

Asset versus  
Cash Transfers

Michael R.  
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Poverty  
Dynamics

Policy  
Responses to  
Persistent  
Poverty

The Impact of  
the CSG on  
Child Health

The Impact of  
LRAD on  
Family  
Economic  
Well-being

Conclusions:  
Cash vs. Asset  
Transfers

# Asset versus Cash Transfers

## Evidence from South Africa

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# Overview

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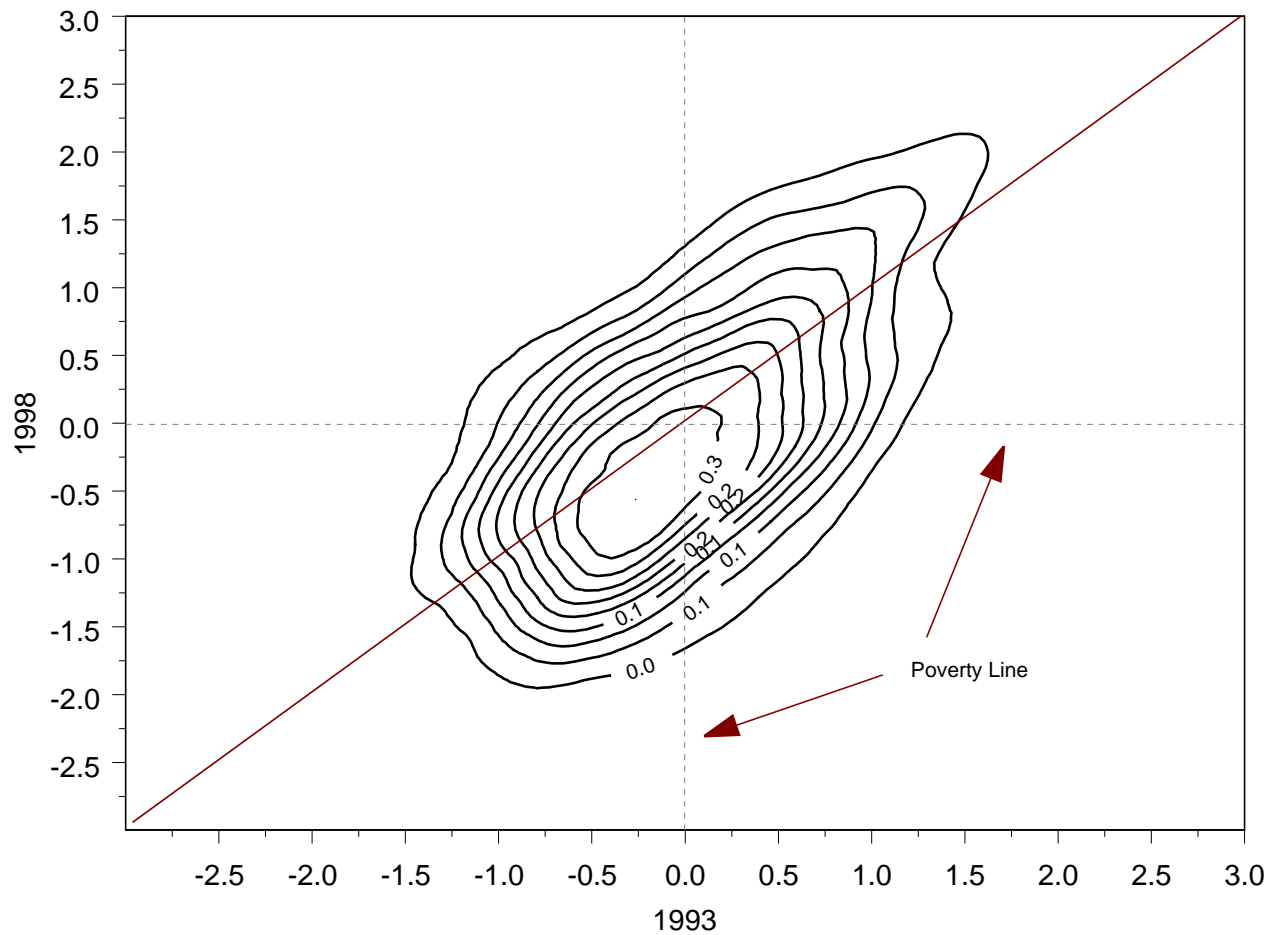
Conclusions:  
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- Troublesome Poverty Dynamics in South Africa
- Government Transfers underlie modest recent improvements
- But do transfers promote improved nutrition and long-term human capital accumulation (and poverty reduction)?
- To address this question, examine the Child Support Grant:
  - Child Support Grant (CSG) transfers are unconditional; and,
  - Targeted at caregivers (largely women)
- Estimate that strong 'dose' of CSG boosts height-for-age z-scores of children
- Naïve calculations suggest that the long-term effects of this improved health will be large
- Methodologically, show that can use program rollout to identify impacts even when no explicit experimental design

