**Efficiency**

Resources are scarce

Must be decision-making mechanism to allocate limited goods/services among people with potentially unlimited wants

Consider government production of goods/services: ex. Roads, schools, police

Government production draws resources (land, labor, capital) from alternative uses

(Examples of resources by category used to produce education)

There is a limited amount of goods and services that can be produced in a given time period

**Production Possibilities Curve**

Shows alternative combinations of goods/services that can be produced with limited resources

gov. goods/services

(per year)

US Economy

B

G2

G1

A

X1

X2

Private goods/services (per year)

Suppose economy at A

If an economy is utilizing all resources with technical efficiency it would be on the frontier

What is mix of good/services produced if the economy is at point A?

If government wants the increase its output

Draws resources from alternative uses

The increase G1 to G2 (ex. roads, schools, police) moves economy from point A to B

What is the cost in forgone output when government increases output G1 to G2?

Opportunity cost

Characterize society’s opportunity cost if G1 →G2 in form of

|  |  |  |
| --- | --- | --- |
| **Good** | **Resources Used** | **Goods/Services Foregone (Opportunity Cost)** |
| Roads |  |  |
| Schools |  |  |
| Tanks |  |  |

What represents a “good” government allocation decision?

How much should government spend on schools, roads etc?

Cost/benefit

**If the benefit of the decision is at least as great as the cost, the allocation decision is considered “efficient”**

Benefit measured by how much consumers are willing to pay the good

Marginal benefit

Benefit obtained from the consuming the next or marginal unit

Extra benefit obtained from consuming additional unit of a good

**Demand curve** reveals marginal benefit

price

Individual consumer

$50

$35

$20

d

3

haircuts/month

1

2

Each point along demand curve represents the most the consumer is willing to pay for the last unit

If market price of haircut is $35, consumer acquire two cuts/month

Consumer willing to pay at least $35 for each of the first two cuts

Willing to pay exactly $35 for the 2nd haircut

Marginal value of the 2nd haircut to the consumer is $35

Why doesn’t consumer acquire 3rd haircut if the price is $35/cut?

Marginal benefit is measured by willingness to pay for next unit

Fill in table:

|  |  |
| --- | --- |
| Quantity of haircuts in a month | Consumer's Marginal Benefit |
| 1st |  |
| 2nd |  |
| 3rd |  |

Haircut is normally thought as a private good

Consumption is not shared

The only person in society who benefits from the good is the purchaser/consumer

Counter-examples:

1. You hire a guard for your house
2. Fire/sprinkler system you put in your condo

Suppose local market consists of 1000 consumers

price

Market Demand

$50

$35

$20

D

Haircuts /month

250

500

750

If haircuts were $20/cut, the market quantity demanded in a month would be 750

For every one of the 750 transactions, the buyer was willing to pay at least $20

Individual consumers may have purchased more than one haircut in a month

Marginal consumer who purchased 750th haircut was willing to pay exactly $20 for the cut

If the benefits of the good are not directly or indirectly shared, the benefit of the 750th cut in a month to society is $20

**Private marginal benefit (PMB)**

Increase in benefits (well being) to the consumer who purchased good

Measured by individual willingness to pay

**Social Marginal Benefit (SMB)**

Equals PMB plus the change in benefits (positive/negative) to all others affected by the good’s consumption

If no one other than the purchaser/consumer is affected by the good’s consumption:

**SMB = PMB** condition for a private good

Examples: **SMB>PMB**

**SMB<PMB**

**Opportunity Cost:**

Each haircut draws resources from alternative uses

Society forgoes the opportunity to produce other goods/services whenever it produces a haircut

What scarce resources are employed to provide haircuts?

(Identify goods and services society have otherwise produced if it did not produce haircuts)

**Supply curve: collection of points representing the opportunity cost to society of providing the next unit**

Supply

price

S

b

$70

a

$40

800

Haircuts /month

500

Assume perfect competition – individual producers have no influence over market price

At point “a” the barber/stylist providing the 500th haircut in a month requires $40 to cover costs

(What are some of those costs? Examples)

Those costs arise due to scarcity of resources

Costs reflects what society forgoes when the haircuts are produced

(Compare points a and b? Why would “b” correspond to a higher market price? What is causing the supply curve to slope upward?)

The **Social Marginal Cost (SMC)** of the 500th haircut is $40

**Social Marginal Cost** measures the value of what society foregoes when the next unit of a particular good/service is produced

If society’s cost fully reflected in cost to actual producer then:

**Private Marginal Cost** equals **Social Marginal Cost**

PMC = SMC

(exceptions)

**For a private good: PMB=SMB and PMC=SMC**

Markets efficiently allocate such goods

price

Market

S = SMC

$80

$70

a

$40

$17

D=SMB

150

800

Haircuts /month

500

In this market:

500 haircuts transacted per month

Considered a *correct* allocation of resources

For every haircut provided up to 500 the benefit to society is greater than the cost

Net benefits in society increased for each transaction

For 150th haircut in a month,

Someone in society willing to pay $80 for it

Opportunity cost to society of providing the haircut is $17

This transaction is socially efficient; but if transactions were not allowed to go beyond 150 cuts in a month, this would be inefficient

Society should divert resources toward to the production of a good/service as long as the marginal social benefits are at least as great as the social costs

For every all transactions up to Q=500 **SMB ≥ SMC**

Q=500 haircuts where SMB = SMC is considered efficient because at this point all transactions that increase social net benefits have been exhausted

If the market rests at Q=150 SMB > SMC socially inefficient

If the market rests at Q=800 SMB < SMC socially inefficient

[**Cost/Benefit Exercise**](http://milesfinney.net/433/handout/benefits.html)