Assume you own all of the stock in an unlevered firm with a market value of $100,000. The firm is considering whether or not it should issue $40,000 of risk-free debt paying an interest rate of 3% and use the proceeds to repurchase $40,000 of your shares. Note: Some calculations are necessary to answer each of the following.

a. Assume that markets are perfect. What is the value of your stock after the debt issue/share repurchase? How much has your wealth changed because of the debt issue/share repurchase? What key issue drives this result?

b. Assume that instead of markets being perfect, the corporate tax rate is 30%. What is the value of your stock after the debt issue/share repurchase? How much has your wealth changed as a result of the debt issue/share repurchase? What key issue drives the difference between your answers in a. and b.?

c. Assume (as in part b) that the corporate tax rate is 30%, but also assume that the personal tax rate on interest income is 40% and that the personal tax on equity income is 25%. What is the value of your stock after the debt issue/share repurchase? How has your wealth changed as a result of the debt issue/share repurchase (relative to if the firm does not have a debt issue/share repurchase)? What key issue drives the difference between your answers in b. and c.?

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