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# Tax Reform Impacts on Life Insurance Pricing and Profitability

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On Dec. 22, 2017, President Trump signed the Tax Cuts and Jobs Act (Tax Reform) into law. While the impacts of the new tax law on the broader economy remain to be seen, projecting the impact on life and annuity profitability is something we can approximate right now. Tax Reform will either lead to changes in projected profitability, changes in product design or pricing, or both. In order to understand the possible approximate impact of the changes to the tax code, we prepared this analysis to measure the impact on a range of different product types, including an illustrative plan of each of the following types:

- Current assumption universal life (CAUL)
- Par whole life (WL)
- Term under Valuation Manual Chapter 20 (VM-20) (TermVM20)
- Term under peak statutory (XXX) and Actuarial Guideline (AG) 48 (TermAG48)
- Indexed universal life (IUL)
- Fixed indexed annuity (FIA)

The actual impact of Tax Reform will vary with the facts and circumstances of the case at hand, including the product design and the tax situation of the company. However, we can still gain some value from looking at an illustrative case.

For this purpose, we considered three key changes in the tax law affecting life insurers, as well as a fourth change, which remains an open issue:

1. An extension of the proxy deferred acquisition cost (DAC) tax amortization period from 10 years to 15 years and an increase in the proxy DAC tax rate—from 7.7 percent to

9.2 percent for non-group life insurance and from 1.75 percent to 2.09 percent for annuities.

2. A change in the way the tax reserves are calculated via the application of a 92.81 percent scalar to statutory reserves excluding deficiency reserves, subject to a cash value floor. This implies a simplifying assumption that the CRVM tax reserve basis after tax reform equals the statutory reserve basis prior to tax reform.
3. A reduction in the federal income tax rate from 35 percent to 21 percent.
4. The risk-based capital (RBC) factors were increased by a scalar multiple of  $(1 - 0.21) / (1 - 0.35)$  to reflect the lower tax rate. We present this as a separate step because, as of this writing, the National Association of Insurance Commissioners (NAIC) has not provided guidance. It is possible that the NAIC will adjust the gross RBC factors instead, so that the after-tax factors remain unchanged.<sup>1</sup>

Of these, the tax rate change will tend to increase after-tax profits, while the other factors will generally decrease after-tax profits. For most of our illustrative product types, the tax rate change modestly dominates the other changes, though the impact varies with product type and funding level, as demonstrated in the CAUL example.

The table in Figure 1 shows a summary of Tax Reform impact to internal rate of return (IRR) and profit margin, assuming no change in product design, pricing, or premium levels. All profit metrics are after tax and cost of capital. Profit margin calculation uses a level discount rate of 5 percent.

Figure 1  
Summary of Illustrative Tax Reform Profitability Impacts After Tax and Cost of Capital

	Before Tax Reform		After Tax Reform	
	IRR	Profit Margin	IRR	Profit Margin
CAUL	15.2%	6.3%	15.4%	7.9%
WL	10.0%	2.7%	8.8%	2.1%
TermVM20	9.6%	5.1%	9.8%	6.5%
TermAG48	26.5%	9.5%	8.7%	3.6%
IUL	10.0%	5.2%	10.0%	6.4%
FIA	10.2%	5.9%	10.0%	7.4%

In the following sections, we provide stepwise detail on each example, including illustrative product adjustments to return to the original profitability level.

#### CURRENT ASSUMPTION UNIVERSAL LIFE

Our illustrative CAUL product is a profitable back-loaded plan with statutory and tax reserves before the change assumed to equal the average of the account value and the cash surrender value—the “California” method. Products with higher tax reserves than this would benefit less from tax reform than is illustrated here.

First, let us look by step at the impact on profits after tax and cost of capital, as the tax code changes are layered on. Composite results reflect a variety of different ages, underwriting classes, and premium paying patterns as shown in Figure 2.

Figure 2  
CAUL Composite Profit Results

	IRR	Profit Margin
Before Tax Reform	15.2%	6.3%
Change DAC Tax	13.7%	5.9%
Change Tax Reserves	12.2%	5.6%
Change Tax Rate	17.1%	8.1%
Change RBC	15.4%	7.9%

We solved for a multiplier to apply to the initial COI table to return to the initial profit margin. The resulting multiplier is 92 percent.

