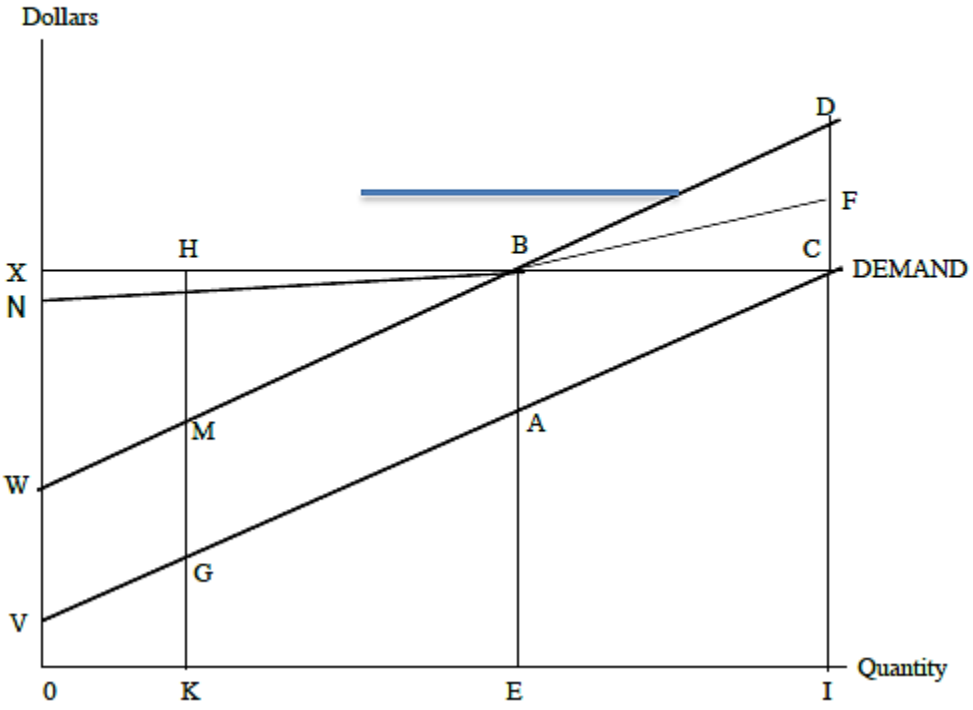
Chapter 7 #1) Using a diagram like that used in the chapter, show why bargaining can lead to an efficient outcome even if the polluter is not liable for the damage to the pollutee.

FIGURE 7:1



For simplicity, we assume that the difference between the total social cost and the private cost of the polluter is the pollution damages to the pollutee. If the polluter has the right to pollute, the pollutee loses VWDC due to pollution. To reduce his losses, the pollutee would 'bribe' the pollute ABFC to incentivize it to produce at the optimal quantity E. (Note that the slope of BF depends on how well the two parties bargain during their negotiations). The polluter would be better off since it gains BCF from the 'bribe.' Moreover, the pollutee would also be better off since he pays BDF less by just paying for the sum of the pollution damages under the optimal quantity of production and the bribe.

Chapter 7 #2) Using a diagram like that used in the chapter, show why bargaining can lead to an efficient outcome even if the pollutee has the entitlement to no pollution. If the pollutee has the right to no pollution, the polluter can bribe him ABNV. Note that this is strictly more than ABWV, the pollution cost to the polluter when it produces up to a the equilibrium point. Both are then better off since the pollutee owner makes a surplus equal to ABNV – ABWV = BNW >

0. Additionally, the polluter still gains a surplus equal to ABXV - ABNV = BNX. Note also that this scenario still leads to the optimal amount of pollution given that the factory will produce at the optimal quantity.

Chapter 7 #3) If transaction costs are very high, the standard Pigovian tax is correct. Demonstrate. However, it is misleading because it is asymmetric. Explain the important role of asymmetry. Provide three different examples of asymmetric characterization of a symmetric situation. With high transaction costs, the participants cannot bargain and buy and sell entitlements. Giving polluters the entitlement to pollute will result in too much steel beign produced and too much pollution, while giving the pollutes the entitlement to be pollution-free will result in too little steel being produced and too little pollution. The Pigouvian taxes, on the other hand, taxes the pollution such that the polluter internalizes the externality and the socially optimal amount of steel is produced.

However, Pigouvian taxes are asymmetric since it only examines how the polluter can change its behavior while not imposing/suggesting any changes that the polluttee could do to reduce pollution damage. The examples of asymmetry include

a. A pedestrian hit by a driver
b. Steel mill wastes killing the fish of a fishery
c. Sulfur from coal-burning power plant of the American Electric Power in Cheshire, Ohio significantly affecting residents

In this scenario, the power plant offers residents three times the assessed value of their property for them to move. With just a few dissenters, the residents eventually moved.