The Impacts of Cash and In-Kind Transfers on Consumption and Labor Supply:

Experimental Evidence from Rural Mexico

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We are gateful to the PAL evaluation team that made possible this analysis (especially Juan Pablo Guttierez and Jef LeRoy)

Outline of presentation

1. Introduction & Motivation
   - Expected effects of Cash and in-Kind Transfers from Theory
2. Description of Food Support Program (PAL)
3. Estimated Effects of Cash and In-Kind Transfers
   - Dif-in-Dif Estimator
   - Food and Total Consumption
   - Adult Labor Force Participation
   - Impacts on Poverty
4. Conclusions and Policy Implications

Introduction-1

- Cash and in-Kind Transfers widely used as instruments of redistribution and social assistance and protection.
- Long-standing debate on their relative merits
- Transfers in-kind:
  - More politically palatable
  - long–term investment properties (e.g. food transfers, educational vouchers)
  - Costly to administer (transport costs of food higher)
- Cash Transfers
  - Increasingly popular (CCTs in LAC)
  - Leakages-use only part of the cash T for the purpose intended (food consumption, schooling). Part of the cash T directed to consumption of less desirable commodities (alcohol, tobacco)
  - Less costly to administer

Introduction-2

- Key question: is the effect size of an in-kind transfer bigger or smaller that the effect size of a cash T?
- Econ Theory: If the in-kind transfer is inframarginal- smaller than what was consumed prior to the intervention, then marginal effect of a T in-kind is identical to the effect of a cash T.
  - Otherwise, effects differ. Extramarginal T, constrain beneficiaries to consumer more than they would have chosen with a cash T.
  - Similar predictions about effects on in-kind T and cash T on labor supply

Figure 1: Cash Transfer

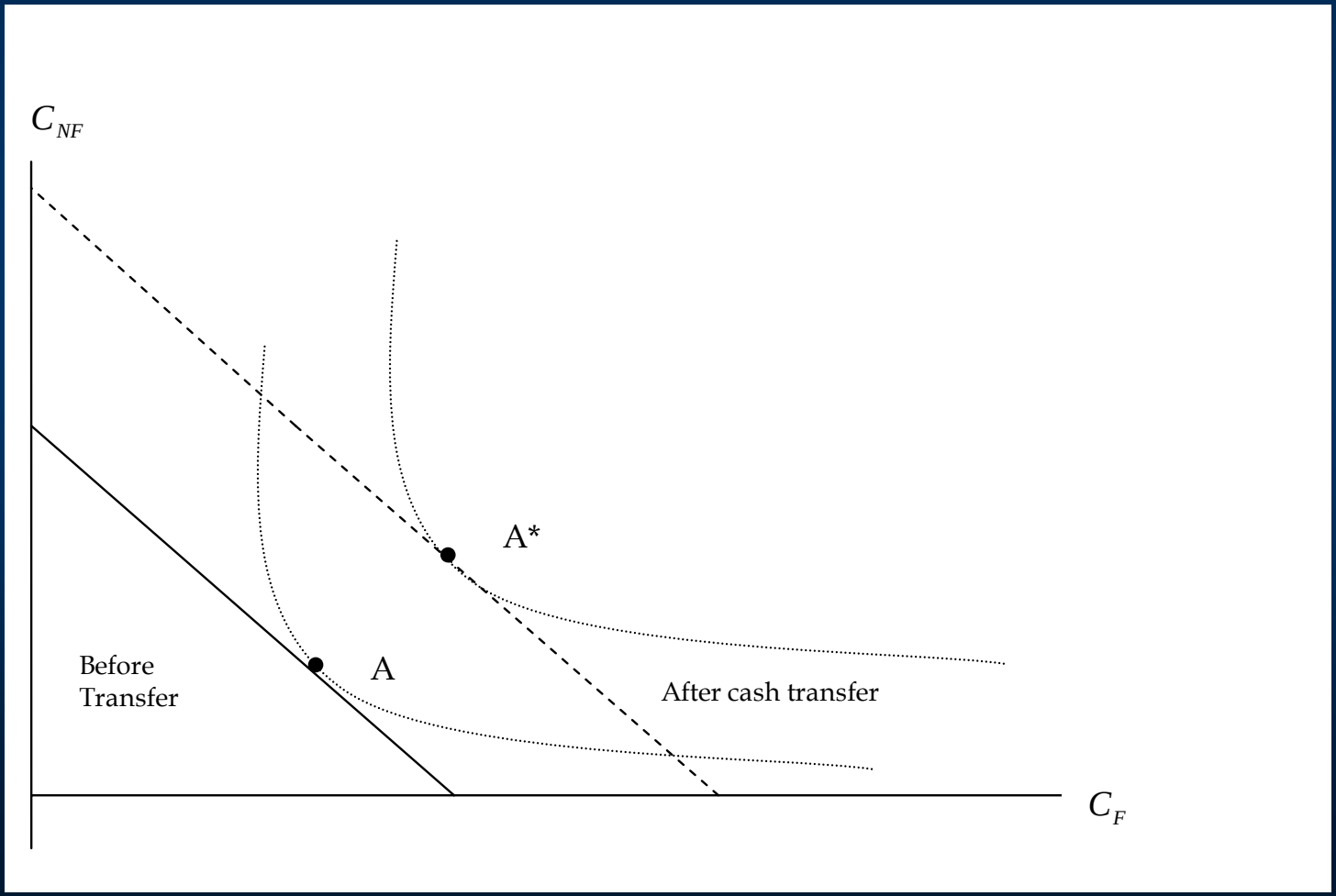
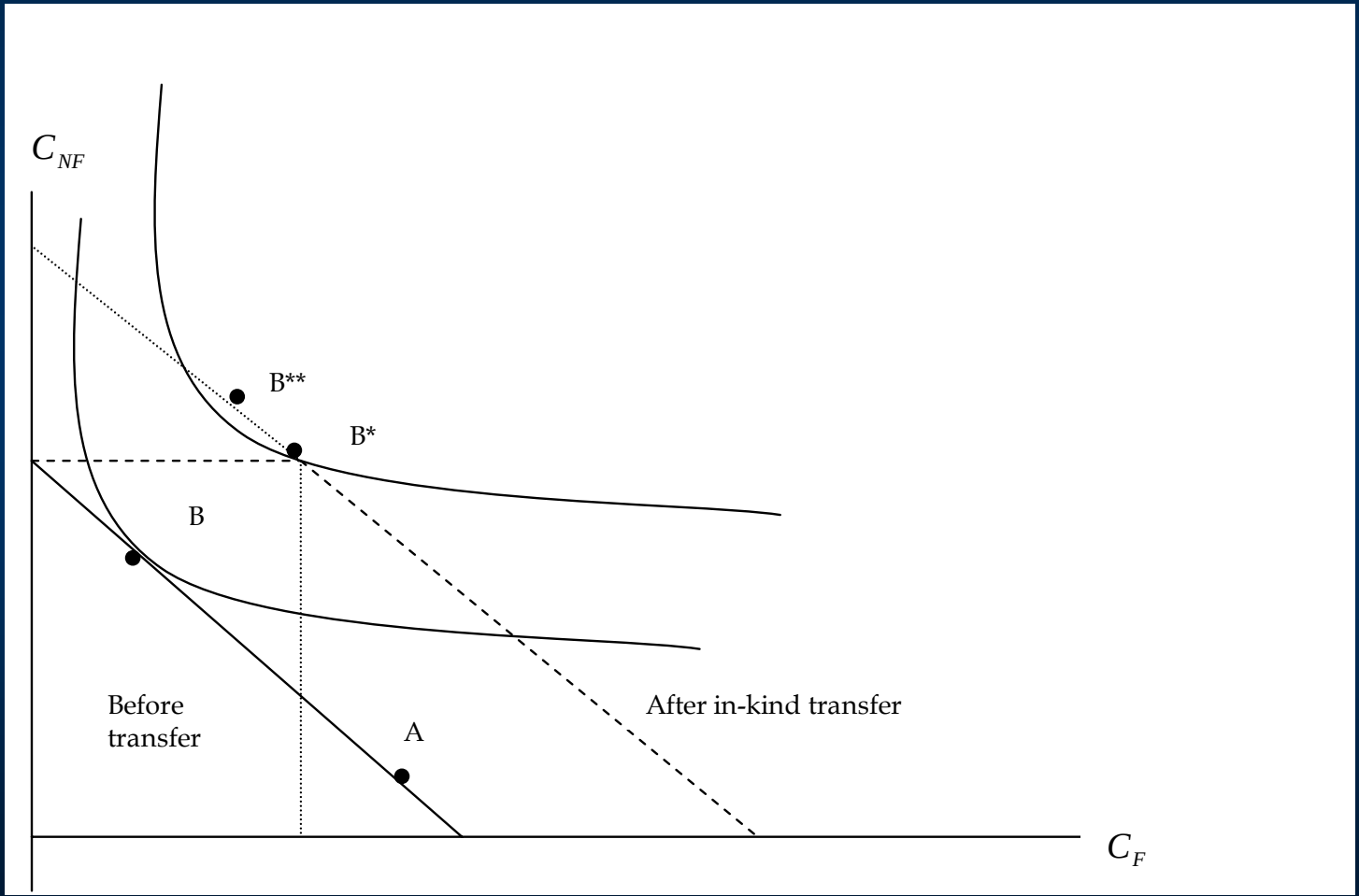


