

**Macroeconomics, 6e (Williamson)**  
**Chapter 2 Measurement**

2.1 Multiple-Choice Questions

1) NIPA means

- A) New Income and Price Accounting.
- B) National Investment and Productivity Approach.
- C) Neutral Increase of Production Allocation.
- D) National Income and Product Accounts.

Answer: D

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

2) The three approaches to measuring GDP are called the

- A) accounting approach, the income approach, and the expenditure approach.
- B) product approach, the cost approach, and the expenditure approach.
- C) product approach, the income approach, and the expenditure approach.
- D) accounting approach, the statistical approach, and the income approach.

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

3) When a firm produces output,

- A) the value of the output produced is included in GDP
- B) the firm's output contributes to GDP only to the extent that there is value-added.
- C) the firm's output will not count as GDP if it is stored as inventory.
- D) the firm's output will not count as GDP if it is exported.

Answer: B

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: difficult

Classification: application

AACSB: application of knowledge

4) Jim's Nursery produces and sells \$1100 worth of flowers. Jim uses no intermediate inputs. He pays his workers \$700 in wages, pays \$100 in taxes and pays \$200 in interest on a loan. Jim's contribution to GDP is

- A) \$900.
- B) \$1000.
- C) \$1100.
- D) \$1800.

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: easy

Classification: application

AACSB: analytical thinking

5) Acme Steel Co. produces 1000 tons of steel. Steel sells for \$30 per ton. Acme pays wages of \$10,000. Acme buys \$15,000 worth of coal, which is needed to produce the steel. Acme pays \$2,000 in taxes. Acme's contribution to GDP is

- A) \$15,000.
- B) \$20,000.
- C) \$30,000.
- D) \$45,000.

Answer: A

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

6) Suppose we have the following information about a car manufacturer: car sales \$1000M, steel purchases \$600M, wages \$300M, interest on business loans \$50M, and profits \$50M. What is its contribution to GDP using the product approach?

- A) \$1000M
- B) \$600M
- C) \$400M
- D) \$350M

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

7) We know the following about a tie manufacturer: tie sales \$1,300, cotton purchases \$750, wages \$400, interest on business loans \$100, and profits \$50. What is the contribution to GDP of this producer using the income approach?

- A) \$550
- B) \$500
- C) \$450
- D) \$400

Answer: A

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: difficult

Classification: application

AACSB: analytical thinking

8) We learn the following about a ski resort: ticket sales \$100M, snow making expenses \$70M, wages \$20M, interest on business loans \$5M, and profits \$5M. What is the contribution to GDP using the product approach?

- A) \$70M
- B) \$80M
- C) \$95M
- D) \$100M

Answer: A

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: easy

Classification: application

AACSB: analytical thinking

9) Here is what we know about a household: wages \$25,000, unemployment insurance benefits \$3,000, dividend income \$4,000, income tax \$5,000. What is the contribution to GDP of this household following the expenditure approach?

- A) \$24,000
- B) \$25,000
- C) \$28,000
- D) \$29,000

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

10) Suppose we have the following information about a furniture maker: furniture sales \$100M, wood purchases \$60M, wages \$25M, tax on profits \$5M, profits \$10M. What is the contribution to GDP of this company using the product approach?

- A) \$100M.
- B) \$60M.
- C) \$40M.
- D) \$15M.

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

11) Suppose we have the following information about a shoe manufacturer: wages \$100,000, sales \$500,000, taxes \$50,000, loan interest \$10,000, leather purchases \$170,000, rubber purchases \$130,000. What is the contribution of this manufacturer to GDP using the income approach?

- A) \$500,000.
- B) \$300,000.
- C) \$200,000.
- D) \$40,000.

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

12) Suppose we have the following information about a plumber: wages \$30,000, repair sales \$200,000, taxes \$5,000, loan interest \$15,000, plumbing materials \$20,000. What is the contribution to GDP of this plumber using the product approach?

- A) \$200,000.
- B) \$180,000.
- C) \$50,000.
- D) \$30,000.

Answer: B

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: easy

Classification: application

AACSB: analytical thinking

13) The value of a producer's output minus the value of all intermediate goods used in the production of that output is called the producer's

- A) net output.
- B) accounting profit.
- C) value added.
- D) profit margin.

