

Direct and Spillover Effects of Enforcing Labor Standards: Evidence from Argentina

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Abstract

This paper studies how increases in labor standards and enforcement affect workers and their families. Using a policy in Argentina that targeted domestic workers and their employers, I find a 30% increase in formality rates of domestic workers and a 4% increase in monthly earnings, despite a 5% reduction in hours of work per week. The policy also had effects on the labor supply decisions of other members of the domestic workers' households: hours worked by spouses of domestic workers and the labor force participation of young adult children of domestic workers decrease after the reform, an effect driven mostly by girls. The reform also helped close the educational gender gap: school attendance and years of education increased by approximately 3% among boys of secondary school age, and secondary school completion increased by 18% among older boys. Taken together, the results suggest that higher labor standards and their enforcement can have sizable impacts among low-skilled workers as well as their families.

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1 Introduction

In developing countries, informal employment accounts for 60% of total employment (ILO, 2018). Labor informality poses a great challenge to governments because it makes it difficult to collect taxes (Ulyssea, 2018) and identify the beneficiaries of welfare spending (Gerard & Gonzaga, forthcoming). Yet the enforcement of labor regulations has ambiguous effects on workers. On the one hand, formal jobs are associated with higher wages, job security, and social benefits (Camacho et al., 2013). On the other hand, researchers point out that the costs incurred by firms to comply with labor regulations and workers' preferences for informal jobs are the reasons for the existence of a large informal sector (Djankov et al., 2002; Maloney, 2004). The problem of whether labor regulations are desirable becomes even more complex when one considers how these regulations affect other members of the targeted worker's household, in terms of their labor supply, sector of employment, consumption, and investment decisions.

In this paper, I study how labor regulations and their enforcement affects workers and their families. I evaluate a policy introduced in Argentina that strengthened the labor standards of domestic workers (individuals whose employer is a household instead of a firm) and increased the cost of noncompliance for their employers. Until 2013, labor standards granted domestic workers fewer rights than other workers, and employers faced lesser sanctions if they did not comply with these regulations. The policy removed most of these differences, increasing workers' rights and employer's penalties in cases of noncompliance; it also increased the probability of detecting noncompliers. The government actively publicized the reform, raising awareness among employers about domestic workers' rights and the costs of noncompliance.

To study the effects of this policy change, I use individual-level data between 2010 and 2015 from the Permanent Household Survey (EPH), a household survey representative of the largest urban areas of the country. Using this survey, I compare the labor market outcomes of domestic workers with those of similar workers (women employed in blue-collar occupations in the service sector) in a difference-in-differences (DID) framework.

I find that formality rates of domestic workers increased by 4.8 percentage points or 30%. Compared to other studies surveyed recently by Jessen and Kluve (2019), the percent increase in formality is large, mainly because only 15% of domestic workers were formal when the reform was

introduced. On the other hand, I find a reduction of almost 5% in hours of work per week among domestic workers, but no significant changes in unemployment rates, suggesting that labor demand in the sector is inelastic along the extensive margin and all the impact of higher costs of hiring a worker was channeled through the intensive margin. Despite the reduction in work time, I find an increase of approximately 4% in earnings per month, which implies that wages per hour increased by more than 8%. These results are robust to using other comparison groups (such as female wage workers in all occupations) and different time windows.

The results can be rationalized using a simple model of demand for household services, where employers can choose whether to register a worker to the authorities and pay the required taxes, or not register it and pay a fine in case they are caught. The cost of hiring a worker (either in the formal or informal sector) increased, reducing demand for domestic workers. However, because for certain employers the relative increase in the cost of hiring a worker in the informal sector was higher than in the formal sector, many employers decided to register a labor relationship that was previously unregistered. Registering a worker also means that employers had to comply with all the regulations, including minimum wage laws, hence the increase in wages per hour.

Treatment effects at different deciles of the outcome variables (implemented using the changes-in-changes framework of Athey and Imbens, 2006) show that the reduction in hours of work is concentrated in the right tail of the distribution of this outcome; that the increase in monthly earnings is higher among those in the middle of the income distribution; and that the effect on wages per hour increases monotonically by decile. Taken together, the results suggest that strengthening labor standards, coupled with stricter enforcement, does not have a negative impact on workers. On the contrary, after the reform domestic workers experienced an increase in formality rates and earnings, and a reduction in working time.

Restricting the study of the effects of the policy to targeted workers alone may fail to account for the full effects of the policy. Collective household models (Chiappori, 1992) predict that other household members might reduce their labor supply as a consequence of the increase in earnings and the reduction in domestic workers' hours of work.¹ Additionally, because other family members can enjoy some of the benefits received by a formal worker, they may have fewer incentives to participate in the formal sector themselves (Galiani & Weinschelbaum, 2012).

¹Under the assumption of leisure complementarity across household members

I first look at the spillover effects of the policy on the labor market outcomes of spouses and children. I use the same difference-in-differences framework to separately compare the outcomes of male spouses and children of domestic workers with those of the spouses and children of women employed in blue-collar occupations in the service sector, respectively. I find evidence that, after the reform, spouses of domestic workers reduced their hours of work and monthly earnings, leaving wages per hour unchanged. In addition, I observe a significant reduction in labor force participation among children of domestic workers: after the reform, they are 2.6 percentage points (8.1%) less likely to be in the labor force, an effect mainly driven by a reduction of three percentage points (12.5%) among girls. The decrease in girls' labor force participation is not associated with an increase in schooling or home production. This may indicate that the time away from work is instead devoted to leisure, as observed previously by Oster and Thornton (2011) and Devoto et al. (2012), among others. Unfortunately, lack of detailed time-use information prevents me from determining which activities are being substituted for work.

Spillover effects can extend beyond the labor market. The increase in earnings and reduction in parents' hours of work has been shown to improve schooling among children (Dahl & Lochner, 2012; Bono et al., 2016), especially when the income recipient is female and households are poor. Changes in income uncertainty (proxied by formality status of the job) can also alter child investment decisions (Kazianga, 2012; Colmer, 2019; Foster, Gehrke, et al., 2020). I find evidence of improvements in school attendance (3%) and years of education (2.7%) among boys of secondary school age (12 to 18), and increases in secondary school completion (18%) among boys aged 18 to 25. The reason effects are concentrated among boys is that they have worse educational outcomes at baseline than girls, something that has been documented previously (Edo et al., 2017) and is linked to gender norms (i.e. that in the presence of liquidity constraints, boys are the first to drop out of school and enter the labor force because their earnings potential is higher).

My findings on the spillover effects of the policy in the labor market and educational outcomes of other family members suggest that analyzing how labor regulations affect workers directly targeted by them alone can underestimate the total impact of these regulations and lead to mistaken conclusions about their benefits. While the reform was welfare-improving for domestic workers and their families, a back-of-the-envelope calculation also suggests that the overall costs of the new regulations for the government (given by the cost of enforcement and the increase in future pen-

sion claims) are not significantly higher than the benefits (in terms of tax revenue). Hence, when assessing the impact of changes in labor regulations, researchers should also consider the effects on individuals indirectly affected by them.

This paper relates to studies of labor regulations and their effect on the labor market. Research in developing countries focuses mostly on the introduction of minimum wages (Dinkelman & Ranchhod, 2012; Bhorat et al., 2013), although some studies have analyzed other regulations, such as firing costs (Adhvaryu et al., 2013) and payroll taxes (Cruces et al., 2010). These studies find that enacting stricter labor standards while keeping enforcement constant does not increase unemployment or informality and can actually increase workers' earnings. However, high firing costs may reduce job creation during periods of economic growth. In this paper, I not only study how the introduction of labor regulations affects the labor market outcomes of workers, but also their effect on other individuals indirectly affected by these regulations.

Another strand of the literature has studied the effects of inspections to enforce compliance with labor regulations, such as Ronconi (2010) in Argentina, Almeida and Carneiro (2012) in Brazil, and recently Samaniego de la Parra (2019) in Mexico. The results of these studies suggest that higher enforcement of existing regulations raises compliance but can, in some cases, reduce the earnings of workers who are paid above the minimum wage. This contrasts with the results I find, which might be related to the degree of market power that employers of domestic workers held before the reform. Compliance with labor standards increased simply by using public campaigns that have proven cost effective in other contexts (Castro & Scartascini, 2015; Bott et al., 2017), suggesting that enforcement shifted part of the surplus from labor relationships from employers to domestic workers.

This paper also fits in the literature that relates parents' socioeconomic conditions to their investment in both children's health (Duflo, 2003; Qian, 2008; Atkin, 2009) and schooling (Yang, 2008; Baird et al., 2011; Benhassine et al., 2015), as well as the labor force participation of their children (Duryea et al., 2007; Edmonds & Schady, 2012). Children in my sample are relatively older than those considered in the literature because in middle-income countries primary school completion is nearly universal and child labor is not as prevalent. However, secondary-school dropout rates are still high among low-income households. Moreover, the heterogeneous treatment effects by gender are in line with those found previously, with the difference that, in the case of Argentina, girls are

more likely than boys to complete secondary school.

The rest of the paper is structured as follows: In section 2, I describe the regulations of wage workers in general and those of domestic workers before and after the reform took place. Section 3 describes the data used and the empirical strategy implemented. Section 4 presents the results of the reform to domestic workers, while section 5 shows the spillover impacts on other household members. Finally, section 6 presents the conclusions.

2 Background: Employment regulations and domestic workers' labor reform

This section describes the main regulations of wage employment in Argentina. Because these regulations were different for domestic workers and other wage workers before the policy under study was introduced, I first describe the employment regulations for all but domestic workers. I then describe the characteristics and employment arrangements of domestic workers, as well as the regulations for their work before the reform was enacted. Finally, I detail the changes in regulations that took place in 2013.

2.1 Regulations to wage employment of non-domestic workers

In Argentina, wages are set per month assuming a workday of 8 hours and a workweek of 48 hours. All employees are entitled to a wage that cannot be lower than either the federal minimum or that established by collective bargaining (in the case of unionized occupations). Overtime compensation (for workdays longer than 8 hours or workweeks longer than 48 hours) is set at time and a half the regular wage per hour. Workers have the right to a minimum of two weeks of paid vacation per year, paid sick leave and, in the case of women, 90 days of paid maternity leave.² If a worker is fired without cause, they have the right to be informed at least 30 days before the labor relationship ends and have the right to a severance payment equal to one month's salary for each year of tenure on the job.

Employers must register all labor relationships with the Federal Administration of Public Revenue (AFIP), and every month must pay health insurance and pension contributions that amount

²Men receive two days of paid paternity leave.

to 26.5% of the worker's wage.³ These contributions provide workers and their family with a private health insurance policy and allow workers to receive a pension when they retire. In addition to this, employers must carry an occupational accident insurance policy covering each worker.

Pensions are administered by the government in a pay-as-you-go, defined benefit system. To receive a pension, workers must be at least 65 years old (60 years for women) and must have contributed to the system for at least 30 years. The amount of this pension is a proportion of the worker's average salary in the ten years before they retire or the minimum pension set by the government every 6 months, whichever is higher. However, since 2005 all individuals who have not met the contributions requirement by the time they retire can apply for a reduced pension equivalent to 80% of the minimum pension.

The government can monitor compliance with the regulations either through inspections or anonymous reports by workers. Employers who fail to register a worker (or do it after a labor relationship has started) and are caught have to pay each unregistered worker an amount equal to 25% of their monthly gross salary for each month of employment.⁴ In addition, the employer has to pay a fine to AFIP, the amount of which depends on the number of workers that are not registered. In 2013, that fine could be as high as ARS 7,500 per worker, which was equivalent to approximately 2.6 times the federal minimum wage (ARS 2,850 in 2013).

In addition to the fines for hiring a worker off the books, if an unregistered worker is fired they have the right to receive twice the severance payment that they would be entitled to if they had been registered. To receive this payment, the worker has to sue their former employer. Anecdotal evidence suggests that judges tend to favor the employee because they are considered the weakest part of the labor relationship, although there are no official statistics of such rulings.⁵ Because trials can take between two and three years, employers and employees often reach an agreement over the severance payment to be paid, even before going to court.

³The breakdown of payroll taxes is as follows: 16% are pension contributions, 6% are health insurance contributions, 2% for the state-run health insurance system for the elderly, and 1.5% for the unemployment insurance fund. In addition, workers are deducted 17% of their gross wage in the concept of pension and health insurance contributions.

⁴This percentage corresponds to the contributions to pension and health insurance that the employer failed to make.

⁵The following news article reports that firms win only one of ten trials initiated by workers: https://www.clarin.com/economia/empresas-solo-ganan-juicios-laborales_0.BJ1LsCSTvXx.html. On the other hand, this article mentions that the number of trials in the labor jurisdiction doubled from 2010 to 2014, reaching more than 120 thousand: <https://www.lanacion.com.ar/economia/en-cuatro-anos-se-duplicaron-los-juicios-laborales-nid1734898>.

2.2 Domestic workers and labor standards before 2013

2.2.1 Characteristics of the domestic workers in Argentina

By 2013, approximately one million people are employed as domestic workers (about 7% of the total salaried workforce), of which 89% are cleaning ladies and 9% are caregivers. Women constitute 98% of all domestic workers, and almost one out of six salaried women is employed as a domestic worker. They have lower levels of education than the average worker and are more than twice as likely to be foreign migrants.⁶

As Figure 1 shows, most domestic workers are employed by only one household. However, the majority of them are part-time workers: Figure 2 shows that the average working time is 25 hours per week, and the median worker is employed 20 hours per week. Together with their demographic characteristics, these factors partially explain why most domestic workers live in low-income households and are therefore not subject to income taxation. Positions are not typically advertised in newspapers or job boards but rather are filled through word of mouth and referrals, so workers face a thin labor market.

2.2.2 Labor standards before 2013

As in most developing countries, until 2013 domestic workers were exempted from the regulations and enjoyed fewer rights than other wage workers (ILO, 2016). Among the reasons suggested for these differences are the belief that the employer (a household) does not make a profit from the domestic worker's work, and its association with colonial-era servitude (ILO, 2016).

Regular hours of work were capped at 12 per day, and the minimum wage was set by the government usually at or below the federal minimum wage. Domestic workers terminated without cause were entitled to a severance payment of just half of a monthly salary per year of work, regardless of whether the worker was registered or not. With the exception of live-in domestic workers (who constitute fewer than 3% of all domestic workers) there was no reference to minimum paid vacations or paid sick leave. Nor was there any mention whatsoever of paid maternity leave.

Employers were not required to carry an occupational accident insurance policy, and although

⁶This does not mean that they are not allowed to hold a formal job. Migratory regulations in Argentina are relatively lax, and most migrants come from countries with which Argentina has agreements allowing them to arrive and lawfully live in the country before having a job.

they were required to register the worker and pay contributions, these contributions consisted of a lump sum that depended on how many hours per week the worker was hired for. The maximum contribution was set at ARS 95 per month (which at the time corresponded to approximately 3% of the minimum wage) for workers employed for 16 hours or more per week. This contribution provided workers with health insurance for themselves (not their families) and access to an old-age pension. Employers hiring a worker for fewer than 16 hours were only required to pay contributions for the pension system, and the worker had to pay out of pocket to have health insurance. Like other wage employees, domestic workers were given access to a reduced pension in case they had not met the contribution requirements by age 60.

Formality rates of domestic workers are the lowest among all wage employees in the country: while approximately 35% of wage workers are employed off the books, 85% of domestic workers were not registered in 2013.⁷ There are several reasons behind this. First, detection of labor informality among domestic workers was nearly impossible. Inspectors cannot enter an individual's home to check for unregistered workers, and employees do not report their employer for fear of retaliations.⁸ Second, in the event an employer was detected there were no sanctions set in place. Finally, most employers were unaware of the obligation to register a domestic worker (Oelz, 2014; Groisman & Sconfienza, 2016).

2.3 The reform to domestic worker's labor standards

In April 2013, the President signed a bill with the goal of eliminating most of the differences between the regulations of domestic workers' employment and those of other wage workers.⁹ A summary of the regulations of domestic workers before and after the bill was signed, as well as the regulations of other wage workers is presented in Table A1. Even after the reform, certain regulations still differ between these two groups of workers: minimum wages were still set by the government, and contributions continued to be fixed amounts per month based on the hours of work per week the employee was hired for.¹⁰ Although domestic workers were granted paid sick and maternity leave,

⁷Even after AFIP introduced a tax break in 2006 for employers of domestic workers to encourage registration, the trend in formality rates among domestic workers since then has not been different from that of other sectors of the economy.

⁸Since there is typically only one worker per household, reports are no longer anonymous.

⁹The bill had been sent to Congress by the President in 2010.

¹⁰Contributions increased by 44% to ARS 135 for the first time since 2011. In the same period of time inflation was estimated at 59%.

the latter was covered by the government instead of the employer.

Regarding informal employment, employers who were caught would now be required to pay a fine to AFIP of up to ARS 7,500, but these fines were waived for 60 days after the enactment of the law. Moreover, a few weeks after the law passed, AFIP announced that it would send letters to households with yearly incomes over ARS 500,000 per year (fewer than 1% of households) or ARS 300,000 in assets (1 million individuals or 2.5% of the population). These letters informed recipients that AFIP assumed they were employing a domestic worker, and thus were compelled to either register the worker, or prove that they did not have any employee to avoid sanctions.¹¹ Figure A1 presents an example of this letter.

Ultimately, letters were sent only to individuals who satisfied both the income and assets conditions, but the decision was made public only days before the letters were sent. Although this substantially reduced the number of letter recipients to approximately 200,000 households, the fact that the campaign was made public raised awareness about the capacity of the tax authority to detect potential evaders.¹² Besides the substantial evidence showing that these messages are effective for increasing tax compliance (see Mascagni, 2018 and Slemrod, 2018 for reviews), there is a growing literature showing significant spillover effects of law enforcement on noncompliers who are not directly targeted (Rincke and Traxler, 2011; Brollo et al., 2017).

