

Solutions to Chapter Questions

of

Economics of Tourism and Hospitality: A Micro Approach

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Chapter 1 Economic Approach to Tourism and Hospitality

Review questions

1–5: DBADD, 6–10: DDAAD

Problem solving

1. Meyer's interpretation of hospitality focuses on creating and strengthening amicable host–guest relationships between suppliers and consumers. In the tourism and hospitality industry hosts are all sorts of suppliers that provide goods, services, and experiences to guests, including tourists and local residents.

The overriding goal of hospitality is to create and nurture such host–guest relationships in two ways. One way is that tourism and hospitality suppliers should dedicate to providing high-quality products and services to guests, thereby increasing customer satisfaction. This idea is captured by the proposition *for*. The other is that tourism and hospitality suppliers must be constantly alert to mishaps or service failures that may arise either from their negligence or from the environment, and can thus take precautionary measures to prevent them from happening. If a service failure happens, they should be able to remedy it as soon as possible to reduce tourists' dissatisfaction. This idea is captured by the proposition *to*.

2. Airbnb and Uber can be placed on both breadth and depth dimensions. On the breadth dimension, Airbnb and Uber expand the supply scope of the tourism and hospitality industry through providing alternative accommodation and transportation services, respectively. Instead of being provided by conventional enterprises, these alternatives are provided by millions of grassroots individuals who have spare resources to deploy for tourism uses. On the depth dimension, Airbnb and Uber can be seen as “intermediaries” which facilitate transactions between numerous consumers (both tourists and local residents) and numerous grassroots suppliers. These transactions are conducted on the platforms of Airbnb and Uber whereby consumers and suppliers can easily interact and transact with each other. Yet Airbnb and Uber are different from conventional intermediaries because they do not engage in resale.
3. Developed economies are usually diverse, and tourism is only one of many sectors in the national economy. Small island developing states (SIDS) usually depend on one single industry or two, such as agriculture, fishing and tourism because of their comparative advantages in growing these sectors. Therefore, tourism share in GDP of developed countries is much smaller than the share in GDP of SIDS.

The indirect effect of tourism depends on whether an economy has a range of sophisticated upstream industries that can provide goods and services to the tourism and hospitality industry or to other non-tourism/hospitality sectors that serve tourists directly. In this regard, developed countries have the advantage of providing supply for the tourism and hospitality industry and the like. However, SIDS rely on imports to support their tourism and hospitality industry. While the direct effect of tourism could be large for SIDS, a large proportion of tourism receipts are used for imports.

As for the induced effect, developed economies have robust and sophisticated domestic consumption and supply. This increases households' domestic consumption due to increased income generated from tourism. Note only do SIDS lack domestic

supply to meet household consumption but households' purchasing power is also low even though the majority of their income is from tourism. Therefore, the induced effect of tourism in SIDS is usually lower than in developed countries.

Chapter 2 Demand, Supply, and the Market

Review questions

1–5: DCBAB, 6–10: CDCCC

Problem solving

1. Price is dictated by demand and supply in free markets. Most markets, including restaurant, work very efficiently in allocating scarce resources. The fundamental reason that restaurants raised price during the subsiding period of the coronavirus outbreak is that demand bounced back while supply did not catch up with the increased demand. This ends up a higher equilibrium price than the one during the pandemic. Therefore, high prices are not restaurateurs' manipulation of market price for the sake of ripping off consumers but a response to the increased demand. Even if some restaurateurs could choose to jack up price, competition and consumers' free choice would eventually drive them out of the market.

In fact, higher prices, insofar as they reflect demand and supply, in the subsiding period render both restaurants and consumers better off because deadweight loss would otherwise arise. In the short run, higher prices provide restaurateurs with incentives to increase quantity at new equilibrium level, which enables them not only to serve more consumers but also to make more profits. In the long run, high prices will entice more restaurants to enter the market, thereby increasing supply as a whole. Consumers end up benefiting not only from a larger quantity but from a lower price.