Answer: C

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: difficult

Classification: concept

AACSB: application of knowledge

14) Value added is equal to the value of a firm's production minus

- A) all of its costs of production.
- B) labor costs.
- C) investment expenditures.
- D) intermediate goods used in production.

Answer: D

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

15) Suppose that the government collects \$3 million in taxes, pays \$2 million in social security benefits, pays \$0.5 million in interest on the national debt, and pays workers \$1 million to sit at their desks and work as little as possible. The government's contribution to GDP is

- A) \$0.
- B) \$1 million.
- C) \$3 million.
- D) \$3.5 million.

Answer: B

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

16) The expenditure components of GDP include all of the following **except**

- A) consumption.
- B) investment.
- C) net exports.
- D) net factor payments.

Answer: D

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

17) The expenditure components of GDP include all of the following **except**

- A) consumption.
- B) investment.
- C) government spending on goods and services.
- D) the sum of government spending on goods and services, transfer payments, and interest on the national debt.

Answer: D

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

18) The income-expenditure identity is best paraphrased as

- A) all spending generates income.
- B) all profits are used for investment spending.
- C) on average, consumers cannot save.
- D) on average, government can spend no more than what it collects in income taxes.

Answer: A

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

19) Inventory investment consists of

- A) construction expenditures, raw materials, and inventories of finished goods.
- B) goods in process, raw materials, and purchases of office machinery.
- C) raw materials, goods in process, and construction expenditures.
- D) inventories of finished goods, goods in process, and raw materials.

Answer: D

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

20) Additions to inventory are

- A) not counted as an expenditure in GDP accounting.
- B) counted as an intermediate input.
- C) counted as a component of investment spending.
- D) subtracted from sales revenue in calculating profit income.

Answer: C

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

21) GDP and GNP may differ

- A) because some income generated by domestic production may be received as income by foreign residents.
- B) because some intermediate good inputs are imported.
- C) because some workers are illegal aliens.
- D) whenever tariff rates become excessively high.

Answer: A

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: easy

Classification: concept

AACSB: application of knowledge

22) In recent U.S. history

- A) GDP has been much higher than GNP.
- B) GNP has been much higher than GDP.
- C) the difference between GNP and GDP has been very volatile.
- D) there has been little practical difference between GNP and GDP.

Answer: D

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: difficult

Classification: application

AACSB: application of knowledge

23) GDP may inaccurately measure the value of aggregate output because it may not properly account for

- A) production in the underground economy and the true value of government production.
- B) the true value of government production and the proper value of purchases and sales of used goods.
- C) the proper value of purchases and sales of used goods and depreciation of consumer durables.
- D) the depreciation of consumer durables and production in the underground economy.

Answer: A

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

24) Recently, consumption has comprised approximately

- A) one-half of GDP.
- B) two-thirds of GDP.
- C) three-fourths of GDP.
- D) four-fifths of GDP.

Answer: B

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: application

AACSB: application of knowledge



25) In recent years, which of the following has comprised less than 5% of GDP?

- A) imports
- B) exports
- C) net exports
- D) none of the above

Answer: C

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

26) When there is positive inflation,

- A) growth in nominal GDP exceeds growth in real GDP.
- B) growth in real GDP exceeds growth in nominal GDP.
- C) growth in real GDP and nominal GDP are roughly equal.
- D) there can never be any growth in nominal GDP.

Answer: A

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

27) The calculation of real GDP allows us to

- A) separate consumption and investment spending.
- B) adjust for underground economic activity.
- C) adjust for the change in the quality of output over time.
- D) compare national output across periods of time.

Answer: A

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

28) Real GDP values current production at

- A) current year prices.
- B) the best estimate of next year's prices.
- C) the average of price levels over the entire sample period.
- D) base year prices.

Answer: D

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: difficult

Classification: concept

AACSB: application of knowledge

- 29) A price index can be computed by
- A) dividing a nominal variable by its real counterpart.
  - B) dividing a real variable by its real counterpart.
  - C) subtracting the nominal variable from its real counterpart.
  - D) subtracting the real variable from its nominal counterpart.

Answer: A

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

- 30) To compute a monthly consumer price index, we need

- A) data about consumption habits in every month.
- B) data about item prices every month.
- C) fixed exchange rates.
- D) the GDP or GNP deflator.