# Joint Distribution of Well-being, 1993-1998

Source: Agüero, Carter and May (2007). "Poverty and Inequality in South Africa's First Decade of Democracy," *Journal of African Economies*

Joint Distribution of Well-being, 1993-1998



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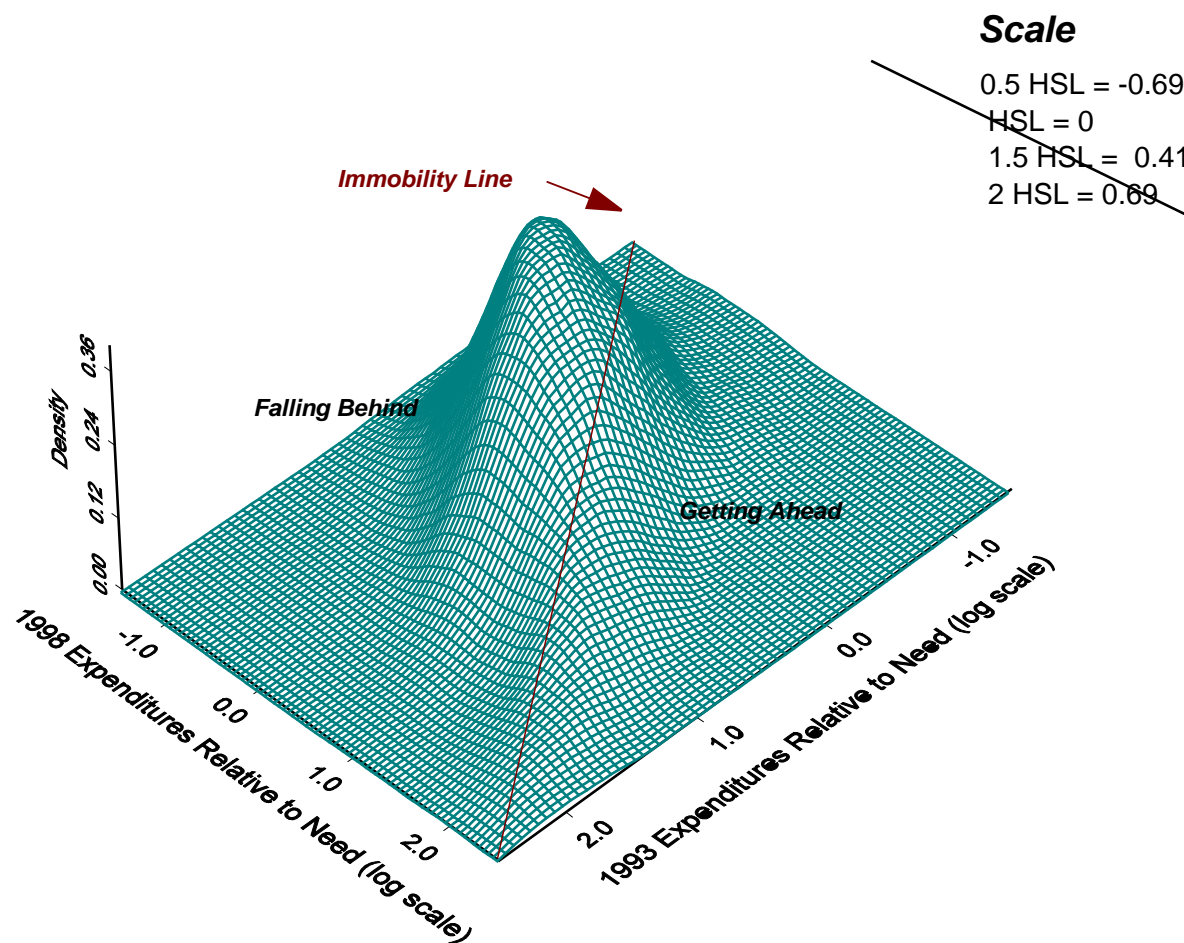
The Impact of LRAD on Family Economic Well-being

Conclusions: Cash vs. Asset Transfers

# Joint Distribution of Well-being, 1993-1998

Source: Carter and May (2001). "One Kind of Freedom: Poverty Dynamics in post-Apartheid South Africa," *World Development*

Fig. 3 Joint Distribution of Wellbeing, 1993-1998



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# Joint Distribution of Well-being, 1998-2004

