



Study Proposal: Do Larger School Grants Improve Educational Attainment?

Evidence From Urban Mexico

Study Proposal by:

M. Caridad Araújo

Maria Adelaida Martínez

Sebastián Martínez

Michelle Pérez

Mario Sánchez

Copyright © 2017 Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (<http://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode>) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that link provided above includes additional terms and conditions of the license.

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.



This document, led by specialists from the Inter-American Development Bank, is meant to show the design of a case study to request feedback to improve the study.



Study Proposal: Do Larger School Grants Improve Educational Attainment?

Evidence From Urban Mexico

Study Proposal by:

M. Caridad Araújo

Maria Adelaida Martínez

Sebastián Martínez

Michelle Pérez

Mario Sánchez ⁱ

Washington, September 2017

i. Authors: M. Caridad Araújo (mcaraujo@iadb.org), Maria Adelaida Martínez (adelaidam@iadb.org)

Sebastián Martínez (smartinez@iadb.org, corresponding author), Michelle Pérez (michelleperez@yahoo.com.mx),

Mario Sánchez (mariosan@iadb.org): Inter-American Development Bank, 1300 New York Avenue, NW, Washington, DC 20577.

1. Introduction

In previous decades, Latin-American countries progressed substantially towards universalizing access and graduation for primary education. From early 1990s to late 2000s, primary school completion rates increased from 65 to 76 percent. Although progress has also been made for secondary education, the road to universalization at this level still looks lengthy, particularly for the poor. Conditional upon having completed primary education, secondary graduation rates increased from 32 to 46 percent over the same period. Furthermore, graduation gains at secondary levels were concentrated disproportionately amongst the non-poor. Even though graduation increased for both groups, the graduation gap between the richest and poorest income quintiles increased from 19 to 28 percentage points (Bassi, Busso, Muñoz, 2013).

A large body of literature studies the long-term effects of conditional cash transfers (CCTs) for improving primary school enrollment and completion rates of children in poor households. Existing studies focus primarily on children in primary school and find modest effects on enrollment, driven in part by already high levels of primary school assistance in most countries (Todd and Winters, 2011; Attanasio et al. 2006, Bourguignon et al, 2003, Behrman et al. 2011; Davis and Handa 2006; Schady et al., 2013; Glewwe and Kassouf, 2012; Slavin 2010; Parker et al. 2007; Minnis et al. 2014; Lun et al, 2013; Ponce and Bedi, 2010). With a few notable exceptions, the mid and long-term effects of CCTs on middle and high school enrollment have been studied less.

Furthermore, most CCT programs pay a uniform amount¹, usually to the female head of household, leaving an open question around how sensitive educational outcomes are to the size of the school grant component of the CCT. At the same time, dropout rates in middle school and high school tend to be much higher than in primary school, as are the potential labor market returns². In this context, understanding the relationship between the amount of the school grant and educational attainment is an important policy question.

The Mexican education system is organized into four mandatory levels: (a) early childhood education for children ages 3-5 is comprised of three grades, preschool, pre-K and kindergarten; (b) primary education



for children 6-12 consists of grades 1-6; (c) middle school for children 1-15 and has three grades; and (d) high school for children ages 15-18 that also consists of 3 grades. This study will focus on the latter two levels³, middle school and high school. According to INEE (2016), for the 2014-2015 school year, net enrollment rates in early childhood education were 71.9 percent, increased to 98.6 percent for the primary level and decreased in a sustained manner thereafter, to 87.6 percent by middle school and to 57 percent by high school. There is substantial heterogeneity behind these numbers. For example, net enrollment in high school was the lowest in the state of Guerrero, at 47.3 percent and reached the highest rate in Mexico City, at 86.4 percent.

This study will measure the effects of increased cash grants for middle and high school students in the context of Mexico's national CCT program Oportunidades⁴. Starting in 2009, middle and high school grants for new beneficiaries in a sub-set of 263 urban localities were increased by 25 percent, financed through the elimination of primary school transfers for those same localities. We will use administrative data to analyze effects on proxies of dropout and high school graduation using a difference-in-difference strategy that compares changes in educational outcomes for new enrollees in 2008 and 2009 across treatment and comparison localities.

The study will complement and expand the existing empirical and theoretical work looking at the effects of CCTs on education. In particular, evidence on impacts of CCT programs on high school graduation is relatively scarce, and focuses primarily on rural areas as, shown in a recent review by (Molina-Millan et al. 2016). An exception is the analysis of the long-term impacts of the Ecuadorian unconditional cash transfer (Araujo, Bosch and Schady, 2016) that uses regression discontinuity around the eligibility cutoff to compare

-
1. The stipend may vary by grade and gender, but will be constant within groups.
 2. In Mexico, the returns to attaining tertiary education are among the highest in OECD countries, however, only 16 percent of adults (25-64 years-old) have obtained higher education, the lowest share across OECD countries in 2015 (OECD, 2017)
 3. Educación Secundaria and Educación Media Superior, are the Spanish names.
 4. The Oportunidades CCT program began as Progresá in 1997, was renamed Oportunidades in 2002, and became Prospera in 2014. Given that the policy change studied in this paper took place under Oportunidades, we use this name to refer to the program.

