

An Incorrect Tax
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Consider the market for gasoline. The demand and supply of gallons of gasoline is given as:

$$P = 120 - \frac{2}{3}Q_D$$

$$P = 30 + \frac{2}{3}Q_S$$

Q1. Find Equilibrium price and quantity.

Q2. For every gallon of gas consumed, there exists a \$30 externality. The government wishes to tax consumption and estimates the externality to be \$45 per gallon consumed. Calculate the new Equilibrium price and quantity.

Q3. Calculate the change in surplus associated with the tax. Is the society better or worse off with an incorrect tax? Show DWL graphically and explain who pays the tax burden.