



**CFA Institute®**  
CFA Program

# **ECONOMICS, FINANCIAL STATEMENT ANALYSIS**

CFA® Program Curriculum  
**2023 • LEVEL 1 • VOLUME 2**

# Economics

## SOLUTIONS

1. C is correct. When the price elasticity of demand coefficient is  $-1$ , demand is said to be unit elastic, or unitary elastic.
2. A is correct. Inserting the price of \$35 into the demand function, quantity demanded is calculated as

$$Q_{hm}^d = 400 - 5(35) = 225$$

At a price of \$35 per health club membership, the elasticity of demand is

$$\text{Price elasticity of demand} = (\Delta Q_{hm}^d / \Delta P_{hm}) \times (P_{hm} / Q_{hm}^d)$$

$$\text{Price elasticity of demand} = -5 \times (35/225) = -0.778$$

3. B is correct. From the demand function:

Solve for  $Q_{pr}^d$ :

$$\Delta Q_{pr}^d / \Delta P_{pr} = -3.1 \text{ (the coefficient in front of own price)}$$

$$Q_{pr}^d = 84 - 3.1P_{pr} + 0.8I + 0.9P_{pu}$$

$$= 84 - 3.1(38) + 0.8(100) + 0.9(18)$$

$$= 62.4$$

At  $P_{pr} = 38$ ,

$$\text{price elasticity of demand} = (\Delta Q_{pr}^d / \Delta P_{pr}) (P_{pr} / Q_{pr}^d)$$

$$= (-3.1)(38/62.4)$$

$$= -1.9$$

4. C is correct. From the demand function:

Solve for  $Q_{pr}^d$ :

$$\Delta Q_{pr}^d / \Delta I = 0.8 \text{ (coefficient in front of the income variable)}$$

$$Q_{pr}^d = 84 - 3.1P_{pr} + 0.8I + 0.9P_{pu}$$

$$= 84 - 3.1(38) + 0.8(100) + 0.9(18)$$

$$= 62.4$$

At  $I = 100$ ,

$$\text{the income elasticity of demand} = (\Delta Q_{pr}^d / \Delta I) (I / Q_{pr}^d)$$

$$= (0.8)(100/62.4)$$

$$= 1.3$$

5. A is correct. From the demand function:

Solve for  $Q_{pr}^d$ :

$$\Delta Q_{pr}^d / \Delta P_{pu} = 0.9 \text{ (the coefficient in front of } P_{pu})$$

$$Q_{pr}^d = 84 - 3.1P_{pr} + 0.8I + 0.9P_{pu}$$

$$= 84 - 3.1(38) + 0.8(100) + 0.9(18)$$

$$= 62.4$$

At  $P = 38$ , and  $P_{pu} = 18$ ,

$$\text{the cross-price elasticity of demand} = (\Delta Q_{pr}^d / \Delta P_{pu}) (P_{pu} / Q_{pr}^d)$$

$$= (0.9)(18/62.4)$$

$$= 0.3$$

6. C is correct. With complements, consumption goes up or down together. With a negative cross-price elasticity, as the price of one good goes up, the demand for both falls.
7. B is correct. Price elasticity of demand is likely to be greater for items that are seen as optional or discretionary.
8. B is correct. Income elasticity is a measure of how sensitive quantity demanded is to a change in income. If the income elasticity of demand for the product is  $-0.6$ , whenever income increases by 1%, the quantity demanded of the product at each price decreases by 0.6%. Consequently, as income rises, consumers will purchase less of the product.
9. B is correct. The cross-price elasticity of demand measures the responsiveness of the demand for onions in response to a change in the price of tomatoes. From the demand function equation:

$$Q_o^d = 3 - 0.05P_o + 0.009I - 0.16P_t$$

$$Q_o^d = 3 - 0.05(1.25) + 0.009(2,500) - 0.16(3.75) = 24.8375$$

At a price of onions of \$1.25 and a price of tomatoes of \$3.75, the cross-price elasticity of demand is calculated as follows:

$$\text{Cross-price elasticity of demand} = (\Delta Q_o^d / \Delta P_t) \times (P_t / Q_o^d)$$

$$\text{Cross-price elasticity of demand} = -0.16 \times (3.75/24.8375) = -0.0242$$

10. B is correct. The demand curve shows quantity demanded as a function of own price only.
11. A is correct. The situation described is one of excess demand because, in order for markets to clear at the given level of quantity supplied, the company would need to raise prices.
12. A is correct. In the case of normal goods, the income and substitution effects are reinforcing, leading to an increase in the amount purchased after a drop in price.
13. A is correct. The income effect overwhelms the substitution effect such that an increase in the price of the good results in greater demand for the good, resulting in a positively sloped demand curve.
14. A is correct. The law of diminishing returns occurs in the short run when additional output falls as more and more labor is added to a fixed amount of capital. When a factory is operating at full capacity, adding additional employees will not increase production because the physical plant is already 100% employed. More labor hours will add to costs without adding to output, thus resulting in diminishing marginal returns.

15. A is correct. Diminishing marginal returns occur when the marginal product of a resource decreases as additional units of that input are employed. Marginal product, which is the additional output resulting from using one more unit of input, is presented below.

Machine Hours	Total Product	Average Product	Marginal Product
1	3	3.00	3
2	8	4.00	5
3	14	4.67	6
4	19	4.75	5
5	21	4.20	2

The marginal product of the third machine hour is 6 and declines thereafter. Consequently, diminishing marginal returns are first evident beyond three machine hours.

16. A is correct. Three workers produce the highest average product equal to 170.  $AP = 510/3 = 170$ .
17. B is correct. Marginal product is equal to the change in total product divided by the change in labor. The increase in MP from 2 to 3 workers is 190:  $MP = \Delta TP / \Delta L = (510 - 320) / (3 - 2) = 190/1 = 190$ .
18. A is correct. Normal profit is the level of accounting profit such that implicit opportunity costs are just covered; thus, it is equal to a level of accounting profit such that economic profit is zero.
19. A is correct. Marginal revenue per unit is defined as the change in total revenue divided by the change in quantity sold.  $MR = \Delta TR \div \Delta Q$ . In this case, change in total revenue equals CHF100,000, and change in total units sold equals 50.  $CHF100,000 \div 50 = CHF2,000$ .
20. A is correct. Marginal revenue per unit is defined as the change in total revenues divided by the change in quantity sold.  $MR = \Delta TR \div \Delta Q$ . In this case, change in total revenue per day equals €3,000  $[(450 \times €40) - (300 \times €50)]$ , and change in units sold equals 150  $(450 - 300)$ .  $€3,000 \div 150 = €20$ .
21. A is correct. Average fixed cost is equal to total fixed cost divided by quantity produced:  $AFC = TFC/Q = 200/4 = 50$ .
22. C is correct. Marginal cost is equal to the change in total cost divided by the change in quantity produced.  $MC = \Delta TC / \Delta Q = 80/1 = 80$ .
23. C is correct. Average total cost is equal to total cost divided by quantity produced. At 5 units produced the average total cost is 104.  $ATC = TC/Q = 520/5 = 104$ .
24. A is correct. In a perfectly competitive market, an increase in supply by a single firm will not affect price. Therefore, an increase in units sold by the firm will be matched proportionately by an increase in revenue.
25. A is correct. Under perfect competition, a firm is a price taker at any quantity supplied to the market, and  $AR = MR = \text{Price}$ .
26. A is correct. The quantity at which average total cost is minimized does not necessarily correspond to a profit maximum.

