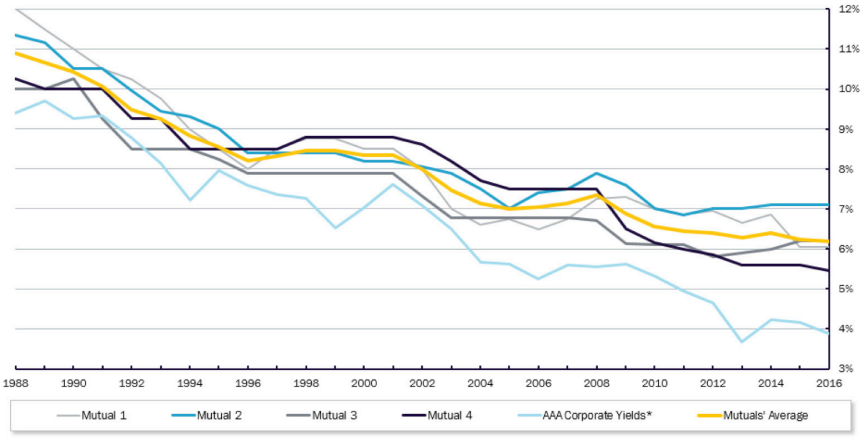
THE BISHOP COMPANY, LLC

Making insurance understandable

Repercussions of a Sustained Low-Interest-Rate Environment on Life Insurance Products

All life insurance companies ("carriers") are financial intermediaries. They buy investments like bonds and then repackage the benefits into annuity and life insurance products. Ultimately, these products must reflect the yields of the underlying investments. There is no financial alchemy that allows the insurers to escape this interrelation. As a result, interest rates have a direct and indirect impact on life insurance companies, their new product offerings, and existing ("inforce") policies. Bonds and mortgages comprised 82.5% of invested assets of the 100 largest life insurance companies at the end of 2015 with mortgages and fixed rate investments. With such a high concentration of assets in bonds, the carriers and the products they offer are particularly dependent upon interest rates. Although interest rates are at levels commonly referred to as historical lows, this is a continuation of a trend of declining market and product interest rates over the past two decades (Figure 1). Given the declines in interest rates and normal bond maturation, a significant portion of carrier assets are being renewed at rates that were lower than the yields prior to maturity (Table 1).

FIGURE 1 Historical Whole Life Dividend Scale



*AAA Yields taken from Federal Reserve Bank of S. Louis, Economic Research - Average on monthly yields for previous 12 months.

TABLE 1 Investment Grade (AA) Corporate Bond Returns*

2-Year maturity	0.79%
5-year maturity	1.58%
10-year maturity	2.43%
**Bond yields reported on Yahoo Finance 4/21/2016*	

This article will elaborate on the resulting challenges for various product types and actions that should be taken regarding inforce life insurance portfolios and/or purchases under current consideration.

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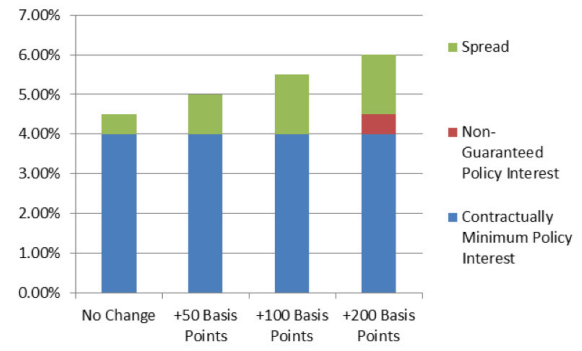
A short-term rise in interest rates won't immediately benefit policies

Carrier investment portfolios tend to lag movements in current interest rates by several years due to the various durations of the bonds comprising the investment portfolios. While the average weighted bond maturity of the 100 largest carriers is 10.8 years, 63% of bonds have maturities of 10 years or less ... split almost evenly between 1-5 year maturities and 5-10 year maturities . In declining interest rate environments, policy crediting rates typically do not decline as rapidly as new money rates. Conversely, in rising interest rate environments, policy crediting rates may not increase as rapidly as new money rates. Hence, changes in new money rates aren't directly reflected in carrier crediting rates for several years. In declining interest rate environments, this can create the misperception that carriers have superior investment expertise and access that allows them to pass along higher yields to policyholders.