2. A visa quota sets a limit of the number of tourists that are allowed to enter a destination country. This is governmental regulation on quantity. Figure 2.1 shows that the market price of inbound tourism will be pushed up, namely increasing from P_0 to P^* . Because of the quota, deadweight loss arises. Specially, tourists' consumer surplus will decrease, while producer surplus may increase, decrease or remain unchanged depending on the size of quota and demand elasticity.

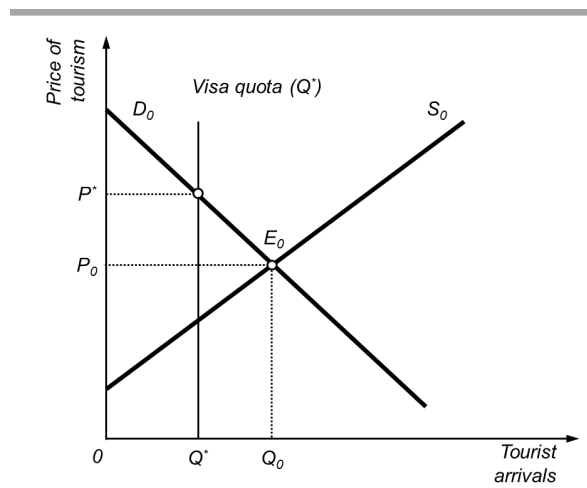


Figure 2.1

3. The pattern of tourism growth in Rwanda can be explained by the model *supply creates demand*. It consists of two consecutive stages. First, it is the increase in supply in Rwanda that makes the destination appealing and affordable to international tourists. Second, tourists are therefore inclined to choose Rwanda as their destination, thereby increasing tourism demand in Rwanda. The new equilibrium in Rwanda's inbound tourism market suggests a substantial increase in tourist numbers while the price of tourism depends on the magnitude of the increase in demand relative to that of the increase in supply, or vice versa.

Chapter 3 Uber's Surge Pricing and Market Efficiency

Problem solving

1. During the surge period, the number of prospective riders opening Uber app and ready to make a ride request is $Q_n + (Q_j - Q_l)$, the rate charged by Uber is P_m , the surge multiplier is P_m/P_n .
2. Figure 3.1 shows the demand (D_0) for and supply (S_0) of Uber rides in the pre-surge period and the demand in the surge period (D_1). Thus, the number of requests that Uber successfully served in the surge period is equilibrium quantity Q_1 . Since the supply curve is linear with a slope of $1/40$, we have

$$\frac{60 - 25}{Q_1 - 800} = \frac{1}{40}.$$

Solving the equation, we obtain $Q_1 = 2200$. The completion rate in the surge period is 100% because Q_1 is the equilibrium quantity in the surge period.

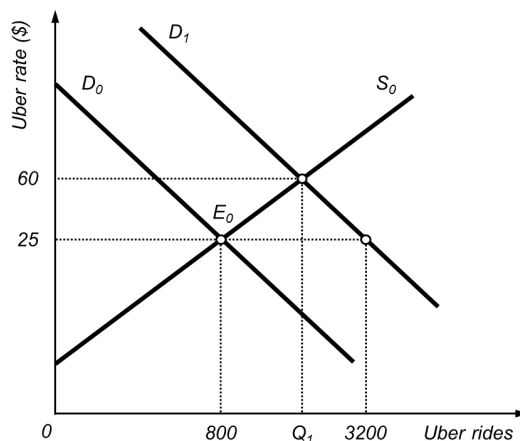


Figure 3.1

3. Uber's surge pricing, in essence, is a manifestation of equilibrium price that is determined by demand and supply in the market. Figure 3.2 shows the demand (D_0) for and supply (S_0) of Uber rides in the surge period, with equilibrium E_0 . Thus, the surge price is P_0 . When demand decreases from D_0 to D_1 , new equilibrium price ends up being P_1 ($P_1 < P_0$), suggesting that Uber should lower the rate to P_1 . If Uber maintained the previous price P_0 , deadweight loss would arise, and hence social

surplus will decrease. Specially, consumer surplus will decrease while producer surplus may or may not decrease depending on demand elasticity. Due to deadweight loss, completion rate will decrease while wait time will increase, which will discourage both drivers and riders from using Uber.