27. A is correct. Under perfect competition, price equals marginal revenue. A firm breaks even when marginal revenue equals average total cost.
28. C is correct. The firm should shut down production when marginal revenue is less than or equal to average variable cost.
29. A is correct. A company is said to break even if its total revenue is equal to its total cost. Under conditions of perfect competition, a company will break even when market price is equal to the minimum point of the average total cost curve.
30. B is correct. A company will shut down production in the short run when total revenue is below total variable costs.
31. C is correct. A company will stay in the market in the long term if total revenue is equal to or greater than total cost. Because total costs are \$7 million (\$4 million variable costs and \$3 million fixed costs), the company will stay in the market in the long term if total revenue equals at least \$7 million.
32. B is correct. When total revenue is enough to cover variable costs but not total fixed costs in full, the firm can survive in the short run but would be unable to maintain financial solvency in the long run.
33. A is correct. Competition should drive prices down to long-run marginal cost, resulting in only normal profits being earned.
34. C is correct. Output increases in the same proportion as input increases occur at constant returns to scale.
35. B is correct. Economies of scale occur if, as the firm increases output, cost per unit of production falls. Graphically, this definition translates into a long-run average cost curve (LRAC) with a negative slope.
36. B is correct. As the firm increases output, diseconomies of scale and higher average total costs can result when there is overlap and duplication of business functions and product lines.
37. C is correct. The firm operating at greater than long-run efficient scale is subject to diseconomies of scale. It should plan to decrease its level of production.

## SOLUTIONS

1. C is correct. Monopolistic competition is characterized by many sellers, differentiated products, and some pricing power.
2. A is correct. Few sellers of a homogeneous or standardized product characterizes an oligopoly.
3. B is correct. The long-run competitive equilibrium occurs where  $MC = AC = P$  for each company. Equating MC and AC implies  $2 + 8Q = 256/Q + 2 + 4Q$ . Solving for Q gives  $Q = 8$ . Equating MC with price gives  $P = 2 + 8Q = 66$ . Any price above 66 yields an economic profit because  $P = MC > AC$ , so new companies will enter the market.
4. B is correct. The economic profit will attract new entrants to the market and encourage existing companies to expand capacity.
5. C is correct. The profit maximizing choice is the level of output where marginal revenue equals marginal cost.
6. A is correct. The oligopolist faces two different demand structures, one for price increases and another for price decreases. Competitors will lower prices to match a price reduction, but will not match a price increase. The result is a kinked demand curve.
7. B is correct. When companies have similar market shares, competitive forces tend to outweigh the benefits of collusion.
8. B is correct. The credible threat of entry holds down prices and multiple incumbents are offering undifferentiated products.
9. C is correct. There are many competitors in the market, but some product differentiation exists, as the price differential between Deep River's brand and the house brands indicates.
10. C is correct. In the Nash model, each company considers the other's reaction in selecting its strategy. In equilibrium, neither company has an incentive to change its strategy. ThetaTech is better off with open architecture regardless of what SigmaSoft decides. Given this choice, SigmaSoft is better off with a proprietary platform. Neither company will change its decision unilaterally.
11. B is correct. A company in a perfectly competitive market must accept whatever price the market dictates. The marginal cost schedule of a company in a perfectly competitive market determines its supply function.
12. A is correct. As prices decrease, smaller companies will leave the market rather than sell below cost. The market share of Aquarius, the price leader, will increase.
13. B is correct. The dominant company's market share tends to decrease as profits attract entry by other companies.
14. B is correct. The product produced in a perfectly competitive market cannot be differentiated by advertising or any other means.
15. C is correct. Profits are maximized when  $MR = MC$ . For a monopoly,  $MR = P[1 -$

$1/E_p]$ . Setting this equal to MC and solving for  $P$ :

$$\$40 = P[1 - (1/1.5)] = P \times 0.333$$

$$P = \$120$$

16. B is correct. This allows the investors to receive a normal return for the risk they are taking in the market.
17. B is correct. The top four companies in the industry comprise 86 percent of industry sales:  $(300 + 250 + 200 + 150)/(300 + 250 + 200 + 150 + 100 + 50) = 900/1050 = 86\%$ .
18. B is correct. The three-firm Herfindahl–Hirschmann Index is  $0.35^2 + 0.25^2 + 0.20^2 = 0.225$ .
19. B is correct. The Herfindahl–Hirschmann Index does not reflect low barriers to entry that may restrict the market power of companies currently in the market.



## SOLUTIONS

1. B is correct. GDP is the total amount spent on all final goods and services produced within the economy during a specific period.
2. C is correct. Byproducts of production processes that have no explicit market value are not included in GDP.
3. A is correct. Canadian GDP is the total market value of all final goods and services produced during a given period within Canada. The wine was produced in Canada and counts toward Canadian GDP.
4. B is correct. The value added by the artist is  $£5,000 - £2,000 = £3,000$ .
5. C is correct. Government transfer payments, such as unemployment compensation or welfare benefits, are excluded from GDP.
6. A is correct. Nominal GDP is defined as the value of goods and services measured at current prices. Expenditure is used synonymously with the value of goods and services because aggregate expenditures must equal aggregate output of an economy.
7. B is correct. Real GDP in the first year was  $€100 \text{ billion} / 1.11 = €90 \text{ billion}$ , and in the last year it was  $€300 \text{ billion} / 2.00 = €150 \text{ billion}$ . Thus,  $(€150 - €90) / €90 = 0.67$ , or 67%.
8. A is correct:  $(212.8/190)^{1/2} - 1 = 0.0583$ , or 5.8%.
9. B is correct.

$$\text{GDP deflator} = \frac{\text{Value of current year output at current year prices}}{\text{Value of current year output at base year prices}} \times 100$$

10. B is correct.  $\text{GDP} = \text{Consumption} + \text{Gross private domestic investment} + \text{Government spending} + (\text{Exports} - \text{Imports}) = 15 + 4 + 3.8 + (1.5 - 1.7) = 22.6$ .  
National income =  $\text{GDP} - \text{CCA} = 22.6 - 1.5 = 21.1$
11. C is correct. Unincorporated business net income, also known as proprietor's income, is included in personal income.
12. A is correct. The fundamental relationship among saving, investment, the fiscal balance, and the trade balance is  $S = I + (G - T) + (X - M)$ . This form of the relationship shows that private saving must fund investment expenditures, the government fiscal balance, and net exports (= net capital outflows). Rearranging gives  $G - T = (S - I) - (X - M)$ . The government's fiscal deficit ( $G - T$ ) must equal the private sector's saving/investment balance ( $S - I$ ) minus net exports.
13. C is correct. The fundamental relationship among saving, investment, the fiscal balance, and the trade balance is  $S = I + (G - T) + (X - M)$ . Given the levels of output and investment spending, an increase in saving (reduction in consumption) must be offset by either an increase in the fiscal deficit or an increase in net exports. Increasing the fiscal deficit is not one of the choices, so an increase in net exports and corresponding increase in net capital outflows (increased lending internationally and/or increased international purchases of assets) is the correct response.
14. B is correct. The GDP deflator = Nominal GDP/Real GDP. To obtain a ratio less

than 1, real GDP must exceed nominal GDP, which indicates that prices have decreased and, accordingly, deflation has occurred.

