

Unemployment and labor force participation in China: Long run trends and short run dynamics

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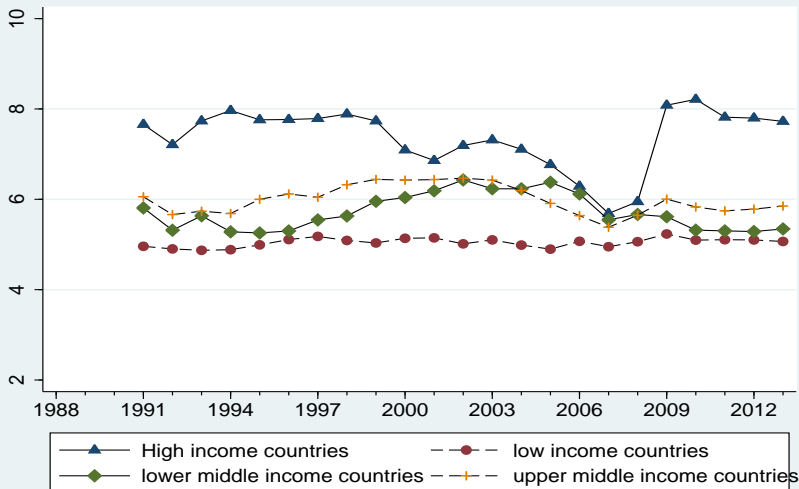
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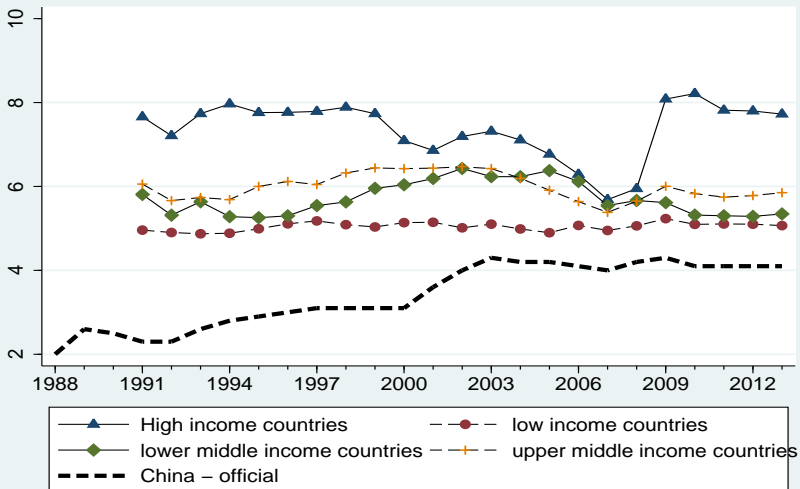
Outline

- 1 Motivation
- 2 Data and Measurement
- 3 Long run trends
- 4 Labor market dynamics
- 5 Conclusions

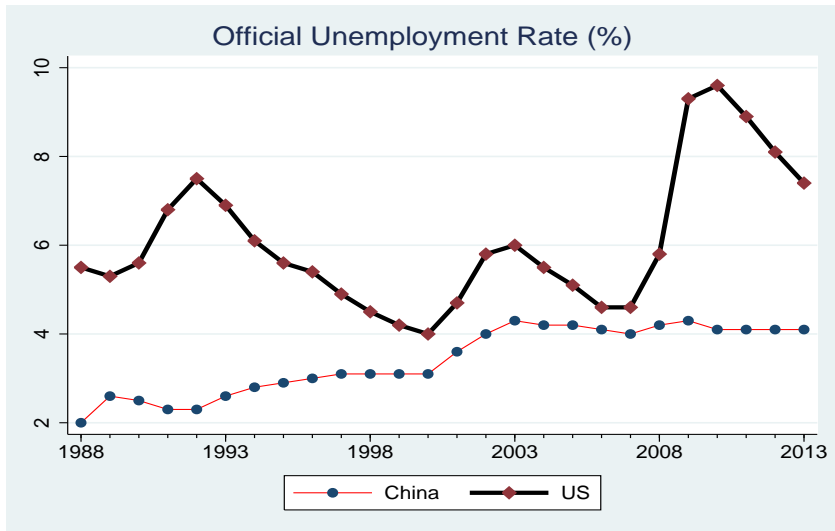
Unemployment rates (by income level)



Unemployment rates (by income level), with China



Unemployment rates: China vs. U.S.



Is China a true outlier?

- China could be a true outlier
- or: this could be just a statistical artifact

What could go wrong with the official U-rate?

- For reasons such as lacking local household registration (*Hukou*) status, many unemployed people are not qualified to register with local employment service agencies.
- Even qualified unemployed people may lack the incentive to register due to very low levels of unemployment benefits.
- Total number of registered unemployed people are aggregated bottom-up within the bureaucratic system, thus subject to aggregation errors and potential data manipulations.
- The total labor force which is the denominator in the calculation of unemployment rate, is also subject to error due to many reasons.

The Harsh reality

- No one believes the official unemployment rate.
- LFP rates not even reported in official statistics.
- No information by demographics.
- Difficult to find alternatives due to data limitations

Outline

- 1 Motivation
- 2 Data and Measurement
 - How to measure unemployment
 - The Urban Household Survey data
 - Labor force status classifications in UHS
- 3 Long run trends
- 4 Labor market dynamics
- 5 Conclusions

- By definition, anyone should fall into three distinct categories:
employed; unemployed; not-in-labor-force
- Employed: those with a job
- Unemployed: those without a job but want one
- Not-in-labor-force: those without a job and don't want one
(not actively searching)
- Usually based on survey of activities in the previous week
(month)

Who are not-in-labor-force?(CPS)

Those who have no job and are not looking for one—are counted as “not in the labor force.” Many who are not in the labor force are **going to school** or are **retired**. **Family responsibilities** keep others out of the labor force.

