Rural and Urban Interaction

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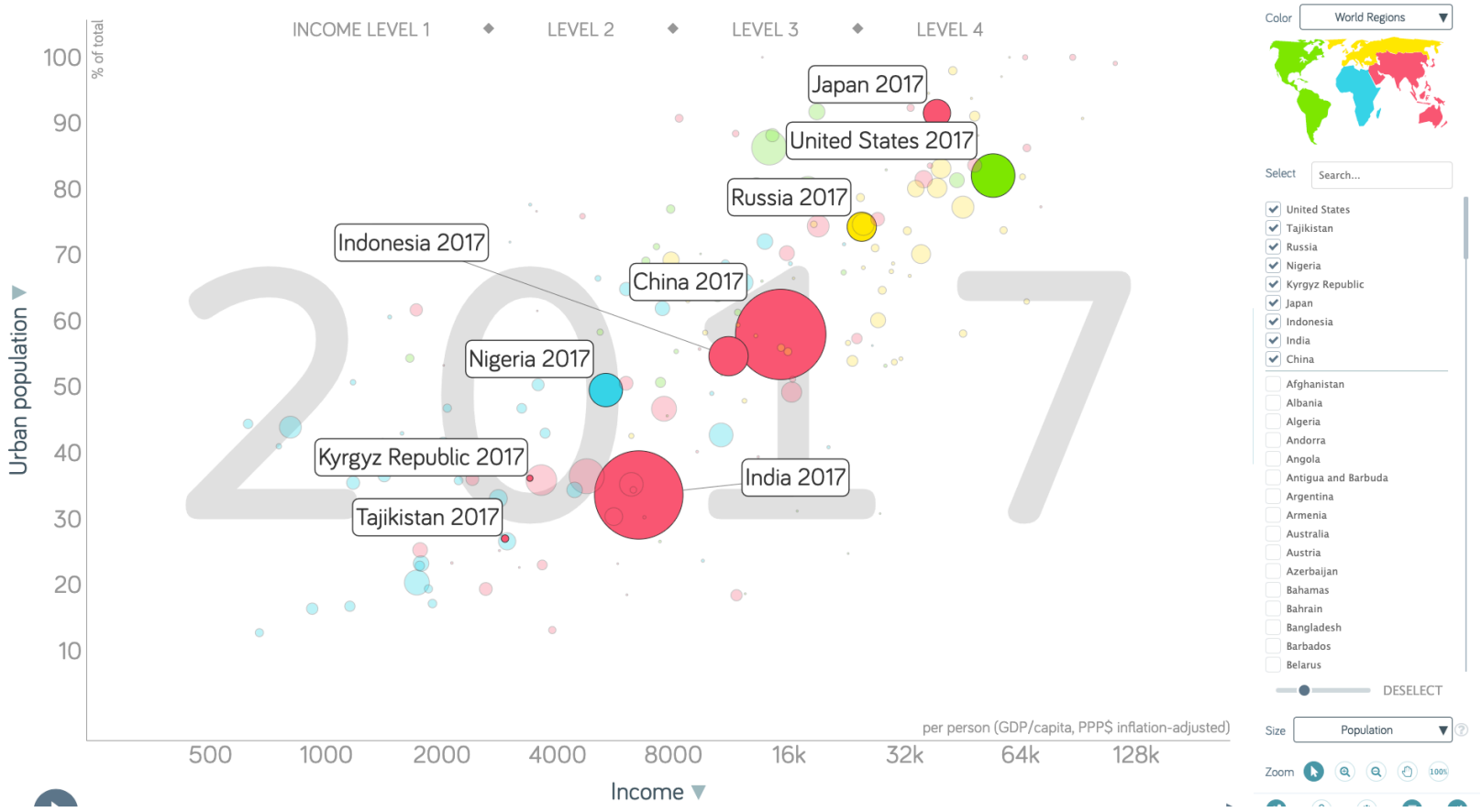
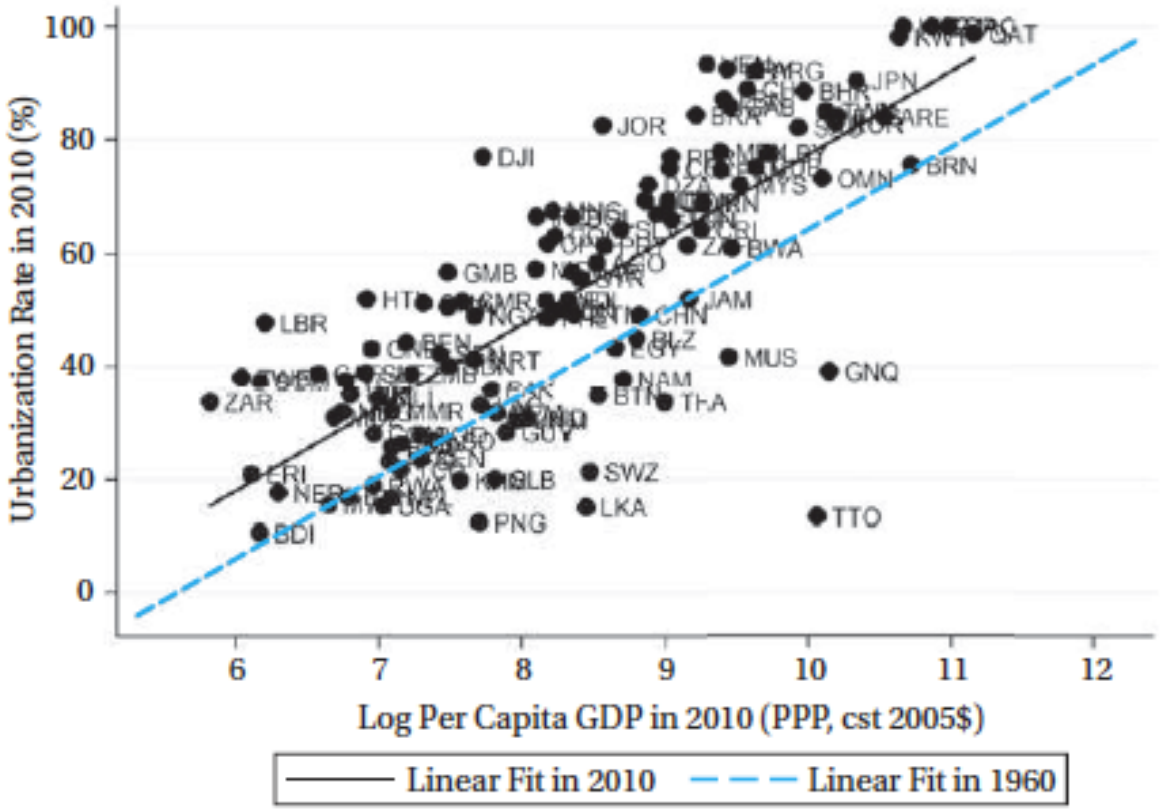
Trends and Pictures