Answer: B

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: easy

Classification: concept

AACSB: application of knowledge

- 31) In the United States, real GDP is currently calculated using

- A) a variable-weighting scheme.
- B) a chain-weighting scheme.
- C) a fixed-weighting scheme.
- D) an autoregressive scheme.

Answer: B

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

- 32) The base year matters for the computation of real GDP because

- A) otherwise we cannot compute growth rates.
- B) relative prices can change over time.
- C) it allows an international comparison of GDP.
- D) it establishes a target for macroeconomic policy.

Answer: B

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

33) The GDP deflator is a broader measure of the price level than the CPI because

- A) it covers sales tax.
- B) it covers rents.
- C) it covers investment.
- D) it factors out fluctuations in seasonal items.

Answer: C

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

34) When we try to measure real GDP and the price level, if we underestimate the growth in real GDP, we will

- A) always underestimate the rate of inflation.
- B) sometimes underestimate the rate of inflation.
- C) always overestimate the rate of inflation.
- D) sometimes overestimate the rate of inflation.

Answer: C

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

35) All of the following present significant problems with measuring real GDP and the price level **except**

- A) changes in absolute price levels.
- B) changes in relative price levels.
- C) changes in the quality of goods over time.
- D) the introduction of new goods.

Answer: A

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

36) Changes in relative prices cause problems in measuring real GDP because

- A) consumers can be irrational.
- B) this increases activity in the underground economy.
- C) consumers substitute relatively cheaper goods for ones that have become relatively more costly.
- D) government statisticians are following the wrong approaches.

Answer: C

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

37) The introduction of new products over time implies that

- A) measures of inflation are always biased upward.
- B) measures of real GDP growth are always biased upward.
- C) chain weighting should be used to measure real GDP.
- D) in measuring real GDP, we need to account for how new products replace old ones.

Answer: D

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

38) An example of a flow would be the

- A) rate at which water goes down the drain.
- B) amount of water in a bathtub.
- C) percentage of pollutants in tap water.
- D) pressure of water in a pipe.

Answer: A

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

39) Suppose that GDP is equal to 1000, national saving is equal to 200, the current account deficit is equal to 100, and the government budget deficit is equal to 50. Private savings must equal

- A) 150.
- B) 200.
- C) 250.
- D) 300.

Answer: C

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: difficult

Classification: application

AACSB: analytical thinking

40) Private disposable income is equal to

- A)  $Y + TR + INT - T$ .
- B)  $Y + NFP + TR + INT - T$ .
- C)  $Y - TR - INT + T$ .
- D)  $Y + CA - G$ .

Answer: B

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: easy

Classification: concept

AACSB: application of knowledge

41) Additions to the nation's capital stock are brought about through

- A) the current account surplus.
- B) investment.
- C) investment and the current account surplus.
- D) investment and the government budget surplus.

Answer: B

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

42) In the monthly labor force survey, each person in the survey reports that they are either

- A) in the labor force or not in the labor force.
- B) employed or unemployed.
- C) married or single.
- D) employed, unemployed, or not in the labor force.

Answer: D

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

43) Assume that in an economy with 200M inhabitants, 90M work, 4M are looking for a job, 3M receive unemployment insurance compensation, and 6M receive unemployment insurance compensation and are looking for a job. What is the unemployment rate?

- A) 13%
- B) 10%
- C) 6.5%
- D) 5%

Answer: B

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

44) Who among the following is considered to be in the labor force?

- A) retirees
- B) full-time students
- C) discouraged workers
- D) unemployed workers

Answer: D

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: difficult

Classification: concept

AACSB: application of knowledge

45) National saving minus private saving is equal to

- A) the government surplus.
- B) private disposable income.
- C) the current account deficit.
- D) interest on the government debt.

Answer: A

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

## 2.2 True/False Questions

1) True or false: One approach to measuring GDP is the production approach.

Answer: FALSE

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

2) True or false: The product approach to measuring GDP adds up value-added at each stage of production.

Answer: TRUE

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

3) True or false: If there is no measurement error, we get different measures of GDP if we use the expenditure approach or the income approach.

Answer: FALSE

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: easy

Classification: application

AACSB: analytical thinking

4) The largest component of GDP is government expenditure.

