

**QUESTION 1**

- When interest rate changes, the impact on a bank's earnings depends on the repricing of their assets or liabilities.

2.

Loan A (7%, 1 year) = \$100	Deposit A (2.5%, 3 months) = \$250
Loan B (10%, 2 years) = \$200	Deposit B (5%, 1 year) = \$ 50
Total Assets = \$300	Total Liabilities = \$300

The net interest margin or spread

1

2

3

4

5

6

7

8

9

1

1 points

**QUESTION 2**

1. The average maturity of its assets is larger than that of its deposits, as is typical of most banks.

There is a

reinvestment  
risk

re-finance  
risk

re-pricing risk

default risk

1 points

**QUESTION 3**

1. The average duration of its assets is longer than that of its liabilities. There is a

reinvestment  
risk

re-finance  
risk

re-pricing risk

basis point  
risk

1 points

**QUESTION 4**

1. If the loan interest rate adjusts every quarter and the deposit interest rate adjust every six months, the risk of interest rate from the different frequencies of rate adjustments is called

Repricing  
risk

yield -curve  
risk

basis point  
risk

default risk

1 points

**QUESTION 5**

1. If the loan interest rate is 4 % mark-up on the 6 month treasury bill and the deposit interest rate is 1% mark-up on the 3 month treasury bill, the risk of interest rate like this is called

Repricing  
risk

yield -curve  
risk

basis point  
risk

default risk

1 points

**QUESTION 6**

1. Consider a bank that borrows \$100 million in deposits at a floating rate of T-Bill plus 2% and lends at LIBOR plus 4%. Both rates are reset semi-annually. Normally, both rates move together. Assume the 3-month LIBOR rate was 3.40% and the 3-month T-Bill rate was 3.0% when the loan was disbursed. The spread is given as follows

1

2

3

4

1 points

**QUESTION 7**

1. Assume a bank has the following balance sheet. Determine the 2-year GAP.

Asset	Amount		Liability	Amount
Cash	\$100		90-day CDs	\$100

6-month Gbo nds	\$400		360-day CDs	\$200
2-year commer cial loans	\$400		Time Deposi ts 2- year	\$900
5-year fixed rate loan s	\$500		Stockholde r' s equity	\$200
Total	\$1,40 0		Total	\$1,400

2.

**GAP** = (RSA<sub>2 yr</sub> – RSL<sub>2 yr</sub>)

0

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1 points

**QUESTION 8**

1. Assume a bank has the following balance sheet. When both the deposit rate and loan rate change by 2%, determine the 1-year net impact on net interest income ( $\Delta NII$ )

Asset	Amount		Liability	Amount
Cash	\$100		90-day CDs	\$100
6-month Gbonds	\$400		360-day CDs	\$200
2-year commercial loans	\$400		Time Deposits 2-year	\$900
5-year fixed rate loans	\$500		Stockholders equity	\$200
Total	\$1,400		Total	\$1,400

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2.

$$\Delta NII = (RSA_{1\text{-year}} - RSL_{1\text{-year}}) * (.02)$$

1 points

**QUESTION 9**

1. Assume a bank has the following balance sheet for the 3-year GAP=\$? (Hint: only rate sensitive assets and rate sensitive liabilities count)

Asset	Potential rate change	Amount		Liability	Potential Rate change	Amount
Reserves at the Fed	N/A	\$200		90-day CDs	0.85%	\$200
6-month T-Bills	2.00%	\$400		360-day CDs	1.00%	\$300

3-year Co nsu mer loa ns	3.00%	\$600		Time Depos its 2- year	1.50%	\$1200
10-year mor tga ges	2.00%	\$800		Stockhold er' s equity	N/A	\$200
Total		\$200 0		Total		\$2000

2.

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-

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1 points

**QUESTION 10**

1. Assume a bank has the following balance sheet

What is the net impact on net interest income (NII) for 3 YEARS, if interest rates are expected to change as specified in the Potential rate change, (compute the detailed ERA)

Asset	Potential rate change	Amount		Liability	Potential Rate change	Amount
Reserves at the Fed	N/A	\$200		90-day CDs	0.85%	\$200
6-month T-Bills	2.00%	\$400		360-day CDs	1.00%	\$300
3-year Consumer loans	3.00%	\$600		Time Deposits 2-year	1.50%	\$1200
10-year mortgages	2.00%	\$800		Stockholders equity	N/A	\$200
Total		\$2000		Total		\$2000

2.

