Has China run out of surplus labor?

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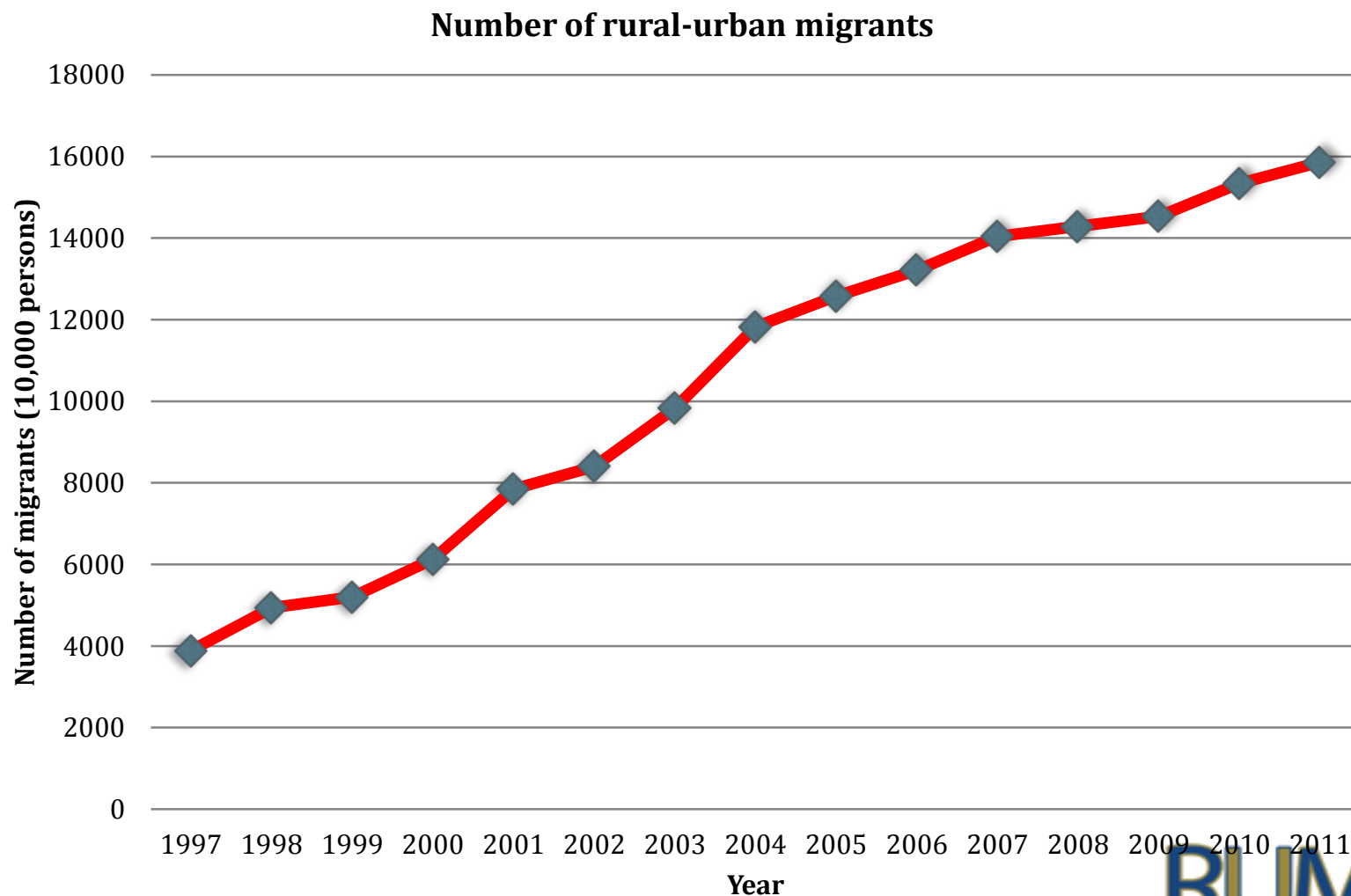
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RUMiCI
Rural-Urban Migration in China and Indonesia
中國-印尼農民工研究
migrasi desa-kota di China-Indonesia

Motivations

▸ Past 20 or so years has seen extraordinary growth in China

▸ This unprecedented growth has been accompanied by a large scale rural-to-urban migration

▸ Between 1997 to 2011 rural to urban migration in China increased from 39 million to 160 million.

▸ Rural-urban migration is one of the most important contributing factor to China's export led economic growth due to the facts:

  ▸ Large scale work force moved from low productivity agricultural sector to high productivity urban sectors

  ▸ Low labor cost fueled export growth

Number of rural-urban migrants, 1997-2011

Number of rural-urban migrants

Motivation (2)

- Since 2004, news of labor shortages in Guangdong (major exporting region) began to appear
- Since 2006, a number of academic studies emerged, claiming that China is either close to or has reached the Lewisian "turning point":
  - Traditional sector (agriculture) 'surplus' labor runs out
  - Wages of unskilled workers begin to rise significantly in modern sectors
- Reaching the 'turning point' has significant implications:
  - Growth momentum will reduce
  - Industrial structure will change
- Thus, understanding if China has run out of "surplus labour" is important in understanding China's future growth

Institutional Background (1)

- China is not yet a normal market economy and prediction of whether China has "run out" of "surplus" labour needs to pay special attention to its institutional details

- Rural-Urban divide: Household registration (Hukou) system
  - Since the Communist came to power in 1949 the economy has been divided into the rural and urban economies for various reasons.
  - No labor mobility was allowed before the mid 1980s.
  - The restriction on labor mobility was sustained by the Hukou system whereby *food rations were tied to hukou*.
  - In the urban areas there was a cradle-to-grave social welfare for all urban hukou population
  - Rural hukou population had almost nothing…

Institutional Background (2)

- **Rural-urban divide: transition to labor mobility**
    - The economic reform initiated in the late 1970s increased agricultural productivity and food in cities are no longer rationed in the mid 1980s—control on labor mobility was loosened...
    - The Open-Door Policy in the early 1990s generated huge FDI, which in turn generated demand for unskilled workers—this further speed up the rural-urban migration process...
    - But institutionalized rural-urban divide persists...

Institutional Background (3)

▸ **Rural-urban migration is operated under a "guest worker" system:**

  ▸ Job restrictions: Migrants can only take jobs locals do not want to take.

  ▸ Restrictions on access to social welfare and social services:

    ▸ Unemployment

    ▸ health care

    ▸ Pension

    ▸ Children's schooling

▸ **Consequences:**

  ▸ Migrants normally do not bring their families to cities

  ▸ They only stay a limited number of years in cities; hence, huge churning

Questions

‣ Have wages of unskilled migrant workers begun to accelerate?

