

# ACCA PM 知识难点分享 - Transfer pricing

谢辉梅

业绩管理 (PM) 资深讲师



# 分享内容

1. 知识点梳理
2. 真题汇总
3. 复习建议
4. 常见问题
5. 授课建议

# 1. 知识点梳理

## Syllabus

- Explain and illustrate the basis for setting a transfer price using variable cost, full cost and the principles behind allowing for intermediate markets.
- Explain how transfer prices can distort the performance assessment of divisions and decisions made.

# 1. 知识点梳理

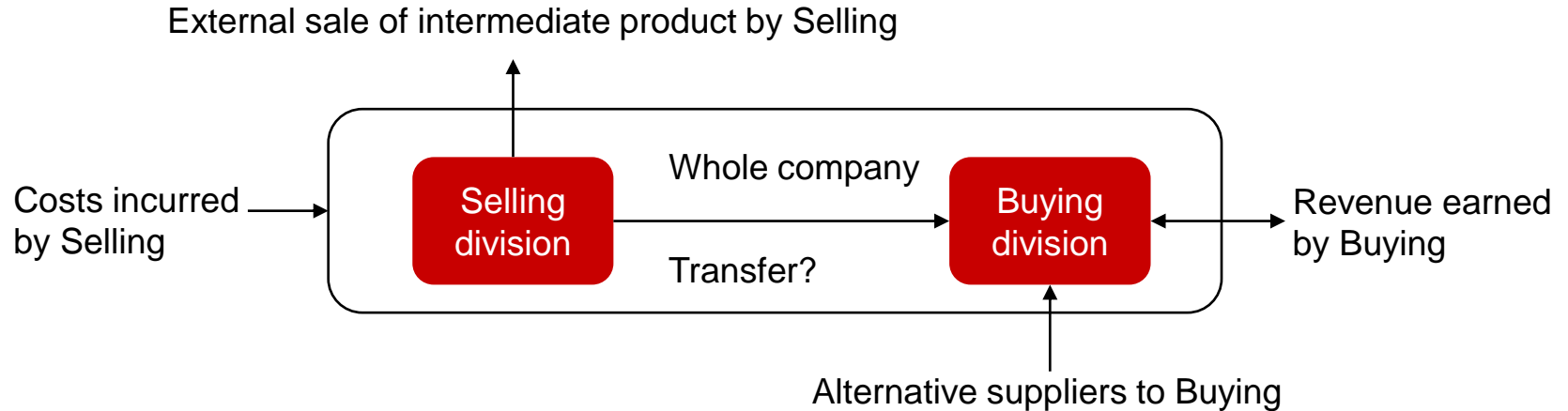
1.1 Definition of transfer price

1.2 Objectives of a transfer system

1.3 General principles about transfer pricing

# 1.1 Definition of transfer price

- A transfer price is the price at which goods or services are transferred from one department to another, or from one member of a group to another.



# 1.2 Objectives of a transfer pricing system

- Goal congruence
- Performance measurement
- Autonomy
- Recording the movement of goods and services

# Lecture example 1

A company has two profit centres, Centre A and Centre B. Centre A supplies Centre B with a part-finished product. Centre B completes the production and sells the finished units in the market at \$35 per unit. There is no external market for Centre A's part-finished product. Transfer price is \$17.6

Budgeted data for the year:

	Division A	Division B
Number of units transferred/sold	10,000	10,000
Material cost per unit	\$8	\$2
Other variable costs per unit	\$2	\$3
Apportioned fixed overheads	\$60,000	\$30,000

# Solution

	Division A (\$)	Division B (\$)	Total(\$)
Sales:			
Internal	10,000 X \$17.60 = 176,000	n/a	
External	n/a	10,000 X \$35 = 350,000	350,000
Costs:			
Transfer costs	n/a	(176,000)	
Variable costs	10,000 X \$10 = (100,000)	10,000 X \$5 = (50,000)	(150,000)
Fixed costs	(60,000)	(30,000)	(90,000)
Profit	16,000	94,000	110,000



