SOLUTIONS MANUAL

SECOND EDITION

ECONOMICS FOR MANAGERS

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Solutions to End of Chapter Problems

Farnham, *Economics for Managers, 2/e*

Chapter 1

Technical Questions

1. Microeconomics focuses on the behavior of individual consumers, firms, and industries as they operate in a market economy. It analyzes how these various groups respond to changes in prices that affect their consumption, production, and selling decisions. It also describes how firms and consumers interact in various types of markets and can be used as a basis for determining competitive strategies. Macroeconomics focuses on the overall economic environment in which businesses operate. It analyzes the spending decisions of different sectors of the economy—the household, business, government, and foreign sectors. Macroeconomic policy deals with the issues of inflation, unemployment, and economic growth. Changes in the macroeconomic environment influence firms through the microeconomic issues of demand, cost, revenues, and profits.

2. Outputs are the final goods and services that firms and industries sell to consumers. Consumers create a demand for all of these goods and services. Inputs are the resources or factors of production that are used to produce the final outputs. Inputs include land, labor, capital, raw materials, and entrepreneurship. Firms' use of these inputs is related to the demand for their products.

3. The four major types of markets are perfect competition, monopolistic competition, oligopoly, and monopoly. The key characteristics that distinguish these markets are (1) the number of firms competing with each other, (2) whether the products sold in the markets are differentiated or undifferentiated, (3) whether entry into the market by other firms is easy or difficult, and (4) the amount of information available to market participants.

4. In the model of perfect competition, firms are price-takers because it is assumed there are so many firms in each industry that no single firm has any influence on the price of the product. Each firm's output is small relative to the entire market, so that the market price is determined by the actions of all suppliers and demanders. In the other market models, firms have an influence over the price. If they raise the price of the product, consumers will demand a smaller quantity; if they lower the price, consumers will increase the quantity demanded.

5. In macroeconomics, the five major categories of spending are consumption (C), investment (I), government (G), export (X), and import (M). $GDP = C + I + G + X - M$. The first four categories are added together, while import spending is subtracted because it represents a flow of expenditure out of the domestic economy to the rest of the world.

6. Fiscal policies are implemented by the national government and involve changing taxes (T) and government expenditure (G) to stimulate or slow the economy. These decisions are made by the political institutions in the country. Monetary policies are implemented by a country's central bank—the Federal Reserve in the United States. These policies focus on changing the money supply in order to influence interest rates, which then affect real consumption, investment spending, and the resulting level of income and output.

Application Questions

1. When Wal-Mart expanded into Mexico, it had to confront potential resentment from Mexicans about the increased competition from a foreign company, and it had to deal with the powers that controlled local commerce, including the national retailing association, ANTAD, and local bosses, the caciques. The company also had to adapt to local customs, which included finding native-speaking employees and broadcasting announcements in native Indian languages.

2. In April, 2008, the Economist Intelligence Unit predicted that Mexico's annual GDP growth would gradually accelerate toward a rate of 3.5 percent. However, Mexico's growth path will continue to be dependent on the U.S. economic cycle. U.S. growth affects not only Mexican gross fixed investment and exports, but also its employment, wages, and private consumption. Mexican economists state that Mexico is the most exposed country in the world to a U.S. slowdown. One of the major impacts on the Mexican economy is the remittance of money from Mexican immigrants working in the United States back to Mexico. The Central Bank of Mexico reported in May 2008 that remittances from the United States dropped 2.9 percent for the first quarter of 2008 compared with the same period in 2007. By fall 2008, the weaker United States economy was lowering Mexico's growth rate. The Mexican government cut its estimate for GDP growth from 2.8 percent to 2.4 percent. The Mexican central bank also cooperated with the United States Federal Reserve to increase liquidity in the financial system. See "Mexico: Country Forecast Summary," *EIU ViewsWire*, April 17, 2008; Jane Bussey, "Mexico Feels Our Economic Pain," *McClatchy-Tribune Business News*, April 7, 2008; Miriam Jordan, "Fewer Latino Migrants Send Money Home, Poll Says," *Wall Street Journal*, May 1, 2008; "A Slowing Mexican Economy," *EIA ViewsWire*, September 23, 2008; and "Crisis Management in Mexico," *EIA ViewsWire*, November 12, 2008.

