WAS CHINA'S RATE OF POVERTY REDUCTION EVEN FASTER THAN ROUTINELY ASSUMED? ACCOUNTING FOR THE EFFECTS OF MIGRATION

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Was China's rate of poverty reduction even faster than routinely assumed? Accounting for the effects of migration

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Introduction

- With an estimated 261.4 million of migrants (NBSC 2012), internal migration in China affects more individuals than the estimated 215 million cross-border migrants in the rest of the world combined.
- Migration made a major contribution to China's rapid progress in poverty reduction. However, the estimated magnitude of associated effects will depend on how migrants are counted.
- Past practice in China on this issue differs from that in other countries in that migrants are counted as part of the sending household even if they are absent for periods longer than 6 months.
- We use micro-data at individual level from China's Rural Household Survey (RHS) for about 2,000 households in 8 provinces over the 5-year period 2005-2009 to empirically assess the potential size of such bias.

Importance and impacts of migration

- Comparing the income loss due to migration (i.e. what migrants would have earned) to the gains from remittances generally points towards an equalizing effect of remittances.
- But points towards wide variation across countries in the elasticity of poverty reduction to migration income.
- Migration is credited with having made a major contribution to China's rapid progress in poverty reduction.

Measurement issues

- Rural household survey (RHS) by China's National Bureau of Statistics (NBS) is commonly used to measure household welfare in rural China and is generally considered to be of high quality.
- But there are two concerns:
  1. whether or not migrants are considered household members;
  2. the way in which their income/consumption is recorded.

- The standard definition of a household is normally based on sharing of meals, which excludes migrant from sending households.
- RHS considers migrant workers to be household members even if they have been away from the household for more than 6 months in any given year.

- The unique feature of RHS may bring three possible bias in estimating household income/consumption.
  1. Migrants are counted as part of the sending household even if they are absent from the household for more than 6 months, so household size will be overestimated.
  2. Income received by migrants is often provided by members other than the migrant who may have incomplete information on the magnitudes involved, thus possibly resulting in downward bias of estimates.
  3. Consumption data are based on a diary filled by resident household members that is likely to include migrants only when they actually reside in the sending household.

- Evidence in other countries suggests that differences in estimated household welfare can indeed by linked to changes in household definition. Eg: Vietnam's VLSS,1998 (de Brauw and Harigaya, 2007) versue VHLSS, 2004 (Nguyen and Winters, 2011).

Data and analytical issues

- Household- and migrant-level data for a subsample of 8 provinces (or 211 counties) from the RHS in the 2005 to 2009 period. (2109 households in the initial year of 2005 and 2089 households in 2009.)

- To make data comparable, we express them in 2005 prices using the provincial NBS rural consumer price index as a deflator.
- Also follow Brandt and Holz (2006), construct a cross-province consumer price index (CPI) deflator for spatial deflation.

Adjustments made

- Adjusted net income per capita 1 =

$$\frac{net\ income - migration\ income + remittace\ \ from\ migrants \geq 6\ mons + migration\ income\ \ from\ migrants < 6\ mons}{household\ size - \#\ of\ \ migrants \geq 6\ mons}$$

- Adjusted net income per capita 2 =

$$\frac{net\ income - migration\ income + remittace\ \ from\ migrants}{household\ size - total\ migration\ mons\ /\ 12}$$

- Adjusted total consumption per capita 1 =

$$\frac{hh\ cons - hh\ cons * \left[\#\ of\ \ mons\ migrants \geq 6\ mons\ /\ \left(hhsize * 12 - total\ migration\ mons\right)\right]}{household\ size - \#\ of\ \ migrants \geq 6\ mons}$$

- Adjusted total consumption per capita 2 =

$$\frac{household\ consumption}{household\ size - total\ migration\ mons\ /\ 12}$$

Results

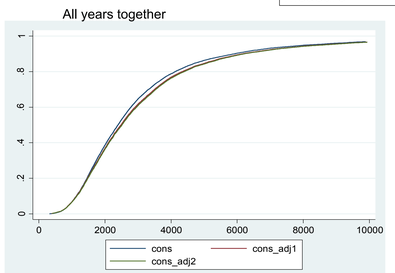
Income and Consumption under different definitions of household_Mean and Gini

