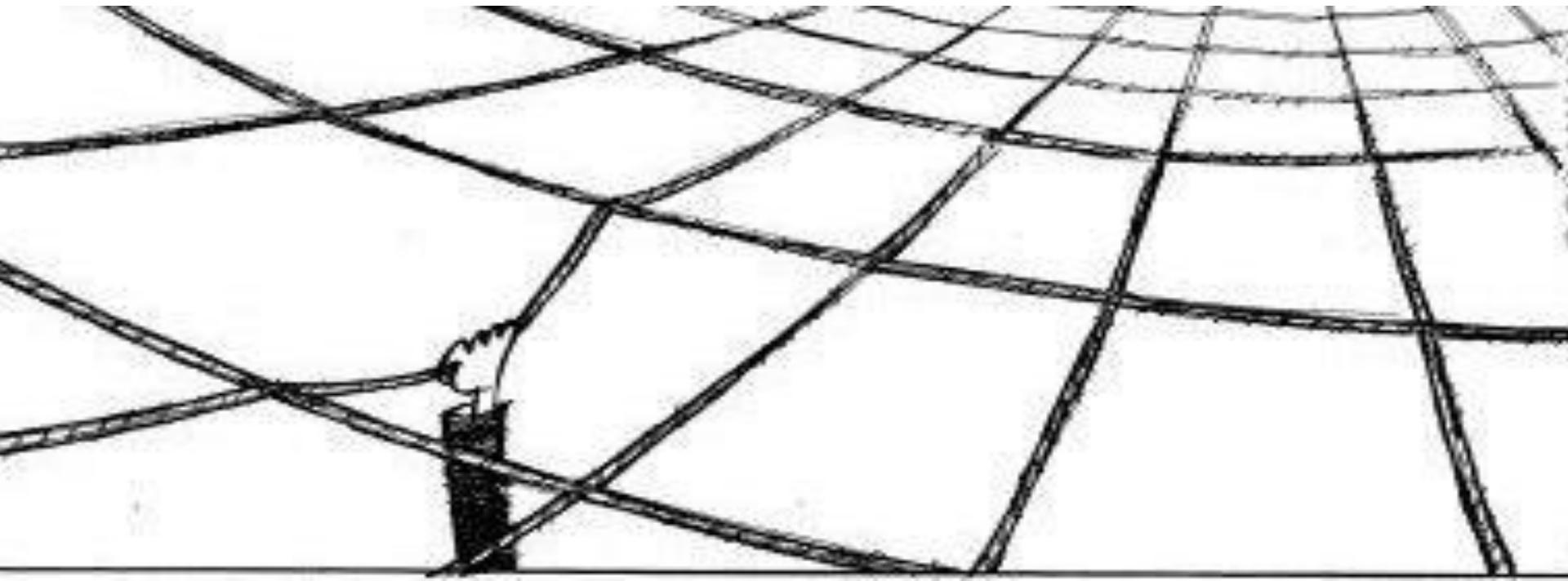


2nd PODER Summer School, Paris School of Economics, July 2015

Lectures 1-2:
*Evaluating social policies in
developing countries*

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Outline

1. Economic issues and debates on policy responses
2. Case study of China's *Di Bao* program
3. Case study of India's National Rural Employment Guarantee Scheme
4. Case study of a wage subsidy program in Argentina

1. Economic issues and policy debates

A simple expository model and some definitions

Protection + promotion

A circular diagram consisting of two blue arrows. One arrow starts at the top left and curves clockwise to the top right, pointing towards the text. The other arrow starts at the bottom right and curves counter-clockwise to the bottom left, pointing away from the text. Together, they form a continuous loop around the central text.

Twin objectives of social policy: promotion and protection.

How should we understand this distinction?

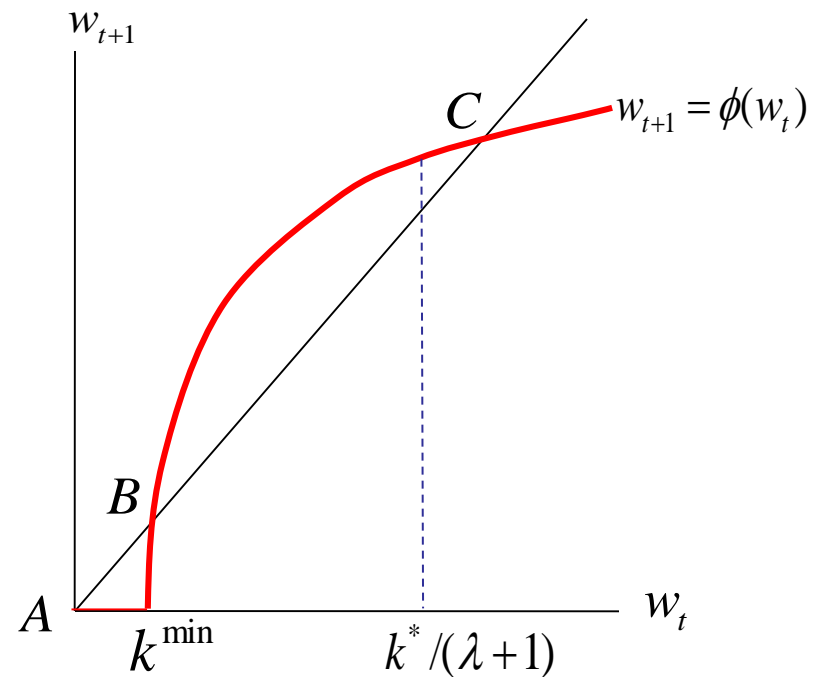
Model of personal wealth dynamics

- The credit market is imperfect, such that individuals can only borrow up to some multiple of their wealth.
- Each person has a production function yielding an output that depends on their capital stock, with diminishing returns.
- Given the interest rate there is a desired capital stock equating marginal product of capital (MPK) with interest rate.
- Those with low initial wealth are credit constrained: after investing all they can, they still have $MPK > r$ while the rest are free to implement their desired investments.
- A fixed share of current wealth is consumed.

Wealth poverty trap

Threshold capital stock such that nothing can be produced below that level. No demand for capital unless the borrower's wealth is sufficient to cover the threshold.

- Three equilibria, A, B, C , but only A and C are stable.
- Wealth poverty trap at A .
- Positive consumption (=income) for those at A .
- And uninsured risk \Rightarrow transient income fluctuations.



Two long-run classes in stable steady states

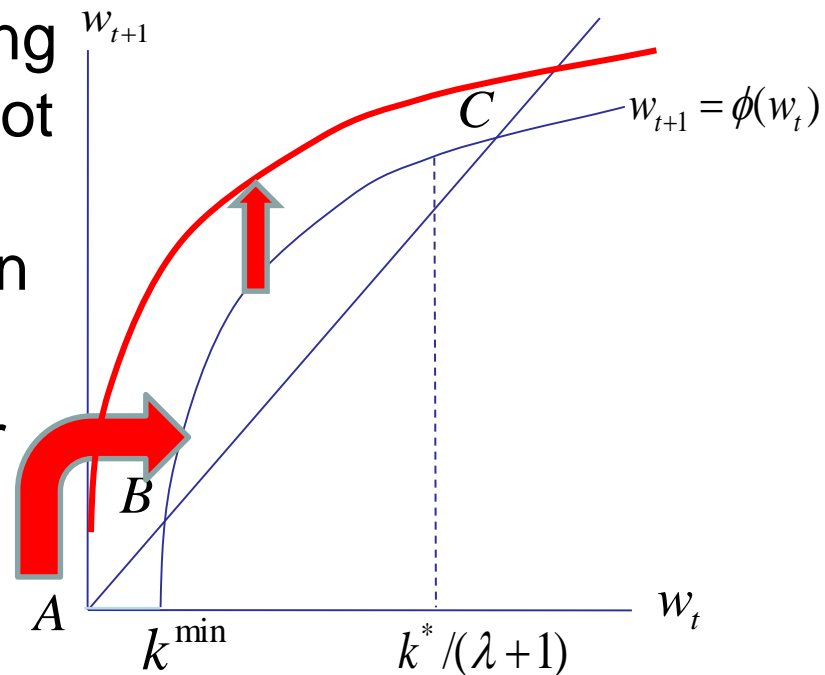
- In the long run, after repeated small shocks, the economy settles in a state that can be thought of as having **two main classes of people**.
- One class has little or no wealth, given that its members are caught in a wealth poverty trap, at point A.
 - Many reasons in practice why people are so trapped, including lack of any marketable skills, social exclusion, geographic isolation, debilitating disease, or environmental degradation.
- The second class comprises people who have settled at point C, at their respective steady-state levels of wealth (w^*).

Steady state poverty with or without a trap

- There can still be inequality within each class.
 - There can be inequality of labor earnings amongst the poorer class, and there can be wealth inequality amongst the “point C folk,” given different steady-state levels of wealth.
- There can be poverty even if nobody is caught in a poverty trap.
- The “poor” are **two groups of people**: those at point A and the poor amongst those at point C, i.e., those for whom their steady-state level of wealth turns out to be very low, even though they are not caught in a poverty trap.

Two types of antipoverty policies

1. **Protection policies** provide short-term palliatives by assuring that current consumptions do not fall below some crucial level, even when some people remain in steady-state poverty.
2. **Promotion policies** allow poor people to permanently escape poverty, either breaking out of poverty traps or shifting production possibilities for those not trapped.



*The incentives debate:
A protection-promotion trade-off?*

The debate on incentives: Could protection limit promotion?

- Policy makers typically want the social safety net (SSN) to assure a minimum standard of living.
- **One side of the debate:** “*This will discourage personal efforts to escape poverty by other means.*” “*Dependency.*”
- This side of the debate points to behavioral responses through work effort, savings, fertility and family formation are often sited as **adverse incentive effects** of a SSN.

The other side of the debate:

“Trade-off is exaggerated. Incentives not an issue”

- Trade-offs should be expected in practice but they can be exaggerated too!
- In the short-run, when a public fiscal stimulus is concentrated on the poorest it appears more likely that it will bring a larger short-term gain to aggregate effective demand, and hence output.
- In the long-term: The idea of an inevitable long-run tradeoff can also be questioned:
 - Missing markets (esp. adverse selection in insurance)
 - Multiple equilibria, poverty traps
 - Credit market failures + diminishing marginal products
 - Political economy

The debate on incentives for risk-taking

Moral hazard in social protection?

- One side of the debate: Using public money to help those who took high risks, and lost out, can encourage excessively risky behavior in the future.
- The other side: Here too the trade-off is exaggerated. It was not the risky behavior of the world's poor that precipitated the global financial crisis.
 - Uninsured risks spillover to production and investment impeding longer-term prospects of escaping poverty.
 - Taking kids out of school
 - Forgoing investment in own enterprise
 - Poverty trap: protection from large negative shocks may be crucial for sustained promotion.
 - Lack of insurance for the poor is probably a more important reason for persistent poverty than too much insurance!

Information constraints

- “The poor” in developing countries are not so easily identified; means testing is rarely feasible. State capacity is often weak. Corruption.
- Data constrain policy: incentives to miss-report; costs of data collection.
- Better social protection (incl. crisis preparedness) requires investments in better data.
 - Huge improvement in survey data design and availability, though continuing concerns about data quality.
 - Priors “on the ground” (field work) can contain useful clues.
- Sound social policies require thinking about incentives and program design, given information constraints and administrative capacity.

*The targeting debate:
Universal provision vs. targeting*

Untargeted safety nets

- The “basic income guarantee” (BIG) idea:
 - Everyone receives the same transfer whether poor or not (though don’t forget about financing!)
 - No incentive effects of the transfer (good or bad)
 - No built in mechanism for responding to shocks
 - The financially affordable basic income may be very low
- Universal (un-targeted) subsidies on normal goods
 - Potentially large cost, which leaves fewer public resources for other things relevant to promotion
 - And not much protection either: relatively little goes to the poor; unresponsive to shocks

The targeting debate

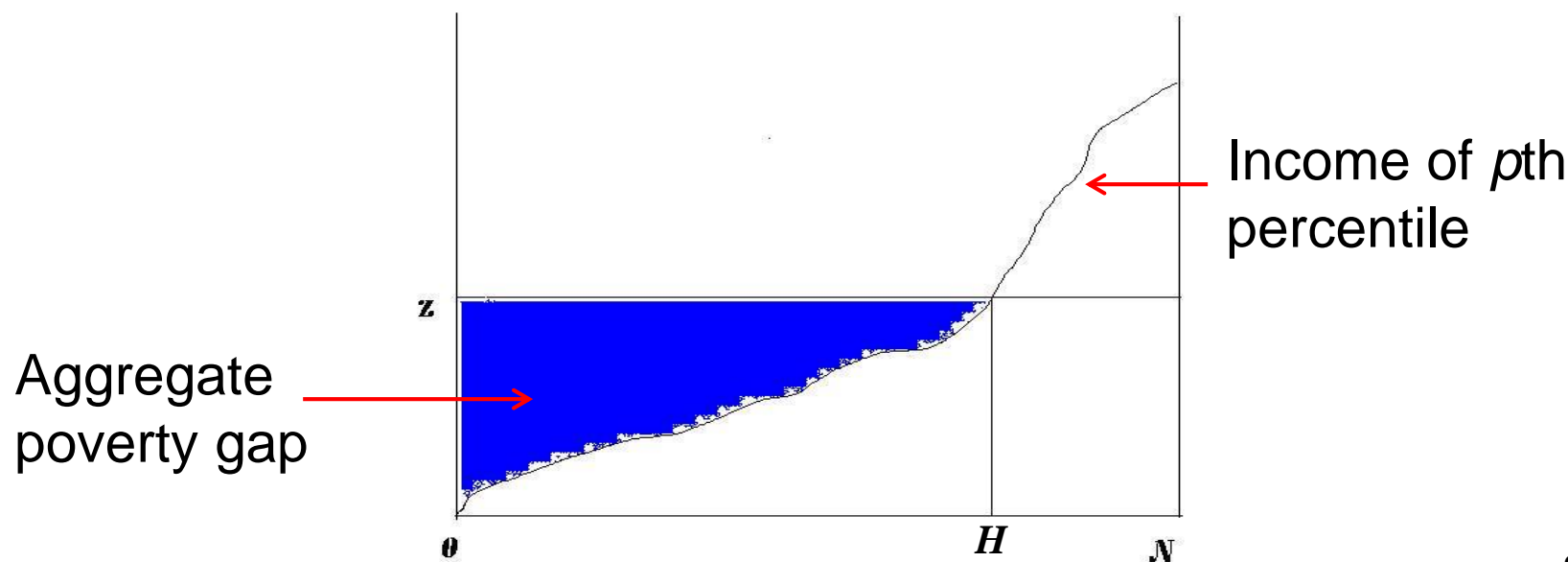
- One side: By targeting spending on poor people we can assure greater impact on poverty for the same aggregate outlay or spend less to obtain the same impact on poverty.
- The other side: Targeting comes with hidden costs, and may undermine the broad political consensus for social protection

“Targeting” can help, but it is not the objective

- The most finely targeted policy need not have the most impact on poverty.
- Deadweight losses; administration; costs of participation
- Information problems; measurement errors
 - Measurement errors confound assessments of targeting.
 - The appearance of “poor targeting” can stem from errors in assessing who is really poor!
- Potential for adverse incentives: high marginal tax rates=>poverty traps.

