FIN204-Week1-Ch2-12310903刘华杰

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4. Place each of the following transactions in one of the four components of expenditure: consumption, investment, government purchases, and net exports.

a. Boeing sells an airplane to the U.S. Air Force.
b. Boeing sells an airplane to American Airlines.
c. Boeing sells an airplane to Air France.
d. Boeing sells an airplane to Amelia Earhart.
e. Boeing builds an airplane to be sold next year.

Answer:

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a. Government purchases
b. Consumption
c. Net exports
d. Consumption
e. Investment

1. LaunchPad. Consider an economy that produces and consumes hot dogs and hamburgers. In the following table are data for two different years.

Year	Good	Quantity	Price
2010	Hot dogs	200	$2
2010	Hamburgers	200	$3
2015	Hot dogs	250	$4
2015	Hamburgers	500	$4

a. Using 2010 as the base year, compute the following statistics for each year: nominal GDP, real GDP, the implicit price deflator for GDP, and a fixed-weight price index such as the CPI.

Answer:

For 2010 as a base year,
Nominal GDP=$200 \times \$2 + 200 \times \$3 = \$1000$

real GDP= $200 \times \$2 + 200 \times \$3 = \$1000$

the implicit price deflactor for GDP =

a fixed-weight price index (CPI):

For 2015,
Nominal GDP = $250 \times \$4 + 500 \times \$4 = \$3000$

real GDP = $250 \times \$2 + 500 \times \$3 = \$2000$

the implicit price deflator for GDP = $\frac{\$3000}{\$2000} = 1.5$
a fixed-weight price index (CPI):
$CPI = \frac{2\times250+3\times500}{2\times200+3\times200} = 2$

b. By what percentage did prices rise between 2010 and 2015? Give the answer for each good and also for the two measures of the overall price level. Compare the answers given by the Laspeyres and Paasche price indexes. Explain the difference.

$$\begin{aligned}\text{Laspeyres指数} &= \frac{\sum(\text{基期价格} \times \text{当前期数量})}{\sum(\text{基期价格} \times \text{基期数量})} \times 100 \\ &= \frac{(2 \times 250) + (2 \times 250) + (3 \times 500)}{(2 \times 200) + (2 \times 200) + (3 \times 200)} \times 100 \\ &\approx 178.57\%\end{aligned}$$

$$\begin{aligned}\text{Paasche指数} &= \frac{\sum(\text{当前期价格} \times \text{当前期数量})}{\sum(\text{基期价格} \times \text{当前期数量})} \times 100 \\ &= \frac{(4 \times 250) + (4 \times 250) + (4 \times 500)}{(2 \times 250) + (2 \times 250) + (4 \times 500)} \times 100 \\ &\approx 133.33\%\end{aligned}$$

Laspeyres指数假设消费者的消费模式不变，而Paasche指数假设消费者偏好会随着价格变化而变化，从而调整商品组合。本题，热狗2->4，汉堡3->4，价格都上涨但是热狗数量变化小于汉堡数量变化（绝对值+50<+300,

相对值$\frac{50}{200}=0.25<\frac{300}{200}=1.5$）,消费者行为由明显变化，所以Paasche指数在本题中更准确反映了消费者行为的变化。

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