

Searching for adverse labour market effects of the GFC in China

Xin Meng,

Tao Kong,

and

Dandan Zhang

Research School of Economics, CBE

Australian National University

Motivation:

- The GFC hit China at the end of 2008
- China's exports dropped significantly in 2009.
- Most export industries are labour intensive and migrant workers have borne most of the initial brunt of the GFC.
- As a response to the GFC, Chinese government injected 4 trillion yuan into the economy and helped to push the economy back to its growth path.
- Now that the immediate crisis is over, it is time to evaluate the labour market impact of the GFC

Questions:

- To what extent were there migrant employment and wages responses in cities during the GFC?
- To what extent did return migration cushion the adverse effect of the GFC on migrant labour market outcomes?
- How did return migration affect rural non-farm jobs?

Our hypothesis—impact of demand shock on a dual economy

- In a modern economy, an adverse demand shock will generate unemployment or depress wages in the market in which the shock occurs.
- In a developing economy, an adverse shock in the modern sector may not be so easily detected there because of the dual market structure
 - The “traditional sector” provides a “fallback” position for migrant workers who are affected in the modern sector.
 - The 1998 Asian Financial Crisis example
- The situation in China is exacerbated by the “guest worker” migration scheme:
 - Migrants often go to cities alone (lower return cost)
 - No social welfare in cities (higher unemployment cost in cities)
- Expected outcomes should be mostly felt by the rural sector

Data

- Rural-Urban Migration in China and Indonesia Project (RUMiCI)
- Panel surveys:
 - China: Rural households (8000), Urban households (5000), and migrant households in cities (5000)
 - Started in Spring 2008, the second wave data was collected between March and August, 2009
 - Migrant and urban surveys covers 15 major receiving cities and rural survey covers 9 sending provinces.
- This study uses the migrant and rural surveys, which allow us to examine the effect in both sectors.
- A comparison between the two waves will enable us to identify changes in labour market outcome before and during the GFC.

Data (cont.)

- The rural survey covers all registered household members including those who have migrated.
- The attrition rates
 - Migrant HH survey (60%)
 - We re-sampled 60% of the households
 - The second wave consists of 40% panel households and 60% new households
 - Rural HH survey (5%)
- The sample population
 - Age 16 to 65 and in the labour market at the time of survey.
 - Sample size:
 - Migrant survey: 7153 and 7567 for the two years
 - Rural survey: 20451 and 20408 for the two years

The OIC effects: urban perspective (unemployment, employment patterns)

	Total sample			Panel sample		
	2008	2009	Difference	2008	2009	Difference
Employed (%)	98.73	96.62	-2.11	98.83	96.08	-2.75
Self-employed (%)	22.46	28.07	5.61	31.58	38.29	6.71
Wage and salary earners (%)	72.12	69.67	-2.45	61.51	59.28	-2.23
Family workers (%)	5.42	2.26	-3.16	6.92	2.43	-4.49
Total # of labour force (person)	7,153	7,567	414	2,829	2,714	-115

- Sample employment rate reduced by 2 percentage points
- Self-employment rate among employed increased by 6-7 percentage points

The GFC effects: urban perspective (Hours)

	<u>log(weekly work hours)</u>		
	Total	Wage/salary	Self-employed
Age	-0.011 [0.002]***	-0.015 [0.002]***	0.010 [0.005]*
Age squared/100	0.014 [0.003]***	0.021 [0.003]***	-0.013 [0.006]**
Years of schooling	-0.016 [0.001]***	-0.018 [0.002]***	-0.007 [0.004]**
Years of schooling* dummy for 2009	-0.005 [0.019]	-0.013 [0.020]	-0.004 [0.046]
Dummy for males	0.016 [0.005]***	0.027 [0.005]***	-0.023 [0.012]**
Dummy for married	0.013 [0.007]*	0.011 [0.007]	0.034 [0.021]
Year since first migration	0.003 [0.001]**	0.004 [0.001]***	0.002 [0.003]
Year since first migration squared/100	-0.010 [0.005]**	-0.014 [0.005]***	-0.004 [0.011]
Dummy for self-employed	0.243 [0.007]***		
Dummy for 2009	-0.014 [0.018]	-0.005 [0.020]	-0.023 [0.040]
Industry dummies	Yes	Yes	Yes
City dummies	Yes	Yes	Yes
Observations	13149	9777	3372
R-squared	0.23	0.11	0.05