15. B is correct. Assuming a fixed supply of money, a higher price level will lead to a higher price of money. Because the price of money is the interest rate, as the price level increases, the interest rate increases. Higher interest rates will lead to lower consumption and investment.
16. A is correct. A lower price level results in a weaker real exchange rate, making domestic goods cheaper to people in other countries and imports less competitive, resulting in a higher level of net exports.
17. C is correct. At the full employment, or natural, level of output, the economy is operating at an efficient and unconstrained level of production. Companies have enough spare capacity to avoid bottlenecks, and there is a modest, stable pool of unemployed workers (job seekers equal job vacancies) looking for and transitioning into new jobs.
18. C is correct. Because of long-term contracts and other rigidities, wages and other input costs do not fully adjust to changes in the price level in the short run. Given input prices, firms respond to output price changes by expanding or contracting output to maximize profit. Hence, the SRAS is upward sloping.
19. B is correct. The slope of the short-run aggregate supply curve reflects the extent to which wages and other input costs adjust to the overall price level. Automatic adjustment of wages would mitigate the impact of price changes on profitability. Hence, firms would not adjust output as much in response to changing output prices—the SRAS curve would be steeper.
20. B is correct. A weak domestic currency will result in an increase in aggregate demand at each price level—a rightward shift in the AD curve. A weaker currency will cause a country's exports to be cheaper in global markets. Conversely, imports will be more expensive for domestic buyers. Hence, the net exports component of aggregate demand will increase.
21. B is correct. Productivity measures the efficiency of labor and is the amount of output produced by workers during a given period. A decline in productivity implies decreased efficiency. A decline in productivity increases labor costs, decreases profitability, and results in lower output at each output price level—a leftward shift in both the short-run and long-run aggregate supply curves.
22. C is correct. The wealth effect explains the impact of increases or decreases in household wealth on economic activity. Household wealth includes financial and real assets. As asset values increase, consumers save less and spend more out of current income because they will still be able to meet their wealth accumulation goals. Therefore, an increase in household wealth results in a rightward shift in the aggregate demand curve.
23. B is correct. Higher aggregate demand and higher aggregate supply raise real GDP and lower unemployment, meaning employment levels increase.
24. A is correct. Stagflation occurs when output is declining and prices are rising. This dynamic most likely results from a decline in aggregate supply—a leftward shift of the SRAS curve. Depending on the source of the shift, the LRAS may shift too.
25. B is correct. An increase in energy prices will shift the short-run aggregate supply curve (SRAS) to the left, reducing output and increasing prices. If the aggregate

demand curve does not change—in particular, if the central bank does not expand the money supply—slack in the economy will put downward pressure on input prices, shifting the SRAS back to its original position. In the long run, the price level will be unchanged.

26. A is correct. Technology is the most important factor affecting economic growth for developed countries. Technological advances are very important because they allow an economy to overcome the limits imposed by diminishing marginal returns.
27. B is correct. Labor productivity can be directly measured as output/hour.
28. B is correct. Output growth is equal to the growth rate of the labor force plus the growth rate of labor productivity—that is, output per worker. Unlike total factor productivity, output per worker is observable, so this measure is the most practical way to approach estimation of sustainable growth.
29. B is correct. Total factor productivity is a scale factor primarily reflecting technology. An increase in TFP means that output increases for any level of factor inputs.
30. B is correct. The estimated equation is the standard Solow growth accounting equation. The intercept is the growth rate of total factor productivity.
31. C is correct. In the standard Solow growth accounting equation, the coefficient on each factor's growth rate is its share of income.
32. B is correct. Diminishing marginal productivity of capital means that as a country accumulates more capital per worker, the incremental boost to output declines. Thus, all else equal, economies grow more slowly as they become more capital intensive. Given the relative scarcity and hence high marginal productivity of capital in developing countries, these economies tend to grow more rapidly than developed countries. This dynamic leads to convergence in income levels over time.

## SOLUTIONS

1. B is correct. The stages of the business cycle occur repeatedly over time.
2. B is correct. The net trend during contraction is negative.
3. A is correct. Inflation is rising at peaks.
4. C is correct. At the end of a recession, firms will run “lean production” to generate maximum output with the fewest number of workers.
5. C is correct. When an economy’s expansion is well established, businesses often have difficulty finding qualified workers.
6. A is correct. Accelerating inflation and rapidly expanding capital expenditures typically characterize the peak of the business cycle. During such times, many businesses finance their capital expenditures with debt to expand their production capacity.
7. B is correct. Credit cycles are associated with availability of credit, which is important in the financing of construction and the purchase of property.
8. A is correct. Studies have shown that loose credit conditions contribute to the extent of asset price and real estate bubbles that tend to be followed by crises.
9. B is correct. Physical capital adjustments to downturns come through aging of equipment plus lack of maintenance.
10. C is correct. Near the top of a cycle, sales begin to slow before production is cut, leading to an increase in inventories relative to sales.
11. C is correct. When a nation’s currency depreciates, domestic goods seem cheaper than foreign goods, placing downward pressure on demand for imports. When the depreciation persists for some time, the country’s total imports are likely to decrease.
12. A is correct. Monetarists caution that policy effects can occur long after the need for which they were implemented is no longer an issue.
13. A is correct. Keynesian economics is based on government intervention in the form of fiscal policy. The national government responds to the recession by using deficit spending to fund infrastructure projects.
14. B is correct. Real Business Cycle models conclude that expansions and contractions of the economy are responses to external shocks, such as supply shocks arising from advances in technology or changes in the relative prices of inputs (e.g., energy prices). An increase in energy prices shifts short-run aggregate supply to the left, resulting in higher prices and lower GDP.
15. A is correct. Austrian economists see monetary policy mistakes as leading to booms and busts.
16. A is correct. Austrian economists advocate limited government intervention in the economy. They advise that the best thing to do in a recession is to allow the necessary market adjustment to take place.
17. C is correct. While no single indicator is definitive, a mix of them—which can

be affected by various economic determinants—can offer the strongest signal of performance.