\$

\$

\$

\$

1 points

**QUESTION 11**

1. The elasticity of the change of the price of debt toward the change in interest rate is the absolute value of (and then divided by  $(1+r)$ )

Convexity

b. Maturity

c. Duration

d. Immunization

1 points

**QUESTION 12**

1. ( ) is a measure of the sensitivity of the price of a bond or other debt instrument to a change in interest rates.

Convexity

Maturity

Duration

Immunization

1 points

**QUESTION 13**

1. Assume a 4-year loan with a principal of \$5,000 paying 7% interest. The current market yield on the loan is also 7%. What is the duration of the loan?

1.62 years

2.62 years

3.62 years

4.62

y  
e  
a  
r  
s

1 points

**QUESTION 14**

1. 14. Estimate the duration of Loan M

Bank Balance Sheet	
Cash = \$ 50 Loan M (7%, 6 years) = \$200	Deposit N (3 years, 2%) = \$ 200 Equity = \$ 50
Total Assets = \$250	Total Liabilities = \$ 250

2.

3.1

y  
e  
a  
r  
s

4.1

y  
e  
a  
r  
s

5.1

y  
e  
a  
r  
s

6.1

y

e  
a  
r  
s

1 points

**QUESTION 15**

1. 14. Estimate the duration of Deposit N

Bank Balance Sheet	
Cash = \$ 50 Loan M (7%, 6 years) = \$200	Deposit N (3 years, 2%) = \$ 200 Equity = \$ 50
Total Assets = \$250	Total Liabilities = \$ 250

2.

1

2

3

4

1 points

**QUESTION 16**

1.  $\Delta\%(MV) = -MD\Delta r$  When we use this equation to evaluate a loan, this equation does not totally reflect the change in the present value of loans mainly because of the ignorance of which of the following factors

- a. Convexity
- b. Maturity
- c. Duration
- d. Immunization

1 points

**QUESTION 17**

1. 16. In the following balance sheet, estimate the impact on the economic value of equity (EVE). if all interest rates decrease by 3%,  $EVE = \$(\quad)$

Loan A (7.5%, 5 year) = \$500	Deposit B (5%, 2 year) = \$500
Total Assets = \$500	Total Liabilities = \$500

2.

3

3

4

1 points

**QUESTION 18**

1. In the following balance sheet, estimate the impact on the economic value of equity (EVE).  
If interest rates of assets fall by 1% and deposit rates increase by 1%. EVE=\$( )

Loan A	(8%, 3 year)	= \$1 50		Deposit A	(5%, 2 years )	=\$250
Loan B	(11%, 4 years )	= \$2 00		Deposit B	(7%, 3 year)	= \$100
Total Ass ets		= \$3 50		Total Liabi lities		= \$350

2.

1

1

1

1

1 points

**QUESTION 19**

1. In the following balance sheet,

Loan A	(8%, 3 year)	= \$1 50		Deposit A	(5%, 2 years )	=\$250
Loan B	(11%, 4 years )	= \$2 00		Deposit B	(7%, 3 year)	= \$100
Total Ass ets		= \$3 50		Total Liabil ities		= \$350

2.

GAP three year

0

-



1 points

**QUESTION 20**

1. 19. In the following balance sheet,

Loan A	(8%, 3 year)	= \$1 50		Deposit A	(5%, 2 years )	=\$250
Loan B	(11%, 4 years )	= \$2 00		Deposit B	(7%, 3 year)	= \$100
Total Ass ets		= \$3 50		Total Liabil ities		= \$350

2.

The GAP 3 yr=-200

if all interest rates decrease by 3%, net impact on net interest income ( $\Delta$  NII) is

+

+

+

+

1 points

### QUESTION 21

1. 20. When both deposit and loan interest rates decrease at the same speed in the market, a bank tends to ( ) to make money.