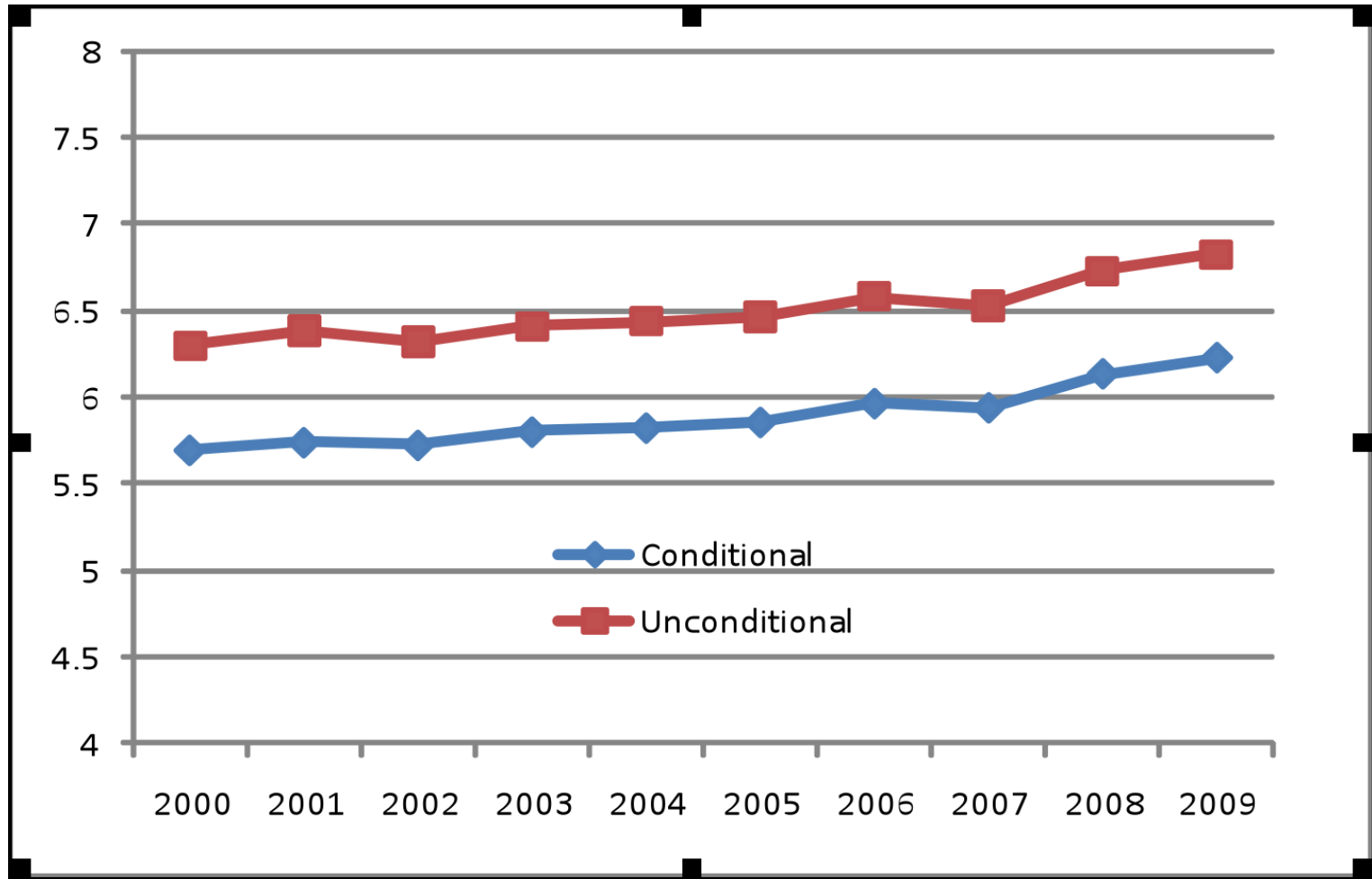
Employment

- Slight increase in unemployment
- Some changes from wage/salary jobs to self-employment
- No significant adjustment in hours worked.
- **Perhaps, GFC effects all in the wage adjustments?**

The GFC effects: urban perspective (Hourly Earnings)

