

You have the entire class period to finish this exam. You may use a calculator, scrap paper, and a writing tool to complete this exam. You may hand in the scrap paper (with your name on it) to help you receive partial credit for incorrect answers. Total points=100.

Part I. Answer all questions in this section to receive full credit. (80 points)

(6 pts.) 1. Which of the following insurance products involve a definite, precisely defined payout (PP), a payout that will certainly occur but the size of the payout is unknown (UP) and which policies may or may not have any payout (P?)?

- a. An annuity. _____
- b. A variable annuity. _____
- c. A variable life policy. _____
- d. An term life policy. _____
- e. Whole life insurance. _____
- f. An endowment life policy. _____

(5 pts.) 2. Which of the following items should be high (H) for a healthy bank or low (L) for a healthy bank?

- a. OREO. _____
- b. Nonperforming loans. _____
- c. NIM. _____
- d. Classified loans. _____
- e. Loan loss reserves. _____

(6 pts.) 3. Name three major banking laws/regulations (use the correct name, not a description).

- a. _____
- b. _____
- c. _____

(8 pts) 4. You have a choice between investing \$50,000 in a 10-year CD at a bank or investing the same amount in a variable life insurance policy with a term of 10 years. Which of the following features are important determinants of your decision? Circle ALL of the feature below that are important

- a. If the \$50,000 is invested in assets with credit risk and they default, you are more likely to suffer a loss of principal with the insurance policy because the FDIC does not cover your policy and state insurance funds are usually very small.
- b. If the \$50,000 is invested in assets that turn out to have exceedingly high returns, the variable life insurance policy will pay a much higher return than the CD because it is equivalent to a mutual fund.
- c. If the \$50,000 is invested in assets that turn out to have exceedingly high returns, you will benefit somewhat more from having bought the insurance policy because its return is not fixed at a precise amount and will go up with the returns of the underlying assets.
- d. If you invest in the insurance company policy, you can avoid paying taxes on the unrealized capital gains.

(6 pts) 5. Mutual of Omahaha, a property and casualty insurance company has written a substantial fraction of its policies on homes located in Florida. How might this company avoid going bankrupt in the event of a major hurricane? Circle ALL of the choices that are helpful.

- a. Do a seasoned equity offering.
- b. Raise equity through a mutual to stock conversion IPO.
- c. Ask the NAIC to cover the shortfall.

(5 pts) 6. Consider the following actions in terms of meeting the Basel Accord requirements. Circle ALL of the statements that are true.

- a. A bank with \$4 m. in equity and \$150m. in assets could meet the leverage requirement by selling off \$50 m. in assets.
- b. A bank with \$100 m. in mortgages that with interest rates that are above market by 100 bp points and show no tendency toward greater prepayments could raise its equity by selling the mortgages for more than \$100 m.
- c. A bank with slightly insufficient risk-based capital ratio could meet the requirements by changing its asset mix from mostly C&I loans to half Treasuries and half C&I loans.
- d. A bank with a insufficient leverage ratio could get closer to the regulatory minimum by cutting its dividend.

(24 pts) 7. Answer True or False to the following questions:

- a. Executive Life and Mutual Benefit Life were two insurance companies that failed because of poor quality assets. _____
- b. Risk-based capital requirements are imposed on banks and insurance companies, but not defined benefit pension plans. _____
- c. ERISA prevents a company from collecting contributions to a pension over twenty years and then keeping the funds when the worker quits. _____
- d. If your pension is \$70,000 a year and the firm you work for goes bankrupt, either the firm will continue to pay your pension in full or the PBGC will cover it for you. _____
- e. Prudent man laws prevent pension funds from investing 100% of their assets in venture capital funds. _____
- f. The main difference between a defined benefit pension fund and a defined contribution pension fund is that a defined contribution plan requires that the worker contribute to the plan out of his paycheck whereas in a defined benefit plan the company makes the contribution for the worker as a job benefit. _____
- g. The Department of Labor's regulations prohibit companies from using pension fund money to invest in the company's own stock. _____
- h. The majority of banking assets are loans. _____
- i. Approximately half of banking assets are the "Bricks and mortar" or buildings owned by banks. _____
- j. Huntington Bank is considered a money center bank. _____
- k. Community banks are banks that only have branches in small towns _____
- l. Bank regulation required JP Morgan's financial institution to split into JP Morgan, the commercial bank, and Morgan Stanley, the investment bank. _____

8. (7 pts) Allnation insurance company is a property and casualty company that collects \$250 m. in premiums each year. Last year, a hurricane in Florida caused them to pay out claims of \$195 m. In addition their commissions to brokers are \$8 m. a year and their overhead amounts to annually \$20 m. Loss adjust expenses were particularly high last year, amounting to \$30 m.

