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Mireille Kozhaya and Fernanda Martínez Flores[1]

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Abstract

Child labor is a matter of international concern. This paper examines the effect of a program that extended the length of a school day from four to six or eight hours in Mexico, on school enrollment, time spent on schooling activities, and child labor of children aged 7 to 14. To identify the effect, we take advantage of the staggered implementation of the FTS program across municipalities. The results show that extending the school day has no effect on the probability of being enrolled in school, but a positive effect on the weekly hours allocated to schooling activities. When focusing on child labor, we find a reduction of 1.6 hours worked, mainly driven by a decrease in the probability of engaging in work by 6.3 percentage points. For boys, we observe a decrease in the probability of engaging in market work and for girls a decrease in the probability of engaging in domestic work.

JEL-Code: J13, J21, J22, O12

Keywords: Child labor; all-day schools; schooling; after-school programs

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1 Mireille Kozhaya, (WIB), University of Wuppertal; Fernanda Martínez Flores, RWI. *– We thank Julia Bredtmann, Ira N. Gang, Melanie Khamis, Arndt Reichert, Kerstin Schneider, Anna Makles, FranzWestermaier for their constructive comments. We also thank the participants of the internal research seminars at Wesleyan University, the World Bank, University of Wuppertal, and RWI for helpful comments and suggestions. Janin Marquardt, Johanna Muffert, and Dominik Paluch provided excellent research assistance. All remaining errors are our own.* *– All correspondence to: Fernanda Martínez Flores, RWI, Hohenzollernstr. 1/3, 45128 Essen, Germany, e-mail: fernanda.martinez@rwi-essen.de*

1 Introduction

According to the International Labor Organization (ILO), 152 million children worldwide – 64 million girls and 88 million boys – aged 5 to 17 years are engaged in child labor.[1] Almost half of them (73 million) are involved in hazardous or exploitative work. Children aged 5 to 11 years account for the largest share of those in child labor and a considerable share of children in hazardous work. In developing countries, one out of every four children is in child work. In Latin America and the Caribbean, more than 10 million children are involved in child labor (ILO, 2017). Mexico, in particular, accounts for more than 30% of child laborers in this region (3.2 million) (INEGI, 2018). Child labor is a matter of international concern because it potentially affects school presence, performance, as well as achievement (Beegle *et al.*, 2009), and has long-lasting consequences for the child's development with respect to health, education, productivity, and wages later in life (Emerson and Souza, 2011; O'Donnell *et al.*, 2005).

In this paper, we analyze whether an exogenous increase in the number of hours spent in school has an impact on school enrollment and child labor. To identify the effect, we take advantage of the Full-Time Schools (FTS) program[2], implemented in Mexico from 2012 to 2018. The FTS program extended daily school hours from part-time (four hours) to full-time (six or eight hours) in primary and secondary schools. We exploit the staggered implementation of the FTS program at the municipality level to identify the causal effect of a longer school day on (i) school enrollment, (ii) schooling hours, (iii) market work and excessive domestic work for children aged 7 to 14 years. In addition, we examine how parents and siblings adjust their labor market outcomes in response to the program.

Promoting education to increase school enrollment has been the centerpiece of global anti-child labor policies (US Department of Labor, 2019). Most of the empirical studies on this topic focus on how the inclusion of the youth in the educational system has an impact

[1] This number excludes 66 million children in permitted forms of employment who comply with minimum age requirements.

[2] *Programa Escuela de Tiempo Completo (PETC).*

on child labor. Several studies evaluate randomly assigned conditional cash transfers (CCT) aimed at relieving household income constraints, which are conditional on enrolling children in school and complying with regular attendance. In general, these studies find a positive impact of CCTs on schooling and a negative impact on child labor. The most well-known example is *Oportunidades*[3] in Mexico, which was followed by similar programs implemented in other Latin American countries. *Oportunidades* led to an increase in school attendance and to a reduction in children's economic activities by 3-5 percentage points (Skoufias *et al.*, 2001), as well as to an increase in school attainment and an increase in time spent doing homework (Behrman *et al.*, 2012). Similar results were found in Nicaragua (Maluccio and Flores, 2005) and Brazil (Ferro *et al.*, 2010). In Colombia and Honduras, CCTs led to an increase in school attendance (Glewwe and Olinto, 2004), to a reduction in domestic work (Attanasio *et al.*, 2010), but had no significant impact on income-generating work.[4]

Other studies analyze the impact of in-kind conditional transfers, such as take-home rations or school-feeding programs. In Burkina Faso, a randomized allocation of school meals and take-home rations for girls increased school enrollment and attendance, without substantially changing their time allocation and work (Kazianga *et al.*, 2012; de Hoop and Rosati, 2014b). In Nepal, a conditional in-kind transfer increased schooling, reduced failure rates, and decreased the likelihood of engaging in hazardous work (Edmonds and Shrestha, 2014). In Bangladesh, a conditional food take-home program increased schooling enrollment and decreased child labor (Ravallion and Wodon, 2000).

Taken together, the findings from CCTs and in-kind conditional transfers suggest that the increase in schooling is usually larger than the decrease in child labor. Thus, even if public policy leads to an increase in school participation, it does not necessarily translate into a reduction of child labor because both activities are not mutually exclusive or perfect substitutes (de Hoop and Rosati, 2014a), and the trade-off between work and schooling is not a clear-cut (Kondylis and Manacorda, 2012).

[3]The program was originally called *PROGRESA*.

[4]See de Hoop and Rosati (2014a) for an extensive literature review of the evidence on cash transfers, schooling, and child labor.

In addition, a few studies have evaluated the impact of extended daily school hours on various parental and child outcomes not only in Mexico, but also in Chile and Colombia. Studies focusing on the effect of lengthening the school day on children's learning outcomes find modest improvements on test scores (Bellei, 2009; Hincapie, 2016). In Mexico, FTS led to improvements in Mathematics and language evaluations mostly driven by children in disadvantaged schools (Cabrera-Hernández, 2019). Studies focusing on social outcomes show that due to longer school hours teenagers decrease their probability of adolescent motherhood (Kruger and Berthelon, 2009). Finally, studies focusing on parental outcomes show that longer school hours lead to a 5 percentage points increase in the labor force participation of mothers with children in the affected age range (Contreras and Sepúlveda, 2016; Padilla-Romo and Cabrera-Hernández, 2019).

We contribute to the small but growing literature on the effect of direct education interventions on child labor by providing evidence on how the introduction of a longer school day influences school enrollment, schooling time, and child labor. Looking at the effect of longer school days on child labor is particularly relevant for two reasons. First, contrary to popular belief, the majority (68%) of children aged 5-14 in child labor do attend school (ILO, 2017).[5] Yet, little is known about how schooling time influences school enrollment and child labor.[6] Second, in many Latin American countries school enrollment in primary education is almost universal and enrollment in secondary and tertiary education is increasing; however, the quality and quantity of education remains a concern (UNESCO, 2015). Current education policies are shifting from increasing schooling access to improving schooling quality, for example, by extending the curricula through longer school days.

We find that the FTS program has no impact on school enrollment, which alleviates the concern that parents who rely strongly on child labor will take their children out of

[5]Studies show that the working schedule, number of hours worked, and labor conditions have substantial negative effects on academic performance of children engaged in labor activities (Holgado *et al.*, 2014; Gunnarsson *et al.*, 2006).

[6]An exception is the study by Tang *et al.* (2020) who analyze the effect of education subsidies in rural China and find that free compulsory education reduced the incidence of child labor for boys, but not for girls.

school due to the increase in schooling hours. An increase in the share of FTS at the municipality level decreases the total number of hours worked per week. The decrease is mainly driven by the extensive margin. Taking gender differences into account, we find that the FTS program decreases the probability that boys engage in market work and girls in domestic work. We find a decrease in child labor for families above and below the poverty line, but this decrease is smaller for families below the poverty line. When analyzing the response of other household members to the FTS program, we find that mothers increase their labor force participation, but fathers and older siblings do not adjust their labor market outcomes. This implies that policies aimed at enhancing education quality are also effective in reducing child labor.

This paper is organized as follows: The following section presents the theoretical background, provides a general overview of the education system in Mexico, and describes the FTS program. Sections 3 and 4 present our empirical strategy and data. Section 5 shows the results and Section 6 concludes.

2 Background

2.1 Theoretical Framework

To explain why children engage in child labor activities, Edmonds (2007) presents a simple theoretical model considering one parent, one child, and two time periods (the child's youth and future). In this model, the parent's labor supply is inelastic and yields an exogenous income. The parent decides how to allocate the child's time between education, work inside the household, work outside the household, and leisure (play). The parent's task is to maximize current household consumption and the future welfare of the child. The household income is composed of the parent's income and the child's income from work outside the household. The parent allocates the household income to cover basic expenditures and direct schooling costs.

Under this model, a child would only engage in labor if the marginal utility from

the child's contribution to household consumption (through wage income and no costs of education) is larger than the marginal utility from the return to education. Thus, this model proposes two main explanations on why children work.

First, poverty is a key determinant of child labor because the child's working time (inside and outside the household) is more valuable to the parent. Income constrained parents will rely on child labor to meet the subsistence needs of the household (Dammert *et al.*, 2018). Second, in settings where the returns to education are low, e.g., education quality is perceived as low or education costs are too high, the parent could decide to decrease schooling time and increase working time. Therefore, the returns to education and the returns to play are important factors not to rely on child labor.

Following this simple theoretical framework, the direction of the effect of additional schooling hours on child labor is not clear a priori. On the one hand, lengthening the school day could increase the marginal returns to education, if education quality is improving or, if indirect schooling costs are decreasing. Therefore, the parent would decide to increase schooling time and decrease the child's working or leisure time. On the other hand, lengthening the school day could put additional pressure on income-constrained families that rely more heavily on the child's work inside and outside the household. If the child has less time to engage in productive activities due to longer school hours, the household income would be directly affected and the parent could decide to decrease schooling time, for example, through decreasing school enrollment or schooling time at home, and to increase the number of hours the child spends working.