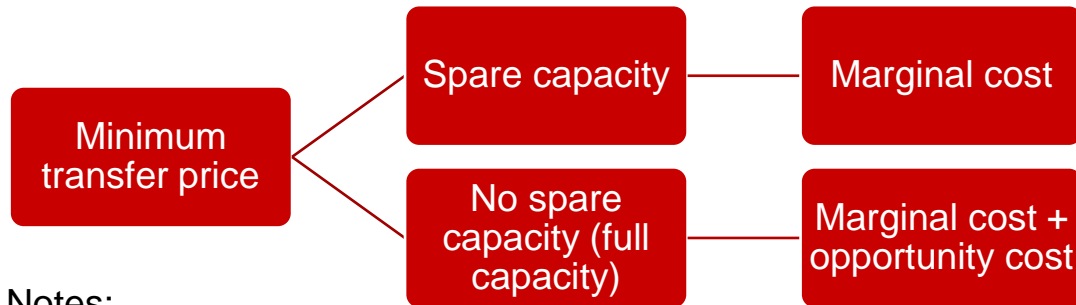
# Lecture example 2

An external supplier could supply these to Division B for \$15 each.

	Division A (\$)	Division B (\$)	Total(\$)
Sales:			
Internal	n/a	n/a	
External	n/a	10,000 X \$35 = 350,000	350,000
Costs:			
Material costs	n/a	10,000 X 15 = (150,000)	(150,000)
Variable costs	n/a	10,000 X \$5 = (50,000)	(50,000)
Fixed costs	(60,000)	(30,000)	(90,000)
Profit	(60,000)	120,000	60,000

# 1.3 General principles about transfer pricing

1. Where there is an external market for the product being transferred
  - Minimum transfer price (From the point of view of the selling division)



Notes:

- ✓ Opportunities cost = Lost contribution from external sales = Market price - VC
- ✓ Cost savings, e.g. packaging and delivery costs

# Lecture example 3 - 2016.12 Q12

Perrin Co has two divisions, A and B.

Division A has limited skilled labor and is operating at full capacity making product Y. It has been asked to supply a different product, X, to division B.

Division B currently sources this product externally for \$700 per unit.

The same grade of materials and labor is used in both products. The cost cards for each product are shown below:

# Lecture example 3 - 2016.12 Q12

Product	Y (\$)/unit	X (\$)/unit
Selling price	600	-
Direct materials (\$50 per kg)	200	150
Direct labor (\$20 per hour)	80	120
Apportioned fixed overheads (\$15 per hour)	60	90

Using an opportunity cost approach to transfer pricing, what is the minimum transfer price?

- A. 270
- B. 750
- C. 590
- D. 840

# Solution

The minimum transfer price is \$750 and product X should be sourced externally to maximise the profit of the company.

The minimum transfer price is the variable cost of product X (\$270) plus the lost contribution from not making product Y (\$480).

The lost contribution is from 1.5 units of product Y (as it takes 4 hours to make product Y and 6 hours to make product X) which is  $((\$600 - (\$200 - \$80)) \times 1.5 = \$480$ .

Minimum transfer price =  $270 + 480 = 750$

# 1.3 General principles about transfer pricing

1. Where there is an external market for the product being transferred
  - Maximum transfer price (From the point of view of the buying division)
    - a) Maximum transfer price = Market price - Cost savings
    - b) Advantages and disadvantages of Market based approach

Advantages	Disadvantages
<ul style="list-style-type: none"><li>❑ The transfer price should be deemed to be fair by the managers of the buying and selling divisions.</li><li>❑ The company's performance will not be impacted negatively.</li></ul>	<ul style="list-style-type: none"><li>❑ There may not be an external market price.</li><li>❑ The external market price may not be stable.</li><li>❑ Savings may be made from transferring the goods internally.</li></ul>

# 1.3 General principles about transfer pricing

2. Where there is no external market for the product being transferred

## Cost based approaches

- a) Variable cost
- b) Full cost
- c) Full cost plus
- d) Variable cost plus

# 1.3 General principles about transfer pricing

## a) Variable cost

### Disadvantages:

- ✓ **Demotivating** – selling division will make a loss as its fixed costs cannot be covered.
- ✓ **Performance measurement** is also distorted
- ✓ There is little incentive for selling division to be efficient. **Inefficiencies** in Division A will be passed up to buying division. Therefore, it at least should be **standard** marginal cost.



