New Evidence on the Urbanization of Global Poverty

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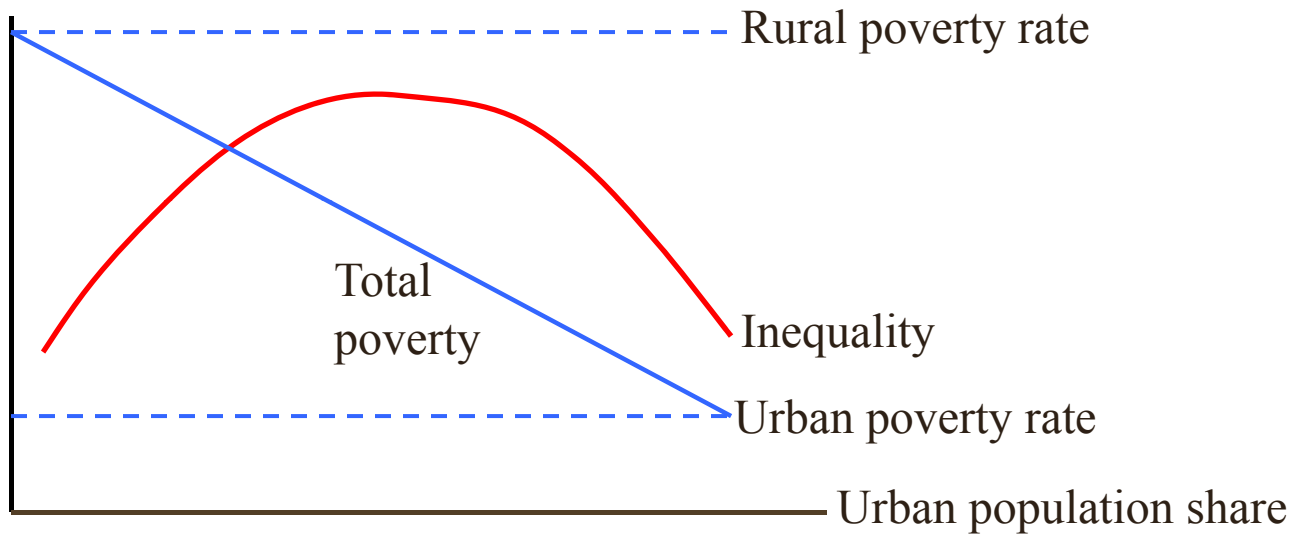
Development theory: Population urbanization is the main dynamic

- Long tradition of theoretical models in which population urbanization drives both growth and distribution (Lewis, Kuznets, Harris-Todaro, Robinson, Fei-Ranis, Fields, Anand-Kanbur)
- "Kuznets process": Key assumptions:
  - The economy comprises a low-inequality and poor (low-mean) rural sector, and a richer urban sector with higher inequality.
  - Migration process is such that a representative slice of the rural distribution is transformed into a representative slice of the urban distribution.

  => Absolute poverty will fall with urbanization; income inequality will rise up to some point then fall (inverted U)

Poverty and inequality under the Kuznets process



How quickly is poverty in the world urbanizing? Is this a positive or negative force for overall poverty reduction?

"The world's poor once huddled largely in rural areas. In the modern world they have gravitated to the cities." (Gerard Piel, 1997)

- *Is that right? Is it good or bad news?*
  - A positive force in poverty reduction as rural workers take up more remunerative urban jobs?
  - Or the unwelcome forbearer of new poverty problems as economic disadvantages become more geographically concentrated?

=> Five claims, four of which we test

Claim1: Most people live in rural areas, but this will soon change with urbanization

- Data from the UN's *World Urbanization Prospects*
- Differences in how "urban" is defined; technical differences + administrative/political influences
- "Urban-rural" distinction is becoming blurred.
- Both "migration" and "reclassification"; but how much?

- However, for this study we have little choice but to take the demographic data underlying Claim 1 as given.

Claim 2: The incidence of absolute poverty is lower in urban areas

- Past evidence is entirely from country-specific studies; e.g., World Bank's *Poverty Assessments*
- However, different countries have different definitions of what "poverty" means and the differences are not statistically ignorable.
  - Higher real poverty lines tend to prevail in richer countries, which tend also to be more urbanized.
  - And the urban composition of the poor probably varies with the level of economic development and urbanization.

=> Biases in estimates of the global trends in the urbanization of absolute poverty

=> Biases in the x-country relationship with population urbanization and economic growth.

What does Claim 1 imply for the future validity of Claim 2?

- *Does urbanization of the population as a whole come with lower overall poverty?*
- *What about within sectors?*
- *Does population urbanization mean that the urban poverty problem has overtaken the rural problem in scale? Or will it overtake some time soon?*

Claim 3: The urban share of the poor is rising over time
Claim 4: The poor are urbanizing faster than the population as a whole

- Urban share of the poor: $P^u = S^u H^u / H$
- Claim 3: P^u rises over time
- Claim 4: H^u/H rises over time

=> growth rate of P^u > growth rate of S^u

Why might Claim 4 hold?

- This is what one expects when urbanization entails gains to the poor,
- ..but the gains are not large enough for all previously poor new urban residents to escape poverty.
- Thus the urbanization process puts a brake on the decline in urban poverty incidence, even when total poverty is falling.

=> urbanization is not a pure Kuznets process.

Simple model: rising urban poverty <=> falling overall poverty

A mixed-Kuznets migration process: A proportion δ of the population shifts from rural to urban

- α $(1 > \alpha > 0)$ attains the urban distribution of income: the successful migrants (Kuznets);
- $1 - \alpha$ keeps the rural distribution (non-Kuznets).

