

# Revision Class

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November 15, 2018

## 1 Poverty Trap due to Multiple Equilibria

Before looking at the dynamics of wealth accumulation, let's think about peculiarities of credit markets, especially the informal ones.

Ms X want to take a loan. She is a young entrepreneur with brilliant ideas. She is new to the city. She goes to the friendly moneylender in her neighbourhood. He does not know her too well. She tells him that I will use this money to buy a food truck and within a few months she will be able to repay the entire loan amount and the interest rate. While he likes her, he is not sure if he should trust her or not. After all, she can take the whole amount and leave the city. Since, he is lending informally he can't make her sign a contract like a bank can. Instead, he asks her for collateral.

### **WHAT IS COLLATERAL?**

It is just a mechanism to make sure that Ms X is responsible with the money she borrows. It is something that she will hand over to the moneylender until she repays the loan. It obviously has to be something that she values. Otherwise, she can still leave the city with the entire loan amount as she doesn't care about the collateral. In most cases, the collateral that moneylenders accept are goods that valued by both the money lender and the borrower. In case of default, the moneylender can liquidate that good and recover at least some of the defaulted amount.

### **WHO IS MORE LIKELY TO BE REQUIRED TO GIVE COLLATERAL?**

Moneylender knows that Ms X is a young hopeful entrepreneur who neither has a job, nor any real assets in the city. She can pack her bags and leave tomorrow with the money he loaned her.

However, if she had a house in DC, the moneylender would have guessed that the likelihood that she would run away is really low.

- Often, informal credit sources are more likely to demand collateral from poorer borrowers

### **WHO HAS MORE COLLATERAL TO OFFER?**

If she had a house, she could have offered the papers for her house as collateral.

- Poor people typically have lower wealth, and thus lower collateral to offer to informal lending institutions

Now, because Ms X doesn't have collateral to offer, she can never have her food truck, and can never achieve her dream of becoming the entrepreneur of the year ☺ .

This is an example of how imperfections in credit markets can add up and multiply so that it replicates the current distribution of wealth.

Before we move on to the dynamics discussed in the class, two crucial concepts:

### **STEADY STATE:**

In the example discussed in the class, steady state is an equilibrium wherein the growth in the wealth levels is zero, my wealth today is the same as the wealth tomorrow.

**If I measure the today's wealth on x-axis, and tomorrow's on y-axis, what would be the locus of all steady states?**

(Hint:  $w_t = w_{t+1}$ )

### **STABLE STEADY STATE:**

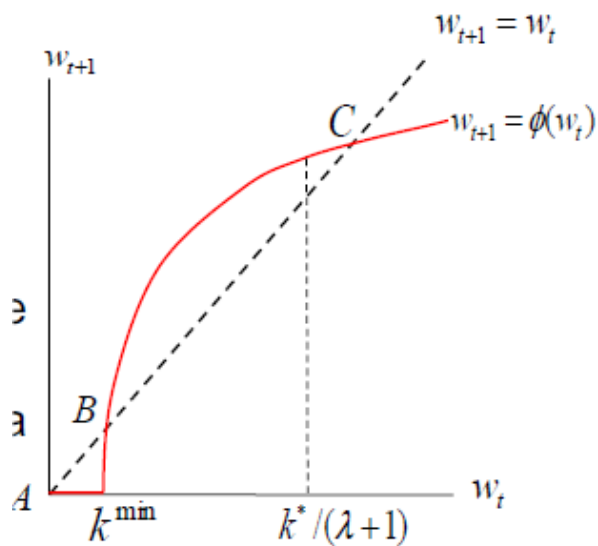
Let's imagine that we are in the steady state. The wealth levels are same across periods. Now, imagine that something happens that destroys a small part of the wealth today- a particularly harsh winter that affected the demand for the amazing food Ms X was selling in her food truck. If the steady state is stable, despite low demand, and thus a lower earnings, and thus lower wealth for a few weeks, she would eventually be able to make up for the loss and be still in the older steady state. However, if the steady state was unstable, her wealth would fall and she might be a lot poorer than she was before the start of the winters.