- Greater Urbanization is associated with higher per capita income
- Intuition here is quite simple – it is assumed that urban sector does have higher productivity (recall the Lewis model) rather then low income traditional (agriculture), which means higher income urban employment.

Trends and Pictures

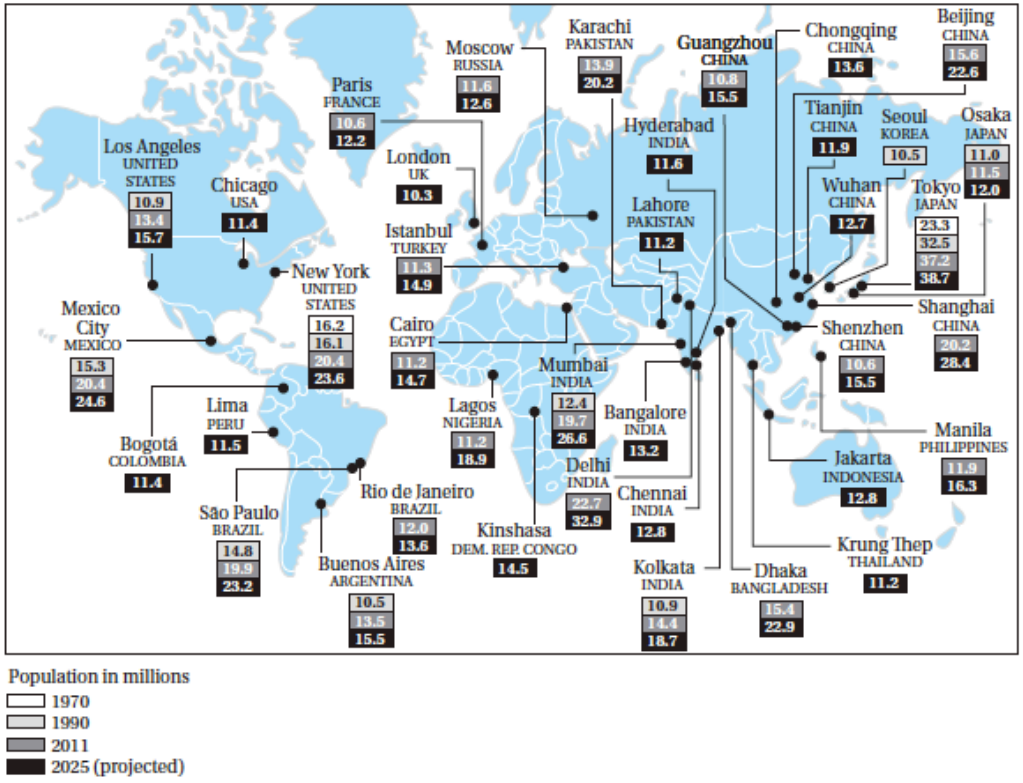


Trends and Pictures



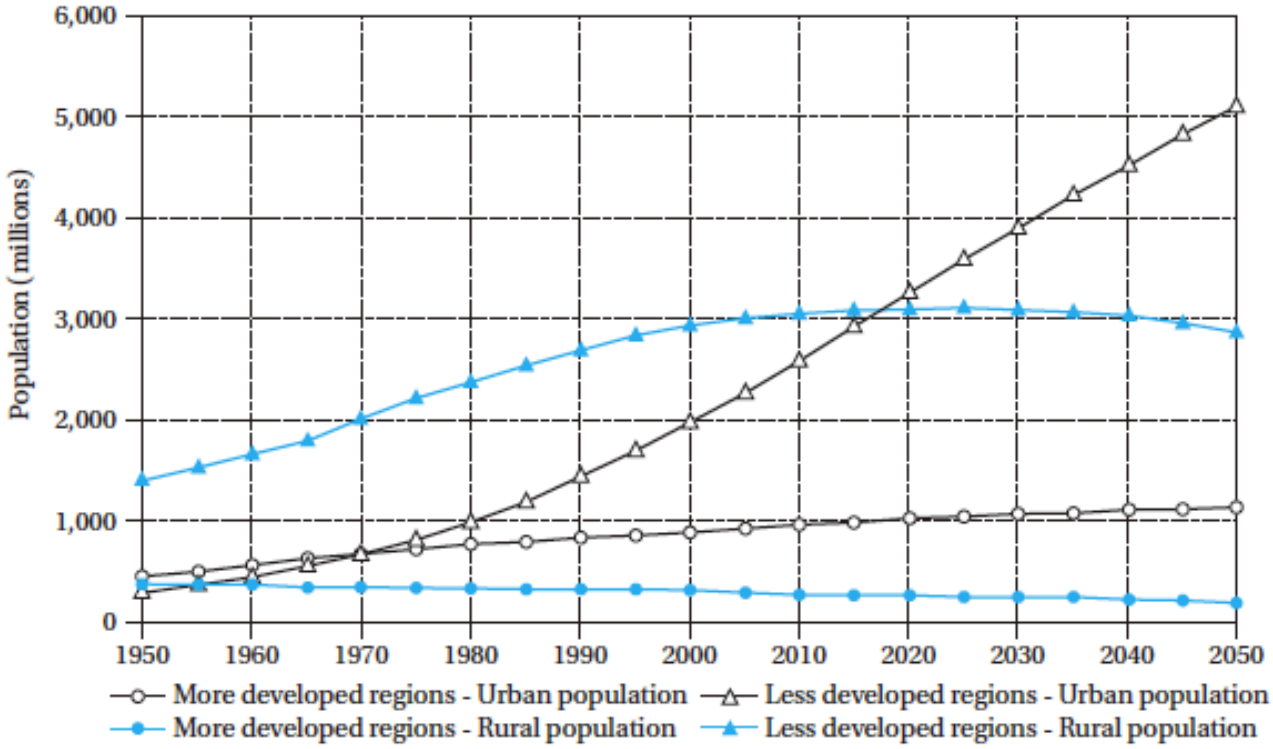
Trends and Pictures

Megacities with over 10 M Inhabitants



Source: Data drawn from United Nations Population Division, World Urbanization Prospects: The 2011 Revision (New York: United Nations, 2011), at http://esa.un.org/unup/pdf/WUP2011_Highlights.pdf

Urban and Rural Population, 1950-2050



Source: Millennium Development Goal Report 2010. © 2010 United Nations. Reproduced with permission of United Nations Publications.

The Role of Cities

- Agglomeration economies