=> The national headcount index falls by $\alpha\delta(H^r - H^u)$

=> but the poverty rate in urban areas rises by:

$$(1-\alpha)\delta(H^r - H^u)/(S^u + \delta)$$

where $H^r - H^u > 0$ is the initial difference in poverty rates (H^k is the headcount index in sector *k*=*u*,*r*) and S^u is the initial urban population share.

Claim 5: Urbanization is a positive force in overall poverty reduction

- Direct gains to migrants
- Indirect gains to rural poor
  - Remittances
  - Tighter rural labor markets

- And Claim 5 can be valid even when urban poverty is rising.

Data and methods

Key assumptions

1. Consumption + additivity ("sub-group monotonicity"):

- Poverty is defined in terms of household consumption per capita.
- Additively separable poverty measures
  - for which the aggregate measure is the (population-weighted) sum of individual measures.

2. Relocation invariance:

- Simply moving people between urban and rural areas (or countries), with no absolute loss in their real consumption, cannot increase the aggregate measure of poverty.

=> Absolute poverty measures

Poverty lines aim to have constant real value both between urban and rural areas and across countries

Cost-of-living (COL) differences

- Relatively weak internal market integration and the existence of geographically non-traded goods

=>substantial cost-of-living differences between urban and rural areas in developing countries.

- Any assessment of the urbanization of poverty that ignored these COL differences would not be credible.
- Yet existing Purchasing Power Parity (PPP) exchange rates used to convert the international line into local currencies do not distinguish rural from urban areas.

How can we construct an international urban-rural poverty profile?

Our approach

- We use country-specific urban and rural poverty lines from the World Bank's *Poverty Assessments* in setting the urban-rural differential in the international poverty lines.
  - The fact that PA's have now been completed for most developing countries makes this feasible.

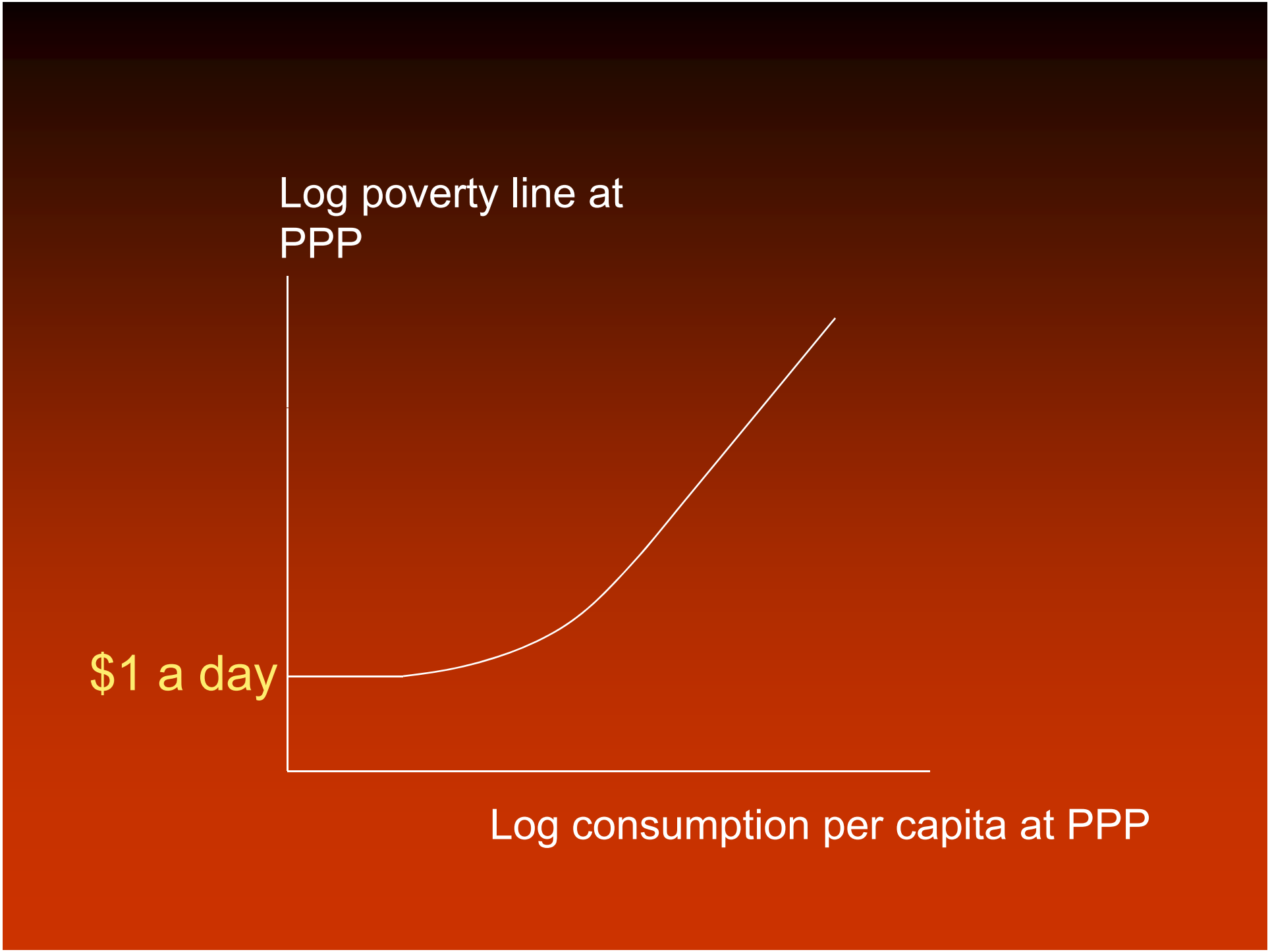
- Otherwise, our methods closely follow the Bank's past methods.*

* Chen, Shaohua and Martin Ravallion, "How Have the World's Poorest Fared Since the Early 1980s?" *World Bank Research Observer*, Fall 2004.

