Baylor University
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Department of Finance, Insurance & Real Estate

Problem Set #9 Name: ______________________

Dr. Garven

Two firms exist that are identical in all respects except for the risk of their assets. Both firms have assets worth $1,000,000, and have issued zero coupon bonds with a face value of $500,000. The standard deviation of the return on these firm 1's assets is 30%, and the standard deviation of the return on firm 2's assets is 50%. Assume that both firms will be liquidated one year from today and that the rate of interest is 5%.

A. What is the fair market value for the bonds issued by firm 1? What is the dollar value of its limited liability put option? What is the yield to maturity on its bonds?

B. What is the fair value for the bonds issued by firm 2? What is the dollar value of its limited liability put option? What is the yield to maturity on its bonds?

C. Suppose an insurer offers the shareholders of both firms a credit enhancement scheme that will make their bonds riskless. What are the fair premiums for this insurance? What impact will this insurance have upon the yields to maturity of these bonds?