

CHAPTER 4

TRANSFER PRICING

Illustration 1

BC Company fixes the inter-divisional transfer prices for its products on the basis of cost, plus a return on investment in the division. The Budget for Division for Alpha for the year 2021-22 appears as under:

	₹
Fixed Assets	5,00,000
Current assets	3,00,000
Debtors	2,00,000
Annual Fixed Cost of the Division	8,00,000
Variable Cost per unit of Product	10

Budgeted Volume 4,00,000 units per year

Desired ROI 28% on ₹10,00,000

Determine the transfer Price for Alpha

[Answer: ₹ 12.70]

Illustration 2

Aurthor company is a multidivisional company and its managers have been delegated full profit responsibility and autonomy to accept or reject transfers from other divisions.

Division X produces a sub-assembly with a ready competitive market. This sub-assembly is currently used by Division Y for a final product that is sold outside at ₹ 1,200. Division X Charges Division Y market price for the sub-assembly which is ₹ 700 per unit. Variable costs are ₹ 520 and ₹ 600 for Divisions A and B respectively.

The manager of Division Y feels that Division X should transfer the subassembly, at a lower price than market because at this price, Division Y is unable to make a profit.

Required:

1. Compute Division Y's profit contribution if transfers are made at the market price and also the total contribution to profit for the company.
2. Assume that Division A can sell all its production in the open market. Should Division X transfer goods to Division Y? If so, at what price.
3. Assume that Division X can sell in the open market only 500 units at ₹ 700 per unit out of 1,000 units that it can produce every month and that a 20 per cent reduction in price is necessary to sell at full capacity. Should transfers be made? If so, how many units should it transfer and at what price? Submit a schedule showing comparisons of contribution margins under three different alternatives to support your decision.

**[Answer: (i) loss ₹ 100, Margin ₹ 80; (ii) ₹ 180;
(iii) ₹ 80,000; ₹ 1,30,000; ₹ 40,000]**

Illustration 3

The WEBEL Ltd. manufactures and sells television sets. The Assembly Division assembles the television sets. It buys the Picture tubes for the television sets from the Picture tubes Division. The Picture tubes division is operating at capacity. The incremental cost of manufacturing the Picture tube is ₹ 700 per unit. The Picture tubes Division can sell as many Picture tubes as it wants in the outside market at a price of ₹ 1,100 per picture tube. If it sells Picture tube in the outside market, the Picture tubes Division will incur variable marketing and distribution costs of ₹ 40 per unit. Similarly, if the Assembly Division purchases Picture tube from outside suppliers, it will incur variable purchasing costs of ₹ 20 per screen.

Required:

- i. Using the general guideline on transfer pricing policy what is the minimum transfer price at which the Picture tubes Division will sell Picture tube to the Assembly Division?
- ii. Suppose division managers act autonomously to maximize their own division's operating income, either by transacting internally or buying and selling in the market. If the two division managers were to negotiate a transfer price, what is the range of acceptable transfer prices?

[Answer: ₹ 1,060; Range ₹ 1,060 and ₹ 1,120]

Illustration 4

Division A is a profit centre, which produces four products P, Q, R and S. Each product is sold in the external market also. Data for the period is as follows:

	P	Q	R	S
Market Price per unit (₹)	350	345	280	230
Variable Cost of Production per unit (₹)	330	310	180	185
Labour hours required per unit	3	4	2	3

Product S can be transferred to Division B but the maximum quantity that might be required for transfer is 2,000 units of S.

The maximum sales in the external market are:

P	3,000 units
Q	3,500 units
R	2,800 units
S	1,800 units

Division B can purchase the same product at a slightly cheaper price of ₹ 225 per unit instead of receiving transfers of products S from Division A.

What should be transfer price for each unit for 2,000 units of S, if the total labour hours available in Division A are:

- i. 24,000 hours?
- ii. 32,000 hours?

[Answer: ₹ 211.25; ₹ 205]

Illustration 5

A company has two divisions, X and Y. Division X manufactures a component which is used by Division B to produce a finished product. For the next period, output and costs have been budgeted as follows:

Particulars	Division X	Division Y
Component units	50,000	-
Finished units	-	50,000
Total variable costs	₹ 2,50,000	₹ 6,00,000
Fixed Costs	₹ 1,50,000	₹ 2,00,000

The fixed costs are separable for each division. You are required to advise on the transfer price to be fixed for Division X's component under the following circumstances:

- (i) Division X can sell the component in a competitive market for ₹ 10 per unit. Division B can also purchase the component from the open market at that price.
- (ii) As per the situation mentioned in (i) above, and further assume that Division Y currently buys the component from an external supplier at the market price of ₹ 10 and there is reciprocal agreement between the external supplier and another Division Z, within the same group. Under this agreement, the external supplier agrees to buy one product unit from Division Z at a profit of ₹ 4 per unit to that division, for every component which Division Y buys from the supplier.