"$1 a day"

- For country-level analysis one should clearly use a poverty lines(s) appropriate to each country.
- However, for global poverty monitoring, the Bank has taken the position that to measure absolute consumption poverty on a consistent basis across countries one must use a common poverty line.
- ***But whose poverty line should it be?***
- In the 1990 WDR, the Bank chose to measure global poverty by the standards of what poverty means in the poorest countries.
- Using rural lines when available

  => the "$1/day" line.


Log poverty line at PPP
$1 a day
Log consumption per capita at PPP

Purchasing Power Parities

- International poverty line is converted back to local currency at the base date (1985 originally; 1993 now) using PPP rates for consumption.
- EKS method of setting PPPs: a multilateral extension of standard bilateral Fisher price index
  - Geary-Khamis (GK) method (Penn World Tables) uses quantity weights to compute the international price indices;
  - too high a weight to consumption patterns in richer countries when measuring poverty globally.
- Since 2000 the World Bank's global poverty and inequality measures have been based on the Bank's PPPs, which use the EKS method.

Doubts about PPPs

- Continuing concerns about quality of PPP's
  - Incomplete ICP participation
  - Differences in quality of goods
  - Relevance to poverty
- Major new PPP efforts underway at the Bank to construct PPPs for the poor (Deaton).
- Preliminary results suggest little difference to standard consumption PPP using EKS method

Latest "$1 a day" poverty lines

- We chose the median poverty line of the lowest 10 lines => $32.74/month ($1.08 a day) at 1993 PPP for consumption.
  - Regression based method gives $1.05 (95% CI: $0.88,$1.24) for poorest country.
- All numbers revised back in time to assure consistency.
- Note: Not valid to compare different sets of PPPs.
  - For example, adjusting "$1" at 1985 PPP only for inflation in the US yields a poverty line in 1993 that is well above that found in low-income countries

Taking "$1 a day" to the surveys

- Poverty line in 1993 local currency is updated using local CPI (urban/rural for major countries)
- All estimates are our own, from primary data (unit record/specially designed tabulations).
  - we do not rely on any secondary sources for the poverty and inequality measures
- Consistent methods across countries and time.
  - Obvious comparability problems are eliminated
  - However, there are comparability problems galore that can't be readily fixed
  - Income vs. consumption; recall periods; valuation
- This study: 208 surveys, 87 countries (95% of pop.)

Some remaining data problems

- Urban-rural poverty line differential may vary by level of consumption/income
  - National differential in middle-income countries is not then valid for the international $1 a day line
- Different countries have used different methods of setting their urban-rural poverty lines
  - Cost-of-basic needs method is very common
  - But differences in implementation
- Different countries have different definitions of “urban”
  - Not clear that this is a bad thing.
  - But there have been reports of political redefinition
- Can’t distinguish migration from re-classification

