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### Overview

The way we measure the performance of a life insurance policy, or any investment for that matter, is simple. Our aim is to identify what rate of return will be provided on the deposits to the policy at set point of time in the future on both the cash value growth and at death when a death benefit is paid out. We measure that performance as the Internal Rate of Return of the policy. See attached article called [Measuring Plan Performance](#). This forms the basis of our analysis.

### Participating Whole Life

A participating whole life insurance policy provides the opportunity to participate in policyholder dividends. Dividends are derived from the fact that the policy owner is overpaying for the cost of the insurance. The overpayments are placed in an investment pool and each year the company decides how much of that pool they will refund to the policy holder keeping in mind that the company must meet its claims obligations and regulated reserve requirements. The company calculates what those reserve requirements are based upon:

- The reserve earnings over the past year
- Death claims paid out
- Anticipated or assumed death claims and
- Investment returns going forward

In the end the company has full discretion in terms of the amount of dividends that are declared each year. It is important to understand this and decide whether you are comfortable with the taking the risk that the company will perform as they have illustrated in their sales illustrations over the long term. To make that decision it is a good practice to look at both the historic, present and the future economic and tax conditions that influence the performance of the Participating Account.

In short dividends are credited to the policy when the experience of participating account is better than the assumptions made in determining the policy's pricing based on such factors as investment returns, mortality and expenses. Participating accounts are managed to meet the long term needs of the company.

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### Participating Accounts

Whole Life company actuaries believe that the long-term investment philosophy of the account and the stable cash flows into this account allow them to invest in longer term holdings such as real estate, equities, bonds (short and long term) and mortgages. Here is a sample allocation of one of the Canadian Whole Life companies as of December 31, 2015 (the latest report available) the investment asset mix was as follows:

Participating Account Investment Mix	
Cash and short term	4.8%
Government bonds	20.9%
Corporate bonds	16.1%
Private fixed income	16.4%
Commercial mortgages	11.5%
Equities	13.5%
Real estate	16.8%

### Dividend Scale Interest Rate (DSIR)

The DSIR, a rate that whole life companies advertise, does not necessarily reflect the performance of the underlying fund. Insurance companies use a smoothing process to hold back growth to offset future investment performance valleys that they experience. It is an arbitrary number that has no relationship to identifiable values in your policy and therefore is impossible to evaluate, unless you have all of the relevant factors. Because the DSIR is not accountable you are put in a position of having to believe the projected DSIR is reasonable and sustainable. This is where the accountability breaks down. Our research has shown that the DSIRs that have been used for generating illustration for past years, as well as the rates being illustrated today, are not sustainable. Here's an example of why it is not sustainable.

The above PAR Fund is made up of 70% Fixed income investments. This is low in comparison to past years, but like other companies they have had to increase their weighting in equity and real estate to make up for low long term interest rate yields. There is further downward pressure on fixed income yields because they must invest 70% of new premiums, which were at record highs for the last couple of years, in fixed income investments. This means that they are diluting their old fixed income portfolios with new low yield investments.

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If we use 5 to 10-year yield bonds as a proxy for fixed income investments, we can compare the relative relationship of this proxy to the DSIR over past years. For our sample company in 1991 the average bond yield was 9.4% and the DSIR was 10.9% representing a spread 1.5% above the bond yield (1991 is the earliest year that our sample company provides). If we fast forward to 2016 the bond rate was .56% and the DSIR was 6.75% representing a spread of 6.19% above the bond rate.

When we look at other large Canadian company participating account returns, we see a similar trend. In 1951, the bond rate was 3.08% and the DSIR was 5.90% which was 2.8% above the bond rate. In 2016, the bond rate was .58% with a DSIR of 6.0%.

