

# Investment in Human Capital

2012.10.3.

Outline

Individual  
Perspective

Family  
Perspective

Mobility

1 Individual Perspective

2 Family Perspective

3 Mobility

# Human Capital

Outline

Individual  
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Mobility

What is human capital?

- Pre-school, nutrition.
- Education.
- On-the-job training.

# Human Capital Investments: an individual perspective

- Costs
  - Out-of-pocket expenses.
  - Forgone earnings.
  - Psychic losses.
- Benefits
  - Present-value of Wages.

# Demand for College Education

為什麼要念大學? 成本效益分析。

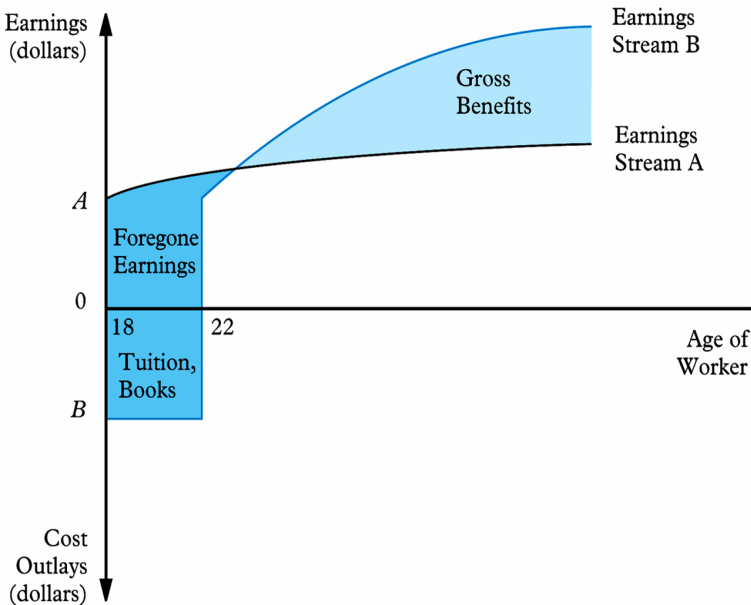
## Costs

- Tuitions, books, living costs.
- Earnings as a high school graduates.
- Psychic costs of learning.

## Benefits

- Increases in Earnings.
- Campus life. 由你玩四年
- Benefits from marriage market and social network.
- 求知的樂趣。
- 貢獻大學於宇宙的精神?

# Figure 9.2: Alternative Earnings Streams



# Predictions

- Present-oriented people are less likely to go to college.
- Most college students will be young.
- College attendance will decrease if the costs of college rise.
- College attendance will increase if the gap between the earnings of college and high school graduates increase.



# Returns to Educaiton

Outline

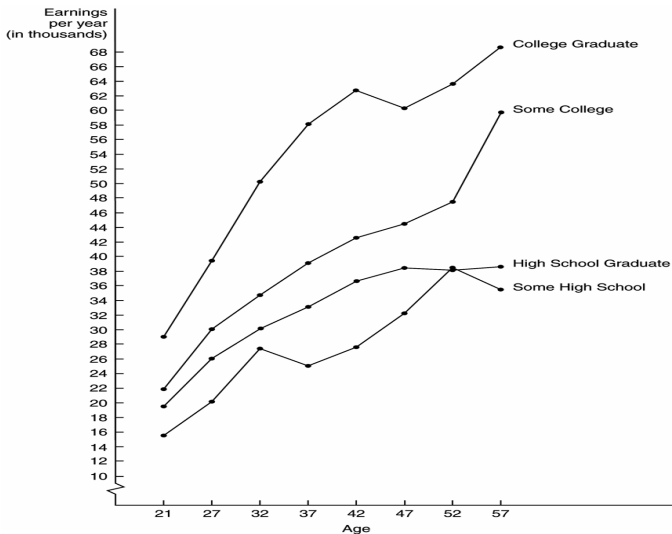
Individual  
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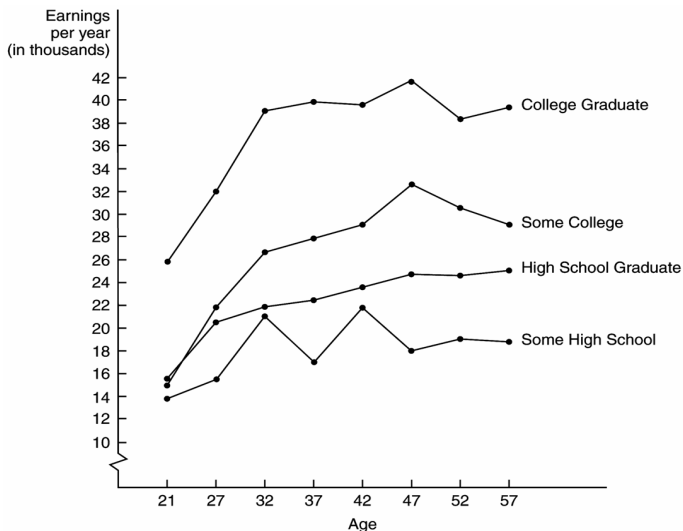
Mobility