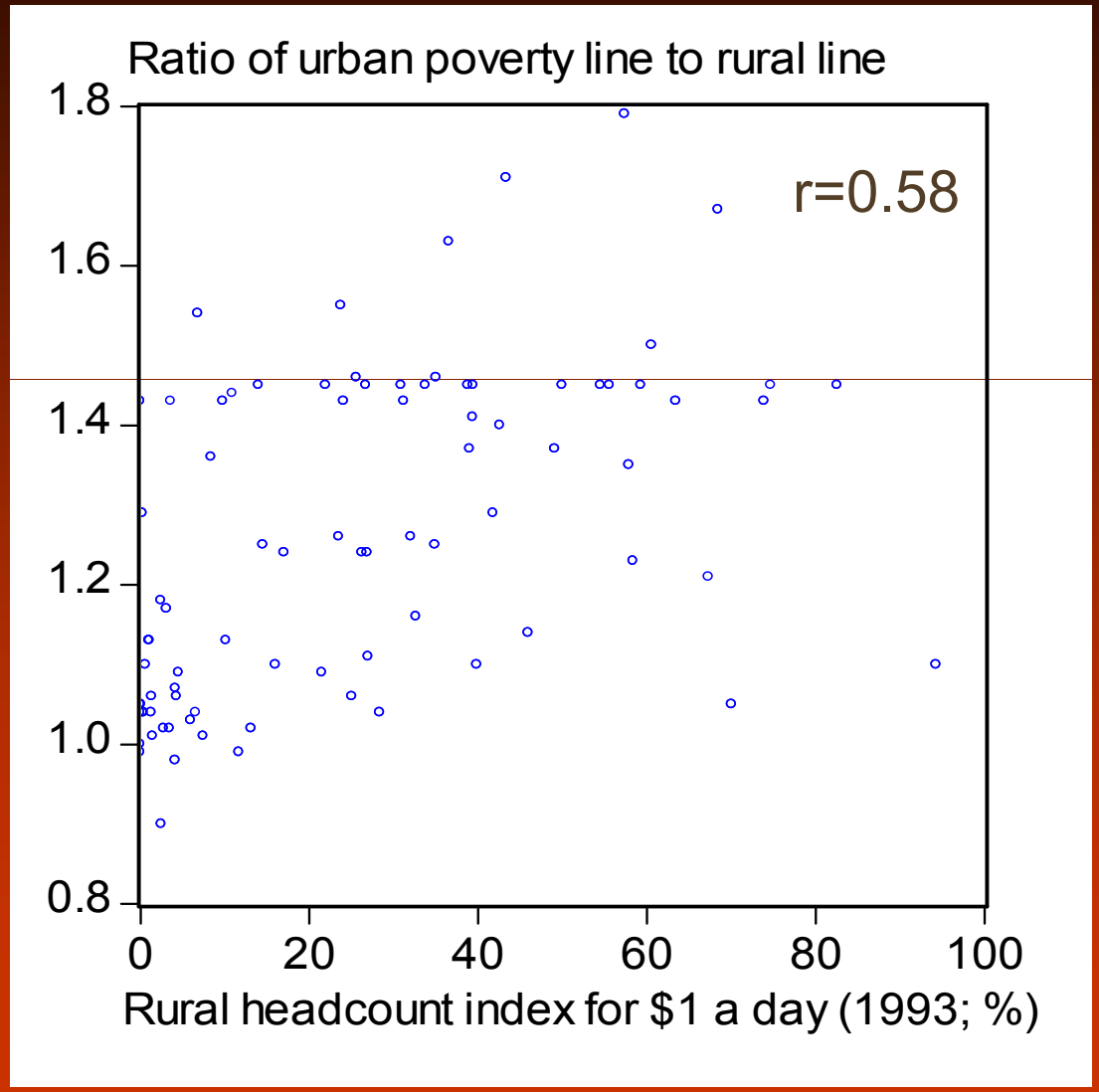
Results

New urban poverty lines

- Urban poverty line is about 30% higher than rural line, on average
- Regional differences
  - Highest for LAC
  - Lowest for EECA
- Poorer countries tend to have higher ratios of urban to rural poverty lines => Fig.
- Suggests weaker internal market integration in poorer countries.

Population-weighted urban poverty lines in 1993 PPP

	Urban poverty line ($/day; 1993 PPP) corresponding to a rural line of:	
	$1.08	$2.15
East-Asia and Pacific	1.40	2.79
Eastern-Europe + Central Asia	1.13	2.27
Latin America and Caribbean	1.55	3.10
Middle East and North Africa	1.19	2.37
South Asia	1.40	2.79
Sub-Saharan Africa	1.39	2.77
Total	**1.39**	**2.79**


Ratio of urban poverty line to rural line
1.8
1.6
1.4
1.2
1.0
0.8
r=0.58
0
20
40
60
80
100
Rural headcount index for $1 a day (1993; %)

Global poverty measures for $1 a day

	Number of poor in millions			Headcount index (%)			Urban share of the poor (%)	Urban share of population (%)
	Urban	Rural	Total	Urban	Rural	Total		
1993 Total	**235.58**	**1036.41**	**1271.99**	**13.50**	**36.58**	**27.78**	**18.52**	**38.12**
1996 Total	**256.96**	**914.02**	**1170.98**	**13.56**	**31.45**	**24.39**	**21.94**	**39.47**
1999 Total	**274.36**	**945.15**	**1219.51**	**13.37**	**31.87**	**24.31**	**22.50**	**40.89**
2002 Total	**282.52**	**882.77**	**1165.29**	**12.78**	**29.32**	**22.31**	**24.24**	**42.34**

Rural poverty incidence is more than double that in urban areas

- The “$1 a day” rural poverty rate in 2002 of 30% is more than double the urban rate.
- Similarly, while we find that 70% of the rural population lives below $2 a day, the proportion in urban areas is less than half that figure.