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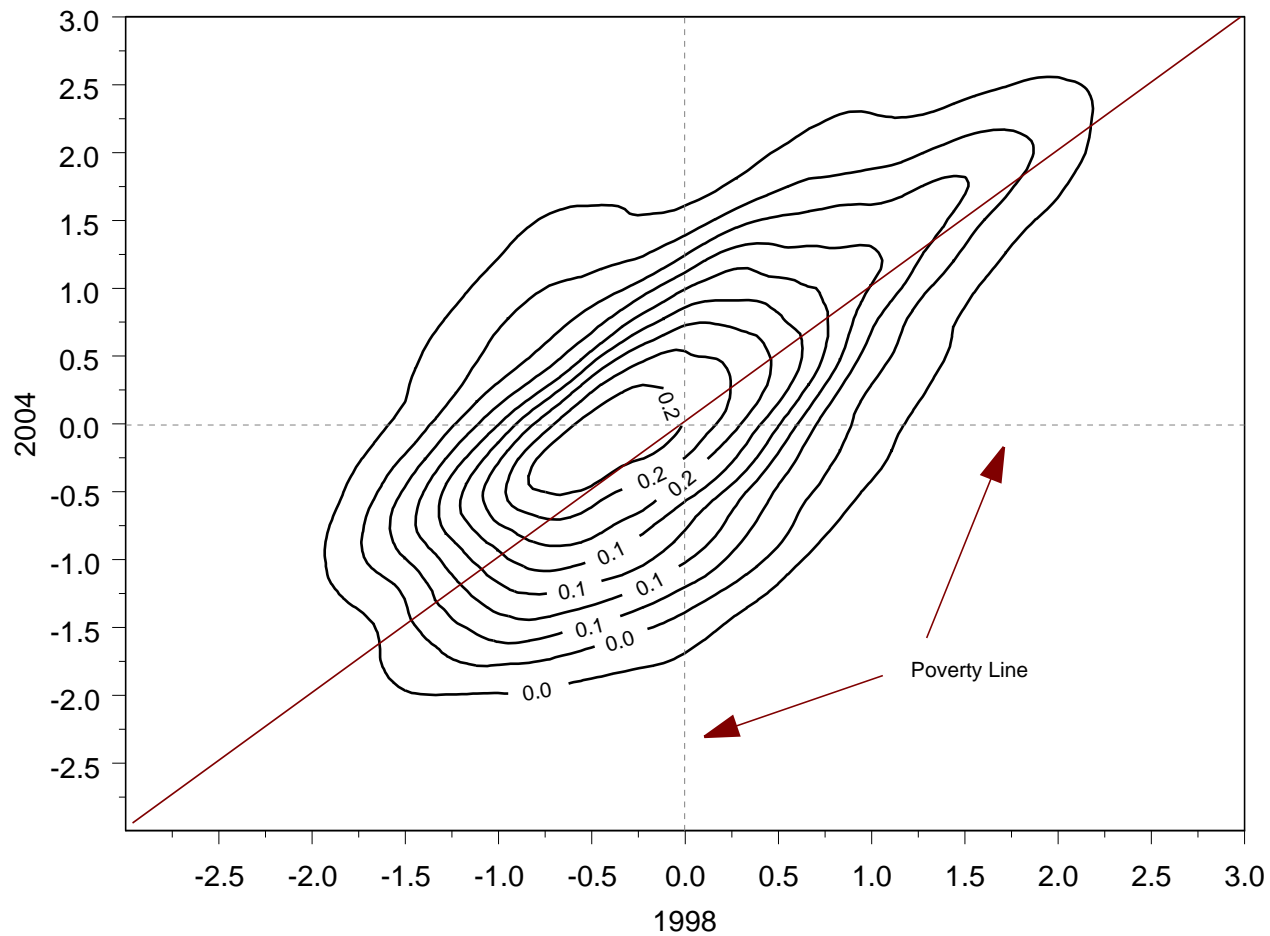
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Joint Distribution of Well-being, 1998-2004



