



THE AUSTRALIAN NATIONAL UNIVERSITY

Has China Run Out of Surplus Labour?

Xin Meng

Motivation

- Rural-urban migration is one of the most important contributing factors to China's unprecedented economic growth.
- Some people have begun to argue that China is near the "Turning Point" (running out of surplus rural labor).
- If so this would have a significant impact on economic growth and the growth path in China

“Turning point” and unique Chinese institutions

- “Turning point” is the point at which
 - surplus labor runs out
 - cost of unskilled labor increases significantly
 - rural-urban income gap narrows
- China is still not a normal market economy, and predictions of the Chinese “turning point” need to pay special attention to institutional details:
 - Urban sector:
 - ▶ segregation between urban resident workers and migrant workers implies high wage premium for urban workers
 - ▶ lack of social welfare support for rural workers restricts migrants – particularly families - from settling in urban areas
 - Rural sector: land tenure restricts rural labor from migrating to the cities

Questions

1. Have wages of urban unskilled (migrant workers) begun to accelerate?
2. Has wage gap between urban and agricultural unskilled labor narrowed?
3. What proportion of rural labor has migrated?
4. Why do recent anecdotes indicate unskilled labor shortage?

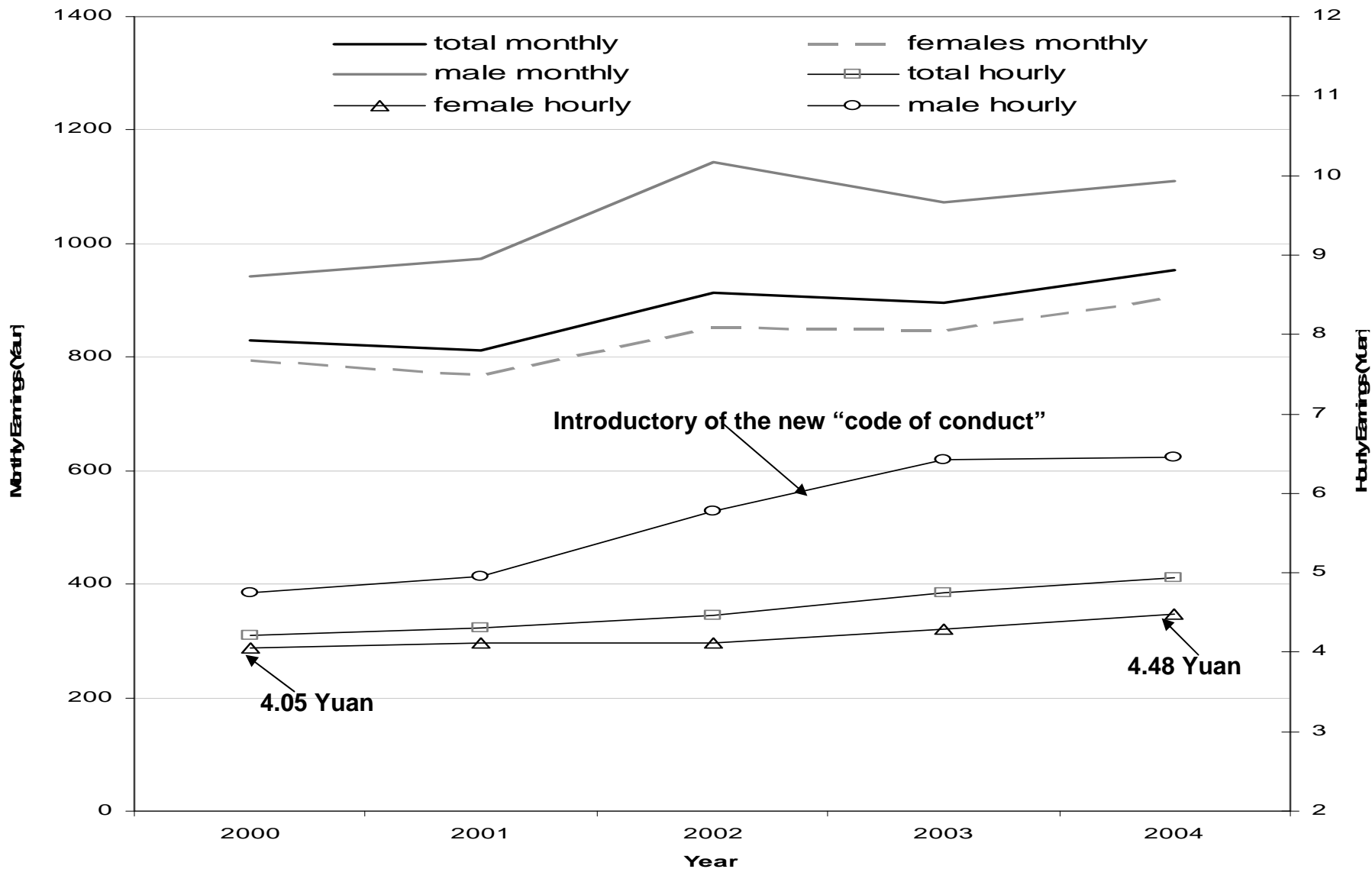
1. Have wages of urban unskilled (migrant workers) begun to accelerate?

- Whose wage growth?
 - Should not use urban (registered) worker wages (data available from Statistical Yearbook).
 - ▶ Urban protection: higher than market clearing wage
 - ▶ More skilled jobs: in 2005 52% of urban workers were professionals, managerial and clerks.
 - Should use migrant worker wages (no data)
 - ▶ Market oriented wage determination process
 - ▶ Low skilled jobs: 1995 4% were professionals, managerial, and clerks and in 2007 the skilled proportion only increased to around 7%.

1. Wage growth for Migrants

- Data Source:
 - 7 factory payroll data (between 600 to 12,000 workers)
 - Guangdong province (major destination for migrant workers)
 - From 2000 to 2004
 - Sampling issues: 7 volunteered out of 32 selected
- Basic facts
 - Three major sectors:
 - ▶ Footwear (>80% sample, mostly females, and least skilled)
 - ▶ Apparel
 - ▶ Accessories & Gears (mostly male sample, and most skilled)
 - Distribution
 - ▶ More than 80 percent of the workers are rural migrants
 - ▶ More than 70 per cent of workers are female
 - ▶ More than 90 per cent of workers have junior high school qualification or below
- The contracting company introduced new “code of conduct” in 2002
 - Set maximum work hours and different wage rate for “normal time”, “overtime”, “weekend”, and “public holiday”.
 - Factories has converted work hours accordingly, especially for piece rate factories

1. Wage growth: Monthly and hourly migrant earnings by gender



1. Wage growth: Model

$$\ln(Y_{ijt}) = \alpha + \beta X_{ijt} + \delta_t + \theta_j + \varepsilon_{ijt}$$

where Y_{ijt} is (monthly) hourly earnings of individual i in firm j at time t ;