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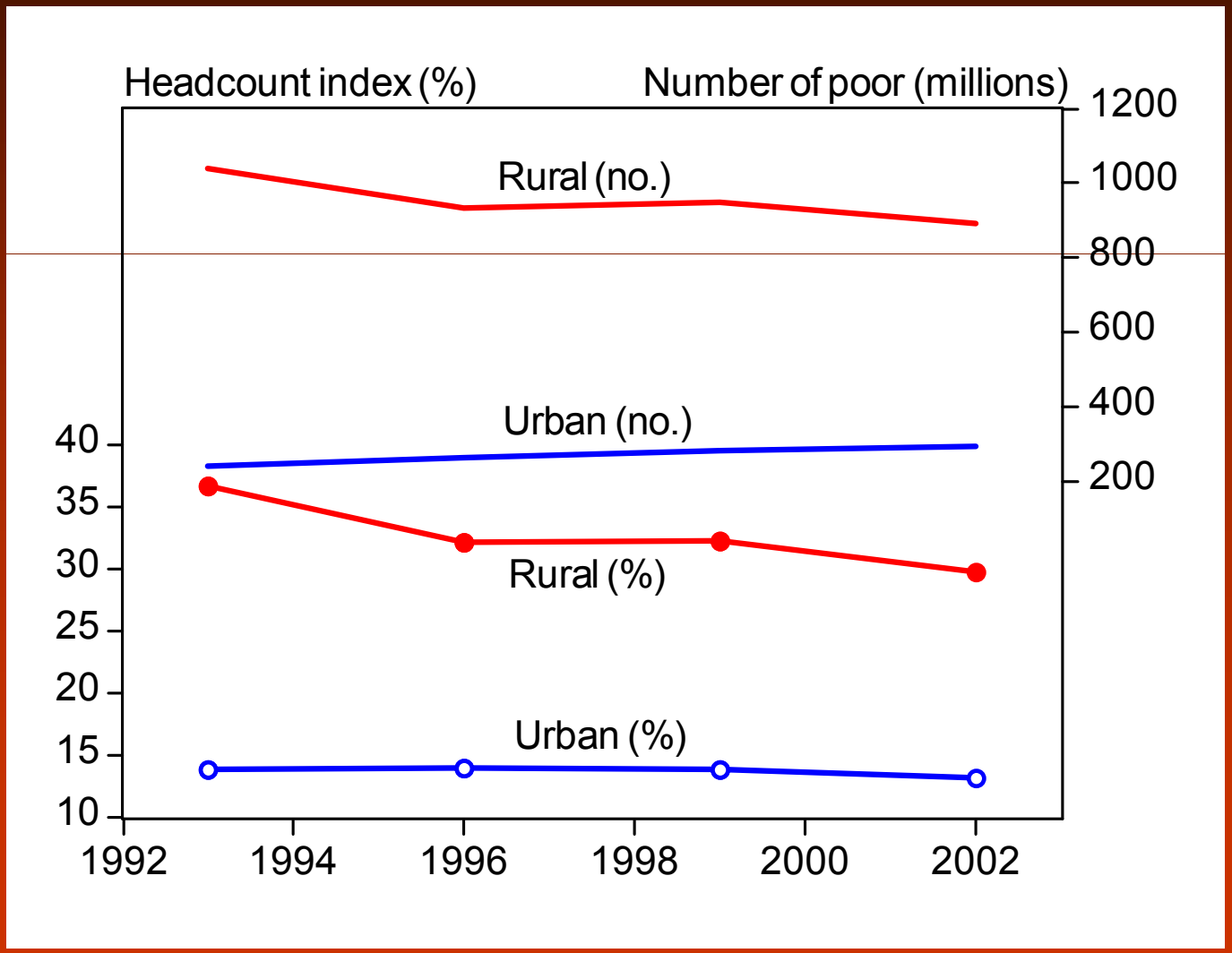
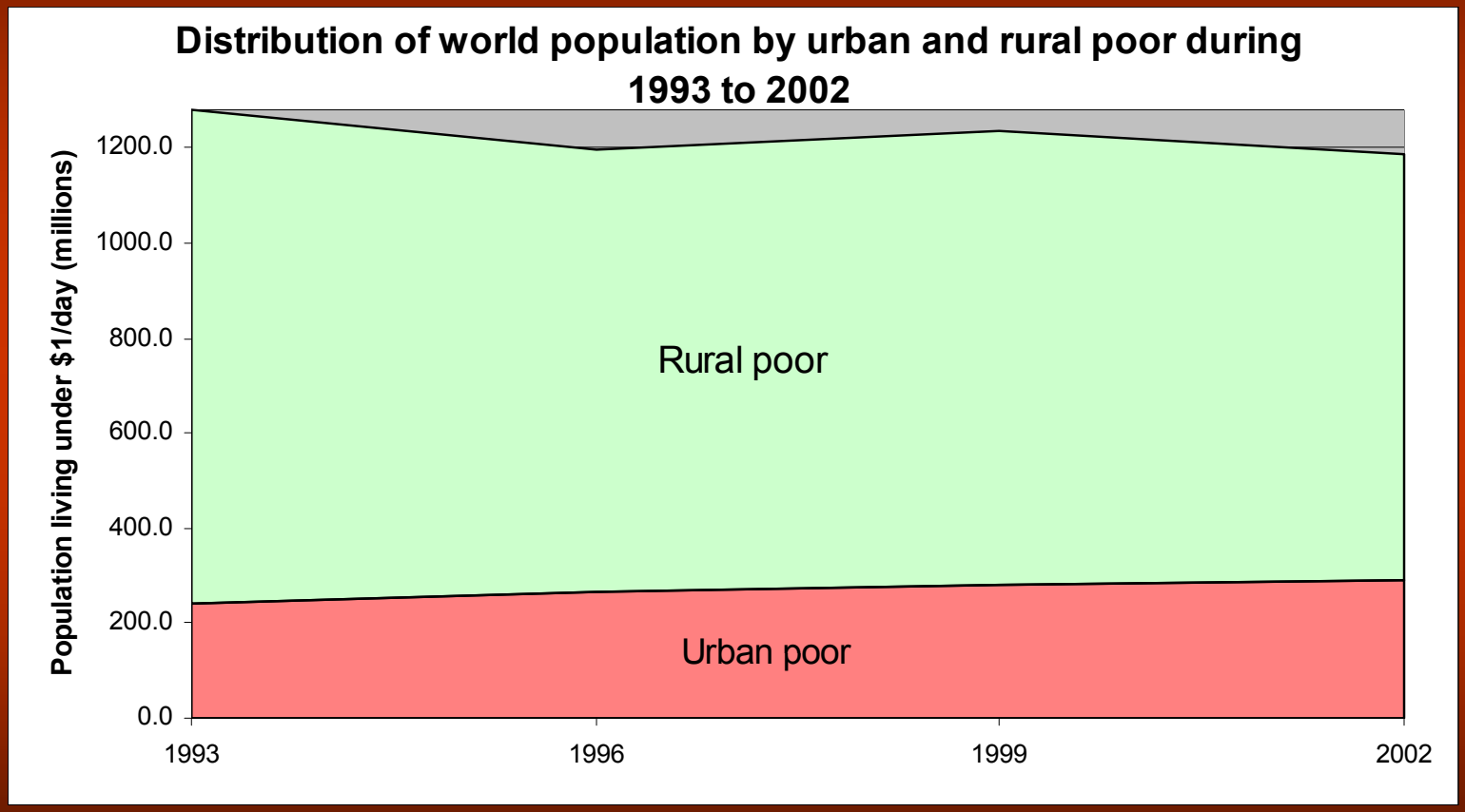
Faster progress against rural poverty

