Understanding Life Settlement Fund Valuation Strategies

Since the dawn of structured longevity investing in the late 1990's, asset managers have applied numerous, often wide ranging valuation strategies to their underlying assets. As early as a decade ago, few sophisticated valuation models were available to the Life Settlement market. Asset managers were left with few options and had to apply traditional valuation models based on other asset classes, often with few similarities to Life Settlements. The main disadvantage with this approach was that Life Settlements are uncorrelated like most investment strategies and require specific valuation methodologies to properly value them. Over time various methodologies have evolved to value Life Settlements, from simple discount models to probabilistic pricing models using market internal rates of return.

The early valuation models in Life Settlements used traditional zero coupon bond and effective yield models where the assets were valued by amortising the expected gain on the asset over the estimated life expectancy of the insured. This method failed to take into account, amongst others, the survival rate of the sample population, and it was based on an estimate not a certain variable. The mortality curve as derived from the actuarial tables is not just one single number, but a series of mortality probabilities. The survival rate influences the possibility of the policy maturing during the expected life and thus influencing the value of the policy. If survival rates decrease, policies will be close to face value as the expected maturity is closer. The market was in need of a valuation tool that could not only incorporate the dynamic of a moving mortality curve, but could also take into account that a life expectancy estimate is not a number, but rather a complex series of expected probabilities that sometimes have 25 to 30 year horizons.

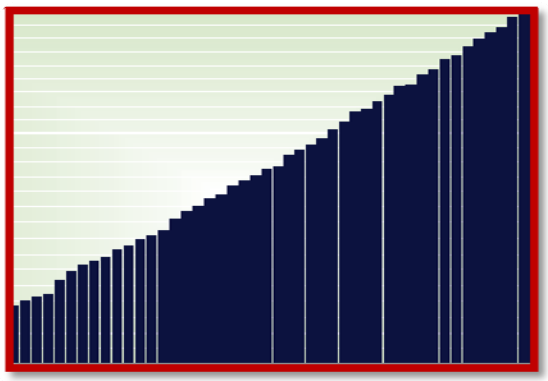
As mortality data began to evolve so did the sophistication of valuation models. Life expectancy providers began to incorporate the survival rate of the sample population, as derived from the actuarial tables published by the American Society of Actuaries and models became more dynamic in their approach to the point where now the probabilities of the entire curve are incorporated when calculating the value of a Life Settlement. This more sophisticated approach, still used by many life settlement funds is referred to as the probabilistic method. The probabilistic method takes into account each probability of mortality of the mortality curve and provides a much more accurate cash flow based on a large diversified portfolio. These advancements allowed sophisticated investors to take notice that there are now more accurate tools to value Life Settlements.

One large disadvantage of the probabilistic method is that although mortality probabilities have been factored in, the movement in the market is not incorporated and therefore the model that is still static to market movements, which obviously is not a realistic and fair approach to value a Life Settlement portfolio. Ultimately the value of a Life Settlement is determined by the interaction of buyers and sellers in the secondary market. Since there is no sophisticated secondary market for Life Settlements yet and each policy is a unique asset pending on the life expectancies of insured individuals, this market movement is not measured or recorded. In addition, there are no market adjusted discount rates available to accurately reflect the market tendencies in the valuation of the Life Settlement portfolio. The way the expected return is calculated is at the moment the policy transaction between buyer and seller happens, and at the rate of return obtained with the

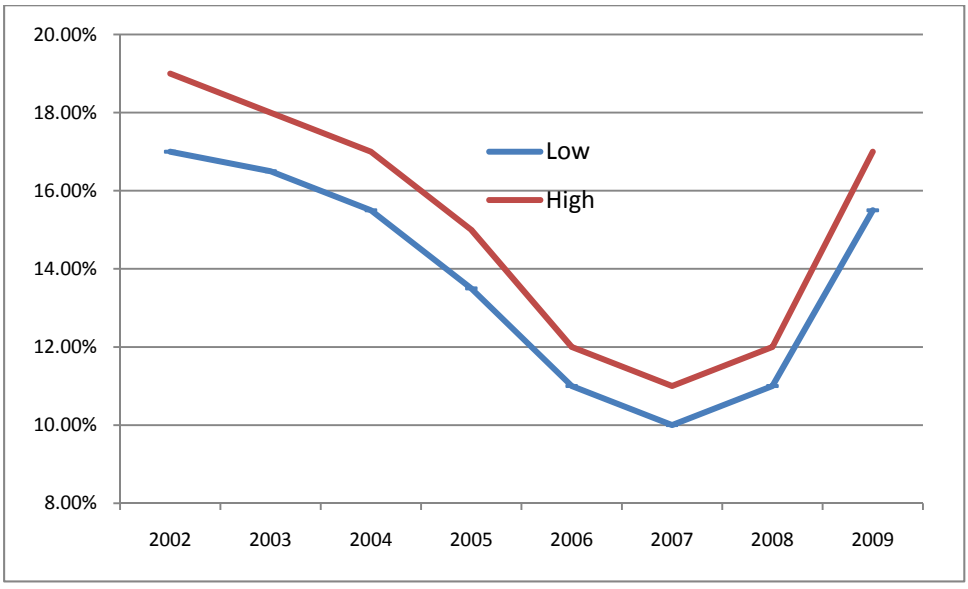
probabilistic method at that time is the rate that will be used to value the Life Settlement until maturity. However, if at a time in the future the positions need to be liquidated, and market conditions have changed, buyers may no longer be willing to trade at the same market rate, particularly if the buyer can enter into a Life Settlement transaction at more attractive rates in the secondary market.