18. B is correct. The narrowing spread of this leading indicator foretells a drop in short-term rates and a fall in economic activity. The prime rate is a lagging indicator and typically moves after the economy turns.
19. B is correct. Rising building permits—a leading indicator—indicate that an upturn is expected to occur or continue. Increasing average duration of unemployment—a lagging indicator—indicates that a downturn has occurred, whereas the lack of any change in services inflation—also a lagging indicator—is neither negative nor positive for the direction of the economy. Taken together, these statistics indicate that a cyclical upturn may be expected to occur.
20. A is correct. Both inventory–sales and unit labor costs are lagging indicators that decline somewhat after a peak. Real personal income is a coincident indicator that by its decline shows a slowdown in business activity.
21. A is correct. Aggregate real personal income and industrial output are coincident indicators, whereas the S&P 500 is a leading indicator. An increase in aggregate personal income and industrial output signals that an expansion is occurring, whereas an increase in the S&P 500 signals that an expansion will occur or is expected to continue. Taken together, these statistics indicate that a cyclical upturn is occurring.
22. C is correct. Aggregate real personal income is a coincident indicator of the business cycle, and the ratio of consumer installment debt to income is a lagging indicator. Increases in the ratio of consumer installment debt follow increases in average aggregate income during the typical business cycle.
23. C is correct. Leading economic indicators have turning points that usually precede those of the overall economy. Average weekly hours, manufacturing is a leading economic indicator. The Industrial Production Index is a coincident economic indicator, and the average bank prime lending rate is a lagging economic indicator.
24. C is correct. This effect makes unemployment rise more slowly as recessions start and fall more slowly as recoveries begin.
25. B is correct. In an economic recovery, new job seekers return to the labor force, and because they seldom find work immediately, their return may initially raise the unemployment rate.
26. A is correct. Discouraged workers have given up seeking employment and are statistically outside the labor force. Therefore, an increase in discouraged workers will decrease the labor force and thus the labor participation ratio, which is the ratio of labor force to total working age population. Additionally, an increase in discouraged workers will decrease the unemployment rate because discouraged workers are not counted in the official unemployment rate.
27. C is correct. Frictionally unemployed people are not working at the time of the employment survey but have recently left one job and are about to start another job. The frictionally unemployed have a job waiting for them and are not 100% unemployed, it is just that they have not started the new job yet. Although the treasury manager has left his current employment, he has accepted a new position at another firm that starts in six months.
28. B is correct. Discouraged workers are defined as persons who have stopped look-

ing for work and are outside the labor force.

29. B is correct. With inflation, a fixed amount of money buys fewer goods and services, thus reducing purchasing power.
30. C is correct. Disinflation is known as a reduction of inflation from a higher to lower, but still above zero, level.
31. B is correct. Deflation is connected to a vicious cycle of reduced spending and higher unemployment.
32. A is correct. In hyperinflation, consumers accelerate their spending to beat price increases, and money circulates more rapidly.
33. A is correct. The Laspeyres index is calculated with these inputs:
- November consumption bundle:  $70 \times 0.9 + 60 \times 0.6 = 99$
  - December consumption bundle:  $70 \times 1 + 60 \times 0.8 = 118$
  - December price index:  $(118/99) \times 100 = 119.19$
  - Inflation rate:  $(119.19/100) - 1 = 0.1919 = 19.19\%$
34. A is correct. The Paasche index uses the current product mix of consumption combined with the variation of prices. For December, its value is
- $$(120 \times 1 + 50 \times 0.8) / (120 \times 0.9 + 50 \times 0.6) = (160/138) \times 100 = 115.9.$$
35. C is correct. This scenario is often referred to as stagflation. Here, the economy is likely to be left to self-correct because no short-term economic policy is thought to be effective.
36. C is correct. Disinflation is a decline in the inflation rate—for example, from 7% to 4%.
37. C is correct. Central banks typically use consumer price indexes to monitor inflation and evaluate their monetary policies.
38. C is correct. The CPI is typically used for this purpose, while the PPI is more closely connected to business contracts.
39. B is correct. The inflation rate calculated by using a constant consumption basket

(the Laspeyres index) is 10%, derived as follows:

$$\text{July 20X0 consumption basket} = (18 \times \text{€}1) + (6 \times \text{€}2) = \text{€}30$$

$$\text{August 20X0 consumption basket} = (18 \times \text{€}1) + (6 \times \text{€}2.5) = \text{€}33$$

$$\text{Value of the Laspeyres index (IL)} = (\text{€}33/\text{€}30) \times 100 = \text{€}110$$

$$\text{Inflation rate} = (110/100) - 1 = 0.10 = 10\%$$

The inflation rate calculated using a current consumption basket (the Paasche index) is 8%, derived as follows:

$$\text{July 20X0 consumption basket} = (17 \times \text{€}1) + (4 \times \text{€}2) = \text{€}25$$

$$\text{August 20X0 consumption basket} = (17 \times \text{€}1) + (4 \times \text{€}2.5) = \text{€}27$$

$$\text{Value of the Paasche index (IP)} = (\text{€}27/\text{€}25) \times 100 = \text{€}108$$

$$\text{Inflation rate} = (108/100) - 1 = 0.08 = 8\%$$

The inflation rate calculated by “chaining” the monthly prices of consumption baskets as they change over time (the Fisher index) is derived as follows:

$$\text{Value of the Fisher index} = \sqrt{I_P \times I_L}$$

$$\text{Value of the Fisher Index} = \sqrt{\text{€}110 \times \text{€}108} = \text{€}108.99$$

$$\text{Inflation rate} = (108.99/100) - 1 = 0.0899 = 8.99\%$$

40. A is correct. Core inflation is less volatile since it excludes food and energy prices and therefore will not be as likely to lead to policy overreactions when serving as a target.
41. C is correct. For productivity, or output per hour, the faster that it can grow, the further that wages can rise without putting pressure on business costs per unit of output.
42. B is correct. As the quality of a product improves, it satisfies people's needs and wants better. The measured inflation rate is skewed higher than otherwise unless an adjustment is made for the increase in the quality of the good. Even if the good's price had increased over time, the improvements in quality would still bias the measured inflation rate upward.
43. A is correct. A price index of goods and services that excludes food and energy is used to calculate core inflation. Policy makers often use core inflation when reading the trend in the economy and making economic policies. The reason is because policy makers are trying to avoid overreaction to short-term fluctuations in prices as a result of short-term changes in supply and demand.
44. B is correct. Cost-push inflation refers to the situation in which rising costs, usually wages, compel businesses to raise prices.

