

MORELIA PENA

Assignment 7: Problem 8, pg. 215 in the textbook: *Principles of Macroeconomics*

**Due Date: Nov 8**

7. A farmer grows wheat, which he sells to a miller for \$100. The miller turns the wheat into flour, which he sells to a baker for \$150. The baker turns the wheat into bread, which he sells to consumers for \$180. Consumers eat the bread.

1. What is GDP in this economy? Explain.
2. *Value added* is defined as the value of a producer's output minus the value of the intermediate goods that the producer buys to make the output. Assuming there are no intermediate goods beyond those described above, calculate the value added of each of the three producers.
3. What is total value added of the three producers in this economy? How does it compare to the economy's GDP? Does this example suggest another way of calculating GDP?

1)

GDP= TOTAL VALUE ADDED

VALUE ADDED<sub>(FARMER)</sub>= PRODUCER'S OUTPUTS- VALUE OF THE INTERMEDIATE GOODS

= \$100-\$0

= \$100

ADDED VALUE<sub>MILLER</sub> = PRODUCER'S OUTPUTS – VALUE OF THE INTERMEDIATE GOODS

=\$150 - \$100

=\$50

VALUE ADDED<sub>BAKER</sub> = PRODUCER'S OUTPUTS – VALUE OF THE INTERMEDIATED GOODS

$$=\$180-\$150$$

$$=\$30$$

GDP measures market value of all final goods and services produced within an economy in a given time period. Hence, the bread is the final good which is sold to the consumers. So, only the value of bread would be considered in calculation of GDP.

$$\text{GDP} = \text{VALUE ADDED}_{(\text{FARMER})} + \text{VALUED ADDED}_{\text{MILLER}} + \text{VALUED ADDED}_{\text{BAKER}}$$

$$= \$100 + \$50 + \$30$$

$$=\$180$$

2)

STAGE OF PRODUCTION	SALES VALUE	VALUE ADDED
FARMER: WHEAT	\$100	$\$(100-0) = \$100$
MILLER: FLOUR	\$150	$\$(150-100) = \$50$
BAKER: BREAD	\$180	$\$(180 - 150) = \$30$

3)

TOTAL VALUE ADDED OF THREE PRODUCERS IN THIS ECONOMY IS  $\$(100 + 50+30)$

$$=180$$

TOTAL VALUE ADDED AND GDP ARE BOTH SAME VALUE \$180

YES, VALUE ADDED APROACH IS ANOTHER WAY TO MEASURE GDP. IT ELIMINATES DOUBLE COUNTING AND ALWAYS EQUAL TO THE VALUE OF FINAL GOODS PRODUCED WITHIN THE ECONOMY.

