

# Methodologies to analyze the local economy impact of SCTs

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## Introduction

- Cash transfer often targeted to a specific population (identified based on proxy-means, CB targeting)
- Targeted population often part of the local economy (e.g., village) or local institutions (e.g., school)
- Locally, non-beneficiaries may be affected by the program through social and economic interactions with program beneficiaries.

## Introduction

- Impacts on beneficiaries only part of the overall effect of SCTs.
- Why should it matter?
  - Critical to understand the contribution of SCTs to poverty reduction (cost-effectiveness)
  - Relevant to help design complementary interventions that would further foster these impacts.

## **Objective of this research**

To understand and document the full range of impacts from SCTs

Review paper:

- Modelling channels through which local economy effects are generated
- Discussing data requirements and methods for identifying local economy impacts
- Discussing findings on local economy effects

## **Outline of the talk**

Local economy impacts: investigating channels

- Labor supply channel
- Productive activities

Community-wide impacts through informal exchanges

General equilibrium effects

## **Labor supply channel**

- Expect an increase in the demand for leisure (along w/  $\uparrow$  in demand for goods)
- W/ a fixed labor supply at the local level, should also observe an increase in wage rates or a substitution away from the type of labor previously offered by beneficiaries.

- Find little evidence of a disincentive effect of SCTs on adult work (Parker and Skoufias, 2000; Skoufias and di Maro, 2006; Edmonds and Schady, 2008; Filmer and Schady, 2009), except in Nicaragua (Maluccio and Flores, 2005).

- Interpretation?

- income elasticity of leisure is low for households that are this poor;

- moreover, some households face a reduction in income from child work and an increase in school expenditures associated with the additional school enrolment.



- Data and methods:
  - straightforward to identify these effects with experimental data;
  - experimental data help produce reliable estimates free of confounding effects; BUT:
    - Having a good experimental design is critical
    - Coordinating field operations is critical
    - Having a strong support for the experimental study from program managers and other key actors (sector, region) is critical

## Productive activities

- Cash transfers may relax liquidity constraints enabling poor rural households to invest in productive activities.
- When beneficiaries invest in productive activities, we may expect a *multiplier effect* from putting the cash transfer money to work. (multiplier effect if marginal propensity to consume out of transfer greater than 1).

- SCTs may increase production as household become more able to avoid detrimental risk-coping strategies
- What's the evidence from experimental studies?

PROGRESA (Gertler et al. 2006): find that for each peso transferred, beneficiary households consume 88 cents directly, and invest the rest. Means that there is a 1.8 cent increase in consumption for each peso of transfers received. See also Todd et al 2010.

Nicaragua SCT (Maluccio 2010): little effect on investment and no multiplier effect.

Risk-coping? de Janvry, Finan, Sadoulet and Vakis (2006) find that PROGRESA helps buffer the effects of shocks on enrollment. How? Interact program dummy with shock variables. To replicate using agricultural production or income as the outcome var.

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Local economy impacts: investigating channels

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Community-wide impacts through informal exchanges and peer effects

General equilibrium effects

## **Do beneficiaries disengage from risk-sharing arrangements?**

A formal safety net could undermine existing informal insurance: if informal arrangements must be self-enforcing, any scheme that changes the value of autarky relative to being in the scheme will affect the degree of risk-sharing (Dercon and Krishnan 2003).

What's the evidence?

Albarran, and Attanasio (2003).

Propose a model of limited risk sharing due to imperfect enforceability. SCT increases the value of autarky for the beneficiaries, reducing the amount of risk-sharing in equilibrium.

Thus, expect not only to see a reduction in private transfers but also a greater reduction in villages with lower income variability.

Find evidence that PROGRESA cash transfer crowd out private transfers and that this effect is stronger in villages with lower variance in income.



## **Do beneficiaries share transfers with other households? With those who are closer socially?**

Several papers find that SCT benefit the local economy at large, not only beneficiaries.

Done using experimental data and focusing on the difference in outcome b/w non-eligible in T=1 communities and non-eligible in T=0 communities.

Angelucci and de Giorgi. 2010.

