Rural to Urban
Lecture 21

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Overview

The structural viewpoint
Formal and Informal urban sectors
Agriculture
The ICRISAT Villages

Rural–urban interaction

Two fundamental resource flows
The Lewis Model

Rural–urban migration

Introduction
The basic model
Floors on formal wages and the Harris–Todaro equilibrium
Government policy
We expect *uneven* growth and development. Some regions and some sectors of the economy will develop first and grow fastest.

This structural transformation is an integral part of developing countries.

To study it, must disaggregate economy and look at individual markets, sectors.

Yet, must remember that markets are tied. And none operate in full isolation of the others.
Agricultural sector

The agricultural sector is typically the largest. Though represents a larger share of the population than it does the share of income. Poverty widespread.

Most people in rural areas connected in agriculture — land owner, farmer, tenant farmer, hired labor, supplier, etc.

Makes sense to study rural areas first.
The existence of a **nontrivial** informal sectors is a unique feature of developing economics.

Formal sector where workers and firms operate under accepted set of rules (laws) and regulations imposed by the government.

Workers are sometimes unionized.

Firms are required to pay minimum wages, conform to safety standards, provide pensions, etc.

Firms pay taxes.
Formal sector bears close resemblance to economic activity in developed countries.

Firms have records and firms are relatively tangible entities.

Can issue shares of stock, pay dividends, they can be audited, protected by bankruptcy laws of country.

Entry into formal sector is costly — thus expect firms of a minimum size to needed to cover setup costs (paperwork of legal entity).
Informal Sector

A *loose* amalgam of small scale organizations that escape the cover of many of the regulations of the formal sector and do not receive access to privileged facilities.

No minimum wage, no retirement plans, no unemployment insurance, no safety regulations.

Generally do not pay taxes and receive no government support.

Costly to monitor and enforce regulations so governments “look the other way”. 
Informal Sector

Firms in this sector exist in a shadowy penumbra.

Yet, enormous fraction of labor force works within the informal sector.

Usually small scale operations. Setup costs are low. Advanced tax payments unnecessary, though occasional bribe may be needed.
Agriculture

Tax authorities have no way to observe how much output a farmer produces, so output is untaxed.

Income is taxed in U.S.

Rural areas in developing countries typically do not have public pension programs, minimum wages, unemployment insurance . . .

But, a collection of informal institutions creates substitutes for the missing sources of support.
Production is organized in a variety of ways.

- Family farms. Own consumption and cash crops.
- Large ownership cultivators (corporate farms).
- Tenant farmers (lease land from landowner)
- Labors work for wages or commission on the land of others.
- The landless.
the ICRISAT Villages

Useful example of agricultural villages in India.

Read on your own
Rural–urban interaction

This section offers a historical perspective on theories of development economics.

Describes two fundamental resource flows.

Presents the Lewis Model.

Two Fundamental resource flows

Two critical resource flows from agricultural sector:

1. Food. Agriculture must produce food needed by urban sector.
2. Labor the supply of labor for industry comes from the agricultural sector.

Thus, the agricultural sector has important effects on non-agricultural sector.
Most important concept: **dual labor markets**

Dual in the sense of non-competing.

The idea of dual labor market is important, no one (except Ray) uses the Lewis Model.

So we will skip the Lewis model and you are not responsible for the material.
Rural–urban migration

We observe:

1. Large wage gap between rural and urban sectors. Wages high in urban sector.

2. Unemployment in urban areas.

Basic model: Harris and Todaro applied to generate this pattern.
Basic Model

Assume migration is costless.

- Width of Fig10.4 size of labor force
- Formal “F”, Agricultural “A”
- AB labor demand formal
- CD absorption of labor in Agriculture (labor demand)
- With flexible wages equil at $w^*, L_F^*, L_A^*$
Equil w Flexible W
Equilibrium with Flexible Wages

Equilibrium requires that the “law of one price” hold.

