# Principles of Economics I: Microeconomics - Midterm A [11/13/09]

Part I: Multiple Choice (15 questions, 15%)

1. Prices usually reflect
    (A) only the value of a good to society.
    (B) only the cost to society of making a good.
    (C) both the value of a good to society and the cost to society of making the good.
    (D) neither the value of a good to society nor the cost to society of making the good.

2. It is possible for an economy to increase its production of both goods if the economy
    (A) moves downward and to the right along its production possibilities frontier and the frontier is bowed outward.
    (B) moves upward and to the left along its production possibilities frontier and the frontier is bowed outward.
    (C) moves in either direction along its production possibilities frontier and the frontier is a straight line.
    (D) moves from a situation of inefficient production to a situation of efficient production.

3. The production possibilities frontier illustrates
    (A) the combinations of output that an economy should produce.
    (B) the combinations of output that an economy should consume.
    (C) the combinations of output that an economy can produce.
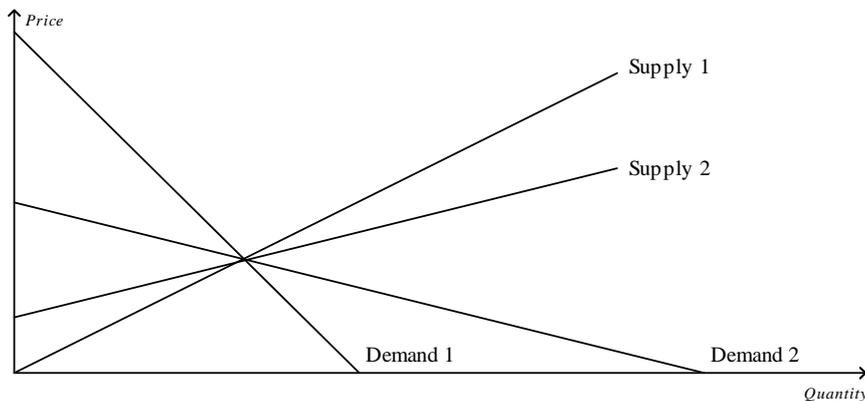    (D) All of the above are correct.

4. Mike and Sandy are two woodworkers who both make tables and chairs. In one month, Mike can make 4 tables or 20 chairs, where Sandy can make 6 tables or 18 chairs. Given this, we know that the opportunity cost of 1 table is
    (A) 1/5 chair for Mike and 1/3 chair for Sandy.
    (B) 1/5 chair for Mike and 3 chairs for Sandy.
    (C) 5 chairs for Mike and 1/3 chair for Sandy.
    (D) 5 chairs for Mike and 3 chairs for Sandy.

5. Specialization and trade are closely linked to
    (A) absolute advantage.
    (B) comparative advantage.
    (C) gains to some traders that exactly offset losses to other traders.
    (D) shrinkage of the economic pie.

6. A higher price for batteries would result in a(n)
   (A) increase in the demand for flashlights.
   (B) decrease in the demand for flashlights.
   (C) increase in the demand for batteries.
   (D) decrease in the demand for batteries.

7. Recent forest fires in the western states of America are expected to cause the price of lumber to rise in the next 6 months. As a result, we can expect the supply of lumber to
   (A) fall in 6 months, but not now.
   (B) increase in 6 months when the price goes up.
   (C) fall now.
   (D) increase now to meet as much demand as possible.

8. Suppose roses are currently selling for $20 per dozen, but the equilibrium price of roses is $30 per dozen. We would expect a
   (A) shortage to exist and the market price of roses to increase.
   (B) shortage to exist and the market price of roses to decrease.
   (C) surplus to exist and the market price of roses to increase.
   (D) surplus to exist and the market price of roses to decrease.

9. What will happen to the equilibrium price of new textbooks if more students attend college, paper becomes cheaper, textbook authors accept lower royalties, and fewer used textbooks are sold?
   (A) Price will rise.
   (B) Price will fall.
   (C) Price will stay exactly the same.
   (D) The price change will be ambiguous.

10. Suppose a producer is able to separate customers into two groups, one having an inelastic demand and the other having an elastic demand. If the producer's objective is to increase total revenue, she should
   (A) increase the price charged to customers with the elastic demand and decrease the price charged to customers with the inelastic demand.
   (B) decrease the price charged to customers with the elastic demand and increase the price charged to customers with the inelastic demand.
   (C) decrease the price to both groups of customers.
   (D) increase the price for both groups of customers.

11. If a subsidy is levied on the buyers of a product, then the demand curve
    (A) will not shift.
    (B) will shift down.
    (C) will shift up.
    (D) will become flatter.