The relative impact of the changes depends on the funding level of the contract. In our model, we include cells that are funded to be 20-year term, and whole life using single premium, 7-pay premium, and whole life premium on a current assumption basis. The table in Figure 3 shows the impact by funding level.

Figure 3  
CAUL Tax Reform Impacts by Funding Level

	Before Tax Reform		After Tax Reform		Increase	
	IRR	Profit Margin	IRR	Profit Margin	IRR	Profit Margin
Single Pay	12.5%	5.3%	12.5%	6.6%	0.1%	1.3%
7-Pay	14.7%	6.2%	14.9%	7.9%	0.2%	1.7%
Level-Pay WL	16.9%	6.5%	17.2%	8.2%	0.3%	1.7%
20-Year Term	20.7%	9.2%	21.1%	11.3%	0.5%	2.1%

Varying impacts by funding level illustrate the importance of granular analysis of Tax Reform impacts, though it appears that Tax Reform is a net win for the company, or the policyholder, or both—at least as far as this illustrative CAUL policy is concerned.

#### PARTICIPATING WHOLE LIFE

Our whole life product has a 20-pay premium pattern. The illustrative example in Figure 4 is based on a model office containing a typical range of issue age, sex and risk class combinations. The product has a competitive dividend scale. Statutory reserves are calculated based on Commissioner’s Reserve Valuation Method (CRVM) at 3.5 percent. Guaranteed cash values are based on an initial nonforfeiture rate of 4.5 percent. The table in Figure 4 shows the impact of various aspects of tax reform.

Figure 4  
WL Composite Profit Results

	IRR	Profit Margin
Before Tax Reform	10.0%	3.4%
Change DAC Tax	9.3%	2.7%
Change Tax Reserves	6.9%	-0.2%
Change Tax Rate	9.1%	3.0%
Change RBC	8.9%	2.8%

For the product adjustment to whole life, we took a two-step approach. First we reduced the nonforfeiture interest rate to 4.0 percent, increasing guaranteed cash values. Increasing the guaranteed cash value helps to mute the impact of the tax reserve reduction. Second, we reduced the overall dividend scale by 8 percent.

The result is that the policyholder receives higher cash values, by as much as 10 percent, in the early policy years, before the initial and revised patterns ultimately converge toward the face

amount. On the other hand, the overall death benefit is lower in the adjusted, post-reform product because the dividends purchase less in paid-up additions. It is worth noting that this situation could also result in illustration testing challenges, analysis of which is beyond the scope of this example.

**TERM**

We evaluated a 20-year level term product under both XXX reserve with AG48 reserve financing (AG48) and VM-20 reserve approaches. The AG48 approach assumes that XXX statutory reserves in excess of the AG48 primary security level will be ceded to a captive reinsurer and backed by a letter of credit. The direct company retains the full XXX tax reserve, which exceeds the AG48 primary security level. Retaining the full XXX tax reserve results in a large taxable loss, which can be used to offset taxable gains from other business. The magnitude of the resulting tax benefit depends on the tax situation of the company. Under VM-20, while not explicitly defined, the tax reserve was assumed to be the same as the statutory reserve, which in this example was predominantly the net premium reserve.

The post-level period was ignored for simplicity. The premiums under the AG48 financing approach are competitive with the top five to 10 companies in the market. Premiums under the VM-20 approach are approximately 10 percent higher than premiums under AG48. This results in profit measures under VM-20 in line with industry norms, but still below those under AG48. The table in Figure 5 shows the impact of the tax changes under VM-20.

Figure 5  
TermVM20 Composite Profit Results

	IRR	Profit Margin
Before Tax Reform	9.6%	5.1%
Change DAC Tax	9.1%	4.8%
Change Tax Reserves	8.8%	4.6%
Change Tax Rate	10.1%	6.6%
Change RBC	9.8%	6.5%

Under VM-20, the impact of Tax Reform is relatively modest, but positive. In this example the company can decrease premiums by 3 percent while maintaining the profit margin before Tax Reform. Because our VM-20 premiums began 10 percent higher than the AG48 premiums, this would still be approximately 7 percent higher than premiums for a product designed under the AG48 approach before Tax Reform.