- **Marginally attached** to the labor force: currently want a job, have looked for work in the last 12 months (or since they last worked if they worked within the last 12 months), and are available for work.

- **Discouraged workers**: are a subset of the marginally attached.

Discouraged workers report they are not currently looking for work for one of four reasons:

- They believe no job is available to them in their line of work or area.
- They had previously been unable to find work.
- They lack the necessary schooling, training, skills, or experience.
- Employers think they are too young or too old, or they face some other type of discrimination.

- Provide a bunch of alternative measures with different definitions (BLS)
- The latent variable approach (Feng & Hu, 2013)

Data - Urban Household Survey

- Administered by the Urban Survey Division of the Statistical Bureau since 1980s, micro data available since 1988
- Probabilistic sample covers the whole country (representative at the province level)
- Mainly covers people with local hukou (include also non-hukou people since 2002, but may not be representative of the migrant population as a whole)

Measurement of Labor force status in UHS

- Year-end information (December)
- No information about search behaviors (no labor market in early stages). Might be some ambiguities regarding unemployment and NILF.
- Fairly consistent over time

LFS questions in UHS - Unemployed

11 People waiting for employment

- 待业人员

12 People waiting for assignment

- 待分配者。

15 Other non-employed persons

- 其它非就业者

(refer to persons under 16 year-old who are not school students, and persons above 60 year-old for men or 55 year-old for women who are not reemployed after retirement)

LFS questions in UHS - NILF

8 Retired staff and veteran cadres

- 离退休人员。

9 Persons who lose the ability to work

- 丧失劳动能力者。

10 Persons who take care of the home (housewife)

- 家务劳动者。

13 Students at school

- 在校学生。

14 Persons waiting for entering higher levels of schools

- 待升学者。

- A set of small navigation icons typically found in Beamer presentations, including symbols for back, forward, search, and other slide controls.

Outline

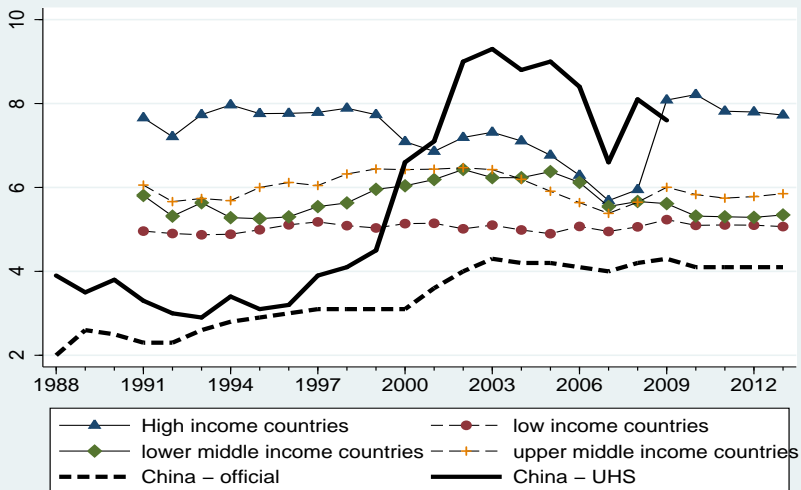
- 1 Motivation
- 2 Data and Measurement
- 3 Long run trends
 - National trends
 - Results by Demographics
 - Results by Region
 - Results by cohort
 - Robustness checks
- 4 Labor market dynamics

sample restriction

- Sample: 16-60 males, 16-55 females, only including people with local Hukou.
- Use annual sample of UHS
- Divide the sample into 8 demographic groups by sex (male — female), age (≤ 40 | > 40) and education (college | noncollege).

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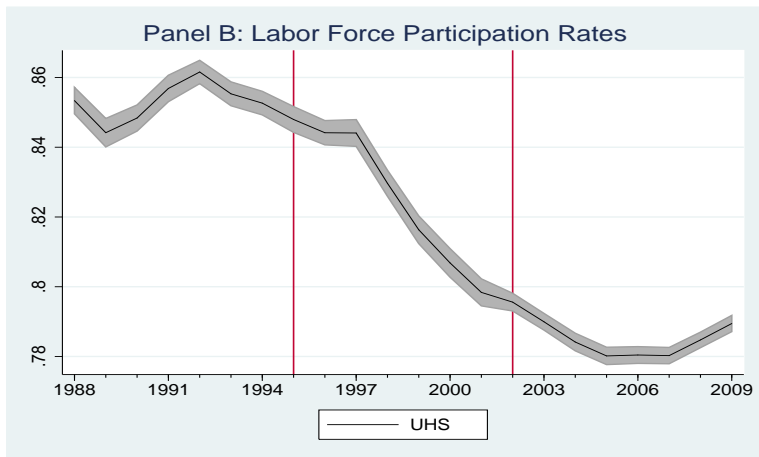
Unemployment rates (by income level), with China



Panel A: Unemployment Rates



National Labor Force Participation Rates: 1988-2009.



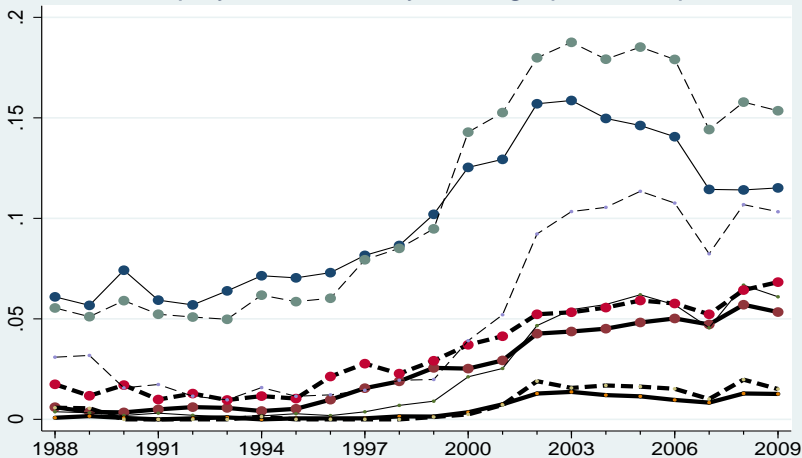
Discussions

- 1988-1995: low unemployment rate and high LFP, not much change.
Guaranteed employment by the state. no major labor market reform yet.
- 1995-2002: sharp rise in unemployment rate and decline in LFP, especially for some groups.
mass layoff from SOE, rural-to-urban migration, enactment of labor law
- 2002-2009: high levels of u-rate and low levels of LFP, more sensitive to business cycles (2007 dip).
WTO entry, college enrollment expansion