To further explain the trade-off between adult and child labor supply, Basu and Van (1998) present a theoretical framework based on two axioms: the luxury and the substitution axioms. The *luxury axiom* states that poverty is the reason why families send their children to work. Adults whose income is low cannot afford to send their children to school. Only when the income of adults starts to increase, then parents can afford taking the children out of the labor force. Bhalotra and Heady (2003), Kruger (2007) and Dumas (2007) show that the luxury axiom does not always hold and that a "wealth paradox" exists; namely, children coming from land-rich parents are the ones who are more likely

to work compared to children coming from land-poor parents. Basu *et al.* (2010) model this paradox as an inverted-U curve, with the logic that as household land ownership rises child labor will also rise, but at the point when the household is well-off the children will stop working. In the empirical section we test if a wealth paradox exists by comparing the effect of the program for children living in poor vs. non-poor households (see section 5.2).

The *substitution axiom* states that adults and children are substitutes in the labor market, and from a technical perspective it is possible to replace child labor with adult labor. The basic idea behind this theory is that parents will send their children to work (substitution axiom) only if adults work full-time and their income is lower than that of subsistence consumption (luxury axiom). We test the substitution axiom by looking at the labor force participation of household members living with children in the age range covered by the program (see section 5.4).

2.2 Education and Child Labor in Mexico

The structure of the basic education system in Mexico is divided in three levels: primary education (grades 1-6), lower secondary education (grades 7-9), and upper secondary education (grades 10-12). Primary education starts at the age of 6 and all basic education levels are compulsory. As of 2012, upper secondary education became also compulsory (OECD, 2018). In Mexico, school choice is free and most of the students attend public schools. During the school year 2016/2017, 90% of students enrolled in basic education attended a public school (INEE, 2018a).

In the last decades, the education level in Mexico has increased for all age groups. For instance, primary schooling is almost universal with 97.7% of children in primary age (6-11) who are enrolled in school. From 1990 to 2015, enrollment for the age groups 12-14 and 15-17 increased from 78.6% to 93.3%, and 40.6% to 73.2%, respectively. In addition, differences in coverage between boys and girls are minor (INEE, 2018a).

Despite the improvements in school attendance, in 2017, 11% (3.2 million) of minors in

Mexico were involved in child labor. 6.4% of minors were involved in market work under the minimum age regulation, 4% performed excessive domestic work, and 0.7% combined both market work and excessive domestic work. In 2017, the child labor rate was higher in rural areas (localities of less than 100 thousand inhabitants) with 13.6% as opposed to urban areas (localities of 100 thousand and more inhabitants), where child labor reached 7.6%. The agricultural sector accounts for more than 34% of child laborers, followed by the service (22%), and the trade sector (20.3%). Among children engaged in market work, 58.3% work for a family member, 39% are unpaid, and 31.3% receive only the minimum wage (INEGI, 2018).

Figure 1 illustrates the share of children in child labor considering both market and domestic work, and the share of children out of school for the period 2009 to 2017. For all age groups, the child labor rate exceeds the rate of children out of school and the differences are larger for older children. In 2009, the child labor rate was 2% for children aged 7-8, 4% for children aged 9-10, and 8% for children aged 11-12. Yet, schooling was almost universal for children in these age groups, with only 2% of them out of school. For children aged 13-14, the child labor rate was 14% and the out of school rate 8%. In 2017, the share of children out of school remained stable for all age groups, except for the group of children aged 13-14, who experienced a decrease of 2 percentage points. The share of children working decreased for all groups, with the largest drop for children aged 11-12 (3 percentage points) and aged 13-14 (4 percentage points).

2.3 The Full-Time School Program

The FTS program is a federal program, the main objective of which is improving the quality of public basic education in Mexico through the extension of the school day. The program entails an increase in the number of daily school hours from four to either six or eight hours. The additional hours are dedicated to academic activities, cultural activities, and sports. On a regular school day, primary schools operate from 8:00-12:30 and secondary schools from 7:30-13:40. If the school is part of the program and operates

on an eight hour basis, the schedule is extended as follows: 08:00-16:00 for primary schools and 07:00-16:00 for secondary schools.

The FTS, an initiative of the Ministry of Education, was first introduced in 2009 as a small-scale program during the administration of former President Felipe Calderón (2006-2012). By the end of his administration, 4,750 schools were operating on a full-time basis. In February 2013, a major education reform was announced by the administration of former President Enrique Peña Nieto (2012-2018). One of the main components of the reform was directed towards improving the quality of basic education in Mexico through the FTS program.[7] Thus, the FTS program was implemented on a national scale and the federal budget for the program doubled between 2012 and 2013, from 2.5 to 5.2 billion pesos. The goal established was that by the end of 2018, 25 thousand schools should be operating on a full-time basis.[8] In this paper, we focus on the official roll-out of the program starting 2012 because before this year no official guidelines on the selection and operation of FTS were available.

The schools chosen to implement the program should fulfill at least one of the following requirements: (i) cover all grades of the corresponding school level, (ii) operate only one shift, (iii) have an appropriate infrastructure for the extension of the school day, and (iv) attend vulnerable population. A relevant aspect of the FTS worth clarifying is that neither schools nor parents can influence the selection of a school into the program. Participating schools are selected by educational authorities at the state level (Autoridad Educativa Local - AEL) before each school year. The schools selected into the program operate on an eight-hour basis if they have the facilities to provide a warm meal per day, otherwise they operate on a six-hour basis.[9] The guidelines establish that the full-time service has to be provided every day of the school calendar year, and that all students in the school must comply with the program, i.e., all students in the school should start and leave

[7]The results of the global ranking Program for International Student Assessment (PISA) in 2012 revealed that Mexico earned the lowest score out of all 34 OECD countries in Mathematics, Reading, and Science (OECD, 2013).

[8]During the 2017/2018 school calendar the total number of public primary and secondary schools was 87,756 and 34,293, respectively (INEE, 2018b).

[9]The meals are highly subsidized by the government, so that parents avoid incurring in additional costs.

school at the same time of the day.

Schools participating in the program are supported in two different ways. First, they receive technical support to develop strategies to adapt the syllabus to the additional hours by assessing, orienting, and training the corresponding educational authorities. Second, they receive a subsidy to cover the costs of lengthening the school day. The subsidy is granted at the federal level and does not substitute other federal, state, or municipal funding. The program guidelines establish that the FTS funding will only be used for implementation purposes and not for infrastructure purposes.

In Figure 2 we show the staggered implementation of the program by municipality and school calendar year. The map illustrates the share of FTS at the municipality level, i.e., the number of FTS over the total number of schools in the municipality during the respective school calendar year. The first map shows that in the school year 2011/2012 most of the municipalities in Mexico had close to zero FTS. In contrast, in the school calendar year 2017/2018, all states were covered by the program and all municipalities had at least one FTS.

3 Identification Strategy

To examine the effect of the FTS program on schooling and labor outcomes of children, we exploit the staggered implementation of the FTS at the municipality level from school calendar year 2011/2012 to 2017/2018 and estimate the following model:

$$Y_{imt} = \alpha + \beta FTS_{mt} + \theta' \mathbf{X}_{imt} + \kappa' \mathbf{P}_{imt} + \sigma_m + \gamma_t + \epsilon_{imt} \tag{1}$$

where Y_{imt}, denotes either school enrollment, time spent on schooling activities, or labor outcomes of child i in municipality m at school-year t. For the labor outcomes, we explore (i) the total number of hours worked per week, (ii) a binary variable indicating whether the child works (extensive margin), and (iii) the number of hours worked conditional on working (intensive margin). We further distinguish between market and household work.

FTS_{mt} is the share of full-time schools in municipality m during the school calendar

year t. Since we cannot observe if a child attends a FTS, identification occurs through regional differences in access to the program during the time of implementation. The coefficient of interest, β, captures differences in children's outcomes in municipalities with low-FTS-coverage and in municipalities with high-FTS-coverage and can be interpreted as the average effect of the FTS program on each of the outcomes.

X_{imt} is a vector of child characteristics that are likely to affect schooling and labor outcomes including age, gender, a binary indicator whether the child receives government support e.g., *Oportunidades*, number of siblings, and birth order to control for a higher probability of working for older siblings. P_{imt} is a categorical variable controlling for parental education level of the mother and father of the child. Parental education controls capture the preference to send children to school and/or work and are a proxy of household income. We also control for locality size dummies to capture whether children reside in urban or rural areas. Localities are smaller geographical units than municipalities. Thus, the locality dummies capture differences in the implementation of the program within a municipality such as priority to rural areas because they are more vulnerable.

We include municipality fixed effects σ_m to capture time-invariant characteristics related to the implementation of the program such as heterogeneity in schooling conditions at the municipality level. γ_t captures common yearly shocks such additional policies implemented by the education reform in 2013 which could directly impact schooling quality e.g., the introduction of a national system to evaluate teachers[10], and ϵ is the error term. Standard errors are clustered at the municipality level.

We run an additional specification including state-by-year fixed effects to capture only the variation of the program within municipalities located in the same state. The state-by-year fixed effects control for common unobserved yearly shocks such as differences in the budget allocation of the FTS program (or in the total education budget) at the state level.

The main threat to our identification strategy is that the roll-out of the FTS program is not random. For instance, the official guidelines of the program establish that priority

[10]See INEE (2018c) for a more detailed description on the reform.

should be given to vulnerable areas. If municipalities that have a higher coverage of FTS are simultaneously implementing other initiatives, which directly or indirectly affect the rate of children working, it would question the validity of our results. Thus, the main identifying assumption is that in the absence of the FTS program, changes in the child labor rate in municipalities with low-FTS-coverage vs. high-FTS-coverage should have been similar.

While we cannot test this assumption directly, we provide graphical evidence showing that before the roll-out of the FTS program, the evolution of child labor was similar for municipalities with different coverage rates. We further show that the child labor rate at the municipality level at time t and $t-1$ is not a determinant of the share of FTS at time t and that municipality characteristics are similar in low-FTS and high-FTS-coverage municipalities. Finally, we conduct several robustness tests to show that the coefficients are stable to a number of alternative specifications.

An additional concern of our empirical framework is that the model only allows us to estimate an *intention-to-treat* effect. Although we do not observe if a child attends a FTS or not, it is plausible to assume that the higher the share of FTS in the municipality the higher the likelihood that a child is enrolled in a FTS. Intention-to-treat estimates represent a lower bound of the true treatment effect; however, we conduct several regressions that interact the treatment variable with demographic characteristics of the children to analyze the main drivers of the true effect.

