



## 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>.

Homepage: Deleted  
Facebook: Deleted  
Wechat ID: barickchung

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

Barick Chung  
Department of Economics  
235-18822  
Zhiren Building, 409  
[barickchung@cuhk.edu.cn](mailto:barickchung@cuhk.edu.cn)

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## Optimal choice

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Pindyck and Rubinfeld, 2014, p.86:

The consumer's problem is to maximize satisfaction, given the limited budget available to them.

The optimal bundle satisfies two conditions:

- 1) It must be located on the budget line.
- 2) It must give the consumer the most preferred combination of goods and services.

## Two conditions

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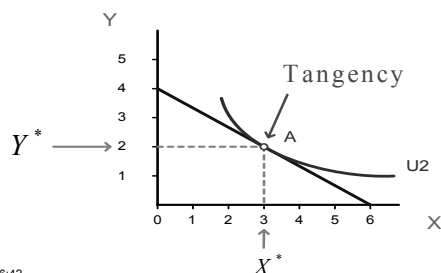
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Bundle A is optimal:



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Tangency implies:

- (i) The optimal bundle  $\{X^*, Y^*\}$  lies on the budget line:

$$P_X \cdot X^* + P_Y \cdot Y^* = I$$

- (ii) The slope of the budget line (i.e., negative price ratio) is equal to the slope of indifference curve (i.e., negative marginal rate of substitution) at the optimal bundle  $\{X^*, Y^*\}$ :

Slope of budget line =  $-\frac{P_X}{P_Y}$

Slope of indifference curve =  $-MRS_{X,Y}(X,Y)$

Optimization condition is:  $\frac{MU_X(X^*, Y^*)}{P_X} = \frac{MU_Y(X^*, Y^*)}{P_Y}$

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Pindyck and Rubinfeld, 2014, p.96:

**Equal Marginal principle** is the principle that utility is maximized when the consumer has equalized the Marginal utility per dollar of expenditure across all goods.

$$\frac{MU_X}{P_X} = \frac{MU_Y}{P_Y}$$

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My remark #10a:

The consumer's problem is to solve:

$$\{X^*, Y^*\} \text{ solves } \left\{ \max_{X,Y} U(X,Y) \quad \text{s.t.} \quad P_X \cdot X + P_Y \cdot Y = I \right\}$$

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Pindyck and Rubinfeld, 2014, p. 89:

A **corner solution** is a situation in which the Marginal rate of substitution of one good for another in a chosen market basket is not equal to the slope of the budget line.

max  $U$  s.t.  $P_X X + P_Y Y = I$   
no solution  
✓ solution ← corner  
interior

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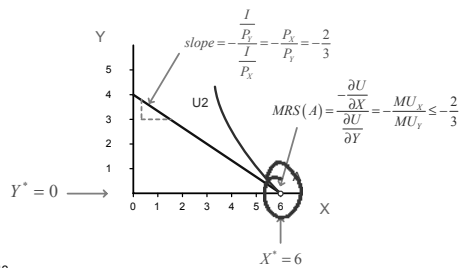
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Remark #15:

Corner solutions arise at a "corner:"

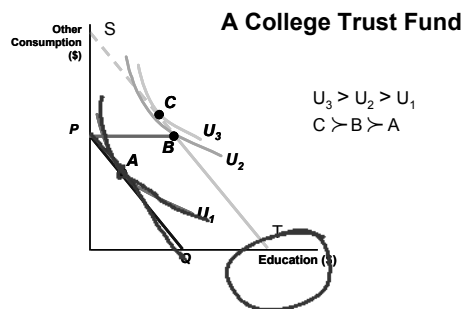
## Corner solutions



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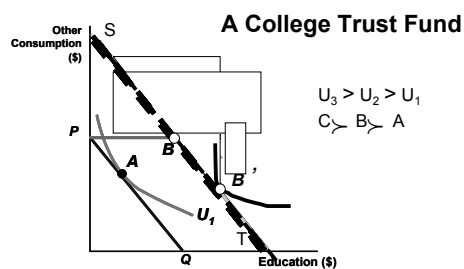
- A: Consumption before the setting up of the trust fund (The trust fund shifts the budget line)
- B: Requirement that the trust fund must be spent on education
- C: If the trust could be spent on other goods



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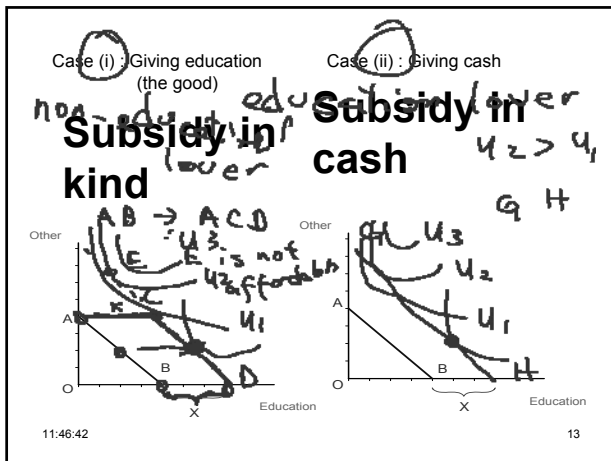
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- A: Consumption before the setting up of the trust fund (The trust fund shifts the budget line)
- B: Requirement that the trust fund must be spent on education
- C: If the trust could be spent on other goods



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The end

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