3a. This is a description of a perfectly competitive market. It discusses factors influencing the demand and supply of soybeans, where the focus is on the price and quantity in the entire market, not the decisions of individual producers. It describes the expectation that current high prices will give soybean farmers the incentive to increase production in the future.

b. This paragraph is a description of interdependent oligopoly behavior. General Motors' strategy of rebates and zero percent financing is matched by Ford and Daimler/Chrysler. Oligopoly firms develop their strategies by anticipating the possible responses of their rivals.

c. This discussion describes the attempt by the U.S. wireless telecommunications industry to gain monopoly or market power through mergers of independent firms. The paragraph notes that the traditional phone industry did have a period of monopoly status when the industry was highly regulated. The monopoly power of the wireless industry is under constant attack from new technologies and an increase in new entrants into the market. Even the merged firms will find their monopoly power under attack.

d. Chinese restaurants represent monopolistic competition. There are 36,000 Chinese restaurants, most of them small, family operations. No national chain dominates these restaurants, largely due to the use of the wok for cooking. Specialized stoves and chefs are required for this type of cooking, which has limited the expansion of these firms into large-scale production.

4. Numerous examples can be found. In general, the more competitive the market is, the more firms will have to rely on reducing the costs of production, as they have less control over price. Firms with market power often use all types of strategies. For example, many restaurants responded to the economic slowdown in 2007 and 2008 by scaling back expansion plans, skimping on items like extra sauce and free sour cream, closing sites, and laying off

workers. After examining rivals' portions of hash browns and french fries and analyzing lef-tovers, Vicorp, which owns 400-plus Village Inn and Bakers Square restaurants, cut back as much as an ounce from each serving of these foods with a projected annual savings of more than $500,000. See Jeffrey McCracken and Janet Adamy, "Restaurants Feel Sting of Surging Costs, Debt," *Wall Street Journal*, April 24, 2008.

5. Examples of these types of strategies are discussed in Chapter 14. Firms lookded for ways to increase productivity and cut costs. Many also developed new pricing strategies to increase their profits or minimize their losses.

Chapter 2

Technical Questions

1. a. Demand increases (assuming that computers are a normal good).

   b. There is a decrease in the quantity demanded of computers (and no change in the demand curve).

   c. Demand increases, as the price of a complementary good has fallen.

   d. There is no change in demand, as semiconductors are an input to computer production and thus a determinant of supply.

   e. Demand decreases in October, as consumers wait to buy at a lower price in December.

2. a. Supply increases.

   b. Supply decreases.

   c. There is a decrease in the quantity of supplied computers (and no change in the supply

curve).

d. Supply decreases (because costs of production have increased).

e. There is no change in supply, as consumer incomes are a determinant of demand.

3. a. *X* is a normal good. We know this because there is a positive relationship between income and the quantity demanded of good *X*.

   b. *X* and *Y* are substitutes. We know this because there is a positive relationship between the price of good *Y* and the demand for good *X* (thus, as the price of *Y* rises, consumers buy more *X*).

   c. *X* and *Z* are complements. We know this because there is a negative relationship between the price of good *Z* and the demand for good *X* (thus, as the price of *Z* rises, consumers buy less *X*).

   d. $Q_D = 500 - 5P_X + 0.5I + 10P_Y - 2P_Z$

   $= 500 - 5P_X + 0.5(30) + 10(10) - 2(20)$

   $= 575 - 5P_X$

   e. Price intercept = $115; Quantity intercept = 575; Slope = -0.2.

   f. The quantity demanded is 500.

   g. The equation of the demand curve is

   $Q_D = 625 - 5P_X$ Price intercept = $125; Quantity intercept = 625; Slope = -0.2.

4. a. X and Z are complements in production. We know this because there is a positive relationship between the price of good Z and the supply of good X (thus, as the price of Z rises, producers produce more X).

   b. $Q_S = –200 + 20P_X – 5P_I + 0.5P_Z$

   $= –200 + 20P_X – 5(10) + 0.5(20)$

   $= –240 + 20P_X$

   c. Price intercept = $12; Slope = 0.05. See text answers for graph.

   d. Set $Q_S = 0$. The minimum price is $12.00.

   e. $Q_S = –240 + 20(25) = 260$.

   f. $Q_S = –200 + 20P_X – 5(5) + 0.5(20) = –215 + 20P_X$; Price intercept = $10.75; Slope = 0.05.