# 1.3 General principles about transfer pricing

## b) Full cost/Full cost plus/Variable cost plus

- **Advantages:** slightly more satisfactory for selling division as it means that it can aim to break even.
- **Disadvantages:**
  - ✓ It can lead to dysfunctional decisions
  - ✓ They all result in fixed costs and profits being perceived as marginal costs as goods are transferred to buying division.

# Lecture example 4 - 2010.6 Hammer

Hammer is a large garden equipment supplier with retail stores throughout Tooland. Many of the products it sells are bought in from outside suppliers but some are currently manufactured by Hammer's own manufacturing division 'Nail'.

The prices (a transfer price) that Nail charges to the retail stores are set by head office and have been the subject of some discussion. The current policy is for Nail to calculate the total variable cost of production and delivery and add 30% for profit. Nail argues that all costs should be taken into consideration, offering to reduce the mark-up on costs to 10% in this case. The retail stores are unhappy with the current pricing policy arguing that it results in prices that are often higher than comparable products available on the market.

Nail has provided the following information to enable a price comparison to be made of the two possible pricing policies for one of its products.

# Lecture example 4 - 2010.6 Hammer

## Garden shears

Steel: the shears have 0.4 kg of high quality steel in the final product. The manufacturing process loses 5% of all steel put in. Steel costs \$4,000 per tonne (1 tonne = 1,000 kg)

Other materials: Other materials are bought in and have a list price of \$3 per kg although Hammer secures a 10% volume discount on all purchases. The shears require 0.1 kg of these materials.

The labour time to produce shears is 0.25 hours per unit and labour costs \$10 per hour.

Variable overheads are absorbed at the rate of 150% of labour rates and fixed overheads are 80% of the variable overheads.

Delivery is made by an outsourced distributor that charges Nail \$0.5 per garden shear for delivery.

# Lecture example 4 - 2010.6 Hammer

## Required

- (a) Calculate the price that Nail would charge for the garden shears under the existing policy of variable cost plus 30%. (6 marks)
- (b) Calculate the increase or decrease in price if the pricing policy switched to total cost plus 10%. (4 marks)
- (c) Discuss whether or not including fixed costs in a transfer price is a sensible policy. (4 marks)
- (d) Discuss whether the retail stores should be allowed to buy in from outside suppliers if the prices are cheaper than those charged by Nail. (6 marks)
- (Total = 20 marks)

# Solution

(a) Price under existing policy

	\$
Steel ( $0.4/0.95 \times \$4.00$ )	1.68
Other materials ( $\$3.00 \times 0.9 \times 0.1$ )	0.27
Labour ( $0.25 \times \$10$ )	2.50
Variable overhead ( $0.25 \times \$15$ )	3.75
Delivery	<u>0.5</u>
Total variable cost	8.70
Mark-up 30%	<u>2.61</u>
Transfer price	11.31

# Solution

(b) The only difference would be to add the fixed costs and adjust the mark-up %.

	\$
Existing total variable cost	8.70
Extra fixed cost (0.25 x \$15 x 0.8)	<u>3.00</u>
Total cost	11.70
Mark-up 10%	<u>1.17</u>
Transfer price	12.87

The price difference is therefore  $12.87 - 11.31 = \$1.56$  per unit

# Solution

(c) As far as the manufacturer is concerned, including fixed costs in the transfer price will have the advantage of covering all the costs incurred. In theory this should guarantee a profit for the division (assuming the fixed overhead absorption calculations are accurate). In essence the manufacturer is reducing the risk in his division.