  - Lower transport costs for intermediate and finished goods
  - Large pool of workers to draw from
  - Large pool of firms to work for
  - Increased specialization:
  - “The degree of (firm, worker) specialization is limited by the extent of the market.” Adam Smith

The Role of Cities

- Externalities
  - – Learn from firms doing similar work
    - Joint ventures
    - “Steal” workers
- Manage work flow by contracting out and/or subcontracting

The Role of Cities

- Result: Clusters of firms in same industry in same geographic area
  - Silicon Valley
  - Show firms in Sinos Valley, Brazil and Guadalajara, Mexico
  - Artisans of same trade band together

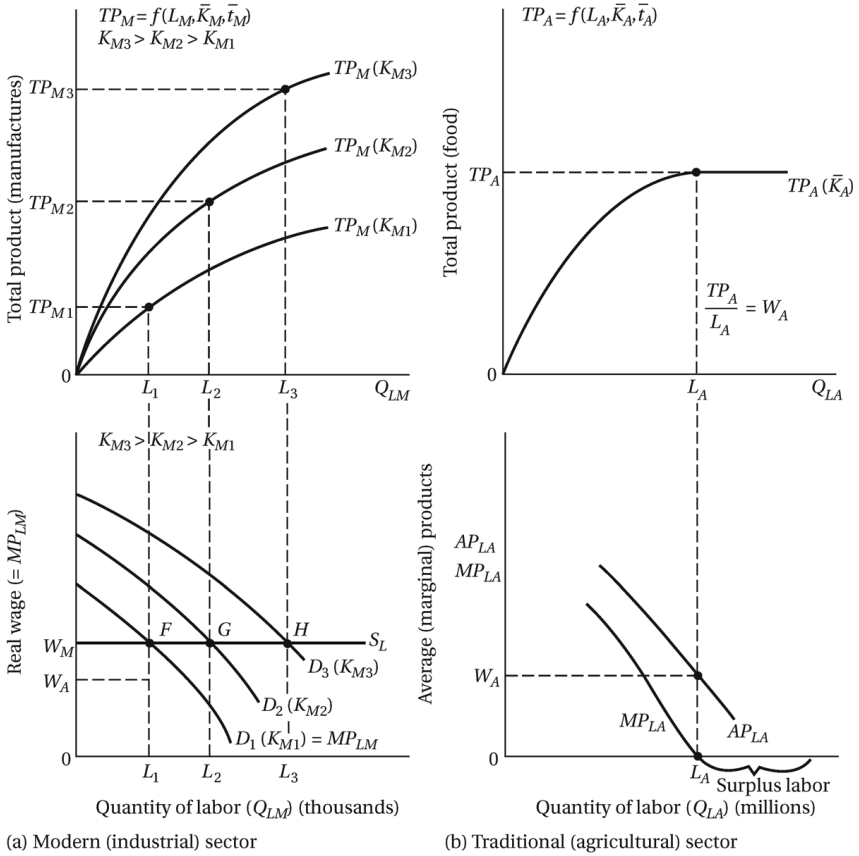
Role of Cities

- If plant moves to a more dense area with the same specialization - output increase is 15%.
- Estimates show that agglomeration can increase productivity by 5% to 10%.

