

## Question 2

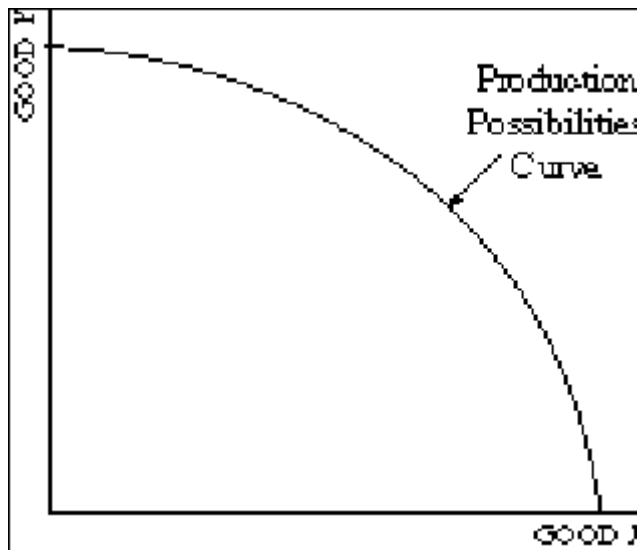
Assume an open economy with a public sector.

- Identify two methods of calculating gross domestic product for this economy.
- Explain why the two methods you identified in part (a) must yield the same value of gross domestic product.
- Identify one shortcoming of using gross domestic product as an indicator of the actual level of national output.
- If nominal gross domestic product increased by 4 percent in 1996, identify two additional pieces of information you need before you can conclude that the living standard of the typical person increased by 4 percent during that year.

## Question 3

Assume that an economy is at full employment.

- a. Explain how an increase in net investment will affect each of the following.
- i. Aggregate demand
  - ii. Capital stock
  - iii. Long-run aggregate supply
  - iv. Output
- b. Explain how the increase in net investment will affect the country's production possibilities curve shown below.



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**Question 2**

**Correct Answer**

Part (a) Gross domestic product (GDP) can be calculated by summing the expenditures on final goods and services or by summing factor payments plus economic profit, the income approach. Summing value added for each final good produced will also measure GDP.

Part (b) The expenditure and income approach to calculating GDP will yield identical results. For any good, the total revenues minus total costs will equal economic profit. So, as an accounting identity, total revenues-- the expenditure approach-- will equal total factor costs (including those for intermediate goods) plus economic profits-- the income approach. In other words, all expenditures on goods and services will constitute an identical flow of income and profit for producers.

Part (c) Official GDP statistics do not provide a complete accounting of economic activity. The statistics will not include the value of underground or illegal economic activities, household work and production, or bartered goods. Also, the impact of externalities, both negative and positive, are not captured by official GDP statistics.

Part (d) In order to assess the impact on the typical person of a 4 percent increase in nominal GDP, certain additional pieces of information are needed. These include the rate of inflation, the rate of population growth, the change in the distribution of income, the change in leisure time enjoyed by the typical worker, the change in the impact of externalities not included in the GDP calculation, and the change in product quality.

**Scoring Rubric**

Part (a) = 1 Point, Part (b) = 1 Point, Part (c) = 1 point, Part (d) = 2 Points; 5 Points in Total

Part (a)

(1 point for both - no 1/2 points)  
expenditure approach and income approach (or value added of final goods

Part (b)

sum of factor payments + profits (Income) = Expenditures (1 point) Or, a good circular flow model will earn one point.

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**Question 2 (cont.)**

Part (c)

1 point for any one of the following:

- underground or illegal economy
- barter
- home production
- externalities

Part (d)

1 point per correct response (maximum of two points)

- inflation rate
- population growth
- change in the income distribution
- change in externalities
- change in leisure time
- change in product quality

**Note:** Besides counting points, the answer may be looked at as a whole and ultimately judged by its overall quality. The final total should mean something in terms of the overall quality of the answer. A 5 should reflect an excellent answer, but not necessarily a perfect one; a 4, an excellent answer with a flaw; a 3, a good answer; a 2, an adequate answer; a 1, a seriously deficient answer, but still an answer. A 0 has no relevant economic answer to the question. A dash (-) is given for an unresponsive or blank answer.

**Purpose of the Question and Commentary on Students' Responses**

This question asks students to identify two ways of calculating GDP (income and expenditures), and then asks them to explain why each method would yield the same value of GDP. Often, students expressed an intuitive understanding of the equivalence, stating something like "A person's wages determines her expenditures," so they must be equal. In the third part of the question, students are asked to provide a shortcoming of GDP as a measure of real output. Generally, we were looking for exclusions from GDP, such as bartered activities or home production. Finally, the last part of the question considers the relationship between GDP growth and living standards. We were generally disappointed that students did not perform better on this question.