## SOLUTIONS

1. B is correct. There is an inverse relationship between the money multiplier and the reserve requirement. The money multiplier is equal to 1 divided by the reserve requirement.
2. A is correct. Precautionary money demand is directly related to GDP. Precautionary money balances are held to provide a buffer against unforeseen events that might require money. Precautionary balances tend to rise with the volume and value of transactions in the economy, and therefore rise with GDP.
3. B is correct. When the interest rate on bonds is  $I_1$  there is an excess supply of money (equal to  $M_0 - M_1 > 0$ ). Economic agents would seek to buy bonds with their excess money balances, which would force the price of bonds up and the interest rate down to  $I_0$ .
4. A is correct. According to the theory of money neutrality, an increase in the money supply ultimately leads to an increase in the price level and leaves real variables unaffected in the long run.
5. B is correct. If money were neutral in the short run, monetary policy would not be effective in influencing the economy.
6. B is correct. By definition, monetarists believe prices may be controlled by manipulating the money supply.
7. A is correct. The Fisher effect is based on the idea that the real interest rate is relatively stable. Changes in the nominal interest rate result from changes in expected inflation.
8. A is correct. The Fisher effect implies that changes in the nominal interest rate reflect changes in expected inflation, which is consistent with Nominal interest rate = Real interest rate + Expected rate of inflation.
9. B is correct. The supervision of banks is not a role that all central banks assume. When it is a central bank's role, responsibility may be shared with one or more entities.
10. C is correct. Low levels of inflation has higher economic costs than moderate levels, all else equal; unanticipated inflation has greater costs than anticipated inflation.
11. C is correct. Transfer payment programs represent fiscal, not monetary policy.
12. A is correct. Central bank activities are typically intended to maintain price stability. Concerning choice B, note that the transmission channels of monetary policy are not independent.
13. A is correct. Investment is expected to move inversely with the official policy rate.
14. A is correct. Such action would tend to constrict the money supply and increase interest rates, all else equal.
15. C is correct. The purchase of government bonds via open market operations increases banking reserves and the money supply; it is consistent with an expansionary monetary policy.



sionary monetary policy.

16. A is correct. The central bank described is target independent because it set its own targets (e.g., the target inflation rate) and operationally independent because it decides how to achieve its targets (e.g., the time horizon).
17. A is correct. Interest rates are expected to rise to protect the exchange rate target.
18. A is correct. The neutral rate of interest is that rate of interest that neither stimulates nor slows down the underlying economy. The neutral rate should be consistent with stable long-run inflation.
19. B is correct. A central bank would decrease an official interest rate to stimulate the economy. The setting in which an official interest rate is lowered to zero (or even slightly below zero) without stimulating economic growth suggests that there are limits to monetary policy.
20. C is correct. Raising reserve requirements should slow money supply growth.
21. C is correct. Deflation poses a challenge to conventional monetary policy because once the central bank has cut nominal interest rates to zero (or slightly less than zero) to stimulate the economy, they cannot cut them further.
22. A is correct. The inability to determine exactly the neutral rate of interest does not necessarily limit the power of monetary policy.
23. B is correct. Quantitative easing is an example of an expansionary monetary policy stance. It attempts to spur aggregate demand by drastically increasing the money supply.
24. C is correct. Ensuring stable purchasing power is a goal of monetary rather than fiscal policy. Fiscal policy involves the use of government spending and tax revenue to affect the overall level of aggregate demand in an economy and hence the level of economic activity.
25. C is correct. A freeze in discretionary government spending is an example of a contractionary fiscal policy.
26. A is correct. A “pay-as-you-go” rule is a neutral policy because any increases in spending or reductions in revenues would be offset. Accordingly, there would be no net impact on the budget deficit/surplus.
27. B is correct. The belief is that high levels of debt to GDP may lead to higher future tax rates which may lead to disincentives to economic activity.
28. A is correct. Government borrowing may compete with private sector borrowing for investment purposes.
29. A is correct. Public financing of a power plant could be described as a fiscal policy tool to stimulate investment.
30. B is correct. Cyclically adjusted budget deficits are appropriate indicators of fiscal policy. These are defined as the deficit that would exist if the economy was at full employment (or full potential output).
31. B is correct. Fiscal policy is subject to recognition, action, and impact lags.
32. A is correct. Monetary actions may face fewer delays to taking action than fiscal

policy, especially when the central bank is independent.

33. A is correct. If both fiscal and monetary policies are “easy,” then the joint impact will be highly expansionary, leading to a rise in aggregate demand, low interest rates, and growing private and public sectors.

## SOLUTIONS

1. C is correct. Cultural program development is likely lowest on a country's hierarchy of interests. Military determination (B) is often a primary source of national security and key to a country's national interest. Tariff harmonization (A) may improve economic activity and improve cooperation. Cultural programs are important and influential but likely lower priority compared to A and B.
2. B is correct. Political cooperation is associated with anything related to agreements of rules and standardization, with countries working together towards some shared goal. A cooperative country is one that engages and reciprocates in rules standardization. A is incorrect because acting as a conduit of trade, like Panama, involves non-cooperatively using a country's geographic location as a lever of power in broader international dynamics. C is incorrect because both soft power and military retaliation are examples of non-cooperative behavior, with the former being a less extreme means to influence another country's decisions without force or coercion.
3. C is correct. The strength of a country's institutions can make cooperative relationships more durable. A is incorrect because modeling geopolitical risk is not easily standardized. B is incorrect because a cooperative country is one that is both engaged and reciprocates.
4. A is correct. If a country is engaged in military conflict, there is a higher cost to cooperation. B is incorrect because a country with few internal resources is likely to rely on political cooperation. C is incorrect because interest prioritization does determine the depth and nature of political cooperation.
5. B is correct. Multilateralism describes countries that participate in mutually beneficial trade relationships and extensive rules harmonization. Autarky describes countries seeking political self-sufficiency with little or no external trade or finance. In the Exhibit 6 display of these behavior patterns, these choices are most widely separated on both the globalization and cooperation continuums. A is incorrect because bilateral or regional approaches describe those countries leveraging regional trade relationships and may face the world as a group. Bilateralism shares with autarky a bias against globalization. These approaches diverge, however, regarding cooperation, with autarky being more non-cooperative. C is incorrect because multilateralism describes countries that participate in mutually beneficial trade relationships and extensive rules harmonization. Hegemony represents countries exerting political or economic influence of others to control resources. Multilateralism shares with hegemony an inclination towards globalization, as shown in Exhibit 6, but diverges from hegemony regarding cooperation; hegemony is more non-cooperative.
6. B is correct. Restricted foreign currency exchange—a characteristic of anti-globalization—would likely reduce political and economic cooperation and thus increase geopolitical risk. A is incorrect because an increase in capital flows would reduce geopolitical risk. C is incorrect because an increase in trade would reduce geopolitical risk.
7. C is correct. Through the process of greater economic and financial cooperation, companies may become dependent on other countries' resources for their supply chains. On aggregate, this can result in the nation itself becoming dependent on other nations for certain resources (such as rare earth metals, cobalt, or copper). If there is a disruption to the supply chain, including via a moment of political

non-cooperation, then firms may not be able to produce the good themselves.

A is incorrect because the narrowing of pay differences between countries results from a motivation to pursue globalization, which is related to one of its advantages. It is an important way for companies to increase profitability by reducing their costs. While wage differentials remain, they are decreasing. B is incorrect because the proportion of flows between developed economies as a share of overall trade continuing to decline as emerging market trade flows rise is a function of increased international investment. This increased investment has provided beneficial aggregate economic benefits, such as increased choice, higher quality goods, increased competition among firms, higher efficiency, and increased labor mobility.