The reform received substantial media attention and the government made public campaigns to raise awareness of the changes and the requirement for employers to register their employees.¹³ As an indication of the attention generated by the reform, Figure 3 shows the relative number of searches on Google for the terms “domestic worker” (*empleada doméstica*) in Argentina, obtained from Google Trends. The peak number of searches corresponds to May 2013, the month after the bill was signed by the president. The second highest month in terms of searches corresponds to October 2014, when the requirement by employers to carry an occupational accident insurance

¹¹It was never specified how individuals could prove they did not employ a worker. However, after the letters were sent, AFIP sent inspectors to the homes of some individuals who had not responded to the letter to determine whether they had an unregistered employee.

¹²These letters continued to be sent to a growing number of people. For example, in 2018, 650,000 letters were sent, according to this report: <https://www.lanacion.com.ar/economia/empleos/la-afip-manda-cartas-para-inducir-el-blanqueo-de-empleo-domestico-y-dice-que-hubo-36000-registros-nid2154549>.

¹³See https://www.clarin.com/trabajo/regimen-trabajo-domestico-ley_0_r1cE4TYPXg.html and <https://www.lanacion.com.ar/sociedad/promulgan-la-ley-para-empleadas-domesticas-nid1572054> for articles in the main national newspapers about the enactment of the law. The following video from the national news agency explains the procedures for employers to register a domestic worker <https://www.youtube.com/watch?v=tXX8W4lxXOo>.

policy became mandatory.

A first approximation to how the reform changed compliance with the regulations, and in particular the requirement to register a worker, can be observed in Figure 4. The vertical axis shows the share of workers who are registered each year, separately for domestic workers and for female workers in other blue-collar service occupations (cleaners, caregivers, waitresses, etc.) who are not subject to the reform because their employer is a firm. The pre-reform period is characterized by small increases in formality rates for both groups of workers. However, in 2013 (the year of the reform), the rate of formality among domestic workers increases almost four percentage points followed by a two-percentage-point increase in 2014. In comparison, formality rates among other workers continued to increase at a similar rate than before the reform took place.

3 Data and empirical strategy

3.1 Data

To analyze the effects of this reform I use the Permanent Household Survey (EPH), a stratified random sample that has been conducted quarterly since July 2003 by the National Statistical Office (INDEC, [n.d.](#)). The survey covers the 32 largest metropolitan areas (*aglomerados urbanos*) of the country, where 62% of the population and 68% of the country’s urban population live. It is the main source for the country’s socioeconomic indicators, including labor force participation, unemployment, earnings, and poverty status.

The survey has a specific question regarding whether a person is a domestic worker, which is used here to define the affected group of workers. Also, all wage workers are asked whether their employer makes pension contributions for their work, and those who answer in the negative are considered informal.¹⁴ This is the standard “legalistic” classification of an informal worker (Tornarolli et al., [2014](#)). It should be noted that individuals are not asked about who their employer is and no information is collected that could allow the government to link respondents to their employers. Workers therefore have no incentive to misreport employment and/or informality status.

For this paper, I use data from the period between 2010 and the first half of 2015. The survey

¹⁴More precisely, the question asks whether pension contributions are deducted from their salaries. It is assumed that if this is the case, the employer is also paying their required share of the contributions.

was interrupted for almost a year after July 2015, which is why I do not extend the analysis further.¹⁵ On the other hand, the reason for starting in 2010 is to avoid the recession that occurred in 2009 (when GDP fell by 6%). Because of the recession, workers whose wages are set through collective bargaining fell in real terms in 2009, but recovered in 2010, while those of domestic workers (which are set by the government) remained constant, hence creating pre-trend differences between affected and unaffected workers. Results starting in 2009 are shown in the online appendix and are qualitatively similar to those presented here.

Monetary values are expressed in 2008 Argentine pesos (ARS). There is ample evidence that the national statistical institute falsified the inflation figures between 2007 and 2015 by a significant margin (see Cavallo et al., 2016 for a detailed description of the issue). For this reason, studies that use price data from Argentina have relied on alternative estimations produced either by private companies or the statistical offices of certain provinces, which replicate INDEC’s methodology on a smaller scale. For this study, I use PriceStat’s chained index (see Cavallo and Bertolotto, 2016, and Cavallo and Rigobon, 2016), an inflation series that merges official data from the period 1943 and 2007 with data obtained by scraping the prices of millions of products sold in the country since 2007.

The EPH has a rotating panel structure: households are interviewed in two consecutive quarters, then excluded for two quarters and re-interviewed in the following two periods. Using this structure, Table A2 shows the proportion of registered and unregistered domestic workers and workers in other occupations conditional on their registration status in the previous year.

Before the reform, an average of 8.9% of domestic workers who reported not being registered in a given year were registered the next year (column 1), while the average for women in other blue-collar service occupations was 25.5% (column 2). In the years after the reform, 12.5% of informal domestic workers were registered when they were re-surveyed a year later, an increase of 3.6 percentage points, or 40 percent, from the pre-reform period average. For unregistered non-domestic workers, the probability of being formal, conditional on being registered the year before, remained relatively unchanged at around 24%.

Among individuals who were registered in any given year, 64.8% of domestic workers (column

¹⁵The interruption was done to assess the quality of all the work carried out by the office after the new administration that took office in 2016 raised concerns over the way INDEC was measuring prices and the CPI. To this date, there is no evidence that the EPH suffered similar issues.

3) and 95.1% of non-domestic workers (column 4) had a formal job the next year (moves from a formal to an informal job usually involve a change in jobs). In the post-reform period, these figures were 68.2% (an increase of 3.4 percentage points) and 92.8% (a 2.3-percentage-point reduction), respectively.

These figures suggest that the reform increased the likelihood that domestic workers will become registered, as well as the likelihood that an employer will register a new hire. Unfortunately, the small number of domestic workers who appear both before and after the reform implies that the study is not powered enough to take advantage of its panel structure. Hence, throughout this paper I stack each quarterly survey within a year and use it as a repeated cross section.

3.2 Empirical strategy

Because the policy reform affected only one well-defined group of workers and all of these workers were treated at the same time, it can be analyzed using a difference-in-differences framework (Angrist and Krueger, 1999). Throughout this paper I use the following specification to estimate the impact of the reform on labor market outcomes of the employees:

$$Y_{ijmt} = \beta_0 + \beta_1 DW_{ijmt} + \beta_2 DW_{ijmt} \times Reform_t + \Gamma X_{ijmt} + \theta_t + \nu_j + \mu_m + \varepsilon_{ijmt} \quad (1)$$

where Y_{ijmt} is the outcome of interest for individual i working in sector j from metropolitan area (MA) m in year t . When looking at the direct effects of the reform, I focus on the formality rates, unemployment, income, and hours of work of domestic workers. For the spillover effects, I focus on the labor force participation, formality rates, earnings, and hours of work of male spouses and adolescent and young-adult children (12 to 25) of domestic workers. I also study the spillover effects of the reform on secondary school attendance and completion, and on the years of schooling of the same children.

DW_{ijmt} indicates that the person is a domestic worker, or the spouse or child of a domestic worker depending on whether I look at the direct or spillover effects of the policy, respectively. $Reform_t$ is a dummy variable equal to one in the post-reform periods (i.e., 2013 to 2015). X_{ijmt} is a set of workers' characteristics (which, unless otherwise specified, comprises age, age squared, country of birth, household size, marital status, literacy status, years of education, and years of

education squared). In turn, θ_t , ν_j and μ_k are fixed effects by year, occupation, and MA of residence, respectively.

The main parameter of interest, β_2 , captures the effect of the policy change on the target population. In all cases, following Bertrand et al. (2004), I cluster the standard errors at the Metropolitan Area (MA) level to control for serial correlation across time and adjust the p-values for multiple hypothesis testing using Hochberg’s step-up procedure (Benjamini and Yekutieli, 2001).

Given that I have data for multiple years both before and after the reform, it is also possible to estimate a specification that replaces the interaction term between the domestic worker and the post-reform indicators with interactions between an indicator for being a domestic worker and a dummy for each year. Such analysis is presented in Appendix B, showing very similar results to those of my preferred specification.

3.2.1 Comparison group

Choosing the appropriate comparison group is not a trivial task in this case. Although identification does not require that treatment and comparison groups be similar in their baseline characteristics, it increases the likelihood that the evolution of both groups would be similar in the absence of treatment. On the other hand, if the comparison group is very similar to the treatment group in terms of the skills used, one could be concerned that workers might switch occupations (and thus treatment status) as a response to the reform, violating one of the assumptions needed for identification of treatment effects.

Because more than 98% of domestic workers in my sample are women, I keep only female domestic workers and compare their outcomes before and after the reform with those of blue-collar female workers in other service occupations. The comparison group is thus composed of cooks, waiters, cleaners, and the like, who perform tasks that are similar to those of domestic workers, but who were not affected by the reform because their place of work is not a household. The results are similar when using female wage workers in all occupations as the comparison group (shown in the online appendix).

Table 1 presents summary statistics for female domestic workers and female blue-collar workers in service occupations. Domestic workers are 40.5 years old on average, almost two years older than individuals in the comparison group. Eight percent of them are foreign migrants, almost twice as

many as female workers in service occupations.

In terms of education, they have an average of 8.9 years of schooling, which is one year less than women in the comparison group and corresponds to primary school plus almost two years of secondary school. In fact, 90% of domestic workers have finished primary school (five percentage points fewer than female workers in service occupations), but only 31% have finished secondary school (versus 44% of women in the comparison group).

Regarding labor market outcomes, the average domestic worker is a part-time worker, with fewer than 25 hours of work per week, ten hours fewer than the average woman in blue-collar occupations in the service sector. Partially because of this difference, the monthly earnings of domestic workers are less than half of those of individuals in the comparison group (ARS 470 versus ARS 1,092). However, even after taking into account the difference in working time, hourly wages of domestic workers are 30% lower than for workers in the comparison group.

At baseline, only 15% of domestic workers are registered, while 63% of women in the comparison group are. However, the difference in health insurance coverage is not as large: 42% of domestic workers have healthcare coverage, as opposed to 72% of women in other blue-collar service occupations. The difference between contributions to health insurance and coverage can be attributed to coverage through a spouse or parent who has a formal job.

Even though female workers in blue-collar occupations in the service sector are the closest to domestic workers in terms of the tasks performed, the differences between affected and unaffected groups reduces the concern that treatment could induce workers to move from one group to the other.

3.3 Identification assumptions

The differences in observable characteristics between affected and unaffected workers, though substantial, are not an issue for obtaining unbiased estimates of the effect of the policy reform. Instead, identification relies on two crucial assumptions: no changes in group composition and that trends of the outcomes of interest be parallel in the absence of treatment. Here, I discuss each of these assumptions in more detail and show different tests to reduce the concern that these assumptions could be violated in this context.

3.3.1 Stability of group composition

The first assumption refers to the fact that the characteristics that could be correlated with the outcomes of interest should not change as a result of the treatment for individuals in either the affected or unaffected group. Because the data are used as a repeated cross section, determining whether the treatment generated changes in the composition of treatment and control groups is not straightforward.

One possibility is that the reform changed the type of individuals who decide to supply labor as domestic workers. To test this hypothesis, I regress each individual characteristic on a domestic worker indicator, a post-reform indicator, and an interaction between them, controlling for year, MA, and occupation fixed effects. The difference-in-differences estimate for each regression is shown in Table 2. After controlling for multiple hypothesis testing, I do not find evidence that any of the observable characteristics of domestic workers changed after the reform.

Another way in which the assumption of stability of group composition would be violated is if individuals changed occupations due to the reform. Figure A2 plots the share of female workers in every wave of the survey for each of the occupations that constitute the comparison group, as well as for domestic workers. If the reform changed the benefits of working in certain occupations (e.g., being a domestic worker), there should be a change in the composition of the survey in terms of occupations. However, the proportion of workers in each category remains flat over time. Figure A3, which plots the number of workers surveyed by occupation, shows a very similar pattern.

In addition to these checks, I take advantage of the rotating panel structure of the data to construct transition matrices of the probability that a person is a domestic worker given their status in the labor force and their occupation in the previous year. These transition probabilities are presented in Table A3, showing no changes in the probability that a person is employed as a domestic worker after the reform.

3.3.2 Parallel trends

The second requirement for internal validity of the empirical strategy, known as “parallel trends”, is equivalent to requiring that, in the absence of the policy, the evolution of the outcome variables for the affected and comparison groups would have been similar. It is not possible to directly test

this assumption, because in the post-reform period individuals are either affected or unaffected. However, one can find evidence to support this assumption by looking at the behavior of the variables of interest in periods before the reform takes place.

Figure 4, mentioned above, provides graphical evidence that there are no pre-trend differences between affected and unaffected groups in terms of formality rates. In addition to this, Figure 5 presents the unconditional means of the number of hours of work per week in the main occupation (panel A), the natural logarithm of hourly wages in the main occupation (panel B), the natural logarithm of income per month in the main occupation (panel C), the natural logarithm of income per month in all occupations (panel D), and the natural logarithm of total income per month (panel E), respectively. Once again, although the levels are different across the affected and comparison groups, there is no indication of pre-trend differences between them.

In addition to the graphical evidence presented, I estimate the impact of the reform on the labor market outcomes of domestic workers replacing the interaction between a domestic worker indicator and a post-reform dummy by multiple interactions between a domestic worker indicator and yearly dummies. In the presence of pre-trend differences, the interactions corresponding to pre-reform years should be statistically different from zero. Appendix B presents the results of this analysis, showing that, in most cases, the interaction coefficients before 2013 are not statistically different from zero.¹⁶ In the few cases where estimates before 2013 are statistically different from zero, the magnitudes are relatively small and only marginally significant.

Second,

4 Labor market effects of the reform for domestic workers

In this section, I present the results of the effects of the reform on the labor market outcomes of domestic workers. Table 3 starts by showing the impact of on the likelihood that their employer makes contributions to the pension (column 1) and health insurance (column 2) system, two indicators that the labor relationship is registered with the tax authorities.

After the policy was implemented there is an increase of 4.8 percentage points in the probability that a domestic worker is registered. Given a baseline value of 15.6%, this corresponds to an increase

¹⁶Unlike the difference-in-differences estimates presented in the main tables, the p-values of the estimates reported in these tables are not adjusted for multiple hypothesis testing.

of 30.8% in formality rates. The figures for health insurance contributions are somewhat lower, at 4.3 percentage points or 28.2% in relation to the baseline mean, because workers hired for fewer than 16 hours per week did not receive health insurance as part of their employer's contributions.

These effects are on the upper end of those found in previous studies, and are particularly larger than those estimated by de Melo Costa et al. (2016) for the Brazilian reform of domestic workers' labor regulations. Two likely reasons for this are that in Argentina formality rates were lower at baseline, and that the reform in Brazil did not alter the penalties or the probability of detection for employers hiring off the books.

In turn, column 3 estimates the change in the probability that a worker has health insurance coverage. The result points to a positive effect, although of much smaller magnitude than those of formality, and statistically indistinguishable from zero. This is because many domestic workers were already covered by the health insurance policy of a registered worker in their household (e.g., a spouse or parent), as evidenced by the higher share of domestic workers who had coverage at baseline compared to those who were registered.

Formality rates of domestic workers remain below those of other occupations even two years after the reform. This is because for many employers, based on their level of income and assets, the probability of detection either did not change or did not increase enough in relation to pre-reform levels to make it more convenient to register their employee. However, given that almost 80% of domestic workers are employed by only one household, the observed increase means that more than 50 thousand employers registered a worker who was previously off the books.

Because the cost of employing a domestic worker increased regardless of registration, some employers might lay off their employees, producing an increase in unemployment. This behavior could bias the estimates shown in Table 3 if it affects domestic workers in one sector more than in the other. I test whether this was the case in column 1 of Table 4, where the dependent variable is an indicator that takes the value of one if the individual is unemployed, and the sample is comprised of both employed and unemployed workers who had a previous job, so it is possible to determine their last occupation.

The result suggests that the reform did not generate significant changes in employment along the extensive margin. The DiD coefficient is positive but very small and statistically indistinguishable from zero. Nevertheless, since the standard error is large, I cannot rule out an increase in

unemployment of 1 percentage point (which corresponds to an 11.3% increase from baseline). To study how this would affect the other results, in Appendix C I run all the regressions including unemployed individuals with a previous job (I assume they are not registered and that they have zero labor income and zero hours of work). All estimates are robust to the inclusion of unemployed workers.

On the other hand, column 2 of Table 4 shows that hours of work of domestic workers decreased by 4.7%, following the reform. Hence, employers may have chosen to reduce labor demand on the intensive rather than the extensive margin as a consequence of the increase in the cost of hiring a worker. Nevertheless, I do not observe a significant increase in the likelihood that a domestic worker is willing to work more hours (column 3).

4.1 Earnings

In the previous section I showed that, even though most domestic workers are part-time workers and hours of work decreased as a consequence of the reform, the proportion of domestic workers willing to work more hours did not increase. The reason for this can be found in changes in earnings, shown in Table 5. Monthly income of domestic workers from their main job increased by 3.7% (column 1), which combined with the reduction in hours of work translates into an hourly wage increase of 8.4% (column 2).

As further evidence that the reform affected earnings of domestic workers positively, in columns 3 and 4 of Table 5 I consider the change in monthly income from all jobs (instead of only the main occupation) and total earnings (labor and non-labor), respectively. Earnings from all jobs increased by 3.9%, slightly more than earnings from the main occupation. This could indicate that domestic workers employed by more than one household (20% of all domestic workers) benefited the most from this reform. In addition, total earnings increased by 4.7%, suggesting that domestic workers also experienced an increase in non-labor earnings.

To understand why the point estimate for total earnings is 15% larger than that of labor earnings, in Table 6 I estimate the change in the probability of receiving (odd columns) and in the amount received conditional on reception (even columns) for various sources of non-labor income. Because of the large number of individuals in my sample receiving zero non-labor income, changes in the amount received conditional on reception are estimated using a tobit model. Since all values are

transformed to logs, I input a value of zero for those who do not receive income from a given non-labor source (this corresponds to receiving one ARS, which is a negligible amount).

The first column shows that the probability of receiving any type of non-labor income following the reform did not change, although the estimate is imprecise and I cannot rule out an increase of 2.75 percentage points (4.4%) in the share of domestic workers who receive any type of non-labor income. I then disaggregate non-labor earnings into the various sources available in the survey: pension, welfare benefits and alimony (columns 3 through 8). Even though the likelihood of receiving any of these benefits is not statistically different from zero, estimates for the effect of the reform on the amount of money received for each type of benefit are positive. In particular, the results suggest that the amount of pension benefits increased by 6.5% following the reform. This could be related to a higher awareness by domestic workers about their eligibility for certain pensions as part of the public campaigns regarding domestic workers' rights that took place at the time the reform was enacted.

4.2 Treatment effect heterogeneity

In this section I examine the treatment effect heterogeneity of the labor market outcomes along their distribution. One would expect the effects for domestic workers to be different depending on how the reform affected their employers (especially with respect to the increase in detection rates), so the average treatment effects presented in the previous sections may not be representative of how the policy affected certain groups of workers.

First, I estimate the effects of the reform on hours of work and the different measures of income at each decile of the distribution of the outcome variable. For this, I use Athey and Imbens' *changes-in-changes* (CIC) model (Athey and Imbens, 2006). This model is a generalization of the standard difference-in-differences model that allows one to recover the entire distribution of the counterfactual outcome instead of only its expected value. Moreover, in contrast to the quantile difference-in-differences (QDID) model, which compares individuals across groups and time according to their quantile, the CIC model compares individuals across groups according to their outcomes and across time according to their quantiles. This is a more realistic comparison given that the distribution of outcomes at baseline are different for the affected and unaffected groups.

The results of the analysis are presented in Figure 6, where I plot the point estimate and

confidence interval of the effect for each decile of the distribution of the corresponding outcome, together with the average treatment effect estimated using this framework. For more detail, point estimates and standard errors for each quantile can be found in Appendix D.

Panel A shows that the reduction of almost 5% in the working time of domestic workers observed on average is driven by those above the median of hours of work (approximately 25 hours a week), while domestic workers employed less than the median hours did not experience any change. Together with the lack of change in unemployment rates, this result suggest that employers used the intensive margin as the main channel to adjust their labor demand in response to the increase in cost.

On the other hand, the change in income per month from the main job (panel B) is larger around the middle of the earnings distribution. At the time the policy was implemented, these individuals had earnings slightly below the minimum wage, so the increase in earnings may evidence higher compliance by employers with minimum wage regulations. On the other hand, while no point estimate is smaller than zero, the confidence interval for those in the first decile are large and include negative values. This implies that a small fraction of domestic workers might have been made worse off after the reform. However, as panel C shows, the change in wages per hour from the main job is always positive and increases monotonically across deciles. Finally, changes in income per month from all jobs (panel D) and total income per month (panel E) are quite similar to the patterns observed in panel B.

In addition to the analysis by quantiles, it is interesting to observe how the average treatment effects found previously compare to those for formal and informal workers separately. This is shown in Appendix E, where I present the results from a triple difference model that includes an indicator that takes the value of one if the individual is a formal worker. The results suggest a negative association between the reform and the hours of work and earnings of formal domestic workers with respect to informal ones. However, these estimates reflect a change in the composition of formal domestic workers as a results of the reform, whereby employers registered those workers who were employed for fewer hours and earned lower salaries than those domestic workers who were already formal.

4.3 Interpretation of results

While several models have been developed to analyze the effects of enforcement of labor standards in economies with dual labor markets, the characteristics of the labor market of domestic workers and the results observed cannot be captured by these models.¹⁷ Instead, in Appendix F I lay out a simple model in which employers maximize utility by hiring household services. Employers can either report their consumption of these services to the Government and pay taxes, or not report them and face an expected fine. Due to anecdotal evidence about the way employers search for and hire domestic workers and the results observed, I assume that labor supply does not react to changes in enforcement and changes of labor standards.

Before the reform there was virtually no enforcement of labor regulations, and noncompliers did not face any fine. Hence, employers had no incentive to register a domestic worker. The reform increased both the probability of being detected and the fines faced by noncompliers. This should reduce demand for domestic workers in the informal sector and increase demand for registered domestic workers. On the other hand, the cost of hiring a worker in the formal sector increased due to the additional mandated benefits granted to them. This should reduce demand for domestic workers in the formal sector. Hence, demand for domestic workers in the informal sector should decrease, while the effect in the formal sector is ambiguous. My findings suggest that the increase in the cost of hiring a domestic worker off the books was relatively higher than that of hiring a worker in the formal sector, at least for some employers (i.e. those with higher earnings and more likely to receive a letter from AFIP).

The higher costs of hiring a domestic worker (either in the formal sector as a consequence of compliance with labor regulations or in the informal sector due to higher expected sanctions) imply that within each sector demand for the services provided by domestic workers should decrease. This is what I observe when I estimate the effect of the reform on hours worked by domestic workers. In particular, the reduction in work time is concentrated among those working above the median number of hours. However, if the price-elasticity of labor demand is small, expenditure in household services would increase even if employers hire domestic workers for fewer hours. The increase in monthly earnings from the main job gives support to this hypothesis.

¹⁷See for example Basu et al. (2010), Almeida and Carneiro (2012), and Ulyssea (2018)

5 Spillover effects of the reform

5.1 The sample

In the previous section, I showed that after the reform formality rates of domestic workers increased, and although unemployment rates did not increase, hours of work decreased for a large group of domestic workers. In addition, hourly wages increased for all domestic workers, while monthly earnings increased for almost all domestic workers.

Each of these impacts can affect other members of a domestic worker’s family along different dimensions and in different ways. In this section I analyze the effects on the labor market outcomes of the spouses and children of domestic workers, as well as the impacts on the educational outcomes of the children.

The affected group of spouses is comprised of male individuals married to or living with a domestic worker, while the comparison group is composed of male individuals married to or living with a woman employed in a blue-collar occupation in the service sector. Table 7 provides summary statistics for the sample of spouses that compose the affected and comparison group, respectively. As it is the case with domestic workers, their spouses have different demographic and socioeconomic characteristics than men in my comparison group before the policy was introduced. However, the differences are smaller in magnitude than those observed among domestic workers. Moreover, in Table A4 I show the sectors where most spouses of domestic workers are employed, together with the share employed in each sector and the corresponding figure for individuals in the comparison group. The 15 categories listed include more than 90% of workers in both the affected and comparison group, although their distribution across occupations is somewhat different, with a larger share of spouses of domestic workers employed in construction and manufacturing (rows 1, 3, 5 and 7), and a smaller share employed as cleaners, and in administrative and personal services (rows 8, 9 and 10).

In the case of children, I focus on those aged 12 to 25, thereby capturing the effects on adolescents and young adults. While primary school attendance and completion (which occurs between the ages of 12 and 13) have been almost universal for decades (Edo et al., 2017), secondary school dropout rates are high, especially among children living in poor households. According to the data from the EPH, 10% of respondents of secondary school age (12 to 18) did not attend school in 2012 (in

comparison, only 1% of children of primary school age did not attend school in that year). Moreover, only 56% of respondents aged 18 or more had finished secondary school in 2012.

Moreover, labor force participation is negligible for children of primary school age (as can be seen in Figure 8), but starts to increase after that even though the legal age to work is 16. On the other hand, as Figure 8 shows, the upper bound of 25 years corresponds to the 90th percentile of the age distribution among individuals in the survey who are categorized as children of the household head. The results, however, are robust to different upper bounds of the age range of children considered.

Table 8 presents summary statistics for the sample of children. Although there are some differences between affected and unaffected groups, they are smaller than those observed for domestic workers. In addition, Table A5 shows the main occupations held by children who are in the labor force; it also depicts small differences in the distribution of occupations.

The following subsection describes how the impacts observed among domestic workers could affect different labor market outcomes of spouses and children and presents the results of the analysis. In turn, subsection 5.3 explains how the effects of the reform on domestic workers could influence the educational outcomes of children and the results I find along this dimension.

5.2 Spillovers on the labor market: Spouses and children

There are several reasons to expect the policy to affect the labor market outcomes of other household members. First, formal jobs include amenities that are enjoyed by all household members. For example, a pay stub gives individuals access to formal markets of credit and housing. These markets are usually cheaper and of better quality (in the case of the housing market) than informal ones. Additionally, in Argentina if a person is entitled to a pension because they meet the contributions requirement by the time they retire, their spouse can receive this pension if the original beneficiary dies. Therefore, access by one family member to a formal job reduces the incentives for other members to work in the formal sector themselves (Galiani and Weinschelbaum, 2012). Although empirical evidence of this prediction is lacking, studies have found disincentives towards formal employment of the extension of health care coverage (Camacho et al., 2013; Bosch and Campos-Vazquez, 2014; Bergolo and Cruces, 2014) and relatively large cash transfer programs for the unemployed (Gasparini et al., 2009).

Second, the increase in earnings perceived by domestic workers can affect the labor supply

decisions of other household members. On one hand, models of collective labor supply (Chiappori, 1992) predict that the increase in earnings produces an income effect on other household members, thus reducing their labor supply either at the intensive or extensive margins. On the other hand, the increase in earnings by domestic workers may also increase their bargaining power inside the household (Heath, 2014). If spouses wanted to preserve their previous bargaining power, we would expect them to increase their labor supply and earnings.

Finally, the reduction in hours of work of domestic workers could also affect labor supply among other household members. If the leisure of other household members enters the utility function of each individual as a complement, we would expect that spouses and/or children of domestic workers would reduce their labor supply. Goux et al. (2014) found evidence of this in France, where the spouses of workers whose workweek was reduced also reduced their hours of work, albeit by a lower amount.

In summary, the existing theoretical and empirical literature suggests that the reform could have a negative impact on the formality rates of the spouses and children of domestic workers. In terms of labor supply, I expect a reduction among children of domestic workers, while the impact for spouses is a priori undetermined.

5.2.1 Spouses of domestic workers

Table 9 shows the labor market impacts of the reform on spouses of domestic workers. The comparison group in this case is composed of men whose spouses have blue-collar service occupations. Estimates are imprecise and most are small in magnitude, although they are all negatively signed. Of particular relevance is the reduction in hours of work (column 3) and monthly earnings. Unlike domestic workers, their spouses work on average 47 hours a week, so the improvement in their wives' working conditions may induce them to cut down on overtime.

As further evidence that the reduction in labor supply and earnings of spouses is a consequence of the increase in earnings of domestic workers, I repeat the estimation for hours of work and earnings per month, but this time I pool together the values of the couple. Table A6 presents the results, showing that in all cases the coefficients are smaller than those observed for domestic workers (particularly in the case of earnings per month) and always statistically indistinguishable from zero, which suggests that spouses of domestic workers are adjusting their working time and

earnings in accordance with the changes experienced by their wives.

5.2.2 Children of domestic workers

In turn, table 10 shows the difference-in-differences estimates of the reform on the labor market outcomes of children of domestic workers. Looking at the pooled sample of boys and girls (Panel A), column 1 shows evidence of a sizable decrease in labor force participation (2.6 percentage points, or more than 8% from pre-reform mean). This reduction implies that the assumption of the stability of group composition no longer holds when looking at other labor market outcomes, and the results should thus be taken with caution.

While there is no evidence of a change in formality rates, I observe a decrease in hours of work per week with no change in monthly earnings. This implies that wages per hour increased a significant 3.7%. These effects could be driven by the dropout from the labor force of children at the left tail of the earnings distribution, who might be marginally attached to the labor market.

When split the sample by gender, I find that the effect is larger for female (panel B) than for male (panel C) children, both in magnitude and in terms of effect size. Labor force participation for women is 12% lower with respect to its pre-reform mean, and it is statistically different from zero. In contrast, for men the reduction in labor force participation is less than half than that of women at 5.3%, and not statistically different from zero.

A similar pattern is observed in terms of formality rates: among women the probability of having a formal job (conditional on working) decreases by 2.1 pp. (7.5%), while for boys the probability increases by a modest 0.7 pp. (2.3%). Even though these estimates are noisy (especially when adjusting for multiple hypothesis testing) they can shed light on the type of worker that is leaving the labor force as a result of the policy.

The decrease in hours of work is larger for females than for males, both with respect to their pre-reform averages and in magnitude (1.5 vs 0.7 hours). However, both are indistinguishable from zero. Regarding earnings, I observe an increase of less than 1% in earnings per month and 5.6% in wages per hour among girls. In the case of boys, the increases are of 1.6% and 2.8% per month and hour, respectively.

In summary, there is some evidence that the reform had considerable impacts on the labor market outcomes of other members of the household of the workers targeted by the reform. Unfortunately,

the relatively small sample size does not allow me to obtain precise estimates. Still, the magnitude of the estimates suggests that policymakers should not neglect the potential spillover effects on the economy of the measures taken to enforce labor standards.

5.3 Spillover effects on the education of children

Because domestic workers tend to live in households with low socioeconomic status, their children are in a particularly unfavorable position in terms of their level of education. In the years prior to the reform, only 87% of those of secondary school age were attending school, and only 46% of those aged 18 or more had completed secondary school. Boys are particularly disadvantaged, with attendance rates of 85% and secondary school completion rates of only 36% (compared to 91% and 56% for girls, respectively). There are reasons to think that this and other outcomes may have improved as a consequence of the impacts the reform has had on domestic workers.

Liquidity constraints can be relaxed not only by increasing household income, but also by reducing variability in income received. A formal job is usually considered more stable than an unregistered one since, in principle, firing costs are higher for formal employment. Using a very simple model of parental investment, it is possible to derive predictions about the spillover impacts of the policy under study on the human capital investment (education) of children.

The first reason is the increase in income experienced by domestic workers. Family income has been found to positively affect child development, and schooling in particular, especially among children of low-income households (Milligan and Stabile, 2011; Løken et al., 2012; Dahl and Lochner, 2012). Moreover, in the last two decades, researchers and policy makers have pointed at financial constraints as one of the causes for low levels of school enrollment among the poor (Schultz, 2004), motivating the introduction of conditional cash transfer programs.

In addition, to the extent that formal jobs are more stable than informal ones, reducing the risk of a person losing their job can increase the investment of other household members, especially when the household faces financial constraints. In Appendix G I lay out a simple model based on (Atkin, 2009) which shows that domestic workers can increase their child investment if either their income increases or the job stability increases.

Finally, the reduction in working time implies that workers have more time they can devote to child care, which means that we could expect a further improvement in the educational outcomes

of children. Recent studies in developed countries have shown a negative impact of labor supply on child development. While the majority of studies focus on young children (Carneiro et al., 2015; Bono et al., 2016), Agostinelli and Sorrenti (2018) also find improvements in test scores among adolescents. Although these papers use data from developed countries, they find the causal impact of labor supply on child development to be stronger among poor households, which suggests that similar results should be expected in the context I study.

In Table 11 I show the results of estimating the impacts of the reform on the educational outcomes of children of domestic workers using the same DiD framework as in the previous sections. In column 1, the dependent variable is an indicator that takes the value of one if the individual is attending school, while in column 2 the dependent variable is the number of years of education of the children. In both cases, the sample is composed of children of secondary school age (12 to 18) who have not yet finished secondary school. Finally, in column 3 I estimate whether the policy affected the probability of finishing secondary school, so the sample is composed of children aged 18 and over.

Panel A presents the results for the pooled sample of boys and girls. I find that attendance rates increased by almost 1.4%, years of education raised by 0.7%, and secondary school completion rates increased by 2.5 percentage points, or 5.4%. Taken together, these results suggest that the policy had a positive impact on the educational outcomes of children of domestic workers, even though they are not statistically different from zero.

Despite the overall positive impacts, when the sample is split by gender I find stark differences in the effect of the reform. The results of this exercise is presented in panels B and C of Table 11 for girls and boys, respectively. Among girls, estimates are negative (which might be a consequence of an increase in the opportunity cost of studying), but they are small and statistically indistinguishable from zero: attendance rates decrease 0.7%, years of education decrease by 1.3%, and secondary school completion rates go down by 2.9%. Even though they are not statistically different from zero, the results imply that the improvement of working conditions in low-skilled occupations could have unintended consequences for their children by increasing the opportunity cost of schooling.

On the other hand, the effects for boys are positive and large: school attendance increases by 3.5%, years of education go up by 2.7%, and secondary school completion rates increase by 18.3%. Since at baseline boys are particularly disadvantaged in terms of schooling with respect to girls, the

changes in educational outcomes experienced by boys reduce substantially the gender educational gap.

In summary, the results of this analysis suggest that the improvement in labor regulations and working conditions of disadvantaged workers can have large, positive impacts on other household members (especially secondary income earners). These impacts should be considered when evaluating the overall effects of such policies.

6 Conclusion

In developing countries, the design and enforcement of labor regulations is subject to intense debates. For governments, tax collection diminishes and welfare spending becomes less effective if a large proportion of employees are not registered with the authorities by their employer. Additionally, policy makers see enforcement as a means of improving the level of protection and standard of living of workers. Thus, it is common for governments to implement policies to increase the enforcement of regulations. Critics argue that enforcement of high labor standards can harm workers because firms could pass the cost of these regulations onto their employees, so that measures intended to benefit workers could reduce employment and earnings.

Assessing the effect of labor regulations and their enforcement becomes more complicated when one considers that workers' families can also be affected by these policies. This is not only because formal jobs include non-wage amenities that can be enjoyed by these members, but also because, under the assumption that formal jobs are more stable, formality also reduces the volatility of household income. Despite this, the vast majority of existing studies have only focused on the direct effects on workers (Ronconi, 2010; Almeida and Carneiro, 2012; Adhvaryu et al., 2013).

This paper sheds light on the question of how labor standards affect workers and their families. To do this, I take advantage of a reform that increased both the labor standards of domestic workers and the enforcement of compliance with these standards by their employers. I find that after the reform, compliance with labor standards improved, increasing formality rates by 31% and monthly earnings by 3.7% of domestic workers while reducing their hours of work by almost 5% with respect to the pre-reform average. The results indicate that the reform increased the bargaining power of domestic workers, shifting part of the surplus of the labor relationship from employers to

employees. The results are also in line with studies that find positive effects of labor regulations (such as minimum wage laws) when employers have market power (Card and Krueger, 1994).

These findings are of particular relevance in light of the recent push toward increasing the rights of domestic workers around the world: countries such as Brazil, Chile, Ecuador, and Mexico have in recent years passed similar legislation to assimilate the labor standards of domestic workers to those of other wage employees, and in the United States, the National Domestic Workers Alliance (NDWA) has advocated to raise the labor standards for domestic workers.¹⁸

A back-of-the-envelope calculation indicates that for every Argentine peso spent to send letters to potential employers, the government increased its tax revenue by ARS 7.75.¹⁹ Although these taxes entitle workers to health insurance coverage and a pension, this does not necessarily translate into higher public expenditures.

Because domestic work is a female-dominated occupation, the improvement in the labor market outcomes of domestic workers is important in terms of women’s empowerment and intra-household decision making. A substantial number of studies have documented the positive relationship between access to wage employment and women’s well-being (Jensen, 2012; Majlesi, 2016; Cunningham and Shah, 2017). Lack of detailed data on household decision making prevents me from analyzing this, but future work should explore whether the reform induced changes in women’s bargaining power within the household.

I take advantage of the availability of data linking individuals within each household to study how the reform affected other members of domestic worker’s families. I find that other household members also benefited from the reform. Male children of domestic workers (who have traditionally lagged behind in terms of education) increased their educational quantity both along the intensive margin (years of education) and extensive margin (level of education). In addition, there is some evidence that spouses of domestic workers decreased their work time and young adult children of domestic workers reduced their labor force participation.

According to the results of this paper, a significant portion of domestic workers already had

¹⁸See the NDWA website at <https://www.domesticworkers.org> and [this](#) article from the New York Times explaining the work of NDWA for more information.

¹⁹Pomeranz (2015) calculates the cost of sending one certified letter to be \$1 in Chile, which translates to approximately ARS 5.8 in 2013. Since 200,000 letters were sent and 60,000 domestic workers were registered, this implies a “compliance rate” of 0.3. In turn, contributions for workers hired for 16 hours a week or more were set at ARS 135 in May 2013.

healthcare coverage through another family member, and for those without coverage a health insurance policy implies less use of the public healthcare system that the government provides free of charge. On the other hand, informal workers are already entitled to a reduced pension that amounts to 80% of the minimum pension from the defined-benefit system. Because pension contributions for domestic workers do not depend on their salary, the difference per worker between the higher pensions and the amount of the contribution came to ARS 225 per month in 2013.²⁰

Even though this is a considerable deficit, it does not take into account the increase in tax revenue that the government could obtain from the increases in the education of domestic workers' children. The latest estimates available for the country suggest that a year of education is associated with an increase in wages of 6% (Jaume and Willén, 2019), so an increase of one fifth of a year of schooling is expected to raise wages by 1.2%.²¹ In turn, Battistón et al. (2014) estimate the secondary school premium to be approximately 20% with respect to secondary school dropouts. The earnings increase and the corresponding growth in tax collection could at least partially offset the deficit in pensions.

In summary, the above figures suggest that by strengthening the labor standards of low-skilled workers and improving the enforcement of these standards, governments can improve the living standards of both those workers and their families at a relatively low cost.

²⁰This assumes that each worker contributes for 30 years (the minimum required to access a defined-benefit pension) and receives pensions for 15 years, from the time they turn 60 until age 75.

²¹Jaume and Willén (2019) acknowledge that this figure is lower than that found by previous studies.

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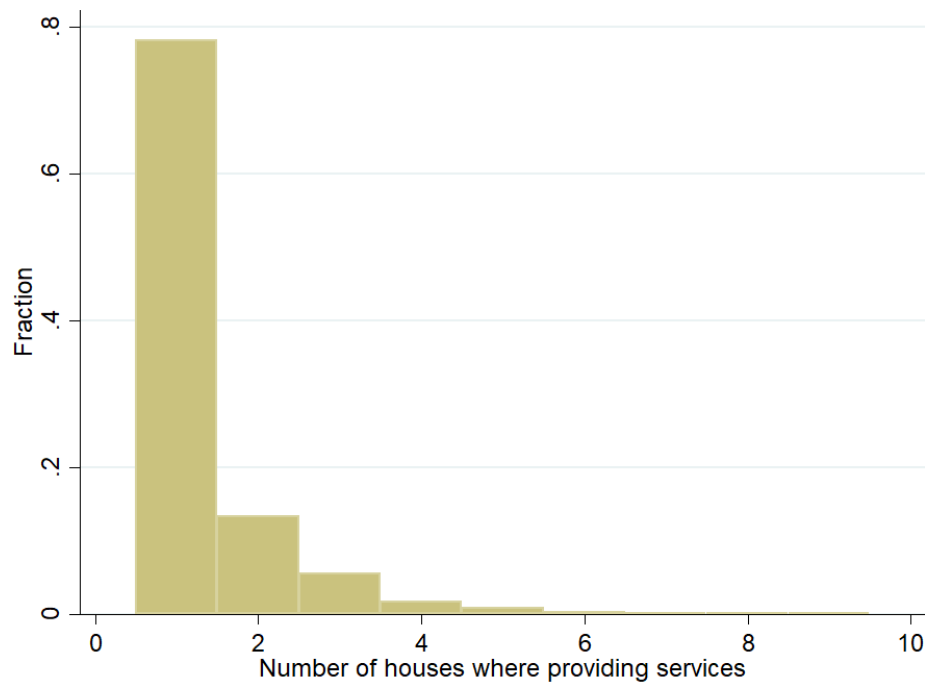
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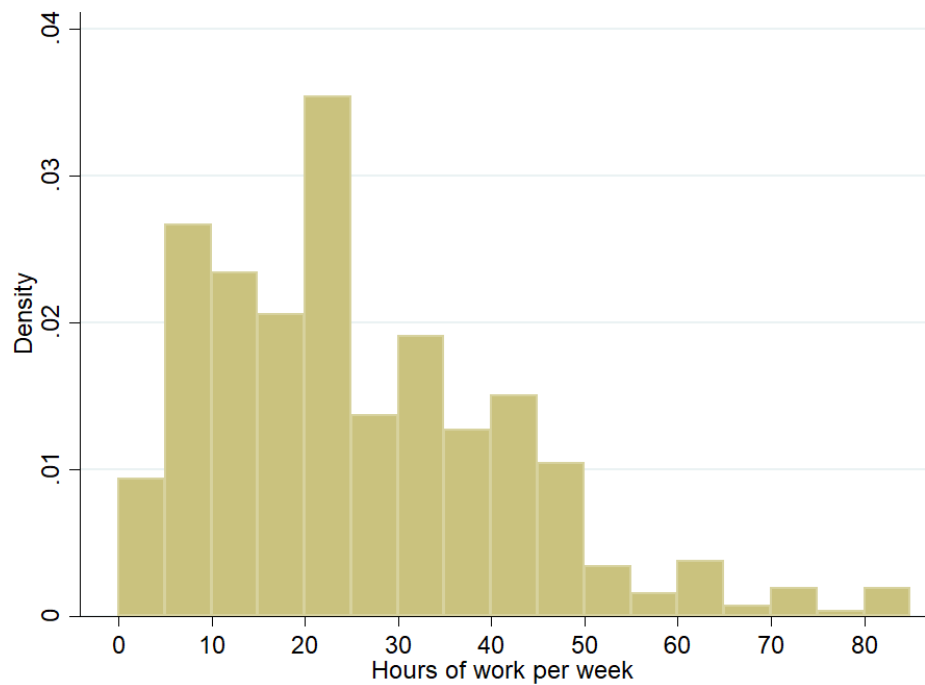
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Figure 1: Number of houses where domestic workers are employed



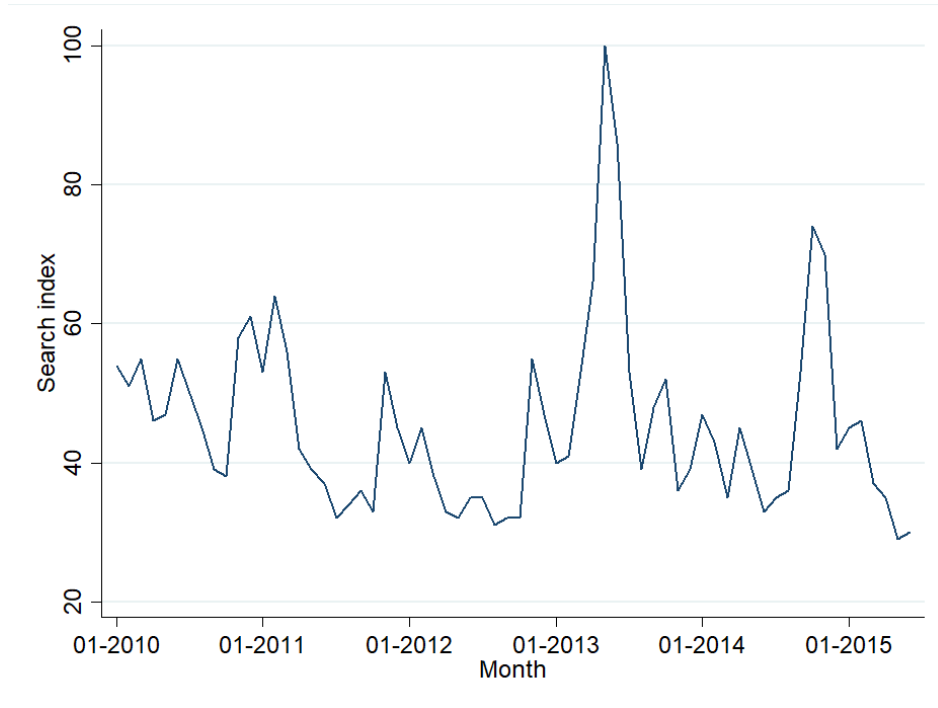
Note: The graph shows the distribution of hours of work per week as reported by domestic workers for the years 2009 to 2012. Hours of work per week are binned in intervals of five hours.

Figure 2: Number of hours of work per week of domestic workers



Note: The graph shows the histogram of the number of employers as reported by domestic workers for the years 2009 to 2012.

Figure 3: Index of searches for “domestic worker” over time



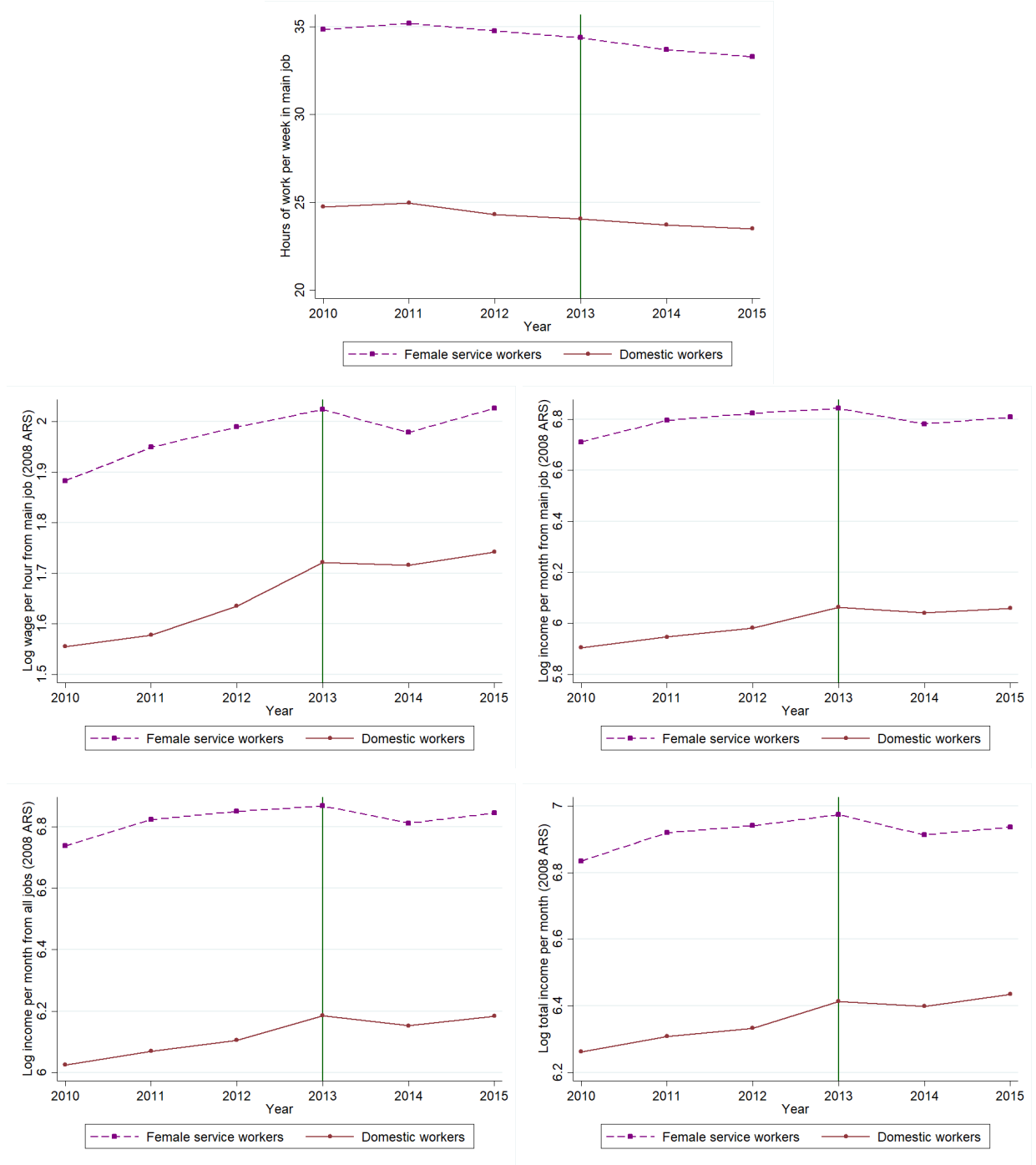
Note: The figure shows the relative number of searches for the term “domestic worker” (*empleada doméstica*) on Google between January 2010 and July 2015. The y-axis shows the frequency of searches for the term with respect to the peak of searches (registered in May 2010, the month after the reform to labor rights passed) during this time window .

Figure 4: Share of registered workers



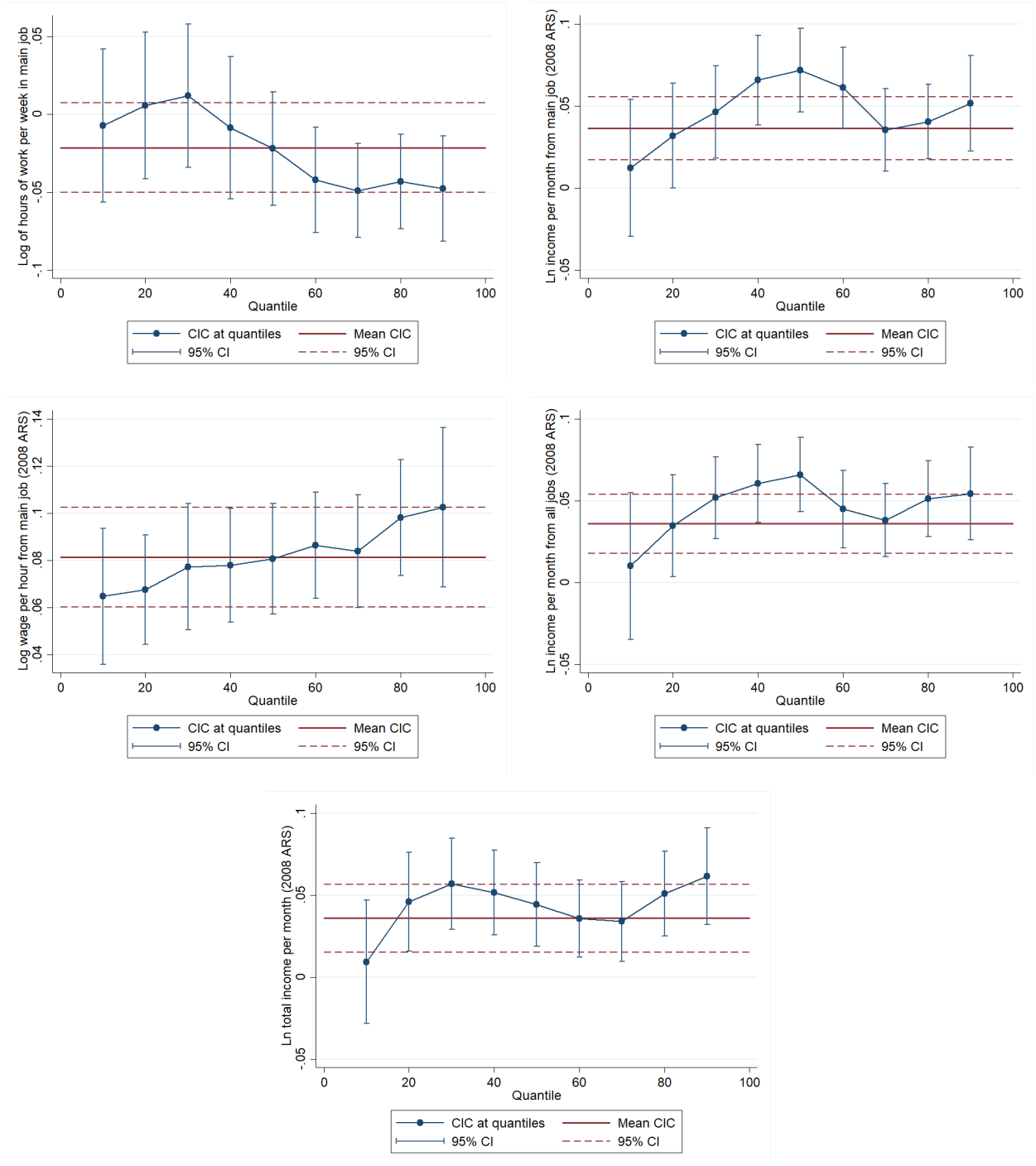
Note: The Figure shows, for each year, the share of formal workers among female domestic workers and female workers in other blue-collar service occupations. Formality status is reported by the respondent as the answer to the question of whether they have deductions for the pension system at their job.