Unemployment rates by Demographic Groups(%)

| | subperiod 1 (1988-1995) | | subperiod 2 (1995-2002) | | subperiod 3 (2002-2009) | |
|----------------------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
| | Average | Annual Chg. | Average | Annual Chg. | Average | Annual Chg. |
| Unemployment Rate | | | | | | |
| Nation | 3.4 | -0.1 | 5.2 | 0.8 | 8.4 | -0.2 |
| -by subgroup | | | | | | |
| Male/Young/Non-col | 6.4 | 0.1 | 10.3 | 1.2 | 13.7 | -0.6 |
| Male/Young/Col | 0.5 | -0.0 | 2.2 | 0.5 | 4.8 | 0.2 |
| Male/Old/Non-col | 0.3 | -0.0 | 1.5 | 0.6 | 5.6 | 0.2 |
| Male/Old/Col | 0.1 | -0.0 | 0.4 | 0.2 | 1.2 | -0.0 |
| Female/Young/Non-col | 5.5 | 0.0 | 10.7 | 1.7 | 17.1 | -0.4 |
| Female/Young/Col | 1.3 | -0.1 | 3.0 | 0.6 | 5.8 | 0.2 |
| Female/Old/Non-col | 1.8 | -0.3 | 3.3 | 1.2 | 10.2 | 0.2 |
| Female/Old/Col | 0.2 | -0.1 | 0.4 | 0.3 | 1.6 | -0.1 |

Unemployment Rates by Demographic Group



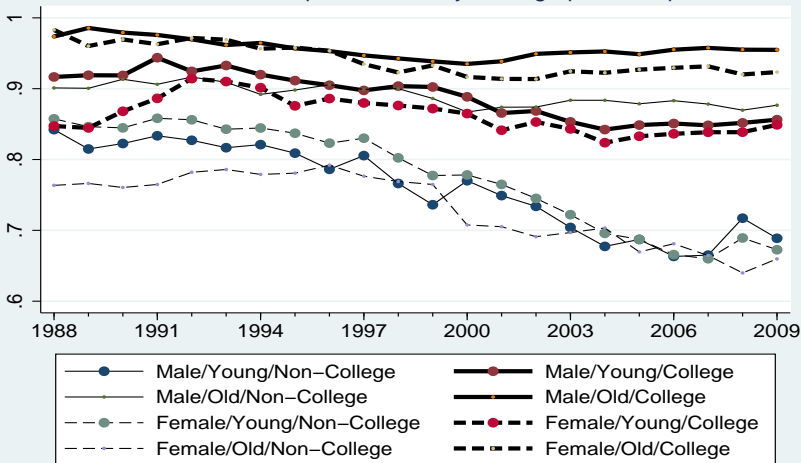
Labor Force Participation rates by Demographic Groups(%)

| | subperiod 1 (1988-1995) | | subperiod 2 (1995-2002) | | subperiod 3 (2002-2009) | |
|--------------------------------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
| | Average | Annual Chg. | Average | Annual Chg. | Average | Annual Chg. |
| Labor Force Participation Rate | | | | | | |
| Nation | 85.3 | -0.1 | 82.3 | -0.7 | 78.6 | -0.1 |
| -by subgroup | | | | | | |
| Male/Young/Non-col | 82.3 | -0.5 | 77.0 | -1.1 | 69.2 | -0.6 |
| Male/Young/Col | 92.3 | -0.1 | 89.3 | -0.6 | 85.2 | -0.2 |
| Male/Old/Non-col | 90.5 | -0.0 | 88.8 | -0.3 | 87.8 | 0.0 |
| Male/Old/Col | 97.1 | -0.2 | 94.5 | -0.1 | 95.3 | 0.1 |
| Female/Young/Non-col | 84.8 | -0.3 | 79.5 | -1.3 | 69.2 | -1.0 |
| Female/Young/Col | 88.1 | 0.4 | 86.9 | -0.3 | 83.9 | -0.1 |
| Female/Old/Non-col | 77.3 | 0.2 | 74.8 | -1.3 | 67.6 | -0.4 |
| Female/Old/Col | 96.6 | -0.4 | 93.1 | -0.6 | 92.4 | 0.1 |

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Labor Force Participation Rates by Demographic Group



Unemployment rates by Region(%)

| | subperiod 1 (1988-1995) | | subperiod 2 (1995-2002) | | subperiod 3 (2002-2009) | |
|-------------------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
| | Average | Annual Chg. | Average | Annual Chg. | Average | Annual Chg. |
| Unemployment Rate | | | | | | |
| Nation | 3.4 | -0.1 | 5.2 | 0.8 | 8.4 | -0.2 |
| -by region | | | | | | |
| North | 2.8 | -0.2 | 4.2 | 0.8 | 6.6 | -0.2 |
| Northeast | 3.0 | 0.2 | 6.8 | 1.1 | 10.3 | -0.3 |
| East | 2.4 | -0.1 | 3.7 | 0.7 | 7.2 | -0.1 |
| South Central | 3.4 | -0.1 | 5.6 | 1.0 | 9.3 | -0.2 |
| Southwest | 4.4 | -0.1 | 5.9 | 0.9 | 10.7 | -0.1 |
| Northwest | 5.6 | -0.4 | 6.4 | 0.7 | 8.4 | -0.2 |