	<u>log(hourly earnings)</u>		
	Total	Wage/salary	Self-employed
Age	0.039 [0.004]***	0.044 [0.003]***	0.007 [0.012]
Age squared/100	-0.062 [0.005]***	-0.069 [0.005]***	-0.021 [0.015]
Years of schooling	0.048 [0.003]***	0.053 [0.003]***	0.036 [0.008]***
Years of schooling* dummy for 2009	0.069 [0.038]*	0.009 [0.036]	0.073 [0.110]
Dummy for males	0.130 [0.010]***	0.126 [0.009]***	0.123 [0.028]***
Dummy for married	-0.006 [0.015]	-0.004 [0.013]	-0.059 [0.051]
Year since first migration	0.027 [0.003]***	0.025 [0.002]***	0.026 [0.007]***
Year since first migration squared/100	-0.079 [0.010]***	-0.064 [0.010]***	-0.090 [0.026]***
Dummy for self-employed	0.042 [0.013]***		
Dummy for 2009	0.056 [0.036]	0.153 [0.035]***	-0.051 [0.096]
Industry dummies	Yes	Yes	Yes
City dummies	Yes	Yes	Yes
Observations	13149	9777	3372
R-squared	0.22	0.33	0.13

Unskilled wages: Log(first monthly payment)



Earnings:

- No reduction in earnings for the total sample
- Significant increase in earnings for wage/salary earners
- For the most unskilled group (those who just migrated), their first month earnings have not reduced either.

Wages actually increased?! What is going on?

The GFC Effects: Rural Perspective

The GFC effects: rural perspective (employment and migration)

	<u>2008</u>		<u>2009</u>		<u>Difference</u>	
		as % of total labour force		as % of total labour force		percentage points (%)
	Freq. (1)	(2)	Freq. (3)	(4)	Freq. (1)-(3)	(2)-(4)
Total labour force	20,451		20,409		-42	
Total employed	19,978	97.69	20,189	98.92	211	1.23
Total # migrated for more than 3 month	5106	24.97	4667	22.82	-439	-2.15
Total # of first time migrants	725	3.55	518	2.53	-207	-1.01

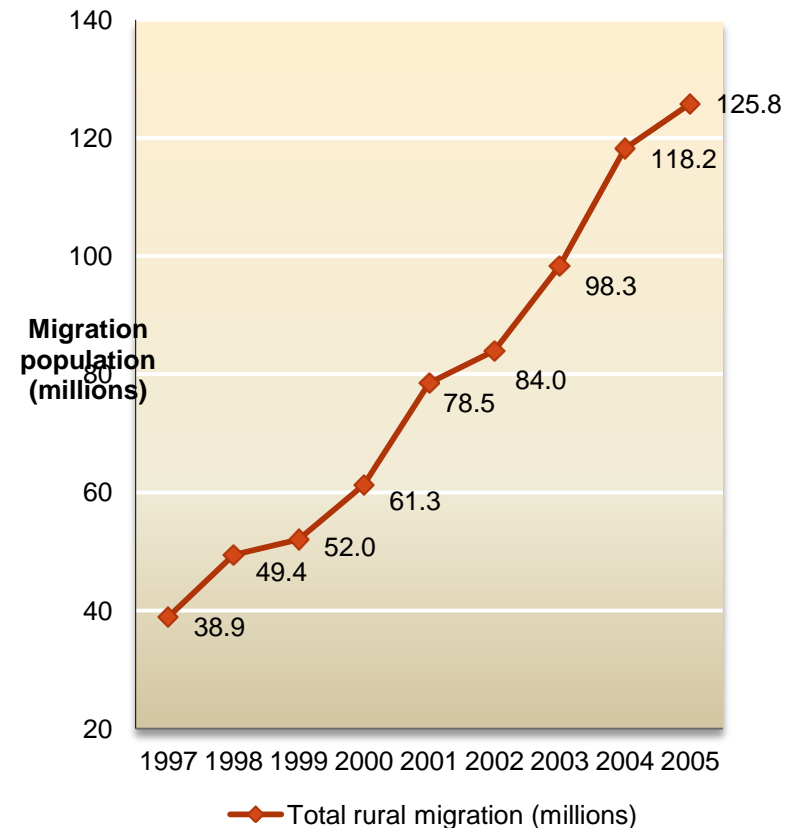
Total employment did not drop

Migrants as % of total labour force dropped by 2.15 percentage points.