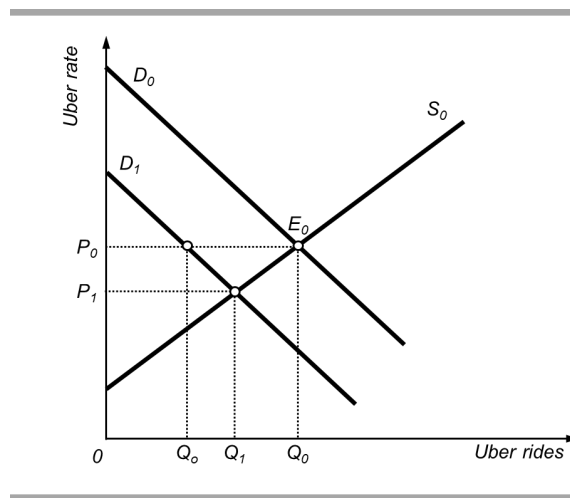


Figure 3.2

Chapter 4 Consumer Choice and Demand

Review questions

1–5: DDBAB, 6–10: DACAC

Problem solving

1. For the same amount of money used for a cash subsidy or a tourist voucher, the direct impact is that they will change consumers' budget constraint in different ways. Figure 4.1 shows that the quantity of tourism on the x -axis and the quantity of everything else on the y -axis, and consumer's initial budget line B_0L_0 . Given the prices of tourism and everything else, consumers' optimal bundle is point A : q_1 units of tourism and q_a units of everything else. Since the cash subsidy increases consumers' income, the budget line B_0L_0 shifts outward to B_1L_1 , the optimal bundle ends up with point B , namely that tourism consumption increases from q_1 to q_2 and all other consumption combined also increases from q_a to q_b . Here we assume that tourism is a normal good.

Since the tourism voucher can only be used for tourism consumption, it will affect tourism consumption directly, through which it can also affect other consumption. Figure 4.2a shows the new budget line B_0KL_1 caused by the tourism voucher with the same monetary value as the cash subsidy. Budget line B_0KL_1 consists of a horizontal line B_0K for tourism $q \in [0, q_0]$ and an outward shifted budget line KL_1 for tourism $q \in (q_0, L_1]$. Here, q_0 represents the quantity of tourism that the voucher can purchase, and thus consumers can free up all income to purchase the maximum quantity of everything else, B_0 . Hence, $q_0 = L_1 - L_0$, which is the extra tourism that consumers can obtain after spending all income on tourism.

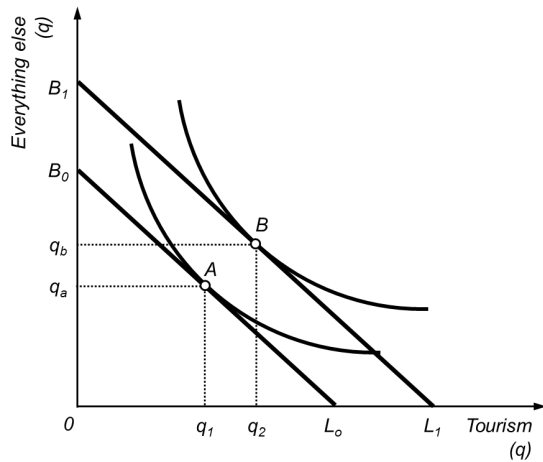


Figure 4.1

Insofar as tourism consumption is greater than or equal to q_0 , the voucher will have the same income effect as the cash subsidy on consumer welfare (Figures 4.2a, b). The reason is that the voucher will be used up anyway, and thus functions the same as the same amount of cash. However, if tourism consumption is less than q_0 , all consumption bundles (N) that lie below budget line B_1L_1 (cash) while above B_0KL_1 (voucher) will be unattainable (Figure 4.2b). Thus, consumer welfare will be undermined under the voucher scheme. Since the voucher is not fungible and insofar as tourism consumption is smaller than the quantity that the voucher can buy, the remaining vouchers cannot be used for anything else and is thus wasted.