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Unemployment Rates by Region

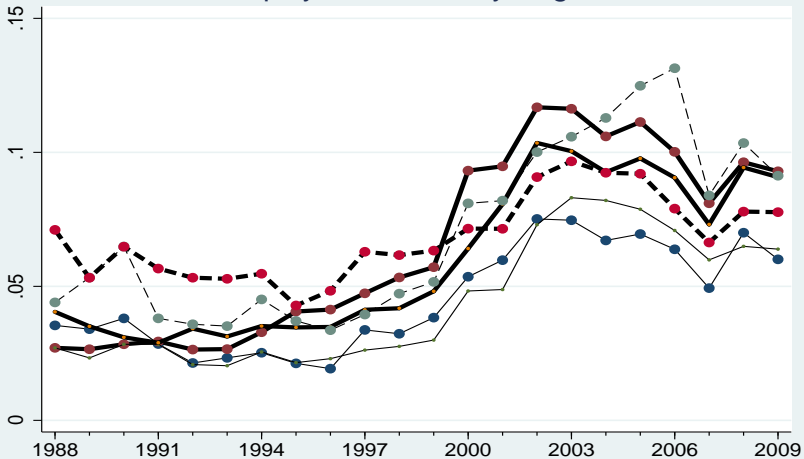


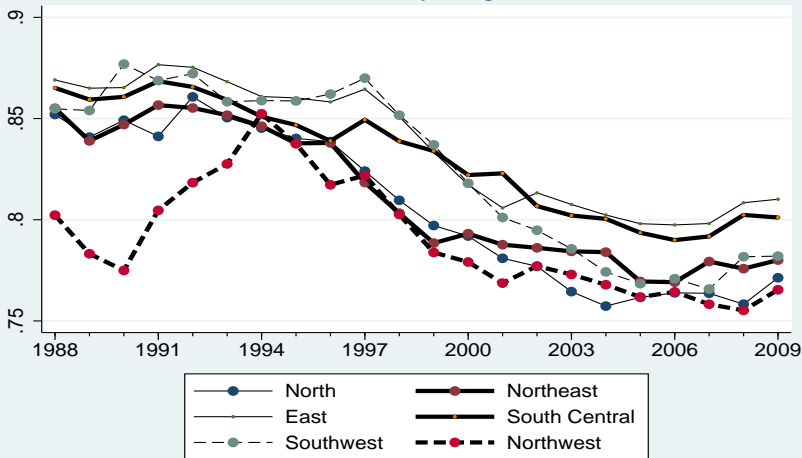
Table: Unemployment and SOE mass layoff

| | Unemployment Rate | | SOE Layoff | |
|---------------|------------------------|----------------------------|---|--|
| | Average (1995-2002) | Annual Chg. (1995-2002) | Total number of laidoff workers (mn) | % of total State employment in 1995 |
| North | 4.2 | 0.8 | 3.965 | 22 |
| Northeast | 6.8 | 1.1 | 7.327 | 42 |
| East | 3.7 | 0.7 | 5.312 | 19 |
| South Central | 5.6 | 1.0 | 7.102 | 27 |
| Southwest | 5.9 | 0.9 | 2.856 | 23 |
| Northwest | 6.4 | 0.7 | 2.066 | 21 |

Labor Force Participation rates by Region(%)

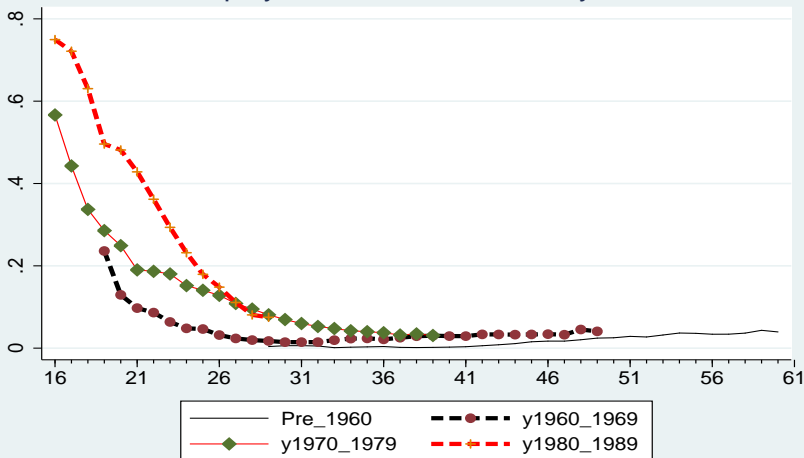
| | subperiod 1 (1988-1995) | | subperiod 2 (1995-2002) | | subperiod 3 (2002-2009) | |
|--------------------------------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
| | Average | Annual Chg. | Average | Annual Chg. | Average | Annual Chg. |
| Labor Force Participation Rate | | | | | | |
| Nation | 85.3 | -0.1 | 82.3 | -0.7 | 78.6 | -0.1 |
| -by region | | | | | | |
| North | 84.7 | -0.2 | 80.7 | -0.9 | 76.5 | -0.1 |
| Northeast | 84.9 | -0.2 | 80.7 | -0.7 | 77.9 | -0.1 |
| East | 86.8 | -0.1 | 83.8 | -0.7 | 80.4 | -0.0 |
| South Central | 86.0 | -0.3 | 83.2 | -0.6 | 79.9 | -0.1 |
| Southwest | 86.3 | 0.1 | 83.7 | -0.9 | 77.8 | -0.2 |
| Northwest | 81.3 | 0.5 | 79.9 | -0.9 | 76.5 | -0.2 |