$1 a day



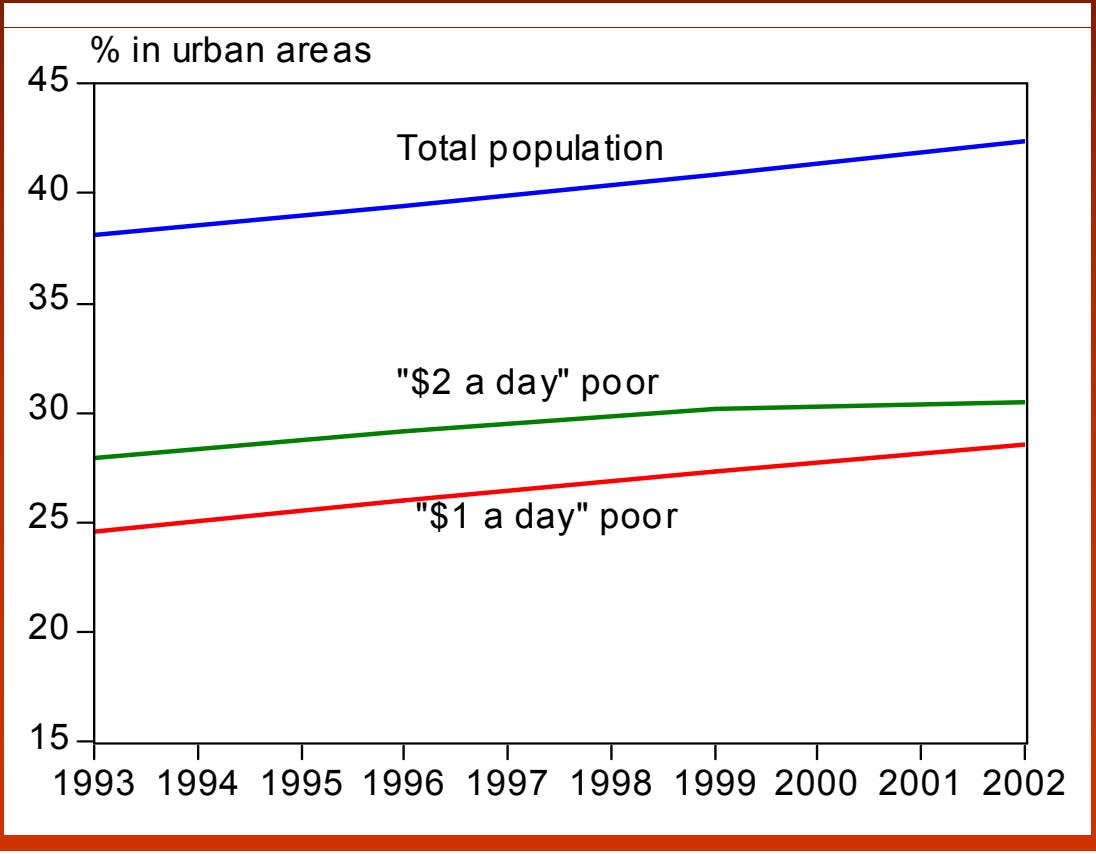
Rising number of urban poor; falling number of rural poor



100 million fewer “$1 a day” poor =
+ 150 million fewer rural poor - 50 million more urban poor.

China is an unusual case

- China has an unusually large rural-urban poverty gap
  - H($1)=22% in rural, 1% in urban
  - Well-known urban-rural disparities in living standards
  - But data problems (sample frame; “floating population”)
- Excluding China: urban share of the poor rises to 28% (from 24%).



Decomposition

$$H_{02} - H_{93} = S_{02}^{r}(H_{02}^{r} - H_{93}^{r}) + S_{02}^{u}(H_{02}^{u} - H_{93}^{u}) + (H_{93}^{u} - H_{93}^{r})(S_{02}^{u} - S_{93}^{u})$$

rural poverty reduction

urban poverty reduction

population urbanization

- 5.5% point decline in aggregate $1 a day poverty rate, 1993-2002
- Of which 4.2% points is attributed to rural poverty reduction
- 1% point directly attributed to urbanization
- Only 0.3% points to urban poverty reduction.

Are the poor urbanizing faster?

- "Yes," for $1 a day but "no" for $2.
  - For $1 a day, the share of the poor in urban areas rose by 0.3% points per year
  - However, if we drop China from the calculation then Claim 4 is supported for both poverty lines.
- Country level estimates also support Claim 4.
- Let $P^u(S^u)$ be the urban share of the poor

$$\frac{\partial \ln P^u(S^u)}{\partial t} = \left(1 + \frac{\partial \ln H^u / H}{\partial \ln S^u}\right) \frac{\partial \ln S^u}{\partial t}$$

= 0.30 (s.e.=0.07)