8. A is correct. Unequal accrual of economic and financial gains is a cost of globalization because improvement on the aggregate does not mean improvement for everyone. B is incorrect because globalization leads to *interdependency* as companies may become dependent on other countries' resources for their supply chains. C is incorrect because rather than decreased access to talent, a country might actually globalize to improve access to talent as cooperation and globalization can lead to increased access to resources.
9. A is correct. The COVID-19 pandemic has highlighted the need for certain essential supply chains to be rebuilt domestically for emergency situations, with availability of critical spare parts being an analogy. The close integration of the US and Canadian economies through the revised NAFTA agreement effectively makes expanded production at an existing Canadian factory an example of reducing manufacturing risk by relocating to home countries via reshoring. B is incorrect because instead of reducing manufacturing risk by duplicating or fortifying its supply chain, the company is simply continuing to use its existing capacity more intensively. C is incorrect because although the production is intended to better supply its home market, there is no evidence that the company is expanding its presence in the US market or shifting its focus to the exclusion of available opportunities elsewhere.
10. Option 1 (Financial) matches with C (Free exchange of currency across borders).  
Option 2 (Economic) matches with A (Nationalization).  
Option 3 (National security) matches with B (Espionage).
11. A is correct. Cabotage is the right to transport passengers or goods within a country by a foreign firm. Many countries—including those with multilateral trade agreements—impose restrictions on cabotage across transportation subsectors, meaning that shippers, airlines, and truck drivers are not allowed to transport goods and services within another country's borders. Allowing cabotage requires coordination on areas like physical security and economic coordination, a highly multilateral (multi-tool) process. B is incorrect because armed conflict is the most extreme example of a national security tool. It can be either internal or external to a country in taking a direct and active approach to wielding influence. C is incorrect because nationalization of key export industries is an economic tool. This process of transferring an activity or industry from private to state control is a non-cooperative approach to asserting economic control.
12. B is correct. Event risk evolves around set dates, such as elections and new legislation, or other date-driven milestones, such as holidays or political anniversaries known in advance. The other choices could not be known in advance. An earthquake (A) is an example of an exogenous risk. An ongoing civil war (C) is an example of a thematic risk.
13. C is correct. Exogenous risks are best described as those that are sudden or

unanticipated and that impact either a country's cooperative stance, the ability of non-state actors to globalize, or both. A is incorrect because thematic (not exogenous) risks are known risks that evolve and expand over a period of time. B is incorrect because event (not exogenous) risks are those that evolve around set dates, including elections, new legislation, or other date-driven milestones.

14. B is correct. Although highly collaborative and globalized countries are, on balance, less likely to experience geopolitical risk because the political, economic, and financial costs of partners inflicting those risks are higher than less collaborative countries, the same interconnectedness may make them more vulnerable to geopolitical risk. A is incorrect because geopolitical risk is always present in the investment environment. C is incorrect because geopolitical risk tends to have a greater impact on markets already experiencing a general contraction or economic downturn.
15. A is correct. The GPR index creators found that high levels of geopolitical risk reduce US investment, employment, and price level of the stock market. B is incorrect because firms reduce investment in the wake of idiosyncratic events, which would be unlikely to repeat. C is incorrect because the threat of an event was shown to have a larger impact over time than that of the actual events themselves.
16. B is correct. *Event risk* evolves around set dates, such as elections or new legislation, or other date-driven milestones, such as holidays or political anniversaries. Analysts can thus look to political calendars as a predictable starting point for determining the occurrence of event risk, with time to devise a suitable response. A is incorrect because exogenous risk is sudden and unanticipated. Examples include sudden uprisings, invasions, or the aftermath of natural disasters. The timing and range of its effects thus have the greatest unknowns. C is incorrect because thematic risks are known risks that evolve and expand over a period of time. Climate change, pattern migration, the rise of populist forces, and the ongoing threat of terrorism fall into this category. These are more foreseeable than exogenous risks, but with their extended interval of exposure, planned responses will likely require continuing adjustments.

## SOLUTIONS

1. A is correct. Countries gain from exchange when trade enables each country to receive a higher price for exported goods and/or pay a lower price for imported goods. This leads to more efficient resource allocation and allows consumption of a larger variety of goods.
2. B is correct. Resources may need to be reallocated into or out of an industry, depending on whether that industry is an exporting sector or an import-competing sector of that economy. As a result of this adjustment process, less-efficient companies may be forced to exit the industry, which in turn may lead to higher unemployment and the need for retraining in order for displaced workers to find jobs in expanding industries.
3. A is correct. The copper industry in Copperland would benefit from trade. Because the cost of producing copper relative to producing tea is lower in Copperland than in Tealand, Copperland will export copper and the industry will expand.
4. B is correct. Comparative advantage is present when the opportunity cost of producing a good is less than that of a trading partner.
5. C is correct. While Brazil has an absolute advantage in the production of both flashlights and vegetables, Mexico has a comparative advantage in the production of vegetables. The opportunity cost of vegetables in Mexico is  $\frac{1}{3}$  per flashlight, while the opportunity cost of vegetables in Brazil is  $\frac{1}{2}$  per flashlight.
6. C is correct. Mexico has the lowest opportunity cost to produce an extra banana. The opportunity cost is 2 pencils per banana in Mexico, 3 pencils per banana in Brazil, and 4 pencils per banana in Canada.
7. C is correct. A country gains if trade increases the price of its exports relative to its imports as compared to its autarkic prices, i.e. the final terms of trade are more favorable than its autarkic prices. If the relative price of exports and imports remains the same after trade opens, then the country will consume the same basket of goods before and after trade opens, and it gains nothing from the ability to trade. In that case, its trade partner will capture all of the gains. Of course, the opposite is true if the roles are reversed. More generally, a country captures more of the gains from trade the more the final terms of trade differ from its autarkic prices.
8. A is correct. In the Heckscher–Ohlin model a country has a comparative advantage in goods whose production is intensive in the factor with which it is relatively abundantly endowed. In this case, capital is relatively abundant in Germany so Germany has a comparative advantage in producing the capital-intensive product: machine tools. Portugal is relatively labor abundant, hence should produce and export the labor-intensive product: wine.
9. B is correct. As a country opens up to trade, it has a favorable impact on the abundant factor, and a negative impact on the scarce factor. This is because trade causes the output mix to change and therefore changes the relative demand for the factors of production. Increased output of the export product increases demand for the factor that is used intensively in its production, while reduced output of the import product decreases demand for the factor used intensively in its production. Because the export (import) product uses the abundant (scarce) factor intensively, the abundant factor gains relative to the scarce factor in each

country.

