



RUSSELL WALKER

Excel(lence) with Interest

James works as a financial advisor at Bank Private, advising special clients on investment strategies for trust funds, and wealthy individuals. Mr. Antonio Fernandez, a client of James' is considering a long-term, low-risk investment with Bank Private. Bank Private offers special products for trust funds that pay an above-average interest rate, fixed for many years.

Mr. Fernandez, through his trust fund, is interested in investing \$1,000,000.00 USD. Bank Private is offering a fixed rate of 5.5% (compounded annually) for 20 years.

James is preparing the financial projections for Mr. Fernandez. The following is needed:

1. Assuming all interest earned is left in the trust account and reinvested at the prevailing interest rate of 5.5%, calculate the account balance at the end of each year.
2. Calculate the amount of interest earned in each year, assuming that interest is re-invested annually.
3. The interest earned on the account is taxable income. The marginal tax rate is taken as 35%. Calculate the taxes owed in each year. Assuming the taxes are paid from the interest earned, provide updated account projections.
4. Graph the account balance, interest earned, and taxes owed.
5. Calculate the total dollars in interest earned over the 20 years.
6. Calculate the total taxes owed over the 20 years.

Mr. Fernandez reports that due to special tax shelters, the trust has a marginal tax rate of 28% for annual interest income below \$100,000. Beyond this limit, the marginal tax rate is 35%. He requests that the above details be updated to reflect this.