Figure 2: In-Kind Transfer



Introduction-3

- Empirical evidence to date: Mixed
- Primarily from nonexperimental studies on the Food Stamp in US. Results driven by fraction of hh in the sample for which the T is extramarginal or inframarginal
- Usual shortcomings of nonexperimental studies:
  - counterfactual derived econometrically
  - Functional form specification
  - Endogeneity and selection bias
- For example: Senauer and Young (1986): argue that food stamps have significantly greater impact on food consumption than an equal amount of cash T, even for hh for which the transfer is inframarginal.

Introduction-4

- Our study uses data from an experimental design in poor rural areas of Southern Mexico to test whether the effect size of a cash T on food and total Consumption and on Labor Supply is the same as that of an in-kind T.
- Data collected for the purpose of evaluating the Food Support Program (PAL)

Introduction-5

- Results also informative on the equity-efficiency effects of redistributive polices
  - Do redistributive policies create a trade-off between equity and efficiency?
  - Or do they enhance efficiency by mitigating market imperfections?
    - Blundel and Pistaferri (2003) argue that the food stamp program in the US provided effective partial insurance, especially among low-income households.
  - It is quite plausible that the insurance against downside risk provided by the steady flow of food by the PAL program is associated with higher efficiency (a reallocation of labor from less to more productive activities) as well as equity

PAL pogram-1

- Objective of PAL-improve the food and nutrition conditions of targeted hh lving in poor rural conditions w/ pop < 2500 and high marginality index
- PAL targeted to localities not covered by other federal programs with a nutritional component (e.g. *Oportunidades*)
- All households w/in villages in the evaluation sample receive the benefit. Outside evaluation sample: targeting at the hh level
- Transfer= monthly food basket with a value of US$13 (MX $P150) accompanied by an educational component (offer to attend diet, nutrition and health-related sessions). It is an Unconditional Transfer.
- Not explicitly targeted to women, but more than 75% of recipients are women.
- The median share of the transfer to pre-program value of consumption is ~9%, (mean=11.5%)

PAL pogram-2

The original food basket transferred consists of the following basic products:

- Powdered fortified milk (8 packages of 240 gr. each),
- beans (2 kg),
- rice (2 kg);
- corn flour (3 kg),
- soup pasta (6 packages of 200 g);
- Vegetable oil (1 lt.),
- cookies (1 kg),
- corn starch (100 g),
- chocolate drink in powder) (400 g),
- cereals (ready-to-eat) (200 g),
- sardines (2 cans of 425 gr. each). (see note)

The basket offers approximately 400 calories per day per capita for an average household of 4.2 equivalent adults.