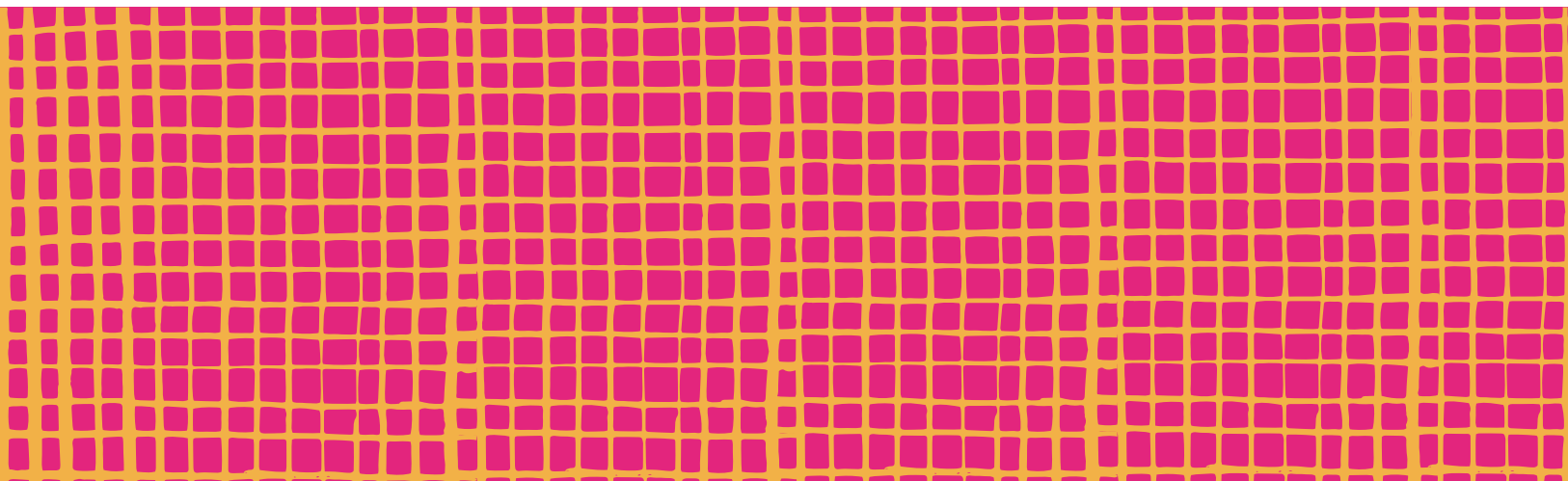


the school attainment of young adults at ages 19-25, six years after their families' eligibility was determined. The authors find a modest impact on high school completion: an increase of 1-2 percentage points, from a counterfactual of 75 percent.

Existing experimental evidence from Oportunidades comes primarily from its original rollout into rural areas starting in 1997. No similar experimental evidence is available for the second phase of program implementation that began in 2002, when Oportunidades was expanded into urban areas using the same basic grant structure as in rural areas. The evaluations from Oportunidades in rural areas documented modest impacts on educational variables. Behrman, Parker and Todd (2009, 2011) found that six years after the original experiment, an 18 months differential exposure had no significant effect on grade progression for children ages 9-11 and resulted in 0.2-0.5 more grades of schooling for children who were 15-21 in 2003. Despite higher schooling among the older cohort, no impacts were found on reading, writing and math tests. Using difference-in-difference matching estimates, the authors compared the original treatment group to a non-experimental comparison group and found positive and significant effects in progression rates of (15 percent for boys and 7 percent for girls) amongst children 0-8 at baseline and 0.5 to 1 more years of schooling for those who were 9-15 at baseline.

This and other evidence raise the question as to the extent that CCT programs could be more effectively designed to have larger impacts on schooling outcomes. Given the already high pre-program enrollment rates in primary school, particularly in urban areas, one of the ideas floated in the academic and policy circles was focusing cash transfers exclusively on educational levels where enrollment was lower. De Janvry and Sadoulet (2006) quantified two sources of inefficiencies in the Oportunidades program design: (a) paying people for what they were already doing, i.e. enrollment in primary school, which also absorbed the largest proportion of total transfers paid; and (b) paying transfers that are relatively too low (or too high) compared to the cost of the action they are inducing. Attanasio, Meghir and Santiago (2012) estimated a structural model with the program experimental data to show that increasing middle school and high school grants while eliminating the primary school ones in a budget neutral manner could have large positive effects on enrollment and minimal impacts on enrollment in the primary school grades.

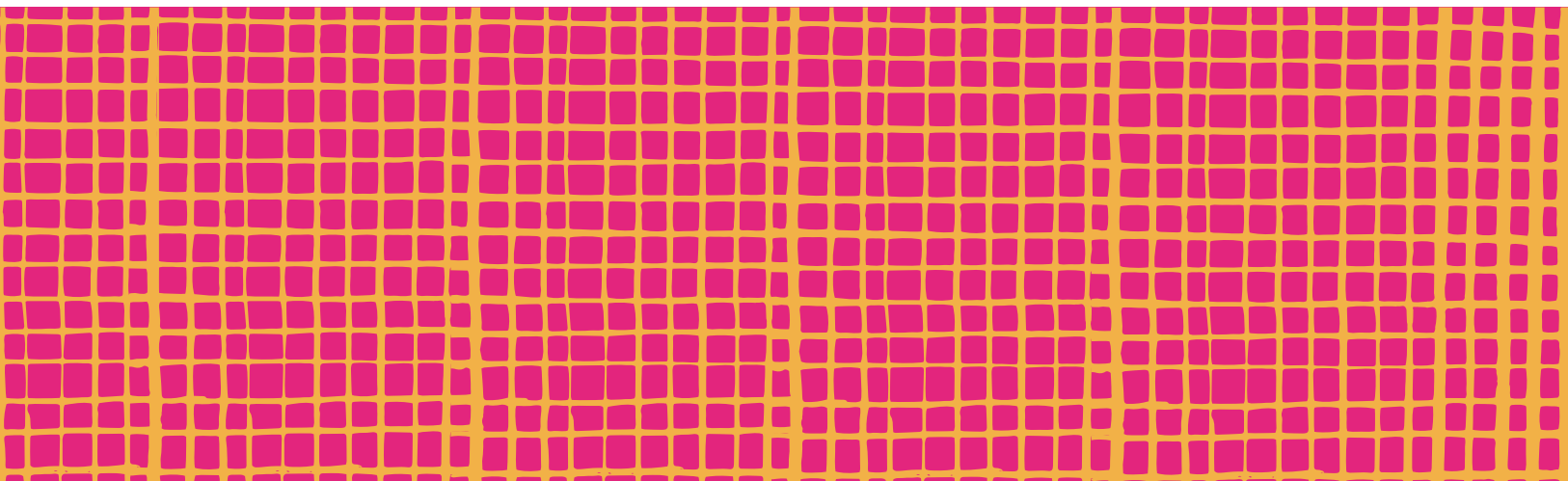
We hypothesize that larger school grants for middle school and high school students may compensate for outside labor market opportunities and help signal the value of education. While we will not be able to identify effects of the Urban Model on primary school attainment using available administrative data sources,



its effects on school enrollment and dropout in the urban context is known to be small (Attanasio and Espinosa 2010, Espinosa 2014). Assuming a negligible effect for primary aged children, the alternative grant scheme was designed to be cost-neutral by re-allocating grant funds designated for primary aged children to households with middle school and high school students.

2. The Urban Model

Starting in 2009 the Oportunidades program revised various features of its operation in urban areas. This responded to evidence that suggested that the program needed to better adapt its design to the reality of urban areas. Gonzales-Flores, Heracleous and Winters (2009) examined six years of urban Program data (2002-2007) and documented that beneficiaries in urban areas abandoned the Program at rates that were twice as high as those of beneficiaries in rural areas. The reasons for leaving the program in approximately three out of four cases were related to non-compliance of Program conditions. The remaining beneficiaries left the Program due to administrative reasons. The authors also identified an increase over time of dropouts among the poorest 30 percent of eligible households. Similar to what Alvarez, Devoto and Winters (2008) had shown earlier with rural data, the authors documented that in addition to the very poor, beneficiaries on the right-hand-side tail of the poverty distribution were also more likely to fail to comply with program conditions compared to those in the middle. The authors hypothesized that amongst the less poor, the transfer value was too low relative to their opportunity cost to comply with program conditions. They also found that administrative changes in the program's operational processes that increased participation costs for the beneficiaries could translate into large numbers of families being removed from the program's roster.



The set of changes to program design features in urban areas was named the Urban Model of Oportunidades (henceforth, the Urban Model). It was approved as part of the Program operations manual in December 2009 and included reforms in five areas (Oportunidades, 2009). This new model: (1) adjusted the health and nutritional components of the Program to the urban epidemiology, (2) transferred the payment process to financial institutions, (3) opened new enrollment points for its urban beneficiaries, and (4) piloted an alternative targeting model in a small subset of areas. The focus of this paper is on a fifth component of the Urban Model: the changes to the school grants scheme, which proposed a budget-neutral change in the size of school grants. Specifically, grants were eliminated for primary education. In turn, its amount was increased by 25 percent amongst children enrolled in the next six years of school (middle-school and high school).

An experimental impact evaluation was built-into the original rollout of the Urban Model in two cities of central Mexico, Puebla and Ecatepec. Households joining the Program for the first time were randomly assigned into one of three groups: a control group that would receive the traditional school grant scheme, a first treatment group that would receive the Urban Model described above (Treatment 1), and a second treatment group that, in addition to the Urban Model, would receive a payment based on school performance (Treatment 2). Attanasio and Espinosa (2010) and Espinosa (2014) analyzed the results of this experiment. The results vary across the two settings. Attanasio and Espinosa (2010) found that after 18 months of implementation, the Urban Model resulted in positive and significant impacts on school enrollment only for girls and only in one of the two cities, Ecatepec. The magnitude of the impact was of 5-7 percentage points. No impacts were found amongst boys in Ecatepec or amongst boys or girls in Puebla. In both cities, eliminating the primary school grant had no effect on enrollment in this level. The authors noted that the performance pay was not adequately communicated to the students in the experiment so, for the purposes of the analysis, they merged the two treatments into one.

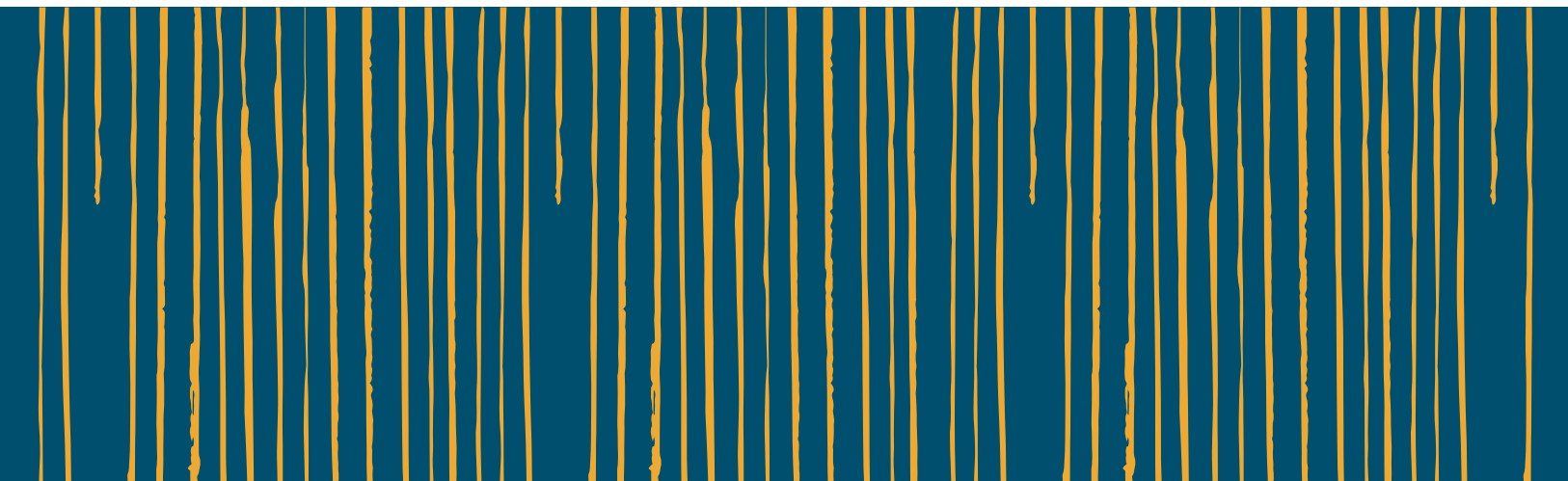
Espinosa (2014), in turn, analyzes the two treatments separately. The presence of impacts of the Urban Model varies across cities and also depends on whether the author groups children by age or by grade. She documents that the Urban Model led to a decrease in primary school enrollment of 3-4 percentage points in Ecatepec and Puebla from a baseline enrollment level of over 95 percent in the sample (which falls to 50 percent by middle school). In Ecatepec, she also found the Treatment 1 resulted in a decrease of enrollment amongst 16-18-year-old boys of 10 percentage points while Treatment 2 increased enrollment for girls ages 16-18 by 10 percentage points. In Puebla, she found that both treatments decreased enrollment of 13-15-year-



old boys in about 8 percentage points. For girls in this age group, she also found a negative impact of both treatments; however, it is less robust across specifications and smaller in magnitude. It is worth noting that none of these impacts prevail when the data is analyzed by grade and not by child's age. Moreover, this evaluation focused only on two cities. To the extent to which the decision to enroll in school depends on its opportunity cost, it likely did not capture much of the spatial heterogeneity in the conditions of the local labor markets for the youth. The Ecatepec and Puebla experimental evaluation of the Urban Model might provide valid estimates at the very local level, but the effects may or may not extrapolate to other settings. Our analysis is a complement to this evidence.