Are Cities too Big?

- The Urban Giantism Problem
  - ”Hub-and-spoke system”
  - Engineering infrastructure
- First-City Bias

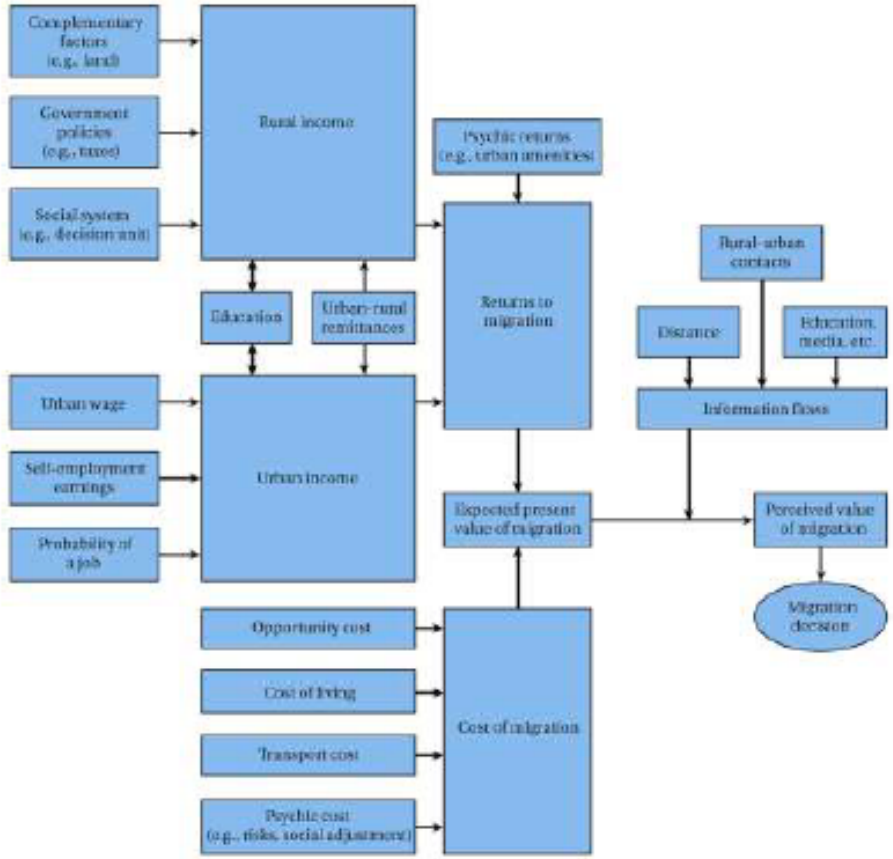
The Lewis Model (recap)



The Harris-Todaro (1970) model: A probabilistic model of migration

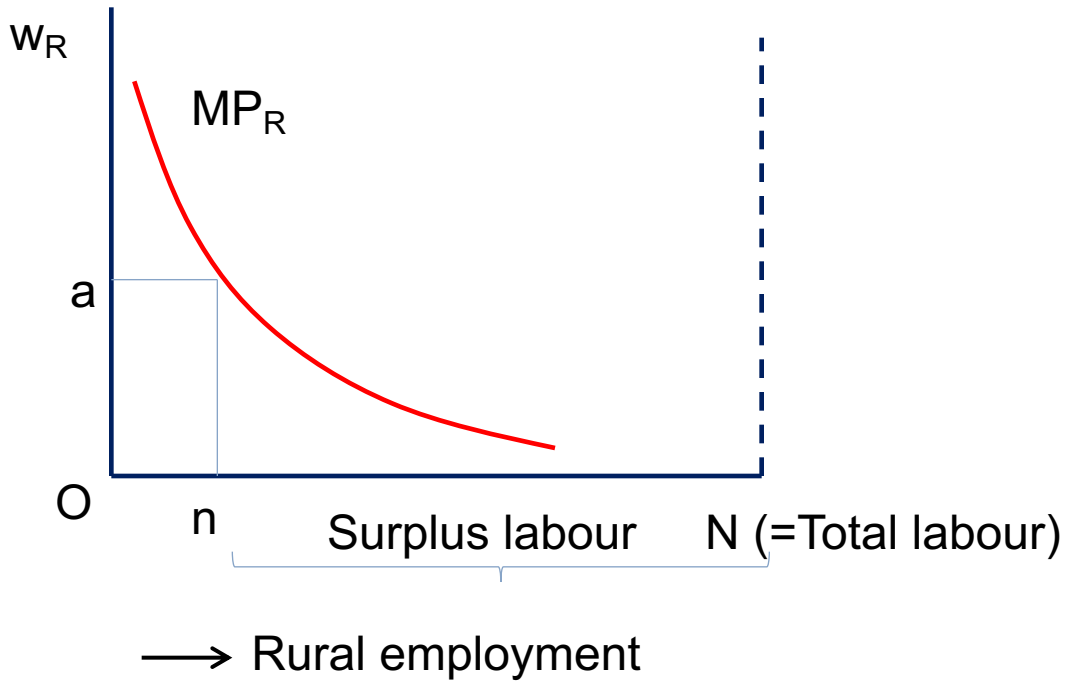
- Both agriculture and industry have downward sloping labour demand curves.
- In neither sector wage is constant.
- There is a fixed supply of labour for the whole economy.
- **People rationally decide whether to migrate from agriculture to industry based on the expected wage.**