X_{ijt} is a vector of control variables, including age, firm tenure, education, and position within a factory ; month of the payment

θ is a factory fixed effect;

δ is year fixed effect;

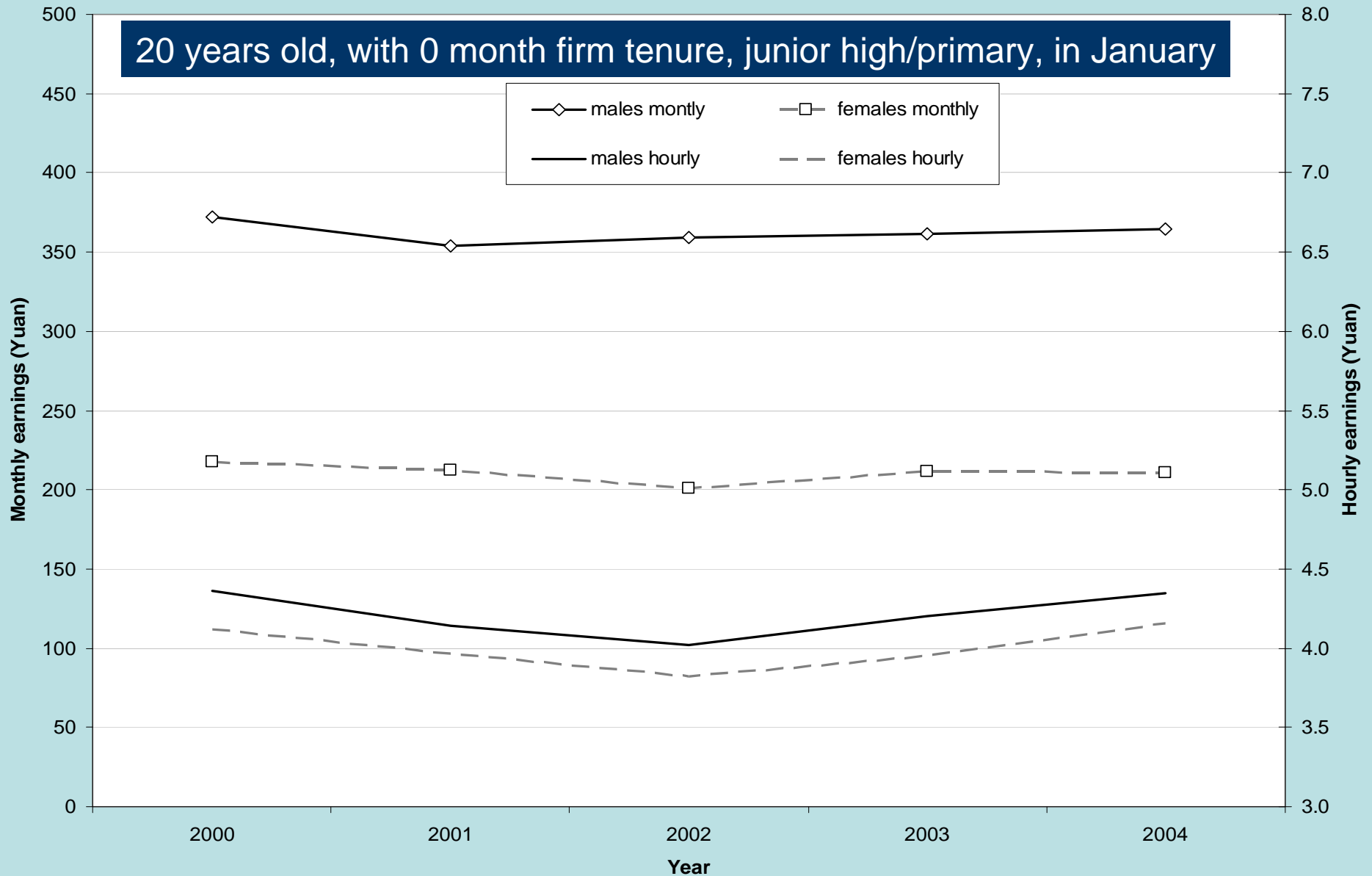
ε is a random error term.

1. Wage Growth: Results

	Total	Males	Females
Constant	0.976 ^{***}	0.291 ^{***}	1.067 ^{***}
Age	0.033 ^{***}	0.087 ^{***}	0.028 ^{***}
Age ²	-0.001 ^{***}	-0.001 ^{***}	-0.001 ^{***}
Firm tenure	0.027 ^{***}	0.043 ^{***}	0.014 ^{***}
Firm tenure ²	0.007 ^{***}	-0.120 ^{***}	0.143 ^{***}
Dummy for males	0.120 ^{***}		
Education	Yes	Yes	Yes
Month	Yes	Yes	Yes
2001	-0.038 ^{***}	-0.052 ^{***}	-0.038 ^{***}
2002	-0.070 ^{***}	-0.082 ^{***}	-0.075 ^{***}
2003	-0.034 ^{***}	-0.038 ^{***}	-0.042 ^{***}
2004	0.015 ^{***}	-0.003	0.009 ^{***}
Number of observation	660247	143313	516934
Adj-R ²	0.21	0.25	0.19