Starting in 2009, the Urban Model was implemented in a total of 263 urban localities, defined as those that had a population of 15 thousand or more in 2009 and met other Program eligibility conditions related to the supply of health and education services⁵. Between 2009 and 2013, all eligible Oportunidades new beneficiaries who were incorporated into the program roster in these 263 localities (treatment localities, henceforth) received benefits under the Urban Model scheme. Eligible Oportunidades beneficiaries incorporated into the program in this period in all other urban localities retained the traditional grant scheme, as well as families enrolled before 2009 in treatment localities. Starting in 2014, and given that there was no conclusive evidence on the impacts of the change in school grants under the Urban Model at that date, Oportunidades decided to discontinue it (Dávila Lárraga, 2016).

5. The only urban localities excluded were those in the sample of an alternative health scheme that was also being evaluated as part of the Urban Model.



3. Model/ Conceptual Framework

In this section, we propose a simple model of the relationship between grant amounts and schooling. A household maximizes the net present value of its only-child consumption stream (c_t) by deciding on whether to send her/him to school ($s_t = 1$) or to work ($s_t = 0$). If the child is sent to school, her/his current human capital level will increase by a school quality parameter $\alpha(h_t)$. If the child is sent to work, her/his human capital will yield wages. To send its child to school, the household must spend a fixed cost, partially subsidized by the government through the school grant τ .

The household solves:

$$\max_c \sum_{t=0}^N \beta^t c_t$$

$$\text{subject to: } c_t + s_t(m - \tau) = (1 - s_t)w(h_t)$$

$$\text{and: } h_{t+1} = h_t + \alpha(h_t)s_t$$



Letting V represent future consumption stream given h , this is equivalent to choosing s_t such that:

$$\max_{s_t \in \{0,1\}} [-m + \tau + \beta V(h_t + \alpha(h_t)) ; w(h_t) + \beta V(h_t)]$$

Let φ be the household policy function:

$$\varphi(h; m, \tau, w, \alpha) = \beta v(h) - w(h) - m + \tau$$

Where $v \equiv \beta[V(h_t + \alpha(h_t)) - V(h_t)]$. For any level of h , the child will be sent to school ($\varphi > 1$) if the present value of the returns to studying outweighs the costs of doing so—opportunity and direct net costs.

A permanent increase in the conditional cash transfer implies that:

$$\frac{\Delta \varphi}{\Delta \tau} = 1 + \beta \Delta v$$

Thus, the likelihood of going to school would increase more than proportionally to a reduction on the cost of schooling, as long as the return to studying is positive. Notice that, as v is an increasing function of α , $\frac{\Delta \varphi}{\Delta \tau}$ is an increasing function of school quality.

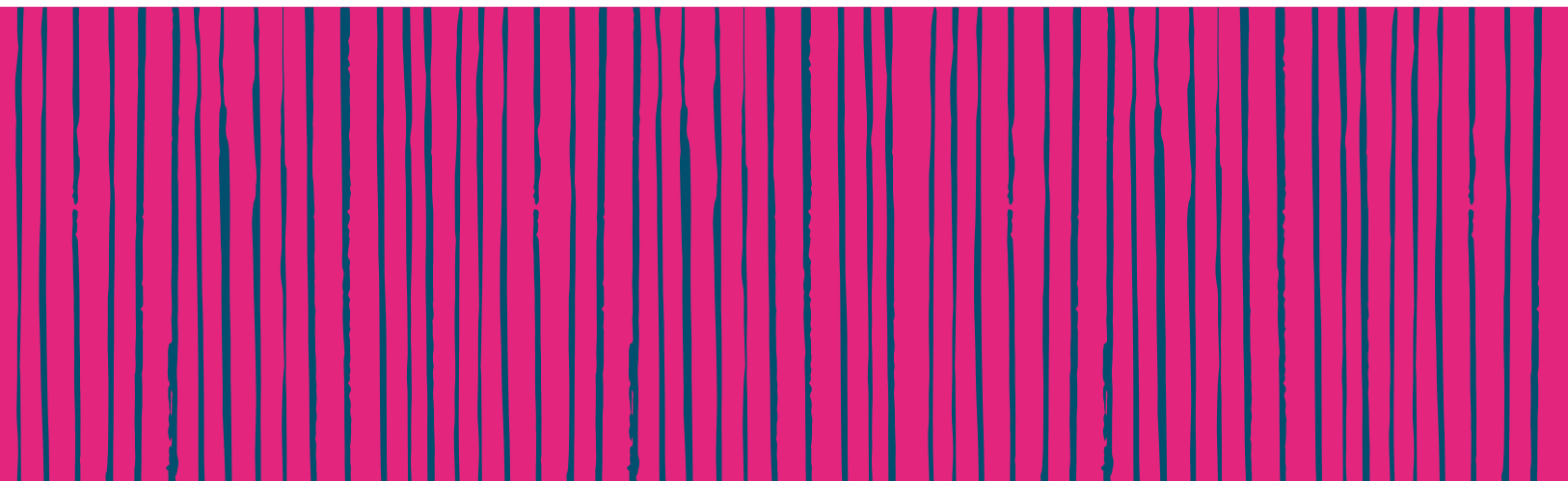


4. Data and Sample

Our analysis of the Urban Model on school attainment will use data from three different administrative sources: (1) the Oportunidades beneficiary roster, (2) the Oportunidades survey of households' socioeconomic characteristics (ENCASEH) that is used to determine Program eligibility, and (3) the Ministry of Education registries of standardized tests (ENLACE). Each of them is described in the paragraphs below.