First time migrants dropped by 1.01 percentage points

Impact on migration

- 2.15 percentage points of total rural labour force equals 11 million migrants
- This is the lower bound.
- In a normal year migration increases by more than 10%, or additional 1.5 percentage points of total rural labour force.
- Adding this, the real reduction on migration is **18.5 million** people, who would have migrated but because of the GFC did not



Panel data view:

	<u>No in</u> <u>2009/Yes</u> <u>in 2008</u>	<u>Yes in</u> <u>2009/No</u> <u>in 2008</u>	<u>Net</u> <u>Difference</u>
Migration	(1)	(2)	(3)=(1)-(2)
Freq.	1,371	1,189	182
As % of 2009 migrated labour	32.49	28.18	4.31

- Net return migration of 4.3 percent of the total migrants in 2009, or 6.5 million people at the national level
- Plus 7.5 million normal year increment
- Total of **14 million** failed to migrate due to the GFC

Migration intention:

Are you planning to migrate in the next year or so?

The number of people who said no increased by 11.3 million

	<u>2008</u>		<u>2009</u>		<u>Differences</u>	
	Freq.	as % of non- migrants	Freq.	as % of non- migrants	(1)-(4)	(3)-(6)
Within 1 month	1,727	10.32	1,087	7.02	-640	-3.30
Within 6 months	333	1.99	263	1.7	-70	-0.29
Within a year	282	1.69	152	0.98	-130	-0.71
Not sure	1,989	11.89	1,155	7.46	-834	-4.43
No	12,397	74.11	12,832	82.85	435	8.74
No as % of total Labour force		60.6		62.9		2.3

Summary on reduction in migration

- Between 2008 and 2009 there is a reduction around 14 to 18 million migrants
- A significant reduction in the number of people who plan to migrate (2.3 percentage point of the total rural labour force or 11.3 million people)

What did return migrants do when they came back to their home village?

	Freq.	%
Farming	805	79.94
Non-farming	202	20.06
Total	1,007	100

Days worked in farming job	Freq.	%
0-100	465	66.05
101-150	62	8.81
151-200	53	7.53
201-250	52	7.39
251-300	26	3.69
301-365	46	6.53
Total	704	100
Average days worked	85	

- Of the 1007 return migrants, 80% went back to agriculture jobs
- Of these, 66 per cent worked for 100 or less days
- On average they worked for 85 days, less than one third of a year

What was the 2009 average working days for farming jobs?

Farming working days

mean (days) **154**

Distribution:	Freq.	%
0-99 days	3620	35.64
100-149 days	1123	11.06
150-199 days	1331	13.1
200-249 days	1554	15.3
250-299 days	913	8.99
300-365 days	1616	15.91

Off-farm working days

Mean (days) **8.4**

- On average, farmers worked 154 days, or 50% of the total working days
- Only less than 16% worked the full year
- On average farmers only spend 8.4 days on off-farm jobs.
- Hence, significant **under-employment**

What about rural non-farming jobs?

		<u>2008</u>		<u>2009</u>		<u>Difference</u>	
		% of total labour force		% of total labour force			
Effect on rural off-farm employment:	Freq.		Freq.		(1)-(3)	(2)-(4)	
Agriculture work for 9 or more months	9835	48.09	11134	54.55	1299	6.46	
Non-Agriculture work for 3 or more months	5857	28.64	4782	23.43	-1075	-5.21	

Agriculture jobs increased by 6.5 percentage points

Non-farming jobs reduced by 5 percentage points, or 26 million jobs

Lower bound?

This could be a result of large scale return migration, which generated income losses for migrants and their families, and in turn, generated further reduction in rural off-farm jobs. **Multiplier effect.**

Increasing in hours or reduction in wages?

No

	<u>log(weekly hours worked)</u>			<u>log(hourly earnings)</u>		
		Wage/salar			Wage/salar	
	Total	y	Self-emp	Total	y	Self-emp
Age	-0.004 [0.003]	-0.006 [0.004]	0.007 [0.011]	0.037 [0.005]***	0.03 [0.005]***	0.073 [0.015]***
Age squared/100	-0.002 [0.004]	0.001 [0.004]	-0.015 [0.013]	-0.052 [0.006]***	-0.044 [0.006]***	-0.095 [0.017]***
Years of schooling	0.004 [0.002]*	0.002 [0.003]	0.012 [0.007]*	0.024 [0.004]***	0.028 [0.004]***	0.002 [0.010]
Years of schooling*dummy for 2009	-0.007 [0.004]*	-0.007 [0.004]*	-0.001 [0.011]	0.013 [0.005]**	0.012 [0.005]**	0.018 [0.014]
Dummy for males	0.01 [0.011]	0.006 [0.011]	0.012 [0.030]	0.274 [0.015]***	0.259 [0.016]***	0.319 [0.040]***
Dummy for married	0.052 [0.020]***	0.047 [0.019]**	0.081 [0.077]	0.007 [0.028]	0.037 [0.028]	-0.134 [0.103]
Dummy for self-employed	-0.058 [0.013]***			0.239 [0.019]***		
Dummy for 2009	0.043 [0.031]	0.026 [0.032]	0.064 [0.088]	-0.013 [0.044]	-0.006 [0.046]	-0.05 [0.118]
Observations	9508	7444	2064	9508	7444	2064
R-squared	0.06	0.06	0.06	0.13	0.13	0.12