The accounting for fixed costs is notoriously difficult with many approaches possible. Including fixed costs in the transfer price invites manipulation of overhead treatment.

One of the main problems with this strategy is that a fixed cost of the business is being turned into a variable cost in the hands of the seller (in our case the stores). This can lead to poor decision-making for the group since, although fixed costs would normally be ignored in a decision (as unavoidable), they would be relevant to the seller because they are part of their variable buy in price.

# Solution

(d) Degree of autonomy allowed to the stores in buying policy.

If the stores are allowed too much freedom in buying policy Hammer could lose control of its business. Brand could be damaged if each store bought a different supplier's shears (or other products). On the other hand, flexibility is increased and profits could be made for the business by entrepreneurial store managers exploiting locally found bargains. However, the current market price for shears may only be temporary (sale or special offer) and therefore not really representative of their true market 'value'. If this is the case, then any long-term decision to allow retail stores to buy shears from external suppliers (rather than from Nail) would be wrong.

The question of comparability is also important. Products are rarely 'identical' and consequently, price differences are to be expected. The stores could buy a slightly inferior product (claiming it is comparable) in the hope of a better margin. This could seriously damage Hammer's brand.



# Solution

(d) Degree of autonomy allowed to the stores in buying policy.

Motivation is also a factor here, however. Individual managers like a little freedom within which to operate. If they are forced to buy what they see as an inferior product (internally) at high prices it is likely to de-motivate. Also with greater autonomy, the performance of the stores will be easier to assess as the store managers will have control over greater elements of their business.

# Lecture example 5

Conference Co has a divisionalised structure. One of its divisions, Division X, sells all its output to other divisions within the company. Division X's annual budgeted output and costs are as follows:

Units sold	1,050
Direct materials	\$22,500
Direct labour	\$45,350
Overheads (40% variable)	\$37,150

What transfer price per unit will result in a profit margin of 20% for Division X (to the nearest whole \$)?

# Solution

The transfer price is calculated by firstly calculating the total cost:

Direct materials	\$22,500
Direct labour	\$45,350
Overheads	<u>\$37,150</u>
Total cost	\$105,000

The question states that Division A wants to earn a profit margin of 20%, therefore the transfer price per unit is calculated as  $\$105,000 \div 0.8 \div 1,050 = \$125$ .

There were two main errors made in this question. Firstly, a number of candidates excluded the fixed overheads from the calculation of total cost and secondly, many candidates applied mark-up instead of margin.

# Lecture example 6

Which TWO of the following bases for setting a transfer price are most likely to result in goal congruent behaviour by BOTH the selling and receiving divisions?

Options:

- A. Opportunity cost
- B. Market price
- C. Actual cost
- D. Standard full cost plus

## 2. 真题汇总

年份	题号	分值
2014.6	Q3(b)	10
2014.12	Section A Q8	2
2015.6	Section B Q2	10
2016.3/6	Section B Q4	15
2016.12	Q5	2
2018.3/6	Q31	20
2020.3	Example 1	2
2021.3/6 Examiner's report	Example 1	2

# 3. 复习建议

Step1 全面复习所有内容

Step2 Technical articles - Transfer pricing

Step3 真题（计时，2-3遍）

Step4 Examiner 's report

Step5 总结

## 4. 常见问题

- 在遇到诸如“calculating and discussing a suitable transfer price”这样的问题的时候，不知如何分析
- 不理解为什么转移定价不会影响集团利润
- 在算transfer price时，不知什么时候该减cost saving，什么时候不该减
- Spare capacity和full capacity的区别
- 不知道如何计算Opportunity cost
- mark-up 和 margin的区别

# 5. 授课建议

- 授课时长：3-4小时
- 由浅入深，难易结合
- 多练题，尤其要重视真题