Credit Management

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Financial Management

University Elective

Topics

- Overview
- Terms of payment
- Credit policy variables
- 5 Cs
- Credit analysis
- Credit rating index
- Credit granting decision
- Collection matrix
- Numericals

Overview

- Cash sales
- Credit sales
- Competition
- Credit period – 15 to 60 days
- Accounts receivable (debtors) and accounts payables (creditors)
- Accounts receivable is an important asset
- Investment in accounts receivable – credit sales, credit period, how long it takes to collect receivables

Terms of Payment

- Cash Terms – receipt of payment, cash in advance, cash on delivery
- Open Account – credit sales, bill – credit period, discount
- Consignment
- Bill of Exchange
- Letter of Credit

Credit Policy Variables

- Credit standards
- Credit period
- Cash discount
- Collection effort
- Above variables have a bearing on the level of sales, bad debt loss, discount to customers, and collection expense

Credit Standards

	Liberal	Stiff
• Sales	Higher	Lower
• Bad debt loss	Higher	Lower
• Investment in receivables	Larger	Smaller
• Collection costs	Higher	Lower

Impact on Residual Income

$$\Delta RI = [\Delta S(1 - V) - \Delta S b_n](1 - t) - k \Delta I$$

where ΔRI = change in residual income

ΔS = increase in sales

V = ratio if variable costs to sales

b_n = bad debt loss ratio on new sales

t = corporate tax rate

ΔI = increase in receivables investment

Increase in Receivables Investment

$$\Delta I = \frac{\Delta S}{360} \times ACP \times V$$

Credit Period

	Longer	Shorter
• Sales	Higher	Lower
• Investment in receivables	Larger	Smaller
• Bad debts	Higher	Lower

Impact on Residual Income

+ $\Delta RI = [\Delta S(1 - V) - \Delta S b_n](1 - t) - k \Delta I$

$$\Delta I = (ACP_n - ACP_0)\left[\frac{S_0}{360}\right] + V(ACP_n)\left[\frac{\Delta S}{360}\right]$$

ΔI = increase in receivables investment

ACP_n = new average collection period (after lengthening the credit period)

ACP_0 = old average collection period

V = ratio of variable cost to sales

ΔS = increase in sales

Cash Discount

- Induce customers to make a prompt payment
- Percentage discount and the period during which it is available is reflected in the credit terms – 1/15, net 30
- Relaxing cash discount policy means that either the discount percentage is increased and/or the discount period is lengthened
- It results in increase in sales, decrease in the average collection period and increase the cost of discount

Impact on Residual Income

- $\Delta RI = [\Delta S(1 - V) - \Delta DIS](1 - t) + k \Delta I$

$$\Delta DIS = p_n (S_0 + \Delta S) d_n - P_0 S_0 d_0$$

$$\Delta I = \frac{S_0}{360} (ACP_0 - ACP_N) - V \frac{\Delta S}{360} ACP_N$$

Collection Effort

- Timely collection of receivables
- Strict collection programme tends to decrease sales, average collection period and bad debt percentage and increase the collection expense
- Liberal collection programme tends to increase sales, average collection period and bad debts percentage and decrease collection expense

