

First Test, Spring 2000

1. (10 pts). Using the attached prices from 2/24/00, what is the price difference between buying the 7 5/8% Feb 02-07 bond and buying an otherwise identical, *non-callable* bond (i.e. one you would construct from other securities)?
2. (10 pts) The general Repo rate was 5.60% on 2/24/00, but the 6% August 2009 note had a specialness of 85bp. How, precisely, would that affect the economics of shorting \$1 million face value of that note (assuming no margin)?
3. (10 pts) Your investment bank is scheduled to alter a B-rated bond's 7½% coupon tomorrow so as to make the bond trade at par, but it is actually trading at par right now, before you've done anything. One colleague says that means that 7½% is the right coupon, but the other says that B bonds in that industry are trading at 8% yields now, so change it to 8%. What do you think?
4. On 1/20/00, when its stock was at 16 1/16, Mail.com issued a convertible bond, with a 7% coupon and a conversion ratio (per \$1000 par value) of 52.77. It matures in five years, and becomes callable in three.
 - a. (5 pts) What is the conversion premium?
 - b. (5 pts) Evaluate the argument that Mail.com was right to issue a convertible because if the stock goes up they'll be happy they hadn't sold stock before, and if the stock goes down they'll be happy they hadn't sold straight bonds.
5. (10 pts) A firm will be worth either 100 or 50 in a year, each with probability ½, and has 80 in debt maturing then. The debt is a bond issue, and you are one of 80 investors who each hold face value 1. The bond has a covenant making it senior to all other debt, and this covenant can be changed with 100% approval from bondholders. Is there a coercive exchange offer that creates value for equity? If so, give an example.
6. (10 pts) "An issuer will exercise a make-whole call option if and only if it is profitable, so the bondholders would be better off without that option in the bond contract." Agree or Disagree? Explain.
7. (10 pts) A firm that is worth 100 has 90 in debt, split between senior bank debt and junior bonds. Business partners complain that the risk of bankruptcy is high, and firm value would be lower in bankruptcy. Management replies that the low value in bankruptcy ensures that it won't happen, because creditors will have such a large incentive to avoid it. How is management's argument sensitive to the split between bank debt and bonds? Illustrate your answer with an example, as simple as you want.

8. (10 pts) Illustrate with a graph how the junior bonds of a company can be viewed as a package of options on the value of the firm, and discuss briefly how and why the actual payments to such bonds depart from this simple model.