4 Data and Descriptive Statistics

4.1 Data

The data used for this study comes from three different sources. First, we use administrative data from the Ministry of Education on the universe of schools offering basic education in Mexico. The data consists of the lists of schools providing basic education by school calendar year spanning from 2011/2012 to 2017/2018. The lists include infor-

mation on the total number of enrolled students, total number of teachers, school location, and information whether the school is part of the FTS program. We restrict the sample to public primary and secondary schools to calculate the share of full-time schools by municipality and school calendar year. Information on whether full-time schools operate on a six or eight-hour basis is available only after the school year 2012/2013.

Second, we use survey data from the Mexican Labor Force Survey (ENOE). The ENOE data spans from the first quarter of 2009 to the fourth quarter of 2017. The ENOE is collected on a quarterly basis as a rotating panel with households surveyed for 5 quarters. The ENOE reports comprehensive information on demographic characteristics of the children (such as gender, age, and municipality of residence), parental demographic characteristics (education and marital status) and household characteristics (number of children, age of the children, household size, household income). Information on employment is only available for individuals older than 15 (active on the labor force, employment status, hours worked, and earnings). In our baseline specification, we refrain from using income because for 20% of the sample income is missing or reported as zero. Yet, we use household income for our definition of household poverty in section 5.2.

Third, we use data from the *Módulo de Trabajo Infantil* (MTI), a special module which is part of the ENOE. Since 2007, the MTI is conducted every two years during the fourth quarter of the year to collect information on child labor following international standards by the ILO and United Nations Fund for Children (UNICEF). In contrast to the ENOE, this module is designed as cross-sectional surveys and does not allow tracking individuals over time. However, the data can be matched to the ENOE database and provides employment information on all children living in the household aged 5-17. Specifically, the MTI data reports information on school enrollment, a rich set of labor force statistics, information on working conditions, and time spent doing household activities. For the empirical analysis we use information on the MTI and ENOE starting 2011 given that the school data is only available from this year onwards; however, for the graphical evidence showing parallel trends we use the MTI starting in 2009.

We merge the ENOE and MTI databases using the household and individual identi-

fiers. To merge these data with the administrative school data, we use the municipality identifier. All municipalities in Mexico (2,458) have at least one school offering basic education. We are able to merge 65% of the municipalities (1,574) given that the ENOE surveys do not sample all municipalities every quarter. The ENOE and MTI data were obtained from the National Institute of Statistics and Geography (INEGI).

We further complement our database using the marginalization level data obtained from the *Consejo Nacional de Población* (CONAPO) which are available for the years 2010 and 2015, at the municipality and locality level. The marginalization level is a multi-dimensional poverty measure which takes education, dwelling characteristics, population geographical distribution, and income level into account (CONAPO, 2019).

In the literature, the definition of child labor is broad and reflects between and within country differences in the types of activities that children engage in (Edmonds and Pavcnik, 2005). For our definition of market work, we use a pre-coded variable provided in the MTI database, which follows the international standards proposed by the UNICEF and the ILO, to identify child labor. Market work is the type of work that produces certain primary goods and services for the market, own production, and/or own consumption. This variable takes the value one if the child (i) is younger than 12 and is involved in light work, or (ii) is involved in regular work under the minimum legal working age which is 15, or (iii) is involved in hazardous work.

The definition of domestic work is less clear-cut in the literature. We follow a similar approach to Dammert (2010) to identify excessive unpaid household work. We aggregate the reported weekly hours spent (i) taking care of children or elderly people in the household, (ii) doing household chores, and (iii) renovating the house and fixing household appliances. While Dammert (2010) focuses on children who spent at least one hour per day on these activities, we focus on children who spend at least two hours per day for our definition of the extensive margin. For the intensive margin, we use the full distribution.

Table 1 shows the main descriptive statistics for the years the MTI data is available. From 2011 to 2017 the share of FTS increased, on average, from 4.2% to 17.9%. Turning to the outcome variables, school attendance is almost universal and remains fairly constant

during this period. Surprisingly, the same is true for the average weekly hours spent on schooling activities, which include time in school and time spent on homework, and amounts to 31 hours per week. Yet, the percentage of children working decreases by about 6 percentage points. This decrease can be observed for both domestic and market work, which decrease by 2.4 and 3.6 percentage points, respectively. The table shows no decrease on conditional hours worked, with an average of 16 hours spent on market work and 18.4 hours on household work per week.

The last two columns of Table 1 further show that, on average, the children in our sample are 10.6 years old and have 2.9 siblings. 51% are boys, 37% are the first borns, and 82% of the children live with both of their parents in the household. 29% receive support from the government, e.g., *Oportunidades*. Almost 58% of the children live in localities with less than 100 thousand people (rural areas). 70% (67%) of the children have mothers (fathers) with secondary or lower levels of education.

5 Results

We start by presenting graphical evidence on the impact of the program on child labor. Figure 3 shows the evolution of the FTS program and child labor by tercile of coverage of the program. To define the terciles, we focus on the distribution of the share of FTS for the school year 2017/2018, the last year covered by our database. Then, we classify the municipalities into one of the terciles and plot the coverage of the program and the evolution of child labor for each tercile.

The first graph shows the roll-out of the FTS program. In 2011, before the program was scaled up at the national level, the share of FTS was lower than 10% in all terciles. In 2017, the share of FTS remained lower than 10% in municipalities in the first tercile. In contrast, the share of FTS in municipalities in the second and third tercile reached 20% and 40% in 2017, respectively.

The second graph shows the evolution of the child labor rate. Three main observations stand out. First, before 2013, a level difference in the child labor rate can be observed.

Municipalities in the first tercile have a lower child labor rate than municipalities in the second and third terciles. Second, despite the existing level differences in child labor, the pre-program trends are similar for the three groups. Before 2012, the child labor rate decreased for all terciles. This decrease may indicate that other factors unrelated to the FTS program could be driving the decrease in child labor. While our baseline specification accounts for a rich set of controls and fixed effects, in section 5.3, we further include state-specific linear time trends to account for pre-existing trends in the outcome. Third, after 2012 when the FTS was launched as a national program, child labor rates decreased faster in municipalities in the second and third terciles. For these municipalities, in 2015, the child labor rate was even lower than in municipalities in the first tercile.

5.1 Baseline Results

For the empirical analysis, Table 2 reports the impact of the FTS program on school enrollment and weekly hours spent on schooling activities. With respect to school enrollment, column I shows that an increase in the share of FTS from 0 to 1 (full coverage), has no effect on the probability that a child is enrolled in school. The estimated coefficient is not statistically significant and close to zero. Using only the variation of municipalities located in the same state yields similar results (column II). These results alleviate the main concern that due to longer school days, parents decide to pull their children out of school.

With respect to schooling hours, columns III and IV of Table 2 show a positive and statistically significant effects of the share of FTS on the number of hours spent on schooling activities. Although this increase is not observed in the descriptive statistics, after controlling for municipality and year fixed effects, as well as individual characteristics, the results reveal that the weekly schooling hours for children in municipalities that went from having none to all schools operating on a full-time basis increases by 6.5 hours. The size of the coefficient is smaller than expected; the increase in schooling hours on a weekly basis should amount to 10-20 hours. However, our schooling time measure does not capture

exclusively time spent in school, but also time spent on other schooling activities such as homework. In Section 5.3, we show that the increase in hours spent on schooling is not driven by the choice of control variables.

As a second step, we investigate the effect of the program on child labor by aggregating both market and domestic work. Table 3 shows the results of the effect of the program on total hours worked (columns I and II), the extensive margin, i.e., a binary variable indicating if the child works (columns III and IV), and the intensive margin, i.e., hours worked conditional on working (columns V and VI). The results from our preferred specification (using the variation of municipalities within the same state) show that children in municipalities where the share of FTS increase from 0 to 1 (full coverage) experienced a reduction in the number of total hours worked by 1.6 hours. The reduction in the number of hours worked is mainly driven by the extensive and not by the intensive margin. Due to the FTS program, the probability that a child is working decreases by 6.3 percentage points. At the intensive margin, the coefficients are negative but not statistically significant.[11]

The results suggest that children who worked few hours per week are less likely to work after the FTS program. To make the results consistent with the roll-out of the program, we consider a one standard deviation increase in the share of FTS, i.e., an increase of 14 percentage points in the share of FTS, which would translate into a decrease in the probability that children work by 0.9 percentage points, which is equivalent to a 12% reduction in child labor.

Further results from Table 2 and 3 worth mentioning are: girls have both a higher probability of being enrolled in school and spending more time in schooling activities, but they are also more likely to work. The birth rank is an important determinant of schooling and work. Compared to first-born children, middle- and last-born children are more likely to be enrolled in school and spend more time in schooling activities. Similar to the results in Dammert (2010), we find that middle- and last-born children are less

[11] We estimate the baseline specification using non-linear models and the results confirm that the effect is driven by the extensive margin. The effect for the extensive margin is similar in terms of magnitude and significant at the 10% level. See Table A4 in the Appendix.

likely to work and conditional on working, they work fewer hours than the first-born child. Parental education also plays an important role, which is consistent with the literature on parental intergenerational transmission of schooling; i.e., higher levels of parental education increase school enrollment, schooling time, and decrease work at the extensive and intensive margins (see e.g., Pronzato, 2012; Lundborg *et al.*, 2018). Finally, compared to urban localities, children living in rural localities are less likely to go to school, are more likely to work, and work more hours.

Next, we look at market (panel A) and domestic work (panel B) and estimate the impact of the FTS program on each type of work separately. Table 4 presents the results for total hours worked (column I and II), the extensive (column III and IV) and the intensive (column V and VI) margins, and reveals that the baseline coefficients are mainly driven by a reduction in market work. In municipalities where the share of FTS increased from 0 to 1, children decrease time spent on market work by 1.1 hours. Similar to the baseline estimates, this reduction is mainly driven by the extensive margin with a decrease in the probability of engaging in market work by 4.6 percentage points. Turning to domestic work, the estimated coefficients are negative in all columns; however, they are not statistically significant.

5.2 Heterogeneous Effects

To investigate gender differentials by type of work, we interact the share of FTS with a gender dummy. Table 5 reports the coefficients for the total hours worked (panel A), the extensive margin (panel B), and the intensive margin (panel C). In column I, we focus on our aggregate definition of work, in column II on market work, and column III on domestic work. The results show a similar pattern as in the baseline results: for boys, we observe a decrease in total hours worked by 1.5 hours, which is mainly driven by a reduction in the probability to work by 6.7 percentage points. In this column, we find no significant differences for girls and boys.