Let us look at the formal dynamic wealth accumulation model we studied in the class now:

**Features of the economy:**

- Everyone has some endowment of wealth,  $w$
- They can use their wealth as capital to produce some output according to the production rule  $h(k)$
- Higher the capital, higher the production (Duh!)
  - Greater and greater increases in capital don't increase the production at the same rate (**WHY?**)
- We need minimum amount of capital to kick start the production process:  $k_{min}$  (**WHY?**)
- If Ms X doesn't have enough wealth, she can borrow from the moneylender. He will obviously not lend her all that she asks him for. As usual, richer people get larger loans. (**WHY?**)
- The amount of loan I can get is a constant proportion of my wealth:  $\lambda * w_t$
- Interest rate is  $r$  (marginal cost of investing capital) = marginal product of capital (marginal gain from investing capital) (**WHY**)  $\rightarrow$  this gives us the desired capital stock  $k^*$
- The total capital I invest then is:
  - 0 if my wealth less than  $k_{min}$  **DESTITUTE**
  - $(\lambda * w_t + w_t) < k^*$  if my wealth is greater than  $k_{min}$  but less than  $(k^*/(1 + \lambda))$  (**WHY**)  
**FRUSTATED INVESTORS**
    - \* What is the  $MP_k$  in this case? (**WHY?**)
  - $(\lambda * w_t + w_t) > k^* \rightarrow$  will invest upto  $k^*$ 
    - \* What is the  $MP_k$  in this case? (**WHY?**)

## Poverty Trap



What are the different steady states here?

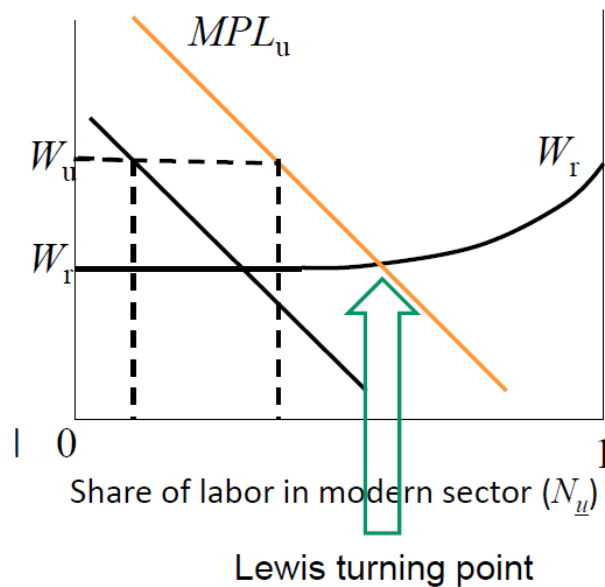
Which of these steady states are stable?

What are the implications for promotional policies?

## 2 Lewis Model

### Key Features

- Dualistic Economy: Modern/Urban/Industrial sector AND Traditional/Rural/Agricultural sector
- Agricultural sector: low productivity + surplus labor → fixed subsistence wages
  - Why do subsistence wages prevail in the agricultural sector?
  - When will wages start increasing?
  - What is the Lewis Turning Point?
- How are urban wages set in this model?



- Equilibrium: the two wage schedules intersect (**WHY?**)
- If the two wage schedules intersect before the Lewis Turning Point → small urban sector and large unproductive rural sector
- How can the economy get out of an unproductive equilibrium?