‣ What proportion of rural labor has migrated?

‣ Why aren't more rural workers migrating?

‣ How much will a change in institutional restrictions affect supply of unskilled migrant workers?

1. Have wages of urban unskilled workers begun to accelerate?

1. Have wages of urban unskilled begun to accelerate?

- What data to use?
  - No official data available for migrant workers
  - Previous attempt to survey migrants often drawn non-representative samples due to the specific living arrangement of migrants.
  - The data I am using is from a new initiative called "Rural-Urban Migration in China and Indonesia" project (RUMiCI)
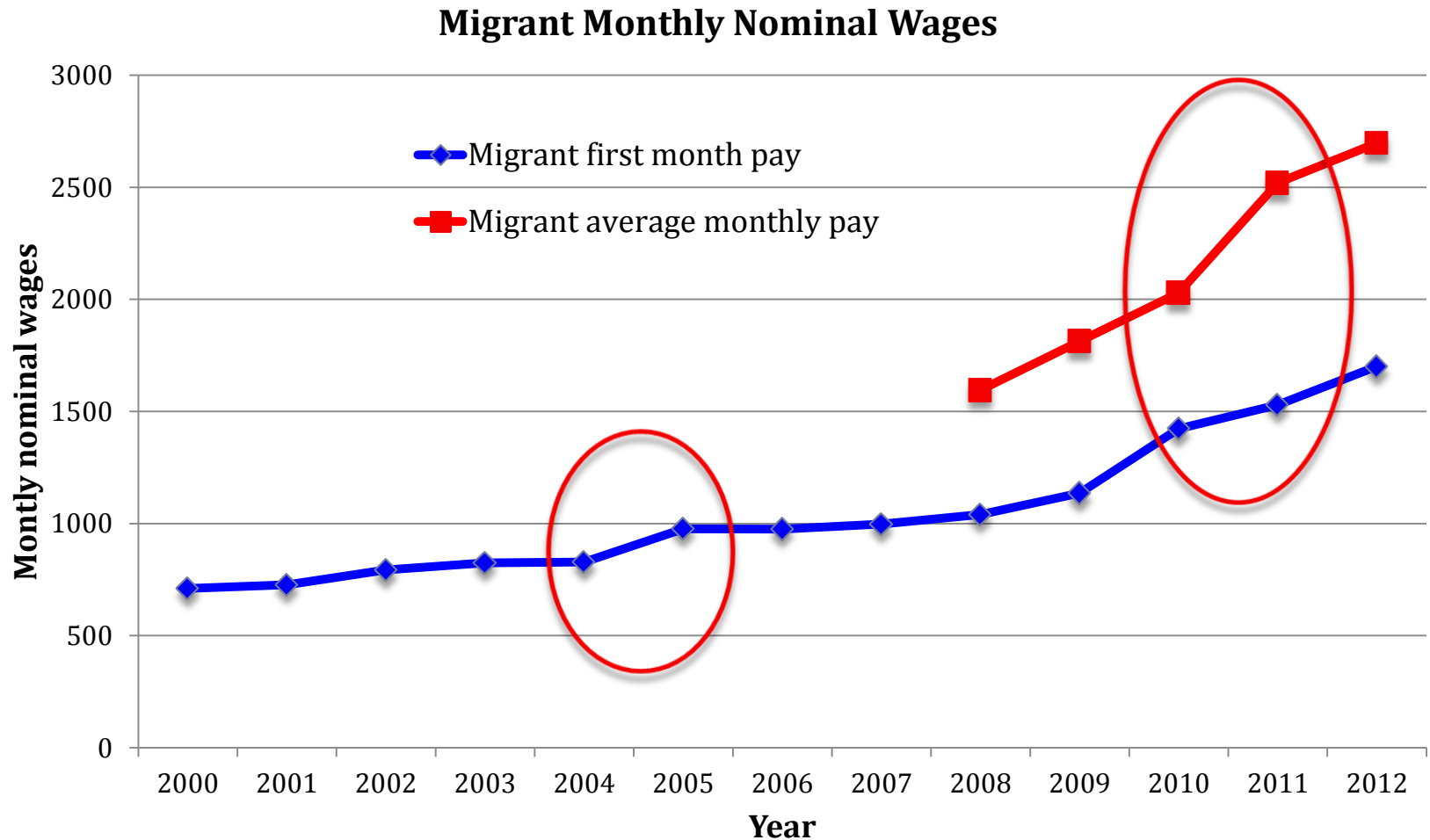
RUMiCI Project : http://rse.anu.edu. au/rumici

▸ RUMiCI survey in China was initiated in 2008 and by now has collected 5 waves of data

▸ The survey includes 5000 (city) migrant households, 8000 rural households and 5000 urban households.

▸ Covers 10 provinces and 15 cities.

▸ They are either major sending or major receiving region.

▸ The sampling is unique which results in a more representative sample:

   ▸ Work place based listing (special living arrangement of migrants)