Framework for Analysis of Rural-to-Urban Migration Decision



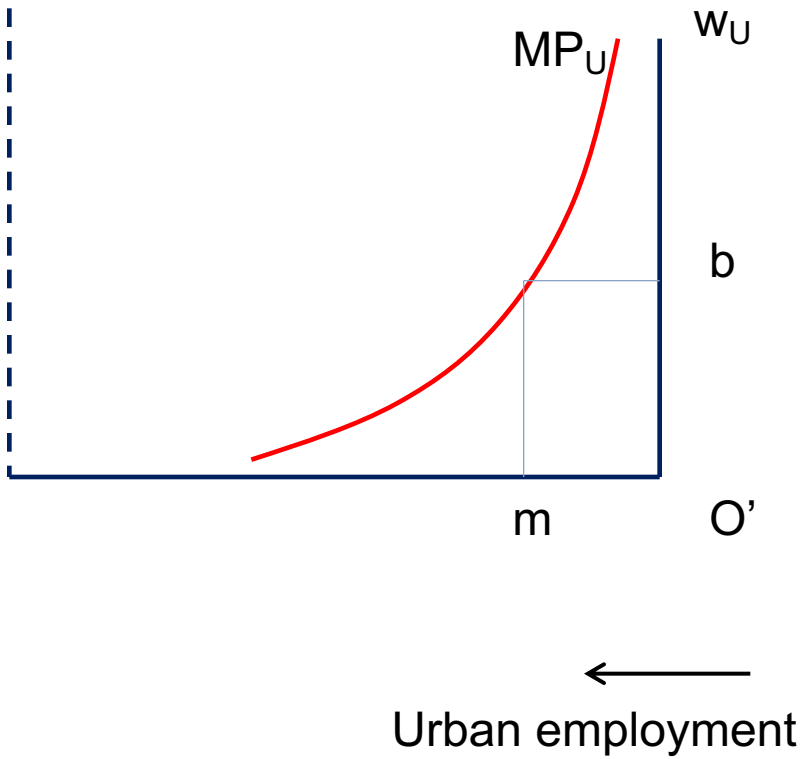
Migration

- Agriculture/rural sector



Migration

- Industry/urban sector



Migration

- If the going urban wage, say *b* is greater than the going rural wage *a*, many surplus workers would consider migrating to the urban sector.

- But the chance of getting an urban sector job is not certain.

- Suppose all workers flocking to the city have the same chance.

Migration decision

- Migration risk: Probability of getting a job in the urban sector = $m/(N-n)$

  [assuming all the surplus rural workers migrate]

- Expected wage from migration
  - $= [m/(N-n)] \times b + [1 - \{m/(N-n)\}] \times 0$

  Or $= [m/(N-n)] \times b$

Migration decision

- Current wage in the rural sector = a
- Migrate if $a \leq [mb/(N-n)]$
- Do not migrate, otherwise.

Migration decision

- Rewrite the migration condition as follow.
- Migrate if $a(N-n) \leq mb$.
- Given any pair of m and b, we can get different combinations of a and n that leaves a worker indifferent between migrating and not migrating.

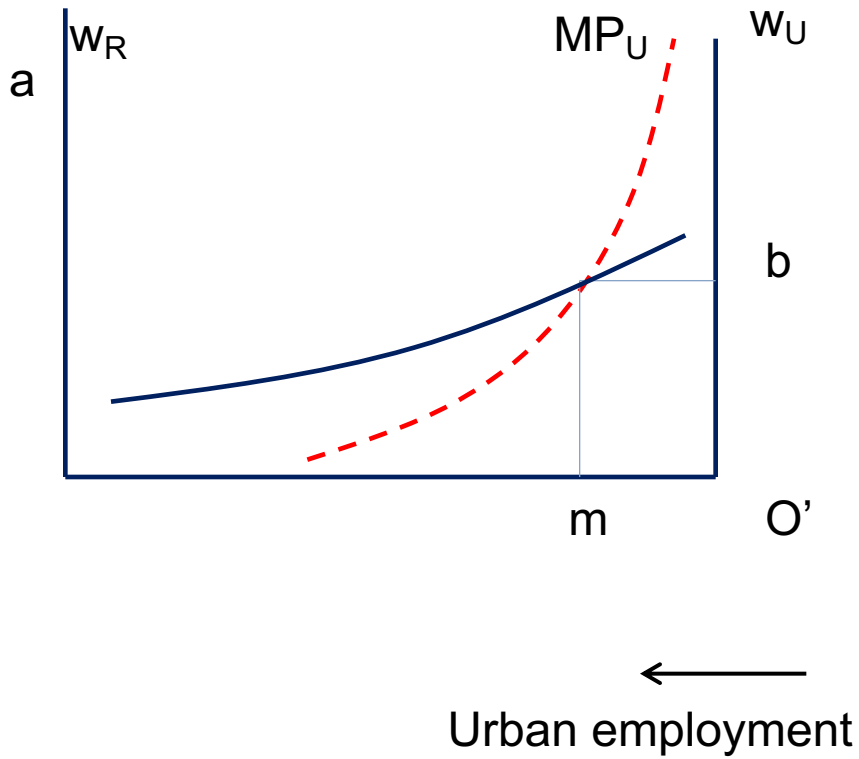
Migration indifference condition

- $bm = a(N-n)$ [*b* and *m* are given]
- $0 = [da \times (N-n)] - [a \times dn]$
- $da/dn = a/(N-n) > 0$

- The migration indifference curve is upward sloping.