### **Inequality in this Setting**

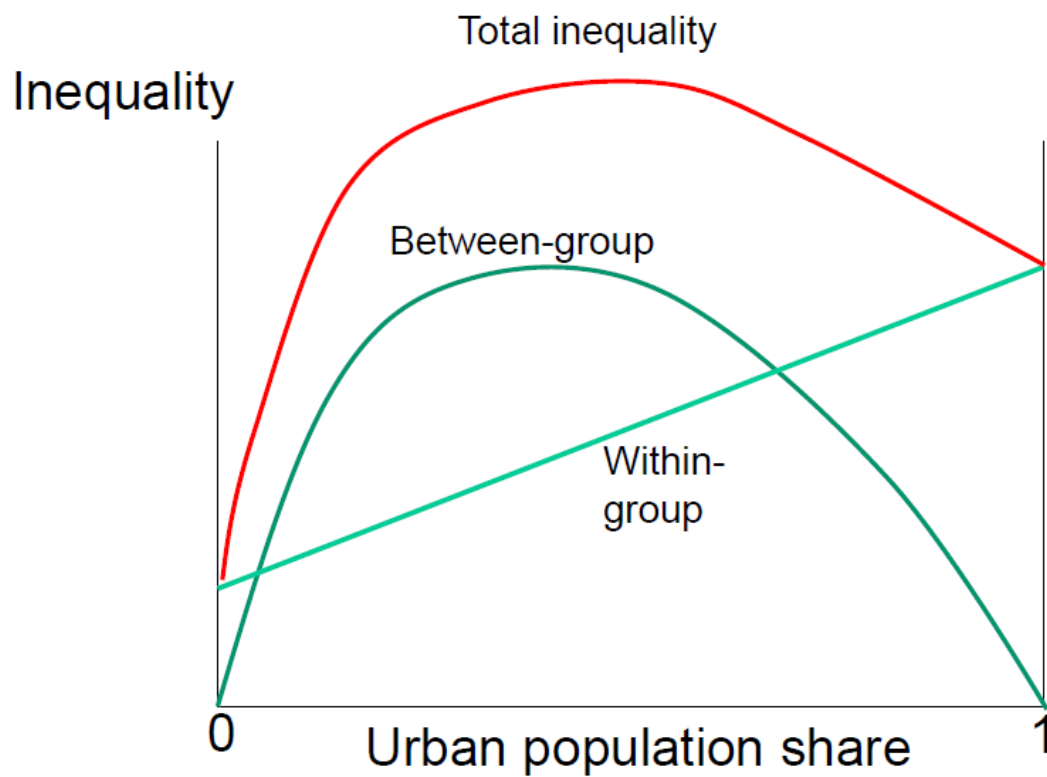
- (a) **In this set-up, what is the within sector inequality?**
- (b) Assume that when we start the entire population is in the urban sector
  - **What is the level of inequality at this point?**
- (c) Now consider an equilibrium beyond the Lewis Turning Point
  - **What is the level of inequality now?**
- (d) **What happens to inequality when the first person moves from the rural sector to the urban sector?**

Put (a), (b), (c) and (d) together → **how will inequality evolve with development?**

### 3 Kuznets Process

Kuznets Process is based on similar principles, with one crucial difference. In this set-up, within sector inequality is allowed.

- Rural Sector: low inequality + low mean income
- Urban Sector: high inequality + high mean income
- Migration process does not change the within sector inequality → a representative sample of rural population gets transformed into urban population
- **Kuznets process:** how inequality evolves when people move from rural sector to urban sector and these conditions hold
  - **Beginning:** Whole population is in the rural sector
  - **End:** Whole population is in the urban sector
- Aggregate within sector inequality increases over this period. **WHY?**
- **What happens to the between sector inequality?**

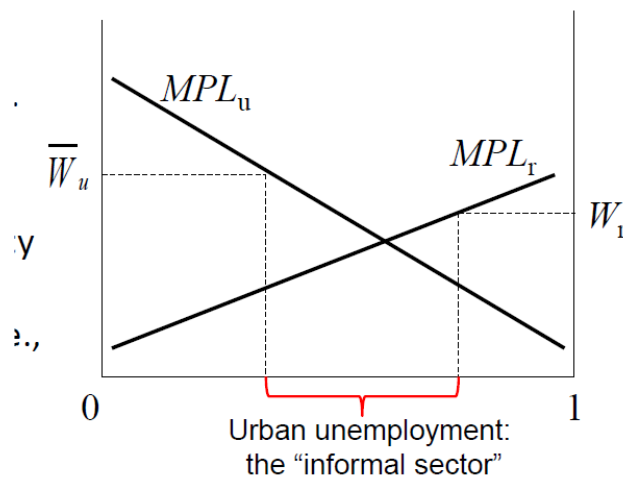


- Is it necessary that the inequality will eventually start falling?
- What are the conditions under which total inequality will always be increasing?



## 4 Harris-Todaro

- Urban wages are fixed, and urban wages are *inefficiently* high. **What do we understand by wages being inefficiently high?**
- Some people in urban areas get a high exogenously fixed wage  $\bar{w}_u$ , and others cannot find a job and earn nothing.
- **What is the probability that a worker in the urban sector will get the formal high paying job?**
- **What is the probability that a worker in the urban sector will be unemployed.**
- **What is the expected wage in the urban sector?**
- **What is the labor market distortion in this set-up? Is it inefficient?**



In this equilibrium there is no “growth-equity” trade-off. **WHY?**

Consider a government urban job creation program in this set-up. Will it be successful in reducing urban unemployment? Why, or why not?