NOTE: This is the food basket (basket A) provided between June and October 2004. There were small changes in the contents of the food basket provided between November 2004 and April 2005 (basket B): Cereals were replaced by dried meat (100gr), and corn starch by lentils (500 gr).

Evaluation Design of PAL-1

- Type of benefit received randomized at the locality level. Selected communities randomly assigned into
  - Control group C: no intervention
  - Treatment group T1: food basket w/o the opportunity to attend educational sessions
  - Treatment group T2: food basket with the opportunity to attend educational sessions
  - Treatment group T3: the equivalent value of the food basket in cash with the opportunity to attend educational sessions
- The localities in the control group that did not receive any benefits were slotted for coverage by the program in the later stages of expansion of the PAL program.

Evaluation Design of PAL-2

- Used 2 stage sampling:
  - Stage 1: selected random sample of 206 rural communities from a pool of the 18 poorest states
  - Stage 2: randomly selected 33 hh per community for interview.

- hh surveyed before (October 2003 through April 2004) and 2 years after the implementation of the PAL program (October through December 2005)

Key Outcome Vars & Summary Stats

- Log of monthly value of food consumed per capita:
  - obtained by multiplying the quantity of food consumed of each food item multiplied by the median unit value of the same food item at the locality level. The unit values of each food item is derived from the additional questions on the value and quantity purchased (and not necessarily consumed) in the last seven days.
- lnPCE:
  - log of total consumption expenditures (food conusmption +nonfood expenditures) per capita.
- Labor force participation: (1 if working in period t, 0 otherwise)
  - focus on adult males and females between 18 and 60 years of age (in the baseline round). Specifically, a person is classified as working in the labor market () if he/she reported having worked over the previous week (paid or unpaid) or had work but did not work. All others, such as those looking for work, students, doing household chores, and retired/pensioners, are classified as not working in the labor market (()

Table 1: Means of main variables used in the empirical analysis

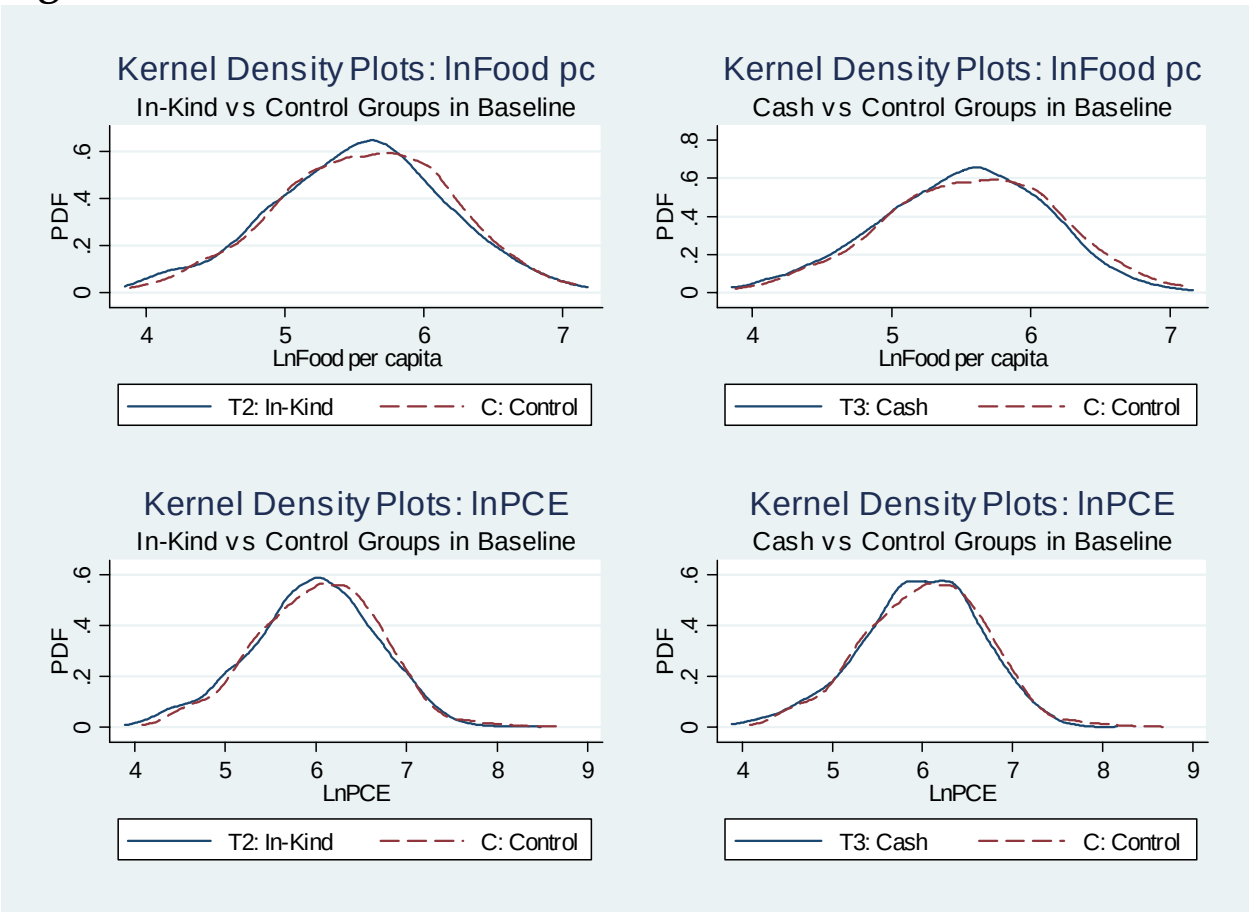
	Baseline survey				Follow-up survey			
	T1 In-Kind-	T2 In-Kind+	T3 Cash+	C Control	T1 In-Kind-	T2 In-Kind+	T3 Cash+	C Control
of (household level):								
pita	292	306	293	316	384	384	370	341
mption per capita	471	490	483	524	648	666	668	616
nsfer to Food Cons.[1] (%)	18.1	17.4	18.0	16.3	12.6	12.5	13.3	14.3
nsfer to Total Cons[1] (%)	12.1	11.6	11.7	10.6	7.8	7.5	7.7	8.2
nal households[2] (%)	0	0	0.14	0				
size (no. of members)	4.7	4.7	4.6	4.8	5.0	5.1	5.0	5.2
digenous language (%)	23.9	14.3	14.2	21.0	24.3	14.5	15.3	21.1
ealth program (%)	0.1	0.0	0.5	0.0	0.1	0.0	0.5	0.0
	4.8	1.7	6.0	6.4	4.8	1.7	6.0	6.3
)	15.7	9.6	11.2	13.6	16.0	9.7	11.4	13.9
s (%)	11.9	8.9	9.3	18.7	12.2	9.0	9.4	19.1
useholds	1,391	1,448	1,415	1,325	1,388	1,441	1,402	1,294
rs of age participating								
et activities (%)	88.5	87.9	89.4	88.0	87.5	87.4	88.0	86.4
activities (%)	57.2	64.5	66.7	57.6	54.5	59.2	61.4	57.0
ural activities (%)	31.3	23.4	22.7	30.4	32.9	28.2	26.6	29.4
males	1,670	1,728	1,716	1,684	1,331	1,397	1,343	1,240
) yrs of age participating								
et activities (%)	24.7	21.9	21.9	23.9	27.6	24.7	28.6	28.3
activities (%)	3.9	4.1	5.5	3.6	5.1	4.8	7.3	6.0
ural activities (%)	20.8	17.8	16.4	20.4	22.5	19.9	21.4	22.3
emales	1,861	1,851	1,965	1,951	1,547	1,574	1,653	1,511