Another factor that may delay increases in policy crediting rates is "spread compression". The difference between the earnings on the carrier's investment portfolio and what is credited (in the form of interest) on insurance policies is a significant source of profit for carriers. This difference is referred to as a spread. As portfolio yields have declined, carriers have reduced amounts credited to policies in order to maintain targeted spreads (and thus targeted profitability of a given block of policies). However, due to contractually guaranteed minimum levels of interest crediting, many carriers are now in a situation where they aren't able to maintain targeted spreads. If interest rates rise and portfolio yields increase, carriers may choose to delay increasing policy crediting rates until product spreads have returned to originally targeted levels (Figure 2). While new policies have guaranteed interest rates in the 2-3% range, older policies commonly have interest rates of 4% or more resulting in more pronounced spread compression on older policies.

In products available for new sales, competitive pressures may induce the carrier to promote a short term higher interest or dividend interest rate than being earned on the investment portfolio. From the policy holder's perspective, this may result in unseen pressure on a product's crediting rate as rates stay low or decline further. To combat this potential risk, it is recommended that illustrations be examined using lower interest rate assumptions than currently being crediting for products under consideration for new purchases.

FIGURE 2 Potential for carrier spread recovery to delay increases in product interest crediting rates



Assumed change in carrier investment portfolio yield

Assume a carrier has a targeted spread of 1.50% for a given product portfolio and the investment portfolio yield is currently 4.50. In this case, the carrier is unable to achieve the desired spread and cannot pass along policy interest in excess of the contractually minimum rate of 4.00 It would require a significant increase in the carrier's investment portfolio before the carrier spread has recovered to desired levels. In such a situation, carriers may choose to delay increases in policy interest crediting rates until they have recovered their investment spreads.

Illustrations assume the current environment stays constant for decades

As Mel Todd once said, "sales ledgers are financial illustrations of what might happen if certain disclosed and undisclosed assumptions prove to be true". These sales ledgers, referred to commonly as illustrations, are used in the life insurance acquisition and service process to determine the projected performance of a given product based upon these various assumptions. Most life insurance products with declared dividend or interest rates are illustrated at the interest rate in effect at the time the illustration is prepared. Regulatory restrictions preclude use of an earnings rate higher than currently being credited. For example, in 1990, an illustration for Mutual 3 in Figure 1 would likely have been illustrated at the then current dividend interest rate of 10.25%. This interest rate level would have been depicted over the length of the policy sales illustration…typically spanning several decades ... with the corresponding benefits of compound interest over that time horizon. Unfortunately, as Figure 1 shows, the actual dividend interest rate has declined over the years to the current level of 5.80% ... a reduction of 445 basis points from the original earnings assumptions. Thus, earnings today are roughly 57% of the levels assumed in the original sales illustration ... levels of rate declines that were simply not anticipated by carriers, agents, insureds, trustees or other advisors. When these levels of decline are compounded over several decades, the effects can be disastrous on policies.

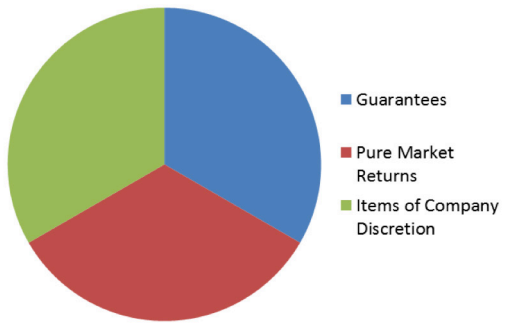
Why are interest rates important to life insurance products?

Life insurance policy benefits come from one of three sources: 1) guarantees, 2) pure market returns (separate account products only), and 3) policy credits in excess of guarantees that are items of company discretion (Figure 3). Current policy charges and dividend/interest rate credits fall into the latter category. Every permanent life insurance product has an interest earnings assumption factored into the pricing. The interest rate assumption credited to a policy over time is one of the biggest factors influencing illustrated life insurance product performance.

The higher the interest assumption, the more favorable a product generally illustrates. The benefits of the interest earnings assumption typically manifest in illustrations as:

1. Lower illustrated premiums in cash value dependent policy structures
2. The ability to cease premium payments via use of cash value to pay internal charges
3. Higher policy cash value (which reduces internal expenses in some product types)
4. The ability to use dividends to pay premiums in part or fully
5. The ability to use policy loans to pay premiums in part or fully
6. Lower premiums required to meet guaranteed shadow account thresholds

FIGURE 3 Ultimate sources of life insurance product benefits



Life insurance product benefits are derived in some combination from one of the three sources above. The distribution across the source varies by product and the time at which the benefit is measured. Only separate acount products have the "Pure market returns" component.