[Answer: ₹ 10; ₹ 14]

Illustration 6

XYZ Ltd which has a system of assessment of Divisional Performance on the basis of residual income has two Divisions, X and Y. X has annual capacity to manufacture 15,00,000 numbers of a special component that it sells to outside customers, but has idle capacity. The budgeted residual income of Y is ₹ 1,20,00,000 while that of X is ₹ 1,00,00,000. Other relevant details extracted from the budget of X for the current year were as follows:

Sale (outside customers) 12,00,000 units @	₹ 180 per unit
Variable cost per unit	₹ 160
Divisional fixed cost	₹ 80,00,000
Capital employed	₹ 7,50,00,000
Cost of Capital	12%

Y has just received a special order for which it requires components similar to the ones made by X. Fully aware of the idle capacity of X, Y has asked X to quote for manufacture and supply of 3,00,000 numbers of the components with a slight modification during final processing. X and Y agree that this will involve an extra variable cost of ₹ 5 per unit.

You are required to calculate:

The transfer price which X should quote to Y to achieve its budgeted residual income.

[Answer: ₹ 175]

Illustration 7

A company has two profit centres, X and Y. X sells half of its output on the open market and transfers the other half to Y. Costs and external revenues in an accounting period are as follows.

	X ₹	Y ₹	Total ₹
External sales	8,000	24,000	32,000
Costs of production	12,000	10,000	22,000
Company profit			10,000

Required

What are the consequences of setting a transfer price at market value?

Illustration 8

Mineral Ltd. has two profit centres, A and B. A transfers all its output to B. The variable cost of output from A is ₹5 a unit, and fixed costs are ₹1,200 a month. Additional processing costs in B are ₹4 a unit for variable costs, plus fixed costs of ₹800 a month. Budgeted production is 400 units a month, and the output of B sells for ₹15 per unit.

Required

Determine the range of prices for which the transfer price (based on standard full cost plus) should be selected, in order to motivate the managers of both profit centres to both increase output and reduce costs.

[Answer: ₹ 5.01 and ₹ 10.99]

Illustration 9

The Domino Company has two decentralized divisions, A and B. Division A has always purchased certain units from Division B at ₹75 per unit, because Division B plans to raise the price to ₹100 per unit, Division A desires to purchase these units from outside suppliers for ₹75 per unit. Division B's costs follow:

Division B's variable costs per unit	₹ 70
Division B's annual fixed costs	₹ 15,000
Division A's purchase	1,000 units

If Division A buys from an outside supplier, the facilities Division B uses to manufacture these units will remain idle. Would it be more profitable for the company to enforce the ₹100 transfer price than to allow Division A to buy from outside suppliers at ₹75 per unit?

[Answer: Profitable to enforce Transfer Price ₹ 100]

Illustration 10

The A division of G Corporation, operating at capacity, has been asked by the D division of G to supply it with electrical fitting no. 26. A sells this part to its regular customers for ₹7.50 each. D which is operating at 50 percent capacity is willing to pay ₹5 each for the fitting. D will put the fitting into a brake unit that it is manufacturing on essentially a cost-plus basis for a commercial airplane manufacturer.

A has a variable cost of producing fitting no. 26 of ₹ 4.25. The cost of the brake unit as being built by D follows:

Purchased parts (outside vendors)	₹ 22.50
A's fitting no. 26	₹ 5.00
Other variable costs	₹ 14.00
Fixed overhead and administration	₹ 8.00
	₹ 49.50

D believes the price concession is necessary to get the job.

The company uses return on investment and profits in the measurement of division and division manager's performance.

1. Assume that you are the division controller of A. Would you recommend that A supply fitting no. 26 to D? Why or why not? (Ignore any tax issues.)
2. Would it be to the short-run economic advantage of the G Corporation for the A division to supply the D division with fitting no. 26 at ₹ 5 each? (Ignore any tax issues.)
3. Discuss the organizational and manager-behavior difficulties, if any, inherent in this situation.

As the G's controller, what would you advise the G Corporation president do in this situation?