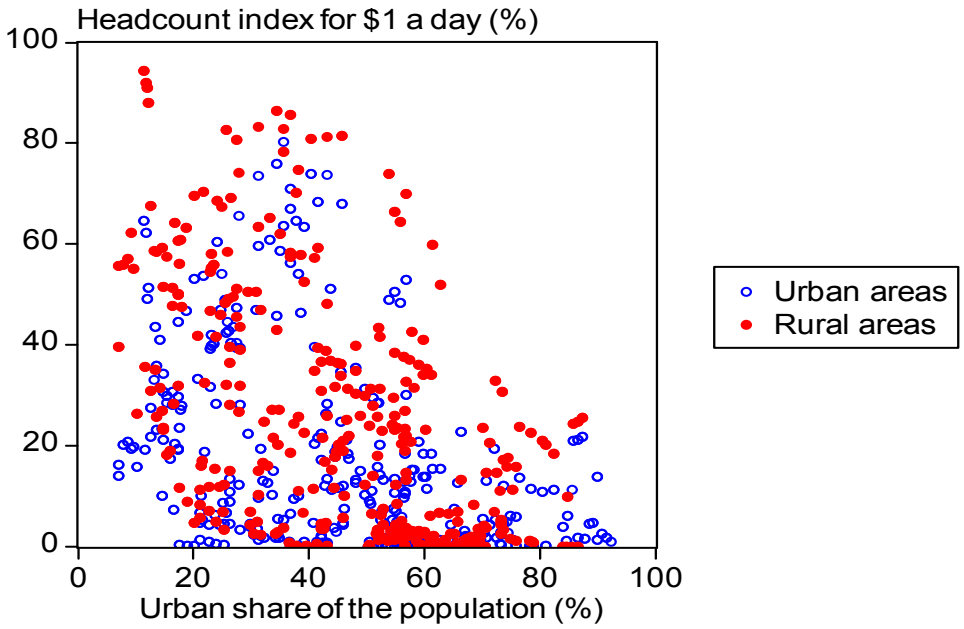
Is urbanization a positive force in poverty reduction?

- Both the regional aggregates and the underlying country-level estimates are consistent with Claim 5.
  - Polled data; Figures=>
  - However, confounding latent regional/country effects
- Regression of poverty measures on urban population share with regional/country fixed effects:

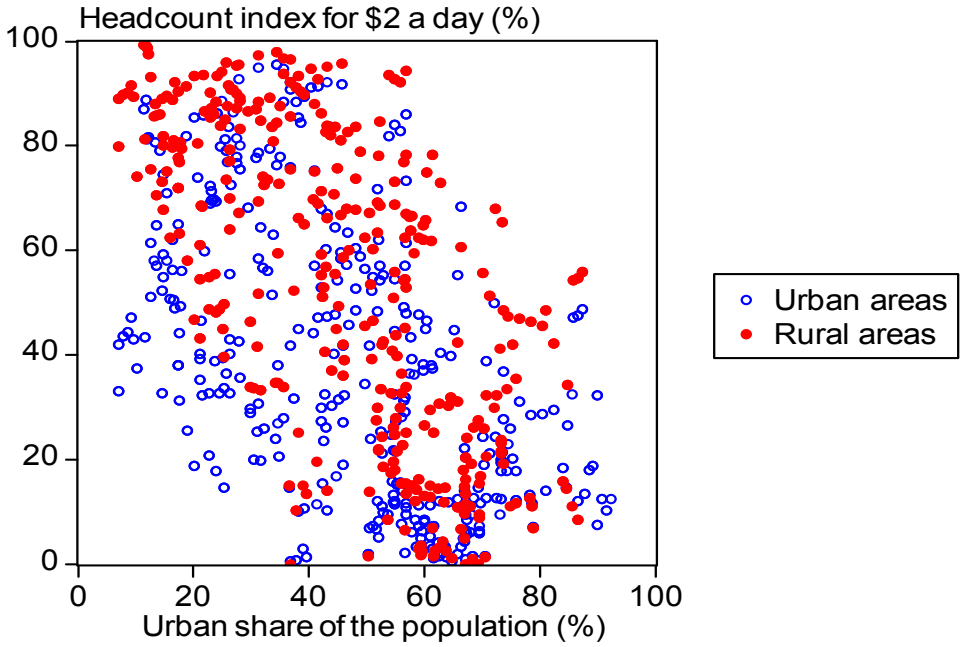
	$1 a day poverty line	
	Urban	Rural
Regions by year (n=24)	**-0.206** (0.161;0.218)	**-1.107** (0.462;0.028)
Countries by year (n=348)	**-0.422** (0.172;0.015)	**-0.708** (0.216;0.001)

- Possible biases due to time varying effects (correlated with urbanization) cloud the causal interpretation.

$1 a day


Headcount index for $1 a day (%)
100
80
60
40
20
0
0
20
40
60
80
100
Urban share of the population (%)
Urban areas
Rural areas

$2 a day


Headcount index for $2 a day (%)
100
80
60
40
20
0
0
20
40
60
80
100
Urban share of the population (%)
Urban areas
Rural areas

Distributional effect?