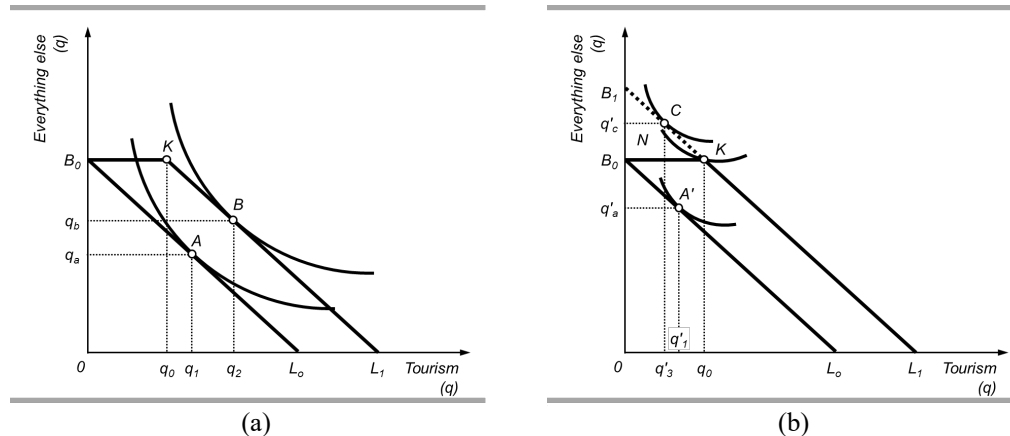


Figure 4.2

2. *Note:* “CHF 200 per hour” should be “\$200 per hour” in the question.
Income effect on skiing: The quantity demanded increases from 6 days to 10 days, namely an increase of 4 days. Substitution effect on skiing: The quantity demanded increases from 5 days to 6 days, namely an increase of 1 day.

Income effect on spa: The quantity demanded increases from 2 hours to 3 hours, namely an increase of 1 hour. Substitution effect on spa: The quantity demanded decreases from 4 hours to 2 hours, namely a decrease of 2 hours.

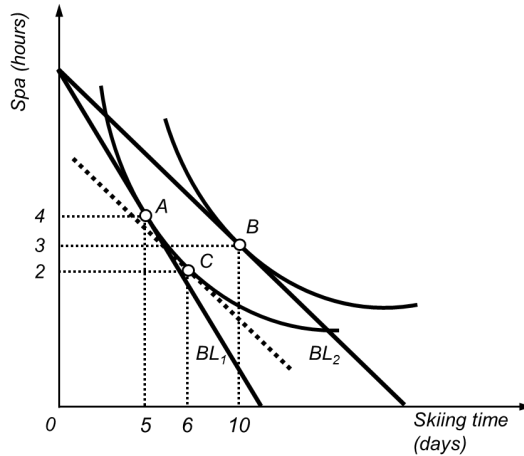


Figure 4.3

We need to identify two different price–quantity coordinates (q, p) for the demand for skiing in order to specify the linear demand function. In Figure 4.3 above, denoting the price and quantity for skiing before the price change by p_1 and q_1 (point A) and after the price change by p_2 and q_2 (point B), we obtain two equations:

$$\begin{aligned} 5p_1 + 200 \times 4 &= 1200, \\ 10p_2 + 200 \times 3 &= 1200. \end{aligned}$$

Solving the equations we obtain $p_1 = \$80$ and $p_2 = \$60$. We obtain two price–quantity coordinates A (5,80) and B (10,60). Given the inverse demand function $p = aq + b$, we have:

$$\begin{cases} 80 = 5a + b, \\ 60 = 10a + b. \end{cases}$$

We obtain $a = -4$ and $b = 100$, and thus the inverse demand function is

$$p = -4q + 100,$$

and the conventional demand function is

$$q = -0.25p + 25.$$

3. Their budget lines will shift outward because the lottery increases consumer income (Figures 4.4 a, b). First of all, leisure should be regarded as a normal good for both Ecuadorians and Filipinos. Note that in Figure 4.8 of the book Ecuadorians have a strong preference for leisure even though their income is low. This does not mean that there exists a negative relationship between income and leisure demand for Ecuadorians. Filipinos have a weak preference for leisure probably due to their low income, and hence their leisure is expected to increase as income increases.