LFP Rates by Region



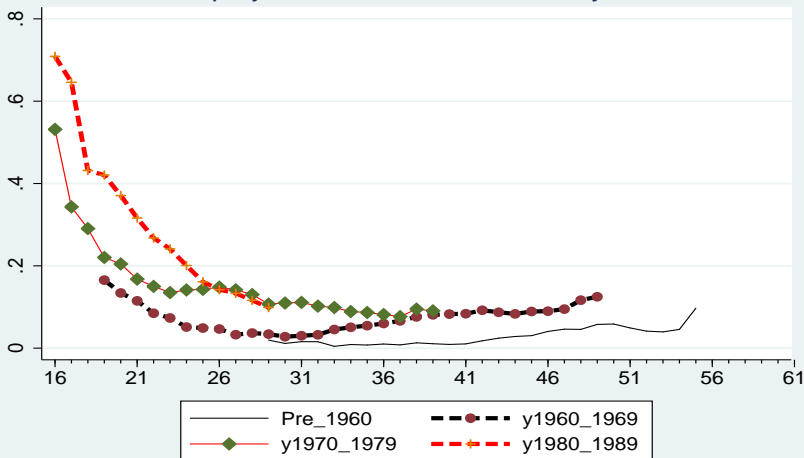
Unemployment rates by cohort, males

A: Unemployment rates for males, by cohort

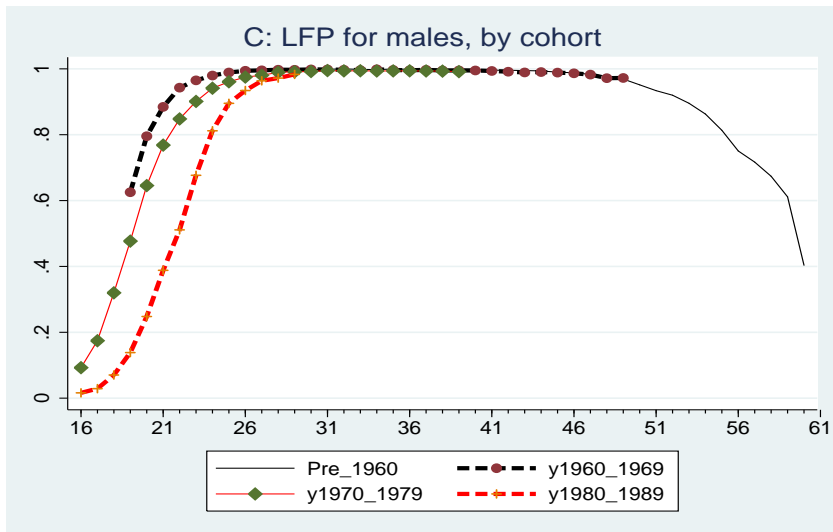


Unemployment rates by cohort, females

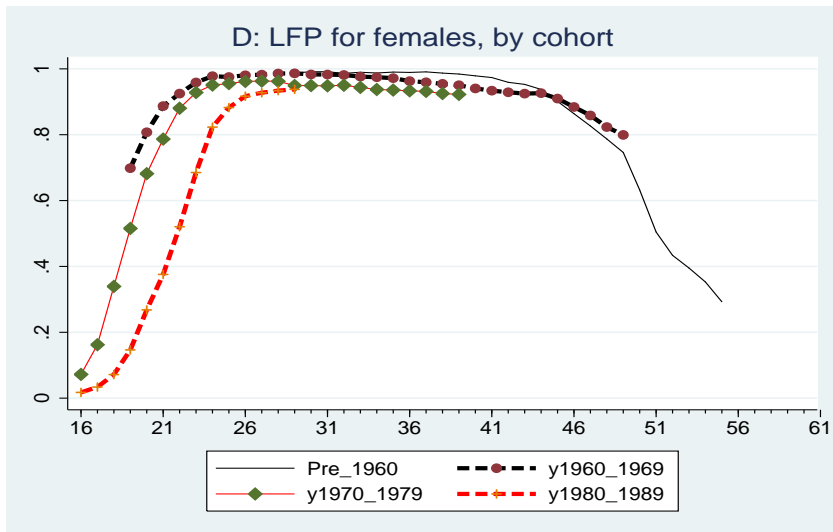
B: Unemployment rates for females, by cohort



Labor Force Participation by Cohort, male



Labor Force Participation by Cohort, female



Robustness Check

- Sample representativeness
- Alternative samples
- Measurement errors (misclassification)

Alternative Estimates by subperiod

| | subperiod 1 (1988-1995) | | subperiod 2 (1995-2002) | | subperiod 3 (2002-2009) | |
|----------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
| | Average | Annual Chg. | Average | Annual Chg. | Average | Annual Chg. |
| | Unemployment Rate | | | | | |
| Baseline | 3.4 | -0.1 | 5.2 | 0.8 | 8.4 | -0.2 |
| A1 | 3.6 | -0.0 | 6.0 | 0.9 | 9.3 | -0.3 |
| A2 | 3.4 | -0.1 | 5.2 | 0.8 | 8.4 | -0.2 |
| A3 | 3.8 | -0.1 | 5.6 | 0.8 | 8.8 | -0.1 |
| A4 | 3.4 | -0.1 | 5.2 | 0.8 | 8.4 | -0.2 |
| A5 | 3.2 | -0.1 | 5.1 | 0.9 | 8.4 | -0.2 |
| A6 | 3.1 | -0.0 | 5.0 | 0.8 | 8.0 | -0.1 |

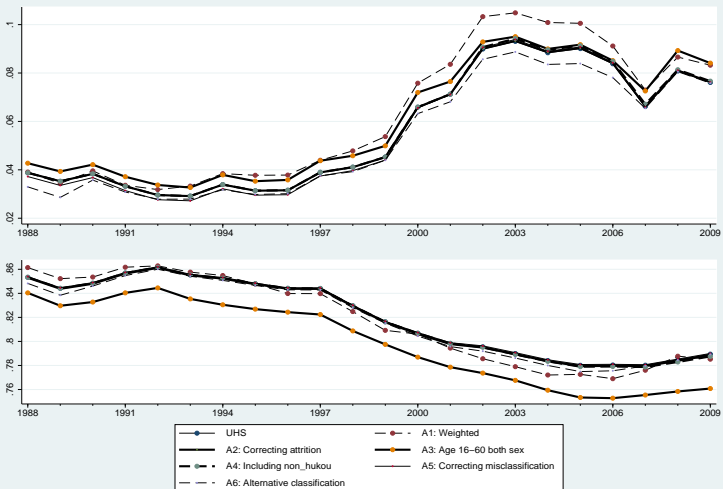
Note: A1: Weighted results. A2: Results with attrition corrected. A3: Results using sample including all people aged 16-60. A4: Results using sample including all non-local-urban-hukou people. A5: Corrected for misclassification. A6: "Other nonemployed" classified as NILF.

