



**Indexed Universal Life insurance (IUL)** is a popular life insurance product shown for both premium financing arrangements (where you borrow the premiums from a lender) and retirement income designs showing policy loans used for retirement income. Sales illustrations show amazing economic efficiency in these designs. Part of this relates to unrealistically high earnings assumptions, but another key element is the use of a special type of policy loan called Participating Loans (Par Loans) rather than traditional Fixed Loans.

## SEQUENCE OF RETURN RISK

In Fixed Loans, borrowed monies are separated into a loan account earning a stated amount of interest different than unborrowed cash values. Par Loans are not segmented out in this fashion and are credited earnings the same way as unborrowed cash values. This creates a positive earnings arbitrage when the earnings on the Par Loan are higher than the policy loan interest rate.

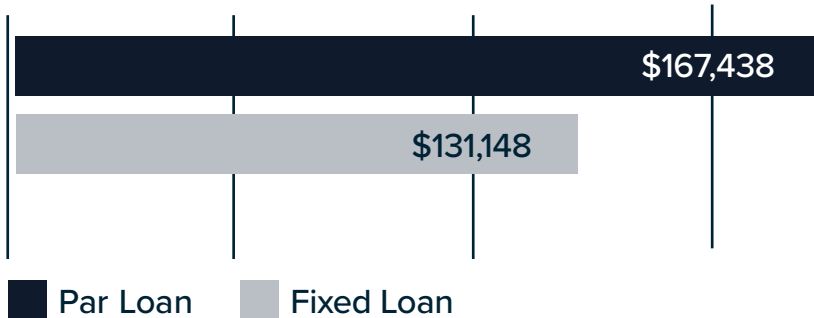
Conversely, it creates negative earnings arbitrage when the earnings are lower than the policy loan interest rate. Unfortunately, sales illustrations do not adequately depict the risk of negative earnings arbitrage on Par Loans due to the use of a level earnings rate each year in the illustrations.

In reality, IUL policies can experience significant earnings volatility year to year that cannot be modeled in sales illustrations. The order in which these fluctuations occur may greatly impact actual policy performance and can result in policy lapse (termination) which can trigger an income tax liability on policies with a loan balance. This is referred to as sequence of return risk.

Par Loans carry significant lapse risk due to the sequence of returns over time that is not evident in sales illustrations. It may be prudent to stick to fixed loans to reduce the risk and to use reasonable earnings assumptions when designing a policy.



## ANNUAL INCOME AGE 65-100



## BASELINE MODEL

To help convey the risk, we will look at information from the Society of Actuaries (SOA). These hypothetical models are useful in quantifying the risk. A baseline model showed \$45,000 premiums paid from age 45 to 65 with a \$1,000,000 death benefit. The model assumed a 12.5% cap rate and a 0% floor. The level crediting rate used to calculate annual income from the policy from age 65 to age 100 was 7.15%.

“Par loans to age 100 produce the greatest illustrated income, and so the temptation for the agent is to illustrate this method. It is also the method with the greatest risk...”<sup>1</sup>

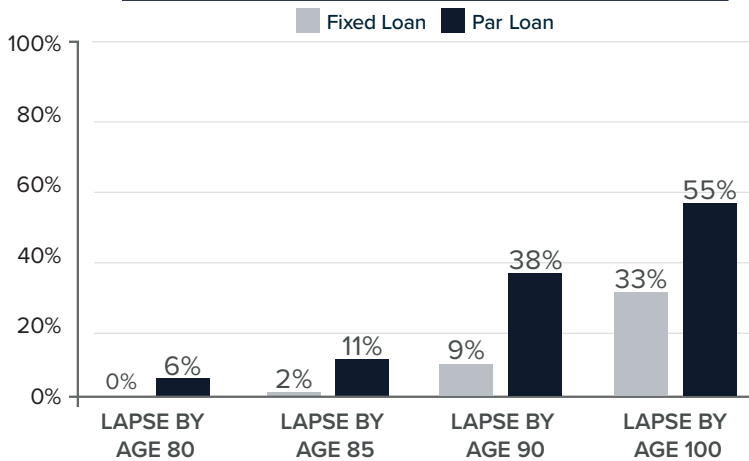


## QUANTIFYING SEQUENCE OF RETURN RISK<sup>1</sup>

Historical S&P 500 monthly returns were used in varying sequences to test the ability of the hypothetical product model to survive the earnings fluctuations. A period from 1997-2016 produced an average return slightly higher than the baseline return while the 2000-2016 period produced a slightly lower return. Models assumed a 12.5% cap and a 0% floor.

Baseline Level Earnings	7.15%	Vs. Baseline
Average Annual Crediting Rate 1997-2016	7.58%	+0.43%
Average Annual Crediting Rate 2000-2016	6.76%	-0.39%

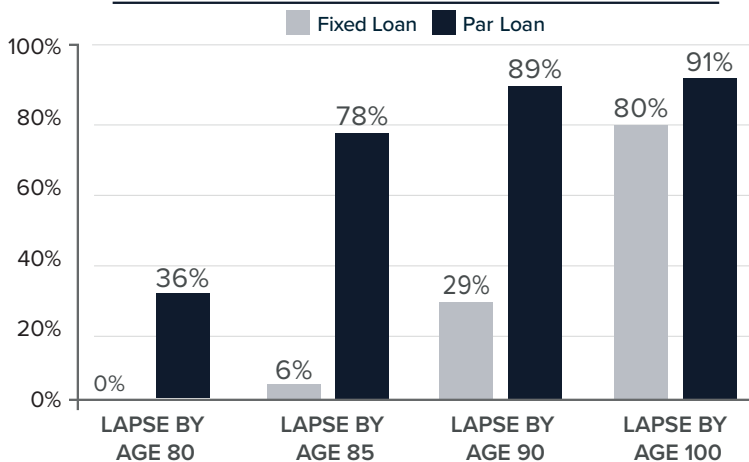
### RESULTS IN 1997-2016 MODEL (Average +0.43% Higher Than Baseline)



Even when average earnings were higher than assumed, nearly 4 in 10 models using Par Loans lapsed by age 90. When average earnings were slightly lower, nearly 9 out of 10 lapsed by age 90.



### RESULTS IN 2000-2016 MODEL (Average -0.39% Lower Than Baseline)



### WHY DOES A LAPSE MATTER?<sup>2</sup>

At lapse, a policy loan balance may trigger income tax. Using the baseline model of \$167,438 annual participation loans accruing interest at a hypothetical 5% loan rate, a policy lapse could trigger a tax bill at lapse of:

- Age 80 = \$3.26 million**
- Age 85 = \$5.38 million**
- Age 90 = \$8.09 million**
- Age 100 = \$15.95 million**

Par loans look good on illustrations, but do not overlook the hidden risks.

<sup>1</sup>All quotes and numerical examples herein are derived from Product Matters!, Issue 111, October 2018, Society of Actuaries. The numbers are from a hypothetical product model created to convey the need to manage income distributions in life insurance policies. It does not represent any specific product in the marketplace but is intended to educate on a specific risk and the need for carriers to improve administrative systems to help consumers and agents manage such risks in the future.

<sup>2</sup>Tax bill calculated by taking the accrued loan balance at specific ages minus the policy cost basis (\$900,000). Information intended to show a risk that often is not easily determined from illustration outputs.

Any tax advice contained herein is of a general nature and is not intended for public dissemination. Further, you should seek specific tax advice from your tax professional before pursuing any idea contemplated herein. This advice is being provided solely as an incidental service to our business as (insurance professionals, financial planner, investment advisor, securities broker).