

Impact of the Guest Worker System on Poverty and Wellbeing of Migrant Workers in Urban China

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Motivations

- Rural migrants have contributed substantially to China's fast economic growth and will continue to do so.
- In the next 10 to 20 years we will see, perhaps, the largest population movement in human history
 - Current rural migrants in cities: 130 million
 - In the next 10 to 20 years this number will more than double
- Migrant wellbeing is crucial to China's economic growth, and political and social stability in the near future.

Background

- Guest worker system
 - Temporary visa
 - No health, unemployment, pension, and basic safety net.
 - Children's schooling is at higher price
- The objectives of the guest workers
 - Earn more
 - Save more
- Consequence of the guest worker system:
 - Work hard
 - Live in very harsh conditions

Questions

- What proportion of migrants is currently living in poverty?
- What is the relationship between these poverty levels and the long hours typically worked by migrants?
- How might the long hours worked and current work and living conditions affect the future health of migrants?

Data

- China Income Distribution Survey (CIDS), 2002 and China Urban Labour Survey (CULS), 2001.
- CIDS (12 provinces) has good income, expenditure information for both urban households and migrant households.
- CULS (5 large cities) does not have complete information on migrant household members.
- CULS collects urban and migrants work histories and working hours at different stage of working life and current self reported health information.

| Households | <u>CUID Survey, 2002</u> | | <u>CULS Survey, 2001</u> | |
|---------------------------|--------------------------|----------|--------------------------|----------|
| | Urban | Migrants | Urban | Migrants |
| Age of the HH head | 48 | 36 | 53 | 30 |
| Years of sch of the HH | 10.7 | 8.1 | 10.1 | 8.1 |
| % of employed | 0.50 | 0.70 | 0.39 | 0.86 |
| % of self-employed | 0.05 | 0.51 | 0.10 | 0.54 |
| Emp monthly hrs workd | 191 | 291 | 195 | 306 |
| Emplyd hourly earnings | 5.74 | 3.01 | na | na |
| Per capita income | 8246 | 6486 | 8690 | na |
| Per capita total expend | 6294 | 4272 | 6224 | na |
| Saving rate | 0.24 | 0.34 | 0.28 | na |
| % eligible health benefit | 0.65 | 0.04 | 0.67 | na |
| Per capita living area | 18.82 | 11.25 | 23.24 | 11.58 |

Simple poverty assessment

- Poverty line—Cost of Basic Needs:
 - Minimum Nutrition Requirement: 2100 calories per person per day
 - Cost of acquiring 2100 calories by the poorest 20 per cent of households in each province
 - Calculating non-food component of the cost of basic needs.

Table 2: Poverty rate (income and expenditure measures)

| Upper CBN line | <u>Income measure</u> | <u>Expenditure measure</u> |
|-----------------------|-----------------------|----------------------------|
| Total | 0.081 | 0.169 |
| Urban Residents | 0.060 | 0.125 |
| Migrants | 0.157 | 0.324 |

1. Migrants are much poorer
2. Expenditure measured poverty is double that of income measured poverty.

Why are migrants poorer?

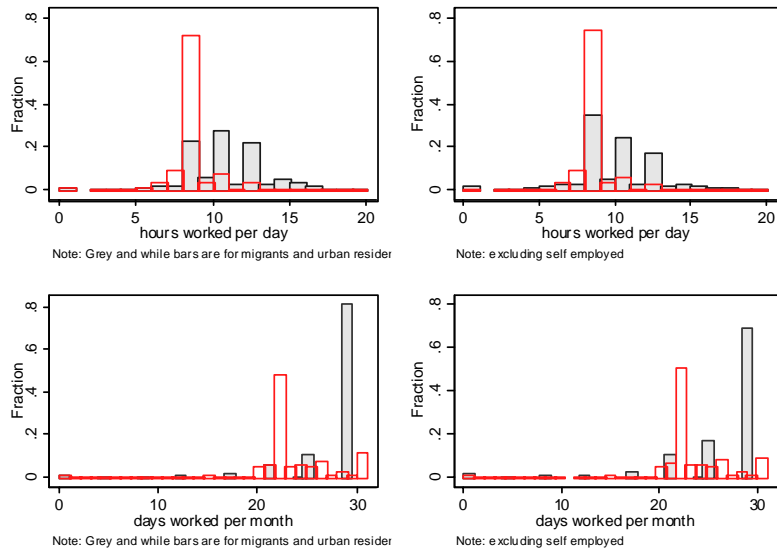
- Unemployment?
- Lower work hours (underemployment)?
- Lower hourly earnings?

