Alternative Savings Vehicles

Fully-taxable bonds yield 10% per year before tax, tax-exempt bonds yield 6.5%, and the pretax return on single premium deferred annuities (SPDAs) is 9.5%.

1. What are the after-tax rates of return per period (for holding periods of 3, 5, 10, and 20 years) for an investment in (1) tax-exempt bonds; (2) taxable bonds; (3) SPDAs cashed out after age 59.5 (no excise tax); and (4) SPDAs cashed out before age 59.5 requiring a 10% nondeductible excise tax (in addition to the normal tax) on the accumulated interest, for an investor facing: (i) a 40% ordinary tax rate each period; and (ii) a 30% ordinary tax rate each period?

	Tax Exempt Bond	Taxable Bond	SPDAs (no penalty)	(with penalty)
3 years for a:				
30% taxpayer				
40% taxpayer				
5 years for a:				
30% taxpayer				
40% taxpayer				
10 years for a:				
30% taxpayer				
40% taxpayer				
20 years for a:				
30% taxpayer				
40% taxpayer				

2. How do optimal investment strategies change as a function of tax rates, lengths of investment horizon, and age?

3. At age 34.5, you deposited \$50,000 into an SPDA yielding 9.5%. Ten years later, to finance the purchase of a second home, you require a mortgage exceeding the cash-out value of your SPDA. As an alternative to liquidating your SPDA, you can borrow funds at an annual interest rate of 11%, tax deductible, for fifteen years. Your current tax rate is 30%, and you expect it to remain at that level. How much better or worse off, after tax, will

you be at age 59.5 if you invade your SPDA today (and incur the 10% excise tax) to reduce the size of the required mortgage?

4. How does your answer to the question above change if the interest expense incurred on the debt used to finance the expenditure is not tax-deductible (for example, you purchased a flashy, expensive personal automobile)?