TABLE 2	
General product structures	**Product types**
Premium dependent	Whole Life; Guaranteed Universal Life; Hybrid Variable Universal Life death benefit guarantees; Indexed Universal Life death benefit guarantees
Divident dependent	Whole Life with term riders; modified premium whole life; suspended premium whole life
Cash value dependent	Universal Life; Variable Universal Life; Hybrid Variable Universal Life; Indexed Universal Life

General product structures

Permanent life insurance products generally fall into one of three broad structures in terms of how they operate in common usage: 1) Premium dependent structures, 2) Dividend dependent structures, and 3) Cash value dependent structures. Over the last few years, products have been introduced which blur the categories by having elements that can be in two of the categories.

The impact of continued low interest rates manifests differently in each structure. Furthermore, within each structure and product subset of each structure, the risks are different and the options for recovery differ. As the detailed workings of each product are beyond the scope of this article, it is suggested that policy owners seek the assistance of a life insurance professional in examining their specific product(s).

Premium-dependent structures

Products of this nature require a specified amount of premiums be paid in order to provide the policy death benefit. For example, whole life generally has a specified premium due in all policy years. The required amount and number of premiums is generally known up front. However, with products like UL with Secondary Guarantees, the impact of failure to pay the prescribed premium pattern is usually difficult to discern until the time of occurrence and may be disproportionate to the original premium.

Dividend-dependent structures

Products of this structure are variants of whole life which rely on non-guaranteed policy dividends to facilitate various policy activities such as paying for term riders, offsetting contractual premium increases, or suspending future out-of-pocket premium payments via use of dividends and/or policy loans.

Cash-value dependent structures

Premiums paid into these product structures generate policy cash value which acts as a sinking fund from which to pay monthly policy expenses that increase over time due to age. If the cash value is insufficient to cover the monthly expenses, coverage will terminate unless additional premiums are paid.

Table 3 (next page) depicts the various product subsets of each structure along with the implications of low interest rate environments on existing ("inforce") policies and new policies.

TABLE 3 General impact of sustained low-interest rates

	Existing ("in-force") policies	New policies
Premium Dependent Structures		
Whole Life (All base – premium paid all years)	Lower death benefit growth; lower cash value	Same
Universal Life with Secondary Guarantees	Lower cash value; No impact on death benefit guarantees since premium dependent	Higher premiums especially for large up front funding (i.e. 1035 exchange); Restrictions on amount of lump sums; Fewer carriers offering product
Variable Universal Life Death Benefit Guarantees	No impact on death benefit guarantees since premium dependent	Premiums for guarantees have been reducing; restrictions on allowable investment allocations with guarantees
Indexed Universal Life Death Benefit Guarantees	No impact on death benefit guarantees since premium dependent	Introduction of more products with limited or long-term guarantees
Dividend Dependent Structures		
Whole Life with Term Riders	Additional out-of-pocket premiums; Increased annual premium requirements; Reductions in death benefit; Increased policy expenses	Higher illustrated premiums;
Modified Premium Whole Life	Additional out-of-pocket premiums; Payment of higher Ultimate Premium	Higher out-of-pocket costs; Lower death benefit growth
Suspended Premium Whole Life	Reappearing out-of-pocket premiums; Reduced cash value and death benefit; Increased number of required out-of-pocket premiums	Inability to suspend premiums; Increase in number of required out-of-pocket premiums
Cash Value Dependent Structures		
Most Universal Life	Lower cash value; Reduced policy duration absent additional premiums; Increased policy expenses	Higher illustrated premiums
Variable Universal Life	To extent investment performance lower than expected, lower cash values; Earlier policy lapse absent additional premiums; Restrictions on allocations to fixed accounts	Lower guaranteed interest rates in fixed account options; Limitations on allocations to fixed accounts
Indexed Universal Life	Lower cap and/or participation rates; Reduced cash value; Reduced policy duration absent additional premiums; Increased policy expenses	Lower cap and/or participation rates resulting in higher illustrated premium requirements.

As evidenced in Table 3, every product type is impacted in some way by the decline in interest rates and expectations of sustained low interest rates. It is important to note that the impact of a specific policy will be unique to that policy. For example, cash value dependent products with durations of 25-30 years may be less impacted by interest rate declines than a cash value dependent structure with a duration of 50-60 years. A whole life policy with premiums paid for 25 years may be less impacted than a whole life policy where premiums were paid via dividends after 15 years.

Product components may be impacted differently within a given policy. For example, the death benefit guarantee available in some VUL products is not directly impacted by interest rates. The VUL cash value (which doesn't affect the death benefit guarantees) would be at risk in a rising interest rate environment to the extent monies are allocated to bond accounts or the fixed account. However, the policy owner has the right to adjust the investment allocation to manage this risk.