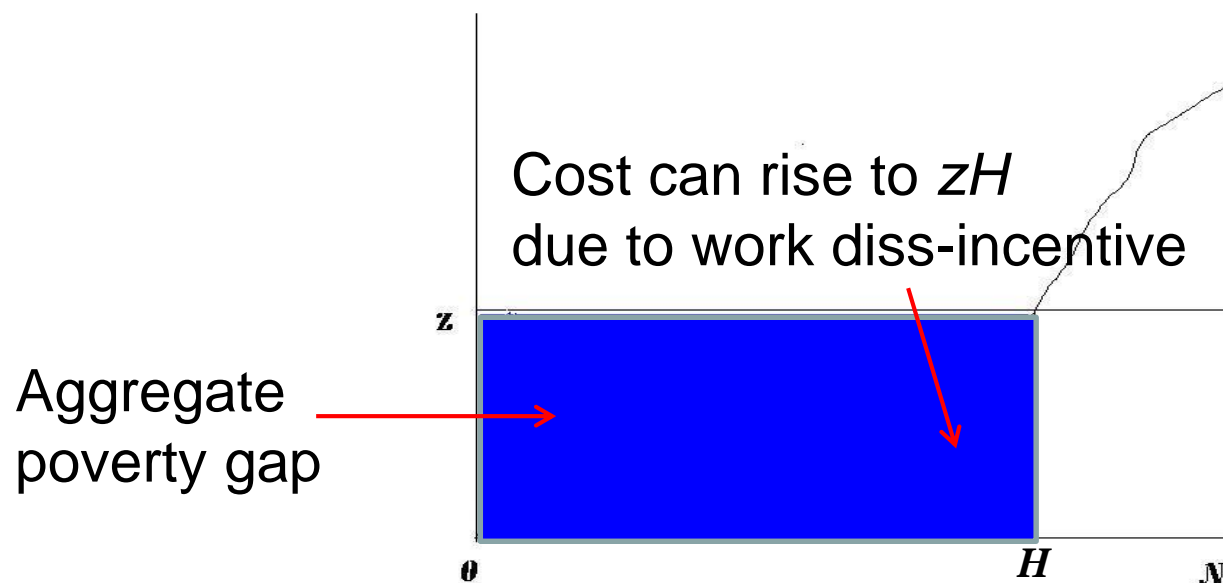
“Perfect targeting” can create a poverty trap

- Advocates of finely targeted policies often observe that the aggregate “poverty gap” can be rather small.
- However, this understates the likely cost of perfectly targeted transfers given behavioral responses.
- High marginal tax rates reduce the incentive to escape poverty and increase the fiscal cost of the policy.



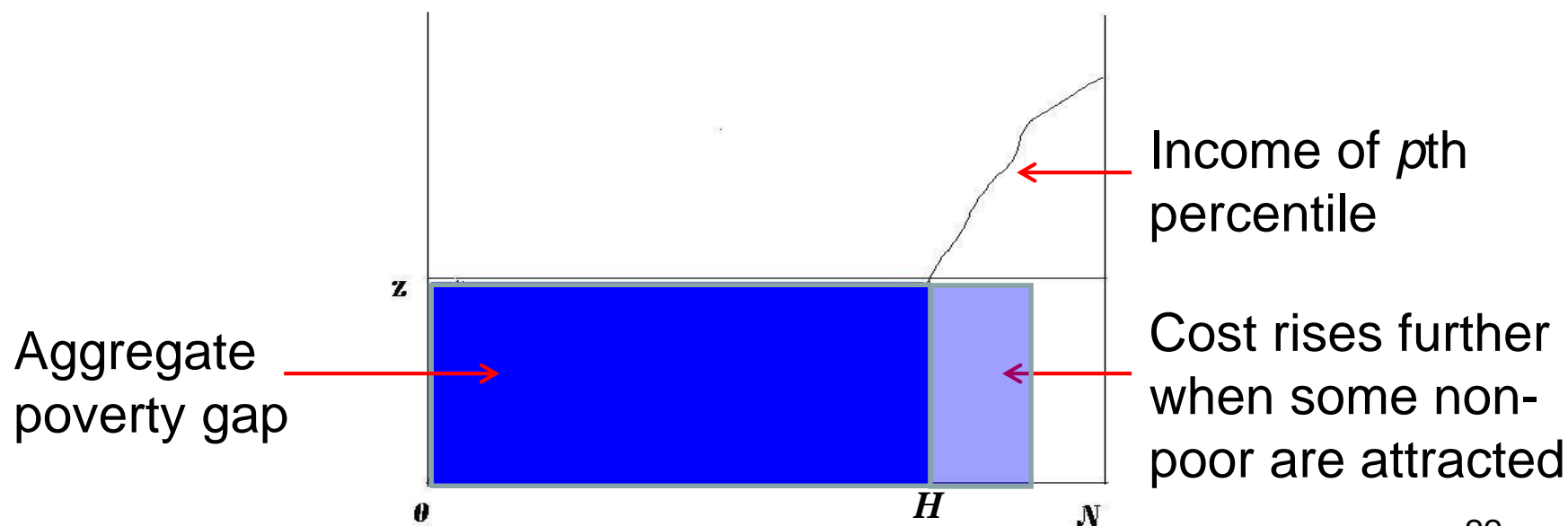
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Assuring flexibility in responding to shocks has proved illusive in practice

- To provide protection, the social safety net must respond flexibly to changing needs, and not rely heavily on administrative discretion.
- This can create severe public fiscal stresses.
- When we look at the “safety nets” found in practice, few provide effective insurance since they do not adapt readily to changing circumstances.
- Unless the public safety net is genuinely state-contingent it cannot help much in reducing the costs of insurance facing the poor.

Capacity for better safety nets

- **Community-based targeting** can sometimes help:
 - Better information available locally, though also scope for contamination/capture. Equity/efficiency trade-offs?
 - Community satisfaction is important to the acceptance/sustainability of SSN reforms.
- But the administrative infrastructure must be in place for reporting and addressing grievances. Stronger local state, not weaker.
- New technologies can help: Identity cards; “smart” info systems; privacy concerns (e.g., India).

Using incentives to improve information: self-targeting

- One way to provide effective insurance—a genuine “safety net”—is to build in design features that:
 - only encourage those in real need to seek out the program and
 - encourage them to drop out of it when help is no longer needed given better options in the rest of the economy.
- Subsidies on the consumption of inferior goods (for which demand falls as incomes rise) are self-targeted to the poor.
 - The problem is that not many goods are inferior, although there have been cases in which this was feasible.
 - Tunisia in 1990s was able to make its food subsidies more cost-effective in reducing poverty by “creating” inferior food items through packaging.

The political economy of targeting

“Programs for the poor are poor programs”
(Larry Summers)

- Concentrating benefits on a small group of people can undermine the political support for social protection and antipoverty policy.
- This holds in both democratic and authoritarian regimes (though different non-poor groups may have political clout)

Political economy constraints:

Will the bulging middle class support pro-poor reforms?

- The middle class can be an engine of growth, which will help reduce poverty:
 - fostering entrepreneurship,
 - shifting the composition of consumer demand,
 - supporting provision of public goods.
- The middle class can also be a force for reform, especially when their economic opportunities do not accord with expectations.
- However, less clear that the middle class will support safety net reform, especially when it takes the form of targeted programs for the poorest.

=> Look for ways to make a pro-poor safety net politically sustainable

- State-contingent safety net programs that provide insurance will have a broader base of supporters than the direct beneficiaries.
- Programs that impose conditions on recipients to change their behavior in ways that reduce future poverty will invariably get broader public support.
- Though there may well be trade-offs here too; impacts on current poverty may be lower due to forgone labor earnings of youth.

Public information campaigns and timing

- Political sustainability depends in part on public information and perceptions, esp., on the credibility of reform efforts.
- The reasons for reform efforts need to be well understood by an often skeptical public.
- This will help assure broader political support.
- Credibility is greater if the new program is in place before subsidies are cut
 - For example, Indonesia's unconditional cash transfer program, Bantuan Langsung Tunai (BLT), was put in place before cutting fuel subsidies in anticipation of adverse impacts and opposition. This helped.

*Social policies that try to both
protect and promote*

Efforts to improve the trade off

- Untargeted policies (incl. generalized subsidies on normal goods) can probably only achieve significant protection at high fiscal costs, which may jeopardize spending on other things needed for promotion.
- i.e., they may face a **trade off between protection and promotion**.
- A number of (old and new) schemes aim to achieve both protection and promotion => **“social investment.”**
- A key element is the use of incentive mechanisms through conditionalities.

Conditional Cash Transfers (CCT)

- CCT requires the children to demonstrate adequate school attendance (and health care in some versions).
 - *Food-for-Education Program* in Bangladesh
 - Mexico's *PROGRESA (Oportunidades)*
 - *Bolsa Escola* in Brazil.
- Aim to strike a balance between reducing current poverty and future poverty.
 - Distribution within households: program conditions entail that relatively more of the gains accrue to women and children.
 - Transfers to women may improve the dynamic trade off, esp., in a crisis.
 - Political economy: taxpayers and donors are more supportive when they know that recipients are compelled to do something to help themselves escape poverty in the future.

Evidence on CCTs

- Benefits to poor households.
 - both current incomes and future incomes, through higher investments in child schooling and health care.
- Expanding coverage and higher benefits has been one response to crises, particularly in Latin America.
 - Mexico was able to help redress the adverse welfare impacts of the recent rise in food prices by implementing a one-time top up payment to *Oportunidades* participants.
- *Jaring Pengamanan Sosial* in Indonesia: reduced school drop out rates amongst poor during the 1998 crisis.

Concerns about CCTs

- Concerns about how responsive these programs are to changes in need.
 - A previously ineligible household hit by (say) unemployment of the main breadwinner may not find it easy to get help.
 - Proxy-means tests (using regressions on survey data) tend to be based on correlates of chronic poverty.
 - Efforts should be made to re-assess eligibility.
- Concerns about the conditions
 - Do they really change behavior in a positive way? (More kids in school but do they learn?) Design issues (e.g., schooling level).
 - Paternalistic?
 - What tradeoffs? Current poverty vs. future poverty?

Workfare

- Conditions again: work requirements for self-targeting.
- Widely used in crises at all stages of development
 - Workfare programs were a key element of the New Deal introduced by US President Franklin D. Roosevelt in 1933 in response to the Great Depression.
 - They were also a key element of the Famine Codes introduced in British India around 1880 and have continued to play an important role to this day in the sub-continent.
 - Relief work programs have helped in responding to, and preventing, famines in Sub-Saharan Africa.
 - During the East Asian financial crisis of the late 1990s, both Indonesia and Korea introduced large workfare programs,
 - as did Mexico in the 1995 “Peso crisis,” Peru during its recession of 1998-2001 and Argentina in the 2002 financial crisis.

The origin of India's workfare programs



Around 300 BC, the Indian academic and advisor to Royalty, Chanakya (also known as Kautilya) recommended that when famine looms a good king should *“..institute the building of forts or water-works with the grant of food, or share [his] provisions [with the people], or entrust the country [to another king]”*.

India still gives greater weight to protection than promotion!

Employment Guarantee Schemes

- *Employment Guarantee Scheme (EGS)* in Maharashtra, India, which started in the early 1970s:
 - Aims to assure income support in rural areas by providing unskilled manual labor at low wages to anyone who wants it.
 - Financed domestically, largely from taxes on the relatively well-off segments of Maharashtra's urban populations.
- Employment guarantee aims to support the insurance function, and also helps empower poor people.
- India's *National Rural Employment Guarantee Act (NREGA)* (2005):
 - Promises up to 100 days of unskilled manual labor per family per year, at the stipulated minimum wage rate for agricultural labor.

Evidence on workfare programs

- Sizeable income gains to participants, net of forgone incomes (from any work they give up to join).
 - Maharashtra's EGS: forgone income = 25% of the wage rate.
 - Argentina's *Trabajar* program: Forgone income = 50% of earnings.
- Even so, the implied costs to participants (esp., forgone incomes) can still be large + supervision/administration.
- If the only gain to the poor is from the labor earnings then a greater impact on poverty (for the same aggregate fiscal outlay) may well be possible using unconditional and even untargeted cash transfers.
- **Guarantee?** Evidence suggests large unmet demand for work on India's NREGS, undermining the insurance and empowerment benefits.* But still self-targeted.

* Dutta, P., R. Murgai, M. Ravallion and D. van de Walle, 2012, "Does India's Employment Guarantee Scheme Guarantee Employment?" *Economic and Political Weekly* 48 (April 21): 55-64³⁹

The dynamic tradeoff in workfare

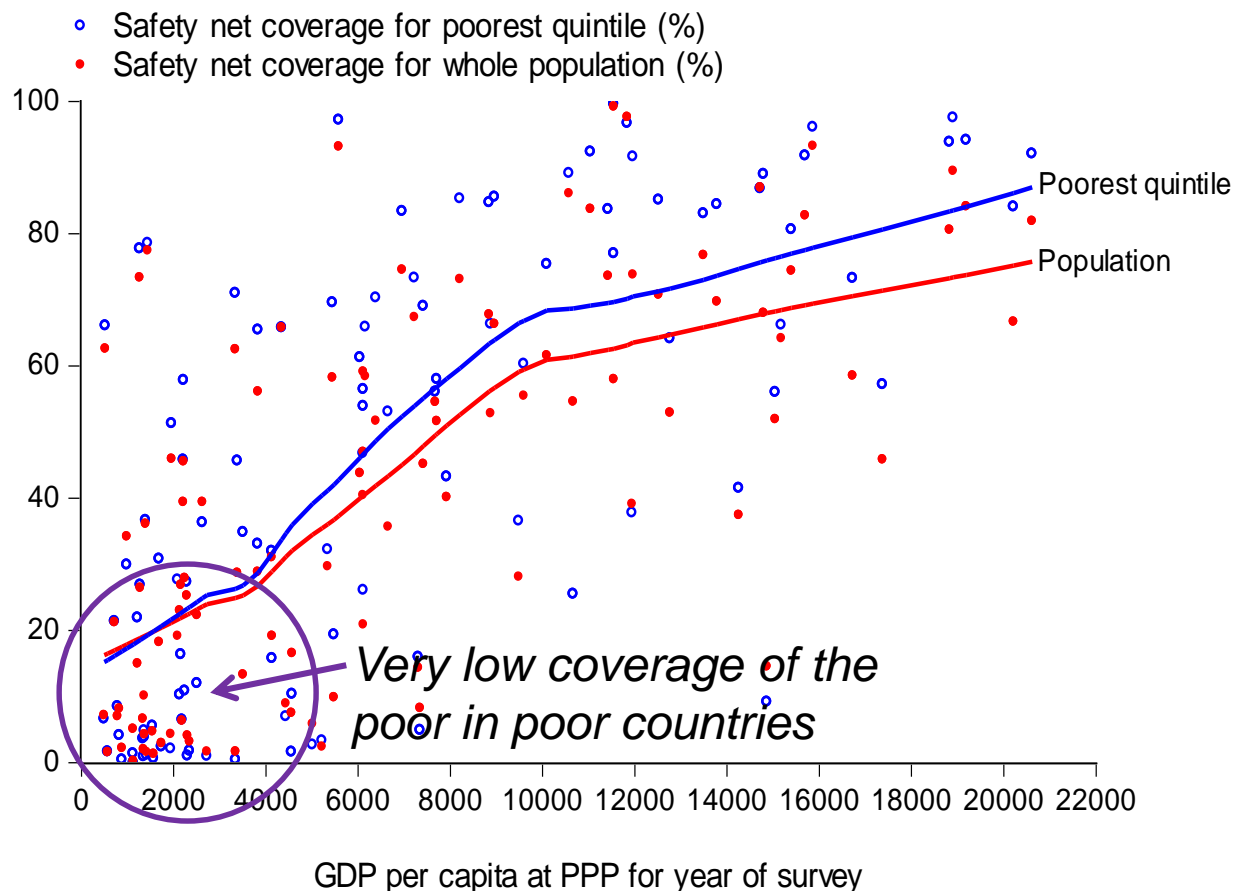
- Tradeoff between the twin goals of achieving short-term flexibility in response to current needs versus longer-term goals in the fight against poverty.
 - Absorbing large amounts of labor in relief work may mean that the technologies use too little capital to create durable assets.
 - It is very likely that the optimal labor intensity of relief work will be higher than normal during a crisis.
- Putting a greater weight on asset creation in workfare schemes can enhance promotion, while retaining the protection role of this SSN.
 - Asset creation in poor communities can also facilitate future protection (climate change, environmental degradation)

Overall coverage of social protection

Poor SSN coverage of poor people

The share of the poorest 20% receiving help from the SSNs in developing countries.

- Only about one third of those in the poorest quintile are receiving help from SSNs.
- And worse performance in poorer countries.



Source: WB's ASPIRE data set

SSN=Non-contributory transfers targeted to poor and vulnerable people.

Summary of policy issues and implications for evaluation

Summary

Objective:

Policy:

Protection

Promotion

Basic income

Limited,
unless expensive

Not much harm,
unless expensive

Subsidies on normal goods

Limited; non-poor
capture bulk of gains

High fiscal cost,
distortions

Unconditional transfers

Scope for addressing
macro shocks; harder
for idiosyncratic shocks

May help get around
credit constraints.

Conditional cash transfers

Scope for addressing
macro shocks; harder
for idiosyncratic shocks

The conditions may
induce positive
behavioral change

Workfare

Yes, if work is available
when needed

Yes, if induced
investment or assets of
value to poor people⁴⁴

Summary of issues for evaluation

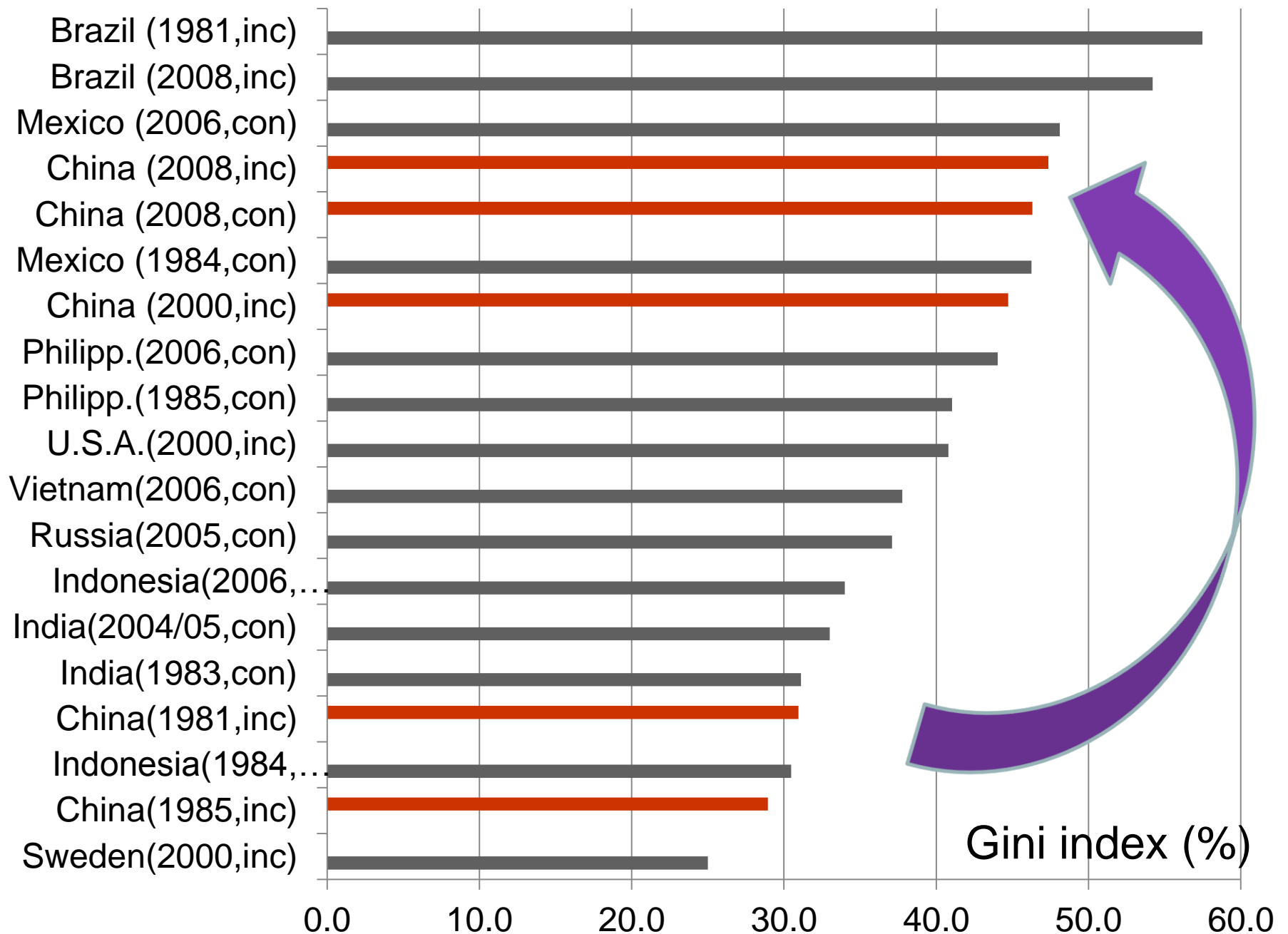
- Safety net programs are typically assigned programs: some units get help, some do not.
- Non-experimental evaluations must allow for selective placement (targeting).
- Randomized assignment is sometimes an option.
- Ethical objections: some who need help do not get it; some get the program but don't need it.
- Spillover effects: may be hard to identify counterfactual from the comparison group.
- Heterogeneity in impacts; even randomized assignment may require strong identifying assumptions for parameters of interest.

2. Case Study of China's *Di Bao* Program

Reading: Martin Ravallion and Shaohua Chen, “Benefit Incidence with Incentive Effects, Measurement Errors and Latent Heterogeneity: A Case Study for China,” *Journal of Public Economics*, forthcoming.

Background to implementation

- Reforms and structural changes in China
 - => high growth rates
 - => high rates of poverty reduction.
- But social unevenness in the growth process
 - => diverse regional trends;
 - => rising inequality: relative + absolute
- Plus pervasive risk (new and old)
 - => retrenchments/unemployment
- “**Left behind**”: adversely affected by reforms and/or unable to participate in the new economic opportunities (lack of skills, long-term illness, disability).
- Uninsured risk may impede prospects for catching up.



Pervasive risks, new and old

- The collapse of the old safety-net (esp., guaranteed employment) left some households vulnerable
- Diverse effects of reforms; losers as well as gainers
- Some were unable to participate in the new economic opportunities (lack of skills, long-term illness or disability)
- Some of those “left behind” started poor and some became poor, even though aggregate poverty rates have tended to fall over time.
- Urban areas have figured prominently in these concerns about the “new poor.” But rural areas too!
- Concerns that uninsured risk may have adverse long-term consequences.

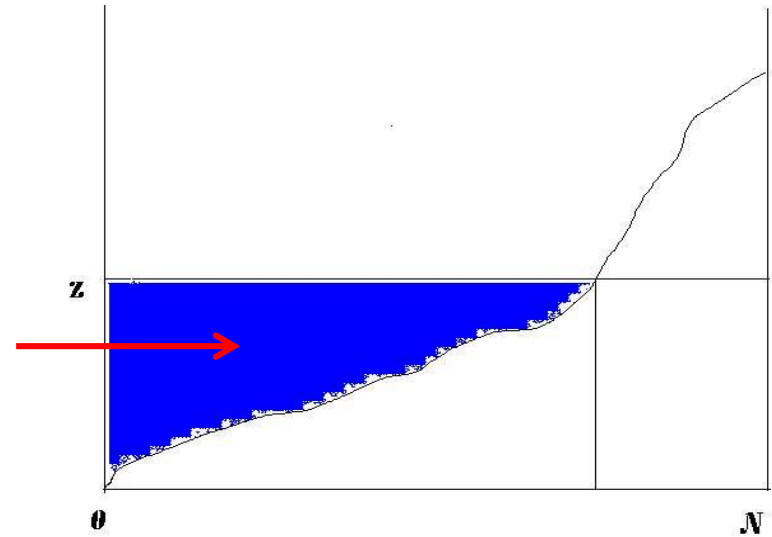
*What can be done to assure
better social protection?*

China's *Di Bao* Program

- *Di Bao* (“Minimum Livelihood Guarantee Scheme”) = the government’s main response to this new challenge.
- Started in Shanghai in 1993, then became a national policy in 1999 under State Council regulations.
- DB expanded rapidly and by 2009 participation reached 23 million people, representing 6% of registered urban residents, at a cost of about 0.1% of GDP.
- Extended to rural China after 2007. Now covers 53 million rural residents.
- About 40% DB recipients are women; 8% are disable; 14% are old people and 15% are students.
- The scheme is administered by the Ministry of Civil Affairs (MoCA).

Aims of the *Di Bao* Program

- *Di Bao* provides a transfer to all registered urban households with incomes below a DB line set at the municipal level.
- The aim is to close the gap between the recipient's income and the local DB line so that a minimum income is guaranteed.



Does *Di Bao* achieve its aims?

How the program works 1

- Originally limited to those with local urban *hukou* but recently DB has started to cover all urban residents.
- Means-tested:
 - Eligibility is determined by whether per capita income of the household is below the local *Dibao* line.
 - DB line varies across cities, county towns and districts within cities (the variation only partly reflecting cost of living differences)
 - Role played by “non-income” factors (emergencies)
 - Heavy reliance on local screening through community committee.

How the program works 2

- Cash benefits are supplemented with in-kind benefits including subsidies or exemptions for education, utilities, health care payments, or access to low-income housing.
- Implementation is highly decentralized
 - Differences in local resources and administrative capabilities,
 - Differences in the local political economy.

Lessons from past research 1

- Targeting: DB is good at avoiding leakage to the non-poor.
 - The share going to the DB poor is eight times higher than under uniform allocation
- Excellent targeting performance by international standards.
 - For example, Coady et al., (2004) provide estimates of a targeting measure for 122 programs across 48 developing countries.
 - The poor in Argentina were four times more likely to get the *Trabajar* program than under uniform allocation. This was then the best targeted program.
 - *Dibao* does better!

Targeting of China's *Di Bao* Program

Aims to bring everyone up to the *Di Bao* poverty line

Leakage and coverage in *Di Bao* program

	Eligible $y - db < z_{db}$	Ineligible	Total
Receiving DB	2.22	1.69	3.91
Not receiving DB	5.48	90.60	96.09
Total	7.71	92.29	100.00

Note: y =actual (“gross”) income; db =income from DB; $y-db$ =net income; z_{db} = DB line.