# Taxes, Transfers & Income Dynamics, 1998-2004

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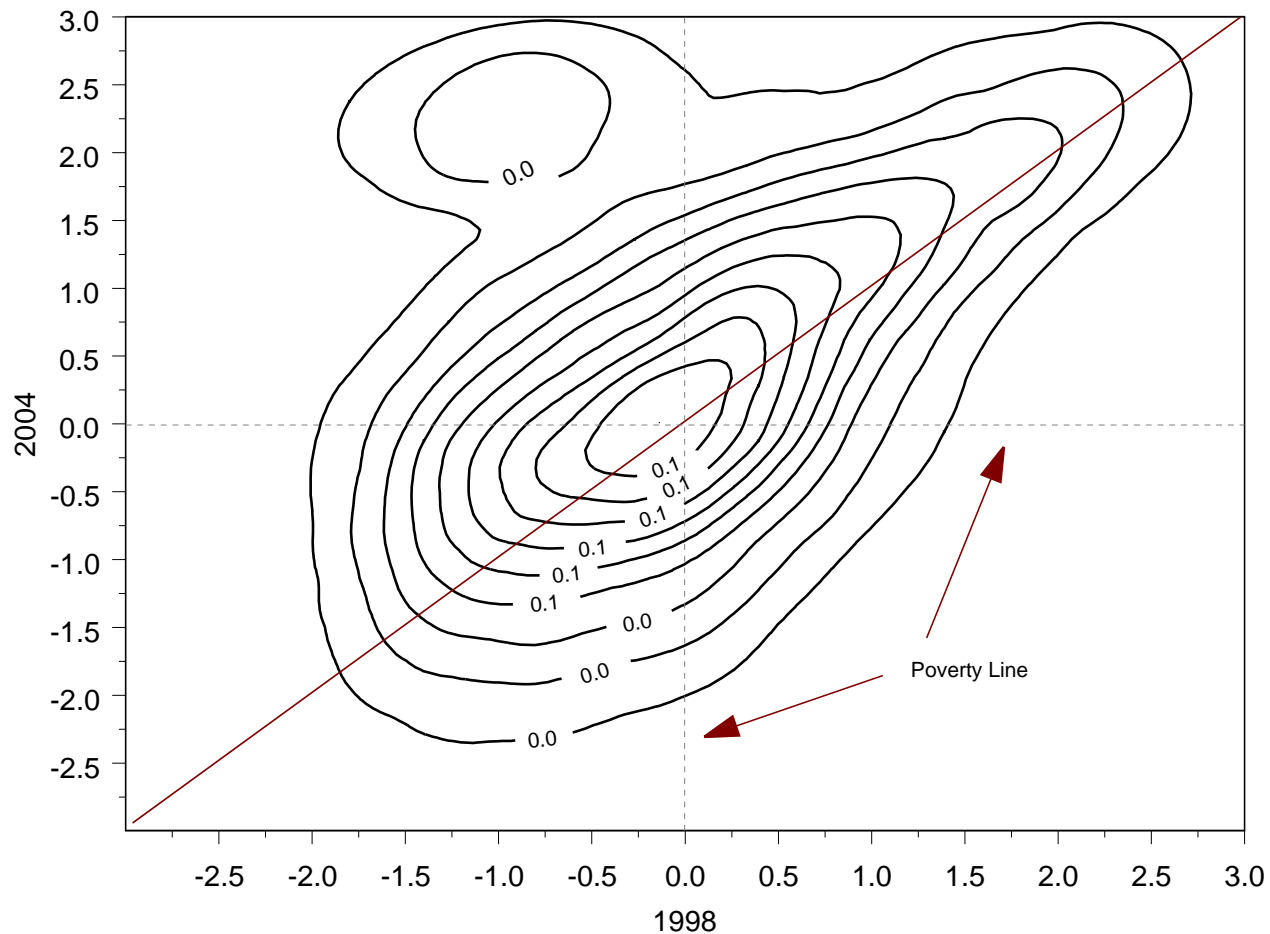
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## Market-Generated Distribution of Well-being, 1998-2004



# Summary Observations

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- Significant chronic poverty: 60 percent of 1993 poor still poor in 2004
- Bifurcation of the near poor
- Rapid income growth in top deciles of distribution
- So what can be done in this situation of economic (and political) polarization?

# Policy Responses to Persistent Poverty

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Conclusions:

- 'Save the Children' through Cash Transfers
  - Mexico's Progressa Conditional Cash Transfer program has been very influential in part because of careful randomized impact evaluation
  - South Africa simultaneously implemented an unconditional cash transfer program called the Child Support Grant (CSG)
- Boost Parents' Productivity through Asset Transfers (or cargo nets)
  - Classic land reform logic
  - South Africa's Land Redistribution for Agricultural Development (LRAD) introduced in 2001
- But which of these responses is the better approach to persistent poverty?
- Challenge to both researchers and policy makers

# The Child Support Grant or CSG

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Conclusions:

- Introduced in 1998, the CSG is means-tested
- The child's care giver (typically the mother or grandmother) receives the grant in the name of the child
- Payments are unconditional: no clinic visits or school attendance are required
- Children from *poor* households are entitled from birth to 14.
- Payments are R170 (US\$27) per month per child. Three months of CSG equal one year of school fees.
- Unlike *Progresa*, CSG rollout was not randomized
- No 'control group' of non-beneficiaries who should be identical to beneficiaries in both observable and unobservable characteristics—herein lies challenge of study

# Challenges of Evaluating the CSG

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Conclusions:

- Impact evaluation strategy exploits the nature (random) variation in the rollout of the program over time and space
- Children born in later cohorts (when the program was better known) are more likely to receive more months of coverage under the CSG
- We can exploit this variation in 'dosage' or duration of coverage to identify the program effects on child health (height-for-age)
- Does require that we control for eagerness of the parents (whether they signed their child up for CSG early or late relative to the child's age and locational cohort)
- Result is a continuous treatment impact evaluation strategy

