

Quantity Theory of Money

Quantity Equation:

$$M \cdot V = P \cdot Y$$

Definition of the **velocity of money**:

$$V = \text{—————}$$

Examples

Assume there is only one good in the economy, pizza. This year, money supply is \$10,000, output is 3,000 pizzas, and the price of a pizza is \$10.

1. What is the velocity of money?

2. What is nominal GDP? (assuming all of the pizzas are final goods)

3. **Assume the velocity of money remains constant.** Next year, the government increases the money supply by 10%. Calculate nominal GDP for the next year.

4. Now consider two different cases:
 - (a) First, suppose that output remains the same, find the price of pizza next year, and calculate the inflation rate.

 - (b) Next, suppose that pizza output increases to 3300. Again, find the price of pizza next year, and calculate the inflation rate.

Illustrate the effects of an increase in the supply of money:

