Contents lists available at ScienceDirect



Journal of Development Economics

journal homepage: www.elsevier.com/locate/jdeveco

Childcare effects on maternal employment: Evidence from $Chile^{\star}$



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ARTICLE INFO

JEL codes: J13 J21 Keywords: Female labor supply Childcare Randomized control trial Afterschool programs

ABSTRACT

Using a randomized experiment, this study examines whether offering afterschool care for children aged between 6 and 13 has an impact on labor market outcomes for women in Chile. The results show that program participation increases employment by 5% and labor force participation by 7%, while the intervention also generates substantial childcare substitution. The results also suggest that the provision of afterschool care for older children triggers the use of free daycare for young (ineligible) children.

1. Introduction

There are significant differences in labor market engagement and outcomes between males and females. Worldwide, female labor force participation (FLFP) reached 55.3%, whereas male labor force participation was 81.7% in 2014. Figures are similar in Latin America, where FLFP had increased steadily in the last decade, reaching 58.4% in 2014 (55.6% in Chile).¹ Women also work less, and earn less than males (World Bank, 2011).

Access to the labor market is one dimension of gender equality, which has a value by itself or as a tool for growth (Duflo, 2012). FLFP has been considered a high-return poverty alleviation strategy, as female-headed households are concentrated in the lowest income quintiles in Latin America (Araujo and López-Boo, 2015).

Women spend more time on housework and childcare, and consequently less time working (Berniell and Sáncez-Páramo, 2011). In Latin America, 51.6% of women report domestic and care-related activities as the main reasons for non-participation. For men, the corresponding figure is 3.2% (ILO, 2013).

In this context, providing free childcare could increase FLFP. In this paper, we test this hypothesis by investigating the effect of providing free childcare services for school-age children (aged 6–13 years) on childcare use, FLFP (employment and job searching) and other female employment outcomes using experimental variation in the assignment

of slots for a public afterschool program in Chile. We also investigate the extent to which the provision of free childcare substitutes other childcare arrangements. We stratified by working status at baseline and children's age, which allows us to investigate heterogeneities in these dimensions.

The program offers three hours of daily afterschool childcare at educational institutions throughout the school year. Oversubscription to the program allowed us to randomize applicants into a treatment (N=1,137) and a control (N=973) group. Randomization was conducted at the individual level among applicants in 25 schools where the program was introduced in 2012.

If childcare time and cost decreases female labor engagement, providing free or subsidized childcare should affect FLFP and potentially female employment. Testing this causal effect is complex because variations in childcare access and prices may not be exogenous to employment decisions. An extensive body of literature has investigated this relationship mostly for younger age groups (preschool) in highly developed countries with relatively high FLFP rates.² These studies use non-experimental methodologies, using childcare expansions, discontinuities in eligibility or other policy changes to address this causal effect.

Results for the US and Canada and European countries with similar FLFP are mostly positive (Gelbach, 2002; Baker et al., 2008; Lefebvre and Merrigan, 2008; Nollenberger and Rodriguez-Planas, 2015),

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http://dx.doi.org/10.1016/j.jdeveco.2017.01.001

Received 2 March 2016; Received in revised form 19 December 2016; Accepted 12 January 2017 Available online 26 January 2017

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^{*} This project received funding from the Inter-American Development Bank and the Chilean Servicio Nacional de la Mujer (SERNAM). We appreciate the excellent research assistance of Antonia Asenjo, María Ignacia Contreras, and Sebastián Otero.We thank Claudia Piras (IDB) for her continuous support of the study. We thank seminars participants at Pontificia Universidad Católica de Chile, Universidad Alberto Hurtado, Dartmouth College, SECHI, LACEA and NEUDC for useful comments.

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¹ Source: World Bank Gender Statistics.

 $^{^{2}}$ Both Blau and Tekin (2007), and Blau and Currie (2006) summarize some of this vast literature.

generally finding that childcare use increases the probability of employment by ten percentage points. Other papers find stronger positive effects, but only for single mothers (Fitzpatrick, 2012; Cascio, 2009; Goux and Maurin, 2010).³

The literature for Latin American countries is scanter and it is focused on young children. Berlinski et al. (2011) and Berlinski and Galiani (2007) find positive effects of early school attendance and preprimary availability in FLFP in Argentina, with effect sizes similar to Gelbach (2002). For Chile, several papers analyze whether the expansion of the public pre-school system had any effect on mothers' employment, finding no impact on participation and employment rates (Medrano, 2009; Encina and Martínez, 2009; Manely and Vasquez, 2013; Aguirre, 2013). Only Bentancor (2013) finds positive effects on employment rates of highly educated women.

As far as we know, there is no evidence on the impact of afterschool programs in mother's outcomes in developing countries, and only three studies in developed countries, all of them with non-experimental identification strategies.⁴ Felfe et al. (2013) in Switzerland, Lundin et al. (2008) in Sweden, and Bettendorf et al. (2015) in the Netherlands, find inconclusive results, with effects ranging from zero in Sweden to increases in FLFP of 8 percentage points in Switzerland.

Our intention-to-treat (ITT) estimation shows a 3.4 percentagepoint increase (almost 5% of the control group average) in the likelihood of a mother working at least one month during the 8-month window of observation. There is also a 4.3 percentage-point increase in the likelihood of a mother's participation in the labor market every month that the program is available (7% of the control group average). These effect sizes are on the low side of what has previously been found in the literature.