   ▸ Random sampling
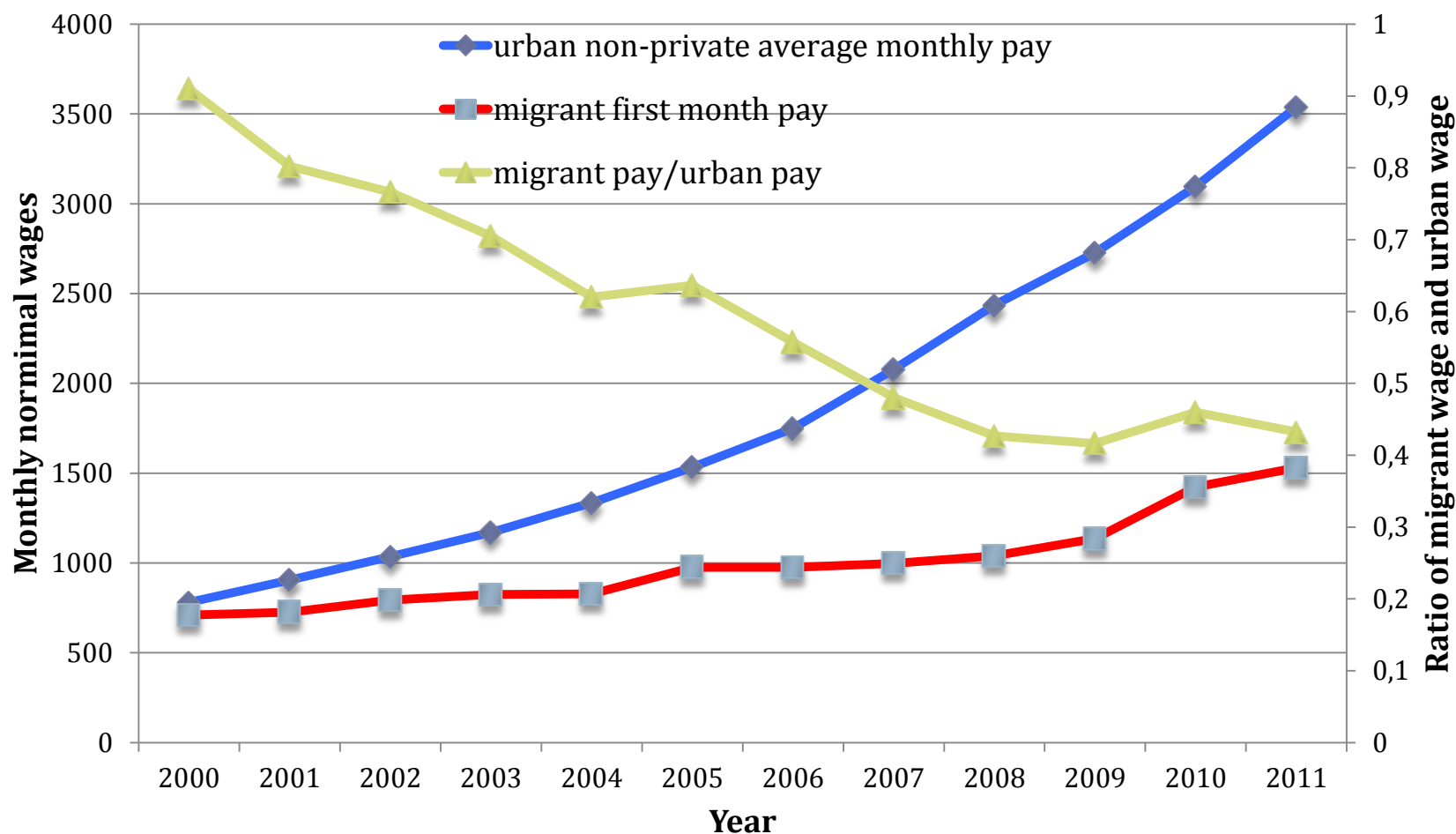
▸

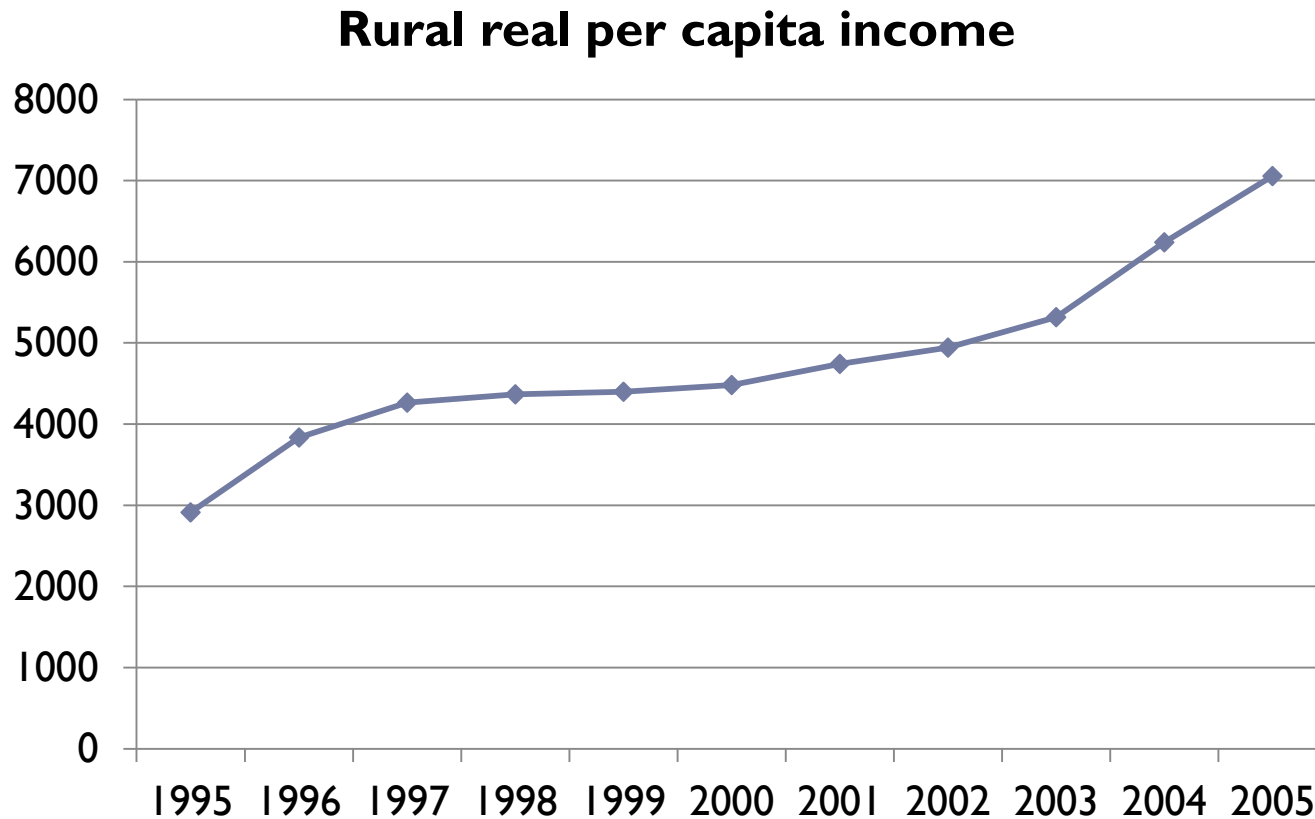# Unskilled monthly pay:

Migrant Monthly Nominal Wages

Data: 1. RUMiCI recorded average monthly pay for migrants in each survey year
2. Retrospective question on the first month pay for the first job in cities