12. A deadweight loss is a consequence of a tax on a good because the tax
    (A) induces the government to increase its expenditures.
    (B) induces buyers to consume less, and sellers to produce less.
    (C) increases the equilibrium price in the market.
    (D) imposes a loss on buyers that is greater than the loss to sellers.

13. Private markets fail to reach a socially optimal equilibrium when negative externalities are present because
    (A) social costs equal private costs at the private market solution.
    (B) private costs exceed social costs at the private market solution.
    (C) social costs exceed private costs at the private market solution.
    (D) they internalize externalities.

14. The government provides public goods because
    (A) private markets are incapable of producing these types of goods.
    (B) free-riders make it difficult for private markets to supply the socially optimal quantity.
    (C) markets are always better off with some government oversight.
    (D) external benefits will accrue to private producers.

15.



**Refer to Figure above.** Which of the following combinations will minimize the deadweight loss from a tax?
    (A) supply 1 and demand 1
    (B) supply 2 and demand 2
    (C) supply 1 and demand 2
    (D) supply 2 and demand 1

Part II: Economics in the News (Read the articles below and answer following questions)

A. (18 + bonus 4%) Internet Auctions Charging Fees

Article A-1: 露天拍賣 下月收 1.5％成交手續費　　　　2009 年 10 月 09 日 蘋果日報

【朱正庭／台北報導】以往標榜免費的網路拍賣平台露天拍賣，昨公告十一月起將開始收取成交手續費，宣告免費網拍時代走入歷史。露天拍賣表示，刊登商品仍會維持免費，且收費仍比對手 Yahoo!奇摩拍賣便宜。

露天拍賣公關副理楊璿表示，未來賣家只要交易成功，將會收取成交金額百分之一點五，但會訂出上限，一般單件商品上限為一百五十元，手機、通訊、書刊七十五元，家電影音則是三十元，不動產及服務類不收費，刊登商品也維持免費，目前刊登商品數量約一千九百多萬件。…(下略)

Article A-2: Yahoo!網拍手續費降 1.5% 搶「露天」市場　　2009 年 11 月 03 日 自由時報

〔記者王珮華／台北報導〕網拍市場展開第二波廝殺！露天市集一日起收一‧五％成交手續費，Yahoo!奇摩趁勢降價促銷，昨宣布下調部分類別手續費為一‧五％，並增加重刊天數，與露天競爭條件拉近。…(下略)

1. (2%) Consider the second-hand market for i-phones on Routien auctions.  Suppose all i-phones sell more than NT$10,000.  According to the news article, how much would the auction house charge sellers for each i-phone sold?  Would this amount vary according to the selling price (given these prices are all above NT$10,000)?  Why or why not?
2. (4%) Draw a supply and demand graph and show the effect of such transaction fees on the supply curve for i-phones, the effective price per phone paid by buyers, the effective revenue per phone received by sellers, and the quantity of i-phones consumed.
3. (4%) How does the transaction fee affect consumer surplus of i-phone users, producer surplus of i-phone sellers, revenue collected by Routien, and total surplus?
4. (4%) If the sellers decided not to post their items on Routien, what else could they do with their i-phones?  Do transaction fees lead to a deadweight loss?  Why or why not?
5. (4%) The second article reports that a competing auction house, Yahoo!, initially charges double the amount charged by Routien (including the maximum fees), but now decides to lower its fees to match Routien.  After Yahoo! halves its fees (including the maximum fees charged for each category), would total revenue Yahoo! receives from i-phone auctions drop exactly 50%, more than 50%, or less than 50%?  Why?  Would the deadweight loss (if any) drop exactly 50%, more than 50%, or less than 50%?  Why?
6. (bonus 4%) Given Yahoo! was charging 3%, who do you think would switch from Routien to Yahoo!?  Why do you think Yahoo! decided to lower its fees?

B. (21 + bonus 10%) Mad Cow Diseases and Beef Imports Bans
1. (2%) Before 2003, Taiwan imported beef from countries such as Australia, New Zealand, and the United States of America.  Draw the supply and demand curve of Taiwan's

domestic ground beef market and indicate the world price and the quantity of imports. Is the domestic market price without trade above or below the world price? Explain.

2. (4%) In 2003, there was a case of mad cow disease (BSE) diagnosed in Seattle. How does this affect Taiwan's demand of ground beef? Show on the supply and demand diagram how this affects Taiwan's ground beef market (before the government decides what to do with beef imports from the US).