ple mean of the ratio of the value of the transfer (P$150) to nominal (food or total) household consumption
household is defined as: =1 if monthly household Food expenditure<=P$150, =0 otherwise.

Figures 3

- Figures 3: Baseline Round
- compare the kernel density function of the lnFood pc and lnPCE: T2 vs C and T3 vs C
  - No significant pre-existing differences in the distributions of consumption (food and total consumption, separately) between each treatment groups and the control group, which confirms the successful implementation of the randomized design.
  - The absence of significant differences in the conditional mean food and total consumption in groups T2 and T3 from the control group in the baseline is also confirmed from the regression analysis conducted below.

Figure 3


Kernel Density Plots: lnFood pc
In-Kind vs Control Groups in Baseline
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LnFood per capita
T2: In-Kind
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Cash vs Control Groups in Baseline
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LnFood per capita
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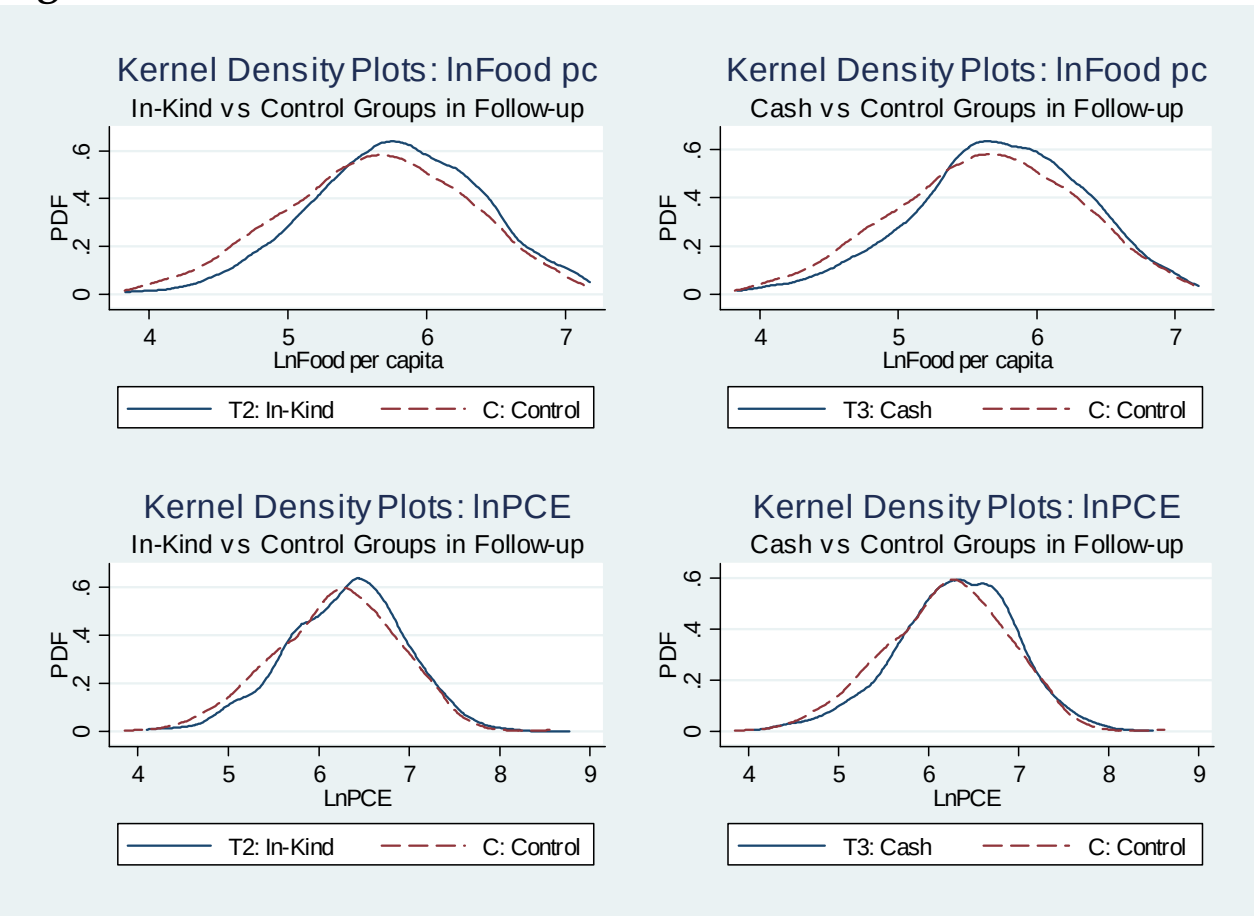
LnPCE
T3: Cash
C: Control