The program also increases household educational expenditure, which is consistent with an increase in income, either directly through the labor market effect or indirectly through decreased spending on childcare. We observe a high rate of substitution between free and paid care: offering childcare services increases the likelihood of nonmaternal childcare during program hours (an increase of 6 percentage points, or 12% relative to the control group).

The labor market effects are stronger for mothers that had younger non-eligible children. Furthermore, our results imply that the program elicited the use of preschool care for young children not eligible for the program. This is consistent for women with both eligible and noneligible children who must find care for all their children in order to enter the labor market. This highlights the importance of taking into consideration the existence of other institutional arrangements when designing a specific program.

In this context, our research offers four important contributions to the literature. First, to the best of our knowledge, this is the first randomized control trial of an afterschool program that measures the impact on caregiver outcomes. Moreover, it is conducted in a lowmiddle income country with an FLFP that is average for the Latin American and Caribbean region. Second, this study reveals the existence of an extensive substitution effect among the different types of childcare. Third, we provide evidence consistent with the relevance of the context; particularly, how widespread free preschool services affect the impact of an afterschool program. Finally, the program is implemented by the government and its scalability is therefore proven.

The remainder of this paper is organized as follows. Section 2 describes the background and the program details. In Section 3, we present the experimental design, and in Section 4, the data used in the

analysis. The empirical strategy is presented in Section 5, the results in Section 6, and Section 7 provides a discussion and conclusions.

2. Background and program details

2.1. Background

Despite the significant growth in FLFP in Chile in the last two decades of more than 20 percentage points, women represent only 40% of the total labor supply. Labor force participation (LFP) is particularly low among less educated women, women with both pre-school and school-age children, and women belonging to low-income households. The gap between male and female LFP in Chile is approximately 25 percentage points, and increases to 30–35 points when considering the lifecycle periods associated with birth and childcare.⁵ The participation rate of women in the top income decile is more than double that of women with no education or those who have not completed primary school. A similar difference in FLFP rates occurs between the top and bottom deciles.⁶

Many women cite childcare as the main reason they do not seek employment. In the first two quintiles,⁷ 20% of women with children aged between six and thirteen claim to forego job-seeking because they must take care of their children. Among women who also have younger children (zero to five years old), the figure is 30%.

Because 39% of all households and 51% of poor households in Chile have female heads, increasing FLFP has been considered a powerful poverty reduction strategy. Since 2006, the Chilean government has greatly expanded public childcare for children younger than five with the double objective of improving child human capital and FLFP rates.⁸ Between 2006 and 2013, the availability of public childcare increased by over 450% for children up to the age of two and by 50% for children aged between three and five. Moreover, Aguirre (2013) reports that the attendance rate was low among infants and toddlers (around 9%) but higher for children who were aged three to five (48%). However, as previously mentioned, several studies have found that the FLFP has not been sensitive, on average, to this expansion.⁹

These facilities for children under 6 years old, are increasingly offering childcare until 7 p.m., and therefore are compatible with fulltime work (typically from 9:00 a.m. to 6:00 p.m.).¹⁰ Women face additional constraints if they have older children: the school day at public primary schools ends at 4:00 p.m. four days a week and around 1:00 p.m. on the fifth day.¹¹ For first and second graders, the schedule is even shorter; school ends at 1:00 p.m. every day. This half-day school schedule is not compatible with full-time work while the supply of part-time jobs is very limited (Rau, 2010). In this context, mothers who could place small children in full-time childcare facilities and work

⁷ All these figures come from CASEN (2013).

⁸ The main objective of this policy, introduced during the first presidential period of Michelle Bachelet, was to level children's access to pre-school; however, the next government led by Sebastián Piñera also focused on providing childcare but with the purpose of increasing female labor force participation. The program evaluated in this paper was included in this agenda.

³ For European countries with high FLFP, such as Sweden and Norway, the evidence is mixed but with mostly zero effects (Havnes and Magne 2011; Lundin et al., 2008).

⁴ Previous randomized evaluations, as reported by Blau and Currie (2006), have focused on children's outcomes. Among them, LoSciuto et al. (1996, 1997) find positive effects on several indicators of school success (including graduation rates and attendance), positive attitudes at home, and teenage pregnancy rates among other outcomes, but the authors do not focus on mothers' labor market outcomes.

⁵ These figures are taken from the 2013 National Socioeconomic Characterization Survey (hereafter CASEN (2013)).

⁶ However, over the last 20 years, the participation gap among women from different socioeconomic strata has decreased because women with lower education and from lower-income households have led the increase in global participation rates. The FLFP rate in the bottom quintile increased by almost 70% compared to a 44% rise in the top quintile. The increase in FLFP among less-educated women (up to incomplet secondary education) was 35% vs. only 13% among women with higher levels of education.

⁹ The most recent ones are Vasquez (2013), Aguirre (2013) and Bentancor (2013).

¹⁰ Public childcare schedules generally run from 8:30 a.m. to 4:30p.m.; however, some childcare centers offer longer schedules that end at 7:00p.m.. From 2006 to 2011, the share of vacancies in this type of program grew from 20% to 65%.

¹¹ The regulation of school length applies to the numbers of hours per week. Schools decide how to complete these hours during the school week. In our sample, the most common schedule is from 8:00 a.m. to 3:30p.m. from Monday to Thursday and from 8:00 a.m. to 1:00p.m. on Fridays.

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