CHART 1

- Chart 1 shows market equilibrium with no third-party effects. The equilibrium price and quantity result in an efficient allocation of resources.

- In Chart 2, there are third-party costs. S is the supply curve when these costs are paid by the community. It is the same as S above. S_1 shows the supply curve if producers were forced to pay the third-party costs. That is, supply decreases. Notice that when the community pays the third-party costs, the producer's price is lower and production is higher than when the producer pays all the costs.

- In Chart 3, D represents market demand for a product. D_1 represents demand for the product if all spillover benefits are included in the transaction, i.e., if the buyers received all of the benefits. The market equilibrium amount, Q, is less than the optimal amount. Suppose that D represents private demand for immunization shots against a highly contagious disease. The social benefits of containing the disease or eradicating it are not included in the market decision. If they were, the demand curve would be at D_1. Notice that fewer shots are given with demand at D than at D_1. The optimal number of shots is at Q_1, where all the benefits are included as a part of demand. One manner of reaching Q_1 is to reduce the cost of the shots (e.g., by a government subsidy to those who administer the shots). Then supply rises to S_1, and society will receive the optimal amount of the product.
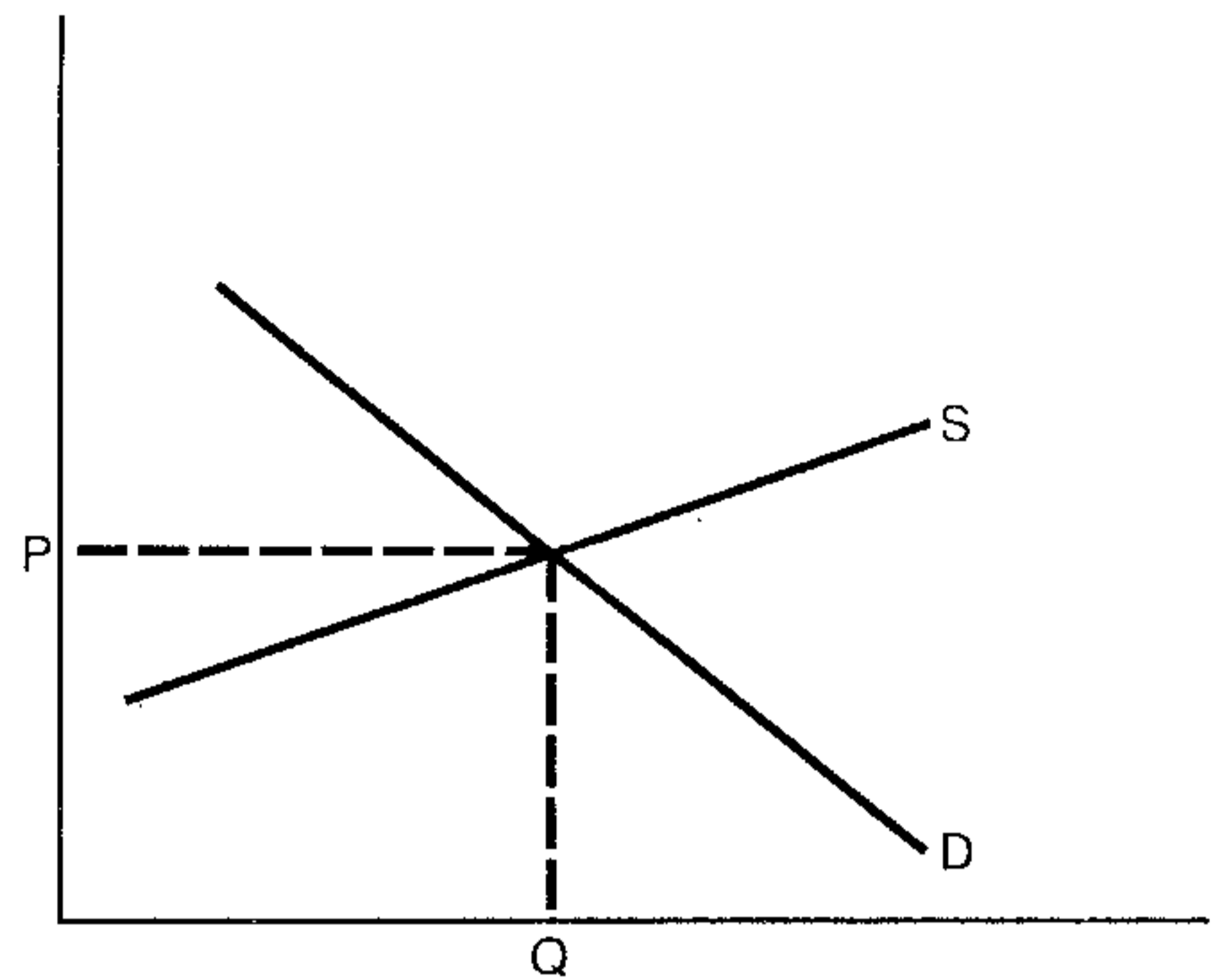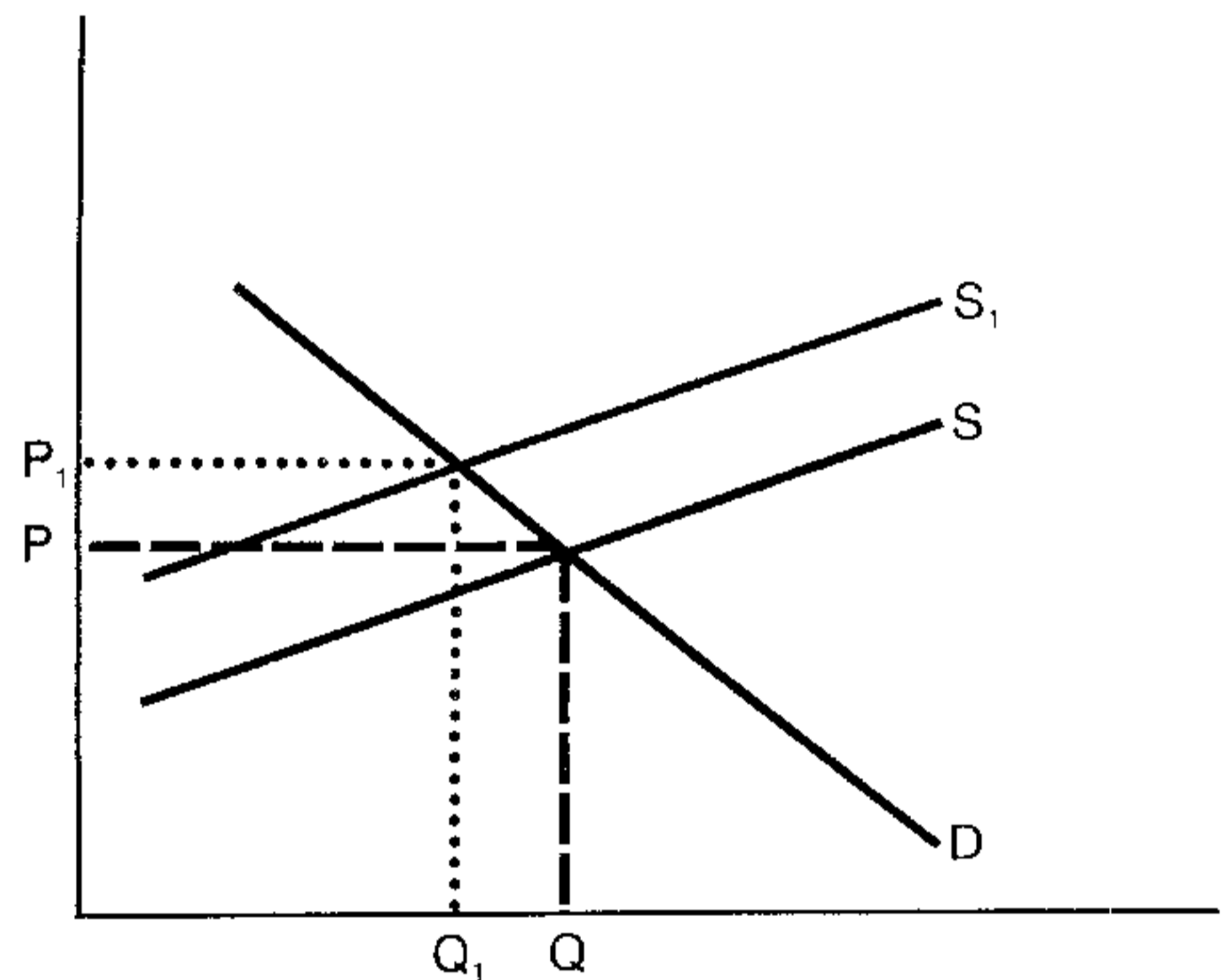
CHART 2

CHART 3

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