Figures 4

- Figures 4: Follow-up round
- compare the kernel density function of the lnFood pc and lnPCE: T2 vs C and T3 vs C
- a visible shift to the right in the distribution of consumption in group T2 (or T3) compared to the control group C, 18-24 months after the start of the PAAL program.
  - Thus, the PAAL program appears to have a positive impact on food and total consumption per capita, irrespective of the form of the transfer.

Figure 4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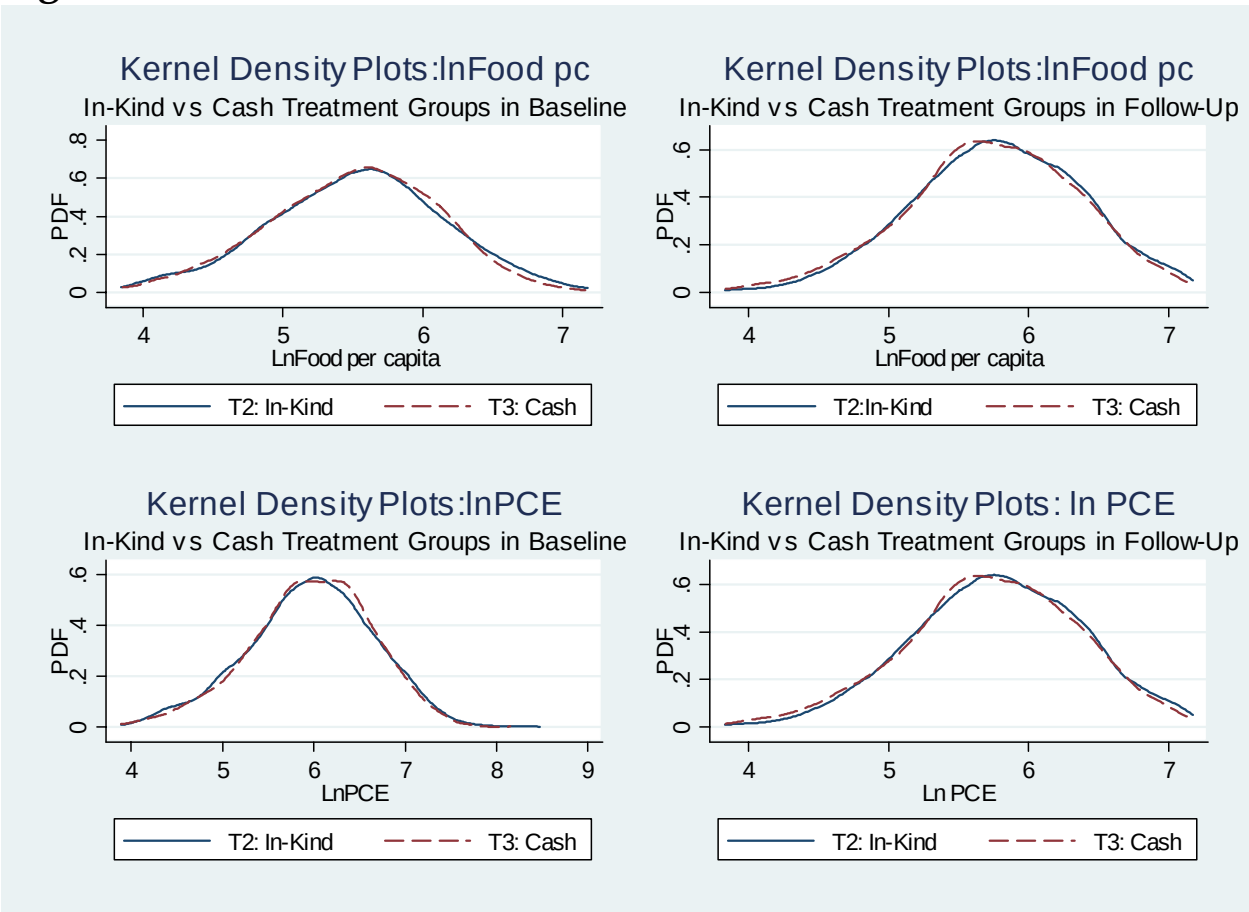
LnPCE
T3: Cash
C: Control

Figures 5

- Figures 5: no significant differences between the groups T2 and T3 in the baseline as well as in the round after the start of the PAAL program.
- Thus, the preliminary indications so far are that there no apparent differences in the impact of in-kind and cash transfers.

Figure 5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LnFood per capita
T2: In-Kind
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Ln PCE
T2: In-Kind
T3: Cash

Estimated Effects of Cash & in-Kind Transfers-1

- Estimated impacts of PAAL based on the difference-in differences estimator.