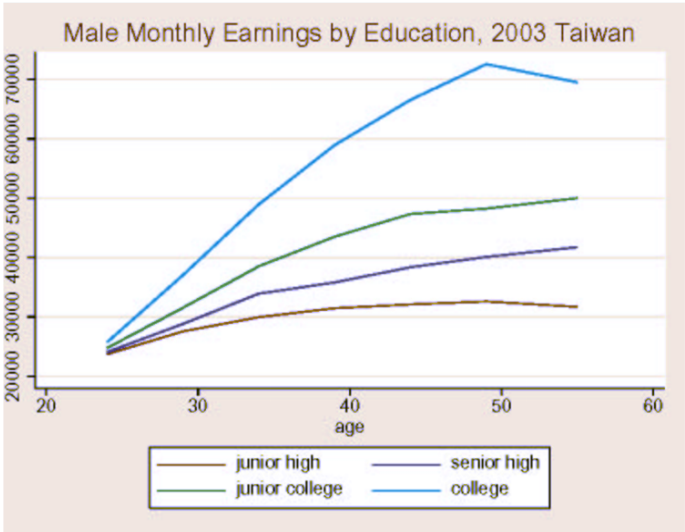
- Earnings by education
- Rate of return to education.
- In terms of regression,  
 $\text{Log}(\text{earnings}) = f(\text{schooling, experience, other } X\text{'s})$

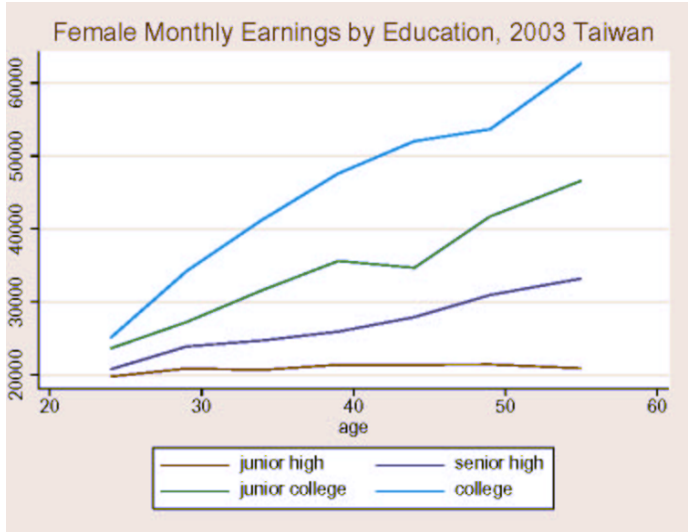
# Figure 9.3: Money Earnings (Mean), for Full-Time, Year-Round Male Workers, 1997