3. (6%) In response to the BSE outbreak, the government decided to ban US beef from importing into Taiwan. How does this affect the quantity supplied of ground beef in the domestic market? Knowing that the government has banned US beef, would the demand of ground beef (in Taiwan's domestic market) increase, decrease, or remain unchanged? Indicate on your graph the new equilibrium price and quantity.

4. (bonus 3%) Compare consumer surplus, producer surplus and total surplus before (question 2) and after the ban (question 3). Do you think it was a good idea to ban US beef imports in 2003? Why or why not?

5. (5%) On 2009/10/23, Taiwan announced that it would lift the ban on US beef for cattle younger than 30 months.

   a. How does this affect quantity supplied in the domestic market?
   b. How does lifting the ban affect the demand of Taiwan's ground beef market if consumers cannot identify different sources of meat used in the ground beef?
   c. What if consumers could identify the origin of each bit of ground beef?

6. (4%) Show on the supply and demand graph how equilibrium shifts after the lift of the ban. You should discuss the two different scenarios described in question 5b and 5c.

7. (bonus 4%) What is the change in consumer surplus, producer surplus, and total surplus due to the lift of the ban? Consider both scenarios described in question 5b and 5c.

8. (bonus 3%) On 2009/11/04, Taipei Times reports that Taipei City Government organized an association against US beef and nine major importers signed an agreement not to import "risky" parts (ground beef, intestines and spinal cords) in response to the lift of the ban. Legislators also decide to amend the food sanitation law to block imports of these risky parts. Do you think these measures are necessary? Why or why not?

C. (24 + bonus 8%) Lan-Yu's Electricity Usage

Article C-1: 蘭嶼冷氣開全天… 【聯合報／記者宋耀光、施鴻基連線報導】

　　政府推動節能減碳，台東縣蘭嶼鄉與屏東縣恆春鎮因享有用電優惠，成了省電「化外之地」。蘭嶼一般住宅電費全免，家家戶戶幾乎日夜冷氣大開，甚至曾有用戶單月用電近一萬度，台電人員說：「太誇張了！」如果在台灣本島，以夏月電價計算，自用住宅用掉一萬度電，要付電費四、五萬元。…(中略)…核廢料貯存場設在蘭嶼，台電依據離島建設條例回饋蘭嶼鄉民，自用住宅免電費。蘭嶼鄉有三千多人、一千一百八十一戶，台電統計，蘭嶼鄉每戶每月平均用電兩到三千度，是本島用戶兩倍到三倍。

　　蕭姓鄉民表示，「反正不必繳電費，我們就拚命用電」；謝姓鄉民出門家中冷氣不關，「外面那麼熱，回家涼涼的，不是很好嗎？為什麼要關？」

周姓鄉民指出，八年前開始實施全鄉免電費，「好像沒那麼用電就跟不上時代，有人冷氣連開三、四個月，日夜不停燒壞掉」，現在大家「學聰明」了，「多買幾台，白天晚上輪流開」。 鄉公所指出，蘭嶼「一千多戶三千台冷氣機跑不掉」，平均一人一台，密度可能全台最高。有的蘭嶼人白天也不關燈；公所人員曾勸導民眾，對方回答「白天關燈，晚上還要開，太麻煩了，燈管又不貴」。⋯⋯(下略)

Article C-2: 蘭嶼用電高兩倍? 台電反駁(原視 2009-07-31)

【Saljeljeng/Vuluq】⋯根據離島建設條例第 14 條規定，蘭嶼地區的自用住宅，應免收用電費。有平面媒體就報導，蘭嶼鄉每戶每月平均用電，高達兩到三千度，是本島用戶的兩倍到三倍，不過，台電台東營業處表示，根據去年統計數據來看，其實沒這麼誇張。根據台電統計，去年蘭嶼地區，依法免收電費的住宅用電戶，為 997 戶。平均 522 度的用電量，只高出本島平均 355 度，約 150 度。不過，從五月至今，在 997 戶用電戶中，有兩戶兩個月高出一萬度的異常用電情形。⋯(中略)⋯而為了避免浪費，台電表示，每月都會到蘭嶼對居民進行宣導「節約用電」的觀念，對於用電異常的兩家住宅，應該屬於個案。

