

## *Case 13*

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# *Guaranteed Returns*

Mr. Juan Tobias Rich (Toby to his friends) has recently inherited \$50,000 from the estate of his great-aunt. He has never had capital to invest before, so he is not quite sure what to do. His friend Mr. Richard Stuffy is an investment counselor for a local stock broking firm, Bullfinch and Bearwallow.

In their initial talk, Toby said, “I want to invest the entire inheritance, but no more now. I am living very well on my salary, and I really have no need for the money in the near-term. My goal is to combine this with a good chunk of my future raises, so that I can retire early—in 25 years or so.” Richard believes Toby will follow his savings plan. Toby in two years saved enough for the down payment on a house, which he purchased last year.

Toby’s capital is too limited for many forms of independent investment. On the other hand, his possibilities go far beyond a certificate of deposit or a few shares of stock. As is normal practice with new clients, Richard has developed three distinctly different investment alternatives (in this case, each is for \$50,000). Richard uses his client’s reactions to the investment choices to develop clearer goals for each client’s investment strategy.

The first of these alternatives is the financing of a second mortgage on a commercial structure. The risk on this investment is relatively low because the loan is secured by the building. It runs for a 25-year period, with annual payments at a 15% annual rate. The borrower pays the cost of title and fire insurance as well as the fees to the bank that acts as the intermediary for payments.

The second alternative is the purchase of 25-year bonds issued by the local power authority. These bonds carry a face rate of 9% with interest paid annually. However, interest rates for this class of bond have risen in recent years (currently 11%) so that the bonds are selling at a discount from their face value. The power authority has recently announced some cost overruns on the nuclear facility that is under construction. In reaction to this news and fearful of more substantial problems, their bonds in particular are being discounted more heavily—to correspond to a 14% rate of return. Thus, if the bonds are paid off, this is a rare opportunity, but there is some risk of default.

The third alternative is as a limited partner in a business run by some friends of Toby and Richard. The business is a spin-off from a local high-tech firm, which is still in the embryonic stage. Their friends hope to take the firm public (sell stock and become publicly held) within three years. At this point, the investor's capital would be returned with substantial interest. However, the company may go bankrupt instead. If this happens, Toby can expect to get back about 20 cents on the dollar. Although many intermediate states are possible, Richard believes that the two extreme possibilities provide adequate guidance. He estimates that there is a 40% chance of success and that the original investment will increase tenfold if the investment is a success.

Toby's (8%) mortgage is his only outstanding debt. Therefore, a fourth alternative would be to pay \$50,000 of it off early. Each of these investments has a higher rate of return, but he is not certain how he should pick one. The question is further complicated by Richard's comment that the current capital shortage has pushed interest rates and other returns up from the normal rate of 10% for relatively risk-free investments.

What do you recommend that Toby do? Why?

## **Options**

1. After taxes: If Tobias is in a 35% bracket for income taxes (state and federal combined), and if only 40% of a capital gain is likely to be taxable at retirement, then which investment is better?
2. If inflation seems likely to rise to about 5% from its current insignificant level, then which investment seems better?
3. Describe the relationship of risk to return for the three investments. Are all three on the "efficient frontier" for the risk/return trade-off?

**Suggestions to the Student**

1. The first two alternatives clearly have a 25-year life, which matches Toby's time horizon. How should the more risky investment in his friends' venture be evaluated: over 3 years or over 25?
2. What should be averaged to measure the value of the third alternative—the dollar returns at year 3 (or at year  $x$ ), the present worth, the future worth, or the internal rates of return?
3. What is the best criterion: maximizing present or future worth, choosing the highest internal rate of return, or some risk adjustment of these? What is the best discount rate to use?
4. What is your reinvestment assumption, and is it the same for each alternative?