-contestability clause” in U.S. insurance policies, which means that a third party can purchase a policy with the knowledge that there is little chance it will not be honored. Also, insurability interest ensures that an insured can transfer a policy to any other party after it is issued provided that at the time the policy was written a valid insurability interest existed. According to the LBS Study, most states have laws requiring insurable interest, but it is generally only required at the inception of the insurance policy, and the property rights of policy owners to sell their policies has long been established in U.S. law. Additionally, some states have laws that prohibit a life insurance policy from being sold within a fixed number of years of when the policy was first effective, ranging from 2-5 years. This is sometimes known as a “seasoning requirement.”

When the life settlement market was first established, it was sparsely regulated. Due in part to well-publicized abuses within the industry, the Federal government and various states moved to regulate the market in the mid-1990s. These regulations generally took two forms. One sought to apply consumer protection-type regulations to the market, designed to protect policyholders and purchasers. Another sought to apply securities regulations to the market, in an effort to protect purchasers. Various states have also used their insurance regulations to guard against insurance fraud within the industry.

The consumer protection-type regulations arose largely from the draft of model laws and regulations promulgated by the National Association of Insurance Commissioners (“NAIC”) and the National Conference of Insurance Legislators (“NCOIL”). While five states and the District of Columbia have no regulation and four states regulate only viatical settlements, 41 states have now adopted some version of these model laws or another form of regulation governing life settlement companies in some way. These laws generally require the licensing of providers and brokers, require the filing and approval of settlement agreements and disclosure statements, describe the content of disclosures that must be made to insureds and sellers, describe various periodic reporting requirements for settlement companies and prohibit certain business practices deemed to be abusive. Some of these laws fix minimum payment levels that a purchaser must pay a selling insured based on the insured’s life expectancy. The minimum payment requirements generally apply when the insured is terminally ill or has a short life expectancy (typically 36 to 42 months or less). Many states require the licensing of life settlement brokers and providers, mandate disclosures to sellers or purchasers or both, require periodic reporting requirements, and set forth prohibited business practices. Other states have their own licensing requirements in order to purchase policies from policy owners in those states.

Life settlements are unique in that they involve both investors and life insurance, and it is unclear whether life settlements are securities transactions or insurance products, or both. As a result, there is no clear regulatory agency that exercises oversight of life settlement transactions. Instead, individual states are responsible for laws and regulations concerning life settlements. According to LISA, 42 states and Puerto Rico currently have some form of regulation in place, which focuses on protecting policy owners by imposing licensing,

disclosure, and other requirements on life settlement brokers and providers. California is on the forefront for regulations and legislation protecting investors within the state, and it became one of the first states to enact defined laws with regard to regulating investments in life settlements as securities. California corporations offering the sale of investments in life settlements only to California residents who are qualified purchasers must strictly abide by the provisions of Senate Bill 1837, which allows for an exemption from qualification of these investment offerings with the CA Department of Corporations.

There has been a growing trend to treat life settlements as securities under Federal or state securities laws. Under Federal securities laws, the Federal Circuit Court of Appeals for the District of Columbia ruled in 1996 that settlement transactions are not investment contracts under the Federal securities laws. Other Federal courts, considering other facts and parties, have ruled that life settlement transactions may be considered investment contracts, and the SEC issued a staff report in July 2010 indicating its desire to regulate life settlements as securities. To date, no legislative or administrative changes to existing Federal securities laws have been proposed to treat life settlements as securities, but such proposals are possible. Most states treat life settlements as securities under statutes, regulations or case law. To comply with these state securities laws, many firms seek exceptions or registration exemptions that enable settlement transactions despite their treatment as securities.

Life settlement proceeds are generally taxable, with part of the proceeds taxed as ordinary income and the remainder taxed at the lower capital gains rate. According to the LBS Study, the after-tax expected returns are lowered by the taxes paid on the excess of the death benefit over the costs incurred.

OUTLOOK

According to Bernstein, there are numerous drivers of growth for the life settlement market going forward. First, individuals in the US are living longer. As such, they may outlive the usefulness of their life insurance policies. The target market for life settlements (i.e., individuals above the age of 65) should grow by 90.0 percent over the next 25 years, more than 3.0 times the 23.0 percent growth rate of the total U.S. population. Second, low market interest rates may result in lower cash values within existing policies. Lastly, the development of this market could result in a new fiduciary duty on the part of financial planners to highlight this alternative to their clients. These trends, coupled with low current penetration of the target market (i.e., 3.0 percent), suggest the life settlement market has ample room to grow, and Bernstein estimates that the total market could reach \$160.0 billion over the next several years.

New capital continues to enter the life settlement market as investors search for higher returns that are uncorrelated to traditional debt and equity investments. Efforts to create SEC-approved securitizations of life insurance policies continue, with the goal to open these investments to retail investors, putting investments in life insurance policies on par with mortgages, bonds, and other common asset classes.

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