## 5 Urbanization of Poverty

Facts:

- Poverty is becoming more urban over time.
- The share of the \$1.25 a day poor living in urban areas rose from 18% in 1990 to 25% in 2008 while the urban share of the population as a whole rose from 37% to 46% over the same period.
- This reflects a lower-than-average pace of urban poverty reduction.
- Urbanization of poverty is driven by rural poor moving to urban areas and NOT because the poverty has remained stagnant in urban areas.

Consider the following distribution of income:  $\{1, 2, 3, 4\}$ , where poverty line is 2. The last person in this distribution lives in urban areas.

- **What is the HCR for this economy?**
- **What is the urban HCR?**
- **What is the rural HCR?**

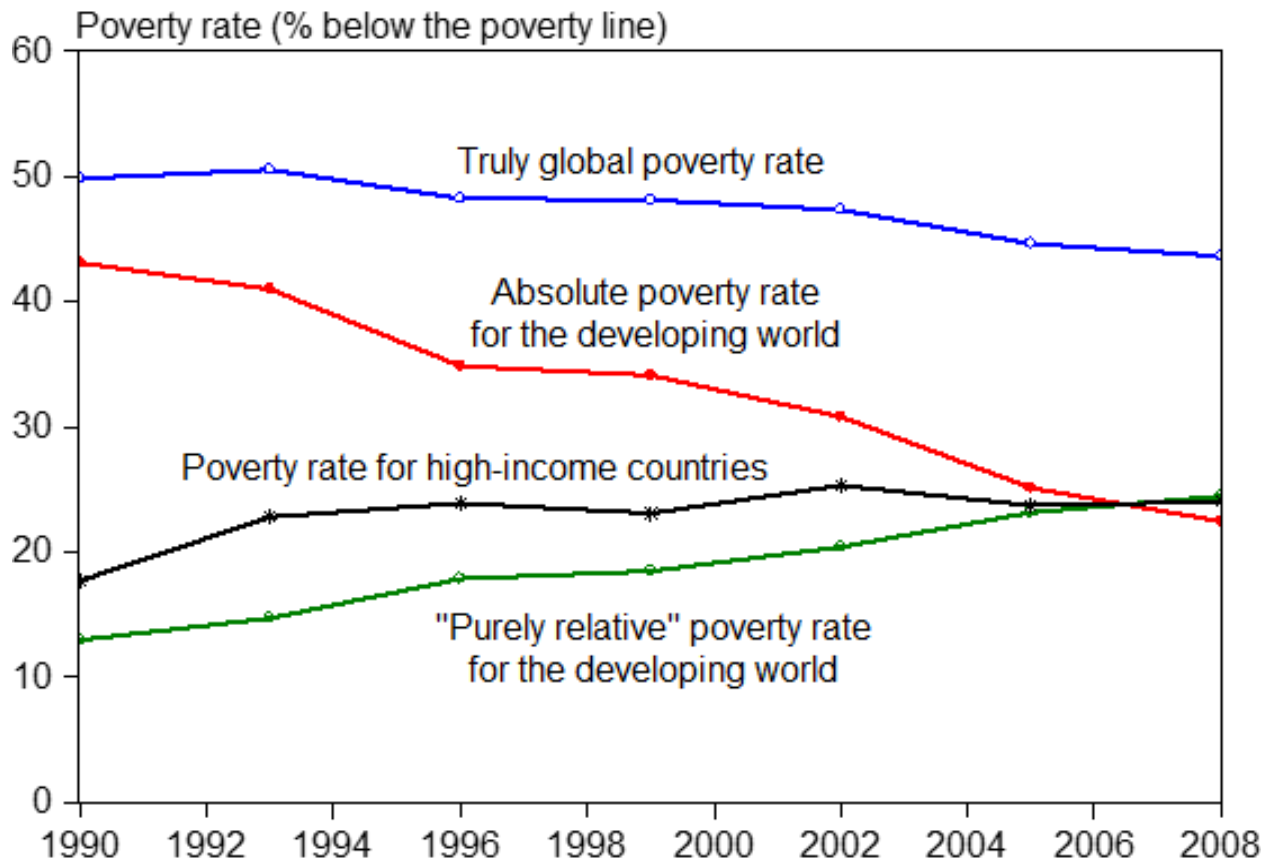
With economic development, the income distribution changes to:  $\{1.5, 2.5, 3, 4\}$ , and the poverty line is still 2. Mr 1 and Ms 2 have moved to the urban areas as a result of the development process.