We find significant differences for boys and girls when looking at market and domestic

work separately. The gender dummy reveals that compared to boys, girls spend less hours in market work and more hours in domestic work. This is true not only for total weekly hours worked, but also for the extensive and intensive margins. The interaction term shows that due to the FTS program boys are 6.4 percentage points less likely to engage in market work, while for girls the effect is about half of the size (2.9). In contrast, girls are 3.2 percentage points less likely to participate in excessive domestic work, while for boys the coefficient is close to zero and not statistically significant.[12] Our results are consistent with previous findings related to CCTs which find a stronger reduction in market work for boys (de Hoop and Rosati, 2014a; Skoufias *et al.*, 2001; Ferreira *et al.*, 2009; Galiani and McEwan, 2013) and in domestic work for girls (Corona and Gammage, 2017).

We explore other sources of heterogeneity by interacting the share of FTS with a dummy variable indicating: (i) if the child resides in a rural or urban area, (ii) the poverty level of the locality, (iii) household where the child lives, (iv) the child's age group, and (v) the child's birth rank. The results are reported in Table 6.

We find no significant differences for children residing in urban and rural areas (panel A). For our poverty measure, we construct two indicators. The first one at the locality level based on the marginalization level in 2010 (panel B). The second one at the household level, which is based on household income per person and indicates if the family lives in extreme poverty, moderate poverty, or is above the poverty line (panel C).[13] While the results show no significant differences when focusing on our poverty measure at the locality level, we find significant differences when focusing on the poverty measure at the household level. The results show that although there is a decrease in child labor for all groups, driven by the extensive margin, the decrease is larger for children who are not living in extreme poverty.

These results indicate that children above the poverty line are the ones who can afford

[12]The results are similar if we estimate the regressions for the sample of boys and girls separately.

[13]This variable indicates if the household income is below the basic basket of goods including only food items (extreme poverty), if the household income is below the basic basket of goods including food and non-food items (moderate poverty), or if the household income is above the basic basket of goods including food and non-food items. We use information the yearly average costs of the basket for rural and urban areas provided by provided by the CONEVAL (2019).

to work less and suggest that indeed the "wealth paradox" exists. That is, child labor is not only present for families in extreme poverty and that a non-linear relationship between child work and economic status of the household exists (Bhalotra and Heady, 2003; Edmonds, 2005; Basu *et al.*, 2010). We argue that the decrease in child labor is smaller for households with higher poverty levels because they rely more on the work from all family members to cover their subsistence needs. For these families, poverty alleviation programs such as CCTs are effective in decreasing child labor because they address income and credit constrains (de Hoop and Rosati, 2014a). The FTS program, however, has a larger impact for households which are less income-constrained because they are better able to substitute the child's work with labor from other household members.

We also find significant differences when looking at different age groups (panel C). The table shows that compared to children aged 7-8, the effect is larger for older children and this is true for all outcome variables. These results are in line with the descriptive evidence provided in Figure 1, which shows that child labor rates are higher for older children, and that older children experienced a larger reduction in the rate from 2011 to 2017. The results show that the effect is mainly driven by children in the age groups 11-12 and 13-14, who experienced a reduction in the probability to work and in conditional hours worked. When looking at the birth order (panel D), we find that the main effect is driven by older siblings. The probability to work decreases more for first born children and middle born children, rather than for last born children, which is consistent with the baseline results which show that older siblings are more likely to work.

5.3 Robustness Tests

To address the concerns that the roll-out of the program is not exogenous and that vulnerable areas were given priority, first, we illustrate the marginalization level at the municipality level for 2010 (before the implementation of the program) and 2015 (after the implementation of the program) in Figure A1 in the Appendix. In comparison to Figure 2, which shows the FTS program roll-out, we can see that while poverty is more

prevalent in the south of Mexico, the share of FTS increases in municipalities with a high and low marginalization level. We further compare additional poverty indicators at the municipality level in 2010 before the roll-out of the FTS program. Table A2 in the Appendix shows that the poverty indicators are similar irrespective of the level of implementation of the FTS program. The table shows that municipalities in the third tercile (high-FTS-intensity) are slightly better off with 13% of municipalities with a high marginalization level in contrast to 23% and 18% for municipalities in the first and second terciles. However, these differences are accounted for by including municipality fixed effects in the model.

Second, in Table A1 in the Appendix we show pre-program descriptive statistics at the child level for the year 2011 by tercile of implementation of the program. The table shows that most of the differences between groups are negligible. Third, we test whether the child labor rate determines the roll-out of the program by regressing the share of FTS in a municipality at time t on the respective child labor rate. The estimated coefficients are close to zero and not statistically significant (see Table A3 in the Appendix). The results are similar if we include lagged values of the child labor rate at the municipality level, which confirms that the current and lagged child labor rates at the municipality level are not a determinant of the roll-out of the program.

Next, we test whether our baseline specification is sensitive to alternative specifications. We focus on the aggregate definition of work and report the results in Table 7. In panel A, we show that the baseline results are not driven by our choice of control variables at the individual level. For this specification, we exclude all individual control variables i.e., child and parental characteristics, and control only for municipality and state-by-year fixed effects. Figure 2 shows that during 2017 the roll-out of the FTS program slowed down and the share of FTS remained at a similar level as in 2015. Thus, in Panel B, we estimate the impact of the FTS program for the period 2011-2015. The results remain robust after excluding information from 2017.

In panel C, we show that the results are robust to the inclusion of a state specific linear time trend. This specification accounts for diverging trends in child labor at the state

level due to e.g., changes in economic circumstances or state-level policies that could indirectly impact child labor. This addresses the concern that the drop in child labor rate observed in Figure 3 is driven by pre-existing trends at the state level. Finally, in panel D, we show that the baseline results are robust to an alternative definition of the program. Instead of focusing on the number of schools that participate in the program at the municipality level, we focus on the share of students enrolled in FTS by municipality and school calendar year. This definition captures capacity at the municipality level as it reflects the number of full-time seats available by school calendar year. We further report the results for market and domestic work in Tables A5 and A6 in the Appendix, which further confirm that our findings are mostly driven by a decrease in the probability of engaging in market work.

5.4 Mechanisms

A potential mechanism to consider is the highly subsidized meal provided by schools operating on an eight hours basis. Access to a school meal results in lower schooling costs because meals are an implicit subsidy to the parents. In addition, school lunches can increase the returns to education because they foster learning via access to better nutrition (see e.g., Bhattacharya *et al.*, 2006; Jayaraman and Simroth, 2015). On average for the school calendar year 2017/2018, 53% of FTS operate on an eight-hour basis. We cannot directly test the effect of having access to the subsidized meal due to data limitations. Instead, to explore whether the results are driven by access to eight-hour schools, we estimate the baseline model controlling for the share of eight-hour schools out of the total FTS at the municipality level ($FTS_8/Total\,FTS$).

Table 8 shows that the coefficients for the share of eight-hour schools are negative but not statistically significant. The estimated coefficient for the share of FTS at the municipality level is larger in magnitude and remains statistically significant.[14] The results combined suggest that the additional time spent in school is the main driver of the reduc-

[14]The number of observations differs from the baseline specification because the data stating if the school operates on a six or eight-hour basis is only available starting 2012.

tion in child labor, and not the subsidized meal. However, the meal could be indirectly related to keeping enrollment rates constant, due to lower schooling costs and increasing returns to education.

We further test the "substitution axiom" paradox by checking if the FTS program led to changes in labor market outcomes of other household members. The program could indirectly affect the labor supply of other family members through two different channels. If the household depends on the income the child produces, other household members might need to increase their labor supply to compensate for the income loss by entering the labor market or by increasing the hours worked (see e.g. Manacorda, 2006). Alternatively, a longer school day could be an indirect subsidy to childcare which simultaneously would decrease the costs of employment of other household members e.g., a schooling day which is more compatible with the workday could lead to an increase in labor force participation of mothers, specially those with young children (Contreras and Sepúlveda, 2016).

We analyze the effect of the FTS on labor force outcomes of other household members using a similar approach as in Padilla-Romo and Cabrera-Hernández (2019).[15] Although we cannot use variation at the individual level when focusing on child labor, the ENOE database allows us to build a panel and estimate the effect of the program using within-individual variation for household members older than 15. We compare individual outcomes from the first and fifth round of the survey i.e., the first and last time individuals are surveyed. We focus on this yearly measure because the share of FTS varies only once (at the start of the school year) for each individual. We estimate the following model:

$$Y_{imt} = \kappa + \delta FTS_{mt} + \eta' \mathbf{Z}_{imt} + \lambda_i + \tau_{st} + \upsilon_{imt} \tag{2}$$

where Y_{imt}, is the labor outcome of parent (sibling) i in municipality m at school year t. Similar as before, δ is the effect of the program on the labor market outcomes of the individual. Z_{imt} is a vector of individual time varying characteristics such as age, age

[15]The authors use a difference model instead of a fixed effects model.

of the youngest child (sibling) in the household, and their respective squared terms. λ captures individual fixed effects, τ captures state-by-year-by-quarter fixed effects, and υ the error term. We cluster the standard errors at the municipality level.

For our estimation, we focus on direct relatives of children affected by the program, by restricting the sample to parents and older siblings. For the sample of older siblings, we focus on individuals who are in the 15-18 age range[16] and who are not enrolled in basic education, to make sure they are not directly affected by the program. In addition, we estimate the impact of the program for individuals who are not living with a child aged 7-14 as a placebo test. The results are reported in Tables 9 and 10. The main outcomes we look at are: a binary variable indicating if the individual is active in the labor force (column I), a continuous variable indicating the total weekly hours worked (column II), and the total weekly hours spent on domestic activities (column III).

Looking at the response of parents to the program, Table 9 (Panel A and B) reports the estimated coefficients for mothers and fathers. All estimated coefficients for fathers are positive but not statistically significant. For mothers, we find a positive and significant effect on the likelihood of being active in the labor force of 6.9 percentage points. This is in line with the results in Padilla-Romo and Cabrera-Hernández (2019); the authors find an increase in labor force participation of mothers by 5.5 percentage points. While the authors find a positive and significant effect for weekly hours worked by 1.8, our estimates are positive but not significant, which could be explained by differences in the sample composition[17]. Thus, we suggest that the change in labor force participation of mothers is not exclusively driven by the indirect subsidy to child care, but also to compensate the decrease in child labor.