# Land Redistribution for Agricultural Development or *LRAD*

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Conclusions:

- Redistribution of land happens by way of a once-off grant (R15,000 or more with matching) made to beneficiaries followed by voluntary land market transactions
- For the LRAD programme, this means that beneficiaries don't get cash but gain ownership of land.
- The state's role is to lubricate the bargaining process between the prospective beneficiaries and the seller.
- Market-assisted process, but where “invisible hand” has a helping hand.
- Like CSG program, no control group of individuals identical to beneficiaries but who were denied access to program

# Challenges of Evaluating LRAD

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Conclusions:

- LRAD applicants go through a 5 stage process before receiving their land grant:
  - 1 Project Registration
  - 2 Approval of Planning Grant
  - 3 Preparation of Project Identification Report
  - 4 Approval of District Screening Committee
  - 5 Approval of Provincial Government
- The time to exit this process varies, creating 'random' variation in the duration of time that beneficiaries have enjoyed asset transfers
- Also creates option of looking at pure control group: those who got stuck in stage 4 and never exited the system
- In our analysis, we exploit this variation to explore the impact of LRAD transfers on family well-being

# CSG Data and Outcome Measures

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- The KwaZulu-Natal Income Dynamics Study (KIDS)
- Height-for-Age  $Z$ -score ( $HAZ$ ) as Stock Measure of Early Nutrition Flows (0-36 month window of nutritional vulnerability)
  - Evidence of loose linkage between income & nutrition
  - $HAZ$  measures as more reliable?
- Potential Treatment and Control Groups (see descriptive statistics)

# Descriptive Statistics by CSG Treatment Status

	Treated in 3 Year Window			Not Treated in 3 Year Window		
	<i>All</i>	<i>Coverage Low</i>	<i>High</i>	<i>Beneficiaries</i>	<i>Applicants</i>	<i>Non</i>
<i>Treatment</i>						
Exposure (% life)	51	34	69	24	0	
Window (% life under 3)	40	18	61	0	0	
Application Delay (days)	329	456	194	1369	1448	
Eagerness (% deviation average delay)	29	0.2	60	-3	-39.9	
<i>Child Characteristics</i>						
HAZ 2004	-0.84	-0.93	-0.75	-0.91	-1.08	
Age in 2004	2.5	2.4	2.7	6.2	6.1	
<i>Caregiver Characteristics</i>						
Per-capita Household Expenditure	330	321	340	335	323	
Female (%)	94.5	95.5	93.6	96.2	96.0	
Age	38	39	37	41	48	
Unemployed (%)	50.1	48.8	52.5	42.7	25.3	
Education (yrs.)	7.7	7.4	7.9	6.7	5.3	
<i>Number of Observations</i>	245	123	122	321	154	

# CSG Rollout and a Measure of Caregiver Eagerness

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- Two forces behind application delay:
  - Caregiver characteristics that also directly influence nutrition ('eagerness')
  - Child's eligibility date relative to program rollout
- Measure eagerness not with gross application delay, but delay relative to expected delay for child's age and locational cohort.
- Estimation strategy to define expected delay (see figure)
- OLS estimates shows that eagerness is very informative
- However, later cohorts will tend to have longer treatments—is this a problem?
- Back to descriptive statistics