Same wage holds in formal and agricultural market. Otherwise have persistent migration to arbitrage the difference.
Formal Wages Inflexible

Wages in formal sector inflexible:

- May be more unionized than agricultural sector.
- Showcase for government policy — minimum wage, pension, unemployment insurance
- Firms in Formal sector may pay a premium — seek best workers

Wages in informal and agriculture flexible and adjust to S and D.
Floors on Formal Wage

- Wage in formal sector at $\bar{w}$
- Reduce labor demand in formal sector.
- Full employment requires agricultural wage at $w_{bar}$
- Can not be equilibrium. Workers will migrate to Urban.
- If wages at $w^{bar}$ employment in agriculture declines.
- Have unemployment $U$.
- Unemployed must be in Urban area, otherwise drive agricultural wage down.
Figure 10-5

The diagram illustrates the relationship between formal wages and agricultural wages in the context of rural-urban migration. The horizontal axis represents the labor supply in the formal sector ($L_f$), while the vertical axis represents the labor supply in the agricultural sector ($L_a$). The graph shows the equilibrium points where the formal wage ($W_{bar}$) and the agricultural wage ($W_{bar}$) intersect, indicating points of equal wage levels. The intersection points are labeled as $U$.
Equilibrium

- Rigid wage in Urban formal sector thus produces an equilibrium in which workers voluntarily migrate from rural to urban areas.
- But face some chance of unemployment in Urban area.
- Unemployment equilibrates the market.
- Worker choices: be employed in agricultural market for low wage or move to city and gamble on securing high wage.
Harris–Todaro Equilibrium

- Probability of getting job in urban area depends on ratio of vacancies to job seekers.
- Let $p$ be the probability obtaining job in formal sector.
- Let $w_I$ be the wage in the urban informal sector. Fixed.
- Expected wage in urban sector: $E[w_u] = p\bar{w} + (1 - p)w_I$.
- Equilibrium: $E[w_u] = w_a$.
- Equilibrium requires $p = \frac{L_F}{L_F + L_I}$.

If employment in informal sector probabilistic:

$$E[w_u] = p\bar{w} + (1 - p)q w_I.$$
Harris–Todaro Equilibrium

- People indifferent *ex ante* stay or leave.
- *Ex post* not indifferent.
- A particular allocation of labor an equilibrium: \( p = f(L_F, L_I) \).
- Extend to many sub sectors of urban market key: \( E[w_u] = w_a \).
Government Policy

The informal sector an outgrowth of the formal sector, slows the pace of rural–urban migration.

Yet unregulated economic activity often responsible for congestion, pollution, crime.

Government policy: accelerate absorption of labor into formal sector. Via subsidies (tax holidays), increase employment in public sector.

Immediate effect increase in demand in formal sector, $\bar{w} \uparrow$. And $\bar{L}_F \uparrow$. Hence, $E[w_u] \uparrow$.

But can not persist. Increased gap between $E[w_u]$ and $w_a$ induces migration to city.
Government Policy

Increase flow to city reduces chance of getting job in formal sector, while outflow from rural area increases $w_a$.

Eventually, obtain new equilibrium.

$$\frac{\bar{w}'_F}{\bar{w}'_F + L'_I} \bar{w} + \frac{L'_F}{\bar{w}'_f + L'_I} = w'_a$$

For $E[w'_u] > E[w_u]$ require share of formal sector must increase:

$$\frac{\bar{w}'_F}{\bar{w}'_F + L'_I} > \frac{\bar{w}_F}{\bar{w}_F + L_I}$$
Government Policy

Policy increased share of employment in formal sector.

Reduced share of employment in informal sector.

Yet, total size of informal sector may increase. True, if total urban sector increases more than formal sector.

Commonly seen: attempts to increase the demand for labor in the formal sector may enlarge the size of the informal sector, as migrants respond to the better job conditions. Migration effect may dominate the initial “soak-up effect.”

Not confined to employment — any enhancement that attempts to reduce congestion, pollution, improve health care might have effect of finally worsening these indicators. Todaro paradox
Think of competitive labor market with flexible wages.

Then absorption curves demand curves and
\[ w = VMP = p_{product} MP_L. \]

With flexible wages \( w_u = w_a \) so fully efficient.

Harris Todaro: \( \bar{w} > w_I \). Increase efficiency by moving worker from informal to formal sector.

Have policy to restrict migration (if possible) to only those with jobs in formal sector.

Employment in formal sector \( \bar{L}_F \). Everyone else, \( L^M_A \), in agriculture.
But compared to fully flexible wages, have too few people in urban area, social loss from misallocation of resources.