Figure 5: Means of labor market outcomes per year and occupation



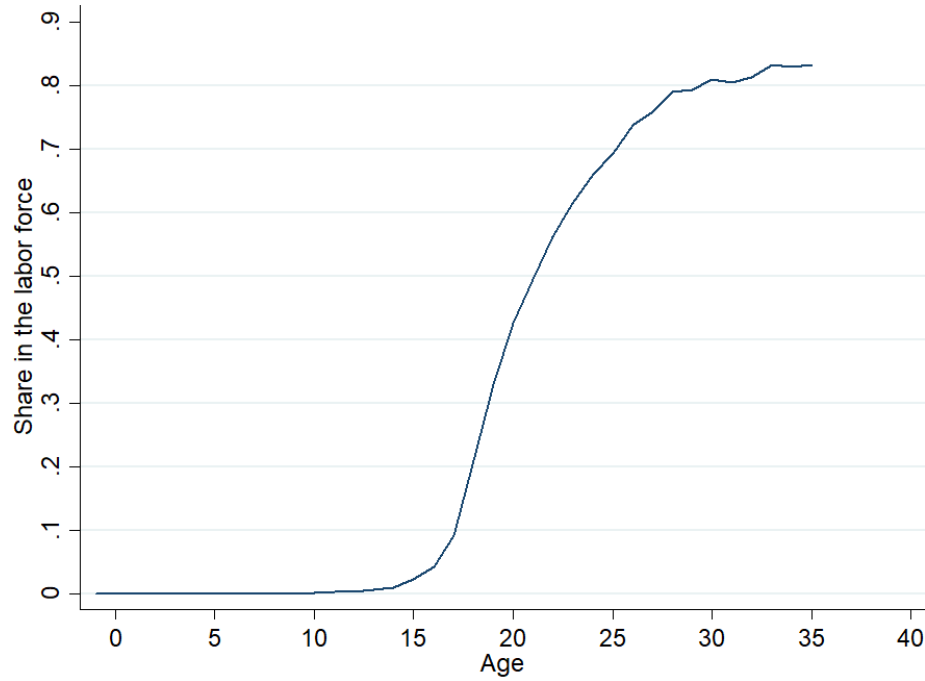
Note: The Figure shows, for each year, the average number of hours of work per week in the main occupation (panel A) mean natural logarithm of wages per hour in the main occupation (panel B), the mean natural logarithm of income per month from the main occupation (panel C), and from all occupations (panel D), and the average natural logarithm of total income per month (panel E), for domestic workers and female workers in blue-collar service occupations separately. Logarithms taken from monetary values expressed in Argentine Peso of 2008.

Figure 6: Changes-in-changes estimates of labor market outcomes of domestic workers by decile



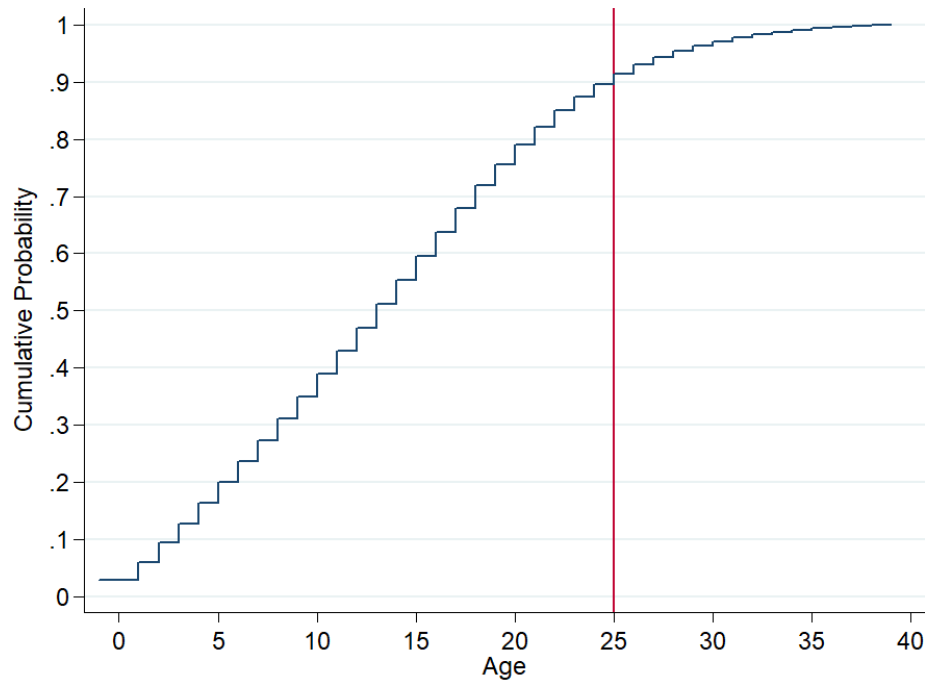
The figures show the Changes-in-changes coefficients and confidence intervals for each decile of the distribution of hours of work per week in the main job (panel A), income per month from the main job (panel B), wages per hour from the main job (panel C), income per month from all jobs (panel D), and total income per month (panel E). Monetary values are expressed in logs of 2008 Argentine Pesos.

Figure 7: Share of children in the labor force, by age



Note: The Figure shows the share of individuals who are employed or looking for a job by age. The sample is composed of individuals categorized as children of the household head.

Figure 8: Distribution of children's age



Note: The Figure shows the CDF of the age of individuals in the sample categorized as children of the household head.

Table 1: Summary statistics

	Domestic workers	Blue-collar service workers	Difference
Demographics			
Age	40.50	38.76	-1.735***
Share internal migrant	0.19	0.19	0.003
Share foreign migrant	0.08	0.05	-0.031***
Share married	0.45	0.47	0.024***
Household size	4.32	4.36	0.041
Education			
Literacy	0.99	1.00	0.004***
Ever attended school	0.99	1.00	0.003***
Complete primary school (share)	0.90	0.95	0.050***
Complete secondary school (share)	0.31	0.44	0.133***
Complete higher education (share)	0.02	0.05	0.027***
Years of education	8.91	9.98	1.076***
Work			
Hours of work per week	24.66	34.97	10.315***
Monthly income (2008 ARS)	469.56	1095.85	626.296***
Hourly wage (2008 ARS)	5.89	8.39	2.498***
Tenure (months)	49.25	38.95	-10.299***
Pension contribution	0.16	0.61	0.454***
Health insurance contribution	0.15	0.62	0.470***
Has health insurance	0.42	0.72	0.296***
Observations	19174	10582	

Note: Mean refers to the mean of the variable for the corresponding group in the pre-reform period (2010-2012). The column Difference shows the difference in the variable mean in the pre-reform period between affected and comparison groups, with stars representing the statistical significance of the difference. Domestic workers refers to female respondents who identify themselves as domestic workers. Blue-collar service workers refers to female wage workers in blue collar service occupations.

*** p<0.01, ** p<0.05, * p<0.1

Table 2: Estimates of the effect of the reform on observable characteristics

	Age (1)	Internal migrant (2)	Foreign migrant (3)	Household size (4)	Married (5)	Divorced (6)	Widow (7)	Literate (8)	Attended school (9)	Primary school (10)	Secondary school (11)	Tertiary school (12)	Years of education (13)
Domestic worker \times Reform	0.016 (0.026)	0.017 (0.023)	-0.004 (0.019)	0.022 (0.024)	0.035 (0.033)	0.002 (0.026)	-0.041* (0.021)	-0.022 (0.020)	-0.015 (0.016)	0.017 (0.021)	-0.029 (0.020)	0.022 (0.028)	-0.004 (0.020)
Observations	54963	54963	54963	54963	54963	54963	54963	54963	54963	54963	54963	54963	54963
q-value	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32	32	32	32	32	32	32

Note: The table shows the difference-in-differences estimate for the standardized value of each characteristic. Internal and foreign migrant are indicators that take the value of one if the individual is an internal or foreign migrant, respectively. Married, divorced and widow are indicators that take the value of one if the respondent is married, divorced or widow, respectively. Attended school is an indicator that takes the value of one if the respondent ever attended school. Primary school, secondary school and tertiary education are indicators that takes the value of one if the respondent finished each level of education. The comparison group is composed of female wage worker in blue-collar service occupations. Standard errors clustered at the Metropolitan Area (MA) level. Q-value correspond Hochberg's q-values that adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table 3: Effect of policy reform on formality status

	Contribution to Pension System (1)	Contribution to Health Insurance (2)	Health insurance coverage (3)
Domestic worker \times Reform	0.048*** (0.012)	0.043*** (0.013)	0.007 (0.014)
Mean dependent variable	0.16	0.15	0.42
R-squared	0.315	0.327	0.255
Observations	54,963	54,963	54,963
q-value	0.000	0.004	1.000
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: In columns 1 and 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system and health insurance, respectively. In column 3, the dependent variable is an indicator that takes the value of one if the individual has health insurance coverage. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Means of dependent variable correspond to averages for the affected group in the pre-reform period. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table 4: Effect of policy reform on unemployment and hours of work

	Unemployment (1)	Hours of work per week in main job (2)	Involuntary part-time worker (3)
Domestic worker \times Reform	0.000 (0.006)	-0.047*** (0.013)	0.002 (0.007)
Mean dependent variable	0.09	24.66	0.17
R-squared	0.093	0.201	0.087
Observations	60,394	54,963	54,963
q-value	1.000	0.004	1.000
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: Dependent variable in column 1 is an indicator that takes the value of one if the individual is unemployed, and the sample includes all employed and unemployed individuals with a previous job. Dependent variable in column 2 is the natural logarithm of number of hours of work per week in the main job, and the sample includes all employed individuals. Dependent variable in column 3 is an indicator that takes the value of one if the respondent is willing to work more hours. In all cases, the coefficients are difference-in-differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Mean dependent variable corresponds to average for the affected group in the pre-reform period. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table 5: Changes in earnings after policy reform

	Income per month from main job (1)	Wage per hour from main job (2)	Income per month from all jobs (3)	Total income per month (4)
Domestic worker \times Reform	0.037** (0.017)	0.084*** (0.015)	0.039** (0.016)	0.045** (0.019)
Mean dependent variable	469.76	5.89	535.27	674.16
R-squared	0.432	0.306	0.422	0.377
Observations	54,963	54,963	54,963	54,963
q-value	0.104	0.000	0.089	0.099
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32

Note: Dependent variable is the natural logarithm of income from the main job (column 1), the hourly wage from the main job (column 2), income from all jobs (column 3) and total income (column 4). In all cases, the coefficients are difference-in-differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Mean dependent variables correspond to average for the affected group in the pre-reform period and are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Changes in non-labor earnings after policy reform

	Any non-labor income		Pension		Welfare		Alimony	
	Reception (1)	Amount (2)	Reception (3)	Amount (4)	Reception (5)	Amount (6)	Reception (7)	Amount (8)
Domestic worker \times Reform	0.002 (0.013)	0.017 (0.076)	0.003 (0.006)	0.065 (0.075)	-0.002 (0.007)	0.012 (0.048)	0.003 (0.005)	0.027 (0.06)
Mean dependent variable	0.36	391.09	0.09	670.35	0.22	198.06	0.07	427.49
R-squared	0.117		0.244		0.134		0.088	
Observations	54,963	54,963	54,963	54,963	54,963	54,963	54,963	54,963
q-value	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32	32

Note: The dependent variable in odd columns is an indicator that takes the value of one if the individual received non-labor income from the corresponding source, and the coefficients are difference-in-differences estimates from an OLS regression. Dependent variable in even columns is the natural logarithm of the amount of non-labor income from the corresponding source, and the coefficients are marginal effects from a Tobit regression conditional on positive earnings. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Mean dependent variables correspond to average for the affected group in the pre-reform period and for earnings are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table 7: Summary statistics of male spouses

	Spouses of domestic workers	Spouses of female service workers	Difference
Demographics			
Age	45.49	43.83	-1.663***
Share internal migrant	0.22	0.25	0.035***
Share foreign migrant	0.08	0.05	-0.029***
Household size	4.32	4.28	-0.033
Has health insurance	0.52	0.70	0.182***
Education			
Literacy	0.99	1.00	0.007***
Ever attended school	0.99	1.00	0.003*
Complete primary school (share)	0.88	0.93	0.044***
Complete secondary school (share)	0.24	0.33	0.091***
Complete higher education (share)	0.02	0.04	0.021***
Years of education	8.36	9.24	0.883***
Work			
Labor force participation (share)	0.89	0.90	0.015**
Hours of work per week	46.90	46.44	-0.458
Monthly income (2008 ARS)	1540.61	1752.54	211.924***
Hourly wage (2008 ARS)	8.83	10.36	1.532***
Pension contribution	0.63	0.72	0.091***
Health insurance contribution	0.63	0.72	0.092***

Note: Mean refers to the mean of the variable for the corresponding group in the pre-reform period (2010-2012) for spouses in the sample. The column Difference shows the difference in the variable mean in the pre-reform period between affected and comparison groups, with stars representing the statistical significance of the difference. Spouses of domestic workers refers to male respondents married to or living with of domestic workers. Spouses of female service workers refers to male individuals married to or living with a wage worker in blue collar service occupations.

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Summary statistics of children

	Children of domestic workers	Children of female service workers	Difference
Demographics			
Age	17.84	17.83	-0.011
Gender	0.50	0.51	0.002
Share internal migrant	0.07	0.07	0.002
Share foreign migrant	0.01	0.01	-0.005***
Household size	5.51	5.33	-0.183***
Has health insurance	0.37	0.61	0.245***
Education			
Literacy	1.00	1.00	-0.001
Ever attended school	1.00	1.00	-0.000
Complete primary school (share)	0.89	0.91	0.013**
Complete secondary school (share)	0.46	0.50	0.044***
Years of education	9.36	9.53	0.167***
Work			
Labor force participation (share)	0.32	0.29	-0.030***
Hours of work per week	36.63	36.75	0.128
Monthly income (2008 ARS)	853.82	993.99	140.169***
Hourly wage (2008 ARS)	6.29	7.17	0.876***
Pension contribution	0.30	0.39	0.094***
Health insurance contribution	0.29	0.40	0.103***

Note: Mean refers to the mean of the variable for the corresponding group in the pre-reform period (2010-2012) for children in the sample. The column Difference shows the difference in the variable mean in the pre-reform period between affected and comparison groups, with stars representing the statistical significance of the difference. Children of domestic workers refers to children whose mother is a domestic worker. Children of female service workers refers to whose mother is a wage worker in blue collar service occupations.