Effects of Cash & in-Kind Transfers on Food and Total C-1

- Estimated impacts of PAAL based on the difference-in differences estimator.
- Regression model estimated:

$$Y(i,t) = \beta_0 + \sum_{j=1}^{3} \beta^j T_j(i) + \beta_R R2 + \sum_{j=1}^{3} \gamma^j (T_j(i) * R2) + \sum_k \theta_k X_k + \eta (i,t)$$

$$2\,DIF = \gamma =$$

$$\left[E\left(Y \mid T = 1, R2 = 1, \mathbf{X}\right) - E\left(Y \mid T = 1, R2 = 0, \mathbf{X}\right)\right] -$$

$$\left[E\left(Y \mid T = 0, R2 = 1, \mathbf{X}\right) - E\left(Y \mid T = 0, R2 = 0, \mathbf{X}\right)\right]$$

Effects of Cash & in-Kind Transfers on Food and Total C-2

- The control variables used in place of the vector *X(i,t)* in equation (1) consist of
  - a set of binary variables identifying the date of interview of the household, and individual and demographic composition variables in each round:: the age of the household head, his/her gender, years of education, binary variables for his/her marital status, the household demographic composition (i.e., the number of children separately by age group, adult men (and women separately) aged 19 to 54, and men (and women) over the age of 55) a binary variable indicating whether this is an indigenous household and binary variables identifying whether the household receives benefits from other programs (such as *DIF*, *Desayunos Escolares*, and *Oportunidades*).,
- In specification A, in addition to the control variable s *X(i,t)* we also include two community level variables, such as the value of the estimated marginality index for the locality, and the distance between the community and the *"cabecera municipal"* (the governing center of the municipality and likely the largest locality of the municipality).

Table 2 – The impact of PAL (difference in difference estimates) on (ln) Food and Total Consumption per capita (per month)

	ln(Monthly Food Consumption p.c.) (nobs=11,072)			ln(Monthly Total Consumption p.c.) (nobs=11,072)		
Coeff. of:	**(A)**	**(B)**	**(C)**	**(A)**	**(B)**	**(C)**
β^1	-0.100** [0.049]			-0.129** [0.057]		
β^2	-0.043 [0.060]			-0.078 [0.066]		
β^3	-0.098** [0.048]			-0.094* [0.055]		
β_R	0.058 [0.058]	0.036 [0.050]	0.069** [0.031]	0.191*** [0.062]	0.178*** [0.047]	0.213*** [0.030]
γ^1	0.225*** [0.042]	0.233*** [0.040]	0.229*** [0.025]	0.172*** [0.041]	0.182*** [0.038]	0.175*** [0.025]
γ^2	0.161*** [0.051]	0.176*** [0.045]	0.179*** [0.025]	0.142*** [0.049]	0.155*** [0.043]	0.156*** [0.025]
γ^3	0.157*** [0.046]	0.183*** [0.047]	0.179*** [0.026]	0.139*** [0.043]	0.171*** [0.041]	0.170*** [0.026]
Binary vars incl.?	Month of interview (Moi)	Moi & Village	Moi & Household	Month of interview (Moi)	Moi & Village	Moi & Household
R-squared	0.24	0.16	0.15	0.31	0.21	0.23

Impacts of PAL on Consumption are large !!

- the in-kind transfer leads to an increase in mean food consumption between 16.1 per cent (specification A) and 17.9 per cent (specification C).
- The impact of the cash transfer (group T3) on food consumed is between 15.7 (specification A) and 18.3 per cent (specification B).
- elasticity of food consumption to the transfer between 1.31 and 1.83.
  - In the baseline, the value of the transfer ranges from 10.6 per cent of total consumption in the control group to 12.1 per cent of consumption in the T1 group (see table 1). Thus a 10 to 12 per cent increase in the income due to the transfers leads to a 15.7 to 18.3 per cent increase in food consumption
- elasticity of total consumption to the transfer between 1.16 and 1.71

Hypothesis Tests

H_0: $\gamma^1 = \gamma^2 = \gamma^3$	1.78 [[0.1707]	2.74 [0.0643]	2.91 [0.0546]	0.42 [0.6567]	0.50 [0.6071]	0.35 [0.7057]
H_0: $\gamma^2 - \gamma^3 = 0$	0.01 [0.9302]	0.06 [0.8131]	0.00 [0.9856]	0.00 [0.9643]	0.33 [0.5680]	0.33 [0.5677]
H_0: $\gamma^1 - \gamma^2 = 0$	2.03 [0.1553]	4.57 [0.0326]	4.24 [0.0395]	0.48 [0.4910]	0.99 [0.3191]	0.67 [0.4141]
H_0: $\gamma^1 - \gamma^3 = 0$	2.62 [0.1070]	3.40 [0.0653]	4.17 [0.0411]	0.64 [0.4239]	0.16 [0.6910]	0.04 [0.8363]

Notes:

Robust standard errors in brackets

*** significant at 1%, ** significant at 5%, * significant at 10%

γ^1 =DiD estimate of the impact in group T1=Food Basket without education

γ^2 = DiD estimate of the impact in group T2=Food Basket with education

γ^3 = DiD estimate of the impact in group T3=Cash transfer with education

For a complete list of the other variables included as controls in the regression see text.

Hypotheses tests: The numbers reported are the values of the F-statistic under the null and underneath in brackets is the associated p-value.

Power of Hypothesis tests-1

- For each of the specifications A through C, Wald tests of the null hypothesis that the effect size of the in-kind transfer is equal to the effect size of a cash transfer, i.e., gamma2-gamma3=delta=0, could not reject the null for either food or total consumption. What inferences can we draw from these results? Following Andrews, we can determine two regions:
  - a region of low probability of type I error, i.e. values for the difference where we can conclude with significance level a=0.05 that the true difference is abs|delta|<c, and
  - (ii) another region of high probability (>0.50) of type II error, i.e. where no evidence is provided against values of the true difference.