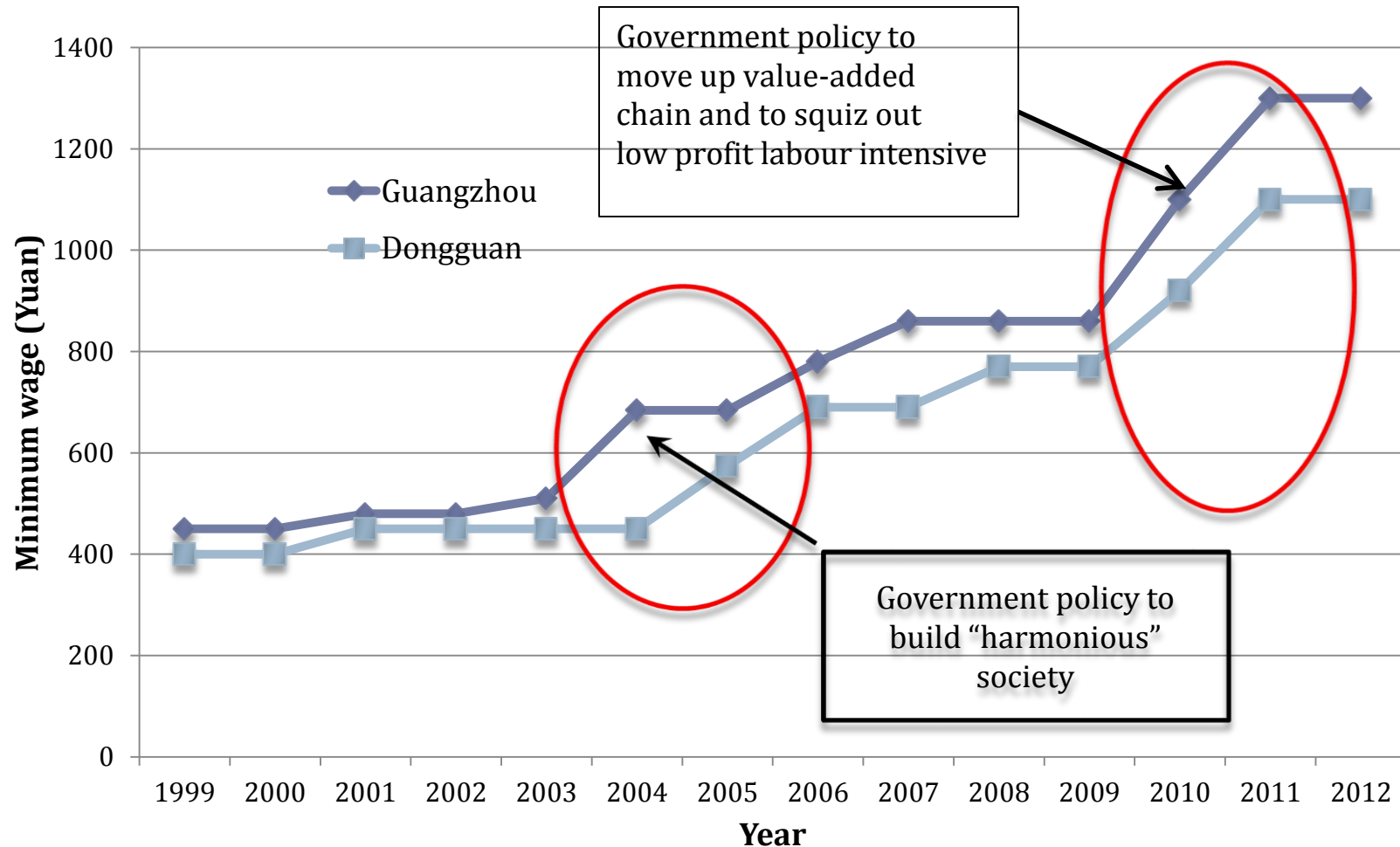# Relative unskilled and skilled wages

Data: 1. National Bureau of Statistics Published Annual Average Urban Non-Private sector pay
2. RUMiCI retrospective migrant first month pay for the first job in cities

Why abnormal earnings increase? Policy induced—Agriculture policy

Rural real per capita income

Why abnormal earnings increase?
Policy induced—minimum wage

Government policy to move up value-added chain and to squiz out low profit labour intensive

Government policy to build "harmonious" society

Why abnormal earnings increase? Special population structure

Rural Population Pyramid-2005 population survey data

Summary:

- There are signs of significant wage increase for unskilled migrant workers

- This may be partially related to effect of government policies…

- There may also be population structure effect…

- But the major cause perhaps is related to institutional restrictions on migration which inflicted the "shortage" of migrant labour supply in cities…

2. There is no absolute "shortage" of rural labour force

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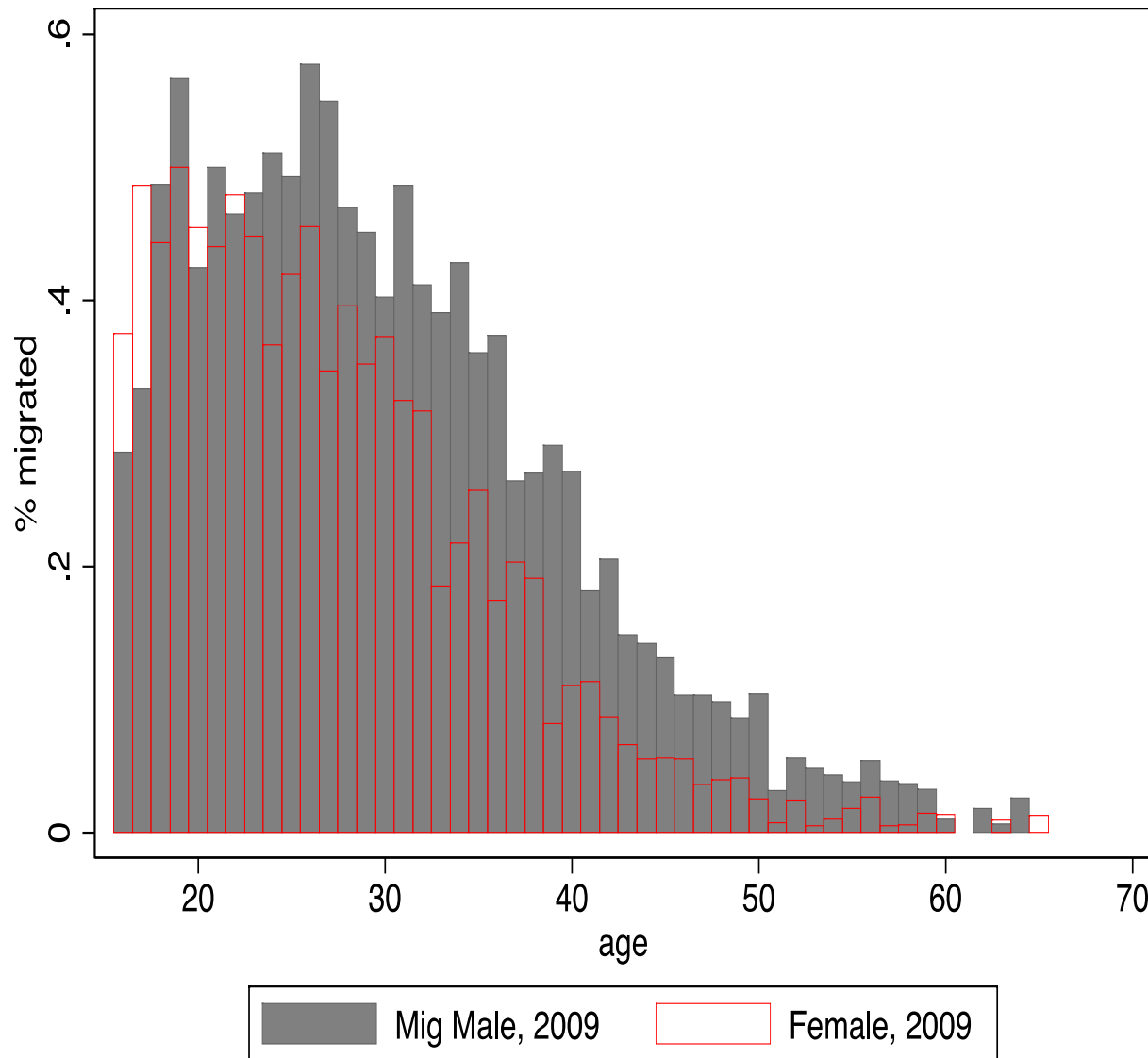
2.1 What proportion of rural labor are currently migrated?

