Economics 314 Spring 2019
Daily Problem #45 May 2

Consider a slight variation of the example in the coursebook about firms choosing alternative methods of financing an investment project. There are three startup firms. In each year, each firm's investment project has a 50/50 chance of a good payoff of $150 (15% rate of return) or $50 (5% rate of return). Each firm has $1000 worth of capital and issues shares costing $1 each. The interest rate is 10%.

Firm LL finances its $1000 investment entirely with stock, issuing 1000 shares and no debt. Firm HL issues 500 shares for $500 and also sells $500 in bonds, committing to $50/year in debt service (interest payments). Firm RHL issues ten shares for $10 and sells $990 in bonds, committing to $99 in debt service each year.

1. Fill in the appropriate numbers in the following table.

	LL	**HL**	**RHL**
Shares issued	1000	500	10
Debt issued	$0	$500	$990
Debt service per year	$0	$50	$99
Revenue in good year	$150	$150	$150
Revenue in bad year	$50	$50	$50
Profit in good year = Revenue minus debt service			
Profit in bad year = Revenue minus debt service			
Profit per share in good year = Profit / number of shares			
Profit per share in bad year = Profit / number of shares			
Profit per share in average year			

2. Does expected profit per share depend on the method of financing?

3. Suppose that you have $100 to invest. What would be your return in good and bad years from buying

a. 100 shares of LL (10% ownership of the company) and no bonds

b. 50 shares of HL (10% ownership of the company) and $50 of bonds (perhaps 10% of the HL bonds)

c. 1 share of RHL (10% ownership of the company) and $99 of bonds (perhaps 10% of the RHL bonds)

4. As owner of 10% of each company, does the company's financing method have any effect on your rate of return? Would it have any effect on how much you'd be willing to pay for the investment?