Looking at the response of siblings to the program, Table 9 (Panel C and D) reports the estimated coefficients for older sisters and brothers, respectively. We find no significant effect on the likelihood of being active in the labor force nor on the number of hours

[16]We restrict the sample to individuals younger than 18, because 18 is the age of legal adulthood in Mexico.

[17]Padilla-Romo and Cabrera-Hernández (2019) focus on a different time period (2005-2016) and on full-time primary schools for their analysis.

worked for sisters. However, for brothers we find a negative coefficient that is significant at the 10% level. The decrease in LFP of brothers could be explained by the increase in LFP of mothers, which allows older siblings to reduce both the probability to work and the number of hours worked. Finally, the results of the placebo regression in Table 10 show no significant effects for mothers, fathers, and brothers. For sisters, the coefficients for the three outcomes are positive but only significant at the 10% level. This could be due to spurious correlation between the FTS and some trends of this specific group.

6 Conclusion

Previous studies analyzing the relationship between schooling and child work have mostly focused on conditional cash transfers. Cash transfers have proven to be effective in increasing school enrollment and attendance, as well as decreasing the likelihood to engage in child labor (de Hoop and Rosati, 2014a). While CCTs decrease child labor through increasing schooling coverage and giving incentives to income-constrained families to send their children to school, we show that programs focusing on improving quality – through the extension of the school day – are also effective in decreasing child labor.

In this paper, we examine the effect of lengthening the school day on school enrollment and child labor using exogenous variation provided by the roll-out of the FTS program at the municipality level in Mexico. The FTS program extended the school day duration from four to six or eight hours and was implemented gradually from 2012 to 2017 at a national scale.

We find that the share of FTS has no impact on school enrollment. In terms of standard deviations, an increase in the FTS share by one standard deviation (14 percentage points) results in a decrease in the probability that children work by 0.9 percentage points i.e., a 12% reduction in child labor. A back of the envelope calculation shows that a 0.9 percentage points decrease in the child labor rate translates to 158 thousand children aged 7-14 who stopped working due to the FTS program.[18] Moreover, the advantages

[18]Population estimates report that 17.9 million children aged 7-14, out of whom 7.5% were engaged in child labor.

from the program outweigh the costs. For the school calendar year 2017/2018, the cost of the program is on average 156.25 USD[19] per child covered by the program. This amount represents a 5% increase of the average public spending on education per student which was equal to 2,656 USD for primary and 3,034 USD for secondary students in 2012 (OECD, 2020).

Even though the program fulfilled its main objective of improving schooling outcomes (Cabrera-Hernández, 2019), in 2019, the Ministry of Education in Mexico announced that for the school calendar year 2020/2021, the budget for the FTS program will be cut by 52% (Toribio, 2019). The budget cut implies not only that no new schools will be included in the program, but also that schools currently operating on a full-time day will go back to the part-time schedule. The evidence provided in this study reveals that such a rollback of the program may result in an increase in child labor and a decrease in LFP of mothers with young children.

Our results have important policy implications not only for Mexico, but also for other Latin American countries, where primary schooling is almost universal, but schooling quality and child labor rates remain a concern. First, we show that the shift from part-time to full-time school days decreases the probability to engage in child labor. Second, in line with (Padilla-Romo and Cabrera-Hernández, 2019) we find that the program has important spill-over effects within the household causing mothers with children aged 7-14 to increase their labor force participation. Thus, policies aimed at extending the duration of the school day to improve schooling quality can contribute to the global goal of eradicating child labor and can simultaneously increase the participation of mothers with young children in the labor force.

[19]For the school calendar year 2017/2018 the program covered 3 million children enrolled in basic education and had a budget of 10 billion pesos, which implies a cost of 3 thousand pesos per child. We use the average exchange rate for 2018 which is 19.2 pesos for one USD.

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Figures

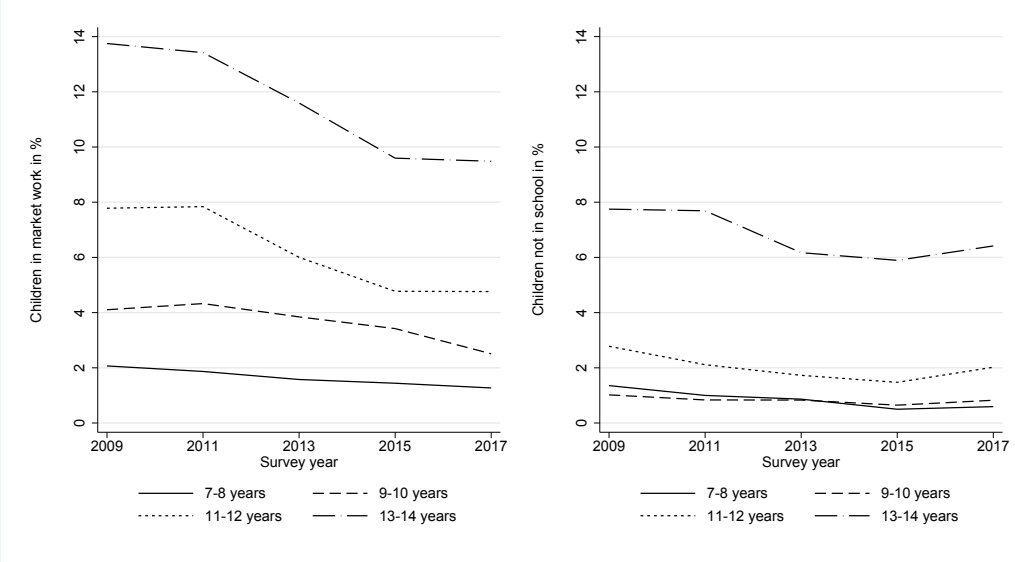

Figure 1: Schooling and market work by age group
Source: ENOE – Módulo de Trabajo Infantil (MTI), authors' analysis.
Notes: – The shares are calculated using the MTI databases available biennially from 2009 to 2017.

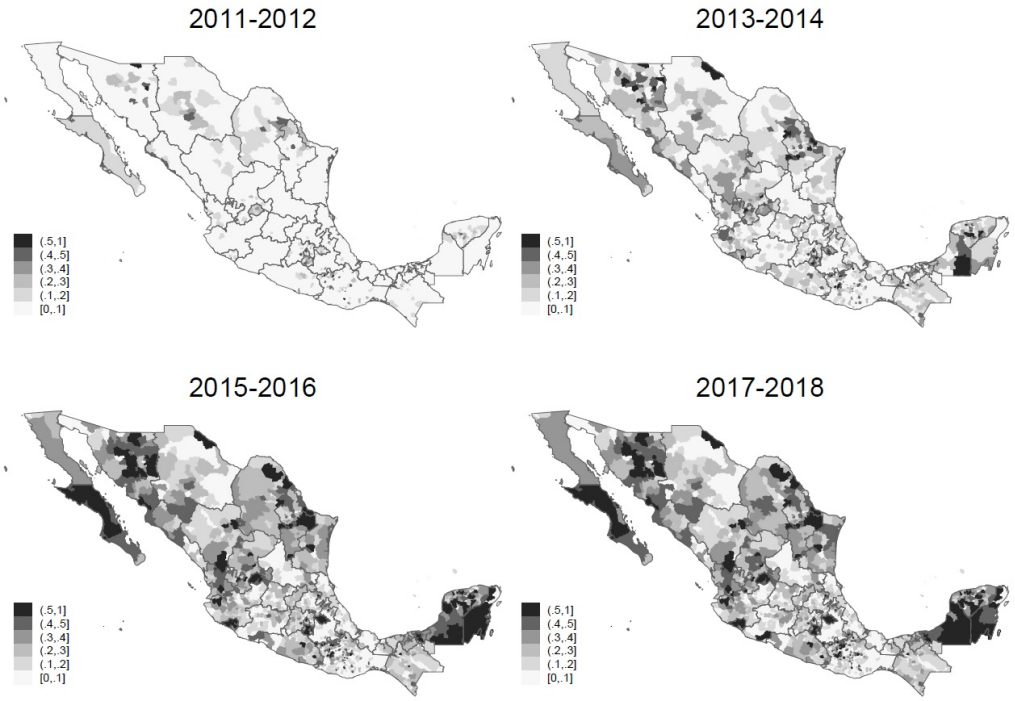

Figure 2: Program rollout: share of FTS by municipality and school year
Source: Ministry of Education, authors' analysis.
Notes: – The share of FTS is calculated from administrative data on the universe of schools in Mexico.

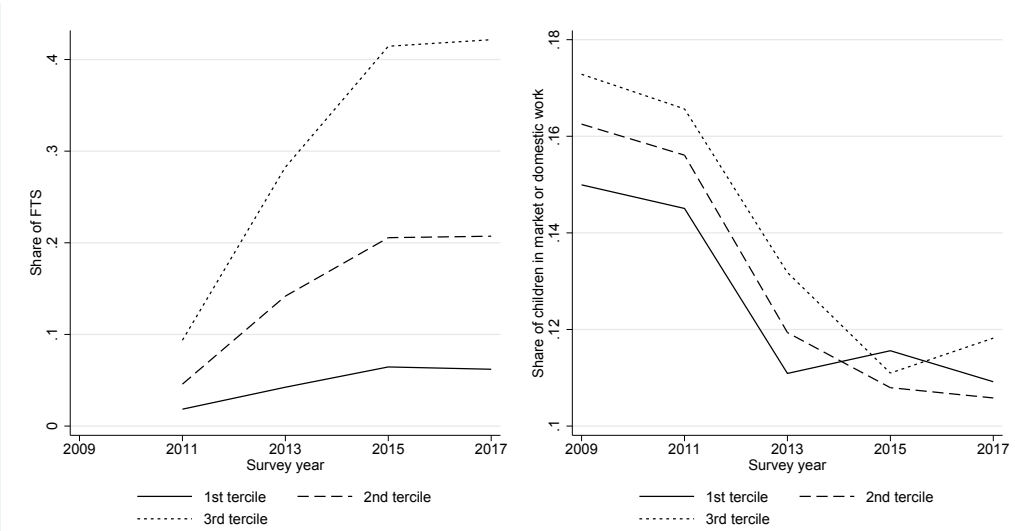

Figure 3: Schooling and market work by tercile

Source: ENOE – Módulo de Trabajo Infantil (MTI), authors' analysis.