The Oportunidades roster is a household-level database that tracks compliance of program conditions such as school attendance and health check-ups down to the level of each individual household member. The roster contains six observations per unit/individual per year. The operational rules of the program require that compliance with conditions is reported and cash transfers are disbursed every two months. From the moment a household is enrolled in the program, the roster registers bimonthly that the household actually receives a program transfer. When a bimonthly household observation appears in the roster as missing, it means that the program has suspended the transfer, either temporarily or permanently. This can happen because of (a) administrative faults⁶, (b) the household fails to fulfill its conditions for more than two consecutive bimonthly cycles, or (c) the household is no longer eligible for the program.

6. These faults include main beneficiary failing to collect her transfer or make any bank account transaction in two consecutive bimonthly cycles, an existing dispute over the transfers that household members should be receiving, among others.



When transfers are suspended due to administrative faults, the beneficiary (usually the female head of household) has to approach Oportunidades representatives in her locality in order to resolve any inconsistency. In the second case, the program can suspend the monetary transfer until the fulfillment of the condition is again certified, in which case, transfers are reinstated. In the third scenario, a household becomes ineligible if following a reassessment of its socioeconomic conditions, the household fails to meet minimum criteria for continued eligibility⁷. In all of the cases described above, the roster will show a missing observation for one or more bimonthly cycles, resulting on that particular household having fewer than six observations per year.

Our second data source is the ENCASEH, a socio-economic survey that determines eligibility to Oportunidades. It is first collected amongst all potential beneficiary households prior to their enrollment and later repeated, at least once every eight years, as part of the recertification process. The survey collects household and individual level data on health, education, employment, income, social program participation, consumption, and demographic characteristics. Prior to Program enrollment, the ENCASEH data are used to estimate per-capita income and determine eligibility. We use the ENCASEH as a source of baseline information, so for each individual in our sample we take the ENCASEH that was available immediately prior to the moment her household was enrolled in the program.

Our third source of data are the Ministry of Education (SEP) registries of standardized tests. The National Achievement Evaluation in School Facilities test (known as ENLACE by its Spanish acronym) is a mandatory examination taken by all students in each of the middle school grades and in their last year of high school, in both public and private schools. The test assesses two subject areas, language and math, and is meant to yield a general student assessment. Scores have no impact on student grades. For students completing high school, ENLACE is not an entry exam for college enrollment. Between 2008 and 2015 ENLACE aimed to cover all students in their last year of high school, but beginning in 2016 it was administered only to a sample

7. The periodic re-evaluation of socioeconomic conditions through the so called “recertification” process updates the household level information to confirm whether: (a) household per capita income is larger than an upper threshold known as the permanent socioeconomic verification line or (b) household per capita income is larger than a lower threshold known as the minimum welfare line, but has no household members younger than 22 years old or women of reproductive age (15-49 years old).

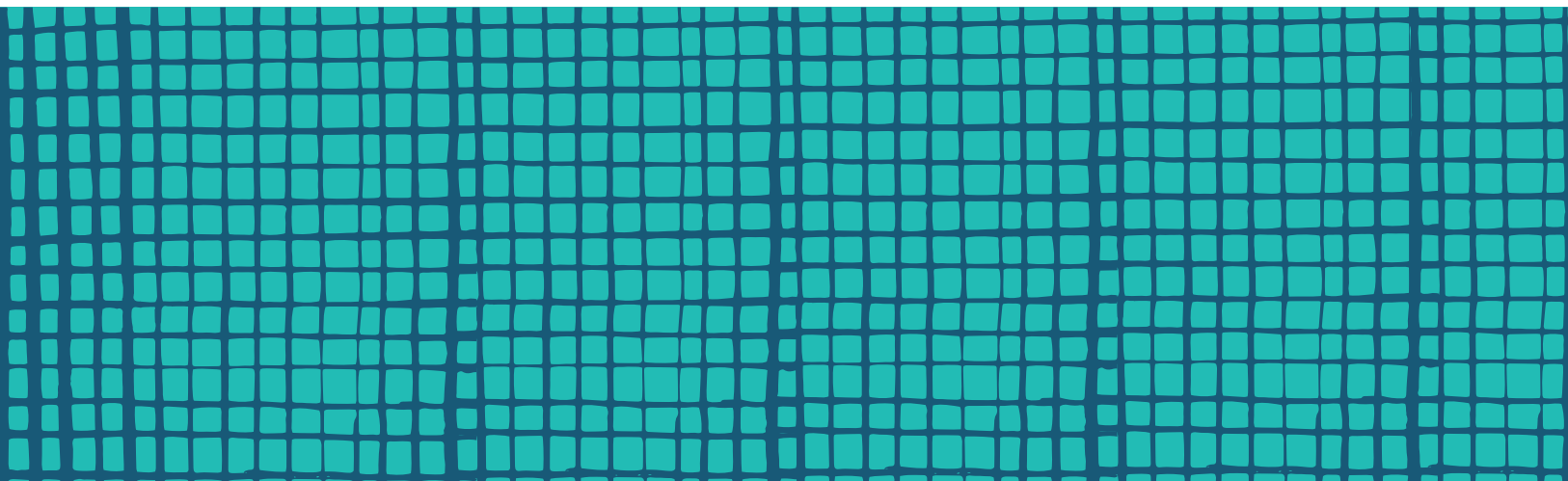
of schools. In addition, between 2008 and 2013, ENLACE was administered to all students in first, second and third grades of middle school.