Table 3—The power of the null hypothesis H_0 : $\gamma^2 - \gamma^3 = \delta = 0$

	Monthly Food Consumption p.c.			Monthly Total Consumption p.c.		
	(A)	(B)	(C)	(A)	(B)	(C)
$\hat{\sigma}$	0.051	0.028	0.026	0.048	0.029	0.025
c	0.184	0.101	0.092	0.295	0.104	0.091
b	0.099	0.055	0.050	0.094	0.057	0.049

Notes:

$\hat{\sigma}$ denotes the standard error estimate for $\hat{\delta}$

The parameter c defines the region of high power, i.e., $\{\delta : |\delta| > c\}$

The parameter b defines the region of low power, i.e., $\{\delta : 0 < \delta \leq b\}$

Power of Hypothesis tests-2

- Overall, the inverse power tests for specifications B and C for both food and total consumption in table 3 suggest that the failure to reject the null hypothesis that the effect size of the transfer in-kind is equal to the effect size of a cash transfer, is unable to discriminate between identical effects and differences in the effect size up to 5 percentage points.
- Since a difference of 5 percentage points in the effect size is not very meaningful from an economic perspective it is safe to conclude that the effect size of the transfer in-kind is equal to the effect size of a cash transfer.

Explaining the large impacts on Cons

- These elasticity estimates suggest the presence of sizeable multiplier effects eighteen to twenty four months after the initiation of the PAL transfers.
- One plausible explanation for these large feedback effects associated with the PAL program may be due to the effects of the intervention on overall productivity. In relatively isolated rural village economies characterized by the non-separability of the production decisions of a household from its consumption needs, government social assistance programs such as the PAL program examined here, lead to a change in the shadow value of time of rural household members, which in turn may trigger behavioral responses by the recipient households not only on the consumption side but also on the production side (Strauss, 1986; de Janvry et al., 1991; Taylor, 2005).
- The steady flow of food by the PAL program insures against downside risk and/or relaxes a liquidity constraint. These, in turn, are associated with a reallocation of labor from less to more productive activities.

Effects of Cash & in-Kind Transfers on labor supply-1

Table 4 –The impact of PAL (difference in difference estimates) on the probability of working

MALES (n=12101)	All activities		Agricultural activities		Non-Agricultural Activities	
	(A)	(B)				
Coeff. of:			(A)	(B)	(A)	(B)
β_R	0.01	0.016	0.078***	0.062**	-0.068***	-0.029
	[0.018]	[0.020]	[0.024]	[0.027]	[0.022]	[0.025]
γ^1	0.018	0.022	-0.02	-0.011	0.038*	0.033
	[0.017]	[0.017]	[0.023]	[0.022]	[0.022]	[0.021]
γ^2	0.022	0.023	-0.035	-0.037	0.058***	0.059***
	[0.017]	[0.017]	[0.023]	[0.023]	[0.022]	[0.021]
γ^3	0.012	0.013	-0.059**	-0.050**	0.071***	0.063***
	[0.017]	[0.017]	[0.023]	[0.023]	[0.022]	[0.021]
Control vars X(i,t) included?	YES	YES	YES	YES	YES	YES
Binary vars incl.?	Village	Individual	Village	Individual	Village	Individual
R-squared	0.02	0.01	0.03	0.02	0.03	0.01

Effects of Cash & in-Kind Transfers on labor supply-2

FEMALES (n=13860)						
Coeff. of:						
β_R	0.021	0.034	0.057***	0.050***	-0.036**	-0.016
	[0.021]	[0.021]	[0.013]	[0.014]	[0.018]	[0.018]
γ^1	-0.013	-0.026	0.001	0	-0.014	-0.026
	[0.020]	[0.019]	[0.010]	[0.010]	[0.019]	[0.018]
γ^2	-0.018	-0.017	-0.012	-0.011	-0.006	-0.006
	[0.020]	[0.018]	[0.010]	[0.010]	[0.018]	[0.017]
γ^3	0.03	0.02	-0.001	-0.005	0.03	0.025
	[0.020]	[0.019]	[0.011]	[0.011]	[0.018]	[0.017]
Control vars X(i,t) included?	YES	YES	YES	YES	YES	YES
Binary vars incl.?	Village	Individual	Village	Individual	Village	Individual
R-Squared	0.1	0.02	0.02	0.01	0.09	0.02

Notes:

Robust standard errors in brackets

*** significant at 1%, ** significant at 5%, * significant at 10%

γ^1 =DiD estimate of the impact in group T1=Food Basket without education

γ^2 = DiD estimate of the impact in group T2=Food Basket with education

γ^3 = DiD estimate of the impact in group T3=Cash transfer with education

For a complete list of the other variables included as controls in the regression see text.

Impacts on Poverty

$$P(i,t,\alpha) = \beta_0 + \sum_{j=1}^{3} \beta_T^J T_j(i) + \beta_{R2} R2 + \sum_{j=1}^{3} \gamma^J \left(T_j(i) * R2\right) + \eta(i,t) \qquad (2)$$

where the left hand side variable $P(i,t,\alpha)$ is defined as

$$P(i,t,\alpha) = \left(\frac{z - PCE(i,t)}{z}\right)^{\alpha} * Poor(i,t),$$

Table 4 – The impact of PAL (difference in difference estimates) on poverty[A]

POVERTY LINE	Headcount poverty ratio	Gap poverty ratio	Severity of poverty ratio
Food poverty line	P(0)	P(1)	P(2)
T1	0.06	0.042	0.029
	[0.043]	[0.033]	[0.025]
T2	0.035	0.024	0.017
	[0.045]	[0.033]	[0.024]
T3	0.023	0.015	0.01
	[0.040]	[0.030]	[0.022]
R2	-0.050**	-0.029**	-0.017*
	[0.020]	[0.012]	[0.009]
T1xR2	-0.113***	-0.080***	-0.054***
	[0.027]	[0.016]	[0.013]
T2xR2	-0.102***	-0.065***	-0.046***
	[0.030]	[0.018]	[0.014]
T3xR2	-0.089***	-0.055***	-0.038***
	[0.028]	[0.017]	[0.012]
Constant	0.635***	0.268***	0.147***
	[0.032]	[0.022]	[0.016]

Poverty Impacts-results-1

- Using the food poverty line:
  - PAL decreased the headcount poverty rate P(0) in T2 by 15.2% (using as a reference the 67% headcount poverty rate in T2 in the baseline).
- A transfer of 11.5% of the pre-transfer level of consumption appears to set in motion multiplier effects that lead to a reduction of 15.2% in the headcount poverty rate two years later.