The table in Figure 6 shows the impact of the changes under AG48.

Figure 6  
TermAG48 Composite Profit Results

	IRR	Profit Margin
Before Tax Reform	26.5%	9.5%
Change DAC Tax	25.7%	9.1%
Change Tax Reserves	22.4%	7.9%
Change Tax Rate	9.9%	4.0%
Change RBC	8.7%	3.6%

The Tax Reform changes significantly reduce the tax benefit recognized via the AG48 financing approach. In order to return to profit margin levels similar to those before Tax Reform, a 10 percent premium increase would be required. Alternatively, a company could increase premiums by approximately 3 percent while using AG48 financing and realize profits in line with the VM-20 approach, although still lower than AG48 profits before Tax Reform.

In other words, to equate the profitability under VM-20 before Tax Reform, VM-20 after Tax Reform, and AG48 after Tax Reform, there will only be a 4 percent premium difference. Whereas, before Tax Reform, the AG48 premium could be 10 percent lower while realizing higher profits. It is plausible that Tax Reform might push companies to move toward VM-20 reserving for term sooner than originally expected.

**INDEXED UNIVERSAL LIFE**

Our illustrative IUL cell assumes target premiums based on level premium payments to age 65 followed by moderate withdrawals from age 65 to 100. Cash value is sufficient to carry the policy to age 100. We have assumed a statutory reserve as the average of the account value and cash value. The table in Figure 7 shows the impact of various aspects of Tax Reform.

Figure 7  
IUL Composite Profit Results

	IRR	Profit Margin
Before Tax Reform	10.0%	5.2%
Change DAC Tax	9.4%	4.8%
Change Tax Reserves	8.7%	4.5%
Change Tax Rate	10.2%	6.5%
Change RBC	10.0%	6.4%

The overall impact of Tax Reform is modest, but positive, for most of these illustrative product types. TermAG48 is the most significant exception.

The net impact of Tax Reform appears to be negligible on an IRR basis and a small net increase on a profit margin basis of 1.2 percent. Because the IRR before and after tax reform is the same, some companies in this situation may choose to keep pricing unchanged. However, if a company is willing to accept a lower IRR but return to its initial profit margin, its COI could be reduced by approximately 8 percent.

**FIXED INDEXED ANNUITY**

Our illustrative FIA product has a six-year surrender charge period with a maximum charge of 7 percent. It also contains a Guaranteed Minimum Withdrawal Benefit (GMWB) with an 8 percent rollup, capped at 200 percent of premium, and maximum withdrawal rates of 5 percent, 6 percent, and 7 percent at attained ages 60, 70, and 80, respectively. The pricing results reflect a combination of various issue ages.

The cumulative changes for the four changes in the tax law are shown in the table in Figure 8.

Figure 8  
FIA Profit Results

	IRR	Profit Margin
Before Tax Reform	10.2%	5.9%
Change DAC Tax	10.1%	5.9%
Change Tax Reserves	8.8%	5.0%
Change Tax Rate	10.6%	7.5%
Change RBC	10.0%	7.4%

We solved for the increase in option budget after Tax Reform that would bring the profit margin in line with the initial results. The result was an increase in the option budget of 21 basis points.

The change in the proxy DAC tax is immaterial for FIA because the deferral rates remain small for annuities relative to life products. The decreased tax rate more than offsets the decrease in earnings, which is due to the change in tax reserves. For our illustrative FIA product, tax reform leads to either a 1.5 percent

increase in profit margin to the company or an increase of 0.21 percent in the option budget for the consumer, or some combination of the two.

**CONCLUSION**

The overall impact of Tax Reform is modest, but positive, for most of these illustrative product types. TermAG48 is the most significant exception, where the tax leverage of reserve financing drops in value significantly. While the tax benefit of the rate drop is significant, this is largely offset by the RBC, DAC tax, and tax reserve changes. ■

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**ENDNOTES**

1 Since this article was written, NAIC discussions have continued. As the article is going to press, it appears that C-1 and C-2 after-tax factors might increase, while C-3 and C-4 after-tax factors might remain the same. If this turns out to be true, the capital impact postulated here might be overstated.