Incomplete coverage:
Errors of exclusion

Leakage:
Errors of inclusion

How much impact on poverty? Amongst participants? In population?

Impacts on aggregate poverty in urban China

	<i>Dibao</i> poverty rate (%)	
	Before <i>Dibao</i>	After <i>Dibao</i>
Population		
H (%)	7.71	7.26
Gap (%)	2.28	2.06
SPG (x100)	1.02	0.88
Participants		
H (%)	56.85	45.49
Gap (%)	19.92	14.23
SPG (x100)	10.21	6.44
	calculated by subtracting DB transfers	observed in data

Lessons from past research 2

- Coverage is clearly a bigger problem than targeting.
 - DB is not reaching the majority of those households with an income below the DB line.
 - And it is only covering about one eighth of the aggregate income gap relative to the DB lines.
- However, if DB is a poverty trap, then not a good idea to expand coverage. Rationing as 2nd best response.

A poverty trap?

- In theory, DB exactly fills the gap between current non-DB income and the DB line (as is the scheme's aim).
=> **100% marginal tax rates** => adverse work incentives undermine effectiveness against poverty.
 - Benefit withdrawal rate (BWR) = the amount by which the transfer payment falls for each extra pre-transfer income.
 - For programs aiming to reduce poverty a BWR around 60-70% is consistent with evidence on the relevant income elasticity of labor supply (Kanbur et al., 1995).
- Earned income net of DB will fall to zero (assuming that work yields disutility).

Is the program creating a poverty trap, whereby participants face little incentive to raise their own incomes, because of the loss of benefits?

Data and descriptives

Panel surveys

- 7 cities: Beijing, Shenyang, Jinan, Wuhan, Chongqing, Tianshui and Pingliang
- 1,040 Di Bao participants + 1,029 “high propensity” non-participants drawn from a large national urban HSS (the baseline).
 - Propensity scores based on probit for DB participation in 2007
- Households were resurveyed in 2009 and 2010.
 - 1866 were resurveyed in 2010-2011; attrition due to high urbanization and renewal rates

+ qualitative observations

- Open-ended interviews in 2007, 2009 and 2010 in Beijing, Chongqing, Tianshui and Wuhan.
- Interviews with DB officials (central and local) and DB households.



Exit and entry 2007-2010

		DB in 2009?		
		No	Yes	Total
DB in 2007?	No	931	98	1,029
	Yes	216	824	1,040
Total		1,147	922	2,069

		DB in 2010?		
		No	Yes	Total
DB in 2007?	No	820	99	919
	Yes	272	675	947
Total		1,092	774	1,866

		DB in 2010?		
		No	Yes	Total
DB in 2009?	No	959	59	1,018
	Yes	133	715	848
Total		1,092	774	1,866

- 71% of the 2007 DB participants were still in the program three years later.
- 29% had exited.
- Only 11% of the 2007 non-DB households had entered three years later.

Incentives, errors and heterogeneity in the Dibao program

Benefit withdrawal rate

- Transfer receipt is some smooth unknown function of income in the absence of the program.
- Define BWR as slope of tangent to this function.
- Transfer receipts by household i :

$$T_i = \alpha_i + \beta_i Y_i^* = \alpha + \beta Y_i^* + \varepsilon_i$$

where Y_i^* is income in the absence of DB and

$$\varepsilon_i = \alpha_i - \alpha + (\beta_i - \beta)Y_i^*; E(\varepsilon_i | Y_i^*) = 0$$

- The parameter of interest is the mean Benefit-Withdrawal Rate (BWR) (or marginal tax rate) — β .

Econometric model

- The problem is that pre-DB income is unobserved.
- Standard practice is to use actual income net of transfers:

$$T_i = \alpha + \beta(Y_i - T_i) + \mu_i$$

- This is the linear regression corresponding to standard practice in “benefit incidence analysis” (concentration curves etc.).
- As has long been recognized, this ignores incentive effects, although that is not the only problem!

Behavioral model 1

Two components of total income net of DB:

- Component 1 comprises income sources that are influenced by behavioral responses to DB receipts and are also measured with error; e.g., earnings from labor supply to casual work (not regular salaried work), self-employment income, and private transfers.
- Component 2 is other income sources unaffected by the program and measured accurately; e.g., formal (regular salaried) income and property income.

Behavioral model 2

- Component 1 is assumed to decline linearly at a rate π_i :

$$Y_i = Y_i^* + (1 - \pi_i)T_i + \nu_i \quad (0 \leq \pi_i \leq 1)$$

where $E(\nu_i | T_i, Y_i^*) = 0$ (classical measurement errors)

- If there is no (income-relevant) behavioral response to the program then $\pi_i = 0$ for all i , in which case income net of DB ($Y_i - T_i$) is a valid proxy for Y_i^* (with only measurement error to worry about).
- When $\pi_i = 1$, extra DB income displaces other income one-for-one, i.e., there is no expected impact of the program.

Bias in OLS 1

- The estimable model is related to the theoretical model through the properties of the error term:

$$\mu_i = \beta\pi_i T_i - \beta\nu_i + \varepsilon_i$$

- Given this structure to the error term the asymptotic value of the OLS regression coefficient is given by:

$$\text{Plim } \hat{\beta}_{OLS} = \beta \left[\overset{\text{Attenuation bias}}{\underbrace{1 - \gamma}} + \overset{\text{Incentive effects}}{\underbrace{\frac{\text{Cov}(\pi_i T_i, Y_i - T_i)}{\text{Var}(Y_i - T_i)}}} \right] + \underbrace{\frac{\text{Cov}(\varepsilon_i, Y_i - T_i)}{\text{Var}(Y_i - T_i)}}_{\text{Essential heterogeneity}}$$

where $\gamma \equiv \text{Var}(\nu_i) / \text{Var}(Y_i - T_i)$ is the share of the variance in observed net incomes accountable to measurement errors. Recall: $T_i = \alpha_i + \beta_i Y_i^* = \alpha + \beta Y_i^* + \varepsilon_i$

Bias in OLS 2

In summary, there are three sources of bias:

- Measurement errors: The usual attention bias due to measurement errors in a regressor.
- Incentive effects: An incentive effect stemming from any correlation between net income and the effect of DB receipts on other income. This bias can go either way.
- Essential heterogeneity: Bias stemming from any correlation between the differences in BWRs across households and their net incomes.

Special case: parameter constancy

- Suppose that both the BWR and the incentive parameter are constant across households. Then it is readily verified that:

$$\text{Plim } \hat{\beta}_{OLS} = \frac{\beta(1-\gamma)}{1-\beta\pi}$$

- For $\beta < 0$ and $\pi > 0$ it can be seen that OLS will be biased downwards for the BWR, and this holds even without income measurement errors.
- The two sources of bias work in the same direction leading OLS to underestimate the BWR.

Instrumental variables estimator

- IV estimator under the assumption that both the incentive effects and the measurement errors are confined to Component 1 of income.
- Component 2 is assumed to be both measured accurately and not be prone to incentive effects of the program.
- If incentive effects and income measurement errors are the only source of bias (in other words, there is no heterogeneity in the BWR) then Component 2 income sources can be used as the IVs for income net of DB.

Bounding the bias in the IV estimator

- If the BWR varies systematically, then these IVs are likely to be correlated with the error term.
- We can exploit the panel data by using the lagged values of Component 2 income sources as the IVs.
- However, serial correlation in incomes is a threat to this identification strategy.
- Under the seemingly plausible assumption of pro-poor targeting, the latent differences in transfer receipts will tend to favor poor people.
- Then the IVs will be negatively correlated with the error term. (Note: $\text{Plim } \hat{\beta}_{IV} = \beta + \text{Cov}(Z_i, \mu_i) / \text{Cov}(Z_i, Y_i - T_i)$)
- The true value of the mean BWR will then be lower than the IV estimate.

Estimated benefit withdrawal rate for the Dibao program

Estimated mean benefit withdrawal rate

- In theory the program imposes a 100% marginal tax rate on the poor. *What about practice?*
- OLS estimate of BWR: 6.5% (t=5.4)
- Household and year fixed effects regression gives 3.1% (t=3.9). But this is almost certainly an underestimate too.
- IV estimates give mean BWR of 12% (t=13).
- Other specifications: 12-16%.

If anything, the BWR is too low!

- It appears unlikely that the program would provide any serious disincentive for earning extra income.
- However, such a low BWR raises concerns about how well the program reaches the poorest and how well it adapts to changes in household needs.
- Kanbur, Keen, Toumala: optimal BWR for a targeted program under plausible labor supply responses: 60-70%
- This raises concerns about how well the program is addressing uninsured risk and transient poverty.
- Adverse incentives do not appear to be a problem, but protection from poverty is a concern.

Why? Some observations from the field

- The center clearly puts a high weight on protection, but it must rely on local implementing agents.
- Qualitative observations: local agents actively “smooth” DB payments and participation.
 - Some local authorities allow DB benefits to continue for some period after finding a job.
 - Special employment program (since 2009) allows 60% of DB payments to continue for 3 years after getting a job.
- Their incentives are closer to a promotion objective:
 - It may be unacceptable to cut DB to poor people one knows when their income rises. Resistance by them too!
 - And there can be frictions in the entry of new participants; costs of finding and obtaining information/checking.
- Not so much “elite capture” as “participant capture.”

Epilogue: *Dibao* and the Global Crisis

- Despite the low BWR, DB payments still protected some households from falling into poverty during the crisis, esp., DB recipients just above the poverty line
- Using a fixed poverty line fixed (1.5 times mean DB line), only 32 households fell into poverty between 2007 and 2009.
- However, in the absence of DB payments the number would have been 225, 11% of sample!
- But the changes in DB payments had much less impact.

Actual transitions

		2009	
		Above line	Below line
2007	Above line	1944	32
	Below line	84	9

Simulated with DB=0 in 2009

		2009	
		Above line	Below line
2007	Above line	1751	225
	Below line	52	41

Simulated with Δ DB=0 in 2009

		2009	
		Above line	Below line
2007	Above line	1905	71
	Below line	63	30

Conclusions on the Dibao program

Conclusions 1

- Using specially designed and commissioned panel survey, we study this trade-off in one of the largest cash transfer programs in the world, China's *Dibao* program.
- The central government's design for *Dibao* aims to use means-tested transfers to assure that no urban resident has an income below a stipulated "*Dibao* poverty line."
- In theory this is ideal for protection but bad for promotion, given that it imposes a 100% marginal tax rate on poor participants—a poverty trap.

Conclusions 2

- No sign of this in the data. If anything the benefit withdrawal rate is too low, implying that the scheme is unresponsive to income shocks.
- Incentives for “promotion” are strong, but performance in “protection” is weak.
- Local agents implicitly put a far higher weight on promotion than implied by the central government’s design for the scheme, which emphasized protection.
- Since the local administration’s preferences are not aligned with the center’s a more complex contract would be needed to achieve effective protection.
- Policy implication: expanded coverage on *Dibao* should come with a higher Benefit Withdrawal Rate.

3. Case Study of an ambitious rights-based program: India's *National Rural Employment Guarantee Scheme (NREGS)*

Reading: Dutta, Puja, Rinku Murgai, Martin Ravallion and Dominique van de Walle, 2014, *Right-to-Work? Assessing India's Employment Guarantee Scheme in Bihar*. Equity and Development Series, World Bank.

Rights-based policies

- In attempting to fight poverty in poor places with weak administrative capabilities, the idea of “rights” has often been invoked.
- While rights-based ideas about distributive justice have had a long history (back to the 18th century), they have not had great traction in development policy discussions until recently.
- We have seen calls for the “right-to-health care,” “right-to-schooling,” “right-to-food,” and the “right-to-work.”
- Because poor people tend to have few rights, it is hoped that creating new rights will empower them to take actions that will help them escape poverty.

But can one just legislate new rights from above?

- The same factors that made people poor in the first place may well operate to undermine attempts to expand their effective rights.
- *Can central rights-based legislation work without improvements?*

India's National Rural Employment Guarantee Scheme (NREGS)

- NREGS is the most ambitious effort India has ever made to directly address absolute poverty.
- Introduced in May 2006, the scheme aims to:
 - guarantee 100 days/ h'hold/year of unskilled work on public works projects in rural areas
 - provides work on demand after h'holds obtain a job card;
 - pay a piece-rate such that a normal worker can earn the state-specific minimum wage rate set for the scheme
 - give women equal wages to men for the same work

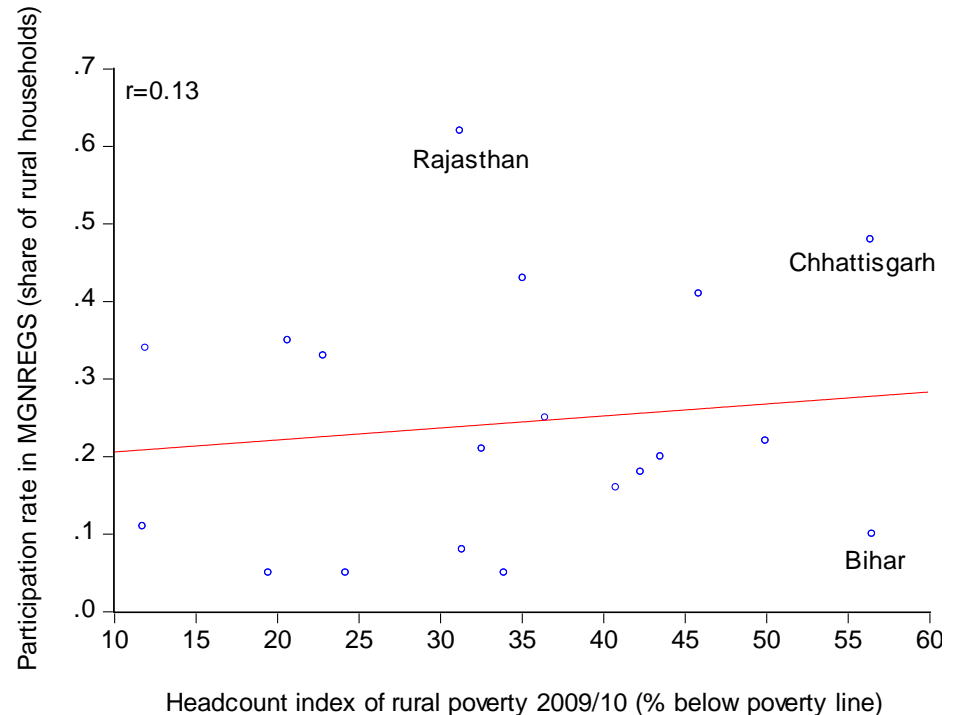
Evaluation issues

- This is an assigned program. So treatment group/comparison group design looks promising.
- However, if employment is really guaranteed then spillover effects will be huge.
 - The scheme essentially enforces the minimum wage rate
 - Benefits will spillover to all other workers earning less than the min wage.
- *Does India's Employment Guarantee Scheme guarantee employment?*
- *How much impact on poverty? Relative to what counterfactual?*

Does the “Employment Guarantee Scheme” really guarantee employment?