Alternative Estimates by subperiod

| | subperiod 1 (1988-1995) | | subperiod 2 (1995-2002) | | subperiod 3 (2002-2009) | |
|--------------------------------|----------------------------|-------------|----------------------------|-------------|----------------------------|-------------|
| | Average | Annual Chg. | Average | Annual Chg. | Average | Annual Chg. |
| Labor Force Participation Rate | | | | | | |
| Baseline | 85.3 | -0.1 | 82.3 | -0.7 | 78.6 | -0.1 |
| A1 | 85.7 | -0.2 | 81.8 | -0.9 | 77.8 | -0.0 |
| A2 | 85.2 | -0.1 | 82.2 | -0.8 | 78.5 | -0.1 |
| A3 | 83.5 | -0.2 | 80.2 | -0.8 | 76.0 | -0.2 |
| A4 | 85.3 | -0.1 | 82.3 | -0.8 | 78.4 | -0.1 |
| A5 | 85.3 | -0.1 | 82.3 | -0.7 | 78.6 | -0.1 |
| A6 | 85.0 | -0.0 | 82.1 | -0.8 | 78.3 | -0.0 |

Note: A1: Weighted results. A2: Results with attrition corrected. A3: Results using sample including all people aged 16-60. A4: Results using sample including all non-local-urban-hukou people. A5: Corrected for misclassification. A6: "Other nonemployed" classified as NILF.

Alternative estimates



Estimated misclassification probabilities based on Feng & Hu (2013)

| Group | P_{21} | P_{31} | P_{12} | P_{32} | P_{13} | P_{23} |
|----------------------|----------|----------|----------|----------|----------|----------|
| Male/Young/Non-col | 0.68 | 0.09 | 1.30 | 0.38 | 0.12 | 0.00 |
| Male/Young/Col | 0.05 | 0.02 | 7.80 | 3.02 | 0.00 | 0.00 |
| Male/Old/Non-col | 0.18 | 0.10 | 3.10 | 1.72 | 1.22 | 0.79 |
| Male/Old/Col | 0.11 | 0.04 | 7.20 | 0.00 | 1.02 | 1.51 |
| Female/Young/Non-col | 0.82 | 0.16 | 2.11 | 2.10 | 0.23 | 0.00 |
| Female/Young/Col | 0.37 | 0.04 | 5.63 | 6.74 | 0.68 | 6.28 |
| Female/Old/Non-col | 0.22 | 0.24 | 2.24 | 2.37 | 0.70 | 0.00 |
| Female/Old/Col | 0.06 | 0.05 | 4.29 | 0.00 | 2.49 | 0.04 |

Outline

- 1 Motivation
- 2 Data and Measurement
- 3 Long run trends
- 4 Labor market dynamics
 - Month-to-month labor force status transition probabilities
 - Unemployment spells
- 5 Conclusions

Labor market dynamics

- Use monthly data from Jan 2004 to Dec 2006
- Examines month-to-month transition probabilities & unemployment spells
- Matching procedure: first drop (all) duplicates based on ID variables: region (city) code; household code within region; relationship to household head sex age. (would miss same sex twins)
- Then do the matching and calculate matching rate as % of the first month sample

Matching month i with month $i+k$ based on all 2004-2006
monthly samples

| k | duplicate ID (%) | Matching rate (%) | Matched sample size |
|----|------------------|-------------------|---------------------|
| 1 | .180 | 97 | 3633310 |
| 2 | .180 | 94 | 3412878 |
| 3 | .180 | 91 | 3195511 |
| 6 | .180 | 80 | 2555468 |
| 12 | .182 | 52 | 1325380 |

Month-to-Month Labor Force Transition Probabilities(%), males

| K | E-U | E-O | U-E | U-O | O-E | O-U | E-U | E-O | U-E | U-O | O-E | O-U |
|--------------------|------|------|-------|------|------|----------------|------|------|-------|------|-------|------|
| Male/Young/Non-col | | | | | | Male/Young/Col | | | | | | |
| 1 | 0.20 | 0.00 | 1.90 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 3.20 | 0.20 | 0.70 | 0.30 |
| 2 | 0.40 | 0.00 | 3.60 | 0.20 | 0.30 | 0.20 | 0.20 | 0.00 | 5.80 | 0.30 | 1.50 | 0.60 |
| 3 | 0.60 | 0.00 | 5.10 | 0.30 | 0.40 | 0.30 | 0.30 | 0.00 | 8.10 | 0.50 | 2.30 | 0.90 |
| 6 | 0.90 | 0.10 | 8.90 | 0.60 | 0.90 | 0.70 | 0.40 | 0.10 | 14.30 | 0.90 | 4.80 | 1.80 |
| 12 | 1.30 | 0.20 | 17.40 | 1.40 | 2.10 | 1.70 | 0.60 | 0.20 | 27.20 | 2.10 | 10.60 | 3.90 |
| Male/Old/Non-col | | | | | | Male/Old/Col | | | | | | |
| 1 | 0.20 | 0.20 | 2.60 | 0.30 | 0.50 | 0.00 | 0.00 | 0.10 | 3.60 | 0.30 | 0.70 | 0.00 |
| 2 | 0.30 | 0.40 | 4.60 | 0.60 | 0.90 | 0.10 | 0.10 | 0.20 | 6.20 | 0.40 | 1.30 | 0.00 |
| 3 | 0.40 | 0.50 | 6.40 | 0.90 | 1.30 | 0.10 | 0.10 | 0.30 | 8.50 | 0.60 | 1.80 | 0.10 |
| 6 | 0.60 | 1.00 | 10.90 | 1.70 | 2.40 | 0.20 | 0.20 | 0.50 | 15.30 | 1.10 | 3.40 | 0.10 |
| 12 | 1.00 | 2.00 | 18.30 | 3.50 | 5.20 | 0.50 | 0.30 | 1.00 | 28.70 | 2.60 | 7.40 | 0.20 |