1. Wage Growth: Simulation

20 years old, with 0 month firm tenure, junior high/primary, in January





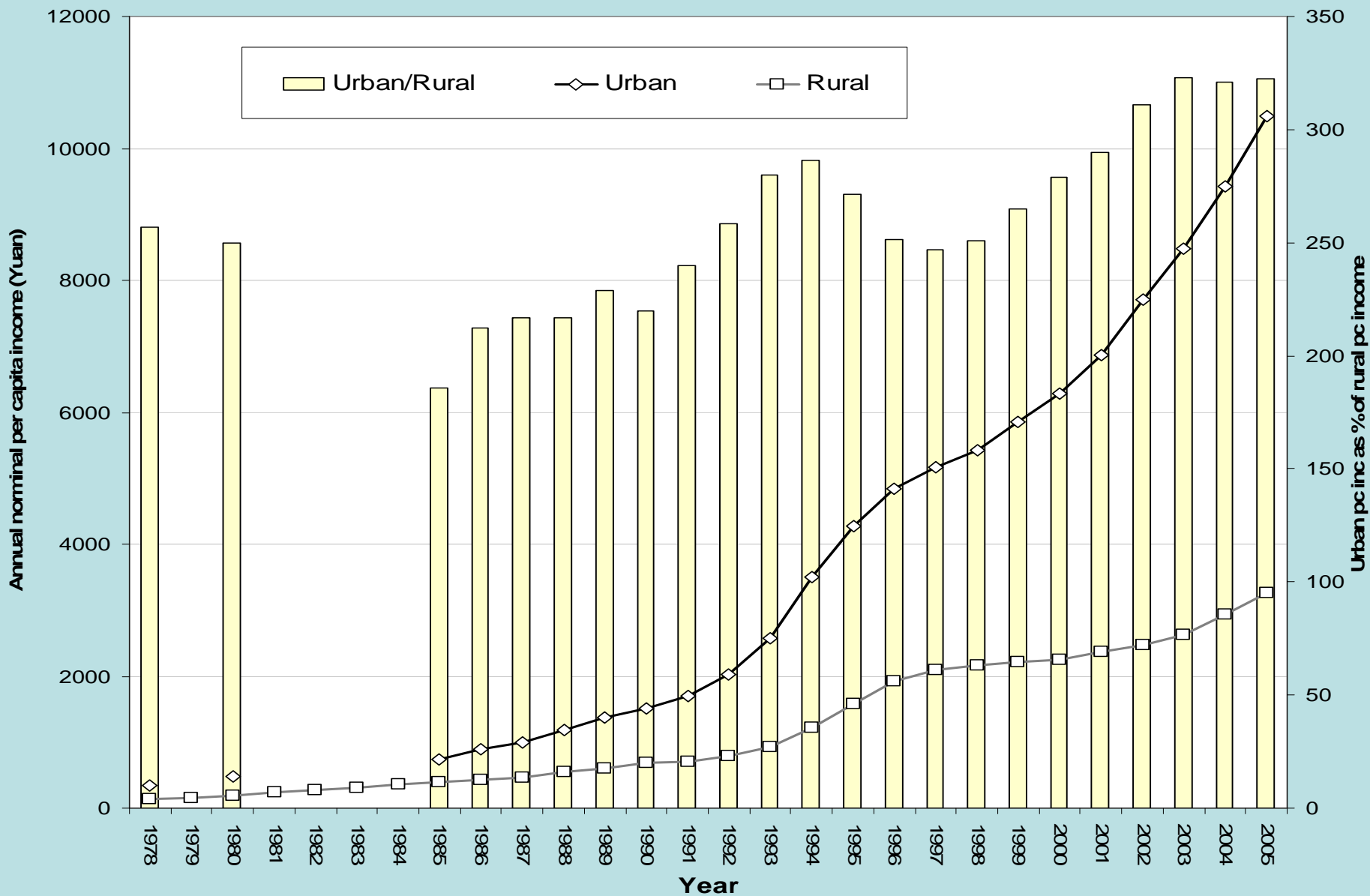
1. Wage Growth: since 2004, raw monthly earnings



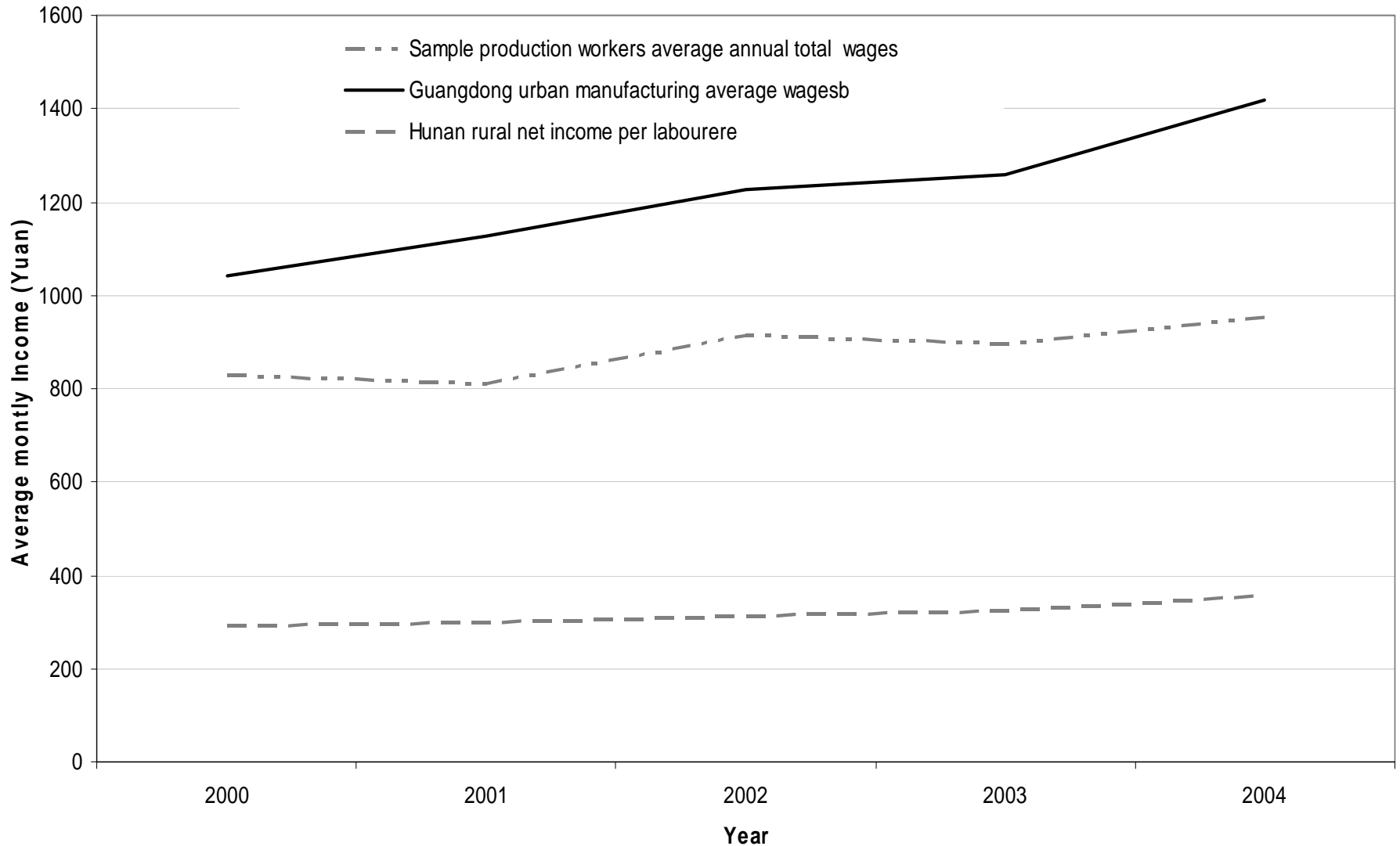
2. Has income gap between urban and agricultural unskilled labor narrowed?