- **What is the HCR for this economy?**
- **What is the urban HCR?**
- **What is the rural HCR?**

Note that the urban poverty has increased as a result of the development process. However, this does not imply that the development process failed to improve lives of the urban poor. On the other hand, attracted by the prospect of better life in urban areas, some rural poor moved to urban areas. But all of them could not earn enough to get out of poverty. Note that they both are still better-off with the development process.

This example describes the process of urbanization of poverty.

## 6 Truly Global Measures of Poverty



- Absolute poverty rate in high income countries is zero
- However, one cannot deduce that there is no poverty in HICs (**WHY?**)
- Chen & Ravallion (2008) combine 1000 household surveys from 150 countries, 21 of which are HICs
- These surveys are representative of 90% of the population in the developing world as well as HICs
- Developing Country Data: PovCalNet
- HICs: Luxembourg Income Study (LIS)

We use absolute poverty line for developing countries, and relative for HICs:

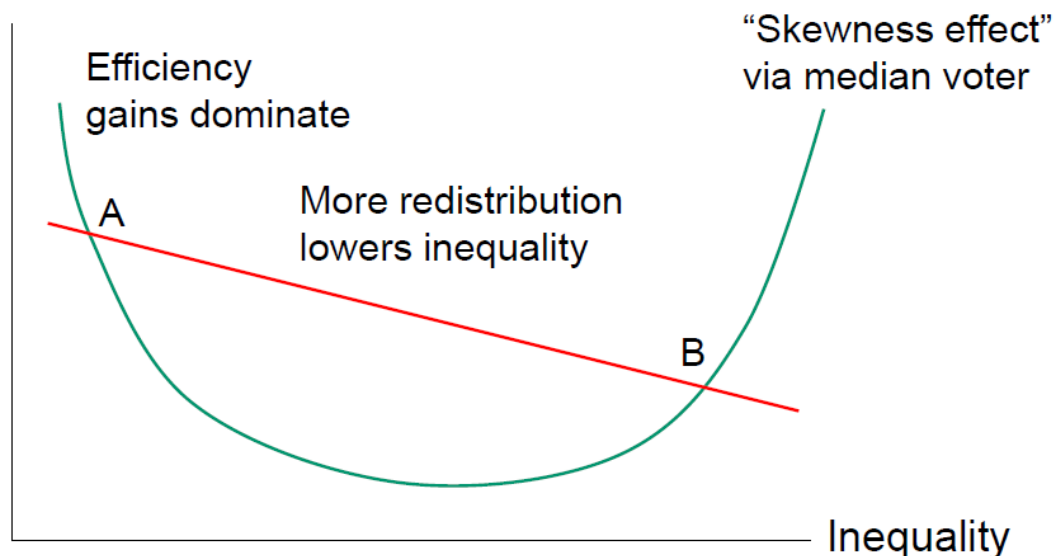
$$Z_{it} = \$1.25 + 0.5 * \max(M_{it} - \$1.25, 0)$$

- What is the poverty line when the mean income is less than \$1.25?
- What is the poverty line when the mean income is more than \$1.25?

This lines gives us the “truly global poverty” line.

## 7 Inequality and the political support for promotional policies

### Political support for promotional antipoverty policies



Green Line: Relationship between support for redistribution and inequality

- Low Inequality → Efficiency Concerns → High Support
- High Inequality → Median Voter Effect → Low Support
- As inequality goes down from a high initial inequality → Median Voter Effect Weakens → Support falls
- As inequality goes up from an initial low inequality → Efficiency Concerns are Weaker + Median Voter Effect is Weak → Support Falls
- Therefore, a u-shaped relationship between support for redistribution and inequality

Red Line: Relationship between *actual* redistribution and inequality

- High redistribution → Low inequality
- Low redistribution → High inequality
- Also, high(low) support → high(low) redistribution
- Therefore, a downward sloping line

Equilibria will be characterized by points where the real support and the actual support for redistribution policies will be same for: this point(s) will determine the equilibrium inequality