Illustration 11

Mother Co. Ltd has two business units, viz. X unit engaged into telemarketing, and Y unit focusing on business analytics. Recently the CEO was reviewing the half yearly financial data which had the following key indices:

Turnover of X unit at 90% capacity utilization ₹ 250 Lakhs. Turnover of Y unit at 60% capacity utilization ₹ 550 Lakhs. Profit Margin of X and Y units respectively 18 % and 15 % respectively Present number of shared employees from the X unit to the Y unit on requirement basis 10 employees. Number of hours required on cross training of one employee and the rate per hour Approx. 10 hours at ₹3,000 per hour.

The CEO's next half year overall target for the company is ₹1,200 Lakhs with a profit margin of 18% for the company as a whole. However, the X unit head has told categorically to the CEO that he cannot spare any additional employee as the X is working at optimum capacity. The Y unit head, on the other hand, finds it cost effective to cross train employees of the X for specific tasks instead of hiring directly from the market.

Required

- (i) Analyze the strategic problem that Mother Co Ltd is facing.
- (ii) List few suggestions in brief.

Illustration 12

Simens Ltd. has two Divisions A and B with profit centre concept. The Division A produces Component 'Alpha' which it sells to 'outside' customers only. The Division B produces a product called the Beta which incorporates Component 'Alpha' in its design.

B Division is currently purchasing required units of Component 'Alpha' per year from an outside supplier at market price.

New Director of Cost has analyzed that A Division has enough capacity to meet entire requirements of Division B and accordingly he requires internal transfer between the divisions at marginal cost from the overall company's perspective.

Manager of Division A claims that transfer at marginal cost are unsuitable for performance evaluation since they don't provide an incentive to the division to transfer goods internally. He has given preference on a transfer price based on Cost-plus-mark up.

New Cost Director having opinion that transfer price suggested by the manager of Division A will not induce managers of both the Divisions to arrive at optimum plan.

Illustration 13

AB Ltd has two Operating Divisions – A and B. A manufactures the Unit (marginal cost ₹ 5, market selling price ₹ 10), while B manufactures the Product (each requiring 1 Unit, a marginal cost of ₹ 3 and a market selling price of ₹ 12). In the absence of any considerations, other than those stated, is the manufacture of the Product to the advantage of AB Ltd and will a transfer pricing system, based on market price, induce the manager of B to manufacture the Product?

Illustration 14

The following information relates to budgeted operations of Division P of a manufacturing company.

Particulars	Amount (₹)
Sales – 50,000 units @ ₹ 8	4,00,000
Less: Variable Costs @ ₹ 6 per unit	3,00,000
Contribution margin	1,00,000
Less: Fixed Costs	75,000
Divisional Profits	25,000

The amount of divisional investment is ₹ 1,50,000 and the minimum desired rate of return on the investment is the cost of capital of 20%.

Calculate

- (i) Divisional expected ROI and
- (ii) Divisional expected RI

[Answer: 16.66%; Loss ₹ 5,000]

Illustration 15

Transferor Ltd. has two processes – Preparing and Finishing. The normal output per week is 7,500 units (completed) at a capacity of 75%.

Transferee Ltd. had production problems in preparing and require 2,000 units per week of prepared material for their finishing process.

The existing cost structure of one prepared unit of Transferor Ltd. at the existing capacity is as follows.

Material:	₹ 2.00 (variable 100%)
Labour:	₹ 2.00 (variable 50%)
Overheads:	₹ 4.00 (variable 25%)

The sale price of a completed unit of Transferor Ltd. is ₹ 16 with a profit of ₹ 4 per unit. Contrast the effect on the profits of Transferor Ltd. for 6 months (25 weeks) of supplying units to Transferor Ltd. with the following alternative transfer prices per unit.

- i. Marginal Cost
- ii. Marginal Cost + 25%
- iii. Marginal cost + 15% return on capital employed. (Assume capital employed ₹ 20 lakhs)
- iv. Existing Cost
- v. Existing Cost + a portion of profit on the basis of preparing cost / total cost × unit profit
- vi. At an agreed market price of ₹ 8.50.

Assume no increase in the fixed costs.

[Answer: Change in Profit (₹ lakhs) Nil; 0.5; 1.5; 2; 3.33; 2.25]

Illustration 16

Division A is a profit centre that produces three products X, Y and Z and each product has an external market.

The relevant data is as:

	X	Y	Z
External market price per unit (₹)	48	46	40
Variable cost of production (division A) (₹)	33	24	28
Labour hours per unit (division A)	3	4	2
Maximum external sales units	800	500	300

Up to 300 units of Y can be transferred to an internal division B.

Division B has also the option of purchasing externally at a price of ₹ 45 per unit.