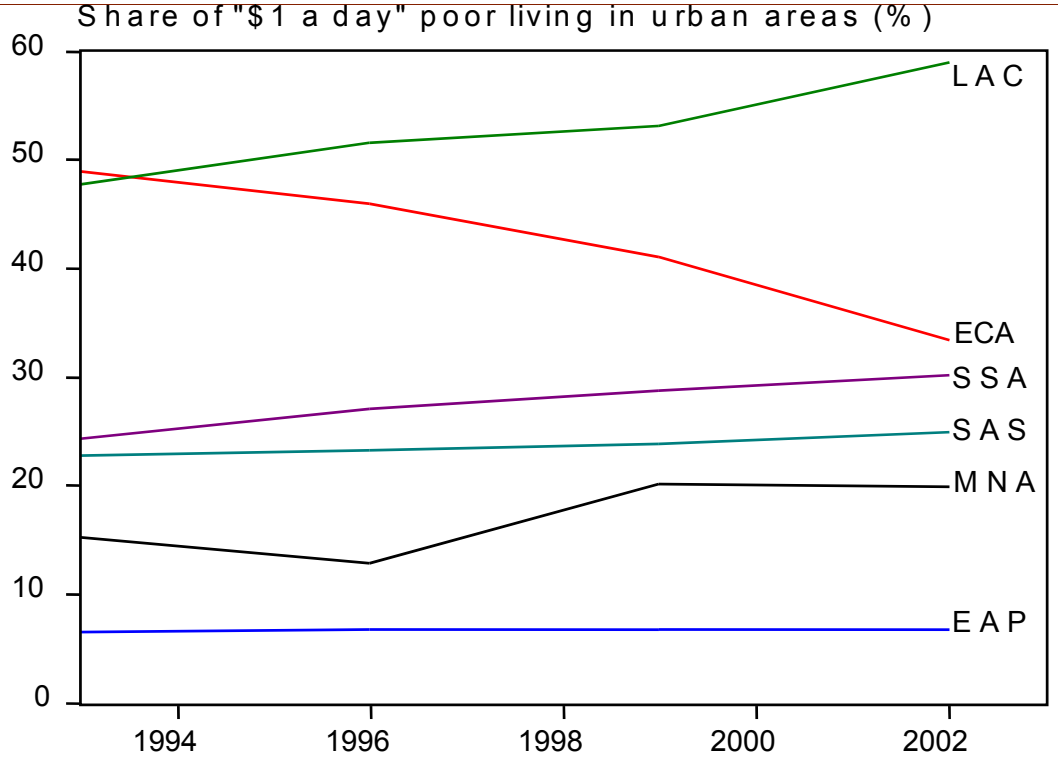
- Test for a Kuznets curve in distributional component of poverty:

$$\ln H_{it} = \alpha + \beta_1 \ln \mu_{it} + \beta_2 (\ln \mu_{it})^2 + \gamma_1 S_{it}^u + \gamma_2 S_{it}^{u2} + \delta S_{it}^u \ln \mu_{it} + \eta_i + \varepsilon_{it}$$

- Controlling for a quadratic function of mean, no sign of a distributional effect of urbanization.
- Positive interaction effect; urbanization reduces the (absolute) growth elasticity of poverty reduction
- The main channel linking population urbanization to poverty is economic growth.

Regional differences

- LAC has the most urbanized poverty problem and the steepest rise in urban share of the poor.
- East Asia has the least urbanized poverty.
- “Ruralization of poverty” in EECA; also China.



Regional differences cont.,

- South Asia: Rural H=1.21 x Urban H
- East Asia: Rural H = 8.7 x Urban H (!)
  - Due to China
  - Urban poverty rate in China in 2002 that is barely 4% of the rural rate, while it is 86% for India.
- LAC and SSA: rising urban poverty + falling rural
- SSA: population urbanization (including the poor) has come with little reduction in aggregate poverty.

Some implications

Rising urban poverty is consistent with pro-poor economic development

- For many countries, rising or stagnant urban poverty is the "other side of the coin" to what is in large part a poverty-reducing process of urbanization.
  - by providing new opportunities to rural out-migrants
  - some, but not all, of whom escape poverty in the process
  - and through the second-round impacts of urbanization on the living standards of those who remain in rural areas (remittances + tighter rural labor markets)
- Africa stands out as an exception; further research needed on why.

Slower pace of poverty reduction than has been thought

- Compared to Chen-Ravallion (2004):
  - $1 a day poverty rate 2% points higher
  - And falling at a slightly slower rate

- Chen-Ravallion underestimated poverty in a segment of the economy with below average rate of poverty reduction.

On the future urbanization of poverty

- The latest WUP predicts that the urban share of the population of the developing world will reach **60% by 2030**.
- If the urban share of the poor evolves consistently with our data then the share of the $1 a day poor in urban areas will reach **39% by 2030**.
- Using Bocquier's forecasts for urbanization, the urban share of the poor will reach **31% by 2030**.*

* Bocquier, Philippe, 2005, "World Population Prospects: An Alternative to the UN Model of Projection Compatible with Urban Transition Theory," *Demographic Research* 12(9): 197 236.

Policy implications

- Too much or too little urbanization? None of this implies that governments should actively promote urbanization.
  - Causality remains unclear.
  - Consistency with the economic growth process is key
- Externalities: urban governments are typically answerable only to their urban constituents.
  - A city government will probably devote too few resources to actions that yield external benefits to its rural hinterland.
  - Indeed, some incumbent urban residents may expect to be worse off from policies that help rural migrants.
- It is not surprising that past urban policies have often ignored the needs of migrants and even burdened them with extra costs.

Take aways

- Poverty appears to be even more rural than we thought.
- Urban poverty is falling more slowly than rural poverty,
- But that is not a bad thing, in general; it typically comes hand-in-hand with overall poverty reduction through urbanization.
- Economic growth is the main link between population urbanization and poverty reduction. No sign of a systematic distributional effect.

- Yes, the poor are gravitating to towns and cities, but more rapid poverty reduction will probably require a faster pace of urbanization, not a slower one.
- Development policymaking will need to facilitate this process, not hinder it.