# Standardized Eagerness

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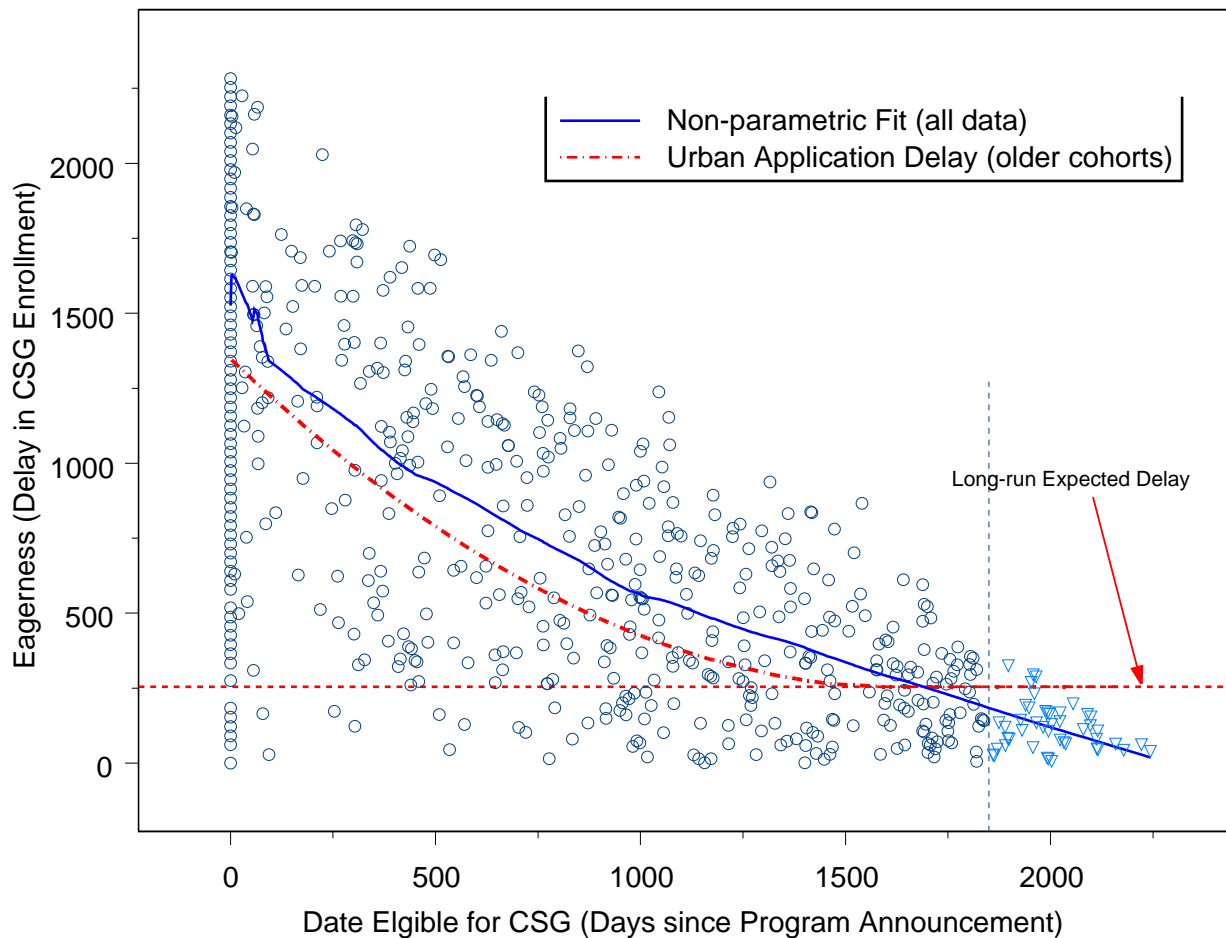
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# Two-stage Continuous Treatment Estimates

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Variable	Model I		Model II	
	coefficient	s.d.	coefficient	s.d.
First Stage: Maximum likelihood estimates				
Constant	0.386	0.055	0.705	0.065
Eagerness	-0.003	0.0002	-0.003	0.0002
Boy (=1)	-0.004	0.023	0.008	0.017
Caregiver's age	-0.001	0.001	-0.001	0.001
Caregiver' educ.	-0.001	0.003	-0.003	0.003
Cargiver married (=1)	-0.017	0.024	-0.019	0.019
Caregiver's sex	-0.007	0.031	-0.016	0.024
Caregiver works (=1)	0.039	0.026	0.036	0.022
Child's age		No	-0.097	0.006
Village fixed effects		No		Yes
Second Stage: OLS				
$\alpha_0$	-0.61	0.43	-1.70	0.73
$\alpha_1, d$	0.7	1.83	1.41	1.50
$\alpha_2, d^2$	-214.96	174.89	-96.75	133.46
$\alpha_3, r$	-0.39	0.66	0.77	0.60
$\alpha_4, r^2$	-7.07	25.5	-22.88	13.58
$\alpha_5, dxr$	1.1	0.56	-0.01	0.36
s.d.: Standard deviations.				