Determine the transfer price for Y the total labour hours available in division A is:

- i. 3800 hours
- ii. 5600 hours

Evolve, Enrich & Empower

[Answer: ₹ 44 pu; ₹ 34 pu]

Illustration 17

Rana manufactures a product by a series of mixing of ingredients. The product is packed in company's made bottles and put into an attractive carton. One division of company manufactures the bottles while another division prepares the mix that does the packing.

The user division obtained the bottle from the bottle manufacturing division. The bottle manufacturing division has obtained the following quotations from an external source for supply of empty bottles

Volume no of bottles	For 8,00,000 bottles	For 12,00,000 bottles
Total price offer (₹)	14,00,000	20,00,000

The estimated cost is:

Volume no of bottles	For 8,00,000 bottles	For 12,00,000 bottles
Total Cost (₹)	10,40,000	14,40,000

The sales value and the end cost in the mixing/packing division are:

Volume no of bottles	For 8,00,000 bottles	For 12,00,000 bottles
Total sales value (₹)	91,20,000	1,27,80,000
Total Cost ** (₹)	10,40,000	96,80,000

** Excluding cost of bottles

There is a considerable discussion as to the proper transfer price from the bottle division to the marketing division.

The divisional managers salary is an incentive bonus based on profits of the centres.

You are required to show for the given two levels of activity the profitability of the two divisions and the total organisation based on appropriate transfer price determined on the basis of:

- i. Shared profit related to the cost
- ii. Market price

[Answer: ₹ 12,61,277; ₹ 16,54,964]

Illustration 18

PH Ltd. manufactures and sells two products, namely BXE and DXE. The company's investment in fixed assets is ₹ 2 lakh. The working capital investment is equivalent to three months' cost of sales of both the products. The fixed capital has been financed by term loan lending institutions at an interest of 11% p.a.

Half of the working capital is financed through bank borrowing carrying interest at the rate of 19.4%, the other half of the working capital being generated through internal resources.

The operating data anticipated for 2015-16 is as under:

	Product BXE	Product DXE
Production per annum (in units)	5,000	10,000
Direct Material/unit:		
Material A (Price ₹ 4 per kg)	1 Kg	0.75 Kg
Material B (Price ₹ 2 per kg)	1 Kg	1 Kg
Direct labour hours	5	3

Direct wage rate ₹ 2 per hour. Factory overheads are recovered at 50% of direct wages. Administrative overheads are recovered at 40% of factory cost. Selling and distribution expenses are ₹ 2 and ₹ 3 per unit respectively of BXE and DXE. The company expects to earn an after tax profit of 12% on capital employed. The income tax rate is 50%.

Required:

- i. Prepare a cost sheet showing the element wise cost, total cost profit and selling price per unit of both the products.
- ii. Prepare a statement showing the net profit of the company after taxes for the 2015-16.

[Answer: Total Sales ₹ 4,85,268; Cost of Sales ₹ 3,83,000; PAT 35,490]

MULTIPLE CHOICE QUESTIONS

- Which one of the following is not considered as a method of Transfer Pricing?
 - Negotiated Transfer Pricing
 - Market Price Based Transfer Pricing
 - Fixed Cost Based Transfer Pricing
 - Opportunity Cost Based Transfer Pricing
- Method of pricing, when two separate pricing methods are used to price transfer of products from one subunit to another, is called:
 - Dual pricing
 - Functional pricing
 - Congruent pricing
 - Optimal pricing
- The Eastern division sells goods internally to the Western division of the same company. The quoted external price in industry publications from a supplier near Eastern is ₹ 200 per ton plus transportation. It costs ₹ 20 per ton to transport the goods to Western. Eastern's actual market cost per ton to buy the direct materials to make the transferred product is ₹ 100. Actual per ton direct labour is ₹ 50. Other actual costs of storage and handling are ₹ 40. The company president selects a ₹ 220 transfer price. This is an example of:
 - Negotiated transfer pricing.
 - Cost plus 20% transfer pricing
 - Cost-based transfer pricing.
 - Market-based transfer pricing.
- Division P transfers its output to Division Q at variable cost. Once a year P charges a fixed fee to Q, representing an allowance for P's fixed costs. This type of transfer pricing system is commonly known as:
 - Dual pricing
 - Negotiated transfer pricing
 - Opportunity cost based transfer pricing
 - Two-part tariff transfer pricing
- In which of the following circumstances is there a strong argument that profit centre accounting is a waste of time?
 - When the transferred item is also sold on an external market
 - When the supplying division is based in a different country to head office
 - If the transferred item is a major product of the supplying division
 - If there is no similar product sold on an external market and the transferred item is a major product of the supplying division
- Popular method of transfer pricing is the _____.
 - Opportunity cost pricing
 - Negotiated pricing
 - Market based pricing
 - Cost based pricing

7. Division under transfer pricing system is treated as
- Profit centre
 - System centre
 - Investment centre
 - Cost centre
8. Which of the following is/are not method of transfer pricing?
- Total cost method
 - Marginal cost method
 - Market price method
 - Skimming price method
9. M Group has two divisions, Division P and Division Q. Division P manufactures an item that is transferred to Division Q. The item has no external market and 6,000 units produced are transferred internally each year. The costs of each division are as follows?