Second, Figure 4.4a shows that the lottery winning increases Ecuadorians' leisure consumption while discouraging them from working. Figure 4.4b shows that the

winning increases both work and leisure consumption of Filipinos. In other words, given the increased income from the lottery Filipinos can even free up some time to work while having more leisure time. The implication is that tourism or leisure consumption has a great deal of income effects. The income effects would be greater for consumers having a strong preference for leisure because a windfall that boosts their income renders work even less tempting for earning income.

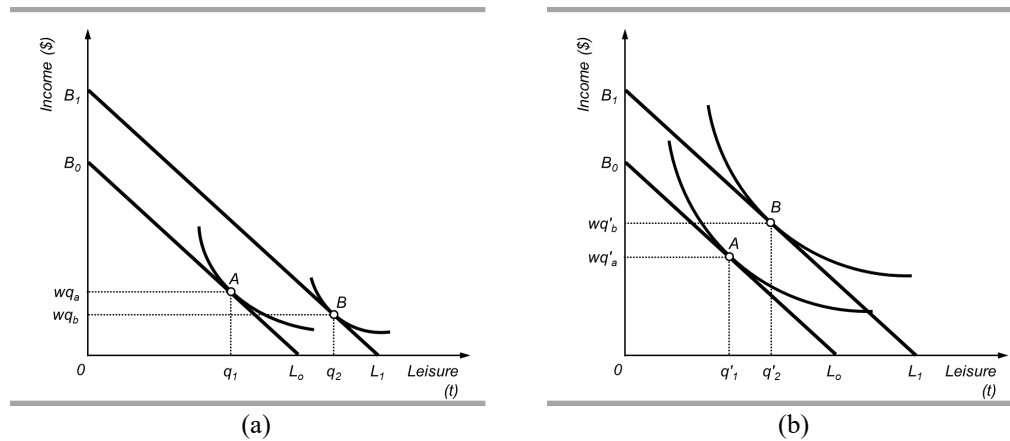


Figure 4.4

Chapter 5 Elasticity of Consumer Demand

Review questions

1–5: CBDDC, 6–10: AAADA

Problem solving

1. Tourism demand in general is elastic, meaning that tourists respond more aggressively to price changes at a destination when planning their travel. The arrival/departure tax will be factored into tourists' destination choice, and hence will deter them from traveling to destinations with the tax, ending up decreasing destination revenues. However, once tourists arrived at the destination, they would have no choice but to consume at the destination. Hence tourism demand within destinations would be less elastic or even inelastic for some goods and services that have fewer substitutes. This implies that destinations should increase price from within in order to increase revenue. The city tax will lead to an increase in the price of goods and services at a destination, thereby increasing the revenue of the destination.
2. When the shipping cost \$5 is added to the two wines A and B, their prices will increase by $14.3\% = 5/35$ and $9.1\% = 5/55$, respectively. In general, consumer demand for wine is elastic, suggesting that wine producers should cut price to increase revenue. In this context, wine producers are willing to ship wine B because its price will only increase by 9.1% in the market while wine A's price will increase by 14.3% if sold abroad. Thus, inexpensive wines end up being sold domestically or locally to circumvent the impact of the same price increase caused by shipping costs.
3. To which segment the discount be offered depends on the price elasticity of demand in the two segments. Let η_A and η_B denote the price elasticities of segments A and B, respectively. We have

$$\eta_A = \frac{\% \Delta Q}{\% \Delta P} = \frac{\left(\frac{17000 - 15000}{15000} \right)}{-0.1} \approx -1.33,$$

$$\eta_B = \frac{\% \Delta Q}{\% \Delta P} = \frac{\left(\frac{16500 - 15500}{15500} \right)}{-0.1} \approx -0.65.$$

Since segment *A*'s demand is elastic while *B*'s is inelastic, the price discount should be offered to segment *A* only. Offering a 10% price discount can increase the sales by 13.3%, ending up increasing revenues.

