**Examples of Consumer Preferences**

1. Perfect Complements

2. Perfect Substitutes

Perfect complements

Some goods are consumed together

Consumer would not increase utility by substituting between goods

Suppose consumer acquires goods X and Y

Y

X

U1

U2

A

B

C

y2

y1

x2

x1

Graph A

Given x1, consumer will acquire y1

Goods consumed together:

Any increase in X holding Y constant will not increase utility

Effect of price change

suppose price of X falls

budget line shifts AB to AC

consumption basket changes from x1 y1 to x2 y2

consumer utility increases from U1 to U2

Change in consumption of X and Y due solely to income effect of price change

no substitution between goods

consumer can afford larger basket therefore increases consumption of both goods

Increase should be proportional $\frac{Y\_{1}}{X\_{1}} = \frac{Y\_{2}}{X\_{2}}$

examples:1. Skis and bindings

2. nail polish and nail polish remover

3. shoes and shoelaces

Give an example of two goods that may be perfect complements for an individual consumer but not for others.

Do the indifference curves in Graph A above have an MRS?

Can the equilibrium baskets in Graph A be solved using calculus?

Perfect substitutes

Suppose consumer has utility function for goods X, Y: U(X,Y) = X + 2Y

MRSX,Y = $\left.\frac{∆Y}{∆X}\right|\genfrac{}{}{0pt}{}{}{\overbar{U}}$ = $\frac{MU\_{x}}{MU\_{y}}$ = ½

MRS is constant along indifference curve

slope of indifference curve is unchanged as move along curve

rate at which consumer willing to substitute between goods is not a function of the relative amounts of X and Y consumed

Consumer willing to substitute a constant ½ unit of Y for a unit of X holding utility constant

**budget constraint**: Y = $\frac{M}{P\_{y}}- \frac{P\_{x}}{P\_{y}}X$

suppose slope of budget line $\frac{P\_{x}}{P\_{y}}$ = ¼ interpret:

U1

U2

U3

b

b’

budget line slope -1/4

slope of indifference curves is -1/2

X

Y

a

Graph B

consumer budget line bb’

if consumer at basket a, enjoys U2 utility

Can consumer increase utility?

Along indifference curve: MRSX,Y = ½ | along budget line: $\frac{P\_{x}}{P\_{y}}$ = ¼

consumer *willing* to substitute ½ unit of Y for next unit of X

consumer *must* forgo ¼ unit of Y for next unit of X to stay within budget

At basket “a” MRSX,Y > $\frac{P\_{x}}{P\_{y}}$ (in absolute value)

the consumer if willing to “pay” more for next unit of X in the form of foregone Y than she must in the market

Corner solution

consumer maximum utility a b’ consumes only X

Condition of perfect substitutes:

MRSX,Y > $\frac{P\_{x}}{P\_{y}}$ consume only X

MRSX,Y < $\frac{P\_{x}}{P\_{y}}$ consume only Y

Examples

Give an example of two goods that may be perfect substitutes for an individual consumer but not for others.

Explain the difference in MRS between an indifference curve for perfect substitutes and the curve for imperfect substitutes.

Explain why it is unlikely for a consumer to arrive at an equilibrium basket for perfect substitutes that is not a corner solution.

Can the equilibrium baskets in Graph B be solved using calculus?

Health Insurance Mandate

As of 2012, roughly 40 million people in the US lack health insurance (mostly adults)

Corner solution

other goods

health insurance

a’

a

U1

consumer maximizes utility at endpoint “a”

Is consumer willing to pay anything for insurance?

**Health care reform**

mandated that everyone obtain health insurance

people without proof of insurance will pay annual penalty through tax system

penalty ranges from $695/individual to $2085/family

other goods

health insurance

a’

a

U1

b

penalty

*i*

U0

*h*

If consumer does not acquire health insurance

no longer will be able to remain at basket *a*

must pay penalty, dropping consumer to point b

at basket b consumer will experience U0 utility (U0 < U1)

Along aa’ baskets between *a* and *i* generate higher utility than U0

If consumer can acquire basket within region he should buy insurance and avoid fine

Consumers who cannot should pay fine

Baskets between *h* and *i* represent insurance packages that cost more than the fine

Suppose the fine was $625. Explain why a consumer could be willing to pay more than $625 for insurance to avoid the fine.

If a consumer is not willing to pay more for insurance than the value of the fine, what does that say about the benefits he perceives from insurance?

If a consumer is not willing to pay more for insurance than the value of the fine, what does that imply about the shape of his indifference curves (between insurance and other goods)?