# Externalities

- Consumption externality
- Production externality

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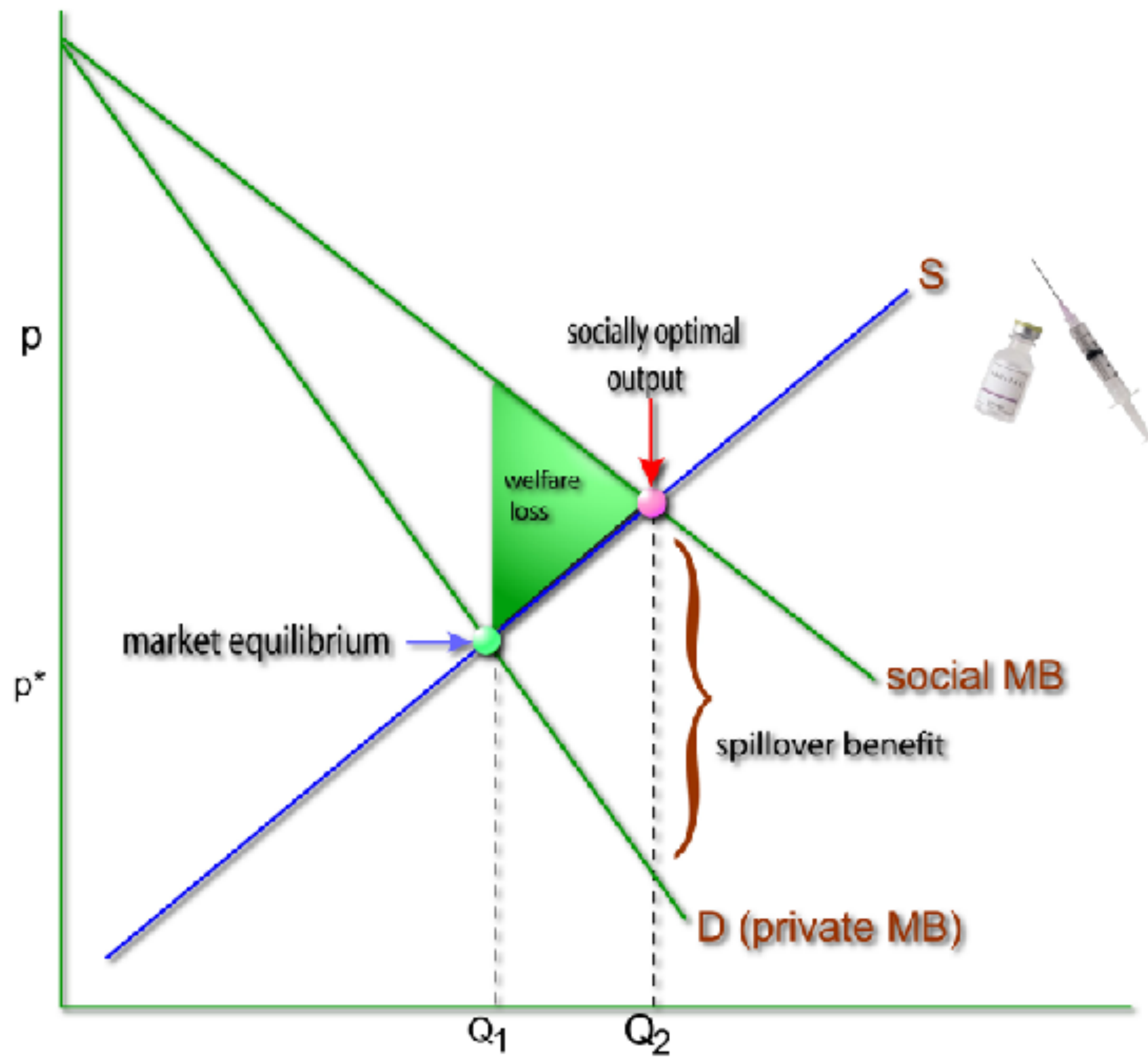
Consumption externality