- Last year how many months did the person lived out of his/her own village/township?
- If the person lived outside his/her own village for 3 or more months last year, where about did he/she live?
  - (1) rural areas within own county
  - (2) rural areas outside own county in own province
  - (3) rural areas in other provinces
  - (4) county town
  - (5) other city in own province
  - (6) city in other province
  - (7) other(please explain)
- If the person lived outside his/her own village for 3 or more months, what was the purpose?
  - (1) going to school
  - (2) joined army
  - (3) work
  - (4) visit relatives or friends
  - (5) other(please explain).

% employed rural hukou workers migrated by different definitions

	Did not live at home for 1 or more months for any reason	Lived outside home for 3 or more months for any reason	Worked in cities outside own county for 3 or more months
2007	31.51	29.88	21.40
2008	27.68	26.55	20.36
2009	28.04	27.22	20.90
2010	29.21	28.56	20.57
2011	29.68	28.92	20.22

Age and gender distribution of migrants

Females go to city in their late teens and comes back when they need to get married

Males go in their early 20s and come back when their children need to go to school.

Age distribution of return migrants by gender

Graphs by year

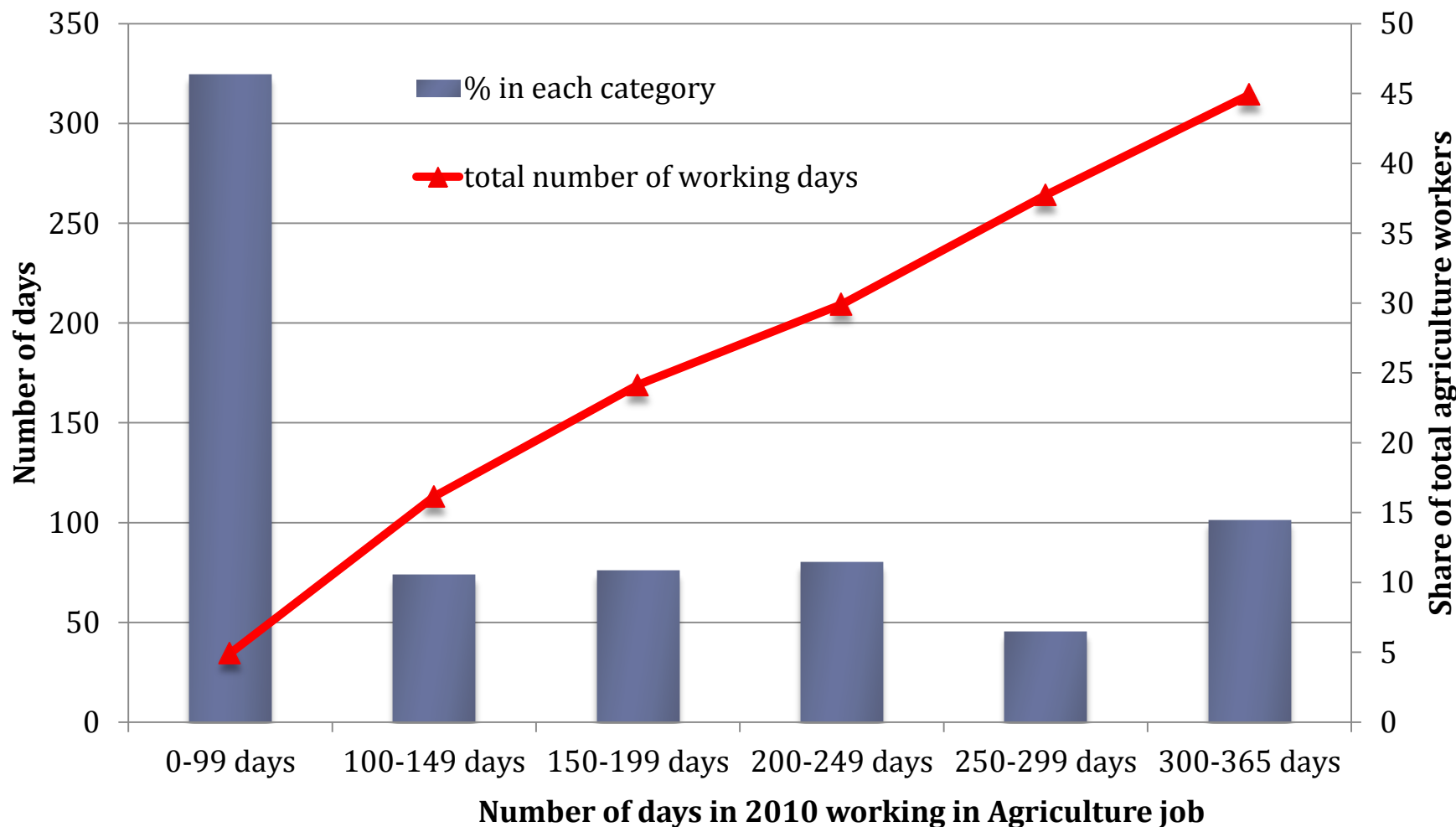30% of ever migrated people has returned to rural villages and a large proportion of them are Women in their child-bearing ages…

Most non-migrated rural workers still work in agriculture sector:

Rural hukou workers sector of employment

	2008	2009	2010
Mainly agri job (9+ months)	55.48	55.17	50.42
Mainly non-ag jobs in rural	24.17	23.94	29.01
Migrants (working in cities)	20.36	20.9	20.57

Rural Agricultural workers are under-employed

On average this group worked 9 days in the non-agriculture sector

Summary:
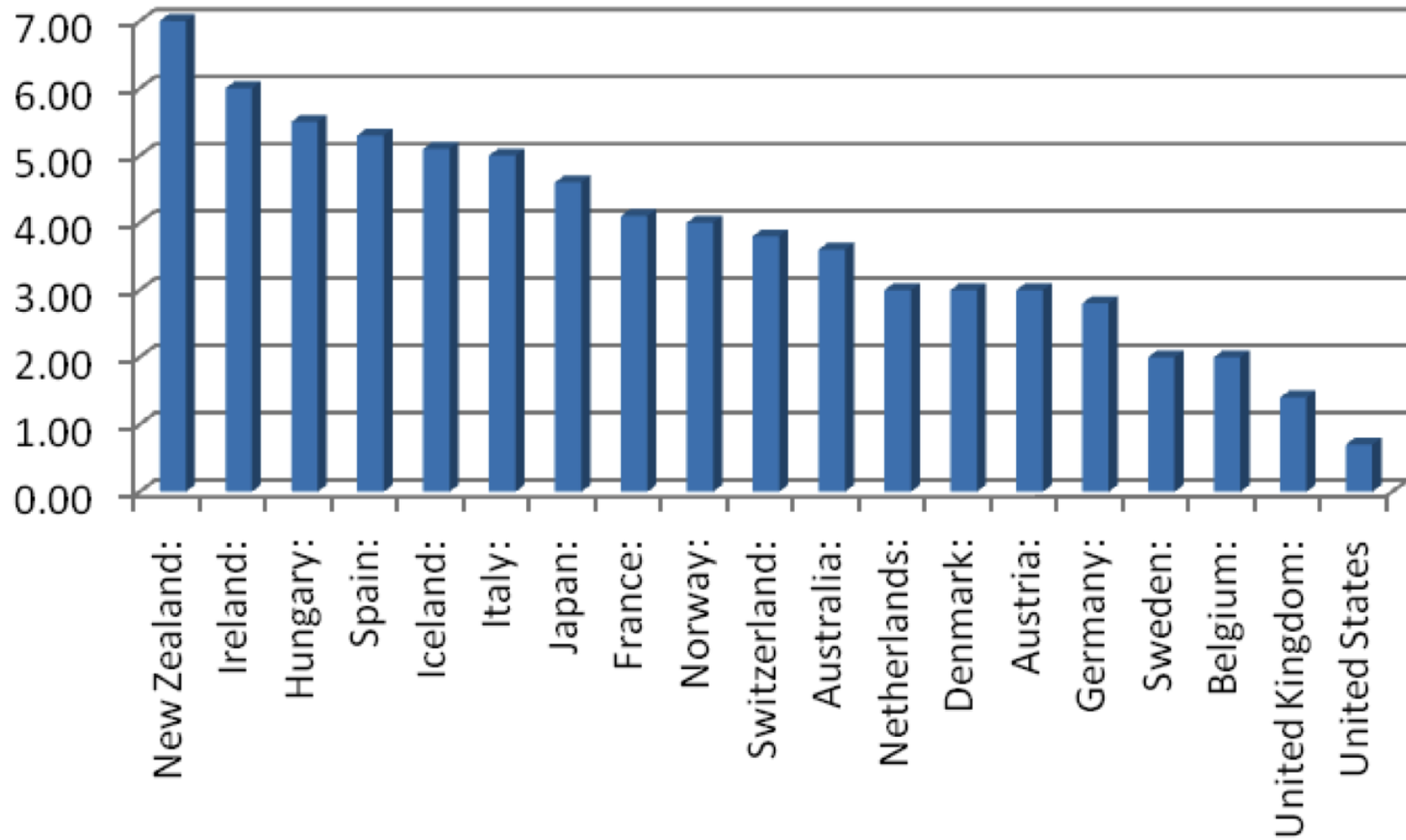
- At most less than 30% of rural hukou workers migrated

- Majority of non-migrants still work in agriculture sector

- Majority workers in agriculture sector only work less than half of a year

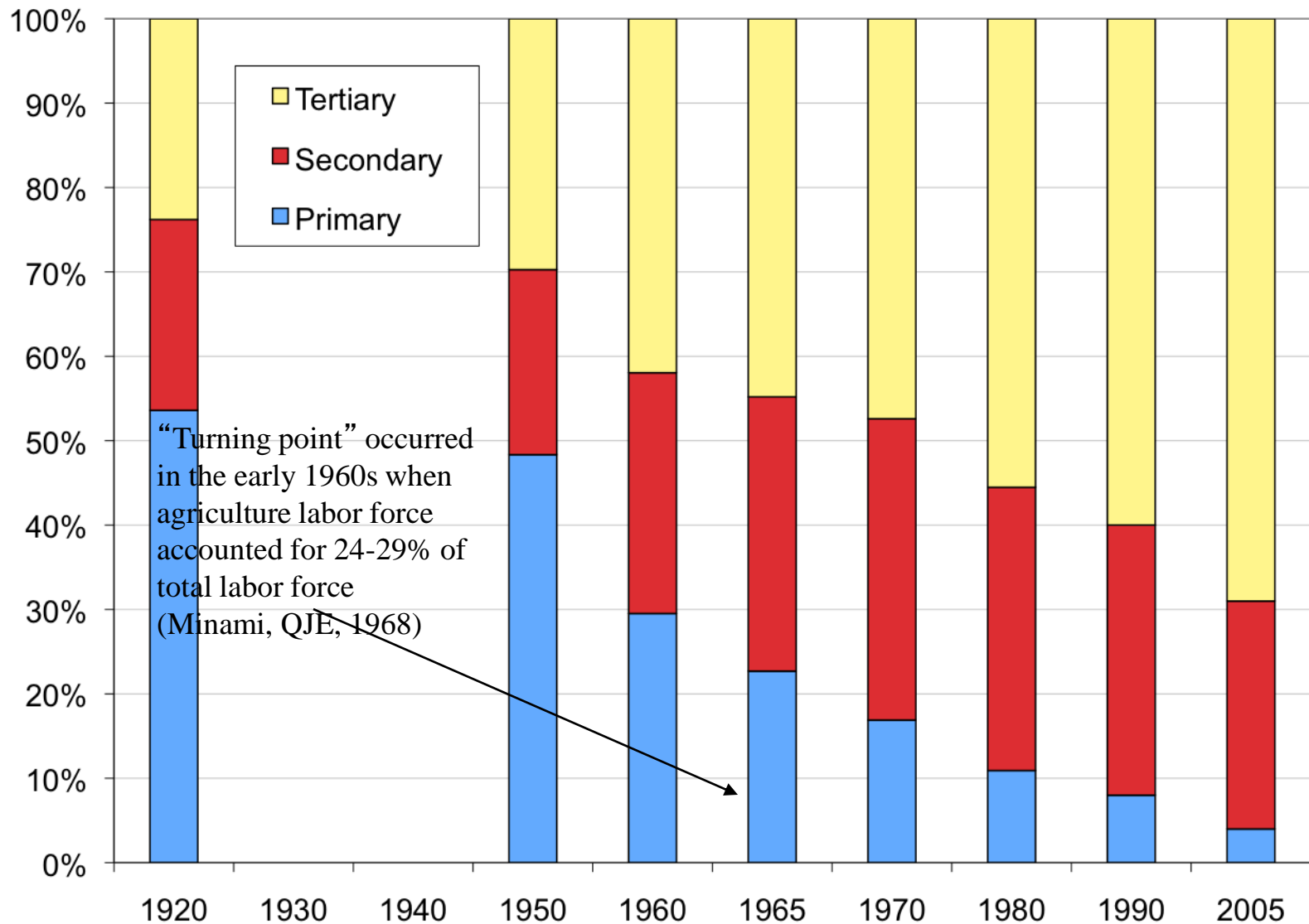- It does not seem to be the case that there is an absolute shortage of labor...