- Rural labor stops moving to the urban sector when earnings of the two sectors approach each other.
 - Income gap between rural laborers and urban registered laborers: widening
 - Income gap between rural laborers and rural-urban migrants: widening
- Income gaps have not been narrowing. With such a large earnings gap it is hard to imagine that rural workers will stop moving to the city

2. Income Gaps: Rural-Urban Household Per Capita Income



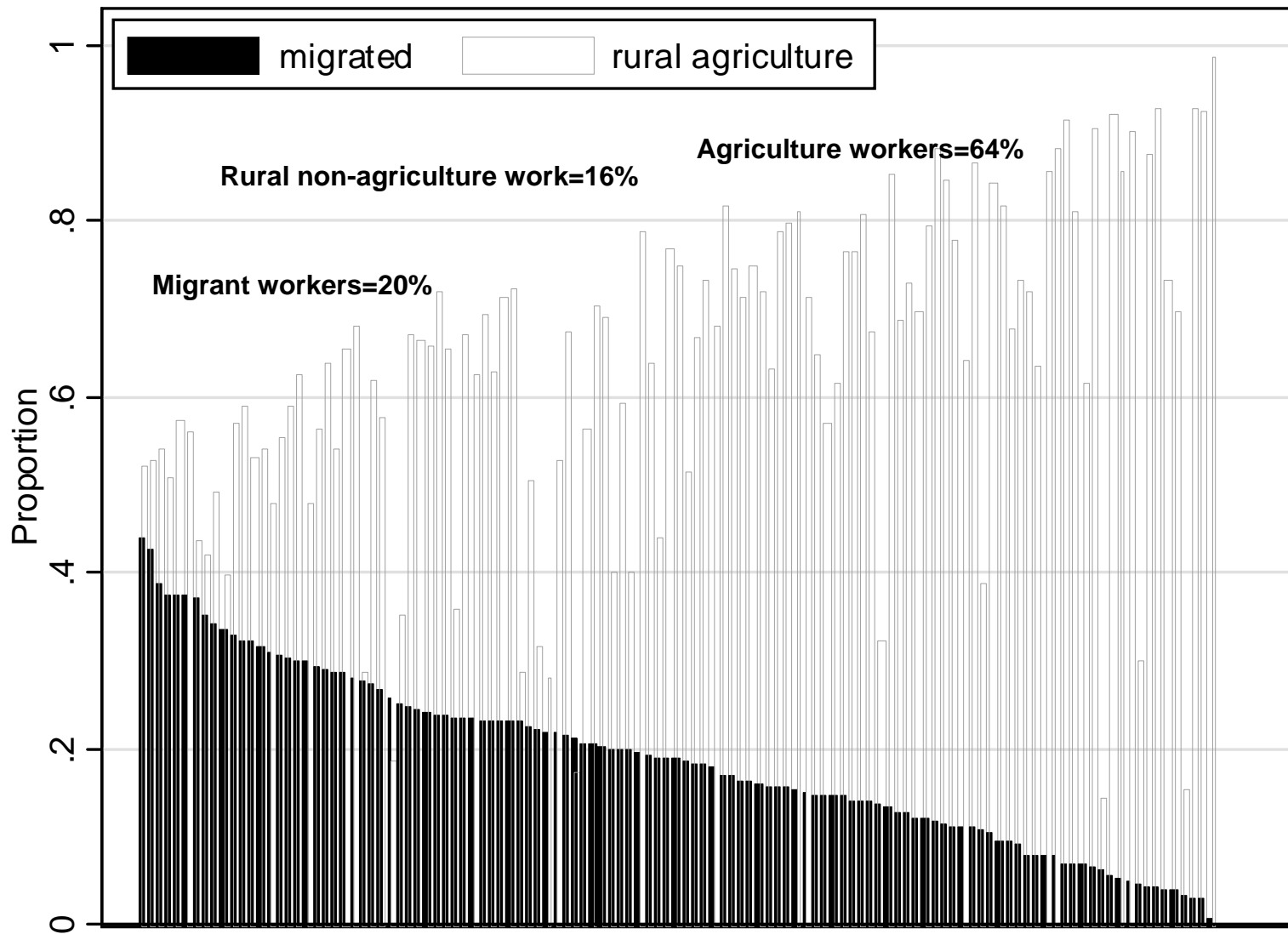
2. Income gaps: Urban, Migrant, and Rural Workers



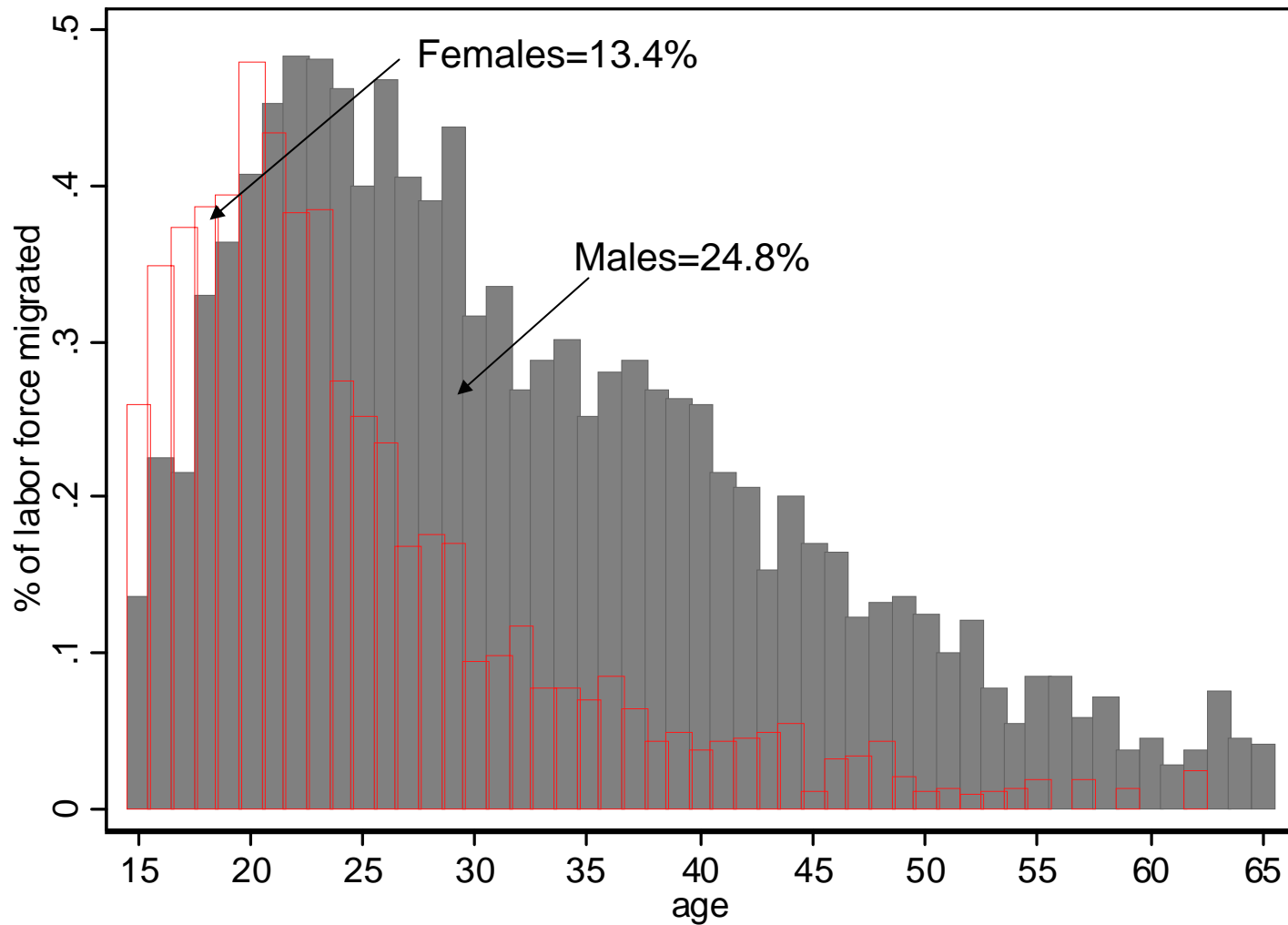
3. What proportion of rural workers migrated? Data