CIDS Survey, 2002

| | Urban | Migrants | (M/U)-1 |
|------------------------|-------|----------|---------|
| % of age 16-65 working | 63.24 | 85.66 | 35.45 |
| Monthly hours worked | 192 | 291 | 51.56 |

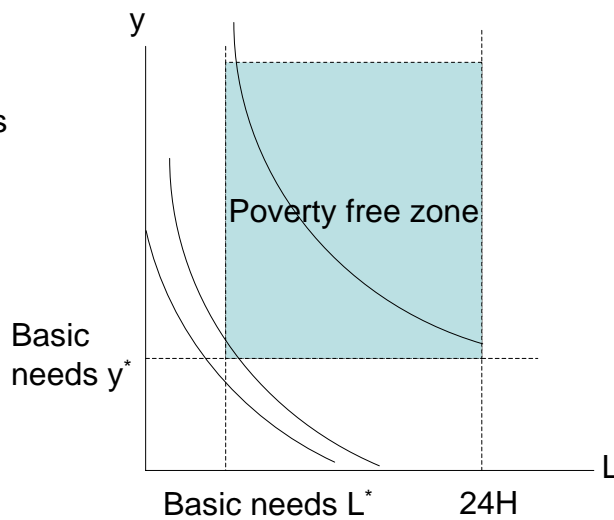
- Not unemployment
- Not underemployment
- But low hourly earnings. With low hourly earnings they have to work extremely long hours...

Hours/day and days/month worked, CIDS



Work your way above “poverty line”

- $U=f(Y, L)$, where Y is income and L is leisure.
- An utility consistent poverty line looking at the trade offs between income and hours worked.



Work your way above “poverty line”

- Assume that the hours worked by urban residents are within the poverty free zone.
- If migrants work like urban residents, what would have been their poverty rate?
 - What would have been their work hours?
 - With ‘urban work hours’, what would have been their per capita income?
 - With this “urban income”, what would have been their poverty rate?

Migrants’ “urban work hours”

- Estimate hours worked equation for urban sample (tobit) for individual aged 16-65, by gender

$$H_{iut} = W_{iut}\beta + \delta Health_{iut} + \varepsilon_{iut}$$

where H_{iut} is hours worked by urban resident

- Predict hours worked for migrants using coefficients from urban regression

| <u>CIDS Survey, 2002</u> | | |
|--------------------------|-------|--------|
| | Mean | Median |
| Actual hours worked | 278 | 294 |
| Predicted hours worked | 186 | 188 |
| (Actual/Predicted)-1 | 49.46 | 56.38 |

Migrants' "urban income"

- We estimate the following HH income per capita equation for migrant sample:

$$Y_{jmt} = X_{jmt} \beta + \delta H_{jmt} + \varepsilon_{jmt}$$

where H_{jmt} is per capita hours worked.

- We then predict their per capita income level with predicted hours worked if they were urban residents:

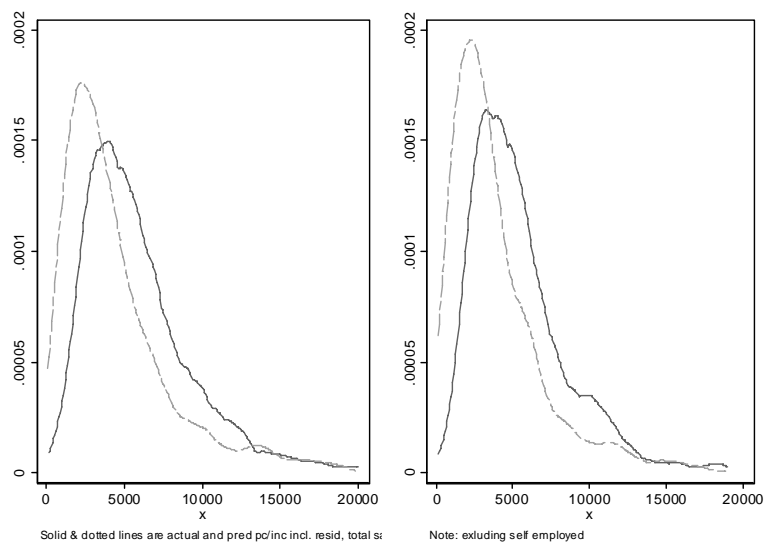
$$\hat{Y}_{jmt}^{\hat{H}_{jmt}} = X_{jmt} \hat{\beta} + \delta \hat{H}_{jmt} + \hat{\varepsilon}_{jmt}$$