(a. reinvest

b. refinance

c. keep  
neutral)

1 points

### QUESTION 22

1. When both deposit and loan interest rates increase at the same speed in the market, a bank tends to ( ) to make profit.

a. reinvest

b. refinance

c. keep  
neutral

1 points

### QUESTION 23

1. When borrowers tend to pay back the loans to bankers earlier, the bank is facing
- a. Repricing risk
  - b. Yield curve risk
  - c. Basis points risk
  - d. Embedded options risk

**1 points**

**QUESTION 24**

1. 24. The GAP analysis and EAR analysis

- a. If GAP is positive and interest rate increases the same on both asset and liability sides, EAR increases.
- b. If GAP is negative and interest rate decreases the same on both asset and liability sides, EAR increases.
- c. If EARs for year 1, year 2, year 3. ....up to year 30 are all positive, the bank should be profitable.
- d. If GAP for year 1, year 2, year 3. ....up to year 30 are all zero, the bank's interest rate risk should be very low.

all a,b,c,d are correct.

**1 points**

**QUESTION 25**

1.

25. The Federal Reserve has tools at its disposal to implement monetary policy, which does NOT include

a. Reserve requirements

b. Regulate investment  
banks

c. Open market  
operations

d. Discount rate

**1 points**

**QUESTION 26**

1. 26. ( ) is responsible for conducting monetary policy by influencing money supply and interest rates.

a. A Commercial  
Bank

b. A credit union

c. A Central Bank

d. An investment  
bank

1 points

**QUESTION 27**

1. The use of paper money
  - a. people trust paper money more than metal coins.
  - b. Improves the Durability of the currency
  - c. Improve the transportability of the currency
  - e. remedies the problem of Gresham's Law
  - d. Improve the scarcity of the currency

1 points

**QUESTION 28**

1. When the Federal Reserve buys T-Bonds in the US market.
  - a. Money supply increases
  - b. Money supply decreases

c. Irrelevant to Money  
Supply

**1 points**

**QUESTION 29**

1.

29. When the Federal Reserve increase the discount rate of the Fed Fund in the US market.

a. Money supply  
increases

b. Money supply  
decreases

c. Irrelevant to Money  
Supply

**1 points**

**QUESTION 30**

1. 30. By raising the reserve requirement, the central bank

a. Money supply  
increases

b. Money supply  
decreases

c. Irrelevant to Money  
Supply

**1 points**

**QUESTION 31**

1. Negative Interest rate

a. This action was meant to complement the quantitative easing

b. encourages banks to lend more instead of keeping them as excess reserves.

c. Customers will consume more and deposit less.

all are correct.

**1 points**

**QUESTION 32**

1. about SOFR and LIBOR

a

SOFR represents the interest rate of the unsecured funds

LIBOR is a good proxy of the risk-free rate

SOFRRs include triparty repo data from the Bank of New York Mellon (BNYM) and the Depository Trust & Clearing Corporation (DTCC).

LIBOR now in 2020 is still the most influential interest rate in the international market.

**1 points**

**QUESTION 33**

1. Deposit Insurance

- a. depositor indifference generates a moral hazard problem that encourages banks to engage in risky activities
- b. exists only in the USA, not in the other countries.
- c. It is a privately owned insurance company.
- d. successfully helped US to overcome the problems in 1980's S&L crisis and 2008 Financial Crisis.

**1 points**

**QUESTION 34**

1. What are CAMELS? They are ratings assessed by bank regulators after on-site examinations. Which one is wrong

- a. C = Capital adequacy



b. A = Assurance of  
Assessment

c. M = Management

d. E = Earnings

e. L = Liquidity

**1 points**

**QUESTION 35**

1. About Insurance, which one is wrong?

a. insurance firms purchase re-insurance to reduce/alleviate/diversify the risk.

b. Deposit insurance is used in commercial banking businesses.

c. Underwriting and reinsurance risks are the major risks for insurance companies.

d. Categorized as Life insurance and non-life (property/casualty, including medical) insurance.

e. The US became a dominant insurer from modest roots planted in the 16th century.