- China Income Project (CHIPs), Rural Survey, Data for 2002
- 37,969 individuals, 9,200 households, among 961 villages, in 22 provinces
- Definition of migrants:
 - Aged 16 to 65, employed in 2002 (22,261 individuals)
 - Answer 3 to 5 to the question: "If the person was engaged in wage/salary or self-employment activities for 3 months or more in 2002, where did he/she work?"
 1. In the village
 2. In the same township but different village
 3. In the same county, but different township
 4. In the same province, but different county
 5. In another province

3. Proportion of rural labor migrated by county: 2002



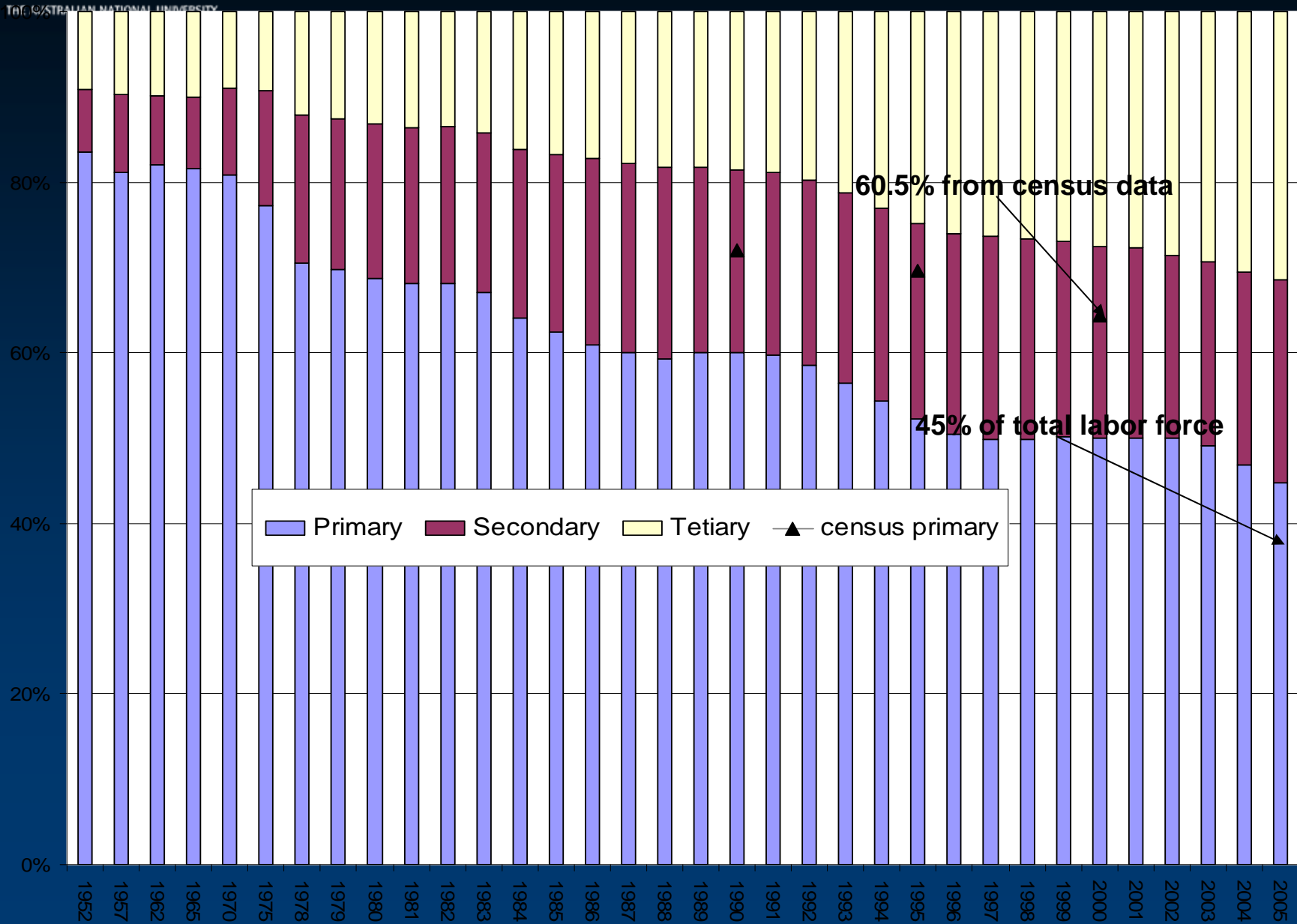
3. Proportion of rural labor migrated: by gender



