

# DWIGHT ASSET MANAGEMENT COMPANY

## STRATEGIC ASSET ALLOCATION: USE OF TAX-EXEMPT SECURITIES

Setting strategic asset allocation for a property and casualty insurance company should include an analysis of the target percentage of invested assets allocated to taxable and tax-exempt securities. One key consideration in determining the target split between taxable and tax-exempt securities is the complex calculation of both the insurance company's regular tax and the alternative minimum tax liabilities. Property and casualty insurance companies pay the larger of the two tax liabilities. In order to realize the most benefit from owning tax-exempt securities, an insurance company should strive to allocate a percentage of their invested assets to tax-exempt securities so that the regular tax is equal to the alternative minimum tax.

The analysis outlined in this paper is based on a hypothetical property and casualty insurance company that has 20% of their total invested assets in tax-exempt securities.

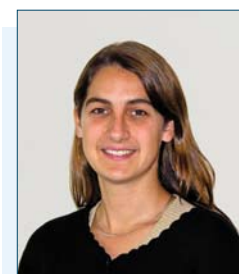
### Calculating Regular Taxable Income and the Alternative Minimum Taxable Income

Both the regular taxable income and alternative minimum taxable income are derived from adjustments to the pre-tax statutory net income. There are numerous adjustments outlined in the Internal Revenue Code; however, this paper will discuss the adjustments that directly impact the asset allocation to taxable and tax-exempt securities.

For example, assume the insurance company has pre-tax statutory net income of \$7,598,963. Some of the adjustments to calculate both the regular tax and the alternative minimum tax are outlined in Table 1.

**Table 1**

Calculation of Regular Tax and Alternative Minimum Tax	
Pre-Tax Statutory Net Income	\$7,598,963
<b>Adjustments</b>	
Revenue Offset	+ (1,332,803)
Reserve Discounting Effect	+ 2,761,770
Tax-Exempt Investment Income	- 2,123,986
15% Tax-Exempt Investment Income	+ 318,598
Regular Taxable Income	= \$7,222,542
Regular Tax Rate	= 35%
Regular Tax	= \$2,527,890
Pre-Adjustment Alternative Minimum Taxable Income	7,222,542
<b>Adjusted Current Earnings (ACE)</b>	
85% of Tax-Exempt Investment Income	1,805,389
75% of 85% of Tax-Exempt Investment Income	+ 1,354,041
Alternative Minimum Taxable Income	= \$8,576,583
Alternative Minimum Tax Rate	= 20%
Alternative Minimum Tax	= \$1,715,317
Federal Income Tax Incurred	\$2,527,890
Statutory Net Income Post-Tax	\$5,071,073



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### Revenue Offset Adjustment

Under the Internal Revenue Code, the revenue offset adjustment is 20% of the change in unearned premium reserve during the tax year which is intended to properly match the premium income recognized with the associated expenses. The revenue offset adjustment is applicable to both the regular taxable income and alternative minimum

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▶ taxable income calculations. The revenue offset in Table 1 results in a \$1,332,803 reduction in statutory net income.

### **Reserve Discounting Effect**

The insurance company's statutory reserves are stated at their full, ultimate value. The reserve discounting effect adjusts the statutory income to reflect the changes in reserves discounted to a present value basis. The discount factors are determined by accident year for each line of business by the Internal Revenue Code. The reserve discounting effect adjustment is also applicable to both the regular taxable income and alternative minimum taxable income calculations. The reserve discounting effect in Table 1 results in a \$2,761,770 increase in net income.

### **Net Tax-Exempt Adjustment**

The pre-tax statutory net income includes all investment income (taxable and tax-exempt) earned. The tax-exempt investment income is deducted from the pre-tax statutory net income for purposes of computing regular taxable income. However, 15% of the deduction must be added back in for the proration of the tax-exempt income provision of the Internal Revenue Code. The tax-exempt investment income adjustment in Table 1 results in a deduction of \$2,123,986 and an addition of \$318,598. As a result of these adjustments, the regular taxable income is \$7,222,542 and, assuming a federal tax rate of 35%, the regular tax is \$2,527,890.