5. a. Demand curve: Price intercept = $250; Quantity intercept = 500. Supply curve: Price intercept = $33.3; Slope = 0.33.

   b. $Q^* = 260$; $P^* = 120$.

   c. At P = $100, the quantity demanded is 300, while the quantity supplied is 200. Thus, there is a shortage, and the market price will rise.

   d. At P = $150, the quantity demanded is 200, while the quantity supplied is 350. There is a surplus, and the market price will fall.

e. $P^* = 140$; $Q^* = 320$. New demand curve: Price intercept = $300; Quantity intercept = 600.

6. a. Demand increases (the price of a substitute has risen); equilibrium price and quantity rise. See text answers for graphs.

   b. Supply decreases (the price of an input has risen); equilibrium price rises and quantity falls.

   c. Demand increases; equilibrium price and quantity rise.

   d. Supply increases; equilibrium price falls and quantity rises.

   e. Demand decreases; equilibrium price and quantity fall.

7. a. The increase in the price of gasoline causes the demand for automobiles to decrease (leftward shift of the demand curve), while the decrease in the price of steel causes the supply of automobiles to increase (rightward shift of the supply curve). With no further information, we know that the equilibrium price will fall, but the effect on quantity cannot be determined.

   b. The rise in gasoline prices will cause demand to decrease, which will cause the quantity to fall, all other things held constant. If this effect is larger than the effect of the reduction in steel prices (which will increase supply and cause the quantity to rise), then we may now be able to conclude that the equilibrium quantity of automobiles is likely to fall.

8. a. Because hamburger is an inferior good, demand will increase as incomes decrease, causing the price to rise (rightward shift of demand curve). The improvement in technology that lowers production costs causes supply to increase and tends to lower price (rightward shift of supply curve). With no further information, we know that the equilibrium quantity will

rise, but the effect on price cannot be determined. See text answers for graphs.

b. The fall in consumer incomes will cause demand to increase (for an inferior good), which will cause the price to rise, all other things held constant. If this effect is smaller than the effect of the improvement in technology (which will increase supply and cause the price to fall), then we may now be able to conclude that the equilibrium price of hamburger is likely to fall. See text answers for graphs.

Application Questions

1. The supply of copper had decreased (leftward shift of the supply curve) due to strikes which halted production in 2006. Continuing demand from China was expected to shift the demand curve to the right, although the world-wide recession in 2008 might impact this demand. The higher copper prices from these supply and demand shifts gave companies the incentives to mine lower-grade copper, but also gave copper users incentives to find substitutes for the metal.

2. The boom in copper and other commodity prices continued through the first half of 2008. These high prices put immense pressure on geologists and engineers in major mining companies to find new sources of copper, often in remote areas such as the Peruvian Andes. By April 2008, Rio Tinto employed 950 explorers worldwide and spent 15 percent more on exploration than it did five years earlier. Many global mining companies were playing catch-up after a long period of underinvesting in exploration for new mines. However, it can take years to get a new mine up and running. The high copper prices also continued to make manhole covers, pipes, wiring, and even public art projects made of bronze (whose main ingredient is copper) the targets of theft in many U.S. cities. However, in summer and fall 2008, the prices

of copper and other commodities fell in response to the slump in global demand. See Robert Guy Matthews, "Hunters Comb Globe for a Hot Metal," *Wall Street Journal*, April 4, 2008; Sarah McBride, "Copper Caper: Thieves Nab Art to Sell for Scrap," *Wall Street Journal*, May 1, 2008; Allen Sykora, "Copper is Vulnerable to Falling Further," *Wall Street Journal*, November 24, 2008.

3.a. (1) An unexpected supply glut is an increase in supply. This is represented by a rightward shift of the supply curve, which drives down the equilibrium price and increases the equilibrium quantity. (2) A slowdown in the economy or housing market causes a decrease in the demand for wood products. The demand curve shifts to the left, resulting in a lower equilibrium price and quantity. (3) The unusually hot weather causes construction delays, which also decreases the demand for wood products (leftward shift of the demand curve). (4) The slackened demand in the Asian markets also causes the demand curve for wood products to shift to the left, resulting in lower prices.

b. The excerpts discuss a possible slowdown in the entire economy or in the housing sector, one of the major sectors influencing overall economic activity. The Federal Reserve (the central bank) influences interest rates through its control of the money supply. Monetary policy impacts mortgage interest rates, which influence the demand for housing and wood products. Prices in the wood products industry were expected to recover as long as the Federal Reserve did not raise interest rates significantly. Foreign demand from Asian markets is also part of the macroeconomic environment.