# Estimated Impact of CSG

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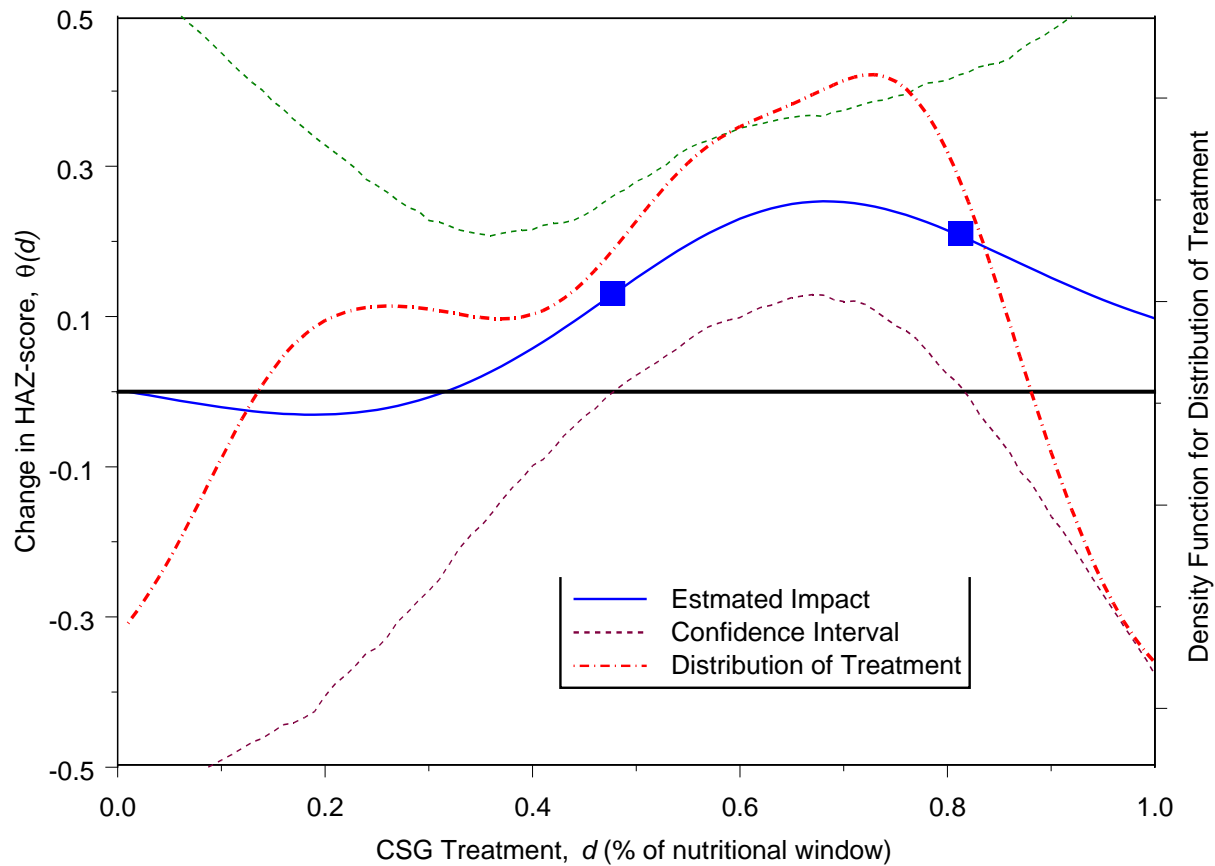


Figure: Impact of CSG on HAZ: Continuous treatment, Window

# From Flows to Stocks

- Evidence on nutrition and cognitive development (Paxson and Schady; Macours et al.)
- More generally, what is long-term value of this human capital asset?
- Assumptions
  - Maintain z-score gain  $-z$  1.8 cm gain in adult height
  - Accept Thomas-Strauss wage-height elasticity estimate: 2.4-3.3
  - Implies Adult monthly wage gain of R67-R92
  - Accrue wage gain from 25-65 years old
- Results
  - Present value at birth of expected wage gain: R3896-5380
  - Program cost: R3400 (20 months  $\times$  R170)
  - Benefit-Cost: 1.6-2.3
  - If assume unemployed one third of time, ratio falls to 1.06-1.48

Table: Descriptive Statistics

	Control	Treatment Terciles (yrs)		
		< 2.1 yrs	2.1–3 yrs	> 3 yrs
Consumption PC	472	610	691	459
Dose (days)	0	621	892	1344
Days in Pipeline	1662	876	883	686
Days Since Application	1662	1497	1775	2030
Farm Experience	1.49	1.21	1.46	2.10
Education	5.88	6.57	6.61	7.04

**Table:** First and Second stages of GPS estimation

Variable	Core Model		Secondary Model	
	coefficient	s.e.	coefficient	s.e.
First Stage: Maximum likelihood estimates				
Eagerness	0.003	0.0003	0.002	0.0004
Boy (=1)	-0.01	0.02	-0.01	0.026
Caregiver's age	-0.001	0.001	-0.004	0.001
Caregiver' educ.	-0.004	0.003	-0.006	0.004
Cargiver married (=1)	-0.03	0.03	-0.03	0.03
Married × Eager	-0.0005	0.001	-0.001	0.001
Caregiver's sex	-0.005	0.03	-0.003	0.03
Sex × Eager	-0.001	0.001	-0.0003	0.001
Caregiver works (=1)	0.002	0.02	-0.02	0.03
Village fixed effects	No		Yes	
Second Stage: OLS estimates				
$\alpha_0$	-0.84	0.40	-0.72	0.62
$\alpha_1$	0.85	1.61	0.40	1.64
$\alpha_2$	-177	164	-120	141
$\alpha_3$	-0.58	0.63	-0.69	0.81
$\alpha_4$	3.91	29	14.84	30
$\alpha_5$	1.1	0.63	0.85	0.57

s.e.: Standard errors.  
Source: Author's calculations using KIDS dataset.

