Schooling and Labour Market Impacts of Bolivia's Bono Juancito Pinto

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Public Economics for Development
Maputo, 2017

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Bolivia's Social Protection System

Objective:

- To examine the impact of the conditional cash transfer programme on schooling and child labour.

Bono Juancito Pinto

- Established by Executive Decree (DS 28899) in October 2006
- Provides an annuity of 200 Bolivian pesos (USD 28) to school-age children
- Aims to reduce extreme poverty and increase school enrolment and completion

Conditions:

- To be enrolled in a public school (90% of children)
- To attend to at least 80% of school days

200 Bolivian pesos...

Keep in mind

- Minimum wage: 6 000 bolivian pesos/year in 2006 and 14 400 in 2013 .
- Children earn in average 8 400-9 600 bolivian pesos per year (2014).

200 Bolivian pesos are equivalent to:

- 3% of of a worker's yearly earnings at the minimum wage in 2006
- 1.4% of of a worker's yearly earnings at the minimum wage in 2013
- 2% of of a child's top yearly earnings in 2014

Background of the programme

Table: Coverage of Bono Juancito Pinto

Year	Eligible children beginning of school year	Educational levels covered end of school year	Announcement date	Payment
2006	-	1st-5th grade	October 2006	200 Bs.
2007	0-4th grade	1st-6th grade	October 2007	200 Bs.
2008	0-5th grade	1st-8th grade	July 2008	200 Bs.
2009	0-7th grade	1st-8th grade	October 2009	200 Bs.
2010	0-7th grade	1st-8th grade	October 2010	200 Bs.
2011	0-7th grade	1st-8th grade	October 2011	200 Bs.
2012	0-7th grade	1st-9th grade	October 2012	200 Bs.
2013	0-8th grade	1st-10th grade	October 2013	200 Bs.
2014	0-9th grade	1st-12th grade	October 2014	200 Bs.
2015	0-11th grade	1st-12th grade	-	200 Bs.

Data

- **Household Surveys (MECOVI - Encuesta de Hogares)**
- Bolivian National Institute of Statistics (INE)
- National representative survey
- Repeated cross-sections
- 2005, 2006, and 2013
- Sample: children aged 7-17 years

Identification strategy

Completed years of schooling	2005-2006	2013
0	B	T
1	B	T
2	B	T
3	B	T
4	B	T
5	B	T
6	B	T
7	B	T
8	**B**	**T**
9	**B**	**C**
10	B	C
11	B	C

Figure: Identification strategy

Estimation

Outcomes: school enrolment and labour supply.

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Kernel propensity score matching - difference in difference strategy (Blundell and Dias (2009))

Estimation

Work and enrolment status of child i are modeled using the following reduced form:

$$Y_{igt} = \beta_0 + \beta_1 T_{ig} + \gamma T_{ig} * P_{it} + \sum_{j=1}^{J} X_{ij}\theta_j + \delta_t + \varepsilon_{igt},$$

where Y is the outcome of interest, i.e. work participation, hours worked, or school enrolment,

P is an indicator variable equal to one for the years when the transfer was paid,

T is an indicator variable equal to one for eligible individuals and zero otherwise,

X_i is a vector of sociodemographic characteristics,

δ_t controls for potential time varying effects of each round of data.

Model specification

Control variables (X):

- Household characteristics: a dummy for rural households and dummy variables for the nine Bolivian departments.
- Household's head characteristics: educational attainment (years), gender.
- Household structure: household size, the number of household members working.
- Children characteristic: age, gender, ethnic origin.
- Wealth proxies: piped water, toilet connected to sewage, and electricity.

Results: school enrolment

Table: Impact of the BJP programme on school enrolment

	National sample	Rural	Urban	Boys	Girls
Effect	0.052**	0.108*	-0.006	0.029	0.082**
	(0.019)	(0.046)	(0.022)	(0.026)	(0.029)
Observations	2,472	727	1,734	1,235	1,210

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Robust standard errors clustered at household level in parenthesis. *Significance level at *p<0.05,**p<0.01, ***p<0.001*

Results: work participation

Table: Impact of the BJP programme on work participation

	National sample	Rural	Urban	Boys	Girls
Effect	-0.062	-0.097	-0.002	-0.039	-0.078
	(0.047)	(0.099)	(0.043)	(0.066)	(0.065)
Observations	2,472	727	1,734	1,235	1,210

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Robust standard errors clustered at household level in parenthesis. *Significance level at *p<0.05,**p<0.01, ***p<0.001*

Results: hours worked

Table: Impact of the BJP programme on hours worked

	National sample	Rural	Urban	Boys	Girls
Effect	-1.275	-3.692	0.584	-2.130	-0.870
	(1.108)	(2.348)	(1.250)	(1.722)	(1.422)
Observations	2,389	703	1,671	1,183	1,179

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Robust standard errors clustered at household level in parenthesis. *Significance level at *p<0.05,**p<0.01, ***p<0.001*

Conclusion:

• Positive effects of the programme on children's education, consistent with previous research on cash transfer programmes in developing countries.

• There is no evidence of a reduction on the intensity of child labour or the probability to work (which is expected given the small amount of the transfer).

Thanks!

Spillover effects: school enrolment

Table: Impact of the BJP programme on school enrolment: spillover effects

	National sample	Rural	Urban	Boys	Girls
No. eligible children in hh x 2013	-0.010	-0.004	-0.012	-0.020	-0.009
	(0.009)	(0.020)	(0.009)	(0.021)	(0.016)
No. eligible children in hh	0.006	0.008	0.016*	-0.004	0.020
	(0.006)	(0.014)	(0.008)	(0.012)	(0.012)
Observations	2,472	727	1,734	1,235	1,210

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Robust standard errors clustered at household level in parenthesis. *Significance level at *p<0.10, **p<0.05, ***p<0.01*

Spillover effects: work participation

Table: Impact of the BJP programme on work participation: spillover effects

	National sample	Rural	Urban	Boys	Girls
No. eligible children in hh x 2013	0.015	0.006	0.034	-0.002	0.043
	(0.022)	(0.038)	(0.021)	(0.041)	(0.038)
No. eligible children in hh	0.036	0.018	-0.006	0.060*	0.020
	(0.014)	(0.027)	(0.014)	(0.028)	(0.024)
Observations	2,472	727	1,734	1,235	1,210

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Robust standard errors clustered at household level in parenthesis. *Significance level at *p<0.10, **p<0.05, ***p<0.01*

Spillover effects: hours worked

Table: Impact of the BJP programme on hours worked: spillover effects

	National sample	Rural	Urban	Boys	Girls
No. eligible children in hh x 2013	0.521	0.276	0.979	-0.737	1.550
	(0.513)	(1.026)	(0.683)	(0.039)	(0.905)
No. eligible children in hh	0.718*	0.471	0.001	1.747*	-0.035
	(0.338)	(0.671)	(0.484)	(0.724)	(0.587)
Observations	2,389	703	1,671	1,183	1,179

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Robust standard errors clustered at household level in parenthesis. *Significance level at *p<0.10, **p<0.05, ***p<0.01*

Preprogramme time trends

Table: Preprogramme time trends in schooling, work, and hours worked

	School enrolment	Work participation	Hours worked
Treatment group × 2006	0.034	-0.044	0.639
	(0.033)	(0.066)	(1.584)
Observations	1,228	1,228	1,180

Note: Coefficients are estimated using kernel propensity score matching using a difference-in-differences approach. In all specifications we use control variables, time and department fixed effects. Bootstrapped standard errors clustered at household level, 1200 repetitions. *Significance level at *p<0.10, **p<0.05, ***p<0.01*