1. (4%) What is the reason Lan-yu residents receive a discount in electricity? Is this a compensation for positive or negative externalities, usage of public goods, or usage of common resources? Explain.
2. (2%) What is the price of electricity for Lan-yu's residents? If "九折" means "10% off," how much "percentage off" is this discount?
3. (4%) The UDN article reports average electricity usage of 1181 households is 2,000-3,000 degrees (average=2,500), while Taipower's response (522 degrees) only considers 997 "residential" households. Suppose both figures are correct. What is the average electricity usage of the remaining 184 "non-residential" households?
4. (6%) Compared to the average Taiwan household, how much more electricity (in percentage terms) do residents of Lan-yu use, according to (a) the overall average reported by UDN, (b) Taipower's data on "residential" households, and (c) your calculation of "non-residential" households in question 3? (Hint: For part (a), you may use the "average" when UDN only mentions a range.)
5. (8%) Based on your answers to question 2 and 4, what is the price elasticity of electricity for Lan-yu's residential households, non-residential households, and all households? Which of them are elastic? Which of them are inelastic? (Note that you are NOT using the "mid-point method" to calculate price elasticity here.)
6. (bonus 3%) Are your answers to question 5 the same as what you would obtain using the "mid-point" method? Why or why not?
7. (bonus 2%) Why do you think the price elasticity is different between residential and non-residential households?
8. (bonus 3%) What do you think is a better way to compensate Lan-yu residents that could prevent them from wasting electricity?

D. (22 + bonus 8%) The Market of Organ Donation

Article D1: 器官捐贈率 可以提高                    2009-10-21 中國時報【高克培】

　　我們台灣醫界器官移植的技術早已非常成熟且達世界級水準，但是由於器官捐贈遠遠不如需求，患眾無法普遍受惠。為解決此長久來的困境，衛生署楊志良署長近日提議：器官捐贈的立法改採「表明不捐」的認定原則，也就是說「死者生平若未書面聲明不捐即視同願意」。…(中略)…其實，從修改《人體器官移植條例》最為實際。

　　當初，為免弱勢者被迫私下出賣自己的器官，該條例第十二條強調移植器官的來源必須是「無償捐贈」。立意固然甚佳，然而又考慮到器官來源一定不足，為配合器官捐贈風氣之推動，第十條之一項訂定「捐贈器官移植之死者親屬，中央衛生主管機關得酌予補助喪葬費；其補助標準，由中央衛生主管機關定之。」以及第十五條「捐贈器官供移植之死者親屬，直轄市或縣市政府得予表揚。其家境清寒者，並得酌予補助其喪葬費」。顯然，立法者立法之時也務實地希望對器官捐贈者家屬做些補償，所以美其名為喪葬費，以淡化那「好像有一點」的對價關係。…以目前實務而言，在中央，無論捐贈一個或數個器官，補助金額最多十萬元；在地方，除台北市給與市民喪葬費部份減免外，其他縣市更是付之闕如。…(中略)…

　　說到補助的多寡似乎抹汙了捐器官救人的聖潔，可是，不要忘記，去世前器官夠資格移植的絕大多數是健康、較年輕的人，這些人也較不可能有像樣的遺產，他們驟然的離世，對家人經濟的衝擊也最大。將心比心，這些人瞑目之際，或許因為提供器官助人感到些許快樂，但是真正充滿內心的絕對是無盡的悔恨以及對家人錐心的憂慮，此刻，如果他們有機會用即將腐朽的皮囊換得家人未來幾許溫飽，誰曰不宜，誰又能忍心以貪財視之？
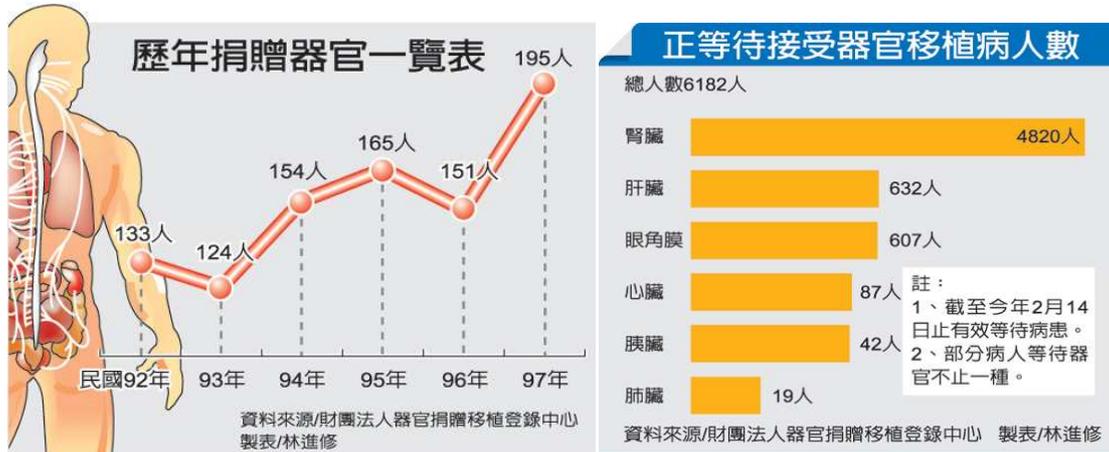
　　另一方面，患者在台灣等不到器官，迫不得以跨海到人權、醫療水準都不如的對岸，不惜花費一百萬到一二○萬元去移植來源不明和品質堪虞的器官、不理想的「售後服務（後續治療）」和面對可能的糾紛爭議；顯然我們患者普遍考量的比較是健康、生活品質和生命，而不是金錢，且很多患者負擔得起。

