



## 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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Wechat ID: barickchung

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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.

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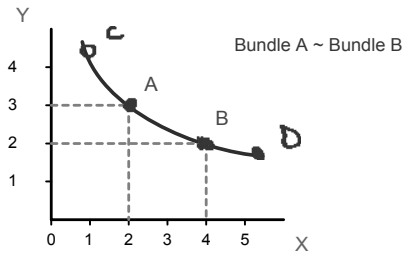
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Indifference curve:



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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.

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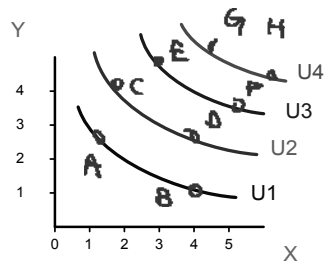
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My remark #05:

An indifference map is a family of indifference curves.



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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.

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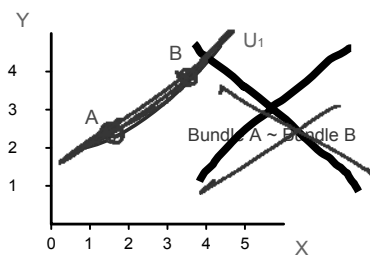
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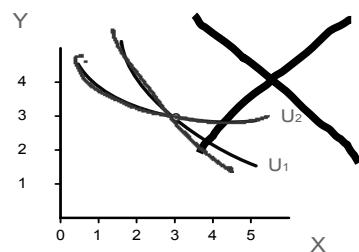
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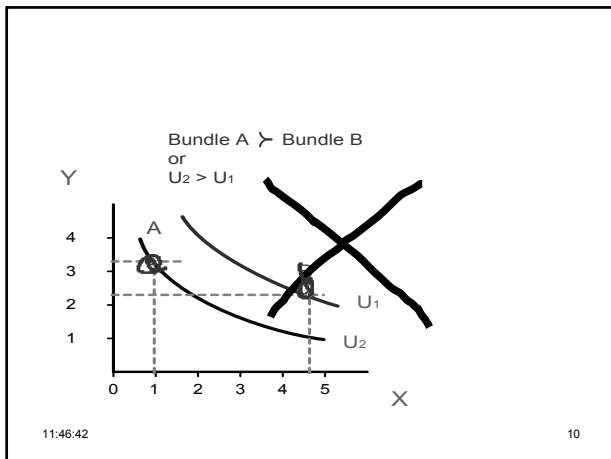
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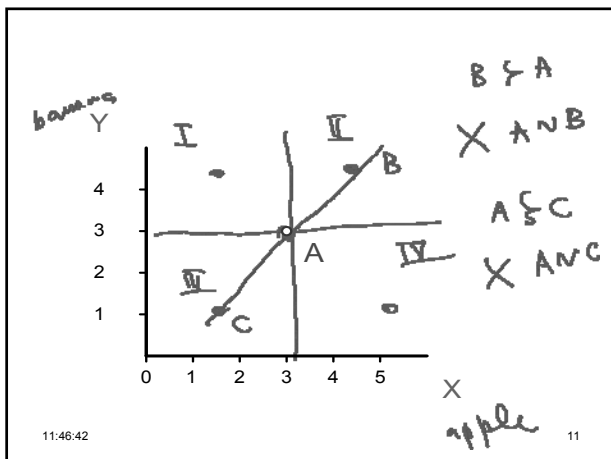
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 Pindyck and Rubinfeld, 2014, p.74:

**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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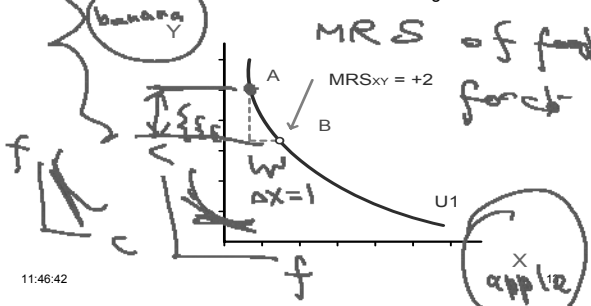
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Pindyck and Rubinfeld, 2014, p.74:

**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

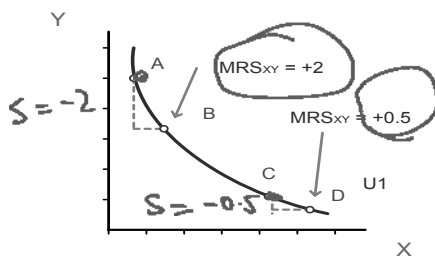
**Additional assumption**

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

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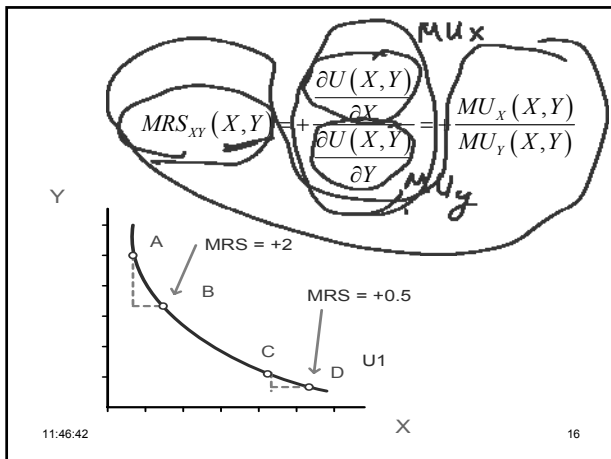
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**MRS is decreasing**



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Total utility and 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

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Marginal utility of X

X	Y	U(X,Y)	MU <sub>X</sub> (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

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## 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

$x=2$   
 $y=2$

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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.

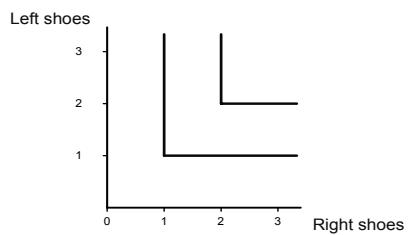
**Perfect complements** are two goods for which the MRS is zero or infinite; the indifference curves are shaped as right angles.

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

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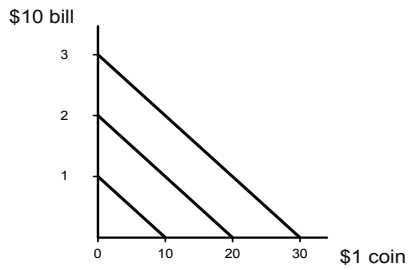
**Perfect complements** are two goods for which the MRS is zero or infinite; the indifference curves are shaped as right angles.



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



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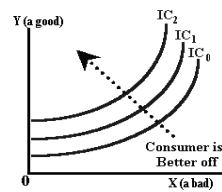
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**Bad** is good for which less is preferred rather than more.



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