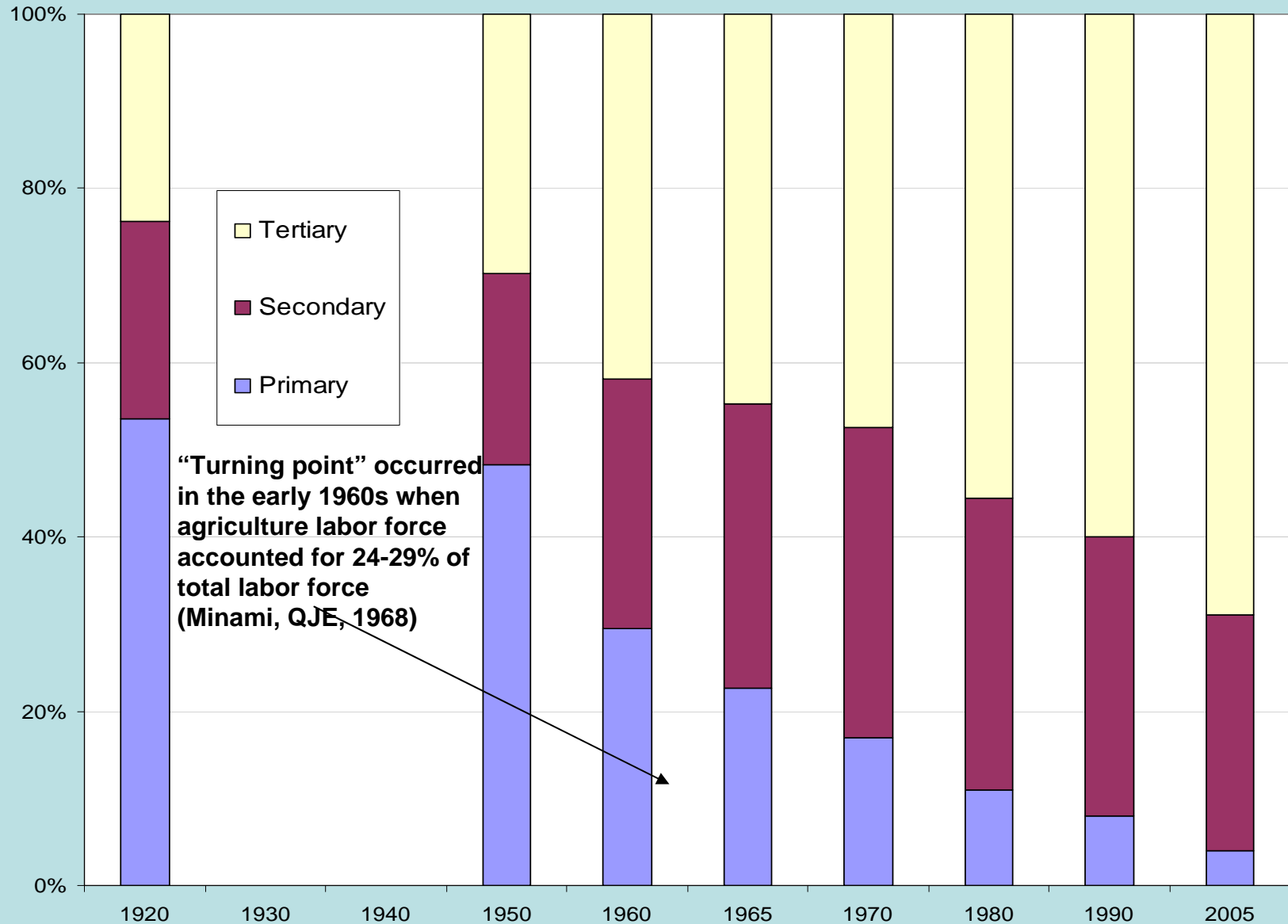
3. Proportion of rural workers migrated: Aggregated data, NBS

- 2003, total migrated rural labor force **114 million**, accounts for **23.2%** of the total rural labor force.
- 2004, total migrated: **118 million**, accounts for **23.8%** of the total rural labor force.
- 2005, total migrated: **125.8 million**, accounts for **25%** of the total rural labor force.