Month-to-Month Labor Force Transition Probabilities(%), females

| | Female/Young/Non-col | | | | | | Female/Young/Col | | | | | |
|----|----------------------|------|-------|------|------|------|------------------|------|-------|------|-------|------|
| 1 | 0.30 | 0.10 | 1.90 | 0.10 | 0.30 | 0.10 | 0.10 | 0.00 | 2.90 | 0.10 | 0.80 | 0.30 |
| 2 | 0.60 | 0.10 | 3.50 | 0.20 | 0.50 | 0.20 | 0.20 | 0.10 | 5.40 | 0.30 | 1.50 | 0.50 |
| 3 | 0.80 | 0.20 | 5.00 | 0.30 | 0.80 | 0.30 | 0.30 | 0.10 | 7.70 | 0.40 | 2.30 | 0.80 |
| 6 | 1.40 | 0.30 | 8.90 | 0.60 | 1.60 | 0.50 | 0.60 | 0.10 | 13.30 | 0.80 | 4.90 | 1.50 |
| 12 | 2.30 | 0.60 | 17.30 | 1.60 | 3.60 | 1.20 | 0.90 | 0.40 | 24.70 | 1.70 | 11.00 | 3.40 |
| | Female/Old/Non-col | | | | | | Female/Old/Col | | | | | |
| 1 | 0.20 | 0.50 | 1.80 | 0.60 | 0.50 | 0.00 | 0.00 | 0.20 | 2.20 | 0.60 | 0.80 | 0.00 |
| 2 | 0.40 | 0.90 | 3.30 | 1.20 | 0.90 | 0.10 | 0.10 | 0.30 | 4.20 | 1.10 | 1.50 | 0.10 |
| 3 | 0.50 | 1.30 | 4.50 | 1.70 | 1.20 | 0.10 | 0.10 | 0.40 | 6.10 | 1.60 | 2.00 | 0.10 |
| 6 | 0.90 | 2.50 | 7.70 | 3.50 | 2.20 | 0.20 | 0.20 | 0.70 | 11.60 | 3.10 | 3.40 | 0.20 |
| 12 | 1.50 | 5.40 | 13.90 | 8.10 | 4.80 | 0.40 | 0.30 | 1.50 | 22.00 | 2.80 | 6.90 | 0.50 |

Treating state and nonstate sector employments as two different statuses

| | | State | Nonstate | Unemployment | NILF |
|------|--------------|-------|----------|--------------|------|
| K=1 | State | 99.7 | 0.1 | 0.1 | 0.1 |
| | Nonstate | 0.1 | 99.4 | 0.3 | 0.2 |
| | Unemployment | 0.4 | 1.8 | 97.6 | 0.3 |
| | NILF | 0.1 | 0.3 | 0.1 | 99.5 |
| | | State | Nonstate | Unemployment | NILF |
| K=6 | State | 99.4 | 0.2 | 0.1 | 0.2 |
| | Nonstate | 0.7 | 97 | 1.3 | 1 |
| | Unemployment | 1.7 | 7.8 | 89 | 1.4 |
| | NILF | 0.6 | 1.6 | 0.6 | 97.2 |
| | | State | Nonstate | Unemployment | NILF |
| K=12 | State | 95.9 | 2.1 | 0.5 | 1.4 |
| | Nonstate | 1.8 | 94.1 | 2.1 | 2 |
| | Unemployment | 3.5 | 14.3 | 78.9 | 3.4 |
| | NILF | 1.4 | 3.5 | 1.3 | 93.8 |

Adjusting for state sector employment

| k | China | China-adjusted | USA |
|---|-------|----------------|------|
| Panel A: Probabilities of unemployment in month $i+k$ conditional on being employed in month i | | | |
| 1 | 0.2 | 0.3 | 1.2 |
| 2 | 0.3 | 0.6 | 1.5 |
| 3 | 0.4 | 0.8 | 1.7 |
| 6 | 0.7 | 1.3 | NA |
| 12 | 1.1 | 2.1 | 1.9 |
| Panel B: Probabilities of employment in month $i+k$ conditional on being unemployed in month i | | | |
| 1 | 2.1 | 4.5 | 27.4 |
| 2 | 3.9 | 8.1 | 36.6 |
| 3 | 5.5 | 11.6 | 42.3 |
| 6 | 9.6 | 19.5 | NA |
| 12 | 17.8 | 35.1 | 54.3 |