Notes: – The share of FTS is calculated from administrative data on the universe of primary and secondary schools in Mexico. The share of children in market and domestic work is calculated using the MTI databases available biennially from 2009 to 2017.

Table 1: Descriptive statistics

	2011		2013		2015		2017		2011-2017	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Share of FTS	0.042	0.061	0.120	0.114	0.180	0.147	0.179	0.148	0.129	0.135
Dependent variables										
Attends school	0.971	0.168	0.975	0.155	0.978	0.145	0.975	0.157	0.975	0.157
Weekly hours spent on school activities	30.744	11.296	31.223	11.222	31.787	11.545	30.937	12.252	31.171	11.587
Child is working	0.165	0.371	0.128	0.334	0.118	0.322	0.110	0.312	0.130	0.337
Cond. weekly hours worked	19.741	11.639	19.722	12.222	19.312	11.519	19.703	11.670	19.633	11.768
Market work	0.070	0.255	0.059	0.236	0.049	0.216	0.046	0.210	0.056	0.230
Household work	0.103	0.304	0.074	0.262	0.075	0.263	0.067	0.251	0.080	0.271
Cond. weekly hours worked (market)	15.920	14.577	15.675	14.830	14.748	14.323	15.943	15.066	15.606	14.696
Cond. weekly hours worked (domestic)	18.237	6.949	18.880	7.441	18.237	6.905	18.427	6.987	18.428	7.070
Child characteristics										
Age	10.564	2.266	10.604	2.260	10.573	2.296	10.593	2.289	10.584	2.278
Male	0.509	0.500	0.509	0.500	0.509	0.500	0.510	0.500	0.509	0.500
Receives gov. support	0.286	0.452	0.288	0.453	0.302	0.459	0.282	0.450	0.290	0.454
Number of siblings	3.054	1.370	2.982	1.301	2.922	1.295	2.841	1.208	2.951	1.297
Birth order										
First born	0.358	0.479	0.363	0.481	0.371	0.483	0.371	0.483	0.366	0.482
Middle born	0.313	0.464	0.304	0.460	0.291	0.454	0.277	0.447	0.296	0.457
Last born	0.329	0.470	0.333	0.471	0.338	0.473	0.352	0.478	0.338	0.473
Parental characteristics										
Both parents present	0.827	0.378	0.830	0.376	0.812	0.390	0.802	0.399	0.818	0.386
Mother's education level										
No education	0.065	0.246	0.054	0.227	0.044	0.206	0.043	0.202	0.052	0.221
Primary education	0.348	0.476	0.316	0.465	0.293	0.455	0.256	0.436	0.304	0.460
Secondary education	0.312	0.463	0.334	0.472	0.352	0.478	0.378	0.485	0.344	0.475
High-school	0.115	0.319	0.131	0.337	0.145	0.352	0.160	0.367	0.138	0.345
Vocational training	0.074	0.262	0.063	0.244	0.054	0.225	0.046	0.210	0.060	0.237
University degree	0.085	0.279	0.102	0.302	0.111	0.314	0.117	0.321	0.103	0.305
Father's education level										
No education	0.051	0.221	0.046	0.209	0.040	0.195	0.042	0.200	0.045	0.207
Primary education	0.333	0.471	0.310	0.463	0.296	0.457	0.275	0.447	0.304	0.460
Secondary education	0.312	0.463	0.321	0.467	0.332	0.471	0.335	0.472	0.325	0.468
High-school	0.143	0.350	0.158	0.365	0.163	0.369	0.179	0.384	0.161	0.367
Vocational training	0.036	0.186	0.034	0.182	0.030	0.170	0.024	0.154	0.031	0.174
University degree	0.125	0.331	0.130	0.337	0.139	0.346	0.144	0.351	0.134	0.341
Locality size										
More than 100,000 inhabitants	0.419	0.493	0.422	0.494	0.414	0.493	0.417	0.493	0.418	0.493
15,000-99,999 inhabitants	0.147	0.354	0.147	0.354	0.150	0.357	0.144	0.352	0.147	0.354
2,500-14,999 inhabitants	0.150	0.357	0.150	0.357	0.159	0.366	0.157	0.364	0.154	0.361
Less than 2,500 inhabitants	0.284	0.451	0.281	0.450	0.277	0.448	0.282	0.450	0.281	0.450
Observations	48,431		48,664		46,305		43,500		186,900	

Notes: – The table presents descriptive statistics for the years the MTI data is available. The last two columns report the mean and standard deviation for the full sample.

Table 2: Effect of FTS Program on School Enrollment

Dependent variable:	School enrollment		Schooling hours	
	I	II	III	IV
Share of FTS	−0.003	−0.001	6.179***	6.471***
	(0.010)	(0.014)	(1.460)	(1.507)
Girl	0.004***	0.004***	0.340***	0.340***
	(0.001)	(0.001)	(0.079)	(0.077)
Receives gov. support	0.072***	0.072***	2.765***	2.709***
	(0.004)	(0.004)	(0.164)	(0.159)
Number of siblings	−0.006***	−0.006***	−0.441***	−0.434***
	(0.001)	(0.001)	(0.049)	(0.047)
Birth order Ref: First born				
Middle born	0.004**	0.004**	0.054	0.072
	(0.002)	(0.002)	(0.106)	(0.106)
Last born	0.003**	0.003**	0.109	0.102
	(0.001)	(0.001)	(0.092)	(0.092)
Both parents present	−0.036***	−0.036***	−0.508	−0.574*
	(0.007)	(0.007)	(0.334)	(0.338)
Mother education Ref: None				
Primary education	0.056***	0.056***	2.029***	1.895***
	(0.006)	(0.006)	(0.279)	(0.276)
Secondary education	0.078***	0.078***	3.149***	2.991***
	(0.006)	(0.006)	(0.290)	(0.285)
High-school	0.084***	0.085***	3.615***	3.463***
	(0.006)	(0.006)	(0.325)	(0.322)
Vocational training	0.087***	0.087***	3.896***	3.708***
	(0.007)	(0.007)	(0.373)	(0.361)
University degree	0.086***	0.086***	4.918***	4.748***
	(0.006)	(0.006)	(0.359)	(0.349)
Father education Ref: None/Father not present				
Primary education	0.031***	0.031***	0.572*	0.606**
	(0.006)	(0.006)	(0.306)	(0.306)
Secondary education	0.050***	0.050***	1.115***	1.166***
	(0.006)	(0.006)	(0.312)	(0.316)
High-school	0.051***	0.050***	1.332***	1.367***
	(0.007)	(0.006)	(0.324)	(0.332)
Vocational training	0.052***	0.051***	1.770***	1.816***
	(0.007)	(0.007)	(0.422)	(0.424)
University degree	0.050***	0.049***	1.875***	1.934***
	(0.007)	(0.007)	(0.371)	(0.372)
Locality size Ref: >100,000 inhabitants				
15,000-99,999 inhabitants	−0.000	0.000	−0.075	−0.015
	(0.004)	(0.004)	(0.488)	(0.491)
2,500-14,999 inhabitants	−0.008***	−0.008***	−0.223	−0.272
	(0.003)	(0.003)	(0.462)	(0.472)
Less than 2,500 inhabitants	−0.020***	−0.020***	−0.765*	−0.801*
	(0.003)	(0.003)	(0.426)	(0.433)
Constant	0.919***	0.932***	25.907***	25.527***
	(0.007)	(0.013)	(0.470)	(0.844)
Age dummies	yes	yes	yes	yes
State-by-year FE	no	yes	no	yes
Observations	186,900	186,900	186,900	186,900
R^2	0.129	0.131	0.154	0.177

Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). All columns control for municipality FE. – *** $p < 0.01$*;* ** $p < 0.05$*;* * $p < 0.1$*.*

Table 3: Effect of FTS Program on Child Labor

Dependent variable:	Total hours worked		Extensive margin		Intensive margin	
	I	II	III	IV	V	VI
Share of FTS	−1.208**	−1.632**	−0.044*	−0.063**	−0.809	−2.394
	(0.547)	(0.662)	(0.023)	(0.027)	(1.744)	(2.214)
Girl	1.104***	1.105***	0.028***	0.028***	−0.109	−0.069
	(0.047)	(0.047)	(0.002)	(0.002)	(0.227)	(0.222)
Receives gov. support	−0.784***	−0.777***	−0.016***	−0.015***	−3.970***	−3.983***
	(0.096)	(0.095)	(0.004)	(0.004)	(0.306)	(0.302)
Number of siblings	0.281***	0.282***	0.012***	0.012***	0.547***	0.547***
	(0.031)	(0.031)	(0.001)	(0.001)	(0.111)	(0.111)
Birth order Ref: First born						
Middle born	−0.663***	−0.667***	−0.025***	−0.025***	−1.112***	−1.102***
	(0.072)	(0.072)	(0.003)	(0.003)	(0.281)	(0.280)
Last born	−0.973***	−0.972***	−0.035***	−0.035***	−1.818***	−1.835***
	(0.057)	(0.057)	(0.003)	(0.003)	(0.296)	(0.295)
Both parents present	0.271	0.279	0.016*	0.016*	−0.317	−0.362
	(0.224)	(0.224)	(0.009)	(0.009)	(0.626)	(0.630)
Mother education Ref: None						
Primary education	−0.822***	−0.798***	−0.025***	−0.024***	−1.132*	−1.167**
	(0.197)	(0.194)	(0.007)	(0.007)	(0.577)	(0.568)
Secondary education	−1.181***	−1.165***	−0.035***	−0.034***	−2.377***	−2.440***
	(0.207)	(0.205)	(0.008)	(0.008)	(0.633)	(0.620)
High-school	−1.450***	−1.435***	−0.039***	−0.038***	−3.361***	−3.335***
	(0.213)	(0.210)	(0.008)	(0.008)	(0.687)	(0.670)
Vocational training	−1.643***	−1.632***	−0.051***	−0.051***	−3.337***	−3.323***
	(0.220)	(0.218)	(0.009)	(0.009)	(0.752)	(0.749)
University degree	−1.956***	−1.938***	−0.060***	−0.060***	−3.949***	−3.893***
	(0.222)	(0.219)	(0.009)	(0.009)	(0.787)	(0.784)
Father education Ref: None/Father not present						
Primary education	−0.563***	−0.566***	−0.013	−0.014	−1.307**	−1.322**
	(0.213)	(0.213)	(0.009)	(0.009)	(0.564)	(0.566)
Secondary education	−0.910***	−0.924***	−0.031***	−0.031***	−2.208***	−2.186***
	(0.216)	(0.216)	(0.009)	(0.009)	(0.614)	(0.611)
High-school	−1.088***	−1.104***	−0.042***	−0.043***	−3.043***	−3.061***
	(0.221)	(0.220)	(0.009)	(0.009)	(0.676)	(0.675)
Vocational training	−0.950***	−0.956***	−0.040***	−0.041***	−1.591*	−1.515*
	(0.269)	(0.270)	(0.011)	(0.012)	(0.918)	(0.918)
University degree	−1.472***	−1.475***	−0.059***	−0.059***	−2.692***	−2.793***
	(0.224)	(0.223)	(0.009)	(0.009)	(0.799)	(0.805)
Locality size Ref: >100,000 inhabitants						
15,000-99,999 inhabitants	0.277	0.288*	0.010	0.010	1.310*	1.357*
	(0.170)	(0.168)	(0.008)	(0.008)	(0.763)	(0.760)
2,500-14,999 inhabitants	0.346**	0.354**	0.011	0.011	0.949	0.921
	(0.164)	(0.165)	(0.008)	(0.008)	(0.641)	(0.628)
Less than 2,500 inhabitants	0.764***	0.775***	0.032***	0.033***	1.467***	1.525***
	(0.155)	(0.156)	(0.007)	(0.007)	(0.558)	(0.548)
Constant	3.816***	3.818***	0.073***	0.068**	16.635***	16.316***
	(0.256)	(0.531)	(0.011)	(0.026)	(1.036)	(1.427)
Age dummies	yes	yes	yes	yes	yes	yes
State-by-year FE	no	yes	no	yes	no	yes
Observations	186,900	186,900	186,900	186,900	23,702	23,702
R^2	0.229	0.231	0.149	0.151	0.257	0.266

*Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). All columns control for municipality FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table 4: Effect of FTS Program on Market and Domestic Work

Dependent variable:	Total hours worked		Extensive margin		Intensive margin	
	I	II	III	IV	V	VI
A. Market work						
Share of FTS	−0.564*	−1.054**	−0.038**	−0.046**	1.235	−2.595
	(0.332)	(0.444)	(0.018)	(0.022)	(3.257)	(3.688)
Observations	186,900	186,900	186,900	186,900	9,887	9,887
B. Domestic work						
Share of FTS	−0.644	−0.578	−0.015	−0.020	−2.063	−2.153
	(0.440)	(0.531)	(0.020)	(0.022)	(1.517)	(2.196)
Observations	186,900	186,900	186,900	186,900	15,053	15,053
State-by-year FE	no	yes	no	yes	no	yes

*Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, age dummies, and municipality FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table 5: Effect of FTS Program by Gender

	Any work	Market work	Domestic work
	I	II	III
	A. Total hours worked		
Share of FTS	−1.481**	−1.420***	−0.061
	(0.690)	(0.488)	(0.552)
Girl	1.144***	−0.801***	1.945***
	(0.068)	(0.065)	(0.064)
Girl x Share of FTS	−0.303	0.731***	−1.033***
	(0.293)	(0.251)	(0.271)
Observations	186,900	186,900	186,900
	B. Extensive margin		
Share of FTS	−0.067**	−0.064***	−0.005
	(0.029)	(0.024)	(0.024)
Girl	0.026***	−0.042***	0.072***
	(0.003)	(0.003)	(0.003)
Girl x Share of FTS	0.009	0.035***	−0.031**
	(0.014)	(0.013)	(0.013)
Observations	186,900	186,900	186,900
	C. Intensive margin		
Share of FTS	−2.430	−2.678	−2.520
	(2.347)	(3.804)	(2.462)
Girl	−0.077	−1.097**	1.129***
	(0.294)	(0.502)	(0.250)
Girl x Share of FTS	0.067	0.261	0.504
	(1.384)	(2.294)	(1.075)
Observations	23,702	9,887	15,053

Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, municipality and state-by-year fixed effects. – *** $p < 0.01$*;* ** $p < 0.05$*;* * $p < 0.1$.

Table 6: Heterogeneous Effects of the FTS Program on Child Labor

Dependent variable:	Total hours	Ext. margin	Int. margin
	I	II	III
	A. Rural		
Share of FTS	-1.455^{*}	-0.070^{**}	-1.146
	(0.804)	(0.034)	(3.144)
Rural x Share of FTS	-0.418	0.002	-1.357
	(0.605)	(0.028)	(2.502)
Observations	186,900	186,900	23,702
	B. Locality marginalization degree		
Share of FTS	-1.891^{**}	-0.075^{**}	-3.442
	(0.747)	(0.031)	(2.437)
Medium x Share of FTS	0.447	0.036	1.996
	(0.643)	(0.030)	(2.208)
High x Share of FTS	0.193	0.003	2.225
	(0.703)	(0.030)	(2.364)
Observations	186,222	186,222	23,561
	C. Household poverty level		
Share of FTS	-2.853^{***}	-0.099^{***}	-5.096^{*}
	(0.752)	(0.032)	(2.641)
Poverty x Share of FTS	1.076^{**}	0.030	2.811
	(0.455)	(0.021)	(1.915)
Extreme poverty x Share of FTS	1.253^{***}	0.054^{**}	3.616^{**}
	(0.458)	(0.025)	(1.821)
Observations	168,511	168,511	22,548
	D. Age group		
Share of FTS	-0.097	0.004	2.951
	(0.719)	(0.030)	(3.304)
Age: 9-10 x Share of FTS	-0.593^{**}	-0.030^{*}	-0.133
	(0.255)	(0.017)	(2.683)
Age: 11-12 x Share of FTS	-1.739^{***}	-0.080^{***}	-6.870^{**}
	(0.400)	(0.020)	(2.720)
Age: 13-14 x Share of FTS	-3.676^{***}	-0.151^{***}	-6.145^{**}
	(0.734)	(0.031)	(2.712)
Observations	186,900	186,900	23,702
	E. Birth order		
Share of FTS	-2.399^{***}	-0.085^{***}	-3.480
	(0.712)	(0.030)	(2.449)
Middle born x Share of FTS	0.701^{*}	0.018	2.097
	(0.404)	(0.018)	(1.560)
Last born x Share of FTS	1.174^{***}	0.035^{*}	1.719
	(0.404)	(0.020)	(1.823)
Observations	186,900	186,900	23,702

Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, municipality and state-by-year fixed effects. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 7: Effect of the Share of FTS on Child Labor: Robustness

Dependent variable:	Total hours	Ext. margin	Int. margin
	I	II	III
	A. Only FE		
Share of FTS	-2.022^{***}	-0.079^{***}	-2.559
	(0.733)	(0.029)	(2.368)
Observations	186,900	186,900	23,702
	B. Excluding 2017		
Share of FTS	-2.415^{***}	-0.091^{***}	-3.835
	(0.690)	(0.030)	(2.673)
Observations	143,400	143,400	19,065
	C. Including a state time trend		
Share of FTS	-1.292^{**}	-0.049^{*}	-0.941
	(0.621)	(0.026)	(2.104)
Observations	186,900	186,900	23,702
	D. Alternative definition		
Share of students in FTS	-1.238^{*}	-0.062^{*}	0.727
	(0.700)	(0.032)	(2.288)
Observations	186,900	186,900	23,702

Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). Except for Panel A, all regressions include the full set of control variables, municipality and state-by-year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 8: Effect of FTS Program Controlling for the Share of Eight-Hour Schools

Dependent variable:	Total hours	Ext. margin	Int. margin
	I	II	III
	A. Any work		
Share of FTS	-1.424	-0.091^{**}	2.862
	(0.999)	(0.042)	(3.340)
Share of 8 hrs FTS[a]	-0.463	-0.017	-0.689
	(0.358)	(0.014)	(1.141)
Observations	131,890	131,890	14,836
	B. Market work		
Share of FTS	-0.602	-0.055^{*}	7.295
	(0.576)	(0.032)	(6.319)
Share of 8 hrs FTS[a]	-0.368	-0.015	-2.663
	(0.243)	(0.009)	(2.195)
Observations	131,890	131,890	6,145
	C. Domestic work		
Share of FTS	-0.821	-0.028	-2.041
	(0.822)	(0.033)	(3.304)
Share of 8 hrs FTS[a]	-0.095	-0.002	0.900
	(0.263)	(0.011)	(1.090)
Observations	131,890	131,890	9,419

Notes: [a] Share of eight hours FTS over total FTS at the municipality level. – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, municipality and state-by-year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 9: Effect of FTS program on household members: child aged 7-14 lives in the household

Dependent variable:	LFP	Market work	Domestic work
	I	II	III
	A. Mothers		
Share of FTS	0.069**	0.793	0.148
	(0.032)	(1.138)	(1.490)
Observations	286,255	286,255	286,255
	B. Fathers		
Share of FTS	0.025	0.707	1.200
	(0.016)	(1.533)	(0.748)
Observations	239,492	239,492	239,492
	C. Sisters		
Share of FTS	0.071	−1.544	−0.788
	(0.077)	(2.364)	(2.135)
Observations	52,685	52,685	52,685
	D. Brothers		
Share of FTS	−0.147*	−4.937*	−0.500
	(0.077)	(2.817)	(1.017)
Observations	57,980	57,980	57,980

*Notes: – Results are obtained from fixed-effects regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions control for age, age squared, age of youngest hh member, age of youngest hh member squared, individual and state-by-year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table 10: Effect of FTS program on household members: no child aged 7-14 lives in the household

Dependent variable:	LFP	Market Work	Domestic Work
	I	II	III
	A. Mothers		
Share of FTS	0.012	0.363	0.240
	(0.023)	(0.993)	(1.198)
Observations	383,655	383,655	383,655
	B. Fathers		
Share of FTS	−0.005	2.238	−0.132
	(0.021)	(1.504)	(0.584)
Observations	285,733	285,733	285,733
	C. Sisters		
Share of FTS	0.134*	4.017	4.436*
	(0.075)	(2.637)	(2.497)
Observations	48,274	48,274	48,274
	D. Brothers		
Share of FTS	−0.097	−2.736	0.623
	(0.084)	(3.105)	(1.252)
Observations	53,659	53,659	53,659