A puzzle about NREGS in India as a whole

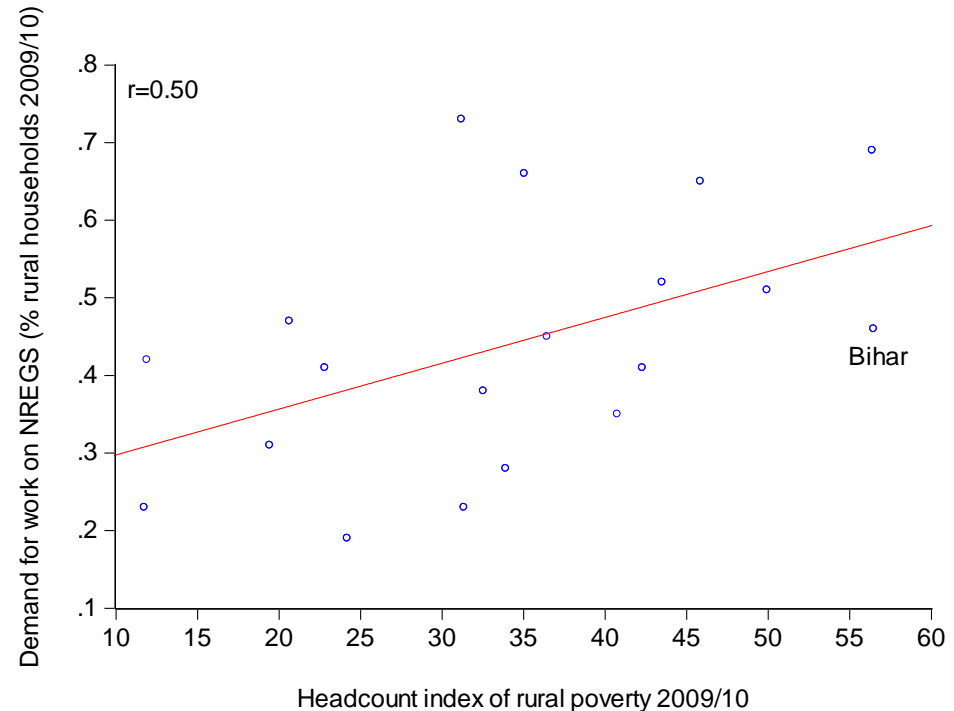
- Using National Sample Survey, 2009/10
- Participation rates on NREGS across states of India are only weakly correlated with poverty rates across states



Clues to this puzzle can be found in survey questions on whether respondents wanted work but did not get it

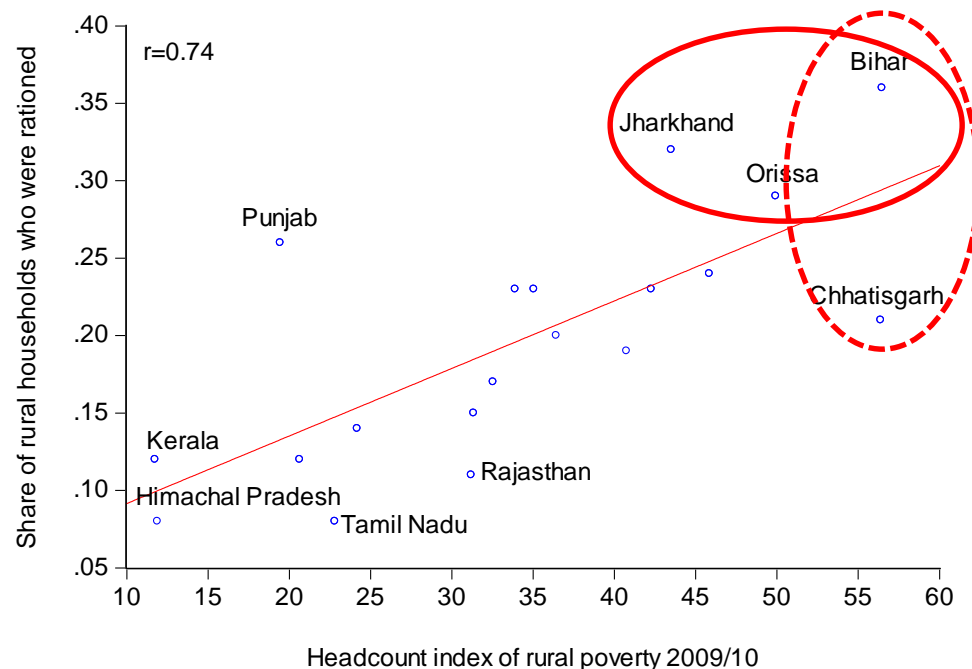
Yet poorer states of India have higher demand for work on NREGS

- Poorer states have a higher % of h'holds who want work on NREGS (actual employment + those who say they want work but could not get it).
- This is the “self-targeting” mechanism at work: richer households do not want this type of work.



Rationing in poorer states is the reason

- Rationing: *did you seek work but not get it?*
- Greater rationing—unmet demand for work on the scheme—in some of the poorest states.
- Highest rationing in Bihar, but also high in Jharkhand and Orissa.
- Low levels in TN, HP, Rajasthan and Kerala



In only a few states might it be argued that India's "Employment Guarantee Scheme " is in fact guaranteeing employment

Impacts on poverty: Evidence for Bihar (BREGS)

Individual impact estimates using counterfactual survey questions

- Standard evaluation methods rely on comparing means between treated and comparison group.
- Various methods are used to determine the comparison group under maintained identifying assumptions.
- However, a potentially large amount of relevant, individual-specific, information is left unobserved by these methods.
- And this information is clearly known by those deciding whether to participate => “essential heterogeneity.”
- The problem stems from the evaluator’s lack of information about forgone opportunities.

The classic evaluation problem

- We are interested in the net income gain to participants.
- As usual, each individual has two possible outcomes, income under treatment (Y_i^T) and income in the absence of treatment (Y_i^C) and the gain from treatment is $G_i \equiv Y_i^T - Y_i^C$ with mean $E(G_i)$. Treatment status is denoted D_i (=1 under treatment and =0 in the absence of treatment).

- By definition, the income of person i can be written as:

$$Y_i = D_i Y_i^T + (1 - D_i) Y_i^C = Y_i^C + G_i D_i = Y_i^C + E(G_i) D_i + \varepsilon_i$$

$$\varepsilon_i = (G_i - E(G_i)) D_i$$

- This motivates an econometric estimator. Since Y_i^C is only observed partially this is replaced by a function of control variables.

The classic evaluation problem cont.

- Benchmark assumption: $E(\varepsilon_i|D_i) = 0$. If, in addition, the error term in the control function is also orthogonal to treatment, then OLS gives an unbiased estimate of the mean impact.
- Alternatively, one might assume a valid instrumental variable, Z_i , correlated with D_i under the assumption that $E(\varepsilon_i|Z_i) = 0$.
- Of course, either of these must be considered strong assumptions on *a priori* grounds. (Also when option of treatment is randomly assigned but compliance is choice-based.)
- For example, if income-maximizing potential participants know G_i and decide rationally whether to accept the treatment on that basis then the assumption $E(\varepsilon_i|D_i) = 0$ will clearly not hold.

In some circumstances we can obtain survey-based estimates of G_i

- Instead of following the classic approach we collect survey data on the G_i 's directly.
- Of course, there may be measurement error in survey responses. Denote these by $\hat{G}_i = G_i + \eta_i$.
- Then to obtain mean impact we replace the standard econometric assumptions by $E(\eta_i) = 0$.
- This approach also gives us more information on the **distribution of impacts**.

Estimating forgone employment and income in BREGS

- Various approaches in the literature on workfare (time allocation model; matching estimators).
- Here we use individual self-assessments.
 - Individual knows a lot more than we do!
 - However, counterfactual questions are not easy to answer
- We ask counterfactual questions of participants:
 - How many days they expect to have worked and
 - What they would have earned if not for being in the program.
- High response rate; 98% by Round 2
- We may over-estimate forgone income due to double counting of forgone opportunities. Sensitivity tests.

Impact relative to “No-BREGS”

- The post-BREGS distribution of consumption is that observed in the data
- The pre-BREGS distribution is derived from this by subtracting the net gains from BREGS earnings, as given by gross wages less the imputed forgone income.
- Ignoring assets and savings

More formally

- Actual (observed) post-BREGS poverty measure:

$$P(y_1, \dots, y_n; z) = P(\mathbf{y}; z)$$

- Counterfactual poverty measure in the absence of BREGS:

$$P(\mathbf{y} - \mathbf{w} + \mathbf{f}; z)$$

where \mathbf{w} = n -vector of actual wage earnings from BREGS

\mathbf{f} = n -vector of forgone incomes due to taking up BREGS work

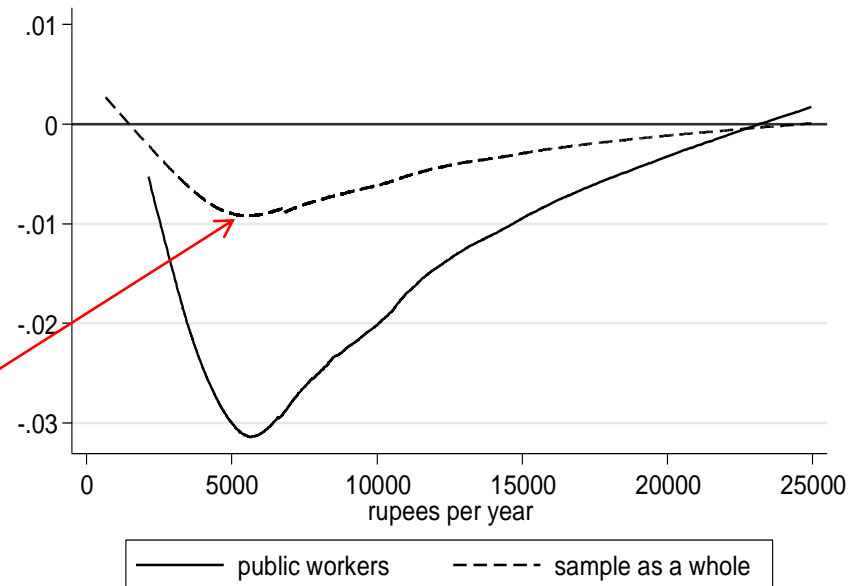
- Impact on poverty =

$$P(\mathbf{y}; z) - P(\mathbf{y} - \mathbf{w} + \mathbf{f}; z)$$

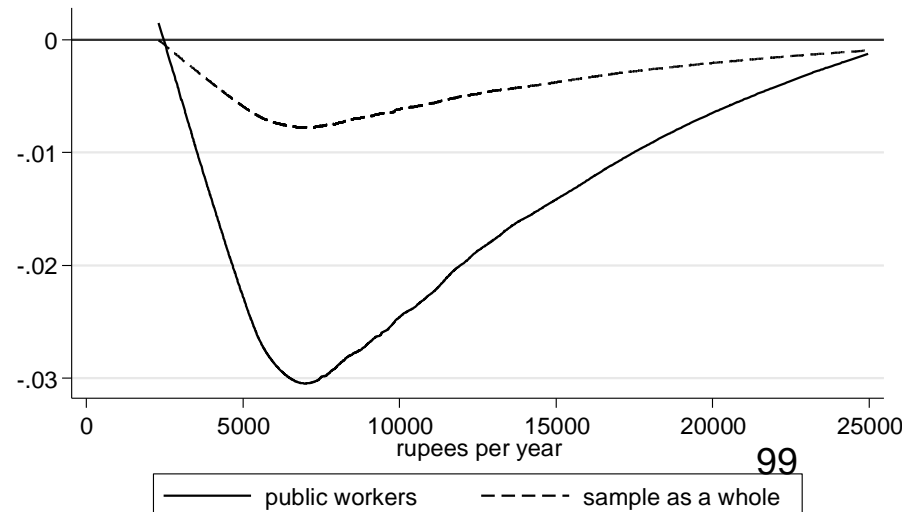
About 1% point reduction in poverty due to the scheme

- A 1% point reduction in the poverty rate at a poverty line of slightly more than 5,000 Rupees per person per year.
- Amongst PW participants alone, the impact is higher, with a peak reduction in the poverty rate of 3% points, also at a poverty line of 5,000 Rupees.

