

**25. Correct. The answer is true.** If Nigeria has a roughly constant share of OPEC oil  $Q_n = \alpha Q_o$ , then Nigeria's elasticity is

$$\varepsilon_n = \frac{\partial Q_n}{\partial P} * \frac{P}{Q_n} = \frac{\partial Q_o}{\partial P \alpha Q_o}$$

If they are the only country to change their price then  $\partial Q_n = \partial Q_o$ , then

$$\varepsilon_n = \frac{\partial Q_o}{\partial P \alpha Q_o} = \frac{\varepsilon_o}{\alpha}$$

Thus the smaller the share, the more elastic the demand if they are the only one to lower price. Also the smaller the country's share, the less likely the country will be caught if they cheat.

Nigeria's elasticity is OPEC's elasticity divided by Nigeria's share or  $-2.16/(1.96/29.3) = -32.31$ .