10. A is correct. The imposition of a tariff will most likely increase domestic government revenue. A tariff is a tax on imports collected by the importing country's government.
11. C is correct. With a voluntary export restraint, the price increase induced by restricting the quantity of imports (= quota rent for equivalent quota = tariff revenue for equivalent tariff) accrues to foreign exporters and/or the foreign government.
12. A is correct. By definition, a large country is big enough to affect the world price of its imports and exports. A large country can benefit by imposing a tariff if its terms of trade improve by enough to outweigh the welfare loss arising from inefficient allocation of resources.
13. A is correct. A customs union extends a free trade area (FTA) by not only allowing free movement of goods and services among members, but also creating common trade policy against non-members. Unlike a more integrated common market, a customs union does not allow free movement of factors of production among members.
14. C is correct. Regional trading agreements are politically less contentious and quicker to establish than multilateral trade negotiations (for example, under the World Trade Organization). Policy coordination and harmonization is easier among a smaller group of countries.
15. A is correct. The capital account measures capital transfers and sale and purchase of non-produced, non-financial assets such as mineral rights and intangible assets.
16. B is correct. The current account measures the flows of goods and services (including income from foreign investments). Patent fees and legal services are both captured in the services sub-account of the current account.
17. C is correct. The current account includes income received on foreign investments. The Korean company effectively "exported" the use of its capital during the quarter to its US subsidiary, and the dividend represents payment for those services.
18. B is correct. A current account deficit tends to result from low private saving, high private investment, a government deficit, or a combination of the three. Of the choices, only low private savings contributes toward a current account deficit.
19. B is correct. A current account deficit tends to result from low private saving, high private investment, low government savings, or a combination of the three. Of these choices, only high investments can increase productive resources and improve future ability to repay creditors.
20. B is correct. The WTO provides the legal and institutional foundation of the multinational trading system and is the only international organization that regulates cross-border trade relations among nations on a global scale. The WTO's mission is to foster free trade by providing a major institutional and regulatory framework of global trade rules. Without such global trading rules, today's global transnational corporations would be hard to conceive.
21. A is correct. The World Bank's mission is to help developing countries fight poverty and enhance environmentally sound economic growth. The World Bank

helps to create the basic economic infrastructure essential for creation and maintenance of domestic financial markets and a well-functioning financial industry in developing countries.

22. C is correct. From an investment perspective, the IMF helps to keep country-specific market risk and global systemic risk under control. The Greek sovereign debt crisis on 2010, which threatened to destabilize the entire European banking system, is a recent example. The IMF's mission is to ensure the stability of the international monetary system, the system of exchange rates and international payments which enables countries to buy goods and services from each other.
23. C is correct. The GATT was the only multilateral body governing international trade from 1948 to 1995. It operated for almost half a century as a quasi-institutionalized, provisional system of multilateral treaties and included several rounds of negotiations.



## SOLUTIONS

1. B is correct. The real exchange rate (quoted in terms of domestic currency per unit of foreign currency) is given by:  

$$\text{Real exchange rate}_{(d/f)} = S_{d/f} \times (P_f/P_d)$$

An increase in the domestic price level ( $P_d$ ) *decreases* the real exchange rate because it implies an *increase* in the relative purchasing power of the domestic currency.
2. B is correct. The receivable is due in 100 days. To reduce the risk of currency exposure, the British company would initiate a forward contract to sell euros/buy pounds at an exchange rate agreed to today. The agreed-upon rate is called the forward exchange rate.
3. C is correct. The sell side generally consists of large banks that sell foreign exchange and related instruments to buy-side clients. These banks act as market makers, quoting exchange rates at which they will buy (the bid price) or sell (the offer price) the base currency.
4. B is correct. In the case of a direct exchange rate, the domestic currency is the price currency (the numerator) and the foreign currency is the base currency (the denominator). If the domestic currency appreciates, then fewer units of the domestic currency are required to buy 1 unit of the foreign currency and the exchange rate (domestic per foreign) declines. For example, if sterling (GBP) appreciates against the euro (EUR), then euro–sterling (GBP/EUR) might decline from 0.8650 to 0.8590.
5. A is correct. An indirect quote takes the foreign country as the price currency and the domestic country as the base currency. To get CHF—which is the executive's domestic currency—as the base currency, the quote must be stated as EUR/CHF. Using the hotel manager's information, the indirect exchange rate is  $(1/1.2983) = 0.7702$ .
6. C is correct. The appreciation of sterling against the Swiss franc is simply the inverse of the 12% depreciation of the Swiss franc against Sterling:  $[1/(1 - 0.12)] - 1 = (1/0.88) - 1 = 0.1364$ , or 13.64%.
7. B is correct. The percentage appreciation of the base currency can be calculated by dividing the appreciated exchange rate by the initial exchange rate. In this case, the unknown is the initial exchange rate. The initial exchange is the value of  $X$  that satisfies the formula:  

$$1.4500/X = 1.08$$

Solving for  $X$  leads to  $1.45/1.08 = 1.3426$ .
8. A is correct. To get to the ZAR/HKD cross-rate, it is necessary to take the inverse of the CNY/ZAR spot rate and then multiply by the CNY/HKD exchange rate:  

$$\begin{aligned} \text{ZAR/HKD} &= (\text{CNY/ZAR})^{-1} \times (\text{CNY/HKD}) \\ &= (1/0.9149) \times 0.8422 = 0.9205 \end{aligned}$$
9. C is correct. The ZAR/SEK cross-rate from the original dealer is  $(1.0218/0.9149) = 1.1168$ , which is lower than the quote from the second dealer. To earn an arbitrage profit, a currency trader would buy SEK (sell ZAR) from the original dealer and sell SEK (buy ZAR) to the second dealer. On 1 million SEK the profit would

be

$$\text{SEK } 1,000,000 \times (1.1210 - 1.1168) = \text{ZAR } 4200$$

10. B is correct. The number of forward points equals the forward rate minus the spot rate, or  $0.14193 - 0.1378 = 0.00413$ , multiplied by 10,000:  $10,000 \times 0.00413 = 41.3$  points. By convention, forward points are scaled so that  $\pm 1$  forward point corresponds to a change of  $\pm 1$  in the last decimal place of the spot exchange rate.
11. A is correct. Given the forward rate and forward points as a percentage, the unknown in the calculation is the spot rate. The calculation is as follows:
- $$\text{Spot rate} \times (1 + \text{Forward points as a percentage}) = \text{Forward rate}$$
- $$\text{Spot rate} \times (1 + 0.068) = 1.0123$$
- $$\text{Spot} = 1.0123 / 1.068 = 0.9478$$
12. B is correct. The base currency trading at a forward discount means that 1 unit of the base currency costs less for forward delivery than for spot delivery; i.e., the forward exchange rate is less than the spot exchange rate. The forward points, expressed either as an absolute number of points or as a percentage, are negative.
13. C is correct. To eliminate arbitrage opportunities, the spot exchange rate ( $S$ ), the forward exchange rate ( $F$ ), the interest rate in the base currency ( $i_b$ ), and the interest rate in the price currency ( $i_p$ ) must satisfy:

$$\frac{F}{S} = \left( \frac{1 + i_p}{1 + i_b} \right)$$

According to this formula, the base currency will trade at forward premium ( $F > S$ ) if, and only if, the interest rate in the price currency is higher than the interest rate in the base currency ( $i_p > i_b$ ).

14. B is correct. The forward exchange rate is given by

$$F_{JPY/AUD} = S_{JPY/AUD} \left( \frac{1 + i_{JPY}\tau}{1 + i_{AUD}\tau} \right) = 82.42 \left( \frac{1 + .0015 \left( \frac{90}{360} \right)}{1 + .0495 \left( \frac{90}{360} \right)} \right)$$

$$= 82.42 \times .98815 = 81.443$$

The forward points are  $100 \times (F - S) = 100 \times (81.443 - 82.42) = 100 \times (-0.977) = -97.7$ . Note that because the spot exchange rate is quoted with two decimal places, the forward points are scaled by 100.