The Oportunidades roster and the ENCASEH share common identifiers at the household and individual levels. Neither dropout nor graduation are observed from official school records. However, the Oportunidades roster has information about program exit, which can be used to construct proxies for school dropout:

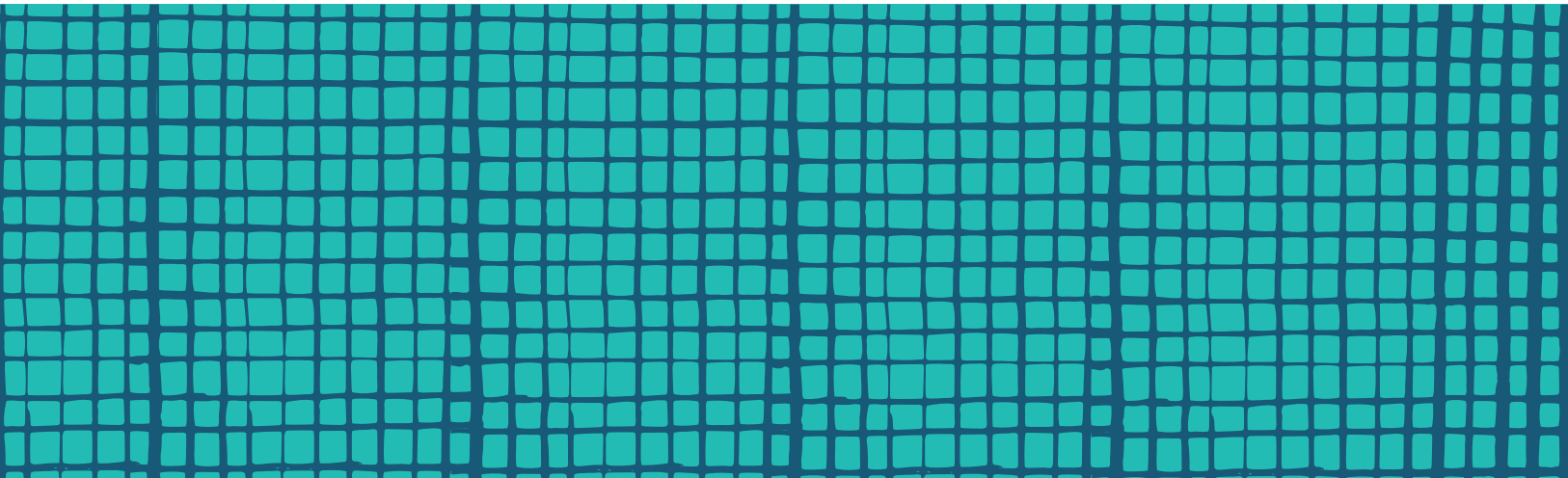
1. CCT official exit: This variable comes from the Program roster and it captures exit from the Oportunidades program based on non-compliance with the school-enrollment condition using official program registries. While this measure is closely linked to actual school dropout, it is only reported in the program roster for children in middle school and not for those in high school. As a result, it represents a lower-bound estimate for total dropout levels.
2. CCT panel exit: This variable is constructed from the program roster and contains the CCT official exit. It takes the value of 1 when a student exhibits an exit from the panel before the third bimonthly cycle of 2013 and without having completed the three grades of high school. This measure is likely an upper bound on true dropout levels as a student's exit from the program roster may be due to reasons other than school dropout.

For high school graduation, in turn, we will construct two proxy indicators:

3. CCT graduation grant: Upon high school graduation, Oportunidades beneficiaries are eligible for a graduation grant valued at approximately 400 USD. The graduation grant is not automatic, and must be claimed by the beneficiary upon providing proof of graduation. Given that not all beneficiaries claim the grant (~96% as reported by Program directors), but that graduation is a pre-requisite, this can be thought of a lower-bound estimate for true graduation rates.
4. Graduation test: All high school students are required to take the ENLACE exam at the end of their last year of high school. We matched the Oportunidades roster to the SEP-ENLACE data and constructed a dummy variable equal to 1 for all students who appeared to have taken the test. The merge was based on the CURP, the individual national identifier, and 15 percent of CURP were missing in the Oportunidades roster. As a result, this variable is a likely lower-bound estimate for true graduation rates.



Analysis will be limited to urban localities, defined as those with a population larger than 15 thousand. Of the 630 urban localities in the country, 263 were treated with the Urban Model. While the selection of the 263 treatment localities was not well documented, it appears that the program prioritized localities based mainly on operational convenience. In these localities, the grant scheme of the Urban Model was applied exclusively to newly eligible families with children enrolled in middle and high school starting in the third bimonthly cycle of 2009.



Identification Strategy

Increased grants for high school students under the Urban Model were implemented exclusively for new program participants in a sub-set of urban intervention localities starting in September-October 2009. Grants for continuing program beneficiaries, as well as new enrollees in non-intervention urban localities, remained at existing levels. We will estimate the effects of the increased grants on our proxies for high school dropout and graduation using a difference-in-difference model which compares the changes in outcomes for new program beneficiaries in intervention localities between 2008 and 2009, with changes in outcomes for new enrollees in non-intervention localities during the same time period. Our baseline period is Sept-Oct 2008, when all new beneficiaries received the same grant scheme.

The standard difference in difference specification is:

$$Y_{ijt} = \Phi_t + \Phi_j + \delta D_{ijt} + X'_{ijt}\beta + \varepsilon_{ijt}$$

Where Y_{ijt} is the schooling outcome for individual i in locality j and enrollment cohort t . Φ_t is a time fixed-effect equal to 1 for the 2009 cohort and 0 for the 2008 cohort, and Φ_j is a locality fixed-effect equal to 1 for treatment localities and 0 otherwise. D_{ijt} is a dummy variable equal to the interaction between Φ_t and Φ_j , that is equal to 1 for individuals enrolled in 2009 in treatment localities. δ is the treatment parameter of interest, interpreted as an average treatment on the treated effect (ATOT), the average effect of the Urban Model on schooling outcomes in intervention localities. X'_{ijt} is a vector of individual covariates including age, parental education and household characteristics (number of household members, assets in the household, variables

that measure access to services-such as whether the household has piped water inside the home, electricity, domestic gas- and housing -the number of rooms, and whether the family owns the dwelling). Given that previous analysis of the Urban Model identified different impacts by gender (Atanasio and Espinosa, 2010), we estimate separate regressions for girls and boys.

We also propose Cox proportional hazard models (Cox, 1972) to estimate the impact of larger school grants under the Urban Model scheme on the likelihood of dropping out of school and of graduating from high school, using the time-series data. These models' framework requires two possible outcomes for each beneficiary on the sample, in our case: the individual is enrolled in school (right-censored) or not (failed) and the individual is graduated from high school (failed) or not (right censored).