### **Adjusted Current Earnings (ACE) Calculation**

Since both the revenue offset adjustment and the reserve discounting effect adjustment are applicable to both the regular taxable income and the alternative

minimum taxable income calculations, they do not require an additional adjustment in computing alternative minimum taxable income. However, in calculating the alternative minimum taxable income, the net tax-exempt adjustment that was deducted in deriving the regular taxable income must be partially added back. The amount added back is only 75% of the net tax-exempt adjustment under the current Internal Revenue Code. This adjustment is referred to as the adjusted current earnings (ACE) calculation. In Table 1, \$1,354,041 is added back to the regular taxable income and the resulting alternative minimum taxable income is \$8,576,583. The alternative minimum tax rate of 20% is applied and the alternative minimum tax is \$1,751,317.

The greater of the regular tax of \$2,527,890 and the alternative minimum tax of \$1,751,317 is the liability due and deducted from the pre-tax statutory net income resulting in a post-tax statutory net income of \$5,071,073. Generally, a company is entitled to an alternative minimum tax credit for the amount of any alternative minimum tax incurred over the regular tax liability although in this hypothetical there is no such excess. This credit is allowed to be carried forward indefinitely and used as a reduction in future regular tax liability.

## **How to Make Corresponding Asset Allocation Decisions**

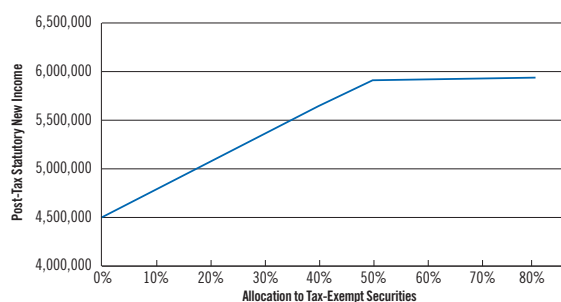
The fact that the regular tax is larger than the alternative minimum tax indicates that the insurance company should consider allocating more assets to tax-exempt securities. For the hypothetical insurance company in this example, the allocation to tax-

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► tax-exempt securities is 20% of the total invested assets. Graph 1 demonstrates the post-tax statutory net income values for allocations to tax-exempt securities ranging from 0% to 80%.

**Graph 1: Strategic Asset Allocation: Use of Tax-Exempt Securities**



It is evident in Graph 1 that as the percentage of total invested assets allocated to tax-exempt securities increases from 0% to 50%, there is an increase in post-tax statutory net income. However, for allocations ranging from 50% to 80%, there is essentially no change in post-tax statutory net income indicating that there is no additional benefit to holding more than 50% of the total invested assets in tax-exempt securities. Table 2 demonstrates the regular tax and alternative minimum tax liabilities for each one of the allocation percentages to tax-exempt securities ranging from 0% to 80%.

Note that at an allocation of 50% to tax-exempt securities the regular tax and alternative minimum tax differ by only \$20,150.

A property and casualty insurance company experiencing the results demonstrated here should consider allocating anywhere from 20% to 50% of their total invested assets to tax-exempt securities. The actual level should be determined by the company’s individual goals, objectives, and risk appetite. Some property and casualty insurance

companies are reluctant to allocate a large percentage of their invested assets to tax-exempt securities due to the risk of changes to the current tax code and the risk that their anticipated net income results do not materialize.

**Table 2**

Allocation To Tax-Exempt Securities	Regular Tax	Alternative Minimum Tax
0%	3,191,351	1,823,629
10%	2,859,620	1,769,473
20%	2,527,890	1,715,317
30%	2,196,159	1,661,160
40%	1,864,429	1,607,004
50%	1,532,698	1,552,848
60%	1,200,968	1,498,692
70%	869,237	1,444,536
80%	537,507	1,390,380

To get a better idea of how future results may materialize, many property and casualty insurers utilize dynamic financial analysis (DFA). DFA is a process that can provide valuable information about possible future financial results. Most DFA models utilize a stochastic economic scenario generator and can project future financial results for thousands of possible scenarios while modeling underwriting practices, future claim payments, and varying levels of investment income. The data output from this analysis allows a property and casualty insurance company to view the many possible net income results and set the strategic asset allocation to tax-exempt securities accordingly. ■

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Tsana is responsible for quantitative analysis for Dwight's insurance clients. She was formerly an Actuary for National Life Insurance Company. Tsana is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries.

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