15. B is correct. The exchange rate is the number of units of the price currency that 1 unit of the base currency will buy. Equivalently, it is the number of units of the price currency required to buy 1 unit of the base currency.
16. C is correct. An ideal currency regime would have credibly fixed exchange rates among all currencies. This would eliminate currency-related uncertainty with respect to the prices of goods and services as well as real and financial assets.
17. C is correct. Fixed exchange rates impose severe limitations on the exercise of independent monetary policy. With a rigidly fixed exchange rate, domestic interest rates, monetary aggregates (e.g., money supply), and credit conditions are dictated by the requirement to buy/sell the currency at the rigid parity. Even a narrow band around the parity level allows the monetary authority to exercise some discretionary control over these conditions. In general, the wider the band,

the more independent control the monetary authority can exercise.

18. B is correct. With a currency board, the monetary authority is legally required to exchange domestic currency for a specified foreign currency at a fixed exchange rate. It cannot issue domestic currency without receiving foreign currency in exchange, and it must hold that foreign currency as a 100% reserve against the domestic currency issued. Thus, the country's monetary base (bank reserves plus notes and coins in circulation) is fully backed by foreign exchange reserves.
19. A is correct. A trade deficit must be exactly matched by an offsetting capital account surplus to fund the deficit. A capital account surplus reflects borrowing from foreigners (an increase in domestic liabilities) and/or selling assets to foreigners (a decrease in domestic assets). A capital account surplus is often referred to as a "capital inflow" because the net effect is foreign investment in the domestic economy.
20. A is correct. A devaluation of the domestic currency means domestic producers are cutting the price faced by their foreign customers. The impact on their unit sales and their revenue depends on the elasticity of demand. Expensive luxury goods exhibit high price elasticity. Hence, luxury car producers are likely to experience a sharp increase in sales and revenue due to the devaluation.
21. C is correct. The trade surplus cannot decline unless the capital account deficit also declines. Regardless of the mix of assets bought and sold, foreigners must buy more assets from (or sell fewer assets to) domestic issuers/investors.

# **Financial Statement Analysis**

## SOLUTIONS

1. C is correct. In general, analysts seek to examine the past and current performance and financial position of a company in order to form expectations about its future performance and financial position.
2. B is correct. The primary role of financial statement analysis is to use financial reports prepared by companies to evaluate their past, current, and potential performance and financial position for the purpose of making investment, credit, and other economic decisions.
3. B is correct. This is the role of financial reporting. The role of financial statement analysis is to evaluate the financial reports.
4. A is correct. The balance sheet portrays the company's financial position on a specified date. The income statement and statement of cash flows present different aspects of performance during the period.
5. B is correct. Profitability is the performance aspect measured by the income statement. The balance sheet portrays the financial position. The statement of cash flows presents a different aspect of performance.
6. A is correct. Owners' equity is the owners' residual interest in (i.e., residual claim on) the company's assets after deducting its liabilities, which is information presented on the balance sheet.
7. B is correct. A company's profitability is best evaluated using the income statement. The income statement presents information on the financial results of a company's business activities over a period of time by communicating how much revenue was generated and the expenses incurred to generate that revenue.
8. C is correct. A company's revenues and expenses are presented on the income statement, which is used to evaluate a company's financial results (or profitability) from business activities over a period of time. A company's financial position is best evaluated by using the balance sheet. A company's sources of cash flow are best evaluated using the cash flow statement.
9. C is correct. The notes provide information that is essential to understanding the information provided in the primary statements.
10. C is correct. The notes disclose choices in accounting policies, methods, and estimates.
11. A is correct. Information about management and director compensation is not found in the auditor's report. Disclosure of management compensation is required in the proxy statement, and some aspects of management compensation are disclosed in the notes to the financial statements.
12. B is correct. These are components of management commentary.
13. C is correct. An unqualified opinion is a "clean" opinion and indicates that the financial statements present the company's performance and financial position fairly in accordance with a specified set of accounting standards.
14. B is correct. A qualified audit opinion is one in which there is some scope limitation or exception to accounting standards. Exceptions are described in the audit

report with additional explanatory paragraphs so that the analyst can determine the importance of the exception.

15. B is correct. The independent audit report provides reasonable assurance that the financial statements are fairly presented, meaning that there is a high probability that the audited financial statements are free from material error, fraud, or illegal acts that have a direct effect on the financial statements.
16. B is correct. Interim reports are typically provided semiannually or quarterly and present the four basic financial statements and condensed notes. They are not audited. Unqualified is a type of audit opinion
17. B is correct. When performing financial statement analysis, analysts should review all company sources of information as well as information from external sources regarding the economy, the industry, the company, and peer (comparable) companies.
18. C is correct. Ratios are an output of the process data step but are an input into the analyze/interpret data step.
19. A is correct. The follow-up phase involves gathering information and repeating the analysis to determine whether it is necessary to update reports and recommendations.

## SOLUTIONS

1. C is correct. Financial statements provide information, including information about the entity's financial position, performance, and changes in financial position, to users. They do not typically provide information about users.
2. B is correct. The IASB is currently charged with developing International Financial Reporting Standards.
3. B is correct. The FASB is responsible for the Accounting Standards Codification™, the single source of nongovernmental authoritative US generally accepted accounting principles.
4. C is correct. A core objective of IOSCO is to ensure that markets are fair, efficient, and transparent. The other core objectives are to reduce, not eliminate, systemic risk and to protect investors, not all users of financial statements.
5. A is correct. Accuracy is not an enhancing qualitative characteristic. Faithful representation, not accuracy, is a fundamental qualitative characteristic.
6. A is correct. Understandability is an enhancing qualitative characteristic of financial information—not a constraint.
7. C is correct. The *Conceptual Framework* identifies two important underlying assumptions of financial statements: accrual basis and going concern. Going concern is the assumption that the entity will continue to operate for the foreseeable future. Enterprises with the intent to liquidate or materially curtail operations would require different information for a fair presentation.
8. B is correct. Accrual basis reflects the effects of transactions and other events being recognized when they occur, not when the cash flows. These effects are recorded and reported in the financial statements of the periods to which they relate.
9. C is correct. The fundamental qualitative characteristic of faithful representation is contributed to by completeness, neutrality, and freedom from error.
10. B is correct. Historical cost is the consideration paid to acquire an asset.
11. C is correct. The amount that would be received in an orderly disposal is realizable value.
12. B is correct. The elements of financial statements related to the measure of performance are income and expenses.
13. A is correct. The elements of financial statements related to the measurement of financial position are assets, liabilities, and equity.
14. A is correct. A discussion of the impact would be the most meaningful, although B would also be useful.
15. B is correct. There is no statement of changes in income. Under IAS No. 1, a complete set of financial statements includes a statement of financial position, a statement of comprehensive income, a statement of changes in equity, a statement of cash flows, and notes comprising a summary of significant accounting policies and other explanatory information.