Distribution of all matched individuals based on number of months matched (%)

| | Male Young Non-col | Male Young Col | Male Old Non-col | Male Old Col | Female Young Non-col | Female Young Col | Female Old Non-col | Female Old Col | Total |
|-------------|--------------------------|----------------------|------------------------|--------------------|----------------------------|------------------------|--------------------------|----------------------|--------|
| 1-11 | 15.5 | 11.5 | 10.8 | 10.6 | 14.8 | 13.2 | 12.7 | 11.9 | 12.9 |
| 12 | 41.9 | 44.6 | 46.2 | 46.2 | 42.7 | 43.8 | 45.6 | 45.2 | 44.4 |
| 13-23 | 6.5 | 4.6 | 4.1 | 4.1 | 5.9 | 4.9 | 4.8 | 4.7 | 5.0 |
| 24 | 28.0 | 30.5 | 30.0 | 29.7 | 28.7 | 29.2 | 28.4 | 28.4 | 29.1 |
| 25-35 | 1.1 | 0.9 | 0.8 | 0.9 | 1.1 | 1.0 | 1.0 | 0.9 | 1.0 |
| 36 | 6.9 | 7.9 | 8.1 | 8.5 | 6.8 | 7.9 | 7.6 | 8.8 | 7.6 |
| Sample size | 34164 | 20198 | 42808 | 16711 | 38956 | 19504 | 43018 | 8220 | 223579 |

Distribution of unemployment spells up to month i

| | Male Young Non-col | Male Young Col | Male Old Non-col | Male Old Col | Female Young Non-col | Female Young Col | Female Old Non-col | Female Old Col | Total |
|---------------------------------|--------------------------|----------------------|------------------------|--------------------|----------------------------|------------------------|--------------------------|----------------------|-------|
| Panel A: Uncensored spells only | | | | | | | | | |
| Spell ≥ 3 | 96.7 | 92.2 | 95.9 | 94.3 | 96.7 | 93.6 | 96.6 | 95.9 | 96.1 |
| Number of spells | 16795 | 4386 | 11936 | 970 | 25381 | 5258 | 16012 | 703 | 81441 |
| Spell ≥ 6 | 92.6 | 83.1 | 90.8 | 86.4 | 92.6 | 85.6 | 92.6 | 91.3 | 91.3 |
| Number of spells | 15136 | 3914 | 10966 | 887 | 23180 | 4697 | 14621 | 633 | 74034 |
| Spell ≥ 12 | 85.8 | 70.8 | 82.4 | 74.8 | 85.9 | 73.6 | 85.1 | 87.1 | 83.6 |
| Number of spells | 12243 | 3049 | 9254 | 723 | 19080 | 3664 | 12037 | 505 | 60555 |

Distribution of unemployment spells up to month i

| | Male Young Non-col | Male Young Col | Male Old Non-col | Male Old Col | Female Young Non-col | Female Young Col | Female Old Non-col | Female Old Col | Total |
|---------------------|--------------------------|----------------------|------------------------|--------------------|----------------------------|------------------------|--------------------------|----------------------|-------|
| Panel B: All spells | | | | | | | | | |
| Spell ≥ 3 | | | | | | | | | |
| LB(%) | 90.4 | 85.9 | 90.7 | 88.5 | 91.2 | 87.0 | 90.9 | 90.2 | 90.3 |
| UB(%) | 96.8 | 92.7 | 96.0 | 94.6 | 96.9 | 93.9 | 96.7 | 96.1 | 96.3 |
| Spell ≥ 6 | | | | | | | | | |
| LB(%) | 78.0 | 69.1 | 78.9 | 74.1 | 79.7 | 71.1 | 79.6 | 77.4 | 78.0 |
| UB(%) | 93.3 | 85.0 | 91.4 | 87.8 | 93.2 | 87.1 | 93.2 | 91.3 | 92.0 |
| Spell ≥ 12 | | | | | | | | | |
| LB(%) | 58.4 | 45.8 | 60.5 | 52.3 | 60.9 | 47.7 | 60.2 | 58.9 | 58.4 |
| UB(%) | 88.2 | 76.3 | 84.6 | 79.5 | 88.0 | 78.6 | 87.8 | 85.5 | 86.1 |
| Number of spells | 17975 | 4710 | 12616 | 1034 | 26923 | 5659 | 17018 | 747.0 | 86682 |

International comparison

| | Unemployment Rate (%) | | | Long-term Unemployment (% of all unemployed) |
|-------------------------------|----------------------------|----------------------------|----------------------------|--|
| | subperiod 1 (1988-1995) | subperiod 2 (1995-2002) | subperiod 3 (2002-2009) | |
| China | 3.4 | 5.2 | 8.4 | 91 |
| Transitional Countries | | | | |
| Estonia | 4.3 | 11.0 | 8.5 | 62 |
| Slovak Republic | 13.4 | 15.2 | 14.5 | 84 |
| Slovenia | n.a. | 6.7 | 5.7 | 68 |
| Russian Federation | 7.2 | 10.6 | 7.3 | 61 |
| Poland | 12.3 | 14.5 | 14.4 | 69 |
| Czech Republic | 3.5 | 6.6 | 6.9 | 75 |
| Developed Countries | | | | |
| Australia | 8.7 | 7.4 | 5.2 | 31 |
| Austria | 3.6 | 3.9 | 4.5 | 44 |
| Belgium | 10.9 | 10.0 | 7.9 | 65 |
| Canada | 9.5 | 8.2 | 7.0 | 16 |
| France | 8.8 | 9.0 | 7.9 | 60 |
| Germany | 6.7 | 8.6 | 9.2 | 71 |
| Greece | 8.5 | 10.6 | 9.0 | 72 |
| Italy | 11.3 | 11.0 | 7.7 | 64 |
| Japan | 2.5 | 4.2 | 4.6 | 48 |
| United Kingdom | 8.7 | 6.4 | 5.4 | 40 |
| United States | 6.2 | 4.9 | 5.8 | 18 |

Outline

- 1 Motivation
- 2 Data and Measurement
- 3 Long run trends
- 4 Labor market dynamics
- 5 Conclusions**

Conclusions

- Rising unemployment and declining LFP. Trends in the three sub-periods consistent with the development of China's labor market.
- Labor market conditions deteriorated most for uneducated people, as well as for young people and females. Three groups deserves most attention (young non-college males and females, old non-college females).
- Very low dynamics partly due to state-sector employment. Very high level (nearly 90%) of long term unemployment (over 6 months).