*Notes: – Results are obtained from fixed-effects regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions control for age, age squared, age of youngest hh member, age of youngest hh member squared, individual and state-by-year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Appendix

Table A1: Pre-FTS descriptive statistics by tercile

	First			Second			Third	
	Mean	S.D.	Δ Mean[a]	Mean	S.D.	Δ Mean[b]	Mean	S.D.
Share of FTS	0.018	0.020	−0.075***	0.046	0.047	−0.048***	0.093	0.094
Dependent variables								
Attends school	0.973	0.163	−0.006**	0.968	0.175	−0.010***	0.979	0.145
Weekly hours spent on school activities	30.913	11.380	−0.799***	30.745	11.397	−0.967***	31.712	11.446
Child is working	0.145	0.352	−0.020***	0.156	0.363	−0.009	0.165	0.371
Cond. weekly hours worked	19.178	11.240	0.022	20.267	11.788	1.110**	19.157	10.982
Market work	0.063	0.242	−0.006	0.061	0.240	−0.007	0.068	0.253
Household work	0.089	0.285	−0.018***	0.100	0.300	−0.007	0.107	0.309
Cond. weekly hours worked (market)	15.062	14.413	1.554	17.663	15.718	4.155***	13.508	12.927
Cond. weekly hours worked (domestic)	17.936	6.298	−0.528	18.395	6.990	−0.069	18.463	7.515
Child characteristics								
Age	10.542	2.268	−0.028	10.580	2.278	0.010	10.570	2.244
Male	0.512	0.500	0.009	0.515	0.500	0.012	0.503	0.500
Receives gov. support	0.192	0.394	−0.108***	0.285	0.451	−0.014*	0.299	0.458
Number of siblings	2.936	1.264	−0.013	3.052	1.431	0.103***	2.950	1.251
Birth order								
First born	0.367	0.482	0.003	0.363	0.481	−0.002	0.364	0.481
Middle born	0.291	0.454	−0.007	0.309	0.462	0.011	0.298	0.458
Last born	0.342	0.474	0.004	0.328	0.470	−0.009	0.337	0.473
Parental characteristics								
Both parents present	0.824	0.381	−0.002	0.822	0.382	−0.003	0.826	0.379
Mother's education level								
No education	0.045	0.208	−0.002	0.062	0.242	0.015***	0.047	0.212
Primary education	0.330	0.470	0.049***	0.324	0.468	0.043***	0.280	0.449
Secondary education	0.323	0.467	0.005	0.330	0.470	0.012	0.318	0.466
High-school	0.135	0.342	−0.011	0.109	0.312	−0.037***	0.146	0.353
Vocational training	0.080	0.271	−0.012**	0.081	0.273	−0.011**	0.092	0.289
University degree	0.087	0.282	−0.030***	0.094	0.292	−0.023***	0.117	0.321
Father's education level								
No education	0.038	0.190	0.003	0.052	0.221	0.017***	0.035	0.183
Primary education	0.301	0.459	0.015*	0.306	0.461	0.021**	0.286	0.452
Secondary education	0.323	0.468	0.008	0.321	0.467	0.006	0.315	0.465
High-school	0.169	0.375	0.005	0.141	0.348	−0.023***	0.164	0.370
Vocational training	0.037	0.189	−0.001	0.044	0.206	0.006	0.038	0.192
University degree	0.132	0.339	−0.030***	0.135	0.342	−0.027***	0.162	0.368
Locality size								
More than 100,000 inhabitants	0.545	0.498	0.089***	0.492	0.500	0.036***	0.456	0.498
15,000-99,999 inhabitants	0.169	0.375	−0.005	0.124	0.330	−0.050***	0.174	0.379
2,500-14,999 inhabitants	0.123	0.328	−0.008	0.099	0.298	−0.032***	0.131	0.337
Less than 2,500 inhabitants	0.163	0.370	−0.076***	0.285	0.452	0.046***	0.239	0.427
Observations	13,508			14,868			15,319	

*Notes: – The sample is restricted to the year 2011 before the FTS program was rolled out. To define the terciles we use the roll-out at the municipality level for the school year 2017/2018. – [a] The column shows the difference in mean values between the first and third terciles. – [b] The column shows the difference in mean values between the second and third terciles. – Significance stars indicate the result of the respective t-test. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table A2: Marginalization degree at the municipality level by tercile

	First			Second			Third	
	Mean	S.D.	Δ Mean[a]	Mean	S.D.	Δ Mean[b]	Mean	S.D.
Share of FTS	0.042	0.036	−0.300***	0.151	0.056	−0.191***	0.342	0.139
Total population (in 1,000)	137.166	256.273	24.797	152.260	252.087	39.891*	112.369	182.326
Share of inhabitants:								
Who cannot read and write (older than 15)	7.951	5.924	1.585***	7.165	5.600	0.798	6.366	5.608
Without primary education (older than 15)	22.367	10.987	3.174***	21.068	9.856	1.875*	19.193	9.482
Without access to drainage and sanitary services	2.949	4.954	−1.448**	3.525	5.347	−0.872	4.397	8.265
Without piped water	8.078	10.524	3.348***	7.499	9.890	2.768***	4.730	7.367
Living overcrowded	32.712	8.987	0.324	32.069	9.880	−0.319	32.388	10.449
Living with ground floors	5.228	6.569	1.172**	4.896	5.386	0.839	4.056	5.357
Living in localities < 5000 inhabitants	43.581	34.433	−3.372	44.439	31.323	−2.514	46.954	33.426
Earning less than 2 min. wages	47.325	15.945	1.134	47.076	16.501	0.885	46.191	14.583
Marginalization degree:								
Low	0.475	0.500	−0.139***	0.512	0.501	−0.102**	0.614	0.488
Medium	0.209	0.407	0.014	0.231	0.422	0.036	0.195	0.397
High	0.316	0.466	0.125***	0.257	0.438	0.066*	0.191	0.394
Observations	455			303			246	

Notes: – The marginalization level data is obtained from (CONAPO, 2019) at the municipality level. We use data for 2010 to measure pre-program municipality characteristics. – [a] The column shows the difference in mean values between the first and third terciles. – [b] The column shows the difference in mean values between the second and third terciles. – Significance stars indicate the result of the respective t-test. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table A3: Child labor rate and implementation of the FTS program

	I	II	III	IV
Child labor rate	−0.018	−0.016	–	–
	(0.018)	(0.015)		
Child labor rate t-2	–	–	0.005	−0.001
			(0.019)	(0.017)
State-by-year FE	no	yes	no	yes
Observations	4,063	4,063	3,058	2,247
R^2	0.831	0.895	0.922	0.953

Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). All columns control for municipality FE and year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table A4: Effect of FTS Program using non-linear models

	Total hours	Ext. margin	Int. margin
	Tobit	Probit	Heckman
Share of FTS	−5.545	−0.044*	−1.890
	(5.717)	(0.025)	(3.927)
Inverse Mills Ratio	–	–	−3.645
			(5.772)
Observations	186,900	185,005	9,887

*Notes: – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, municipality FE, and state-by-year FE. The table shows coefficients of a Tobit regression, average marginal effects of a Probit regression, and coefficients of the outcome equation of a Heckman selection model. Note that in the Probit model the sample size is reduce because there are some municipalities where all or none of the children work, and have been excluded from the sample. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table A5: Effect of the share of students in FTS on child labor: Market work

Dependent variable:	Total hours	Ext. margin	Int. margin
	I	II	III
	A. Only FE		
Share of FTS	−1.129**	−0.052**	−3.384
	(0.472)	(0.023)	(4.335)
Observations	186,900	186,900	9,887
	B. Excluding 2017		
Share of FTS	−1.313**	−0.050*	−1.513
	(0.513)	(0.026)	(4.631)
Observations	143,400	143,400	8,052
	C. Including a state time trend		
Share of FTS	−0.744*	−0.041*	0.451
	(0.415)	(0.022)	(3.663)
Observations	186,900	186,900	9,887
	D. Alternative definition		
Share of students in FTS	−0.823**	−0.040	−0.362
	(0.419)	(0.025)	(3.673)
Observations	186,900	186,900	9,887

*Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, municipality and state-by-year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table A6: Effect of the share of students in FTS on child labor: Domestic work

Dependent variable:	Total hours	Ext. margin	Int. margin
	I	II	III
	A. Only FE		
Share of FTS	−0.893	−0.031	−1.952
	(0.568)	(0.023)	(2.141)
Observations	186,900	186,900	15,053
	B. Excluding 2017		
Share of FTS	−1.102**	−0.041*	−2.769
	(0.539)	(0.023)	(2.274)
Observations	143,400	143,400	12,017
	C. Including a state time trend		
Share of FTS	−0.548	−0.016	−1.815
	(0.516)	(0.021)	(2.083)
Observations	186,900	186,900	15,053
	D. Alternative definition		
Share of students in FTS	−0.415	−0.014	−1.228
	(0.574)	(0.025)	(2.581)
Observations	186,900	186,900	15,053

*Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the municipality level). The regressions include the full set of control variables, municipality and state-by-year FE. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

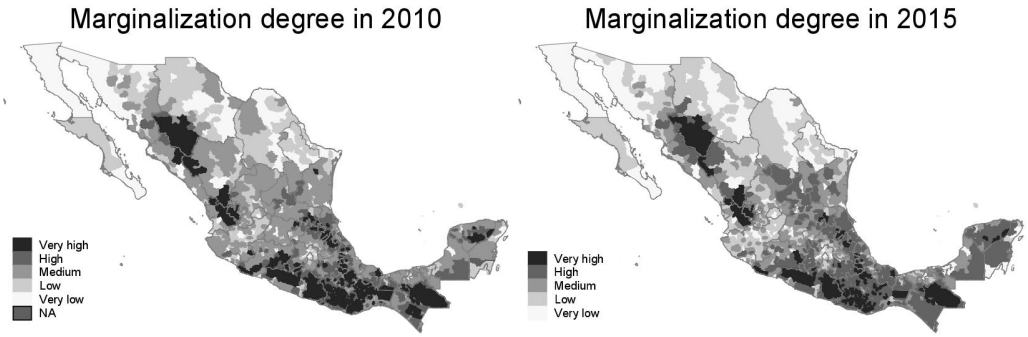

Figure A1: Marginalization degree by municipality
Source: Consejo Nacional de Población (CONAPO), authors' analysis.