The proportional hazard model assumes that the fraction of the beneficiaries that dropped out (or graduated) after bimonthly cycle t , relative to those that still enrolled (are not graduated) in that cycle is:

$$h(t) = h_0(t) \exp (\delta \Phi_j + X'_{ijt} \beta)$$

Where $h_0(t)$ is the baseline hazard of dropping-out (graduating) from school after bimester t . We assume that the effect of the covariates is proportional over the entire baseline and that the hazard ratio for two observations is independent of time t . Following the same notation as in the diff-in-diff model, Φ_j is a locality fixed effect equal to 1 for treatment localities and 0 otherwise, and δ is the treatment parameter of interest and X'_{ijt} is a vector of individual covariates that includes the same variables as described before. Consistent with the earlier strategy, we will estimate separate models for boys and girls, clustering standard errors at the locality level.

References

- Alvarez, C., Devoto, F. and Winters, P. (2008). "Why do Beneficiaries Leave the Safety Net in Mexico? A Study of the Effects of Conditionality on Dropouts". *World Development*, Volume 36, Issue 4, April 2008, Pages 641-658.
- Araujo, M.C., Bosch, M. and Schady, N. 2016. "Can Cash Transfers Help Households Escape an Inter-Generational Poverty Trap?". *NBER Working Paper 22670*. September 2016 forthcoming in *The Economics of Asset Accumulation and Poverty Traps*, Barrett, Carter, and Chavas.
- Attanasio, O. and Espinosa, S., (2010) Informe sobre Impactos de la Estimación de Modelos Estructurales. Instituto Nacional de Salud Pública and Centro de Investigación en Evaluación y Encuestas, México, unpublished manuscript.
- Attanasio, O., Meghir, C. and Santiago, A. (2012) "Education choices in Mexico: Using a structural model and a randomized experiment to evaluate PROGRESA". *Review of economic studies*. 79 (1). Pages 37-66.
- Behrman, J.R., Parker, S.W. and Todd, P.E., (2009). "Schooling Impacts of Conditional Cash Transfers on Young Children: Evidence from Mexico." *Economic Development and Cultural Change* 57(3). Pages 439-477.
- Behrman, J.R., Parker, S.W. and Todd, P.E., (2011). "Do Conditional Cash Transfers for Schooling Generate Lasting Benefits? Five-year Follow-up of Progresa/Oportunidades." *Journal of Human Resources* 46(1), Pages 93-122.
- Dávila-Lárraga, L., (2016). "¿Cómo funciona Prospera? Mejores prácticas en la implementación de Programas de Transferencias Monetarias Condicionadas en América Latina y el Caribe". IDB Technical Note IDB-TN-971.
- Espinosa, S. (2014). Intended and unintended incentives in social protection programmes: evidence from Colombia and Mexico. Doctoral thesis, University College London.
- González-Flores, Heracleous, M. and Winters, P., (2012). "Leaving the Safety Net: An Analysis of Dropouts in an Urban Conditional Cash Transfer Program". *World Development*. Volume 40, Issue 12, December 2012, Pages 2505-2521
- de Janvry, A. and Sadoulet, E., (2006). "Making Conditional Cash Transfer Programs More Efficient: Designing for Maximum Effect of the Conditionality". *The World Bank Economic Review*, vol. 20, No. 1, Pages 1-29
- Molina-Millan, T., T. Barham, K. Macours, J. A. Maluccio, and M. Stampini, (2016). "Long-Term Impacts of Conditional Cash Transfers in Latin America: Review of the Evidence." IDB Working Paper Series IDB-WP-732.
- Oportunidades, (2009). "Lineamientos del Modelo Alternativo de Gestión y Atención del Programa Oportunidades en Zonas Urbanas para el ejercicio fiscal 2010". Documento aprobado en la 52° Sesión del Comité Técnico de la Coordinación Nacional del 17 de Diciembre de 2009.
- Attanasio, O., E. Fitzsimons, A. Gomez, D. Lopez, C. Meghir and A. Mesnard, (2006). "Child education and work choices in the presence of a conditional cash trans-

fer programme in rural Colombia,” IFS Working Papers W06/01, Institute for Fiscal Studies.

Baird, S., C. McIntosh and B. Ozler, (2011). “Cash or condition? Evidence from a cash transfer experiment”, *Quarterly Journal of Economics*, 126(4):1709-1753. .

Baird, S., F.H.G. Ferreira, B. Özler, and M. Woolcock, (2013). “Relative effectiveness of conditional and unconditional cash transfers for schooling outcomes in developing countries: a systematic review”, *Campbell Systematic Reviews*, 8: 1-124.

Bassi, M., Busso, M., Muñoz J.S., (2013). “Is the Glass Half Empty or Half Full? School Enrollment, Graduation, and Dropout Rates in Latin America”, IDB Working Paper Series No. IDB-WP-462.

Behrman, J. R., S. Parker and P.E. Todd, (2011). “Do Conditional Cash Transfers for Schooling Generate Lasting Benefits? : A Five-Year Followup of PROGRESA/PROSPERA”, *Journal of Human Resources*, 46(1): 93-122.

Behrman, J. R., Parker, S. W., & Todd, P. E., (2009). Schooling impacts of conditional cash transfers on young children: Evidence from Mexico. *Economic development and cultural change*, 57(3), 439.

Behrman, J. R., (2010). “Investment in educational inputs and incentives”, en D. Rodrik y M. Rosenzweig (eds.) *Handbook of Development Economics*, Volume 5, 4883 – 4975.

Bertozzi, S.M. and J.P. Gutiérrez, (2013). “Poverty, cash transfers, and risk behaviors”, *The Lancet Global Health*, 1(6): e315-e316,

Berry, J. , (2014). *Child Control in Education Decisions: An Evaluation of Targeted Incentives to learn in India*, Forthcoming, *Journal of Human Resources*.

Bourguignon, F., F.H.G. Ferreira and P.G. Leite, (2003). “Conditional Cash Transfers, Schooling and Child Labor: Micro-Simulating Bolsa Escola”, *DELTA Working Papers* 2003-07, DELTA (Ecole normale supérieure).

Bursztyn, L. and L. Coffman (2012), “The Schooling Decision: Family Preferences, Intergenerational Conflict, and Moral Hazard in the Brazilian Favelas”, *Journal of Political Economy*, 120(3): 359-397.