Impact of reduction in migration and off-farm jobs on household income (1):

	<u>No. of HH</u>	<u>Per capita income (yuan)</u>	<u>Difference to HH with only farm workers</u>	
			Value (yuan)	% difference
Total households	7912	9428	1001	11.88
Off-farm and migrant workers (1)	657	10688	2261	26.83
Off-farm but no migrants (2)	2896	10237	1810	21.48
Migrants but no off-farm (3)	2004	9024	597	7.08
Neither off-farm nor migrants (4)	2355	8427		

Impact of reduction in migration and off-farm jobs on household income (2):

<u>2008 household type</u>	<u>2009 household type</u>			
	Off-farm and migrants (1)	Off-farm but no migrants (2)	Migrants but no off-farm (3)	Neither off-farm nor migrants (4)
Off-farm and migrant workers (1)	237	106	249	69
Off-farm but no migrants (2)	104	1,803	265	748
Migrants but no off-farm (3)	188	136	1,353	367
Neither off-farm nor migrants (4)	30	430	174	1,759
Total # of households	559	2475	2041	2943

Summary of the GFC impact on rural sector:

- Reduction in migration (14 to 18 million)
- Reduction in off-farm jobs (26 million)
- Significant under-employment in the agriculture sector (50%)
- No effect on hours or earnings in rural off-farm jobs
- Significant impact on rural income

Pulling the pieces together—A search theory

view:

- The GFC hit at the end of 2008. By 2009 Chinese New Year, the GFC is in full swing
- Migrants' expectation of obtaining a job after they return from the new year holiday was extremely low
- Many had taken this into account when they made migration decisions in early 2009
- There is a significant reduction (14 to 18 million) on the supply side in anticipation of deeper demand shocks
- The stimulus package increased demand for labour in the cities
- The inefficient information flow plus significant migration costs deterred the simultaneous increase in labour supply in cities.
- Hence, increase in earnings in cities...
- Whereas for rural off-farm activities, the adjustment could be instant, hence, no increase in off-farm earnings.
- But the increase in return migration reduced rural income, which, in turn, reduced demand for rural off-farm activities. Hence, a significant reduction in rural off-farm jobs (min. of 26 million jobs)
- All the effect of the GFC on employment was borne by the rural agricultural sector, where a significant under-employment is detected.

What about the labour “shortage” in 2010?

- Migration cost for return migrants have increased as a result of the GFC.
- Many things could have had a significant impact on migration cost:
 - Physically: Return migrants have settled at home
 - Mentally: Once bitten twice shy
- First timers (those who are not affected by the GFC) only account for a very small fraction of migration (10%). Even for them migration decision could have been adversely affected by their older cohorts’ GFC experience, and hence, they decided not to migrate far...
- Because of the lack of the social welfare provision for migrant in cities, migrants adjust instantly to adverse demand shocks in cities by returning to rural areas, but a positive shock in cities may not receive the same degree of adjustment due to risk aversion.
- The huge under-employment in the agriculture sector indicates that there could not be any real shortage of labour. The main problem should be related to market friction generated by institutional barriers

Main lessons:

- The dual economic system seems to have cushioned the GFC impact in cities by moving open unemployment from the cities to the countryside and disguising it as underemployment in the agriculture sector
- In essence, however, it does not resolve any real problems for migrants. Return migrants and their family suffered from considerable income losses, and the multiplier effect of return migration affected rural off-farm jobs.
- The geographic distance between unemployed people and jobs implies that the employment re-adjustment to a demand recovery take much longer time than what it normally would. The cost to the economy may well be higher than setting up unemployment support for migrants in cities...