	Traditional measure	Adjustment1	Adjustment2	Traditional measure	Adjustment1	Adjustment2
		Income per capita			Gini Coefficient	
2005	3088	3376	3278	0.333	0.364	0.358
2006	3448	3772	3654	0.342	0.379	0.373
2007	3854	4303	4158	0.345	0.381	0.374
2008	4442	4833	4681	0.348	0.382	0.376
2009	5159	5610	5448	0.353	0.384	0.381
		Total consumption per capita			Gini Coefficient	
2005	2405	2658	2682	0.346	0.355	0.355
2006	2612	2900	2935	0.372	0.382	0.382
2007	3132	3515	3545	0.411	0.421	0.42
2008	3323	3686	3731	0.389	0.397	0.398
2009	3918	4389	4439	0.416	0.424	0.424

All higher than traditional measure

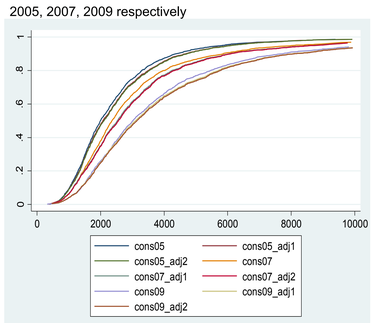
Consumption distribution before/after adjustments

All years together



Consumptions after adjustments always stochastically dominate the traditional measures

2005, 2007, 2009 respectively



Comparing income and consumption levels for household with and without migrants (different adjustments)

	Tranditional		Adjustment1		Adjustment2	
	Migrant	No migrant	Migrant	No migrant	Migrant	No migrant
	Income per capita					
2005	3069	3109	3707	3104	3477	3104
2006	3509	3382	4272	> 3370	3986	> 3370
2007	3834	3877	4847	> 3861	4501	> 3861
2008	4455	4428	5333	4408	4985	4408
2009	5023	5318	5967	5299	5610	5299
	Consumption per capita					
2005	2262	2560	2777	2560	2824	2560
2006	2459	< 2778	3052	> 2778	3119	> 2778
2007	2769	< 3536	3489	> 3536	3556	> 3536
2008	3116	3558	3836	3558	3924	3558
2009	3647	4237	4564	4237	4659	4237

Poverty under different household definitions

		Poverty line at $1 (2005 PPP value)			Poverty line at $1.25 (2005 PPP value)		
		Trad.	Adj.1	Adj.2	Trad.	Adj.1	Adj.2
2005	P0	0.37	0.319	0.314	0.167	0.136	0.133
	P1	0.0994	0.0826	0.0807	0.039	0.0316	0.0309
	P2	0.0395	0.0323	0.0314	0.0139	0.0112	0.0109
2006	P0	0.336	0.297	0.292	0.167	0.14	0.135
	P1	0.0972	0.082	0.0798	0.0388	0.0326	0.0315
	P2	0.039	0.0328	0.0318	0.0137	0.0117	0.0113
2007	P0	0.268 >	0.224	0.219	0.124 >	0.108	0.104
	P1	0.0732	0.0628	0.061	0.0281	0.0243	0.0235
	P2	0.029	0.0252	0.0244	0.0103	0.00908	0.00876
2008	P0	0.228	0.185	0.182	0.0881	0.0756	0.0738
	P1	0.0557	0.0474	0.0462	0.0206	0.0176	0.0172
	P2	0.0213	0.0183	0.0178	0.00717	0.00632	0.00616
2009	P0	0.179	0.146	0.142	0.0751	0.0597	0.0579
	P1	0.0452	0.0375	0.0368	0.0184	0.0149	0.0147
	P2	0.0183	0.0151	0.0148	0.00706	0.0058	0.00572

P0, P1, P2 is the head account ratio, poverty gap index, and squared poverty gap index, respectively.

Conclusions

- With population under poverty line fell from 751.71 million to 156.78 million (accounting for 91.65% of the world poverty reduction), the poverty reduction in rural China contributes a lot to the reduction of poverty in worldwide.
- Our results suggest that adjusting for migrants' absence increases per capita income and expenditure for migrant households (then estimated to be better off than non-migrants) and a significant reduction in poverty level.
- Also, with adjustments, overall poverty is estimated to have decreased even faster than suggested by unadjusted figures.
- If adjustments are made, households with a migrant are estimated to be better off than those without a migrant rather than worse as would be suggested by unadjusted figures.
- Although inequality in rural areas increases slightly, rural-urban income gaps narrow significantly.

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