

**Boston College, MF 820
Spring 2007
Professor Strahan
Final Exam**

Name: _____

Write all answers on the exam. You may use the back of pages if necessary. The exam has 100 points. You are allowed a 1-page, 2-sided cheat sheet. Calculators are permitted, but not computers. There are 8 pages (some are blank); please verify this! Please read all of the questions carefully! You have 2.5 hours. Be brief, but show all relevant calculations (partial credit will be assigned). Your answers must be legible. Good Luck!

True, False, Uncertain. (7 points each)

Explain why the following statements are true, false, or uncertain

1. Universal banks are best suited to underwrite equity because they usually have a longstanding relationship with the issuer.

2. The typical first-day return of 10% or so after an IPO is evidence that issuers are not receiving a fair price when they sell shares to investors at the offer price.

3. Walmart should not be permitted to own a bank.

4. The Fed made the financial system safer by bailing out LTCM..

5. The original Basel Accord is being revised so that banks' off balance sheet positions are taken into account in computing required capital.

Longer Questions

1. Compare the risks for the net worth (equity) of the following three portfolios:

- a. Assets: 500 in 10 year T-bond
 100 in cash
- Liabilities 500 in floating-rate collateralized finance (repo)
 100 in Equity
- b. Assets: 500 in 10 year T-bond
 500 in collateralized floating-rate lending (reverse repo)
 100 in cash
- Liabilities 500 in floating-rate collateralized finance (repo)
 500 in 9.75-year T-bond sold short (collateral for the reverse repo)
 100 in Equity
- c. Assets: 100 in cash
- Liabilities 100 in Equity

+ Off-balance 10-year swap, receive fixed, pay float on notional principal of 500.

Which portfolio do you think has the highest overall risk? Consider both interest rate risk and credit risk. What does this example imply about the value of leverage as a measure of risk? Explain. (20 points)

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2. Suppose you initiate an interest rate swap with a notional principal of \$1 million in which you are receiving the fixed rate payment and paying the floating rate payment. The swap is 2-year, and payments are swapped at the end of each year (so there are 2 net payments, one in 1 year's time and a second in two year's time). The floating rate resets at the end of the first year. The current 1-year swap rate is 5%, and the current 2-year swap rate is also 5% (i.e. flat term structure).

- a. What is initial the market value of the contract? (4 points)
- b. Compute the duration-approximated change in the value of the swap for an immediate 1 percentage point increase in all interest rates. (8 points)
- c. Compute the exact change in value for the swap for the same change in rates. (8 points)
- d. Does the swap have positive or negative convexity? (4 points)
- e. Is their any credit risk associated with the swap? If so, how would that risk change as interest rates changes? (6 points)

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3. Describe briefly the ways in which securitization does and does not alter the role of a traditional financial intermediation. How does securitization affect a bank's role in information collection, monitoring, servicing, and funding loans? How does securitization complicate assessing a bank's risk and, therefore, the construction of risk-based capital requirements? (15 points)

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