	Division P	Division Q
Variable Cost	₹ 100 per unit	120 per unit
Fixed cost each year	₹ 1,20,000	90,000

Head Office management decided that a transfer price should be set that provides a profit of ₹ 30,000 to Division P. What should be the transfer price per unit?

- ₹ 145
 - ₹ 125
 - ₹ 120
 - ₹ 135
10. Minimax Ltd. fixes inter - divisional transfer prices for its products on the basis of cost plus a return on investment in the division. The budget for division X for 2022 – 23 appears as under:

Fixed Assets	₹ 8,00,000
Current Assets	5,00,000
Debtors	2,00,000
Annual fixed cost of the division	8,00,000
Variable cost per unit of the product	10

Budgeted volume 4,00,000 units per year
Desired ROI 28%

Transfer price for division X is

- ₹ 13.05
- ₹ 10.70
- ₹ 8.70
- ₹ 14.70

ANSWER

C	A	D	D	D	C	A	D	B	A
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TRUE OR FALSE

1. Transfer pricing technique is a major issue in the current business world.
2. Transfer pricing plays a very important in international taxation also, as by fixing fair transfer prices one can avoid a lot of tax burden.
3. Transfer prices should not help in the accurate measurement of divisional performance (profitability).
4. Profit centre managers tend to put their own profit performance above everything else.
5. The price of a comparable product or service in the market can be seen as an objective basis for the transfer price between divisions.
6. Globalization and the rapid growth of international trade has made inter-company pricing an everyday necessity for the vast majority of businesses.
7. There are two basic issues relating to transfer prices in case of multinational companies having divisions in different countries.
8. Cross training cannot be helpful in proper utilization of work force.
9. A Profit Centre is a company's department that is responsible for the profits of the company.
10. Divisional Autonomy is the degree of freedom a division manager can exercise in decisions making.

ANSWER

True	True	False	True	True	True	True	False	True	True
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FILL IN THE BLANKS

1. Many firms use negotiated transfer prices even though they do not lead to optimal results for individual products.
2. Transfer Pricing is not considered as a method of Transfer Pricing
3. There are different rates in different countries.
4. In the absence of a for the intermediate product, the theoretically correct transfer price can be established.
5. Whiletransfer pricing is concerned with fairly compensating an internal division for products it has produced and supplied to another division, transfer pricing is usually set according to another purpose, such as lowering a company's worldwide taxes.
6. Theprinciple requires that compensation for any intercompany transaction conform to the level that would have applied had the transaction taken place between unrelated parties, all other factors remaining the same.
7. The may deliberately declare low profits in an operating country to prevent local businesses setting up in competition.
8. are therefore responsible for all operations (production, sales and so on) relating to their product, the functional structure being applied to each division.
9.is a topic that one is need to know from both a theoretical standpoint and numerical standpoint.
10. As managers become more proficient in..... they become more qualified for higher management positions.
11. Market value as a transfer price has certain disadvantages:
 - A. The market price might be, induced by adverse economic conditions, say.
 - B. There might be an external market, so that if the transferring division tried to sell more externally, it would have to reduce its selling price.
 - C. Many products do not have

12. Transfer prices based on full cost are appropriate if top management treats the divisions like.....
13. Many firms base transfer prices on..... since they are easy to understand and convenient to use.
14. When is used to measure divisional performance, the objective is to maximize the total amount of not to maximize the overall figure.
15. A transfer price is one agreed upon between the buying and selling divisions that reflects unusual or mitigating circumstances.
16. If the selling division has, a transfer price based on would be an appropriate transfer price, although it would hurt the performance of the selling division.

ANSWER

Cost plus	Fixed Cost Based	Income Tax	Competitive market
Domestic, International	arm's-length,	MNE	Divisional managers
Transfer pricing	Decision making	Transfer pricing, imperfect, an equivalent market price	cost centers
cost	RI, residual income, profit	negotiated	excess capacity, variable cost