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Impact of domestic worker's reform on spouses' labor market outcomes

	Participation (1)	Formality (2)	Hours of work per week on main job (3)	Income per month from main job (4)	Wage per hour from main job (5)	Income per month from all jobs (6)	Total income per month (7)
Spouse of Domestic worker \times Reform	-0.009 (0.009)	-0.004 (0.018)	-0.009 (0.009)	-0.028* (0.016)	-0.019 (0.018)	-0.032* (0.015)	-0.026* (0.015)
Mean dependent variable	0.89	0.63	46.9	1541	8.83	1571	1601
R-squared	0.243	0.265	0.178	0.570	0.473	0.583	0.596
Observations	24,054	13,486	13,486	13,486	13,486	13,486	13,486
q-value	1.000	1.000	1.000	0.512	1.000	0.512	0.512
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32

Note: In column 1, dependent variable is an indicator that takes the value of one if the individual is working or looking for a job. In column 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system. Dependent variable in columns 3 through 7 is the natural logarithm of the number of hours of work per week in the main job, income from the main job, the hourly wage from the main job, income from all jobs, and total income, respectively. The sample includes all spouses of female domestic workers and those of female workers from other blue-collar service sectors (column 1) and only those who are employed (columns 2 through 7). Mean dependent variables correspond to average for the affected group in the pre-reform period, and in the case of earnings they are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Impact of domestic worker's reform on children's labor market outcomes

	Participation (1)	Formality (2)	Hours of work per week on main job (3)	Income per month from main job (4)	Wage per hour from main job (5)	Income per month from all jobs (6)	Total income per month (7)
<i>Panel A: All Children</i>							
Child of Domestic Worker \times Reform	-0.026*** (0.008)	-0.001 (0.015)	-0.033 (0.027)	0.003 (0.030)	0.037 (0.022)	0.004 (0.029)	0.003 (0.028)
Mean dependent variable	0.32	0.30	36.63	853.80	6.29	866.90	882.20
R-squared	0.397	0.329	0.316	0.519	0.354	0.517	0.503
Observations	45,134	8,917	8,917	8,917	8,917	8,917	8,917
q-value	0.125	1.000	1.000	1.000	1.000	1.000	1.000
<i>Panel B: Female Children</i>							
Child of Domestic Worker \times Reform	-0.029** (0.011)	-0.021 (0.039)	-0.051 (0.051)	0.004 (0.051)	0.055 (0.043)	0.003 (0.049)	-0.004 (0.050)
Mean dependent variable	0.24	0.28	29.04	670.20	6.30	688.10	721.00
R-squared	0.303	0.357	0.308	0.514	0.338	0.510	0.494
Observations	22,345	3,302	3,302	3,302	3,302	3,302	3,302
q-value	0.361	1.000	1.000	1.000	1.000	1.000	1.000
<i>Panel C: Male Children</i>							
Child of Domestic Worker \times Reform	-0.021 (0.013)	0.007 (0.021)	-0.017 (0.034)	0.009 (0.046)	0.026 (0.030)	0.008 (0.046)	0.009 (0.045)
Mean dependent variable	0.40	0.31	41.3	969.1	6.31	979.21	983.7
R-squared	0.477	0.339	0.199	0.487	0.392	0.492	0.493
Observations	22,783	5,583	5,583	5,583	5,583	5,583	5,583
q-value	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32

Note: In column 1, dependent variable is an indicator that takes the value of one if the individual is working or looking for a job. In column 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system. Dependent variables in columns 3 through 7 is the natural logarithm of hours of work in the main job, income from the main job, the hourly wage from the main job, income from all jobs, and total income, respectively. Coefficients are difference-in-differences estimates from an OLS regression. The sample includes all children of household heads aged 12 to 25 (column 1) and those who are employed (columns 2 through 7). Treated group corresponds to children whose mother is a domestic worker. Comparison group correspond to children whose mother is a worker in other blue-collar service occupations. Mean dependent variables correspond to average for the affected group in the pre-reform period, and in the case of earnings they are expressed in Argentina Pesos of 2008. Controls include age, age squared, gender, household size, marital status, years of education of the household head, years of education of the household head squared, and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table 11: Impact of domestic worker's reform on children's education

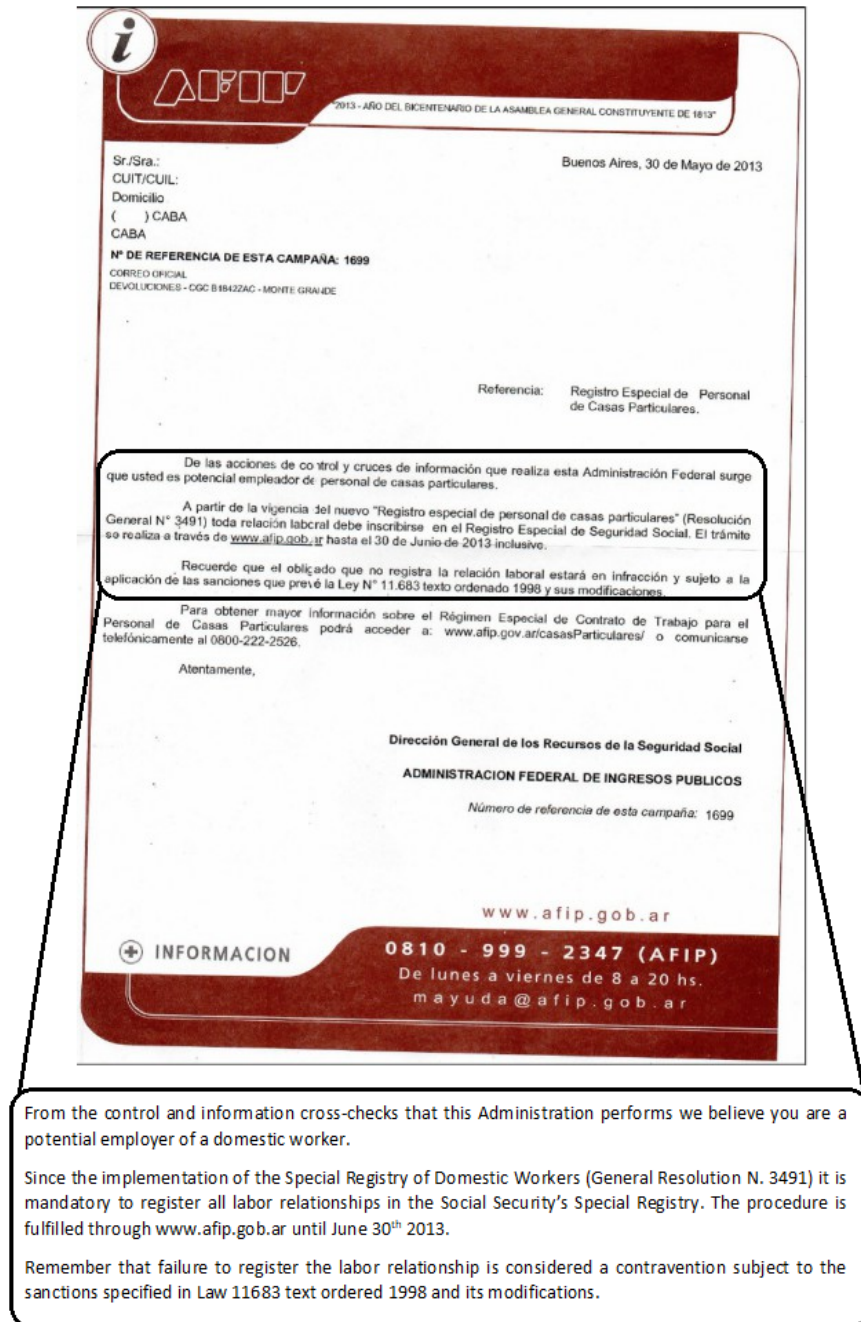
	Attendance (1)	Years of education (2)	Complete secondary school (3)
<i>Panel A: All Children</i>			
Child of Domestic Worker \times Reform	0.012 (0.010)	0.054 (0.060)	0.025 (0.015)
Mean dependent variable	0.88	8.17	0.46
R-squared	0.144	0.418	0.169
Observations	24,199	24,199	23,551
q-value	1.000	1.000	1.000
<i>Panel B: Female Children</i>			
Child of Domestic Worker \times Reform	-0.006 (0.015)	-0.105 (0.082)	-0.016 (0.021)
Mean dependent variable	0.91	8.35	0.56
R-squared	0.118	0.467	0.161
Observations	12,010	12,010	11,421
q-value	1.000	1.000	1.000
<i>Panel C: Male Children</i>			
Child of Domestic Worker \times Reform	0.030* (0.017)	0.212** (0.078)	0.066*** (0.018)
Mean dependent variable	0.85	8.00	0.36
R-squared	0.172	0.377	0.136
Observations	12,186	12,186	12,127
q-value	0.619	0.079	0.007
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	No	No	No
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: Dependent variable is an indicator that takes the value of one if the individual is currently attending school (column 1), an indicator that takes the value of one if the individual has completed secondary education (column 2), and the number of years of education (column 3). Coefficients are difference-in-differences estimates from an OLS regression. For column 1 and 2, the sample includes all children of secondary school age (12 to 18) who have not finished secondary school, and those aged 18 and above, respectively. For column 3 the sample includes all children aged 12 to 25. Treated group corresponds to children whose mother is a domestic worker. Comparison group corresponds to children whose mother works in a blue-collar service occupation. Mean dependent variables correspond to average for the affected group in the pre-reform period. Controls include age, age squared, gender, household size, decile of per-capita family income, years of education of the household head, and years of education of the household head squared. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Appendix A Additional figures and tables

Figure A1: Letter sent by the tax authority compelling potential employers to register a domestic worker



Note: The image shows the letter that the tax authority (AFIP) sent to potential employers of domestic workers compelling them to register such employee. The letter specifies which laws and procedures contain the sanctions employers would face if they do not comply with the regulations.

Figure A2: Share of workers by occupation



Note: The Figure shows the share of domestic workers and of workers in each occupation of the service sector for every wave in which the survey was conducted. Occupation is self-reported by survey respondents.

Figure A3: Number of workers by occupation



Note: The Figure shows the number of domestic workers and of workers in each occupation of the service sector for every wave in which the survey was conducted. Occupation is self-reported by survey respondents.

Table A1: Labor regulations by occupation and time

	Domestic workers before reform	Domestic workers after reform	Other workers
Minimum wage	Set by Government (Federal minimum or below)	Set by Government (Federal minimum or below)	Federal minimum or collective bargaining
Health and pension contributions	Fixed sum	Fixed sum	26.5% of gross salary
Maximum hours of work	12/day	8/day and 48/week	8/day and 48/week
Paid holidays per year	Minimum of 2 weeks only for live-in workers	Minimum of 2 weeks	Minimum of 2 weeks
Paid sick leave	Only for live-in workers	All workers	All workers
Paid maternity leave	No	Yes (paid by Government)	Yes (Paid by employer)
Accident insurance policy	Not required	Mandatory for each worker	Mandatory for each worker
Fines to employers for hiring off the books	Not specified	ARS 7500	25% of salary per month of employment plus ARS 7500
Severance payment in case of dismissal	1/2 monthly salary per year of work	1 monthly salary per year of work	1 monthly salary per year of work
Severance payment to un-registered workers	1/2 monthly salary per year of work	2 monthly salaries per year of work	2 monthly salaries per year of work

Note: The Table shows the main labor regulations to all workers except domestic workers (column 1), domestic workers before the reform took place (column 2) and the changes introduced by the reform (column 3). The reform to domestic worker's regulations took place in April 2013.

Table A2: Share of registered workers in each year by registration status the previous year and type of worker.

Period	Year	Not registered the previous year		Registered the previous year	
		Domestic workers (1)	Other workers (2)	Domestic workers (3)	Other workers (4)
Pre-reform	2011	0.081	0.254	0.672	0.941
	2012	0.097	0.256	0.623	0.962
	Average	0.089	0.255	0.648	0.951
Post-reform	2013	0.114	0.265	0.649	0.940
	2014	0.124	0.204	0.716	0.930
	2015	0.136	0.250	0.680	0.913
	Average	0.125	0.240	0.682	0.928

Note: The table shows, for each year, the proportion of workers who are registered, depending on their registration status as reported in the previous year and their type of work. Other workers refers to female wage workers with blue-collar occupations in the service sector.

Table A3: Share of individuals employed as domestic workers each year by occupation and labor force status in the previous year.

Year	Domestic worker	Female service worker	Inactive
2011	0.901	0.136	0.386
2012	0.904	0.147	0.405
2013	0.906	0.111	0.372
2014	0.920	0.134	0.375
2015	0.903	0.152	0.414

Note: The table shows, for each year, the proportion of individuals who are employed as domestic workers, depending on their occupation and labor force participation status in the previous year. Female service worker refers to women employed in blue-collar occupations in the service sector.

Table A4: Main occupations of spouses of domestic workers and share of sample in each occupation, by group

Sector of occupation	Spouses of domestic workers	Spouses of other female workers
Building and Related Trades Workers (excluding Electricians)	18.10	12.62
Drivers and mobile plant operators	14.64	13.81
Metal, Machinery and Related Trades Workers	10.34	8.61
Labourers in Mining, Construction, Manufacturing and Transport	8.01	5.16
Sales Workers	7.51	9.39
Assemblers	7.48	5.94
Protective Services Workers	6.79	8.25
Cleaners and Helpers	5.61	7.16
General and Keyboard Clerks	3.78	5.47
Personal Services Workers	3.41	5.34
Agricultural, Forestry and Fishery Labourers	2.06	1.44
Science and Engineering Associate Professionals	1.83	2.16
Numerical and Material Recording Clerks	1.50	1.91
Business and Administration Associate Professionals	1.14	1.98
Food Preparation Assistants	1.13	1.94
Total	93.33	91.18

Note: The table shows the fifteen main sectors of employment (according to the ISCO 08 classification) of spouses of domestic workers who are wage employees, and the share of individuals employed in each sector. Column 2 show the share of spouses of female workers employed in blue collar occupations in the service sector who are employed in each occupation.

Table A5: Main occupations of children of domestic workers and share of sample in each occupation, by group

Sector of occupation	Children of domestic workers	Children of other workers
Cleaners and Helpers	18.06	15.44
Labourers in Mining, Construction, Manufacturing and Transport	17.61	13.6
Sales Workers	15.95	17.27
Building and Related Trades Workers	7.22	5.31
Metal, Machinery and Related Trades Workers	7.12	7.38
Assemblers	4.09	3.11
Food Preparation Assistants	3.65	5.68
Personal Care Workers	3.49	3.27
General and Keyboard Clerks	3.26	5.31
Personal Services Workers	3.07	4.54
Drivers and Mobile Plant Operators	2.87	2.94
Protective Services Workers	2.36	2.81
Numerical and Material Recording Clerks	1.72	2.04
Customer Services Clerks	1.72	2.21
Business and Administration Associate Professionals	1.2	1.04
Total	93.39	91.95

Note: The table shows the fifteen main sectors of employment (according to the ISCO 08 classification) of children of domestic workers who are wage employees, and the share of individuals employed in each sector. Column 2 show the share employed in each occupation of children of women employed in blue collar occupations in the service sector.

Table A6: Impact of domestic worker's reform on income and hours of work of couples

	Hours of work per week on main job (1)	Income per month from main job (2)	Income per month from all jobs (3)	Total income per month (4)
Spouse of Domestic worker \times Reform	-0.014 (0.010)	-0.003 (0.011)	-0.004 (0.010)	-0.001 (0.009)
Mean dependent variable	68.74	2008	2108	2210
R-squared	0.204	0.721	0.741	0.758
Observations	13,486	13,486	13,486	13,486
q-value	1.000	1.000	1.000	1.000
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32

Note: Dependent variable in column 1 is the natural logarithm of combined number of hours of work per week in the main job of the household head and their spouse. Dependent variable in columns 2, 3 and 4 is the natural logarithm of the combined income from the main job, income from all jobs, and total income, respectively, of the household head and their spouse. Coefficients are difference-in-differences estimates from an OLS regression. The sample includes all employed spouses of female domestic workers and female workers from other blue-collar service sectors. Mean dependent variables correspond to average for the affected group in the pre-reform period, and in the case of earnings they are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Appendix B Difference-in-differences estimates using yearly interactions

The following tables present the results of estimating the following equation using the same outcomes shown in the main part of the paper:

$$Y_{ijkt} = \beta_0 + \beta_1 DW_{ijkt} + \sum_{t=2009}^{2015} \beta_t DW_{ijkt} \times I[Year = t] + \Gamma X_{ijkt} + \theta_t + \nu_j + \mu_k + \varepsilon_{ijkt} \quad (2)$$

The omitted category is always the year 2012, the year prior to the introduction of the reforms. It should be noted that p-values reported in these tables have not been corrected for multiple hypothesis testing.

Table B1: Effect of policy reform on formality status

	Contribution to Pension System (1)	Contribution to Health Insurance (2)	Health insurance coverage (3)
2010 \times Domestic worker	0.010 (0.016)	0.004 (0.016)	0.012 (0.013)
2011 \times Domestic worker	-0.002 (0.012)	-0.000 (0.011)	0.002 (0.011)
2013 \times Domestic worker	0.031* (0.017)	0.028* (0.016)	-0.010 (0.017)
2014 \times Domestic worker	0.061*** (0.017)	0.054*** (0.016)	0.024 (0.016)
2015 \times Domestic worker	0.069*** (0.023)	0.059** (0.022)	0.028 (0.018)
Domestic worker	-0.298*** (0.032)	-0.308*** (0.032)	-0.155*** (0.023)
Constant	-0.041 (0.059)	-0.014 (0.065)	0.039 (0.059)
R-squared	0.315	0.327	0.255
Observations	54,963	54,963	54,963
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: In columns 1 and 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system (column 1) and health insurance (column 2). In column 3, the dependent variable is an indicator that takes the value of one if the individual has health insurance coverage. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the occupation level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B2: Effect of policy reform on employment outcomes

	Unemployment (1)	Hours of work per week in main job (2)	Involuntary part-time worker (3)
2010 × Domestic worker	-0.001 (0.009)	0.015 (0.019)	0.000 (0.009)
2011 × Domestic worker	0.002 (0.008)	0.004 (0.017)	0.001 (0.011)
2013 × Domestic worker	-0.000 (0.009)	-0.029 (0.020)	-0.002 (0.009)
2014 × Domestic worker	0.001 (0.009)	-0.054*** (0.017)	0.004 (0.012)
2015 × Domestic worker	-0.001 (0.012)	-0.034 (0.028)	0.009 (0.015)
Domestic worker	-0.006 (0.016)	-0.287*** (0.045)	0.081*** (0.018)
Constant	0.372*** (0.033)	2.807*** (0.073)	0.273*** (0.021)
R-squared	0.093	0.201	0.087
Observations	60,394	54,963	54,963
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: Dependent variable in column 1 is an indicator that takes the value of one if the individual is unemployed, and the sample includes all employed and unemployed individuals with a previous job. Dependent variable in column 2 is the natural logarithm of number of hours of work per week in the main job, and the sample includes all employed individuals. Dependent variable in column 3 is an indicator that takes the value of one if the respondent is willing to work more hours. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B3: Changes in earnings after policy reform

	Income per month from main job (1)	Wage per hour from main job (2)	Income per month from all jobs (3)	Total income per month (4)
2010 × Domestic worker	0.038* (0.020)	0.023 (0.020)	0.031 (0.019)	0.040** (0.019)
2011 × Domestic worker	-0.018 (0.019)	-0.021 (0.017)	-0.019 (0.022)	-0.015 (0.021)
2013 × Domestic worker	0.029 (0.017)	0.058*** (0.019)	0.032* (0.016)	0.025 (0.016)
2014 × Domestic worker	0.051*** (0.018)	0.106*** (0.020)	0.045** (0.020)	0.064** (0.026)
2015 × Domestic worker	0.061* (0.031)	0.095*** (0.026)	0.061* (0.032)	0.087** (0.034)
Domestic worker	-0.501*** (0.032)	-0.214*** (0.029)	-0.449*** (0.026)	-0.361*** (0.026)
Constant	5.340*** (0.067)	1.147*** (0.058)	5.222*** (0.065)	5.533*** (0.076)
R-squared	0.432	0.306	0.422	0.377
Observations	54,963	54,963	54,963	54,963
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32

