

4th Homework – Debt Capacity
Due Monday, February 18, 2008

1. In the class note, we showed that the entrepreneur could not finance the project with \$600 FV of debt. How about \$400 FV of debt? \$200 FV? What is the most debt he can issue (i.e., the face value of debt that makes the entrepreneur indifferent between the two projects)?

2. Now suppose that the face value of debt is \$600, as in the lecture note, and the entrepreneur includes in the bond contract that creditors have the option of seizing and liquidating the operation after observing whether the entrepreneur chose *A* or *B*. That is, right after he invests the \$800 in *A* or *B*, creditors see what he did and, regardless of what they saw, can take over and sell off the firm's assets (assume here that the creditors apply the same 10% discount rate in this case, i.e., the present value of getting x from selling off the firm's assets is $x/1.1$), paying themselves off (up to their face value) out of the proceeds. The entrepreneur expects this will address investors' fears that he will choose project *B*.
 - If investors know they can liquidate the entrepreneur's investment for \$400 (i.e. the investment sells for 50 cents on the invested dollar), will it work to sell \$600 face value of debt?
 - What if they can liquidate for only \$240 (30 cents on the dollar)? Now what is the highest face value that will work?
 - Finally, what will investors do if they can liquidate for \$600 (i.e., 75 cents on the dollar)?