The problem with the above trends is that artificially high DSIRs are not sustainable. When we interviewed actuaries from several large insurance companies they confirmed that this was the case. When questioned why they are maintaining the high DSIR they indicated that it is normal to do this through low interest rate cycles as part of their smoothing strategy. All actuaries that we have spoken to however confirm that if the currently low interest rate environment continues they will be forced to continue lowering the DSIR until the rate reflects the actual experience of the underlying invested portfolio.

Here are the DSIR for our sample company over the last 5 years. They have kept their rates higher relative to their competition.

Year	DSIR
2012	7.15%
2013	7.15%
2014	6.75%
2015	6.75%
2016	6.75%
2017	6.25%

The company has recently announced that the current economic uncertainty, recent equity market returns and the ongoing low interest rate environment has created downward pressure on the dividend scale interest rate. Therefore, the rate starting April 1, 2017 is 6.25%, a reduction of 50 basis points. Look for more companies to follow suit and the trend to continue.

As mentioned, they have maintained their dividend scale interest rate at high levels over the last few years. We believe that the bottom could lie with a DSIR in the 3.5% to 4.5% range which is

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lower than all the illustrations that we have seen produced to date and significantly lower than the illustrations that have been produced over the last 10 years.

The true question that remains unanswered is just how low they can go on like this? It was well documented that in the U.S. many whole life issuing insurance companies have eliminated all dividend payments for their participating whole life policies and at least one Canadian company has stopped paying dividends on participating policies. We also know that several large insurance companies in Canada have settled lawsuits for the failure to pay sufficient dividends to offset premium payments as promised when the policies were issued. Similar law suits were settled in the past in the U.S. back in the 80's and 90's. The question is whether we will see a repeat of the lawsuits when life insurance companies must lower their DSIR to keep pace with interest rates.

#### **Paid Up Additions**

There is another twist to the game that is played around whole life insurance policies that is little understood. In the case where an insurance company needs to reduce the amount of value that is being obligated relating to the dividend that they are paying they do not necessarily have to reduce the DSIR that they declare. Another method of reducing their distribution obligation is by simply charging more for the Paid Up Additions that they credit to the participating policies. Paid Up Additions (PUAs) are a method of paying dividends to policy holders to avoid paying accrual taxation on the cash value that is accruing. Each PUA is a paid-up piece of insurance that is added to the policy.

As the PUAs are added to the policy, the death benefit increases and with some exceptions so does the cash value. Each PUA has a cash value that is available upon surrender of that PUA. One way to decrease the cash value that is distributed by the insurance company is to simply increase the cost of the PUAs. If you can buy fewer PUAs with your dividends, then the cash accumulation rate of the policy is lessened. So, its possible to maintain a DSIR while simultaneously decreasing the net cash value of the dividend distribution.

#### **Our Sample Policy Analysis**

Our client has a participating whole life policy with Our sample company. The policy is called a Sun Par Accumulator and is designed to provide high policy cash values in the early years as compared to other whole life policy models with Our sample company. The policy provides four things, a guaranteed basic insurance benefit, a guaranteed cash value, guaranteed premiums and the potential to receive dividends. The premiums are guaranteed to stop after 20 years.

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According to our sample company’s marketing material, this whole life policy is suited for affluent clients interested in accessing cash values in the early years of the policy to bridge retirement income gaps while ensuring there is a death benefit in place to protect their estate. This focus on high early cash values detracts from the life insurance performance and the long-term cash value growth of the policy.

We have obtained projections from our sample company based on premiums paid monthly through to September 2032. These projections show us how the policy will perform if the participating account maintains a 6.25% (Current) Dividend Scale Interest Rate or reduces to 5.25% (Current Less 1%). We have extrapolated the reduction and created an estimate of a rate of 4.25% (Current Less 2%) as our sample policy company is unable to provide us with these figures. We also used current sample company software tools to estimate the policy adjusted cost base enabling us to determine the capital dividend account credits created upon death. Unfortunately, due to our sample company’s lack of ability to provide the information that was requested we have had to resort to extrapolation. We believe that although not perfectly accurate, it does provide a close representation.