- Had migrants worked like urban residents, their income would have dropped by 22 per cent for the total sample, and 34 per cent for wage and salary earners
- With low hourly earnings, they had to work extreme long hours to maintain their current less than 16 per cent living below poverty line.

Table 5b: Actual and predicted per capita income and poverty rates

| | CIDS total sample | | CIDS w/s earners | |
|--|-------------------|--------|------------------|--------|
| Actual and predicted per capita income | Mean | Median | Mean | Median |
| Actual per capita HH | 6385 | 5000 | 5556 | 4800 |
| Predicted per capita HH income | 5246 | 3546 | 4154 | 3091 |
| (Actual/Predicted)-1 | 21.71 | 41.00 | 33.75 | 55.29 |

Kernel density distribution of actual and predicted income



Poverty rate with migrants' "urban income"

Actual and predicted poverty rate and poverty gap

| | <u>CIDS, total sample</u> | | <u>CIDS, wage and salary earners</u> | |
|------------------|---------------------------|-------------|--------------------------------------|-------------|
| | Poverty rate | Poverty gap | Poverty rate | Poverty gap |
| Actual income | 0.16 | 0.13 | 0.20 | 0.11 |
| Predicted income | 0.38 | 0.23 | 0.46 | 0.23 |

The health impact of long work hours

- Long work hours may damage health condition, and hence, future hours worked, and future earnings capacity.
- To what extent?
- We need to examine past hours worked on current health:

$$Health_{it} = W_{it}'\beta + \delta H_{it-n} + \varepsilon_{it}$$

The health impact of long work hours

- CULS has information on hours worked at the beginning of the current job/last job
- Selection issue for migrants. Sick ones have gone home. We are interested in what proportion of them may have gone home due to sickness.
- Estimating impact of past work hours on current health using urban data.
- Assumptions:
 - Same nutrition intake
 - Same health care
 - The type of job for the two groups have similar effect on health.
 - Similar level of inherited health.

Estimation issues

- Hours worked at the beginning of the current/last job may not adequately measure the hours worked since the beginning of the job. (correlation coefficient between current work hour and hours worked at the beginning of the job is 0.95)
- The timing of the beginning of the current/last job differs significantly among different individuals. (including duration of the current/last job)
- Age distribution is very different between migrants and urban residents (restrict to a sample of those younger than 51).

Actual and predicted % of migrants being unhealthy

| | Health worse off compared to last year | Unhealthy compared to own age group |
|----------------------------------|--|---|
| Actual % unhealthy, migrants (1) | 6.60 | 1.60 |
| Pred % unhealthy, migrants (2) | 10.66 | 4.82 |
| Migrants, (2)-(1) (3) | 4.06 | 3.23 |
| $((3)/(1))*100$ (4) | 61.49 | 202.18 |
| Additional 103 hours worked/m | 3.09 | 2.06 |

- On average migrants in CULS work 103 hours more per month than urban residents.
- This can translate to 3.1 percentage points more workers feeling worse off and 2.1 percentage points more workers feeling unhealthy, which is an increase of 50 and 130 per cent of the stated health conditions for migrant workers.

Conclusion

- Migrants have higher poverty rate
- This is not because of high unemployment or underemployment
- Low hourly earnings make migrants work extremely long hours to earn above poverty income.
- Had they worked like urban residents, their poverty rate would have been more than doubled.
- Extreme long work hours damage migrant workers long term health and hence future earnings capacity.