Poverty Impacts-results-2

- The poverty gap in T2 decreases by 22.3% while the severity of poverty decreases by 27.8%.
- So the impact of PAL is greater at reducing the poverty gap P(1) and the severity of poverty index P(2).
- No statistical evidence of differences on the impact of in-kind food transfers or cash transfers on poverty rates .

Conclusions and Policy Implications-1

The PAL transfer has

- a large and significantly positive impact on food and total consumption and
- there are no differences in the impacts of transfers in cash versus transfers in-kind on consumption (same effect size).
- Thus from the view point of impacts on consumption and poverty, the choice of whether to provide transfers in the form of cash or food in-kind, should be determined primarily, if not exclusively, by the administrative cost incurred per unit value of the benefit.
- Keep in mind that Cash Transfers (ceteris paribus) yield a higher level of welfare than in-Kind transfers

Conclusions and Policy Implications-2

- From the view point of impacts on nutrition (e.g. impact on children's height or quality of diet) PAL overall had significant impacts on nutritional outcomes but the evidence on the relative merits of cash and in-kind T is mixed:
  - Cash T had a higher impact on the H/A z-score of children less than two years of age.
  - However, dietary quality (consumption of iron and zinc) was significantly better in those families receiving in-kind transfers (T1 and T2) most probably due to the consumption of the fortified milk in the basket.

Conclusions and Policy Implications-3

- The transfer, irrespective of whether it is cash or in-kind, does not affect participation in labor market activities.
- The transfer induces a switch in the time allocation of males (and not females) between agricultural to non agricultural activities.
- Explanation: the PAL transfers provide partial insurance for food consumption (reduces down-side risk) sufficient to allow recipients to switch their time from less productive activities in agriculture, intended to guarantee food in the event of income and other shocks, towards more productive nonagricultural activities.

Conclusions and Policy Implications-4

- Overall these findings suggest that small transfers to households in poor rural isolated communities, irrespective of whether in cash or in-kind, are able to increase both equity and efficiency by mitigating the adverse effects of market imperfections.
- POVERTY:
  - Small transfers can result in large reductions in poverty (a reduction of 15% in the headcount poverty rate two years later)
  - the same reduction on poverty is achieved irrespective of the form of the transfer.

End

Appendix-
DiD estimates of PAL impact on level of Consumption

Table B.1– The impact of PAL (difference in difference estimates) on Food and Total Consumption per capita

	Food Consumption p.c. (nobs=11,072)			Total Consumption p.c. (nobs=11,072)		
Coeff. of:	**(A)**	**(B)**	**(C)**	**(A)**	**(B)**	**(C)**
β^1	-25.951*			-59.593**		
	[13.188]			[24.261]		
β^2	-8.81			-37.222		
	[16.749]			[28.537]		
β^3	-30.374**			-54.184**		
	[12.871]			[24.642]		
β_R	-11.713	-12.244	-1.06	30.008	33.250*	51.851***
	[16.514]	[9.948]	[9.205]	[32.274]	[19.215]	[16.742]
γ^1	51.658***	55.636***	53.660***	60.629***	65.763***	58.562***
	[11.522]	[9.019]	[7.786]	[20.568]	[18.038]	[14.520]
γ^2	36.418**	42.386***	43.758***	59.308**	69.487***	69.833***
	[15.857]	[8.936]	[8.046]	[24.914]	[18.065]	[15.192]
γ^3	39.529***	48.151***	46.024***	67.159***	81.580***	76.355***
	[12.948]	[9.075]	[7.964]	[22.940]	[18.147]	[14.747]
Control vars *X(i,t)* incl.?	YES	YES	YES	YES	YES	YES
Binary vars incl.?	Month of interview (Moi)	Moi & Village	Moi & Household	Month of interview (Moi)	Moi & Village	Moi & Household
R-squared	0.1814	0.1610	0.1018	0.2092	0.1885	0.0814
H_o: $\gamma^2 - \gamma^3 = 0$	0.04 [0.8413]	0.42 [0.5175]	0.08 [0.7822]	0.12 [0.7315]	0.53 [0.4683]	0.22 [0.6402]

Notes:

Robust standard errors in brackets

*significant at 10%; ** significant at 5%; *** significant at 1%

γ^1 =DiD estimate of the impact in group T1=Food Basket without education

γ^2 = DiD estimate of the impact in group T2=Food Basket with education

γ^3 = DiD estimate of the impact in group T3=Cash transfer with education

Hypotheses test: The numbers reported are the values of the F-statistic under the null and underneath in brackets is the associated p-value.

Table B.2—The power of the null hypothesis H_0 : $\gamma^2 - \gamma^3 = \delta = 0$

	Monthly Food Consumption p.c.			Monthly Total Consumption p.c.		
	(A)	(B)	(C)	(A)	(B)	(C)
$\hat{\sigma}$	15.516	8.906	8.1944	22.85	16.17	13.952
c	55.934	32.106	29.54	82.37	60.095	50.290
b	30.41	17.456	16.06	44.79	32.673	27.345

Notes:

$\hat{\sigma}$ denotes the standard error estimate for $\hat{\delta}$

The parameter c defines the region of high power, i.e., $\{\delta : |\delta| > c\}$

The parameter b defines the region of low power, i.e., $\{\delta : 0 < \delta \leq b\}$