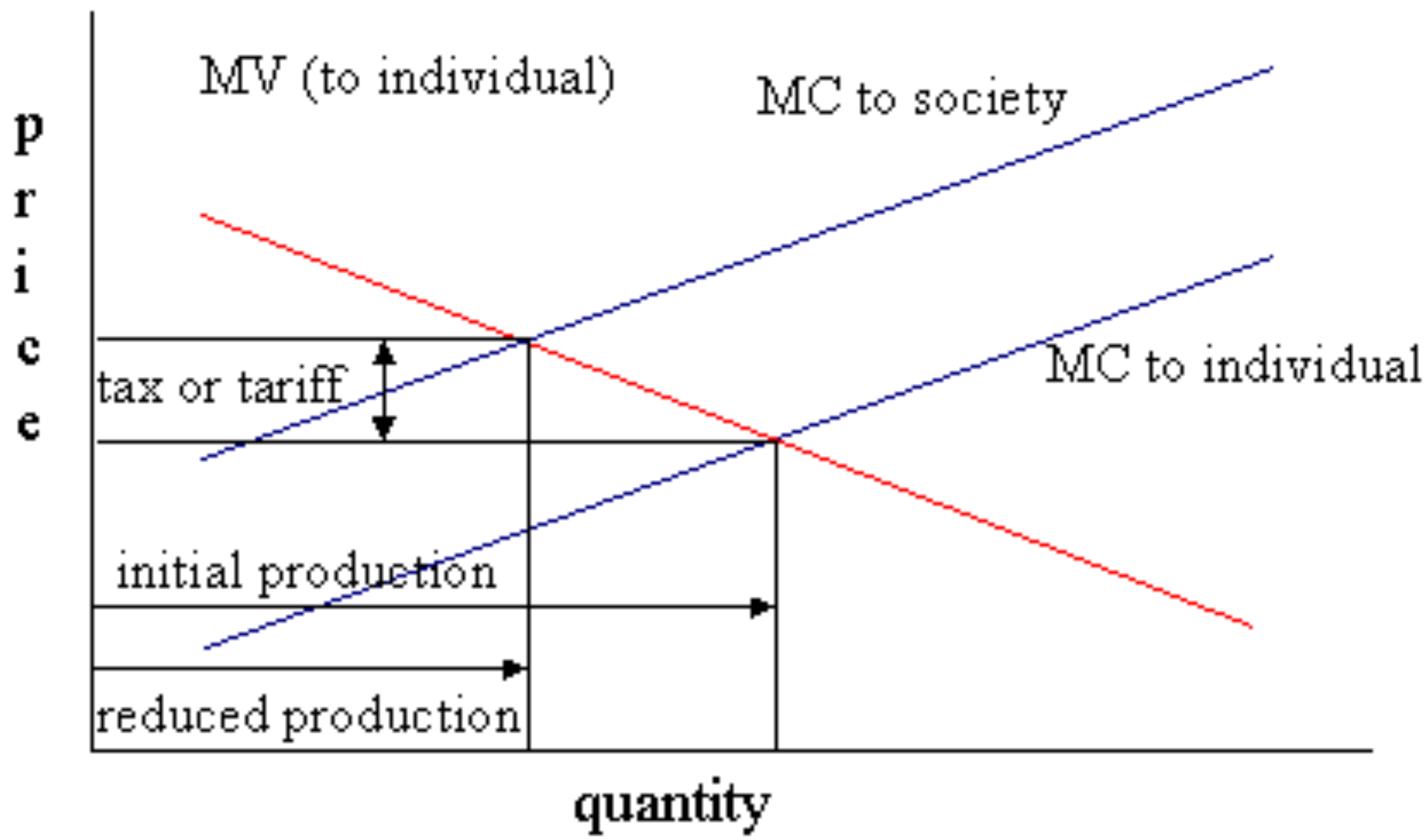
Production externality

# Introduction to externalities

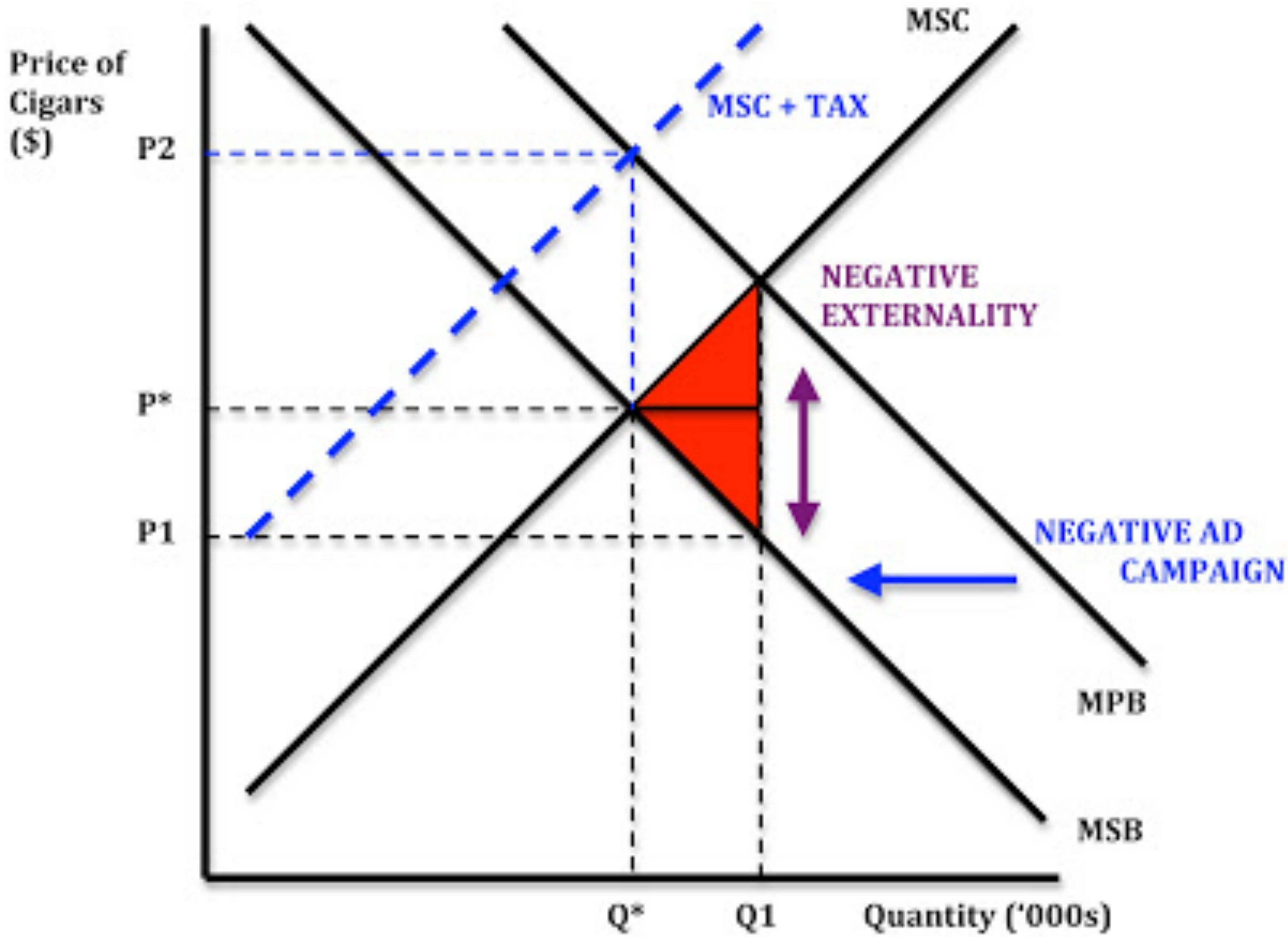