2.2 What does international experience say?

% of labor force working in agriculture sector: developed countries

Japanese Labor Force by Sector

"Turning point" occurred in the early 1960s when agriculture labor force accounted for 24-29% of total labor force (Minami, QJE, 1968)

3. Why do not more rural workers migrate?

Impact of the institutional restrictions on migration

▸ We examine this issue by estimating a probit regression to see what deter rural workers from migration:

$$M_{ijv} = a + bX_{ijv} + dIRV_{ijv} + gAG_{jv} + hVil_v + e_{ijv}$$

where: M: migrated or not?

X: Individual characteristics

AG: household agriculture labor demand

Vil: Village geographic location

IRV: Institutional restriction related variables

ε: error term

Determinants of migration: Selected marginal effects

	Total	Males	Females
Age	**0.004****	**0.013*****	**0.004****
Age2	-0.015***	-0.030***	-0.013***
Years of schooling	0.005***	-0.001	0.004***
Dummy for males	0.128***		
Household size	0.018***	0.010	0.018***
HH labourers as % of HH member	0.146*	0.179	0.091
Dummy for married	-0.106***	-0.066***	-0.142***
Number of children aged <=6	-0.011*	0.007	-0.024***
Number of children aged 7 to 15	-0.005	-0.001	-0.014***
Number of elderly (above 65)	-0.024***	-0.023**	-0.015***
Per capita cultivated land area	-0.015***	-0.019***	-0.007***
Per capita fish area	-0.030***	-0.044***	-0.012
Per capita garden area	-0.023***	-0.045***	-0.008
Village not near a city	-0.023*	-0.013	-0.029**
Village does not organise migration	-0.013	-0.008	-0.020
Distant from the nearest county	-0.040***	-0.053**	-0.014

Summary:

▸ The "guest worker" system seems to play an important role in deterring rural hukou workers from migrating to cities.

▸ Restrictions on access to social welfare and social services seem to have

   ▸ deterred family with children, especially women, from migration, which in turn reduced potential migrants and increased churning

   ▸ deterred families with elderly from migration

4. To what extent will a relaxation of migration restriction increase the number of migrants?
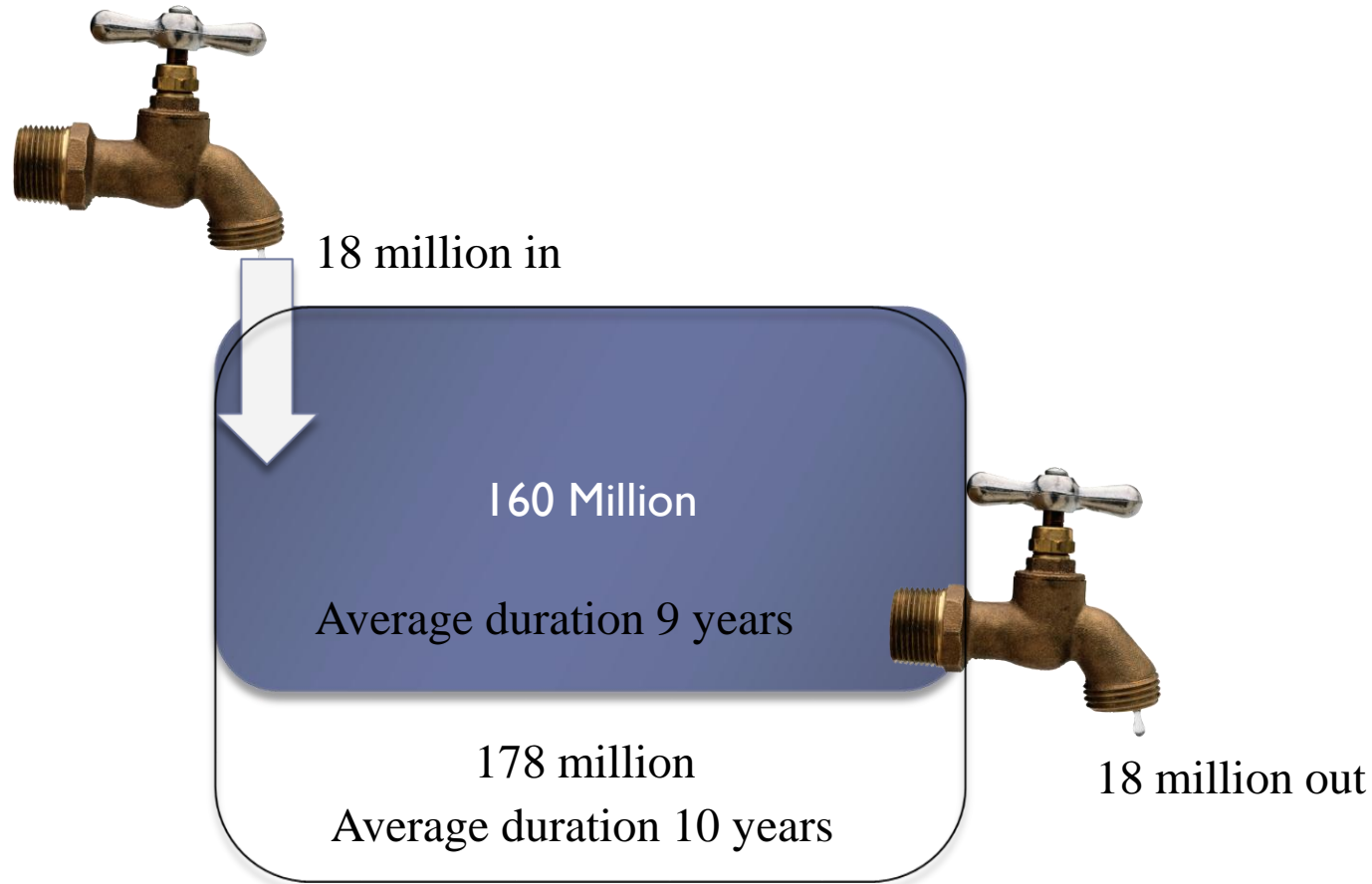
Two major effects:

▶ **Reduce churning:**

  ▶ Majority of migrants would like to stay forever if policy allows

  ▶ Currently migrants stay in cities for 8-9 years on average.

  ▶ Assume policy change can increase their average stay by one year

  ▶ 160 million/9≈18 million. Increase in migrant stock by 18 million, which is 11% increase in migrant stock.

  ▶ If average stay doubles to 18 years, the stock of migrants doubles! Any conceivable "labour shortage" will disappear...
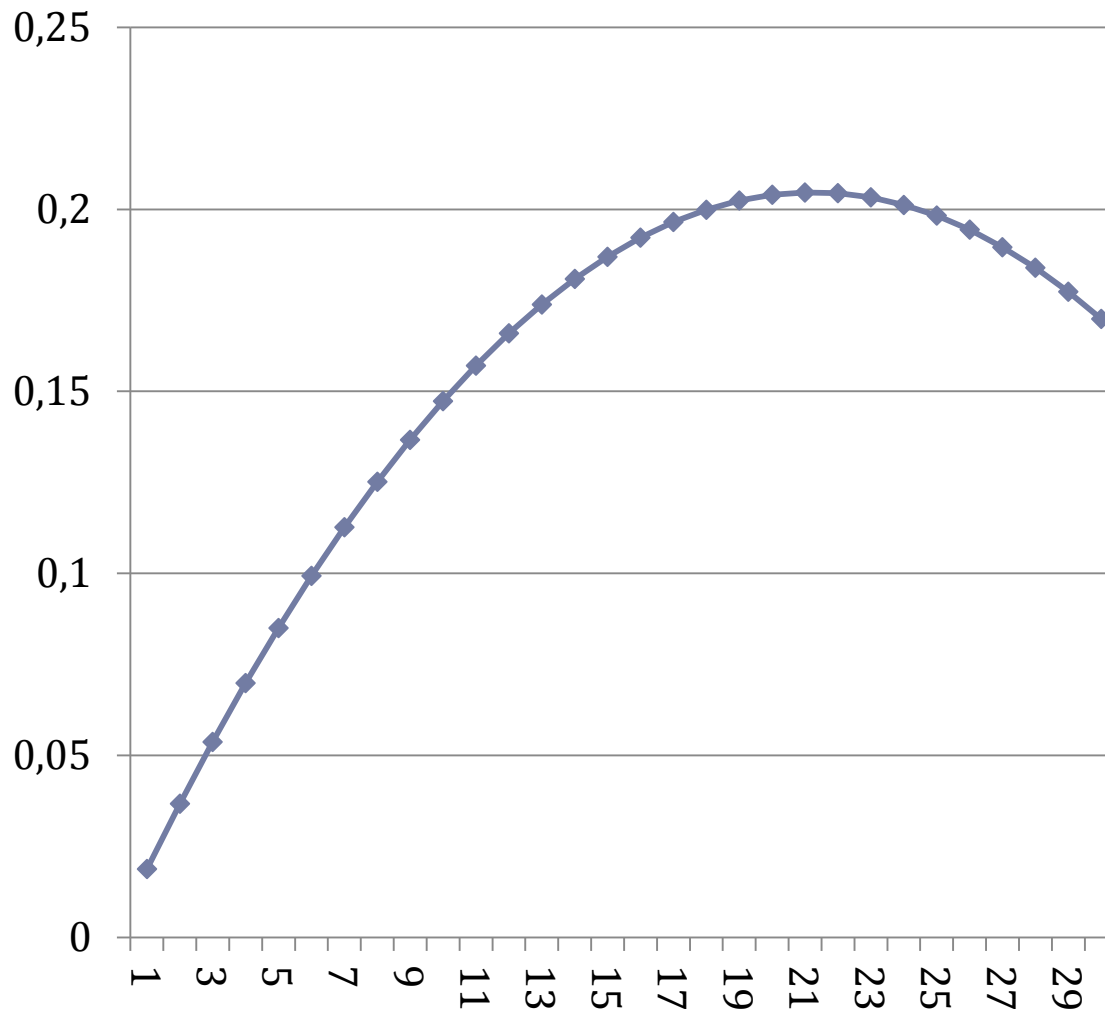
▶ **Encourage more rural workers to migrate:**

  ▶ Assume marriage, having children, and having elderly will have no effect on migration

  ▶ Out migration flow will increase by 44% upon the 2008

▶ migration level

Effect of increase in duration on stock

18 million in

160 Million

Average duration 9 years

178 million
Average duration 10 years

18 million out

Churning is bad for labour productivity

- ▸ Return to city work experience for migrants peaks at 24th year
- ▸ Currently only less than 3 percent of migrants reaches this point. The average duration of migration is 8-9 years
- ▸ This indicates that the current policy has generated considerable human capital waste to migrants and the economy

Impact of policy change on migrant inflow (upper bound prediction)

	Total	**Age 16-25**	**Age 26-35**	**Age 36-45**	**Age 46+**
Total	**44.69**	16.47	30.12	54.29	83.33
Males	**31.72**	12.48	17.92	36.78	69.61
Females	**56.59**	19.97	43.76	71.91	93.68

Conclusion:

▸ Majority of rural labor force still working in the agriculture sector

▸ On average they only work half a year

▸ The reason China coastal areas are facing labor shortage is mainly due to institutional and policy restrictions.

▸ Relaxation of these restrictions can release a large number of rural workers and generate considerable economic gain.

Lewis' model of economic development

Traditional sector

Modern sector

D_{M3}

D_{M2}

D_{M1}

D_{M0}

W_{M3}

D_T $W_{M0,1,2}$

L_T L_{m3} L_{m2} L_{m1} L_{m0} L_m