Impact on Residual Income

$$\Delta RI = [\Delta S(1 - V) - \Delta BD](1 - t) - k\,\Delta I$$

$$\Delta BD = b_n(S_0 + \Delta S) - b_0 S_0$$

$$\Delta I = \frac{S_0}{360}(ACP_N - ACP_0) + \frac{\Delta S}{360} ACP_N V$$

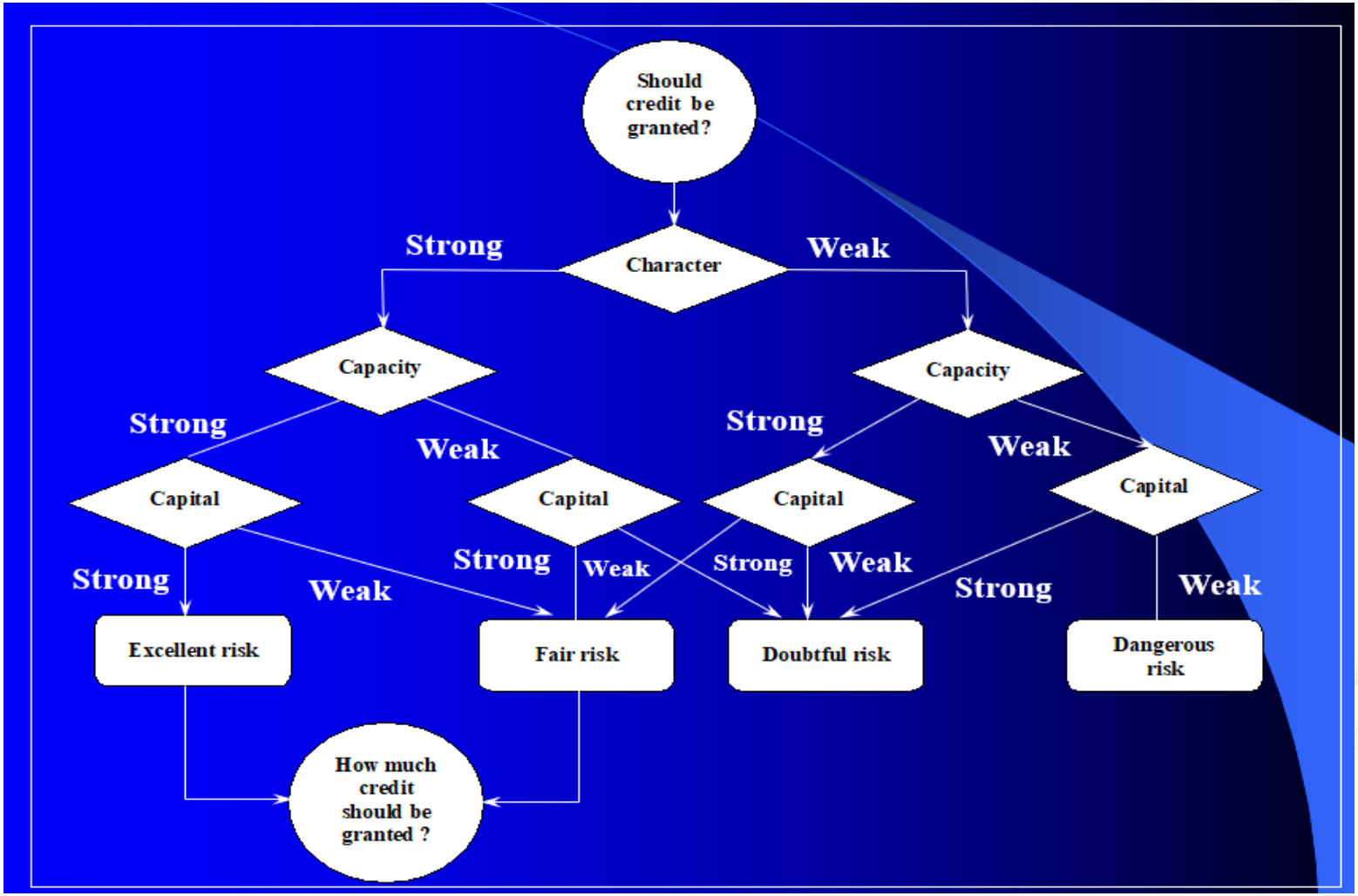
Credit Evaluation

- Traditional credit analysis
- Numeric credit scoring
- Discriminant analysis

5 C's of Credit (Traditional Credit Analysis)

- Character - The willingness of the customer to honour his obligations
- Capacity - The operating cash flows of the customer
- Capital - The financial reserves of the customer
- Collateral - The security offered by the customer
- Conditions - The general economic conditions that affect the customer