Chapter 6 Network Effects in Market Demand

Review questions

1–5: BDDBB, 6–10: DAABB

Problem solving

1. The popular restaurant enjoys a bandwagon effect. Hence, the demand is composed of a functional demand associated with pure price effect and a nonfunction demand associated with consumer base. If the restaurant raises price, consumer base will shrink, leading to a further decrease in demand, and the demand will become more elastic. Thus, a price raise will lead to a disproportionately larger decrease in quantity demanded, ending up decreasing the revenue of the restaurant.
2. First, we need to derive the demand function for the French wine that has a snob effect. Given the information in the question, Figure 6.1 shows that the straight line *AB* is the demand curve for the French wine.

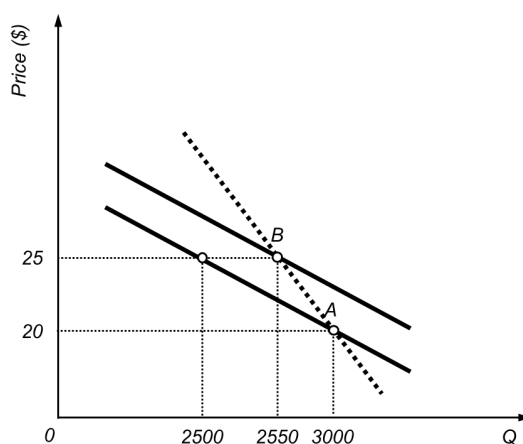


Figure 6.1

Thus, we can specify the linear inverse demand function by solving

$$\begin{cases} 20 = 3000a + b, \\ 25 = 2550a + b. \end{cases}$$

We obtain $a = -\frac{1}{90}$, and $b = \frac{160}{3}$, and hence the inverse demand function is

$$p = -\frac{1}{90}q + \frac{160}{3}.$$

Second, given the demand function above, if the price further increases by \$5, the price will be \$30. Plugging $p = \$30$ into the demand function, we obtain the corresponding quantity $q = 2100$. Thus, the price elasticity of demand when price increases from \$25 to \$30 is

$$\eta = \frac{\% \Delta Q}{\% \Delta P} = \frac{\frac{2100 - 2550}{2550}}{\frac{30 - 25}{25}} = -\frac{15}{17}.$$

3. The shift from conspicuous consumption to aspirational consumption suggests two distinct yet interrelated changes in contemporary consumption. One is that conspicuous consumption that used to be effective in distinguishing social classes and thereby signifying the social status of the elites may be obsolete. Conspicuous consumption is based on consumers' wealth, and wealth accumulation in Veblen's time was difficult and slow, which is why conspicuous consumption can stand out the elite by flaunting wealth. Yet wealth accumulation is accelerating more than ever especially in the developing world. Conspicuous items that used to be exclusively owned by the elite become affordable not least to middle-class consumers, therefore material items, no matter how prohibitive, end up becoming less conspicuous. As more and more consumers are emulating consumption of prohibitive material goods, the boundary between the two classes is blurred, and Veblenian conspicuous consumption ends up being inconspicuous.

The second change is that the elite instead turn to goods, services, and activities that entail long-term education, time, and dedication to appreciate. Instead of pursuing Veblenian conspicuous goods which are more or less affordable now, on the one hand they value things that are ostensibly inconspicuous, such as free-range chicken, heirloom tomatoes, organic cotton shirts, TOMS shoes, and free New Yorker magazine tote bags, and so on. On the other hand, the appreciation of these items takes a good taste, knowledge, and education as well as the dedication of time and efforts. All of these cannot be easily emulated by the masses and hence create a new yet more effective social distinction. Such aspirational consumption can be interpreted either as a snob effect in the sense that aspirational class value exclusiveness or as a variant of Veblen effect in the sense that it creates new social distinctions.

Chapter 7 Demand for Pinot Noir versus Merlot: The Sideways Effect

Problem solving