

Banking Theory and Practice

Q. 1:

Ans: (i) Deals with financial contracts which can't be easily resold like securities and bonds

(1-5) (iv) Reduction of Transaction Cost

(ii) Economies of Scope, (iv) Economies of Scale: Large no. of products paper diversification expertise in managing the risk

Classification of Banking Functions

- 1-5 (i) Regulatory and Payment Services (ii) Transformation of assets (Maturity, Quality, Convenience) (iii) Risk Management (Credit, Int. rate, etc.) (iv) off-balance sheet operation

(v) Monitoring and Information Processing.

Why the banks are regulated?

① Reduction of large-scale failure in the system

② To avoid systematic risk only contagion effect in global economy

③ To guard against deposit insurance losses

④ To achieve desired social goal

⑤ To provide efficient system that finance e.g., improved allocation of credit and meet customer needs.

Reason for failure

- (1-5) ① Credit risk, (ii) Liquidity risk, for all stakeholders (iii) macroeconomic conditions (iv) Excess Govt. intervention (v) Inadequate diversification of loans.

Q. 2:

Factors affecting Bank Deposit

- (i) Per capita income, (ii) Expansion of banking (iii) Increase in housing habits (iv) Increase in relative return on deposits (v) Increase in bank credit (vi) NRE deposits (vii) Growth of substitutes

Risk Management Process: (Identify, assess, monitor and control)

(i) Vertical Process Top down and Bottom up

(ii) Horizontal Process

Sources of Credit risk: Loans, Securitized Credit, off-balance sheet activities, Under diversification, high loan growth, Overly active

Sources of Operational Risk:

② IT Employee processing error, inability to control direct cut, theft and fraud, operating policy, external events have elevated importance etc.

Sources of LR risk:

High new loan demand and unexpected deposit withdrawal due to fluctuating LR risk and net. LR risk. To run activities to liquidate assets or obtain refinancing during form new borrowing.

Q.3: Statistics =

$$\text{Capital adequacy ratio} = \frac{\text{Capital}}{\text{RWA}} = \frac{\text{Tier-I} + \text{Tier-II}}{\text{Tier-I} + \text{Tier-II}}$$

Tier-I: Paid up Capital, reserves, surplus on...
Tier-II: Subordinate debt

Asset Quality = $\frac{\text{GDPA/TL}}{\text{NPA/Net loans}}$

$\text{Net NPA} = \text{Gross NPA} - \text{Net provisions on NPA and P&T on Subpoense etc.}$

Provisions for loan loss ratio = $\frac{\text{Provisions for loan loss}}{\text{Total loan}}$

Liquidity: Cash to demand deposit Ratio = $\frac{\text{Cash at bank + Reserve with central bank + call money}}{\text{Total demand deposit}}$

SLR $\frac{\text{Investment in Total investment}}{\text{Demand & Time deposit Ratio}}$

Credit deposit Ratio

Temporary investment Ratio: $\frac{\text{Central bank fund held + Investment in securities with maturity of one year or less + P&T from loans}}{\text{Total demand deposit}}$

Visible liability dependency ratio = $\frac{\text{Total Assets}}{\text{Total visible liabilities} - \text{Temporary investments}}$

$\frac{\text{Net loans and leases}}{\text{Total Assets}}$

Productivity: $\frac{\text{Assets per employee}}{\text{Personnel expenses}} = \frac{\text{Assets per employee}}{\text{Total full time employees}}$

$\frac{\text{Total full time employees}}{\text{Loans / Total full time employees}}$

$\frac{\text{Net income}}{\text{Number of full time employees}}$

Customer Profitability Analysis

20% Contribution 80% of overall Profit

Tradeably high value, marginally Profitable and Customers

$\text{Revenue} > \text{Expenses} + \text{Tariff Profit} \rightarrow$

" = " "

$\text{Revenue} < \text{Expenses} \rightarrow \text{Unprofitable}$

$\text{Revenue} < \text{Expenses} + \text{Tariff Profit}$ (Profitable but not acceptable)

Steps: \rightarrow Identify full list of services used by Customer \rightarrow Assign the cost of providing each service \rightarrow Allocate the unit cost

(i) Value of the bond = 1048.684

Selling Price of the bond at 40 = 1026.209

Coupon + Redemption of Coupon = 664.908

Total = $1026.209 + 664.908 = 1691.117$
 $TR = \left[\frac{1691.117}{1048.684} \right]^{1/5} - 1 = 10.029\%$

Price = 96.23119

Semiannual duration = 8.0654

Annualized Duration = $8.0654/2 = 4.0327$

(i) $P_0 = \sum_{t=1}^4 \frac{E_0(1+r)^t (\text{Payment ratio})}{(1+k)^t} + \frac{E_0(1+r)^4 (P/E)_4}{(1+k)^4}$
 $= \frac{7(1.03)(0.6)}{1.13} + \frac{7(1.03)^2(0.6)}{(1.13)^2} + \frac{7(1.03)^3(0.6)}{(1.13)^3} + \frac{7(1.03)^4(0.6)}{(1.13)^4} + \frac{7(1.03)^4(P/E)_4}{(1.13)^4}$
 $= 13.396 + 4.832 \left(\frac{P}{E} \right)_4$
 $(P/E)_4 = \frac{66.604}{4.832} = 13.78 \text{ } \checkmark \text{ } \text{Ans}$
 $= 80 = 3.828 + 3.489 + 3.180 + 2.899 + 4.832 \left(\frac{P}{E} \right)_4$

(ii) Expected EPS at the end of 4th year = $7(1.10)^3(1.03) = 9.6$
 Expected DPS at the end of 4th year = $(9.6)(0.6) = 5.76$
 Required rate of return = 16%

(i) $P_3 = \frac{5.76}{0.16 - 0.03} = 44.31$

(ii) Current Price: $P_0 = \sum_{t=1}^3 \frac{P_t}{(1+r)^t} + \frac{P_3}{(1+r)^3}$
 $P_0 = \frac{2.75}{1.16} + \frac{3.03}{(1.16)^2} + \frac{3.33}{(1.16)^3} + \frac{P_3}{(1.16)^3}$
 $= 2.37 + 2.28 + 2.13 + 28.39 = 35.14 \text{ } \checkmark \text{ } \text{Ans}$

$2.5 \times 1.1 = 2.75$
 $2.75 \times 1.1 = 3.03$
 $3.03 \times 1.1 = 3.33$