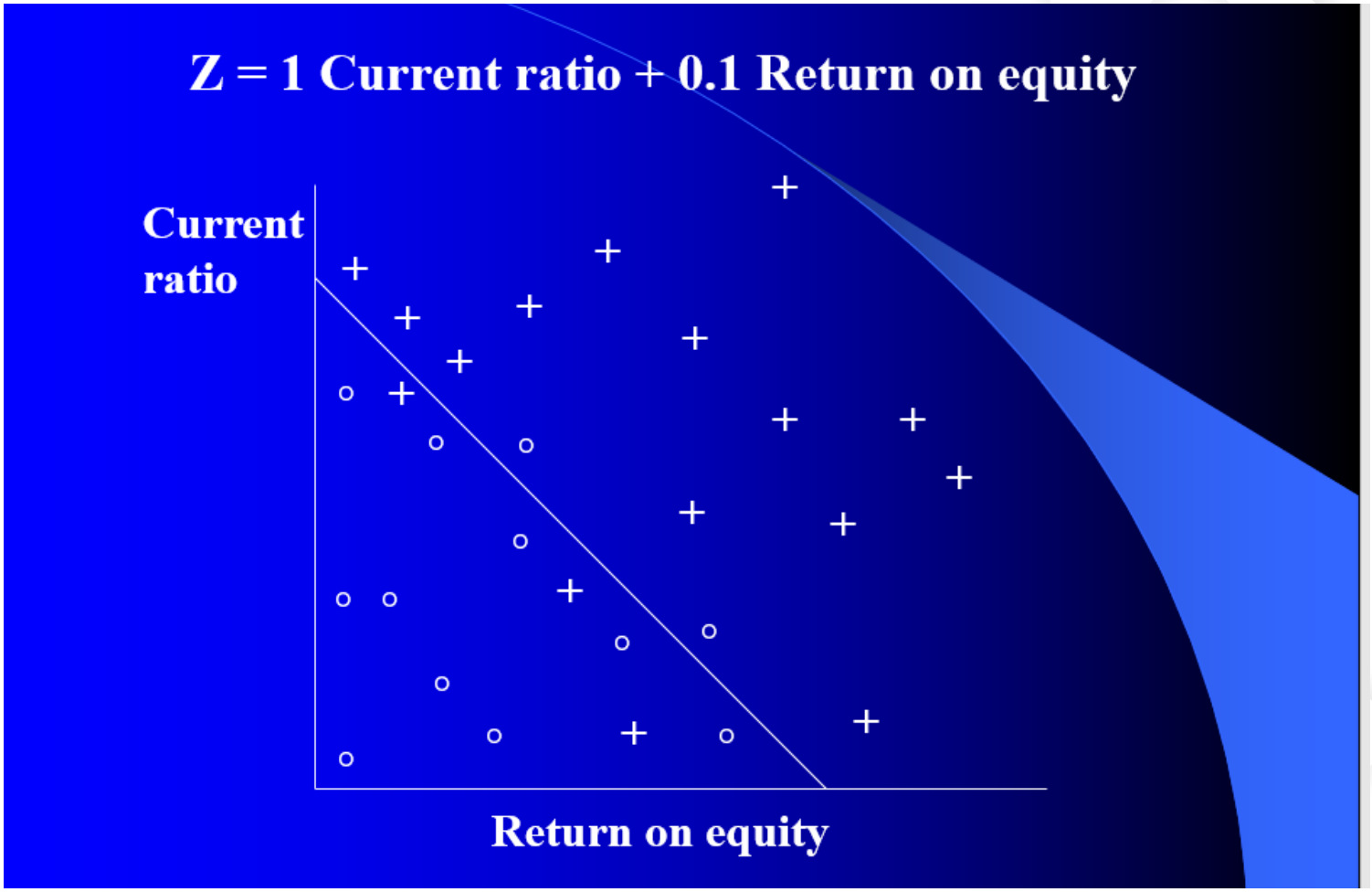
Sequential Credit Analysis



Numerical Credit Scoring/Credit Rating Index

Factor	*Factor weight*	*Rating* 5	4	3	2	1	*Factor score*
Past payment	0.30		✓				1.20
Net profit margin	0.20		✓				0.80
Current ratio	0.20			✓			0.60
Debt-equity ratio	0.10		✓				0.40
Return on equity	0.20	✓					1.00
				Rating index			4.00