# Positive externalities in production



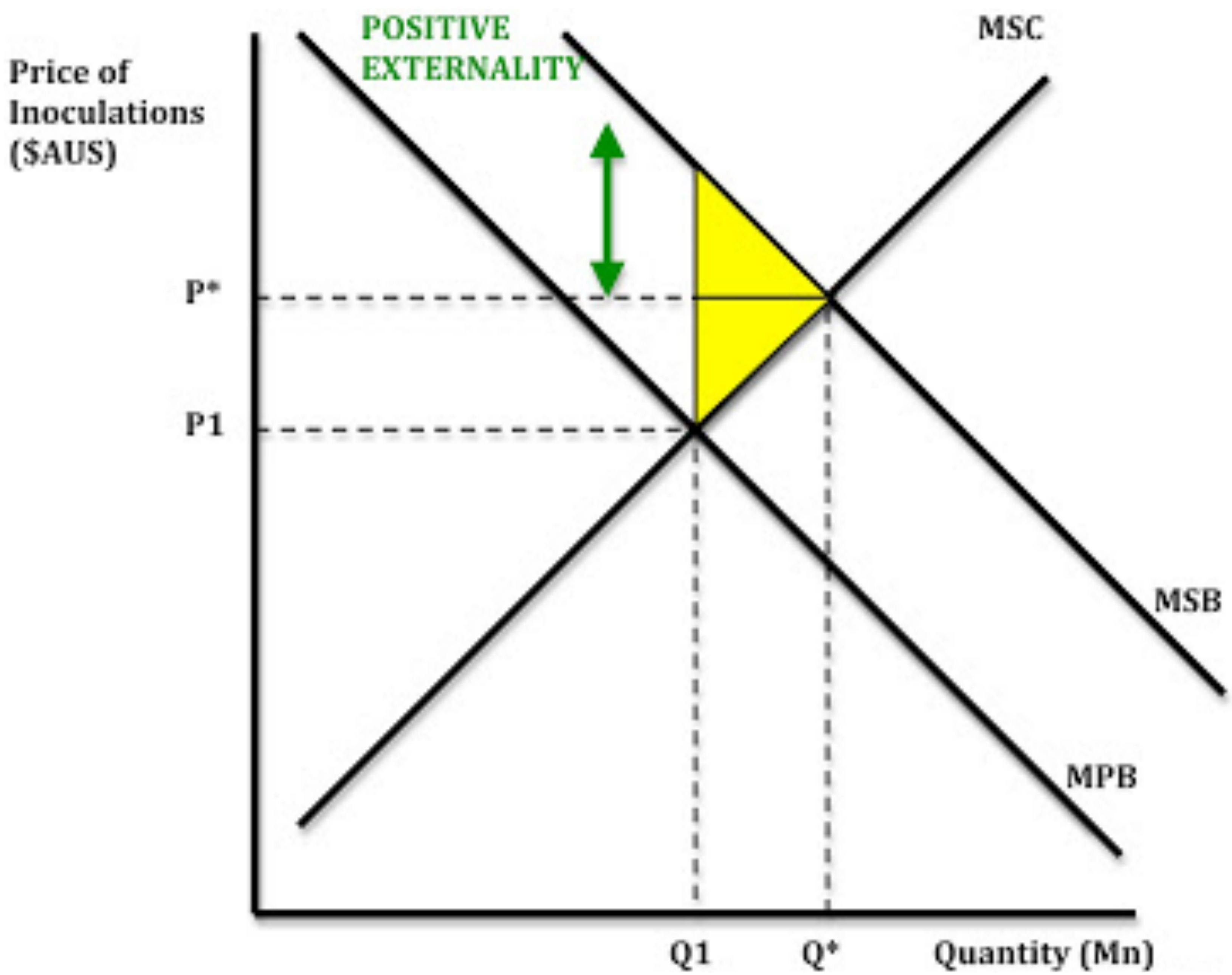
# Negative externalities in production



# NEGATIVE