Longitudinal research: Opportunities and Challenges

The benefits of panel data in an imperfect (data) world

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Netherlands, May 2009

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Purpose

1. Explain why longitudinal data (rather than cross-section data) is so important to understanding the *dynamics* of poverty
2. Show how we can use these data to evaluate policy, using examples from Young Lives research
3. Outline plans for our third round of data collection later this year

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Young Lives panel data design

Longitudinal design…, 2 cohorts
(8,000 born 2001-2)
(4,000 born 1994-5)
… for 15 years
Collect information every 3-4 years
Two rounds of data already available
Different to national cross-section surveys (e.g. Census, Demographic Health Survey)

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Two existing rounds of panel data

- Child, Household and Community level data
- Household data: similar to other cross-sectional datasets (e.g. LSMS) but with questions to the caregiver on psychosocial competencies, social capital
- Detailed time use data for all family members
- Child-level information on anthropometrics and from the caregiver
- Child testing of cognitive achievement (language, maths)
- Directly asking the child! School & Work likes and dislikes, psychosocial
- Also have 2 rounds of qualitative data

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Third round of data 2009

- Children are now 8 and 15
- Self-administered questionnaire (aged 15)
- More on educational history, psychosocial indicators, work life, social capital
- Focus on Social Protection: detailed modules on e.g. PSNP in Ethiopia, in order to evaluate programme impact
- Linking to existing data where possible - school data in India and Peru, job card in India
- School survey to complement existing data

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Benefits of Poverty Narratives

- Cross-section data can have errors of inclusion and exclusion for many reasons
- Repeated cross-section can tell us the proportion of poor each year
- Panel data can tell us whether it is the same people who are poor each year
- Allowing us to analyse poverty dynamics, and chronic or persistent poverty

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Example: Chronic poverty in Ethiopia

- Over ten years, poverty was measured five times
  - Poverty rate fell from 40% in 1994 to just over 20% in 2004
  - 18% of households were never poor during this time
  - The majority (45%) were poor once or twice
  - 30% poor 3-4 times
  - 7% always poor
- Different policy implications

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Multidimensionality of poverty

- Early nutritional deprivation can have lasting negative impacts later on, in terms of:
  - grade completion
  - learning
  - psychosocial competencies (pride, sense of inclusion, agency, aspirations, etc.)

See Dercon (2008), Sanchez (2008), Le Thuc (2008)

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Stunting at age 7: its impact at age12

Comparing stunted versus non-stunted children

	Ethiopia	India	Peru	Vietnam
Grade deficit (in years)	-0.9*	-0.3*	-0.5*	-0.4*
Writing skills (deficit in %)	-18.1*	-7.0	-13.4*	-6.8
Reading skills (gap in %)	-15.6*	-2.5	-2.3	-5.4*
Self-esteem (based on shame) (gap in %)	-0.6	-3.0*	-10.3*	-2.4
Grade aspiration gap (in years)	-0.4*	-0.4	-0.4	-0.7*

Source Dercon(2008)

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Policy implications

Early childhood nutritional deprivations can have:

- permanent negative impacts on various short and long-term outcomes.
- social protection may work, but will it help improve psychosocial competencies?
- some groups of children worse than others exacerbating existing inequalities

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Who are the vulnerable children?

- 1 in 5 children in our sample of Ethiopian children aged 12 have lost a parent (200 children)
- 60% of ethnic minority children in Vietnam are stunted (19% of Kinh)
- Also less likely to enrol in school (even controlling for wealth differences)

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Evaluating Policy

Any role for longitudinal data?

"Randomisation allows us to answer a non-random set of key questions in development."

Key questions in development that cannot be randomised!

- Impact of orphanhood
- Impact of programmes targeted at the poorest
- Food price rises
- Global recession

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Policy and Poverty

Longitudinal data helps addressing causal links

In many cases we have "pre-programme" or baseline information

Compare with outcomes post implementation

- Difference-in-difference of affected and non-affected groups over time
- A precaution against concluding easily that food aid makes people poorer, or that roads make people richer
- Examples YL Ethiopia workfare programme on child labour, India mid-day meal scheme

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Policy example: Safety net in Ethiopia

Round 3 survey will be able to evaluate the impact of the program using….

- Detailed questions on participation in the food/cash for work programmes
- Food security and nutrition questions
- Information on the younger sibling of our index child
- Research questions:
  - What is the impact of the programme on child outcomes?
  - Do children whose parents work in the programme have to do more work themselves?
  - Are there any effects on education?

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3. Linking to other databases

- YL is an example of how carefully planned longitudinal surveys can be used to merge with other data sources, expanding our database and issues investigated, while improving robustness of results.

  - Asking about the job card ID number to enable us to link to national data on the employment generation scheme in India (AP)
  - Use GPS code information to link with DHS and other national data.

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4. Conclusions

- Longitudinal data has a unique place in helping us understand the causes and consequences of poverty
- Young Lives data is particularly unique as it can be linked to other available datasets
- The findings can make important new contributions to policy and research
- Should be combined with other analysis

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