

EXERCISE 15

Two Ways to Calculate GNP

1. Suppose that, in a country called Hanover, there are only two firms, a tomato producer and a catsup producer. Suppose that all tomatoes are intermediate goods used to produce catsup. The income statements of the two firms are shown below (numbers are in thousands of dollars):

<i>Tomato producer</i>		<i>Catsup producer</i>	
Sales of tomatoes	200	Sales of catsup	500
Wages	100	Wages	150
Interest	20	Interest	30
Rent	25	Rent	40
Depreciation	10	Depreciation	10
Indirect business taxes	5	Indirect business taxes	10
Profit	_____	Tomatoes	200
		Profit	_____

- Fill in the level of profit for each firm.
- What is the value of GNP in Hanover?
- What is the value of national income in Hanover?
- Fill in the blanks below:

<i>Gross national product (GNP), Hanover</i>	
Wages	_____
Rent	_____
Interest	_____
Profits	_____
Indirect business taxes	_____
Depreciation	_____
Total: GNP	_____

2. The Central Intelligence Agency (CIA) has collected the following data concerning a country, which shall remain nameless (for security reasons, of course):

	<i>Amount (millions of dollars)</i>
Personal consumption expenditures	240
Corporate profits (before taxes)	20
Rental income of persons	10
Proprietors' income	30
Net investment	30
Compensation of employees	200
Indirect business taxes	20
Imports	5
Exports	6
Net interest	60
Depreciation	40

- The CIA would like to know what GNP, NNP, and national income are in this country. Can you tell them?
- Based on the data above, how much are government purchases of goods and services in this country?

From Edwin Mansfield, *Study Guide for Economics*, 4th ed. (New York: W.W. Norton and Co., 1983).

3. Below are accounting figures for the United States.*

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	<i>Amount</i> <i>(millions of dollars)</i>
Exports	367
Dividends	60
Capital consumption allowance	307
Wages and salaries	1442
Government purchases of goods and services	577
Rents	33
Indirect business taxes	255
Wage and salary supplements	280
Gross private domestic investment	437
Corporate income taxes	88
Transfer payments	320
Interest	201
Proprietors' income	132
Personal consumption expenditures	1810
Imports	338
Social Security contributions	148
Undistributed corporate profits	55
Personal taxes	372

- a. Use the figures to compute GNP, using both the expenditures and income approaches to GNP accounting.
- b. In this economy:
 - (1) Net national product is \$_____
 - (2) National income is \$_____
 - (3) Personal income is \$_____
 - (4) Disposable income is \$_____

*From Robert C. Bingham, *Study Guide to Accompany McConnell, Economics*, 10th ed. (New York: Copyright © McGraw-Hill Book Co., 1987), p. 63. Reprinted with permission.

Net private domestic investment	\$ 32
Personal taxes	39
Transfer payments	19
Indirect business taxes	8
Corporate income taxes	11
Personal consumption expenditures	217
Capital consumption allowance	7
United States exports	15
Dividends	15
Government purchases of goods and services	51
Undistributed corporate profits	10
Social security contributions	4
United States imports	17

- a. Use the figures to compute GNP, using both the expenditures and income approaches to GNP accounting.
- b. In this economy:
- (1) Net national product is \$ _____
 - (2) National income is \$ _____
 - (3) Personal income is \$ _____
 - (4) Disposable income is \$ _____

Net private domestic investment	\$275
Government purchases of goods and services	315
U.S. imports	260
Personal taxes	45
Transfer payments	247
U.S. exports	249
Personal consumption expenditures	475
Gross private domestic investment	300
Indirect business taxes	245
Undistributed corporate profits	60
Social security contributions	240
Corporate income taxes	65

- a. Use the figures to compute GNP, using both the expenditures and income approaches to GNP accounting.
- b. In this economy:
- (1) Net national product is \$ _____
 - (2) National income is \$ _____
 - (3) Personal income is \$ _____
 - (4) Disposable income is \$ _____

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/ Gross private domestic investment	\$ 46
Exports of the U.S.	9
Disposable income	190
Personal saving	10
/ Government purchases of goods and services	84

Capital consumption allowance	\$52
Dividends	13
Imports of the U.S.	12
Indirect business taxes	22
Personal taxes	38
Social security contributions	23

- a. Use the figures to compute GNP, using both the expenditures and income approaches to GNP accounting.
- b. In this economy:
 - (1) Net national product is \$ _____
 - (2) National income is \$ _____
 - (3) Personal income is \$ _____
 - (4) Disposable income is \$ _____

Corporate profits	\$ 47
Net private domestic investment	32
Proprietors' income	46
Dividends	13
Capital consumption allowances	41
Social security contributions	10
U.S. exports	23
Government purchases of goods and services	97
Personal consumption expenditures	314
Transfer payments	27
Imports of the U.S.	24
Personal taxes	46
Corporate taxes	23
Indirect business taxes	42
Interest	16
Undistributed corporate profits	11

- a. Use the figures to compute GNP, using both the expenditures and income approaches to GNP accounting.
- b. In this economy:
 - (1) Net national product is \$ _____
 - (2) National income is \$ _____
 - (3) Personal income is \$ _____
 - (4) Disposable income is \$ _____