　　因此，目前我們《人體器官移植條例》內的區區補助不但無助於改善長久以來器官來源不足的困境，也違反「使用者付費」的普世原則，我們的器官捐贈者和家屬、需要器官移植者、醫界、健保局和政府永遠都得是輸家。為了增進器官可能的捐贈者和需要器官移植者之間的實質互惠和器官的來源，《人體器官移植條例》第十二條「提供移植之器官，應以無償捐贈方式為之」需要重新評估。（作者為竹東榮民醫院副院長）

Article D2: 捐肝救父》器捐變多了 景氣差推了一把          聯合晚報 2009.02.14

　　【記者林進修/台北報導】景氣不好，百業蕭條，器官捐贈風氣卻逆勢上揚。財團法人器官捐贈移植登錄中心統計顯示，去年全國器官捐贈人數高達195人，足足比前年成長近3成，創下新高紀錄。可見國人愛心滿滿，但「景氣差」恐也是意外的助力。

　　…(中略)…不容否認的是，景氣低迷下，衛生署及醫療院所對器官捐贈者及其家屬給予喪葬補助費，也多少起了關鍵作用。她說，目前捐器捐贈的喪葬補助費分兩大部分，一是衛生署發給每名捐贈者 5 萬到 10 萬元。各醫療院所依捐贈器官數量，也是發給數萬元至 10 萬元不等。合計約十幾、二十萬元的喪葬補助費，對家境拮据的往生者家庭來說，有相當誘因。

但和去年台灣有效等待接受器官移植人數高達 6182 人，近兩百名的捐贈器官人數根本不敷使用。為了活命，不少器官衰竭病患最後選擇到境外接受器官移植手術，其中又以前往大陸居多。龍藉泉說，雖明知到大陸或部分東南亞國家尋求器官移植手術的風險很高，希望台灣器官捐贈風氣能更風行，讓愛心救更多人。



歷年捐贈器官一覽表

資料來源/財團法人器官捐贈移植登錄中心
製表/林進修

正等待接受器官移植病人數
總人數6182人

| 器官 | 人數 |
| --- | --- |
| 腎臟 | 4820人 |
| 肝臟 | 632人 |
| 眼角膜 | 607人 |
| 心臟 | 87人 |
| 胰臟 | 42人 |
| 肺臟 | 19人 |

註：
1、截至今年2月14日止有效等待病患。
2、部分病人等待器官不止一種。

資料來源/財團法人器官捐贈移植登錄中心　製表/林進修

1. (6%) What is the controlled price in Taiwan's organ transplant market? Is it binding or not? What is the consequence of this price control? Is it efficient?

2. (6%) When there is price control, there is likely a black market (illegal market where prices are not controlled). What kind of black market do you see in Taiwan's organ transplant market mentioned in the articles? Who will be more likely to succeed in participating in this black market? Is this "fair" (you should briefly define this term first)?

3. (4%) What will happen if we remove the price control? Is it more efficient than with price control?

4. (2%) What are the possible reasons why we cannot remove the price control in place?

5. (bonus 4%) In the first article, a governmental official suggested changing the current "opt-in" policy (where the default is no donation) into an "opt-out" policy (where the default is donation). Using an online survey, Johnson and Goldstein (*Science* 2003) showed that only 42% were willing to donate if the default was no donation, but only 18% opted-out if the default was donation. Do you think a similar success would happen if the "opt-out" policy is implemented in Taiwan? Why or why not?

6. (4%) The articles suggest we should educate the society about organ transplants. How would such an education affect the supply or demand of the liver market? How would equilibrium price and quantity change (still under price control)?

7. (bonus 2%) The Taipei Stock Exchange dropped from 8,982 to 4,591 between 2007/8/31 and 2008/12/31. Calculate the income elasticity of "keeping the whole body (留全屍)," assuming household income of potential donors dropped proportional to the TPSE.

8. (bonus 2%) Suppose the government decides to follow the suggestion of the first article and raise the price of organ donation. How would you estimate the amount of price raise needed to attract enough liver donors for all of the patients waiting for a liver transplant? What data do you need to perform such estimation?