Policy owner actions and inactions greatly influence the performance of a given policy. The option to alter investment allocations mentioned in the preceding paragraph is one example while the payment (or non-payment) of a premium is another example. In addition, the options available to right a floundering policy vary greatly by product type. So, the solution for one policy may not be available to a second policy of a different type or even from a different carrier. General prudence dictates that policy owners should carefully examine the current viability of each policy individually and determine a course of action specific to that policy.

Product designs particularly at risk

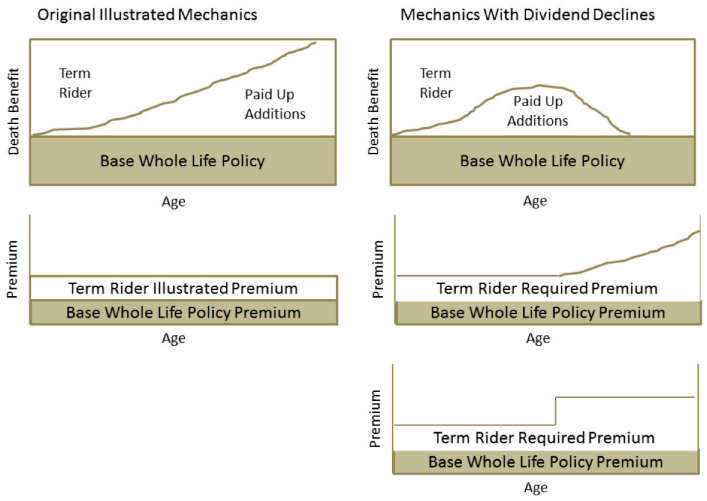
There are some structures that seem to be more adversely impacted than others by the interest rate declines. These are 1) whole life policies with term riders (a.k.a. "blends") and, 2) single premium product designs (that were not guaranteed). Due to the particular sensitivity of these designs, each will be examined in greater detail.

Whole life with term riders

This product, a response to consumer demand for lower premiums, couples a traditional whole life policy with a term rider to achieve a lower illustrated premium. The face amount of the traditional whole life portion operates the same as a stand-alone policy. The term portion is actually a combination of one year term insurance and paid up additions (which are small incremental units of insurance purchased with a single premium each year). It is important to note that the premium for the term portion is not guaranteed like the base whole life premium. The required premium for the rider can increase due to dividend reductions.

In illustrations, over time the paid up additions from dividends will gradually replace more and more of the term insurance until the rider is completely paid up additions (Figure 4). Reductions in

FIGURE 4 Mechanics of Whole Life with Term Rider



EXAMPLE 1	
Effect of dividend reduction on premium for whole life with a 40% term rider / 60% whole life death benefit combination	
Dividend interest rate at issue	7.9%
Annual lifetime premium	$51,493
Dividend interest rate in 3rd policy year	7.0% (–11%)
Re-projected annual lifetime premium	$62.398 (+21%)

The table shows the impact of a 0.90% drop in dividend rates on the required premium for a whole life policy with a term blend. Note the disproportionate increase in premium in relation to the dividend drop. This is due to the increased expenses associated with the term rider resulting from the dividend reduction. Many policies are structured with a significantly higher proportion of term, in which case the effects would be more pronounced.

Note: The contractual language on some whole life policies locks in the higher premium as the new required policy premium. Thus, even if dividends increase, the required premium stays at the higher amount.

M56/F46 $10 million total death benefit

dividends means fewer additions are purchased each year…resulting in more one year term being necessary to provide the total rider death benefit. The cost of the term insurance increases each year due to age. Thus, more term insurance is being bought over time as the term costs themselves are rising.

If additional premium is required, it will usually manifest in one of the ways depicted at the far right of Figure 4 ... either an annually increasing premium covering the shortfall in the amount of term premium covered by that year's dividend or as an increase to a level premium amount based upon the current dividend rate. For some policies falling into the latter category, the contractual language may make the new increased premium permanent. Even if dividends were to rise, the required policy premium would not reduce. This can wreak havoc on gift and generation skipping tax planning for policies owned by Irrevocable Life Insurance Trusts. Example 1 shows the impact of a dividend decline on a whole life product with a composition of 60% whole life/40% term rider. It is not uncommon to see product compositions of 25% whole life/75% term rider…which are even more sensitive to the dividend rates.