Labor force by industry sector: 1952-2005



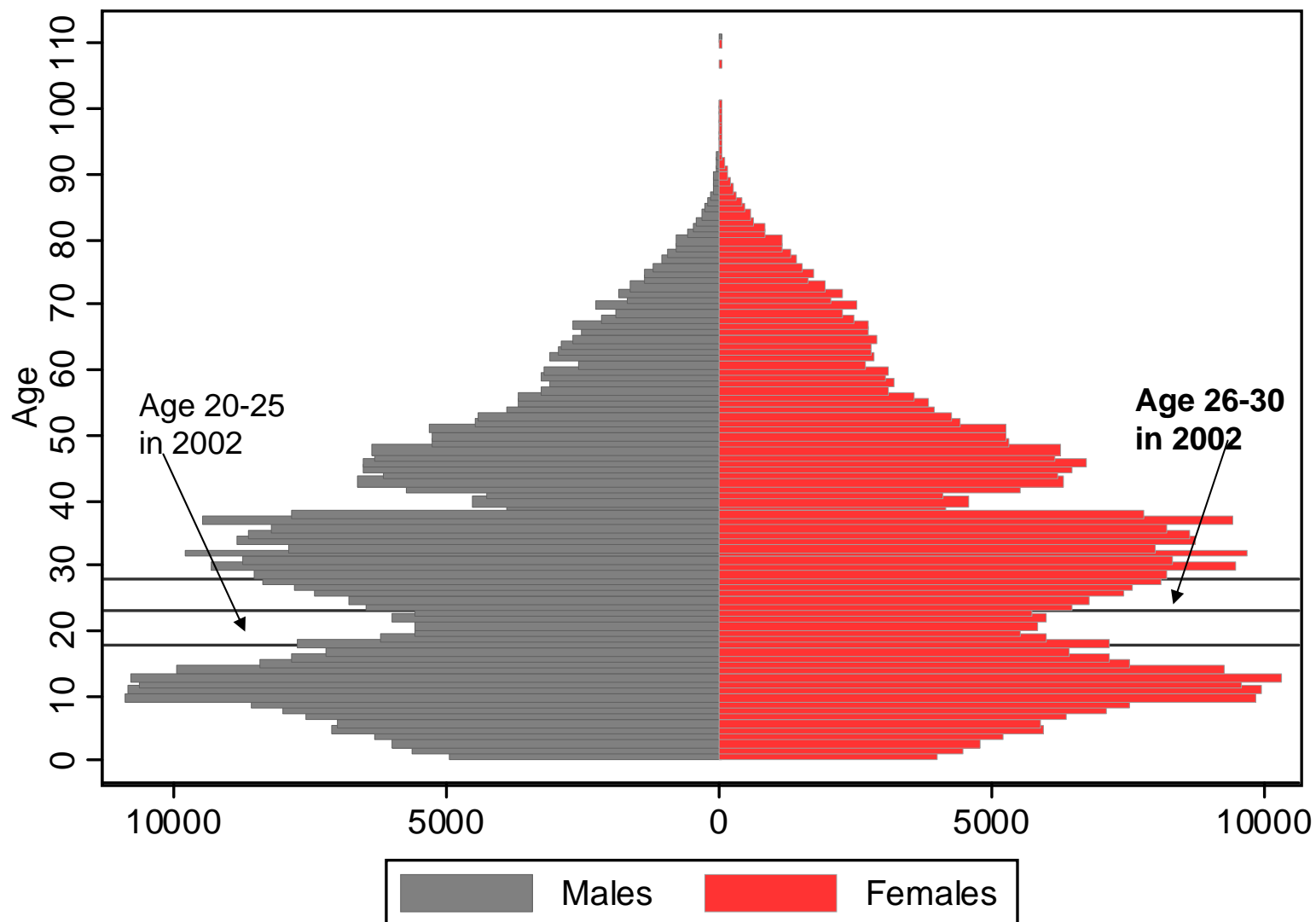
Japanese Labor Force by Industry Sector



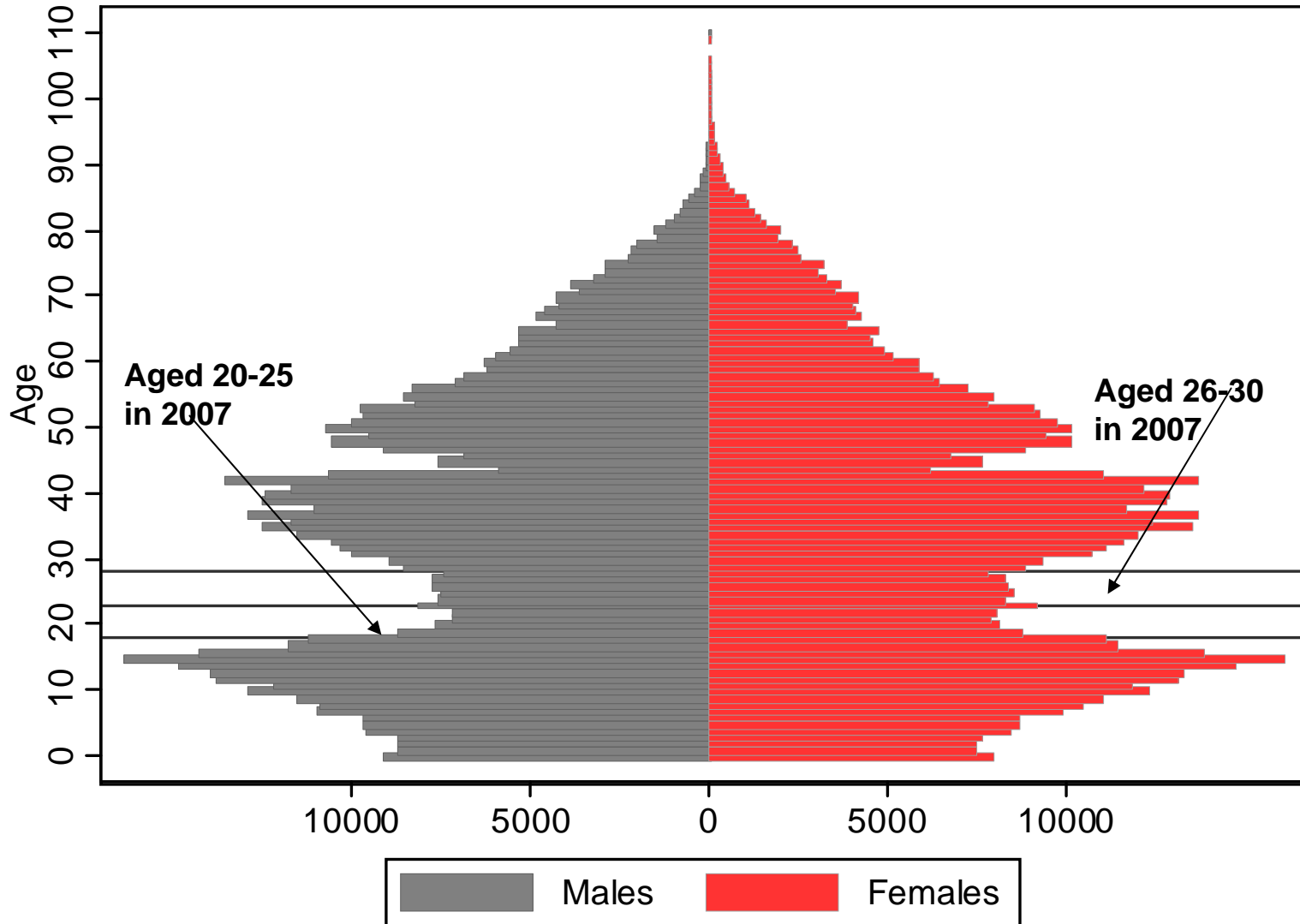
4. Why does anecdotal evidence suggest recent unskilled labor shortage?

- Demand: China enter WTO
- Supply:
 - Special population [structure](#)
 - Price policy (harmonies and human growth)
 - ▶ Abolition of agriculture tax—increase agriculture real income (2004)
 - ▶ Direct increase in agriculture [price](#) and abolition of agriculture tax (2004)
 - ▶ Minimum wage [increase](#)
 - Restrictions on land trading and land leasing
 - ▶ Every household has to have somebody staying at home to farm the land
 - ▶ Small scale farming, low productivity
 - Restrictions on social welfare [access](#)
 - ▶ Households cannot afford to move to the cities:
 - Children's education
 - Family members' medical expenses
 - Unemployment
 - [Pension](#)

Rural population pyramid, 2000 Census (0.095% sample)