EXTERNALITIES ON CONSUMPTION



# POSITIVE EXTERNALITIES ON CONSUMPTION



# Notation

MPC = marginal private cost

MEC = marginal external cost

MSC = marginal social cost and, by definition,

MSC = MPC + MEC Also,

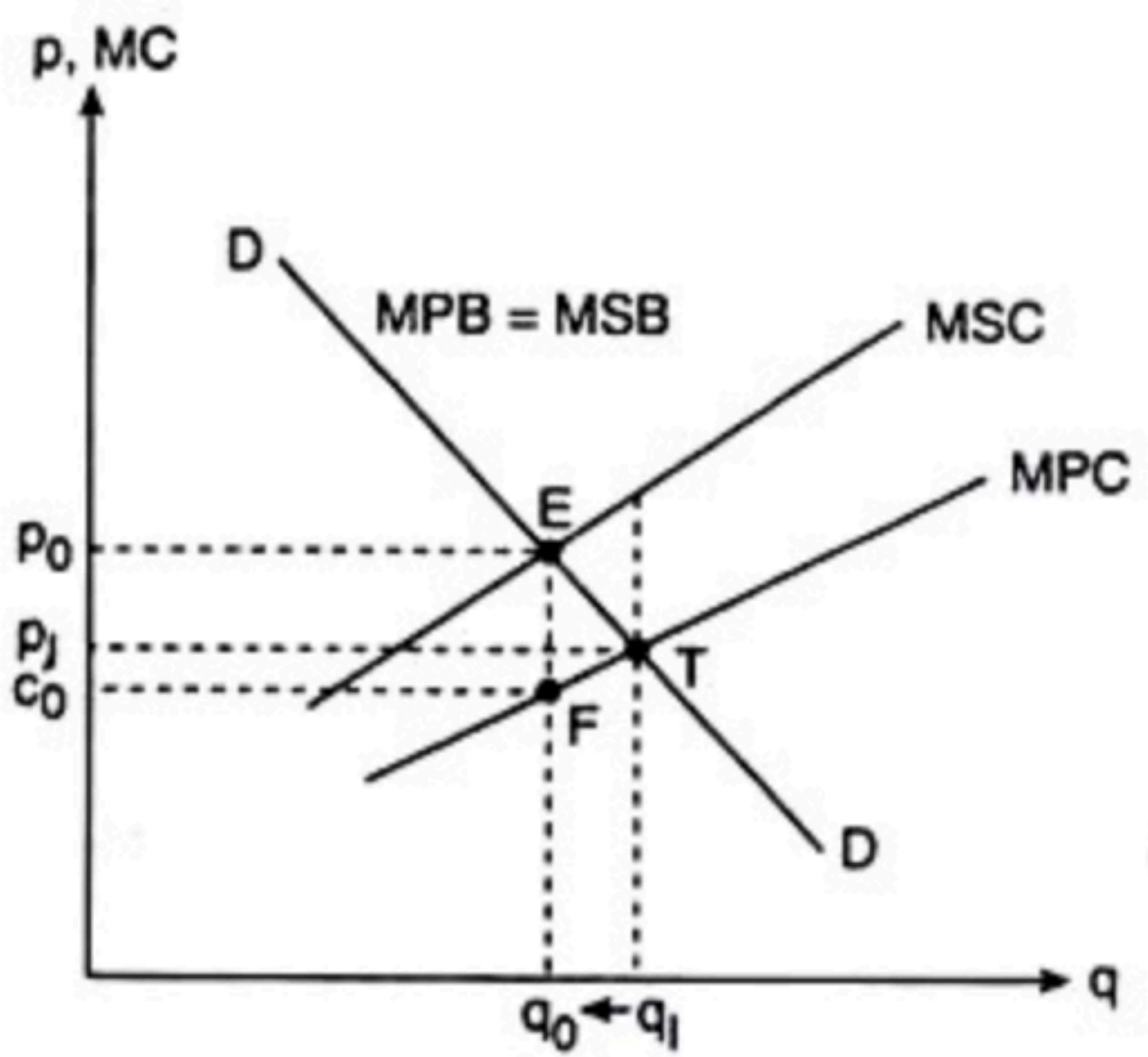
MPB = marginal private benefit