**Internal Rate of Return (IRR) at Death**

The following table illustrates the internal rates of return on the insurance benefit plus the tax savings created by the capital dividend account credits for the three dividend scale interest rates.

Dividend Scale Interest Rate	Current	Current Less 1%	Current Less 2%
Age 65	11.4%	10.0%	8.8%
Age 75	7.8%	6.6%	5.5%
Age 85	6.3%	5.3%	4.3%

Historically, the product that provides the best IRR is a guaranteed level cost life insurance policy. As this policy does not accrue cash value and is not dependant upon interest rates, the only variable that will affect the IRR of the policy is the year of death.

Guaranteed Level Cost of Insurance	
Age 65	18.4%
Age 75	9.8%
Age 85	6.0%

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The comparison of IRRs between the whole life policy and the guaranteed level cost of insurance policy shows us that the returns at life expectancy (age 85) are fairly equal if the whole life dividend scale interest rate remains level for the next 36 years.

With numerous variables applicable in determining the DSIR and the uncertain cost of PUAs there is significant doubt that this high rate will be achieved and as a policyholder, you have no ability to influence the returns.

#### Investment Portfolio Comparison

Another way to measure the performance of the whole policy is to compare the results to an investment portfolio augmented with a term life insurance policy. In this comparison, the investment portfolio would be based on the investment mandate from your investment advisor taking into consideration investment allocation, expected returns and volatility. It would also take into consideration the potential higher taxation of the investments upon flowing the funds out of the company.

The first deposit to the portfolio would be the current cash value of the whole life policy. From there additional deposits would be made based on the future monthly whole life premiums and deducted from the portfolio would be the premiums for a term life insurance policy.

This model separates the insurance and investment component giving you independent control over each component. That is, you can make changes to either one without directly impacting the other.

The portfolio projections are based on the following assumptions.

- Portfolio return consisting of 10% dividends and 90% capital gains with 10% of capital gains realized every year
- 40% annual turnover of investments
- Random investment rate simulator with returns between 14% and -2%
- Average of the 40-year weighted return of 5.7%
- The insurance will not be required past age 65

By using an investment portfolio, you have control over the investment decisions, giving opportunity to have greater participation in the upside of the market and create higher living and estate values.

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Below are the cash and estate values up to age 65 based on the objective that the intention is to liquidate the whole life policy at age 65.

Cash Values	Whole Life			Investment Plus Term
	Current	Current Less 1%	Current Less 2%	40 Year Average Return - 5.7%
Age 55	270,187	255,863	237,377	316,381
Age 65	666,738	590,583	524,843	739,078

Estate Values	Whole Life			Investments Plus Term
	Current	Current Less 1%	Current Less 2%	40 Year Average Return - 5.7%
Age 55	816,365	775,786	738,489	707,661
Age 65	1,079,084	921,485	795,555	1,042,608

### Summary

This high dividend scale interest rate and the premium funding duration assist in favorable whole life projections. The policy is 5 years old and the premiums are payable for 20 years. Whole life policies perform well when premiums are being paid. It's when the premiums are being paid by dividends that result start to erode. Therefore, the policy's greatest exposure is over the next 15 years.

We believe that the whole life policies will not meet our clients' expectations over time and recommend the alternative, of buying term and investing the difference, approach with future premium deposits to an investment account that offers greater flexibility and control.

In general, we have taken a position at Cove that we will not sell any of the participating whole life policies available on the market today and have not sold any over the last 29 years. We believe in accountability and whole life policies are not accountable. We are concerned that, like in the big short, there is systemic denial of the risks facing whole life policy holders and a reconciliation of sorts is coming down the pipe. We do not know when but we believe it will not be too far down the road. We continue to analyze all available insurance products to find the best, most predictable products for our clients.

After all, when you are counting on money be available when you need it makes sense to have guarantees instead of wishful thinking and maybe?

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