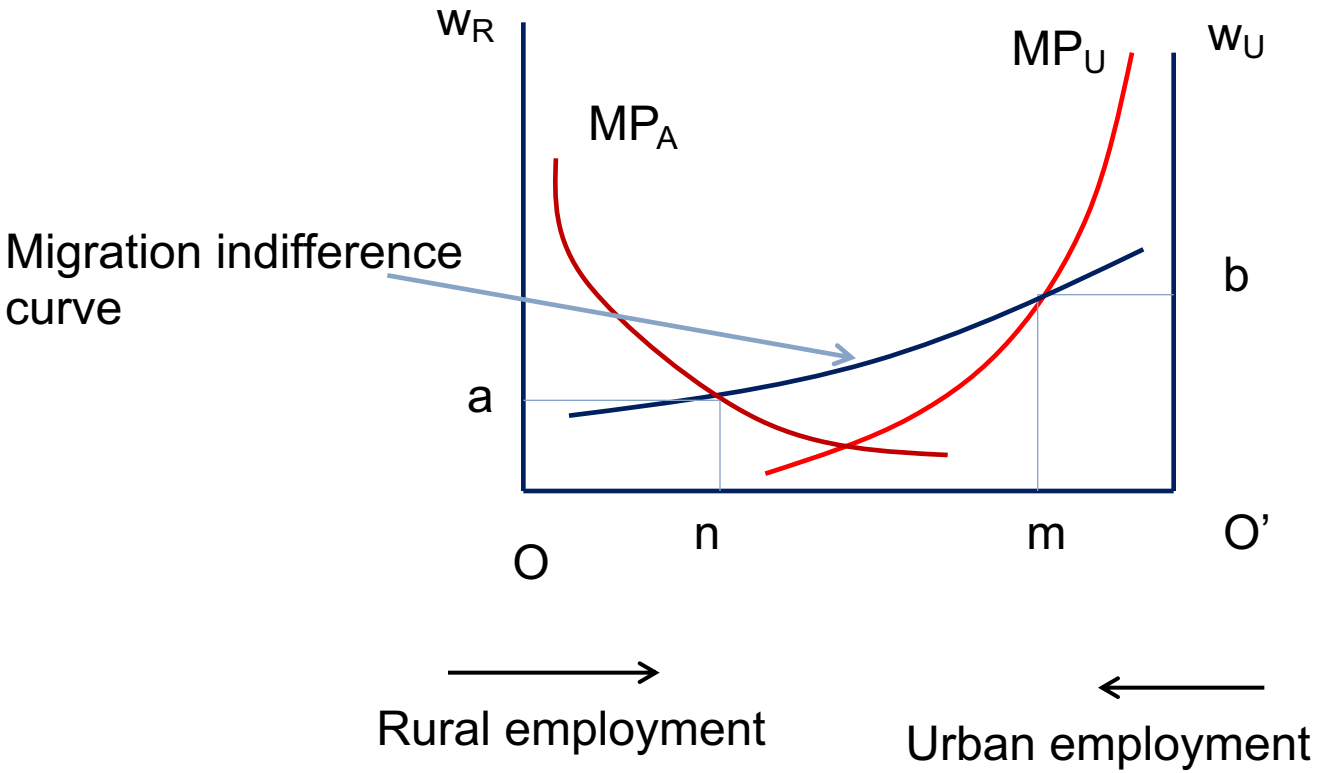
Migration Indifference condition

- Industry/urban sector



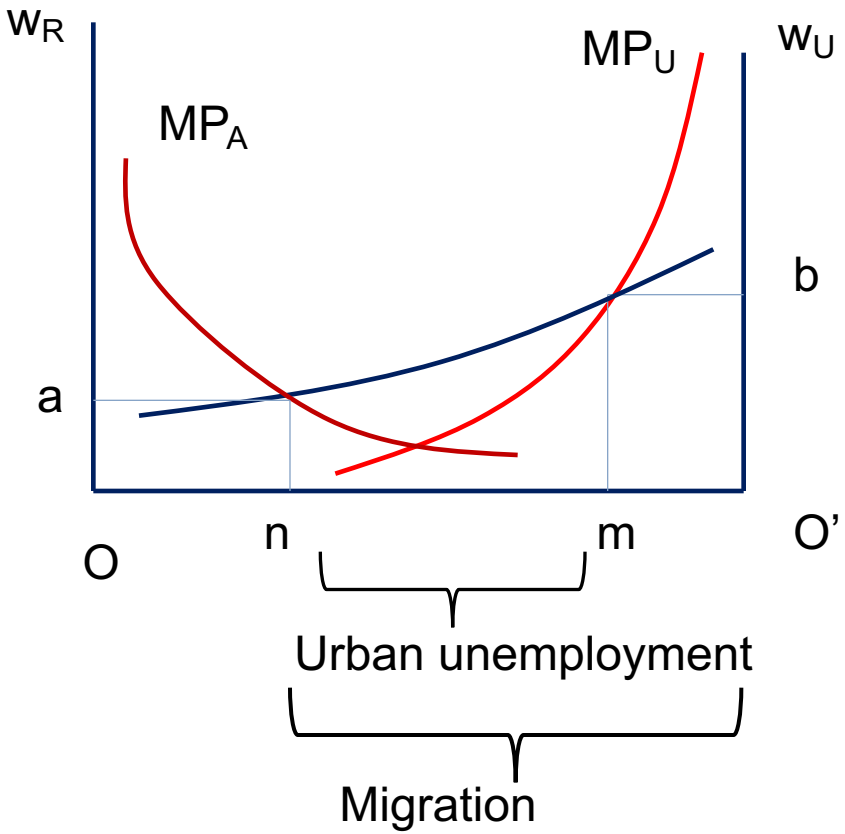
Migration Equilibrium

- Rural and urban sectors combined



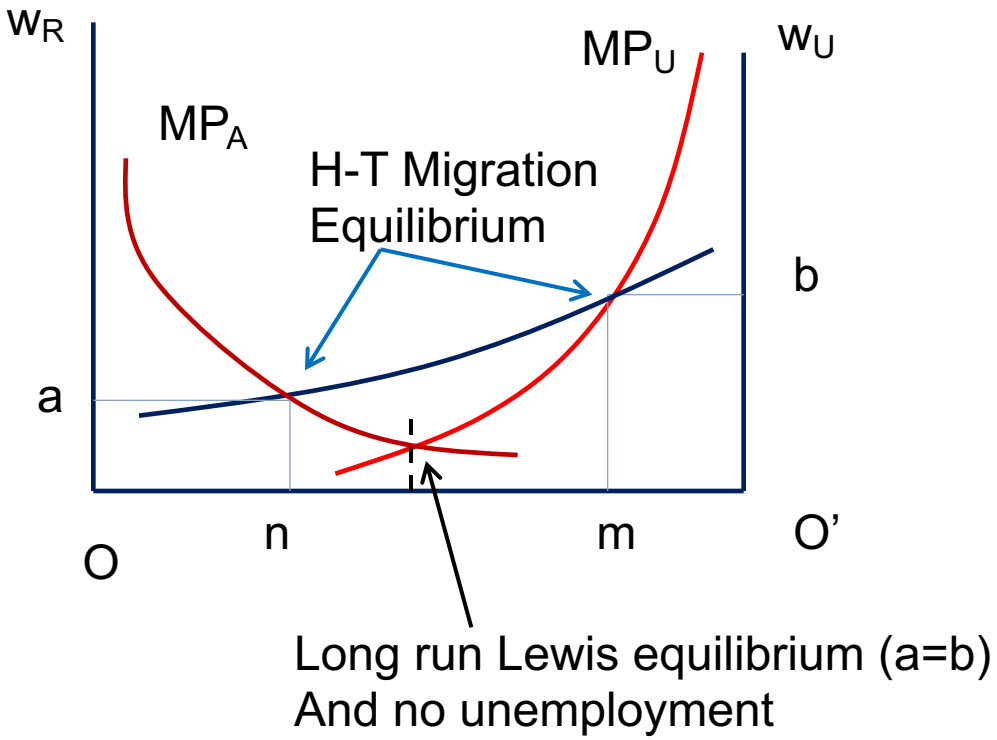
Migration Equilibrium and urban unemployment

- Rural and urban sectors combined



Lewis model vs. Harris-Todaro

- In H-T: a<b and unemployment exists in equilibrium