Answer: FALSE

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

5) Consumption is about 70% of GDP.

Answer: TRUE

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

6) Inventory accumulation is a part of consumer durables spending.

Answer: FALSE

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

7) Nominal GDP is always greater than real GDP.

Answer: FALSE

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: easy

Classification: concept

AACSB: analytical thinking

8) The consumer price index gives a biased measure of inflation, as compared to the implicit GDP price deflator.

Answer: TRUE

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

9) Chain-weighting is used because it helps to account for changes in relative prices over time.

Answer: TRUE

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

10) The underground economy is anything below street level.

Answer: FALSE

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: concept

AACSB: analytical thinking

11) The extent of the underground economy can be measured by looking at the use of currency.

Answer: TRUE

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

12) If products did not change in quality over time, it would be harder to measure growth in real GDP.

Answer: FALSE

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: easy

Classification: application

AACSB: analytical thinking

13) The introduction of personal computers created problems for the measurement of real GDP growth.

Answer: TRUE

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: analytical thinking



14) Government saving is equal to taxes plus transfers minus interest on the government debt minus government spending.

Answer: FALSE

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

15) National saving is equal to the government deficit plus total private saving.

Answer: FALSE

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

16) National savings is equal to investment plus the current account surplus.

Answer: TRUE

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

17) GDP is a stock.

Answer: FALSE

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: easy

Classification: concept

AACSB: application of knowledge

18) The participation rate is employment divided by the working-age population.

Answer: FALSE

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

19) The unemployment rate is a measure of labor market tightness.

Answer: TRUE

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

20) The BLS monthly household survey divides the labor force into three groups: employed, unemployed, and discouraged workers.

Answer: FALSE

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: concept

AACSB: application of knowledge

### 2.3 Essay Questions

1) List three approaches to measuring GDP, explain how they work, and why they give the same answer, if there is no measurement error.

Answer: The three approaches are the product approach, the expenditure approach, and the income approach. The product approach measures value added in production across all productive units in the economy; the expenditure approach adds up all expenditure on final goods and services, and the income approach adds up all incomes to domestic residents. These give the same answer because everything produced is purchased by someone, and is then someone else's income.

LO: 2.1: Construct measures of gross domestic product using the product approach, the expenditure approach, and the income approach.

Difficulty: easy

Classification: application

AACSB: application of knowledge

2) Explain how inventories are accounted for in the standard GDP calculation.

Answer: Inventory investment is tricky because this represents produced output that is not actually purchased by anyone. To keep the accounting straight, inventory accumulation is treated as though the firm that produced the output and put it in inventory purchased the inventories from itself. Then, inventory investment is counted as an expenditure component in GDP.

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

3) List the four major components of expenditure that make up GDP, and explain why each is important.

Answer: The four major components are consumption, C, investment, I, government expenditures, G, and net exports, NX. If Y is gross domestic product, then  $Y = C + I + G + NX$ . Consumption is the largest component of GDP, and consists of goods which are, for the most part, consumed within the period in question, though consumer durables can last a long time. Investment is much smaller than consumption, but it is more volatile and plays an important role in the business cycle. Investment consists of goods produced today that are used to produce other goods and services in the future. Government expenditures includes spending by federal, state, and local governments. Net exports is equal to exports minus imports. We deduct imports because these are not produced within our borders.

LO: 2.2: State the importance of each expenditure component of GDP, and the issues associated with measuring each.

Difficulty: easy

Classification: application

AACSB: application of knowledge

4) Explain the connections among real GDP, nominal GDP, and the price level.

Answer: Nominal GDP is what is measured during the current quarter in current dollars, for example by adding up all the expenditure components of GDP. To obtain real GDP, we either need to choose a base year and add up all expenditure in each year at base year prices, or use a chain-weighting scheme that adjusts for the fact that relative prices of goods can change over time. Once we have measures of nominal GDP and real GDP for each quarter (or year) in question, we can calculate the price level as the implicit GDP price deflator, or the price level  $P = (\text{nominal GDP})/(\text{real GDP})$ .

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

5) List two alternative measures of the price level, and explain the differences between these two measures.

