# Barick Chung

Employment:
2014-present Senior Lecturer, Department of Economics, CUSZ – Shenzhen.
2012-2014 Lecturer, School of Economics and Finance, University of Hong Kong.
2006-2012 Instructor, Department of Economics, CUHK – Hong Kong.

Education:
2003-2007 Ph.D. (Business) Indiana University – Bloomington.
1987-1991 BS.Sc. (Economics) Chinese University of Hong Kong – Hong Kong.

Research paper:
Chung, Barick, "Two Level Price Discrimination and Vertical Relationship" (March 05, 2012). Available at SSRN: http://ssrn.com/abstract=1997070.

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# ECO 2011 (Sections L07-10)
# Basic Microeconomics

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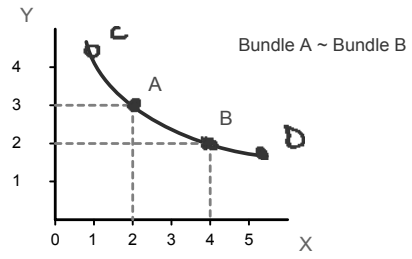
Pindyck and Rubinfeld, 2014, p.71:

**Indifference curve** is a curve representing all combinations of market baskets [bundles] that provide a consumer with the same level of satisfaction.

Indifference curve:





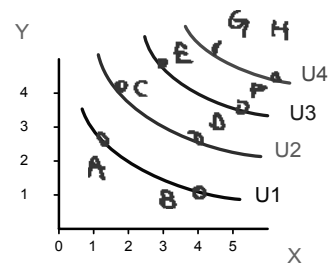

Pindyck and Rubinfeld, 2014, p.72:

**Indifference map** is a graph containing a set of indifference curves showing the market baskets [bundles] among which a consumer is indifferent.



My remark #05:

An indifference map is a family of indifference curves.



My remark #06:

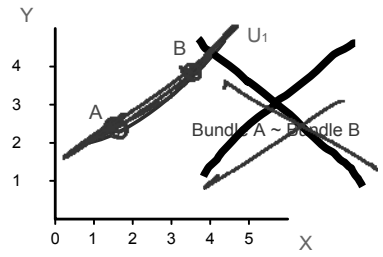
Three properties of indifference curves:

(i) Indifference curves are downward sloping.

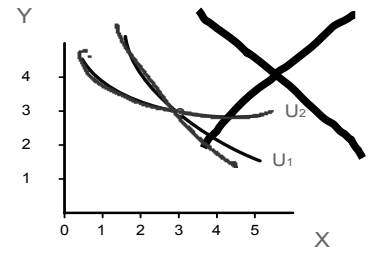
(ii) Indifference curves do not cross each other.

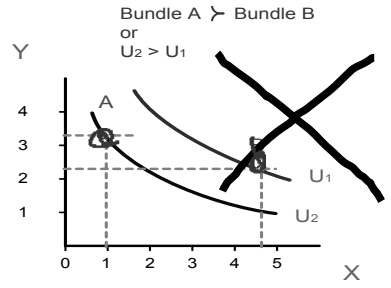
(iii) Bundles along indifference curves in the northeast are preferred to those in the southwest.



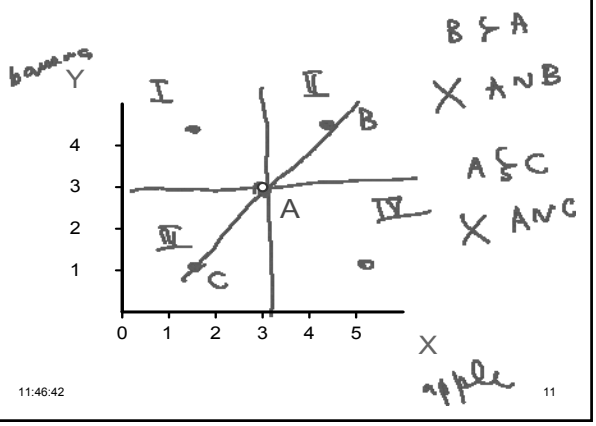











Pindyck and Rubinfeld, 2014, p.74:

**Marginal rate of substitution** (MRS) is the maximum amount of a good that a consumer is willing to give up in order to obtain one additional unit of another good.