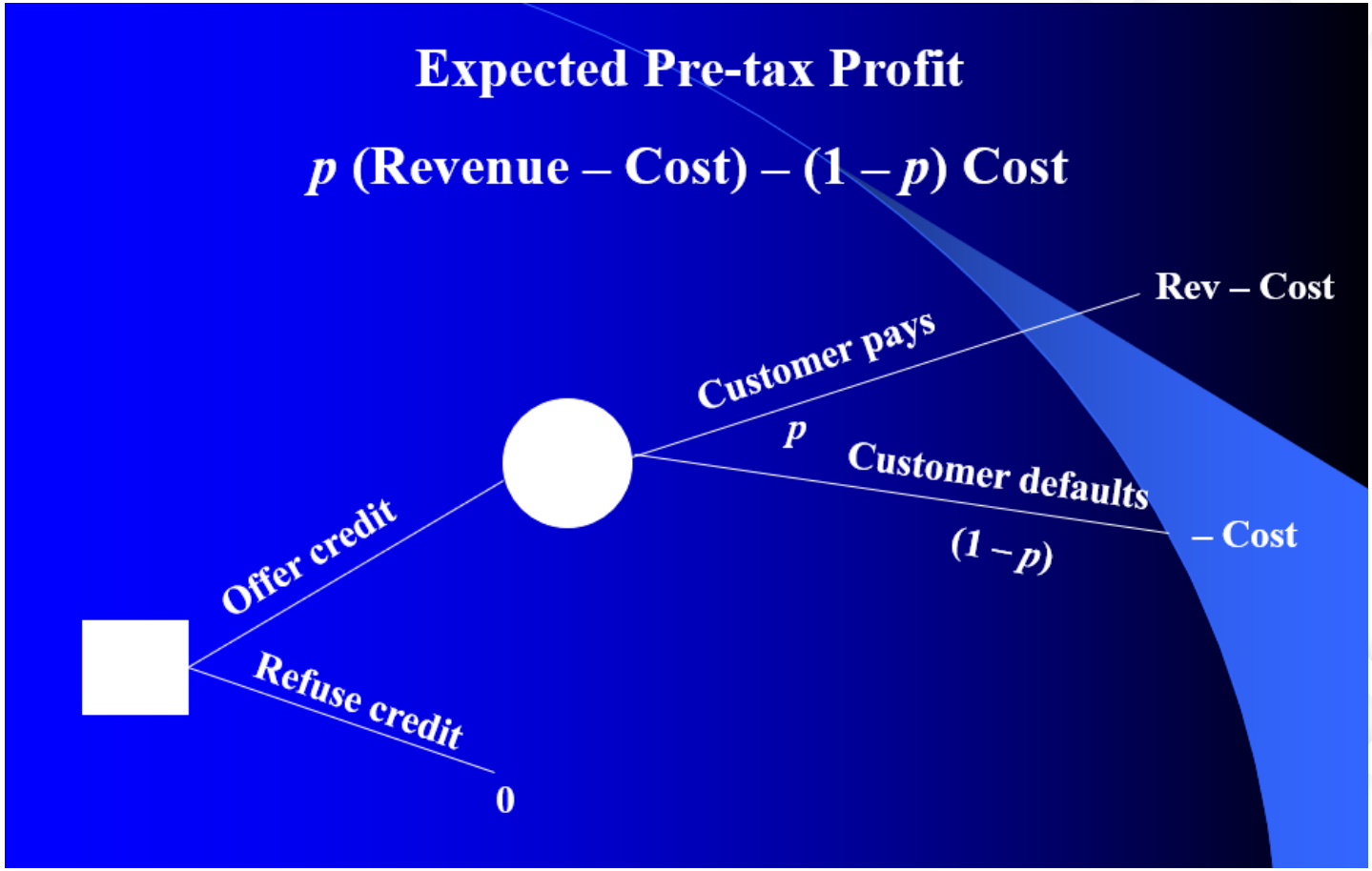
Discriminant Analysis



Risk Classification Scheme

Risk Class	*Description*
1	Customers with *no risk* of default
2	Customers with *negligible risk* of default (default rate less than 2 percent)
3	Customers with *little risk* of default (default rate between 2 percent and 5 percent)
4	Customers with *some risk* of default (default rate between 5 percent and 10 percent)
5	Customers with *significant risk* of default (default rate in excess of 10 percent)

Credit Granting Decision



Example

- ABC Company is considering offering credit to a customer. The probability that the customer would pay is 0.8 and the probability that the customer would default is 0.2. The revenues from the sale would be Rs.1,200 and the cost of sale would be Rs.800.

- The expected profit from offering credit, given the above information, is:

0.8 (1,200 – 800) – 0.2 (800) = Rs.160

Repeat Order

Expected profit on initial order + Probability of payment and repeat order x Expected profit on repeat order