Answer: Two basic measures of the price level are the consumer price index and the implicit GDP price deflator. These two measures are alternative price indexes — measures of the average level of prices across goods and services in the economy. The consumer price index is measured monthly using a fixed basket of goods, which forms the weights in the index. Then, each month, the prices of the goods and services are surveyed, and they go into a new measure of the CPI. The CPI includes only goods and services purchased by consumers, leaving out investment goods, government, and net exports. The implicit GDP price deflator is obtained as a byproduct of the exercise that measures real and nominal GDP. This exercise takes place quarterly, which implies that the GDP deflator is available on a less timely basis than is the CPI. The GDP price deflator is measured as the ratio of nominal GDP to real GDP. The GDP price deflator is a more broad-based measure than is the CPI.

LO: 2.3: Construct real and nominal GDP, and price indices, from data on quantities and prices in different years.

Difficulty: difficult

Classification: application

AACSB: application of knowledge

6) Explain the importance of the underground economy. If we could measure activity in the underground economy, what would be a good way to do it, and why?

Answer: The underground economy consists of market economic activity that goes unrecorded in the national income and product accounts. This activity includes illegal activities such as the drug trade and prostitution, as well as exchange that goes unreported to avoid the payment of taxes — babysitting for cash, for example. Activity in the underground economy can in principle be measured by studying the use of currency — how much is outstanding, and how much currency it takes to support a particular volume of illegal activity. Currency is typically used in underground economy transactions, as is has the virtue of anonymity.

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: difficult

Classification: application

AACSB: analytical thinking

7) List three things that make measuring real GDP growth difficult, and explain carefully why these things create problems.

Answer: First, relative prices change over time. This creates difficulties as this causes consumers to substitute cheaper goods for ones that have become relatively more expensive. Second, the quality of goods can change over time, for example cars are produced with different and more high-quality components over time. This makes it difficult to compare what was produced at the current time relative to 20 years ago, for example, since higher-quality goods in general make us better off. Third, new products are introduced over time, and other products become obsolete. For example, most of the products produced 100 years ago are no longer produced, and most of current output was not envisioned 100 years ago. So how are we to compare current GDP with GDP 100 years ago?

LO: 2.4: State the key difficulties in measuring GDP and the price level.

Difficulty: moderate

Classification: application

AACSB: analytical thinking

8) Explain the significance of the accounting relationship: National savings = Investment plus current account surplus.

Answer: Savings is a flow, which adds to the stock of national wealth. The accumulation of national wealth takes two forms. First, national wealth is accumulated in the form of capital — the stock of machines, buildings, and software that is used to produce GDP. This is investment. Second, national wealth is accumulated in the form of claims on foreigners. This wealth is accumulated by selling goods and services to the rest of the world in exchange for assets, which add to the stock of wealth. Thus, the accounting relationship in question equates national savings — a flow — to wealth accumulated in the two basic forms.

LO: 2.5: State the accounting relationships among savings and income in the private and public sectors, and explain the importance of these relationships for wealth accumulation.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

9) Explain how the monthly survey of households by the Bureau of Labor Statistics categorizes the working age population, and list and explain the three key labor market measures derived as a result.

Answer: The Bureau of Labor statistics monthly household survey asks people questions that will serve to divide the working-age population into three groups: the employed E, the unemployed U, and those not in the labor force N. The employed currently have a job, the unemployed are actively searching for work, and those not in the labor force are neither employed nor unemployed. The three key labor force measures are the unemployment rate,  $U/(E+U)$ , the labor force participation rate  $(E+U)/(E+U+N)$ , and the employment/population ratio  $E/(E+U+N)$ .

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: application

AACSB: application of knowledge

10) Explain why the unemployment rate is used as a measure of labor market tightness, and explain the drawbacks of using it in this way.

Answer: The unemployment rate is a useful measure of labor market tightness, as it reflects how many workers are leaving the unemployment pool to be hired into new jobs, and the workers who go out to seek jobs but cannot find them. The lower the unemployment rate, the harder it is for a firm to hire a worker, and the easier it is for a given worker to get a job. But, the unemployment rate fails to measure how hard workers are searching for jobs. In principle, a low unemployment rate would not reflect a tight labor market if workers were expending little effort searching for work.

LO: 2.6: Construct the key labor market measures from the household survey data.

Difficulty: moderate

Classification: application

AACSB: analytical thinking