PROGRESA experimental design.

Why do ineligible households in treated villages have higher consumption than ineligible households in control villages?

Indirect effect on consumption but also ineligible households in treated villages receive more transfers, borrow more and reduce precautionary savings.

Propose a model of perfect risk-sharing: increase in aggregate income due to cash transfer induce increase in income for all risk-sharing partners.

Rules out that higher consumption is due to higher labor earnings, higher income from sales (due to higher prices or higher demand).

Variations on this paper for identifying spillover effects?

A 2-stage randomization design. First randomly select T=1 and T=0 communities. Then randomly select T=1 households within T=1 communities.

Compare T=1 households in T=1 communities to T=1 households in T=0 communities: direct effect on beneficiaries

Compare T=0 households in T=1 communities to T=0 households in T=0 communities: indirect effect on non-beneficiaries = indirect effect on beneficiaries

Possible improvements from collecting better data  
(Bandiera, Burgess, Gulesci, Rasul 2009).

2 questions :

- How to collect these data?
- In what sense are they « better » data?

Sampling design: collect data on social networks  
surveying every household in T=1 and T=0 communities:  
market network; informal insurance network; family  
network.

## Survey design :

- Market network:  $i$  and  $j$  are interacting through markets if  $i$  either employs (or is employed by)  $j$ , lends or borrows from each other or rents land to each other
- Insurance network: household  $j$  is in the insurance network of  $i$  if  $j$  exchanges (borrow/lend) food items, provides/gets assistance in times of crisis or transfers in cash/kind.
- family networks, i.e. networks whose members are linked through family relations.

In what sense are they “better” data?

Finer data helps for identification issues

Useful for assessing impact on social exclusion of the poor: how local institutions are affected.

Useful to look at heterogeneity in impact for those who have more connections: how impacts depend on local institutions.

## **Peer effects**

What are they? reflect conformism or social pressure, information-sharing and social learning, changes in intra-household bargaining power resulting from changes in threat points.

May produce a social multiplier.

See Bobba and Gignoux (2010), Lalive and Cattaneo (2009) for peer effects on enrolment of children to school. Agricultural investments?



## **General equilibrium effects**

Model-based approach, complemented by simulations.

Most of it is CGE and CGE+microsimulation (Bouguignon et al 2008). Mostly used for distributional studies. No validation.

CGE is a better tool to look at macroeconomic shocks and policies (top-down approach). Very little research to evaluate GE of SCT programs using CGE.

PROGRESA: Coady and Harris (2004) to account for indirect effects that are generated by the way the program is financed.

More promising are village SAM and village CGE models (bottom-up approach), rooted in microeconomic theory. But no application to SCT yet.

Starts with an agricultural household model (production and consumption).

Village SAM meant to describe flows of inputs, outputs and income b/w village households and account for interactions b/w villagers.

Village SAM fine if Keynesian demand-driven economy. But SAM do not model effects through prices and do not account for resource constraints.

Village CGE links agricultural households by incorporating resource constraint, price effects and linkages within village and with the rest of the world.

## **Conclusion**

How to evaluate a SCT wrt its objectives (intended effect on beneficiaries) is fairly well-understood.

To document local economy effects is a necessary second step to account for the full range of impacts on the local economy.

To understand how these effects are generated is important to help design complementary interventions that would further foster these impacts.

Take-away 1: Understanding how local economy effects may be generated: theory helps to avoid missing important effects

Take-away 2: Looking for evidence of first-round effects on these outcomes helps to reduce the universe of possibilities: experimental design is still the way to go.

Take-away 3: Documenting effects on non-beneficiaries who locally interact with beneficiaries; trying to reduce the universe of possible explanation for these effects.

Take-away 4: Collecting data on social interaction (through markets or informal arrangements) to further narrow down the possible channels through which effects are transmitted.

Take-away 5: Village CGE (bottom-up approach) seems to be a useful tool for simulating general equilibrium effects. Not yet applied to SCTs. Interesting b/c unlike experimental approach which is black-box, it models channels through which indirect effects may arise. Could be fruitfully combined with experimental approach in order to validate the modelling.