# Estimated Impact of LRAD on Monthly Per-capita Expenditure

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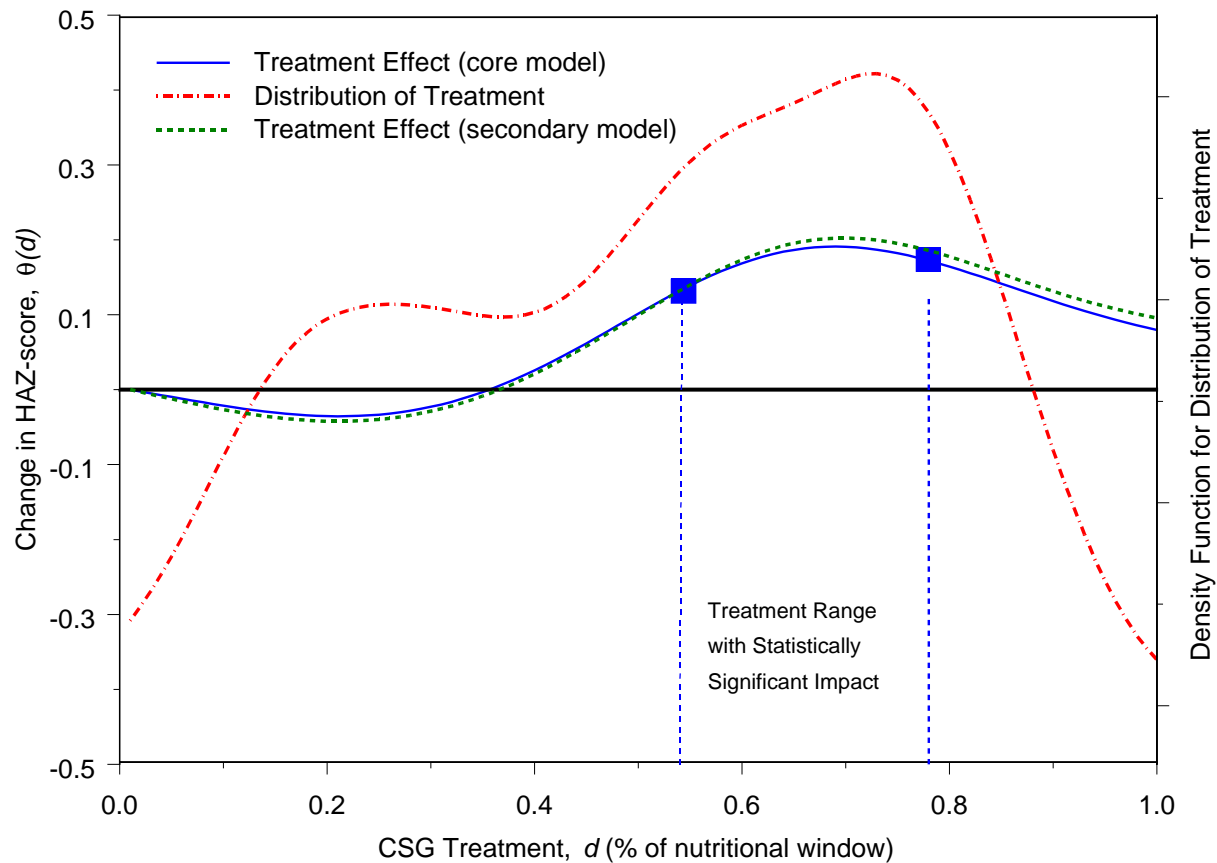


Figure: Impact of CSG on HAZ: Continuous treatment, Window

# The Asymptotic Treatment Effect of LRAD

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- Poverty line is R555.55 per capita.
- Average PCE for our control group is R471.96.
- Our estimated impact of the land transfer is R188.38 using binary treatment effect estimator (not discussed here)
- Continuous treatment impact estimates show a long-term or asymptotic treatment effect of more than R300 per-person, per-month or R1500 per-month for a family of five
- Annually, this implies a gross return of R18,000, an amount close to the amount of LRAD asset grant
- Surely these returns reflect returns to matching and other investment that was 'crowded-in' by LRAD

# Conclusion: Revisiting Cash vs. Asset Transfers

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Conclusions:  
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- The upfront direct costs of LRAD are some 5-times that of early childhood CSG payments
- The asymptotic income increases are, however, 15 times higher than the expected income increases from improved child height
- The LRAD income increases also accrue much earlier
- We may be understating full impact of CSG-induced health increases
- We also do not know whether the income increases generated by LRAD spill-over into improvements in child health and nutrition
- Challenge to all of us to rethink asset versus cash transfers—forward!