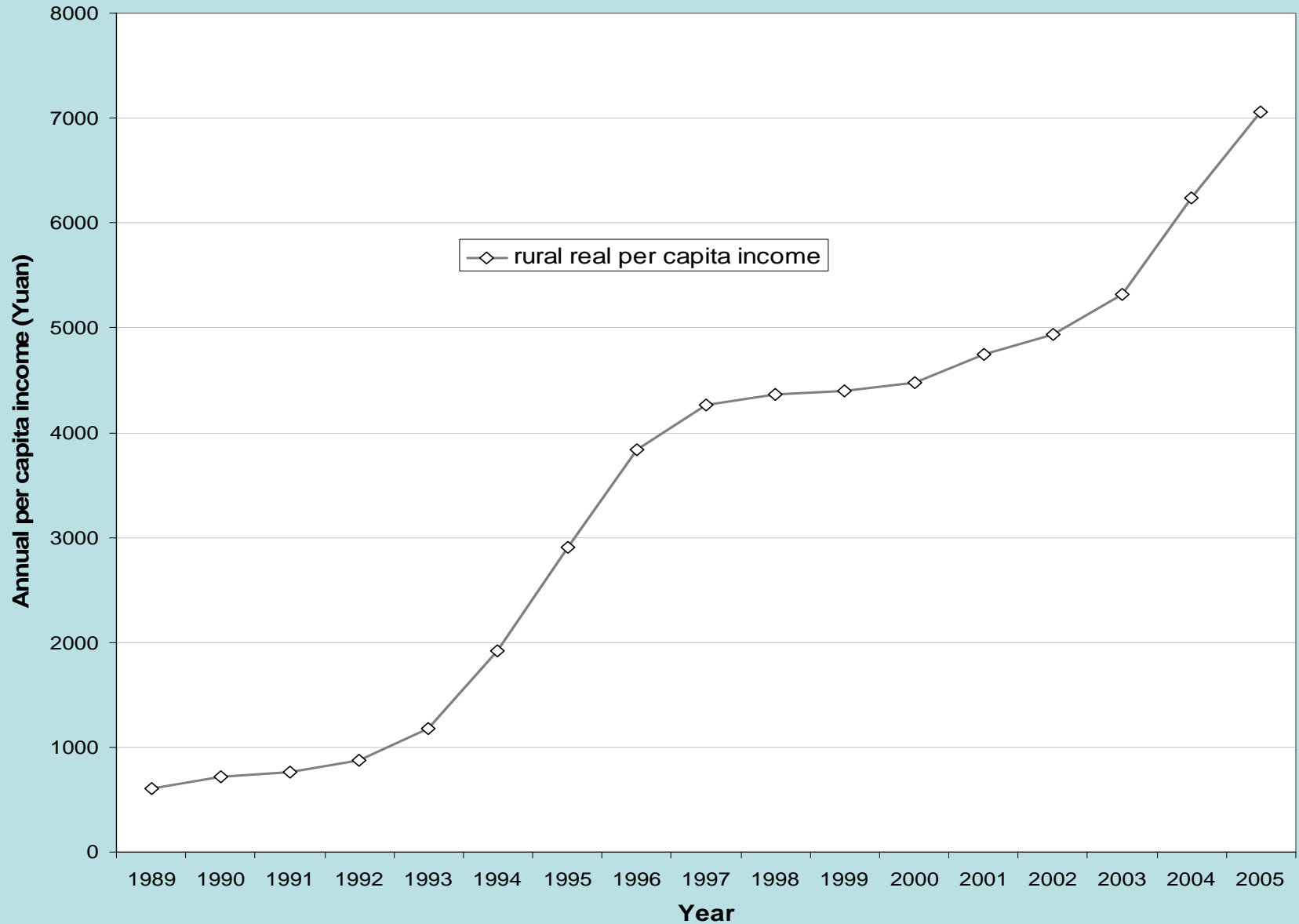


Rural population pyramid, 2005 1% Population Survey

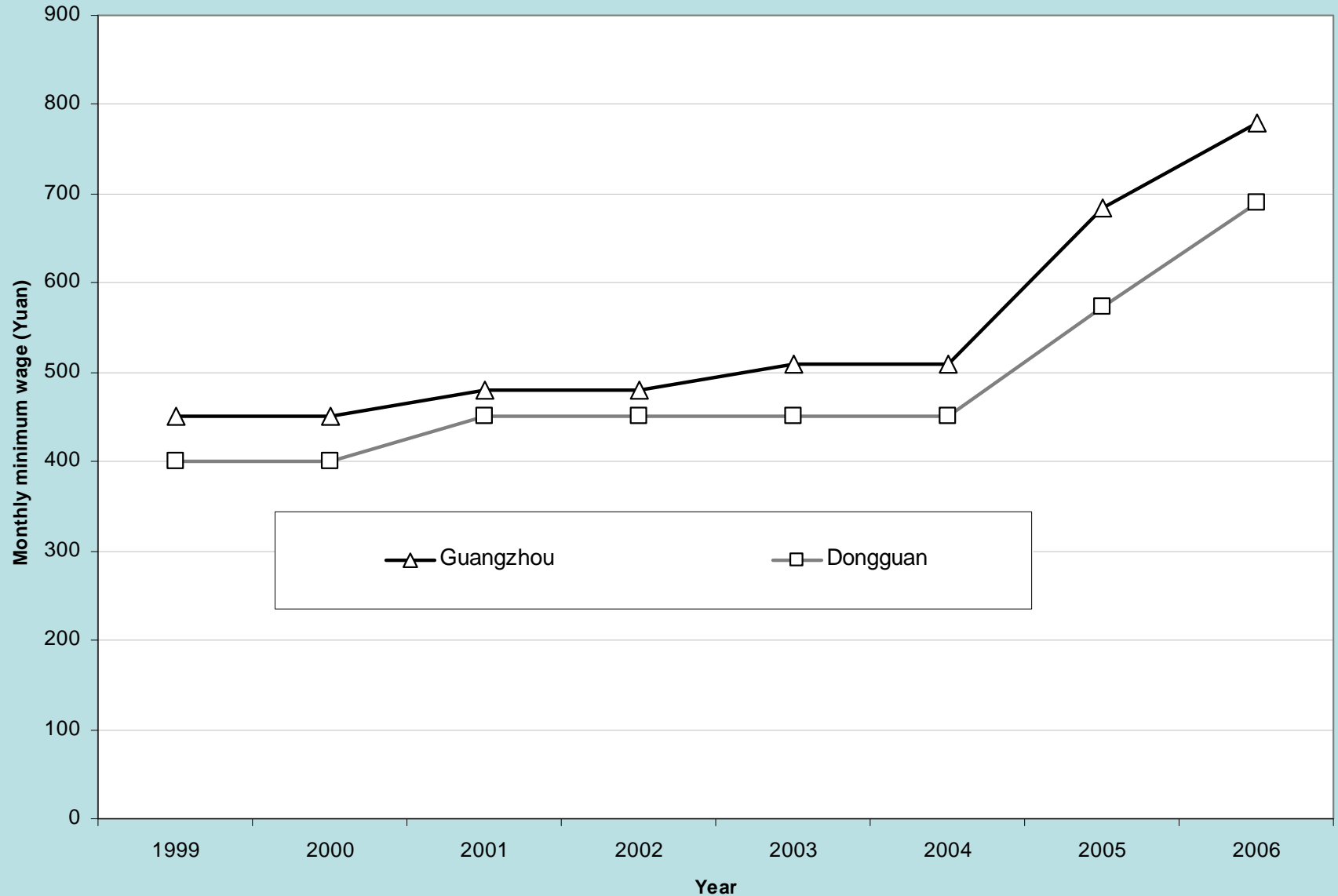




Rural Per Capita Real Income, 1989-2005



Guangzhou and Dongguan minimum wage



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

Predicted upper bounds of policy effects

	Total		Males		Females	
	Mean	% incrs	Mean	% incrs	Mean	% incrs
Actual probability	0.20		0.25		0.13	
Family mig policy	0.27	35.37	0.29	17.23	0.24	77.45
Land policy	0.22	11.51	0.28	12.28	0.15	9.72
Migration info	0.25	25.83	0.29	16.45	0.20	47.58
Family/land and info	0.34	72.71	0.36	45.96	0.32	134.75
Total observations	20449		11388		9061	

Conclusions

- Wages for unskilled rural migrants does not seem to have increased significantly
- Income gap between rural and urban sectors does not seem to have been narrowing
- Majority of rural workers has not migrated to cities.
- It does not seem that China is running out of cheap rural labor.
- China must relax its rural-urban divide policy quickly so that the rural surplus laborers can move out before
 - wages in cities increase significantly
 - industrial structure change to more capital or technology intensive pattern
 - otherwise the huge number of farmers with limited education will be stuck on the farm!