Note: Dependent variable is the natural logarithm of income from the main job (column 1), the hourly wage from the main job (column 2), income from all jobs (column 3) and total income (column 4). In all cases, the coefficients are difference-in-differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B4: Changes in non-labor earnings after policy reform

	Any non-labor income		Pension		Welfare		Alimony	
	Reception (1)	Amount (2)	Reception (3)	Amount (4)	Reception (5)	Amount (6)	Reception (7)	Amount (8)
2010 × Domestic worker	0.004 (0.014)	-0.01 (0.087)	0.001 (0.007)	-0.033 (0.098)	0.012 (0.011)	0.03 (0.081)	-0.011 (0.007)	-0.137 (0.097)
2011 × Domestic worker	0.001 (0.010)	-0.036 (0.061)	-0.006 (0.007)	-0.105 (0.098)	0.010 (0.010)	0.005 (0.061)	-0.008 (0.007)	-0.063 (0.096)
2013 × Domestic worker	-0.006 (0.014)	-0.049 (0.084)	-0.000 (0.007)	-0.003 (0.098)	0.009 (0.010)	0.079 (0.074)	-0.013** (0.006)	-0.152 (0.072)
2014 × Domestic worker	0.001 (0.018)	-0.025 (0.105)	0.002 (0.009)	0.041 (0.113)	-0.001 (0.012)	-0.047 (0.084)	-0.002 (0.007)	-0.033 (0.09)
2015 × Domestic worker	0.030* (0.016)	0.156 (0.098)	0.001 (0.007)	0.017 (0.113)	0.014 (0.014)	0.069 (0.084)	0.015 (0.011)	0.179 (0.13)
Domestic worker	0.092*** (0.022)	0.529*** (0.119)	0.037*** (0.010)	0.353*** (0.107)	0.052*** (0.013)	0.396*** (0.089)	0.007 (0.009)	0.047 (0.11)
Constant	0.358*** (0.055)		0.069 (0.048)		0.234*** (0.043)		0.082*** (0.019)	
R-squared	0.117		0.244		0.134		0.089	
Observations	54,963	54963	54,963	54963	54,963	54963	54,963	54963
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32	32

Note: The dependent variable in odd columns is an indicator that takes the value of one if the individual received non-labor income from the corresponding source, and the coefficients are difference-in-differences estimates from an OLS regression. Dependent variable in even columns is the natural logarithm of the amount of non-labor income from the corresponding source, and the coefficients are marginal effects from a Tobit regression conditional on positive earnings. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B5: Impact of domestic worker's reform on spouses' labor market outcomes

	Participation	Formality	Hours of work per week on main job	Income per month from main job	Wage per hour from main job	Income per month from all jobs	Total income per month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2010 × Spouse of Domestic worker	0.021* (0.012)	0.008 (0.026)	0.021 (0.023)	-0.043 (0.029)	-0.064* (0.035)	-0.045 (0.030)	-0.040 (0.026)
2011 × Spouse of Domestic worker	0.017 (0.012)	0.002 (0.020)	0.024 (0.020)	-0.029 (0.028)	-0.053* (0.031)	-0.024 (0.028)	-0.024 (0.024)
2013 × Spouse of Domestic worker	0.006 (0.012)	-0.013 (0.024)	0.039** (0.016)	-0.015 (0.025)	-0.055** (0.025)	-0.025 (0.027)	-0.025 (0.025)
2014 × Spouse of Domestic worker	-0.000 (0.012)	-0.016 (0.027)	-0.009 (0.017)	-0.079*** (0.029)	-0.070** (0.027)	-0.075** (0.029)	-0.061** (0.025)
2015 × Spouse of Domestic worker	0.008 (0.014)	0.056** (0.024)	-0.029 (0.023)	-0.071*** (0.025)	-0.042 (0.027)	-0.073*** (0.026)	-0.065** (0.025)
Spouse of domestic worker	0.005 (0.014)	0.022 (0.037)	-0.028 (0.030)	0.039 (0.038)	0.067** (0.026)	0.044 (0.036)	0.052 (0.033)
Constant	0.637*** (0.040)	-0.145* (0.073)	3.660*** (0.090)	5.651*** (0.093)	0.605*** (0.077)	5.626*** (0.099)	5.626*** (0.090)
R-squared	0.243	0.265	0.178	0.570	0.474	0.583	0.596
Observations	24,054	13,486	13,486	13,486	13,486	13,486	13,486
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32

Note: In column 1, dependent variable is an indicator that takes the value of one if the individual is working or looking for a job. In column 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system. Dependent variable in columns 3 through 7 is the natural logarithm of the number of hours of work per week in the main job, income from the main job, the hourly wage from the main job, income from all jobs, and total income, respectively. The sample includes all spouses of female domestic workers and female workers from other blue-collar service sectors (column 1) and only those who are employed (columns 2 through 7). Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B6: Impact of domestic worker's reform on income and hours of work of couples

	Hours of work per week on main job (1)	Income per month from main job (2)	Income per month from all jobs (3)	Total income per month (4)
2010 × Spouse of Domestic worker	0.015 (0.021)	-0.031 (0.019)	-0.032 (0.020)	-0.027* (0.016)
2011 × Spouse of Domestic worker	0.009 (0.016)	-0.028 (0.021)	-0.026 (0.021)	-0.024 (0.016)
2013 × Spouse of Domestic worker	0.028 (0.019)	-0.010 (0.018)	-0.013 (0.019)	-0.010 (0.016)
2014 × Spouse of Domestic worker	-0.017 (0.016)	-0.042* (0.022)	-0.038* (0.022)	-0.031* (0.016)
2015 × Spouse of Domestic worker	-0.018 (0.023)	-0.035 (0.023)	-0.044* (0.023)	-0.032 (0.022)
Spouse of domestic worker	-0.110*** (0.018)	-0.106*** (0.015)	-0.076*** (0.015)	-0.064*** (0.012)
Constant	4.054*** (0.082)	6.130*** (0.083)	6.088*** (0.090)	6.278*** (0.068)
R-squared	0.190	0.720	0.739	0.756
Observations	13,486	13,486	13,486	13,486
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32

Note: Dependent variable in column 1 is the natural logarithm of combined number of hours of work per week in the main job of the household head and their spouse. Dependent variable in columns 2, 3 and 4 is the natural logarithm of the combined income from the main job, income from all jobs, and total income, respectively, of the household head and their spouse. Coefficients are difference-in-differences estimates from an OLS regression. The sample includes all employed spouses of female domestic workers and female workers from other blue-collar service sectors. Mean dependent variables correspond to average for the affected group in the pre-reform period, and in the case of earnings they are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B7: Impact of domestic worker's reform on children's labor market outcomes

	Participation	Formality	Hours of work per week on main job	Income per month from main job	Wage per hour from main job	Income per month from all jobs	Total income per month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2010 × Child of domestic worker	0.016 (0.012)	0.036 (0.029)	0.036 (0.041)	0.044 (0.033)	0.009 (0.035)	0.039 (0.032)	0.041 (0.031)
2011 × Child of domestic worker	0.029** (0.013)	0.024 (0.029)	0.026 (0.042)	0.037 (0.037)	0.011 (0.035)	0.031 (0.035)	0.022 (0.034)
2013 × Child of domestic worker	-0.021* (0.012)	-0.009 (0.023)	0.009 (0.056)	0.039 (0.045)	0.030 (0.044)	0.041 (0.044)	0.031 (0.043)
2014 × Child of domestic worker	-0.012 (0.015)	0.045 (0.027)	-0.018 (0.039)	0.034 (0.037)	0.052 (0.034)	0.026 (0.036)	0.027 (0.035)
2015 × Child of domestic worker	0.008 (0.016)	0.020 (0.042)	-0.053 (0.046)	-0.002 (0.051)	0.051 (0.049)	-0.007 (0.051)	-0.002 (0.049)
Child of domestic worker	0.049*** (0.012)	-0.028 (0.039)	-0.017 (0.033)	-0.031 (0.044)	-0.015 (0.044)	-0.013 (0.044)	-0.021 (0.048)
Constant	-1.010*** (0.045)	-0.483*** (0.060)	2.260*** (0.072)	4.295*** (0.099)	0.649*** (0.080)	4.245*** (0.097)	4.251*** (0.090)
R-squared	0.397	0.329	0.316	0.519	0.354	0.517	0.503
Observations	45,134	8,917	8,917	8,917	8,917	8,917	8,917
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
MA Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32

Note: In column 1, dependent variable is an indicator that takes the value of one if the individual is working or looking for a job. In column 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system. Dependent variables in columns 3 through 7 is the natural logarithm of hours of work in the main job, income from the main job, the hourly wage from the main job, income from all jobs, and total income, respectively. The sample includes all children of household heads aged 12 to 25 (column 1) and those who are employed (columns 2 through 7). Treated group corresponds to children whose mother is a domestic worker. Comparison group correspond to children whose mother is a worker in other blue-collar service occupations. Controls include age, age squared, gender, household size, marital status, years of education of the household head, years of education of the household head squared, and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B8: Impact of domestic worker's reform on female children's labor market outcomes

	Participation	Formality	Hours of work per week on main job	Income per month from main job	Wage per hour from main job	Income per month from all jobs	Total income per month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2010 × Child of domestic worker	-0.004 (0.018)	-0.001 (0.043)	0.067 (0.065)	0.028 (0.073)	-0.039 (0.074)	0.003 (0.070)	0.019 (0.074)
2011 × Child of domestic worker	0.040** (0.017)	0.007 (0.046)	0.091 (0.075)	0.031 (0.070)	-0.060 (0.085)	0.022 (0.071)	0.010 (0.070)
2013 × Child of domestic worker	-0.035** (0.016)	-0.058 (0.046)	0.045 (0.099)	0.070 (0.074)	0.025 (0.088)	0.066 (0.072)	0.038 (0.072)
2014 × Child of domestic worker	-0.018 (0.019)	0.020 (0.061)	-0.006 (0.078)	0.026 (0.076)	0.032 (0.066)	0.001 (0.069)	0.013 (0.075)
2015 × Child of domestic worker	0.017 (0.026)	-0.012 (0.057)	-0.107* (0.057)	-0.106 (0.089)	0.001 (0.091)	-0.104 (0.087)	-0.095 (0.088)
Child of domestic worker	0.055*** (0.016)	0.011 (0.091)	-0.034 (0.071)	-0.079 (0.100)	-0.044 (0.080)	-0.046 (0.094)	-0.056 (0.092)
Constant	-0.745*** (0.059)	-0.382*** (0.089)	1.842*** (0.178)	4.181*** (0.195)	0.952*** (0.135)	4.095*** (0.185)	3.996*** (0.163)
R-squared	0.303	0.358	0.309	0.515	0.339	0.510	0.495
Observations	22,345	3,302	3,302	3,302	3,302	3,302	3,302
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32

Note: In column 1, dependent variable is an indicator that takes the value of one if the individual is working or looking for a job. In column 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system. Dependent variables in columns 3 through 7 is the natural logarithm of hours of work in the main job, income from the main job, the hourly wage from the main job, income from all jobs, and total income, respectively. The sample includes all female children of household heads aged 16 to 25 (column 1) and those who are employed (columns 2 through 7). Treated group corresponds to children whose mother is a domestic worker. Comparison group correspond to children whose mother is a worker in other blue-collar service occupations. Controls include age, age squared, gender, household size, marital status, years of education of the household head, years of education of the household head squared, and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B9: Impact of domestic worker's reform on male children's labor market outcomes

	Participation	Formality	Hours of work per week on main job	Income per month from main job	Wage per hour from main job	Income per month from all jobs	Total income per month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2010 × Child of domestic worker	0.036* (0.021)	0.049 (0.048)	0.003 (0.041)	0.041 (0.033)	0.037 (0.038)	0.045 (0.034)	0.039 (0.034)
2011 × Child of domestic worker	0.022 (0.022)	0.042 (0.041)	-0.014 (0.043)	0.041 (0.050)	0.055 (0.038)	0.034 (0.051)	0.028 (0.049)
2013 × Child of domestic worker	-0.006 (0.019)	0.020 (0.035)	-0.013 (0.056)	0.014 (0.059)	0.027 (0.048)	0.017 (0.058)	0.015 (0.056)
2014 × Child of domestic worker	-0.003 (0.024)	0.053 (0.034)	-0.032 (0.043)	0.040 (0.058)	0.072 (0.051)	0.037 (0.059)	0.031 (0.058)
2015 × Child of domestic worker	0.006 (0.022)	0.035 (0.075)	-0.012 (0.060)	0.067 (0.078)	0.079 (0.067)	0.060 (0.077)	0.059 (0.078)
Child of domestic worker	0.041* (0.021)	-0.056 (0.036)	0.004 (0.051)	0.006 (0.080)	0.003 (0.064)	0.016 (0.081)	0.012 (0.078)
Constant	-1.115*** (0.044)	-0.523*** (0.088)	2.664*** (0.101)	4.467*** (0.110)	0.417*** (0.103)	4.442*** (0.111)	4.470*** (0.112)
R-squared	0.477	0.340	0.199	0.487	0.393	0.492	0.493
Observations	22,783	5,583	5,583	5,583	5,583	5,583	5,583
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32

Note: In column 1, dependent variable is an indicator that takes the value of one if the individual is working or looking for a job. In column 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system. Dependent variables in columns 3 through 7 is the natural logarithm of hours of work in the main job, income from the main job, the hourly wage from the main job, income from all jobs, and total income, respectively. The sample includes all male children of household heads aged 12 to 25 (column 1) and those who are employed (columns 2 through 7). Treated group corresponds to children whose mother is a domestic worker. Comparison group correspond to children whose mother is a worker in other blue-collar service occupations. Controls include age, age squared, gender, household size, marital status, years of education of the household head, years of education of the household head squared, and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B10: Impact of domestic worker's reform on children's education

	Attendance (1)	Years of education (2)	Complete secondary school (3)
2010 \times Child of domestic worker	0.028* (0.015)	0.112 (0.099)	0.000 (0.030)
2011 \times Child of domestic worker	0.026 (0.018)	-0.031 (0.089)	-0.008 (0.022)
2013 \times Child of domestic worker	0.022 (0.013)	-0.033 (0.083)	0.045** (0.022)
2014 \times Child of domestic worker	0.033** (0.015)	0.141 (0.094)	-0.000 (0.025)
2015 \times Child of domestic worker	0.040** (0.016)	0.184 (0.111)	0.026 (0.026)
Child of domestic worker	-0.019 (0.017)	0.038 (0.093)	0.061** (0.027)
Constant	1.507*** (0.043)	-1.219*** (0.274)	-0.473*** (0.059)
R-squared	0.144	0.418	0.169
Observations	24,199	24,199	23,551
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	No	No	No
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: Dependent variable is an indicator that takes the value of one if the individual is currently attending school (column 1), an indicator that takes the value of one if the individual has completed secondary education (column 2), and the number of years of education (column 3). For column 1 and 2, the sample includes all children of secondary school age (12 to 18) who have not finished secondary school, and those aged 18 and above, respectively. For column 3 the sample includes all children aged 12 to 25. Treated group corresponds to children whose mother is a domestic worker. Comparison group corresponds to children whose mother works in a blue-collar service occupation. Controls include age, age squared, gender, household size, decile of per-capita family income, years of education of the household head, and years of education of the household head squared. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B11: Impact of domestic worker's reform on female children's education

	Attendance (1)	Years of education (2)	Complete secondary school (3)
2010 × Child of domestic worker	0.019 (0.019)	0.169 (0.151)	-0.024 (0.039)
2011 × Child of domestic worker	0.006 (0.019)	-0.049 (0.124)	-0.013 (0.034)
2013 × Child of domestic worker	-0.003 (0.018)	-0.164* (0.093)	-0.006 (0.028)
2014 × Child of domestic worker	0.009 (0.024)	0.014 (0.129)	-0.048 (0.033)
2015 × Child of domestic worker	-0.002 (0.021)	-0.017 (0.132)	-0.033 (0.038)
Child of domestic worker	0.034 (0.026)	0.090 (0.155)	0.064** (0.031)
Constant	1.351*** (0.044)	-2.212*** (0.383)	-0.446*** (0.073)
R-squared	0.118	0.468	0.161
Observations	12,010	12,010	11,421
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	No	No	No
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: Dependent variable is an indicator that takes the value of one if the individual is currently attending school (column 1), an indicator that takes the value of one if the individual has completed secondary education (column 2), and the number of years of education (column 3). For column 1 and 2, the sample includes all female children of secondary school age (12 to 18) who have not finished secondary school, and those aged 18 and above, respectively. For column 3 the sample includes all female children aged 12 to 25. Treated group corresponds to female children whose mother is a domestic worker. Comparison group corresponds to female children whose mother works in a blue-collar service occupation. Controls include age, age squared, household size, decile of per-capita family income, years of education of the household head, and years of education of the household head squared. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table B12: Impact of domestic worker's reform on male children's education

	Attendance (1)	Years of education (2)	Complete secondary school (3)
2010 × Child of domestic worker	0.033 (0.023)	0.029 (0.137)	0.026 (0.041)
2011 × Child of domestic worker	0.041* (0.023)	-0.030 (0.133)	-0.001 (0.034)
2013 × Child of domestic worker	0.043** (0.021)	0.099 (0.113)	0.092*** (0.029)
2014 × Child of domestic worker	0.055*** (0.018)	0.251** (0.099)	0.050 (0.034)
2015 × Child of domestic worker	0.076*** (0.025)	0.346** (0.132)	0.087** (0.033)
Child of domestic worker	-0.075*** (0.024)	0.003 (0.111)	0.055 (0.042)
Constant	1.614*** (0.071)	-0.623** (0.239)	-0.709*** (0.081)
R-squared	0.172	0.377	0.136
Observations	12,186	12,186	12,127
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	No	No	No
MA Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: Dependent variable is an indicator that takes the value of one if the individual is currently attending school (column 1), an indicator that takes the value of one if the individual has completed secondary education (column 2), and the number of years of education (column 3). For column 1 and 2, the sample includes all male children of secondary school age (12 to 18) who have not finished secondary school, and those aged 18 and above, respectively. For column 3 the sample includes all male children aged 12 to 25. Treated group corresponds to male children whose mother is a domestic worker. Comparison group corresponds to male children whose mother works in a blue-collar service occupation. Controls include age, age squared, household size, decile of per-capita family income, years of education of the household head, and years of education of the household head squared. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Appendix C Treatment effects including unemployed individuals

The following tables replicate the analysis shown in Tables 3 to 6 including unemployed individuals with a previous job. The affected group is composed of female domestic workers and unemployed women whose previous job was as a domestic worker. The comparison group is composed of women working in a blue-collar service occupation or those unemployed whose last job was in a blue-collar service occupation. Unemployed individuals are considered informal, with 0 hours of work and 0 income from the main job and all jobs, as well as 0 wage per hour. They are also considered involuntary part-time workers.