MEB = marginal external benefit

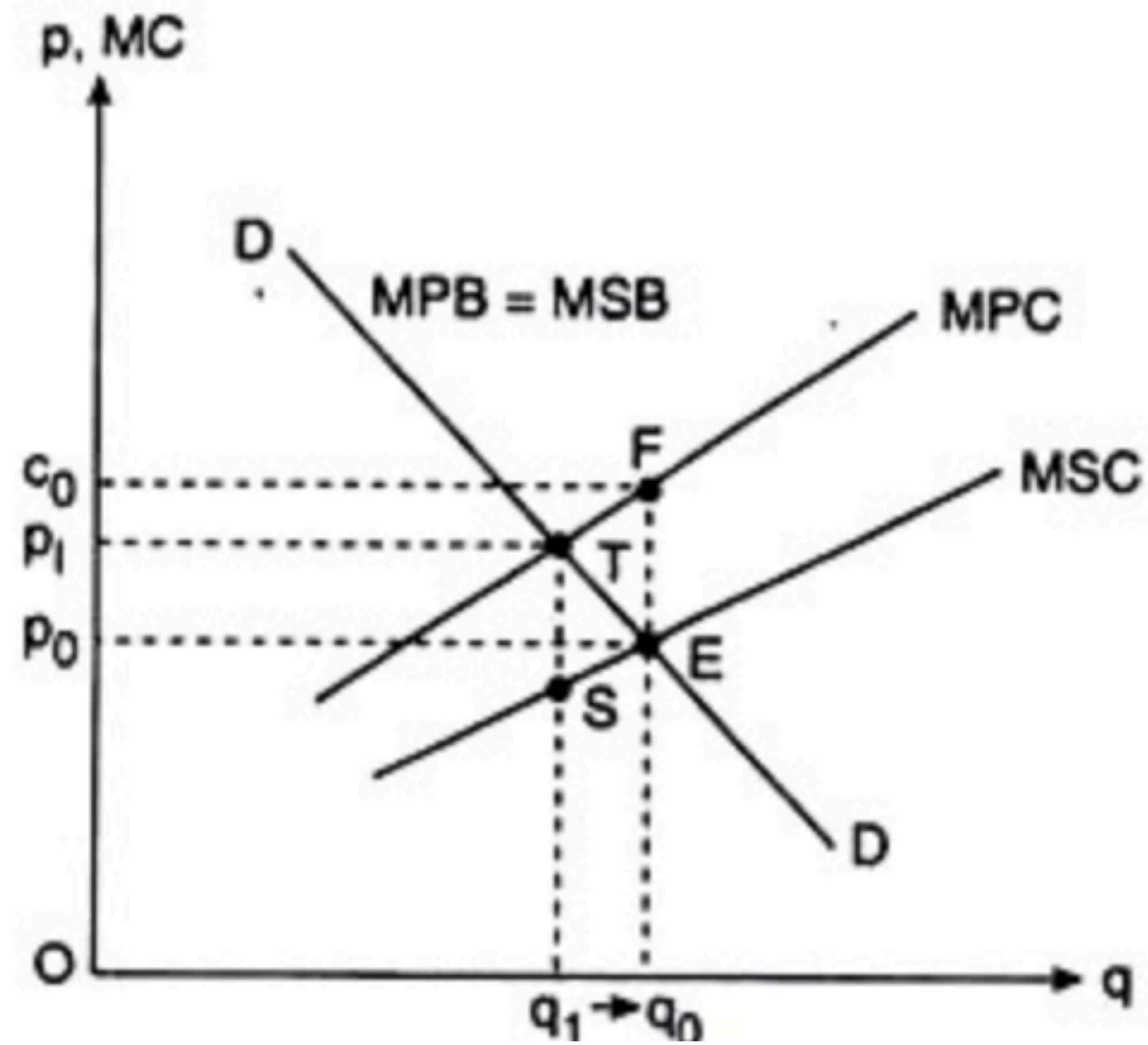
MSB = marginal social benefit and, by definition,