- a. What is Allnation's loss ratio? _____
- b. What is Allnation's combined ratio? _____
- c. Could Allnation have reported a profit for last year? Why or why not? _____

(5 pts) 9. Prospective Bank offers a checking account with the following features: If you maintain a balance of \$1000 each month, it pays 2% interest. In addition, Prospective bank gives you a box of free checks (even though it costs the bank \$5 a box) and charges you nothing to write checks (even though each check costs the bank 5 cents to process). However, it does not even have an ATM machine on the premise and whenever you use an ATM, you must pay the going rate on withdrawals. SkyHigh Bank offers a checking account where you must pay \$5 for a box of checks and you must pay 5 cents for each check you write (the bank's cost of processing the check is 5 cents). There is no interest on the account at all, but all ATM withdrawals on their extensive system are free (even though the bank's cost averages \$2 a withdrawal). Assume that you have \$2800 in your account for 9 months out of the year, and \$800 the rest of the year; also that you write 12 checks a month and make 3 ATM withdrawals each month. Which of the two accounts do you prefer? Would your answer change if you ordinarily only made 1 ATM withdrawal a month? (Show your work for full credit) _____

10. Consider Banamox Bank, which has the following balance sheet:

Assets	Liabilities
\$100 m. car loans	\$45 m. CDs
\$100 m. mortgages	\$190 m. checking accounts
\$50 m. Tbills	\$15 m. Fed funds borrowed
\$30 m. vault cash/reserves	\$30 m. equity
\$280 m.	\$280 m.

(4 pts.) a. If Banamox has a deposit drain of 10% from its checking accounts and deals with the drain without new liabilities, what is the new value of its assets? _____

(4 pts.) b. For the same 10% deposit drain, draw a new balance sheet that maintains the old asset value.

Part II. Answer 2 of the following 3 questions. If you answer all the questions, only the first two will be graded. (Total points = 20 points; 10 points for each question answered.)

(10 pts.) 1. A bank has the following balance sheet. Answer questions a and b that refer to the balance sheet.

Assets	Liabilities
\$300 C+I loans with MD=3.7 years and YTM=12%	\$390 m. checking accounts \$50 m. sub. debt with MD= 6.2 years and YTM=7%
\$127 m. MBS	
\$43 m. vault cash/reserves	
\$460 m.	\$460 m.

(4 pts.) a. Fill in the rest of the balance sheet.

(6 pts) b. Assume that the YTM on the C+I loans rises to 14.5% and that this situation is severe enough for the bank to adjust its balance sheet (assume it is scrupulously honest). What is the YTM of the sub debt? _____ (show your work for full credit).

(10 pts.) 2. Fill in the blanks in the following paragraph.

Bank regulators would like banks to be safe and not cause financial crises. One way to make sure this occurs is to require that banks have sufficient _____ and never approach insolvency. Another way is to regulate what banks can invest in. A major law in the U.S. says that banks are not allowed to invest in _____. How do we know whether a bank has sufficient assets to pay off its _____ (and therefore not be a liability to the FDIC)? One way is to require the bank to report troubled loans. If a loan is very troubled, then the bank is supposed to include _____ on its balance sheet to reflect the loss. If this occurs, then the liability side of the balance will have an equal change in magnitude in the _____ category. The FDIC only covers deposits up to _____, so any bank that relies on other sources of funding, such as _____, are considered safer from the point of view of the FDIC. Recent regulations have also required that banks have _____ if they invest in assets that are extremely risky, such as _____. Some banks are very healthy from a solvency point of view, but we also want them to be safe in terms of overcoming a liquidity problem, such as a deposit drain. In this case, regulations require that banks have approximately 10% of deposits held as _____.

(10 pts) 3. Fill in the table below. Your bank numbers do not need to be precise – nearest thousand is sufficient

Number of banks	Year	Reason
_____	1928	_____
minus _____	1930-1933	Bank failures
__12000__	1945	---- (do not fill in)
_ 12000 _	_____	Lack of entry and exit in banking
minus _____	19xx-1990	_____
_____	1990	--- (do not fill in)
minus _____	1990- present	_____
_____	today	