

Index Numbers

1. Suppose you spend all of your income on two goods, X and Y. In 2000, the price of good X was ฿2, the price of good Y was ฿4. You consumed 60 units of X and 20 units of Y in equilibrium. In 2001, the price of good X was ฿3, the price of good Y was ฿3.4. You consumed 55 units of X and 25 units of Y in equilibrium.
 - (a) Calculate both Paache and Laspeyres quantity and price indices for the situation.
 - (b) Are you better or worse off in 2001 than you were in 2000? Can you actually tell? Why? Or Why not?

2. In 2000, your monthly budget constraint was given by $100X + 50Y = 2000$. In 2001, the government decides to impose a unit tax on good X of ฿60; that is, for every X consumed you must pay a tax of ฿60. To help reduce the effect of the tax, the government gives you ฿400 in extra income each month.
 - (a) Assume that the optimal solution for X is 8 units and for Y is 24 units in 2000. In 2001, the optimal solution for X is 5 units and for Y is 32 units. Using this information, calculate both Paache and Laspeyres quantity and price indices
 - (b) Are you better or worse off in 2001 when compared to 2000?