Difference between cdf of consumption before and after public works
Round 1



Difference between cdf of consumption before and after public works
Round 2



Poor performance relative to an idealized counterfactual

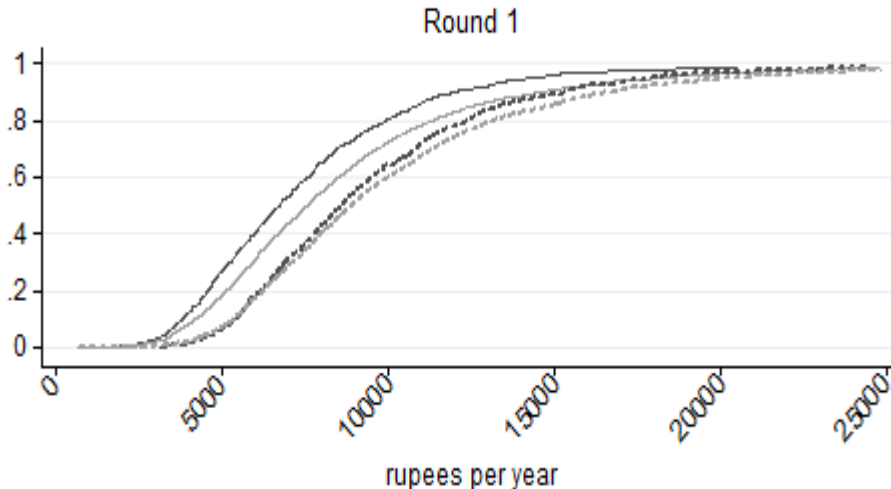
- What is the potential impact under ideal conditions?
 - 100 days of work per household who wants that work
 - At the stipulated minimum wage rate for the scheme
 - Only fully unemployed people join, i.e., no forgone income
 - Again ignoring assets and savings
- Impact on poverty =

$$P(\mathbf{y} - \mathbf{w} + \mathbf{f}; z) - P[\mathbf{y} - \mathbf{w} + \mathbf{f} + \min(\mathbf{D}, \mathbf{100})\mathbf{w}; z]$$

where $\mathbf{d}=(d_1, \dots, d_n)$ is desired participation (self-reported) in BREGS at stipulated minimum wage daily rate of w^*

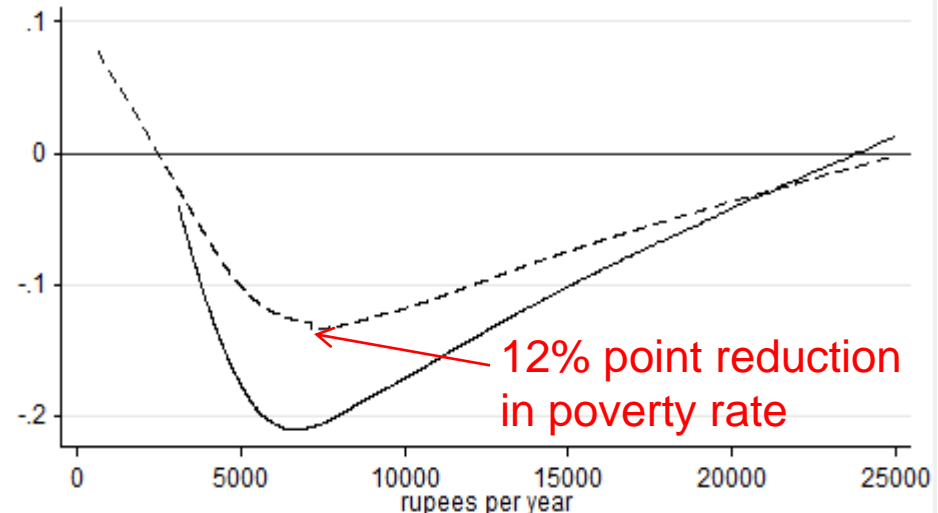
BREGS has a much larger potential impact on poverty in Bihar

Distribution of consumption
before and after full potential NREG (no foregone income)
Round 1



— consumption before BREGS: public workers
- - - consumption before BREGS: sample as a whole
..... consumption after BREGS: public workers
- consumption after BREGS: sample as a whole

Difference between cdf of consumption
before/after full potential NREG (no foregone income)
Round 1



— public workers - - - - sample as a whole

Rationing accounts for large share of the performance gap

- To estimate impact in the absence of rationing we:
 - Scale up days of work to those desired, up to 100 days per h'hold with extra days valued at their mean net wage.
 - Give the median net earnings to those who wanted work but did not get any.
- Then we get a poverty impact of 4-5% points.

Impacts relative to alternative counterfactuals

Alternative counterfactuals

- Do-nothing. The standard. However, “do nothing” is not a very interesting counterfactual.
- **Basic-income guarantee (BIS) scheme** gives every household (whether poor or not) the same sum of money as was spent on BREGS—a uniform transfer.
- **The BPL counterfactual:** We use whether the HH has a “Below Poverty Line” (BPL) card (as used for food rations).
 - Many claims that BPL cards are not as well targeted to the poor as they could be.
 - The BPL card system is currently under review by the Government of India.

Leakage in the counterfactual

- A cash transfer scheme will entail some leakage (less when *Aadhaar* is complete, but still some).
- We allow for leakage in the transfer schemes at the same level that we find in BREGS wage earnings in 2009/10, namely 20%.

More formally

- Actual (observed) post-BREGS poverty measure:

$$P(y_1, \dots, y_n; z) = P(\mathbf{y}; z)$$

- Counterfactual in the absence of BREGS:

$$P(\mathbf{y} - \mathbf{w} + \mathbf{f}; z)$$

where \mathbf{w} = n -vector of actual wage earnings from BREGS

\mathbf{f} = n -vector of forgone incomes due to taking up
BREGS work

- Counterfactual of a basic-income scheme:

$$P(\mathbf{y} - \mathbf{w} + \mathbf{f} + \mu_w; z)$$

- Ration-cards counterfactual:

$$P(\mathbf{y} - \mathbf{w} + \mathbf{f} + (\mu_w / \mu_r) \mathbf{r}; z)$$

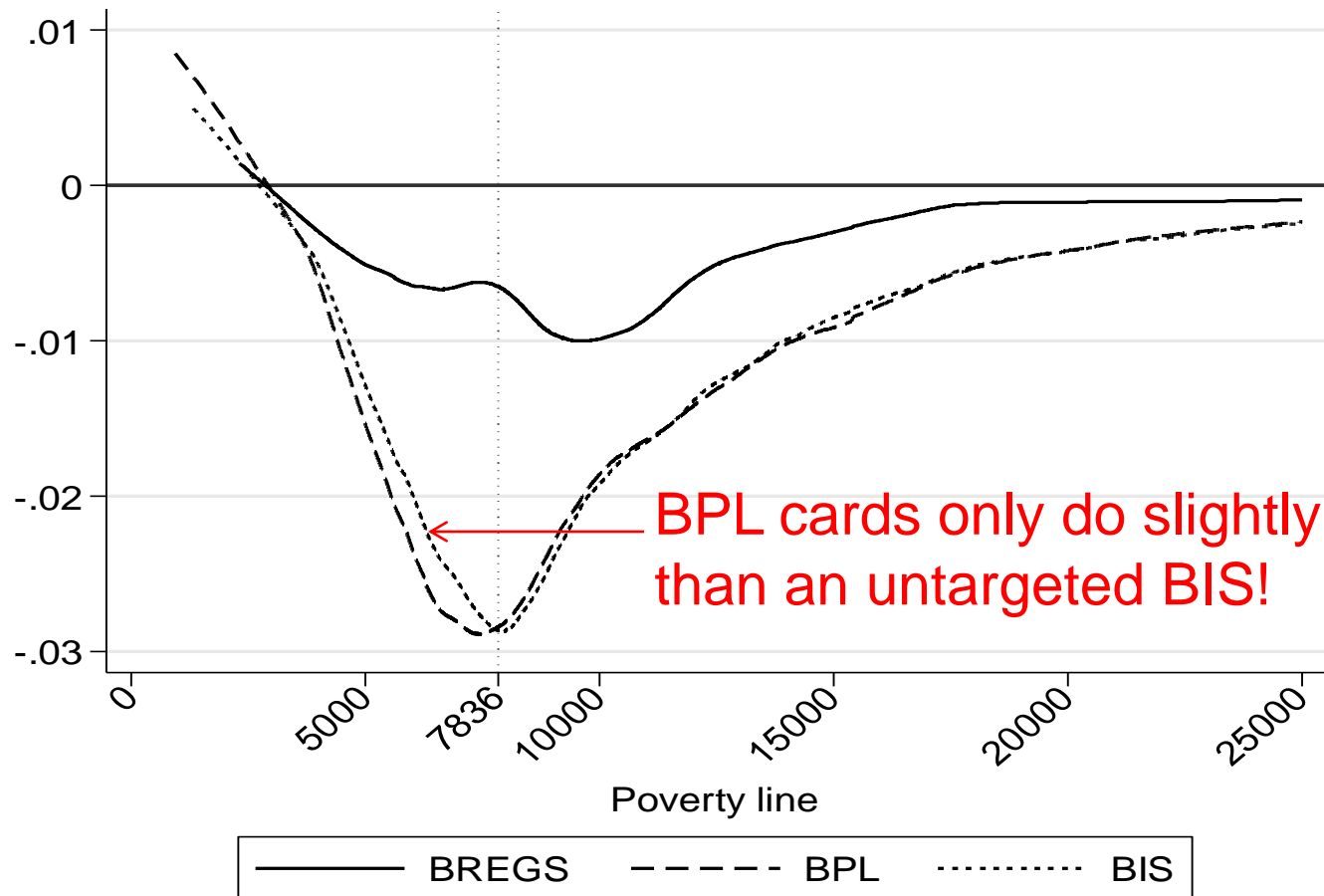
Poverty impacts of BREGS earnings

	Round 1		Round 2	
% below poverty line	Partici- pants	Pop.	Partici- pants	Pop.
Pre-intervention				
Deducting gross BREGS wages	63.0	51.7	56.4	43.2
Deducting net BREGS wages	62.2	51.4	52.6	42.3
Post-intervention				
Observed with BREGS	56.8	50.0	50.2	41.8
Basic-income scheme (BIS)	60.8	49.5	50.9	39.1
BIS with 20% leakage	61.1	49.8	51.4	39.9
Transfers based on BPL cards	60.5	49.8	50.1	40.0
With 20% leakage	60.8	50.0	50.9	40.3

Note: The poverty line is set at the median for R1 as observed (post-intervention).