$[\ p_1(\mathrm{REV}_1 - \mathrm{COST}_1) - (1-p_1)\ \mathrm{COST}_1]$

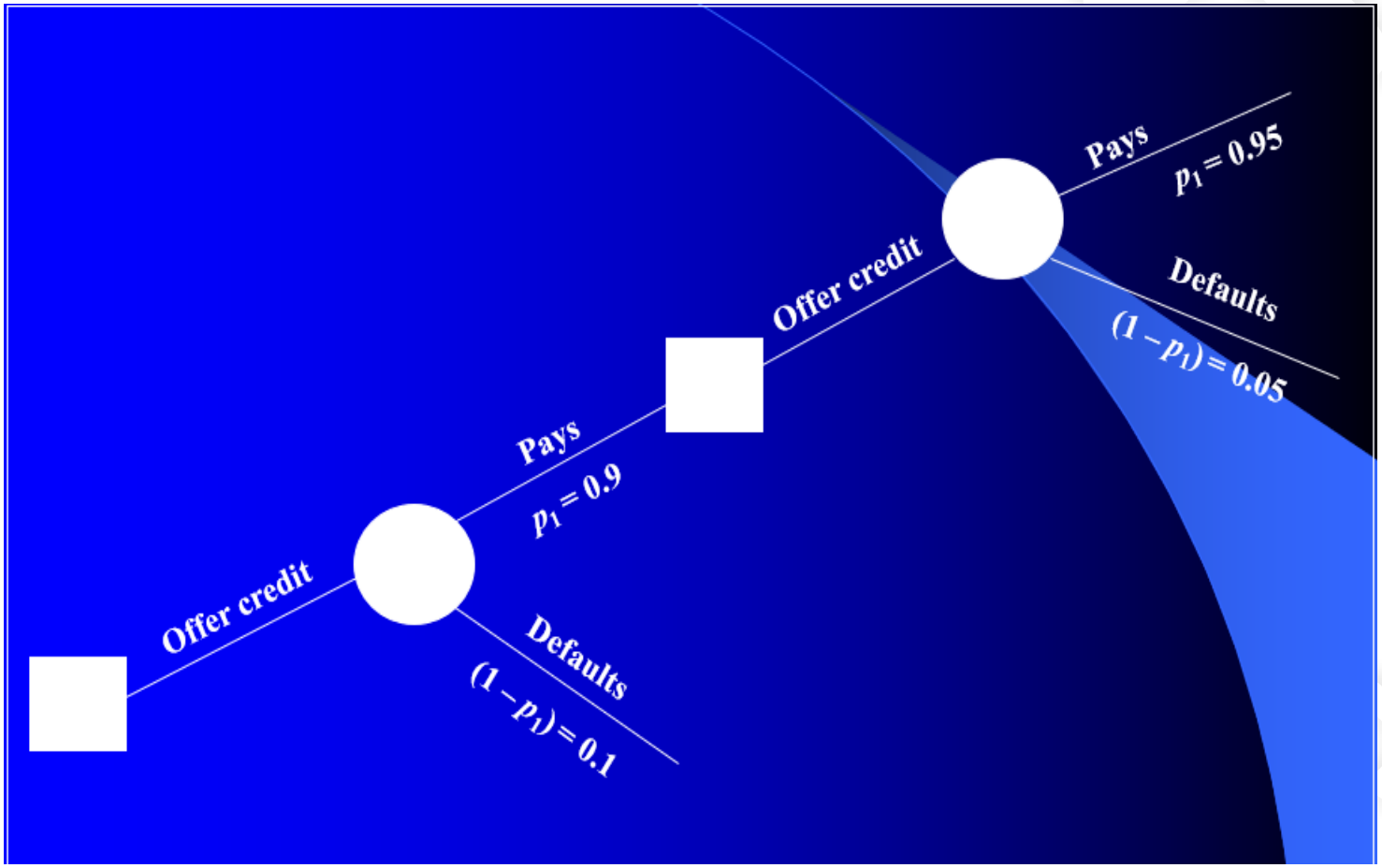
$+\ p_1\ \mathrm{x}\ [\ p_2\ (\mathrm{REV}_2 - \mathrm{COST}_2) - (1-p_2)\ \mathrm{COST}_2]$

$[0.9\ (2000-1500) - 0.1(1500)]$

$+\ 0.9\ [0.95\ (2000-1500) - 0.05\ (1500)]$

$= 660$

Decision Tree



Collection Matrix

Control of Account Receivables

Percentage of Receivables Collected During the	*January Sales*	*February Sales*	*March Sales*	*April Sales*	*May Sales*	*June Sales*
Month of sales	13	14	15	12	10	9
First following month	42	35	40	40	36	35
Second following month	33	40	21	24	26	26
Third following month	12	11	24	19	24	25
Fourth following month	-	-	-	5	4	5