Key contribution of the Harris- Todaro model

- Migration decision depends on the expected rather than actual wage differential (between the rural and urban wage)

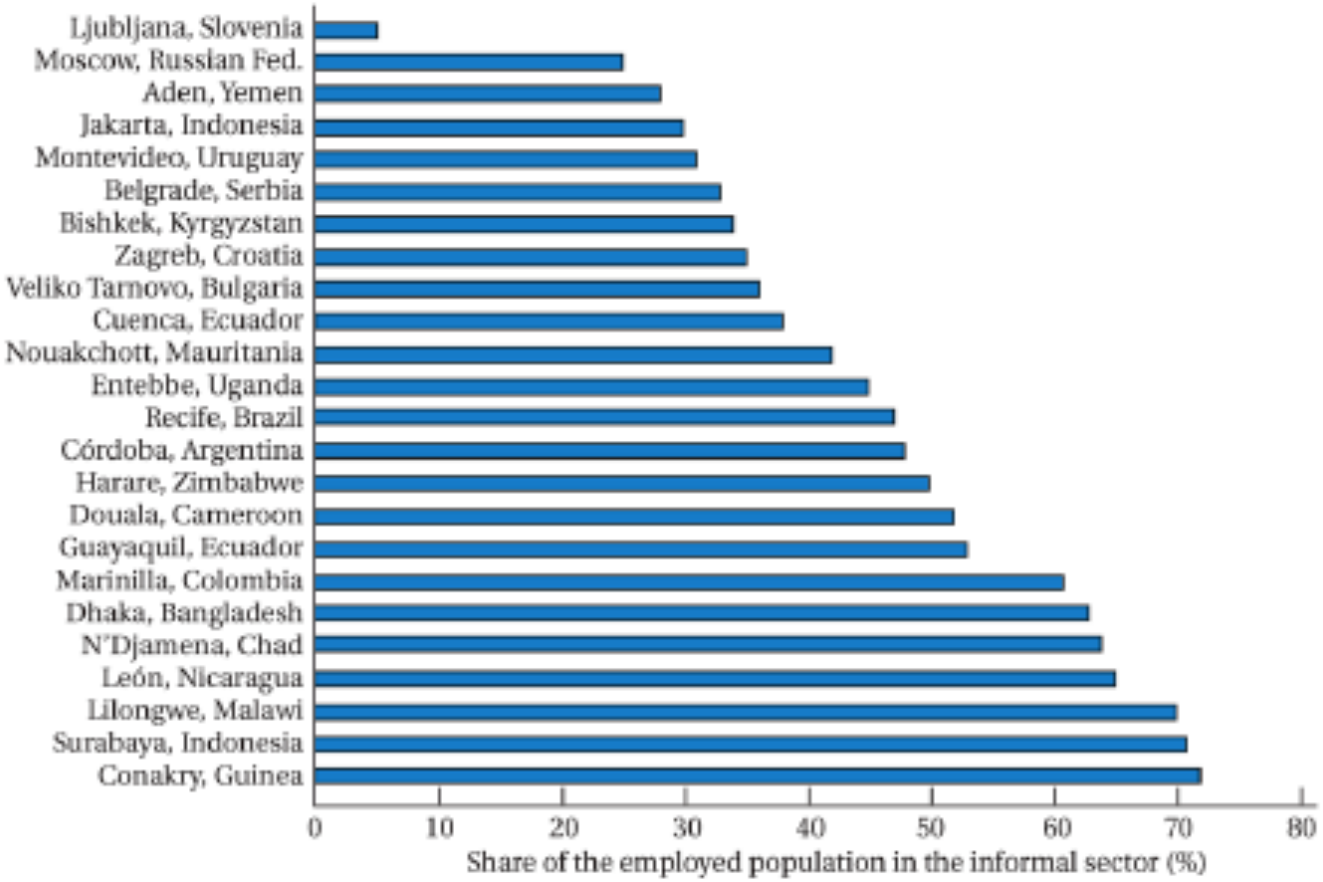
- The probability of migration varies positively with the urban wage rate, but inversely with the rural wage rate.
- Unemployment will prevail in equilibrium
- The urban labour market will be dualistic (formal and informal)

