

Positive Externalities

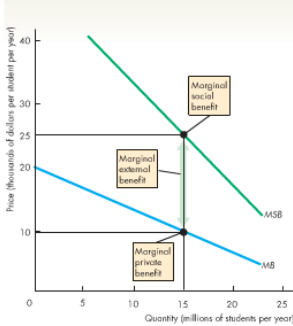
$$MSB > MB$$

Note Title

All figures from Parkin 7th year text.

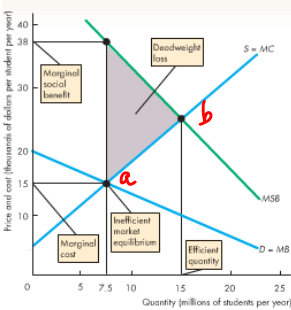
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FIGURE 15.6 An External Benefit



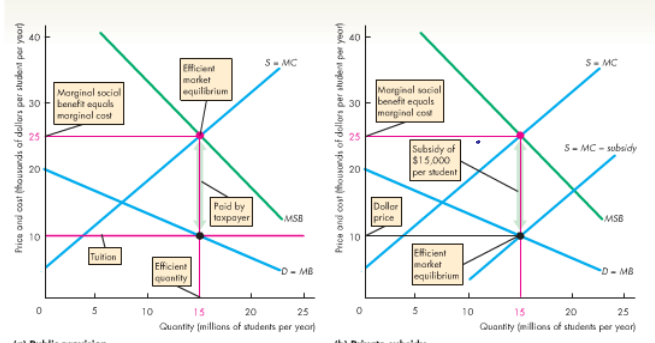
The MB curve shows the marginal private benefit enjoyed by the people who receive a college education. The MSB curve shows the sum of marginal private benefit and marginal external benefit. When 15 million students attend college, marginal private benefit is \$10,000 per student, marginal external benefit is \$15,000 per student, and marginal social benefit is \$25,000 per student.

FIGURE 15.7 Inefficiency with an External Benefit



The market demand curve is the marginal private benefit curve, $D = MB$. The supply curve is the marginal cost curve, $S = MC$. Market equilibrium at a tuition of \$15,000 a year and 7.5 million students is inefficient because marginal social benefit exceeds marginal cost. The efficient quantity is 15 million students. The gray triangle shows the deadweight loss created because too few students enroll in college.

FIGURE 15.8 Public Provision or Private Subsidy to Achieve an Efficient Outcome



In part (a), marginal social benefit equals marginal cost with 15 million students enrolled in college, the efficient quantity. Tuition is set at \$10,000 per student, and the taxpayers cover the other \$15,000 of marginal cost per student. In part (b), with a subsidy of \$15,000 per student, the supply curve is $S = MC - \text{subsidy}$. The equilibrium price is \$10,000, and the market equilibrium is efficient with 15 million students enrolled in college. Marginal social benefit equals marginal cost.

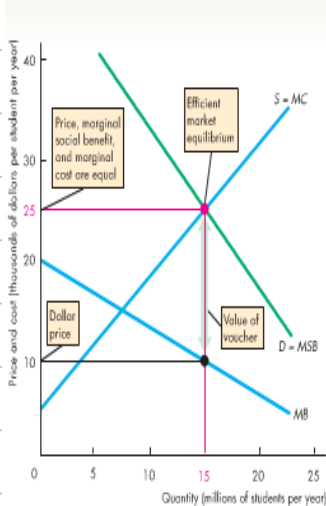
$MB =$ marginal private benefit
 $MSB =$ marginal social benefit
 $MSB - MB =$ marginal external benefits

(a) point of private equilibrium
 $MB = MC$. This occurs in absence of a subsidy.
 (b) point of social equilibrium and efficiency.

The problem is how to get our private consumer to make his/her decisions on MSB and not MB.

Answers: public provision
 private subsidy
 vouchers

FIGURE 15.9 Vouchers Achieve an Efficient Outcome



With vouchers, buyers are willing to pay MB plus the value of the voucher, so the demand curve becomes the marginal social benefit curve, $D = MSB$. Market equilibrium is efficient with 15 million students enrolled in college because price, marginal social benefit, and marginal cost are equal. The tuition consists of the dollar price of \$10,000 and the value of the voucher.

Efficiency requires

$$MSB = MPB = P = MPC = MSC$$

P = private
 S = social

The graphs above show

$$MSB > MPB$$

$$MPC = MSC$$