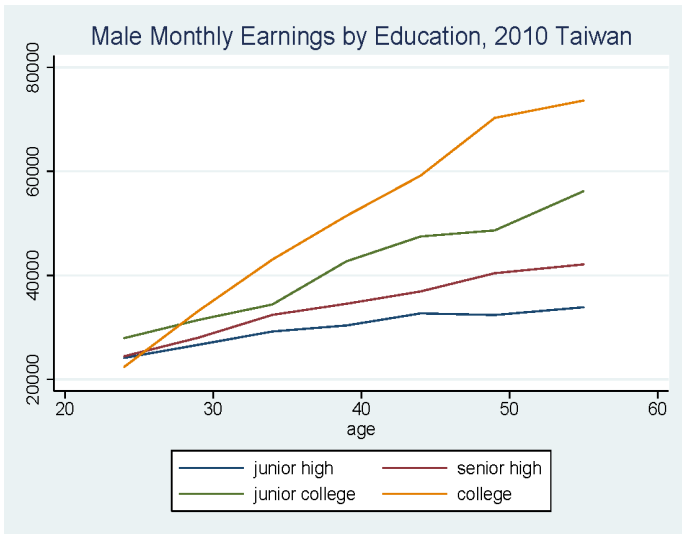


# Figure 9.4: Money Earnings (Mean), for Full-Time, Year-Round Female Workers, 1997

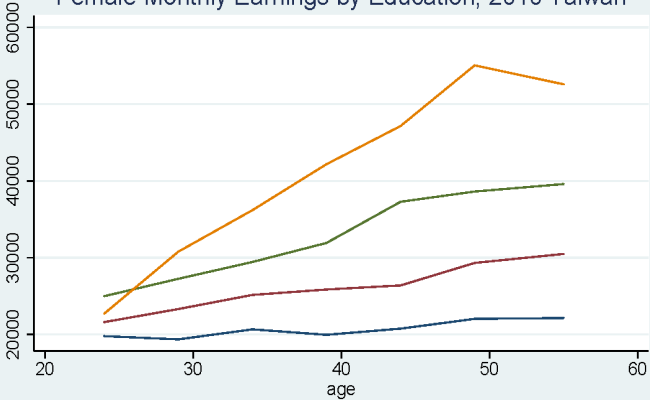








### Female Monthly Earnings by Education, 2010 Taiwan



— junior high      — senior high  
— junior college      — college

# 教育商品化?

- 什麼是商品?
- 教育為什麼不可以是商品?
- 誰從非商品化的教育中得利?



- 念大學的願付價格如何決定?
- 大學的需求線?

# Lifetime Utility Maximization

$$\max \sum_{t=1}^T \beta^t u(c_t)$$

$$s.t. \quad y_1 + \sum_{t=2}^T \frac{y_t}{1+r_t} = c_1 + \sum_{t=2}^T \frac{c_t}{1+r_t} + B_T$$

- choose  $y_t, c_t, B_T$ .
- What is in  $u(\cdot)$ ?

# A Family Perspective

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Three channels of inter-generational transfers,

- Human capital investment.
- Inter-vivos transfers. (贈與)
- Bequests.(遺產)

- Parents face trade-offs among choices of **consumption today, consumption tomorrow** and **children's consumption tomorrow**.
- Children's consumption tomorrow depends on their income tomorrow, which is highly related to human capital they possess, and transfers (including bequests) from parents.
- Usually, the returns to education is higher than market interest rate when the level of human capital is low. Therefore, parents will invest in human capital first.
- There is diminishing returns to education.

## Three cases on the amount of human capital investment.

- 1 For rich parents and parents who love their children enough, human capital investment is **efficient** in the sense that the return to education is equal to interest rate. And they make transfers to children.
- 2 For poor parents and parents who do not love their children enough, human capital investment is **not efficient** in the sense that the return to education is still higher than market interest rate. They do not make transfers to children.

3 For parents in between, they **do not** make transfers to children and the human capital investment is efficient.

Case 2 is not efficient.

## 公務員子女的人力資本投資較多, 為什麼?

- 價格效果。
- 所得效果。
- 公務員的未來沒有不確定性, 不需在子女教育和老年生活之間做選擇。

# Mobility

Given the differences in the initial conditions among families, people make decisions on the types and amounts of transfers.

- How do transfers affect the differences between family lines?
- In other words, what determines the intergenerational mobility?
- What government **should do** to change the mobility?



- And what government **can do** to change the mobility?
- 低學費以保障窮人子女的升學 (向上流動) 機會?
- 低學費和流動的關係是什麼?
- Another factor that affects mobility is assortative mating in the marriage market.