Table C1: Effect of policy reform on formality status

	Contribution to Pension System (1)	Contribution to Health Insurance (2)	Health insurance coverage (3)
Domestic worker \times Reform	0.044*** (0.010)	0.040*** (0.012)	0.005 (0.013)
Mean dependent variable	0.143	0.138	0.414
R-squared	0.302	0.314	0.250
Observations	60,394	60,394	60,394
q-value	0.000	0.005	1.000
Controls	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes
Number of clusters	32	32	32

Note: In columns 1 and 2, the dependent variable is an indicator that takes the value of one when the individual reports their employer makes contributions to the pension system (column 1) and health insurance (column 2). In column 3, the dependent variable is an indicator that takes the value of one if the individual has health insurance coverage. Domestic workers refers to female respondents who identify themselves as domestic workers or those unemployed whose previous job was as domestic workers. The comparison group is composed of female wage workers in blue-collar service occupations and unemployed women whose previous job was in a blue-collar service occupation. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.
*** p<0.01, ** p<0.05, * p<0.1

Table C2: Effect of policy reform on hours of work

	Hours of work per week on main job (1)	Involuntary part-time worker (2)
Domestic worker \times Reform	-0.047** (0.023)	0.003 (0.009)
Mean dependent variable	24.66	0.241
R-squared	0.160	0.133
Observations	60,394	60,394
q-value	0.256	1.000
Controls	Yes	Yes
Year Fixed Effects	Yes	Yes
Occupation Fixed Effects	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes
Number of clusters	32	32

Note: Dependent column 1 is the natural logarithm of number of hours of work per week in the main job. Dependent variable in column 2 is an indicator that takes the value of one if the respondent is willing to work more hours. The coefficients are difference-in-differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers or those unemployed whose previous job was as domestic workers. The comparison group is composed of female wage workers in blue-collar service occupations and unemployed women whose previous job was in a blue-collar service occupation. Mean dependent variable corresponds to average for the affected group in the pre-reform period. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table C3: Changes in earnings after policy reform

	Income per month from main job (1)	Wage per hour from main job (2)	Income per month from all jobs (3)	Total income per month (4)
Domestic worker \times Reform	0.033 (0.040)	0.079*** (0.017)	0.035 (0.041)	0.060 (0.037)
Mean dependent variable	469.6	5.889	535	628
R-squared	0.178	0.232	0.176	0.160
Observations	60,394	60,394	60,394	60,394
q-value	1.000	0.000	1.000	0.528
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32

Note: Dependent variable is the natural logarithm of income from the main job (column 1), the hourly wage from the main job (column 2), income from all jobs (column 3) and total income (column 4). In all cases, the coefficients are difference-in-differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers or those unemployed whose previous job was as domestic workers. The comparison group is composed of female wage workers in blue-collar service occupations and unemployed women whose previous job was in a blue-collar service occupation. Mean dependent variable correspond to average for the affected group in the pre-reform period and are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Table C4: Changes in non-labor earnings after policy reform

	Any non-labor income		Pension		Welfare		Alimony	
	Reception (1)	Amount (2)	Reception (3)	Amount (4)	Reception (5)	Amount (6)	Reception (7)	Amount (8)
Domestic worker \times Reform	0.004 (0.013)	0.026 (0.075)	0.003 (0.006)	0.069 (0.071)	-0.001 (0.008)	0.013 (0.051)	0.004 (0.005)	0.029 (0.054)
Mean dependent variable	0.360	387.49	0.0886	666.57	0.223	197.79	0.0697	430.54
R-squared	0.118		0.241		0.135		0.092	
Observations	60,394	60,394	60,394	60,394	60,394	60,394	60,394	60,394
q-value	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32	32

Note: The dependent variable in odd columns is an indicator that takes the value of one if the individual received non-labor income from the corresponding source, and the coefficients are difference-in-differences estimates from an OLS regression. Dependent variable in even columns is the natural logarithm of the amount of non-labor income from the corresponding source, and the coefficients are marginal effects from a Tobit regression conditional on positive earnings. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Mean dependent variables correspond to average for the affected group in the pre-reform period and for earnings are expressed in Argentina Pesos of 2008. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. Q-value corresponds to Hochberg's q-value to adjust for False Discovery Rate.

*** p<0.01, ** p<0.05, * p<0.1

Appendix D Quantile Treatment Effects

The following table shows the impact of the reform on hours worked, monthly earnings and hours of work for each decile of the distributions. The effects correspond to Athey and Imbens' Changes-in-changes model (Athey and Imbens, 2006). This model uses the change experienced by the comparison group across time at each decile of the pre-reform period to construct a counterfactual distribution for the affected group in the absence of the policy.

Table D1: Labor market effects of policy reform - Quantile Treatment Effects

Quantile	Hours of work per week on main job (1)	Income per month from main job (2)	Wage per hour from main job (3)	Income per month from all jobs (4)	Total income per month (5)
10	-0.007 (0.027)	0.012 (0.024)	0.065*** (0.016)	0.010 (0.023)	0.009 (0.023)
20	0.006 (0.022)	0.032* (0.018)	0.068*** (0.013)	0.035** (0.017)	0.046*** (0.016)
30	0.012 (0.020)	0.046*** (0.016)	0.077*** (0.013)	0.052*** (0.014)	0.057*** (0.014)
40	-0.009 (0.019)	0.066*** (0.013)	0.078*** (0.010)	0.060*** (0.014)	0.052*** (0.015)
50	-0.022 (0.017)	0.072*** (0.012)	0.081*** (0.010)	0.066*** (0.012)	0.044*** (0.014)
60	-0.042*** (0.015)	0.061*** (0.013)	0.086*** (0.010)	0.045*** (0.012)	0.036*** (0.013)
70	-0.049*** (0.015)	0.035*** (0.012)	0.084*** (0.011)	0.038*** (0.011)	0.034*** (0.012)
80	-0.043*** (0.015)	0.040*** (0.012)	0.098*** (0.011)	0.051*** (0.011)	0.051*** (0.013)
90	-0.048*** (0.016)	0.052*** (0.014)	0.103*** (0.016)	0.054*** (0.015)	0.061*** (0.015)
Mean	-0.021 (0.014)	0.036*** (0.010)	0.081*** (0.009)	0.036*** (0.009)	0.036*** (0.011)
Observations	54,963	54,963	54,963	54,963	54,963
Controls	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes

Note: Estimates correspond to the treatment effect for the each quantile in the Changes-in-changes model (Athey and Imbens, 2006). Dependent variable is the natural logarithm of the number of hours of work per week in the main job (column 1), the monthly income from the main job (column 2), the hourly wage in the main job (column 3), the monthly income from all jobs (column 4) and the total monthly income (column 5). Controls include age, migrant status, household size, literacy status, years of education, marital status and decile of per-capita family income. Bootstrapped standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Appendix E Treatment effects by formality status

The following tables reproduced the analysis of the policy reform on the labor market outcomes of domestic workers by formality status. Formal workers are those who make contributions to the pension system.

Table E1: Effect of policy reform on hours of work

	Hours of work per week in main job (1)	Involuntary part-time worker (2)
Domestic worker \times Reform	-0.066*** (0.014)	0.009 (0.007)
Domestic worker \times Reform \times Registered	-0.035** (0.016)	-0.001 (0.008)
R-squared	0.262	0.102
Observations	54,963	54,963
Controls	Yes	Yes
Year Fixed Effects	Yes	Yes
Occupation Fixed Effects	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes
Number of clusters	32	32

Note: Dependent variable in column 1 is the natural logarithm of number of hours of work per week in the main job, and the sample includes all employed individuals. Dependent variable in column 2 is an indicator that takes the value of one if the respondent is willing to work more hours. The coefficients are difference-in-differences and triple differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table E2: Changes in earnings after policy reform

	Income per month from main job (1)	Wage per hour from main job (2)	Income per month from all jobs (3)	Total income per month (4)
Domestic worker \times Reform	0.026 (0.016)	0.093*** (0.016)	0.030* (0.016)	0.046** (0.020)
Domestic worker \times Reform \times Registered	-0.054*** (0.017)	-0.019 (0.016)	-0.049** (0.018)	-0.058*** (0.017)
R-squared	0.517	0.325	0.495	0.419
Observations	54,963	54,963	54,963	54,963
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32

Note: Dependent variable is the natural logarithm of income from the main job (column 1), the hourly wage from the main job (column 2), income from all jobs (column 3) and total income (column 4). In all cases, the coefficients are difference-in-differences and triple differences estimates from an OLS regression. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table E3: Changes in non-labor earnings after policy reform

toprule	Any non-labor income		Pension		Welfare		Alimony	
	Reception (1)	Amount (2)	Reception (3)	Amount (4)	Reception (5)	Amount (6)	Reception (7)	Amount (8)
Domestic worker \times Reform	0.011 (0.013)	0.037 (0.076)	0.005 (0.006)	0.075 (0.071)	0.004 (0.008)	0.015 (0.048)	0.005 (0.006)	0.036 (0.068)
Domestic worker \times Reform \times Registered	-0.007 (0.011)	-0.008 (0.07)	0.010* (0.006)	0.124 (0.088)	-0.014 (0.010)	-0.099 (0.065)	-0.002 (0.008)	0.044 (0.118)
R-squared	0.140		0.256		0.145		0.090	
Observations	54,963	54,963	54,963	54,963	54,963	54,963	54,963	54,963
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Occupation Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Metropolitan Area Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of clusters	32	32	32	32	32	32	32	32

Note: The dependent variable in odd columns is an indicator that takes the value of one if the individual received non-labor income from the corresponding source, and the coefficients are difference-in-differences estimates from an OLS regression. Dependent variable in even columns is the natural logarithm of the amount of non-labor income from the corresponding source, and the coefficients are marginal effects from a Tobit regression conditional on positive earnings. Domestic workers refers to female respondents who identify themselves as domestic workers. The comparison group is composed of female wage workers in blue collar service occupations. Controls include age, age squared, migrant status, household size, literacy status, years of education, years of education squared, marital status and decile of per-capita family income. Standard errors clustered at the Metropolitan Area level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Appendix F Theoretical framework: Hiring decisions in a dual labor market

Consider an employer who derives utility from consumption of goods (C) and household services (H) such that:

$$U(C; H) = \alpha \ln C + \beta \ln H \quad (3)$$

with $0 < \alpha < 1$, $0 < \beta < 1$, and $\alpha + \beta = 1$.

Demand for household services can be either registered with the social security administration or not. If registered, the employer has to pay the worker a wage \bar{w} per hour, a fixed cost κ (which corresponds to payroll taxes and non-wage benefits that registered workers receive), but can deduct from their income taxes a share δ of their expenditure on household services. If not reported, the employer pays a salary $w < \bar{w}$ per hour and does not pay the fixed cost κ , but has no tax break and faces the probability of being detected by the government and charged a fine. Let φ be the expected fine the employer has to pay for hiring an unregistered worker.

Firing costs are modelled as an exogenous probability π_i that the labor relationship ends and a cost ν_i that the employer has to pay if that happens, with $i \in \{r, u\}$. To keep matters simple, this cost ν_i includes the present value of severance payments and the cost of rehiring labor.

While $\pi_r < \pi_u$ to account for the fact that informal labor relationships are more likely to finish than formal ones, $\nu_r > \nu_u$ such that, for the time being, $\pi_r \nu_r = \pi_u \nu_u$. Although the monetary cost of firing a worker in the pre-reform period was very similar, workers in the informal sector have to sue their employer and wait for a favorable ruling to receive the severance payment.

The employer has an exogenous income level y , over which they pay a share $\tau(y)$ in the form of taxes such that $\tau'(y) > 0$. The problem faced by the employer is therefore:

$$\max U(C; H) \quad s.t. \begin{cases} 0 \leq H \leq \bar{H} \\ 0 \leq C \\ y(1 - \tau(y)) = C + (\bar{w}H + \kappa) \times (1 - \delta\tau(y)) + \pi_r\nu_r & \text{if registered} \\ y(1 - \tau(y)) = C + wH + \varphi + \pi_u\nu_u & \text{if unregistered} \end{cases}$$

The employer solves this problem by solving for $(C^*; H^*)$ under each hiring condition. Demand for household services is:

$$\text{If reporting: } H^r = \frac{y(1 - \tau(y)) - \kappa(1 - \delta\tau(y)) - \pi_r\nu_r}{\bar{w}(1 - \delta\tau(y))} \beta$$

$$\text{If not reporting: } H^u = \frac{y(1 - \tau(y)) - \varphi - \pi_u\nu_u}{w} \beta$$

Once the optimal demand for household services is determined, the employer chooses the sector of employment that yields the higher utility. The value functions for this problem are:

$$\text{If reporting: } V^r = \Lambda - \beta \ln \bar{w} + \ln [y(1 - \tau(y)) - \kappa(1 - \delta\tau(y)) - \pi_r\nu_r] - \beta \ln (1 - \delta\tau(y))$$

$$\text{If not reporting: } V^u = \Lambda - \beta \ln w + \ln [y(1 - \tau(y)) - \varphi - \pi_u\nu_u]$$

where $\Lambda = \alpha \ln \alpha + \beta \ln \beta$.

Hence, the decision to hire formally or informally depends on the tax rate (which is itself a function of the level of income), the cost of hiring formally, the firing costs, the rate of deduction, and the expected cost of detection.

Before the reform there were no penalties for hiring a domestic worker off the books ($\varphi = 0$). It is straightforward to show that for employers who do not pay income taxes (90% of adults for whom $\tau = 0$) it is always a best response to hire a worker off the books.

A similar conclusion can be reached for the majority of employers subject to a positive income tax rate. For three quarters of them, the effective tax rate is less than 10% (Valente, 2016), putting a low upper bound on the tax break they can benefit from if they register a domestic worker.

The policy under study set in place sanctions for employers who failed to report a labor relationship and increased the probability of detection for high-income employers. Additionally, severance

payments doubled for employers with a registered worker and quadrupled if the employee was not registered. These changes can be modeled as an increase in φ , while ν_r doubled and ν_u quadrupled. Because the data shows no changes in the number of domestic workers and the transition probabilities across occupations, I assume that labor supply does not react to the changes introduced by the policy.

Because the cost of not registering workers increased substantially more than the cost of registering them, some employers became better off by reporting a previously unreported labor relationship. At the same time, because the cost of hiring increased irrespective of reporting status, demand for household services (i.e., hours of work of domestic workers) should decline.

In addition to the increase in sanctions to employers not complying with the law, the reform increased non-wage benefits for domestic workers, although most of these costs were absorbed by the government. This change can be modelled as a small increase in κ , with the expected result of further reducing the demand for household services in the formal sector.

In summary, because the reform increased the cost of hiring a worker regardless of the sector, labor demand is expected to decrease although the effect on formality rates is ambiguous. Regarding earnings, if formality rates increase wages per hour are expected to increase due to higher compliance with minimum wage laws. However, if formality rates decrease, wages per hour will also decrease since employers will pass the higher cost of employment to workers. In turn, the effect on earnings per month will depend on the interaction between the change in hourly wages and the reduction in labor demand.

Appendix G Spillover effects of formality on children's education:

A simple model

Consider a worker j who derives utility from both their consumption and that of their children:

$$U_j = U(c_j, C_k) \quad (4)$$

where $C_k = \{c_1, c_2, \dots, c_K\}$ is the vector of consumption from each child. Following Atkin (2009), child k 's consumption is a function of parental characteristics X_j , parental investment I_k made during childhood, and the rate of return ρ :

$$c_k = f(\rho, I_k, X_j) \quad (5)$$

I consider a simple two-period model carrying some of the notation from the previous subsection. In period 1, worker j receives income wH with probability $(1 - \pi_i)$, $i \in \{r, u\}$. As before, $\pi_r < \pi_u$. They allocate that income between consumption c_j and investment I_k at price p_I . In the second period, they receive wH with certainty and a share of the firing cost $\theta\nu_i$ if they were fired in the previous period. Hence, their budget constraints are:

$$\begin{aligned} (1 - \pi_i)wH &= c_j + I_k p_I && \text{In period 1} \\ wH + \pi_i \theta \nu_i &= c_j && \text{In period 2} \end{aligned}$$

Given this setting, child k 's reduced-form consumption is:

$$c_k = f(\rho, (1 - \pi_i)wH, X_j) \quad (6)$$

Ceteris paribus, child consumption will be higher if the parent is employed in the formal sector because the expected income that can be devoted to investment is higher.