Single premium designs

Some products were purchased where a single lump sum premium or policy exchange premium in the first policy year was illustrated to sustain the policy until maturity. For products that relied on dividends or policy cash value to support such designs, the decline in interest rates has been particularly troublesome. Many of these products are projected to lapse well ahead of original projections. Lengthier coverage durations exacerbate the situation due to the inherent compounding of interest over a longer time horizon. Example 2 (next page) illustrates such a scenario. The single premium was originally illustrated to be $850,000. The costs to extend the coverage from age 89 to age 95 requires an additional annual premium of $129,079 every year starting in the current year (age 85). If the insured pays another 7 premiums, he will have more than doubled his total premiums into the policy. The net cost can be even higher when taking into account gift tax that may be due on premiums if the policy is owned by an Irrevocable Life Insurance Trust.

Additional sources of policy stress

It is important to recognize that certain policy designs or use of policy features creates additional pressure upon a policy in declining/low interest rate environments. Such sources of policy stress can exacerbate the normal effects of lower policy earnings and result in an additional number of premi-

ums, higher premiums, taxable income, policy termination, and/or higher gift taxes. The uniqueness of the impact of the policy stressors shown in Table 4 requires examination by competent, qualified life insurance professionals.

In addition to the policy considerations, policy owners should also examine the viability of planning strategies that may have been coupled with the policy purchase including split dollar plans, GRAT strategies, sales to defective trusts, and premium financing.

EXAMPLE 2 Single Premium Universal Life	
Original situation/plan:	$3 million death benefit – issued 20 years ago. Single premium paid to sustain coverage to age 100 at then-current interest rate
Current situation/options:	Client age 85 in good health but coverage projected to lapse at age 89. **Option 1:** Pay annual premium of $129,079 to keep coverage to age 95 **Option 2:** Pay annual premium of $173,338 to keep coverage to age 100
Single premium payment designs that aren't guaranteed represent some of the most adversely impacted product designs. The costs to extend coverage may be untenable, but early intervention can significantly reduce the required additional premiums. In addition to the premium costs, there may be gift and/or generation skipping costs for trust-owned policies.	

Don't start making the same mistakes again

It is extremely important to recognize that there are no "can't miss" product answers ... every product, whether inforce or new, has tradeoffs which must be understood to determine the most appropriate solution. The contractual provisions of policies ultimately govern the ability to adapt to environmental influences. Where possible, explore and quantify downside risks. Take into account carrier financial considerations that could compromise its ability to provide the projected non-guaranteed elements in a product.

TABLE 4 Policy Stressors
Reduced earnings on policy loans (i.e., loans for premiums payments)
Net amount at risk increases / term rider increases
Increasing death benefit option / return of premium option
High late-duration mortality charges
Premium spikes on modified whole life or whole life with term blends
Contractually permanent premium increases for term blends
Whole life "autopilot" for continued loans to pay premiums coupled with no administrative notice of impending problems
Rising interest rates on non-fixed rate policy loans

Furthermore, be careful of promoted solutions using questionable or unsustainable assumptions. If you wouldn't make the same earnings assumption in a comparable investment portfolio outside a life insurance policy, why expect the carrier to deliver the results you don't feel are reasonable? Carriers can and do support artificially higher earnings rates on new products available for sale. Some products may illustrate better in today's interest rate environment than other products. The more aggressive the assumptions employed ... the better a product illustrates. Indexed universal life products are popular now because they illustrate well ... but the earnings assumption used in the illustrations is pure conjecture. If an 8% earnings assumption is used in an indexed universal life

product, it should illustrate better than a traditional universal life with a 4.50% current interest rate simply because of the enhanced compounding of the assumed interest. However, one must consider what is driving that apparent enhanced performance. Are the pricing or return assumptions reasonable and sustainable? Is the carrier passing risk to the policy owner? Does the carrier have the ability to arbitrarily alter components of the policy? If it sounds too good to be true, it probably is.

Finding solutions specific to your policy

Life insurance products are some of the most complex financial vehicles available to the general public. Virtually every product – new or inforce - has been impacted in some way by the sustained low interest rates. The mechanics of the various product structures operate very differently and must be carefully examined. Couple the product complexities with the integrated estate planning strategies often employed in conjunction with life insurance and it would be foolhardy to attempt to self-diagnose the problems and potential solutions. Don't attempt to use conventional wisdom or outdated truisms to manage a policy. Hope of rising interest rates simply is not a practical strategy. Obtain the services of a competent, independent life insurance professional with the knowledge, resources, structured processes, and analytical capabilities to guide you in the endeavor. After all, an ounce of prevention can be worth a pound of cure.

I Vital Signs Year End 2015 Statutory Data. Previous year statutory filings are typically completed at the end of February.

II Vital Signs Year End 2015 Statutory Data.

III In separate account products (variable life insurance), the investment earnings or losses depend directly on the market value of the sub-accounts in which policy cash value is invested.