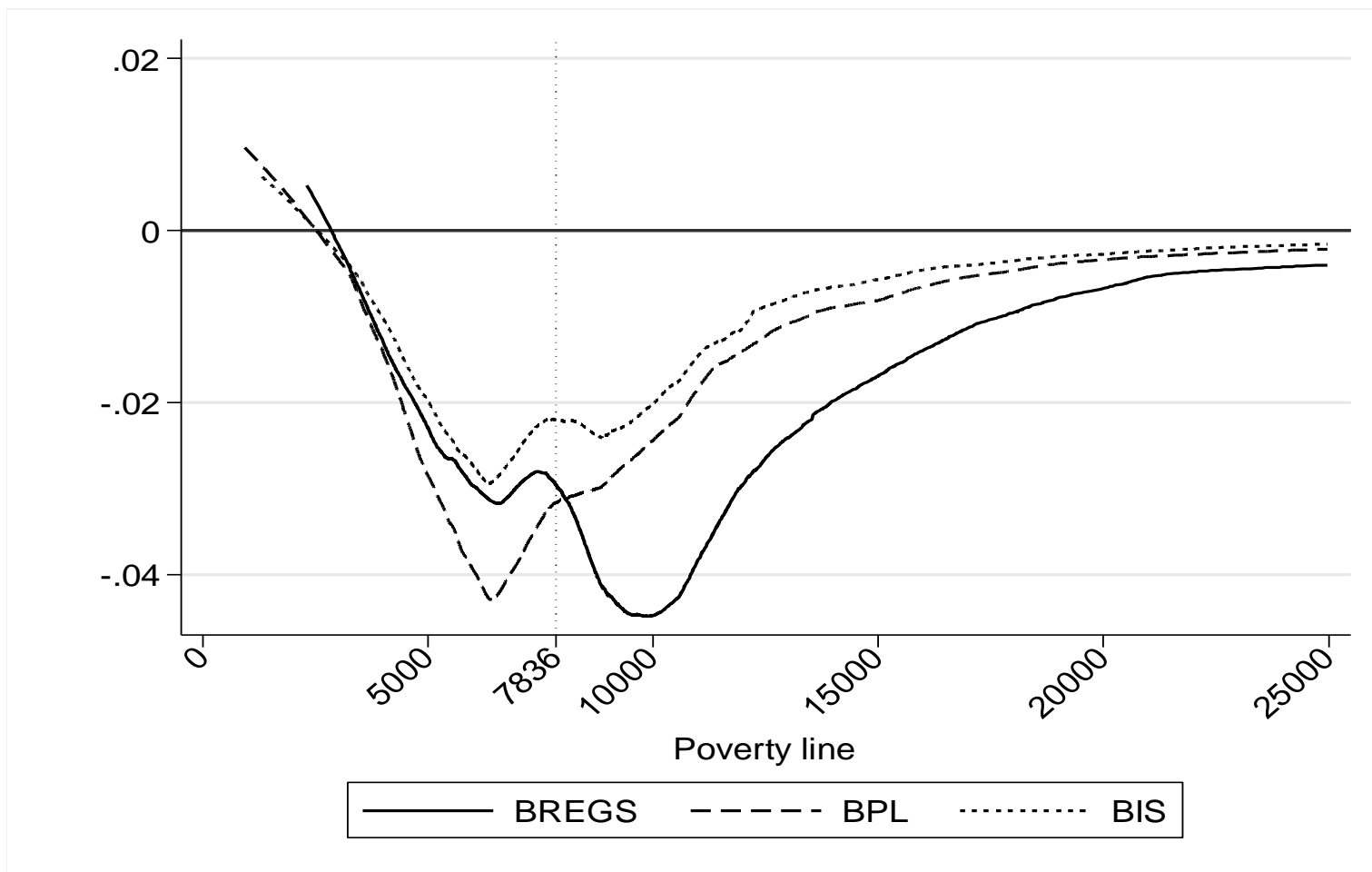
Poverty impacts over multiple lines

Whole population; Round 2

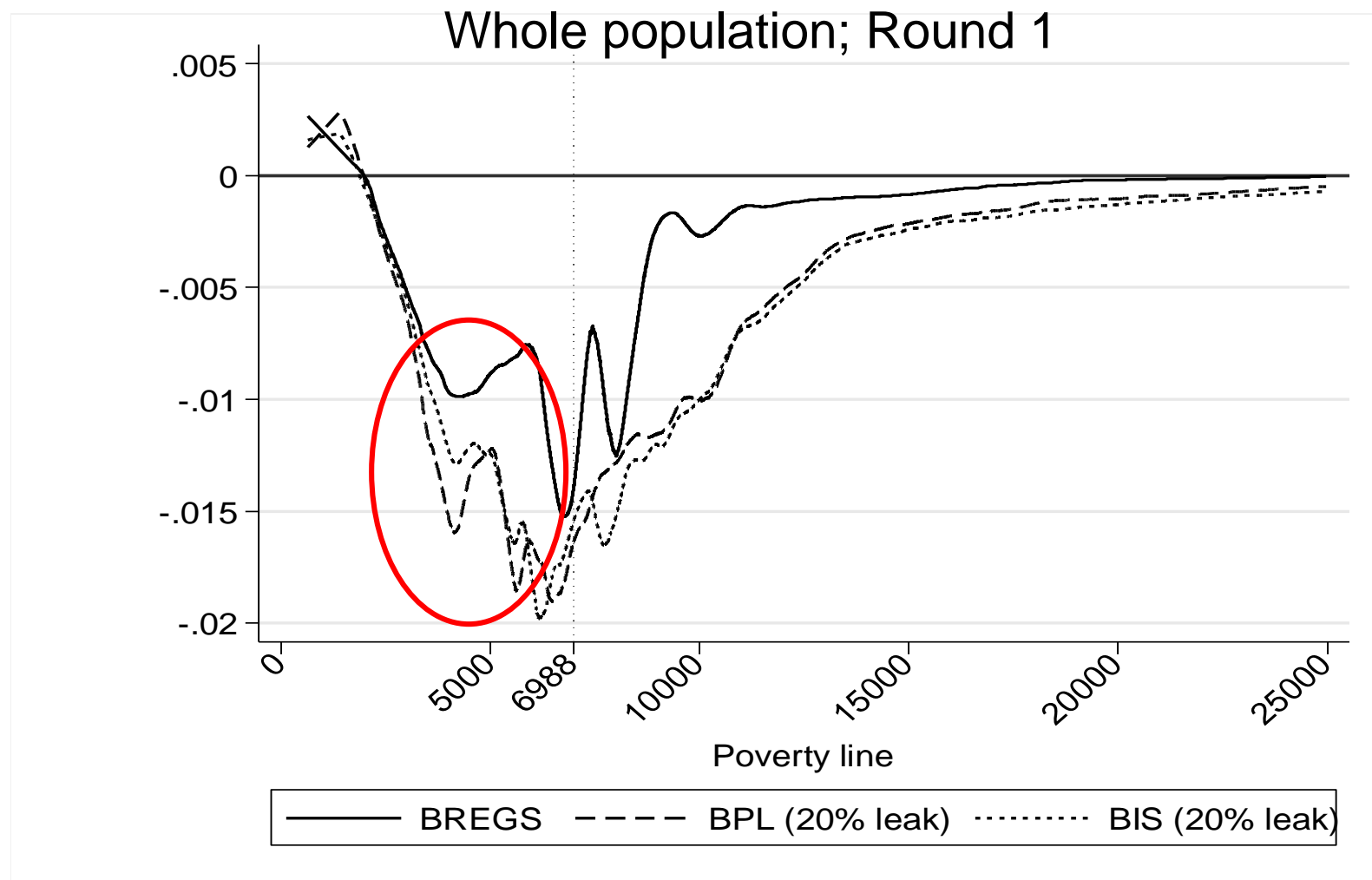


Poverty impacts over multiple lines

PW participants only; Round 2



With 20% leakage the transfer schemes dominate at lower poverty lines



Summary of poverty impacts

Budget-neutral comparisons of poverty impacts imply that:

- Despite its superior targeting, the extra labor earnings from BREGS are less effective against poverty than either a BIS or BPL-based transfers.
- This is true even if the transfer schemes have a similar level of leakage as we find for BREGS wages (20%).
- While BPL cards favor the poor slightly, very little difference to a BIS!

The superior targeting of unproductive workfare cannot outweigh two advantages of cash transfers: zero foregone income, and avoiding the non-wage costs of workfare.

*Can better information assure
better performance?*

Low awareness about NREGS: Evidence from Bihar

- Surveyed individuals in Bihar (2009/10) were asked 12 questions that aimed at testing their knowledge about the scheme's functioning, as well as about their rights under NREGA.
- Results suggest that awareness of the details of the scheme is low, and even lower for women than for men.
- Although 95% of men and 73% of women had heard about the program
- But most were unaware of their precise rights and entitlements under NREGA. The level of understanding about how to go about obtaining work is clearly low.

Factors influencing awareness

The study found that awareness is greater for those with:

- education levels at secondary level and above
- male gender
- (for women) higher Pearlin Mastery scale — perceive self to be in control of factors that affect life
- Past history of casual work
- Mahadalit caste and of the Hindu religion,
- Relationship to the Ward member or the panch of the panchayat and having voted in the panchayat election.
- Lower wealth and land holdings
- Villages with low inequality, poor infrastructure and accessibility, scheduled caste households, Kucha houses, Panchayat Bhawan, a post office and access to non-agricultural enterprises within 5 kilometers of the village.

Awareness comes from knowledge and relevance

At the individual and household level, one can think of the determinants of awareness as falling roughly into two categories of attributes —

1. those that enhance a person's knowledge and understanding, and
2. those that render the information more relevant and meaningful to those individuals.



An awareness intervention

The awareness experiment:

BREGS the Movie

- Intervention aimed to raise awareness and so favorably affect the scheme's outcomes.
- A film was produced to explicitly convey information about BREG rights and entitlements.
- The film was tailored to Bihar's specific context and program guidelines.
- Biharian actors acted out an entertaining story based plot whose purpose was to provide repeated information on how the scheme works, who can participate and how to go about participating.

BREGS The Movie

- Shown in 40 randomly sampled villages in mid February and mid March 2010.
- Shown twice in each of two separate locations.
- Shown in common areas, such as an open ground, school building, or community hall.
- Film showing was followed by a question and answer session and distribution of handouts.
- On average, about 365 people (38% women) attended either screening
- In a third of the villages, the Mukhiya and Mate attended
- the PRS attended in half the villages and the opposition leader did so in close to 60 percent.

Impacts on awareness 1

- The movie had significant effect on awareness of the existence of NREGS for the sample as a whole though the effect is small (a 3% point gain). Larger and more significant effect on awareness for women.
- There was a significant impact on knowledge about how many **days of work** are available, with a 12% point increase in the proportion who got this right being attributed to the movie (significant at the 1% level). The impact was slightly higher for men than women.
- For men, but much less so for women, there was a large effect of the movie on knowledge of the fact that work has to be provided within 15 days, that wages are to be paid within 2 weeks and that contractors are not permitted under the legislation; these impacts are all significant at the 1% level for men.

Impacts on awareness 2

- Awareness of the provision for **unemployment compensation** if work could not be provided also rose substantially due to the movie, with a larger effect for men (12%) than women (8%).
- Similar effects were evident for knowledge of the **wage rate** with a large and significant effect of the movie, though again, stronger for men than women.
- The fact that **childcare** is to be provided was little known in the control group, but rose appreciably for those living in villages that had the movie, rising from 13% to 20%. The impact was similar for men and women.

Impacts on awareness 3

- There is a sizeable and significant effect of the movie on awareness that **work has to be demanded** amongst men, but not women. 72% of men knew this in the control villages, rising to 80% with the movie.
- It is striking that there was no impact on awareness that work had to be demanded for women, given that barely half of them knew this in the control villages.
- It may be that since women typically go to NREGS worksites with male family members, this is information they don't feel they need to retain.

Impacts on perceptions 1

- Positive impacts (both genders) on **perceptions** that one can get work on NREGS when one demands it, that NREGS projects have increased employment and lowered migration.
 - The feeling that one can get work if one asks doubled from the control group's 9%.
- There is a small effect on men's perception that women can choose NREGS projects, but no effect for women.
- Strong significant negative effect on the perception of men and women that the **assets created** have been useful to women, and for men only that women participate in NREGS work.

Impacts on perceptions 2

- Positive effects on perceptions that the household's knowledge of NREGS has increased, as have NREGS work opportunities and work opportunities more generally, and that infrastructure has improved.
- There was a doubling in the perception that NREGS work opportunities have increased for both men and women.
- Women but not men felt that infrastructure was improved by the scheme after seeing the movie.
- Men but not women felt that overall work opportunities improved due to NREGS.

A “groupthink”?

- However, there are no signs of effects on the NREGS specific, non-perception variables — namely post-movie actual or desired participation, wage rates and days worked.
- The movie did not significantly change aggregate objective outcomes, but appears instead to have created a **groupthink** within the treatment villages—a distortion to widely-held beliefs.
- Collective perceptions of program efficacy became more positive, but this did not translate into actual efficacy at the individual level.

Why is the supply-side not more responsive?

Why so much rationing in poor states, including Bihar?

1. Low administrative capacity in poorest states?

- Supply side is slow to respond even with full information.
 - Low participation, esp., few *gram sabhas*
 - Lags in execution; intermittent closures
 - Poor flow of funds accounting
 - Wages paid in cash not through POs
 - High costs of organizing projects, workers, reporting
 - Poor supervision
 - Lack of transparency
- State/local govts must cover skilled labor (admin) cost.
- A scheme such as NREGS is likely to be harder to implement in poor states.

Local admin. costs: Meeting demand for work need not be an equilibrium

- State chooses level of employment to minimize:

$$cE + p(D - E) \text{ s.t. } E \leq D$$

$p(\cdot)$ penalizes un-met demand; p is strictly increasing convex, $p(0)=0$.

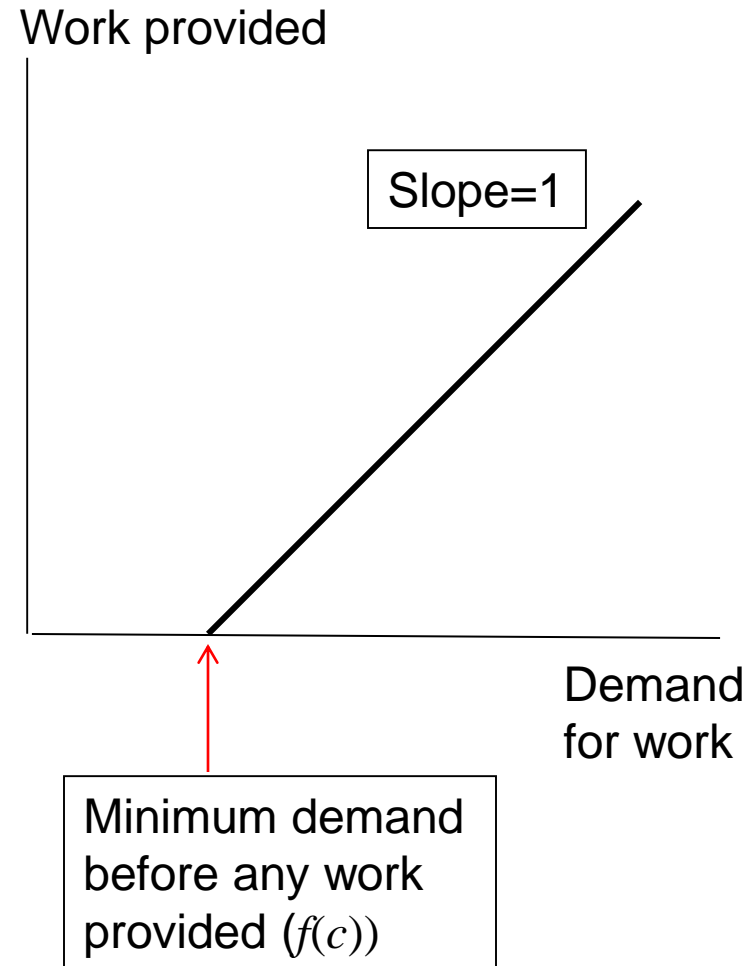
- Sufficiently high unit cost:

$$c > p[f(c)]/f(c)$$

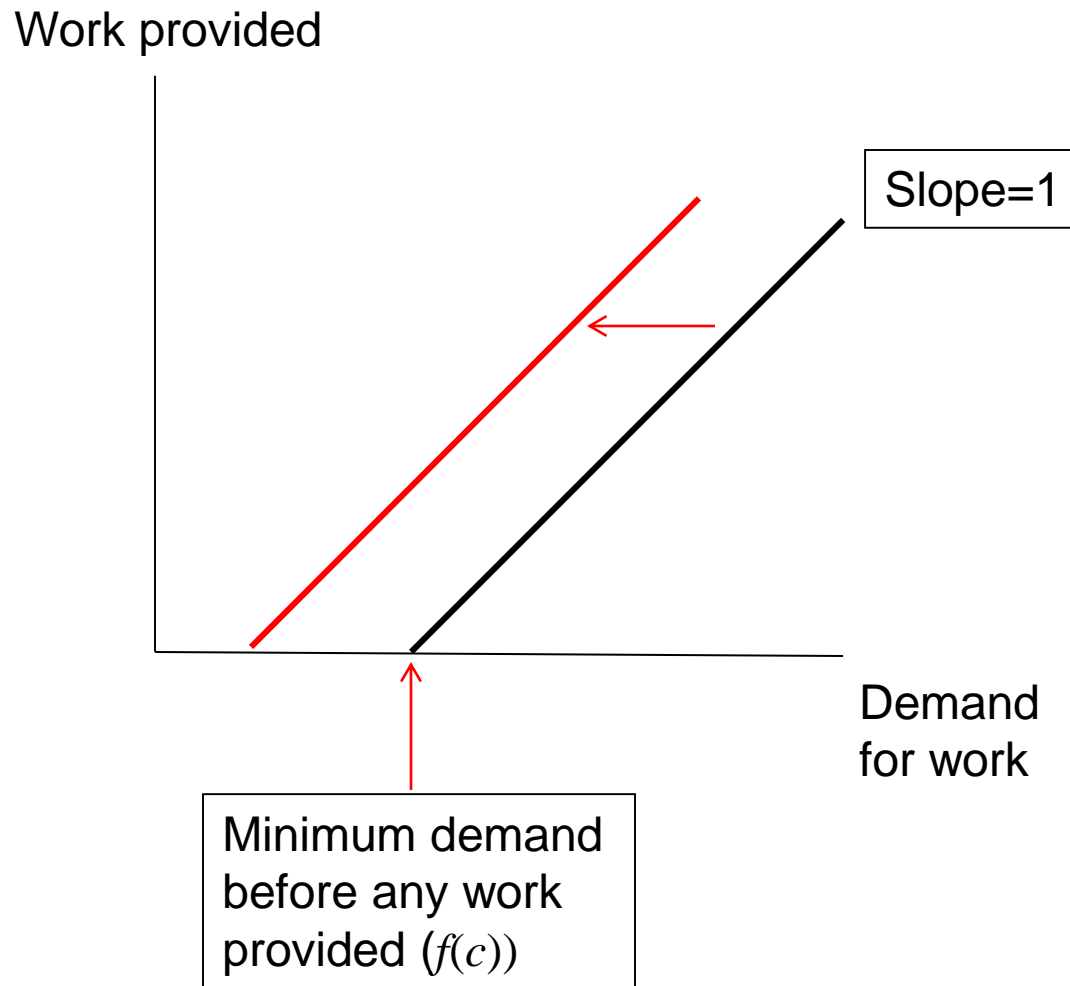
- Solution takes the form:

$$E = D - f(c)$$

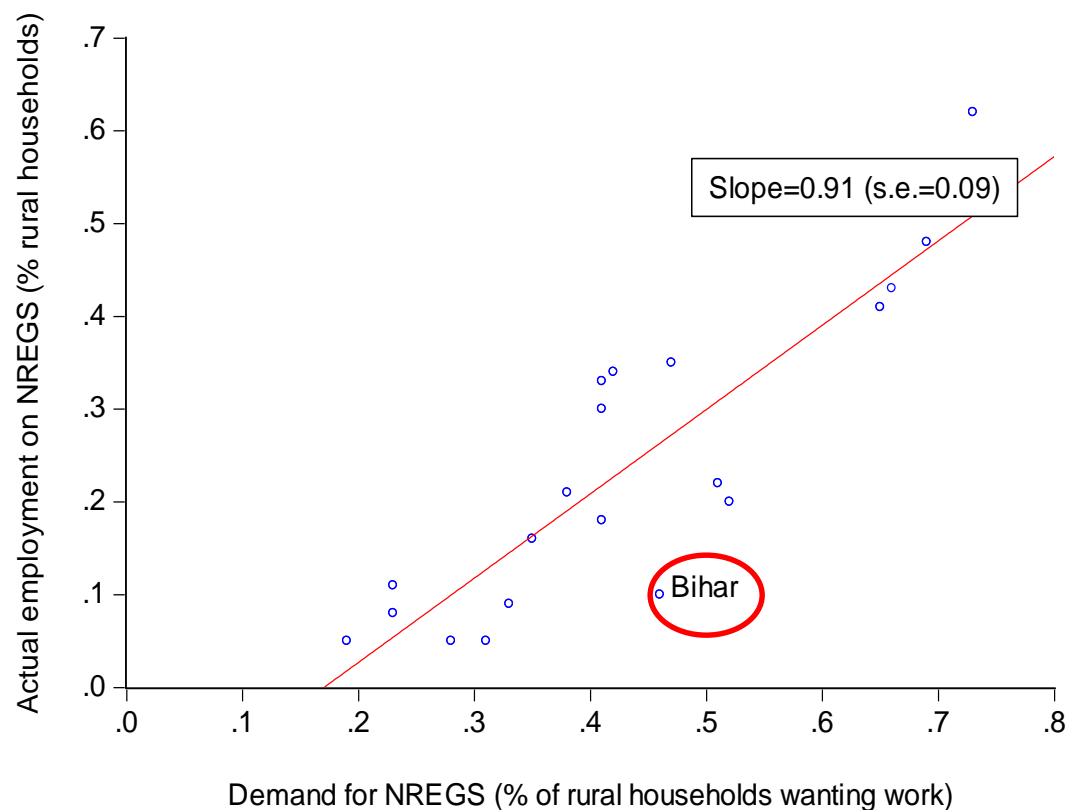
where $f(c) > 0$ and $f'(c) > 0$.



Lowering administrative cost in poor states will reduce rationing of work



This simple model fits the data well



However, Bihar participation is still low

2. Corruption/leakage?

- Are the central government's disbursements being **siphoned off** somehow, before the money reaches workers?
- We compare the gross wages and employment received by households with the total central disbursements to the state recorded in the center's official administrative data.
- The survey aggregates accounted for **80%** of the employment claimed in the administrative data for 2008/09, rising to 86% in 2009/10. (75%, 80% of wages.)
- So, while there are signs of leakage, this does not get us far in explaining the low participation rate of workers based on survey data.

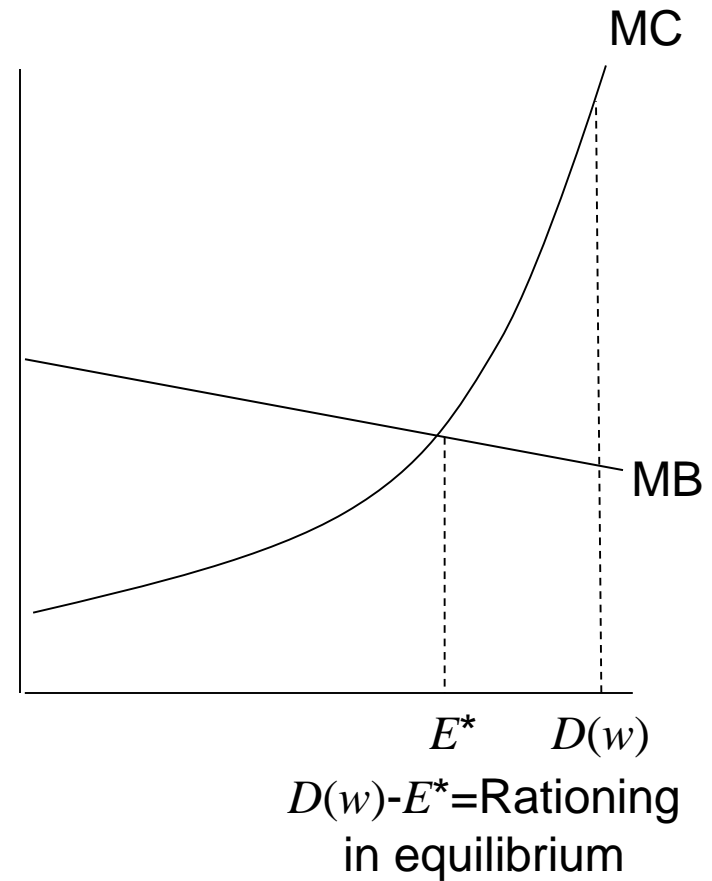
Corruption cont.,

- Surely corrupt local officials will have an incentive to eliminate the rationing by starting more projects?
- Not if their own personal gain from doing so is constrained by the design of the scheme.
- Corruption requires **cooperation** between a set of stakeholders (officials and workers).
- **Marginal cost of corruption** may rise steeply at higher levels of disbursement given checks and balances built into the design.
- Very high MC when local officials would need to extend their network of collusion beyond the “**comfort zone**” of those they trust.

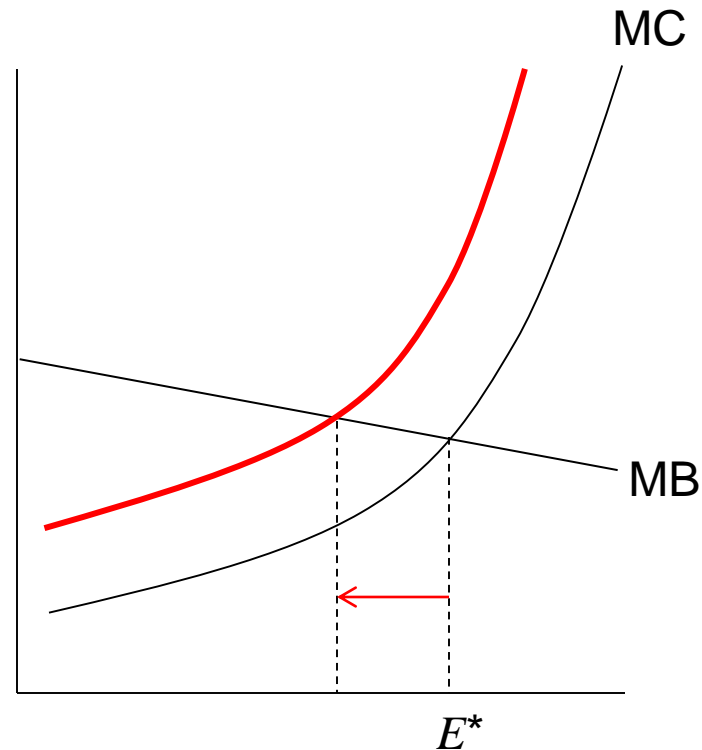
A simple model of rationing on NREGS

- Local officials maximize:

$$R(E) - C(E) \text{ s.t. } E \leq D(w)$$
 - $R(E)$ =officials' own revenue at employment E ; $C(E)$ =cost of corruption; $D(w)$ =supply of labor to NREGS at wage w
 - Assume $R''(E) < C''(E)$
- There will be rationing in equilibrium if $E^* < D(w)$, where $R'(E^*) = C'(E^*)$.



Higher marginal cost of corruption lowers employment on the scheme



What to do?

- Given this model of corruption, the way to get the scheme disbursing more is to make this model irrelevant rather than simply increasing the MC of corruption.
- People must know that rationing is not permitted.
- And there must be effective monitoring, including social audits, with scope for redressing grievances.

Conclusions from this case study

Supply-side issues are limiting the potential benefits from NREGS

- Rationing makes it unlikely that there will be large insurance and empowerment benefits.
- Lack of awareness of rights also makes it unlikely that there would be large impacts on empowerment.
- Awareness can be changed. Monitoring and auditing is needed to assure that rationing is no longer feasible.
- However, public awareness and positive perceptions are not sufficient for positive change.
- More responsive supply side needed; lower local admin. costs; local surveillance and reporting to avoid rationing.
- There will be resistance from those benefiting from status quo.

4. Case Study of Argentina's *Proempleo* Program

Reading: Martin Ravallion, Emanuela Galasso and Agustin Salvia “Assisting the Transition from Workfare to Work: Argentina’s Proempleo Experiment,” *Industrial and Labor Relations Review*, 57(5), October 2004, pp.128-142.

A wage subsidy scheme to reduce workfare dependence

- Concerns about workfare dependence.
- Many active labor market programs, but inconclusive non-experimental evaluations.
- The idea: A randomized evaluation of supplementary programs to assist the transition from the government's *Trabajar Program* to regular work.
- The *Trabajar Program* was a workfare program, tied to locally initiated development targeted to in poor areas.

Setting: Confluencia in Neuquen

- 1993: downsizing and privatization of the state-owned oil company
- 1998: the *Trabajar* participation rate was still unusually high; 28% of people living in poor households that included an unemployed worker; corresponding national figure was 5%.
- However, the joint incidence of poverty with unemployment was no different to the national rate.

The randomized experiment

- A random sample of 850 Trabajar workers
- 280 got nothing; they formed the control group.
- The rest got a **voucher** that entitled them to a **wage subsidy**, received by any private-sector employer who hired that worker into a regular job. Subsidy=3/4 min. wage for 18 months.
- For 300 the **voucher came with skill training**; but 90 did not take this up.
- After a baseline survey, there were three follow-up surveys of all workers at six month intervals, spanning 18 months.
- Experiment was kept secret

What impact on employment?

- By the final survey round, the proportion of voucher recipients getting a private sector job was 14% versus 9% for the control group.
- This difference is statistically significant (5% level).
- The gains were confined to women, the young (under 30) and those with secondary schooling.

Impacts of training?

- No significant extra impact from the training.
- However, there could be bias due to **endogenous compliance**
- For example, if low skilled workers with little prospect of employment expect gains from training then we will underestimate impact
- Still no impact of training using 2SLS with assignment as the IV for treatment. (*)
- Exception: significant impact of training for those with secondary schooling

Instrumental variables estimator for dealing with endogenous compliance

$D = 1$ if treated, 0 if control; $Z = 1$ if assigned to treatment, 0 if not.

$$Y_i = \beta D_i + \varepsilon_i \quad \textbf{Outcome regression}$$

(“treatment effect on the treated”)

$$D_i = Z_i \pi_1 + \eta_{1i} \quad \textbf{Compliance regression}$$

$$Y_i = Z_i \pi_2 + \eta_{2i} \quad \textbf{Outcome regression}$$

(“intention to treat effect”)

$$\hat{\beta} = \frac{\hat{\pi}_2}{\hat{\pi}_1} \quad \textbf{2SLS estimator} \text{ (=ITT deflated by compliance rate)}$$

Puzzle 1: No impact on incomes?

- There was no significant income gain for voucher recipients (for either total family income or labor earnings of the Trabajar participant).
- It appears that voucher recipients took up private sector jobs in the expectation of a **higher and/or more stable stream of future incomes**.

Puzzle 2: low take-up by employers

- Low take up of the wage subsidy by firms amongst those who got a private job; just 3 firms took up the subsidy.
- Hidden costs of take-up: social charges for registering the worker; severance pay; spillover to other workers

Supply-side effects?

- Possibly those receiving the voucher were more confident in approaching potential employers,
- or possibly the latter took the voucher as some sort of indicator of the applicant's quality as a prospective worker.

The wage subsidy was cost-effective

- It appears that the impact of the voucher was not through the access to a wage subsidy.
- Low subsidy take-up by employers
- So don't judge impact of a wage subsidy by its take-up rate
- Government saved 5% of its workfare wage bill for an outlay on subsidies = 10% of that saving
- Caveats on scaling up.

Three main lessons from this case study

1. Randomized assignment does not mean randomized treatment. Look at compliance and potential endogeneity of treatment, using randomized assignment as the IV.
2. Look into possible heterogeneity of impacts.
3. Try to understand the reasons from estimated impacts. Follow-up qualitative work can be revealing—including on policy implications.