Cameron, L. , (2009). “Can a public scholarship program successfully reduce school drop-outs in a time of economic crisis? Evidence from Indonesia,” *Economics of Education Review*, 28 (3): 308 – 317.

Cattaneo, M.(2010). “Efficient semiparametric estimation of multi-valued treatment effects under ignorability”, *Journal of Econometrics*, 155: 138 -154.

CNO-DGIGAE (2012). *Causales de no ser becario: jóvenes pertenecientes a familias beneficiarias del Programa Oportunidades entre 12 y 21 años de edad. Reporte final. Coordinación Nacional del Programa de Desarrollo Humano Oportunidades, Dirección General de Información Geoestadística, Análisis y Evaluación. Documento interno.*

Chapman, D. W. and S. Mushlin. (2008). “Do girls’ scholarship programs work? Evidence from two countries”, *International Journal of Educational Development*, 28 (4): 460 – 472.

Handa, S. and B. Davis, (2006).. “The experience of conditional cash transfers in Latin America and the Caribbean”, *Development Policy Review*, 24(5): 513-536.

De Brauw, A. and J. Hoddinott, (2011). “Must conditional cash transfer programs be conditioned to be effective? The impact of conditioning transfers on school enrollment in Mexico”, *Journal of Development Economics*, 96(2): 359 – 370.

- De Janvry, A., F. Finan, E. Sadoulet, and R. Vakis. (2006). "Can conditional cash transfer programs serve as safety nets in keeping children at school and from working when exposed to shocks?", *Journal of Development Economics*, 79(2): 349 - 373.
- Filmer, D. and N. Schady, (2011). "Does more cash in conditional cash transfer programs always lead to larger impacts on school attendance?", *Journal of Development Economics*, 96(1): 150 - 157.
- Deon F. and N. Schady, (2008). "Getting Girls into School: Evidence from a Scholarship Program in Cambodia", *Economic Development and Cultural Change*, 56: 581-617.
- Fiszbein, A., N. S. Norbert, F.H.G. Ferreira, Grosh, M., N. Keleher, P. Olinto, E. Skoufias, (2009). *Conditional Cash Transfers: Reducing Present and Future Poverty*. Washington, DC: World Bank.
- Galiani, S. and McEwan P.J., (2013). "The heterogeneous impact of conditional cash transfers", *Journal of Public Economics*, 103(0):85 -96.
- Gitter, S.R. and Bradford L. Barham, (2007). "Women's power, conditional cash transfers, and schooling in Nicaragua", *The World Bank Economic Review*, 22(2): 271-290.
- Glewwe, Paul y Ana Lucia Kassouf (2012), "The impact of the bolsa escolar familia conditional cash transfer program on enrollment, dropout rates and grade promotion in Brazil", *Journal of Development Economics* 97(2):505 - 517.
- Instituto Nacional para la Evaluación de la Educación (México) 2016. *La educación obligatoria en México. Informe 2016*. Available at: <http://publicaciones.inee.edu.mx/buscadorPub/P1/I/241/P1I241.pdf> and consulted on January 11, 2017.
- Instituto Nacional de Estadística y Geografía (México) (2013), *Anuario estadístico de los Estados Unidos Mexicanos 2012*, Instituto Nacional de Estadística y Geografía, México.
- J-PAL (2013), "J-PAL Youth Initiative Review Paper", Cambridge, MA, Abdul Latif Jameel Poverty Action Lab.
- Kremer, M., E. Miguel y R. Thornton (2009), "Incentives to Learn", *The Review of Economics and Statistics*, 91(3): 437-456.
- Lee, David (2002), "Trimming for Bounds on Treatment Effects with Missing Outcomes", *NBER Working Paper No. t0277*.
- Lun Wong, Ho, R. Luo, L. Zhang y S. Rozelle (2013), "The impact of vouchers on preschool attendance and elementary school readiness: A randomized controlled trial in rural China", *Economics of Education Review*, 35(0): 53 - 65.
- Minnis, A., E. van Dommelen Gonzalez, E. Luecke, W. Dow, S. Bautista-Arredondo y N. S. Padian (2014), "Yo Puedo - A Conditional Cash Transfer and Life Skills Intervention to Promote Adolescent Sexual Health: Results of a Randomized Feasibility Study in San Francisco," *Journal of Adolescent Health*, 55(1):85-92.
- Morales-Ramos, Eduardo (2011), "Los Rendimientos de la Educación en México", *Documentos de Investigación-Banco de México*, No. 2011-07
- Ordaz, Juan Luis (2007), "México: Educación e ingresos. Retornos a la Educación, 1994-2005", *CEPAL, Unidad Agrícola*, México, D.F.
- Parker, S., L. Rubalcava y G. Teruel, "Evaluating Conditional Schooling and Health Programs" en T. P. Schultz y J. A. Strauss (eds.), *Handbook of Development Economics*, Volume 4, 3963 - 4035.

Ponce, Juan y Arjun S. Bedi (2010), "The impact of a cash transfer program on cognitive achievement: The Bono de Desarrollo Humano of Ecuador," *Economics of Education Review*, 29 (1); 116 - 125.

Saavedra, Juan Esteban y Sandra Garcia (2012), "Impacts of Conditional Cash Transfer Programs on Educational Outcomes in Developing Countries. A Meta-analysis", RAND Labor and Population working paper

Slavin, Robert E. (2010), "Can financial incentives enhance educational outcomes? Evidence from international experiments", *Educational Research Review*, 5 (1): 68 - 80.

Todd, J. E.P. Winters y G. Stecklov (2012), "Evaluating the impact of conditional cash transfer programs on fertility: the case of the "red de protección social" in Nicaragua", *Journal of Population Economics*, 25(1):pp. 267-290.

Todd, Jessica E. y Paul Winters (2011), "The effect of early interventions in health and nutrition on on-time school enrollment: Evidence from the PROSPERA program in rural Mexico", *Economic Development and Cultural Change*, 59(3): 549-581.

Yoong, J., L. Rabinovich y S. Diepeveen (2012), The impact of economic resource transfers to women versus men: a systematic review, Technical Report, London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.



Improving lives