

## Principles of Economics I - Classroom Experiment (10): Monopoly, Cartel, and Price Discrimination 經濟學原理一課堂實驗(十)：獨占、聯合壟斷與價格歧視

All students form 30 groups to participate in one markets. Each group draws a card in each round to determine their role: If you draw a KQJ or Joker (6 groups), you are a seller; otherwise you are a buyer (24 groups). Each group can be a seller at most once; please re-draw if you drew twice. 全班分成三十組參與交易實驗，每三十組參加一個市場。每回合中，各組可以買賣一單位的商品。每回合每組同學會先抽一張撲克牌決定買賣角色。拿到 KQJ 或鬼牌(共六張)的是賣家，否則就是買家(共二十四張)。賣家最多只能當一次，下次再拿到 KQJ 或鬼牌請重抽。

**Buyer (買家):** Each buyer can buy one good per round. Your value for consuming the good depends on your card ( $A=1$ )—it is the “number on your card multiplied by 10 and plus 1.” For example, if your card is “9 of Spades”, your value is  $\$(9 \times 10) + \$1 = \$91$ . Please store your card properly so no one can peek. Table 1 is the market demand schedule. 每回合買家可以買進一單位的商品。買到商品所獲得的價值取決於所拿到的撲克牌(A 代表 1)。您的牌面數字乘以十再加上一代表買到商品會獲得的價值(元)。舉例來說，如果拿到的卡片是黑桃九，那您的價值就是九十一元。請收好這張牌使得別人沒辦法看到牌面花色數字。整個市場的需求如下表一。

**Seller (賣家):** In each round, sellers can sell *as many products as they want at a cost of \$19 per unit*. Please record your transactions at the back of this instruction sheet. Each seller should post their prices on the blackboard and wait for buyers to come. In the last round, buyers with *red* cards are *students* (the rest are non-students). The market demand of students and non-students are shown in table 2 and 3, respectively. Seller can offer a special discount for students. Student buyers receive a discount by showing their student ID (*red* card). 每回合賣家可以販賣任何數量的商品，**單位成本均為十九元**。請將所有的交易記錄在背面的公司營運記錄表。交易開始時賣家需在黑板上寫下商品標價，等候買家上門購買。最後一回合中，拿到紅色牌的買家為學生，否則為社會人士。兩者市場的需求如下表二、三。賣家可以訂定兩個價格(原價和學生價)，並根據買家是否出示學生證(紅色牌)來決定是否給予優惠。

表一 Table 1：所有買家對某商品的市場需求 Distribution of Buyer Values--Entire Market

價格 Price	101	91	81	71	61	51	41	31	21	11
需求量 Quantity demanded	1	3	5	7	11	15	19	21	23	24

表二 Table 2：學生對某商品的市場需求 Distribution of Buyer Values--Students

價格 Price	101	91	81	71	61	51	41	31	21	11
需求量 Quantity demanded	0	0	0	0	2	4	7	9	11	12

表三 Table 3：社會人士對某商品的市場需求 Distribution of Buyer Values--Non Students

價格 Price	101	91	81	71	61	51	41	31	21	11
需求量 Quantity demanded	1	3	5	7	9	11	12	12	12	12

**Monopoly (獨門生意):** Suppose you are the only seller facing the market demand of table 1. Write down your selling price, expected quantity of sales (buyers will buy if they gain at least \$1) and your profit in the record sheet as a practice. 假設自己是唯一的賣家，面對表一描述的市場需求。請在記錄表上填寫的標價，預期的銷售數量(假設買家只要 1 元的利潤就會購買)與利潤。此利潤不列入計算。

**Enforceable Cartel (強制性聯合壟斷):** Sellers first jointly determine **quantity limits** for each seller (which are *strictly* enforced). 賣家可以先一起討論訂定每組的銷售數量上限，由實驗者嚴格執行。

**Non-enforceable Cartel (自願性聯合壟斷):** Sellers first jointly determine **quantity limits** for each seller (which are *not* enforced). 賣家可以先一起討論訂定每組的銷售數量上限，但沒有約束力。

**Price Discrimination (價格歧視):** Student buyers can receive a special discount. Sellers first jointly determine student/non-student **quantity limits** for each seller (*strictly* enforced). 拿到紅色牌的買家可享學生價。賣家可以先一起討論訂定每組對學生與社會人士的銷售數量上限，由實驗者嚴格執行。

**Price Change (價格變更):** All price agreements are not enforceable, but when quantity limits are enforced, sellers cannot change their posted prices. When quantity limits are not enforceable, sellers can change their prices at will. They can even offer special prices or secret discounts to specific buyers. 所有價格上的約定均不得強制執行，但在數量上限強制執行時，標價不得更改；在數量上限沒有約束力時，標價可以隨時更改，亦可針對特定買家給予特別優惠或秘密折扣。

**Profit Calculation:** After each round, please record your value (or cost), transaction price, and profit for this round. Your grade for this experiment is total profit divided by 20. 利潤記錄與結算：每回合結束後，請在記錄表上填寫價值(或成本)、交易價格(如果有成交)，並計算該回合的利潤。四回合的總利潤除以 20 則是您所獲得的分數。您的分數越高，成績越高。

Record Sheet for “Monopoly, Cartel, and Price Discrimination” (獨占市場實驗紀錄表)

Name \_\_\_\_\_ Major/Year \_\_\_\_\_ Student ID# \_\_\_\_\_  
 姓名：\_\_\_\_\_ 系級：\_\_\_\_\_ 學號：\_\_\_\_\_

姓名：\_\_\_\_\_ 系級：\_\_\_\_\_ 學號：\_\_\_\_\_

姓名：\_\_\_\_\_ 系級：\_\_\_\_\_ 學號：\_\_\_\_\_

回合#	Trading Rule (交易規則)	Value (價值)	Price (交易價格)	Profit (利潤)	Memo (備註)
Practice (練習)	Monopoly (獨門生意)	Price (價格): ( )	Quantity (數量): ( )		Excluded (不計入總利潤)
1	Enforceable Cartel (強制性聯合壟斷)				
2	Non-enforcement Cartel (自願性聯合壟斷)				
3	Non-enforcement Cartel (自願性聯合壟斷)				
4	Price Discrimination (價格歧視)				Student (Y / N) 學生(是 / 否)

Firms Record Sheet (公司營運記錄表): Round (第)\_\_\_\_(回合)

My quantity limits are (我的約定數量上限，學生為)\_\_\_\_\_ for students and (社會人士為)\_\_\_\_\_ for non-students. (Mark student buyers in Memo. Write “0” for student quantity limits when price discrimination is not allowed. 請在備註欄打勾標記學生。尚未允許價格歧視時學生數量上限請寫零。)

Buyer ID# 買方學號	Buyer Value 買方價值	Price 交易價格	Memo 備註	Buyer ID# 買方學號	Buyer Value 買方價值	Price 交易價格	Memo 備註
Sub-total (本列收入小計):				Sub-total (本列收入小計):			

Total Revenue (總收益):

Total Cost (總支出)

\$19 \* \_\_\_\_\_ (Quantity Sold 數量) = \_\_\_\_\_

Quantity Sold (賣出數量):

Profit 利潤