As shown in the charts below, the bottom graph reflects approximately at which IRR the secondary market for Life Settlements has been trading and the first one is a typical graph of the evolution of the NAV of an existing Life Settlement fund. There is an extraordinary disparity between what the market trades at and the value of the Life Settlement portfolio that existing Life Settlement funds report. The obvious conclusion is simple: there is a disparity between market value and book value in the Life Settlement portfolios of existing funds and today it could be quite significant for many.

Typical evolution of the NAV of a Life Settlement Fund



Historical returns available in the market of Life Policies.



In the mid 2000's, a number of prominent Life Settlement funds began to experience trouble liquidating policies at their book values. Upon a closer inspection, the asset manager failed to properly reflect the movement of the market in the valuation of Life Settlements. Life Settlement portfolios can be revalued for a number of reasons including changes to life expectancy underwriting, carrier ratings or overall market purchase conditions. Asset managers sought fresh new approaches to address changes within the Life Settlement without sacrificing the benefit from previous valuation strategies; their answer was a market internal rate of return (IRR).

The market internal rate of return provides asset managers and investors with an up to date portfolio valuation model by periodically recalculating the value of underlying assets, using a "new" market internal rate of return. This new market IRR must be calculated based on actual recent market transactions in order to provide with a reasonable and fair market depiction of value. A market IRR provides investors with realistic valuations and additional transparency into the actual value of a life settlement portfolio. A good example of the benefits of a market internal rate of return model was the decline in the secondary life insurance market in 2009. The Life Settlement market experienced an estimated decline of about 50% in 2009, resulting from the lack of capital due to the global financial crisis. The benefit to new funds and new life settlement investors is that IRR's have increased to historic levels, forming a window of opportunity and creating higher potential returns. On the other side, as can be seen in the two graphs above, this has created an overvaluation of many existing Life Settlements funds that accumulated the majority of their portfolios during the period ranging from 2006-2009. This represents the majority of the funds currently available to investors. Besides this disparity due to the lack of proper a valuation method, there is a lack of understanding from investors regarding the proper method to value a portfolio of Life Settlements in a fund they want to invest in, or even worse, a fund they already own. This extremely important feature would be avoided by applying the market internal rate of return approach which is applied in the Carlisle's Long Term Growth Fund.

In order to be able to depict a mathematical description of the importance of the market internal rate of return variable, it is required to show the formula used to determine the value of a Life Settlement:

$$\sum_{i=1}^{(\infty)} \left(\frac{\left[-(Pre_i * P_i) + ((P_{i-1} - P_i) * F) - E_i \right]}{(1+\mathbf{K})^i} \right)$$

The internal rate of return, depicted as K in the formula, is a critical variable to value any policy, since if the market IRR increases, the value the policy in the portfolio should decrease and vice versa, if the market IRR decreases, the value should increase.

The fact is that all existing Life Settlement funds consider K, the IRR, as a fixed variable, independent of the movements of the life settlement market, when valuing the portfolio. Specifically the last two years when the market internal rate of return has increased significantly funds with Life Settlement portfolios, will show asset values which are overpriced, resulting in investors paying a higher price than the actual value in the secondary market.

To give an example to compare our valuation methodology using a market IRR and the valuation methodology used by the majority of existing Life Settlement funds, is to compare a bond portfolio where the manager purchased zero coupon bonds and never considered the interest rate curve to ascertain the credit risk of such bond, and therefore only applying the increase in value of the bond as time would get closer to maturity in the valuation. Obviously this would result in an incorrect value since the market inferred discount rate should be considered to discount the future cash flows.

When selecting a Life Settlement Fund make sure it uses a sophisticated probabilistic pricing methodology, strict purchase parameters and market internal rates of return in the valuations. Life settlement valuation techniques will continue to evolve as the life settlement industry continues to expand. As an investor you must demand, and as asset managers we must strive, to always be on the search of a “fair market value”.