Formal and informal sectors

Industrial sector in developing countries

Formal	**Informal**
regulated	non regulated
mainly large firms	only small firms
high wages & benefits	low wages & no benefits

Share of employed in the informal sector, 2001



Migration decision

- Migration risk: Probability of getting a job in the urban sector = m/(N-n)

  [assuming all the surplus rural workers migrate]

- Expected wage from migration (formal sector)
  - = [m/(N-n)] x b + [1- {m/(N-n)}]x 0

  Or = [m/(N-n)] x b
- Expected wage in informal sector
  - [m/(N-n)] x b + [1- {m/(N-n)}]x c
  - where c much less than b and a.

Evidence for/against the Harris- Todaro model

- H-T model is about probabilistic migration, which implies that some urban wage (probably the informal sector wage) will be lower than the rural wage in equilibrium.

- Also it is assumed that the informal sector is largely barrier free. That is, anybody can come and start as a self-employed in this sector.

- But does empirical evidence match with this?

Evidence from Delhi

- Some careful studies show that the lowest wage a migrant worker/self-employed earns in Delhi is higher than his/her village wage. So the migration process should continue unabated; but that is not so. The gap between the rural wage and the (expected) informal wage persists without providing further stimulus to migration.

- The difference between the informal wage and formal wage is not large, after controlling for education.

- Earnings from self-employment is the lowest, suggesting problems of raising capital to start business.

- Moreover, informal sector jobs are not stop-gaps. Migrants are stuck in the informal sector for a long time.

Evidence from Delhi

- Movement from Informal to Formal Sector:
  - – 5 - 15% of rural migrants into the Informal sector moved into formal sector after 1 year
  - – Rate of entry from Informal sector into formal sector was 1/6 to 1/3 that of rate of direct entry into formal sector from outside the area
- 2/3 of entrants to Formal sector found their jobs through personal contacts

Evidence from Delhi

- Most migrants were attracted by Informal sector work, rather than the possibility of being hired into the Formal sector
- Duration of unemployment after migration is short
  - 64% find work within a week
  - Average waiting time for first job = 17 days
- Migrants kept close ties to rural roots
  - 75% visit their rural villages
  - 2/3 remit part of income
  - Average Remittance = 23% of income

Evidence from Botswana and South Africa

- Studies support that the higher a person's expected earnings and the higher the estimated probability of employment after a move, the greater the probability that the person will migrate.
- Higher wage at home village will reduce the probability.

- But what factors do determine the probability of employment?

Evidence from Botswana and South Africa

- Urban earnings much higher than rural earnings (68% higher for males)
  - But differential is much less when control for education and experience
- • More likely to migrate if:
  - Higher expected earnings
  - Higher probability of employment
  - i.e. Migration is economically rational

Evidence from Botswana and South Africa

- • Earnings rise with time in urban center
  - Not because of shift to formal sector
  - Rather, because of pay increases within the informal sector
- => Modify Harris-Todaro model to take account of Informal sector; low unemployment

Is migration bad for the source economy?

- The Botswana and South Africa study show that in the short run, production suffers in the source economy, but in the long run it gets a boost, due to remittances.

Readings

- Todaro & Smith: Ch. 3 (for Lewis model) and Ch. 7 (for Harris-Todaro model, section 7.6, and other sections for data)
- Banerjee, B. (1983) THE ROLE OF THE INFORMAL SECTOR IN THE MIGRATION PROCESS: A TEST OF PROBABILISTIC MIGRATION MODELS AND LABOUR MARKET SEGMENTATION FOR INDIA, Oxford Economic Papers 35 (1983), 399-422
- Lucas, R. E.B. (1985) Migration amongs the Batswana, Economic Journal 95: 358-382

- KAIVAN MUNSHI (2003) NETWORKS IN THE MODERN ECONOMY: MEXICAN MIGRANTS IN THE U. S. LABOR MARKET, 549-595