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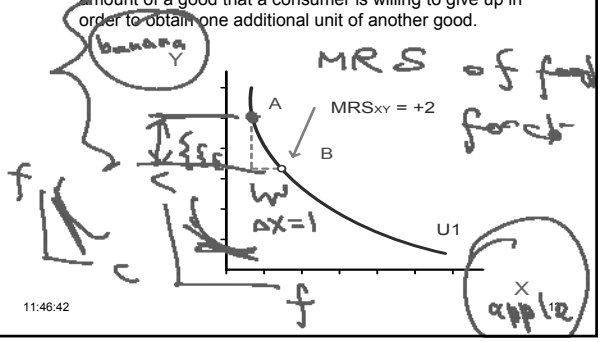




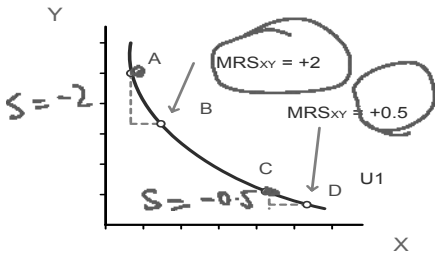

**Assumptions** about Consumer preferences

# Additional assumption

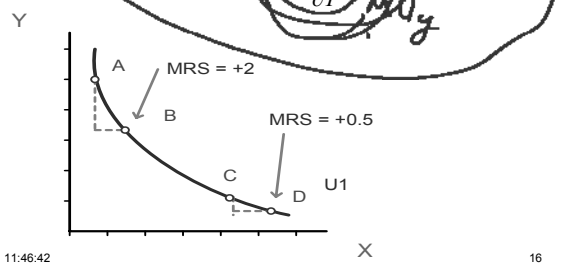
(4) **Diminishing MRS** (Convexity): MRS falls as we move down the indifference curve.



# MRS is decreasing



$$MRS_{XY}(X,Y) = +\frac{\frac{\partial U(X,Y)}{\partial X}}{\frac{\partial U(X,Y)}{\partial Y}} = +\frac{MU_X(X,Y)}{MU_Y(X,Y)}$$






Total utility and Marginal utility

# Marginal utility of X

| X | U(X) | MU(X) |
|---|---|---|
| 0 | 0 | – |
| 1 | 50 | 50 |
| 2 | 90 | 40 |
| 3 | 120 | 30 |
| 4 | 140 | 20 |
| 5 | 150 | 10 |
| 6 | 155 | 5 |



# Marginal utility of X

| X | Y | U (X,Y) | $MU_X$ (X,Y) |
|---|---|---|---|
| 0 | 4 | 90 | – |
| 1 | 4 | 120 | 30 |
| 2 | 4 | 140 | 20 |
| 3 | 4 | 150 | 10 |
| 4 | 4 | 155 | 5 |
| 5 | 4 | 157 | 2 |
| 6 | 4 | 158 | 1 |

# Marginal utility of Y

| X | Y | U (X,Y) | $MU_Y$ (X,Y) |
|---|---|---|---|
| 2 | 0 | 0 | – |
| 2 | 1 | 50 | 50 |
| 2 | 2 | 90 | 40 |
| 2 | 3 | 120 | 30 |
| 2 | 4 | 140 | 20 |
| 2 | 5 | 150 | 10 |
| 2 | 6 | 155 | 5 |

$x=2$
$y=2$



Pindyck and Rubinfeld, 2014, p.76:

**Perfect substitutes** are two goods for which the Marginal rate of substitution of one for the other is a constant.

**Perfect complements** are two goods for which the MRS is zero or infinite; the indifference curves are shaped as right angles.

**Bad** is good for which less is preferred rather than more.



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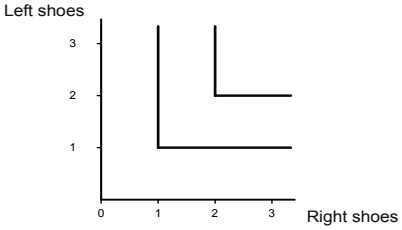

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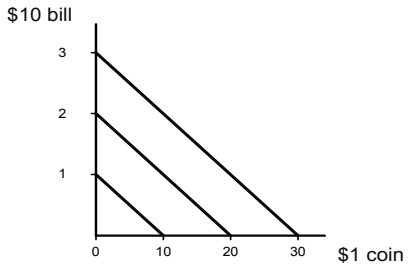




**Bad** is good for which less is preferred rather than more.