MSB = MPB + MEB

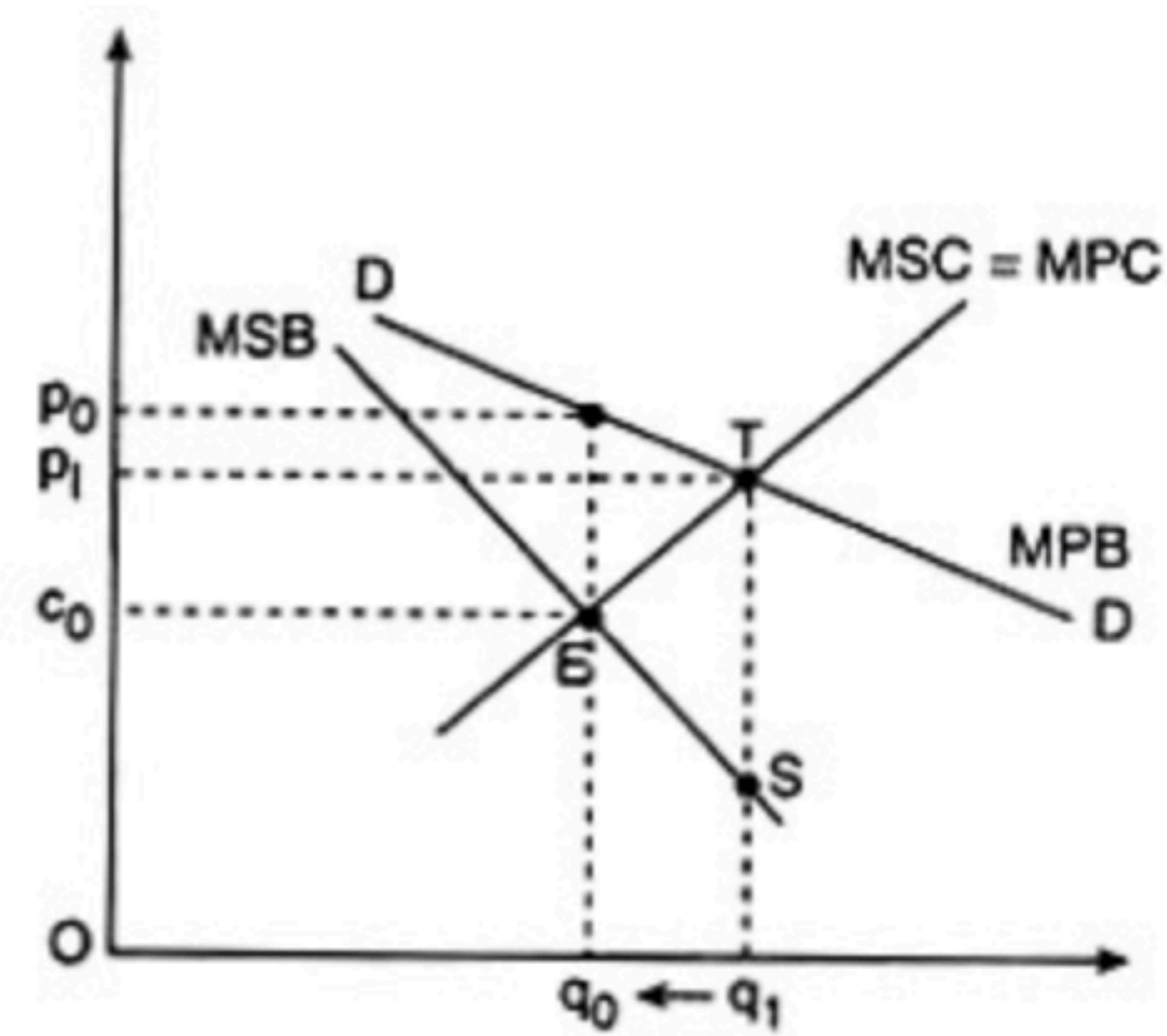
# Negative Externality in Production



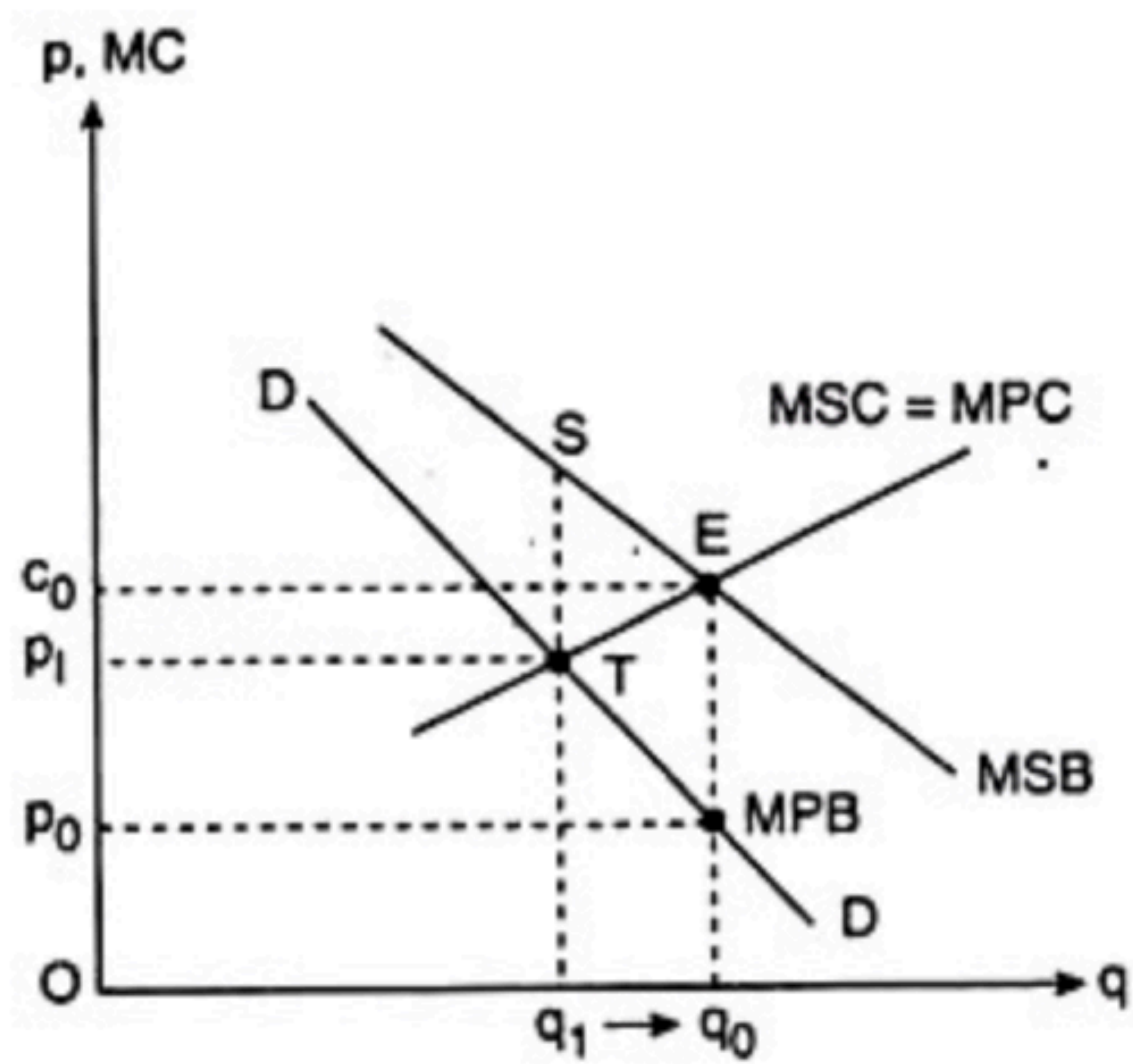
# Positive Externality in Production



# Negative Externality in Consumption



# Positive Externality in Consumption



# Summary

(i) In the presence of externalities, the socially optimal level of output $q_0$ is given by the condition MSB = MSC.

(ii) The private production of output $q_1$ is given by the condition MPB = MPC.

(iii) To obtain the optimal level of output $q_0$, we can use some appropriate tax and/or subsidy programmes.